Attachment B

Original Board Contract 23168

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one COUNTY one FUTURE

COUNTY OF SANTA BARBARA
AGREEMENT FOR:
General Services Project No. 20033
County of Santa Barbara
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
BC:_____-_____

THIS AGREEMENT ("Agreement") is made by and between the County of Santa Barbara, a political subdivision of the State of California ("**COUNTY**"), and Marcon Engineering, Inc. ("**CONTRACTOR**" and together with COUNTY, collectively, the "Parties" and each individually a "Party"), for the completion of the Work (defined below), on the following terms, conditions, and provisions. All references in the General Terms to the "Agreement" shall have the meaning ascribed to the term "Agreement" in the immediately preceding sentence.

1. **CONTRACT**: This Agreement incorporates by reference all of the General Conditions and Special Conditions, Specifications and Drawings provided by the COUNTY for the Cachuma Lake Recreational Vehicle Site Renewal, Project No. 20033, the Notice to Bidders as amended by Addenda Numbers 1-6 (as amended by Addenda 1-6, the "Notice to Bidders"), the Bid Bond, the Performance Bond, the Payment Bond, and the proposal or bid documents executed and submitted by the CONTRACTOR for the Project ("Proposal"), to the extent the Proposal is consistent with the provisions of this Agreement other than the Proposal, and all Exhibits attached hereto (all of the foregoing documents, together with this Agreement, collectively, the "Contract" or "Contract Documents"; this definition of "Contract" supersedes and shall control and prevail over the definition of "Contract" in the General Conditions (Document 007000)). A copy of each of the General and Special Conditions, Specifications and Drawings provided by the COUNTY for the Cachuma Lake Recreational Vehicle Site Renewal, 20033, the Notice to Contractors, the Bid Bond, the Performance Bond, and the Payment Bond are attached hereto as EXHIBIT A, and a copy of the Proposal is attached hereto as EXHIBIT B. All capitalized terms used but not defined herein shall have the respective meanings ascribed to such terms in the Notice to Bidders. Copies of all Contract Documents are on file in the Department of General Services Office of the COUNTY, and have been and will be made available to the CONTRACTOR during the term of this Agreement. CONTRACTOR acknowledges receipt of all Contract Documents.

2. **WORK**: CONTRACTOR, at CONTRACTOR's own cost and expense, shall perform all the work described in the Contract Documents ("Work"), and shall furnish all equipment and materials necessary to perform and complete the Work, in a good and workmanlike manner and to the satisfaction of the Director of General Services of the COUNTY, all in strict accordance with the Plans and the Contract Documents.

3. **EXCAVATIONS**: Before any pavement resurfacing, displacement, or excavation of the ground that may be required in connection with the Work under this Contract, the CONTRACTOR shall obtain an inquiry identification number by calling Underground Service Alert (USA) 1 (800) 422-4133 or by such other means as may be required; shall conform to all requirements of Sections 4215 through 4217 of the Government Code regarding any such pavement resurfacing, displacement or excavation, including the payment of any fees required; and shall facilitate performance by the COUNTY of any obligation required of the COUNTY under the Government Code. There shall be no performance under this Contract by either party hereto unless and until CONTRACTOR complies with all of the foregoing provisions of this Sections 3, and notifies the County Representative (defined below) in writing regarding such compliance.

4. **COUNTY REPRESENTATIVE**: The "County Representative" referred to in the Contract Documents is David Chanley.

5. **PAYMENT**: As full compensation for furnishing all labor, supervision, overhead, materials, and equipment and for completing all of the Work contemplated by this Contract, and subject to adjustments and liquidated damages, if any, as provided in the Contract Documents, the base amount to be paid to the CONTRACTOR for satisfactory completion of all requirements of the CONTRACTOR under this Contract is and shall be Twelve Million, Six Hundred Fifty Thousand, Eight Hundred and Eighty-Eight Dollars ($12,650,888) ("Base Contract Amount"), to be paid as provided in the Contract Documents. The CONTRACTOR assumes and will provide against any loss or damage arising out of the nature of the Work undertaken, or the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be

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encountered in the performance of the Work until its acceptance by the COUNTY, and assumes any and all expenses incurred by or in consequence of suspension or discontinuance of the Work, for well and faithfully completing the Work and the whole thereof, in the manner and to the requirements of the Contract and directions of the County Representative.

6. **RIGHT TO AUDIT**: CONTRACTOR shall maintain and make available all books, papers, records, detail costs, estimates, claims, and accounts, including payment, property, payroll, personnel, subcontractors, and financial records related to or which arise in connection with the Contract (collectively, the "Records"). The form of record keeping with respect to the Records shall be subject to approval by COUNTY. The Records shall be made available during normal business hours for examination by COUNTY or the County Representative and shall be retained at CONTRACTOR'S principal place of business in California for audit during normal business hours at such place for four (4) years after the recording of the Notice of Completion for the Project. CONTRACTOR shall provide an office in which COUNTY and the County Representative may conduct such audit(s).

The COUNTY will have the right to audit CONTRACTOR'S Project records. Records must be made available in a form satisfactory to the Santa Barbara County Auditor-Controller.

7. **EXTRA WORK**: Extra work, materials, resolution of disputes, corrections, and/or changes to the specifications as are required for the proper completion of the Work contemplated in the Contract Documents may be effected or authorized in writing via Change Order(s) duly executed by the County Representative, including providing for compensation in addition to the Base Contract Amount at the same rate per unit (or at a corresponding rate for work that is different from that provided for in the Contract Documents); provided, however, that the aggregate amount of such compensation in addition to the Base Contract Amount shall not exceed $645,044.40. Compensation in such other equitable amount as is appropriate for the requirements of the COUNTY may only be authorized by resolution or minute order of the Santa Barbara County Board of Supervisors. The County Representative may agree upon an appropriate additional time to be allowed as required for such extra work, materials, resolution, or changes.

8. **COMPLIANCE WITH LAW, AMENDMENTS**: CONTRACTOR shall keep fully informed of, and shall at all times during the Term ensure the performance of the Work is in compliance with, all laws, statutes, ordinances, decrees, orders, and regulations which do or may affect the Project, performance of the Work, the materials used therein, or persons engaged in connection therewith, and all such orders of bodies and tribunals having any jurisdiction over same (collectively, "Applicable Laws"). If it be found that the Special Provisions or Standard Specifications for the Work conflict with any Applicable Law(s), the CONTRACTOR shall immediately report same to the County Representative in writing. CONTRACTOR shall at all times observe and comply with, and shall cause all agents, employees, and subcontractors to observe and comply with, all Applicable Laws. CONTRACTOR acknowledges and shall comply with the provisions of Sections 9364 and Sections 9550 and 9566, inclusive, of the Civil Code of California.

9. **PAYMENTS NOT ACCEPTANCE**: No certificate given or payments made under this Contract, except the final payment hereunder, shall be evidence of the performance of this Contract, either wholly or in part, against any claim upon CONTRACTOR. Final payment for the Work performed under this Contract shall not be made until the lapse of thirty (30) days after the Notice of Completion of the Work has been filed for record and no payment shall be construed to be acceptance of any defective Work or improper materials. CONTRACTOR agrees that the payment for final quantities due under this Contract and the payment of amounts due for any Work in accordance with this Contract shall release the COUNTY from any claims or liabilities on account of Work performed under this Contract, as the same may be amended from time to time during the Term. In addition to guarantees required elsewhere, CONTRACTOR shall and does hereby guarantee all workmanship and material to be free of defects and fit for the purposes intended for a period of one year from and after both the date of acceptance of the work and the recordation of the Notice of Completion by the COUNTY and CONTRACTOR shall repair or replace all Work and materials, together with any other portions of the Work which may be displaced in so doing, that, in the opinion of the County Representative, is or becomes defective during the period of said guarantee, without expense whatsoever to the COUNTY.

10. **PREVAILING WAGE RATES**: Rates of wages, including overtime, holiday, and Sunday rates provided for the Work shall comply with and are subject to the California Labor Code, Sections 1770 et. seq., Executive Orders of the President of the United States No. 9240, dated September 9, 1942, and No. 9250, dated October 3, 1942, and to any modifications thereof, and to and any orders of the President or any authorized Federal Officer or agency, insofar as the same may apply to this Contract.

No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

11. CONTRACT DOCUMENTS ACKNOWLEDGED: CONTRACTOR hereby declares that CONTRACTOR has read the Contract Documents, has carefully examined the plans and detailed drawings of the Work to be performed, and fully understands the intent and meaning of the same.

12. TIME FOR COMMENCEMENT, COMPLETION: The Work to be performed under this Contract shall be completed within 211 calendar days after execution of this Agreement ("Term"). As soon as practicable after the Contract has been executed by both the CONTRACTOR and the COUNTY, a Notice to Proceed will be issued by the County Representative stating the starting date of work performance under the Contract. The CONTRACTOR shall begin work within fifteen (15) calendar days after receiving the Notice to Proceed unless otherwise provided therein. The provisions of this Agreement pertaining to Liquidated Damages shall apply in the event of the CONTRACTOR's failure to complete the Work within the Term.

13. WORKERS' COMPENSATION INSURANCE: CONTRACTOR certifies that CONTRACTOR has knowledge of, is in compliance with, and warrants that CONTRACTOR at all times during the TERM shall remain in compliance with, the provisions of Section 3700 of the Labor Code, which requires every employer to be insured against liability for Workers' Compensation or to undertake self-insurance by the provisions of that Code. CONTRACTOR shall comply with such provisions before commencing the performance of the Work.

14. PROGRESS PAYMENT; NO WAIVER FOR DELAY: Any progress payment made after the scheduled completion date for the Work shall not constitute a waiver of any liquidated damages under this Contract.

15. GUARANTEE BONDS: Before any performance under this Contract, the CONTRACTOR shall provide the security required by statute for the payment of all workers and suppliers, and security for the faithful performance of all terms and conditions of this Contract, in an amount and form approved by the COUNTY. Both securities shall contain provisions that automatically increase amounts thereof and/or time of completion or both for all change orders, extensions, and additions to the Work provided under this Contract.

16. NON-DISCRIMINATION: The CONTRACTOR acknowledges that this Agreement is subject to the provisions of Article XIII of Chapter 2 of the Santa Barbara County Code, providing against discrimination in employment. The CONTRACTOR shall perform all requirements of a contractor under the provisions of said Article, and shall pay all costs occasioned to the COUNTY by any noncompliance by the CONTRACTOR.

17. DISPUTES: Should any dispute(s) arise respecting the construction or meaning of any of the plans or specifications affecting the Work or respecting the true value of any extra work or work omitted, such dispute(s) shall be resolved by the Project Engineer/Architect, whose decision shall be final and binding upon the parties hereto. If, after the decision of the Project Engineer/Architect as provided herein, claims (as defined in Public Contracts Code Section 20104) under this Contract are filed by CONTRACTOR against COUNTY, and those claims are in the aggregate amount of $375,000 or less, such claims shall be resolved under Public Contracts Code Sections 20104 through 20104.8, inclusive.

18. SUBSTITUTION OF MATERIALS: The County Representative is authorized to act on behalf of the County in matters requiring consent, notice, or hearing to substitute materials or equipment specified, to the extent expressly authorized by the Board of Supervisors in approving this Contract and to extent not inconsistent with any of the numbered sections of this Agreement or Exhibit C.

19. SURVIVAL: All provisions of this Contract which by their nature are intended to survive the termination or expiration of this Agreement shall survive such termination or expiration.

20. INDEMNIFICATION AND INSURANCE: CONTRACTOR shall, at all times during the Term, comply with the indemnification and insurance provisions set forth in EXHIBIT C, attached hereto and incorporated herein by reference.

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21. **TAXES**: CONTRACTOR shall pay all taxes, levies, duties, and assessments of every nature due in connection with any Work under this Contract, and shall make any and all payroll deductions required by law. CONTRACTOR is responsible for all CONTRACTOR personnel and for the payment of their compensation, including, if applicable, withholding of income taxes, and the payment and withholding of social security and other payroll taxes, unemployment insurance, workers' compensation insurance payments, and disability benefits. In no event shall COUNTY pay or be responsible for any taxes imposed on, or with respect to, CONTRACTOR's income, revenues, gross receipts, personnel, real or personal property, or other assets. COUNTY shall not be responsible for paying any taxes on CONTRACTOR's behalf, and should COUNTY be required to do so by state, federal, or local taxing agencies, CONTRACTOR agrees to promptly reimburse COUNTY for the full value of such paid taxes plus interest and penalty, if any. These taxes shall include, but not be limited to, the following: FICA (Social Security), unemployment insurance contributions, income tax, disability insurance, and workers' compensation insurance.

22. **CONFLICT OF INTEREST**: CONTRACTOR covenants that CONTRACTOR presently has no employment or interest and shall not acquire any employment or interest, direct or indirect, including any interest in any business, property, or source of income, which would conflict in any manner or degree with the performance of Word required to be performed under this Contract. CONTRACTOR further covenants that in the performance of this Contract, no person having any such interest shall be employed by CONTRACTOR. CONTRACTOR must promptly disclose to COUNTY, in writing, any potential conflict of interest. COUNTY retains the right to waive a conflict of interest disclosed by CONTRACTOR if COUNTY determines it to be immaterial, and such waiver is only effective if provided by COUNTY to CONTRACTOR in writing.

23. **NONDISCRIMINATION**: COUNTY hereby notifies CONTRACTOR that COUNTY's Unlawful Discrimination Ordinance (Article XIII of Chapter 2 of the Santa Barbara County Code) applies to this Contract and is incorporated herein by this reference with the same force and effect as if the ordinance were specifically set out herein and CONTRACTOR agrees to comply with said ordinance.

24. **NON-ASSIGNMENT**: CONTRACTOR shall not assign, subcontract, delegate, or otherwise transfer, directly or indirectly, whether by operation of law or otherwise ("Transfer") this Contract, in whole or in part,, or any of CONTRACTOR's rights or obligations under this Contract, without the prior written consent of COUNTY in each instance. Any attempted or purported Transfer in violation of this Section 24, or in violation of Section 2.08 of the General Conditions, attached hereto as part of Exhibit A, shall be null and void and without legal effect and shall constitute grounds for termination by COUNTY. No Transfer shall relieve CONTRACTOR of any of its obligations hereunder.

25. **SEVERABILITY**: If any one or more of the provisions contained in the Contract shall for any reason be held to be invalid, illegal or unenforceable in any respect by a court of competent jurisdiction, then such provision or provisions shall be deemed severable from the remaining provisions hereof, and such invalidity, illegality or unenforceability shall not affect any other provision hereof, and this Contract shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

26. **TIME IS OF THE ESSENCE**: Time is of the essence in this Contract, and each covenant and term is a condition herein.

27. **ENTIRE AGREEMENT AND AMENDMENT**: The Contract Documents, as may be modified from time to time during the Term by duly authorized and executed Change Orders in accordance with the provisions of this Agreement and the General Terms, contain the entire understanding and agreement of the Parties with respect to the subject matter hereof and thereof, and there have been no promises, representations, agreements, warranties or undertakings by any of the Parties, either oral or written, of any character or nature hereafter binding except as set forth herein and therein. This Contract may be altered, amended or modified only by an instrument in writing, duly executed by each of the Parties, and by no other means, except as otherwise set forth in Section 31, below, to the extent such delegated authority is expressly authorized by the COUNTY Board of Supervisors in approving this Contract. Each Party waives its future right to claim, contest or assert that this Agreement was modified, canceled, superseded, or changed by any oral agreements, course of conduct, waiver or estoppel.

28. **EXECUTION OF COUNTERPARTS**: This Contract may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original; and all such counterparts, or as many of them as the Parties shall preserve undestroyed, shall together constitute one and the same instrument.

29. **ORDER OF PRECEDENCE**: In the event of conflict between the provisions contained in the numbered sections of this

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Agreement and the provisions contained in the Exhibits, the provisions contained in the numbered sections of this Agreement shall prevail over those in the Exhibits other than Exhibit C. CONTRACTOR agrees that in the event of any discrepancy, inconsistency, gap, ambiguity, or conflicting language between Exhibit B, on the one hand, and any other provision(s) of this Contract on the other, the provisions of this Contract (including the numbered sections of this Agreement, Exhibit A, and Exhibit C) other than Exhibit B shall take precedence and control and prevail over the provisions of Exhibit B.

30. **SUBCONTRACTORS**: CONTRACTOR is authorized to subcontract with only the subcontractor(s) identified in the Proposal as attached hereto and as set forth in Exhibit B ("Subcontractors"). Contractor shall be fully responsible for all services and Work performed by its Subcontractors. Contractor shall secure from each of its Subcontractors legally binding written agreements to comply with the provisions of this Agreement pertaining to CONTRACTOR's obligations as if such obligations pertained to such Subcontractor, including, but not limited to, audit obligations.

31. **CHANGE ORDERS**: No Change Order shall be valid or enforceable against the COUNTY unless duly authorized by the COUNTY in accordance with Article 6 of the General Conditions.

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement to be effective as of the date executed by the County.

COUNTY
County of Santa Barbara

By: _____
DAS WILLIAMS, CHAIR

BOARD OF SUPERVISORS

Dated: 10-10-23

ATTEST:
MONA MIYASATO,

CONTRACTOR

MARCON ENGINEERING, INC., a California corporation

_____
COUNTY EXECUTIVE OFFICER

CLERK OF THE BOARD

By: _____
Deputy Clerk of the Board

By: _____
AUTHORIZED REPRESENTATIVE
Name: MARYORY CONTRERAS

Title: PRESIDENT/CEO

APPROVED AS TO FORM:
RACHEL VAN MULLEM,
COUNTY COUNSEL

By: _____
Deputy County Counsel

APPROVED AS TO ACCOUNTING FORM:
BETSY SCHAFFER, CPA, CPFO
AUDITOR-CONTROLLER

By: _____
Deputy Auditor-Controller

APPROVED AS TO FORM:
GREG MILLIGAN, ARM
RISK MANAGER

By: _____
Risk Management

RECOMMENDED FOR APPROVAL
KIRK LAGERQUIST, DIRECTOR
GENERAL SERVICES DEPARTMENT

By: _____
Department Head

Dept 063 Fund 0030 Program 1930 Account 8200 Project 20033

EXHIBIT A

County of Santa Barbara
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive
Santa Barbara, CA 93105

Project No. 20033

MANDATORY JOB WALK:
Thursday, August 3, 2023
1:30 P.M.

BID DUE DATE:
Thursday, August 24, 2023
3:00 P.M.

VIRTUAL BID OPENING:
Thursday, August 24, 2023
3:00 P.M.

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BIDDING DOCUMENTS

Addendum #2

NOTICE TO BIDDERS

Notice is hereby given that the General Services Department, County of Santa Barbara will receive bids for:

COUNTY OF SANTA BARBARA
Cachuma Lake RV Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033

MANDATORY JOB WALK:
Thursday, August 3, 2023 1:30 P.M.
BID DUE DATE:
Thursday, August 24, 2023 3:00 P.M.
VIRTUAL BID OPENING:
Thursday, August 24, 2023 3:00 P.M.

CONSTRUCTION COST ESTIMATE: Estimated cost of construction is $15,132,000

PROJECT LOCATION: 1 Lakeview Drive, Santa Barbara, CA 93105

MANDATORY JOB WALK: The job walk is MANDATORY on Thursday, August 3, 2023, at 1:30 pm. **Only those prime contractors attending a job walk shall be qualified to bid the work.**

PROJECT DESCRIPTION: The project renovates and reconfigures the existing 450,000 SF Cachuma Lake RV park campground. Contractor shall remove and upgrade all sewer, water and electrical utilities, expand fire suppression infrastructure. Demolish and construct new reinforced concrete RV pads, paving, trash enclosures and a new comfort station (restroom and shower) facility with added solar panels. Contractor shall install a new WiFi system, irrigated landscaping, natural stone bioswales, campground furnishings and recreational amenities.

CONTRACTOR'S LICENSE: The CONTRACTOR shall possess a Class A license.

QUESTIONS: All questions MUST be submitted electronically through the Public Purchase Portal (www.publicpurchase.com) on or before **3:00 P.M., Thursday, August 17, 2023**. Any changes or additional information needed for bidding will be provided in an Addendum posted on the Public Purchase site. Contractors shall be responsible for addendums.

BID SUBMITTAL INSTRUCTIONS: Each bid shall be in accordance with the plans and specifications approved by the General Services Department. The bid MUST be submitted electronically through the Public Purchase website (www.publicpurchase.com) on or before **Thursday, August 24, 2023, at 3:00 P.M.**

SUBSTITUTION OF SECURITIES: Pursuant to Section 22300 of the Public Contract Code and the project specifications, the CONTRACTOR may substitute securities or request that the County make payment of retentions to an escrow agent for any money held by the COUNTY to ensure contract performance.

REGISTRATION: No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code § 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code § 1771.1(a)]; no contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code § 1725.5; and this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

QUALIFYING CONTRACTOR OR SUBCONTRACTOR: Pursuant to the provisions of Section 4104 of the California Public Contracting Code a contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal or engage in the performance of any contract for public work, as defined in Section 4104, unless currently registered with the Department of Industrial Relations and qualified to perform public work pursuant to Section 1725.5 California Labor Code.

WITHDRAWAL OF BIDS: The COUNTY reserves the right to reject any and or all bids or waive any informality in a bid. No bidder may withdraw his bid for a period of sixty (60) days after the date set for the opening thereof.

BID SELECTION: The COUNTY reserves the right to select any one or any combination of bids, whichever is in the best interest of the COUNTY.

BID PROTEST: The County of Santa Barbara Bid Protest Procedures are described in Item 10 of the BID FORM, which is included in the bid documents.

CONSTRUCTION TIME: The successful CONTRACTOR (after receiving the Notice to Proceed) shall have 211 calendar days to complete all work called for under the Contract Documents.

LIQUIDATED DAMAGES: The liquidated damages will be **$4,200 (Four Thousand Two Hundred Dollars)** per day for project delays that are determined to be attributable to the CONTRACTOR.

DOCUMENT 00200
INSTRUCTIONS TO BIDDERS

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ARTICLE 1 — GENERAL

1.01 Bidder must examine these Instructions To Bidders carefully and respond to all requirements and conditions.

1.02 Bidders must be aware of the requirements of codes, statutes, regulations and ordinances referenced in the Bid Documents.

ARTICLE 2 — COMPETENCE OF BIDDERS

2.01 Bidders must meet all qualification requirements contained in the Bid Documents.

2.02 Any Bidder may be required to furnish evidence satisfactory to Owner that the Bidder and its proposed Subcontractors have sufficient means and experience in the type of Work required to assure satisfactory completion of all the requirements of the Contract Documents.

ARTICLE 3 — COMPLIANCE WITH CONTRACTOR'S LICENSE LAWS

3.01 Bidder's attention is directed to the provisions of Chapter 9 of Division 3 of the California Business and Professions Code ("Contractors"), and §3300 of the California Public Contract Code. The Contractor must possess the required classification of Contractor's License at the time the Bid is submitted (per Business and Professions Code §7028.15). If federal funds are involved in this project, the Contractor must possess the required classification of Contractor's License at the time of the Contract Award (per Public Contract Code §20103.5).

3.02 If a Bidder does not possess the required Contractor's License at the time a Bid is submitted, in accordance with Business and Professions Code §7028.15, the Bid will be considered non-responsive and will be rejected by the Owner. The Owner may require forfeiture of the Bidder's Bond.

3.03 Joint venture Bidders must possess a joint venture license. Each party to a joint venture must be properly licensed for the Work of this Project.

ARTICLE 4 — PRIOR DISQUALIFICATION

4.01 Bid may be rejected on the basis of a Bidder, any officer of such Bidder, or any employee of such Bidder who has a proprietary interest in such Bidder, having been disqualified, removed or otherwise prevented from Bidding on, or completing a federal, state or local project because of a violation of a law or a safety regulation.

4.02 The Owner will review the circumstances presented in the Bid Form certification. The County will determine if acceptance of the Bid is in its best interest.

ARTICLE 5 — EXAMINATION OF BID DOCUMENTS AND PROJECT SITE

5.01 The Bidder must carefully examine the site of the Work and Bid Documents.

5.02 The submission of a Bid will be conclusive evidence that the Bidder has investigated and is fully aware of the conditions and difficulties that may be encountered including the availability of labor and materials to be provided, of the character, quality and quantities of Work to be performed, and of the requirements of all Bid Documents.

5.03 Where investigation of subsurface conditions has been made by Owner in respect to foundation or other design, Bidders may inspect Owner's records of such investigation, including examination of samples and drill cores, if any.

5.04 When logs of test borings indicating a record of the data obtained by Owner's investigation of subsurface conditions are made available, **said logs represent only the investigator's opinion as to the character of material encountered in test borings and are made available only for the convenience of Bidders.**

5.05 Investigation of subsurface conditions is made for the purpose of design, and Owner assumes no responsibility, whatsoever, in respect to the sufficiency of test borings, accuracy of the log of test

borings, of other preliminary investigations, or in the interpretation thereof. **There is no warranty or guarantee, express or implied, that the conditions indicated are representative of those existing throughout the Work or Work site, or any part of it, or that unforeseen conditions may not be encountered.**

5.06 Making information available to Bidders is not to be construed in any way as a waiver of the aforesaid provisions, and **Bidders must satisfy themselves through their own investigations as to conditions to be encountered**.

5.07 No information derived from such inspection of records of preliminary investigations made by Owner, or from the maps, Drawings or Contract Documents relieve Contractor from any risk or from properly fulfilling all the terms of the Contract. Records of such preliminary investigations as may have been made by Owner may be inspected by contacting the Owner's Project Manager identified in the Notice to Bidders.

5.08 Failure by Bidder to educate itself with available information will not relieve Bidder from responsibility for estimating properly the difficulty or cost of successfully performing the Work.

5.09 Bidders are required to inform themselves fully of the conditions relating to the construction and labor under which the Work will be or is now performed, and, so far as possible, the successful Bidder must employ such means and methods in carrying out its Work as will not cause any interruption or interference with any other contractor.

ARTICLE 6 — DISCREPANCIES, CONFLICTS, OMISSIONS, OR ERRORS

6.01 If any person contemplating submitting a Bid is in doubt as to the intended meaning of any part of the Bid Documents, or finds discrepancies in, or omissions in the Bid Documents, that person must submit a written request for an interpretation or correction thereof at least ten (10) calendar Days before the deadline for receipt of Bids.

6.02 Inquiries must be addressed to the Project Manager identified in the Notice to Bidders.

6.03 Inquiries must be submitted on "Contractors Request for Clarification Form" included at the end of this section. All requests for information must include this form.

6.04 Any request received fewer than ten (10) calendar Days before the said deadline may not be answered. The person submitting the request will be responsible for its prompt delivery.

6.05 Any interpretation or correction of the Bid Documents will be made only by Addendum, and will be mailed or delivered to each person included on the Owner's plan holders list for the Project.

6.06 Owner is not responsible for any explanation or interpretation of the Bid Documents not communicated to Bidders in an Addendum. If no Addenda are issued relating to supposed discrepancy, conflict, omissions or errors in figuring the Work, the supposed discrepancies, conflicts, or omissions are governed by Document 00700, Article 1.05, "Conflicts in the Contract Documents."

ARTICLE 7 — BIDDER'S SECURITY

7.01 Each Bid must be accompanied by cash, a certified or cashier's check, or an original Bidders Bond in an amount not less than ten percent (10%) of the total aggregate of the Bid including all additive Bid items, indicated in the Notice to Bidders, to be used in determining the low Bid for the Project.

7.02 A Bid will be considered non-responsive if not accompanied by proper Bidder's Security.

7.03 The original Bid Bond must be provided by an admitted Surety insurer, authorized to issue Surety bonds in the State of California, and it must execute the Bid Bond.

7.04 Bonds and checks must be made payable to **"The County of Santa Barbara".**

7.05 All bonds must be provided on the forms included with the Bid Documents or the Bid will be

considered non-responsive.

ARTICLE 8 — BID FORM

8.01 Prospective Bidders are furnished Bid Forms (Document 00410). A Bid Form may contain a schedule of items requesting lump sum prices. It may also state estimated quantities of various kinds of Work to be performed, or materials to be provided, with a schedule of items for which unit prices are required.

8.02 The unit prices or lump sum pricing must include full compensation for Providing all labor, materials, services, tools, equipment and whatever else is required to perform all Work in accordance with the requirements of the Bid Documents.

8.03 All Bids must be submitted on the forms furnished by the Owner. A Bid not submitted on the forms furnished by the Owner will be considered non-responsive.

8.04 Completing the Bid Form:

1. Bidder's name must be the same as listed on Bidder's California State Contractor's license.
2. Bid price(s) must be in the manner required by the Bid Form.
3. Bid Form must be signed by Bidder or duly authorized representative.
   - A. If Bidder is an individual, name must be stated.
   - B. If Bidder is a partnership, name of the partnership must be stated and one or more partners must sign the Bid Form.
   - C. If Bidder is a corporation, name of the corporation must be stated, the state of incorporation must be listed, the title of the person with authority to sign and bind corporation, must be stated, and the corporate seal must be affixed.
   - D. Bidder's business and mailing address must be stated.

8.05 Required Listing of Proposed Subcontractors:

1. For each Subcontractor, failure to list name, location, license number or division of Work for Bid is cause for Bid to be rejected as non-responsive.
2. Bidders' attention is directed to the provisions of the Subletting and Subcontracting Fair Practices Act, beginning with Public Contract Code §4100, related to penalties for use of unauthorized Subcontractors or by making unauthorized substitutions.

ARTICLE 9 — NOT USED

ARTICLE 10 — SUBMISSION OF BID FORMS

10.01 **Bid Forms** must be **completed in ink**, completely filled out, and submitted on the Bid Form furnished as part of the Bid Documents. Completed Bid Forms may be submitted in person or mailed. Faxed or emailed bids or modifications will not be considered by Owner.

10.02 It is the sole responsibility of the Bidder to ensure that its Bid is received at the proper time and at the proper location. Bids received after the time fixed for receiving them will not be considered.

10.03 Late Bids will be returned by the Owner to the Bidder unopened.

10.04 Each bid shall be in accordance with the plans and specifications, dated June 28, 2023, approved by the General Services Department. The bid MUST be submitted electronically through the Public Purchase website (www.publicpurchase.com) on or before **Thursday, August 24, 2023, at 3:00 P.M.**

ARTICLE 11 — WITHDRAWAL OF BID FORMS

11.01 Any Bid may be withdrawn at any time before the time fixed in the Notice to Bidders for the opening of Bids only by written request of the Bidder or a duly authorized representative.

11.02 Withdrawal of a Bid does not prejudice the right of the Bidder to file a new Bid at any time prior to the time fixed for receiving Bids in the Notice to Bidders.

11.03 Whether or not Bids are opened exactly at the time stated in the Notice to Bidders, a Bid will not be accepted after the time stated.

11.04 After the opening of Bids, Bids may only be withdrawn in accordance with the provisions of Public Contract Code § 5100-5107.

ARTICLE 12 — PUBLIC OPENING OF BIDS

12.01 Bids will be opened and read publicly at the time and place indicated in the Notice to Bidders. Bidders or their authorized agents are invited to be present.

ARTICLE 13 — REJECTION OF IRREGULAR BIDS

13.01 The Owner may reject any Bid if there appears to be any alteration of the Bid Form, any addition or condition not called for, or any incompleteness, erasure or irregularity of any kind.

13.02 Bids not completed in **Ink** will be rejected.

13.03 If the Bid amount or other material information is changed, the **change must be initialed.**

ARTICLE 14 — COMPETITIVE BIDDING

14.01 More than one Bid from an individual, firm, partnership, corporation, or combination thereof, as a principal, under the same or different names will not be considered. Reasonable basis for believing that any individual, firm, partnership, corporation, or combination thereof is a principal in more than one Bid for the Work contemplated may cause the rejection of all Bids in which such individual, firm, partnership, corporation, or combination thereof is a principal.

14.02 If there is a reason for believing that collusion exists among the Bidders, any or all Bids may be rejected.

14.03 A person, firm, or corporation submitting a sub-bid to a Bidder, or who quoted prices on materials to a Bidder, is not thereby disqualified from submitting a sub-bid or quoting prices to other Bidders or from being a principal Bidder for the same Work.

14.04 Bids in which unit prices are obviously unbalanced may be rejected.

14.05 Bidders are put on notice that any collusive agreement fixing the prices to be Bid so as to control or affect Awarding of the Contract is in violation of competitive bidding requirements of the Public Contract Code and may render void any Contract let under such circumstances.

ARTICLE 15 — ESTIMATED QUANTITIES

15.01 The quantities stated in a schedule of items for which unit prices are asked to be Bid are approximate only.

15.02 The quantities are given as a basis for the comparison of Bids.

15.03 Owner does not, expressly or by implication, represent that the actual amount of Work will correspond with quantities given and reserves the right to increase or decrease the quantities of Work for any Bid item, or to omit portions of the Work, as Owner may deem necessary or advisable.

ARTICLE 16 — SUBSTITUTION OF ALTERNATIVE MATERIALS, ARTICLES, OR EQUIPMENT

16.01 Bids must be based upon use of items named in the Bid Documents.

16.02 In certain cases, specific items have been named (Named Products) because of operational or maintenance considerations; approval of proposed equals should not be assumed.

16.03 Pursuant to Public Contract Code § 3400, alternative material(s), article(s), or equipment that are of equal quality and of required characteristics for the purpose intended may be proposed provided the Bidder complies with the following requirements:

1. The proposal will not be considered unless the submittal is accompanied by complete information and descriptive data necessary to determine equality of offered material(s), article(s) or equipment.
2. Samples must be submitted when requested by the Owner.
3. Bidder is required to prove comparative quality, suitability, and performance of offered material(s), article(s), or equipment.
4. Requests for approval must comply with the requirements of Section 01 25 13, "Product Substitution Procedures."

16.04 Owner's Authorized Representative is the sole judge as to such matters. In the event Owner's Authorized Representative rejects the use of such Alternative(s) submitted, then the Contractor must furnish one of the particular Named Products originally specified in the Bid Documents.

16.05 Proposals for Alternative material(s), process, article(s), or equipment will not be accepted during the bid period.

ARTICLE 17 — RETURN OF BIDDER'S SECURITY

17.01 If Owner does not accept the Bid within the period of Days after the Bid opening stated in Document 00410 - Bid Form, Owner will return Bidder's Security to all Bidders.

17.02 If the Bidder to whom the Contract is Awarded executes and delivers to Owner all the required documents, Owner will return Bidder's Security to all other Bidders no later than sixty (60) days from the time the award is made, in accordance with Public Contract Code § 20129.

ARTICLE 18 — RELIEF OF BIDDERS

18.01 Attention is directed to the provisions of California Public Contract Code § 5100 through § 5107 that set forth the criteria and procedures for relief of Bidders, and for authorizing Contract Award to another Bidder.

ARTICLE 19 — AWARD OF CONTRACT

19.01 The Contract, if Awarded, will be to that responsible Bidder as stated in the Notice to Bidders, subject to Owner's right to reject any or all Bids and to waive any informality or irregularity in the Bids or in the bidding procedures.

19.02 No Bidder may withdraw its Bid for the period of Days stated in Document 00410, "Bid Form", after the date set for the opening thereof, and the Bid will be subject to acceptance by Owner throughout this period.

19.03 The time period within which Award of Contract may be made is subject to an extension of such further period as may be agreed upon in writing between the Owner and the Bidder.

19.04 No Contract is formed until all Contract Bonds and Insurance documents have been accepted by the Owner, Agreement is signed by the Contractor; the Contractor submits the signed Contractor's Certification regarding Worker's Compensation; and the Agreement is signed by the Owner.

ARTICLE 20 — CONTRACT BONDS

20.01 The successful Bidder (hereinafter "Contractor") must pay all Contract Bond premiums, costs thereof, and incidental thereto.

20.02 Each Contract Bond must be signed by both Contractor and the Sureties.

20.03 As a condition to Owner signing the Agreement, the successful Bidder must file with Owner on the approved forms, the two surety bonds in the amounts and for the purposes noted below, duly executed by a Surety company meeting the requirements of Article 20 herein.

20.04 The "**payment bond** for public works" must be in an amount of one hundred percent (100%) of the Contract Sum as determined from the prices in the Bid Form, including the base Bid and all additive and/or deductive Bid items accepted by the Owner and identified in the Award, and shall inure to the benefit of the State, and persons performing labor or furnishing materials in connection with the Work. This bond must be maintained in full force and effect until all Work is completed and Accepted by Owner, and until all claims for materials and labor have been paid.

20.05 The "**performance bond**" must be in an amount of one hundred percent (100%) of the Contract Sum as determined from the prices in the Bid Form, including the base Bid and all additive and/or deductive Bid items accepted by the Owner and identified in the Award, and must be so conditioned as to ensure the faithful performance by Contractor of all Work. It shall also include the replacing, or making acceptable, of any defective materials or faulty workmanship during the Guarantee period(s).

20.06 If any Surety or Sureties are deemed unsatisfactory at any time by Owner or the State, Owner will notify Contractor, and Contractor must forthwith substitute a new Surety or Sureties satisfactory to Owner. No further payment will be deemed due or made until the replacement Sureties qualify and are accepted by Owner.

20.07 All changes to the Contract Sum, Contract Time, or Contract Documents may be made without securing the consent of the Surety or Sureties on the Contract Bonds.

20.08 Sureties must be California admitted Sureties.

ARTICLE 21 — INSURANCE

21.01 Notwithstanding any of the provisions of OCIP, the Contractor will be required to furnish to Owner, concurrently with execution of the Agreement, insurance documents evidencing coverage as required by Document 00700, Article 11, "Indemnification and Insurance."

ARTICLE 22 — EXECUTION OF CONTRACT AGREEMENT

22.01 The form of Agreement which the successful Bidder, as Contractor, must execute, and the form of Contract Bonds and Insurance coverage that it must provide are included in the Bid Documents and must be carefully examined by each Bidder. All Contract Bonds, policies or certificates of insurance, and Insurance policy endorsements must be delivered with or before the delivery of the signed Agreement form, and must be acceptable to Owner.

22.02 The Bidder to whom the Contract is Awarded by Owner must, within fourteen (14) calendar Days after the Notice of Intent to Award, sign and deliver the following documents to the Project Manager, Capital Projects, General Services Department, at 1105 Santa Barbara Street, Santa Barbara, CA 93101:

1. Three (3) duplicate originals of the signed Agreement form furnished by Owner in the Bid Documents. (Document 00500, "Agreement");
2. One (1) original and two (2) copies of the Performance Bond. (Document 00611, "Performance Bond Form");
3. One (1) original and two (2) copies of the Payment Bond for Public Works. (Document 00612, "Payment Bond Form";

4. Policies of Insurance, Insurance certificates and endorsements as required by the Bid Documents and the Contractors Insurance Cost Worksheet in accordance with the OCIP Contractors Insurance Procedures Manual;
5. Worker's Compensation Certification document; and
6. Other Documents as required.

22.03 Should Contractor begin Work in advance of the start date for the Work, as stated in the Notice to Proceed, the Work will be considered as having been done at Contractor's risk as a volunteer.

ARTICLE 23 — FAILURE TO EXECUTE CONTRACT AGREEMENT

23.01 Failure of the successful Bidder to execute the Agreement and provide required Bonds and Insurance Documents in the form satisfactory to Owner and within the stipulated time frames may serve as just cause for the annulment of the Award and the forfeiture of the Bidder's Security.

23.02 If the Bidder to whom the Contract is awarded does not file the documents required by the Bid Documents, files unsatisfactory documents, or refuses to enter into a Contract within the specified time, the Bidder is liable for any difference by which the cost of procuring the Work exceeds the amount of its Bid. The Bidder's Security will be used to offset such difference.

ARTICLE 24 — NO ORAL AGREEMENTS

24.01 No conversation with any officer, employee, agent or Consultant of Owner, either before, during, or after the execution of the Agreement, affects or modifies any terms or obligations contained in the Contract Documents, nor entitle Contractor to any adjustment in the Contract Time or Contract Sum whatsoever.

ARTICLE 25 — BID PROTEST

25.01 Overview

.A The County of Santa Barbara will endeavor to process Bid Protests in a timely and consistent manner to assure that all prospective contractors are accorded fair and equal consideration for the award of County contracts.

.B Eligible Protestors- Only Project Bidders may submit a Protest.

.C Basis for Protest - The grounds for a Protest may include any grounds a Protestor may have for contesting or challenging the award of a construction contract to any Bidder.

.D Timely Protests – All Protests must be received by the deadline included in this Section.

25.02 Protest Format

.A Content - All Protests shall reference any pertinent County, State, Federal, or local laws or regulations that are relied upon in support of the Protest. Any documents relevant to the Protest must be submitted at the time that the Protest is filed. The County, in its sole discretion, may decide the Protest without requesting further submittal(s) from the party submitting the Protest. Thus, the Protest should include all matters that the party wishes the County to consider in deciding the Protest outcome.

At a minimum, the following must be included in the Protest:

1. The name and address of the Protesting party and its relationship to the bid.
2. The signature of the Protestor or its representative.
3. Identification of the proposed contract/project.
4. Description of the nature of the Protest.
5. Identification of the provision(s) of the solicitation, regulations, or laws upon which the Protest is based (i.e., identification of the technical specifications or item of content in the

bid).

A. The Protest must contain a complete statement of all grounds for the Protest, and must refer to the specific portion of the Contract Documents that are the basis of the Protest.

B. The Protest must set forth all supporting facts and documentation.

6. Copies of all (or any) documentation supporting the allegations in the Protest.

7. Statement of the specific relief requested.

25.03 Protest Procedures

.A Timeline for filing a Protest

1. All Protests related to Contract Award must be submitted in writing via e-mail to the Owner's Authorized Representative (OAR) David Chanley at dchanley@countyofsb.org no later than 5 p.m. PST of the fifth (5) business Day following the date upon which the bids were opened.

2. If a Protestor objects to a Construction Contract being awarded to the Protestor on the grounds that the Protestor made a mistake in its bid that entitles the Protestor to be relieved of its bid under Public Contract Code Sections 5100 *et seq*., the Protest must be submitted in writing to the OAR before 5 p.m. PST of the fifth (5) business Day following the date upon which the bids were opened pursuant to Public Contract Code § 5103.

.B Method for Submission

1. Protests must be submitted in writing via e-mail to the OAR in a cohesive manner, with all content and supporting facts presented in the form of PDF attachment(s).

2. It is the Protestor's responsibility to ensure that the OAR receives its Protest. The County is not responsible for e-mail transmission failures due to error, file size, or any other factor and encourages Protestors to adequately confirm receipt.

3. Protestor must also submit, in writing, a copy of the Protest directly to all Bidders.

.C Responses, Replies and Additional Information

1. Responses and Replies- All responses and replies must be in writing.

A. If any Bidder desires to respond to the Protest, the Response must be submitted in writing via e-mail to the OAR within five (5) business Days of the date the Protest was first delivered to all Bidders.

2. Additional Information- Owner, including, but not limited to, the OAR, Protest Resolution Committee (PRC), or any other County representative, may request additional written information from Protestor or other Bidders or any other source. All follow-up information is to be transmitted in the same manner as indicated in this Section.

.D Proof of Transmittal- All Protests, Responses, Replies, and Additional Information shall include documentation evidencing that all Bidders were concurrently sent a complete copy of the respective Protest, Response or Reply.

25.04 Protest Resolution

.A Summary Dismissal of Protest – OAR may summarily dismiss a Protest, at any time, if the Protest is without merit, untimely, fails to include the required Protest Format contents in accordance with Article 25.02A, was not submitted in accordance with Article 25.03B, or is submitted by a non-Bidder. OAR will issue a notice of summary dismissal to all Bidders.

.B The OAR shall decide all Protests based upon the written information submitted by the Protestor in accordance with Articles 25.02 and 25.03 above. The OAR may request

additional written information in accordance with Article 25.03 above. Protestors will not be allowed to make oral presentations to the OAR, and any oral representations made to the OAR will not be considered in the OAR's decision.

.C The OAR shall attempt to resolve the Protest in a fair and equitable manner and shall render a written decision to the Protestor within fifteen (15) Days of the date the OAR determined he/she is in receipt of all information deemed to be pertinent to the Protest. The decision will be transmitted via e-mail to the Protestor and all Bidders. The County reserves the right to extend the deadline for good cause.

.D OAR's decision may be appealed to the Protest Resolution Committee (PRC) in accordance with Article 25.05. OAR's decision will be final if no appeal has been filed pursuant to Article 25.05.

25.05 Protest Appeal and Resolution

.A Appeal of OAR decision-

1. The Protestor may appeal the OAR's decision by delivering written notice of appeal of the decision no later than 5:00 p.m. PST on the fifth (5) full business Day after the date of the written decision. The appeal should be e-mailed to the OAR, and clearly noted as an appeal of the OAR's Decision. The written Notice of Appeal shall also be submitted to all Bidders with Proof of Transmittal provided to OAR.

2. The notice of appeal shall include the complete record of the Protest for review, which includes the Protest, any and all Responses, Replies, Additional Information, Proof of Transmittal, and Notice of Appeal.

.B Protest Resolution Committee (PRC) - Upon review of the appeal and confirmation that it is in conformance with all Protest requirements, a Protest Resolution Committee (PRC), comprised of County administration, and others at the discretion of the County, shall have the authority to resolve the appeal. The OAR shall not be a member of the PRC but shall administer the appeal.

.C Oral Presentations – Once the PRC is presented with a complete record of the Protest and appeal for review, then oral presentations will be scheduled and shall be conducted in accordance with the following procedure:

1. Notice of Oral Presentation - The OAR will set a date, time, and place for an oral presentation. Written notice will be sent to Bidders not less than five (5) business Days in advance of the oral presentation unless it is agreeable to all parties that an earlier date be established. Continuances may be granted by the County for good cause.

2. Guidelines for Oral Presentation –

   A. Oral presentations are informal in nature and shall be made by the Protestor or its authorized representative.

   B. The OAR will determine the format of the oral presentations and may set time limits for the presentation.

   C. At the request of the PRC, the OAR may request additional documentation or information prior to, during or after the oral presentation. Unless requested by the PRC, additional documentation or information may not be accepted.

   D. Technical rules of evidence shall not apply.

   E. The PRC members may question the Protestor and all Bidders, or provide an opportunity for Bidders to make an oral presentation.

3. Record of Oral Presentation - Any Bidder may request, and, at the County's sole

discretion, the PRC may allow transcription or audio recording of the presentation. If the PRC allows the presentation to be recorded or transcribed, the Bidder requesting that the presentation be recorded must pay the cost of recording or transcription, including the costs to make and distribute copies of the recording to the Committee and other Bidders. There shall be no cost to the County.

.D Final Decisions - The OAR will issue to all Bidders the PRC's written decision. The PRC's written decision will be based on the information submitted by the Protestor and other Bidders and any oral presentations heard by the PRC and issued within fifteen (15) calendar days of the oral presentation; however, the time for issuing the written decision may be extended at the County's sole discretion for good cause. The decision shall be the final decision of the County with no provision for reconsideration or appeal to the Board.

25.06 Additional Protest Information

.A Suspension of Process for Proposed Rejection of all Bids - At any time during the processing of a Protest, General Services may elect to indefinitely suspend any further processing of the Protest by providing written Notice of Suspension to all Bidders. The Notice of Suspension shall state that General Services intends to recommend to the Board that all bids be rejected. All time deadlines provided in this Section shall be tolled during any such suspension period. If the Board decides to not reject all bids or if General Services otherwise decides to lift the suspension, the requirements of this Policy shall be reactivated upon the OAR providing all Bidders with written Notice of Reactivation.

.B Protest Remedies – Protestors must exhaust any remedies under this Section before instituting litigation. Protest remedies will not include attorney's fees.

.C Administration of Protests - The Owner may assign staff to conduct the administrative processing of Protests filed with the County. Assigned staff shall be responsible for proper distribution of Protest submittals and responses, coordination of staff evaluation of the Protest, compliance with the time limits stated herein, and maintenance of all documents related to the Protest.

.D Right to Continue Award of Contract – In the event of a timely Protest, the County may delay the solicitation or award until such time as a decision is rendered but, the County, in its sole discretion, reserves the right to award the contract without delay if it is deemed in the best interest of the County.

ARTICLE 26 – FORM – CONTRACTOR REQUEST FOR CLARIFICATION

26.01 Form can be provided upon request

END OF DOCUMENT 00200

DOCUMENT 00300

INFORMATION AVAILABLE TO BIDDERS

ARTICLE 1 — NOT USED

ARTICLE 2 — PURPOSE OF INFORMATION

2.01 GENERAL

.A The information referenced in this Document 00300 is available for Bidder's review.

.B The information is furnished as reference material and is not part of the Contract Documents.

.C The information is to be used by Bidders "For Information Only".

2.02 OWNER'S DISCLAIMER

.A The Owner assumes no responsibility for completeness or accuracy of survey investigations, records compiled therefrom, or interpretation(s) contained in the subsequent report(s).

.B Survey investigations were performed for purposes of study and design, and there is no expressed or implied warranty that conditions indicated in the report(s) are representative of those existing throughout the Project, structures, or site.

.C Conditions differing substantially from those indicated in the information referenced in Document 00300 may be encountered.

ARTICLE 3 — INFORMATION AVAILABLE TO BIDDERS

3.01 GEOTECHNICAL AND SOILS REPORT

.A Title: Preliminary Geotechnical Investigation, Proposed Improvements to Existing Cachuma Trailer Resort (CTR), 2225 Highway 154, County of Santa Barbara, California

.B Dated: September 14, 2022

.C Author: Pacific Materials Laboratory of Santa Barbara, Inc.

.D Availability: Download from Public Purchase Site

3.02 Stormwater Pollution Prevention Plan

.A Title: Stormwater Pollution Prevention Plan for Cachuma Lake CTR Renewal

.B Dated: June 6, 2023

.C Author: Ashley & Vance Engineering, Inc

.D Availability: Upon request

3.03 Structural Calculations - Restrooms

.A Title: Structural Calculations For: Building Department Submittal

.B Dated: June 8, 2023

.C Author: Hume Engineers

.D Availability: Upon request

3.04 Structural Calculations – Trash Enclosures

.A Title: Structural Calculations For: Building Department Submittal

.B Dated: June 8, 2023

.C Author: Hume Engineers

.D Availability: Upon request

END DOCUMENT 00300

BID FORM

1. Pursuant to and in compliance with your Notice to Bidders and the Contract Documents relating to the construction of:

COUNTY OF SANTA BARBARA
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033
Bid Due Date: Thursday, August 24, 2023, at 3:00 P.M.

including Addendum No(s). ___, ___, ___, ___,___, ___, ___, the undersigned bidder, having become thoroughly familiar with the terms and conditions of the Contract Documents and with local conditions affecting the performance and the costs of the Work at the place where the Work is to be done, hereby proposes and agrees to fully perform the Work within the time stated in and in strict accordance with the Contract Documents (including the furnishing of any and all labor, materials, tools, expendable equipment and utility and transportation services necessary to fully perform the work and complete it in a workmanlike manner) for the total sum of:

2. **BASE BID**:

$ | | | , | | | | , | | | | . | | |

(Place figures in appropriate boxes.)

Estimated number of work days: _____

3. It is understood that Owner reserves the right to reject the proposal and that it shall remain open and not be withdrawn for a period of sixty (60) calendar days from the date prescribed for its opening.

4. Attached hereto and incorporated herein is the complete and entire list of subcontractors to be employed by the undersigned and in the performance of the Work.

5. It is understood and agreed that if written notice of the acceptance of this proposal is mailed or delivered personally to the undersigned bidder within thirty (30) calendar days after the opening of the proposal, or at any time thereafter before it is withdrawn, the undersigned bidder will execute and deliver the Contract Documents to Owner in accordance with the proposal as accepted, and will also furnish and deliver to Owner any Payment Bond required under the provisions of California Civil Code Section 3247 through 3252 and Performance Bond as required under the provisions of the California Government Code and/or California Public Contract Code all within fourteen (14) calendar days after personal delivery or deposit in the mails, as the case may be, of the notifications of award. The work under the contract shall be commenced by the undersigned bidder on the date stated in COUNTY'S written Notice to Proceed and shall be completed within **60 calendar** days thereafter.

6. Notice of acceptance or request for additional information may be addressed to the undersigned bidder at the business address set forth below.

7. The bid, contract or other submittal of the CONTRACTOR identified below in connection with the foregoing project is not made in the interest of or on behalf or any undisclosed person, partnership, company, association, organization, or corporation; and that the bid is genuine, and not collusive or sham; that the undersigned bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid and has not directly or indirectly colluded, conspired, connived or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding; that the undersigned bidder has not directly or indirectly sought by agreement, communication or conference with anyone to fix his bid price or the bid price of any other bidder or to fix any overhead, profit or cost element of such bid price or of that of any other bidder or to secure any advantage against the COUNTY of Santa Barbara of anyone interested in the proposed contract; or all statements contained in this proposal are true; and that the undersigned bidder has not directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay any fee to any corporation, partnership, company association, organization, Bid Depository or to any member or agent thereof to effectuate a collusive or sham bid. I declare under the penalty of perjury under the laws of the State of California that the foregoing is true and correct.

8. Wherever in this proposal an amount is stated in both words and figures, in case of discrepancy between words and figures the words shall prevail; if all or any portion of the proposal is required to be given in unit prices and totals and a discrepancy existing between any such unit prices and totals so given, the unit prices shall prevail.

9. In accordance with the provisions of Sections 1860 and 1861 of the California Labor Code, every CONTRACTOR will be required to secure the payment of compensation of his or her employees. Each CONTRACTOR to whom a public works contract is awarded shall sign the following certification prior to performing the work of the contract: "I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract."

10. Protests of any bid(s) received must be in writing, must specify all grounds for the protest, and must be filed within ten working days after the opening of bids.

CONTRACTOR

_____ IRS No.: _____
Company

_____ License Classification(s): _____
Street Address

_____ Phone Number: _____
City

BY: _____ _____
Signature Printed Name, Title

DESIGNATION OF SUBCONTRACTORS

The bidder agrees if this proposal is accepted, that he will contract with the County of Santa Barbara to do all work and furnish all labor, materials, machinery, tools and apparatus necessary to completely perform said Contracts in the manner and time prescribed by said Contract.

COUNTY OF SANTA BARBARA
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033
Bid Due Date: Thursday, August 24, 2023, at 3:00 P.M.

In compliance with the provisions of Section 4100-4107 of the Public Contract Code of the State of California, and any amendments, thereof, the undersigned bidder has set forth below the name and location of the place of business of each subcontractor who will perform work or labor or render service to the undersigned in or about the construction of the work to be performed. That portion of the work which will be done by each subcontractor for each subcontract in excess of one-half of one percent of the undersigned's total aggregate bid shall be listed.

DIVISION OF WORK	SUBCONTRACTOR	LIC NO.	LOCATION

COMPANY:_____ BY: _____
Bidder's Signature

NOTE: This form may be reproduced and attached behind this page to list more Subcontractors.

NONCOLLUSION AFFIDAVIT

In accordance with Public Contract Code § 7106. _____

(Bidder's full name)

being first duly sworn, deposes and says that he or she is _____

(Bidder's title)

of _____

(Company's name)

the party making the foregoing Bid, that the Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the Bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham Bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham Bid, or that anyone shall refrain from bidding; that the Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the Bid price of the Bidder or any other Bidder, or to fix any overhead, profit, or cost element of the Bid price, or of that of any other Bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed Contract; that all statements contained in the Bid are true; and further, that the Bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham Bid and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

SIGNATURE BLOCK (*Signature Block **must be completed in** ink**& changes must be** initialed*.)
Bidder's Signature:_____**Date:**_____ **Bidder's Name & Title (Print):**_____ At CITY: _____ STATE: _____

CERTIFICATE OF COMPLIANCE

This is to certify that all requirements for insurance of subcontractors as specified for this project will be met.

Dated

Signature of Principal

Printed Name, Title of Principal

Company

Address

City, State & Zip

BIDDER'S STATEMENTS

REGARDING INSURANCE COVERAGE:

Bidder hereby certifies that he has reviewed the insurance coverage requirements specified in the Contract Forms. Should he be awarded the contract for the work, Bidder further certifies that he can meet all the Contract Specification requirements for insurance including insurance coverage of his subcontractors.

REGARDING PUBLIC CONTRACT CODE SECTION 10232:

In accordance with Public Contract Code Section 10232, the Contractor hereby states, under penalty of perjury, that no more than one final unappealable finding of contempt of court by a Federal Court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a Federal Court which orders the Contractor to comply with an order of the National Labor Relations Board.

REGARDING PUBLIC CONTRACT CODE SECTION 10162:

In accordance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing, a federal, state, or local government project because of a violation of law or safety regulation?

Yes ____ No ____

(If the answer is yes, explain the circumstances on a separate sheet of paper and attach to proposal)

_____ _____

Date Signature of Principal

_____

Printed Name, Title of Principal

_____

Company

_____

Address

_____

City, State & Zip

ANTI-FRAUD CERTIFICATION

COUNTY OF SANTA BARBARA
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033
Bid Due Date: Thursday, August 24, 2023, at 3:00 P.M.

In accordance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury that the bidder **has ___, has not ___**, been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or federal antitrust law in connection with the bidding upon award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or Trustees of the California State University.

The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

NOTE: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided.

Date

Signature of Principal

Printed Name, Title of Principal

Company

Address

City, State & Zip

BIDDER'S BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____ as Principal, and _____ as Surety (hereinafter referred to as Surety), are held firmly bound unto the County of Santa Barbara, State of California (hereinafter called "Owner") in the penal sum of Ten Percent (10%) of the total aggregate amount of the bid of the Principal above named, submitted by said Principal to Owner for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents. Surety shall be and hereby warrants that it is listed in the Insurance Organizations Authorized by the Insurance Commissioner to Transact Business of Insurance in the State of California, published by the Department of Insurance, State of California or successor publications. In no case shall the liability of the Surety hereunder exceed the sum of _____ DOLLARS ($_____). The condition of this obligation is such that a bid to Owner for certain construction specifically described as follows:

COUNTY OF SANTA BARBARA
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033

for which bids are due on Thursday, August 24, 2023, at 3:00 P.M. has been submitted by Principal to Owner.

NOW, THEREFORE, if the aforesaid Principal shall not withdraw said bid within the period therein after the opening of the same, or, if no period be specified within sixty (60) days after said opening and shall within the period specified therefore, or, if no period be specified, within eight (8) days after the prescribed forms are presented to him for signature, enter into a written Contract with Owner, in the prescribed form, in accordance with the bid as accepted, and file the two Bonds with Owner, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by law, then this obligation shall be null and void; otherwise, it shall remain in full force, virtue and affect.

Said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any manner affects its obligations on this bond, and it does hereby waive notice of any change, extension, alteration, or addition.

It is hereby agreed that any progress payment made after the scheduled completion date will not constitute a waiver of any liquidated damages heretofore agreed upon.

In the event suit is brought upon said Bond by Owner and judgment is recovered, the Surety shall pay all costs incurred by Owner in such suit, including a reasonable attorney's fee to be fixed by the Court.

Death, Bankruptcy, Receivership, Going Out of Business for any reason, or incompetence of the Principal shall not relieve the Surety of its obligations hereunder.

_____
Name of Principal

Dated _____ _____ (Seal)
Signature of Principal

_____
Name of Surety

_____
Address

_____
City, State & Zip

Dated _____ _____ (Seal)
Signature of Principal
Signature of Surety's Attorney-in-fact

Surety's Agent for Service of Process (located within the State of California):

_____
Name of Agent

_____
Address

_____
City, State & Zip

_____
Telephone Number

_____
FAX Number

NOTE: Signatures of those executing for Surety MUST be properly acknowledged. This form may be reproduced for transmittal to the Surety for execution and attached to the front of the original Bid Bond Form.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

That the County of Santa Barbara of the State of California (hereinafter referred to as the County) and _____ (hereinafter referred to as Principal) have by written agreement dated _____, entered into a contract identified as:

Project Title: County of Santa Barbara
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033

(Hereinafter referred to as the Contract) and

That, pursuant to law and to said Contract, and before entering upon the performance of said Contract, the principal is required to file with the County a good and sufficient bond to secure the payment of labor and materials claims.

NOW, THEREFORE, said Principal and _____

_____

as corporate surety (hereinafter referred to as Surety), are held firmly bound unto the County in the amount of $_____, for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns both jointly and severally. Surety shall be and hereby warrants that it is listed in the Insurance Organizations Authorized by the Insurance Commissioner to Transact Business of Insurance in the State of California, published by the Department of Insurance, State of California or successor publications.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said principal, his or its subcontractors, heirs, executors, administrators, successors, or assigns, shall fail to pay any of the persons named or referred to in Section 9100 of the California Civil Code, or amounts due under Unemployment Insurance Code with respect to work or labor performed by any such claimant, or for any amounts required to be deducted, withheld and paid over to the Employment Development Department from the wages of employees of the Contractor and his subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor as required by the California Civil Code, or this bond, then said Surety will pay for the same, in an amount not to exceed the amount hereinafter set forth.

This bond shall insure to the benefit of any and all persons, entities, companies and corporations named or referred to in Section 9100 of the California Civil Code, so as to give a right of action to them or their assign in any suit brought upon this bond.

And the said Surety, for value received, hereby agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed thereunder, or the Specifications accompanying the same, shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Specifications.

In the event suit is brought upon this Bond by County and judgment is recovered, Surety shall pay all costs incurred by the County in such suit, including a reasonable attorney's fee to be fixed by the court.

Death, illness, disability or disqualification of the Principal shall not relieve Surety of its obligations hereunder.

_____	_____
Principal	Surety
By: _____	_____
	Signature of Attorney-in-fact
DATED: _____	_____
	_____
	Address
	_____
	City, State & Zip Code

Surety's Agent for Service of Process (located within the State of California):

_____
Name of Agent
_____
Address
_____
City, State & Zip Code
_____
Telephone Number
_____
FAX Number

NOTE: Signature of those executing for Surety must be properly acknowledged.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That the County of Santa Barbara of the State of California (hereinafter referred to as the County) and _____ (hereinafter referred to as Principal) have by written agreement dated _____, entered into a contract identified as:

Project Title: County of Santa Barbara
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033

(Hereinafter referred to as the Contract) and

That, pursuant to law and to said Contract, and before entering upon the performance of said Contract, the Principal is required under the terms and conditions of said Contract to furnish a bond for the faithful performance of Contract.

NOW, THEREFORE, said Principal and _____

_____

as corporate surety (hereinafter referred to as Surety), are held firmly bound unto the County in the amount of $_____, for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns both jointly and severally. Surety shall be and hereby warrants that it is listed in the Insurance Organizations Authorized by the Insurance Commissioner to Transact Business of Insurance in the State of California, published by the Department of Insurance, State of California or successor publications.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Principal, his heirs, executors, administrators, successors, or assigns, shall perform all of the covenants, conditions and agreements in said Contract and any alteration thereof made as herein provided, in his or their part, to be kept and performed at the time, and in the manner therein specified, and shall indemnify and save harmless County, its officers, agents, and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force, virtue and effect.

And the said Surety, for value received, hereby agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed thereunder, or the specifications accompanying the same shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or additions to the terms of the Contract or to the work or to the specifications.

In the event suit is brought upon this Bond by County and judgment is recovered, Surety shall pay all costs incurred by the County in such suit, including a reasonable attorney's fee to be fixed by the court.

Death, illness, disability or disqualification of the Principal shall not relieve Surety of its obligations hereunder.

_____	_____
Principal	Surety
By: _____	_____
	Signature of Attorney-in-fact
DATED: _____	_____
	_____
	Address
	_____
	City, State & Zip Code

Surety's Agent for Service of Process (located within the State of California):

_____
Name of Agent

_____
Address

_____
City, State & Zip Code

_____
Telephone Number

_____
FAX Number

NOTE: Signature of those executing for Surety must be properly acknowledged.

CONTRACT FORMS

CERTIFICATE OF INSURANCE
TRANSMITTAL FORM

FOR THE FOLLOWING DESCRIBED PROJECT:

County of Santa Barbara
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033

CONTRACTOR:

_____
Name

_____
Address

_____
City, State & Zip Code

The successful bidder shall furnish satisfactory proof of the maintenance of adequate Worker's Compensation Insurance, and the maintenance of Comprehensive General and Automobile Liability Insurance in the amount of not less than $1,000,000 per occurrence and $2,000,000 in the aggregate. The County of Santa Barbara (COUNTY), its officers, employees, and agents shall be named as additional insured on all certificates. A copy of the endorsement evidencing that the County has been added to the policy must be attached to the certificate of insurance. Said policy or policies shall provide that the COUNTY shall be given thirty (30) days written notice prior to cancellation or expiration of the policy or reduction in coverage. Refer to section 5.18 of the General Conditions.

In addition to the above, the following information must appear on the certificates:

County of Santa Barbara
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033

This form must be attached to all insurance forms sent to the County of Santa Barbara, General Services Department:

_____
Authorized Insurance Company Representative's Signature

This form may be reproduced as required.

COUNTY OF SANTA BARBARA UNLAWFUL DISCRIMINATION ORDINANCE

Section 2-95. Prohibition of unlawful discrimination in employment practices. The COUNTY reserves the right to terminate forthwith each and every written contract and agreement (except purchase orders) respecting real property for goods and/or services entered into by the COUNTY or by its joint powers, agencies, or agents with the consent of the other parties (hereinafter called "CONTRACTOR") including but not limited to concessions, franchises, construction agreements, leases, whether now in effect or hereinafter made if the COUNTY finds that the CONTRACTOR is discriminating or has discriminated against any employee or applicant for employment in violation of any applicable state or federal laws, rules, or regulations which may now or hereafter specifically prohibit such discrimination on such grounds as race, religion, sex, color, national origin, physical or mental handicap when otherwise qualified, Vietnam war veteran/disabled, age, medical condition, marital status, ancestry, sexual orientation, or other legally protected status.

Such finding may only be made after CONTRACTOR has had a full and fair hearing on notice of thirty (30) days before an impartial hearing officer at which hearing CONTRACTOR may introduce evidence, produce witness, and have the opportunity to cross-examine witnesses produced by the COUNTY. Further, any finding of discrimination must be fully supported by the facts developed at such hearing and set forth in a written opinion; and in addition, CONTRACTOR may move in the appropriate court of law for damages and/or to compel specific performance of a CONTRACTOR or agreement if any of the above procedures are not afforded to the CONTRACTOR. If CONTRACTOR is not found to have engaged in unlawful discriminatory practices, COUNTY shall pay all costs and expense of such hearing, including reasonable attorney's fees to CONTRACTOR in accordance with current Santa Barbara County Superior Court schedule of attorney's fees for civil trials. If CONTRACTOR is found to have engaged in such unlawful discriminatory employment practices, CONTRACTOR shall pay all such costs, expenses, and attorney's fees.

Whether or not a contract or agreement is still in existence at the time of final determination of such unlawful discrimination, the CONTRACTOR shall forthwith reimburse COUNTY for all damages directly stemming from such discrimination; however, those damages shall not exceed and are not reimbursable in an amount which exceeds amounts paid CONTRACTOR under the terms of the contract or agreement.

Nothing in this Section 2-95 shall directly or by interpretation give a private cause of action to any third party (not a signatory to the contract or agreement) including employees past or present, or applicants for employment to CONTRACTOR, it being the sole purpose of this clause to administratively assure compliance with the nondiscrimination clauses contained herein.

Employment practices shall include, but are not limited to employment, promotion, demotion, transfer, recruitment and advertising for recruitment, layoff or other termination, rate of pay, employee benefits, and all other forms of compensation selection for training and apprenticeship and probationary periods.

CONTRACTOR shall permit access at all reasonable time and places to all of its records of employment, advertising, application forms, tests, and all other pertinent employment data and records, to the COUNTY, its officers, employees, and agents for the purpose of investigation to ascertain if any unlawful discrimination as described herein has occurred or is being practiced, provided that such records are relevant to a complaint of an unlawful discriminatory practice which has been forwarded to CONTRACTOR reasonably prior to the time CONTRACTOR is asked to make such records available. In addition, all such records shall be deemed "Confidential" by the officers, employees, and agents of the COUNTY. No records or copies of such records may be removed from the premises of CONTRACTOR and no disclosure, oral, or written of such record, may be made to third parties except as provided within the agreement.

Provided, however, that in the event of a hearing to determine whether or not CONTRACTOR is engaging in unlawful discrimination in employment practices as defined herein, the Board of Supervisor of Santa Barbara County may issue subpoenas to require that certified copies of such records be made available to the hearing.

Failure to fully comply with any of the foregoing provisions relating to unlawful discrimination in employment practices shall be deemed to be a material breach of any contract or agreement with the COUNTY. All persons contracting with or who have contracts for goods or services with the COUNTY shall be notified that this chapter applied to their contract or agreement with the COUNTY (Ordinance No. 2946, SS1; Ordinance No. 2993, SS1; and Ordinance No. 3018, SS1).

Section 2-95.5. Exceptions. Notwithstanding any other provisions in this article, any party contracting with the COUNTY having an affirmative action program which has been approved within twelve (12) months from the date of the contract by an agency of the federal government shall be deemed to be in compliance with the provisions of this article upon furnishing documentary evidence of such approval satisfactory to the COUNTY affirmative action officer. Loss of such approval shall be immediately reported by such party to the COUNTY affirmative action officer.

Section 2-96. Purchase orders. Purchase orders shall contain the following clause as grounds for termination of such purchase orders:

"If complaint is made that seller is engaging in discriminatory employment practices made unlawful by applicable state and federal laws, rules, or regulations, and the State Fair Employment Practice Commission or the Federal Equal Employment Opportunities Commission determines that such unlawful discrimination exists, then the COUNTY may forthwith terminate this order." (Ordinance No. 2946, SS 1)

Section 2-97. Affirmative action officer. At the discretion of the COUNTY affirmative action officer, he or she shall promptly and thoroughly investigate, or cause to be investigated reports and complaints from whatever source, that any party contracting with the COUNTY is engaging, or during the term of a contract or agreement with the COUNTY has engaged, in any unlawful discriminatory employment practices as described in Section 2-95 of this Code. If the investigation discloses reason to believe such unlawful discrimination does exist or has existed and the conditions giving rise thereto have not been changed so as to prevent further such unlawful discrimination, and the said party shall forthwith terminate such unlawful discrimination, take all appropriate steps to prevent a recurrence of such or other unlawful practices, and compensate the person or persons unlawfully discriminated against for any and all loss incurred by reason of such unlawful discrimination, all to the satisfaction of the affirmative action officer, then the affirmative action officer shall cause the matter to be presented for action to the State Fair Employment Practices Commission or the Federal Equal Employment Opportunities Commission, or both, and to any other concerned state or federal agencies or officers.

If and when it has been finally determined by the affirmative action officer, COUNTY counsel, or state or federal regulatory agencies that such unlawful discriminatory employment practice has in fact so occurred or are being carried on, then the affirmative action officer shall forthwith present the entire matter to the Board of Supervisors of the COUNTY, together with all damages, costs, and expense related thereto and incurred by COUNTY, for appropriate action by the Board of Supervisors in accord with the intent and purposes of this article and of the affirmative action program of the COUNTY (Ordinance No. 2946, SS 1)

COUNTY OF SANTA BARBARA
AGREEMENT FOR:
General Services Project No. 20033
County of Santa Barbara
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
BC:_____-_____

THIS AGREEMENT ("Agreement") is made by and between the County of Santa Barbara, a political subdivision of the State of California ("**COUNTY**"), and {FULL LEGAL NAME OF CONTRACTOR} ("**CONTRACTOR**"), for the completion of the Work (defined below), on the following terms, conditions, and provisions:

1. CONTRACT: This Agreement incorporates by reference all of the General and Special Conditions, Specifications and Drawings provided by the COUNTY for the Cachuma Lake Recreational Vehicle Site Renewal, 20033, the Notice to Bidders as amended by Addenda Number, the Bid Bond, the Performance Bond, the Payment Bond, and the proposal executed and submitted by the CONTRACTOR for the Project ("Proposal"), to the extent the Proposal is consistent with the provisions of this Agreement other than the Proposal (all of the foregoing documents, together with this Agreement, collectively, the "Contract" or "Contract Documents"). A copy of each of the General and Special Conditions, Specifications and Drawings provided by the COUNTY for the Cachuma Lake Recreational Vehicle Site Renewal, 20033, the Notice to Contractors, the Bid Bond, the Performance Bond, and the Payment Bond are attached hereto as EXHIBIT A, and a copy of the Proposal is attached hereto as EXHIBIT B. All capitalized terms used but not defined herein shall have the respective meanings ascribed to such terms in the Notice to Bidders. Copies of all Contract Documents are on file in the Department of General Services Office of the COUNTY, and have been and will be made available to the CONTRACTOR during the term of this Agreement. CONTRACTOR acknowledges receipt of all Contract Documents.

2. WORK: CONTRACTOR, at CONTRACTOR's own cost and expense, shall perform all the work described in the Contract Documents ("Work"), and shall furnish all equipment and materials necessary to perform and complete the Work, in a good and workmanlike manner and to the satisfaction of the Director of General Services of the COUNTY, all in strict accordance with the Plans and the Contract Documents.

3. EXCAVATIONS: Before any pavement resurfacing, displacement, or excavation of the ground that may be required in connection with the Work under this Contract, the CONTRACTOR shall obtain an inquiry identification number by calling Underground Service Alert (USA) 1 (800) 422-4133 or by such other means as may be required; shall conform to all requirements of Sections 4215 through 4217 of the Government Code regarding any such pavement resurfacing, displacement or excavation, including the payment of any fees required; and shall facilitate performance by the COUNTY of any obligation required of the COUNTY under the Government Code. There shall be no performance under this Contract by either party hereto unless and until CONTRACTOR complies with all of the foregoing provisions of this Sections 3, and notifies the County Representative (defined below) in writing regarding such compliance.

4. COUNTY REPRESENTATIVE: The "County Representative" referred to in the Contract Documents is {COUNTY REPRESENATIVE NAME}.

5. PAYMENT: As full compensation for furnishing all labor, supervision, overhead, materials, and equipment and for completing all of the Work contemplated by this Contract, and subject to adjustments and liquidated damages, if any, as provided in the Contract Documents, the base amount to be paid to the CONTRACTOR for satisfactory completion of all requirements of the CONTRACTOR under this Contract is and shall be {WRITTEN AMOUNT IN DOLLARS AND CENTS} ($NUMERICAL) ("Base Contract Amount"), to be paid as provided in the Contract Documents. The CONTRACTOR assumes and will provide against any loss or damage arising out of the nature of the Work undertaken, or the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the performance of the Work until its acceptance by the COUNTY, and assumes any and all expenses incurred by or in consequence of suspension or discontinuance of the Work, for well and faithfully completing the Work and the whole thereof, in the manner and to the requirements of the Contract and directions of the County Representative.

6. **RIGHT TO AUDIT**: CONTRACTOR shall maintain and make available all books, papers, records, detail costs,

estimates, claims, and accounts, including payment, property, payroll, personnel, subcontractors, and financial records related to or which arise in connection with the Contract (collectively, the "Records"). The form of record keeping with respect to the Records shall be subject to approval by COUNTY. The Records shall be made available during normal business hours for examination by COUNTY or the County Representative and shall be retained at CONTRACTOR'S principal place of business in California for audit during normal business hours at such place for four (4) years after the recording of the Notice of Completion for the Project. CONTRACTOR shall provide an office in which COUNTY and the County Representative may conduct such audit(s).

The COUNTY will have the right to audit CONTRACTOR'S Project records. Records must be made available in a form satisfactory to the Santa Barbara County Auditor-Controller.

7. EXTRA WORK: Extra work, materials, resolution of disputes, corrections, and/or changes to the specifications as are required for the proper completion of the Work contemplated in the Contract Documents may be effected or authorized in writing duly executed by the County Representative, including agreement(s) providing for compensation in addition to the Base Contract Amount at the same rate per unit (or at a corresponding rate for work that is different from that provided for in the Contract Documents); provided, however, that the aggregate amount of such compensation in addition to the Base Contract Amount shall not exceed ten percent (10%) of the Base Contract Amount or $25,000, or $25,000 + 5% of the amount of the bid in excess of $250,000. Compensation in such other equitable amount as is appropriate for the requirements of the COUNTY may be authorized by resolution or minute order of the Santa Barbara County Board of Supervisors. The County Representative may agree upon an appropriate additional time to be allowed as required for such extra work, materials, resolution, or changes.

8. COMPLIANCE WITH LAW, AMENDMENTS: CONTRACTOR shall keep fully informed of, and shall at all times during the Term ensure the performance of the Work is in compliance with, all laws, statutes, ordinances, decrees, orders, and regulations which do or may affect the Project, performance of the Work, the materials used therein, or persons engaged in connection therewith, and all such orders of bodies and tribunals having any jurisdiction over same (collectively, "Applicable Laws"). If it be found that the Special Provisions or Standard Specifications for the Work conflict with any Applicable Law(s), the CONTRACTOR shall immediately report same to the County Representative in writing. CONTRACTOR shall at all times observe and comply with, and shall cause all agents, employees, and subcontractors to observe and comply with, all Applicable Laws. CONTRACTOR acknowledges and shall comply with the provisions of Sections 9364 and Sections 9550 and 9566, inclusive, of the Civil Code of California.

9. PAYMENTS NOT ACCEPTANCE: No certificate given or payments made under this Contract, except the final payment hereunder, shall be evidence of the performance of this Contract, either wholly or in part, against any claim upon CONTRACTOR. Final payment for the Work performed under this Contract shall not be made until the lapse of thirty (30) days after the Notice of Completion of the Work has been filed for record and no payment shall be construed to be acceptance of any defective Work or improper materials. CONTRACTOR agrees that the payment for final quantities due under this Contract and the payment of amounts due for any Work in accordance with this Contract shall release the COUNTY from any claims or liabilities on account of Work performed under this Contract, as the same may be amended from time to time during the Term. In addition to guarantees required elsewhere, CONTRACTOR shall and does hereby guarantee all workmanship and material to be free of defects and fit for the purposes intended for a period of one year from and after both the date of acceptance of the work and the recordation of the Notice of Completion by the COUNTY and CONTRACTOR shall repair or replace all Work and materials, together with any other portions of the Work which may be displaced in so doing, that, in the opinion of the County Representative, is or becomes defective during the period of said guarantee, without expense whatsoever to the COUNTY.

10. PREVAILING WAGE RATES: Rates of wages, including overtime, holiday, and Sunday rates provided for the Work shall comply with and are subject to the California Labor Code, Sections 1770 et. seq., Executive Orders of the President of the United States No. 9240, dated September 9, 1942, and No. 9250, dated October 3, 1942, and to any modifications thereof, and to and any orders of the President or any authorized Federal Officer or agency, insofar as the same may apply to this Contract.

No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section

1725.5. This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

11. CONTRACT DOCUMENTS ACKNOWLEDGED: CONTRACTOR hereby declares that CONTRACTOR has read the Contract Documents, has carefully examined the plans and detailed drawings of the Work to be performed, and fully understands the intent and meaning of the same.

12. TIME FOR COMMENCEMENT, COMPLETION: The Work to be performed under this Contract shall be completed within 180 calendar days after execution of this Agreement ("Term"). As soon as practicable after the Contract has been executed by both the CONTRACTOR and the COUNTY, a Notice to Proceed will be issued by the County Representative stating the starting date of work performance under the Contract. The CONTRACTOR shall begin work within fifteen (15) calendar days after receiving the Notice to Proceed unless otherwise provided therein. The provisions of this Agreement pertaining to Liquidated Damages shall apply in the event of the CONTRACTOR's failure to complete the Work within the Term.

13. WORKERS' COMPENSATION INSURANCE: CONTRACTOR certifies that CONTRACTOR has knowledge of, is in compliance with, and warrants that CONTRACTOR at all times during the TERM shall remain in compliance with, the provisions of Section 3700 of the Labor Code, which requires every employer to be insured against liability for Workers' Compensation or to undertake self-insurance by the provisions of that Code. CONTRACTOR shall comply with such provisions before commencing the performance of the Work.

14. PROGRESS PAYMENT; NO WAIVER FOR DELAY: Any progress payment made after the scheduled completion date for the Work shall not constitute a waiver of any liquidated damages under this Contract.

15. GUARANTEE BONDS: Before any performance under this Contract, the CONTRACTOR shall provide the security required by statute for the payment of all workers and suppliers, and security for the faithful performance of all terms and conditions of this Contract, in an amount and form approved by the COUNTY. Both securities shall contain provisions that automatically increase amounts thereof and/or time of completion or both for all change orders, extensions, and additions to the Work provided under this Contract.

16. NON-DISCRIMINATION: The CONTRACTOR acknowledges that this Agreement is subject to the provisions of Article XIII of Chapter 2 of the Santa Barbara County Code, providing against discrimination in employment. The CONTRACTOR shall perform all requirements of a contractor under the provisions of said Article, and shall pay all costs occasioned to the COUNTY by any noncompliance by the CONTRACTOR.

17. DISPUTES: Should any dispute(s) arise respecting the construction or meaning of any of the plans or specifications affecting the Work or respecting the true value of any extra work or work omitted, such dispute(s) shall be resolved by the Project Engineer/Architect, whose decision shall be final and binding upon the parties hereto. If, after the decision of the Project Engineer/Architect as provided herein, claims (as defined in Public Contracts Code Section 20104) under this Contract are filed by CONTRACTOR against COUNTY, and those claims are in the aggregate amount of $375,000 or less, such claims shall be resolved under Public Contracts Code Sections 20104 through 20104.8, inclusive.

18. SUBSTITUTION OF MATERIALS, SUBSTITUTION OF CONTRACTORS: The County Representative is authorized to act on behalf of the awarding authority in any matters requiring consent, notice, or hearing to substitute materials or equipment specified or to substitute subcontractors.

19. SURVIVAL: All provisions of this Contract which by their nature are intended to survive the termination or expiration of this Agreement shall survive such termination or expiration.

20. INDEMNIFICATION AND INSURANCE : CONTRACTOR shall, at all times during the Term, comply with the indemnification and insurance provisions set forth in EXHIBIT C, attached hereto and incorporated herein by reference.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement to be effective as of the date executed by the County.

COUNTY
County of Santa Barbara

By: _____
DAS WILLIAMS, CHAIR

BOARD OF SUPERVISORS

Dated: _____

ATTEST:
MONA MIYASATO,

CONTRACTOR

{LEGAL NAME OF CONTRACTOR}, a California corporation

_____
COUNTY EXECUTIVE OFFICER

CLERK OF THE BOARD

By: _____
AUTHORIZED REPRESENTATIVE
Name: {NAME}

By: _____
Deputy Clerk of the Board

Title: {TITLE OF AUTHORIZED REPRESENTATIVE}

APPROVED AS TO FORM:
RACHEL VAN MULLEM,
COUNTY COUNSEL

By: _____
Deputy County Counsel

APPROVED AS TO ACCOUNTING FORM:
BETSY SCHAFFER, CPA, CPFO
AUDITOR-CONTROLLER

By: _____
Deputy Auditor-Controller

APPROVED AS TO FORM:
GREG MILLIGAN, ARM
RISK MANAGER

By: _____
Risk Management

RECOMMENDED FOR APPROVAL
KIRK LAGERQUIST, DIRECTOR
GENERAL SERVICES DEPARTMENT

By: _____
Department Head

Dept 063 Fund {FUND} Program {PROGRAM} Account {ACCT} Project {PROJECT NUMBER}

TERMS & CONDITIONS

SPECIAL CONDITIONS

COUNTY OF SANTA BARBARA
Cachuma Lake RV Site Renewal
1 Lakeview Drive

Project No. 20033

Bid Opening Date: 3:00 P.M., Thursday, August 24, 2023

MANDATORY JOB WALK: 1:30 P.M., Thursday, August 3, 2023

NOTE: ONLY THOSE GENERAL CONTRACTORS ATTENDING THE JOB WALK SHALL BE QUALIFIED TO BID THIS WORK.

Environmental Commitments

The following environmental protection measures are implemented for the Project to avoid potential environmental consequences associated with the Project:

• Work on the Project will be avoided during or after significant rainfall. Work will not begin during rain or when the forecast probability of rain for a workday is 30% or greater. If rainfall greater than 0.5 inches has occurred in the 24-hour period prior to any planned work activity, work will not begin until an Owner provided qualified biologist has surveyed the work area to the extent possible for dispersing California red-legged frogs and has found none present. If rainfall greater than 0.5 inches occurs after work has begun, the work will be suspended until the rain stops and until after the Owner provided qualified biologist has re-surveyed the work area to the extent possible for dispersing California red-legged frogs and has found none present.

• Before the start of work on the Project each morning, an Owner provided qualified biologist will check for California red-legged frogs under all vehicles and equipment, and in any areas to be subjected to vegetation removal and/or ground disturbance. If a California red-legged frog is found, the following actions will be taken immediately: a) work on the Project will be suspended, and b) the Owner will be contacted so that the Owner can immediately contact the Community Services Department Parks Division (who will immediately contact the Bureau of Reclamation) and the US Fish and Wildlife Service for further guidance as to any immediate action necessary to protect the species.

• All equipment will be maintained in accordance with the manufacturer's directions so there will be no leaks of fluids such as gasoline, oils, or solvents.

• Work on the Project can begin no earlier than a half hour before sunrise and must cease at least a half hour before sunset

• If work on the Project is scheduled to commence during the migratory bird nesting season (February 1 through August 31), prior to the start of work an Owner provided qualified biologist will conduct a survey for nesting migratory birds in the action area and in areas of suitable nesting habitat within 150 feet of the action area. If an active nest is found during the survey, a non-disturbance buffer of 150 feet will be established around the nest until the young have fledged or until an Owner provided qualified biologist determines that the nest is no longer active. If an active nest is present within 150 feet of the action area, an Owner provided qualified biologist will be on site to monitor the nest(s) during demolition and construction of the Project to ensure avoidance buffers are maintained and there is no take of migratory birds. If an active nest is found and the recommended avoidance buffer is not feasible, the avoidance buffer may be reduced at the discretion of the monitoring biologist, and with written consent from Owner (Owner must receive written consent from the Bureau of Reclamation through the Community Services Department Parks Division). If the monitoring biologist determines that a reduced buffer is warranted based on, but not limited to, species-specific information, site lines from the nest to the work site and observations of the nesting birds' reaction to project activities; the Bureau of Reclamation will determine whether to allow the reduced buffer based on the written explanation.

Cultural Resources

If archaeological resources are encountered or suspected, the Contractor shall halt or redirect work immediately and notify the Designated Representative. The County will retain a qualified archaeologist. The archaeologist shall assess the nature, extent, and significance of any discoveries, and shall develop appropriate management recommendations for archaeological resource treatment. Work in the area shall only resume with authorization of the Designated Representative.

Arborist

The RV site has numerous trees that need to be protected. The Contractor shall communicate and coordinate with the Designated Representative and County retained Arborist when construction will be taking place within the dripline of trees.

RV Spot 7 Existing Mobile Home

The existing mobile home and resident will be onsite during construction. Contractor must install chain link fencing around existing mobile home in RV spot 7 to prevent resident access to job site during construction. County CSD will provide temporary utilities to spot 7 during construction. Contractor must tie existing Mobile home into new utilities per plan. All communication with resident will be through CSD.

00700
GENERAL CONDITIONS

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A. **ABBREVIATIONS**: References in the General Conditions are sometimes referred to only by corresponding abbreviation. Not all abbreviations are listed and not all listed abbreviations are used. Unless otherwise specifically defined in the General Conditions, when the following abbreviations are used, the intent and meaning will be interpreted as follows:

1. **A/E** – Design Professional
2. **AHJ**- Authority Having Jurisdiction
3. **BOA**- California Bureau of Audit
4. **BSCC**- Board of State and Community Corrections
5. **CDCR**- California Department of Corrections and Rehab
6. **CAR**- Contractor's Authorized Representative
7. **CBA** – California Board of Accountancy
8. **CBC**- California Building Code
9. **CM** – Owner's Construction Manager
10. **CCP**- Contract Change Proposal
11. **CPCO**- Contractor Proposed Change Order
12. **CPG** – County of Santa Barbara General Services Support Services Capital Projects Group
13. **CQC-** Contractor's Quality Control
14. **CSFM** – California State Fire Marshall
15. **DFOW** - Definable Feature of Work
16. **DGS**- California Department of General Services
17. **DOF**-California Department of Finance
18. **FF&E**- Furniture Fixtures and Equipment
19. **HVAC-** Heating Venting Air Conditioning
20. **IOR**- Inspector of Record
21. **LD(s)** – Liquidated Damages
22. **NTP** – Notice To Proceed
23. **OAR** – Owner's Authorized Representative
24. **OCIP** – Owner Controlled Insurance Program
25. **OSHA** (CAL OSHA)- California Division of Occupational Safety and Health Administration
26. **OSHPD-** California Office of Statewide Health Planning and Development
27. **PCC**- California Public Contract Code
28. **PE** –Professional Engineer
29. **QC** – Quality Control
30. **RFI** – Request For Information
31. **SFM / CSFM** – California State Fire Marshal
32. **SOV** – Schedule Of Values

33. **SPWB**- California State Public Works Board

34. **SWPPP-** Storm Water Pollution Prevention Plan

B. Singular words will be interpreted as plural and plural words will be interpreted a singular where applicable and the full context of the conditions so indicates.

C. **DEFINITIONS**: Wherever in the Bidding Requirements, Contracting Requirements (except Document 00850, "Indemnification and Insurance Requirements"), or General Requirements the following terms, or pronouns in place of them are used, the intent and meaning will be interpreted as follows:

1. **Acceptance** - The formal acceptance by the Director of General Services of the Completion of the entire Work of the Contract, which to Owner's knowledge has been performed in accordance with the requirements of the Contract Documents and all Approved modifications thereof.

2. **Addendum** - A written change to the Bid Documents issued before the time fixed for the opening of Bids.

3. **Additional Detailed Instructions** - Detailed written and/or graphic instructions issued by the Owner to the Contractor to explain the Work more fully. Such instructions become part of the requirements of the Contract Documents without changing the requirements of the Contract Documents.

4. **Agreement** - The written and signed document known as Document 00500, "Agreement." (Sometimes also referred to as Contract Agreement or Contract.)

5. **Alternative** - See Approved Equal and Substitution.

6. **Approved, Directed, Ordered, or Required** - Whenever these words or their derivatives are used, it is the intent, unless otherwise clearly stated, that written approval, acceptance, or direction by the Owner's Authorized Representative or Owner's Project Manager is required.

7. **Approved Equal** - Material, equipment, or method accepted by the Owner's Authorized Representative as a Substitution, for use in the Work, as being acceptable as an equivalent in essential attributes to the material, equipment, or method specified in the Contract Documents.

8. **Architect of Record** – See Design Professional of Record.

9. **As-Built Documents -** A set of the Contract Documents including Drawings and Project Manual updated on a continuous basis to indicate conditions encountered and the final configuration of a Project as it was constructed. As-Built Documents must include all Addenda, Changes, Additional Detailed Instructions or other clarifications to the Contract Documents and dimensional information showing the actual locations of Installed components of the Work.

10. **Authority Having Jurisdiction (AHJ)-** An organization, office or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

11. **Award Date** - Date of action taken by the Board of Supervisors awarding the Agreement based on Contractor's Bid and authorizing the Chair to execute the Agreement. (Sometimes also referred to as Award.)

12. **Bid Alternate** – Additive and/or deductive Bid items identified as such on the Bid Form (Document 00410).

13. **Bid** - The offer of a Bidder to perform the Work pursuant to a completed prescribed Bid Form, properly executed and guaranteed, and timely submitted.

14. **Bidder** - Any individual, firm, partnership, corporation, or combination thereof, submitting a Bid for the Work contemplated, acting directly or through a duly authorized representative.
15. **Bid Documents** - The documents included in the Project Manual, used to advertise for construction of the Project.
16. **Bid Form** - The approved form (Document 00410) upon which Owner requires a formal Bid be prepared and submitted for the Work.
17. **Bidder's Security** - The cash, cashier's check, certified check, or Bidder's bond accompanying the Bid submitted by the Bidder as a guaranty that the Bidder will enter into a Contract with Owner for the performance of the Work of the Contract if Awarded to the Bidder.
18. **Board of Supervisors** - The Board of Supervisors of the County of Santa Barbara.
19. **Buyer** – Person designated by the Purchasing Manager to administer requisitions and contracts awarded by the Purchasing Division.
20. **Capital Projects (CPG)** – The Capital Projects Group within County of Santa Barbara General Services.
21. **Certificate of Substantial Completion –** Establishes the date of Substantial Completion and fixes the time within which the Contractor shall finish all items on the Punch List accompanying the Certificate.
22. **Chair** - The Chair of the Board of Supervisors.
23. **Change Order** - A written amendment to the Contract, changing the Work, and/or the Contract Documents, and/or the Contract Sum, and/or the Contract Time, executed by the Board of Supervisors, or Approved by the Owner's Authorized Representative within the limits authorized by the Board of Supervisors.
24. **Claim** - A separate demand by the Contractor for: (A) a Contract Time extension, (B) payment of money or damages arising from Work done by, or on behalf of, the Contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the Owner.
25. **Complete Submittal** – A group of individual Submittals, each meeting the requirements of the Contract Documents, encompassing all the Work included in a Definable Feature of Work (DFOW), and submitted to the Owner as a single Submittal package.
26. **Completion** - Acceptance of the Work.
27. **Construction Project Manager (CM)** - A consultant firm or such other individual or entity as Owner may designate to Contractor in writing, retained by Owner to perform project management services.
28. **Consultants** - Architects, Engineers, Construction Project Managers and other professionals engaged to provide the Owner with professional services for the Project.
29. **Contract** - The written Agreement on the Owner's form (Document 00500) encompassing the performance of the Work and the furnishing of labor, materials, tools, and equipment in the construction of the Work. Synonymous with "Agreement", and "Contract Agreement".
30. **Contract Bonds** - The Performance Bond and the Payment Bond for Public Works.
31. **Contract Documents** - The Agreement, the Bid Documents and all Additional Detailed Instructions, Addenda, and Approved Change Orders.
32. **Contract Sum** - The Contract Sum is stated in the Agreement and, including authorized adjustments by Change Order, is the total amount payable by Owner to the Contractor for performance of the Work pursuant to the Contract Documents.

33. **Contract Time(s)** - Unless otherwise provided, the Contract Time is the period of time, including authorized adjustments, identified in the Contract Documents to achieve Substantial Completion of the Work and Final Completion of the Work.
34. **Contractor** - The person or persons, firm, partnership, corporation, or combination thereof, private or municipal, or the legal representatives thereof, that entered into the Contract with Owner. (Sometimes also referred to as "Prime Contractor" or "Original Contractor".)
35. **Contractor's Authorized Representative** – The Contractor's authorized representative(s) who has the authority to represent and act for Contractor.
36. **Coordination Drawings -** Contractor prepared drawings submitted by Contractor to Owner to demonstrate the coordination of methods, materials, equipment, plans, or sequence the Contractor proposes to use when limited space is available for installation of different components, coordination is required for installation of Products and materials Fabricated by separate entities, or the relationship of components is shown on separate Shop Drawings or Submittals. Coordination Drawings are not considered Contract Documents.
37. **Compliance Group Representative**- A person or entity whose purpose is to interview persons working on the Project Site, including Contractor's employees and any Subcontractors, for prevailing wage compliance consistent with federal and state prevailing wage requirements as set forth in the Davis-Bacon Act and other related codes, laws, or regulations in accordance with the County's Joint Compliance and Monitoring Program.
38. **Cost Breakdown** – See Schedule of Values.
39. **County** – The County of Santa Barbara, a political subdivision of the State of California.
40. **Critical Path -** The path(s) of activities on the current updated version of the Official Progress Schedule without any Total Float Time; all references in the Contract Documents to the Critical Path mean the longest path of dependent activities within the current updated version of the Official Progress Schedule that determine when the entire Work of the Project will be complete.
41. **Date of Acceptance** - The date of Acceptance by the Director of General Services.
42. **Day(s)** - Calendar days unless otherwise designated.
43. **Default** – When Contractor persistently or repeatedly refuses or fails to supply an adequate workforce, or material of proper quality, or otherwise refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as will ensure its completion within the Contract Time(s) specified in the Contract Documents or authorized extension thereof, or when Contractor fails to make prompt payment to Subcontractors or Suppliers, or persistently disregards laws, ordinances, or Owner's written directions, directives or orders, or fails in any other respect to prosecute the Work with the diligence and resources required by the Contract Documents.
44. **Deficiency List** - A written list of deficiencies in the completed Work. Also sometimes referred to as "Punch List."
45. **Deficient Work** – Installed Work that does not meet the requirements of the Contract Documents.
46. **Definable Feature of Work (DFOW)** - A portion of the Work that is: (1) Separate and distinct; (2) Has common control requirements and work crews; (3) Is continuous by location on the site. For example, typical Section 03 30 00 Concrete work, would have a separate DFOW for footings; first floor slab (unless, for example, the slab were continuously poured with the footings); second floor slab, etc.; or (4) a critical path activity; all critical path activities are DFOWs, non-critical path activities may also be DFOWs.
47. **Demobilization** –Demobilization includes: movement off the project site, upon completion of the Work, of personnel, equipment, temporary offices, buildings and other facilities,

supplies and incidentals; and submission of Project Acceptance submittals, as defined in Part 1.03 of Section 01 33 00, "Submittal Procedures."

48. **Design Professional** - A person licensed in California; as an architect pursuant to Chapter 3 (commencing with §5500) of Division 3 of the Business and Professions Code, registered as a professional engineer pursuant to Chapter 7 (commencing with §6700) of Division 3 of the Business and Professions Code**,** or licensed as a land surveyor pursuant to Chapter 15 (commencing with §8700) of Division 3 of the Business and Professions Code (Also sometimes referred to as "Architect/Engineer", "A/E", "Professional Engineer", "PE", "Design Consultant", and/or "Consultant".)
49. **Design Professional of Record** – The Design Professional responsible for the design services or portions of the design services in connection with the Project.
50. **Director** - The Director of the County's General Services Department.
51. **Disputed Items** – Any direction, instruction, or decision of Owner which Contractor considers to be incorrect or improper; any direction, instruction or decision of Owner which Contractor seeks to appeal; or any issue from which Contractor otherwise seeks relief.
52. **Drawings** - The graphic and pictorial portions of the Contract Documents, illustrating the design, character, location, and dimensions of the Work to be performed, generally including but not limited to, elevations, sections, details, schedules, General Notes, specific notes, and diagrams. Synonymous with "Contract Drawings" and "Plans".
53. **Emergency** – A sudden, unexpected occurrence that poses a clear and imminent danger, requiring immediate action to prevent or mitigate the loss or impairment of life, health, property, or essential public services.
54. **Exposed-** The term "exposed" shall mean any item or surface, exterior or interior, which can be seen by a person outside the building, or seen by a person inside any usable space within the building during normal activity.
55. **Fabricated** - Specifically assembled or made out of selected materials to meet Project specific design requirements.
56. **Final Completion** - the stage in the Project when the Work is deemed to be complete, as confirmed by the Owner, all "Punch List" items (as defined in Section 01 45 16.13, "Contractor's Quality Control Systems") are complete, all Final Completion submittals required by Part 1.10 of Section 01 77 00, "Closeout Procedures" have been submitted to and accepted by the OAR, and all training has been conducted in accordance with Section 01 79 00.2, "Demonstration and Training."
57. **Final Inspection** – The inspection performed by the Owner and its Consultants after the Contractor has certified that the entire Work of the Project is complete.
58. **Force Account** - The method of performing Work by or on behalf of Contractor on a time, materials and equipment basis.
59. **General Notes** - The written instructions, provisions, conditions or other requirements appearing on the Drawings, and so identified thereon, which pertain to the performance of the Work.
60. **General Requirements –** Division 1 of the Project Manual, encompassing Sections 01 11 00 through 01 91 13.2.
61. **Governing Body** - The Board of Supervisors of the County of Santa Barbara.
62. **Governmental Agencies** - Whenever, in the Contract Documents, reference is made to any governmental agency or officer, such reference will be deemed made to any agency or officer acting in accordance with law to the power, duties, jurisdiction, and authority of the agency or officer mentioned.

63. **Guarantee** - A promise or assurance given by one party to a second party that a third party's obligations will be fulfilled (i.e., Contractor agrees to guaranty the Work performed by one of its Subcontractors to the Owner). (Also sometimes referred to as Warranty/Guarantee.)
64. **Incomplete Work** - Work required by the Contract Documents that is not yet Installed.
65. **Inspector** - The person assigned by Owner to perform Quality Assurance, or any other inspection of the Work. (Also sometimes referred to as Project Inspector or Owner's Inspector or Owner's Project Inspector.)
66. **Inspector of Record (IOR)** – Is the appointed Inspector who shall perform inspections of the Work on behalf of the Owner.
67. **Install** - Synonymous with "Provide" for the purposes of this Contract.
68. **Invitation to Bid** - Includes any and all documents issued to Bidders that contain descriptions of the Work to be Bid or the content, form, or manner of submission of Bids. (See Public Contract Code § 4104.5)
69. **Laboratory** - Any laboratory authorized or accepted by Owner to test materials and Work involved in the Contract.
70. **Liquidated Damages** - The amount prescribed in the Contract Documents to be paid to Owner or to be deducted from any payments due or to become due Contractor for each Day's delay in completing the whole or any specified portion of the Work, beyond the time(s) allowed in the Contract Documents plus Approved time extensions.
71. **Manufactured -** Standard units usually mass-produced.
72. **Milestone** - See Substantial Completion or Final Completion.
73. **Mobilization** – For the purposes of Progress Payments pursuant to Section 01 29 00.2, "Payment Procedures for Cost-Loaded Schedule Requirements" and Article 8.02 of this Document 00700, the Contractor must select <u>one</u> of the following two alternate definitions to apply to this Project:
    a. <u>Alternate A</u> – Includes preparatory work and operations, including, but not limited to:
        i. Preparation of Preconstruction Submittals and Project Management submittals (see Part 1.03 of Section 01 33 00, "Submittal Procedures" for definition);
        ii. Movement of personnel, equipment, supplies and incidentals to the Project Site, for establishment of all temporary offices, buildings and other facilities necessary for Work on the Project, and
        iii. For all other work and operations which must be performed, or costs incurred <u>including obtaining Contract Bonds and insurance</u>, before beginning Work on the public improvement at the Project Site.

    b. <u>Alternate B</u> – includes i. and ii. above, plus demobilization, but not iii.
74. **Named Products** - Products identified in the Contract Documents by Manufacturer's product name. Named Products may include Manufacturer's make or model number or other designation.
75. **Notice of Intent to Award** - The letter from Capital Projects notifying the Contractor that the County has accepted the bid and intends to request the Board of Supervisors award the contract and authorize the Chair to execute the Agreement.
76. **Notice of Completion** - A document initiated by the OAR and filed with the County Recorder, signifying that the Contract has been Completed and Accepted.

77. **Notice to Bidders** - The Document inviting sealed Bids for the Work. (Document 00100, "Notice to Bidders".)
78. **Notice to Proceed** - The written notice issued by Owner's Authorized Representative to Contractor whereby the Contractor is notified of the official construction Contract start date and is authorized to proceed with the Work. Unless otherwise specified in the Contract Documents or Directed by written Order of Owner's Authorized Representative, the Contractor must begin Work within ten (10) Days following the start date for the Work as stated in the Notice to Proceed.
79. **Official Progress Schedule** - The Contractor's Progress Schedule and all revisions and updates thereto, accepted by the Owner, in accordance with the requirements of Section 01 32 00.4, "Construction Progress Documentation."
80. **Or Equal** – See "Approved Equal".
81. **Order** - See "Approved, Directed, Ordered, or Required".
82. **Owner** - The County of Santa Barbara.
83. **Owner's Authorized Representative (OAR)** - The person named in the Agreement (Document 00500) whose authority includes, but is not limited to, the authority to approve Addenda, Change Orders, Payment Requests, and the Project Completion date. Changes to the County's Authorized Representative may be made by the Director of General Services after providing written notice to Contractor. Also referred to as "Owner."
84. **Owner Controlled Insurance Program (OCIP)** – Owner-purchased insurance policies for protection of some (but not all) of the insurable risks that exist on the Project.
85. **Payment Request-** Contractor's request, certified by the QC Manager, to Owner for money owed to Contractor pursuant to the Contract which may be considered either a progress payment under Public Contract Code § 20104.50 or a payment for retention under Public Contract Code § 7107.
86. **Plans** - See Drawings.
87. **Preconstruction Submittals -** Submittals requiring Owner's acceptance before Contractor may proceed with the performance of on-site Work. These submittals include, but are not limited to, the CQC Plan, Fire Protection Plan, Qualifications of Key Personnel, Qualifications of Scheduler (if applicable to this contract), SWPPP (if applicable to this contract), etc.
88. **Project** - The entire public improvement proposed by Owner to be constructed in whole or in part pursuant to the requirements of the Contract Documents.
89. **Project Number** – Owner defined identification number for a Project.
90. **Product Data** - Illustrations, Manufacturer's literature, standard schedules, performance charts, instructions, brochures, diagrams and other information submitted by the Contractor to illustrate materials or equipment for some portion of the Work. Product Data are not considered Contract Documents.
91. **Project Manager** - The person identified in the Notice to Bidders as the Project Manager or subsequently designated by Owner's Authorized Representative to manage the Contract and/or the Project. (Also sometimes referred to as Owner's Project Manager or County Project Manager.)
92. **Project Manual** - The written volume(s) assembled for the Work, including the Introductory Information, Bidding Requirements, Contracting Requirements, General Requirements, Technical Specifications, and other written or graphic material as may be listed in the Project Manual Table of Contents, including any Addenda and Approved revisions by Owner.

93. **Project Site(s) -** Space available to Contractor for performance of the Work, either exclusively or in conjunction with others performing other work.

94. **Provide** - Synonymous with "Install" for the purposes of this Contract. Labor, materials, equipment, supervision and whatever else is necessary to supply and incorporate a specified item into the Work in compliance with the requirements of the Contract Documents.

95. **Punch List** – A list of deficiencies in the completed Work identified during the Substantial Completion Inspection which Contractor must complete before requesting a Final Inspection. Punch List work includes minor architectural cosmetic work to correct minor flaws or deficiencies related to painting, trim, ceiling tile, joinery work or other architectural features; minor adjustments to door hardware; minor cleaning to include scuff marks and small stains; correction of minor mechanical or electrical deficiencies such as tightening of plumbing fixtures and connections, affixing electrical cover plates, minor adjustments to HVAC controls and settings; minor corrections to landscaping; etc. Punch List does not include "Major" Work that would prevent Owner from occupying and using the facility for its intended use.

96. **Request for Information (RFI)** -A written request by the Contractor for information or clarification regarding the requirements of the Contract Documents. Requests For Information must be numbered sequentially and presented in a format furnished by or acceptable to the Owner's Project Manager. The Owner's response to an RFI is considered an Additional Detailed Instruction and does not change the requirements of the Contract Documents, Contract Time, or Contract Sum.

97. **Responsible Person** - Member of Contractor's organization who will be present on the Project Site and who has the duty for prevention of accidents.

98. **Retention** - A defined percentage of the Contract Sum held by the Owner pending Completion of the Work, or any portion of the Work.

99. **Samples** - Physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be evaluated.

100. **Schedule of Values** – A document submitted by the Contractor to the Owner reflecting the portions of the Contract Sum allotted for the various parts of the Work. (Sometimes also referred to as "Cost Breakdown.")

101. **Shop Drawings** - Drawings, diagrams, schedules, and other data specially issued for the Work by the Contractor or a Subcontractor, Sub-Subcontractor, and Suppliers to demonstrate and/or illustrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for some specific portion of the Work. Shop Drawings are not considered Contract Documents.

102. **Specifications** - The written directions, provisions and requirements pertaining to the materials to be provided and to the method and manner of performing the Work, including any Addenda and Approved revisions by Owner. (Also sometimes referred to as "Technical Specifications" or "Specs.")

103. **State** - The State of California, including, but not limited to CDCR, SPWB, DGS, BSCC, DOF, CBA and CSFM.

104. **Subcontractor** - A contractor, within the meaning of the provisions of Chapter 9 (commencing with § 7000) of Division 3 of the Business and Professions Code, who contracts directly with the Contractor to perform any Work of the Project. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and means all Subcontractors or their authorized representative(s). All references to Subcontractor include and apply to Sub-subcontractors of any tier.

105. **Sub-subcontractor** - A contractor, within the meaning of the provisions of Chapter 9 (commencing with § 7000) of Division 3 of the Business and Professions Code, that has a direct or indirect contract with a Subcontractor or any other tier of subcontractor (i.e. sub-sub-subcontractor) to perform any Work of the Project. The term Sub-subcontractor is referred to throughout the Contract Documents as if singular in number and means all Sub-subcontractors or their authorized representative(s).

106. **Submittal** - Data or items required by the Contract Documents to be submitted by the Contractor to the Owner. Submittals demonstrate the method, materials, plan, or sequence the Contractor proposes to use to conform to the design concept expressed in the requirements of the Contract Documents. Submittals include, but are not limited to, Shop Drawings, Coordination Drawings, layouts, Progress Schedules, Substitution requests, Samples, mockups, catalogs, Product Data and literature, equipment data sheets, maintenance and operating data. Unless otherwise stated in the Contract Documents, Submittals are not considered Contract Documents.

107. **Substantial Completion** – The stage in the Project when the Work is deemed to be complete, as confirmed by the Owner, with the exception of only the completion of "Punch List" items (as defined in Section 01 45 16.13, "Contractor's Quality Control Systems") which do not impair the County's ability to occupy and fully utilize the Work for its intended purpose.

108. **Substitution** - A material and/or process offered by the Contractor in lieu of the specified material and/or process, and accepted by the Owner's Authorized Representative in writing as being equivalent (equal) to the specified material and/or process. (Also sometimes referred to as Product Substitution.)

109. **Supplier** - A person or organization contracting with Contractor, a Subcontractor or a Sub-subcontractor to supply materials and/or equipment for the Work.

110. **Surety -** A company, approved by the State, that provides Contractor's bonds for bidding, performance and payment and is admitted as a surety insurer as defined in §995.120(a) of the California Code of Civil Procedure.

111. **Total Float Time** - The time difference between the earliest start date and the latest start date, or between the earliest finish date and the latest finish date, of Project activities. (Also sometimes referred to as "slack time" or "Total Float" or "Float".)

112. **Unilateral Force Account Change Order** – A within-scope unilateral Change Order, issued by the Owner, directing the Contractor to perform Force Account Work.

113. **Utility system** - Any system necessary to operate the building, including, but not limited to, data/communications, natural gas, water, sewer, electric.

114. **Warranty** - A Contractor's, Subcontractor's, Manufacturer's or material Supplier's promise or assurance, written or otherwise, that its products and services provided meet industry (implied) or contractual (the requirements of the Contract Documents) standards of performance. (Also sometimes referred to as Warranty/Guarantee.)

115. **Work** - That which is constructed or done pursuant to the requirements of the Contract Documents to accomplish the Project including, but not limited to, the Providing all labor, materials, equipment and information documentation.

1.02 REPRESENTATIONS, CORRELATION AND INTENT

A. By entering into the Agreement, Contractor represents it is familiar with the Project Site conditions including the availability of labor and materials in the local geographic area where the Work is to be performed and has correlated personal observations with requirements of the Contract Documents.

B. The Contract Documents are complementary, and what is required by any one is as binding as though required by all. The intent of the Contract Documents is to include all labor, materials, equipment, and all other items necessary for the proper execution and completion of the entire Work. Unless otherwise specifically noted, Contractor must Provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and all other facilities and services necessary for the proper execution and completion of the Work.

C. Work not explicitly depicted or mentioned in any portion of the Contract Documents is nevertheless required if it is consistent therewith and is reasonably inferable therefrom as being necessary to produce the intended results. Words and abbreviations having well known technical, trade or industry meanings are herein in accordance with such recognized meanings.

D. The organization of the Project Manual into Articles, Parts, Sub-Parts, Divisions, Sections, and Paragraphs and the arrangement of Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers or in establishing the extent of Work to be performed by any Subcontractor or trade.

E. The Contract Documents prescribe the details for the construction and completion of the Work that Contractor undertakes to perform in accordance with the terms of the Contract.

F. Scale Drawings, full-sized Drawings and Project Manual are intended to be complementary and to agree.

G. Owner, whose decision is final, will clarify questions regarding the interpretation of the Contract Documents.

H. Any Work called for by the Drawings and not mentioned in the Project Manual, or vice versa, is to be Provided as though fully set forth by both.

I. Where not specifically stated otherwise, all Work and materials necessary for each unit or item of Work, including special construction for any specific brand or shape of materials called for, even though only briefly mentioned or indicated, must be Provided and Installed fully and completely as part of the Work of this Contract.

J. In the event of any difference, discrepancy, inconsistency, error, omission, or other apparent conflict within the Contract Documents and/or with actual field conditions, Contractor must immediately notify Owner in writing, requesting clarification. If Contractor is aware the Work is affected and proceeds with the Work without instructions from Owner, Contractor must make good any resultant damage or defects without additional cost to the Owner.

K. Contractor must not assume that one element in the Contract Documents has preference over another, except as provided in Document 00700, Article 1.05, "Conflicts in the Contract Documents." In the event that two or more Products or methods are specified for a particular application, Contractor must furnish the most suitable quality or method, as determined by Owner.

L. When standards of the Federal Government, trade societies, trade associations, or similar commercial standards are referred to in the Contract Documents by specific date of issue, these standards, including amendments or supplements, will be considered as part of the Contract Documents. When such references do not bear date of issue, the current published edition, including amendments or supplements, at the date of the first Notice to Bidders will be considered as part of the Contract Documents.

M. Contractor is responsible for the complete and proper execution of the Work as described in, and as reasonably implied by, the Contract Documents. Contractor is solely responsible for ensuring that all Subcontractors, Suppliers, Manufacturers, etc., working with any portion of the Contract Documents are fully aware that all the Contract Documents apply to their Work, although the other portions of the Contract Documents may not be fully reproduced or repeated therein.

N. Contractor must be skilled and experienced in the understanding and use of construction documents. Contractor must carefully review the Contract Documents for this Project and must carefully examine the Project Site of the Work before Bidding. Unless Contractor has otherwise informed Owner in writing before Bidding, Contractor warrants that it found all Contract Documents free of ambiguities and sufficient for Bidding and construction purposes, and that from its own observations, Contractor has satisfied itself as to the nature and locations of the Work, the character, quality and quantities of materials and labor required, the difficulties likely to be encountered, and all other items that may affect its performance.

O. Contractor, having assured itself of the adequacy of the Bid Documents and the accuracy of its Bid, agrees to execute the Work within the Contract Time(s) and Contract Sum established in the Contract Documents. Contractor further understands that construction will likely involve some clarifications and changes to the Bid Documents and modifications in Contractor's planned work procedures. Contractor acknowledges that these are expected conditions of construction.

P. The Drawings, Project Manual and other Contract Documents issued by Owner and copies furnished to the Contractor, are for use solely with respect to the Work of this Project. They are not to be used by the Contractor or any Subcontractor, Sub-Subcontractor or Supplier on other projects, nor for additions to this Project outside the scope of the Work without the specific written consent of Owner. The Contractor, Subcontractors, Sub-Subcontractors and Suppliers are granted permission to use and reproduce applicable portions of the Drawings, Project Manual and other Contract Documents issued by Owner appropriate to, and for use in, the execution of their Work pursuant to the requirements of the Contract Documents.

Q. Paragraphs titled "Section Includes" are not intended to "scope" the Section nor imply a trade responsibility, but serve merely as a listing of significant items in the Section to allow the reader to quickly asses the Section content. Similarly, Paragraphs titled "Related Sections" or "Related Requirements" or "Related Documents" are not intended to coordinate the Contractor's work, but merely indicate where certain other significant items that may be related to the Work of the Section are specified.

R. Unless otherwise indicated, highlighted, **emboldened**, *italicized*, or underlined text is not indented to imply special significance but serves merely as an aid to the reader to distinguish or quickly reference selected text.

S. By submitting a Bid, Contractor represents to the Owner that Contractor has verified the availability of Named Products and the Named Products including sole source Products are currently available. Contractor also represents that Named Products, including sole source Products can be obtained, delivered, and installed within the Contract Time(s) stated in the Bid Documents.

1.03 ORGANIZATION OF PROJECT MANUAL

A. The Project Manual is organized in general compliance with the Construction Specifications Institute (CSI) MasterFormat. The names of the various levels of the MasterFormat hierarchy as used in this Project Manual are specifically defined as follows:

1. Bidding Requirements

    a. Document
    b. Article
    c. Part
    d. Sub-Part(s)

2. Contracting Requirements

    a. Document
    b. Article
    c. Part

d. Sub-Part(s)

3. Division (1-44)

a. Section
b. Part
c. Paragraph(s)

B. Hierarchal levels below Sub-Part or Paragraph are referenced as Article, Sub-Part or Paragraph.

1. Example 1: "Document 00700 - Article 6.08.B.1.a" or "Document 00700 - Sub-Part 6.08.B.1.a" or "Document 00700.6.08.B.1.a" or "00700.6.08.B.1.a" refer to:

a. Document 00700 (General Conditions)
b. Article 6 (Changes in the Work)
c. Part 8 (Force Account Work)
d. Sub-Part B (Labor)
e. Sub-Part .1.a (Actual Wages)

2. Example 2: "Division 1 - Section 01 32 00.3.03.C.4" or "Section 01 32 00.3.03.C.4" or "01 32 00.3.03.C.4" refer to:

a. Division 1 (General Requirements)
b. Section 01 32 00.4 (Construction Progress Documentation)
c. Part 3 (Execution)
d. Paragraph 03 (Schedule Orientation Meeting)
e. Paragraph .C.4 (Resource loading)

1.04 CAPITALIZATION AND CAPTIONS

A. Terms capitalized in the Introductory Information, Bidding Requirements, Contracting Requirements, and Division 1 (General Requirements) include those that are:

1. Specifically defined; or

2. Titles and captions of Documents or numbered Articles, Parts, Sub-Parts, Sections, or Paragraphs; or

3. Titles of other documents.

B. The titles and captions of the Documents, Articles, Parts, Sub-Parts, Sections, or Paragraphs are for convenience only and will not be deemed relevant in resolving any question of interpretation or construction of any such Documents, Articles, Parts, Sub-Parts, Sections, or Paragraphs.

1.05 CONFLICTS IN THE CONTRACT DOCUMENTS

In the event of any conflict or discrepancy in the provisions of the Contract Documents, the documents shall be interpreted on the basis of the following order or priority:

(a.)Agreement between the Owner and the Contractor
(b.)Addenda, with later date having greater priority
(c.)Special Conditions
(d.)General Requirements and Other Conditions
(e.)Drawings and Specifications

A. Resolution of conflicts in the Contract Documents

1. Generally. In the case of conflicts in the Contract Documents the ranking in Sub-Part 1.05 Paragraph A notes which sections take precedent over other sections. To the extent the documents are not in conflict, Contractor shall comply with all provision in the Contract

Documents.

2. Specific Conflicts.

   a. In case of conflict of quantity, in which specific numbers for quantity have been stated in the Drawings and the Project Manual, the greater quantity number, expressed in either the Drawings or the Project Manual, shall govern. In case of conflict within the Drawings involving quantity, or within the Project Manual involving quantity, the greater quantity must be provided.

   b. In case of conflict within the Drawings involving quality; between the Drawings and the Project Manual involving quality; or within the Project Manual involving quality; the higher quality must be provided.

   c. In the case of conflict within the Drawings, the following will govern:

      .1 Schedules, when identified as such, will govern over all other portions of the Drawings.

      .2 Specific notes will govern over General Notes, all other notes, and all other portions of the Drawings, except schedules described in the preceding clause.

      .3 Figured dimensions will have precedence over undimensioned items.

      .4 Larger scale Drawings will govern over smaller scale Drawings (for example, ¼" = 1'-0" governs over 1/8" = 1'-0").

      .5 Detail Drawings govern over standard plates included in the Project Manual.

B. Omissions

   1. If the Contract Documents are not complete as to any minor detail or required construction system or with regard to the manner of combining or Installing of parts, materials, or equipment, but there exists accepted trade standard for good and workmanlike construction, such detail will be deemed to have been included by the requirements of the Contract Documents in accordance with such standard.

1.06 REQUESTS FOR INFORMATION

A. Requests for Information (RFI): If the Contractor discovers conflicts, omissions, or errors in the Contract Documents, or has any questions concerning interpretation or needs clarification of Contract Documents, the Contractor must immediately submit to the Owner, in writing, an RFI that complies with the following requirements:

   1. All RFIs, whether by the Contractor, a Subcontractor or Supplier at any tier, must be submitted by the Contractor to the Owner.

   2. RFIs must be presented in the format furnished by or acceptable to the Owner's Project Manager.

   3. Contractor must clearly and concisely set forth the issue for which interpretation or clarification is sought, indicating Specification Division, Section, Part, and Paragraph number, or the Document, Article, Part, and Sub-Part numbers, Contract Drawing number, activity number from the Official Progress Schedule, details or other pertinent items involved, and state why a response is required.

   4. Each RFI must be limited to one (1) issue requiring response from the Owner.

   5. In each RFI the Contractor must set forth its own interpretation or understanding of the requirements, along with reasons why it has reached such an understanding.

   6. RFIs must be submitted in a timely manner in order that they may be adequately researched and answered before the response affects any Critical Path Activity of the Work.

7. Responses to RFIs will be issued by the Owner's Project Manager within fourteen (14) Days unless the Owner notifies the Contractor in writing that a response will take longer. The 14 Day response time will begin when the RFI is received and date stamped as received by the Owner.
8. RFI responses will not change any requirement of the Contract Documents.
9. Should the Contractor contend that a response to a RFI causes a change to the requirements of the Contract Documents, the Contractor must, before proceeding, submit a CPCO according to Document 00700, Article 6, "Changes in the Work", for costs or time incurred in connection with the Work described in the RFI.

1.07 ADDITIONAL DETAILED INSTRUCTIONS

A. Owner may furnish additional detailed written and/or graphic instructions to explain the Work more fully, and such instructions become a part of the requirements of the Contract Documents. Should Additional Detailed Instructions, in the opinion of the Contractor, constitute Work in excess of the requirements of the Contract Documents, the Contractor must submit written notice to the Owner within seven (7) Days following receipt of such instructions, and in any event prior to commencement of the Work thereon. If in the Owner's judgment the Additional Detailed Instructions constitute Work in excess of the requirements of the Contract Documents, the Additional Detailed Instructions will be revised or the extra Work will be added by Change Order.

END ARTICLE 1
of
DOCUMENT 00700

ARTICLE 2 — ADMINISTRATION OF THE CONTRACT

2.01 AUTHORITY OF OWNER'S AUTHORIZED REPRESENTATIVE

A. Only the Owner's Authorized Representative will decide all questions regarding the interpretation and fulfillment of the Contract, the prosecution, progress, quality and acceptability of Work and materials; will implement and enforce decisions by issuing Orders, Directives, instructions and notices, and will Approve all changes in Contract Sum and Contract Time. Owner's Authorized Representative shall confirm any interpretation of the Plans or Specifications by the Architect / Engineer.

2.02 INFORMATION AND/OR SERVICES FURNISHED BY OWNER

A. Information and/or services required of Owner will be furnished by Owner in accordance with the Contract Documents.

B. The Owner will furnish the Contractor with copies of the Drawings and Project Manuals as specified in the Bid Documents.

2.03 ADMINISTRATION OF THE CONTRACT

A. The Owner will administer the Contract during construction and during the Warranty/Guarantee period.

B. Unless otherwise specified in the Contract Documents, the Owner will not control the construction means, methods, techniques, sequences, procedures, safety precautions and programs in connection with the Work.

C. The Owner is not responsible for the Contractor's failure to carry out the Work in accordance with the requirements of the Contract Documents.

D. The Owner is not responsible for acts, errors, or omissions of the Contractor, a Subcontractor, Sub-subcontractor or anyone directly or indirectly employed by any of them, or of any other persons performing portions of the Work.

E. Unless otherwise specified in the Contract Documents or when the Owner's Project Manager has specifically authorized direct communications with its Consultants, Contractor communications by and with the Owner's Consultants must be through the Owner's Project Manager or OAR.

F. Subcontractors, Sub-Subcontractors and Supplier communications with the Owner or its Consultants must be through the Contractor.

G. Unless otherwise specified in the Contract Documents or when the Owner's Project Manager has specifically authorized direct communications with other contractors working at the Project Site, Communications by and with separate contractors must be through the Owner's Project Manager or OAR.

H. If the Owner observes Work that appears non-compliant with the requirements of the Contract Documents, the Owner has the authority to reject the Work.

I. Whenever Owner considers it necessary or advisable, Owner may require additional inspection and testing of the Work, whether or not such Work is Fabricated, Installed, or completed.

J. The Design Professional of Record will review Contractor's submitted Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information provided and the design concept expressed in the Contract Documents. Review of Submittals is not conducted for determining the accuracy and completeness of other details, such as dimensions and quantities, nor for substantiating instructions for installation or performance of equipment or systems, all of which are and remain the responsibility of the Contractor.

K. Owner, Owner's Consultants, and Owner's Project Inspector as appropriate, will conduct

periodic quality assurance inspections to determine the Contractor's compliance with their QC Program and with the requirements of the Contract Documents.

L. Unless otherwise stated in the Contract Documents, Contractor must sequentially number all Contractor correspondence to the Owner in a format acceptable to the Owner's Project Manager.

2.04 BREACHES, DEFAULTS AND TERMINATION FOR CAUSE

A. If Contractor fails to begin delivery of material and equipment, to commence Work or a designated portion of the Work within the time specified, to maintain the rate of delivery of material, to execute the Work or designated portion of the Work in the manner and at the specified location(s), or fails to maintain a work program which will ensure Owner's interest, or, if Contractor is not carrying out the intent of the Contract, Owner's written notice may be served upon Contractor and Surety on its faithful performance bond demanding satisfactory compliance with the requirements of the Contract Documents.

B. If Contractor persistently or repeatedly refuses or fails to supply an adequate workforce, or material of proper quality, or otherwise refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as will ensure its completion within the Contract Time(s) specified in the Contract Documents or authorized extension thereof, or if Contractor should fail to make prompt payment to Subcontractors or Suppliers, or persistently disregards laws, ordinances, or Owner's written directions, directives or orders, or fails in any other respect to prosecute the Work with the diligence and resources required by the Contract Documents, the Owner may deem Contractor to be in Default.

C. Upon finding Contractor in Default, Owner may issue to Contractor a written Notice of Default. The Notice of Default shall identify the Defaults to remedied and give Contractor no less than seven (7) Days to cure said Defaults.

D. Should Contractor fail to cure within the allotted time the Defaults specified in the Notice of Default, Owner may, without prejudice to any other rights or remedies of Owner and subject to any rights or obligations of the Surety:

1. excuse the Defaults on terms Owner deems appropriate;
2. in light of Contractor's good faith efforts to cure the Default, extend the time for cure; take possession of the Project Site or designated portion of the site and all or any of the Contractor's materials, equipment, tools, appliances, and construction equipment and machinery owned by the Contractor as may be on the site and necessary for the performance of the Work or designated portion of the Work;
3. accept assignment of any and/or all Subcontractor, Supplier, and/or rental agreements;
4. provide any such labor and/or materials required to perform the Work or designated portion of the Work and deduct the cost from any money due or to become due to the Contractor;
5. complete the Work or designated portion of the Work by whatever reasonable method(s) Owner may deem expedient and appropriate; and/or
6. terminate Contractor's control of the Work or designated portion of the Work, but not without providing Contractor and Contractor's Sureties with at least an additional seven (7) Days to remedy the persisting Defaults.

E. If Owner terminates the Contractor's control of the Work or portion of the Work for reasons provided in this Document 00700, Article 2.04, "Breaches, Defaults, and Termination for Cause", the Contractor will not be entitled to receive any further payments until the entire Work or designated portion of the Work is completed and Accepted. Contractor and its Sureties are liable to Owner for any additional cost of completing the Work or designated portion of the Work, including compensation for additional managerial, administrative and consulting services, plus the assessment of Liquidated Damages assessed pursuant to Document 00700, Article

7.03, “Liquidated Damages.”

F. If the costs incurred by Owner as the result of termination of Contractor’s control of the Work or a portion of the Work pursuant to this Document 00700, Article 2.04, “Breaches, Defaults, and Termination for Cause”, exceed the unpaid Contract Sum, the Contractor must pay the difference to Owner.

G. Upon Completion and Acceptance of the entire Work, Contractor is entitled to the return of all unused materials and its equipment, tools, and appliances, except that Contractor will have no legal action against Owner on account of usual and ordinary depreciation, loss, wear and tear.

H. If Owner terminates Contractor’s control of the Work for cause, and if it is later determined that the termination was wrongful, such default termination will automatically be converted to and be treated as a termination for convenience. In such event, Contractor will be entitled to receive only the amounts payable pursuant to Document 00700, Article 2.05, “Termination for Owner’s Convenience”, and Contractor specifically waives any legal right for any other amounts or damages, including, but not limited to, any legal action for consequential damages or lost profits.

2.05 TERMINATION FOR OWNER’S CONVENIENCE

A. Owner reserves its right to terminate this Contract or any part thereof, when conditions encountered during the Work make it impossible or impracticable to proceed, or when Owner is prevented from proceeding with the Contract by act of God, by law, national emergency, or by official action of a public authority including failure by the State to sell bonds for the Project or suspension by the State of the AB900 Phase II Financing Program, order of court, or for its sole convenience. Such termination shall become effective five (5) Days after Owner issues written notice to Contractor. In the event of such termination, the Contractor must immediately suspend all Work hereunder and must immediately cause any and all of its Subcontractors, Sub-Subcontractors and Suppliers to cease work. Contractor will not be paid for any work performed or costs incurred that reasonably could have been avoided.

B. Contractor will be paid in accordance with the provisions of Document 00700, Article 8, ”Payments”, except that the amount due the Contractor will be based upon the Owner’s estimate of the Work completed, or acceptable materials provided but not used, to the date of suspension of the Work, less any amounts required to be withheld pursuant to Document 00700, Article 8, ”Payments”, and less any prior payment(s) made to, or on the account of the Contractor.

2.06 CONTRACTOR’S RIGHT TO SUSPEND, STOP, OR TERMINATE THE WORK

A. Contractor may upon thirty (30) Days written notice to Owner, stop Work or terminate the Contract and recover from Owner payment for all Work executed to date of termination if:

1. The Work is stopped pursuant to an order of any court or other public authority for a period of three (3) months, through no act or fault of Contractor or of anyone employed by Contractor; or,

2. Owner, without justification or good cause, fails to pay Contractor within sixty (60) Days after a complete payment request has been received and Approved by Owner’s Authorized Representative.

B. Work stoppage or termination by Contractor in accordance with this Document 00700, Article 2.06, “Contractor’s Right to Suspend, Stop, or Terminate Work", does not excuse or relieve Contractor from any of its obligations pertaining to Work in place or completed.

C. The provisions of this Document 00700, Article 2.06, “Contractor’s Right to Suspend, Stop, or Terminate Work", are in addition to all other rights and remedies available to Contractor by law.

D. Contractor does not have the right to suspend the Work without Owner’s written approval, and must resume Work promptly when notified by Owner.

2.07 SUSPENSION BY OWNER FOR CONVENIENCE

A. Owner's Authorized Representative may Order Contractor in writing to suspend, delay or interrupt all or any part of the Work for such periods of time as Owner's Authorized Representative may determine to be appropriate for Owner's convenience or any other reason.

B. Contractor must immediately comply with Owner's written Order to suspend, delay or interrupt Work or any part thereof.

C. If it should become necessary to suspend Work for an indefinite period:

1. Contractor must store all materials in such manner that they will not be or become an obstruction;

2. Contractor must take every precaution to prevent damage or deterioration of the Work performed;

3. Contractor must Provide suitable drainage and erect temporary structures where necessary to protect the Work;

4. Contractor must take all prudent measures to mitigate costs associated with suspension of the Work.

D. Owner may adjust either Contract Time or Contract Sum to account for changes to cost or time for performance of the Work caused by suspension, delay or interruption. No adjustment will be made to the extent that:

1. performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or

2. an equitable adjustment is made or denied pursuant to another provision of the Contract Documents.

2.08 ASSIGNMENT

A. The Contract binds the Contractor, the Contractor's partners, successors, assigns and legal representatives to Owner in respect to covenants, agreements and obligations contained in the Contract Documents. Contractor must not assign the Contract as a whole or in part without written consent of the Owner. If Contractor makes such an assignment without Owner's written consent, Contractor will remain legally responsible for all Contractor's obligations in the Contract Documents.

B. No assignment by the Contractor will be valid unless it contains a provision that the funds to be paid to the assignee pursuant to the assignments are subject to prior legal entitlement for payment for services rendered or material supplied for performance of the Work called for pursuant to the Contract Documents in favor of all persons, firms, or corporations rendering such services or supplying such materials.

C. Owner will not consent to an assignment that would relieve the Contractor or the Contractor's Surety(s) of their responsibilities pursuant to the Contract.

D. Subcontracts, purchase orders, and rental agreements entered into by Contractor must contain provisions permitting assignment to Owner, and providing for termination pursuant to the terms of this Agreement. To the extent that Owner elects to take legal assignment, the Contractor must execute and deliver all documents and take all such steps, including the legal assignment of such contracts and exercise other contractual rights of the Contractor, as Owner may require for the purpose of fully vesting in Owner the rights and benefits of the Contractor pursuant to such contracts.

E. The Contractor may assign moneys due or to become due pursuant to the Contract, only through a duly executed written amendment to the Contract. Any assignment of moneys earned by the Contractor is subject to all proper withholdings and Retention in favor of Owner provided for in the Contract Documents. All moneys withheld, whether assigned or not, are subject to

being used by Owner to the extent permitted by law, for the Completion of the Work in the event that the Contractor is in Default of the Contract.

2.09 NOTICE

A. Any notice from one party to the other must be dated and signed by the party giving such notice or by a duly authorized representative of such party. No notice is effective for any purpose unless served in the following manner:

1. If the notice is provided to Owner, it must be by personal delivery to Owner's Authorized Representative, by electronic mail, or by depositing the same in the United States mail, enclosed in a sealed envelope, addressed to the OAR, Capital Projects, General Services Department at the address stated in Document 00500 ”Agreement”, first class postage prepaid.

2. If the notice is provided to Contractor, it must be by personal delivery thereof to Contractor, or to Contractor's Authorized Representative at the Project Site, by electronic mail, or by depositing the same in the United States mail, enclosed in a sealed envelope, addressed to Contractor at its regular place of business or at such other address as may have been established for the conduct of the Work, first class postage prepaid.

3. If the notice is provided to the Surety or any other person, by personal delivery to such Surety or by depositing the same in the United States mail, enclosed in a sealed envelope, addressed to such Surety or person at the address of such Surety or person as stated in the Bond documents.

4. If sent by first class mail, notices and consents under this section shall be deemed to be received five (5) Days following their deposit in the U.S. mail.

2.10 AUDITS AND ACCESS TO RECORDS

A. Contractor must maintain all books, records, documents, electronic media, and other evidence directly pertinent to the performance of the Work in accordance with generally accepted accounting principles and practices consistently applied. Contractor must also maintain all financial information and data used by the Contractor in the preparation or support of any cost submission, including the Contractor’s Bid estimate, any Change Order, Disputed Item, Claim, Pay Application, or other request for equitable adjustment. State, Owner and their representatives will have access upon 24 hours advanced written notice, at all times during normal business hours, to all Contractors books, summary reports, records, accounts, estimates, documents, detailed financial information, certified payroll records, and all other relevant information and documentation for the purposes of inspection, audit, and copying. The Contractor will, at no cost to Owner, provide proper facilities for such access, inspection and copying purposes.

B. Contractor agrees to include and make the requirements of this Article 2.10.A of Document 00700 applicable to all Subcontracts and Sub-subcontracts or purchase orders at any tier.

C. Audits conducted pursuant to this Article 2.10.A of Document 00700 will be in accordance with general accepted auditing standards and established procedures and guidelines of the reviewing or audit agency.

D. Contractor agrees to provide all information and reports resulting from access to records to Owner and other affected parties, including, but not limited to the State.

E. Records must be maintained and made available during the performance of the Work and for three (3) years after the last date on which no Bonds are outstanding for the Project, and until final settlement of all Disputed Items, Claims, or litigation, whichever occurs later. In addition, those records which relate to any portion of this Contract, to any Change Order, to any Disputed Item, to any litigation, to the settlement of any Claim arising out of such performance, or to the cost or items to which an audit exception has been taken, must be maintained and made available until Final Payment or final resolution of such Disputed Item, litigation, Claim, or

exception, whichever occurs later.

F. The right of access provisions of this Article 2.10.A of Document 00700 apply to all financial records pertaining to this Contract:

1. to the extent the records pertain directly to Contract performance;
2. to the extent required for verification of the costs incurred where such costs are the basis for billings pursuant to this Contract including Change Orders;
3. to the extent there is any indication of violation of the California False Claims statute or that fraud, gross abuse, or corrupt practices may be involved;
4. if the Contract is terminated for default or convenience.

G. Access to records is not limited to the required retention periods. Owner's Authorized Representative or designee will have access to records at any reasonable time for as long as the records are maintained.

2.11 GOVERNING LAW

A. This Contract will be interpreted and enforced in accordance with the laws of the State of California. Pursuant to California Code of Civil Procedure §394, proper venue for legal action arising out of this Agreement is in the County of Santa Barbara. Both parties hereto agree that personal and subject matter jurisdiction is proper in Santa Barbara County, California.

END ARTICLE 2
of
DOCUMENT 00700

ARTICLE 3 — CONTRACTOR'S RESPONSIBILITIES

3.01 GENERAL RESPONSIBILITIES

A. Contractor must diligently supervise and direct the Work.

B. Contractor is solely responsible for all construction means, methods, techniques, operations, sequences and procedures, and for coordinating all portions of the Work.

C. Contractor is responsible to Owner for the acts, errors, and omissions of Contractor's employees, Subcontractors, Suppliers, their agents and employees, and all other persons performing any Work pursuant to a contract with Contractor.

D. Contractor will not be relieved from its obligations to perform the Work in accordance with the requirements of the Contract Documents, either by the activities or duties of Owner or Owner's Consultants in their administration of the Contract, or by inspections, tests, acceptance, or approvals required or performed by persons other than Contractor.

E. Contractor must at all times enforce good order and discipline among its employees and must not employ on the Work anyone not skilled in the task assigned.

F. In accordance with Article 13.12 of this Document 00700 and Section 01 78 36, "Guarantees and Warranties," Contractor warrants to Owner that all materials and equipment provided pursuant to the Contract are new unless otherwise specified, and that all Work is of good quality, free from faults and defects and in conformance with the requirements of the Contract Documents. All Work not conforming to these requirements, including substitutions not properly accepted and authorized by Owner's Authorized Representative may be considered defective. Upon request at any time, Contractor must furnish evidence, satisfactory to Owner, demonstrating the quality of installed materials and equipment.

G. Unless otherwise provided in the Contract Documents, the Contractor must provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. The provision of utilities such as gas, electricity and water is governed by Part 1.04 of Section 01 50 00, "Temporary Facilities and Controls."

H. Contractor has charge and care of all Work and all materials to be used therein (including materials for which Contractor has received partial payment or materials which have been furnished by Owner) until Substantial Completion of the Work. Contractor bears the risk of injury, loss, or damage to any part thereof by the action of the elements or from any other cause, whether arising from the performance or nonperformance of the Work, except as otherwise expressly provided.

I. Contractor must rebuild, repair, restore, and make good all injuries, losses, or damages to any portion of the Work or the materials by any cause before Substantial Completion.

J. Contractor must Provide suitable drainage and erect such temporary structures as are necessary to protect the Work or materials from damage. Suspension of the Work from any cause whatever will not relieve Contractor of responsibility for the Work and materials as herein specified.

K. Contractor must properly store materials which have been paid in whole or in part by Owner or which have been furnished by Owner. Such storage by Contractor is on behalf of Owner who shall at all times be entitled to the possession of such materials. Contractor must promptly return such materials to the Project Site when requested. Contractor must not dispose of any of the materials so stored except upon Owner's written authorization.

L. Any materials or supplies not stored at the Project Site must be stored in secured facilities with insurance coverages acceptable to Owner.

3.02 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY THE CONTRACTOR

A. Contractor must carefully study and compare the requirements of the Contract Documents with each other and must advise the Owner, in writing, of any errors, inconsistencies or omissions discovered pursuant to Article 1.06 of this Document 00700, "Requests for Information." If the Contractor performs any Work knowing it involves a recognized error, inconsistency or omission in the requirements of the Contract Documents, without such notice to the Owner, the Contractor assumes responsibility for such performance and will bear the cost for correction.

B. Contractor must take field measurements and verify field conditions and must compare such field measurements, conditions and other related information known to the Contractor with the requirements of the Contract Documents before beginning the Work.

C. In accordance with Public Contract Code §7104, Public Work involving digging trenches or other excavations that extend deeper than four (4) feet below the surface, the Contractor must promptly, and in any event no later than 24 hours after discovery, and before such conditions are disturbed, notify the Owner in writing of:

1. Material that the Contractor believes may be material that is hazardous waste, as defined in §25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with applicable laws.
2. Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.
3. Unknown physical conditions at the site of any unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract Documents.

D. In response to Contractor's written notice as required by Public Contract Code §7104:

1. Owner will promptly investigate the conditions, and if Owner finds that such conditions materially differ, or involve hazardous waste, and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the Work, a Change Order will be issued in accordance with Document 00700, Article 6.04, "Differing Site Conditions."
2. In the event that a Disputed Item or Claim arises between the Owner and the Contractor as to whether conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any completion date(s) provided for by the Contract Documents, but shall proceed with all Work to be performed under the Contract. Contractor will retain any and all rights provided either by Contract or by law that pertain to the resolution of Disputed Items and Claims between the contracting parties.

3.03 DOCUMENTS AND SAMPLES AT THE PROJECT SITE

A. Contractor must maintain at the Project Site one (1) copy of the As-Built Documents including, but not limited to, Drawings, Project Manual, Addenda, Change Orders, Requests for Information, and Additional Detailed Instructions.

B. Contractor must maintain the As-Built Documents in good and current condition and post all changes and clarifications to the Contract Documents on a daily basis as they occur.

C. Contractor must mark the As-Built Drawings and Project Manual to record Addenda, Change Orders, Requests for Information, Additional Detailed Instructions, and actual field dimensions of installed Work.

D. Contractor must maintain an As-Built Project Manual in good order and indicate by marking in the appropriate section of the Project Manual, the selected product or material that was approved for incorporation in the Work.

E. At least one (1) copy of all Owner accepted Shop Drawings, Product Data, Samples and similar

Submittals must be maintained at the Project Site in good and current condition and made available to Owner upon request.

F. Contractor and each Subcontractor (in accordance with Section 01 32 00.4, "Construction Progress Documentation Cost Loaded CPM") must prepare and maintain Daily Reports to document the progress of the Work. Daily Reports must be in a format prescribed or approved by the Owner's Project Manager, and completely filled out on a daily basis. Contractor must submit to the Owner by 10:00 a.m. of the following workday. The Daily Report must segregate all Force Account Work. One (1) copy of each Daily Report must be submitted to Owner's Project Manager the following workday or as otherwise Directed by the Owner's Project Manager.

G. Contractor and each Subcontractor must prepare and maintain incident reports to document unusual occurrences including, but not limited to, breaches of on-site security, altercations, vehicle or construction equipment accidents, and complaints from neighbors, etc. Incident reports must be in a format prescribed or approved by the Owner's Project Manager, completely filled out at or about the time of the occurrence of the incident. Eight (8) copies of the incident report must be submitted to Owner's Project Manager within 24 hours of the incident. Information related to follow-up investigation(s) of the incident must be submitted to the Owner's Project Manager upon request.

H. Contractor and each Subcontractor must prepare accident reports to document all reportable accidents at the Project Site. Accident reports must be in a format prescribed or approved by the Owner's Project Manager, completely filled out at or about the time of the occurrence of the accident. Eight (8) copies of the accident report must be submitted to Owner's Project Manager within 24 hours of the accident. Information related to follow-up investigation(s) of the accident must be submitted to the Owner's Project Manager upon request.

I. Contractor must arrange for the review or selection of any heavy or large material (or color) samples to be made at vendor shops or facilities and, after being suitably tested and accepted, must arrange for samples of the selected material (or colors) to be maintained at the job-site in a secure location for use during construction to verify the acceptability of materials and/or work.

3.04 ACCESS TO WORK

A. Contractor must provide Owner, its representatives, and the State continuous access to the Work.

3.05 USE OF PROJECT SITE

A. Contractor must confine operations at the Project Site to areas permitted by law, ordinances, permits and the Contract Documents, and must not unreasonably encumber the Project Site with any materials, equipment, temporary structures, or temporary measures.

B. Contractor's employees, or others subject to the Contractor's control, are not permitted to reside on the Project Site in temporary living facilities.

3.06 WORKPLACE ENVIRONMENT

A. The use or possession of alcohol, weapons, or illegal controlled substances by the Contractor, or others subject to the Contractor's control, on County property is prohibited.

B. Contractor must ensure and maintain a workplace environment free of personal harassment and intimidation.

C. Conduct that creates an intimidating, hostile, or offensive workplace environment is prohibited. Such conduct includes, but is not limited to, the following:

1. Verbal harassment, e.g., epithets, derogatory comments or slurs;

2. Physical harassment, e.g., assault, impeding or blocking movement, gestures, staring, or any physical interference with normal work or movement;

3. Visual forms of harassment, e.g., derogatory posters, letters, poems, graffiti, cartoons, or drawings.

D. Unwelcome and unwanted sexual advances constitute sexual harassment that is prohibited. For example, requests for sexual favors and verbal or physical conduct of a sexual nature are prohibited.

E. It is the responsibility of the Contractor to:

1. Inform its employees and Subcontractors that behavior that creates an intimidating, hostile, or offensive workplace environment is prohibited;

2. Create a workplace environment that is free from harassment; and,

3. Take corrective action to stop prohibited behavior/conduct.

F. If in the opinion of the Owner's Authorized Representative, any employee of the Contractor or Contractor's Subcontractors violate the prohibitions of this Document 00700, Article 3.06, "Workplace Environment", Contractor must immediately remove that person or Subcontractor from the Project upon Owner's request, and such person or Subcontractor must not be permitted to perform further Work on the Project Site.

3.07 SUPERVISION

A. Within seven (7) days after the start date for the Work identified in the Notice to Proceed (NTP), Contractor must submit to the Owner in writing two (2) copies of a letter naming the Contractor's Authorized Representative who will have the authority to represent and act for Contractor at the Project Site. Communications provided to the Contractor's Authorized Representative will be as binding as if provided directly to the Contractor.

B. When Contractor is comprised of two (2) or more persons, firms, partnerships, or corporations functioning as a joint venture, Contractor must submit a letter to the Owner, before starting Work, stating the name of one (1) authorized representative who has the authority to represent and act for Contractor.

C. Contractor's Authorized Representative or his/her Owner-accepted Alternate must be present at the Work site at all times while any Work is in progress.

D. Prior to Contractor mobilization to the Project Site, Contractor must submit to the Owner the telephone, cell phone, and/or pager numbers at which the Contractor's Authorized Representative can be reached at all times. In the event it is necessary for the Contractor's Authorized Representative to be absent from the Project Site, the Contractor's Authorized Representative will, except in the case of personal emergency, give written notice to the Owner's Project Manager designating an acting representative. The absence must not exceed 48 hours without prior written approval of the Owner's Project Manager.

E. Contractor must supervise and direct the Work. Contractor is responsible for, and has control of, construction means, methods, techniques, sequences, procedures, safety precautions and programs in connection with the Work, and for coordinating the Work unless otherwise noted or specified in the Contract Documents.

F. Contractor is responsible for acts and omissions of the Contractor's employees, Subcontractors, Sub-Subcontractors or Suppliers and their agents and employees, and other persons performing portions of the Work pursuant to a direct or indirect contract with the Contractor or at its direction.

G. If any person or Subcontractor working at the direction or subject to the control of the Contractor refuses or fails to carry out a properly given Order by the Owner's Authorized Representative or is, in the Owner Representative's opinion, incompetent, disorderly, intemperate, troublesome, otherwise objectionable or who otherwise fails or refuses to perform work properly and acceptably, Contractor must immediately remove that person or Subcontractor from the Project

upon Owner's written request, and such person or Subcontractor must not be permitted to perform further Work on the Project.

3.08 DISRUPTION OF OWNER'S NORMAL OPERATIONS

A. Contractor must give timely advance notice to Owner of Work that is likely to be disruptive to Owner's normal operations at or near the Project Site. If Contractor does not so advise Owner, Owner has the right to temporarily suspend Contractor's Work or to require Contractor to modify its Work operations to eliminate any disruption, and Contractor is not entitled to any adjustment in the Contract Sum or Contract Time for any delay or additional costs associated therewith.

3.09 LABOR

A. Hours of Labor

1. Eight (8) hours labor constitutes a legal day's work. Contractor shall forfeit as a penalty to Owner, $25.00 for each worker employed in the execution of the Contract by Contractor or any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day or forty (40) hours in any one calendar week in violation of the provisions of the California Labor Code, and in particular, §1810 through §1815 thereof, except that work performed by employees of Contractor or any Subcontractor in excess of eight (8) hours per day, or forty (40) hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day, or forty (40) hours per week, at not less than one and one-half (1-1/2) times the basic rate of pay, as provided in Labor Code §1815.

B. Prevailing Wage

1. The Work to be performed pursuant to this contract is "public works" subject to California Labor Code §1771, *et seq*. and the applicable implementing regulations. The General Prevailing Wage Rates issued by the California Department of Industrial Relations may be adjusted by the State during the term of this Contract. Notwithstanding any other provisions of this Contract, Contractor will not be entitled to any adjustment in compensation rates in the event there are adjustments to the General Prevailing Wage Rates.

2. Contractor shall comply with California Labor Code §1775, whereby Contractor shall be assessed a penalty for each calendar day or portion thereof, for each worker paid less than the stipulated prevailing rates for such work or craft in which such worker is employed for any Work done pursuant to the Contract by Contractor or any Subcontractor in violation of the California Labor Code and in particular §1770 through §1780. In addition to said penalty and pursuant to Labor Code §1775, Contractor shall pay each worker the difference between such stipulated prevailing wages and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate.

3. Contractor and each Subcontractor must, pursuant to California Labor Code §1776, submit a certified weekly payroll within ten (10) Days after the Owner's request for submission of certified weekly payroll records. The certified payroll must include the date of actual payment of wages for each worker employed on the Project and a breakdown of each payment including all fringe benefits included in such wage for each worker. The prime Contractor is responsible for compliance with California Labor Code §1776.

4. Contractor must submit two (2) copies of said payroll to Owner on the California Department of Industrial Relations standard Form A-1-131 "Public Works Payroll Reporting Form." Other forms may be used provided they exactly duplicate the format, dimensions and wording of Form A-1-131.

5. Pursuant to the provisions of California Labor Code §1770 and following, the California Department of Industrial Relations has ascertained the general prevailing rate of wages (which rate includes employer payments for health and welfare, vacation, pension, and

similar purposes) applicable to the Work, for straight time, overtime, Saturday, Sunday, and Holiday work. The Holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of each craft, classification, or type of workers concerned. Said prevailing wage rates are on file in the General Services Department, incorporated herein by reference, and copies of which are available to any interested party on request. The rates are also available on the State of California's Department of Industrial Relations home page website at http://www/dir.ca.gov.

6. If Contractor uses a craft or classification not shown on the prevailing wage determinations, Contractor may be required to pay the wage rate of that craft or classification most closely related to it, shown in the general determinations in effect when the Bids were received. Pursuant to California Labor Code §1773.2, Contractor shall prominently post a copy of such prevailing wages at each job site.

7. Pursuant to Public Contract Code §6109, the Contractor shall not perform Work on this public works project with any Subcontractor who is ineligible to perform Work on a public works project pursuant to §1777.1 or §1777.7 of the Labor Code. Any contract on a public works project entered into between the Contractor and a debarred Subcontractor is void as a matter of law. A debarred Subcontractor may not receive any public money for performing Work as a Subcontractor on a public works contract, and any public money that may have been paid to a debarred Subcontractor by the Contractor on this Project shall be returned to the Owner. Contractor shall be responsible for the payment of wages to workers of a debarred Subcontractor who has been allowed to work on the Project.

8. Pursuant to Labor Code §1771.5.b.6, the Owner will withhold contract payments equal to the amount of underpayment and applicable penalties when, after investigation, it is established that underpayment of prevailing wage has occurred.

C. Certified Payrolls

1. Contractor must submit two (2) copies of certified weekly payrolls for the periods covered by each Progress Payment. Certified Payroll records must be submitted within ten (10) calendar days from the Progress Payment period end date.

2. Pursuant to California Labor Code §1776, in the event that the Contractor fails to comply within the 10-day submission period, the Contractor must forfeit twenty-five dollars ($25.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated.

3. Pursuant to California Labor Code §1776, the responsibility for compliance with the requirements of California Labor Code §1776 is the responsibility of the prime Contractor.

D. Apprentices

1. Contractor's attention is directed to the provisions of §1777.5 and §1777.6 of the California Labor Code regarding the employment of apprentices by Contractor and any Subcontractors, and Labor Code §1777.7 regarding penalties for noncompliance. Contractor and all Subcontractors shall comply with the requirements of said Sections in the employment of apprentices. It is Owner's policy to encourage the employment and training of apprentices on public works contracts in accordance with local apprenticeship standards.

E. Labor Compliance Monitoring: To ensure compliance with prevailing wage requirements in the Work, the Board of Supervisors has adopted a *Joint Labor Compliance Monitoring Program.* This program monitors labor compliance by conducting interviews with Contractor's employees and Subcontractors at the project site. A copy of the *Joint Labor Compliance Monitoring Program* is available at the Capital Projects Division Office. A copy of the *Joint Labor Compliance Monitoring Program* will be provided upon request. Contractor, and all Subcontractors, shall cooperate by allowing approved Compliance Group Representatives access to its employees on the Project Site for the purpose of conducting prevailing wage compliance interviews. The Compliance Group Representative shall restrict their on-site

activities to prevailing wage compliance interviews only. Promotion, advertising or other related activities of the Compliance Group Representative is strictly prohibited. Any additional effort required by the Contractor in compliance with this provision shall be incorporated into the Bid and Contract Documents Scope of Work and no additional compensation will be considered.

3.10 SATURDAY, SUNDAY, HOLIDAY, AND OVERTIME WORK

A. Unless otherwise required in the Contract Documents, no construction Work shall be done on Saturdays, Sundays or holidays recognized by the County government and no Work shall be performed outside of Normal Hours Of Work without the prior consent of the Owner's Project Manager.

B. Whenever the Contractor intends to perform overtime work or work on Saturday, Sunday, or a legal holiday recognized by the County, the Contractor must request permission by giving written notice to the Owner's Project Manager at least two (2) workdays prior to performing the Work.

C. Unless specifically provided or required by the Contract Documents, Contractor shall receive no additional compensation for any overtime work (i.e., work in excess of: eight (8) hours in any one Day; forty (40) hours in any one calendar week; or evening, night, legal holidays observed by Owner, or weekend work).

D. Prior to the start of such Work, when necessary, the Contractor must arrange with the Owner for the continuous or periodic inspection of the Work.

E. Should the Contractor find it necessary in order to complete the Work according to the Official Progress Schedule to perform certain of Contractor's operations on Saturdays, Sundays, holidays or during other overtime hours, these operations will be performed as part of the Work included in the Contract Sum and do not constitute a basis for additional compensation. At the Owner's option the Contractor may be required to compensate the Owner for inspection, testing, security, or management costs during Work performed outside of Normal Hours Of Work. Owner has the right and authority to deduct the cost of all such inspections, testing, security, or management costs from any payments due or that become due Contractor.

F. Owner has the right to Order Contractor to perform Work outside Normal Hours Of Work. Owner will issue such Order in writing. If the Owner Orders the Contractor to perform Work outside Normal Hours Of Work, the Contractor must make all arrangements to supply an adequate Work force for the task to be accomplished and will be compensated for the premium portion of the wages paid, plus labor burdens applicable to the premium portion only of the wages paid. Contractor must submit copies of Contractor's payrolls indicating the premium wages actually paid, and the Owner will issue a Change Order to reimburse the Contractor for Contractor's actual costs only. Allowable equipment costs are only the cost of added equipment mobilized to the site to accomplish the Work performed outside Normal Hours Of Work.

3.11 NORMAL HOURS OF WORK

A. Normal Hours Of Work for any of Contractor's operations which are located within city limits must comply with city ordinances or requirements of the city. Contractor's operations in the County's unincorporated areas or areas which border a city, town or other county must comply with requirements of Santa Barbara County or requirements adopted by other jurisdictions, whichever are more stringent. In case of conflict between the requirements of a city, the County, and the requirements of the Contract Documents, the most restrictive requirements will govern.

3.12 ORDER OF WORK

A. Contractor must follow any sequence of operations required by the Contract Documents.

B. Full compensation for conforming to such requirements will be considered as included in the prices paid for the various Contract items of Work and no additional compensation will be allowed therefore.

3.13 CLEANUP

A. Contractor must continuously keep the Project Site and surrounding areas free from waste materials and/or rubbish caused by its operations or rubbish from any source that accumulates within the Project Site and any other area designated by the Owner's Project Manager for use by the Contractor.

B. When cleanup is paid for as a separate Bid item, full compensation for such work must be included in the Bid price for cleanup.

C. When the Bid price is a lump sum, or there is no unit price item for cleanup, full compensation for cleanup will be considered to have been included in the various items of Work.

D. Contractor must, before certifying that the entire Work of the Project is complete or requesting a Substantial Completion Inspection, clean material storage sites and all ground occupied or affected in connection with the Work or designated portion of the Work, and must leave all parts of the Project in a neat and presentable condition satisfactory to Owner's Authorized Representative.

E. Upon completion of the Work or any designated part thereof, Contractor must promptly remove all its waste materials, rubbish and debris, and all its tools, construction equipment, machinery and surplus materials from the Project area or the completed part.

F. If the Contractor fails to clean up as required by the Contract Documents, Owner may do so and the cost thereof will be charged to the Contractor and deducted from progress payments due or to become due to the Contractor.

3.14 DISPOSAL OF MATERIAL OUTSIDE PROJECT AREA

A. Contractor is responsible for making all arrangements and paying all costs for disposal of materials outside the Project area.

B. When any material is to be disposed of outside the Project area, at other than a public disposal site, Contractor must first obtain a written consent from the property owner of the proposed disposal site, and furnish Owner a copy of said consent. The property owner's written consent must acknowledge receipt of the soils testing report, if any, for the materials to be disposed.

C. Disposal of Hazardous Materials must comply with all legal requirements, including, but not limited to, containerization, labeling, manifesting, transportation, disposal site, and use of properly trained personnel. No later than fifteen (15) Days after Contractor's request for Final Inspection, Contractor must submit copies of all Hazardous Waste Manifests signed by Toxic Substances Disposal Facilities ("TSDF's") and certificates of disposal, to prove that Contractor has legally disposed of such materials. Contractor shall submit four (4) copies of each manifest.

3.15 HAZARDOUS MATERIALS

A. Contractor must comply with all Federal, State, County and local laws, statutes, ordinances, EIR mitigations and other regulations covering the use, storage, transportation and disposal of any Hazardous Materials on the Project. Contractor must obtain all permits and pay all fees and taxes for all services and materials required to perform the Project.

B. The term "Hazardous Materials" as used herein means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace of the environment.

C. Prior to starting Work, Contractor must submit to Owner six (6) copies of a list of all Hazardous Materials expected to be used on the Project. Contractor must keep a copy of the list at the Project Site. This list must include, but not be limited to, any cleaners, solvents, paints or explosive charges used in the Work. Contractor must submit one (1) copy of OSHA Form 20 – Material Safety Data Sheet ("MSDS") for each material listed and must advise every person at or near the Project Site of these materials, of proper handling, and of proper action in case of accident or exposure.

D. Contractor must safely contain and store all its Hazardous Materials, and in the event of spill or discharge, must immediately notify all required Federal, State, County and local agencies including the fire department. Contractor must protect personnel from exposure and provide treatment as necessary.

E. Contractor must immediately advise Owner of any potentially Hazardous Materials encountered at the Project Site and must take all necessary action to prevent exposure of personnel until the material is identified and proper action can be taken.

F. Contractor must not store or use any Hazardous Materials near air intakes or doors and windows serving persons on or off the Project Site without proper protection and safeguards to prevent exposure.

G. Contractor must exercise all required precautions and safeguards in the storage, use and disposal of Hazardous Materials. Nothing in this Document 00700, Article 3.15, "Hazardous Materials", relieves Contractor of responsibility for compliance with all applicable laws and statutes, or other provisions of the Contract, particularly Contractor's responsibility for damage and preservation of life and property

3.16 SAFE USE OF PESTICIDES

A. Contractor must comply with all Federal, State and local rules and regulations governing pesticides and with the Mitigation Measures referenced in Document 00800 "Supplementary Conditions" that are required or used in performing Work.

B. The term pesticide includes, but is not limited to: herbicides, insecticides, fungicides, rodenticides, germicides, nematocides, bactericides, inhibitors, fumigants, defoliants, desiccants, soil sterilants, repellents, and any substance or mixture of substances intended for preventing, repelling, mitigating, or destroying weeds, insects, diseases, rodents, or nematodes, and any substance or mixture of substances intended to use as a plant regulator, defoliant, or desiccant.

3.17 TRENCHING AND EXCAVATION

A. Before any excavation, Contractor must, pursuant to California Government Code §4216 *et seq*. and Cal OSHA 8 CCR §1540 *et seq.*, outline the excavation in white paint (preferably chalk or water base), provide two (2) workdays notice to Underground Service Alert (1-800-227-2600), obtain a locater number, and follow all necessary procedures to avoid underground facility damage.

B. Before any excavation five (5) feet or more in depth:

1. Contractors must, pursuant to California Labor Code §6705, submit to Owner specific plans showing details of provisions for worker protection from caving ground. This in no way relieves Contractor from the requirement of maintaining safety in all operations performed by Contractor or Subcontractors. Submit four (4) copies of the plans.

2. The detailed plans showing design of all shoring, bracing, sloping or other provisions shall be prepared at Contractor's sole expense by a California registered Civil or Structural Engineer. Owner's acceptance only constitutes acknowledgment of the submission and does not constitute review or approval of the designs, design assumptions, criteria, accuracy, completeness, suitability for use, implementation, or any other quality of the plans, which are solely the responsibility of Contractor and Contractor's Engineer.

3.18 AIR POLLUTION CONTROL

A. Contractor and each Subcontractor must comply with all air pollution control rules, regulations, ordinances, statutes, and Project specific permit requirements of the Santa Barbara County Air Pollution Control District and all other regulatory agencies that apply to any Work performed. If there is a conflict between the Santa Barbara County Air Pollution Control District rules,

regulations, ordinances, and statutes and the rules, regulations, ordinances, and statutes of other regulatory agencies, the most stringent shall govern.

B. Contractor must not discharge smoke, dust or any other air contaminants into the atmosphere in such quantity as will violate any regulations.

C. Contractor must minimize dust nuisances resulting from performance of the Work, both inside and outside the Project limits, by applying either water or dust palliative, or both.

3.19 WATER POLLUTION CONTROL

A. Contractor must comply with all Federal, State and local water pollution prevention and storm drain pollution prevention rules, regulations, ordinances, statutes, guidelines, and Project specific permit requirements.

B. Contractor must prepare a Project Specific Storm Water Pollution Prevention Program (SWPPP) in accordance with Section 01 57 23, "Storm Water Pollution Prevention (SWPP)."

C. Contractor must exercise every reasonable precaution to protect storm drains, channels and all bodies of water from pollution, and must conduct and schedule operations so as to avoid or minimize muddying and silting of any waters. Contractor must construct whatever facilities are necessary or requested by Owner to provide prevention, control and abatement of water pollution.

D. No provision of the Contract Documents relieves Contractor of responsibility for compliance with California Fish and Game Code §5650 *et seq*, and §12015 *et seq*, and applicable regulations of the Regional Water Quality Control Board, Santa Barbara County Flood Control and Water Conservation District requirements, or other applicable statutes relating to prevention and removal of water pollution.

E. Compliance with water pollution requirements does not relieve Contractor from responsibility to comply with all provisions of the Contract Documents, particularly Contractor's responsibilities for damage and preservation of property.

3.20 SOUND CONTROL

A. Contractor must comply with all CAL OSHA requirements.

B. Contractor must comply with all local sound control and noise level rules, regulations, and ordinances that apply to any Work performed pursuant to the requirements of the Contract Documents.

C. Each internal combustion engine, used for any purpose on the Project or related to the Project, must be equipped with a muffler of a type recommended by its Manufacturer. No internal combustion engine shall be operated on the Project without said muffler.

D. Noise level requirements apply to all equipment used in the Project including, but not limited to, trucks, transit mixers, generators, air-tools, or equipment that may or may not be owned by the Contractor. The use of loud sound signals must be avoided in favor of warning lights except those required by safety laws for the protection of personnel.

3.21 WORKER'S SANITARY PROVISIONS & USE OF OWNER'S FACILITIES

A. Contractor must conform to the rules and regulations for sanitary provisions established by the State, the County of Santa Barbara, and any other applicable jurisdictions.

B. Contractor must Provide and maintain toilets for use by its employees and the employees and representatives of the Owner. These accommodations must be maintained in a neat and sanitary condition, and must comply with all applicable laws, ordinances and regulations pertaining to public health and sanitation.

C. Contractor's personnel must not use Owner's facilities without Owner's express written permission, which will be at Owner's sole discretion. Such Owner's facilities include, but are not

limited to, toilet facilities, food service facilities (i.e. cafeteria and coffee shop), utilities services of any kind, carts, fire extinguishers (except in emergencies), parking, storage space and any other facilities and services.

3.22 CUTTING AND PATCHING

A. Contractor is responsible for all cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

B. Contractor must not damage or endanger any portion of the Work, or the work of Owner or any separate contractors, by cutting, patching or otherwise altering any work.

C. Contractor must not cut or otherwise alter the work of Owner or any separate contractor except with the written consent of Owner and such separate contractor. Contractor must not unreasonably withhold from Owner or any separate contractor its consent to cutting or otherwise altering the Work.

D. Cutting and Patching by Others: Contractor is responsible for any and all cutting, fitting and patching required to complete Contractor's Work or join its Work with the work of others, except as otherwise specifically provided for in the Contract Documents.

3.23 TESTS AND INSPECTIONS

A. Contractor must at all times permit Owner, its agents, officers, employees, Consultants and representatives and the State to visit the Project Site and inspect the Work, including shops where Work is in preparation. This obligation includes maintaining proper facilities and safe access for such inspection. When the Contract Documents require a portion of the Work be tested, such portion of Work must not be covered up until inspected and accepted by Owner. Contractor is solely responsible for notifying Owner's Project Inspector where and when the Work will be ready for inspection and testing. Should any Work be covered without the required testing and acceptance, such Work must be uncovered and recovered at the Contractor's expense.

B. If Owner determines that portions of the Work require additional testing, inspection or acceptance not included in the requirements of the Contract Documents, the Owner will Direct the Contractor, in writing, to make arrangements for additional testing, inspection or acceptance by an entity acceptable to the Owner, and the Contractor must give 48 hours written notice to Owner of where and when tests and inspections will be conducted so that Owner may observe the procedures. Owner will bear the costs except as provided in Document 00700, Article 3.23.C below.

C. If procedures for additional testing, inspection or acceptance required by Document 00700, Article 3.23.B above reveal failure of a portion(s) of the Work to comply with the requirements of the Contract Documents, the Contractor will bear all costs made necessary by such failure(s) including those of repeated procedures and compensation for Owner's services and expenses.

D. Certificates of testing, inspection, acceptance, or approval will, unless otherwise required by the Contract Documents, be secured by the Contractor and submitted to the Owner's Project Inspector within two (2) Days after completion of each test, inspection, acceptance or approval.

E. Contractor will not be relieved of its obligations to perform the Work in accordance with the requirements of the Contract Documents by tests, inspections, acceptance or approvals required or performed by persons other than the Contractor.

F. Contractor is responsible for inspections of portions of its Work and the work of others already completed to determine that such portions are in proper condition to receive subsequent Work.

1. If the Contractor determines that Work performed on the Project does not comply with the requirements of the Contract Documents, Contractor must repair or replace such defective Work at the Contractor's sole expense.

2. If Contractor determines that completed work of others is not in proper condition to receive its Work, Contractor must immediately notify the Owner in writing and must not proceed with the affected portion of its Work without Direction from the Owner.

3.24 OFFICIAL PROGRESS SCHEDULE

A. Contractor must submit Progress Schedules prepared in accordance with the requirements of the Contract Documents including the requirements of Section 01 32 00.4, "Construction Progress Documentation."

B. Owner's review and acceptance of the Contractor's Progress Schedule is for compliance with the requirements of the Contract Documents only. Review and acceptance by the Owner of the Contractor's Progress Schedule(s) does not mean approval of the sequence or duration of the tasks shown, and does not relieve the Contractor of any of the Contractor's responsibility for the accuracy or feasibility of the Official Progress Schedule, or of the Contractor's obligation to meet Substantial Completion or Final Completion dates.

C. Owner's review and acceptance of the Contractor's Progress Schedule does not expressly or implicitly warrant, acknowledge or admit the reasonableness of the logic, durations, cost, manpower or equipment loading indicated in the Official Progress Schedule.

3.25 RECYCLING OF MATERIALS

A. The California Department of Resources Recycling and Recovery (CalRecycle) requires all Cities and Counties to develop a Source Reduction and Recycling Program (SRRP) for all development projects such that solid waste intake to landfills is reduced. This project is included in the CalRecycle/SRRP requirements; therefore, the Contractor is required to ensure that debris generated from demolition or construction activities is recycled or salvaged in accordance with all state and local CalRecycle and EIR Mitigation requirements.

3.26 SUBMITTALS

A. General

1. Shop Drawings, Product Data, Samples and similar Submittals are not Contract Documents. Their purpose is to demonstrate those portions of the Work for which Submittals are required and the way the Contractor proposes to conform to the information provided and the design concept expressed in the Contract Documents.

2. All Submittals are instruments of Contractor. By submitting Shop Drawings, Product Data, Samples and similar Submittals, Contractor represents that the Contractor has determined and verified materials, construction methods, field measurements and related field construction criteria, coordinated the Work of the Subcontractors, and has checked and coordinated the information contained within the Submittal with the requirements of the Contract Documents and other Submittals.

3. Owner's review of Submittals is for general compliance with the requirements of the Contract Documents. Contractor is solely responsible for all quantities, dimensions, weights, gauges, materials, Fabrication processes, construction methods, coordination with the Work of other trades, and construction safety precautions. Owner's review does not relieve the Contractor of responsibility for errors and omissions in the Submittals or from responsibility for proper fitting and construction of the Work, nor from furnishing materials and Work required by Contract Documents that may not be indicated or shown on the Submittal(s).

4. Owner's review of Contractor's Submittal(s) does not relieve Contractor of any responsibilities for the successful completion of the Work in conformity with the requirements of the Contract Documents. Owner may reject any defective Work notwithstanding any review or previous acceptance of a Submittal associated with the Work.

5. Contractor is not relieved of the responsibility for any deviation from the requirements of the Contract Documents by Owner's review of Submittals unless the Contractor has explicitly informed Owner, in writing, of such deviation at the time of Submittal, and Owner has provided specific written consent to each specific deviation. Making notations on the Submittal of proposed deviation is not sufficient to satisfy this requirement. Each proposed deviation must be clearly noted on the Submittal and separately itemized and explained in writing in the transmittal accompanying the Submittal. For each Submittal, the Contractor must indicate that the Submittal contains **"No Deviations"** or itemize the proposed deviations on the transmittal accompanying the Submittal. This written list of deviations is in addition to any indications or marks on the Shop Drawings, Product Data, Coordination Drawings, Samples, or other Submittals indicating the proposed deviations.
6. No Work requiring Submittals shall be performed until Owner has accepted the pertinent Submittals. Where a Submittal is required, any related Work performed before the Owner's review and acceptance of the Submittal will be at Contractor's sole risk, expense and responsibility.
7. Except as otherwise specifically stated in the Contract Documents or specifically Approved or Directed by Owner's Project Manager, all required Preconstruction Submittals must be submitted within forty-five (45) Days after the start date for the Work as stated in the Notice to Proceed.
8. General acceptance of the Contractor's Progress Schedule, Submittal Log, or other related Project Management submittals (see definition in Section 01 33 00, "Submittal Procedures") by the Owner does not constitute specific Approval by the Owner's Project Manager for deviation from the 45 Day cut-off date for Preconstruction Submittals. Contractor must make a specific request in writing for each proposed deviation to the cut-off date and the Owner's Project Manager must grant specific written Approval for each proposed deviation to the cut-off date.
9. When certification of materials, systems or equipment is required by the Contract Documents, Design Professional and Owner are entitled to rely upon the accuracy and completeness of such certifications and the calculations and other professional analysis supporting the certifications.
10. When descriptive catalog designations, including Manufacturer's name, product brand name, or model number(s) are referred to in the Contract Documents, such designations shall be considered as being those found in industry publications of current issue at date of first Notice to Bidders unless a different industry publication is cited in an Addendum issued during the Bid Period.
11. Contractor must allow sufficient time for reviews, revisions and resubmittals to avoid delays in the Work. No extension of the Contract Time will be authorized because of failure to transmit Complete Submittals enough in advance of the Work to permit processing within the timeframes allowed by Contract. Contractor is responsible for all costs of delays caused by Submittals that are tardy or are not Complete Submittals.
12. Submittals not required by the Contract Documents will not be reviewed and will be "Returned Without Action" or may be discarded.
13. If a returned Submittal is required to be resubmitted more than once due to Contractor's failure to comply with the Submittal requirements, Contractor may be charged all costs associated with re-review of the Submittal. The charges may be deducted from progress payments due or to become due to the Contractor.
14. Do not highlight pertinent Submittal information with markings that turn opaque when copied. Improperly highlighted Submittals may be returned to Contractor "Returned Without Action."

B. Contractor's Responsibilities

1. Contractor must, at its own expense, provide for Owner's review all Submittals required by the Contract Documents.
2. If a Submittal deadline submission date is not stated in the Contract Documents for a specific Submittal or group of Submittals, make the Submittal or group of Submittals far enough in advance to avoid any Critical Path delay to the Official Progress Schedule.
3. Before submission, Contractor must:
   a. Determine and verify all field dimensions and conditions;
   b. Verify and correlate all dimensions in the Contract Documents with field dimensions and conditions;
   c. Verify materials, catalog numbers and similar data;
   d. Coordinate the Work of Subcontractors with the Work of Contractor;
   e. Coordinate the Work of the Subcontractors Work with that of each other;
   f. Review and coordinate all Subcontractors' Submittals with the requirements of the Contract Documents;
   g. Review and coordinate all Submittals with Submittals previously accepted by the Owner;
   h. Coordinate as required with all public agencies involved;
   i. Secure necessary approvals from public agencies and others and signify by stamp or other means that they have been secured;
   j. Verify the feasibility of the construction methods;
   k. Coordinated the Submittal with Construction safety precautions; and
   l. Review and coordinate all Contractor's Submittals with the requirements of the Contract Documents.
4. Submittals must be provided to the Owner as Complete Submittal(s) for each Definable Feature of Work and must not be Submitted piecemeal. Owner has the right to withhold action on partial Submittals until the missing Submittal items are received, or return the partial Submittal to the Contractor "Returned Without Action." At Owner's sole discretion, the Owner may agree to review a Contractor's partial Submittal. If the Owner agrees to review a Contractor's partial Submittal, and the submittal is marked "No Exceptions Taken," or "Make Corrections Noted" the Owner's acceptance of the partial Submittal is subject to its compatibility with future Submissions and additional partial Submissions for portions of the Work not covered in the reviewed partial Submission and does not constitute acceptance of the deletion of specified or required items not shown in the partial Submission.
5. Contractor must coordinate submission of Submittals for related parts of the Work so the Submittals may be reviewed concurrently. Owner has the right to withhold action on a Submittal requiring coordination with other Submittals until related Submittals are received.
6. Prior to Submission to the Owner, Contractor must certify all Submittals for compliance with the requirements of the Contract Documents. Owner and Owner's Consultants are entitled to rely upon the Contractor's certification and the accuracy and completeness of the Contractor's efforts supporting such certification.
7. Contractor must resubmit Submittals as required until Owner's acceptance is obtained.
8. Contractor must make any required corrections and resubmit corrected Submittals until achieving acceptance.

9. Unless otherwise specifically stated in the Contract Documents, Contractor must resubmit Submittals requiring resubmission within twenty-one (21) Days of return of Submittal by Owner.
10. On resubmittals, Contractor must clearly indicate all revisions, changes, and deviations from the original Submittal. This includes directing specific attention, in writing, to revisions other than those requested by the Owner on previous Submittals.
11. Contractor must include answers to any questions or clarifications required by Subcontractors and/or Suppliers.

C. Submittal Copies

1. Generally, the number of required copies of Submittals is established or summarized in Section 01 33 27.2, "Submittal Log".
2. If the required number of Submittal copies are not specifically established or summarized in Section 01 33 27.2, "Submittal Log", Contractor must provide the number of copies indicated below:
   a. One (1) reproducible copy and three (3) prints of each:
      .1 Shop Drawing
      .2 Coordination Drawing
      .3 Erection plan
      .4 Equipment installation plan
      .5 Record Drawings (as-built)
   b. Four (4) copies of each:
      .1 Product Data sheet
      .2 Manufacturer, Vendor, or Subcontractor Certification
      .3 Catalog cut
      .4 Operation and Maintenance Data
      .5 Qualifications
      .6 Laboratory Test Reports
      .7 Owner Demonstration and Training Materials including Videotapes
      .8 Quality Control Plan
      .9 Solid Waste Management Plan
      .10 Storm Water Pollution Prevention Plan (SWPPP)
   c. Four (4) copies of each:
      .1 Fire Protection Plan
      .2 Incident Reports
      .3 Accident Reports
   d. Two (2) copies of each:
      .1 Progress Schedules (plus one (1) electronic copy in CD format)
      .2 Project Manual (as-built)
      .3 Hazardous Waste Manifests

.4 Permits

.5 Cost Breakdown (plus one (1) electronic copy in CD format)

.6 Survey Records

.7 Notice of Disputed Item and supporting documentation (plus one (1) electronic copy in CD format)

.8 Dispute Resolution Phase 2 (DRP-2) Certification (original signature required on each certification)

.9 Payment Application

.10 Material On Hand Payment Request

e. Two (2) copies of each:

.1 Sample

.2 Meeting Minutes (plus one (1) copy to each meeting participant and one (1) electronic copy in CD format)

f. Four (4) copies of all other Submittals

D. Minimum Submittal Review Times

1. Time for review shall commence on Owner's receipt of a Complete Submittal.
2. Time for review shall end on Owner's return of Submittal.
3. Allow at least twenty-one (21) Days for Owner's review and return following Owner receipt of a Complete Submittal. More specific times may be provided for in Section 01 33 00, "Submittal Procedures" of the Project Manual, or in the individual specification Sections of the Contract Documents.
4. Allow additional time if processing must be delayed to permit coordination with subsequent Submittals. Owner will advise Contractor when a Submittal being processed must be delayed for coordination.
5. Allow at least twenty-one (21) Days for Owner's review and response to resubmittals, except when more specific times are provided for in the individual specification Sections of the Contract Documents.

E. Action & Distribution

1. When "No Exceptions Taken" is indicated, Contractor may proceed with Fabrication, Manufacture, or construction, providing such Work complies with the requirements of the Contract Documents.
2. When "Make Corrections Noted" is indicated, Contractor may proceed with Fabrication, Manufacture, or construction, providing such Work complies with the requirements of the Contract Documents and the corrections noted. The above two categories, "No Exceptions Taken" and "Make Corrections Noted", are considered as accepted Submittals. When other notations are indicated, Contractor is advised that no Work shall be Fabricated, Manufactured, or constructed, and Contractor must make a revised submission.
4. Contractor must promptly distribute copies of the accepted Submittals to its Subcontractors, Suppliers, vendors, Fabricators, Manufacturers, Governing Authorities, and others as required or needed.
5. Submittals received from sources other than through Contractor's office will be "Returned Without Action" or may be discarded.
6. Submittals that are not required by the Contract Documents will not be reviewed and will be

returned to the Contractor "Returned Without Action" or may be discarded.

7. Informational Submittals, on which Owner is not required to take action, will not be returned to the Contractor.

F. Use for Construction

1. Use only final Submittals with mark(s) indicating acceptance by Owner or Designer of Record.
2. No portion of Work requiring Submittals shall be commenced until Owner or Designer of Record, on the Owner's behalf, has accepted the Submittal.
3. Contractor must Fabricate, construct and furnish all Work in accordance with the accepted Submittals.
4. Contractor must immediately upon receipt from Owner, distribute Owner accepted Submittals to all parties concerned.
5. Contractor must keep at least one (1) copy of each accepted Submittal at the job site as part of the "Record Set."

3.27 SHOP DRAWINGS

A. Contractor must furnish Shop Drawings for temporary work and methods of construction such as formwork, false work, and for other temporary work and methods of construction Contractor proposes to use.

B. Contractor must Furnish scaled drawings showing how the Work of all trades (HVAC, plumbing, fire protection, electrical, etc.) will coordinate to form a complete Installation, and where Work affects existing buildings or parts thereof, and/or existing utilities.

C. Present Shop Drawings in a clear and thorough manner. Identify details by reference to sheet and detail, schedule, and room numbers shown on Drawings.

3.28 COORDINATION DRAWINGS

A. The Contract Documents indicate general arrangement and location of the various systems and elements of Work. Final locations, elevations, clearances, etc., are governed by actual equipment and material Provided by Contractor and by actual building conditions.

B. Before Work is Installed, Contractor must carefully examine the Contract Documents, Submittals, and Shop Drawings relating to the entire Work with each other and the actual building conditions and verify that the Work will be accommodated in spaces provided.

C. Contractor must prepare Coordination Drawings when:

1. Limited space is available for installation of different components.
2. Coordination is required for installation of products and materials Fabricated by separate entities.
3. The relationship of components is shown on separate Shop Drawings.
4. Coordination Drawings are specifically required by other sections of the Project Manual.

3.29 SAMPLES

A. Contractor must submit without charge such Samples as may be required by the Contract Documents.

B. Unless a greater quantity is required elsewhere in the Contract Documents, three (3) of each required Sample must be Submitted.

C. Tags or labels shall be securely affixed to samples and contain as a minimum, the following information: Project Name, Contractor's Name, Contract Title and Number, Date, Transmittal Number, Product Manufacturer's or Fabricator's Name, trade name, lot style, color, model, etc., locations of use, and Contract Document reference.

D. Owner will retain one (1) of each Sample.

E. Contractor must not use any materials or equipment for which Samples are required to be submitted until Owner has performed such Submittal review, save only at Contractor's risk and expense.

F. Owner's review of any Sample is only for the characteristics thereof or for the uses named in such review and no other. Owner's acceptance of any Sample is not a modification or change of any requirements of the Contract Documents. Upon Owner's acceptance of any Sample or material, no additional Sample of that material will be considered and no change in brand or make is permitted.

G. Where variation in color, pattern, texture or other characteristic is inherent in the material or product to be Provided, the Contractor must Submit at least three (3) multiple units that show approximate limits of the variations. Installed items or materials exceeding the variation of the accepted samples are considered defective Work.

3.30 SUBSTITUTIONS

A. Whenever in the Contract Documents any material, product, thing, or service is indicated or specified by grade, patent, brand, trade or proprietary name, or by Manufacturer, such specifications shall be deemed to be followed by the term "or equal" **unless** the Contract Documents provide that use of the item specified is supported by a finding based on one or more of the reasons stated in Public Contract Code § 3400(c).

B. If the Contractor requests Owner's approval of any material, product, thing, or service as an "or equal," the process for Owner's acceptance of a Substitution must be followed as described in this Article 3.30 of Document 00700 below and per Section 01 25 13, "Product Substitution Procedures."

C. Contractor may submit a proposal for an "or equal" material, product, thing, or service at any time within thirty-five (35) Days after the official start date stated in the Notice to Proceed. At the sole discretion of the Owner's Authorized Representative, Owner may give written consent to the submission of a Product Substitution request after expiration of the thirty-five (35) Day time limit.

D. If the material, product, thing, or service offered by Contractor is not, in the opinion of the Owner's Authorized Representative, substantially equal or better than that specified, then Contractor must furnish that material, product, thing, or service specified or one that in the opinion of the Owner's Authorized Representative is substantially equal or better in every respect.

E. Contractor shall prove the equality of any material, product, thing, or service Contractor proposes for Product Substitution.

F. The opinion of the Owner's Authorized Representative of the substantial equality or superiority of any material, product, thing, or service proposed for substitution will be based on, but not be limited to, consideration of such factors as: physical characteristics of weight, gauge, composition, hardness, toughness, ductility, durability, brittleness, etc., as compared to the specified item, or as delineated in the Contract Documents; dimensional compatibility with the materials it combines with to produce a unified design system; compatibility with products in use by Owner elsewhere; all aspects of finished appearance including form, texture and color, that may affect other design elements; performance, functionality, and ease and economy of maintenance and operation. Owner's Authorized Representative will review and respond in

writing to substitution submittals within twenty-one (21) Days after receipt of all information Owner requires to make a final determination.

G. Owner may consider proposals for substitution of materials, Products, things, or services. Such proposals must be accompanied by full and complete technical data, and all other information requested by the Owner, in order to evaluate the proposed Product Substitution. Owner may require substantiating documents to prove quality, delivery time, and cost. Burden of proof as to comparative quality, suitability, and performance of offered materials, Products, things, or services is the responsibility of the Contractor. Owner's Authorized Representative, after recommendation from Design Professional(s), will be the sole judge as to such matters. In the event Owner's Authorized Representative rejects the use of such Alternative(s) submitted, then one of the particular materials, Named Products, things, or services originally specified in the Contract Documents must be provided.

H. Contractor is responsible for all design and engineering costs, Submittal and resubmittal costs, and costs of associated changes, for the review and acceptance of all proposed and accepted Product Substitutions. Costs incurred by Owner for additional Design Professional and/or CM services to process, design, engineer or adapt Product Substitutions may be deducted from payments due or to become due to Contractor.

I. Installation of Substitutions

1. Contractor must replace any substitution(s) installed without Owner's consent with the specified item(s) at Contractor's expense.

2. Contractor must not proceed with any Product Substitution or change until Owner's Authorized Representative has completed all reviews, made recommendations and granted consent.

3. If Owner's Authorized Representative approves a Product Substitution, Contractor must make all changes in the Work including changes to Contract and Record Documents at no additional cost to Owner.

4. If an approved Product Substitution is more expensive than the specified material, process, or article Contractor must bear all additional costs of such material, process, or article so Provided.

5. If mechanical, electrical, structural, or other changes are required for the Installation or fit of Alternative materials, articles, or equipment, or because of deviations from Contract Drawings and Specifications, such changes must not be made without written consent of the Owner's Authorized Representative, and must be made without additional cost to Owner.

3.31 COMPLIANCE WITH LAWS AND REGULATIONS

A. Contractor must keep informed of governmental regulations that may affect the Work. Contractor must observe and comply with, and must cause all agents, employees, Subcontractors and Suppliers to observe and comply with said regulations. Contractor shall hold harmless and indemnify Owner and all its officers, employees and consultants against any liability or legal action arising from or based upon the violation of any such regulations by Contractor, its agents, employees, representatives or Subcontractors and Suppliers.

B. Contractor must comply with all of the following:

1. Contractor must, during the term of this Contract, comply with all applicable federal, state and local rules, regulations, and laws.

2. Contractors must maintain financial records adequate to show that County funds paid pursuant to the Contract were used for purposes consistent with the terms of the Contract. These records must be maintained during the term of this Contract and for a period of three (3) years after the last date on which no Bonds are outstanding for the Project, from the

termination of this Contract or until all Claims or Disputed Items, if any, have been resolved, whichever period is longer, or longer if otherwise required pursuant to other provisions of this Contract.

C. The failure of the Contractor to comply with Document 00700, Article 3.31.B above or any portion thereof may be considered a material breach of this Contract and may, at the option of the Owner, constitute a basis for the termination of the Contract. Contractor will be furnished reasonable notice of any intended termination based on noncompliance with Document 00700, Article 3.31.B, and the opportunity to respond and discuss the County's intended action.

3.32 TAXES, UTILITIES, PERMITS, AND FEES

A. Taxes: Contractor must pay any or all taxes imposed by Federal, State, or local governments, that were legally enacted as of the Bid date or subsequently enacted during the Contract Time, including, but not limited to, Federal excise tax and all State and local sales and use taxes. Owner will not furnish any tax exemption certificate or any document designed to exempt Contractor from payment of any tax on labor, services, materials, transportation, or any other items Provided by Contractor pursuant to the Contract Documents.

B. Utilities:

1. Unless otherwise stated in Section 01 50 00, "Temporary Facilities and Controls," the Contractor will pay for the installation, metering and consumption of all "temporary" utilities. "Temporary" utilities include electrical, communications, water and sewer for the following through project completion:

   a. To operate the Contractor's field office;

   b. To power and operate construction tools, temporary lighting, concrete, mortar and grout mixing and placement operations; and

   c. To power any construction elevators.

C. Unless otherwise stated in the Contract Documents, the County will arrange and pay for utility companies to provide and install main metering devices and permanent utility services from the Utility company's main service line to the metering devices. Once "permanent" utilities are connected the County will pay for all utility usage charges. For scheduling purposes, "permanent" power will be available to the Contractor prior to the start of the Commissioning phase Functional Testing, pursuant to Section 01 91 13, "Commissioning General Requirements." County will plan and schedule such permanent service connections in conjunction with the Contractor's Baseline schedule.

D. Permits & Fees: Contractor must obtain and pay for all building permits, encroachment permits, and all other permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the Work, unless otherwise provided in the Contract Documents.

1. Contractors must give all necessary notices and comply with all laws, ordinances, rules, regulations and lawful Orders relating to the Work, and to the preservation of the public health and safety.

2. If Contractor performs any work contrary to such laws, ordinances, Orders, rules and regulations, Contractor shall bear all costs attributable thereto.

3. Contractors will not be charged for any building permit required by County ordinances and issued by the County of Santa Barbara.

4. Upon receipt, Contractor must Submit four (4) copies of all Contractor obtained permits to the Owner.

5. Contractor must arrange, coordinate, and pay for all permit related inspections unless otherwise provided in the Contract Documents.

E. Royalties & License Fees: Contractor must pay all royalties and license fees on behalf of County, and must defend all suits or legal actions for infringement of any patent rights and save Owner and its Consultants on this Project harmless from loss on account thereof.

3.33 EQUAL OPPORTUNITY REQUIREMENTS

A. Contractor must comply with all applicable Federal, State, and local laws and regulations including Santa Barbara County's Non Discrimination Policy. Chapter 2, Article XIII, the County Code provides that the Board of Supervisors may terminate contracts and agreements entered into by the County when it is found that the contractor or other party to an agreement is discriminating or has discriminated against any person in violation of applicable Federal or State laws, rules, or regulations which prohibit discrimination on such grounds as race, religion, sex, color, national origin, physical or mental disability, Vietnam era veteran or disabled, age, medical condition, marital status, ancestry, sexual orientation, or other legally protected status.

3.34 PATENTS

A. Contractor must assume all costs arising from the use of patented materials, equipment, devices or processes used on or incorporated in the Work on behalf of County, and must indemnify and hold harmless Owner and Owner's authorized representatives and Consultants, from all suits at law, or actions of every nature for, or on account of the use of any patented materials, equipment, devices or processes.

3.35 NON-WAIVER

A. Neither Substantial Completion, Acceptance of, nor payment for the Work or any part thereof, nor any extension of the Contract Time, nor any possession or use by Owner, will operate as a waiver of any of the provisions of the Contract, nor will a waiver of any breach of the Contract be held to be a waiver of any other or subsequent breach.

B. Conformance with any provisions in one part of the Contract Documents will not relieve Contractor from its responsibilities as set forth elsewhere in the Contract Documents.

3.36 LEGAL ACTIONS FOR UNFAIR BUSINESS PRACTICES

A. Contractor's attention is directed to the following provisions of the Public Contract Code §7103.5 and Government Code §4550 through §4554, which are applicable to the Contractor and its Subcontractors. In entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, the Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have pursuant to Section 4 of the Clayton Act (15 U.S.C. §15) or pursuant to the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders Final Payment to the Contractor, without further acknowledgment by the parties.

3.37 STANDARDS FOR WORK & MATERIALS

A. Work: The Work must comply with all governing codes, including standards referred to by such codes and the Contract Documents, except said requirements are considered as minimum. When the Contract Documents call for materials of higher quality or performance, or larger sizes or capacity than required by said codes or standards, the requirements of the Contract Documents take precedence. This requirement does not operate to allow deviations from minimum code requirements.

B. Material: Material specified by reference to the number, symbol or title or a specific standard, such as a commercial standard, a Federal specification, a trade association standard, or other similar standard, must comply with the requirements thereof.

C. References: Standards referred to, except as modified in the Contract Documents, have full force and effect as though printed in the Contract Documents. Standards are not repeated, because Contractor and its Subcontractor and Suppliers are expected to be familiar with requirements governing or applicable to their work.

D. Intent: The Work of this Contract includes the furnishing of all labor, materials, equipment, tools, supervision, services and all other items needed to complete all the Work in accordance with the requirements of the Contract Documents. The Work encompasses all materials, labor, etc., not specifically mentioned in nor depicted by the Contract Documents, but that can reasonably be inferred as being necessary for complete performance of the Work.

3.38 CONFORMITY WITH CONTRACT DOCUMENTS & ALLOWABLE DEVIATIONS

A. The Contract Documents show such information as reasonably needed to convey a comprehensive idea of the Work contemplated. All authorized alterations affecting the requirements and information in the Contract Documents must be in writing.

B. Work and materials must conform to the requirements of the Contract Documents including, but not limited to, the lines, grades, cross sections, dimensions and material requirements, including tolerances, shown on the Drawings or indicated in the Project Manual. Although measurement, sampling, and testing may be considered evidence as to such conformity, Owner's Authorized Representative is the sole judge as to whether the Work or materials deviate from the requirements of the Contract Documents, and the decision of the Owner's Authorized Representative as to any allowable deviation therefrom is final.

C. If Owner notifies Contractor of any observed noncompliance with the requirements of the Contract Documents, Contractor must take immediate corrective action upon receipt of such notice. Such notice, when delivered to Contractor at the Project Site, is sufficient for the purpose of notification.

D. If Contractor fails or refuses to promptly comply with any notice of noncompliance, Owner may, in addition to other remedies provided by law and/or the Contract Documents, issue an Order to the Contractor to suspend part or all of the Work until Contractor has taken satisfactory corrective action. No part of the cost or time expended by Contractor or its Subcontractors due to such Order to suspend Work shall become a Disputed Item or be made the subject of a Claim against Owner for extension of the Contract Time, Contract Sum, or for excess costs or damages of any kind.

E. Contractor must follow any required sequence of operations set forth in the Contract Documents.

3.39 CONTROL OF MATERIALS

A. General Requirements

1. Contractor must not purchase any materials, supplies, or equipment for the Work subject to any chattel mortgage or subject to a conditional sale or other agreement by which any interest therein or in any part thereof is retained by the seller or the Supplier.

2. Contractor warrants free and clear title to all material, supplies, and equipment Installed or incorporated in the Work and agrees upon Completion of the Work to deliver the premises, together with all improvements and appurtenances constructed or placed thereon by Contractor, to Owner free from any legal entitlements, liens or charges of any kind. Contractor nor any person, firm, or corporation furnishing materials, labor or services for any Work has the right to place a lien upon the premises or any improvement or appurtenances therein.

3. Nothing contained herein shall defeat or impair the right of persons furnishing materials, labor or services covered by any bond provided by Contractor for their protection, or any rights pursuant to any law permitting such persons to look to funds due Contractor held by Owner.

4. ***The provisions of this Document 00700, Article 3.39.A, "General Requirements", must be inserted in all Subcontracts and material contracts*** and notice of its provisions must be provided to all persons furnishing material for the Work when no formal contract is entered into for such material.

B. Source of Supply & Quality of Materials

1. Contractor must furnish all materials required to complete the Work, except materials that are designated in the Contract Documents to be furnished by Owner, or furnished by Owner in the performance of extra Work.
2. Contractor must incorporate in the Work only materials conforming to the requirements of the Contract Documents.
3. All materials Provided must be new, except as may be specifically provided in the Contract Documents.
4. Inspections and tests may be made by Owner or its designated representatives, but such inspections and tests shall not be considered as a guaranty of acceptance of such material nor of continued acceptance of material offered as similar to that which may have been inspected or tested.
5. All Owner performed inspections and tests are for Owner's benefit and are not a substitute for Contractor's own quality control program.

C. Owner Furnished, Contractor Installed Items

1. Owner Furnished, Contractor Installed Items will be available at the dates and at the locations designated in the Contract Documents or, if not so designated, will be established by the Owner at the written request of the Contractor.
2. In accordance with Section 01 64 00, "Owner Furnished Contractor Installed (OFCI) Items", Contractor is responsible for all items furnished by Owner in Contractor's custody. Contractor must pay all demurrage and storage charges. Once Owner Furnished, Contractor Installed Items are furnished to Contractor, loss or damage from any cause whatsoever must be remedied by Contractor who will be liable for the cost of replacing and/or repairing Owner Furnished Items and such costs may be deducted from any monies due or to become due to Contractor.
3. Within twenty-eight (28) Days from the start date stated in the Notice to Proceed, Contractor must submit for Owner's review, a delivery log identifying the date when Contractor needs each Owner Furnished, Contractor Installed Item to enable Contractor to progress with the Work without impacting the Critical Path of the Contractor's proposed Progress Schedule. Said log must also identify when Shop Drawings and/or Product Data for Owner Furnished, Contractor Installed Items are required from Owner to enable Contractor to progress with the Work without impacting the Critical Path of the Contractor's proposed Progress Schedule. Contractor's log must not show dates for the delivery of Owner Furnished, Contractor Installed Items, Shop Drawings, or product data that are earlier than the dates stated in the Contract Documents for delivery of Owner Furnished Items, shop drawings, or product data to the Contractor. Submit four (4) paper copies and corresponding electronic data files on Compact Disks (CDs). The CD must be permanently labeled clearly to identify the contents including the submittal number and data date.

D. Foreign Materials & Assemblies

1. Contractor must deliver materials or assemblies which are Manufactured or Fabricated outside of the United States ("Foreign Materials & Assemblies") to a location in Santa Barbara County unless otherwise Directed in the Contract Documents, where they must be retained for sufficient time to permit inspection, sampling, and testing.

2. Contractor, at no cost to Owner, must supply all facilities and arrange for all testing required by Owner. All onsite testing by Contractor is subject to witnessing by Owner.
3. Contractor must furnish Owner a Certificate of Compliance from the Manufacturer or fabricator of any Foreign Materials or Assemblies in accordance with Document 00700, Article 3.39.G, "Certificate of Compliance." In addition, Contractor must furnish certified mill test reports clearly identifiable to the lot of material where required in the Project Manual or otherwise requested by Owner.
4. Use of steel Manufactured outside the United States is restricted to steel which can be positively identified as having been rolled at the heat for which certified mill tests can be produced.
5. Where Manufactured materials requiring mill test reports or Fabricated assemblies involving the welding of steel for structural steel members or the casting and prestressing of precast prestressed concrete members are to be performed outside the United States, such Manufactured materials or Fabricated structural members shall be provided only from those foreign Manufacturers and Fabricators who have previously established, to Owner's satisfaction, that they have the experience, knowledge, trained personnel, quality controls, equipment, and other facilities required to produce the quality and quantity of Work required.
6. At Owner's option, prequalification of the plant and Manufacturer or Fabricator will be established either by the submission of detailed written proof thereof or through in-plant inspection by representatives of the Owner, or both.
7. Contractor must make written application to Owner for approval for foreign Fabrication at the earliest possible time and in no case less than fifty (50) Days before the planned start of Fabrication. The application must list the specific units or portion of Work that will be Fabricated outside of the United States.
8. Contractor must advise Owner, in writing, at least twenty (20) Days before the actual start of any foreign Fabrication.
9. All documents pertaining to the Contract including, but not limited to, correspondence, Bid Documents, Shop Drawings, Product Data, Record Documents, Requests for Information, and all other Submittals and data must be written in the English language and all numerical data must use the foot-pound-second system of measurement.
10. Attention is directed to Document 00700, Article 7.03, "Liquidated Damages." Contractor is not entitled to an extension of Contract Time for acts or events occurring outside of the United States, and it is Contractor's responsibility to deliver Foreign Materials & Assemblies into the continental United States in sufficient time to permit timely receipt at the Project Site.

E. Defective Materials

1. All materials that Owner has determined do not conform to the requirements of the Contract Documents will be rejected whether in place or not. Contractor must remove all rejected materials immediately from the Project Site, unless otherwise permitted by Owner's Authorized Representative. No rejected material, or repaired defective material, shall be used in the Work, without Owner's written acceptance.
2. Upon Contractor's failure to comply promptly with any Order of Owner made pursuant to the provisions in this Document 00700, Article 3.39.E, "Defective Materials", Owner has the right and authority to cause the removal and replacement of rejected material and to deduct the cost thereof from any monies due or to become due to Contractor.

F. Inspection at Source of Supply

1. Owner may inspect the production of any material, or the Manufacture of any product at the source of supply. Such inspection, however, will not be undertaken until Owner is assured of the cooperation and assistance of both Contractor and producer. Owner or its authorized representatives shall have free entry at all times to the parts of the plant Manufacturing or producing such materials. Adequate facilities must be provided free of charge to make the necessary inspections. Owner assumes no obligation to inspect materials at source of supply.

G. Certificate of Compliance

1. Owner may permit the use of certain materials or assemblies before sampling and testing if accompanied by a Certificate of Compliance stating that the materials comply in all respects with the requirements of the Contract Documents. The Manufacturer of the material or assembly must sign the Certificate of Compliance. A Certificate of Compliance must be submitted with each lot of material delivered to the Project and the lot so certified must be clearly identified in the Certificate of Compliance.
2. Owner may sample and test all materials used pursuant to a Certificate of Compliance at any time. The fact that material is used pursuant to a Certificate of Compliance does not relieve Contractor of responsibility for incorporating material in the Work which conforms to the requirements of the Contract Documents; and any such material not conforming to such requirements will be subject to rejection whether in place or not.
3. Owner reserves the unrestricted right to refuse to permit the use of material pursuant to a Certificate of Compliance.
4. Owner will set the form of the Certificate of Compliance and its disposition.

H. Testing

1. Contractor must furnish without cost to Owner, adequate samples of all materials necessary for testing.
2. If a test fails, Contractor must pay for subsequent tests until passage.
3. The Laboratory must submit certified copies of all test reports directly to Owner and Contractor by 10 a.m. of the second (2) workday after performing each test.

a. .

I. Property Rights in Materials

1. Nothing in the Contract Documents shall be construed as vesting in Contractor any right of property ownership in the materials used in the Work after they have been attached or affixed to the Work or the soil, or after payment has been made for ninety percent (90%) of the value of materials delivered to the site of the Work, or stored subject to or within the control of Owner. All such materials become the property of Owner upon being so attached or affixed or upon payment of ninety percent (90%) of the value of material delivered to the Work site or stored subject to or within the Owner's control.

END ARTICLE 3
of
DOCUMENT 00700

ARTICLE 4 — SUBCONTRACTORS

4.01 SUBLETTING AND SUBCONTRACTING

A. Contractor must adhere to the rules governing subcontracting as set forth in the Subletting and Subcontracting Fair Practices Act, commencing with Public Contract Code §4100. Subcontractor substitutions must be in accordance with provisions of the Subletting and Subcontracting Fair Practices Act, beginning with Public Contract Code §4100. Violations of this Act by the Contractor may subject the Contractor to penalties and disciplinary action pursuant to the Subletting and Subcontracting Fair Practices Act.

B. Contractor is responsible for all Work performed pursuant to the requirements of the Contract Documents, including Work subcontracted to others. All persons engaged in the Work of the Project are the responsibility of and subject to the control of the Contractor. Nothing in the Contract Documents creates a contractual relationship between Owner and any Subcontractor.

C. No Subcontractor will be recognized as such, and all persons engaged in the Work will be considered as employees of Contractor who is responsible for their work, which is subject to all the provisions of the Contract Documents.

D. When any Subcontractor fails to execute a portion of the Work in a manner satisfactory to Owner, the Contractor must remove such Subcontractor immediately upon written notice from Owner, and the Subcontractor must not again be employed on the Project.

E. Although the Project Manual is divided into Documents, Articles, Parts, Sub-Parts and Divisions, Sections, and Paragraphs it is not intended to provide a basis for the Bidding, assignment, or performance of the Work. Contractor is fully responsible for assigning the Work to the various Subcontractors, Suppliers and vendors that will be bidding or performing the Work. Owner will not entertain requests to arbitrate disputes among Subcontractors or between the Contractor and Subcontractor(s) concerning responsibility for performing any part of the Work.

4.02 SUBCONTRACTOR'S CONTRACTUAL OBLIGATIONS

A. By an appropriate agreement, Contractor shall require each Subcontractor and Supplier, to the extent of that Subcontractor's or Supplier's Work, to be bound to Contractor by the terms of the Contract, and to assume toward Contractor all the obligations and responsibilities which Contractor, by these Contract Documents, assumes toward Owner.

B. Said subcontracts and agreements must preserve and protect Owner's rights pursuant to the Contract Documents with respect to the Subcontractor's or Supplier's Work so the subcontracting thereof will not prejudice such rights. Contractor must require each Subcontractor to enter into similar agreements with its Sub-subcontractors.

C. Contractor must make available to each proposed Subcontractor and Supplier, prior to execution of the subcontract or agreement, copies of the Contract Documents to which the Subcontractor or Supplier will be bound and, upon written request of the Subcontractor or Supplier, identify to the Subcontractor or Supplier any terms and conditions of the proposed subcontract or agreement that may be at variance with the Contract. Each Subcontractor must similarly make copies of all such Documents available to its proposed Sub-subcontractors.

4.03 CONTROL OF SUBCONTRACTORS

A. Contractor must:

1. Schedule and coordinate the Work of all Subcontractors;

2. Instruct all Subcontractors to consult with other Subcontractors to ascertain the locations of their various materials including stored materials and to familiarize themselves with their own material locations, making such changes as required to obtain the best results;

3. Instruct all Subcontractors to schedule their Work and cooperate with the other Subcontractors to avoid delays, interferences, and unnecessary work, to conform to the

schedule of operations as indicated in the Official Progress Schedule, and make Installations when and where directed.

4. Make all necessary changes, including removing and reinstalling of materials, at their sole expense if they fail to check with other Subcontractors, and their Installed Work is later found to interfere with Work of other Subcontractors.
5. Follow up to ensure that all Subcontractors Install their Work when and where directed.

END ARTICLE 4
of
DOCUMENT 00700

ARTICLE 5 — CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

5.01 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND AWARD SEPARATE CONTRACTS

A. Owner has the right to perform work at any time related to the Project with its own forces and/or to Award separate contracts in connection with other portions of the Project or other work on the site pursuant to these or similar conditions of this Contract.

B. When separate contracts are Awarded for different portions of the Project or other work on the site, the term contractor in the Contract Documents in each case means the contractor who executes each separate Owner/Contractor Agreement.

5.02 COOPERATION WITH OWNER'S FORCES AND OTHER CONTRACTORS EMPLOYED BY OWNER

A. Unless otherwise indicated in the Contract Documents, Owner will provide for the coordination of the work of Owner's own forces and of each separate contractor with the Work of the Contractor, who must cooperate therewith as provided herein.

B. When Contractor and one or more other contractors are employed by Owner on related or adjacent work, Contractor must not cause any unnecessary delay or hindrance to the other contractors.

C. If the performance of the Work of this Contract is likely to be interfered with by the simultaneous performance of the work of some other separate contract or contracts, the Owner will decide which contractors or Contractor may proceed.

D. Contractor must accommodate Owner move-in activities including installation of Furniture, Fixtures, and Equipment (FF&E) by Owner or others.

5.03 MUTUAL RESPONSIBILITY

A. Contractor must cooperate fully with Owner and all separate contractors including utility companies with regard to the execution of their Work as follows:

1. Contractor must cooperate fully with Owner and all separate contractors with regard to introduction and storage of their materials and equipment.

2. Contractor must coordinate with Owner, all separate contractors, and all utility companies with regard to construction scheduling, sequence of operations and site access, all subject to approval of the Owner. Contractor must include activities in Contractor's Progress Schedule for all on-site activities performed by utility companies.

3. Contractor must coordinate and accommodate the concurrent installation of inserts, hangers, blocking, and all other items or embeds to be installed by others within or upon the Contractor's Work. Contractor must coordinate and schedule the concurrent installation of these items in such a manner to cause no Critical Path delay to its Work or the work of others.

4. Contractor must properly connect the Work to the work of Owner or the separate Contractors.

5. Contractor must inspect the work of Owner or other contractors affecting the Work and promptly report to the Owner in writing irregularities or defects in the separate work that render it unsuitable for reception or connection of the Work.

6. Failure of the Contractor to inspect and report constitutes acceptance of the other work as fit and proper to receive the Work, except as to defects that may develop in the other work after execution of the Contractor's Work.

5.04 DISPUTES BETWEEN SEPARATE CONTRACTORS

A. Contractor is responsible to the other contractors for all damage to the other contractors' work, persons, or property caused by Contractor's operations, and for any loss suffered by such other

contractors caused by Contractor's own unnecessary delays or failure to finish Work within the Contract Time(s) specified. Contractor must indemnify and hold harmless Owner for any damages and losses caused by Contractor in connection with this Document 00700, Article 5, "Construction by Owner or by Separate Contractors."

B. Should the Contractor cause damage to the work or property of any separate contractor on the Project, the Contractor must, upon due notice, resolve the resulting dispute directly with such other contractor. If such separate contractor initiates legal action or alternative dispute resolution (ADR) process, Owner will notify the Contractor, and Contractor must defend Owner in such proceedings at the Contractor's sole expense.

C. If a monetary obligation results from any lawsuit or ADR proceeding against the Owner, the Contractor is solely responsible for satisfying such obligation. In addition, the Contractor must pay Owner for all attorneys' fees, and court costs as well as administrative, professional, consultant, inspection, testing and other consulting as service costs that Owner has incurred.

D. Contractor must promptly remedy damage wrongfully caused by the Contractor to any completed or partially completed construction or to any property of Owner or separate contractors.

5.05 OWNER'S RIGHT TO CLEAN UP

A. If a disagreement or Disputed Item or Claim arises among the Contractor, separate contractors and/or Owner as to the responsibility pursuant to their respective contracts for maintaining the Project Site and surrounding areas free from waste materials and rubbish, Owner may clean up or cause to be cleaned up the waste, materials, and rubbish and allocate the costs among those responsible, and deduct each contractor's share from progress payments due or to become due to each Contractor.

END ARTICLE 5
of
DOCUMENT 00700

ARTICLE 6 — CHANGES IN THE WORK

6.01 GENERAL

A. Contractor Proposed Change Orders. Contractor may submit in writing to Owner a Contractor Proposed Change Order (CPCO). Contractor shall submit a CPCO to seek an adjustment to Contract Time, or an adjustment to Contract Price, or modification of the Work. Any request to substitute services, products or materials shall first be submitted in accordance with Section 01 25 13, "Product Substitution Requests".

1. As soon as practicable but no later than seven (7) Days after becoming aware of the conditions giving rise to the CPCO, Contractor shall submit the CPCO to Owner. The CPCO shall:

   a. briefly describe the condition that Contractor believes to vary from the Contract so as to put Owner on notice of the condition;

   b. provide Owner with Contractor's best estimates of any potential impacts to Contract Time or Contract Price; and

   c. include, if foreseeable and necessary, a request to extend the time to submit a Contract Change Proposal.

2. Contractor's failure to submit a CPCO within seven (7) Days of becoming aware of the conditions giving rise to the CPCO waives Contractor's right to any adjustments to either Contract Time or Contract Price.

3. Owner reserves the right to inspect any physical conditions giving rise to a CPCO.

B. Owner Proposed Change Orders. Owner may issue in writing to Contractor an Owner Proposed Change Order (OPCO). An OPCO may modify the Work within the general scope of the Contract, including, but not limited to, additions, deletions or other revisions, changes in the Contract Documents and in the method and manner of performing the Work.

C. Contract Change Proposal:

1. Within fourteen (14) Days of submitting a CPCO, Contractor must submit to Owner, in a written format acceptable to the Owner, a Contract Change Proposal (CCP).

2. The CCP shall:

   a. specifically describe the condition that Contractor believes to vary from the Contract;

   b. provide Owner with detailed estimates and other documentation supporting the proposed cost; and

   c. specifically describe any proposed adjustments of the Contract Time that is known by the Contractor to be directly or indirectly attributable to the CPCO or OPCO. All requests for adjustment to the Contract Time via CPCO must be supported by a detailed schedule analysis as specified in Section 01 32 00.4, "Construction Progress Documentation."

3. Owner may require Contractor to submit a CCP within fourteen (14) Days of Contractor's receipt of an OPCO.

D. Change Order. Owner may issue to Contractor, without notice to Contractor's sureties, either of the following:

1. A Change Order, which is a written amendment to the Contract, changing the Work, and/or the Contract Documents, and/or the Contract Sum, and/or the Contract Time, executed by the Board of Supervisors or Approved by the Owner's Authorized Representative within the limits authorized by the Board of Supervisors.

a. If applicable, adjustment of the Contract Sum and/or Contract Time will be determined in accordance with Document 00700, Article 6.05, "Contract Modifications."

b. Owner may issue to Contractor a Unilateral Change Order, as follows:

.1 If Contractor fails to submit a CCP within the 14-Day time limit.

.2 Pursuant to an OCPO.

.3 If, after Contractor has submitted a CCP, Owner and the Contractor fail to successfully negotiate and agree on a time and/or cost.

.4 In accordance with Document 00700, Article 6.08, "Force Account Work." Beginning with the first Day and at the end of each Day, the Contractor must furnish to the Owner detailed hourly records for labor, construction equipment, and services, and itemized records of materials and equipment used that Day in performance of the changes. Such records must be on a form furnished by or acceptable to Owner. Such records must be signed by the Contractor and verified by the Owner on a daily basis.

.5 If applicable, the Contract Sum and Contract Time will be changed in accordance with the Owner's estimate of cost and time, unless, within fifteen (15) Days following completion of the added Work or with written notice to delete the Work, the Contractor submits to the Owner written proof that the Owner's estimate is in error.

2. CPCO Denial. Upon receipt of a CPCO denial Contractor shall proceed with the Work according to the Contract Documents.

E. The County's Architect of Record must review the scope of every change order to determine if the proposed change would result in a substantial change or modification of the Project scope, cost or schedule in accordance with the Project Delivery and Construction Agreement and/or would result in amendment to any issued permit. The Architect of Record should bring any change which fits this category to the immediate attention of the Owner's Authorized Representative for a determination of the need to submit the change for review to the appropriate Authority Having Jurisdiction (AHJ), including, but not limited to, the State Fire Marshal, County Fire, BSCC, CDCR, County Building and Safety, or others. Contractor shall cooperate with any subsequent actions undertaken by the AHJ, Owner, or Architect of Record.

6.02 UNIT PRICE WORK

A. Contractor must include in each unit price an amount considered by Contractor to be adequate to cover all Contractor's costs plus overhead and profit for each separately identified unit price item.

B. If there is any variance of less than twenty-five percent (25%) between the Owner's estimated number of units of Work stated on the Bid Form and the actual number of units of authorized Work performed, there shall not be an adjustment of unit prices by reason of overruns or underruns; each unit of authorized Work performed will be paid for at the Contract unit price for that item of Work.

C. If the final quantity of any item of authorized Work varies from the Owner's estimated quantity for that item of Work by twenty-five percent (25%) or more, the unit price for that item of work will be adjusted by Change Order.

D. All changes in Contract Sum and Contract Time due to quantity variations in unit price Work accepted by Owner's Authorized Representative are subject to Approval by the Board of Supervisors upon Completion of the Contract by Approval of a final balancing Change Order.

6.03 DELETED WORK

A. When Work is deleted, the Owner is entitled to a credit for the deleted Work.

B. The adjustment to the Contract Sum for deleted Work will be computed in accordance with Document 00700, Article 6.05, "Contract Modifications."

C. If Contractor has ordered acceptable material for the deleted Work before the date of notification of such deletion by Owner, and if orders for such material cannot be canceled, such material will be paid for by Owner at Contractor's actual cost. In such case, the material paid for will become Owner's property and Owner will pay the actual cost of any further handling. If the material is returnable to the vendor and if Owner so Directs, Contractor must return the material and Owner will pay the actual costs of returning the material, including reasonable and verifiable handling and restocking charges. The actual costs or charges to be paid by Owner to Contractor for deleted materials as provided in this paragraph will be computed in the same manner as if the Work were to be paid for on a Force Account basis as provided in Document 00700, Article 6.08, "Force Account Work".

6.04 DIFFERING SITE CONDITIONS

A. Contractor must immediately, and in any event no later than twenty-four (24) hours after discovery, and before such conditions are disturbed, notify Owner in writing of:

1. Subsurface or latent physical conditions at the Project Site which Contractor asserts differ materially from those indicated in the Contract Documents; or

2. Unknown physical conditions at the Project Site, of an unusual nature, which Contractor asserts differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract; or

3. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

B. Owner will promptly investigate the conditions. If Owner finds that such conditions do materially differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the Work pursuant to this Contract, whether or not changed as a result of such conditions, an equitable adjustment will be made in accordance with Document 00700, Article 6.05, "Contract Modifications."

C. Contractor has no right to an adjustment in Contract Sum or Contract Time pursuant to this Document 00700, Article 6.04, "Differing Site Conditions", unless Contractor submitted the notice required in Document 00700, Article 6.04.A, except that Owner may extend the notification time upon Contractor's written request in order to obtain additional relevant information.

D. Contractor has no right to an adjustment in Contract Time or Contract Sum after accepting Final Payment pursuant to this Contract.

6.05 CONTRACT MODIFICATIONS

A. The methods for Contract modification are:

1. By negotiation based on estimates of increase or decrease in Contract Time and/or Contract Sum. Upon Owner's written request, Contractor must furnish a detailed estimate of increase or decrease in costs and/or time, together with cost and schedule breakdowns and other support data within the time specified in such request. Contractor is responsible for any additional costs caused by the Contractor's failure to submit the estimates of cost and/or time within the time specified.

2. By Owner, whether or not negotiations are initiated as provided above, based on Owner's estimate of increase or decrease in Contract Time and/or Contract Sum.

3. By Owner, through the issuance of a "Force Account" Change Order, whether or not negotiations are initiated as provided above, by Force Account in accordance with Document 00700, Article 6.08, "Force Account Work." Beginning with the first Day and at

the end of each Day, the Contractor must furnish to the Owner detailed hourly records for labor, construction equipment, and services, and itemized records of materials and equipment used that Day in performance of the changes. Such records must be on a form furnished by or acceptable to Owner. Such records must be signed by the Contractor and verified by the Owner on a daily basis.

4. By Unit Prices stated in the Contract Documents or subsequently agreed upon in writing by Change Order.

B. Adjustment of compensation will be based upon:

1. Labor: Compensation for labor includes the necessary payroll cost for labor including the first level supervision directly engaged in performance of the change. Wages shall not exceed current prevailing wages in the locality where the change is performed. Use of a classification that would increase labor cost will not be permitted. Exceptions to the above will be permitted only if Contractor establishes to the satisfaction of Owner the necessity for payment at higher rates or classification.

2. Materials and Equipment: Compensation for materials and equipment includes the necessary cost for materials and equipment directly required for performance of the change. Cost of materials and equipment may include costs of transportation and delivery. If discounts by Suppliers are available to Contractor, they must be credited to Owner. If materials and equipment are obtained from supply or source(s) owned by, or partially owned by Contractor, payment will not exceed current wholesale price for such materials and equipment.

   a. If, in Owner's opinion, the cost of materials and equipment is excessive, or if Contractor fails to furnish satisfactory evidence of cost from Supplier, the cost of materials and equipment shall be the lowest current wholesale price at which similar materials and equipment are available in quantities required. Owner reserves the right to furnish materials and equipment required for performance of the change(s) and Contractor has no right to pursue Owner for costs or mark-ups on such materials and equipment furnished by Owner.

3. Construction Equipment: Compensation shall be only for use of equipment directly required for performance of the change, and will be calculated as provided in Document 00700, Article 6.08, "Force Account Work."

4. Services: Compensation shall be only for the necessary cost of Approved services directly required for the performance of the change.

5. In addition to those costs defined in Article 6.05 .C .1 of this Document 00700 below, the following cost items are deemed to be included as part of mark-ups in Article 6.05 .C of this Document 00700 below:

   a. Clean-up, including street sweeping;

   b. Quality Control (QC) efforts, including work by the QC staff and Special Inspectors;

   c. Document control, updating as-built drawings, and document printing;

   d. Submittal preparation and processing;

   e. All vehicle costs incidental to performing work of the change order;

   f. Cost estimating;

   g. Protection of facilities and work-in-place;

   h. Traffic control;

   i. Field trailer and associated costs such as phone, computers, etc.

   j. Tool use and general construction consumables;

k. Effort related to LEED;

l. Incidental engineering work; and

m. Local labor requirements.

C. Markups for Added or Deleted Work

1. General. The following markups for performance of changes constitute full compensation for all costs not covered by Document 00700, Article 6.05.B above, including profit, direct and indirect overhead, extended overhead, insurance, taxes and Contract Bonds:

a. For portions of added Work performed by Contractor's own forces, the Contractor may add as mark-up to totals of authorized allowable direct costs, an amount not to exceed the following percentages:

.1 Labor markups not to exceed twenty-two percent (22%), except on Projects where the Contractor is included in an Owner Controlled Insurance Program, in which case Labor markups shall not exceed twenty percent (20%). In no case shall the labor markups include costs associated with insurance otherwise provided through the Owner Controlled Insurance Program.

.2 Materials, equipment, construction equipment and services markup not to exceed fifteen percent (15%).

b. For portions of added Work performed by Subcontractor(s), the Subcontractor(s) must compute its costs as follows:

.1 Labor markups not to exceed twenty-two percent (22%), except on Projects where the Subcontractor is included in an Owner Controlled Insurance Program in which case Labor markups shall not exceed twenty percent (20%);

.2 Materials, equipment, construction equipment and services markup not to exceed fifteen percent (15%).

c. Contractor may add, as mark-up to Subcontractor cost, ten percent (10%), including cost of Contract Bonds.

d. When the added Work includes Work performed by Subcontractors, the total aggregate of all mark-ups for added Work, regardless of the number of tiers of Subcontractors and Sub-subcontractors used, shall be:

.1 Labor markup not to exceed thirty-two percent (32%), except on Projects with Owner Controlled Insurance Program in which case total Labor markups shall not exceed thirty percent (30%);

.2 Materials, equipment, construction equipment and services markup not to exceed twenty-five percent (25%).

e. For Deleted Work: When Work is deleted, the Owner is entitled to a credit for the deleted Work. The credit must include direct labor, materials, equipment, and supervision plus overhead and profit of the Contractor and Subcontractor, as applicable for the deleted Work. Deleted overhead and profit shall be computed as five percent (5%) of the direct labor, materials, equipment, and supervision. For example, if a $10,000 direct cost item of Work were deleted, the credit to the Owner would be $10,500.

f. For Combinations of Added and Deleted Work: The costs before markups of added and deleted Work must be separately estimated. If the difference between such costs results in an increase, the markups for added Work will be applied to such difference. If the difference in such costs results in a decrease, the markups for deleted Work will be applied to such difference.

D. General Limitations: Cost to Contractor for a change that exceeds market values prevailing at the time of the change will not be allowed unless Contractor establishes that all reasonable means for performance of the change at prevailing market values have been investigated and the excess cost could not be avoided. Notwithstanding actual charges to Contractor on Work performed by Contractor or others, no markups will be paid in excess of those specified above.

E. Disallowed Costs: Disallowed Costs in Change Orders, Disputed Items, or Claims include, but are not limited to,:

1. Interest cost of any type other than those mandated by statute;
2. Claim or Disputed Item preparation or filing costs;
3. Legal expenses;
4. The costs of preparing or reviewing Change Order proposals;
5. Lost revenues;
6. Loss of anticipated profits;
7. Lost income or earnings;
8. Schedule preparation costs;
9. Submittal preparation costs;
10. Costs of idled equipment when such equipment is not yet at the site or has not yet been employed on the Work;
11. Lost earnings or interest on unpaid retainage;
12. Claim or Disputed Item consulting costs;
13. The costs of corporate officers or staff visiting the site or participating in meetings with the Owner;
14. Any compensation due to the fluctuation of foreign currency conversions or exchange rates;
15. Loss of other business;
16. Any Cost disallowed by the State, the PDCA and/or the JCA.

F. Adjustment of Contract Time: There will be no adjustment of the Contract Time for changes that do not impact the Critical Path of the Official Progress Schedule. Contractor must show that the change affected the Critical Path of the Official Progress Schedule and how the change increased (or decreased) the Contract Time to complete the Work.

6.06 CONTRACTOR'S ACCEPTANCE OF CHANGE ORDERS

A. Contractor's written acceptance of a Change Order constitutes a final and binding agreement to the provisions thereof and a waiver of all legal rights in connection therewith, whether direct, indirect or consequential. Contractor may specifically exclude disputed individual Change Order items from operation of the Contractor's written acceptance of the Change Order and waiver of all legal rights or Claims in connection therewith. A general statement that the Contractor reserves their legal right to additional time and/or money at a future date for all Work associated with the Change Order is not permitted.

B. If Contractor disagrees with any terms or conditions of a Change Order, Contractor must sign it with the statement **"Signed Under Protest"** and attach a written statement detailing the basis of the disagreement.

C. The written statement detailing the basis of the disagreement must specifically identify each item Contractor specifically excluded and state why the Contractor is unable to determine the time and/or money due from the Owner for the items excluded from the Contractor's release.

6.07 CONSTRUCTION COST REDUCTION INCENTIVE

A. Contractor may submit to Owner, in writing, proposals for modifying the Drawings, Specifications or other requirements of the Contract Documents for the sole purpose of reducing the total cost of construction. Such construction cost reduction proposal (CCRP) must not impair, in any manner, the essential functions or characteristics of the Project, including, but not limited to, standardized features, service life, life cycle cost, reliability, Warranty, ease and economy of maintenance and operation, desired appearance, design and safety standards; nor shall it require an unacceptable extension of the Contract Time.

B. CCRP's must contain the following information:

1. Descriptions of both the existing Contract requirements for performing the Work, and the proposed changes.

2. An itemization of the Contract requirements that must be changed if the CCRP is adopted.

3. Detailed estimates of the cost of performing the Work pursuant to the existing Contract and pursuant to the CCRP. Cost of the CCRP must include all Owner's design, engineering, and administrative costs, which must be paid by Contractor.

4. A statement of the time within which Owner must make a decision on the CCRP.

5. The Contract Time(s) of the Work affected by the proposed changes, including any quantity variation attributable thereto.

C. The provisions of this Document 00700, Article 6.07, "Construction Cost Reduction Incentive", shall not be construed to require Owner to consider any CCRP that may be submitted hereunder. Proposed changes in the Project's basic scope of Work or design will not be considered as acceptable CCRP's; Owner will not be liable to Contractor for failure to accept or act upon any CCRP, nor for any delays to the Work attributable to such CCRP.

D. If a CCRP is similar to a change in the Contract Documents for the Project under consideration by Owner when said CCRP is submitted, or if such CCRP is based upon or similar to the Contract Documents adopted by Owner after advertisement of the Contract, Owner will not accept such proposal and Owner reserves the right to make such changes without compensation to Contractor pursuant to the provisions of this Document 00700, Article 6.07, "Construction Cost Reduction Incentive." Contractor must continue to perform the Work in accordance with the requirements of the Contract Documents until an Approved Change Order incorporating the CCRP has been issued. If an Approved Change Order has not been issued by the date upon which Contractor's CCRP specifies that a decision thereon should be made, or such other date as Contractor may subsequently have specified in writing, such CCRP shall be deemed rejected.

E. Owner is the sole judge of the acceptability of a CCRP and of the estimated net savings in construction costs from the adoption of all or any part of such CCRP. In determining the estimated net savings, Owner reserves the right to disregard the Contract Bid prices if, in Owner's judgment, such prices do not represent a fair measure of the value of Work to be performed or deleted.

F. Owner reserves the right where it deems such action appropriate, to require Contractor to share in Owner's costs of investigating a CCRP as a condition of considering such proposal. Where such a condition is imposed, Contractor must indicate acceptance thereof in writing, and such acceptance will constitute full authority for Owner to deduct amounts payable to Owner from any monies due or that may become due to Contractor pursuant to the Contract.

G. If Contractor's CCRP is accepted in whole or in part such acceptance will be by a Contract Change Order, which will specifically state that it is executed pursuant to this Document 00700, Article 6.07, "Construction Cost Reduction Incentive." Such Change Order will incorporate the changes in the Contract Documents that are necessary to permit the CCRP, or such part thereof as has been accepted to be put into effect, and will include any conditions upon which

Owner's acceptance thereof is based if Owner's acceptance is conditional. The Change Order will also set forth the estimated net construction cost savings attributable to the CCRP effected by the Change Order, and will further provide that Contractor be paid fifty percent (50%) of said estimated net construction cost savings amount.

H. Owner's acceptance of the CCRP and performance of the Work thereunder will not extend the Contract Time unless specifically provided in the Contract Change Order authorizing the performance of Work pursuant to the said CCRP.

I. The amount specified to be paid to Contractor in the Change Order which effects a CCRP constitutes full compensation to Contractor for the said CCRP and the performance of Work thereof pursuant to said Change Order.

J. Owner expressly reserves the right to adopt any CCRP for general use in Owner's contracts when it determines that said proposal is suitable for application to other contracts. When an accepted CCRP is adopted for general use, only the contractor who first submitted such proposal will be eligible for compensation pursuant to this Document 00700, Article 6.07, "Construction Cost Reduction Incentive", and in that case, only as to those contracts Awarded to said contractor before submission of the accepted CCRP. Construction cost reduction proposals identical or similar to previously submitted proposals will be eligible for consideration and compensation pursuant to the provisions of this Document 00700, Article 6.07, "Construction Cost Reduction Incentive", if the identical or similar previously submitted proposals were not adopted for general application to other of Owner's contracts.

K. Subject to the provisions contained herein, Owner or any other public agency has the right to use all or any submitted CCRP without obligation or compensation of any kind to Contractor.

L. This Document 00700, Article 6.07, "Construction Cost Reduction Incentive", applies only to contracts Awarded to the lowest Bidder pursuant to advertised, competitive public bidding.

6.08 FORCE ACCOUNT WORK

A. General

1. Owner may, at any time, Order the Contractor in writing, through the issuance of a Change Order, to perform Work on a Force Account (time and materials, cost not to exceed) basis. When Contractor performs Force Account Work, the labor, materials and equipment used in performing such Work are subject to Owner's Approval. As used in this Article 6.08, "Force Account Work", the word "Work" means Force Account Work.

2. Payment for Force Account Work

a. The total payment as provided in this Document 00700, Article 6.08, "Force Account Work", constitutes full compensation to Contractor for performance of Force Account Work.

b. Contractor will be paid the direct costs for labor, materials and equipment used in performing the Work determined as hereinafter provided except where agreement has been reached to pay in accordance with Document 00700, Article 6.08.G, "Specialized Services." If materials and equipment are obtained from a supply or source owned in whole or in part, by the Contractor, payment for such materials and/or equipment will not exceed current wholesale prices for such materials and equipment.

c. If, in the opinion of the Owner, the cost of materials and equipment is excessive, or if the Contractor fails to furnish satisfactory evidence of costs from Suppliers, the cost of materials and equipment will be the lowest current wholesale price at which similar materials and equipment are available in quantities required.

d. No costs will be allowed for time while construction equipment is inoperative, idle, or on stand-by, for any reason, unless such times have been Approved in advance by the Owner.

3. Markups: To the total of the direct costs computed as provided in Document 00700, Article 6.08.B, "Labor", Article 6.08.C, "Materials", and Article 6.08.D, "Equipment Rental", the following maximum markups maybe added:
   a. Fifteen Percent (15%) to Labor,
   b. Ten Percent (10%) to Materials, and
   c. Ten Percent (10%) to Equipment Rental.
4. The above markups constitute full compensation for all overhead costs (general overhead, supervision, office expenses, field office facilities, utilities, transportation, etc.) including all items of expense not specifically designated as cost or equipment rental in Document 00700 Articles 6.08.B, 6.08.C, and 6.08.D. The total payment made as provided constitutes full compensation for the Work performed.
5. When forces other than Contractor's organization perform Work, Contractor must reach agreement with such other forces as to the distribution of the payment made by Owner for such Work. Owner will accept no additional markups by reason of the performance of Force Account Work by a Subcontractor or other forces.
6. Contractor must monitor all costs and notify Owner at least seventy-two (72) hours before the cost limit will be reached or when seventy percent (70%) of the cost not-to-exceed value is reached. In no event shall Contractor exceed Owner's cost limit.

B. Labor
   1. Contractors will be paid the cost of labor for the workers (including first level supervision when authorized by Owner) used in the actual and direct performance of the Work. Contractor must document labor hours expended in their Daily Report, identified in Section 01 32 00.4, "Construction Progress Documentation Cost-Loaded CPM." The cost of labor, whether the employer is Contractor, Subcontractor or other forces, will be the sum of the following:
      a. Actual Wages: The actual wages paid include two components: (1) direct labor costs actually paid to the employee; and (2) any employer payments to or on behalf of workers for health and welfare, pension, vacation and similar purposes.
      b. Labor Surcharges: To the direct labor costs, as defined in Document 00700, Article 6.08.B.1.a, "Actual Wages", will be added a current labor surcharge as set forth in the California Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates" which is in effect on the date when the Work is accomplished and which is a part of the Contract. Said labor surcharge constitute full compensation for all payments imposed by State and Federal laws and for all other payments made to, or on behalf of, the Workers, other than actual wages as defined in Document 00700, Article 6.08.B.1.a, "Actual Wages" and subsistence and travel allowance as specified in Document 00700, Article 6.08.B.1.c, "Subsistence and Travel Allowance."
      c. Subsistence and Travel Allowance: The actual allowance paid to such workers in compliance with labor agreements.

C. Materials
   1. Owner Furnished: Owner may furnish such materials as it deems advisable, and Contractor has no rights to pursue Owner for costs and markup on such materials.
   2. Contractor Provided: Only materials provided by Contractor, necessary to and actually used in the Work will be paid for. The cost of such materials will be the cost to the purchaser, whether Contractor, Subcontractor, or other Supplier thereof, unless the following apply:

a. If a cash or trade discount by the actual Supplier is offered or available to the purchaser, it must be credited to Owner whether or not such discount was actually received.

b. If materials are procured by any method, which is not a direct purchase from an actual Supplier, the cost of such materials shall be deemed to be the price, paid to the actual Supplier as determined by Owner. No markup except for actual costs incurred in the handling of such materials will be permitted.

c. If materials are obtained from a supply or source owned in whole or in part by the purchaser, payment therefore will not exceed the price paid by the purchaser for similar materials provided from said source on Contract items, or the current wholesale price for such materials delivered to the Project Site, whichever price is lower.

d. If in Owner's opinion the cost of such materials is excessive, then the cost of such materials shall be deemed to be the lowest current wholesale price at which such materials are available in the required quantities delivered to the Project Site, less any discounts as provided in Document 00700, Article 6.08.C.2.a.

e. If Contractor does not furnish satisfactory evidence of the cost of such materials from the actual Supplier thereof, the cost shall then be determined in accordance with Document 00700, Article 6.08.C.2.d, above.

D. Equipment Rental

1. Rental Rate: Contractor will be paid for the use of equipment at the rental rate listed for such equipment in the latest edition of the California Department of Transportation, Labor Surcharge and Equipment Rental Rates, regardless of ownership and any rental or other agreement, if such may exist for the use of such equipment entered into by Contractor. If it is deemed necessary by Owner to use equipment not so listed, Owner prior to the Work being done will establish a suitable rental rate for such equipment. Contractor may furnish any cost data that might assist Owner in establishing such rental rate.

   a. The aforesaid rental rates shall be deemed to include the cost of fuel, power, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of all kinds, depreciation, storage, insurance, labor except for construction equipment operators and any and all costs to the Contractor incidental to the use of such construction equipment.

   b. Operators of rental equipment will be paid for as provided in Document 00700, Article 6.08.B, "Labor." All equipment must be in good working condition and suitable for the purpose for which it is to be used, as judged solely by Owner.

   c. Unless otherwise specified, Manufacturer's ratings and Manufacturer approved modifications shall be used to classify equipment for determining applicable rental rates. A power unit of at least the minimum rating recommended by the Manufacturer shall power equipment that has no direct power unit.

   d. Individual pieces of equipment or tools having a replacement value of $500 or less, whether or not consumed by use, are considered to be small tools and no rental payment will be made.

   e. Rental time will not be allowed while equipment is inoperative due to breakdowns.

E. Equipment on the Work

1. The rental time to be paid for equipment already on the Project Site will be the time the equipment is in operation on the Work being performed, and in addition, will include the time required to move the equipment to the location of the Work and return it to the original location, except that moving time will not be paid if the equipment is used at the Project Site for activities besides Force Account Work.

2. Loading and transporting costs will be allowed, in lieu of moving time, when equipment is moved by means other than its own power, except that no payment will be made if equipment is used at the Project Site for activities besides Force Account Work.

3. The following will be used in computing the rental time of equipment on the Work:

   a. When hourly rates are listed, less than thirty (30) minutes of operation will be considered to be one-half (1/2) hour of operation.

   b. When daily rates are listed, less than four (4) hours of operation will be considered to be one-half (1/2) day of operation.

F. Equipment not on the Work

1. For the use of equipment moved in solely to perform Force Account Work, and used exclusively for such Work, Contractor will be paid the rental rates determined as provided in Document 00700, Article 6.08.D, "Equipment Rental", and for the cost of transporting the equipment to the Work site, all in accordance with the following provisions:

   a. Contractors must obtain Owner's approval before transporting any equipment to the Project Site.

   b. Owner will pay the cost of loading and unloading Approved equipment.

   c. The cost of transporting equipment in low bed trailers shall not exceed the hourly rates charged by established haulers.

   d. The cost of transporting equipment shall not exceed the applicable minimum established rates of the California Public Utilities Commission.

   e. Should Contractor desire to return the equipment to a location other than the location from where it was transported to the Work site, Owner will pay the cost of transportation in accordance with the above provisions, provided such payment will not exceed the cost of transporting the equipment to the Work site.

   f. Payment for transporting, loading and unloading equipment, as above provided, will not be made if the equipment is used in any other way than on Force Account Work.

2. The rental period will begin when the equipment is unloaded at the Work site, will include each day that the equipment is at the Work site, excluding Saturdays, Sundays, and Owner's legal holidays unless the equipment is used to perform the Work on such days, and will terminate at the end of the day when Owner directs Contractor to discontinue use of such equipment.

3. Rental time will be paid as follows:

Hours equipment is in operation	Hours to be paid
0.0	4.00
0.5	4.25
1.0	4.50
1.5	4.75
2.0	5.00
2.5	5.25
3.0	5.50
3.5	5.75
4.0	6.00
4.5	6.25
5.0	6.50
5.5	6.75
6.0	7.00
6.5	7.25

7.0 ..... 7.50
7.5 ..... 7.75
8.0 ..... 8.00
Over 8.0 ..... Actual hours in operation

a. The hours to be paid for equipment that is operated less than eight (8) hours due to breakdowns will not exceed eight (8) less the number of hours the equipment is inoperative due to breakdowns.

b. When hourly rates are listed, less than thirty (30) minutes of operation will be considered to be one-half (1/2) hour of operation.

c. When daily rates are listed, payment for one-half (1/2) day will be made if the equipment is not used. If the equipment is used, payment will be made for one day.

d. The minimum rental time to be paid for the entire rental period on an hourly basis will not be less than eight (8) hours or if on a daily basis will not be less than one day.

G. Specialized Services

1. When Owner and Contractor agree that Contractor's forces or any Subcontractor cannot perform a special service or item of Work, such service or Work item may be performed by a specialist. Invoices for such service or Work item may be accepted based on the current market price thereof without complete itemization of labor, material, and equipment rental costs when it is impractical and not in accordance with the established practice of the special service industry to provide such complete itemization.

2. In those instances where Contractor is required to perform Work necessitating a fabrication or machining process in a facility away from the Project Site, the charges for the Work performed in such facility may, by agreement, be accepted as a specialist billing.

H. To the specialist invoice price, less a credit to Owner for any cash or trade discount offered or available, whether or not such discount may have been taken, will be added a ten percent (10%) markup in lieu of the markups provided in Document 00700, Article 6.08.A, "General."

I. Independently Owned & Operated Equipment

1. When independently owned and operated equipment is used to perform Work, Contractor will be paid for the equipment and operator, as follows:

a. Payment for the equipment will be made in accordance with Document 00700, Article 6.08.D, "Equipment Rental." Payment for the cost of labor and subsistence or travel allowance will be made at the rates paid by Contractor to other workers operating similar equipment already on the Project or, in the absence of such other workers, at the rates for such labor established by collective bargaining agreements for the type of worker and location of the Work, whether or not the owner-operator is actually covered by such an agreement.

b. A labor surcharge will be added to the cost of labor described herein, in accordance with provisions in Document 00700, Article 6.08.B.1.b, "Labor Surcharges." To the direct cost of equipment rental and labor, computed as provided herein, will be added those markups for equipment rental and labor as provided in Document 00700, Article 6.08.A.3, "Markups."

J. Adjustment of Contract Time

1. Neither the Substantial Completion Date nor the Final Completion date will be changed because of Force Account Work unless Contractor demonstrates pursuant to Document 00700, Article 7.06, "Delay and Time Extension", that such Work actually affected the Contract Time(s) and Owner accepts.

K. Records

1. Contractors must maintain records (Daily Reports identified in Section 01 32 00.4, "Construction Progress Documentation Cost-Loaded CPM") that provide a clear distinction between the performance of the Force Account Work and the performance of all other operations.
2. From the above records, Contractor must furnish Owner completed Daily Force Account Work Reports, on forms furnished by or acceptable by Owner for each day's Force Account Work.
3. The Daily Force Account Work Reports shall:
   a. Be submitted not later than one (1) workday following the performance of said Work;
   b. Itemize the materials used;
   c. Cover the direct cost of labor and the charges for equipment rental, whether Provided by Contractor, Subcontractor, or other forces; and
   d. Provide names or identifications and classifications of workers, the hourly rate of pay and hours worked, and the size, type and identification number of equipment and hours operated.
4. Before presenting the Daily Force Account Work Reports to Owner, Contractor must compile the estimated daily and to-date cumulative cost of the Work.
5. Material charges must be substantiated by valid copies of vendor's invoices. Such invoices must be submitted with the Daily Force Account Work Reports, or if not available, they must be submitted with subsequent Daily Force Account Work Reports. Should said vendor's invoices not be submitted within sixty (60) Days after the date of delivery of the material, Owner reserves the right to establish the cost of such materials at the lowest current wholesale prices at which said materials are available in the quantities concerned, delivered to the location of the Work, less any discounts provided in Document 00700, Article 6.08.C.2.a.
6. Contractor must sign each Daily Force Account Work Report.
7. Owner will compare Owner's records with Contractor's completed Daily Force Account Work Reports and make any necessary adjustments. When these Daily Force Account Work Reports are agreed upon and signed by both parties, said reports become the basis of payment for the Work performed, but do not preclude subsequent adjustment based on a later audit by Owner, or the State.

END ARTICLE 6
of
DOCUMENT 00700

ARTICLE 7 — TIME

7.01 CONTRACT TIME

A. Time is of the essence of this Contract.

B. Contractor must complete the entire Work of the Project and designated portions thereof within the Contract Time.

C. Failure of Contractor to include an element of the Work required for performance of this Contract in the Official Progress Schedule, or inaccuracy in the Official Progress Schedule, does not relieve Contractor from responsibility for accomplishing the Work within the Contract Time(s) designated in the Contract Documents and will not constitute grounds for delay in completion of the Work or designated portion on the Work.

D. Contractor must provide an adequate workforce, materials of proper quality, and equipment to properly execute the Work and to ensure completion of each part of the Work in accordance with the Official Progress Schedule.

7.02 NOTICE TO PROCEED

A. Owner's Notice to Proceed will state the first Day of the Contract Time.

B. Notwithstanding other provisions of the Contract Documents, Owner is not obligated to accept or to pay for Work Provided by the Contractor prior to the first Day of the Contract Time designated in the Notice to Proceed, whether or not Owner has knowledge of the furnishing of such Work.

C. Unless otherwise stated in the Contract Documents or Directed by Owner, Contractor must begin Work within ten (10) Days following the start date for the Work as stated in the Notice to Proceed.

D. Contractor will not be allowed on the site of the Work until the Contractor's Contract Bonds and insurance comply with requirements of the Contract Documents.

7.03 LIQUIDATED DAMAGES

A. All Work must be completed and ready for full use by Owner on, or prior to, the Contract Time(s) for the Work or designated portions of the Work specified in the Bid Documents or any authorized extension thereof.

B. If Contractor fails to complete the Work within the Contract Time(s) designated in the Bid Documents, or any authorized extension thereof, it is understood and agreed that Owner will suffer damage; and, it being impractical and extremely difficult to determine the amount of actual damage, it is agreed that Contractor will pay as fixed and liquidated damages, and not as a penalty, the sums set forth in the Contract for each and every calendar Day of delay until the Work is substantially complete and until Final Completion, and Contractor and its Sureties are liable for the amount thereof.

C. Contractor acknowledges that the Liquidated Damages amounts set forth in the Contract constitute a reasonable estimate of the damages Owner will actually suffer every Day during which completion of the Work or designated portion of the Work is avoidably delayed beyond the expiration of the Contract Time(s) designated in the Contract Documents

D. Owner may withhold Liquidated Damages from payments due to Contractor as such damages accrue, or, at Owner's discretion, withhold Liquidated Damages from any payments that may become due, including retention and Final Payment (pursuant to California Government Code §53069.85).

7.04 ACCELERATION

A. Owner reserves the right to Direct the Contractor to accelerate performance of the Work or any portion of the Work. No action or direction of Owner other than an express written Order by the

Owner's Authorized Representative to accelerate performance of the Work shall be construed by the Contractor to be direction to accelerate the Work.

B. If the Contractor believes that some action or inaction on the part of Owner constitutes an acceleration directive, the Contractor must immediately notify the Owner in writing that the Contractor considers the actions or inaction an acceleration directive. This written notification must detail the circumstances of the acceleration directive.

C. Contractor must keep Daily cost and other Project records related to the Owner's acceleration Directive separate from other Project costs and records, and must submit a written Daily Record of Acceleration Cost to Owner at the end of each Day.

D. Allowable labor costs are limited to overtime or shift premium costs. Allowable equipment costs are only the cost of added equipment mobilized to the site to accomplish the accelerated Work effort.

7.05 SUBSTANTIAL AND FINAL COMPLETION INSPECTIONS

A. Contractor is ultimately responsible for: (1) the quality of the Work; (2) performing necessary inspections to control the quality of the work; (3) identifying deficiencies in the Work as related to the scope and standards established in the Contract Documents; and (4) taking all actions necessary to correct deficiencies and complete the Work in the time established in the Contract Documents. Inspections performed by the Owner do not relieve the Contractor from complying with the requirements of Section 01 45 16.13, "Contractor's Quality Control (QC) System."

1. The term "Inspection", as used in Document 700, Article 7.05A above is not meant to supersede the requirements of the QC program described in Parts 1.05 and 1.06 of Section 01 45 16.13, "Contractor's Quality Control (QC) System."

B. When the Contractor believes the Work is complete, including final cleaning of the Work area, the Contractor must submit to the Owner four (4) copies of a written certification that the Work is substantially complete and request a Substantial Completion Inspection of the Work by the Owner.

C. Within seven (7) Days of receipt of Contractor's certification that the Work of the Project is complete, Owner's Authorized Representative and/or Project Manager, along with the Inspector of Record, Architect of Record, and other staff, will make a Substantial Completion Inspection with the Contractor's QC Manager and Project Superintendent.

D. If at any point in the performance of the Substantial Completion Inspection, the Owner's Project Manager determines that, based on the progress of the Substantial Completion Inspection, the Incomplete/Deficient work identified is greater in substance than can be appropriately declared as Punch List (see definition at Part 1.03 of Section 01 45 16.13, "Contractor's Quality Control (QC) System"), then the Work is not complete enough for the Substantial Completion Inspection. Contractor will be so notified in writing. Contractor must complete the Work and re-initiate procedures for another Substantial Completion Inspection. At Owner's discretion, any costs incurred by Owner for reinitiating the Substantial Completion Inspection may be charged to the Contractor.

E. If the results of the Substantial Completion Inspection are satisfactory to the Owner's Project Manager, Owner's Project Manager will review the Work and, in conjunction with the Contractor, prepare a Certificate of Substantial Completion and a list of deficiencies in the completed Work (Punch List.) and issue the Certificate and Punch List to the Contractor. Pursuant to Section 01 45 16.13, "Contractor's Quality Control (QC) System," neither the Owner's preparation of the Punch List, nor any omission from the Punch List of items of incomplete Work, relieves the Contractor from completing all the Work required of the Contract Documents.

F. After the Contractor completes the Work of the Punch List, pursuant to Section 01 45 16.13, "Contractor's Quality Control (QC) System," the Contractor must certify that the entire Work, including Punch List, is complete. Within ten (10) calendar days of delivery of such certification to the Owner's Project Manager and if the Owner's Project Manager agrees with the Contractor's certification, a Final Inspection will occur.

G. If Owner's Project Manager determines the Work is still deficient, Contractor will again be furnished with a Punch List identifying the observed deficiencies in the Work. After all deficiencies have been corrected, Contractor must initiate procedures for another Final Inspection. If Contractor requests more than two (2) Final Inspections, at Owner's discretion, any costs to Owner for additional Final Inspections may be charged to the Contractor.

H. If Owner's Project Manager determines that the items on the Punch List have been satisfactorily corrected, Owner's Authorized Representative will send a letter acknowledging Completion to the Contractor. The Final Completion letter will identify the actual date of Completion.

7.06 DELAY AND TIME EXTENSIONS

A. Owner will consider extensions to the Contract Time(s) for the following reasons only if they affect the Critical Path of the Official Progress Schedule.

1. Acts of God (as defined in Public Contract Code § 7105 (b)(2)) or of the public enemy, acts of Government, acts of Owner, fires, floods, epidemics, quarantine restrictions, sanctioned strikes, freight embargoes, unusually severe weather, or delays of Subcontractors or Suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both Contractor and such Subcontractors or Suppliers.

2. Delays in progress due to an act of neglect by Owner only for the amount of delay time that occurs after Contractor has notified Owner in writing and the Owner has had a reasonable time to respond to the notification.

3. An Approved Change Order that extends the Contract Time.

4. Adjustments to the Contract Time(s) due to weather will be allowed only for unusually severe weather or resulting site conditions that affect the progress of activities on the Critical Path of the Official Progress Schedule.

5. No Contract Time extension for rain will be allowed for any month until the number of Days of rain for that month as indicated below has been exceeded. Rainfall will be considered unusually severe only when the Days of rain (defined as more than one-tenth ($1/10^{th}$) of an inch of rain per Day) in any month exceed the following number of Days of rain per month:

Month	No. of Days
January	7
February	7
March	7
April	4
May	2
June	0
July	0
August	0
September	1
October	3
November	4
December	6

6. Contractor must exercise due diligence in protecting the Work and the Work site from the adverse impacts of weather by:

a. taking appropriate preventative actions before anticipated inclement weather to protect the Work and Work site from the potential adverse effects of the weather;

b. taking corrective action during the inclement weather to protect the Work and Work site from the actual and potential adverse effects of the inclement weather; and

c. taking corrective action after the inclement weather to remedy, prevent, and/or mitigate the negative impacts of the adverse weather on the Work and the Work site.

B. Within twenty-four (24) hours from the beginning of any Critical Path delay to the Official Progress Schedule, Contractor must notify Owner in writing of the causes of delay.

C. Within fourteen (14) Days from the end of any Critical Path delay to the Official Progress Schedule, Contractor must submit two (2) paper copies and electronic data files on Compact Disks, of all supporting information to validate the impact of the delay on the Contract Time.

D. Owner will ascertain the facts and the extent of the delay and adjust the Contract Time(s) for completing the Work when, in Owner's judgment, the facts justify an adjustment. Owner's determination is final and conclusive.

E. Delay and Contractor's entitlement for delay will be determined as follows:

1. The following definitions apply to this Document 00700, Article 7.06, "Delay and Time Extension":

a. "***Excusable Delay***" means any delay in the Work caused by conditions beyond the control and without the fault or negligence of the Contractor. The financial inability of the Contractor or any Subcontractor, Sub-subcontractor or Supplier, or the default of any Subcontractor, Sub-subcontractor or Supplier is not a condition beyond the Contractor's control.

b. *"**Excusable Non-Compensable Delay***" means any Excusable Delay not solely the responsibility of the Contractor, such as, earthquake, fire, flood, cyclone, and inclement weather conditions that caused a delay of Work on the Critical Path. An Excusable Non-Compensable Delay may entitle the Contractor to an extension of the Contract Time, but will not entitle the Contractor to any adjustment of the Contract Sum.

c. "***Excusable Compensable Delay***" means any Excusable Delay caused by a delay of the Work on the Critical Path for which the Owner is solely responsible and which delay is unreasonable given the circumstances and not within the contemplation of the parties. An Excusable Compensable Delay may entitle the Contractor to an extension of the Contract Time and an adjustment of the Contract Sum.

d. "***Non-Excusable Delay***" means any delay in the Work resulting from causes within the control of the Contractor or due to the fault or negligence of the Contractor or its Subcontractors or Suppliers. A Non-excusable Delay shall not entitle the Contractor to an extension of the Contract Time or an adjustment of the Contract Sum.

2. Whenever the Contractor foresees any delay in the prosecution of the Work, the Contractor must notify the Owner in writing of the potential delay. Such notification must specify with detail the cause asserted by the Contractor for the potential delay and provide a description of the anticipated effect of the potential delay on the most recent Updated Official Progress Schedule including identification of the activity numbers of the affected activities. Failure of the Contractor to submit such a notice within seven (7) Days after recognition of any incident or event giving rise to the potential delay will constitute a waiver by the Contractor of any request for extension of the Contract Time, and no extension of the Contract Time will be granted as a consequence of such delay.

3. Within twenty-four (24) hours from the beginning of any Critical Path delay to the Official Progress Schedule, Contractor must submit written notice to the Owner of the delay. The

notice must include identification of the affected activities, evidence of the cause of the delay, and within fourteen (14) Days of the end of the Critical Path delay, Contractor must submit a Time Impact Analysis per Document 00700, Article 7.06.F, "Time Impact Analysis."

4. Owner has no obligation to consider any request for extension to the Contract Time(s) unless the Contractor satisfies the requirements set forth in the Contract Documents for providing notice of potential delay and submission of a Time Impact Analysis establishing the impact of the delay on the Critical Path of the Official Progress Schedule.

5. Owner is not responsible to the Contractor for any constructive acceleration due to Contractor's failure to comply with the submission and justification requirements of the Contract Documents for Contract Time extension requests. Contractor's failure to perform in accordance with the Official Progress Schedule shall not be excused because the Contractor has submitted Contract Time extension requests, unless and until Owner Approves such requests.

6. Extension to the Contract Time(s) will not be allowed for delays on paths of activities containing Total Float Time per the latest Updated Official Progress Schedule, providing such delay does not exceed the Total Float Time(s) on the latest Updated Official Progress Schedule.

7. Any extension of Contract Time(s) granted the Contractor pursuant to this Document 00700, Article 7, "Time", neither constitutes a waiver by Owner of, nor a release of the Contractor from, the Contractor's obligation to perform the Work within the Contract Time(s) specified by the Contract Documents, as modified by the particular extension in question. Owner's decision to grant an extension of the Contract Time(s) due to one circumstance set forth in one request, shall not be construed as a grant of an extension for any other circumstance or the same circumstance occurring at some other time, and shall not be viewed by the Contractor as a precedent for any other request for extension of the Contract Time(s).

F. Time Impact Analysis

1. The time impact analysis must provide information justifying the request for extension of the Contract Time(s) and stating the extent of the adjustment requested for the alleged delay. Time impact analysis must be in form and content acceptable to the Owner and include, but not be limited to, the following:

   a. Time impact analyses must be based on analyzing the Official Progress Schedule in effect at the time the alleged delay or impact first occurred.

   b. Contractor must present fragmentary Critical Path Method (CPM) type network windows (fragments) in time scaled precedent format, illustrating how Contractor proposes to incorporate the alleged delay into the Updated Official Progress Schedule in effect at the time the alleged delay or impact first occurred.

   c. Contractor must identify the activities that are proposed to be amended due to the alleged delay.

   d. Contractor must identify the preceding and succeeding activities in the Official Progress Schedule to which the fragment(s) is to be connected.

G. Weather Delays

1. Except for rain, if weather conditions are the basis for delays in the continuance or completion of the Work or any designated portion of the Work, Contractor must substantiate that the weather conditions were abnormal, based on the climatologically data for the immediately preceding 10-year period. For all weather related delay, the Contractor must establish that the adverse weather conditions could not have been reasonably anticipated.

2. Rain will not be considered abnormal unless it results in precipitation that exceeds the maximum daily precipitation for the cumulative number of Days per month indicated in Document 00700, Article 7.06.A.5.

3. When the amount of rain is considered to be abnormal, extensions to the Contract Time(s) will be granted where the condition of the site, as determined by the Owner, is such that Contractor can perform no Work identified as Critical Path Work on the current version of the Official Progress Schedule in effect at the time the delay occurred.

H. Concurrent Delays

1. If an *Excusable Non-Compensable Delay* and an *Excusable Compensable Delay* operate to concurrently delay completion of the Work, the maximum extension of the Contract Time will be the number of Days from the commencement of the first delay to the cessation of the delay which ends last. Any adjustment of the Contract Sum will be in accordance with Document 00700, Article 6, "Changes in the Work", and will be based only on the number of Days of *Excusable Compensable Delay*, less the duration of the concurrence.

2. If a *Non-excusable Delay* operates to concurrently delay completion of the Work with an *Excusable Non-Compensable Delay*, the maximum extension of the Contract Time will be the number of Days of concurrent delay plus the non-concurrent portion of the *Excusable Non-Compensable Delay*. The entire delay is non-compensable.

3. If a *Non-excusable Delay* operates to concurrently delay completion of the Work with an *Excusable Compensable Delay* the maximum extension of the Contract Time will be the number of Days of concurrent delay plus the non-concurrent portion of the *Excusable Compensable Delay*. Any adjustment of the Contract Sum will be in accordance withDocument 00700, Article 6, "Changes in the Work", and will be based only on the non-concurrent portion of the *Excusable Compensable Delay*.

4. Where the period of concurrent delay is sixty (60) Days or longer, the Owner will pay 50% of labor and material cost escalations experienced as a result of the concurrent delay following Contractor's demonstration of the cost escalations to the reasonable satisfaction of Owner.

END ARTICLE 7
of
DOCUMENT 00700

ARTICLE 8 — PAYMENTS

8.01 GENERAL

A. Unless otherwise expressly provided for, Contractor shall accept the Contract Sum provided in the Contract as full payment for all Work.

B. For unit price Bid items, the quantities listed by the Owner in the Bid schedule do not govern payment. Payment to Contractor will be made only for the actual quantities of Contract items constructed in accordance with the requirements of the Contract Documents. Upon completion of construction, if the actual quantities show either an increase or a decrease from the quantities stated in the Bid schedule, the Contract unit prices will prevail and are not subject to adjustment.

C. Payment will not be made for: materials wasted or disposed of in a manner not called for pursuant to the Contract; rejected material of any kind; material damaged or rejected after it has been placed; and material placed outside of the Work limits shown on the Drawings. No compensation will be made for disposing of rejected or excess material.

D. Whenever Owner performs any portion of the Work at Contractor's request, the cost thereof will be charged against Contractor, and may be deducted from any amount due or to become due from Owner.

E. Whenever immediate action is required to prevent impending injury, death, or property damage, and precautions which are Contractor's responsibility have not been taken, Owner may, after reasonable attempt to notify Contractor, cause such precautions to be taken and charge the cost thereof to Contractor, or may deduct such cost from any amount due or to become due from Owner. Owner's action or inaction given such circumstances shall not be construed as relieving Contractor or its Surety from any liability for such circumstances.

F. Payment does not relieve Contractor from its Contract obligations pursuant to the Contract; nor is such payment to be construed to be acceptance of any of the Work. Payment shall not be construed as the transfer of ownership of any equipment or materials to Owner. Responsibility of ownership shall remain with Contractor who is obligated to store, protect, repair, replace, rebuild or otherwise restore any fully or partially completed Work for which payment has been made; or replace any materials or equipment required to be Provided pursuant to the Contract which may be damaged, lost, stolen or otherwise degraded in any way before Substantial Completion of the Work, except as provided in Document 00700, Article 13.01, “Use Before Substantial Completion.”

8.02 PROGRESS PAYMENTS

A. General: Contractor will be paid for the actual field accepted quantities for the various items of work in accordance with the following provisions and the requirements of Section 01 29 00.2, “Payment Procedures for Projects with Cost-Loaded Schedule Requirements”; however, in no event will the total payment exceed the total Contract Sum.

B. Schedule of Values (Cost Breakdown): As required by Section 01 29 00.2 “Payment Procedures for Projects with Cost-Loaded Schedule Requirements,” Contractor must prepare and submit for Owner's acceptance a Schedule of Values (Cost Breakdown) of the Work totaling the Contract Sum (Bid amount) including Owner accepted Additive and Deductive Bid items if any. The Schedule of Values must be supported by such data to substantiate its accuracy as the Owner may require. Each item in the Schedule of Values must include its proportional share of overhead (including general conditions costs), and profit. The dollar values in the Schedule of Values will be used for determining the amount of each progress payment. A Schedule of Values may be rejected if in Owner's opinion any item is unbalanced.

C. Mobilization Costs: Payment for Mobilization will be made by one of two means. Contractor shall select the means applicable to this project when preparing and submitting the Cost

Breakdown, pursuant to Section 01 29 00.2, “Payment Procedures for Projects with Cost-Loaded Schedule Requirements”:

1. **Alternate A** – Coincides with **Mobilization**, Alternate A, as defined in Document 00700, Article 1.01 .C. Partial payment for "Mobilization" will be made in percentages as follows (less retainage):

Contract Amount Completed	Payment for Mobilization
5 %	50% of amount Bid for Mobilization, or 5% of original Contract amount, whichever is less.
10%	75% of amount Bid for Mobilization, or 7.5% of original Contract amount, whichever is less.
20%	95% of amount Bid for Mobilization, or 9.5% of original Contract amount, whichever is less.
50%	100% of amount Bid for Mobilization, or 10% of original Contract amount, whichever is less.

   If Mobilization payments are based on a percentage of the original Contract amount, no payment for Mobilization will be made after the base Contract amount completed exceeds sixty-five percent (65%).

   If Mobilization payments are based on an amount Bid for Mobilization, upon Completion of all Work on the Project, payment of any amount Bid for Mobilization in excess of ten percent (10%) of the original Contract amount will be paid.

2. **Alternate B** – Coincides with **Mobilization**, Alternate B, as defined in Document 00700 Article 1.01 .C. Contractor will include separate line items in the Cost Breakdown or Cost-Loaded construction schedule, as applicable, for Mobilization **and** Demobilization. Demobilization includes: movement of personnel, equipment, temporary offices, buildings and other facilities, supplies and incidentals off the Project Site, and submission of Project Acceptance submittals, as defined in Part 1.03 of Section 01 33 00, “Submittal Procedures.”

   If using Alternate B, separate from Mobilization, the Cost Breakdown or Cost-Loaded construction schedule may have a separate line item for bonds and insurance, which are payable after the Contractor demonstrates proof of payment.

D. Owner may refuse to process Contractor’s Payment Request or may withhold all or a portion of payments due Contractor until Contractor has met the requirements of Document 00700, Article 3.24.A, “Official Progress Schedule.”

E. Owner’s Project Inspector will review the Record Documents prior to and as a condition of approving each progress payment.

F. Owner’s Project Manager will establish the monthly pay period end dates. Contractor must base their monthly progress payment period end dates on the dates established by the Owner.

G. Establishing the Work completed for each monthly request for payment is an estimate only, and no inaccuracy or error in said estimates operate to release Contractor or its Sureties from damages arising from such Work or from complying with each and every provision of the requirements of the Contract Documents. Owner has the right to correct any error made in any estimate for payment.

H. No such estimate or payment is required to be made when, in Owner's judgment, the Work is not proceeding in accordance with the requirements of the Contract Documents, or when in Owner's judgment the total value of the Work done since the last pay estimate amounts to less than $500.

I. Contractor is not entitled to have any payment made for Work performed so long as any lawful or proper Order concerning the Work or any portion thereof given by Owner to Contractor shall not have been followed.

8.03 RETENTIONS

A. Owner will retain five percent (5%) of the estimated value of the Work done, which includes the value of materials procured and delivered but not yet used, or procured and stored in accordance with Section 01 29 00.2, "Payment Procedures for Projects with Cost-Loaded Schedule Requirements", as part security for the fulfillment of the Contract requirements by Contractor, and will pay to Contractor, while carrying on the Work, the balance not retained, as aforesaid, after deducting therefrom all previous payments and all sums to be withheld or retained pursuant to the provisions of the Contract Documents or allowed or required by law. No such estimate or payment shall be construed to be an acceptance of any defective Work or improper materials.

B. In addition to any remedy authorized by law, all or a portion of the Contract Sum due Contractor and considered necessary by the Owner to satisfy pending or reasonably anticipated suits or other legal actions for damages, may be withheld by Owner until disposition has been made of such suits or legal actions.

8.04 TIMELY PROGRESS PAYMENTS & INTEREST

A. California Public Contract Code § 20104.50 sets forth the Legislature's intent for prompt payment to contractors and establishes the following procedures for timely progress payments and payment of interest:

1. Any local agency which fails to make any progress payment within thirty (30) Days after receipt of an undisputed and properly submitted payment request from a contractor on a construction contract shall pay interest to the contractor equivalent to the legal rate set forth in subdivision (a) of § 685.010 of the Code of Civil Procedure.

2. Upon receipt of a payment request, each local agency shall act in accordance with the following:

   a. Each payment request shall be reviewed by the local agency as soon as practicable after receipt for the purpose of determining that the payment request is a proper payment request.

   b. Any payment request determined not to be a proper payment request suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven (7) Days, after receipt. A request returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper.

   c. The number of Days available to a local agency to make a payment without incurring interest pursuant to California Public Contract Code § 20104.50 shall be reduced by the number of Days by which a local agency exceeds the seven-Day return requirement.

   d. A "progress payment" includes all payment due contractors, except that portion of the Final Payment designated by the contract as retention earnings.

   e. A payment request shall be considered properly executed if funds are available for payment of the payment request, and payment is not delayed due to an audit inquiry by the financial officer of the local agency.

8.05 SECURITIES IN LIEU OF RETENTION

A. Attention is directed to Document 00700, Article 8.03, "Retentions", relating to the retention of funds during Contract performance, and to the requirements of California Public Contract Code § 22300.

B. Contractor may substitute securities in lieu of the retention specified in Document 00700, Article 8.03, "Retentions." At Contractor's request and expense, securities equivalent to the amount retained shall be deposited with Owner, or with a State or Federally chartered bank as escrow agent, who shall pay such monies to Contractor upon satisfactory Completion of the Contract.

C. Securities eligible for substitution hereunder shall be limited to those listed in California Government Code § 16430, or to bank or savings and loan certificates of deposit. Contractor must be the beneficial owner of any securities so substituted for monies retained, and shall receive any interest or income thereon.

D. Any Escrow Agreement entered into pursuant to this Document 00700, Article 8.05, "Securities in Lieu of Retention", must be executed on the form furnished in the Bid Documents, Document 00550, "Sample Escrow Agreement For Security Deposits In Lieu of Retention". If the Contractor elects to receive interest on monies withheld in retention by a public agency, or to deposit securities in lieu of retention, the Contractor must, at the request of any Subcontractor performing more than five percent of the Contractor's total Bid, make that option available to the Subcontractor.

8.06 STOP PAYMENT NOTICES

A. Owner will comply with California Civil Code Title 3, Chapter 4, § 9350 and following, regarding Stop Payment Notices.

B. All Preliminary and Stop Payment Notices must be sent to the Owner's Project Manager, named in the Notice to Bidders, and in accordance with the "STOP PAYMENT NOTICE INFORMATION" sheet in the Bid Form (Document 00410).

8.07 PAYMENTS WITHHELD

A. Owner may withhold payment(s) in whole or in part to such extent as may be necessary to protect Owner from loss from, but not limited to,:

1. Defective work not remedied;
2. Third party legal actions filed or reasonable evidence indicating probable filing of such legal actions;
3. Failure of Contractor to make payments properly to Subcontractors for labor, materials or equipment;
4. Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum, including any Liquidated Damages thereby due;
5. Damage to Owner or another contractor, or damage to the Work, or damage to other work or property;
6. Reasonable evidence that the Work or designated portions of the Work will not be or had not been completed within the Contract Time;
7. Failure to carry out the Work in accordance with the requirements of the Contract Documents, including failure to make required Submittals;
8. Failure to submit certified weekly payrolls;
9. Stop Payment Notices filed, as more specifically provided in Document 00700, Article 8.06, "Stop Payment Notices";
10. Failure or refusal of Contractor to fully comply with the Contract requirements;

11. Amounts deemed necessary by the Owner to satisfy pending or reasonably anticipated suits or legal actions for damages; or

12. Amounts necessary to satisfy any civil wage and penalty assessment imposed by the Department of Industrial Relations.

B. Whenever Owner withholds any monies otherwise due Contractor, Owner will furnish written notice of the amount withheld and the reasons therefore to Contractor.

END ARTICLE 8
of
DOCUMENT 00700

ARTICLE 9 — DISPUTED ITEMS & CLAIMS

9.01 Dispute Resolution Procedure

A. Contractor shall complete all steps prescribed by this Article 9 to resolve Disputed Items. Compliance with this Article 9 is a condition precedent to the right to commence litigation, file a Government Code Claim, or commence any other legal action. An issue giving rise to a legal cause of action or legal right or legal entitlement which is not timely raised pursuant to this Article 9 may not be asserted in any Government Code Claim, subsequent litigation, or legal action.

B. Each Disputed Item shall proceed separately through this Article 9 for resolution, unless Owner agrees in writing to combine Disputed Items.

C. Relief to be accorded under this Article 9 shall include extension of Contract Time, adjustment of Contract terms, adjustment to Contract Price, and any other relief which may be considered appropriate. Relief under this Article 9 shall not include attorney's fees.

D. Claims of three hundred seventy-five thousand dollars ($375,000) or less shall be decided in accordance with Article 9.07, "Claims Under $375,000", which adopts Public Contract Code § 20104, *et seq*. "Claim" means a separate demand by the contractor for (a) a time extension, (b) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (c) an amount the payment of which is disputed by Owner.

E. Any Disputed Item which does not qualify for resolution pursuant to Article 9.07 shall be resolved pursuant to the process prescribed by Articles 9.02 – 9.06. Examples of Disputed Items which do not qualify for resolution pursuant to Article 9.07 include, but are not limited to, Disputed Items valued at more than $375,000 and Disputed Items which do not fit the definition of "Claim" in Public Contract Code § 20104(b)(2).

F. Nothing in this Article 9 is intended nor shall be construed to change the time periods for filing causes of action specified in Chapter 1 (commencing with § 900) or Chapter 2 (commencing with §910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

9.02 Notice of Disputed Item

A. As soon as practicable but no later than fourteen (14) Days after the happening of the event, thing or occurrence giving rise to the potential Claim, Contractor shall submit to Owner a Notice of Disputed Item. The Notice of Disputed Item shall serve as written notice of Contractor's intent to resolve a Disputed Item pursuant to this Article 9.

B. For each Disputed Item, Contractor shall submit a separate Notice of Disputed Item. Prior to the time that a Notice of Disputed Item is due, Owner may agree in writing to combine Disputed Items. Contractor may submit only one Notice of Disputed Item for all Disputed Items so combined.

C. Contractor's Notice of Disputed Item shall include the following information:
   1. Introduction and Issue Identification
   2. Background
   3. Chronology
   4. Contractor's Position (Reason for County's potential liability)
   5. Supporting documentation of merit
      a. Supporting documentation of merit must be cited by reference or photocopied and attached to the Notice, and explained. Supporting documentation may include, but not be limited to, General Conditions, General Requirements, Technical Specifications, Drawings, correspondence, conference notes, Shop Drawings and other Submittals, Submittal logs, survey books, inspection reports, delivery schedules, test reports, Daily Reports, subcontracts, fragmentary Critical Path method schedules, photographs,

technical reports, Requests for Information, field instructions, and other related records necessary to support the merit of Contractor's position.

6. Supporting documentation of Disputed Item's value
7. Schedules (if appropriate)
8. Productivity exhibits (if appropriate)

D. For any costs incurred after Contractor submits a Notice of Disputed Item to Owner, Contractor shall contemporaneously maintain detailed hourly records of labor, construction equipment, and services and itemized records of materials and equipment used each Day in the performance of the Disputed Item.

E. Compliance with the foregoing shall not be a prerequisite to any Claim that is based on differences in measurement or errors of computations as to Contract quantities.

F. Except as provided in Article 9.02D, Contractor is not entitled to either additional compensation or an extension of time for any Disputed Item unless Contractor submits to Owner a Notice of Disputed Item as provided in this Article 9.02.

9.03 Dispute Resolution Phase 1 (DRP-1)

A. During DRP-1, Owner's Authorized Representative and Contractor's Authorized Representative attempt to negotiate resolution of Contractor's Disputed Item.

B. DRP-1 may consist of negotiations, conferences, and discussions. DRP-1 concludes at Owner's discretion.

C. Within fourteen (14) Days of receipt of Contractor's Notice of Disputed Item, Owner shall certify Disputed Item for DRP-1. Owner's DRP-1 certification shall acknowledge timely receipt of Contractor's Notice of Disputed Item, propose a time for DRP-1, and confirm that Contractor's Disputed Item will be resolved pursuant to Articles 9.02-9.06 not Article 9.07. Owner's certification may also either accept Contractor's offer to combine Disputed Items for resolution or propose that certain Disputed Items be combined for resolution.

D. Within seven (7) Days of concluding DRP-1, Owner shall issue its DRP-1 decision to Contractor in writing.

E. Owner shall conclude DRP-1 no later than sixty (60) Days after certifying the Disputed Item(s) for DRP-1.

9.04 Dispute Resolution Phase 2 (DRP-2)

A. DRP-2 is a conference at which Manager, Capital Projects or Deputy Director, General Services for Owner and Contractor's Authorized Representative attempt to negotiate resolution of Contractor's Disputed Item. DRP-2 shall be conducted in person.

B. Within fourteen (14) Days of receipt of written copy of Owner's DRP-1 decision, Contractor may give Owner written notice of Contractor's intent to pursue DRP-2. Contractor's written notice of intent to pursue DRP-2 shall state the grounds for Contractor's appeal. If, within fourteen (14) Days of Contractor's receipt of written copy of Owner's DRP-1 decision, Owner does not receive a notice of Contractor's intent to pursue DRP-2, then Owner's DRP-1 decision shall become final and that Disputed Item shall be deemed resolved.

C. Contractor shall include in its written notice of intent to pursue DRP-2 the following certification, signed by Contractor's Authorized Representative:

1. Under the penalty of law for perjury or falsification and with specific reference to the California False Claims Act, Government Code § 12650 *et seq*., the undersigned,

Name: _____

Title: _____

Company _____

hereby certifies that this Claim is made in good faith, is a true statement of the actual costs incurred and time sought, is fully supported pursuant to the Contract between parties, that the supporting documentation is accurate and complete to the best of my knowledge and belief, and that the amount requested accurately reflects the Contract adjustments for which Owner is responsible.

Dated _____

Signed _____

D. In accordance with Government Code § 12651, if Contractor is unable to support any part of a Disputed Item so certified and it is determined that such inability is attributable to falsity of such certification or misrepresentation of fact or fraud by Contractor, Contractor shall be liable to Owner for three (3) times the amount of damages which Owner sustains, plus the cost of civil action, and may be liable to Owner for a civil penalty of up to Eleven Thousand Dollars ($11,000) for each Disputed Item falsely certified.

E. Within fourteen (14) Days of receipt of Contractor's notice of intent to pursue DRP-2, Owner shall certify Disputed Item for DRP-2. Owner's DRP-2 certification of Disputed Item shall acknowledge timely receipt of Contractor's intent to pursue DRP-2 and propose a time for DRP-2 conference.

F. If Contractor fails to attend a DRP-2 conference, then Owner may deem the DRP-1 decision final and the Disputed Item resolved.

G. Within seven (7) Days of DRP-2 conference, Owner shall issue its DRP-2 decision to Contractor in writing.

9.05 Dispute Resolution Phase 3 (DRP-3)

A. DRP-3 is a conference at which Director of General Services for Owner and an Officer of Contractor with authority to bind Contractor attempt to negotiate resolution of Contractor's Disputed Item. DRP-3 shall be conducted in person.

B. Within fourteen (14) Days of receipt of written copy of Owner's DRP-2 decision, Contractor may give Owner written notice of Contractor's intent to pursue DRP-3. Contractor's written notice of intent to pursue DRP-3 shall state the grounds for Contractor's appeal. If, within fourteen (14) Days of Contractor's receipt of written copy of Owner's DRP-2 decision, Owner does not receive a notice of Contractor's intent to pursue DRP-3, then Owner's DRP-2 decision shall become final and that Disputed Item shall be deemed resolved.

C. Within fourteen (14) Days of receipt of Contractor's notice of intent to pursue DRP-3, Owner shall certify Disputed Item for DRP-3. Owner's DRP-3 certification of Disputed Item shall acknowledge timely receipt of Contractor's intent to pursue DRP-3 and propose a time for DRP-3 conference.

D. If Contractor fails to attend a DRP-3 conference, then Owner may deem the DRP-2 decision final and the Disputed Item resolved.

E. Within seven (7) Days of the DRP-3 conference, Owner shall issue its DRP-3 decision to Contractor in writing.

9.06 Mediation

A. Owner and Contractor may agree to attempt to resolve a Disputed Item by Mediation. Mediation is voluntary, non-binding, and intended to provide an opportunity for the parties to evaluate each other's cases and arrive at a mutually agreeable solution. These provisions relating to voluntary Mediation are not to be construed or interpreted as mandatory arbitration.

B. Statutory Procedures for Claims Resolution: Proceeding with mediation does not in any way waive or extend the applicable statutes of limitations for filing Claims against governmental entities pursuant to the California Government Code § 900 *et seq*.

C. Initiation of Mediation: At any point after DRP-1 and in lieu of DRP-2 or DRP-3, either party to a Claim may initiate Mediation by submitting to the other party or parties a Request for Mediation. Both parties must agree to proceed with Mediation. If Contractor pursues Mediation in lieu of DRP-2 or DRP-3, then Contractor must receive a decision from the Mediator prior to commencing litigation, filing a Government Code Claim, or commencing any other legal action.

D. Request for Mediation: A Request for Mediation must set forth a brief statement of the nature of the Claim, the names, addresses, and phone numbers of the parties, and identify their authorized representative in the Mediation.

E. Selection of Mediator: Upon receipt of a Request for Mediation, within fourteen (14) Days, the parties will meet and confer to select an appropriate Mediator agreeable to all parties. If the parties cannot agree on a Mediator, they hereby agree to accept a Mediator appointed by a recognized association such as the American Arbitration Association.

F. Conflict of Interest of Mediator: No person may serve as a Mediator in any Dispute in which that person has any financial or personal interest in the outcome of the Mediation. Before accepting an appointment, the prospective Mediator must disclose any circumstances likely to create a presumption of bias. Upon receipt of such information, the parties will meet and confer and decide whether or not to select another Mediator.

G. Vacancies: If the Mediator is unwilling or unable to serve, another Mediator will be selected unless the parties agree otherwise.

H. Representations: Any party may be represented by persons of their choice who must have full authority to negotiate. The names and addresses of such persons must be communicated in writing to all parties and to the Mediator.

I. Authority of Mediator: The Mediator shall have full authority to conduct the Mediation, including setting the time and place of Mediation sessions, dictating the briefing schedule, and conducting joint and separate meetings with the parties. All reasonable efforts will be made by the parties and the Mediator to schedule the first session within sixty (60) Days after selection of the Mediator. The Mediator does not have authority to impose a settlement upon the parties but does have authority to make oral and written recommendations for settlement and to help the parties reach a satisfactory resolution of their Dispute. Whenever necessary, the Mediator may obtain expert advice concerning technical aspects of the Dispute, provided the parties agree and assume the expenses of obtaining such advice. The Mediator is authorized to end the Mediation whenever, in the Mediator's judgment, further efforts at Mediation would not contribute to a resolution of the Dispute between the parties.

J. Privacy: Mediation sessions are private. Only the parties and their representatives may attend Mediation sessions. Other persons may attend only with the permission of the parties and with the consent of the Mediator.

K. Confidentiality: Confidential information disclosed to a Mediator by the parties or by witnesses in the course of the Mediation will not be divulged by the Mediator. The Mediator shall keep confidential all records, reports, or other documents he/she receives while serving as Mediator. The Mediator shall not be compelled to divulge such records or to testify in regard to the Mediation in any adversary proceeding or judicial forum.

L. Unless disclosure is mandated by the California Public Records Act, Government Code § 6250 *et seq*., the parties shall maintain the confidentiality of the Mediation and shall not rely on, or introduce as evidence in any arbitration, judicial or other proceedings: (a) views expressed or suggestions made by the other party with respect to a possible settlement of the Dispute; (b) statements made by the other party in the course of the Mediation proceedings; (c) proposals made or views expressed by the Mediator; (d) whether the other party had or had not indicted willingness to accept a proposal for settlement made by the Mediator.

M. No Stenographic Record: There will be no stenographic record of the Mediation.

N. Termination of Mediation: The Mediation may be terminated: (a) by the execution of a settlement agreement by the parties; (b) by a written declaration of the Mediator to the effect that further efforts at Mediation are no longer worthwhile; or (c) by a written declaration of a party or parties to the effect that the Mediation proceedings are terminated. If Mediation is terminated before a decision is reached and Contractor's Disputed Item remains unresolved, then Contractor shall proceed under Article 9.04-9.05.

O. Interpretation and Application of Mediation Provisions: The Mediator will interpret and apply these Mediation provisions insofar as they relate to the Mediator's duties and responsibilities.

P. Expenses: Any initial expenses of Mediation shall be borne by the party which submitted to the other party a Request for Mediation. The expenses of witnesses for the parties will be paid by the party producing the witnesses. All other expenses of the Mediation, including required traveling and other expenses of the Mediator, the expenses of any witness called by the Mediator, and the cost of any proofs or expert advice produced at the request of the Mediator, will be apportioned as the Mediator finds appropriate or as otherwise agreed to by the parties.

9.07 Claims Under $375,000

A. The provision of Public Contract Code *§ 20104 et seq.*, relating to the resolution of construction Claims of three hundred seventy-five thousand dollars ($375,000) or less which arise between a contractor and a local agency are hereby incorporated in this Contract. Documentation that is necessary to substantiate Claims submitted pursuant to this Article 9 must comply with the format requirements of Document 00700, Article 9.02.C.

B. Claims for $375,000 or less (Public Contract Code § 20104)

1. This article applies to all public works claims of three hundred seventy-five thousand dollars ($375,000) or less which arise between Contractor and Owner.

2. This article shall not apply to any claims resulting from a contract between Contractor and Owner when the Owner has elected to resolve any disputes pursuant to Public Contract Code Article 7.1 (commencing with § 10240) of Chapter 1 of Part 2.

3. "Public work" has the same meaning as in Sections § 1101 of the Public Contract Code.

4. "Claim" means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.

5. The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.

C. Claim requirements for claims for $375,000 or less (Public Contract Code § 20104.2):

1. The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of Final Payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.

2. For claims of less than fifty thousand dollars ($50,000), the Owner shall respond in writing to any written claim within forty-five (45) Days of receipt of the claim, or may request, in writing, within thirty (30) Days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

3. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

4. Owner's written response to the claim, as further documented, shall be submitted to the claimant within fifteen (15) Days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.
5. For claims of over fifty thousand dollars ($50,000) and less than or equal to three hundred seventy-five thousand dollars ($375,000), the Owner shall respond in writing to all written claims within sixty (60) Days of receipt of the claim, or may request, in writing, within 30 Days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.
6. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the Owner and the claimant.
7. The local agency's written response to the claim, as further documented, shall be submitted to the claimant within thirty (30) Days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.
8. If the claimant disputes the local agency's written response, or the Owner fails to respond within the time prescribed, the claimant may so notify the Owner, in writing, either within fifteen (15) Days of receipt of the local agency's response or within fifteen (15) Days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issue in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within thirty (30) Days for settlement of the dispute.
9. Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with § 900) and Chapter 2 (commencing with § 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

D. Civil action procedures; mediation and arbitration; trial de novo; witnesses for Claims for $375,000 or less (Public Contract Code § 20140.4) The following procedures are established for all civil actions filed to resolve claims subject to this Article:

1. Within sixty (60) Days, but no earlier than thirty (30) Days, following the filing or responsive pleading, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within fifteen (15) Days by both parties of a disinterested third person as mediator, shall be commenced within thirty (30) Days of the submittal, and shall be concluded within fifteen (15) Days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-Day period, any party may petition the court to appoint the mediator.
2. If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with § 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding § 1141.11 of that Code. The Civil Discovery Act (Title 4 (commencing with § 2016.010) of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.
3. Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable

hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

4. In addition to Chapter 2.5 (commencing with § 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.
5. The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

E. Payment on undisputed portion of claim; interest on arbitration awards or judgments for Claims for $375,000 or less (Public Contract Code § 20140.6):

1. No Owner shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.
2. In any suit filed under Public Contract Code § 20104.4, the Owner shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

END ARTICLE 9
of
DOCUMENT 00700

ARTICLE 10 — PROTECTION OF PERSONS AND PROPERTY

10.01 SAFETY PROVISIONS

A. Contractor is solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of work. This requirement applies continuously and is not limited to Normal Hours Of Work. No act, service, drawing or construction review, acceptance or other act by Owner, Owner's Project Inspector, Consultant or any other representative of Owner is intended to include review of the adequacy of Contractor's safety measures at or near the Project Site, at any place of Fabrication, or anywhere else.

B. Contractor must take all necessary precautions on the Work for the safety of its workers, of Owner's employees and the public, and must comply with all applicable Federal, State, and local safety laws and codes to prevent accidents or injury to persons on, about, or adjacent to where the Work is being performed.

C. Contractor must erect and properly maintain at all times, as required by the conditions and progress of the Work, all appropriate safeguards for the protection of workers and the public, and post danger signs warning against construction hazards, such as fire, toxics, pesticides, chemicals, odors, noise, vibration, equipment operations, obstructions, falling objects, falls and all other construction related hazards.

D. Contractor must designate a responsible member of its organization who will be present on the Project Site and who has the duty for prevention of accidents. This person shall be known as the Responsible Person. Prior to starting Work, Contractor must submit a letter to the Owner providing the name and position of the person so designated.

10.02 CONFINED SPACE ENTRY PROGRAM

A. Contractor must comply with all State and Federal OSHA requirements, and all of Owner's requirements regarding entry into confined spaces including but not limited to the following:

1. Before starting any Work, submit for Owners review and acceptance three (3) copies of a Confined Space Entry Program applying to all existing permit-required confined spaces identified by Owner in the Contract Documents, or defined by regulations, and any confined spaces identified or created by Contractor or Owner during the Contract Time. Owner has the right to identify additional spaces to be treated as confined spaces by Contractor at any time during the Contract Time, without changing the Contract Sum or Contract Time if such additional spaces were created by Contractor.

2. Maintain written records of all entries into confined spaces and all activities conducted in confined spaces.

3. Coordinate all entry operations with Owner when both Contractor's personnel and Owner's personnel will be working in or near a confined space in the Project area. Owner will endeavor to give Contractor at least twenty-four (24) hours advance notice of such entry except in unforeseen situations and emergencies.

4. Inform Owner in writing at the conclusion of entry operations regarding the permit space program followed and any hazards confronted or created in permit spaces during entry operations.

10.03 PUBLIC SAFETY AND CONVENIENCE

A. Contractor must provide for the safety of the public during construction and conduct its operations to minimize the amount of work posing potential hazards to the public.

B. Contractor must pave pedestrian openings through falsework or Provide full width continuous wood walks and keep all walkways clear. Contractor must protect pedestrians from falling objects and water runoff. Overhead protection for pedestrians must extend not less than four (4) feet beyond the edge of a structure.

C. Contractor's equipment must enter and leave the Project area via access routes designated or accepted in writing by Owner, and move in the direction of public traffic at all times. All movements on or across public traveled ways must not endanger public traffic.

D. Contractor must immediately remove any spillage, debris, dirt, or mud resulting from hauling operations along or across any public traveled way.

E. Contractor must minimize inconvenience or obstruction to the public. When Contractor's operations create a condition hazardous to the public, Contractor must furnish, erect, and maintain such Temporary Fencing, barricades, lights, signs, and other devices as are necessary for direction of the public or to avoid accidents, damage, or injury to the public. Contractor must furnish such flagmen and guards as are necessary to direct the public or to give adequate warning of any hazardous conditions.

10.04 PROTECTION AND RESTORATION OF PROPERTY

A. California Civil Code § 832 provides requirements relating to notification of adjacent property owners (30-Day notification required) and protection of adjacent property when performing excavation that may adversely impact the lateral and subjacent support to adjoining land or structures. In addition to these requirements and any other requirements imposed by law, Contractor must shore up, brace, underpin, and protect as may be necessary, all foundations and other parts of all existing structures adjacent to and adjoining the site of the Work which are in any way affected by the excavations or other operations connected with the Work pursuant to this Contract. Whenever any notice is required to be furnished by Owner or Contractor to any adjoining or adjacent landowner or other party before commencement of any Work pursuant to this Contract, Contractor must provide such notice. Contractor must indemnify and hold Owner harmless from any damages for which Owner may become liable in consequence of such injury or damage to adjoining or adjacent structures and premises.

B. Contractor must immediately repair any damage, arising from or in consequence of the performance of the Contract, to improvements or property, whether above or below the ground, private or public, within or adjacent to the Project. If, in Owner's opinion, Owner's best interests require such repair to be made before execution of any part of the Work included in this Contract, Owner will so notify Contractor who will delay or discontinue the performance of that part of the Work until the necessary repair has been made. Such delay shall not be considered unavoidable, and no extension of the Contract Time shall be allowed.

C. When Ordered by Owner to make any repair, Contractor must start work thereon within four (4) hours and must prosecute the same with diligence to completion. Upon Contractor's failure to comply with such Order, or upon Contractor's failure to make immediate Emergency repairs which are necessary in the best interests of Owner or the public, Owner may cause such repairs to be made and deduct the costs thereof from any money due, or that may become due to the Contractor.

D. In an Emergency affecting the safety of life or property, including adjoining property, Contractor is authorized to act at its discretion, without special instructions or authorization from Owner, to prevent such threatened loss or injury, and Contractor must act whether or not instructed by Owner. Contractor must maintain adequate protection against damage to life and property involved in Project and on property adjacent thereto until Substantial Completion and must Provide all necessary guards, barricades, night lights, facilities, tools, equipment, materials and other needed or required protective devices.

E. Contractor will until Substantial Completion maintain adequate protection of all its Work and work performed by others pursuant to the Contract Documents from damage, loss, or defacement. Contractor must repair or replace any such damage and remove any damaged or defaced material or equipment from the premises at no extra cost to Owner except as may be due directly to errors in the Contract Documents or caused by Owner.

F. Contractor must ensure the Work site to be free of graffiti or other similar defacements during

the entire Contract Time; if such defacement occurs, the Contractor must promptly remove, repair, or correct the affected area(s). Contractor must protect all exposed finished surfaces within the limits of Work (both temporary and final), with anti-graffiti coatings, and maintain such protection continuously during the entire Contract Time.

10.05 PRESERVATION OF CULTURAL RESOURCES

A. Pursuant to the National Historic Preservation Act of 1966, State laws and County ordinances, the following procedures are implemented to ensure historic preservation and fair compensation to Contractor for construction delays that may occur due to cultural resources discoveries.

B. In the event potentially historical, architectural, archaeological or cultural resources (hereinafter "resources") are discovered during subsurface excavations at the Project Site, the following procedures apply:

1. Owner will issue a "Cultural Resources – Suspend Work Order" Directing Contractor to temporarily suspend all operations at the location of such potential resources.

2. Such "Cultural Resources – Suspend Work Order" will be effective until such time as a qualified Consultant can assess the value of such resources and make recommendations. Any "Cultural Resources – Suspend Work Order" will contain the following:

   a. A description of the potential resource, its location, and the area where Contractor's Work is suspended;

   b. A description of what part or all of Contractor's Work is suspended;

   c. Instructions regarding suspension of orders by Contractor for materials and services;

   d. Guidance regarding action to be taken by Subcontractors;

   e. Estimated duration of the temporary suspension.

3. If the Consultant determines that the potential find is indeed a cultural resource, Owner will, as expeditiously as possible, advise Contractor in writing of the action to be taken regarding the find, and the anticipated time frame and extent of any Work suspension.

4. Adjustment of Contract Time and Contract Sum

   a. If there is an unforeseen cultural resource discovery, Contractor may be entitled to an adjustment of the Contract in accordance with Document 00700, Article 7.06, “Delay and Time Extensions.”

   b. If, as a result of a temporary suspension, Owner agrees that Contractor sustains a loss which could not have been avoided by judicious handling of its forces or equipment, or by redirection of forces or equipment to perform other Work on the Contract, Contractor will be paid for idle time of equipment and labor by Force Account as provided in Document 00700, Article 6.08, “Force Account Work.”

C. Documentation

1. Beginning with the first Day of suspension, and for each following Day, Contractor must maintain detailed hourly records of the labor and equipment idled by such suspension, plus substantiation as to why such labor and equipment could not be used on other parts of the Work if such were the case. Such records must be of a form acceptable to Owner, signed by Contractor, and are subject to verification by Owner.

2. Failure by Contractor to furnish the aforesaid records constitutes a waiver of Contractor's right to an adjustment in the Contract Sum.

END ARTICLE 10
of
DOCUMENT 00700

ARTICLE 11 — INDEMNIFICATION AND INSURANCE

11.01 EXHIBIT B-1

A. Indemnification and insurance requirements are set forth in Exhibit B-1, located in Document 00850, "Indemnification and Insurance Requirements (Exhibit B-1)". Exhibit B-1 is incorporated herein as though set forth in full.

B. The Project's Owner Controlled Insurance Program Manual (OCIP Manual) is attached to Exhibit B-1 and is incorporated herein as though set forth in full.

C. Upon contract award, Contractor and Subcontractors of any tier shall submit an Insurance Cost Worksheet (see Section 8 of the OCIP Manual) to Owner. The Insurance Cost Worksheet will identify the estimated Cost of OCIP Coverages.

11.02 INDEMNIFICATION

A. Contractor agrees to indemnify, defend (with counsel reasonably approved by County) and hold harmless County and its officers, officials, employees, agents and volunteers from and against any and all legal actions, actions, losses, damages, judgments and/or liabilities arising out of this Agreement from any cause whatsoever, including the acts, errors or omissions of any person or entity and for any costs or expenses (including but not limited to attorneys' fees) incurred by County on account of any legal action except where such indemnification is caused by the active negligence, sole negligence, or willful misconduct of the County.

B. The indemnification provisions in this Agreement shall survive any expiration or termination of this Agreement.

END ARTICLE 11
of
DOCUMENT 00700

ARTICLE 12 — UNCOVERING AND CORRECTION OF WORK

12.01 GENERAL

A. Contractor must notify the Owner two (2) Days prior to covering any Work.

B. If a portion of the Work is covered prior to Owner's review, it must, if requested in writing by the Owner, be uncovered for Owner observation and replaced at the Contractor's expense without change in the Contract Time.

12.02 CORRECTION OF WORK

A. Contractor must promptly correct Work rejected by Owner or Work failing to conform to the requirements of the Contract Documents, whether or not Fabricated, Installed or completed. Contractor bears the costs of correcting such rejected Work, including additional testing and inspections required and compensation for Owner services and expenses made necessary thereby. Contractor must submit two (2) copies of a Corrective Action Plan to the Owner by 10 a.m. of the third workday following receipt of a notice of non-conformance from the Owner.

B. Notwithstanding Document 00700, Article 12.02.A, in the event of an Emergency constituting an immediate hazard to the health or safety of Owner's employees, agents, representatives, property, or licensees, or the public, Owner may undertake, at the Contractor's expense and without prior notice, all work necessary to correct such hazardous condition(s) when it was caused by work of the Contractor not being in accordance with requirements of the Contract Documents.

C. Contractor must remove from the Project Site portions of the Work that are not in accordance with the requirements of the Contract Documents, and are neither corrected by the Contractor nor accepted by the Owner.

D. If the Contractor fails to correct nonconforming Work, as per Document 00700, Article12.02.A, or fails to remove nonconforming work, as per Document 00700, Article 12.02.C, Owner may correct or remove the nonconforming Work per Document 00700, Article 12.02.E.

E. If the Contractor does not submit a Corrective Action Plan or proceed with correction or removal of nonconforming Work, within such time fixed by the Contract Documents or written notice from Owner, Owner may remove and store the salvable materials, articles and/or equipment at the Contractor's expense. If the Contractor does not pay all costs of such removal and storage within fourteen (14) Days after written notice, Owner may, upon fourteen (14) additional Days written notice, sell such materials articles and/or equipment at an auction or private sale, and shall account for the proceeds thereof, after deducting costs and damages that would have been borne by the Contractor, including compensation for Owner services and expenses made necessary thereby. If the proceeds of a sale do not cover all costs that the Contractor would have borne, the Contract Sum will be reduced by the deficiency. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor must pay the difference to Owner.

F. Contractor bears the cost of correcting destroyed or damaged Work, which is caused by the Contractor's correction, or removal of Work that is not in accordance with requirements of the Contract Documents, including work performed by Owner or separate contractors that is damaged or destroyed by the Contractor during the Contract Time or Guarantee period.

G. Nothing contained in this Document 00700, Article12.02, "Correction of the Work", establishes a period of limitation with respect to other obligations that the Contractor might have in the Contract Documents. Establishment of the Warranty/Guarantee period(s), as described in Document 00700, Article13.12, "Warranties & Guarantees", relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with requirements of the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct

the Work.

12.03 ACCEPTANCE OF NONCONFORMING WORK

A. Subject to approval by State entities, if Owner prefers to accept any or all of the Work that is not in accordance with requirements of the Contract Documents, Owner may do so instead of requiring its correction and/or removal, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not Final Payment to the Contractor has been made.

END ARTICLE 12
of
DOCUMENT 00700

ARTICLE 13 — SUBSTANTIAL COMPLETION AND ACCEPTANCE

13.01 USE BEFORE SUBSTANTIAL COMPLETION

A. Owner has the right to utilize or place into service any item of equipment or other usable portion of the Work before Substantial Completion of the entire Project. Whenever Owner plans to exercise said right, Owner's Authorized Representative will notify Contractor in writing, identifying the specific portion or portions of the Work to be so utilized or otherwise placed into service, hereinafter referred to as "Use Before Substantial Completion".

B. Until Owner's Authorized Representative issues such written notification, Contractor is responsible for all care and maintenance of all items or portions of the Work.

C. Upon Owner's issuance of written notice of Use Before Substantial Completion, Owner accepts responsibility for the protection and maintenance of all such items or portions of the Work described in the written notice, excepting any injury or damage resulting from Contractor's actions or negligence.

D. Owner's Use Before Substantial Completion does not constitute Acceptance of the Work, or any portion of the Work, by Owner, nor will it relieve the Contractor of responsibility for correcting defective and/or Deficient Work or materials found at any time before Substantial Completion of the Work or during the Guarantee period after Owner's issuance of the Certificate of Substantial Completion.

E. Notwithstanding any Use Before Substantial Completion, Contractor retains full responsibility for fulfillment of all the requirements of the Contract Documents.

F. Should the Owner elect to partially occupy or use portions of the Work prior to Substantial Completion, Contractor must perform final cleaning for those portions of the Work prior to their being so occupied or used.

13.02 CONTRACTOR'S RESPONSIBILITY TO MANAGE INCOMPLETE AND DEFICIENT WORK

.A Pursuant to Section 01 45 16.13, "Contractor's Quality Control (QC) System," the Contractor is responsible for identifying and managing Incomplete and Deficient work. Incomplete and Deficient work includes, but is not limited to,: non-compliance items, re-work items, and non-conforming tests, pursuant to Section 01 45 23, "Testing and Inspection Services"; deficiencies relating to inspections by the AHJ and/or County Representatives, pursuant to Section 01 41 27, "Inspection by the Building Official"; and items of work not complete per the Contract Documents.

.B The Substantial Completion Inspection and Final Inspection will not be conducted until:

.1 The entire Work of the Project is complete;

.2 Cleaning has occurred pursuant to Section 01 74 00, "Cleaning and Waste Disposal"; and

.3 Deficient Work identified in all outstanding non-compliance notices has been corrected.

.C Contractor must include activities for conducting the Substantial Completion Inspection, completion of Punch List, and Final Inspection, in Contractor's Progress Schedule.

13.03 SUBSTANTIAL COMPLETION

.A **Substantial Completion:** The stage in the Project when the Work is deemed to be complete, as confirmed by the Owner, with the exception of only the completion of "Punch List" items (as defined in Section 01 45 16.13, "Contractor's Quality Control Systems") which do not impair the County's ability to occupy and fully utilize the Work for its intended purpose.

.B When the Contractor's Quality Control Manager determines that all Work of the Project is complete, including cleaning (see Section 01 74 00, "Cleaning and Waste Disposal"), the QC Manager must so certify to Owner's Project Manager and request a Substantial Completion Inspection, pursuant to Section 01 45 16.13, "Contractor's Quality Control (QC) System."

.C **Certificate of Substantial Completion**: When the Work or designated portion thereof is substantially complete, the Inspector will recommend to Owner that Owner issue a Certificate of Substantial Completion which shall establish the date of Substantial Completion, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. The Certificate of Substantial Completion shall indicate responsibilities assigned to Contractor and shall be accepted in writing by the Contractor.

.D The assessment of Completion Liquidated Damages will cease accruing as of the date of Substantial Completion.

13.04 SUBSTANTIAL COMPLETION INSPECTION

.A Within seven (7) Days of receipt of Contractor's QC Manager's certification that all Work of the Project is complete, Owner's Authorized Representative, AHJ, Architect of Record, and other staff, will conduct a Substantial Completion Inspection with the QC Manager and the Project Superintendent.

.B If at any point in the performance of the Substantial Completion Inspection, the Owner's Project Manager determines that, based on the progress of the Substantial Completion Inspection, the Incomplete/Deficient work identified is greater in substance, than can be appropriately declared as Punch List (see definition at Part 1.03 of Section 01 45 16.13, "Contractor's Quality Control (QC) System"), then the Work is not complete enough for the Substantial Completion Inspection. Contractor will be so notified in writing. Contractor must complete the Work and re-initiate procedures for another Substantial Completion Inspection. Any costs incurred by Owner for reinitiating the Substantial Completion Inspection may be charged to the Contractor.

.C If the results of the Substantial Completion Inspection are satisfactory to the Owner's Project Manager, Owner's Project Manager will review the Work and, in conjunction with the QC Manager, prepare a Certificate of Substantial Completion accompanied by a list of deficiencies in the completed Work (Punch List.) and issue to the Contractor accordingly. Pursuant to Section 01 45 16.13, "Contractor's Quality Control (QC) System," neither the Owner's preparation of the Punch List, nor any omission from the Punch List of items of incomplete Work, relieves the Contractor from completing all the Work required of the Contract Documents.

13.05 FINAL INSPECTION

.A When the Punch List generated from the Substantial Completion Inspection is complete the QC Manager must certify that the entire Work of the Project, including Punch List, is complete. Upon delivery of such certification to the Owner's Project Manager, and if the Owner's Project Manager agrees with the Contractor's certification, a Final Inspection will occur within ten (10) calendar days of the Contractor's delivery of certification of Final Completion.

.B If Owner's Project Manager determines the Work is deficient, Contractor will again be furnished with a Punch List identifying the observed deficiencies in the Work. After all deficiencies have been corrected, Contractor must initiate procedures for another Final Inspection. If more than two (2) Final Inspections are required any costs to Owner for additional Final Inspections may be changed to the Contractor.

.C If the results of the Final Inspection are satisfactory, the Owner's Authorized Representative will issue the Contractor a Final Completion letter.

.D Contractor's Progress Schedule must include activities for Final Inspection.

13.06 FINAL COMPLETION

.A Pursuant to Section 01 45 16.13, "Contractor's Quality Control (QC) System," the Contractor's QC Manager must certify that the Work is complete. Completion of the Work includes, but is not limited to, submission to and acceptance by the Owner of all Final Completion Submittals. Section 01 77 00, "Closeout Procedures," describes in greater detail the Submittal requirements to achieve Completion. Additionally, all training (except previously-scheduled factory training)

must be completed.

.B Conducting the Substantial Completion Inspection, and Final Inspection, of the Work required of the Project, follows the requirements of Articles 13.04 and 13.05 of this Document 00700 above.

.C The QC Manager's certification also includes the completion of all Punch List work and the correction of all rework.

.D Contractor must submit all documents required by Part 1.10 of Section 01 77 00, "Closeout Procedures."

.E After acceptance of the QC Manager's Final Completion Certification, the Owner's Authorized Representative may issue a Final Completion letter to the Contractor. This letter establishes the date of the Final Completion of the Work of the Project. The assessment of Closeout Liquidated Damages will cease accruing as of the date of Final Completion.

13.07 RECOMMENDATION FOR ACCEPTANCE

.A After establishing Final Completion of the Work, the Owner's Authorized Representative will recommend that Director, General Services formally Accept the Work if the Contractor has satisfactorily:

.1 Corrected all deficiencies observed during the Final Inspection and no new deficiencies have been observed;

.2 Submitted required copies of As-Built Documents;

.3 Submitted required Samples, pursuant to Part 1.07 .F of Section 01 33 00, "Submittal Procedures";

.4 Submitted copies of all documents required by: Article 3.14 of this Document 00700, "Disposal of Materials Outside Project Area"; Section 01 77 00, "Closeout Procedures"; and Article 3.15 of this Document 00700, "Hazardous Materials";

.5 Submitted all other required contract deliverables; and

.6 Accepted and signed the Statement of Final Quantities, reflecting the final contract sum, prepared by the OAR.

.B The CAR must submit the following Project Completion certification prior to Acceptance of the Project:

"I certify that, to the best of my knowledge, all Work of the Project is Complete, including the fulfillment of all administrative requirements of the Contract. I request the Director, General Services accept the project as complete."

(signed)

CAR

13.08 ACCEPTANCE OF THE WORK

.A Acceptance of the Work will be made by the Director, General Services.

.B After the formal Acceptance of the Work, the Notice of Completion will be recorded.

.C Owner's Acceptance establishes conformity with the Contract except for delays in completion, latent defects, fraud, or such gross errors as amount to fraud, willful misconduct, or gross negligence, and subject to any Guarantee and Warranty, express or implied.

.D Determinations by Owner's Authorized Representative that the Work is complete or Acceptance of the Work by the Director of General Services, does not bar any action by the Owner against the Contractor pursuant to Document 00700, Article 13.12, "Warranty & Guarantees"

13.09 FINAL PAYMENT

.A Provided that Owner has recorded a Notice of Completion, thirty-five (35) Days after the date of recording of the Notice of Completion by the County Recorder, Owner's Project Manager will process the request for Final Payment for the Work. Owner will withhold from Final Payment such amounts that are subject to resolution pursuant to Article 9 of this Document 00700, amounts subject to offset/setoff, and all other amounts that must be withheld by law (such as Stop Payment Notice sums and Civil Wage and Penalty Assessments).

.B All estimates and payments made, including the final estimate and payment, are subject to correction and adjustment for clerical errors in the calculations involved in the determination of quantities and payments. Contractor and Owner agree to pay to the other any sum hereby due.

13.10 CONTRACTOR'S DUTIES AND RESPONSIBILITIES AFTER ACCEPTANCE

.A After Acceptance of the Work, Contractor is relieved of the duty of maintaining and protecting the entire Work, and Contractor is not required to perform any further Work thereon, except as otherwise required by law or the Contract Documents.

.B Contractor is relieved of responsibility for injury to persons or property or damage to the Work that occurs after Owner's Acceptance, provided that such injury/damage is not in any way caused by Contractor.

.C Owner's Acceptance does not relieve Contractor of responsibility for faulty materials or workmanship or for complying with any audit findings or requirements or for complying with the requirements of Warranties and Guarantees.

13.11 RETENTION PROCEEDS, WITHHOLDING AND DISBURSEMENT

.A Pursuant to California Public Contract Code § 7107, within sixty (60) Days after the date of "completion" of the Work, the retention withheld by Owner shall be released, subject to all withholds required and authorized by law including Stop Payment Notices and Liquidated Damages (pursuant to California Government Code § 53069.85). In the event of a dispute between Owner and Contractor, Owner may withhold from the Final Payment an amount not to exceed one hundred fifty percent (150%) of the disputed amount.

.B For purposes of release of retention, "completion" means any of the following:

.1 The occupation, beneficial use, and enjoyment of the Project, excluding any operation only for testing, startup, or commissioning, by Owner or an agent of Owner, accompanied by cessation of labor on the Project.

.2 The Acceptance by Owner of the Project.

.3 After the commencement of Work, a cessation of labor on the Project for a continuous period of one-hundred (100) Days or more, due to factors beyond Contractor's control.

.4 After the commencement of Work, a cessation of labor on the Project for a continuous period of thirty (30) Days or more, if Owner records a Notice Of Cessation or a Notice Of Completion with the County Recorder.

.C Subject to Document 00700, Article 13.11.D below, within seven (7) Days from the time that all or any portion of the retention proceeds are received by Contractor, Contractor must pay each of its Subcontractors from whom retention has been withheld, each Subcontractor's share of the retention received. However, if a retention payment received by Contractor is specifically designated for a particular Subcontractor, payment of the retention shall be made to the designated Subcontractor, if the payment is consistent with the terms of the Subcontract. (Public Contract Code §7107(d))

.D Contractor may withhold from a Subcontractor its portion of the retention proceeds if a bona fide dispute exists between the Subcontractor and Contractor. The amount withheld from the retention payment shall not exceed one hundred fifty percent (150%) of the estimated value of the disputed amount.

.E In the event that retention payments are not made within the time periods required by Public Contract Code (PCC) § 7107, the Owner or Contractor withholding the unpaid amounts shall be subject to a charge of two percent (2%) percent per month on the improperly withheld amount, in lieu of any interest otherwise due. Additionally, in any action for the collection of funds wrongfully withheld, the prevailing party shall be entitled to attorney's fees and costs. (PCC § 7107)

13.12 WARRANTY & GUARANTEES

.A Neither the final Acceptance, nor payment, nor any provision in the Contract Documents relieves Contractor of responsibility for faulty materials or workmanship.

.B Contractor must Guarantee all workmanship and materials for the period specified in the technical sections of the Contract Documents (specifications), from and after the Date of Substantial Completion, or for a minimum of one (1) year if not specified in the technical sections.

.C For certain items of Work guaranteed for longer periods of time from the Date of Substantial Completion, Contractor shall be required to furnish a written Guarantee covering said items. The Work to be Guaranteed, the form, and the time limit of the Guarantee will be specified in the Contract Documents. Said Guarantee must be signed and submitted to Owner before Acceptance of the Work.

.D The Warranty/Guarantee period begins at the Date of Substantial Completion.

.E In addition to any other warranties in this Contract, the Contractor warrants, except as provided in Article 13.12J of this Document 00700 below, that work performed under this Contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

.F This warranty shall continue for a period of one (1) year from the date of Substantial Completion of the work.

.G Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner-owned or controlled real or personal property, when that damage is the result of:

.1 Contractor's failure to conform to contract requirements; or

.2 Any defect of equipment, material, workmanship, or design furnished.

.H Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. Contractor's warranty with respect to work repaired or replaced will run for one (1) year from the date of repair or replacement.

.I With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this Contract, the Contractor shall:

.1 Obtain all warranties that would be given in normal commercial practice;

.2 Require all warranties to be executed, in writing, for the benefit of the Owner, if directed by the Owner's Authorized Representative (OAR); and

.3 Enforce all warranties for the benefit of the Owner, if directed by the OAR.

.J Unless a defect is caused by the negligence of the Contractor or Subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Owner nor for the repair of any damage that results from any defect in Owner-furnished material or design.

.K This warranty shall not limit any other legal right the Owner may have under this Contract.

.L Contractor must repair or replace all defective Work, together with any other Work affected by the repair or replacement during said Guarantee period without expense whatsoever to Owner.

.M The aforesaid one-year Warranty/Guarantee period does not in any way limit or waive Owner's rights to legal recourse for latent construction defects, pursuant to California Civil Code of Procedure § 337.15 nor for patent construction defects pursuant to § 337.1.

.N Approximately ninety (90) Days before completion of the entire Work of the Project, Contractor must meet with Owner regarding Warranty/Guarantee requirements. Owner will establish communication procedures for notifying Contractor of Warranty defects, priorities regarding the type of defect, time required for Contractor response, and other details deemed necessary by Owner for execution of the Warranty/Guarantee.

.O If the Contractor fails to remedy any failure, defect, or damage, within five (5) calendar days of Owner's notice, or commence to remedy and proceed with due diligence when the repair cannot be completed within five (5) Days, the Owner may replace, repair or otherwise remedy the failure, defect or damage at the Contractor's expense.

END ARTICLE 13
of
DOCUMENT 00700

ARTICLE 14 — MISCELLANEOUS PROVISIONS

14.01 CONTRACTOR'S USE OF COMPUTER SOFTWARE

.A Contractor certifies that it has appropriate systems and controls in place to ensure that Owner funds will not be used in the performance of this Contract for the acquisition, operation or maintenance of computer software in violation of copyright laws.

14.02 RIGHTS IN LAND AND IMPROVEMENTS

.A Nothing in the Contract shall be construed as allowing Contractor to make any arrangements with any person to permit occupancy or use of any land, structure, or building within the physical limits of the Project for any purpose whatsoever, either with or without compensation, nor act in conflict with any agreement between Owner and any owner, former owner, or tenant of such land, structure, or building.

.B Contractor must not occupy Owner's property outside the Project limits as shown on the Plans or on maps available in Owner's offices, unless Contractor enters into a written agreement with Owner.

END ARTICLE 14

END OF DOCUMENT 00700

SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 - General
    a. 1.01 - Summary
    b. 1.02 - Related Documents
    c. 1.03 – Definitions (Not Used)
    d. 1.04 – Project Description
    e. 1.05 - Summary of Work
    f. 1.06 - Use of Premises
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms (Not Used)

1.02 RELATED DOCUMENTS

A. Drawings and Project Manual apply to this Section.

1.03 DEFINITIONS (Not Used)

1.04 PROJECT DESCRIPTION

A. Project Title: Cachuma Lake RV Site Renewal

B. Project Number: 20033

1.05 Project Description: The project renovates and reconfigures the existing 450,000 SF Cachuma Lake RV park campground.

1.06 SUMMARY OF WORK

A. This Summary describes the work to be bid for this bid package.

B. Project will be constructed under a single prime contract.

C. The scope of Work of this Contract consists of, but may not be limited to the following:

1. Removing and upgrading all sewer, water and electrical utilities, expand fire suppression infrastructure;
2. Demolishing and constructing new reinforced concrete RV pads, paving, trash enclosures and a new comfort station (restroom and shower) facility with added solar panels; and
3. Installing a new WiFi system, irrigated landscaping, natural stone bioswales, campground furnishings and recreational amenities.

D. The intent and meaning of the Contract Documents is that the Contractor, under the General Conditions and other terms of the Contract, shall take all actions necessary and required to provide all labor, materials, supplies, equipment, tools, machinery, utilities, transportation, facilities, services and appurtenances necessary and required for the proper construction and completion of the described Project

1.07 SUMMARY OF WORK, ALTERNATES

A. No alternate work is defined for the base contract.

1.08 USE OF PREMISES

A. Confine operations within the limits of designated construction areas unless otherwise Approved by Owner's Authorized Representative.

B. Confine material storage, shop areas, equipment yards, and employee parking within designated areas unless otherwise Directed by Owner's Authorized Representative.

C. Laydown Area:
   1. Lay down area must be coordinated with and Approved by the Owner's Authorized Representative.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS (Not Used)

END OF SECTION

SECTION 01 23 00

ALTERNATES

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes:
   1. Part 1 – General
      a. 1.01 – Summary
      b. 1.02 – Related Documents
      c. 1.03 – Definitions
      d. 1.04 – Procedures
   2. Part 2 – Products (not used)
   3. Part 3 – Execution
      a. 3.01 – Schedule of Alternates
      b. 3.02 – Acceptance of Alternates
   4. Part 4 – Forms (not used)

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

B. Section 00 41 00, “Bid Form”

1.03 DEFINITIONS

C. **Base Bid** – The amount proposed by the bidders and stated on the Bid Form for the total work of the project without the amounts proposed for the contingent work of the Alternates described by this Specification Section.

D. **Alternate** – An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
   1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
   2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.04 PROCEDURES

E. The amounts proposed for all the Alternates shall be used as a basis upon which the Owner will decide to award the any alternate.

F. In accepting or rejecting the Alternate proposals the Owner reserves the right to choose none, some or all Alternate proposals in any order Owner desires. Additionally, Santa Barbara County reserves the right to take any of the alternates, in any order, or in any combination, as a change order at the bid prices listed for a period of one hundred and twenty (120) Days after the Notice to Proceed is issued.

G. Coordination: Contractor shall revise or adjust affected adjacent work as necessary to completely integrate work of the Alternate into Project.
   1. Contractor shall include in their price for each Alternate miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of Alternate.

H. Notification: Immediately following award of the Contract, Contractor shall notify each party involved, in writing, of the status of each Alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to Alternates.

I. Contractor shall execute accepted alternates under the same conditions as other work of the Contract.

J. Schedule: A schedule of Alternates is included in Part 3 of this Section. Specification Sections referenced in the schedule contain requirements for materials necessary to achieve the work described under each Alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 SCHEDULE OF ALTERNATES (Not Used)

3.02 ACCEPTANCE OF ALTERNATES

K. Determination of successful Bidder:
   1. The Owner will base selection of the lowest and most responsive bidder on the basis of the base bid only.

L. Acceptance of Alternate Proposals:
   1. The Owner reserves the right to select the Alternate Proposals or not at the time of award.
   2. Pricing for the alternate shall remain good for a period of one hundred and twenty (120) Days after the Notice to Proceed is issued.

PART 4 - FORMS (not used)

END OF SECTION

SECTION 01 25 13

PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents
   c. 1.03 – Definitions (Not Used)
   d. 1.04 - General
   e. 1.05 - Submission Requirements
   f. 1.06 - Owner's Action
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms
   a. Form 01630-F1 (Substitution Request Form)

1.02 RELATED DOCUMENTS

A. Document 00200, Article 16, "Substitution of Alternative Materials, Articles, or Equipment"

B. Document 00700, Article 3.30, "Substitutions"

C. Document 00700, Article 6, "Changes in the Work"

1.03 DEFINITIONS (Not Used)

1.04 GENERAL

A. Owner's Authorized Representative MAY consider proposals for Substitution of a service, product, material when such proposals are:

1. Submitted within the time periods stated in the Contract Documents;
2. Accompanied by full and complete technical data;
3. All supporting information requested by Owner's Authorized Representative to substantiate or prove quality, delivery time, and cost are submitted; and
4. Substitution request is accompanied by Substitution Request Form (Form 01630-F1) at the end of this Section 01 25 13, "Product Substitution Procedures", properly completed by Contractor, and properly certified by the Contractor's Authorized Representative. If the Substitution request is a pass through request from a Subcontractor, both Contractor's Authorized Representative and an officer of the Subcontractor with authority to bind the Subcontractor must certify the Substitution request.

B. Substitution requests will not be considered if the Contract Documents provide that the use of the item specified is supported by a finding based on one or more of the reasons stated in Public Contract Code §3400(c).

C. Contractor shall prove the equality of any service, product, material, process or article Contractor proposes for Substitution.

D. The Contractor must not order Substitute services, products, materials, or articles without prior written acceptance of the Substitution by Owner's Authorized Representative.

E. The Owner has the right to reject proposals due to insufficient information.

F. Contractor must certify that proposed Substitution meets or exceed all the requirements of the Contract Documents.

G. Contractor must assume responsibility for Owner's additional costs related to the redesign and/or modifications to any parts of the Work and/or Contract Documents caused by the Substitutions.

H. Contractor's Substitution requests that do not comply with the requirements of the Contract Documents may be returned to Contractor without review.

I. If Contractor's Substitution request is returned without review or returned rejected, Contractor must furnish the originally specified items.

1.05 SUBMISSION REQUIREMENTS

A. Limit each request to one proposed Product Substitution.

B. Submit five (5) copies of each request for Substitution.

C. Identify product or fabrication or installation method to be replaced including Specification Section number and title and Drawing numbers and titles.

D. Include five (5) copies of completed and signed Substitution Request Form 01630-F1, furnished at the end of this Section 012513, "Product Substitution Procedures."

E. Submit the following documentation:

1. Statement indicating why specified material or product cannot be provided.
2. Coordination information including:
    a. A list of changes or modifications needed to other parts of the Work that are necessary to accommodate proposed Substitution.
    b. A list of changes or modifications to work performed by Owner and/or separate contractors that are necessary to accommodate proposed Substitution.
3. Detailed comparison including:
    a. Comparison of significant qualities of proposed Substitution with those of the Work specified. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
4. Drawings to same (or larger) scale as pertinent portions of Contract Documents, marked to show:
    a. How differences will be accommodated.
    b. Complete system/assembly as revised.
    c. Difference(s) in size, configuration, connections, service, accessibility, or any other significant characteristics.

5. Contractor must show complete layout of system unless it is identical to the layout shown in the Contract Documents. Contractor must show unchanged portion to indicate clearances, etc. relative to changed portion.
6. Wherever applicable, include complete detail drawings of supports for all Substitute equipment and complete load calculations for adequacy of support prepared and signed by a California Licensed Professional Engineer.
7. Product Data, including drawings and descriptions of Products and fabrication and installation procedures.
8. Samples, where applicable or requested.
9. List of similar installations for completed projects with project names and addresses and names and addresses of Architects and Owners.
10. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
11. Research/evaluation reports evidencing compliance with building codes in effect for Project from a model code organization acceptable to authorities having jurisdiction.
12. Evidence that proposed product provides specified Warranty.
13. Cost information, including a proposal of change, if any, in the Contract Sum.

F. Submit a detailed comparison of Contractor's Progress Schedule with and without using proposed Substitution showing effect on the Contract Time(s).

G. If specified product cannot be provided within the Contract Time(s), include letter from Manufacturer, on Manufacturer's letterhead, stating the reason(s) for the lack of availability or delays in delivery.

H. Provide Contractor's certification that proposed Substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.

I. Provide Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed Substitution to produce indicated results.

1.06 OWNER'S ACTION

A. If necessary, Owner will request additional information or documentation within fourteen (14) Days of receipt of a request for Substitution.

B. Owner will notify Contractor of acceptance or rejection of proposed Substitution within twenty-one (21) Days of receipt of request, or seven (7) Days of receipt of additional information or documentation, whichever is later. If Owner accepts Contractor's proposed Substitution, Owner may issue a Change Order pursuant to Article 6 of Document 700.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - FORMS

FORM 01630-F1

"SUBSTITUTION REQUEST FORM"

All Substitution requests must be accompanied by the following form, completed by the Contractor, and properly certified.

PROJECT: _____

OWNER'S PROJECT NUMBER: _____

TO: _____

FROM: _____ DATE: _____

RE: _____

SPECIFICATION TITLE: _____

DESCRIPTION: _____

SECTION: _____ PAGE: _____ DOCUMENT/PARAGRAPH: _____

PROPOSEDSUBSTITUTION: _____

MANUFACTURER: _____

ADDRESS: _____

PHONE: _____

TRADENAME: _____ MODELNUMBER: _____

INSTALLER: _____

ADDRESS: _____

PHONE: _____

HISTORY: ☐ New Product ☐ 2-5 Years Old ☐ 5-10 Years Old ☐ More Than 10 Years Old

SIMILAR INSTALLATION:

Project: _____ Architect: _____

Address: _____ Owner: _____

Date Installed: _____

Differences between proposed substitution and specified product:

_____

_____.

Required point-by-point comparative data attached. ☐ Yes ☐ No

The supporting data attached consists of ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐Reports ☐ Other

---

Proposed substitution affects other parts of Work: ☐ No ☐ If Yes, please explain: _____

_____

Reason for not providing specified item: _____

☐ Savings ☐ Cost to Owner for accepting substitution: $_____

Proposed Substitution changes Contract Time. ☐ No ☐ Yes _____ Days

---

THE UNDERSIGNED CERTIFIES:

1. Proposed Substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
2. Same Warranty will be provided for proposed Substitution as for specified product.
3. Same maintenance service and source of replacement parts, as applicable, is available.
4. Proposed Substitution will have no adverse effect on other trades and will not affect or delay progress as indicated on the current version of the Official Progress Schedule.
5. Cost and time data as stated above is complete and accurate
6. Contractor and, if applicable, Subcontractor waives right to Claim for additional costs and time related to accepted Substitution, which may subsequently become apparent.
7. Proposed Substitution does not affect dimensions and functional clearances.
8. Coordination, installation, and changes in the Work as necessary for accepted Substitution have been or will be performed in all respects.

Contractor's Certification (to be completed by Contractor's Authorized Representative):

Submitted by:_____ Signed by: _____

Firm:_____ Phone: _____

Address: _____

Subcontractor's Certification:

Submitted by:_____ Signed by: _____

Firm:_____ Phone: _____

Address: _____

List Attachments:

DESIGNER OF RECORD REVIEW AND ACTION

Substitution Recommended - Make Submittals in accordance with Section 01 33 00, "Submittal Procedures".

Substitution Recommended as Noted - Make submittals in accordance with Section 01 33 00, "Submittal Procedures".

Substitution Rejected - Use specified Products.

Substitution Request Received too late - Use specified Products.

Signed by: _____ Date: _____

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ Architect _____

_____

_____

OWNER'S ACTION

Substitution Accepted - Make submittals in accordance with Section 01 33 00, "Submittal Procedures".

Substitution Accepted as Noted - Make submittals in accordance with Section 01 33 00, "Submittal Procedures".

Substitution Rejected - Use specified Products.

Substitution Request Received too late - Use specified Products.

Signed by: _____ Date: _____

Owner's Authorized Representative

END OF SECTION

SECTION 01 29 00.2

PAYMENT PROCEDURES FOR PROJECTS WITH COST-LOADED SCHEDULE REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 - General
    a. 1.01 - Summary
    b. 1.02 - Related Documents And Sections
    c. 1.03 – Definitions
    d. 1.04 – Cost Breakdown
    e. 1.05 – Payment for Materials On-hand
    f. 1.06 –Payment Requests
    g. 1.07 - Payment Request Form and Submission
    h. 1.08 – Administrative Submittals Required With Payment Requests
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms
    a. Cost Breakdown Form 012900 - 2 F-1

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00700, "General Conditions," Article 8, "Payments"
B. Section 01 32 00.4, "Construction Progress Documentation"
C. Section 01 45 16.13, "Contractor's Quality Control (QC) System"

1.03 DEFINITIONS

A. **Cost Breakdown** – a document differentiating among costs of labor, materials, equipment, supplies, overhead (including general conditions costs), and profit for the total Contract Sum. Also referred to as a Schedule of Values.

B. **Materials On Hand** – large items of equipment or construction materials specially manufactured or ordered for the Project which have been delivered to the Project Site, are protected in accordance with the Contract Documents, and are not yet ready for Installation in the Project.

1.04 COST BREAKDOWN

A. Contractor shall coordinate preparation of the Cost Breakdown with preparation of the Contractor's Baseline Schedule. The Cost Breakdown must cover and be cross-referenced to the activities on the Official Progress Schedule. The Cost Breakdown will be used in coordination with the Official Progress Schedule and as a basis for progress payments. Contractor shall:

1. Correlate line items in the Cost Breakdown with other required administrative forms and schedules including payment request forms.

2. Submit the Cost Breakdown to the Owner as required by and in accordance with Section 01 32 00.4, "Construction Progress Documentation."

3. List construction costs according to CSI Divisions. Separately list work not eligible for State Financing. Owner and Construction Manager will identify those costs which are not eligible for State Financing.

B. The Cost Breakdown must differentiate among costs of labor, materials, equipment, supplies, overhead (including general conditions costs), and profit.

1. Mobilization cost and payment thereof is governed by Document 00700, Article 8.02 .C, "Mobilization Costs." Separate mobilization costs must not be shown on the Cost Breakdown. (See Document 00700, Article 1.01 .B for definition of Mobilization.)

2. Contractor shall identify in the Cost Breakdown any large items of equipment or construction materials specially manufactured or ordered for the Project for which, after delivery, Contractor intends to request payment pursuant to Part 1.05 of this Section 01 29 00.2. Contractor shall further state whether Contractor intends to store off-site any such items of equipment or materials.

C. Except as Directed by the Owner, Submittal activities, Shop Drawing activities, and other similar general conditions administrative or engineering activities must not be cost loaded.

D. Contractor shall submit Cost Breakdown information, as appropriate, for each activity on the Official Progress Schedule. Costs must be broken down, organized and formatted as shown on Cost Breakdown Form 012900 - 2 F-1 at the end of this Section 01 29 00.2 , "Payment Procedures" or any other form acceptable to the Owner's Authorized Representative that provides the required breakdown of values for each activity.

E. Each Subcontractor's activities must be separately identified on Cost Breakdown Form 012900 - 2 F-1. The sum of the labor, materials, equipment, overhead and profit values for the Work of each Subcontractor identified on the Cost Breakdown Form must equal the value of the Subcontract between the Contractor and the Subcontractor indicated.

F. The sum of the values of the Contractor's activities on Cost Breakdown Form plus the sum of the values of the Subcontractors activities on the Cost Breakdown Form 012900 - 2 F-1 must equal the Contract Sum for the Project.

G. Overhead (including general requirements costs), and profit must be proportionally prorated overall cost loaded activities as a fixed percentage of the value of each activity.

H. A Cost Breakdown may be rejected if in Owner's opinion any item is unbalanced.

I. After the County accepts the Contractor's Cost Breakdown, the Contractor cannot change the Cost Breakdown values without the express written approval of the Owner's Authorized Representative.

J. The Cost Breakdown will be used in coordination with the Official Progress Schedule as the basis for progress payments.

1.05 PAYMENT FOR MATERIALS ON HAND

A. Materials On Hand, whether at the Project Site or stored off-site, must be collected together, separated from other materials, clearly identified as property of Owner, and accessible to Owner at all reasonable times for examination or other legal purposes.

B. For Materials On Hand to be considered for payment Contractor must request payment for them on Owner furnished or Owner Approved forms and include any accompanying documentation required by Owner. Contractor must submit to Owner four (4) copies of its request for payment for Materials On Hand not later than ten (10) Days prior to the end of the payment request period. Contractor must attach to the original payment request evidence of purchase (and warehouse receipt when required) any other accompanying documentation required by the Owner. The Contractor must certify in writing that the subject Material on Hand meets the requirements of the Contract Documents.

C. The Contractor must submit and the Owner must have accepted all shop drawings and submittals for the Materials On Hand prior to the Contractor's request for payment for said Materials On Hand.

D. Contractor may request payment only for those Materials On Hand which were identified in the Cost Breakdown pursuant to Part 1.04 .B .2 of this Section 01 29 00.2 and which Owner approved for payment pursuant to this Part 1.05. At sole discretion of the Owner's Authorized Representative, Materials On Hand may include acceptable materials stored at off-site locations.

E. For Materials On Hand, stored off-site, Contractor must provide:

1. Bill of Sale from the manufacturer for the materials stored off-site.
2. Warehouse receipt that is a complete list and inventory of materials manufactured, stored, and delivered to the storage site.
3. Receipts for materials removed from the off-site storage facility and delivered to the Project site.
4. Written consent from Contractor's surety to Contractor's request for payment for materials stored off-site.

1.06 PAYMENT REQUESTS

A. The cut-off date (last day) for each payment request is the last day of the month or as otherwise Directed by the Owner.

B. The period of construction Work covered by each payment request is the period beginning the first day of the payment request period and ending with the last day of the payment request period.

C. Before the end of each payment request period, Contractor's Authorized Representative and Owner's Authorized Representative will jointly review Contractor's estimate of items of Work completed and acceptable Materials On Hand for which Contractor is requesting payment. The joint review (job walk) will occur at the Project Site.

D. Prior to the joint review, Contractor must provide Owner with four (4) copies of a progress estimate worksheet showing each activity on the Official Progress Schedule that has been started but is not yet complete. The worksheet will be used during the joint review to document the actual physical percentage complete of each started but uncompleted activity.

E. After the joint review, Contractor must prepare on Owner furnished or Owner Approved forms a formal request for payment. Four (4) copies the formal request for payment must be submitted to the Owner no later than one day after the end of the payment period.

F. With the formal request for payment, Contractor must provide four (4) copies of an updated Cost Breakdown, showing the total value, percentage completed, and earned value of each item. The updated Cost Breakdown must be submitted to Owner on Owner-furnished or Owner Approved forms.

G. The Contractor must submit with each payment request a progress narrative report. The report must describe in narrative form general construction progress to-date; whether the project is on-schedule to meet the current contract completion date; if the project is behind schedule the report must describe factors that are causing delay; any anticipated delaying factors and their potential impact.

H. Payment will be due to Contractor thirty (30) Days after receipt by Owner of a properly prepared payment request from the Contractor.

1.07 PAYMENT REQUEST FORM AND SUBMISSION

A. For each payment request, Contractor shall use forms as furnished or Approved by the Owner.

B. Contractor shall complete every entry on form.

C. All amounts billed must be submitted as whole dollar amounts.

D. A person authorized to sign legal documents for Contractor and bind the Contractor must sign the formal payment request. The Quality Control Manager must certify the payment request in accordance with Section 01 45 16.13.

E. The Owner will return incomplete applications "Returned Without Action."

F. Entries must match data on the Approved Cost Breakdown.

G. Contractor's payment requests shall include amounts of executed Change Orders as separate line items in the Cost Breakdown.

H. Contractor shall submit the signed original and three (3) copies of each payment request to the Owner by a method ensuring receipt by Owner within 24 hours.

1.08 ADMINISTRATIVE SUBMITTALS COINCIDING WITH PAYMENT REQUESTS

A. Administrative actions and Submittals that must coincide with submittal of each payment request include the following:

1. Certified Payroll (Must be submitted within ten (10) Days from payment period end date);
2. Updated (As-Built) Record Documents (Must be updated prior to payment period end date);
3. Updated Official Progress Schedule (Must be submitted with request for Progress Payment);
4. Earned Value statement based on Updated Official Progress Schedule and approved Cost Breakdown (Must be submitted with payment request);
5. Updated Procurement Status Log (Must be submitted with payment request);
6. Updated Submittal Log (Must be submitted with payment request);
7. Monthly Report, pursuant to Part 1.06 .G above (Must be submitted within three (3) days from payment request period end date); and
8. Conditional or Unconditional Waiver and Release on Progress Payment monthly for all Subcontractors and suppliers with Preliminary Notices, pursuant to Civil Code § 9300.

B. Final Payment Request:

1. Submit, on forms furnished or Approved by the Owner, one signed original and three (3) copies of a final payment request with any supporting documentation not previously submitted and accepted, including, but not limited, to the following:
   a. Evidence of completion of Project closeout requirements.
   b. Evidence that claims have been settled.
   c. Other documents as required by the Owner.
   d. All permits and approvals complete.
   e. Removal of temporary facilities and site cleaned.
   f. Warranties/Guarantees received.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS

COST BREAKDOWN FORM 012900 - 2 - F1

CONTRACTOR:
ADDRESS:
BID PACKAGE:
CONTRACT NUMBER:

CONTRACTOR/ SUBCONTRACTOR	*ACTIVITY NUMBER	ACTIVITY DESCRIPTION	LABOR $	MATERIAL $	EQUIPMENT $	**SUBCONTRACTOR OVERHEAD & PROFIT @ FIXED %	**CONTRACTOR OVERHEAD & PROFIT @

*Activity Number from Official Progress Schedule
**Overhead (including general requirements costs), and profit must be proportionally prorated overall cost loaded activities as a fixed percentage of the value of each activity.

END OF SECTION 01 29 00.2

SECTION 01 31 19

PROJECT MEETINGS

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:
   1. Part 1 – General
      a. 1.01 – Summary
      b. 1.02 – Related Documents
      c. 1.03 – Definitions
      d. 1.04 – Project Meetings
   2. Part 2 – Products (Not Used)
   3. Part 3 – Execution (Not Used)
   4. Part 4 – Forms (Not Used)

1.02 RELATED DOCUMENTS

A. Section 01 32 00.4, "Construction Progress Documentation"

B. Section 01 45 16.13, "Contractor's Quality Control (QC) System"

C. Section 01 50 00, "Temporary Facilities and Controls"

D. Section 01 74 20, "Solid Waste Management and Recycling Plan"

E. Section 01 77 00, "Closeout Procedures"

F. Section 01 91 13.2, "General Commissioning Requirements"

1.03 DEFINITIONS

A. **Decision/Action Tracking Report** – A report prepared by the Contractor or the Owner's Authorized Representative recording all actions, commitments, and decisions (items) made at various Project Meetings and conferences. At a minimum, the report must track the name of the person responsible for the item, a description of the required action or decision, the initiation date of the item, the due date for the item, actual completion date of the item, and the current status of the item.

1.04 PROJECT MEETINGS

A. General

   1. Contractor must inform participants of date and time of each meeting and preside at all required meetings throughout progress of the Work unless otherwise directed by Owner's Authorized Representative.

   2. Contractor must attend all meetings as required by the Contract Documents. Contractor must send to all meetings any personnel whose presence is either required by the Contract Documents or requested by Owner or Owner's Authorized Representative.

   3. Contractor must attend and/or conduct additional meetings as Directed by the Owner's Authorized Representative.

4. Meetings and conferences will be conducted at the Project Site in the Contractor's on-site temporary job trailer, unless otherwise indicated or required by Owner's Authorized Representative.
5. Contractor must prepare and distribute meeting minutes as required by other Sections of the Project Manual or this Section 01 31 19.
6. Whether or not Contractor is responsible for the meeting minutes, Contractor must maintain notes from all meetings and conferences in the form of a Decision/Action Tracking Report.

B. Preconstruction Conference

1. The Owner's Authorized Representative will schedule and conduct a Preconstruction Conference prior to the issuance of the Notice to Proceed by the Owner's Authorized Representative.
2. Conference will be held at Project Site or another convenient location designated by Owner's Authorized Representative.
3. Participants:
   a. Construction Manager
   b. Owner's Authorized Representative
   c. Owner's Project Inspector
   d. Design Professional of Record
   e. Contractor's Authorized Representative (Mandatory Attendance Required)
   f. Contractor's QC Manager (Mandatory Attendance Required) (See Section 01 45 16.13, "Contractor's Quality Control (QC) System")
   g. Subcontractors (Mandatory Attendance Required)
   h. Appropriate Manufacturers
   i. Appropriate Suppliers
   j. Other interested parties
   k. Authority Having Jurisdiction (AHJ)
4. All participants, at the conference, must be familiar with Project and authorized to make binding decisions.
5. Agenda: Items of significance to be discussed at the Preconstruction Conference include:
   a. Introductions
   b. Notice To Proceed (NTP)
   c. Direction From The Owner
   d. Emergencies
   e. Required Notifications
   f. Contractor Quality Control (QC) System
   g. Testing and Inspection Laboratory
   h. Coordination
   i. Normal Hours Of Work
   j. Workplace Environment
   k. Use of Project Site
   l. Security

m. Disruption of Owner's Normal Operations
n. Use Of Owner's Facilities
o. Temporary Facilities and Controls
p. Accepting Material Deliveries
q. General Correspondence
r. Additional Detailed Instructions
s. Field Modifications
t. Requests For Information (RFI)
u. Change Orders
v. Progress Payments
w. Submittals (List of Owner's Submittal reviewers) (See Section 01 33 27.2, "Submittal Log and Submittal Distribution")
x. Record Documents
y. Owner Furnished Contractor Installed (OFCI) Equipment
z. Procurement Issues
aa. Project Meetings
bb. Permits
cc. Subcontractor Issues
dd. Waste Management and Recycling Requirements
ee. Permanent Utilities
ff. Progress Cleaning
gg. Environmental Issues
hh. Schedule
ii. Liquidated Damages
jj. Insurance

6. The Owner's Authorized Representative will prepare an agenda and, after the meeting, issue meeting minutes of the Preconstruction Conference and distribute minutes to the attendees.

C. Schedule Orientation Meeting (See Section 01 32 00.4. "Construction Progress Documentation")

1. The Owner's Authorized Representative will prepare an agenda and after the meeting, issue meeting minutes of the Schedule Orientation Meeting and distribute minutes to the attendees.

D. Quality Control Meetings

1. Contractor must conduct and take minutes of all meetings required by Section 01 45 16.13, "Contractor's Quality Control (QC) System", including but not limited to:

a. Coordination and Mutual Understanding Meeting (See Section 01 45 16.13, "Contractor's Quality Control (QC) System")
b. Recurring QC Meetings (See Section 01 45 16.13, "Contractor's Quality Control (QC) System")
c. Preparatory Phase Meetings (See Section 01 45 16.13, "Contractor's Quality Control (QC) System," Three Phases of Control)
d. Work Phase Meetings (See Section 01 45 16.13, "Contractor's Quality Control (QC) System")

E. Progress Meetings

1. Owner's Authorized Representative will establish a schedule of construction Progress Meetings. The frequency of these Progress Meetings shall be at the discretion of Owner's Authorized Representative, and shall be no more often than once each week. Contractor must attend Progress Meetings at the times and locations scheduled. The Progress Meetings will be located on-site in the East Wing Capital Projects office unless the Owner's Authorized Representative approves an alternate location.
2. Attendees:
    a. Construction Manager
    b. Owner's Authorized Representative
    c. Owner's Project Inspector
    d. Contractor Authorized Representative
    e. QC Manager (See Section 01 45 16.13, "Contractor's Quality Control (QC) System")
    f. Appropriate Subcontractor(s)
    g. Appropriate Suppliers
    h. Authority Having Jurisdiction
    i. Other entities concerned with current progress or involved in planning, coordination, or performance of future activities must be represented at these meetings.
3. Agenda:
    a. Review and update meeting minutes from previous Progress Meeting
    b. Schedule Review
        1. Review progress since the last meeting
        2. Compare current progress against Official Progress Schedule
        3. Determine how construction behind schedule will be expedited
        4. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    c. Review present and future needs of each entity present, including the following:
        1. Interface requirements
        2. Sequence of operations
        3. Status of Submittals
        4. Status of key deliveries
        5. Status of off-site fabrication
        6. Site access issues
        7. Site utilization
        8. Temporary facilities and controls
        9. Normal Hours of Work
    d. Progress cleaning
    e. Change Orders.
    f. Review updated reports:
        1. Submittal Log
        2. Procurement Status Log
        3. RFI Log
        4. Testing Plan and Log

5. Short Interval Schedule

4. The Owner's Authorized Representative, or designee will conduct the meeting, record and issue meeting minutes, and distribute meeting minutes to all attendees.

5. Closeout Conference (See Section 01 77 00, Part 1.04, "Closeout Conference")

F. Commissioning Meetings (See Section 01 91 13.2, "General Commissioning Requirements")

G. Demonstration and Training Meetings (See Section 01 79 00.2, "Demonstration and Training")

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS (Not Used)

END OF SECTION

Section 01 32 00 .4

CONSTRUCTION PROGRESS DOCUMENTATION
COST-LOADED CPM

PART 1 - GENERAL

1.01 SUMMARY

A. **THIS SECTION INCLUDES:**

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents And Sections
   c. 1.03 - Definitions
2. Part 2 – Products
   a. 2.01 - Scheduling Software
3. Part 3 – Execution
   a. 3.01 - CPM Progress Schedule
   b. 3.02 - Schedule Orientation Meeting
   c. 3.03 - Preliminary Contract Schedule
   d. 3.04 - Baseline Schedule
   e. 3.05 - Official Progress Schedule
   f. 3.06 - Monthly Update of the Official Progress Schedule
   g. 3.07 - Revised Official Progress Schedule
   h. 3.08 - Short Interval Schedule
   i. 3.09 - Recovery Schedule
   j. 3.10 - Cost Breakdown
   k. 3.11 - Time Extensions
   l. 3.12 - Submittal Logs
   m. 3.13 - Project Reports
4. Part 4 – Forms (Not Used)

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00100, Notice to Bidders
B. Document 00700, Article .3.24, "Official Progress Schedule"
C. Document 00700, Article 7.06, "Delay and Time Extension"
D. Document 00700, Article 8.02, "Progress Payments"
E. Document 00700, Article 13.07, "Recommendation for Acceptance"
F. Document 00800, Article 2, "EIR Mitigation Measures & Monitoring Responsibilities"
G. Section 01 29 00.2, "Payment Procedures"
H. Section 01 29 00.2, Part 1.04, "Cost Breakdown"
I. Section 01 31 00.2, "Project Management and Coordination"
J. Section 01 31 19, "Project Meetings"
K. Section 01 33 00, "Submittal Procedures"
L. Section 01 91 13.2, "General Commissioning Requirements"

1.03 DEFINITIONS

A. **Baseline Schedule -** The Contractor's initial CPM Progress Schedule presenting an orderly and realistic plan for completion of the entire Work of the Project. When accepted by the Owner's

Authorized Representative, the Contractor's Baseline Schedule becomes the initial version of the Official Progress Schedule. The Baseline Progress Schedule is prepared in chart or graph format, consistent in all respects with the Contract Time(s) and order of Work, with sufficient detail to show the chronological relationship of all activities of the Project including, but not limited to, planned starting and completion dates of various activities, submittal of Shop Drawings and Product Data, procurement of materials and equipment, and deliveries of materials and equipment.

B. **CPM Progress Schedule** – The Contractor's Progress Schedule prepared in CPM Precedence format using the scheduling software required by Section 01 32 00.4, Part .2.01, "Scheduling Software."

C. **Critical Path -** The set or sequence of predecessor/successor activities which will take the longest time to complete. The duration of the critical path is the sum of the activities' durations along the path. Thus, the critical path can be defined as the longest possible path through the "network" of project activities. The duration of the critical path represents the minimum time required to complete a project. Any delays along the critical path would imply that additional time would be required to complete the project.

D. **Float** – The number of work/calendar days an activity can be delayed without impacting the project completion date. The Project "owns" float.

E. **Official Progress Schedule** - The Contractor's Progress Schedule and all revisions and updates thereto, accepted by the Owner, in accordance with the requirements of the Contract Documents.

F. **Preliminary Contract Schedule -** The Contractor's CPM Progress Schedule presenting its detailed sequence of early operations including procurement of materials and equipment for a minimum of ninety (90) Days from the official Contract start date stated in the Notice to Proceed. The Preliminary Contract Schedule must also present Substantial Completion and all sequences, and activities occurring during the entire Contract Time that are specifically required by the Contract Documents to be shown on the Contractor's Preliminary Contract Schedule.

G. **Recovery Schedule –** Contractor's detailed schedule indicating how Contractor intends to recover lost time.

H. **Revised Official Progress Schedule –** Contractor's written request to revise the current version of the Official Progress Schedule. If the Owner accepts the Contractor's request to revise the Official Progress Schedule, it becomes the new current version of the Official Progress Schedule.

I. **Short Interval Schedule -** The Contractor's four-week schedule showing the past week, the week submitted, and two weeks thereafter. The Short Interval Schedule must correlate with the current version of the Official Progress Schedule and reference the appropriate activity numbers. The Short Interval Schedule must indicate the actual start and finish dates of all activities on the Official Progress Schedule that are started or finished during the time period encompassed by the Short Interval Schedule.

J. **Updated Official Progress Schedule –** The current version of the Official Progress Schedule updated to include the actual start and finish dates of activities and the percentage of completion of each activity. Actual start and finish dates must be identical to the actual start and finish dates indicated on the Contractor's Short Interval Schedule submissions.

K. **Network Window** – Also known as "fragnets" or "hammocks", Network Windows must be provided as needed to 'explode' a section of the Official Progress Schedule to show the effects of proposed changes or delays to the schedule.

PART 2 - PRODUCTS

2.01 SCHEDULING SOFTWARE

A. Contractor must use the most current version of Primavera project planning software or equal to produce the CPM Progress Schedule. All CPM Progress Schedules must be produced using the Precedence Diagramming Method (PDM).

PART 3 - EXECUTION

3.01 CPM PROGRESS SCHEDULE

A. General Requirements

1. Personnel preparing CPM Progress Schedules must be qualified and experienced in using Primavera Project Planner software or equal to prepare Critical Path Method ("CPM") schedules and must be capable of producing the schedules and reports required by this Section. Within seven (7) Days after the official Contract start date stated in the Notice to Proceed, Contractor must submit for Owner acceptance, two (2) copies of the qualifications of Contractor's proposed scheduler including references from the owner on the last three (3) recent projects where the proposed scheduler prepared the required project schedules.
2. Contractor must use scheduling software as required by Section 01 32 00.4, Part 2.01, "Scheduling Software."
3. Contractor must provide Owner with four (4) copies (plots) of each schedule submission and electronic copies of the schedule data files on Compact Disks (CDs). The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.
4. The Project Time for completion of the entire Project must adhere to the start and finish times stated in the Contract Documents, unless Contractor formally requests and Owner's Authorized Representative Approves in writing earlier (advanced) time(s) of completion. Approval of such request shall be at Owner's discretion and must be in the form of a Change Order.
5. Float Time is not for the exclusive benefit of either Contractor or Owner. Contractor must ***not*** include contingency activities or any techniques that sequester Float.
6. Failure of the Official Progress Schedule to include an element of the Work required for performance of this Contract, or inaccuracy in Official Progress Schedule, will not relieve Contractor from responsibility for accomplishing all the Work required and will not constitute grounds for delay.
7. Failure of Contractor to substantially comply with requirements of this Section 01 32 00.4 will constitute a failure by Contractor to prosecute Work with such diligence as will ensure its completion within Contract Time(s) and may be considered grounds for termination or other remedy by Owner pursuant to terms of this Contract.

3.02 SCHEDULE ORIENTATION MEETING

A. Within fourteen (14) Days of the official Contract start date stated in the Notice to Proceed, Owner's Authorized Representative will conduct a Schedule Orientation Meeting to review the requirements of the Contract Documents for preparing, submitting, updating, and revising the various Project schedules. This is a separate meeting from the Preconstruction Conference and is dedicated exclusively to discussions about the scheduling requirements for the Project.

B. Contractor must review the requirements of the Contract Documents related to scheduling prior to the meeting and be prepared to discuss its general approach to meeting the requirements. This meeting must be attended by:

1. Owner's Authorized Representative or designee.
2. Contractor's Authorized Representative and scheduler.
3. Contractor's QC Manager (See Section 01 45 16.13, Part 1.08 .A.)

4. Representatives from Subcontractors as needed.
5. Any other personnel deem advisable to attend by Owner or Contractor.

C. The following items will be reviewed and discussed during the meeting:

1. Qualifications of Contractor's scheduler.
2. Schedule preparation and submission requirements.
3. Level of involvement of Subcontractors in the schedule development effort.
4. Resource loading.
5. Schedule updates.
6. Schedule revisions.
7. Recovery Schedules
8. Short Interval Schedules (SIS).
9. Cost Breakdown and activity cost loading.
10. Definable Features of Work (DFOW).
11. Payment for Mobilization.
12. Establishing the time element of Change Orders.
13. Monthly Earnings Forecast.
14. Interface Flags.
15. County Holidays and Hours of Work.
16. Technical Scheduling Requirements.
17. Data exchange and communication.

3.03 PRELIMINARY CONTRACT SCHEDULE

A. No later than twenty-one (21) Days after the start date for the Work stated in the Notice to Proceed, Contractor must submit four (4) prints (plots) of a Preliminary Contract Schedule and corresponding electronic date files on compact disks (CDs).

B. The Preliminary Contract Schedule must be a time-scale, cost and resource loaded, precedence CPM diagram. The data/status date for the Preliminary Contract Schedule must be the first day of the Contract Time as stated in the NTP.

C. The Preliminary Contract Schedule must include:

1. The Contractor's general plan of Work in accordance with Substantial Completion, and the Project Time(s) stated in the Contract Documents.
2. Details of Contractor's planned mobilization.
3. Sequence of early operations including procurement of materials and equipment for a minimum of ninety (90) Days from the official Contract start date stated in the Notice to Proceed.
4. All mandatory activities, sequences, and durations required in the Contract Documents including, but not limited to,:

a. A start date from the Notice to Proceed. (Section 01 32 00.4 Part .3.04 .C .35)

b. An activity for verification of all existing conditions and dimensions. (Section 01 71 23, Part 1.04 .C)

c. An activity for installation of temporary site enclosure fence. (Section 01 56 26, Part 1.04 .A)

d. An activity for installation of Temporary Offices for County's Representatives. (Section 01 52 14)

e. All pre-construction submittals.

D. Owner's Authorized Representative will review the Preliminary Contract Schedule for conformance with the requirements of the Contract Documents. Owner's Authorized Representative will return the Preliminary Contract Schedule with comments within twenty-one (21) Days after receipt.

E. Contractor must use the Owner accepted Preliminary Contract Schedule with Owner's comments as the basis for the Baseline Schedule submission. Unless otherwise requested by the Contractor and approved in writing by the Owner's Authorized Representative, the activities, durations, and logic that appear in the Owner accepted Preliminary Contract Schedule must remain unchanged in the Baseline Schedule submission.

3.04 BASELINE SCHEDULE

A. Within sixty (60) Days from the official Contract start date stated in the Notice to Proceed, Contractor must submit a Baseline Schedule presenting an orderly and realistic plan for completion of the entire Work of the Project including consideration of and compliance with Substantial Completion and Final Completion, activity sequencing, activity durations, and other scheduling restrictions imposed by the requirements of the Contract Documents. The Baseline Schedule submittal must include four (4) schedule prints (plots) and corresponding electronic data files on Compact Disks (CDs). The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.

B. All Listed Subcontractors must sign a copy of the Baseline Schedule and provide a letter transmittal indicating they have reviewed and accepted the Baseline Schedule.

C. The Baseline Schedule submission must include and/or comply with the following minimum requirements:

1. Provide a time scaled, cost loaded CPM schedule in precedence format, with the Critical Path highlighted. No more than 15% of activities can be critical or "near critical." "Critical" is defined as having zero calendar days of Total Float, and "Near Critical" is defined as having 1-5 calendar days of Total Float.

2. Show the plan for completion of the Work within the time(s) specified. Each activity must be coded to Substantial Completion or Final Completion.

3. Provide a list identifying all imposed constraints (restraints). Activity constraints must be limited to constraints imposed by the Contract Documents unless otherwise specifically approved in writing by the Owner's Project Manger.

4. Include all mitigation measures and monitoring activities in accordance with Table ES-1 included in Document 00800, Article 2.

5. Activity Calendars:

a. Indicate all activity calendars used.

b. All activity calendar(s) must identify workdays, holidays, and shift work (by trade).

c. All activity calendar(s) must include:

1. All work hour restrictions including but not limited to CEQA requirements, anticipated weather delays, and restriction imposed by local Governmental Agencies.
2. All workday activity calendars must have the same holidays unless approved in writing by the Owner's Project Manager.
3. All activity calendars must cover entire Contract Time.
4. The global seven-day/week activity calendar must have no non-work days.

d. Each Activity must be assigned to the appropriate Activity Calendar.

6. Substantial Completion and Final Completion must be shown on the date(s) identified in the Contract Documents and must be attached to a seven-day/week activity calendar. The seven-day/week activity calendar must have no non-work days.
7. Include dependencies (relationships) and logic ties between activities.
8. Open-ended activities are not permitted.
9. Unless otherwise Approved in writing by Owner's Authorized Representative, no single activity on the schedule shall have a duration longer than fifteen (15) workdays, except for fabrication, procurement, Punch List, and equipment commissioning (run-in) activities.
10. Schedules which show negative Float will not be accepted by the Owner, nor will negative Float be a basis for time extensions for Change Order activities, except for those activities shown on the Critical Path.
11. Float is owned by the Project. Float is administered by the Owner. No time extensions to the Contract Time will be granted unless a delay occurs which impacts the Critical Path and consumes all available Float.
12. Activity durations shall be the total number of actual days required to perform each activity. The consideration of weather impact on completion of the Work must be included in the associated activity calendar and not included in individual activity durations.
13. No single activity shall have more than one Subcontractor responsible for its performance.
14. Each Activity will include (1) a description of what work is occurring, and where; (2) Calendar day duration; and (3) Responsibility code to identify who performs the activity.
15. For Subcontractor activities, include a responsibility code for each activity corresponding to the Subcontractor responsible for performing the Work.
16. The sum of the Subcontractor values of all activities performed by a Subcontractor must equal the Subcontract value of the Subcontract between the Contractor and the Subcontractor.
17. The cost (resource) loading of activities must be consistent with the Cost Breakdown provided under Section 01 29 00.2, Part 1.04, "Cost Breakdown." Unless otherwise Approved by the Owner's Authorized Representative, the Contractor must indicate cost resources by US dollars ($) for all cost resources. Contractor's overhead (including general conditions costs), and profit must be proportionally prorated over all cost loaded activities as a fixed percentage of the value of the activity. Except as otherwise Directed or Approved by Owner's Authorized Representative, activities that are not directly associated with the cost of Work-in-place, such as mobilization, temporary facilities, and Submittal preparation must not be cost loaded.
18. The sum of the values of all the activities in the Baseline Schedule must equal the total Contract Sum.
19. Unless otherwise specifically Approved in writing by the Owner's Authorized Representative, if the start of an activity depends on the Owner's acceptance of a Submittal(s), identify as two (2) separate preceding activities the preparation and review of the Submittal(s).

20. Unless a longer period is specifically stated in the Contract Documents, Owner will have a minimum of 21 Days to review Complete Submittals. (See Section 01 33 00, Part 1.04, "Scheduling")
21. Do not schedule activities that are dependent on Submittal acceptance or material delivery to start earlier than the expected approval or delivery dates.
22. Identify as separate activities procurement of major equipment and materials. At a minimum, procurement of major equipment and materials must include the following five (5) dependent activities:
    a. Place purchase order;
    b. Prepare Submittal;
    c. Review and accept Submittal;
    d. Fabricate/Manufacture; and
    e. Delivery.
23. Identify as separate activities the installation of all Owner Furnished Contractor Installed (OFCI) Items. If Contractor requires product installation information for OFCI Items, include specific interface flags indicating when product installation information is required.If required, include activities for all equipment/systems performance period(s). Performance period activities must occur after operational testing is completed and before Contractor certifies the Work is complete.Include individual activities for the final cleanup of the entire Project. Final cleanup activities must be shown occurring prior to Substantial Completion and Substantial Completion Inspection requests.
26. Include activities for Contractor certification for Substantial Completion and Final Completion.
27. Include activities and indicate the number of Days allowed (21 Days) for the Owner to prepare Punch Lists.
28. Show the number of days needed by the Contractor to correct deficiencies in the completed Work (Punch List durations) after receipt of Punch List from Owner.
29. The duration for Contractor to correct Punch List items must not be less than twenty-one (21) Days. Contractor's Punch List activities must be shown as starting no earlier than Contractor's receipt of Owner prepared Punch List.
30. Include interface flags for all points of coordination with the work of other contractors engaged by Owner at the Project Site.
31. With the Baseline Schedule Submission, Contractor must submit a monthly earnings forecast indicating the Contractor's estimated per month and cumulative-to-date billings to the Owner over the entire Contract Time. The report must include a cash flow envelope diagram, based on the Contractor's cost loaded Baseline Schedule, showing the cumulative total cost for early start and late finish from the start of the Project to its completion. Submit four (4) paper copies and corresponding electronic data files on Compact Disks (CDs). The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.
32. The data/status date for the Baseline Schedule must be the first day of the Contract Time as stated in the NTP.
33. Show Substantial Completion and Final Completion as independent. Do not tie (link) them together.
34. Substantial Completion and Final Completion must be shown on the specific dates identified in the Contract Documents and must be attached to a seven-day activity calendar.

35. Include a Project start date from the Notice to Proceed (NTP).
36. Unless otherwise requested by the Contractor and approved in writing by the Owner's Authorized Representative, the activities, durations, and logic that appear in the Owner accepted Preliminary Contract Schedule must remain unchanged in the Baseline Schedule submission.
37. Activities must be included for all required reviews, approvals, permits, and inspections performed by or issued by regulatory agencies.
38. Activities must be included for final submission of Record Documents (As-Built Drawings and Project Manual) and other key closeout activities.
39. Each activity must be coded to its associated Definable Feature Of Work (DFOW).
40. Contractor shall not use Start-to-Finish (SF) relationships between activities unless sequence of work requires this relationship of activities.

D. If Owner provides Activity ID guidelines, Activity Code requirements, or activity Interface Flag requirements to the Contractor, Contractor must comply with these requirements and restrictions.

E. Each Subcontractor must submit, on their company letterhead, a statement certifying he/she has reviewed the Contractor's Baseline Schedule and it accurately represents:

1. The Subcontractor's plan for their portion of the Work;
2. The planned durations for the Subcontractor's activities;
3. The resource loading of the Subcontractor's activities;
4. The Subcontractor's cost loading of the Subcontractor's activities; and
5. The sum of the cost loaded values for the Subcontractor's activities equal the value of the subcontract between the Contractor and the Subcontractor.

F. Owner's Authorized Representative will review the Baseline Schedule submission for conformance with the requirements of the Contract Documents. Within twenty-one (21) Days after receipt, Owner's Authorized Representative will accept the Baseline Schedule or will return it with comments. If the Baseline Schedule is returned with comments, Contractor must revise the schedule to incorporate the comments and resubmit within seven (7) Days.

3.05 OFFICIAL PROGRESS SCHEDULE

A. The Owner accepted Baseline Schedule becomes the initial version of the Official Progress Schedule.

B. The Official Progress Schedule must not be revised without the prior written Approval of the Owner's Authorized Representative.

3.06 MONTHLY UPDATE OF THE OFFICIAL PROGRESS SCHEDULE

A. Contractor must submit a monthly update to the Official Progress Schedule. All updates must be submitted with four (4) prints (plots) of the Updated Official Progress Schedule and corresponding electronic date files on compact disks (CDs). The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.

B. The submission of the Updated Official Progress Schedule must coincide with the submission the monthly progress payment request.

C. The Updated Official Progress Schedule must include:
   1. Contractor's estimated percentage complete for each activity not yet complete.
   2. Actual start/finish dates for each activity.

D. The Updated Official Progress Schedule must **not** include:
   1. Added or deleted activities.
   2. Changes to the network logic.
   3. Changes to the cost or resource loading.
   4. Any other changes, revisions or modifications of any kind.

E. Owner's Authorized Representative will meet with Contractor at the Project Site to verify the Contractor's estimate of the percentage complete for each activity not yet complete. If agreement cannot be reached on the actual progress for any activity, determination of Owner's Authorized Representative will be used.

F. If, during the updating process, it is discovered that actual progress is posted against out-of-sequence activities, before submission of the next Updated Official Progress Schedule, Contractor must submit a Revision Request to the Owner, revising the schedule logic to be consistent with the actual progress and sequence of the Work. The scheduling software must ***not*** be configured to override schedule logic (progress override) when calculating activities that were performed out of sequence. The schedule logic in the current version of the Official Progress Schedule must be retained during all calculations of the updated schedule.

G. Each month Contractor must submit four (4) copies of a monthly report:
   1. The monthly report must include:
      a. A description of problem areas; and
      b. Current and anticipated delaying factors and their impact.
   2. The Contractor's monthly report must be submitted within three (3) days after the payment period end date.

H. Special Reports
   1. Owner may request, from month-to-month, any two of the following special reports:
      a. Total Float Time sorted from least to most.
      b. Activities sorted by early start.
      c. Activities sorted by late start.
      d. Activities grouped by subcontractor, selected trades or buildings.
      e. Activities with scheduled early start dates in a given time frame (i.e. 30-day or 60-day outlook).

3.07REVISED OFFICIAL PROGRESS SCHEDULE

A. A Revised Official Progress Schedule must be submitted by the Contractor whenever the Contractor desires to change its sequence or method of construction, add or delete activities, change logic ties or constraints (restraints), modify cost loading, incorporate Approved Change Orders into the schedule, or whenever Directed by Owner's Authorized Representative.

B. All revision requests must be in writing, must explain in narrative why each activity change or revision is being requested, and must be based on the most recent Owner accepted Updated Official Progress Schedule

C. When out of sequence activities appear in the Updated Official Progress Schedule, Contractor must submit a Revised Official Progress Schedule. The Revised Official Progress Schedule must incorporate a revised schedule logic that conforms to current job status.

D. All Revised Official Progress Schedule revision requests must be submitted with four (4) prints (plots) and corresponding electronic data files on Compact Disks (CDs) of the requested revisions.

E. If the Owner's Authorized Representative accepts the Revised Official Progress Schedule, it will become the new current version of the Official Progress Schedule.

F. If Owner provides additional Interface Flag requirements to the Contractor for the purpose of coordinating the Contractor's schedule with the schedules of other contractors or the Owner's master Project Schedule, Contractor must revise their schedule to incorporate the Interface Flags at no additional cost to the Owner.

G. Activity IDs and Activity Descriptions must not be revised.

H. Original Activity Durations must not be revised. The Remaining Duration for an Activity can be updated to indicate the time required to complete the Activity.

I. When the schedule is revised to incorporate Change Order activities, each Change Order must have its own discrete activities. The sum of the values of the activities for each Change Order shown on the Official Progress Schedule must equal the dollar value of the Change Order.

3.08 SHORT INTERVAL SCHEDULE

A. An updated Short Interval Schedule (SIS) must be submitted to the Owner at each Progress Meeting. Each attendee at the Progress Meeting must be must be provided one (1) copy of the SIS.

B. The Short Interval Schedule must be submitted throughout the entire Contract Time.

C. The Short Interval Schedule must be a four-week schedule and include the past week, the week submitted, and two weeks thereafter.

D. The Short Interval Schedule must contain sufficient detail to evaluate daily progress and manpower/equipment loading and must correlate with the current version of the Official Progress Schedule and reference the appropriate activity numbers.

E. The Short Interval Schedule must indicate all planned and actual tests and inspections. (See also Section 01 45 23, Part 1.08.G)

F. The Short Interval Schedule must indicate the actual start and finish dates for each activity on the Official Progress Schedule that started or finished during the time period covered by the Short Interval Schedule.

3.09 RECOVERY SCHEDULE

A. If any activity falls more than fourteen (14) Days behind schedule, upon Owner's request, Contractor must submit a Recovery Schedule within seven (7) Days indicating how Contractor intends to make up the lost time. Form and detail of the Recovery Schedule must be appropriate to explain and display how Contractor intends to reschedule delinquent activities to regain compliance with the Contract Time(s). Submit four (4) copies (plots) and corresponding electronic data files on Compact Disks (CDs). The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.

B. If the Owner's Authorized Representative accepts the Contractor's Recovery Schedule, Contractor must submit a Revised Official Progress Schedule revision request as required by Section 01 32 00.4, Part 3.07 above. The Revised Official Progress Schedule must be based on and limited to the modifications indicated in the Recovery Schedule and accepted by the Owner's Authorized Representative.

3.10 COST BREAKDOWN

A. For the Preliminary Contract Schedule: Contractor must submit with the Preliminary Contract Schedule four (4) copies and corresponding electronic data files on Compact Disks (CDs) of a Cost Breakdown covering the activities shown as starting during the first ninety (90) Days of the Preliminary Contract Schedule. This Cost Breakdown must differentiate costs of labor, equipment, materials, overhead (including general conditions costs) and profit and shall be subject to Owner's acceptance. The Owner accepted Cost Breakdown will be used as a basis for progress payments during the first ninety (90) Days. The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.

B. For the Baseline Schedule: Contractor must submit with the Baseline Schedule a Cost Breakdown covering each activity in the Baseline Schedule. This Cost Breakdown must differentiate costs of labor, materials, equipment, overhead (including general conditions costs) and profit, and shall be subject to Owner's acceptance. The Owner accepted Cost Breakdown will be used as a basis for monthly progress payments during the entire Contract Time. Contractor shall submit four (4) paper copies and corresponding electronic data files on Compact Disks (CDs). The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.

C. Except as otherwise Directed or Approved by Owner's Authorized Representative, activities that are not directly associated with the cost of Work-in-place, such as mobilization, temporary facilities, and Submittal preparation must not be cost loaded. (See Section 01 29 00.2, "Payment Procedures" for additional requirements concerning the Cost Breakdown)

D. A Cost Breakdown may be rejected if in Owner's opinion any item is unbalanced.

3.11 TIME EXTENSIONS

A. Contractor must submit four (4) copies and corresponding electronic data files on Compact Disks (CDs) of a detailed Network Window, for each delay giving rise to the Contractor's request for a time extension, indicating the impact of the delay on the Project Time(s). The Network Window must be based on the Updated Official Progress Schedule in effect at the time the delay or impact first occurred. The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.

B. No time extensions to the Contract time will be granted unless a delay occurs which impacts the Critical Path and consumes all available Float and in accordance with Article 7.06 of Document 00700.

C. If the Owner's Authorized Representative Approves a time extension request, a Change Order extending the Contract Time will be issued.

D. Upon receipt of an executed Change Order, modifying the Contract Time, or earlier if directed in writing by the Owner, Contractor must submit a request for revision to the Official Progress Schedule. The revision request must be based on and limited to the modifications to the Contract Time identified in the Change Order. Submit four (4) copies and corresponding electronic data files on Compact Disks (CDs). The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.

E. Owner is not obligated to consider time extension requests unless the requests are made in accordance with the requirements of the Contract Documents.

3.12 SUBMITTAL LOG

A. Within twenty-eight (28) Days after the Contract start date stated in the Notice to Proceed, Contractor must Submit five (5) copies of a Submittal Log and corresponding electronic data files transmitted to the Owner's Authorized Representative by electronic mail. Submittal Log must be prepared in accordance with the requirements of Section 01 33 27.2, "Submittal Log." Unless otherwise specifically stated in the Contract Documents, no Submittal shall show an Owner's review and return duration of less than twenty-one (21) Days. (See Document 00700, Article 3.26 .D, "Minimum Submittal Review Times" and Section 01 33 00, Part 1.04, "Scheduling").

B. Owner may refuse to take action on any Submittal without prior receipt and acceptance of the Submittal Log.

C. Submittals must indicate the corresponding activity numbers on the Contractor's Preliminary Contract Schedule.

D. Each week, on a day agreed to between Contractor and Owner's Authorized Representative, Contractor must review the Submittal Log with the Owner's Authorized Representative. If requested by the Owner's Authorized Representative prior to the weekly meeting, Contractor must provide the Owner's Authorized Representative with one (1) copy of an updated Submittal Log and corresponding electronic data files on Compact Disks (CDs) indicating the current status of all required Submittals. The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.

E. The updated Submittal Log must be grouped by Definable Feature of Work and include, at a minimum, the following information for all Submittals and resubmittals:

1. A unique Submittal tracking number;
2. Description of the Submittal;
3. Date required by Contract Documents for submission of Submittal to Owner;
4. Owner's Distribution Group (Owner's parallel reviewers);
5. Total number of Copies of Submittal required to be Submitted to Owner's reviewers;
6. Anticipated date Contractor will receive Submittal information from Subcontractor/Supplier;
7. Actual date Contractor received Submittal information from Subcontractor/ Supplier;
8. Anticipated Date for Submission to Owner;
9. Actual Date Transmitted to Owner;
10. Owner Review Time allowed by Contract Documents (No less than 21 Days);
11. Cross reference to corresponding activity number on Contractor's Progress Schedule;
12. Project Manual section(s) requiring submission of Submittal;
13. Actual date when Contractor received Submittal(s) back from Owner;
14. Owner's action on Submittal (i.e. No Exceptions Taken, Make Corrections Noted, Revise and Resubmit, or Rejected);
15. Submittal Type (Type 1 or Type 2);
16. Submittal Designation (See Section 01 33 27.2, Part 1.07 .A .2, "Submittal Designation (SD)");
17. Definable Feature of Work (DFOW) (See Section 01 45 16.13, Part 1.09 .A); and
18. Comments/Remarks.

F. After acceptance of the Contractor's Submittal Log by the Owner's Authorized Representative, Contractor must make all Submittals in accordance with the "Anticipated Date for Submission to Owner" indicated in the Log. Owner has the right to return all Submittals to the Contractor "Returned Without Review," if the Submittal is submitted prior to the "Anticipated Date for Submission to Owner."

3.13 PROJECT REPORTS

A. Contractor's Daily Report

1. Contractor must submit a Contractor's Daily Report, in a form prescribed or accepted by Owner, for each day worked. At a minimum the report must indicate:
   a. All workers by trade;
   b. Segregated worker activity for Force Account work (authorized via Change Order);
   c. Subcontractor activity;
   d. Activity identification number(s);
   e. Cost Breakdown number(s) if a Basic Project Schedule is required;
   f. Equipment on site;
   g. Material deliveries;
   h. Tests and Inspections performed;
   i. Weather conditions;
   j. Start of new activities and completion of activities; and
   k. Other significant items.
2. Each Contractor's Daily Report must be submitted to Owner's Authorized Representative or designee at the jobsite on the next workday, by 9 AM.

B. Subcontractors must also prepare and submit Daily Reports for each day worked containing all the information specified in Section 01 32 00.4, Part 3.13 .A, "Contractor's Daily Report", in a format prescribed or accepted by Owner's Authorized Representative. Reports must be submitted the following workday**, by 9 AM**.

C. Procurement Status Log

1. Contractor must submit for Owner's acceptance, five (5) copies of a Procurement Status Log and corresponding electronic data files on compact disk (CD) and transmitted to Owner's Authorized Representative by electronic mail, of a Procurement Status Log not later than twenty-one (21) Days after the start date for the Work stated in the Notice to Proceed. The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.
2. The Procurement Status Log must include:
   a. A complete list of items to be purchased that require acceptance by the Owner of a Submittal;
   b. The Submittal tracking number from the Submittal Log that uniquely identifies the Submittal;
   c. The corresponding CPM activity identification number from the Preliminary Contract Schedule, Baseline Schedule, or Official Progress Schedule as available;
   d. The date the purchase order was placed or is anticipated to be placed;

e. If the purchase order is placed, indicate the purchase order number, name of the Supplier, and Fabricator or Manufacturer of each item;

f. The time required by the vendor to prepare the Submittal;

g. The review and approval duration for the Submittal (minimum 21 Days);

h. The anticipated duration of Fabrication/Manufacture;

i. The delivery duration;

j. The anticipated delivery date; and

k. The actual delivery date.

3. Each month, the Procurement Status Log must be updated and submitted with the Updated Official Progress Schedule or more frequently if requested by Owner's Authorized Representative. Contractor shall submit four (4) copies of updated Procurement Log and corresponding electronic data files on Compact Disks (CDs) The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.

4. If requested by Owner's Authorized Representative, Contractor must submit four (4) copies of each purchase order issued by Contractor or Subcontractors.

D. Other Reports

1. Contractor must submit to Owner, as specified or Directed, copies of all other reports required by the Contract Documents or other Governmental Agencies including, but not limited to,:

a. Certified Payroll.

b. Hazardous Materials list(s).

c. Copies of incident or accident and injury reports.

d. Force Account Reports and Documentation.

e. Monthly Progress narrative, pursuant to Section 01 29 00.2, Part 1.06 .G.

PART 4 - FORMS (Not Used)

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:
   1. Part 1 – General
      a. 1.01 – Summary
      b. 1.02 – Related Documents and Sections
      c. 1.03 - Definitions
      d. 1.04 - Scheduling
      e. 1.05 - Deviations
      f. 1.06 – Submittal Format
      g. 1.07 - Action Submittals
      h. 1.08 - Informational Submittals
      i. 1.09 – Transmittal Distribution
      j. 1.10 - Owner's Action
      k. 1.11 – Architect of Record's Actions
   2. Part 2 – Products (Not Used)
   3. Part 3 – Execution (Not Used)
   4. Part 4 – Forms
      a. 4.01 – Sample Submittal Transmittal Cover Letter Form
      b. 4.02 – Sample County Action Form

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00700, Article 3.26, "Submittals"
B. Section 01 32 00.4, "Construction Progress Documentation"
C. Section 01 33 27.2, "Submittal Log"
D. Section 01 45 16.13, "Contractor's Quality Control (QC) System"

1.03 DEFINITIONS

A. **Action Submittals** - Submittals requiring Owner's written response and/or Acceptance.

B. **Informational Submittals** - Submittals not requiring Owner's written response. (Survey notes, QC Manager's Daily Report, Laboratory test reports, etc.)

C. **Preconstruction Submittals** – Action Submittals requiring Owner's acceptance before Contractor may proceed with the performance of on-site Work. These submittals include, but are not limited to, the CQC Plan, Fire Protection Plan, Qualifications of Key Personnel, Qualifications of Scheduler, SWPPP, etc. Except for the CQC Plan, which must be certified by the CQC Manager pursuant to Section 01 45 16.13, all Preconstruction Submittals may be signed by the Contractor's Authorized Representative (Section 01 31 00.2, Part 1.04; Document 00700, Article 3.07), Contractor's Project Manager, or an Officer of the Contractor.

D. **Product Data Submittals** –Action Submittals associated with, and necessary for, the accomplishment of a specific Definable Feature of Work (DFOW) and include information such as shop drawings; samples; Product certifications; Subcontractor qualifications; Manufacturers' instructions and factory test reports; contractor designs and calculations (such as curtain walls, pre-cast concrete, etc.), equipment and systems data for Commissioning (if applicable to this contract), etc. These Submittals require Owner's acceptance before the Contractor may proceed with the DFOW associated with these Submittals. Product Data

Submittals demonstrate to the Owner how the Contractor proposes to conform to the requirements of the Contract Documents. The CQC Manager must certify all Product Data Submittals, pursuant to Section 01 45 16.13.

E. **Project Management Submittals** –Action Submittals essential to the effective management of the Project. These Submittals include, but are not limited to: the Construction Progress Schedule; Submittal Log; Cost Breakdown/Cost Loaded Schedule; permit applications such as permits from the Fire Marshal; Coordination Drawings; Procurement Status Log); and Commissioning Submittals (Section 01 91 13.2). Except for Coordination Drawings, invoices and Commissioning Submittals, which must be certified by the CQC Manager pursuant to Section 01 45 16.13, all Project Management Submittals may be signed by the Contractor's Authorized Representative (Section 01 31 00.2, Part 1.04), Contractor's Project Manager, or an Officer of the Contractor.

F. **Management Information Submittals** –Information Submittals that provide the Owner information about the status of the Project. These Submittals include Contractor Daily Reports, CQC reports, Daily Force Account reports, Accident reports, and others. Management Information Submittals are Information Submittals.

G. **Project Completion Submittals** – Action Submittals which include Substantial and Final Certifications; Manufacturer's field test reports; Operation and Maintenance Manuals; etc. These Submittals are also Action Submittals. The CQC Manager must certify all Substantial and Final Completion Submittals pursuant to Section 01 45 16.13.

H. **Project Acceptance Submittals** (also referred to as Project Close-out Submittals) – Action Submittals required by the Owner to affect a recommendation to the Director of General Services to Accept the Project as complete. Includes As-Built documents, Warrantees and Guarantees, etc. These Submittals are Action Submittals. The CQC Manager must certify all Project Acceptance Submittals pursuant to Section 01 45 16.13.

1.04 SCHEDULING

A. Schedule preparation and processing of Submittals in accordance with other sections of the Contract Documents and the specific Submittal deadlines and timeframes stated below.

1. Unless otherwise specifically stated in the Contract Documents, or specifically approved or directed in writing by the Owner's Authorized Representative, all **Preconstruction Submittals** are due no later than 45 Days from the Official Start Date stated in the Notice to Proceed. (See Document 00700, Article 3.26 .A .7) General acceptance of the Contractor's Progress Schedule, Submittal Log, or other related Submittals by the Owner does not constitute specific Approval by the Owner's Project Manager for deviation from the 45 Day cut-off date for Preconstruction Submittals. Contractor must make a specific request in writing for each proposed deviation and the Owner's Authorized Representative must grant specific written Approval for each proposed deviation to the cut-off date.

2. Unless a longer period is specifically stated in the Contract Documents, allow 21 Days for Owner's review and return of all Submittals and resubmittals, unless this time is specifically modified in the technical sections of the Project Manual. (See Document 00700, Article 3.26 .D, "Minimum Submittal Review Times" and Section 01 33 27.2, "Submittal Log".)

3. Contractor must submit complete and contract-conforming **Product Data Submittals** to the Owner in-time to allow for Contractor procurement of the Product, so as not to affect the Contractor's construction progress. All Product Data Submittals must be provided to the Owner within 150 days from the start date stated in the Notice to Proceed. All Product Data Submittals are Action Submittals.

4. Contractor must submit complete and contract-conforming **Project Management Submittals** to the Owner timely enough so as not to affect the Contractor's construction progress. All Project Management Submittals, except for Coordination Drawings (See Section 01 33 24, "Coordination Drawings and Coordination"), must be provided to the Owner within 90 days from the start date

stated in the Notice to Proceed. For the timeframe for submission and acceptance of Coordination Drawings refer to Section 01 33 24, "Coordination Drawings and Coordination."

5. The Contractor must submit complete and contract-conforming **Project Completion Submittals** before Owner will issue Final Completion Certification**.** All Project Completion Submittals, including Operations and Maintenance, O&M manuals, Commissioning Test Results, etc. are Action Submittals requiring Owner acceptance of the Submittal.
6. **All Project Acceptance (close-out) Submittals** must be submitted within ten (10) days of Final Completion determination of the Project, unless an earlier date is specifically established for these Submittals. The Director of General Services will not make final acceptance of the Project unless on Project Close-out Submittals have been accepted by the Owner's Authorized Representative..

1.05 DEVIATIONS

A. Contractor shall specifically identify each proposed deviation from the requirements of the Contract Documents.
   1. Only making notations on the Submittal to identify the deviation is not sufficient to satisfy this requirement. (See also Document 00700, Article 3.26 .A .5)
   2. Each proposed deviation must be clearly highlighted, encircled, noted, or otherwise clearly identified on the Submittal ***and*** individually explained in writing in the transmittal accompanying the Submittal.
   3. Making notations on the Submittal without the attached written explanation will not relieve the Contractor of responsibility for deviation from the requirements of the Contract Documents.
   4. Unless specific deviations have been noted in writing by the Contractor and specifically accepted in writing by the Owner or Architect of Record, no deviations from the requirements of the Contract Documents are permitted.

B. If a Submittal contains no proposed deviation(s) from the requirements of the Contract Documents, the Contractor must indicate on the transmittal accompanying the Submittal that the Submittal contains **"No Deviations"** from the requirements of the Contract Documents.

1.06 SUBMITTAL FORMAT

A. The Submittal transmittal cover sheet, in Part 4 of this Section 01 33 00, must be filled out and accompany each Submittal.
   1. Itemize each proposed deviation from the requirements of the Contract Documents. If a Submittal contains no proposed deviation(s), indicate that the Submittal contains **"No Deviations."** Owner and Architect of Record may return Submittals "Returned Without Action" that do not list proposed deviations or state that Submittal contains "No Deviations" from the Contract Documents.
   2. Pursuant to Section 01 45 16.13, the Quality Control Manager must certify all Submittals.

B. Contractor must number all Submittals serially and continue in sequence. Resubmittals must have suffix letter A, B, C, etc. following the original Submittal number.

C. Each Action Submittal must have a separate table of contents. Each Product in the Submittal must be identified in the table of contents (TOC). The TOC must also identify the manufacturer, make and model number of each Product.

D. Within the body of the Submittal, each Product section must be tabbed to match the table of contents and must be separated from adjacent Product sections with a blank sheet of heavy duty bond paper.

E. Each Submittal must be bound either in a 3-ring binder or in plastic spiral.

1.07 ACTION SUBMITTALS

A. Prepare and submit Action Submittals required by individual sections of the Project Manual.

B. Refer to Section 01 33 27.2, "Submittal Log" and Specifications, for the number of copies to be submitted.

C. Product Data

1. Collect information into a single Complete Submittal for each Definable Feature of Work and type of Product or equipment.
2. If information must be specially prepared for Submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
3. Mark each copy of each Submittal to show which Products and options are applicable.
4. Include the following information, as applicable:
    a. Manufacturer's Product specifications.
    b. Manufacturer's installation instructions.
    c. Standard color charts.
    d. Manufacturer's catalog cuts.
    e. Diagrams showing factory-installed wiring, controls and piping diagrams.
    f. Printed performance curves, performance characteristics and capacities.
    g. Operational range diagrams.
    h. Mill reports.
    i. Standard Product operating and maintenance manuals.
    j. Compliance with recognized trade association standards.
    k. Compliance with recognized testing agency standards.
    l. Application of testing agency labels and seals.
    m. Notation of coordination requirements.
    n. Show wiring, piping diagrams, controls.

D. Shop Drawings

1. Preparation: Include the following information, as applicable:
    a. Dimensions.
    b. Identification of Products.
    c. Fabrication and installation drawings.
    d. Roughing-in and setting diagrams.
    e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
    f. Shop work manufacturing instructions.
    g. Templates and patterns.
    h. Schedules.
    i. Design calculations.
    j. Compliance with specified standards.
    k. Notation of coordination requirements.
    l. Notation of dimensions established by field measurement.

m. Identify details by reference to Drawing and detail, schedule, or room numbers shown and specified.

2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.

3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" (215 by 280 mm) but no larger than 36" x 48" (914 mm x 1219 mm).

4. Contractor must review and coordinate all Subcontractors' Shop Drawings before submission to Owner. If required or needed, Contractor must prepare and submit Coordination Drawings.

5. Submittals must be complete for each item of Work and must not be submitted piecemeal.

6. Present Shop Drawings in a clear and thorough manner. Identify details by reference to sheet and detail, schedule, and room numbers shown on Drawings.

E. Manufacturer's Instructions (Product Data Submittals): Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a Product or equipment.

1. Include name of Product and name, address, and telephone number of manufacturer.

2. Include the following, as applicable:

a. Preparation of substrates.

b. Required substrate tolerances.

c. Sequence of installation or erection.

d. Required installation tolerances.

e. Required adjustments.

f. Recommendations for cleaning and protection.

F. Samples (Product Data Submittals)

1. Refer to Section 01 33 27.2, "Submittal Log" and the Technical Specifications for the number of Samples to be submitted.

2. Each Sample must clearly note the manufacturer, trade name, Product, lot style, color, model, etc., locations of use, and Contract Document reference.

G. Coordination Drawings (See also Section 01 33 24, "Coordination Drawings and Coordination")

1. Contractor must prepare and submit drawings to demonstrate the coordination of methods, materials, equipment, plans, or sequence the Contractor proposes to use when:

a. Coordination Drawings are specifically required by other sections of the Project Manual.

b. Limited space is available for installation of different components.

c. Coordination is required for installation of Products and materials Fabricated by separate entities.

d. The relationship of components is shown on separate Shop Drawings or Submittals.

2. Coordination Drawings must be submitted in the format required for Shop Drawings.

1.08 INFORMATIONAL SUBMITTALS

A. Prepare and submit Informational Submittals required by other section of the Project Manual.

1. Number of Copies

a. Refer to Section 01 33 27.2, "Submittal Log", for the number of copies to be submitted.

b. Owner will not return copies.

B. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with the requirements of the Contract Documents. An officer or other individual authorized to sign documents on behalf of that entity must sign certificates and certifications.

C. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on American Welding Society, AWS forms. Include names of firms and personnel certified.

D. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

E. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with the requirements of the Contract Documents.

F. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of Product, for compliance with performance requirements.

G. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of Product or after Product is installed in its final location, for compliance with the requirements of the Contract Documents.

H. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement on condition of substrates and their acceptability for installation of Product.
3. Statement that Products at Project Site comply with the requirements of the Contract Documents.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, Products, and installation will affect Warranty/Guarantee.
7. Other required items indicated in individual sections of the Contract Documents.

I. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to Authorities Having Jurisdiction, that Product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of Product.
6. Test procedures and results.
7. Limitations of use.

J. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

L. Delegated Design Data:

1. Performance and Design Criteria:

a. Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide Products and systems complying with specific performance and design criteria indicated.

b. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect of Record.

2. Delegated-Design Certification: In addition to Shop Drawings, Product Data, and other required Submittals, a statement, signed by the responsible design professional, for each Product and system specifically assigned to Contractor to be designed or certified by a design professional.

a. Indicate that Products and systems comply with performance and design criteria in the Contract Documents.

b. Include list of codes, loads, and other factors used in performing these services.

1.09 TRANSMITTAL DISTRIBUTION

A. All Submittals (except actual samples) shall be submitted in electronic format (.pdf) through the Project Website.

1. Submittals will be processed and returned to the Contractor in electronic format. No hard copies will be returned to the Contractor.

2. Refer to Section 01 33 27.2, "Submittal Log", for distribution of Submittals.

3. Contractor must, at its own expense, make one hard copy of all Submittals for the Project Inspector if so requested.

4. Owner's Samples to be submitted directly to the Construction Manager, with a copy of the transmittal submitted through the Project Website.

1.10 OWNER'S ACTION (See also Document 00700, Article .3.26 .E, "Action and Distribution")

A. General

1. Owner will not review Submittals that do not bear the Contractor's certification stamp and will return them "Returned Without Action."

B. Action Submittals: Owner will review each Submittal, make marks to indicate corrections or modifications required, and return it.

1. Owner will place a cover sheet on each Submittal (See Forms, Part 4) and will mark appropriately to indicate action taken, as follows:

a. Final Unrestricted Release: When "No Exceptions Taken" is indicated, Contractor may proceed with Fabrication, Manufacture, or construction, providing such Work complies with the requirements of the Contract Documents. Final acceptance will depend on that compliance.

b. Final-but-Restricted-Release: When "Make Corrections Noted" is indicated, Contractor may proceed with Fabrication, Manufacture, or construction, providing such Work complies with the requirements of the Contract Documents and the corrections noted. Final acceptance will depend on that compliance.

c. When marked "No Exceptions Taken" or "Make Corrections Noted" the Submittal is considered "acceptable."

d. Returned for Resubmittal: Where the Submittal is marked "Revise and Resubmit," do not proceed with the Work covered by the Submittal, including purchasing, Fabrication, delivery, or other activity for the Product Submitted. Revise or prepare a new Submittal according to the Owner's or Designer of Record's notations and corrections.

e. Rejected: Where the Submittal is marked "Rejected," do not proceed with the Work covered by the Submittal, including purchasing, Fabrication, delivery, or other activity for the Product Submitted. Prepare a new Submittal for a Product that complies with the requirements of the Contract Documents.

f. Incomplete: Where the Submittal is marked "Submit Additional Information," do not proceed with the Work covered by the Submittal. Prepare additional information requested, or required by the Contract Documents, that indicates compliance.

g. Returned Without Action: Where the Submittal is marked "Returned Without Action," it was not reviewed and Contractor must not proceed with the Work covered by the Submittal. Prepare a new Submittal that complies with the requirements of the Contract Documents.

C. Resubmittals: Contractor must make all required corrections and submit corrected resubmittals until achieving final acceptance. The Contractor must append an alpha character to the initial Submittal number to identify the resubmission. (The first iteration of the resubmittal starts by appending an "A", the second iteration would be assigned a "B", and so on for as many follow-up iterations as are necessary to achieve acceptance of the Submittal by the Owner.)

D. Excessive Resubmittals: If after two separate resubmittals that particular Submittal is not closed, all additional resubmittals will be evaluated by the Owner's Authorized Representative. If the Owner's Authorized Representative finds that any subsequent resubmittal was not complete per the required specifications, Owner's Authorized Representative may determine that Contractor is responsible for the cost for additional AE / CM review time and a deductive Change Order will be issued for each occurrence.

E. Information Submittals: Information Submittals, on which Owner is not required to take action, will not be returned to the Contractor.

F. Submittals received from sources other than through Contractor's office will be "Returned Without Action" or may be discarded.

1.11 ARCHITECT OF RECORD'S ACTION

A. General: Architect of Record will not review Submittals that do not bear Contractor's certification stamp and will return them without action.

B. Submittals: Architect of Record will review each Submittal, make marks to indicate corrections or modifications required, and return it. Architect of Record will stamp each Submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. "NO EXCEPTIONS TAKEN" indicates that fabrication may begin on all items.

2. "MAKE CORRECTIONS NOTED" indicates that Contractor shall make the corrections indicated on the returned Submittal. This notation will permit fabrication to begin on all items subject to the corrections indicated.

3. “MAKE CORRECTIONS NOTED & RESUBMIT” indicates that Contractor shall delay fabrication on items affected by the corrections, make appropriate changes and resubmit.
4. "REJECTED" indicates that the submission is unacceptable and requires resubmission. In the case of mock-up, reconstruction will be required. Contractor shall make corrections as noted and resubmit. Fabrication shall not begin on items covered by shop drawings bearing this notation.
5. "NOT REQUIRED FOR REVIEW" indicates that no Submittal is required.

C. If resubmittals are necessary, they shall be made as specified above for Submittals. Resubmittals shall highlight all revisions made and cover shall include the phrase "RESUBMITTAL NO. ____".

D. Partial Submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

F. The Architect of Record's review shall not be construed as an indication that Submittal is correct or suitable nor that work represented by Submittal complies with the Contract Documents, except as to matters of finish, color and other aesthetic matters left to the Architect of Record's decision by the Contract Documents

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS

4.01 Sample Transmittal Cover Letter form.

4.02 Sample County Action form

4.01 Sample Transmittal Cover Letter Form

CONTRACTOR SUBMITTAL TRANSMITTAL LETTER FOR ACTION SUBMITTALS

Date_____

To: (County of Santa Barbara Owner's Authorized Representative)

From: (Name of Contractor)

Project Name and Number: _____

Forwarded herewith is the following submittal number
(Per Section 01 33 00, Part 1.06):_____

Place an "x" as appropriate in the boxes below:

☐ This is a revision/re-submittal of Submittal No.: _____

☐ This Submittal contains deviations from the Contract requirements. (Contractor must identify all deviations pursuant to Section 01 33 00, Part 1.05)

☐ This Submittal contains no deviations from the Contract requirements.

Definable Feature Of Work_____

Specification Section(s) included in this submittal _____

Name of Subcontractor(s) involved in preparing this submittal:_____

The following are enclosed (check all applicable):

___ Shop Drawings
___ Product Data
___ Samples
___ Design Data
___ Test Reports
___ Manufacturer's Certificates
___ Factory Test Reports
___ Other

Submittal Certification:

"The (equipment) (material) (article) shown and marked in this Submittal is that proposed to be incorporated with Project Name (_____), Contract Number (_____), Project Manual Section (_____), has been checked and complies in all respects, except as specifically noted in writing on the Submittal ***and*** *accompanying transmittal, with the requirements of the Contract Documents, is a Complete Submittal, has been coordinated with all other accepted Submittals, and can be properly installed in the allocated spaces."*

Certified by Contractor's CQC Manager:
_____, Date _____
(Signature)

4.02 Sample County Action Form

County of Santa Barbara Action

Date: _____

From: Owner's Authorized Representative

To: Contractor

Re: Submittal No.:_____

The following action has been taken on this submittal:

____ No exceptions taken
___ Submit Additional Information

____ Revise and Resubmit
___ Make corrections as noted; No other exceptions taken

____ Rejected
____ Returned without Action

Signed_____

Comments: (see attached page for continuation of comments)

END OF SECTION

SECTION 01 33 24

COORDINATION DRAWINGS AND COORDINATION

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents and Sections
   c. 1.03 - Definitions
   d. 1.04 - Scope
   e. 1.05 – Structural, Mechanical and Electrical Coordination
   f. 1.06 – Electronic Safety and Security, and Communications Coordination
   g. 1.07 – Coordination Drawings Preparation
   h. 1.08 - Contractor Responsibilities
   i. 1.09- Non-conforming Work
   j. 1.10 - Submittal Requirements
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms (Not Used)

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00700 "General Conditions," Article 3.26, "Submittals"
B. Document 00700 "General Conditions," Article 3.28, "Coordination Drawings"
C. Section 01 29 00.2, "Payment Procedures for Projects with Cost-Loaded Schedule Requirements"
D. Section 01 31 00.2, "Project Management and Coordination"
E. Section 01 33 00, "Submittal Procedures"
F. Section 01 45 16.13, "Contractor's Quality Control (QC) System"
G. Section 01 78 39, "As-Built Documents"

1.03 DEFINITIONS

A. **Coordination Drawings** – Contractor-prepared drawings submitted by Contractor to Owner's Authorized Representative to demonstrate: (1) The coordination of methods, materials, equipment, systems, plans, or sequence the Contractor proposes to use when limited space is available for Installation of different components; (2) The coordination required for Installation of Products and materials Fabricated by separate entities; and (3) The relationship of components shown on separate Shop Drawings or Submittals, when coordination among these components is required.

B. **Shop Drawings** - Drawings, diagrams, schedules, and other data specially issued for the Work by the Contractor or a Subcontractor, and Suppliers to demonstrate and/or illustrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for some specific portion of the Work. Shop Drawings are not considered Contract Documents.

1.04 SCOPE

A. **Coordination of Utility Systems,** including piping and equipment, in above-ceiling spaces, utility chases and utility rooms.

1. The Contract Documents are generally diagrammatic in nature with respect to mechanical, electrical, Fire Protection, and security/voice data systems. Not every bend, offset and direction change is shown in the Contract Documents. The Contract Documents represent that these systems will fit in the spaces allotted; Contractor shall assign space priorities and lay out and route the systems so they will fit efficiently in the allotted spaces and allow for convenient and code-conforming access to all valves, dampers and other devices.
2. The layout of utility rooms is also diagrammatic in nature. The Contract Documents represent that that equipment identified to be Installed in utility rooms will fit in the spaces allotted. However, Contractor must submit and provide for equipment to be Installed in utility rooms and shall layout the equipment room such that all equipment will fit.
3. The Contractor must examine all of the Contract Drawings, especially architectural for ceiling space dimensions, and structural for beam/column obstructions, and make allowances in the Contractor's planned coordination efforts, work sequence, and routing of the systems.
4. Routing shown for pipes, ducts, and conduits on Drawings are shown by graphic symbols only; make runs parallel with lines of building.
5. Contractor shall utilize spaces efficiently to maximize accessibility for other Installations, for maintenance, and for repairs.
6. Contractor shall conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated; coordinate locations of fixtures and outlets with finish elements.
7. Contractor shall size ductwork, mechanical pipe, plumbing, electrical, and sprinkler system components as shown in the Contract Documents and Drawings. Downsizing of Mechanical/Electrical (M/E) systems is not permitted.

B. The Contractor shall prepare, and submit for Owner Acceptance one (1) electronic copy and one (1) hard copy of Coordination Drawings. Contractor shall prepare Coordination Drawings in order to resolve potential Installation and constructability problems prior to Installation so that construction cost and schedule are not impacted.

1. Pricing of Coordination Drawings. The Contractor shall include, as a separate line item in the Cost Breakdown (see Section 01 29 00.2, "Payment Procedures for Projects with Cost-Loaded Schedule Requirements") the line item value for preparation of Coordination Drawings.
2. Unless otherwise specifically stated in the Contract Documents, or needed for proper coordination of the Installation of early Work, all Coordination Drawing Submittals are due no later than 150 Days after the Start Date stated in the Notice to Proceed.
3. Coordination Drawings shall include dates and signatures of the Contractor and all Subcontractors whose work occurs in the space; signed Coordination Drawings shall be subject to examination by the Owner at any time.
4. Contractor shall require Subcontractors to develop Subcontractor Coordination Drawings of the same scale as Contractor's Coordination Drawings to assist in making transcripts for transfer to Coordination Drawings; use approved Shop Drawings for Coordination Drawings.

5. Unless a longer period is specifically stated elsewhere in the Contract Documents, allow at least 21 Days for Owner's review and return of all Coordination Drawings Submittals and resubmittals. (See Document 00700, Article 3.26D, "Minimum Submittal Review Times," Section 01 33 27.2, "Submittal Log," and Section 01 32 00.4, Part 3.12, "Submittal Log")
6. Revise Coordination Drawings when contract Change Orders are issued which affect Work indicated in Coordination Drawings, and as subsequent Work is added to areas containing existing Work.
7. As part of the As-Built Drawing Submittal, submit final Coordination Drawings reflecting Work incorporated by Part 1.04 .B .6 of this Section 01 33 24 above.
8. **Coordination Drawings shall clearly show**:

a. The layout and routing of mechanical, electrical, Fire Protection, and security/voice data systems in above-ceiling spaces, utility chases, raised flooring (if applicable), other interstitial spaces, and underground ducts. Elements Contractor shall include in Coordination Drawings:

- Mechanical ducts and pipes, including floor penetrations;
- Plumbing pipes, including supply and gravity drain lines;
- Fire branch lines and sprinkler heads;
- Electrical bus ducts;
- Voice/data cable trays and conduits;
- Interstitial space access;
- Identification and resolution of Interfering Structural elements: beams, columns, slabs, hangers, bracing, etc. and mechanical/electrical systems;
- Identification and resolution of conflicts with mechanical/electrical systems and fire-rated walls;
- Identification and resolution of conflicts between mechanical/electrical systems and Suspended ceilings and light fixtures;
- Identification and resolution of conflicts between mechanical/electrical systems and Insulation;
- Security system elements;
- The relationship of components that are shown on separate Shop Drawings or Submittals;
- Seismic restraints where required on systems;
- All Work above ceilings performed by separate entities that must interface or for which space provided is limited; and
- Others as necessary.

b. **The actual physical relationships of the elements and systems which Contractor must include in their Coordination Drawings and how they interface with each other.** The Drawings use graphic symbols to show certain physical relationships, but Contractor must establish and coordinate the actual physical relationships and layout and arrange all elements to contribute to safety and efficiency while maintaining the intent of the design. Before Work proceeds in areas of potential conflict for Installing different components of the Work, Contractor shall prepare Coordination Drawings for review and acceptance by the Owner's Authorized Representative, that clearly demonstrate resolution of any conflicts.

c. **Dimensions and elevations where conflicts may exist.** Final Coordination Drawings shall show resolution of any potential field conflicts.

d. **The location, for maintenance and repair purposes, of all above-ceiling valves, fire dampers, control devices, meters and gauges, and heating coils, and the access hatches (in "hard" lid) ceilings that provide a means of access to these devices.** Contractor must locate these devices and appurtenances such that a workman has unimpeded access to perform maintenance, repair or replacement. "Unimpeded access" means that a workman can access the device from a location immediately below the device, via the removal of a lay-in ceiling tile, or an access door/panel. All above-ceiling valves, fire dampers, control devices and heating coils shall be located such that there are no interferences from systems furniture, or above-ceiling mechanical or electrical systems. The Coordination Drawings must clearly represent this accessibility.

e. **How equipment, controls, valves, power panels and disconnects will fit in equipment room(s) space,** and still comply with code, and manufacturer's maintenance requirements, with respect to clearance.

f. **The maintenance of fire-rating of so-designated walls.** Contractor shall review the architectural drawings for the location of fire-rated walls, and ensure that the placement of ducts, pipes or other systems do not compromise the fire-rating of walls. If ducts do penetrate fire-rated walls, the Coordination Drawings must show such penetrations, and shall indicate the placement of required Fire-smoke dampers. If the fire rating of designated walls cannot be maintained due to pipe or duct penetrations, as part of the Coordination Drawing process, the Contractor shall immediately bring these situations to the attention of the Owner's Authorized Representative.

C. **Coordination of schedules and Subcontractors** – The Contractor shall:

1. Meet at Project Site with Installer and representatives of manufacturers and fabricators who are involved in or affected by a unit of Work prior to Installation of each major unit of Work which requires coordination and interfacing with other Work. Review progress of other Work and preparations for particular Work under consideration.
2. Coordinate matching finish, texture, color, etc. for the new Work on existing components in the Project, if applicable.
3. Coordinate Work of like materials by submitting pilot Samples to the Owner for review of acceptable ranges of finish textures and color variation.
4. Coordinate completion and clean-up Work of various trades in preparation for the Substantial Completion and for occupancy of the Building.
5. Coordinate schedules, Submittals, and work of the various trades to ensure efficient and orderly sequence of Installation of construction, with provisions for accommodating items to be Installed later. Coordinate the work among the Specifications and Drawings. Work shown on any Drawing or Specification is required by the Contract irrespective of the trade subdivision. Contractor shall require each trade Subcontractor to review all other subdivisions of the documents for related Work and shall coordinate the subcontracts accordingly.
6. Require all parties involved in the performance of the Work to cooperate in the overall coordination of the Work under the direction of the Contractor. Each party, when requested to do so, shall furnish information concerning its portion of the Work, and shall respond promptly and reasonably to the decisions and requests of persons designated with coordination, supervisory, administrative, or similar authority.
7. Coordinate the tolerances of all materials to ensure a proper fit in achieving the requirements of the Contract Documents.

1.05 STRUCTURAL, MECHANICAL AND ELECTRICAL COORDINATION

A. Contractor shall coordinate steel Shop Drawings to include any and all penetrations of framing members resulting from the coordination of the Work of the mechanical and electrical Subcontractors.

1. If penetrations in steel framing members are required, Steel Shop Drawings shall be reviewed and approved by the mechanical, electrical, and plumbing Subcontractors prior to submission to Owner for review or fabrication by the Contractor.

1.06 ELECTRONIC SAFETY AND SECURITY, AND COMMUNICATIONS COORDINATION

A. In addition to Submittals required by each Specification section, Contractor shall submit to Owner a complete set of coordinated and engineered Shop Drawings showing integration of all millwork, prefabricated cells, security door hardware, special equipment and mechanical equipment with electrical power, lighting controls, CCTV, locking controls, duress devices, public address, intercom, card access, video visitation, fire and life safety, television signal distribution and two station visitation telephones.

1. Coordinated Shop Drawings shall also include all duct, piping and conduit placement in order to avoid conflicts.

2. Contractor shall submit to Owner these coordinated Shop Drawings prior to any Work proceeding. Contractor is entitled to no additional compensation if conflicts arise that could have been avoided through complete and coordinated Shop Drawings.

1.07 COORDINATION DRAWINGS PREPARATION

A. Contractor shall prepare or ensure that Subcontractors prepare Coordination Drawings for Divisions 21, 22, 23, 26, and 28 systems, and any others required by the Contract Documents. Drawings shall be a composite drawing showing equipment, ductwork, piping, major conduit, and supports.

1. Format: Coordination Drawings shall be prepared on electronic media. See Part 1.11 of Section 01 31 00.2, "Project Management and Coordination," for availability of BIM model for use with Coordination Drawings. Entities responsible for Divisions 21, 22, 23, 26, and 28 shall agree on the electronic software and format to be used in preparation of the Coordination Drawings. The Owner, Owner's Authorized Representative and Architect of Record, by providing the Contractor with the BIM model, make no warranties real or implied that there are no conflicts present within the BIM model.

a. Where the software allows file referencing, each system shall be laid out in separate file. Using the separate files, a composite shall be printed of all systems.

b. Where the software does not allow file referencing, the entity responsible for Division 23 mechanical shall layout the systems under his responsibility, the file shall then be given to the entity responsible for Division 22 plumbing systems, Division 21 fire suppression systems, Division 26 electrical systems, and Division 28 electronic security and communications systems respectively for addition of the layout of their systems.

2. The layout drawings shall include:

a. Part Plans and elevations of equipment rooms showing proposed piping, ductwork, conduit, foundations, dimensions of openings in floors, roofs, and walls, and equipment to establish that the equipment will fit the allotted spaces with clearances for Installation and maintenance.

b. Floor Plans, with elevations where necessary, of all piping, conduit 2-inches (50mm) in size and larger, wireways and cable trays, air duct distribution including air inlets and outlets, and suspended equipment. Plan shall show proposed routing, mounting heights, changes in elevation, and location of components including major support elements.

c. Plans, elevations and sections of property room showing conveyor storage system layout with locations of mechanical ductwork, piping, conduits, fire protection systems, light fixtures and other equipment to verify available space and clearances to fit all components.

3. Coordination: After the initial layout of each system, Contractor shall assemble the entities responsible for Division 21, 22, 23, 26, and 28 to review the layout, determine if any conflicts exist, and determine course of action to relieve the conflict. Coordination Drawings shall not be submitted to the Owner's Authorized Representative until after the coordination review and conflicts have been corrected.
4. Drawings shall be prepared at a scale of not less than 1/4" = 1'-0" (1:50), and drawings sheet size shall be 30-inches wide by 42-inches long. The drawing submittals by the Contractor shall be in PDF electronic file format.

1.08 CONTRACTOR RESPONSIBILITIES

A. Contractor shall oversee preparation of Coordination Drawings.

B. Contractor shall assign space priorities.

C. Contractor shall notify Owner in writing of unresolved conflicts or interferences found during preparation of Coordination Drawings.

D. Coordination Meetings: Contractor shall conduct general Project coordination meetings with Subcontractors at least weekly at regularly scheduled times convenient for all parties involved. These meetings are in addition to specific meetings held for other purposes, such as regular Project meetings and special pre-Installation meetings. Owner or Owner's Authorized Representatives may attend Project coordination meetings with Subcontractors.

1. Contractor shall request representation at each Project coordination meeting by every party currently involved in coordination or planning for the Work of the entire Project.
2. Contractor shall conduct meetings in a manner which will resolve coordination problems.
3. Contractor shall record results and minutes of each meeting and distribute copies of those results and minutes to everyone in attendance and to the Owner.

E. Failure on the part of the Contractor to properly coordinate Installation of the various trades will not be considered changes to the Contract.

1.09 NON-CONFORMING WORK

A. Work not Installed within designated coordination areas in compliance with the Owner accepted Coordination Drawings will be considered non-conforming Work subject to removal and replacement at no additional cost to Owner.

1.10 SUBMITTAL REQUIREMENTS

A. If Coordination Drawings are required by this Section, submit an electronic copy.

B. Submit combined, comprehensive mechanical and electrical systems Coordination Drawings.

C. Comply with requirements of:

1. Section 01 33 00 – "Submittal Procedures"
2. Section 01 45 16.13, "Contractor's Quality Control (QC) System"

D. Refer to Division 22 Section 22 01 00 "General Requirements for Plumbing Systems," Division 23 Section 23 05 00"Mechanical General", Division 26 Section 26 05 00 "Common Work Results for Electrical", and Division 28 Section 80 00 00 "Integrated Security Systems General" for specific coordination requirements for plumbing, mechanical, electrical and security electronics Installations.

E. Signatures required on each sheet of Coordination Drawings:

1. Coordination Drawing(s) must be signed and dated by Contractor and individual Subcontractor with authority to bind the respective parties.

2. By act of signature and submittal of the single combined Coordination Drawing(s), Contractor and each Subcontractor acknowledge that Work for which Contractor or said Subcontractor is responsible has been coordinated with the Work of Contractor and all other Subcontractors.

PART 2 - **PRODUCTS** (Not used)

PART 3 - **EXECUTION** (Not Used)

PART 4 - **FORMS** (Not Used)

END OF SECTION

SECTION 01 33 27

SUBMITTAL LOG AND SUBMITTAL DISTRIBUTION

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. **Part 1 – General**
   a. 1.01 – Summary
   b. 1.02 – Related Sections
   c. 1.03 - Definitions
   d. 1.04 – Contractor's Responsibilities
   e. 1.05 - Scheduling
   f. 1.06 - Submittal Log Information
   g. 1.07 - Grouping and Sorting Submittals
   h. 1.08 -Submittal Number of Copies
   i. 1.09 –Submission Procedures
   j. 1.10 - Submittal Log Maintenance
2. **Part 2 – Products (Not Used)**
3. **Part 3 – Execution (Not Used)**
4. **Part 4 – Forms (Not Used)**

1.02 RELATED SECTIONS

A. Section 01 32 00.4, Part .3.12, "Submittal Log"

B. Section 01 33 00, "Submittal Procedures"

C. Section 01 45 16.13, "Contractor's Quality Control (CQC) System"

1.03 DEFINITIONS

A. **Action Submittals –** Submittals requiring Owner's written response and/or Acceptance.

B. **Informational Submittals –** Submittals not requiring Owner's written response. These submittals include Survey notes, QC Manager's Daily Report, Laboratory test reports, etc.

C. **Preconstruction Submittals –**Action Submittals requiring Owner's acceptance before Contractor may proceed with the performance of on-site Work. These Submittals include, but are not limited to, the CQC Plan, Fire Protection Plan, Qualifications of Key Personnel, Qualifications of Scheduler, SWPPP, etc. Except for the CQC Plan, which must be certified by the CQC Manager pursuant to Section 01 45 16.13, all Pre-construction Submittals may be signed by the Contractor's Authorized Representative (Section 01 31 00.2, Part 1.04), Contractor's Project Manager, or an Officer of the Contractor.

D. **Product Data Submittals** –Action Submittals associated with, and necessary for, the accomplishment of a specific Definable Feature of Work (DFOW) and include information such as shop drawings;

samples; product certifications; sub-contractor qualifications; Manufacturers' instructions and factory test reports; contractor designs and calculations (such as curtain walls, pre-cast concrete, etc.), equipment and systems data for Commissioning (if applicable to this Contract), etc. These Submittals require Owner's acceptance before the Contractor may proceed with the DFOW associated with these Submittals. Product Data Submittals demonstrate to the Owner how the Contractor proposes to conform to the requirements of the Contract Documents. The CQC Manager must certify all Product Data Submittals, pursuant to Section 01 45 16.13.

E. **Project Management Submittals** – Action Submittals and are essential to the effective management of the Project. These Submittals include, but are not limited to,: the construction progress schedule; Submittal log; Cost Breakdown/Cost Loaded Schedule; permit applications such as permits from the Fire Marshal; Coordination Drawings; Procurement Status Log; and Commissioning Submittals (Section 01 91 13.2). Except for Coordination Drawings, invoices and Commissioning Submittals, which must be certified by the CQC Manager pursuant to Section 01 45 16.13, all Project Management Submittals may be signed by the Contractor's Authorized Representative (Section 01 31 00.2, Part 1.04; Document 00700, Article 3.07), Contractor's Project Manager, or an Officer of the Contractor.

F. **Management Information Submittals** – Information Submittals that provide the Owner information about the status of the Project. These Submittals include Contractor Daily Reports, CQC reports, Daily Force Account reports, Accident reports, and others. Management Information Submittals are Information Submittals.

G. **Project Completion Submittals** –Action Submittals and include Substantial Completion and Final Completion Certifications; Manufacturer's field test reports; Operation and Maintenance Manuals; etc. These Submittals are also Action Submittals. The CQC Manager must certify all Project Completion Submittals pursuant to Section 01 45 16.13.

H. **Project Acceptance Submittals** –Action Submittals and are those Submittals required by the Owner to affect a recommendation to the Board of Supervisors to Accept the Project as complete. Includes As-Built documents, Warrantees and Guarantees, Samples, etc. The CQC Manager must certify all Project Acceptance Submittals pursuant to Section 01 45 16.13.

1.04 CONTRACTOR'S RESPONSIBILITIES

A. The Contractor is responsible for developing and maintaining a Submittal Log for all Contractor Submittals. This effort includes:

1. **Developing a Submittal Log to identify and track all Action Submittals required by the Contract Documents.**
2. **Providing copies of the Submittal Log to the Owner in form acceptable to Owner's Authorized Representative.**
3. **Maintaining an up-to-date Submittal Log and Submitting electronic copies to Owner's Authorized Representative each month.**
4. **Reviewing the Submittal Log at weekly Progress Meetings.**

B. Additionally, at each scheduled Progress Meeting, the Contractor shall provide look-ahead listing of all Submittals planned to be provided to the Owner during the forthcoming three-week period.

1.05 SCHEDULING

A. Prepare and Submit electronic copies of the Submittal Log to Owner no later than twenty-eight (28) Days after the Official Start Date stated in the Notice to Proceed.

B. Allow at least twenty-one (21) Days for Owner's review and return of Submittal Log.

C. At each scheduled Progress meeting provide a look-ahead listing of all Submittals planned to be provided to the Owner during the forthcoming three (3) week period.

1.06 SUBMITTAL LOG INFORMATION

A. The Submittal Log, at a minimum, must contain the following information for each required **Action Submittal**:

1. **All Submittals shall be grouped by Definable Feature of Work;**
2. **A unique Submittal tracking number (Ref. Section 01 33 00). Any re-Submittals must be so identified;**
3. **Description of the Submittal;**
4. **Submittal Designation Number (see Part 1.07. A .2 below);**
5. **Date Owner-acceptance required so as not to impact the project's critical path schedule;**
6. **Actual Date Transmitted to Owner;**
7. **Date due from Owner per Review Time allowed by Contract Documents (No less than 21 Days);**
8. **Cross reference to corresponding activity number on Contractor's Progress Schedule;**
9. **Project Manual section(s) requiring submission of Submittal;**
10. **Actual date when Contractor received Submittal(s) back from Owner;**
11. **Owner's action on Submittal (No Exceptions Taken, Make Corrections Noted, Revise and Resubmit, Rejected, or Returned Without Action); and**
12. **Comments/Remarks.**

B. Table 01 33 27-1 contains a partial listing of the Submittal requirements. After verifying the accuracy and completeness of the information contained in Table 01 33 27-1, Contractor may incorporate the information into Contractor's Submittal Log.

1.07 GROUPING AND SORTING SUBMITTALS

A. The Submittal Log, at a minimum, must be able to be **electronically sorted** by:

1. **Definable Feature of Work**
2. **Submittal Designation (SD)**

a. **SD-00 Pre-Construction Submittals**

.1 Pre-construction Submittals include, but are not limited to,:

.a All Submittals requiring Owner's acceptance before Contractor may proceed with on-site Work. (Document 00700, Article 3.26.)

.2 Except as otherwise specifically stated in the Contract Documents or specifically approved by Owner's Authorized Representative, all required Pre-construction Submittals must be submitted within forty-five (45) Days after the start date for the Work as stated in the Notice to Proceed. (Document 00700, Article 3.26.)

b. **SD -01 Project Management Submittals**

.1 These Submittals are due to the Owner within 90 days of the Notice to Proceed.

c. **SD-02 Shop Drawings (Product Data Submittals)**

.1 Shop Drawings fall under the definition of Product Data Submittals and include, but are not limited to,:

.a Drawings, diagrams and schedules specifically prepared to illustrate some portion of the Work.

.b Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the Project.

.c Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary Work will be coordinated.

.d Coordination Drawings.

d. **SD-03 Product Data (Product Data Submittals)**

.1 Product Data includes, but is not limited to,:

.a Catalog cuts, illustrations, diagrams, performance charts, product certifications, manufacturer's instructions and factory test reports.

.b Instructions and brochures illustrating size, physical appearance and other characteristics of materials or equipment for a Work item.

e. **SD-04 Samples (Product Data Submittals)**

.1 Samples fall under the definition of Product Data Submittals and include, but are not limited to,:

.a Physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the Work can be judged.

.b Color samples from the manufacturer's standard line (or custom colors if specified) to be used in selecting or approving colors for the Work.

.c Field samples and mock-ups constructed on the Project Site establishing standards by which the Work can be judged. Includes assemblies or portions of assemblies that are to be incorporated into the Work and those that will be removed at conclusion of the Work.

f. **SD-05 Contractor Design Data (Product Data Submittals)**

.1 Contractor Design Data falls under the definition of Product Data Submittals and includes, but is not limited to,:

.a Calculations.

.b Mix designs.

.c Analyses or other data pertaining to a part of the Work.

g. **SD-06 Certificates, Certifications, and Qualifications**

.1 Certificates may include Product Data Submittals, Project Management Submittals, and Project Completion Submittals. These include, but are not limited to,:

.a Material attesting that product, system or material meets the requirements of the Contract Documents.

.b Documents required of Contractor, Supplier, or Subcontractor, related to the acceptability of methods, procedures, or personnel qualifications.

.c Project Completion Certifications.

.d Waste Disposal Certificates.

.2 Qualifications include, but are not limited to,:

.a QC Manager qualifications.

.b Alternate QC Manager Qualifications.

.c Critical Path Method (CPM) Scheduler Qualifications.

h. **SD-07 Manufacturer's Instructions (Product Data Submittals)**

.1 Manufacturer's Instructions fall under the definition of Product Data Submittals and include, but are not limited to,:

.a Preprinted material describing installation of a product, system or material, including special notices.

.b Material Safety Data Sheets.

i. **SD-08 Manufacturer's Field Reports**

.1 Manufacturer's Field Reports include factory test reports (Product Data Submittals) and field test reports (Project Completion Submittal) and include, but are not limited to,:

.a Information documenting factory-authorized service representative's tests and inspections.

j. **SD-09 Operation and Maintenance Data (Project Completion Submittals)**

.1 Operation and Maintenance Data falls under the definition of Project Completion Submittals and include, but are not limited to,:

.a Data that is provided by the manufacturer, or the system provider, to explain or demonstrate the operation and maintenance of equipment and/or systems.

.b All Contractor provided training materials.

k. **SD-10 Spare Parts and Keys (Project Acceptance Submittals)**

.1 Spare Parts and Keys falls under the definition of Project Acceptance Submittals and include, but are not limited to,:

.a Keys.

.b All items designated a spare part.

l. **SD-11 Project Acceptance/Closeout Submittals**

.1 Closeout Submittals falls under the definition of Project Acceptance Submittals and include, but are not limited to,:

.a Documentation to record compliance with technical or administrative requirements of the Contract Documents required before the Owner’s Authorized Representative will recommend Acceptance of the work to the Director of General Services.

.b Record Documents.

.c EIR Mitigation Monitoring Documentation.

.d Executed Warranties and Guarantees.

m. **SD-12 Project Completion Submittals**

.1 Project Completion Submittals include, but are not limited to,:

.a Contractor’s Substantial Completion Certification.

.b Contractor’s Final Completion Certification.

n. **SD-13 Statutory/Regulatory Submittals**

.1 Statutory/Regulatory Submittals fall under the definition of Project Management Submittals. They include, but are not limited to,:

.a Excavation Plans.

.b Air Quality District Permits and Approvals.

.c Encroachment Permits.

.d Confined space entry permits.

o. **SD-14 Project Management Submittals (Fire Protection Plan)**

.1 Project Management Submittals include, but are not limited to,:

.a Basic Contract Schedule.

.b Monthly Earnings Forecast.

.c Cost Breakdown.

.d Monthly Billings.

.e Submittal Log.

.f Procurement Status Log.

.g Solid Waste Management and Recycling Plan.

p. **SD-15 Permit Submittals (Project Management Submittals)**

.1 (e.g. Fire Marshal)

q. **Other**

.1 Any Submittal not reasonably included in the SD designations identified above.

1.08 SUBMITTAL NUMBER OF COPIES

A. Contractor must provide the designated number of copies unless a greater number is specifically required elsewhere in the Contract Documents. In addition to hard copies Owner will require electronic submissions.

1.09 SUBMISSION PROCEDURES

A. Submit in accordance with Section 01 33 00, “Submittal Procedures”, and Section 01 45 16.13, “Contractor Quality Control”, and Section 01 32 00.4, “Construction Progress Documentation.”

B. Contractor must verify the accuracy and completeness of the Submittal Log before Submitting to Owner.

C. Before providing the initial Submittal Log to Owner, Contractor must certify the Submittal Log for compliance with the requirements of the Contract Documents including coordination of the Submittal Log with the Contractor’s Preliminary Contract Schedule.

D. Submit electronic copies of the initial Submittal Log to Owner’s Project Manager no later than twenty-eight (28) Days after the Work Start Date stated in the Notice to Proceed.

E. Submit electronic copies of the updated Submittal Log to Owner’s Project Manager each month prior to submission of Contractor’s monthly pay request. Before providing each monthly update of the Submittal Log to Owner, Contractor must certify the Submittal Log for compliance with the requirements of the Contract Documents including coordination of the Submittal Log with the Official Progress Schedule.

1.10 SUBMITTAL LOG MAINTENANCE

A. Contractor must update the Submittal Log electronic file as Submittal actions occur.

B. Contractor must maintain the Submittal Log at Project Site until Acceptance of the Work by the Director of General Services.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS (Not Used)

END OF SECTION

SECTION 01 45 16.13

CONTRACTOR'S QUALITY CONTROL (QC) SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents and Sections
   c. 1.03 – Definitions
   d. 1.04 – References
   e. 1.05 – Contractor's Quality Control (QC) System
   f. 1.06 – QC System Requirements
   g. 1.07 – QC System
   h. 1.08 – QC Organization
   i. 1.09 – QC Plan
   j. 1.10 – Coordination and Mutual Understanding Meeting
   k. 1.11 – QC Meetings
   l. 1.12 – Three Phases of Control
   m. 1.13 – Testing
   n. 1.14 – QC Documentation
   o. 1.15 – Certifications
   p. 1.16 – Substantial and Final Completion Inspections
   q. 1.17 – Final Completion
   r. 1.18 – Notification of Noncompliance
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms
   a. Sample QC Appointment Letter – F-1
   b. Sample Alternate QC Appointment Letter F-2
   c. Sample Test Plan and Log – F-3
   d. Sample Re-work Items List – F-4
   e. QC Documentation Table – F-5
   f. Daily Quality Control Report – F-6
   g. Preparatory Phase Checklist – F-7
   h. Work Phase Checklist – F-8

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00700, Article 1.06, "Requests for Information"
B. Document 00700, Article 3.03, "Documents and Samples at the Project Site"
C. Document 00700, Article 3.13, "Cleanup"
D. Document 00700, Article 3.23, "Tests and Inspections"

E. Document 00700, Article 3.26, "Submittals"
F. Document 00700, Article 3.37, "Standards for Work and Materials"
G. Document 00700, Article 3.38, "Conformity with Contract Documents and Allowable Deviations"
H. Document 00700, Article 3.39, "Control of Materials"
I. Document 00700, Article 7.05, "Substantial and Final Completion Inspections"
J. Document 00700, Article 8, "Payments"
K. Document 00700, Article 12, "Uncovering and Correction of Work"
L. Document 00700, Article 13, "Final Completion and Acceptance"
M. Section 01 29 00.2, "Payment Procedures"
N. Section 01 31 00.2, "Project Management and Coordination"
O. Section 01 31 19, "Project Meetings"
P. Section 01 32 00.4, "Construction Progress Documentation"
Q. Section 01 33 00, "Submittal Procedures"
R. Section 01 45 23, "Testing and Inspection Services"
S. Section 01 71 23, "Survey & Field Engineering"
T. Section 01 74 00, "Cleaning and Waste Disposal"
U. Section 01 77 00, "Closeout Procedures"
V. Section 01 91 13.2, "General Commissioning Requirements"

1.03 DEFINITIONS

A. The following definitions as used in this Section mean:

1. **Alternate QC Manager** – The Owner-accepted individual that performs the duties, responsibilities, and functions of the QC Manager when the QC Manager is absent from the Project Site.
2. **Contractor's Daily Report** – See Document 00700, Article 3.03 .F and Section 01 32 00.4, Part 3.13, "Project Reports."
3. **Coordination and Mutual Understanding Meeting** – A meeting occurring after Contractor's submission of the QC Plan and before starting Work, at which the QC Manager presents the QC Program to the Owner.
4. **Corrective Action Plan** – A written document submitted by the QC Manager to the Owner no later than 10 a.m. the third work Day after each failed test, inspection, or receipt by Contractor of a non-conformance notice from the Owner which states the Contractor's plan to correct an item of Work that fails to conform to the requirements of the Contract Documents.
5. **Deficient Work** – Installed Work that does not meet the requirements of the Contract Documents.
6. **Definable Feature of Work (DFOW)** – A Definable Feature of Work (DFOW) is a task that is: (1) Separate and distinct from other tasks; (2) has common control requirements and work crews; (3) Is continuous by location on the site. For example, typical Section 03 30 00 Concrete work, would have a separate DFOW for footings; first floor slab (unless, for example, the slab were continuously poured with the footings); second floor slab, etc.; or (4) a critical path activity. Non-critical path activities may also be DFOWs.
7. **Follow-Up Phase** – The third phase of control. (Also referred to as Phase 3.)
8. **Incomplete Work –** Includes items of work not complete per the Contract Documents.

9. **Phase 1** – The first phase of the Three Phases of Control consisting of the actions required before beginning any work involving a Definable Feature of Work. (Also referred to as Preparatory Phase.)
10. **Phase 2** – The second phase of the Three Phases of Control consisting of the actions required to perform the work of a Definable Feature of Work. (Also referred to as Work Phase.)
11. **Phase 3** – The third phase of the Three Phases of Control consisting of the actions required to follow-up on the Work performed. (Also referred to as Follow-Up Phase.)
12. **Preparatory Phase** – The first phase of control. (Also referred to as Phase 1.)
13. **Preparatory Phase Checklist** – A checklist prepared by the QC Manager, in a format furnished or accepted by the Owner, for each Definable Feature of Work during the Preparatory Phase.
14. **Preparatory Phase Meeting** – A meeting called by the QC Manager at least five (5) work Days before beginning Work on any Definable Feature of Work. The Owner's Inspector of Record, and the Contractor's supervisor responsible for the Definable Feature of Work must attend this meeting.
15. **Punch List –** a written list of deficiencies in the completed Work identified during the Substantial Completion Inspection which Contractor must complete before requesting a Final Inspection. Punch List work includes minor architectural cosmetic work to correct minor flaws or deficiencies related to painting, trim, ceiling tile, joinery work or other architectural features; minor adjustments to door hardware; minor cleaning to include scuff marks and small stains; correction of minor mechanical or electrical deficiencies such as tightening of plumbing fixtures and connections, affixing electrical cover plates, minor adjustments to HVAC controls and settings; minor corrections to landscaping; etc. Punch List does not include "Major" Work that would prevent Owner from occupying and using the facility for its intended use.
16. **QC Documentation** – The special QC Documentation requirements summarized in "Table 01 45 16.13 F-5 - QC Documentation" and described more in-depth at Part 1.14 of this Section 01 45 16.13.
17. **QC Meetings** – Recurring QC Meetings held at least once every two weeks at the Work site with Owner's Authorized Representative, Contractor's Project Superintendent, and QC Manager.
18. **QC Manager** – Contractor's employee but not associated with the "production" aspect of the Work; accepted by the Owner and responsible for managing Contractor's QC System.
19. **QC Manager's Daily QC Report** – A written document prepared, certified, and submitted by the QC Manager in the format, containing the information, covering the period(s), and at the frequency required by Section 01 45 16.13, Part 1.14, "QC Documentation".
20. **QC Organization** – individuals, including at minimum the QC Manager and QC Alternate, Contractor tasked with ensuring Quality and executing the QC Program.
21. **QC Plan** – Contractor's written plan identifying all QC personnel, procedures, inspections, tests, instructions, reports, records, and schedules.
22. **QC Program** – Contractor's Quality Management requirements for all on-site and off-site Work, including documentation, administration, and coordination of Contractor's management, production and QC personnel.
23. **QC System** - The means by which Contractor ensures Quality.
24. **Quality** – Conformance to the requirements established by the Contract Documents.

25. **Quality Control (QC) –** The Contractor's system in place during execution of the Work to manage and control its own and its Suppliers' and Subcontractors' activities so that they comply with the requirements of the Contract Documents.
26. **Quality Level** – The degree of excellence, basic nature, character, or kind of performance of a particular type of Work set forth in the Contract Documents.
27. **Quality Management** – Quality Control and assurance activities instituted to achieve the Quality Levels established by the Contract Documents.
28. **Rework Item** – Work that does not comply with the requirements of the Contract Documents.
29. **Rework Items List** – A written list of Work that does not comply with the requirements of the Contract Documents, maintained by the QC Manager, identifying the items of Work requiring correction, the date the item was originally discovered, the anticipated date for correction of the item, and the actual date of correction.
30. **Subcontractor's Daily Report** – See Document 00700, Article 3.03 .F.
31. **Submittal Log** – A written list in a format furnished by or accepted by the Owner, indicating the status of all Submittals required by the Contract Documents, grouped by Definable Feature of Work (DFOW), and prepared and maintained by the QC Manager. (See Section 01 32 00.4, "Construction Progress Documentation", and Section 01 33 27.2, "Submittal Log" for additional requirements)
32. **Testing Plan and Log** – A written document, prepared and maintained by the QC Manager, indicating all tests required by the Contract Documents, the entity responsible for performing the test, the date each test was conducted, the date test results were submitted to Owner, remarks, and containing the QC Manager's certification that an accredited testing Laboratory was used.
33. **Three Phases of Control** – Phase 1 – Preparatory Phase; Phase 2 – Work Phase; and Phase 3 – Follow-Up Phase.
34. **Work Phase –** The second phase of control. (Also referred to as Phase 2.)
35. **Work Phase Checklist** – The checklist prepared by the QC Manager, in a format furnished by or accepted by the Owner, for each Definable Feature of Work in the Work Phase.

1.04REFERENCES

A. The publications listed below are part of the requirements of the Contract Documents to the extent referenced:

1. ASTM C 1077(current edition) Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
2. ASTM D 3666(current edition) Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials.
3. ASTM D 3740(current edition) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
4. ASTM E 329(current edition) Agencies engaged in the Testing and/or Inspection of Materials Used in Construction.
5. ASTM E 543(current edition) Agencies Performing Nondestructive Testing.

1.05CONTRACTOR'S QUALITY CONTROL (QC) SYSTEM

A. Contractor's QC System is the means by which Contractor ensures Quality.

B. Contractor must establish and maintain a QC System to ensure conformance with the requirements of the Contract Documents. Contractor's Quality Control measures must be adequate to cover all construction operations and must be correlated with the Official Progress Schedule.

C. Contractor's QC System must include the inspections and tests required by the Contract Documents in addition to Contractor's own inspections and tests necessary to control Quality. Contractor must maintain and submit to Owner adequate records of all inspections and tests, and must submit all test results on forms furnished or accepted by Owner.

D. Contractor must closely inspect all materials upon delivery, and all Work in progress for compliance with the requirements of the Contract Documents. Contractor must promptly reject and return all defective materials and rework any Deficient Work without waiting for rejection by Owner.

E. Contractor must submit to Owner and Owner must accept Contractor's Quality Control Plan (QC Plan) before starting any Work at the Project Site. Work will be permitted to start only after Owner reviews and accepts Contractor's QC Plan. The QC Plan must identify all QC personnel, procedures, inspections, tests, instructions, reports, records, schedules, etc.

1.06QC SYSTEM REQUIREMENTS

A. The QC System, as defined herein, establishes minimum staffing, documentation, reporting, and procedural requirements that Contractor must implement and maintain throughout the Contract Time.

B. The following points are fundamental to the QC System:

1. Owner is not responsible for controlling the Quality of Contractor's Work.
2. Contractor is responsible for implementing and maintaining specific minimum processes and measures for controlling the Quality of the Work.
3. The requirements of the Contract Documents establish the Quality Level.
4. Owner has the right to inspect the Work; Contractor has the obligation to inspect the Work.
5. Owner will review Contractor's QC System for compliance with the requirements of the Contract Documents.
6. The objective of Contractor's QC System is to prevent Deficient Work.
7. Contractor must staff the Project with a QC Manager who is responsible for managing Contractor's QC System.
8. Contractor must develop and submit three (3) copies of a QC Plan that complies with the requirements of this Section 01 45 16.13, Part 1.09, "QC Plan." In accordance with Section 01 33 27.2, "Submittal Log and Submittal Distribution" and Part 1.09 of this Section 01 45 16.13, Contractor's QC Plan must be accepted by Owner before Contractor performs any Work on the Project Site, except for mobilization and placement of construction trailers and site surveying work.

1.07QC SYSTEM

A. Contractor must establish and maintain a QC System as described herein. At a minimum, the QC System must consist of:

1. QC Organization
2. QC Plan
3. Initial Coordination and Mutual Understanding Meeting
4. Recurring QC Meetings
5. Three Phases of Control

6. Testing
7. Inspections by the QC Manager
8. QC Documentation
9. QC Manager's Certifications
10. Completion Inspections

B. The QC System must cover on-site and off-site Work and must be correlated with the Official Progress Schedule and Short Interval Schedules.

C. No on-site Work or testing shall be performed unless the QC Manager or Alternate QC Manager is at the Work site.

D. Owner reserves the right to require changes in the QC Plan and operations as necessary, including removal of personnel, to ensure the specified Quality of Work. Owner reserves the right to interview any member of Contractor's QC organization at any time to verify their submitted qualifications.

E. Contractor must notify Owner, in writing, of any proposed change to the QC Plan, including changes to QC Organization or personnel, a minimum of seven (7) Days prior to a proposed change. Proposed changes are subject to acceptance by Owner.

1.08QC ORGANIZATION

Contractor's QC Organization shall consist of at least the following positions:

A. QC Manager:

1. In accordance with Section 01 31 00.2, "Project Management and Coordination," Contractor shall Provide a QC Manager at the Work site to implement and manage the QC program. The QC Manager is independent of the "production organization" and reports directly to an officer of the Contractor. Contractor's Project Superintendent or Contractor's Authorized Representative may **not** function as the QC Manager. **No Work may proceed on the site without the presence of the QC Manager or his/her Owner-accepted Alternate. The QC Manager may not be absent from the Project site for more than two (2) consecutive weeks and/or 20 total work days in the course of any 12 month period. Any absence beyond these periods may be cause for the Owner to direct the removal of the Project QC Manager.**
2. Within seven (7) days after the start date for the Work identified in the Notice to Proceed (NTP) and before starting any Work, Contactor must submit for acceptance by the Owner two (2) copies of the QC Manager's qualifications. The Qualifications submittal must be accompanied by a detailed resume for the candidate documenting their relevant experience and providing at least three (3) current, profession-related references. The references must include at least two (2) "Owner's representatives" who can provide information regarding the on-site performance of the proposed QC Manager candidate. Per Part 1.09 of this Section 01 45 16.13, a resume, a description of duties, responsibilities and authorities, and an appointment letter for the QC Manager signed by a company officer of Contractor must be included in the Contractor's CQ Plan submittal.
3. Duties: The QC Manager shall:
    a. Be on the Work site at all times during performance of Work, with complete authority to take any action necessary to ensure Quality. In the event of the QC Manager's absence, the Alternate QC Manager must be present and have the same authority as the QC Manager.
    b. Implement and manage the Three Phases of Control for each Definable Feature of Work.

c. Immediately stop any Work that does not comply with requirements of the Contract Documents, and direct removal and replacement of any Deficient Work.

d. Conduct daily inspections of Work performed to ensure Quality.

e. Certify daily that all Work performed, on and off the construction site, conforms to requirements of the Contract Documents. Certify daily that all materials and equipment delivered or installed in the Work comply with the requirements of the Contract Documents. Report to Owner any Deficient Work and corrective action planned and taken.

f. Ensure that Contractor's QC Organization is adequately staffed with qualified personnel to perform all required inspections and tests.

g. Supervise and coordinate the inspections and tests made by the QC Organization, including the tests and inspections of the Work of Subcontractors and Suppliers.

h. Review all applicable reference documents identified in the individual specification Sections, such as ASTM, ACI references, etc. The QC Manager is responsible for accessing and providing copies of all such documents and standards identified in the Sections.

i. Ensure that all required tests are performed and results are reported to the Owner and Indicate whether test results do or do not conform to requirements of the Contract Documents. Submit to Owner Corrective Action Plan(s) for nonconforming items.

j. Recommend removal of any person from the Project that consistently fails to perform Work properly.

k. Report to Contractor’s senior management the identity of any Subcontractor or Supplier whose Work consistently fails to meet the requirements of the Contract Documents.

l. Lead the Coordination and Mutual Understanding Meeting and conduct all recurring QC Meetings.

m. Submit to Owner one (1) copy of certified QC Manager’s Daily QC Reports in the specified format.

n. Certify Submittals for conformance with the requirements of the Contract Documents per Section 01 33 27.2.

o. Certify each of Contractor’s payment requests.

p. Certify completion prior to requesting Substantial Completion Inspection.

q. Certify completion prior to requesting Final Inspection.

r. At the Work site, perform daily maintenance and updating of the following:

1. Submittal Log,
2. Testing Plan and Log,
3. Rework Items List,
4. As-Built Documents (As-Built Drawings and Project Manual), marked to show any deviations made from the requirements of the Contract Documents and to indicate the actual materials and equipment incorporated in to the Work, and
5. Records Binder containing all Quality Control records.

s. Attend all key Project Meetings including, but not limited to, Preconstruction Conference, Schedule Orientation Meeting, Progress Meetings, Commissioning Meetings, Demonstration and Training Meetings, and Closeout Conference.

t. Perform any Commissioning responsibilities as provided for in Part 1.12 of Section 01 91 13.2, "General Commissioning Requirements."

4. Qualifications:

a. A minimum of 5 years' experience as a Superintendent, construction QC manager, construction Project Manager, or Primary Construction Manager on projects of similar size and type of construction compared to this Project. Relevant experience must have been acquired within the last 7 years. Relevant projects must have included the major trades involved with this Project.

B. Alternate QC Manager Duties and Qualifications:

1. Contractor shall designate an Alternate QC Manager to serve as QC Manager at the Project Site in the absence of the dedicated QC Manager. The qualification requirements for the Alternate QC Manager are the same as for the QC Manager. The Alternate QC Manager may not function as the "permanent" QC Manager, unless this individual meets the same qualification requirements as the QC Manager, and a submittal request is made to and approved by the Owner. The individual identified to be the Alternate QC Manager may not perform any duties in the Contractor's "Production" organization.

2. Within seven (7) days after the start date for work identified in the Notice to Proceed and before starting any Work, Contactor must submit for acceptance by the Owner, two (2) copies of the Alternate QC Manager's qualifications. The Qualifications submittal must be accompanied by a detailed resume for the candidate documenting their relevant experience and providing at least three (3) current references. Copies of the Owner accepted Authorization letter for the Alternate QC Manager and supporting information must be included in the Contractor's Final QC Plan submittal.

C. Commissioning Manager:

1. Per Section 01 91 13.2, Contractor's QC Organization shall include the Commissioning Manager. In addition to any relevant duties or qualifications specified in this Section 01 45 16.13, Commissioning Manager's qualifications and duties shall include those provided for in Section 01 91 13.2.

1.09QC PLAN

A. Requirements:

1. Within fourteen (14) Days of the official Contract start date stated in the Notice to Proceed, Contractor shall submit two (2) copies of a draft QC Plan covering both on-site and off-site Work. The draft QC Plan must be bound in a 3-ring binder, the pages must be numbered sequentially, and the following information must be included:

a. Table of Contents listing the major sections identified with tabs in the following order:

1. QC ORGANIZATION
2. NAMES, QUALIFICATIONS (Resumes), AND REFERENCES
3. DUTIES, RESPONSIBILITIES AND AUTHORITY OF QC PERSONNEL
4. APPOINTMENT LETTERS
5. QUALIFICATIONS OF THE TESTING AND BALANCING FIRM (Section 23 05 93). The Testing and Balancing Firm must be contracted directly to the Prime Contractor, and may not work for any Subcontractor.
6. CONTRACTED ORGANIZATIONS
7. TESTING LABORATORY INFORMATION
8. TESTING PLAN AND LOG

9. REWORK TRACKING PLAN
10. INITIAL LIST OF DEFINABLE FEATURES OF WORK (DFOW)
11. FINAL LIST OF DFOW'S TO BE SUBMITTED WITH FINAL SCHEDULE SUBMISSION

b. QC organizational chart, showing the relationship of the QC Manager to Contractor's organization and officers, the Contractor's Project Superintendent, Project and QC staff, Subcontractors, testing firms, consultants, etc.

c. Names and qualifications, in resume format, for each person in the QC Organization.

d. Description of duties, responsibilities and authorities of each person in the QC Organization.

e. Appointment letters for the QC Manager and, if available, Alternate QC Manager signed by a company officer of Contractor. See sample letter attached (Form F-1 and F-2). Both letters are required for Contractor's Final QC Plan. If the Alternate QC Manager's signed appointment letter is not yet available, the Alternate QC Manager's appointment letter may be omitted from the Draft QC Plan.

f. List of Subcontractors such as testing firms, architects and engineers that will be employed by Contractor, and a description of the services they will provide.

g. Testing Plan and Log in the format furnished (Form F-3) or a format accepted by Owner. The Test log submitted as part of the CQC Plan shall identify the following:

   1. All tests required by the Contract Documents, applicable Codes, and other tests deemed necessary by Contractor;
   2. The reference Specification section, or Code section, requiring the test;
   3. The frequency of the test.

h. Testing Laboratory accreditation and capability information required by Section 01 45 16.13, Part 1.13, "Testing."

i. Rework Tracking Plan and Rework Items List in the format furnished (Form F-4) or accepted by the Owner, to identify, record, track and complete Rework items.

j. Initial List of Definable Features of Work for first 120 days of the Project.

   1. A Definable Feature of Work (DFOW) is a task that is: (1) Separate and distinct from other tasks; (2) Has common control requirements and work crews; (3) Is continuous by location on the site. For example, typical Section 03 30 00 Concrete work, would have a separate DFOW for footings; first floor slab (unless, for example, the slab were continuously poured with the footings); second floor slab, etc.; or (4) a critical path activity. Non-critical path activities may also be DFOWs.

   2. Each technical Specification Section could be considered a DFOW. There may be more than one DFOW per Section. There also may be more than one Section per DFOW.

   3. This List of DFOW's must be cross-referenced to the activities on the Official Progress Schedule and the section references from the Project Manual. This DFOW list must include, but is not limited to, all Critical Path activities.

   4. DFOW's are used in the Three Phases of Control and for grouping Submittals in the Submittal Log.

2. After incorporating any Owner comments in the Draft CQC Plan, submit three (3) copies of a final draft of the QC Plan covering both on-site and off-site Work for Owner's acceptance. **No work may proceed on site without Owner's acceptance of the QC Plan.**

1.10 COORDINATION AND MUTUAL UNDERSTANDING MEETING

A. After submission and Owner-acceptance of the final draft of the QC Plan and the QC staff, including the QC Manager, and before starting Work, Contractor shall schedule the Coordination and Mutual Understanding Meeting.

B. Attendees to the Coordination and Mutual Understanding Meeting shall be, at a minimum, Owner's Authorized Representative, Inspector of Record, Construction Manager, Contractor's Authorized Representative, Contractor's Project Superintendent, Contractor's QC Manager, and Contractor's Alternate QC Manager.

C. At the Coordination and Mutual Understanding Meeting, QC Manager shall present the QC Program. This Meeting is to develop a mutual understanding of QC Program requirements for all on-site and off-site Work, including documentation, administration, and coordination of Contractor's management, production and QC personnel.

D. At the Coordination and Mutual Understanding Meeting, QC Manager must explain in detail how the Three Phases of Control will be implemented for each Definable Feature of Work.

E. The QC Manager must conduct the Coordination and Mutual Understanding Meeting, prepare and sign the meeting minutes, and provide copies of the minutes to each attendee within two (2) work Days after the Coordination and Mutual Understanding Meeting and provide revisions as required.

F. If a new QC Manager is appointed at any time during the Contract Time, the Coordination and Mutual Understanding Meeting must be repeated.

1.11 QC MEETINGS

A. After Work begins, recurring QC Meetings will be held at least once every two weeks at the Project Site with Owner's Authorized Representative, Owner's Project Inspector, Contractor's Authorized Representative, and Contractor's Project Superintendent, and QC Manager.

1. QC meetings may coincide with other Project meetings.
2. The QC Manager must conduct the QC Meetings, prepare and sign the meeting minutes, and provide copies of the minutes to each attendee and submit two (2) copies to the Owner within 2 work Days after each QC Meeting.

B. As a minimum, the following will be accomplished at each QC Meeting:

1. Review status of problems recorded in the minutes of previous QC Meeting.
2. Review Official Progress Schedule and status of Work.
   a. Work or testing accomplished since last QC Meeting.
   b. Rework Items identified since last QC Meeting.
   c. Rework Items completed since last QC Meeting.
3. Review Submittal Log and status of Submittals.
   a. Submittals reviewed and returned since last QC Meeting.
   b. Submittals required in near future.
4. Review Work to be done in next 2 weeks and documentation required.
5. Establish completion dates for Rework Items.

6. Update or revise the Official Progress Schedule and Short Interval Schedules to indicate the planned and actual dates of Preparatory Phase, Work Phase, and Follow-Up Phase, including testing and inspections.
7. Discuss proposed construction and the approach to be used to ensure Quality Work.
8. Identify potential problems for each Definable Feature of Work.
9. Discuss status of off-site Work and testing.
10. Review the Preparatory and Work Phase Checklists. (See Section 01 45 16.13 Part 1.14 .E, "Preparatory Phase Checklist", and Section 01 45 16.13, Part 1.14 .F, "Work Phase Checklist", for details on these Checklists.)
11. Verify that each Checklist includes a breakdown of Quality checks that will be used when performing QC functions, inspections, and tests required by the Contract Documents.
12. Resolve QC and production problems:
    a. Problems relating to correction of deficiencies.
    b. Problems relating to Requests for Information (RFI's).
13. Address items that may require revising the QC Plan:
    a. Changes in procedures.
    b. Changes in QC Organization or personnel.

1.12 THREE PHASES OF CONTROL

A. The Three Phases of Control is the "backbone" of the QC Program. The QC Program is about "planning for Quality" and then executing that plan, in order to "build it right the first time." The QC Manager shall implement and manage the following Three Phases of Control for each Definable Feature of on-site and off-site Work:

1. **Phase 1 – Preparatory Phase**
    a. The purpose of the Preparatory Phase is to plan for the Quality Control actions required before beginning any Definable Feature of Work (DFOW).
    b. The QC Manager must both conduct and provide to Owner meeting minutes documenting the results of a Preparatory Phase Meeting at least five (5) calendar days before beginning on-site physical Work on any DFOW. Attendees shall include the QC Manager and the Contractor's and/or Subcontractor's supervisor responsible for the Definable Feature of Work. If a representative from the Subcontractor cannot attend the meeting because of distance to the Project Site, they must participate by conference call. The QC Manager shall notify the Owner's Authorized Representative Project Inspector and Inspector of Record at least 8 hours in advance of holding the Preparatory Phase Meeting.
    c. The agenda for the Preparatory Phase Meeting includes:
        1. Reviewing and completing the Preparatory Phase Checklist (See form F-7 at the end of this Section 01 45 16.13);
        2. Reviewing applicable Project Manual Section(s) to identify both relevant Quality-establishing procedures for the DFOW, and any tests and inspections to be performed;
        3. Reviewing all applicable reference documents identified in the individual specification Sections, such as ASTM, ACI references, etc. The Contractor is responsible for accessing and providing copies of all such documents and standards identified in the Sections;

4. Reviewing the Drawings;
5. Verifying that appropriate Submittals for materials and equipment have been certified by the QC Manager, and submitted to or accepted by the Owner;
6. Verifying receipt of factory test results, when required;
7. Reviewing the Testing Plan and Log, and ensure that provisions have been made to perform the required QC testing;
8. Physically examining the Work area to ensure that required preliminary Work has been completed;
9. Examining the required materials, equipment and Sample Work to ensure that they are on hand and conform to Submittals accepted by Owner or Design Professional of Record; and
10. Discussing proposed construction workmanship standards, tolerances, and the approach to be used to provide Quality construction by planning ahead and identifying potential problems for each Definable Feature of Work.

d. QC Manager shall capture in the QC Manager's Daily QC Report minutes from the Preparatory Phase Meeting but only to the extent that the same information is not captured in the Preparatory Phase Checklist.

2. **Phase 2 - Work Phase**

a. The purpose of the Work Phase is to review any open issues from the Preparatory Phase Meeting, and finalize specific QC procedures to be implemented for the DFOW. The QC Manager must conduct a Work Phase Meeting prior to commencement of, but no later than 48 hours before, the DFOW.

b. The QC Manager must notify Owner's Project Inspector at least one (1) work Day before holding the Work Phase Meeting. The Work Phase Meeting must occur before starting work on any DFOW.

c. Attendees at the Work Phase Meeting shall include: the QC Manager, the Project Superintendent, Owner's Project Inspector, Inspector of Record and the Contractor's and/or Subcontractor's supervisor responsible for constructing the DFOW. The following shall occur at the Work Phase Meeting:

1. Review any open issues from the Preparatory Phase Meeting;
2. Review and fill in the Work Phase Checklist;
3. Confirm that any open items from the Preparatory Phase Meeting have been accomplished;
4. Establish the Quality of workmanship required by reviewing the Plans and Specifications;
5. Identify and resolve potential conflicts with other Work;
6. Identify all tests and inspections that are to occur, and ensure all logistics are in place to support these tests and inspections; and
7. Ensure that all materials to be used comply with Owner-accepted Submittals.

d. QC Manager shall capture in the QC Manager's Daily QC Report minutes from the Work Phase Meeting but only to the extent that the same information is not captured in the Work Phase Checklist.

e. Contractor must repeat Phase 2 for each DFOW, for each new crew to Work on-site, or when specified Quality Levels are not being met, or as directed by the Owner.

3. **Phase 3 - Follow-Up Phase** (Performed Daily)

a. The QC Manager must perform the Follow-Up Phase daily for each on-going DFOW, being performed at the Project Site, or at off-site locations, or more frequently as necessary until completion, and must document the results in the QC Manager's Daily QC Report. During the Follow-Up Phase, the QC Manager must:

1. Ensure that Work complies with the requirements of the Contract Documents;

2. Maintain the Quality of workmanship required;

3. Ensure that Contract and code-required tests and inspections are performed by the approved Testing Laboratory; and

4. Ensure that Rework Items are being corrected.

B. Additional Preparatory and Work Phases:

1. The QC Manager must conduct additional Preparatory and Work Phases for Definable Features of Work, if the Quality of on-going Work is unacceptable, if there are changes in the QC Organization, if there are changes in on-site supervision or workers, if Work on a Definable Feature of Work is resumed after substantial period of inactivity, or if problems develop.

C. Notification Requirements for Three Phases of Control for Off-Site Work:

1. Contractor shall notify Owner's Project Inspector, or Inspector or Record at least two (2) weeks prior to the start of the Preparatory and Work Phases for off-site Work.

1.13TESTING

A. Contractor must perform all sampling and testing required by the Contract Documents and set forth in the Testing Plan and Log.

1. Contractor shall update the Test Log as follows:

a. After Owner-acceptance of the Baseline Schedule, the Contractor/QC Manager shall identify the Schedule activity ID number for each test;

b. After each test is completed, Contractor/QC Manager shall update the Test Log.

B. Construction Materials Testing Laboratory Requirements:

1. Owner will provide and pay for an independent construction materials testing laboratory (or laboratories, as necessary) accredited by one of the laboratory accreditation authorities listed in Part 1.13 .B .2 of this Section 01 45 16.13 below to perform sampling and testing required by the Contract Documents. The laboratory's scope of accreditation will include the ASTM standards that apply to the specific testing fields listed in Part 1.13 .B .3 of this Section 01 45 16.13. This requirement applies to the specific laboratory performing the actual testing, not just the "Corporate Office". If the Contract Documents require Contractor to provide testing, Contractor shall comply with the requirements of this Section 01 45 16.13.

2. Acceptable Laboratory Accreditation Authorities are:

a. National Voluntary Laboratory Accreditation Program (NVLAP) administered by the National Institute of Standards and Technology.

b. American Association of State Highway and Transportation Officials (AASHTO).

c. ICBO Evaluation Service, Inc. (ICBO ES).

d. American Association for Laboratory Accreditation (ASLA) program.

3. The ASTM Standards for specific testing fields are as follows:

a. Construction materials: ASTM E 329

b. Concrete and concrete aggregates: ASTM C 1077

c. Nondestructive testing (NDT): ASTM E 543.

C. Capability Verification by Owner:

1. Owner has the right to verify the adequacy of the proposed laboratory's personnel, equipment, procedures, techniques, and other items pertinent to testing with the requirements of the Contract Documents.

D. Reports of Test Results:

1. Action by testing individual or organization:

a. Cite applicable requirements of the Contract Documents and the tests or analytical procedures that were used.

b. State whether the item tested or analyzed conforms or fails to conform to specified requirements of the Contract Documents.

c. Conspicuously stamp the cover sheet for each report in large red letters "CONFORMS" or "DOES NOT CONFORM" to the requirements of the Contract Documents, whichever is applicable.

d. A testing Laboratory representative authorized to sign certified test reports, must sign all Reports of Test Results.

e. Submit actual test results directly to the Owner and Contractor by 10 a.m. of the second (2) work Day after performing each test.

E. Action by QC Manager

1. As tests are performed, QC Manager shall record test results on the "Testing Plan and Log.” In addition to the actual test results, QC Manager shall update the Testing Plan and Log to reflect:

a. The person or entity responsible for performing each test;

b. The date each test was conducted;

c. The date the test results were submitted to the Owner and Contractor; and

d. All pertinent remarks concerning the test or test results.

2. If an item fails to conform, QC Manager shall notify Owner’s Project Inspector immediately and, by 10 a.m. of the third (3) work day after each failed test, submit to Owner two (2) copies of a Corrective Action Plan for the item with a copy of the Report of Test Results.

3. Submit an updated copy of the "Testing Plan and Log" at each QC Meeting and each progress meeting.

1.14QC DOCUMENTATION

A. This Part 1.14 lists and describes the special QC Documentation required to show that materials, equipment, workmanship, fabrication, construction and operations comply with the requirements of the Contract Documents.

B. The special QC Documentation requirements are summarized in the attached "Table 01 45 16.13 F-5 - QC Documentation", along with the deadline for submission, number of copies, and the section of the Contract Documents describing each document.

C. Before beginning Work, Contractor must obtain a set of required report forms approved by the Owner's Authorized Representative. The report forms will consist of the Contractor's Daily Report, QC Manager's Daily QC Report, Preparatory Phase Checklist, Work Phase Checklist, Rework Items List, Submittal Log, and Testing Plan and Log.

D. QC Manager's Daily QC Report:

1. The QC Manager must submit a QC Manager's Daily QC Report certified as provided in Part 1.15 of this Section 01 45 16.13 and in the specified format. One (1) copy of each QC Manager's Daily Report must be submitted to Owner the following work Day.
2. Reports are required for each Day of the contract period. If no Work occurs on a particular day, the QC Manager shall so note in the Daily report. Account for each calendar day throughout the entire Contract Time.
3. QC Manager must prepare, sign and date each QC Manager's Daily QC Report, which must contain the following information:
    a. Date of report, report number, Contract Number and Title.
    b. For each of the Three Phases of Control:
        1. Describe each item of Work performed each day, including on-site and off-site Work.
        2. Reference Official Progress Schedule Activity number for each item of Work.
        3. Reference the Definable Feature of Work.
        4. Reference the Project Manual section(s).
        5. Report results of Follow-Up Phase inspections.
    c. Certify that Work for each Definable Feature of Work complies with the requirements of the Contract Documents and that required testing has been performed.
    d. Identify who performed the testing:
        1. List each Rework Item identified, but not corrected by close of business, along with its Official Progress Schedule Activity number.
        2. List each Rework Item corrected from the Rework Items List along with the corrective action taken and its Official Progress Schedule Activity Number.
    e. Include a "Remarks" section containing pertinent information including construction deficiencies encountered, QC problem areas, deviations from the QC Plan, QC meetings held, acknowledgement that As-Built Documents have been updated, directions received, corrective direction provided by the QC Organization, and corrective actions taken by Contractor. For each remark provided, identify it by its corresponding Official Progress Schedule Activity Number.
    f. QC Manager's Daily QC Report certification as provided for in Part 1.15 of this Section 01 45 16.13, QC Manager's signature, and date.
4. QC Manager's Daily QC Report Continuation Sheet: This sheet includes space for additional daily information. Continuation Sheets may be added as necessary and attached to the QC Manager's Daily QC Report.

E. Preparatory Phase Checklist:

1. At the conclusion of each Preparatory Phase meeting, the QC Manager must prepare this Checklist for each Definable Feature of Work in the Preparatory Phase. QC Manager shall identify this Checklist by terminology consistent with the Official Progress Schedule and attach this Checklist to the QC Manager's Daily QC Report of the same date.

2. QC Manager shall include the following in the Preparatory Phase Checklist:
    a. Project Manual section, date of report, and Contract number.
    b. Each Definable Feature of Work, Official Progress Schedule Activity number and format must match its entry in the Preparatory Phase section of the QC Manager's Daily QC Report.
    c. Personnel Present: Report whether or not Owner's Project Inspector attended the meeting. Report the names of attendees at Preparatory Phase Meeting, their position and company/organization.
    d. Submittals: Indicate if Submittals have been submitted (Yes/No checkboxes) and if not, indicate what has not been submitted. Are materials on hand (Yes/No checkboxes) and if not, report any missing items. Check delivered material and equipment against Submittals accepted by the Owner or Design Professional of Record and report the status.
    e. Material Storage: Report if materials and equipment are stored properly (Yes/No checkboxes), and if not, the action taken.
    f. Project Manual: Review and comment on the requirements of the Project Manual that describe the material, equipment, and procedures for accomplishing the Work, and clarify any differences.
    g. Preliminary Work & Permits: Assure that Preliminary Work is in accordance with the requirements of the Contract Documents, and that all necessary permits are on file, and if not, report the action taken.
    h. Testing: Identify who performs tests, the test location and frequency. Review the Testing Plan, report abnormalities, and if the test facilities have been Approved.
    i. Meeting Comments: Respond to comments and remarks made during the Preparatory Phase Meeting that were not addressed in previous sections of this Checklist.
    j. Other Items or Remarks: Note any other remarks or items that were a result of the Preparatory Phase.
    k. QC Manager's signature and the date of the Checklist.

F. Work Phase Checklist:
1. At the conclusion of each Work Phase meeting, the QC Manager must prepare this Checklist for each Definable Feature of Work in the Work Phase. Identify this Checklist by Activity numbers from the Official Progress Schedule. Attach this Checklist to the QC Manager's Daily QC Report of the same date.
2. QC Manager shall include the following in each Work Phase Checklist:
    a. Project Manual section, date of report, and Contract number.
    b. Each Definable Feature of Work, Official Progress Schedule Activity Number, entry and format must match its entry in the Work Phase section of the QC Manager's Daily QC Report.
    c. Personnel Present: Report the names of attendees at Work Phase meeting, their position and company/organization.
    d. Procedure Compliance: Comment on compliance with procedures identified at Preparatory Phase and actions taken to assure that Work is in accordance with the requirements of the Contract Documents and accepted Submittals.

e. Preliminary Work: Assure preliminary Work is in compliance with the requirements of the Contract Documents and if not, what action is/was taken.

f. Workmanship: Identify where initial Work is located; if a Sample panel is required (Yes/No checkboxes); is the initial Work the Sample (Yes/No checkboxes); and if Yes, describe the panel location and precautions taken to preserve the Sample.

g. Resolution: Comment on any differences and resolutions reached.

h. Other: Note any other remarks or items resulting from the Work Phase.

i. QC Manager's signature and the date of the Checklist.

G. Rework Items List:

1. The QC Manager must maintain a list of Work that does not comply with the requirements of the Contract Documents (the Rework Items List), identifying what items need to be reworked, the date the item was originally discovered, the anticipated date for correction of the item, and the actual date of correction. There is no requirement to report a Rework Item that is corrected the same day it is discovered.

2. QC Manager shall attach a copy of the "Rework Items List" to the last QC Manager's Daily QC Report and submit to the Owner. Contractor is responsible for including on this list all items needing rework including those identified by Owner's Project Inspector.

H. QC Records Binders: QC Manager shall establish and maintain QC Records Binders. These binders must be readily available to Owner during all Hours of Work.

1. QC Manager shall update the QC Records Binder on a daily basis in accordance with Part 1.08 of this Section 01 45 16.13.
2. QC Manager shall assemble the QC Records Binders according to the following specifications:

a. The QC Records Binder shall be durable 3-ring plastic binders approximately 9" x 12" in size.

b. The QC Records Binder shall be identified on or readable through the front cover stating the project name and nature of the document.
c. The QC Records Binder shall include at the front a Table of Contents indicating the location of major categories of data in the binder.

d. The QC Records Binder shall be divided and tabbed according to the Table of Contents.

3. QC Manager shall include the following items in the QC Records Binder:

a. QC Plan

b. List of all Definable Features of Work

c. Testing Plan and Log and all updates

d. QC Meeting Minutes

e. QC Manager's Daily QC Reports

f. All reports of test results

g. All completed Preparatory and Work Phase Checklists, arranged by Project Manual section

h. Copies of all Rework Items Lists

i. Copies of all Deficiency Lists (Punch Lists) issued by QC Staff, Contractor, or Subcontractors, and all Deficiency Lists issued by Owner

j. Copies of all Corrective Action Plans

I. As-Built Documents:

1. In addition to the requirements of Document 00700, Article 3.03, "Documents and Samples at the Project Site", the QC Manager must ensure that As-Built Documents are kept current on a daily basis and marked to show deviations from the requirements of the Contract Documents.
2. QC Manager must ensure each deviation from the requirements of the Contract Documents has been identified with the appropriate modifying documentation (e.g.. Change Order #, Field Modification #, Request for Information #, etc.).
3. The QC Manager must initial each deviation and each revision.
4. Upon completion of the Work, the QC Manager must certify the accuracy of the As-Built Documents as required in Section 01 45 16.13, Part 1.15 .I, "As-Built Document Certification."

J. Records of Contractor's Quality Control Plan and its implementation:

1. Prior to QC Manager's Final Completion Certification pursuant to Part 1.15 .E of this Section 01 45 16.13, Contractor shall submit to Owner in a durable plastic binder approximately 9" x 12" in size two (2) copies of at least the following information:
   a. Testing Plan and Log and all updates
   b. QC Manager's Daily QC Reports
   c. All completed Preparatory and Work Phase Checklists, arranged by Project Manual section
   d. All test results (Code Compliance, Owner Specified and Contractor's own)
   e. All inspection reports and records of required corrective measures, including Corrective Action Plans.

1.15CERTIFICATIONS

A. QC Manager's Daily QC Report Certification

1. All signatures must be original and in "blue" ink. Stamped signatures are not acceptable.
2. QC Manager's Daily QC Report Certification: Each QC Manager's Daily QC Report must contain the following statement signed by the QC Manager:

   "On behalf of Contractor, I certify that this Report is complete and correct, that equipment and material used, and Work performed during this reporting period are in compliance with the requirements of the Contract Documents to the best of my knowledge, except as noted in this Report.

   *Certified by QC Manager*_____*, Date*_____*"*
   (Signature)

B. **Submittal Certification** (See Document 00700, Article 3.26 .B .6)

1. Except for the QC Manager and Alternate QC Manager Appointment letters which may be certified by the Contractor's Authorized Representative, the QC Manager must stamp and sign each sheet of each Product Data Submittal, identified in Section 01 33 00, "Submittal Procedures" and Section 01 33 27.2, "Submittal Log and Submittal Distribution" as requiring CQC Certification, with the following QC certifying statement (except that data submitted in bound volume or on one sheet printed on two sides may be stamped on the front of the first sheet only):

   "The (equipment) (material) (article) shown and marked in this Submittal is that proposed to be incorporated with Project Name (_____), Contract Number (_____), Project Manual Section (_____), has been checked and complies in all respects, except as specifically noted in writing on the Submittal ***and*** *accompanying transmittal, with the requirements of the Contract Documents,*

is a Complete Submittal, has been coordinated with all other accepted Submittals, and can be properly installed in the allocated spaces.

Certified by QC Manager_____, Date_____"
(Signature)

C. Payment Request Certification

1. Furnish the following certification with each payment request, signed by the QC Manager:

"The Work for which payment is requested, including Materials On Hand, is in compliance with the requirements of the Contract Documents. As-Built Documents (As-Built Drawings and Project Manual) are current, accurate, and correctly show Work installed as of the date of the payment request.

Certified by QC Manager_____, Date_____"
(Signature)

D. **Substantial Completion Certification**

1. When the QC Manager believes the Work is complete, including final cleaning of the Work pursuant to Section 01 74 00, "Cleaning and Waste Disposal" but not including minor work qualifying for the Punch List, the QC Manager must submit to the Owner two (2) written copies of the following Substantial Completion Certification and, in accordance with Part 1.16 of this Section 01 45 16.13, to request a Substantial Completion Inspection of the Work by Owner:

"To the best of my knowledge, the Work of the Project (#_____) has been completed, inspected, tested and is in full compliance with the requirements of the Contract Document. All items in the Rework Items List have been completed and/or approved as satisfactory by the Owner's Inspector. The only Work remaining is minor and qualifies for the Punch List."

Certified by QC Manager_____, Date_____"
(Signature)

E. **Final Completion Certification**

1. Along with Contractor's request for a Final Inspection, the QC Manager must submit two (2) written copies the following Final Completion Certification to Owner's Authorized Representative. This certification is in addition to the Substantial Completion certification:

"The entire Work of the Project (#_____) has been completed, inspected, tested and is in full compliance with the requirements of the Contract Documents. All Punch List items have been completed. All items on the Rework Items List have been completed."

All Final Completion submittals required by Section 01 77 00 Part 1.10 have been submitted to and accepted by Owner's Authorized Representative.

All training has been conducted pursuant to Section 01 79 00.2.

Certified by QC Manager_____, Date_____ "
(Signature)

F. **As-Built Document Certification**

1. Accompanying submission of the Final As-Built Documents, and prior to requesting Final Payment, the QC Manager must furnish the following Certification to Owner:

"The attached As-Built Documents (As-Built Drawings and Project Manual) for (Contract Name and Number) were prepared in accordance with the requirements of the Contract Documents, are accurate and complete, and may be relied on by the Owner to locate installed Work.

Certified by QC Manager_____, Date___ _____"
(Signature)

G. **Pre-functional Checklist Certification** (See Section 01 91 13.2, "General Commissioning Requirements")

1. The Commissioning Manager (CxM) must furnish the following Certification to Owner upon completion of Pre-Functional Testing of all systems and equipment identified to be commissioned in Section 01 91 13.2:

"On behalf of Contractor, I certify that all Pre-Functional Tests have been have been performed on the Systems and equipment identified to be commissioned in Section 01 91 13.2, Pre-Functional Checklists have been completed, and that the Systems and equipment are fully operational and are ready for Functional Performance testing.

Certified by Commissioning Manager_____, Date___ __"
(Signature)

H. **Functional Performance Testing Certification** (See Section 01 91 13.2, "General Commissioning Requirements")

1. The Commissioning Manager (CxM) must furnish the following Certification to Owner upon completion of Functional Performance Testing of all systems and equipment identified to be commissioned in Section 01 91 13.2:

"On behalf of Contractor, I certify that all Functional tests have been have been performed on the Systems and equipment identified to be commissioned in Section 01 91 13.2. Functional Performance checklists have been completed, and that the Systems and equipment are fully operational and meet the requirements of the Contract Documents."

Certified by Commissioning Manager _____, Date___ _"
(Signature)

1.16SUBSTANTIAL AND FINAL COMPLETION INSPECTIONS

A. Contractor is ultimately responsible for: (1) the Quality of the Work; (2) performing necessary inspections to control the Quality of the Work; (3) identifying Deficient Work as related to the scope and standards established in the Contract Documents; and (4) taking all actions necessary to correct deficiencies and complete the Work in the time established in the Contract Documents. The Substantial Completion "Inspection" performed by Owner does not relieve the Contractor from complying with the requirements of this Section. Note: the term "Inspection" in this paragraph is not meant to supersede the requirements of the QC program described in Parts 1.05 and 1.06 of this Section 01 45 16.13.

B. In Contractor's Progress Schedule for Substantial Completion, Contractor must include activities for conducting the Substantial Completion Inspection, completion of Punch List, and Final Inspection.

C. When the QC Manager believes the Work is complete, including, but not limited to:

1. Final cleaning of the Work area pursuant to Part 1.11 of Section 01 74 00, "Cleaning and Waste Disposal"; and
2. Commissioning, pursuant to Section 01 91 13.2, "General Commissioning Requirements."

The QC Manager must submit to the Owner two (2) copies of the Substantial Completion Certification and request a Substantial Completion Inspection of the Work by the Owner.

D. Within seven (7) Days of receipt of QC Manager's Substantial Completion Certification, Owner's Authorized Representative, and/or Project Manager, Project Inspector of Record, Architect of Record, and/or other staff, will conduct the Substantial Completion Inspection with the QC Manager and the Contractor's QC Manager and Project Superintendent.

E. If at any point in the performance of the Substantial Completion Inspection, the Owner's Authorized Representative determines that, based on the progress of the Substantial Completion Inspection, the Incomplete/Deficient work identified is greater in substance than can be appropriately declared as Punch List (see definition at Part 1.03 of this Section 01 45 16.13), then the Work is not complete enough for the Substantial Completion Inspection. The Contractor will be so notified in writing. Contractor must complete the Work and re-initiate procedures for another Substantial Completion Inspection. Any costs incurred by Owner for reinitiating the Substantial Completion Inspection may be charged to the Contractor.

F. If the results of the Substantial Completion Inspection are satisfactory to the Owner's Authorized Representative, Owner's Authorized Representative will review the Work and, in conjunction with the QC Manager, prepare a Certificate of Substantial Completion and a list of deficiencies in the completed Work (Punch List) and issue the Certificate and Punch List to the Contractor. Pursuant to this Section 01 45 16.13, neither the Owner's preparation of the Punch List, nor any omission from the Punch List of items of incomplete Work, relieves the Contractor from completing all the Work required of the Contract Documents.

G. After the Contractor completes the Work of the Punch List, the QC Manager must certify pursuant to Part 1.15 .E of this Section 01 45 16.13 that the entire Work, including Punch List, is complete. Within ten (10) calendar days of delivery of the QC Manager's Final Completion Certification to the Owner's Authorized Representative, if the Owner's Authorized Representative agrees with the Contractor's certification, and in accordance with Part 1.17 of this Section 014516.13, a Final Inspection will occur.

H. If Owner's Authorized Representative determines the Work is still deficient, Contractor will again be furnished with a Punch List identifying the observed deficiencies in the Work. After all deficiencies (Punch List items) have been corrected, Contractor/QC Manager must initiate procedures for another Final Inspection. If Contractor requests more than two (2) Final Inspections, any costs to Owner for additional Final Inspections may be charged to the Contractor.

I. If Owner's Authorized Representative determines that the items on the Punch List have been satisfactorily corrected, Owner's Authorized Representative may send a letter acknowledging Final Completion to the Contractor. The Final Completion letter will identify the actual date of Completion.

1.17FINAL COMPLETION

A. Pursuant to this Section 01 45 16.13, the Contractor is responsible for identifying and managing Incomplete Work, Deficient Work and Rework Items.

B. The Final Inspection of the entire Work of the Project will not be conducted until:

1. The entire Work of the Project is complete;
2. Final cleaning of all Work areas pursuant to Section 01 74 00, "Cleaning and Waste Disposal";

3. All Permits, including those issued by Santa Barbara County Building and Safety, Santa Barbara County Fire, Santa Barbara County Public Health, and California State Fire Marshal, have been signed off and accepted;
4. Specialty Permits such as the Santa Barbara County Air Pollution Control District Generator Permit have been received;
5. Commissioning has been completed, pursuant to Section 01 91 13.2, "General Commissioning Requirements";
6. Applicable CBC Chapter 17 Certifications have been received; and
7. Deficient Work identified in all outstanding non-conformance notices has been corrected.

C. Contractor's QC Manager must submit the Final Completion Certification of Part 1.15 .E of this Section 01 45 16.13 above prior to achieving completion of the Project.

1.18 NOTIFICATION OF NONCOMPLIANCE

A. If Owner notifies Contractor of any observed noncompliance with the requirements of the Contract Documents, Contractor must take immediate corrective action upon receipt of such notice. Such notice, when delivered to Contractor at the Project Site, is sufficient for the purpose of notification.

B. If Contractor fails or refuses to promptly comply with any notice of noncompliance, Owner may, in addition to other remedies provided by law and/or the Contract Documents, issue an Order to the Contractor to suspend part or all of the Work until Contractor has taken satisfactory corrective action. No part of the cost or time expended by Contractor or its Subcontractors due to such Order to suspend Work shall be made the subject of a Dispute or Claim against Owner for extension of the Contract Time, Contract Sum, or for excess costs or damages of any kind.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - FORMS

A. Sample QC Appointment Letter – F-1
B. Sample Alternate QC Appointment Letter F-2
C. Sample Test Plan and Log – F-3
D. Sample Re-work Items List – F-4
E. QC Documentation Table – F-5
F. Daily Quality Control Report – F-6
G. Preparatory Phase Checklist – F-7
H. Work Phase Checklist – F-8

SAMPLE QC MANAGER APPOINTMENT LETTER- FORM 01 45 16.13 F-1

Project: Santa Barbara County –Cachuma Lake RV Site Renewal
Project No. 20033

Contract No.: _____

Subject: Contractor Quality Control Program

Re: Appointment as QC Manager

Dear _____ :

You are hereby appointed as QC Manager for the Contractor Quality Control program for the above referenced contract.

Your responsibilities are set forth in the Contract Documents and in Specification Section 01 45 16.13. A copy of Specification Section 01 45 16.13 is attached to this letter.

Per Part 1.08 of Section 01 45 16.13, you will report directly to an officer of this firm; you will act independently of the "production organization"; you have complete authority to immediately stop work that does not comply with Contract requirements; and you may direct removal and replacement of any Deficient Work.

Also per Part 1.08 of Section 01 45 16.13, if any person or Subcontractor working on this Project consistently fails to perform work properly, in accordance with the Contract Documents, you will recommend their immediate removal from the project.

Your role as QC Manager is very important to ensure Quality Work for ___ (insert firm name) _____ and the County of Santa Barbara on this Project. Please keep me advised on how the Project progresses.

Sincerely,

_____ *(Signature)*_____
Company Officer of Contractor

SAMPLE ALTERNATE QC MANAGER APPOINTMENT LETTER- FORM 014516.13 F-2

Project: Santa Barbara County –Cachuma Lake RV Site Renewal
Project No. 20033

Contract No.: _____

Subject: Contractor Quality Control Program

Re: Appointment as Alternate QC Manager

Dear _____ :

You are hereby appointed as Alternate QC Manager for the Contractor Quality Control program for the above referenced contract. Mr. /Ms. _____ has been appointed QC Manager. In the event of his/her absence, you shall be present at the Project Site and have the same authority as the QC Manager.

Your responsibilities are set forth in the Contract Documents and in Specification Section 01 45 16.13. A copy of Specification Section 01 45 16.13 is attached to this letter.

Per Part 1.08 of Specification Section 01 45 16.13, you will report directly to an officer of this firm; you will act independently of the "production organization"; you have complete authority to immediately stop work that does not comply with Contract requirements; and you may direct removal and replacement of any Deficient Work.

Also per Part 1.08 of Specification Section 01 45 16.13, if any person or Subcontractor working on this project consistently fails to perform work properly, in accordance with the Contract Documents, you will recommend actions to immediately remove them from the project.

Your role as Alternate QC Manager is very important to ensure Quality Work for ___ (insert firm name) __ and the County of Santa Barbara on this Project.

Sincerely,

_____ *(Signature)*
Company Officer of Contractor

SAMPLE TESTING PLAN AND LOG – FORM 01 45 16.13 F-3

PROJECT NUMBER:			PROJECT TITLE AND LOCATION:							CONTRACTOR:	
8600			Santa Barbara County - Northern Branch Jail Project 2301 Black Road, Santa Maria, CA.93455								
SPECIFICATION SECTION AND PARAGRAPH NUMBER	SCHEDULE ACTIVITY ID	TEST REQUIRED	ACCREDITED/ APPROVED LAB		SAMPLED BY	TESTED BY	LOCATION OF TEST		DATE COMPLETED	DATE FORWARDED TO OWNER	REMARKS
			YES	NO			ON SITE	OFF SITE			

SHEET OF

SAMPLE REWORK ITEMS LIST – FORM 01 45 16.13 F-4

Project Name: Santa Barbara County - Northern Branch Jail Project

Project No.: 8600

Contractor:

Number	Date Identified	Description	Contract Requirement (spec section and Par No.,Drawing No. and Detail No. etc.)	Action Taken By QC Manager	Resolution	Date Completed

Sheet _____ of _____

QC DOCUMENTATION TABLE – FORM 01 45 16.13 F-5

- Initial Submittal Log - Testing Lab Information - Testing Plan & Log - Rework Tracking Plan - List of Definable Features of Work			Section 014516.13, Part 1.09 Section 014516.13, Part 1.09, 1.13
Coordination and Mutual Understanding Meeting Minutes	2nd Work day after meeting	Each Attendee	Section 014516.13, Part 1.10
QC Meetings	At least once every 2 weeks during construction	-	Section 014516.13, Part 1.11
QC Meeting Minutes	2nd work day after each meeting	2	Section 014516.13, Part 1.11
Submittal Log - Status Update	At each QC Meeting - Update Daily		Section 014516.13, Parts 1.08, 1.11
Testing Plan & Testing Log - Status Update	At each QC Meeting - Update Daily		Section 014516.13, Parts 1.08, 1.13
Rework Items List	Update Daily and review at each QC Meeting		Section 014516.13, Parts 1.08, 1.14
Records of Contractor's Quality Control Plan	Prior to QC Manager's Final Completion Certification	2	Section 014516.13, Part 1.14
Manufacturer's Certificates & Compliance	Submitted with each lot of material delivered	1	Document 00700, Article 3.39
Contractor's Daily Report	By 10 AM daily after construction begins	1	Document 00700, Articles 3.03 & 6
Daily QC Managers Report	Attached to Contractor's Daily Report	1	Section 014516.13, Parts 1.08, 1.14
Report of Test Results	2nd work day after the test by 10 AM	1	Section 014516.13, Part 1.13
Corrective Action Plan	By 10 AM on the 3rd work day after a failed test, inspection, or receipt by Contractor of a non-conformance notice from the Owner	2	Section 014516.13, Part 1.13
Prepartory Phase Meetings	At least 5 Workdays prior to beginning Work on any DFOW	-	Section 014516.13, Part 1.12
Preparatory Phase Checklist	Include in Daily QC Report, due next day	1	Section 014516.13, Part 1.14
Work Phase Meetings	Prior to but no later than 48 hours before the DFOW	-	Section 014516.13, Part 1.12
Work Phase Checklist	Include in Daily QC Report, due next day	1	Section 014516.13, Part 1.14
Follow up Phase	Documented in Daily QC Report, due next day		Section 014516.13, Part 1.12
CQC Records Binder	Update Daily	1	Section 014516.13, Part 1.14
Records of Contractor's Quality Control Plan and its implementation	Prior to QC Manager's Final Completion Certification pursuant to Part 1.15 .F of this Section 014516.13	1	Section 014516.13, Part 1.14
QC Manager's Certifications:			
- For Submittals as required by Section 013327.2		As req'd	Section 014516.13, Part 1.15 Section 013327.2
- For each Daily CQC Report	On each daily CQC Report	1	Section 014516.13, Part 1.15
- For each payment Invoice	On each Payment Invoice	2	Section 014516.13, Part 1.15 Section 013327.2, Part 1.09, Table 013327-1
- Preliminary Final Inspection Certification	When the QC Manager believes the Work comprising either an intermediate Milestone, or Substantial Completion, is complete, including final cleaning of the Work area associated with the Milestone pursuant to Section 017400	3	Section 014516.13, Part 1.15
- Substantial Completion Certification	Prior to requesting Substantial Completion Inspection	1	Section 014516.13, Part. 1.15
- Final Completion Letter	Prior to OAR issuing the Final Completion letter	1	Section 014516.13, Part. 1.15
- For As-Built Documents	Attached to final As-Built Documents	1	Section 014516.13, Part. 1.15

DAILY QUALITY CONTROL REPORT – FORM 01 45 16.13 F-6

DAILY QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)			**DATE:** / **REPORT NO.**
Phase	**Project No.**	**Project Title:**	
PREPATORY	Were PREPATORY PHASE meetings conducted today? YES ☐ NO ☐ IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPATORY PHASE CHECKLIST.		
	Schedule Activity No	Definable Feature of Work	
WORK	WAS WORK PHASE Meeting PERFORMED TODAY? YES ☐ NO ☐ IF YES, FILL OUT AND ATTACH SUPPLEMENTAL WORK PHASE CHECKLIST.		
	Schedule Activity No	Definable Feature of Work	
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING WORK PHASE? YES ☐ NO ☐		
	Schedule Activity No	Identify Work for which Follow-Up Phase Inspection was performed. Attach separate Follow-Up Phase report. Definable Feature of Work	

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO"), Manuf. Rep. On-Site, etc.	
Schedule Activity	Description

No.	

On behalf of the Contractor, I certify that this Report is complete and correct, that equipment and material used, and Work performed during this reporting period are in compliance with the requirements of the Contract Documents to the best of my knowledge, except as noted in this Report.

Authorized QC MANAGER at Site

DATE

Reserved for Owners QA comments

SHEET ___ OF ___

DAILY QUALITY CONTROL REPORT – FORM 01 45 16.13 F-6, Cont'd

DAILY QUALITY CONTROL REPORT **(CONTINUATION SHEET)** (ATTACH ADDITIONAL SHEETS IF NECESSARY)			**DATE:** **REPORT NO.**
Phase	**Project No.**	**Project Title:**	
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING WORK PHASE?	YES ☐ NO ☐	
	Schedule Activity No./DFOW	Describe observations made regarding the Quality of Work; list tests performed and inspections conducted. Identify the presence of any Manufacturer's reps on site.	
	Example: Activity 405 Earthwork	Observed grading and importation of structural fill. Tested fill material to ensure compliance with specifications. Observed test lab taking density tests every lift, every 100'. Tests on fill and density comply with Contract Requirements.	
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO"), Manuf. Rep. On-Site, etc.			
Schedule Activity No.	Description		

SHEET ___ OF ___

PREPARATORY PHASE CHECKLIST – FORM 01 45 16.13 F-7

PREPARATORY PHASE CHECKLIST (CONTINUED ON SECOND PAGE)		**SPEC SECTION:**	**DATE:**
PROJECT NO.	**DEFINABLE FEATURE OF WORK:**	**SCHEDULE ACT NO.**	**INDEX #**

PERSONNEL PRESENT

COUNTY OAR NOTIFIED ___ HOURS IN ADVANCE: YES ☐ NO ☐

NAME	POSITION	COMPANY

SUBMITTALS

REVIEW SUBMITTALS AND/OR SUBMITTAL REGISTER. HAVE ALL SUBMITTALS BEEN APPROVED? YES ☐ NO ☐

IF NO, WHAT ITEMS HAVE NOT BEEN SUBMITTED? _____

ARE ALL MATERIALS ON HAND? YES ☐ NO ☐

IF NO, WHAT ACTION IS TAKEN? _____

CHECK, and DOCUMENT BELOW APPROVED SUBMITTALS AGAINST DELIVERED MATERIALS (THIS SHOULD BE DONE AS MATERIAL ARRIVES.)

COMMENTS: _____

MATERIAL STORAGE

ARE MATERIALS STORED PROPERLY? YES ☐ NO ☐

IF NO, WHAT ACTION IS TAKEN? _____

SPECIFICATIONS

REVIEW EACH PARAGRAPH OF SPECIFICATIONS.

DISCUSS PROCEDURE FOR ACCOMPLISHING THE WORK.

	CLARIFY ANY DIFFERENCES.
PRELIMINARY WORK & PERMITS	ENSURE PRELIMINARY WORK IS CORRECT AND PERMITS ARE ON FILE. IF NO, WHAT ACTION IS TAKEN? _____

SHEET ___ OF _____

PREPARATORY PHASE CHECKLIST – FORM 01 45 16.13 F-7, Cont'd

PREPARATORY PHASE CHECKLIST (CONTINUED FROM FIRST PAGE)		**SPEC SECTION:**	**DATE:**
PROJECT NO.	**DEFINABLE FEATURE OF WORK:**	**SCHEDULE ACT NO.**	**INDEX #**

TESTING	IDENTIFY TEST TO BE PERFORMED, FREQUENCY, AND BY WHOM. _____
	WHEN REQUIRED? _____
	WHERE REQUIRED? _____
	REVIEW TESTING PLAN. _____
	HAVE TEST FACILITIES BEEN APPROVED?
MEETING COMMENTS	COUNTY OF SANTA BARBARA COMMENTS DURING MEETING.
OTHER ITEMS OR REMARKS	OTHER ITEMS OR REMARKS.

_____
QC MANAGER DATE

SHEET ___ OF ___

WORK PHASE CHECKLIST – FORM 01 45 16.13 F-8

WORK PHASE CHECKLIST		**SPEC SECTION:**	**DATE:**
PROJECT NO.	**DEFINABLE FEATURE OF WORK:**	**SCHEDULE ACT NO.**	**INDEX #**

PERSONNEL PRESENT	COUNTY OAR NOTIFIED ___ HOURS IN ADVANCE: YES ☐ NO ☐		
	NAME	POSITION	COMPANY
PROCEDURE COMPLIANCE	IDENTIFY FULL COMPLIANCE WITH QUALITY CONTROL PROCEDURES IDENTIFIED AT PREPATORY MEETING. COORDINATE PLANS, SPECIFICATIONS AND SUBMITTALS. SPECIFICALLY INDICATE VERIFICATION OF APPROVED SUBMITTALS WITH FIELD MATERIALS. COMMENTS: _____		
PRELIMINARY WORK	ENSURE PRELIMINARY WORK IS COMPLETE AND CORRECT. IF NOT, WHAT ACTION IS TAKEN?		
WORKMANSHIP	ESTABLISH LEVEL OF WORKMANSHIP. WHERE IS WORK LOCATED?		
	IS SAMPLE PANEL REQUIRED? YES ☐ NO ☐ WILL THE INITIAL WORK BE CONSIDERED AS A SAMPLE? YES ☐ NO ☐ (IF YES, MAINTAIN IN PRESENT CONDITION AS LONG AS POSSIBLE AND DESCRIBE LOCATION OF SAMPLE)		
RESOLUTION	RESOLVE ANY DIFFERENCES. COMMENTS: _____		

OTHER	OTHER ITEMS OR REMARKS.

QC MANAGER DATE

SHEET ___ OF ___

END OF SECTION

SECTION 01 45 23

TESTING AND INSPECTION SERVICES

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Sections
   c. 1.03 – Definitions
   d. 1.04 - Qualifications
   e. 1.05 - Inspection and Testing Personnel and Facilities
   f. 1.06 – Testing and Inspection Agency Reports
   g. 1.07 – Testing and Inspection Agency Responsibilities
   h. 1.08 - Contractor's Responsibilities
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms (Not Used)

1.02 RELATED SECTIONS

A. Section 01 32 00.4, Part 3.08, "Short Interval Schedule"

B. Section 01 45 16.13, "Contractor's Quality Control (QC) System"

1.03 DEFINITIONS

A. **Testing and Inspection Agency** – Laboratory provided by and paid for by Owner and qualified in accordance with Part 1.13 of Section 01 45 16.13, "Contractor's Quality Control (QC) Systems." Testing and Inspection Agency performs tests and inspections required by the Contract Documents.

1.04 QUALIFICATIONS

A. Testing and Inspection Agency will have a minimum 5 years continuing experience in the field in which it operates preceding date of these Contract Documents.

B. Testing and Inspection Agency will be provided by and paid for by the Owner and will be qualified in accordance with Part 1.13 of Section 01 45 16.13, "Contractor's Quality Control (QC) System."

1.05 INSPECTION AND TESTING PERSONNEL AND FACILITIES

A. Testing and Inspection Agency

1. Owner will pay costs for all Testing and Inspection required by the Contract Documents.
2. Owner will pay for the services of an independent Testing and Inspection Agency to perform the tests and inspections required by the Contract Documents except where noted otherwise.

B. Limitations of authority of the Testing and Inspection Agency

1. Testing and Inspection Agency is not authorized to:
   a. Release, revoke, alter, or enlarge on the requirements of the Contract Documents;

b. Approve or accept any portion of the Work; or

c. Perform any duties of the Contractor.

C. All Work performed by Testing and Inspection Agency must conform to the requirements of all applicable laws, codes, ordinances, and regulations.

D. Testing and Inspection Agency must perform tests and inspections as required by the Contract Documents.

E. Testing and Inspection Agency must prepare, cure, store, and transport to the Laboratory Project samples.

1.06 TESTING AND INSPECTION AGENCY REPORTS

A. Within two (2) work days after each inspection and test, Contractor shall submit four (4) copies of Testing and Inspection Agency report that include:

1. Date issued
2. Project title and number
3. Name of Inspector from Testing and Inspection Agency
4. Date and time of sampling or inspection
5. Identification of product and Project Manual section
6. Location in the Project
7. Type of inspection or test
8. Date of test
9. Results of tests
10. Conformance with Contract Documents
11. Whether original test or re-test
12. State/local permit number

B. Reports must be distributed to the following:

1. Owner's Design Professional of Record (1 copy)
2. Owner's Authorized Representative (3 copies)

1.07 TESTING AND INSPECTION AGENCY RESPONSIBILITIES

A. Testing and Inspection Agency shall:

1. Provide qualified personnel.
2. Cooperate with Quality Control Manager in performance of services.
3. Perform specified inspecting, sampling, and testing of Products in accordance with specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
5. Promptly notify Owner and Contractor of observed irregularities or non-conformance of Work or Products.
6. Perform additional inspection and testing required by IOR, Quality Control Manager or Owner.
7. Attend Preconstruction Conference and progress meetings when requested, and at the discretion of the Owner's Authorized Representative.

1.08 CONTRACTOR'S RESPONSIBILITIES

A. Contractor shall:

1. Coordinate and facilitate all special inspections, and testing activities required by the Contract Documents.
2. Provide access to Work, including off-site supplier's, manufacturer's or fabricator's operations.
3. Provide required quantities of material samples to be tested.
4. Samples will be selected and taken by representative of Testing and Inspection Agency.
5. Furnish copies of product data and test reports as required.
6. Furnish incidental labor and facilities:
    a. To provide access to Work to be tested;
    b. To obtain and handle Samples at the Project Site, or at the source of the Product to be tested or inspected;
7. To facilitate inspections and tests; and
8. For storage and curing of test Samples at the Project Site.
9. Include in the weekly Short Interval Schedule (SIS) submission activities that identify upcoming testing and inspection requirements.
10. Notify Owner, in writing, of the planned performance of tests by the Testing Lab, 24 hours in advance.
11. Not cover corrected Work until said Work has been re-tested and/or re-inspected.

B. Contractor will be required to reimburse the Owner for additional testing and inspection activities due to failure to coordinate, or facilitate any of the responsibilities listed above, or for repeated failed inspections, or testing as a result of Contractor's operations.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS (Not Used)

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents, Codes, and Standards
   c. 1.03 - Definitions
   d. 1.04 - Utilities
   e. 1.05 – Waste Disposal
   f. 1.06 - Temporary Construction Facilities
   g. 1.07 -Temporary Controls
   h. 1.08 - Fire Protection
   i. 1.09 - Submittals
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms - (Not Used)

1.02 RELATED DOCUMENTS, CODES AND STANDARDS

A. Document 00700, Article 3.05, "Use of Site"

B. Document 00700, Article 3.06, "Workplace Environment"

C. Document 00700, Article 3.13, "Cleanup"

D. Document 00700, Article 3.14, "Disposal of Material Outside Project Area"

E. Document 00700, Article 3.15, "Hazardous Materials"

F. Document 00700, Article 3.16, "Safe Use of Pesticides"

G. Document 00700, Article 3.17, "Trenching and Excavation"

H. Document 00700, Article 3.18, "Air Pollution Control"

I. Document 00700, Article 3.19, "Water Pollution Control"

J. Document 00700, Article 3.20, "Sound Control"

K. Document 00700, Article 3.21, "Worker's Sanitary Provisions & Use of Owner's Facilities"

L. Document 00700, Article 10, "Protection of Persons and Property"

M. Document 00700, Article 10.02, "Confined Space Entry Program"

N. Document 00800, Articles 2 & 3, "Supplementary Conditions"

O. Document 00850, Indemnification and Insurance Requirements

P. 2013 California Fire Code - Chapter 33, or other applicable provisions.

Q. National Fire Protection Association - Standard #1

R. Santa Barbara County Fire Department – Development Standards.

1.03 DEFINITIONS

A. **Critical Lift** –a non-routine lift requiring detailed planning and additional or unusual safety precautions. Critical Lifts include lifts which require the load to be lifted, swung, or placed out of the view of the operator; lifts made with more than one crane; lifts involving a non-routine or technically difficult rigging arrangement; or any lift which the lift or crane operator believes should be considered critical.

B. **CSFM-** California State Fire Marshal's Office

C. **Fire Department –** Santa Barbara County Fire Department

D. **Hot Work -** includes any operations capable of initiating fires or explosions, including cutting, welding, brazing, soldering, grinding, thermal spraying, thawing pipe, torch applied roofing, or any other similar activity.

E. **Temporary Fencing -** Provided and Installed by Contractor as needed by Contractor to protect equipment, field offices, stored items, Project Site, and Work until final demobilization.

F. **Temporary Measures –** Temporary Facilities and Controls

1.04 UTILITIES

.A Contractor will pay for the installation, metering and consumption of all "temporary" utilities. "Temporary" utilities include, but are not limited to, electrical, water, reclaimed water, and sewer for the following through Final Completion:

1. To operate the Contractor's field offices and Temporary Offices for Owner's Representatives;
2. To power and operate construction tools, temporary lighting, concrete, mortar and grout mixing and placement operations; and
3. To power any construction elevators.

.B Unless otherwise stated in the Contract Documents, Owner will arrange and pay for utility companies to provide and install main metering devices and permanent utility services from the utility company's main service line to the metering devices. Once "permanent" utilities are connected and the Project is deemed Substantially Complete, the County will pay for all utility usage charges.

.C Electricity

1. Electrical service including metering devices needed by the Contractor to perform the Work must be provided and paid for by Contractor.
2. Contractor shall arrange with utility company to provide service required for temporary power and lighting, and pay all costs for service and for power used.
3. Contractor shall install circuit and branch wiring with area distribution boxes located so that power and lighting is available throughout the construction by the use of construction-type power cords.
4. Contractor shall provide adequate artificial lighting for all areas of Work in accordance with industry safety standards including OSHA requirements when natural light is not adequate for Work and for areas accessible to the public.
5. If additional temporary utility poles or electric extensions are deemed necessary by the Contractor to perform Contract Work, Contractor must submit four (4) copies of a plan showing the proposed temporary utility poles or electric extensions prior to installation. Contractor must pay for all additional temporary utility poles or electric extensions installed.

.D Water Service

1. Contractor must make arrangements and pay for all temporary water and water metering devices required for construction purposes including landscape irrigation. Contractor shall use non-potable water to the extent possible for all non-potable construction water needs.
2. Contractor must provide potable water for Contractor's employees and the employees and representatives of the Owner.

.E Sanitary Facilities

1. Contractor must Provide and pay for an appropriate number of sanitary facilities, in compliance with all laws and regulations, for use by Contractor and Owner's personnel.
2. Regular service of the sanitary facilities must be maintained by the Contractor to keep a clean, healthy, and hygienically acceptable work environment.
3. Contractor must not use Owner's Sanitary Facilities without prior written Approval of Owner's Authorized Representative. (See Document 00700, Article 3.21, "Worker's Sanitary Provisions and Use of Owner's Facilities".)

1.05WASTE DISPOSAL

1. Unless otherwise specifically stated in the Contract Documents, Contractor must Provide and pay for all Waste Disposal.
2. Wastes must be properly handled, and stored in covered containers, and removed from the Project Site at least once each week.
3. Wood, cardboard, packing material, form lumber and similar combustible debris shall not be accumulated within buildings. Such debris, rubbish and waste material must be removed from buildings on a daily basis.

1.06TEMPORARY CONSTRUCTION FACILITIES

A. Contractor's Field Office

1. Contractor must locate field office so as not to disrupt Owner's Operations.
2. Contractor must submit proposed location of Field Office to Owner, for Owner Acceptance in accordance with Part 1.09 of this Section 01 50 00.

B. Advertising

1. Advertising of any kind throughout the duration of the project is not permitted anywhere on the Project site by the Contractor or Subcontractors.

C. Temporary Fencing

1. The Contractor must Install Temporary Fencing to protect equipment and stored items.
2. Contractor must Provide and pay for Temporary Fencing to protect Project Site and Work areas as needed until final demobilization.

D. Storage Areas and Sheds

1. Prior to mobilizing to the Project Site and in accordance with Part 1.09 of this Section 01 50 00, Contractor must submit the intended location of the Contractor's storage sheds and storage areas for Owner review and acceptance.
2. Contractor must confine its apparatus, storage of materials, and construction operations to areas Approved by Owner's Authorized Representative.
3. Contractor must not unreasonably encumber the premises and roads with its materials and equipment.

4. Contractor must not store bulk quantities of fuel, oils, solvents or any other hazardous materials in storage tanks on-site.

E. Equipment Maintenance and Repair

1. Contractor must perform equipment maintenance activities in a designated area that is prepared to protect the ground surface from spills.
2. Contractor must collect, contain and properly dispose of all waste material (including waste oil, coolant, grease, and equipment parts) generated from these activities on a daily basis.
3. Equipment service trucks must provide fuels and lubricants for construction equipment. Contractor must not store bulk quantities of fuel or oil in on-site storage tanks.

F. Vehicular Access

1. All vehicles must be operated in a safe manner.
2. Contractor's equipment must enter and leave the Project area via access routes designated by Owner, and move in the direction of public traffic at all times. All movements on or across public traveled ways must not endanger public traffic.

G. Parking

1. Parking for personal vehicles of Contractor's personnel must be limited to designated areas specified or Approved by Owner's Authorized Representative.
2. Personal vehicles must not be parked in the Work area.
3. Parking of construction equipment must be limited to designated areas specified or Approved by Owner's Authorized Representative.

H. Progress Cleaning

1. Contractor must maintain the Project Site in a clean and orderly condition at all times.
2. Contractor must maintain all Project areas free of waste materials, debris, dust, mud and rubbish caused by Contractor's operations.
3. Work and storage areas must be kept clean and free of rubbish on a daily basis.
4. Contractor must immediately remove any spillage resulting from hauling operations along or across any public traveled way.
5. Contractor must perform daily inspection of Project Site, Work areas, and public traveled ways to enforce the above requirements.

I. Concrete Washout Areas

1. Concrete washout must be limited to designated areas specified or Approved by Owner's Authorized Representative.

J. Temporary Living Facilities

1. Contractor's employees, or others subject to the Contractor's control, are not permitted to reside on the Project Site in temporary living facilities of any kind.

K. On-site Fabrication areas

1. On-site Fabrication must be limited to designated areas specified or Approved by Owner's Authorized Representative.

L. Hoists, Temporary Elevators and Man-lifts

1. Contractor shall provide facilities for hoisting materials and employees.

2. Contractor shall not permit employees to ride hoists that comply only with requirements for hoisting materials.
3. Selection of type, size and number of facilities is the Contractor's option.
4. Contractor shall Provide properly trained operating personnel for equipment.
5. Truck cranes and similar devices used for hoisting are considered equipment and not Temporary Construction Facilities.

M. Crane Lift

1. Person-in-Charge
   a. Contractor's General Superintendent (Superintendent) serves as the Person-in-Charge for crane lift activities.
   b. The Person-in-Charge has overall responsibility for all crane lifts on the Project, and is specifically responsible for:
      1. Verifying that the crane certification and inspection records are up to date before allowing the crane on the project site.
      2. Organizing a pre-lift meeting and ensuring all the appropriate people are present.
      3. Establishing a Lift Plan, submitting it for review by Owner and the Santa Barbara County Fire Department and ensuring it is followed.
      4. Providing a well-prepared working area for the crane before it arrives on the job.
2. Lift Plan
   a. A Lift Plan must be prepared by the Contractor, and submitted to the Owner's Authorized Representative for Acceptance, for every Critical Lift.
   b. The Person-in-Charge will review and sign the Lift Plan.
   c. The Lift Plan will include:
      1. A list of items to be moved, including a description of each item's weight, dimensions, center of gravity and presence of hazardous or toxic materials.
      2. A list and description of the type and rated capacity of operating equipment that are needed to perform the move, including the manufacturer's maximum load limits for the entire range of the lift as listed in the load charts.
      3. A letter designating the crane operator, lift supervisor and rigger, and listing the qualifications of each.
      4. A list of environmental conditions under which lift operations are to be stopped.
      5. Step-by-step operating procedures that include applicable rigging precautions and safety measures.
      6. A sketch showing:
         a. position of the crane(s);
         b. location of both underground and overhead utilities;
         c. location of any public streets which will be impacted by the lift and the location of flaggers, if needed;
         d. location of any private streets, and an indication of the area to which access will be restricted or eliminated during the lift; and

e. location of all outriggers and the size/thickness of any outrigger pads and/or cribbing to be used.

d. Three (3) copies of the Lift Plan will be submitted to the Owner's Authorized Representative no less than ten (10) days prior to the planned lift.

3. Crane Operators

a. Crane operators must be qualified in the safe operation of cranes or hoisting apparatus.

4. Pre-Lift Meeting

a. For every Critical Lift, a pre-lift meeting will be conducted at the site at least one (1) day prior to the planned lift.

b. All personnel involved in the lift will be present and the role of each participant will be reviewed.

c. Topics covered at the meeting will include, but will not be limited to,: site conditions, lift requirements, lift procedures and signals, potential hazards (including obstructions, utilities and traffic concerns).

N. Helicopter Lift

1. Timing

a. Helicopter lifts must be performed on a weekend.

b. Owner's Authorized Representative must approve the timing of the helicopter lift.

c. The building must be unoccupied during the lift operation.

2. Person-in-Charge

a. Contractor's General Superintendent (Superintendent) serves as the Person-in-Charge for helicopter lift activities.

b. The Person-in-Charge has overall responsibility for all helicopter lifts on the Project, and is specifically responsible for:

1. Verifying that FAA approval has been received for the helicopter lift, pursuant to FAA requirements in 14 CFR §133.

2. Organizing a pre-lift meeting and ensuring all the appropriate people are present.

3. Establishing a Lift Plan, submitting it for review by Owner's Authorized Representative and the Santa Barbara County Fire Department and ensuring it is followed.

3. Lift Plan

a. A Lift Plan must be prepared by the Contractor, and submitted to the Owner's Authorized Representative for Acceptance, for every Critical Lift.

b. The Person-in-Charge will review and sign the Lift Plan.

c. The Lift Plan will include:

1. A copy of the Rotorcraft External-Load Operator Certificate issued by the FAA under 14 CFR §133.17.

2. A copy of the document issued by the FAA's Van Nuys Flight Standards District Office approving the proposed helicopter lift.

3. A list of items to be moved, including a description of each item's weight, dimensions, center of gravity and presence of hazardous or toxic materials.
4. A letter designating the lift supervisor and rigger, and listing the qualifications of each.
5. A list of environmental conditions under which lift operations are to be stopped.
6. Step-by-step operating procedures that include applicable rigging precautions and safety measures.
7. A sketch showing:
    a. location of equipment prior to lift,
    b. location of both overhead utilities,
    c. location of any public streets which will be impacted by the lift and the location of flaggers, if needed, and
    d. location of any private streets, and an indication of the area to which access will be restricted or eliminated during the lift.

d. Three (3) copies of the Lift Plan will be submitted to the Owner no less than ten (10) days prior to the planned lift.

4. Pre-Lift Meeting
    a. For every Critical Lift, a pre-lift meeting will be conducted at the site at least one (1) day prior to the planned lift.
    b. All personnel involved in the lift will be present and the role of each participant will be reviewed.
    c. Topics covered at the meeting will include, but will not be limited to,: site conditions, lift requirements, lift procedures and signals, potential hazards (including obstructions, utilities and traffic concerns).
    d. At the pre-lift meeting, Contractor will be required to provide Owner with proof of Aviation Insurance.

O. Scaffolding. Contractor shall:
1. Furnish, erect and maintain all required scaffolding for the Work of this Project.
2. Scaffolding and accessories must conform to all regulations governing such equipment.
3. Maintain scaffolding in conformance with all applicable safety requirements.
4. Provide calculations, demonstrating the structural stability of the scaffolding, signed and stamped by a Professional Engineer, for all scaffolding exceeding one story in height
5. Immediately upon completion of use, remove all scaffolding and accessories from the Job Site.
6. At the Contractor's option, individual Subcontractors may provide scaffolding for their Work; however, all scaffolding remains the responsibility of the Contractor.

P. Temporary Enclosures. Contractor shall:
1. Provide temporary weather-tight enclosure of exterior walls for successive areas of building as work progresses, as necessary to provide acceptable working conditions, to provide weather protection for materials, allow for effective temporary heating, and to prevent entry of unauthorized persons.
2. Provide temporary exterior doors with self-closing hardware and padlocks.

3. Temporary Enclosures must be removable as necessary for Work and for handling of materials.

1.07 TEMPORARY CONTROLS

A. Temporary Barriers:

1. Contractor must Provide and maintain temporary barriers as needed to prevent unauthorized entry to Work areas.
2. Contractor must Provide and maintain temporary barriers as needed to protect existing facilities and adjacent properties from damage.
3. Contractor must Provide and maintain temporary barriers as needed to protect outdoor areas from dust or spray from Work in adjacent areas.
4. Contractor must Provide adequate measures to protect third party vehicular traffic from damage.
5. Contractor must Provide adequate measures to protect third party foot traffic from injury.
6. Contractor must Install Temporary Barriers in a neat and reasonable uniform appearance, structurally adequate for required purposes.
7. Contractor must maintain Temporary Barriers during entire Construction Time.
8. Contractor must relocate Temporary Barriers as required by progress of Construction.
9. Contractor must remove Temporary Barriers when no longer needed, or at completion.

B. Protection of Work:

1. Contractor must protect installed Work and Provide special protection where needed or required by the Contract Documents.
2. Contractor must Provide suitable drainage to protect the Project Site and the Work.
3. Contractor must erect such temporary structures as are necessary to protect the Work, materials, and equipment from damage.
4. Contractor must maintain staking, flagging, Temporary Fencing, and barrier fencing throughout the Contract Time as required for protecting the Work.

C. Protection of Existing Property:

1. Contractor must protect all existing utilities, facilities, landscape, fencing, equipment, furniture and all other existing structures and improvements within the Project area not specifically scheduled for demolition.
2. To the extent permitted by law, any damage caused by the Contractor to existing utilities, facilities, equipment, furniture, fencing, and all other existing structures and improvements must be fully and immediately restored at the Contractor’s expense.

D. Protection of Pedestrians:

1. Contractor must pave pedestrian openings through false work or Provide full width continuous wood walks, and keep all walkways clear.
2. Contractor must protect pedestrians from falling objects and water runoff.
3. Overhead protection for pedestrians must extend not less than four (4) feet beyond the edge of a structure.
4. Front and rear entrances must be maintained for unimpeded pedestrian use throughout Work. Contractor must submit design of temporary protective structure to Owner for review by the Santa Barbara County Fire Department at least ten (10) days prior to beginning Work in these

areas. Exit signs must be maintained in temporary structures. Lighting must be provided; however, Contractor may use temporary construction lights to meet this requirement.

E. Egress Signage:

1. Contractor must Provide and post temporary signs indicating egress paths during the entire period of Work.
2. Egress paths must reflect egress routes identified on Drawing A0.1.
3. If Work is phased, egress signs must be appropriate to the phase of Work.

F. Security:

1. The security of the Project Site, Work area, and stored materials is the Contractor's responsibility during the entire Contract Time.
2. Owner is not responsible for damage to or loss of Contractor's materials and equipment left at the Project Site.
3. Contractor must repair, replace, or restore all existing facilities, equipment, furniture, and new Work damaged, destroyed, lost, stolen, or defaced due to vandalism or theft.

G. Traffic Control:

1. Contractor must not stage vehicles or equipment on railroad tracks, private property, or on any public street unless expressly authorized in advance by the local jurisdiction or private property owners.
2. Contractor must keep all surface areas (i.e., site roads, off-site streets, and parking areas) clear of dirt, mud, and debris and must clean such surfaces as needed, or as Directed by the Owner's Project Manager.
3. Locate temporary roads, drives, walks and parking facilities to provide uninterrupted access to construction offices, Work and storage areas, and other areas as required for efficient execution of the Work.
4. Contractor must keep fire hydrants and water control valves free from obstruction and accessible for use.
5. Contractor must Provide flagmen for traffic control as needed or required.
6. At completion of the Work, permanent roads and entranceways must be left in at least equal condition to that existing at the start of the Work, except as may be otherwise required by the Contract Documents.

H. Noise Control

1. Unless the Owner's Authorized Representative grants a waiver in writing, Contractor must comply with all local noise ordinances, and must limit the Normal Hours of Work accordingly. (See Document 00700, Article 3.20, "Sound Control")

I. Dust Control:

1. Contractor must minimize dust nuisances resulting from performance of the Work, both inside and outside the Project limits, by applying either water or dust palliative, or both. (See Document 00700, Article 3.18, "Air Pollution Control")

J. Surface Water Control:

1. Contractor must:

a. Construct whatever temporary facilities are necessary to provide prevention, control and abatement of water pollution. (See Document 00700, Article 3.19, "Water Pollution Control")

b. Control surface drainage water to prevent damage to the Work, Project Site or adjoining properties.

c. Provide whatever Temporary Measures are needed or required including, but not limited to, berms, dikes, ditches, and drains to direct surface drainage away from excavations, trenches, pits, tunnels and other Work areas.

d. Provide, operate and maintain equipment of adequate capacity to control surface water.

e. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the Work, Project Site or to adjoining areas.

f. Plan and execute earthwork operations by methods which control surface drainage.

g. Expose minimum amount of bare soil at any given time.

h. Inspect earthwork daily for evidence of erosion and apply erosion control measures as needed or required.

2. Contractor must obtain and pay for any discharge permits required.

K. Trenching and Excavation:

1. Before any excavation, Contractor must, pursuant to California Government Code § 4216 and Cal/OSHA 8 CCR § 1540, outline the excavation in white paint (preferably chalk or water base), provide two workdays notice to Underground Service Alert (1-800-227-2600), obtain a locater number, and follow all necessary procedures to avoid underground facility damage.

2. Contractor must meet all regulatory requirements and Provide adequate temporary protection before, during, and after all Trenching and Excavation activities. (See Document 00700, Article 3.17, "Trenching and Excavation".)

L. Pesticide Use:

1. Contractor must comply with integrated pest management and pesticide use. (See Document 00700, Article 3.16, "Safe Use of Pesticides")

M. Compliance with Owner's Policies, Ordinances, and Regulations:

1. Contractor must comply with Owner's Policies, Ordinances, and Regulations regarding signs, advertising, barricades, danger signals, pesticide use, fires, smoking, security, noise, or other policies or regulations, and must require all persons employed on the Work to comply with all building or institutional regulations, and vehicle, street and highway codes while on the premises and roads relating to the Project Site.

N. Temporary Heat and Ventilation:

1. Contractor must Provide temporary heat and ventilation in interior spaces prior to and when work is being performed. This requirement will be in effect during all phases of the Work, except for a period of seven (7) consecutive calendar days, commencing with cessation of air handling operations in building in preparation for removal of existing rooftop air handling and exhaust fan equipment and resumption of all air handling operations in building, following completion of placement and connection of new rooftop air handling and exhaust fan equipment.

2. Contractor must maintain adequate environmental conditions to facilitate progress of the Work.

3. Contractor must meet specified minimum conditions for the installation of materials.

4. Contractor must protect materials and finishes from damage due to temperature or humidity.
5. Contractor must Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors or gases.
6. Portable heaters must be standard approved units complete with controls and meet the requirements of Section 01 50 00, Part 1.08 .O, "Temporary Heating Equipment."
7. Contractor must pay all costs of installation, maintenance, operation and removal, and for fuel consumed.

1.08 FIRE PROTECTION

A. Prior to performing any Work at the Project Site, Contractor must establish at the Project Site, methods, procedures, and equipment for emergency notification to the Fire Department via telephone. The street address of the construction site must be posted adjacent to the telephone, along with the public safety emergency telephone number(s).

B. Fire Department Access Roadways:

1. The Project Site must be accessible by fire department apparatus by means of roadways having an all-weather driving surface of not less than 20 feet of unobstructed width.
2. The Fire Department Access Roadway must have the ability to withstand the live loads of fire apparatus, and have a minimum 15 feet of vertical clearance.
3. Dead-end Fire Department Access Roadway in excess of 150 feet in length must be Provided with turnarounds approved by the Fire Marshal.
4. If permanent Fire Department Access Roadways are not available during any part of the Contract Time, Contractor must Provide temporary Fire Department Access Roadways complying with the following requirements:
    a. The roadway must be approved by the CSFM and County of Santa Barbara Fire Department
    b. As a minimum, the roadway must consist of a compacted sub-base and six inches (6") of road base material (Class II aggregate base rock), both compacted to a minimum of ninety-five (95%).
    c. The perimeter edges of the roadway must be contained and delineated by curb and gutter or other method approved by the CSFM and County of Santa Barbara Fire Department.
    d. Surface drainage must be Provided.
    e. The integrity of the roadway must be maintained at all times.
    f. Contractor must include activities in Contractor's Progress Schedules for Fire Department approval and construction of the temporary Fire Department Access Roadway.

C. Fire Alarm Systems:

1. Fire alarm systems must be maintained operational at all times during building alterations.
2. When an alteration requires modification to a portion of the fire alarm system, the portion of the system requiring Work must be isolated and the remainder of the system must be kept in service whenever practical.
3. When it is necessary to shut down an entire fire alarm system, Contractor must provide a fire watch or other mitigation approved by the CSFM and Santa Barbara County Fire Department. The mitigation measures must remain active until the system is returned to full service.

D. Area Separation Walls:

1. When area separation walls are required, the wall construction must be completed, with all openings protected, immediately after the building is sufficiently weather-protected at the location of the wall(s).
2. Contractor's Progress Schedule must include specific activities showing the installation of area separation walls.

E. Fire Extinguishers:

1. Portable fire extinguishers must be Provided and must be mounted on a wall or post at each usable stairway such that the travel distance to any extinguisher does not exceed 75 feet.
2. Mounting height to the top of the extinguisher must not exceed five feet (5').
3. Extinguishers must have not less than a 2A1 OBC rating or as otherwise directed by the CSFM and County of Santa Barbara Fire Department.
4. Contractor must ensure an adequate number of individuals are trained in the proper use of portable fire extinguishers.

F. Standpipes:

1. Where standpipes are required, the standpipes must be installed when the progress of construction is not more than 35 feet in height above the lowest level of the fire department access.
2. The standpipe system must be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.
3. Contractor's Progress Schedule must include specific activities showing the installation of standpipes.

G. Exiting Requirements:

1. All new buildings under construction must have a least one unobstructed exit.
2. For new multi-story buildings, each level above the first story must be Provided with at least two usable exit stairs after the floor decking is installed. The stairways must be continuous and discharge to grade level.
3. Stairways serving more than two floor levels must be enclosed (with openings adequately protected) after exterior walls/windows are in place.
4. Exit stairs in new and existing, occupied buildings, must be lighted and maintained clear of debris and construction materials at all times. (Exception: For new multi-story buildings, one of the required exit stairs may be obstructed on not more than two (2) contiguous floor levels for the purposes of stairway construction; i.e., installation of gypsum board, painting, flooring, etc.)
5. Designated exterior assembly points must be established for all construction personnel to relocate to upon evacuation.
6. Contractor's Progress Schedule must include specific activities showing the installation of exit stairs including all sequencing restrictions identified in the requirements of the Contract Documents.

H. Oily Rags:

1. Oily rags and similar material must be stored in metal or other approved containers equipped with tight-fitting covers.

I. Smoking:

1. Smoking is prohibited anywhere inside or on the roof of new buildings under construction or in the Work area of buildings undergoing alteration.
2. A suitable number of "NO SMOKING" signs must be posted to ensure smoking is controlled.

J. Asphalt and Tar Kettles:

1. Asphalt kettles must not be located within 20 feet of any combustible material, combustible building surface or building opening.
2. With the exception of thermostatically controlled kettles, an attendant must be within 100 feet of a kettle when the heat source is operating.
3. Ladders or similar obstacles must not form a part of the route between the attendance and the kettle.
4. Kettles must be equipped with tight-fitting covers.
5. A minimum 20-B:C rated portable fire extinguisher must be located within 30 feet of each asphalt kettle when the heat source is operating.
6. Minimum 20-B:C rated portable fire extinguishers also must be located on roofs during asphalt coating operations.

K. Compressed Gases:

1. Gas cylinders must be marked with the name of the contents.
2. Gas cylinders must be stored upright and secured to prevent falling.
3. When not in use, gas cylinder valve protective caps must be in place.
4. Gas cylinders must be protected against physical damage.
5. When stored, gas cylinders must be separated from each other based on their hazard classes.
6. Combustible materials must be kept a minimum of 10 feet from gas containers.
7. Gas cylinders must not be placed near elevators, unprotected platform edges or other areas where they would drop more than two feet (2').
8. Gas cylinders must not be placed in areas where they may be damaged by falling objects.
9. Ropes, chains or slings must not be used to suspend gas cylinders unless the cylinder was manufactured with appropriate lifting attachments.

L. Liquid Petroleum Gas Storage and Use:

1. Liquid petroleum gas (LP-Gas) storage and use must comply with the following:
    a. If not prohibited by other sections of the Contract Documents, or the AHJ, propane containers may be used in buildings under construction or undergoing major renovation as a fuel source for temporary heating for curing concrete, drying plaster and similar applications in accordance with the following:
        1. Heating elements (other than integral heater-container units) must be located at least 6 feet from any LP-Gas container.
        2. Integral heater container units specifically designed for the attachment of the heater to the container, or to a supporting standard attached to the container, may be used provided they are designed and installed so as to prevent direct or radiant heat application to the LP-Gas container.
        3. Blower and radiant type units must not be directed toward any LP-Gas container within 20 feet.

4. Heat producing equipment must be installed with clearance to the combustibles in accordance with the manufacturer's installation instructions.
5. Cylinders must comply with DOT cylinder specifications and be secured in an upright position.
6. Regulators must be approved for use with LP-Gas. Fittings must be designed for at least 250-psig service pressure.
7. Hoses must be designed for a working pressure of at least 350 psig (unless limited to 5 psig) and shall be a maximum of 6 feet in length.
8. Portable heaters must be equipped with an approved automatic device to shut off the flow of gas to the main burner and to the pilot in the event of flame extinguishment or combustion failure.
9. Portable heaters with an input of more than 50,000 Btu/hr must be equipped with either a pilot that must be "proved" before the main burner can be turned on, or provided with an approved electronic ignition system.

b. In addition to the above, for LP-Gas storage/use in buildings undergoing alteration and that are fully or partially occupied, the following shall also apply:
   1. Specific approval must be obtained from the Fire Department prior to bringing LP-Gas containers onto the Project Site.
   2. The maximum water capacity of individual containers shall be 5-gallon water capacity and the number of containers in the building shall not exceed the number of workers assigned to using the LP-Gas.
   3. Containers having a water capacity greater than 2 1/2 lb. (1 quart) must not be left unattended.

M. Hot Work:
   1. The uses of Hot Work equipment must be in accordance with the following guidelines, including a pre-site inspection, fire watch and post inspection procedures.
      a. Pre-site Inspection: An inspection of the Hot Work site must be conducted by the Contractor or his/her designee prior to Hot Work operations to ensure:
         1. the Hot Work site is clear of combustibles or that combustibles are protected;
         2. exposed construction is of noncombustible materials or that combustible materials are protected;
         3. openings are protected;
         4. there are no exposed combustibles on the opposite side of partitions, walls, ceilings, floors, etc.;
         5. fire extinguishers are available, fully charged and operable; and
         6. fire watch personnel are assigned, equipped and trained.
      b. Fire Watch: The sole duty of fire watch personnel must be to watch for the occurrence of fire during and after Hot Work operations.
         1. Individuals designated to fire watch duty must have fire-extinguishing equipment readily available and be trained in the use of such equipment.
         2. Personnel assigned to fire watch must be responsible for extinguishing spot fires and communicating an alarm.

3. Hot Work conducted in areas with vertical and horizontal fire exposures that cannot be observed by a single individual must have additional personnel assigned to fire watches to ensure that all exposed areas are monitored.

c. Post Inspection: The fire watch must be maintained a minimum of 30 minutes after the conclusion of the Work to look out for leftover sparks, slag or smoldering combustibles.

N. Combustion Powered Equipment:

1. Combustion powered equipment must be used in accordance with the following:

a. Equipment must be located so that exhausts do not discharge against combustible materials.

b. When possible, exhausts must be piped to the outside of the building.

c. Equipment must not be refueled while in operation.

d. Fuel for equipment must be stored in an approved area outside of the building.

O. Temporary Heating Equipment:

1. Temporary heaters, such as those that are liquid petroleum gas (LP-Gas) fueled, shall be listed and must be installed, used, and maintained in accordance with the manufacturer's instructions.

2. Temporary heating devices must be secured properly and kept clear from combustible materials.

3. Refueling operations must be conducted in an approved manner.

P. Combustible Material Storage:

1. Combustible construction materials must be stored a minimum of 20 feet from buildings under construction or undergoing remodel, except:

a. Materials staged for installation on a floor level.

b. When specifically approved by County Fire, materials may be stored in parking garages of Type I construction if the automatic fire sprinkler system is in service and vertical openings are protected.

Q. Flammable and Combustible Liquids:

1. Storage areas for flammable and combustible liquids must be kept free of weeds and extraneous combustible material. Open flames and smoking are prohibited in flammable or combustible liquid storage areas.

2. Tanks and containers must be marked with the name of the product and "FLAMMABLE KEEP FIRE AND FLAME AWAY." Tanks (containers in excess of 60 gallons) shall also be labeled, "KEEP 50 FEET FROM BUILDINGS."

3. Metal containers for Class I or II liquids must be in accordance with DOT requirements or must be of an approved design. Discharge devices must not cause an internal pressure on the container. Individual containers must not be interconnected and must be kept closed when not in use.

4. Secondary containment or a means of spill control, drainage control, and dike control is required for large containers (such as 55 gallon drums) and tanks as approved by the Fire Department.

5. Plans for the installation/use of any aboveground storage tank (containers greater than 60 gallons) must be submitted to the Owner and Fire Department for review and permit prior to procuring proposed tank.

R. Burning on the Project Site is prohibited.

1.09SUBMITTALS

A. Contractor must submit the following items to the Owner's Authorized Representative for review and acceptance prior to mobilization:

1. Two (2) copies of a site map identifying the locations of:
   a. Contractor's field office (See Section 01 50 00, Part 1.06 .A)
   b. Temporary Offices for County Representatives (See Section 01 15 14)
   c. Storage sheds and storage areas (See Section 01 50 00 Part 1.06 .D)
   d. Project Site access and egress points (See Document 00700, Article 10.03 .C)
   e. Fabrication areas (See. Section 01 50 00, Part 1.06 .K)
   f. Equipment maintenance area (See Section 01 50 00, Part 1.06 .E)
   g. Parking area for personal vehicles (See Section 01 50 00, Part 1.06 .G)
   h. Parking and maintenance area(s) for construction equipment (See Section 01 50 00, Part 1.06 .G)
   i. Temporary utility poles or electric extensions (See. Section 01 50 00, Part 1.04 .C .5)
   j. Concrete washout area(s) (See. Section 01 50 00, Part 1.06 .I)
   k. Temporary and/or Construction Fencing location(s) (See Document 00700, Article 10.03 .E, Section 01 50 00, Part 1.06 .C, and Section 015626)
2. Submit three (3) copies of a written description of what types of materials will be used as temporary barriers and protection and how they will be utilized. (See Section 01 50 00, Part 1.07, "Temporary Controls")
3. Submit two (2) copies of a letter designating an authorized representative for the Contractor who will have the authority to represent and act for Contractor at the Project Site. (See Document 00700, Article 3.07 .A). Include the telephone and/or pager numbers at which the Contractor's Authorized Representative can be reached at all times. (See Document 00700, Article 3.07 .D)

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS (Not Used)

END OF SECTION

SECTION 01 51 16

FIRE PROTECTION PLAN

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Sections, Codes and Standards
   c. 1.03 – Definitions and Abbreviations
   d. 1.04 - Fire Protection Plan Requirements
   e. 1.05 - Implementation
   f. 1.06 - Submission
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms (Not Used)

1.02 RELATED SECTIONS, CODES AND STANDARDS

A. Section 01 50 00, "Temporary Facilities and Controls"

B. 2013 California Fire Code- Chapter 33

C. National Fire Protection Association - Standard #1

D. Santa Barbara County Fire Department – Development Standards.

1.03 DEFINITIONS AND ABBREVIATIONS

A. **Hot Work –** operations including cutting, welding, thermite welding, brazing, soldering, grinding, thermal spraying, thawing pipe, installation of torch-applied roof systems or any other similar activity.

B. **Fire Department –** Santa Barbara County Fire Department

C. **CSFM –** California State Fire Marshal's Office

1.04 FIRE PROTECTION PLAN REQUIREMENTS

A. Contractor must prepare and submit a written Fire Protection Plan. Submission of the Plan may be phased. (See Part 1.06 of this Section 01 51 16.)

B. Contractor's written Fire Protection Plan must meet the requirements of the Contract Documents and be consistent with the fire safety precautions specified by Santa Barbara County Fire Department and CSFM.

C. At a minimum, Contractor's Fire Protection Plan must include:

1. The name and contact phone number of the person(s) responsible for compliance with the Fire Protection Plan regardless of whether that person is employed by Contractor or a Subcontractor.
2. Procedures for:
   a. Reporting emergencies to the Fire Department;
   b. Emergency notification, evacuation and/or relocation of all persons in the building under construction and on the Project Site;

c. Hot Work operations;
d. Management of hazardous materials;
e. Removal of combustible debris; and
f. Maintenance of emergency access roads.

3. Floor plans identifying the locations of:
   a. Exits;
   b. Exit stairs;
   c. Exit routes; and
   d. Portable fire extinguishers.
4. Site plans identifying:
   a. Designated exterior assembly areas for each evacuation route;
   b. Fire apparatus access roadways; and
   c. On-site fire hydrants.

1.05 IMPLEMENTATION

A. **Contractor shall implement the requirements and provisions of the approved Fire Protection Plan.**

B. **Contractor shall communicate the requirements of the Fire Protection Plan to all Subcontractors and other personnel working at the Project Site.**

1.06 SUBMISSION

A. **Contractor shall submit to Owner six (6) copies of a Fire Protection Plan.**

B. **Submission of the Fire Protection Plan may be phased:**

1. **The Fire Department and the CSFM must approve the following items prior to Contractor performing Work at the Project Site:**
   a. **The name and contact phone number of the person(s) responsible for compliance with the Fire Protection Plan regardless of whether that person is employed by Contractor or a Subcontractor.**
   b. Procedures for:
      1. Reporting emergencies to the Fire Department;
      2. Emergency notification, evacuation and/or relocation of all persons in the building under construction and on the Project Site;
      3. Hot Work operations;
      4. Management of hazardous materials;
      5. Removal of combustible debris; and
      6. Maintenance of emergency access roads.
   c. Site plans identifying:
      1. Fire apparatus access roadways; and
      2. On-site fire hydrants.

2. **The Fire Department and the CSFM must approve the following before Contractor may begin construction of the building beyond foundation work:**
   a. Floor plans identifying the locations of:
      1. Exits;
      2. Exit stairs;
      3. Exit routes; and
      4. Portable fire extinguishers.
   b. Site plans identifying designated exterior assembly areas for each evacuation route.
3. **Allow a minimum of 15 working days for Fire Department and CSFM review.**

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS (Not Used)

END OF SECTION

SECTION 01 57 23

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

PART 1 - GENERAL

1.01 SUMMARY

.A This Section includes:

.1 Part 1 – General
.a 1.01 – Summary
.b 1.02 – Related Documents and Sections
.c 1.03 - Definitions
.d 1.04 – SWPP Plan Requirements
.e 1.05 - Submittals
.2 Part 2 – Products (Not Used)
.3 Part 3 – Execution (Not Used)
.4 Part 4 – Forms (Not Used)

1.02 RELATED DOCUMENTS AND SECTIONS

.A Document 00700, Article 3.19, "Water Pollution Control"

.B Document 00800, Article 2, "EIR Mitigation Measures & Monitoring Responsibilities"

.C Section 013300, "Submittal Procedures"

.D Section 013327.2, "Submittal Log and Submittal Distribution"

.E Section 014516.13, "Contractor's Quality Control (QC) System"

1.03 DEFINITIONS

.A **SWPPP -** Storm Water Pollution Prevention Plan

1.04 SWPPP REQUIREMENTS

.A The Contractor shall take all necessary precautions to prevent storm water contamination, including, but not limited to:

.1 Capturing and filtering or properly disposing of all water from vehicle washing activities;

.2 Establishing a proper on-site vehicle washing area and washing the dirt off all construction vehicles before they are driven on public roads;

.3 Covering trash, food waste and compactor enclosures so that contaminants are not washed in to the storm drains;

.4 Providing filtering berms around all storm drains in the vicinity of construction;

.5 Providing, and or maintain silt fences around all construction grading activities throughout the duration of the construction project;

.6 Providing appropriate covers, drains and storage precautions for outdoor material storage areas, loading docks and fueling areas;

.7 Maintaining a spill prevention and action plan for spills of hazardous materials;

.8 Installing burlap bags filled with drain rock around storm drains to route sediment and other debris away from the drains;

.9 Suspending earthmoving or other dust-producing activities during periods of high winds;

.10 Watering at least twice daily all exposed or disturbed soil surfaces to control dust; utilize non potable water only;

.11 Watering or covering stockpiles of soil or other materials that can be blown by the wind;

.12 Covering and maintain at least two feet of freeboard on all trucks hauling soil, sand, and other loose materials; and

.13 Sweeping (with water sweepers) all paved access roads, parking areas, staging areas and residential streets adjacent to the construction sites.

.B The Contractor must prepare, maintain and implement, for the entire construction period, a site-specific Storm Water Pollution Prevention Plan (SWPPP) which addresses measures to minimize and control construction and post-construction storm water runoff.

.1 Contractor's SWPPP must comply with the Federal Clean Water Act and the California Regional Water Quality Control Board National Pollution Discharge Elimination System ("NPDES") permit.

.2 Contractor's SWPPP must be prepared and signed by a Qualified SWPPP Developer (QSD).

.a The qualifications of a QSD are defined in the California Regional Water Quality Control Board General Order 2009-009-DWQ, as updated.

.3 Contractor must submit the SWPPP to Owner, and Owner must accept Contractor's SWPPP prior to commencing any on-site construction work.

.4 Contractor must submit three (3) copies of the draft SWPPP to the Owner for review. The Owner must accept the SWPPP before the Contractor starts any Work.

.5 The Contractor must maintain the Owner-accepted SWPPP, along with any revisions, at the Project Site, and the SWPPP must be updated to reflect current site conditions. The Contractor shall utilize SMARTS (Storm Water Multiple Application and Report Tracking System) to the extent necessary to comply with State and Federal laws.

.6 The County will submit Notice of Intent and Notice of Termination forms to the State.

1.05SUBMITTALS

.A Submit the Storm Water Pollution Prevention Plan (SWPPP) in accordance with Section 013300, "Submittal Procedures," and Section 013327.2, "Submittal Log and Submittal Distribution."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS (Not Used)

Appendix A: STORM WATER POLLUTION PREVENTION PLAN

1. Objectives

The Contractor shall develop and submit for Owner acceptance, a site-specific Storm Water Pollution Prevention Plan (SWPPP). Contractor's SWPPP shall be developed and amended or revised, when necessary, to meet the following objectives:

a. Identify all pollutant sources including sources of sediment that may affect the quality of storm water discharge associated with construction activity (storm water discharges) from the construction site;

b. Identify non-storm water discharges;

c. Maintain Best Management Practices ("BMP") to reduce similar pollutants in storm water discharges and authorized non-storm water discharges from the construction site during construction;

d. Review EIR Mitigation Measures found in Document 00800, Article 2, and include applicable measures as required;

e. Identify a sampling and analysis strategy, and sampling schedule for discharges, from construction activity which discharge directly into water bodies listed on Attachment 3 of the Clean Water Act Section 303(d) [303(d)] Water Bodies listed for Sedimentation; and

f. For all construction activity, identify a sampling and analysis strategy, and sampling schedule, for discharges that have been discovered through visual monitoring to be potentially contaminated by pollutants not visually detectable in the runoff.

2. Implementation Schedule

a. Contractor's SWPPP must be accepted by the Owner prior to the start of soil-disrupting activity in accordance with this Section 015723 and shall be implemented concurrently with commencement of soil-disturbing activities.

3. Availability

Contractor's SWPPP shall remain on the Project Site while the site is under construction during working hours, commencing with the initial construction activity and ending with termination of coverage under the General Permit.

4. Required Changes

The Contractor shall amend the SWPPP whenever there is a change in construction or operations which may affect the discharge of pollutants to surface waters, ground waters, or a municipal separate storm sewer system ("MS4"). Contractor's SWPPP shall also be amended if the Contractor violates any condition of the General Permit, or has not achieved the general objective of reducing or eliminating pollutants in storm water discharges. If the Owner determines that the discharge is in violation of the General Permit, Contractor shall amend and implement its SWPPP in a timely manner, but in no case more than 14-calendar days after notification by the Owner. Contractor shall date and directly attach to its SWPPP all amendments to the SWPPP.

5. SWPPP Contents

a. Both the U.S. Environmental Protection Agency and the California Stormwater Quality Association (http://www.casqa.org/) have template SWPPP Plans on their websites.

b. Contractor's SWPPP shall be site/Project-specific and include: (a) Project information; and (b) pollutant source identification, combined with an itemization of those BMPs specifically chosen to control the pollutants listed.

c. As a minimum, Contractor's SWPPP shall contain:

(1) A vicinity map locating the Project Site with respect to easily identifiable major roadways, geographic features, or landmarks. At a minimum, the map must show the construction site perimeter, the geographic features surrounding the site, and the general topography.

(2) Site map(s) which shows the Project in detail, including the existing and planned paved areas and buildings.

(a) At a minimum, the map must show the construction site perimeter; existing and proposed buildings, lots, roadways, storm water collection and discharge points; general topography both before and after construction; and the

anticipated discharge location(s) where the storm water from the construction site discharges to a municipal storm sewer system or other water body.

(b) The drainage patterns across the project area must clearly be shown on the map, and the map must extend as far outside the site perimeter as necessary to illustrate the relevant drainage areas. Where relevant drainage areas are too large to depict on the map, map notes or inserts illustrating the upstream drainage areas are sufficient.

(c) Temporary on-site drainages to carry concentrated flow shall be selected to comply with local ordinances, to control erosion, to return flows to their natural drainage courses, and to prevent damage to downstream properties.

(3) Information presented in Contractor's SWPPP may be represented either by narrative or by graphics. Where possible, narrative descriptions should be plan notes. Narrative descriptions which do not lend themselves to plan notes can be contained in a separate document which must be referenced on Contractor's SWPPP.

(4) Pollutant Source and BMP Identification.

(a) Contractor's SWPPP shall include a description of potential sources which are likely to add pollutant(s) to storm water discharges, or which may result in non-storm water discharges from the construction site. Discharges originating from off-site which flow across or through areas disturbed by construction that may contain pollutants should be reported to the Owner.

d. Contractor's SWPPP shall:

(1) Show drainage patterns and slopes anticipated after major grading activities are completed. Runoff from off-site areas should be from flowing through areas that have been disturbed by construction unless appropriate conveyance systems are in place. The amount of anticipated storm water run-on must be considered to determine the appropriateness of the BMPs chosen. Slow all calculations for anticipated storm water run-on, and describe all BMPs implemented to divert off-site.

(2) Show the drainage patterns into each on-site storm water inlet point or receiving water. Show or describe the BMPs that will protect operational storm water inlets or receiving waters from contaminated discharges other than sediment discharge, such as, but not limited to: storm water with elevated pH levels from contact with soil amendments such as lime or gypsum; slurry from saw cutting of concrete or asphalt; washing of exposed aggregate concrete; concrete rinse wager; building washing operations; equipment washing operations; minor street washing associated with street delineation; and/or sealing and paving activities occurring during rains.

(3) Show existing site features that, as a result of known past usage, may contribute to storm water (e.g., toxic materials that are known to have been treated, stored, disposed, spilled, or leaked onto the construction site). Show or describe the BMPs implemented to minimize the exposure of storm water to contaminated soil or toxic materials.

(4) Show areas designated for: (a) storage of soil or waste; (b) vehicle storage and service areas; (c) construction material loading, unloading, and access areas; and (d) equipment storage, cleaning and maintenance areas.

(5) Describe the BMPs for control of discharges from waste handling and disposal areas and methods of on-site storage and disposal of construction materials and construction waste. Describe the BMPs designed to minimize or eliminate the exposure of storm water to construction materials, equipment, vehicles, waste

storage areas, or service areas. The BMPs described shall comply with Federal, State, and local laws, regulations, and ordinances.

(6) Show the locations of direct discharge from the construction site into a Clean Water Act Section 303(d) listed water body. Show the designated sampling locations in the receiving waters, which represent the prevailing conditions of the water bodies upstream of the construction site discharge and immediately downstream from the last point of discharge.

(7) Show the locations designated for sampling the discharges identified above. Samples shall be taken should visual monitoring indicate that there has been a breach, malfunction, leakage, or spill from a BMP which could result in the discharge in storm water of pollutants that would not be visually detectable, or if storm water comes into contact with soil amendments or other exposed materials or contamination and is allowed to be discharged. Describe the sampling procedure, location, and rationale for obtaining the uncontaminated sample of storm water.

(8) Contractor's SWPPP shall include a construction activity schedule which describes all major activities such as mass grading, paving, lot or parcel improvements at the site and the proposed time frame to conduct those activities.

(9) Show the location(s) for stabilized construction entrance/exit.

e. Additional Information

(1) Contractor's SWPPP shall include a narrative description of pollutant sources and BMPs that cannot be adequately communicated or identified on the site map. In addition, a narrative description of preconstruction control practices (if any) to reduce sediment and other pollutants in storm water discharges shall be included.

(2) Contractor's SWPPP shall include an inventory of all materials used and activities performed during construction that have the potential to contribute to the discharge of pollutants other than sediment in storm water. Describe the BMPs selected and the basis for their selection to eliminate or reduce pollutants in the storm water discharges.

(3) Contractor's SWPPP shall include the following information regarding the Project Site surface area: the size (in acres or square feet), the runoff coefficient before and after construction, and the percentage that is impervious (e.g., paved, roofed, etc.) before and after construction.

(4) Contractor's SWPPP shall list the name and telephone number of the qualified person(s) who have been assigned responsibility for pre-storm, post-storm, and storm event BMP inspections; and the qualified person assigned responsibility to ensure full compliance with the permit and implementation of all elements of Contractor's SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges.

f. Erosion Control

(1) At a minimum, the Contractor must implement an effective way to retain soil and sediment control on all disturbed areas during the rainy season. These disturbed areas include rough graded roadway, slopes, and building pads. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single-most important factor in reducing erosion at construction sites. The Contractor shall consider measures such as covering with mulch, temporary seeding, soil stabilizers, rolls or blankets, temporary vegetation, permanent seeding, and a variety of other methods.

(2) Contractor's SWPPP shall include a description of the erosion control practices, including a time schedule, to be implemented during construction to minimize erosion on disturbed areas of a construction site. The discharger must consider the full range of erosion control BMPs. The Contractor must consider any additional site-specific and seasonal conditions when selecting and implementing appropriate BMPs. The above listed erosion control measures are examples of what should be considered and not exclusive of new or innovative approaches currently available or being developed.

(3) Contractor's SWPPP shall include an outline of the areas of vegetative soil cover or native vegetation on site which will remain undisturbed during the Project.

(4) Contractor's SWPPP shall include an outline of all areas of soil disturbance including cut or fill areas which will be stabilized during the rainy season by temporary or permanent erosion control measures, such as seeding, mulch or blankets, etc.

(5) Contractor's SWPPP shall include an outline of the areas of soil disturbance, cut, or fill which will be left exposed during any part of the rainy season, representing areas of potential soil erosion where sediment control BMPs are required to be used during construction.

(6) Contractor's SWPPP shall include a proposed schedule for the implementation of erosion control measures.

g. Sediment Control

(1) Contractor's SWPPP shall include a description or illustration of BMPs which will be implemented to prevent a net increase of sediment load in storm water discharge native to preconstruction levels. Sediment control BMPs are required at appropriate locations along the site perimeter and at all operational internal inlets to the storm drain system at all times during the rainy season. Sediment control practices may include filtration devices and barriers (such as fiber rolls, silt fence, straw bale barriers, and gravel inlet filters) and/or settling devices (such as sediment traps or basins). Contractor shall select, install, and maintain properly effective filtration devices, barriers, and settling devices. A proposed schedule for deployment of sediment control BMPs shall be included in the SWPPP. These are the most basic measures to prevent sediment from leaving the Project Site.

(2) During the non-rainy season, the Contractor is responsible for ensuring that adequate sediment control materials are available to control sediment discharges at the downgrade perimeter and operational inlets in the event of a predicted storm. The Contractor shall consider a full range of sediment controls, in addition to the controls listed above, such as straw bale dikes, earth dikes, brush barriers, drainage swales, check dams, subsurface drain, sandbag dikes, fiber rolls, or other controls. At a minimum, the Contractor must implement an effective combination of erosion and sediment control on all disturbed areas during the rainy season.

If the Contractor chooses to rely on sediment basins for treatment purposes, sediment basins shall be designed and maintained as follows:

Option 1: Pursuant to local ordinance for sediment basin design and maintenance, provided that the design efficiency is protective as, or more protective of water quality than Option 2; OR

Option 2: Sediment basin(s), as measured from the bottom of the basin to the principal outlet, shall have at least a capacity equivalent to 3,600 cubic feet of storage per acre draining into fie sediment basin. 'The length of the basin shall be more than twice the

width of the basin. The length is determined by measuring the distance between the inlet and the outlet and the depth must not be less than three feet nor greater than five feet for safety reasons and for maximum efficiency.

h. Stabilization

(1) All disturbed area of the Project Site must be stabilized. Final stabilization for the purposes of submitting a NOT (Notice of Termination) is satisfied when:

All soil disturbing activities are completed AND EITHER OF THE TWO FOLLOWNG CRITERIA ARE MET:

(a) A uniform cover with 70 percent coverage has been established; OR

(b) equivalent stabilization measures have been employed. These measures include the use of such BMPs as blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, or other erosion resistant soil coverings or treatments.

(2) Where background native vegetation covers less than 100 percent of the surface, such as in arid areas, the 70 percent coverage criteria is adjusted as follows: If the native vegetation covers 50 percent of the ground surface, 70 percent of 50 percent (.70 X .50=.35) would require 35 percent total uniform surface coverage.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents and Sections
   c. 1.03 - Definitions
   d. 1.04 - Product Delivery, Storage, and Handling
   e. 1.05 - Packaging
2. Part 2 – Products
   a. 2.01 - Unauthorized Products
   b. 2.02 - Product Availability
   c. 2.03 - Product Requirements
   d. 2.04 – Contractor's Option
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms (Not Used)

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00100, "Notice to Bidders"

B. Document 00700, Article 3.26, "Submittals"

C. Document 00700, Article 3.30, "Substitutions"

D. Section 01 25 13, "Product Substitution Procedures"

E. Section 01 33 00, "Submittal Procedures"

1.03 DEFINITIONS

A. **Products -** Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock.

1. The term "Product" includes the terms "material," "equipment," "system," and terms of similar intent.
2. Product means New Products including material, machinery, components, equipment, fixtures, and systems forming the Work.
   a. Product does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.
   b. Products may also include existing materials or components required for reuse.

B. **Named Products** - Products identified in the Contract Documents by Manufacturer's product name. Named Products may include Manufacturer's make or model number or other designation.

C. **New Products** - Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered New Products.

D. **Basis-of-Design Product Specification -** A specification in which a specific manufacturer's Product is named and accompanied by the words "basis-of-design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance,

physical properties, appearance, and other characteristics for purposes of evaluating comparable Products of additional manufacturers named in the specification.

E. **Manufacturer's Warranty -** Written Warranty published by individual Manufacturer for a particular Product and specifically endorsed by Manufacturer to Owner.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Delivery.

1. Contractor shall:

a. Deliver Products using means and methods that will prevent damage, deterioration, and loss, including theft.

b. Schedule delivery to minimize long-term storage at Project Site and to prevent overcrowding of Project or Work areas.

c. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

d. Deliver Products to Project Site in an undamaged condition in Manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

e. Inspect Products on delivery to ensure compliance with the Contract Documents and to ensure that Products are undamaged and properly protected.

2. Owner will not be responsible for accepting delivery of the Contractor's materials.

B. Storage.

1. Contractor shall:

a. Store Products using means and methods that will prevent damage, deterioration, and loss, including theft.

b. Comply with Manufacturer's written instructions for storage.

c. Store Products to allow for inspection and measurement of quantity or counting of units.

d. Store materials in a manner that will not endanger Project premises or personnel.

e. Store Products that are subject to damage by the elements, under cover in a weather tight enclosure above ground, with ventilation adequate to prevent condensation.

f. Comply with Product Manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.

g. Protect stored Products from damage.

h. For exterior storage of fabricated Products, place on sloped supports above ground.

.1 Cover Products subject to deterioration with impervious sheet covering and provide ventilation to avoid condensation.

.2 Store loose granular materials on solid surfaces in well-drained area; prevent mixing with foreign matter.

C. Handling.

1. Contractor shall:

a. Handle Products using means and methods that will prevent damage, deterioration, and loss, including theft.

b. Comply with Manufacturer's written instructions for handling.
c. Provide equipment and personnel to handle Products by methods to prevent soiling or damage.
d. Contractor must have personnel on hand to accept delivery of all materials to the Project Site.

D. Contractor shall:

1. Require from all of its Subcontractors and Suppliers compliance with this Section 01 60 00.
2. Replace at no cost to Owner any Products which were not delivered, handled, or stored in accordance with this Section 01 60 00 and as a result are not suitable for use on the Project.
3. Provide Owner with a warranty for any Products for which the Manufacturer's Warranty was voided for failure to comply with this Section 01 60 00.

1.05 PACKAGING

A. Provide reusable or recyclable packaging for items delivered to the Project Site such as construction materials, operations and maintenance materials, furniture, equipment and other large objects.

B. For items over 75 pounds or larger than 120 cubic feet, polystyrene "peanuts" shall not be used with packaging.

C. Use Products with natural or recycled content.

1. Plastic sheets or films will be allowed only if labeled with recycling symbol indicating type of plastic.
2. Reusable Packaging: Items such as blankets, skids and crates must be returned to the manufacturer or transportation company for future reuse as packaging materials.
3. Recyclable Packaging: Items such as boxes, cardboard and paper that will be delivered to a recycling center after use.

D. Contractor must properly dispose of packaging materials and clean surrounding areas of packaging debris immediately after unpacking of Products.

PART 2 - PRODUCTS

2.01 UNAUTHORIZED PRODUCTS

A. Products required for Work must not contain asbestos or polychlorinated biphenyls (PCB).

B. If the Contract Documents name a Product, Provide the Named Product unless the Owner's Authorized Representative, through the Substitution process, accepts an equal Product. (See Section 01 25 13, "Product Substitution Procedures")

2.02 PRODUCT AVAILABILITY

A. Prior to Bid, Contractor must verify that Named Products, including sole source Products, can be obtained, delivered, and installed within the Contract Times(s) stated in the Bid Documents.

B. Owner does not warrant that Named Products, including sole source Products, are available within the Time Period(s) required by the Bid Documents. Contractor must verify availability of Named Products and sole source Products before submitting a Bid.

C. By submitting a Bid, Contractor represents to the Owner that Contractor has verified the availability of Named Products, the Named Products including sole source Products are currently available, and the Work or designated portion of the Work can be completed within the Contract Time(s).

2.03 PRODUCT REQUIREMENTS

A. Contractor must Provide Products that:

1. Comply with the requirements of the Contract Documents;
2. Have been accepted by the Owner for incorporation into the Work;
3. Are undamaged; and

4. Are new at time of installation, unless otherwise indicated in the Contract Documents.

B. Contractor must Provide Products complete with:
   1. Accessories;
   2. Trim;
   3. Finish;
   4. Fasteners;
   5. Gauges; and
   6. All other items needed for a complete installation.

C. Standard Products: If available, and unless custom products or nonstandard options are specified, Contractor shall Provide standard Products of types that have been produced and used successfully in similar situations on other projects.

D. Basis-of-Design Product: Where Specifications name a Product, or refer to a Product indicated on Drawings, and include a list of manufacturers, Contractor shall Provide the specified or indicated Product or a comparable Product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the Product named.
   1. The Architect of Record shall be the sole judge in determining the acceptability of the Product submitted to be comparable to the one specified as the Basis-of-Design.
   2. Should Product submitted be determined by the Architect of Record as not comparable to the Basis of Design, Contractor shall be responsible for providing the specified Basis-of-Design Product without additional cost.
   3. Should the Contractor chose to use a different Product allowed by the specifications, the Contractor assumes all liability that the alternate Product will fit and coordinate with the rest of the Work. If the alternate Product will not fit, the Contractor shall install the Basis-of-Design Product at no additional cost to the Owner.

E. Owner has the right to reject Products with Manufacturer's Warranties that do not satisfy the requirements of the Contract Documents.

F. Products required to be supplied in quantity must be interchangeable.

2.04 CONTRACTOR'S OPTION

A. Where the Contract Documents allow the Contractor to use another specified material, Product, system or equipment as an option, the Contractor may exercise the option on the condition that any additional costs, modifications, adjustments, redesigns or alterations required to incorporate it into the construction of the Project are included in the Work in the Bid.
   1. Contractor shall be responsible for coordinating and incorporating the option, if taken, into the Project including all required submittals and specification provisions.
   2. Contractor waives rights to additional payment or time should specified options be chosen and incorporated into the Project.

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS (Not Used)

END OF SECTION

SECTION 01 64 00

OWNER FURNISHED CONTRACTOR INSTALLED (OFCI) ITEMS

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents And Sections
   c. 1.03 – Definitions and Abbreviations
   d. 1.04 – OFCI Manager
   e. 1.05 – Purchase Orders
   f. 1.06 – OFCI Delivery Schedule
   g. 1.07 – Shipment Delivery
   h. 1.08 – Equipment Receiving Log
   i. 1.09 – Storage
   j. 1.10 – Inspection of Records
   k. 1.11 – OFCI Items Damaged in Transit
   l. 1.12 – Warranties/Guarantees
   m. 1.13 – Damaged or Stolen OFCI Items
2. Part 2 – Products
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms
   a. SAMPLE FORM 016400-F1, "OFCI DELIVERY SCHEDULE"

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00700, Article 3.39 .C, "Owner Furnished Items"

B. Section 01 32 00.4, Part 3.04, "Baseline Schedule"

1.03 DEFINITIONS AND ABBREVIATIONS

A. **OFCI –** Owner Furnished Contractor Installed

B. **OFCI Manager –** Contractor's employee accepted by the Owner and responsible for managing all OFCI items.

C. **OFCI Delivery Schedule –** The OFCI Delivery Schedule prepared by the Contractor and submitted to the Owner in the format indicated in SAMPLE FORM 016400-F1 at the end of this Section 01 64 00.

1.04 OFCI MANAGER

A. Prior to starting Work, Contractor shall submit a letter to the Owner identifying the on-site individual who will act as the Contractor's OFCI Manager.

1. Contractor's OFCI Manager will be responsible for:
   a. Furnishing the OFCI Delivery Schedule to the Owner's Project Manager.
   b. Proper receipt and reporting of all shipments received.
   c. Proper storage and handling of OFCI items at all times.

2. If the originally designated OFCI Manager is replaced, Contractor shall designate a new OFCI Manager and immediately submit written notification thereof to the Owner.

1.05PURCHASE ORDERS

A. The Owner will furnish to Contractor's OFCI Manager copies of purchase orders covering OFCI items.

1. Owner will forward Purchase Orders to Contractor's OFCI Manager after they are submitted to the supplier.
2. Contractor must retain copies of Owner's purchase order(s).
3. Purchase Orders for items subject to "phased" delivery will be accompanied by appropriate delivery lists.

1.06OFCI DELIVERY SCHEDULE

A. Contractor shall develop an OFCI Delivery Schedule including description and required delivery dates (see sample Schedule in Part 4 of this Section 01 64 00) for OFCI items and reference all related Activity Numbers from the Contractor's Progress Schedule. Contractor's OFCI Manager shall submit the OFCI Delivery Schedule to Owner no later than twenty-eight (28) Days after the start date for the Work identified in the Notice To Proceed (NTP). Contractor's OFCI Manager shall submit to Owner electronic copies of the OFCI Delivery Schedule and corresponding electronic data files on Compact Disks (CDs). The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and data date.

B. The OFCI Delivery Schedule must include each OFCI item.

1. For each OFCI item, complete the following two dates:
   a. "Delivery No Earlier Than" date.
   b. "Delivery No Later Than" date.

C. Contractor must add to the OFCI Delivery Schedule from the Official Progress Schedule the PO #, date ordered information, and Activity Numbers as the information is provided or becomes available.

D. This OFCI Delivery Schedule must be coordinated with the Owner accepted Official Progress Schedule

E. Each month, Contractor must coordinate the OFCI Delivery Schedule with the Updated Official Progress Schedule.

1. Contractor must review the equipment delivery schedule not less than once each month to determine whether the construction progress dictates any revisions. Contractor must:
   a. Notify Owner in writing of any changes found necessary.
   b. If, at any time, a delivery date for an OFCI item is missed, notify Owner immediately.

1.07SHIPMENT DELIVERY

A. Contractor shall assume all liability for OFCI Items at the time that Contractor accepts delivery for the OFCI Item. Contractor shall not be liable for any losses to OFCI Items incurred by Owner's willful misconduct or sole negligence.

B. Upon receipt of a shipment of OFCI item(s), the Contractor's OFCI Manager must:

1. Count the number of cartons to verify the quantity received corresponds with the freight bill.
   a. Clearly note any discrepancies on the original freight bill or delivery ticket.

b. Prior to accepting the OFCI Items, comply with Part 1.11 of this Section 016400 below regarding OFCI Items which may have been damaged during transit.

2. Open cartons or uncrate equipment and, if practicable, examine the OFCI item(s) prior to departure of the carrier.

a. If the size of the shipment makes this impossible, release the driver and inspect the shipment for concealed damage not later than 24 hours after receipt.

b. Contractor's OFCI Manager must notify Owner immediately of any damage discovered after opening cartons or uncrating the OFCI item(s).

3. Owner must be present at the time of delivery and/or at the time that OFCI items are removed from their packaging. OFCI Manager shall notify Owner of any delivery dates and times.

1.08EQUIPMENT RECEIVING LOG

A. Contractor's OFCI Manager shall keep an "Equipment Receiving Log" updated at all times at the Job Site.

B. The "Equipment Receiving Log" must be in a format furnished or Approved by the Owner.

1.09STORAGE

A. Contractor shall store all OFCI items in a secure area either on-site or off-site which complies with the following:

1. The area must be lockable and secure from vandalism or theft.

2. It must be weatherproof and waterproof with adequate ventilation.

3. Contractor shall Provide protection and security of OFCI items.

B. Contractor shall Provide Certificates of Insurance for all off-site storage areas in accordance with the requirements of the Contract Documents.

1.10INSPECTION OF RECORDS

A. The Owner may inspect on a periodic basis during construction records related to OFCI items to assure that the records are maintained in an accordance with this Section 01 64 00.

1.11OFCI ITEMS DAMAGED IN TRANSIT

A. Exterior or Visible Damage:

1. If container received shows exterior or visible damage, Contractor shall make a notation to that effect on the delivery ticket and have it signed by the delivery carrier and by personnel responsible for receiving the merchandise.

2. Contractor shall refuse acceptance of any OFCI item with exterior or visible damage.

B. Concealed Damage:

1. If at the time of receipt, Contractor neither observed nor discovered any damage to OFCI item(s), but upon examination of the contents thereof "concealed damage" is discovered, Contractor's OFCI Manager shall leave the damaged OFCI item(s) undisturbed and notify the Owner immediately to request that Owner inspect the OFCI item(s).

C. F.O.B. (Freight on Board) Shipping Point:

1. If F.O.B. Shipping OFCI item(s) are damaged in transit, Contractor's OFCI Manager must:

a. Request an inspection by the delivery carrier's representative. Do not destroy the original carton, box, etc.

b. Document the damage thoroughly, including with photographs, if applicable.

c. Notify the Owner immediately of the damaged OFCI item(s).

d. Submit the following to Owner's Authorized Representative or Owner's Project Manager:

1. All documentation of the damage, including photographs and documentation from the delivery carrier.

2. Bill of Lading.

3. Invoice.

4. Freight Bill or Delivery Ticket.

e. Hold the damaged merchandise until instructions for its disposition are received from the Owner.

D. F.O.B. (Freight on Board) Destination:

1. If, upon receipt of F.O.B. Destination OFCI item(s), the OFCI item(s) is damaged, Contractor's OFCI Manager must:

a. Request an inspection by the delivery carrier's inspector. Do not destroy the original carton, box, etc.

b. Document the damage thoroughly, including with photographs, if applicable.

c. Notify Owner immediately of the damaged OFCI item(s).

d. Notify the Vendor of damaged OFCI item(s).

e. Hold damaged merchandise until instructions for disposition are received from the Vendor.

1. Send to Vendor any documents Vendor requires to secure a replacement OFCI item(s).

1.12 WARRANTEES/GUARANTEES

A. Contractor must guarantee the installation of any OFCI item(s) in accordance with Article 13.12 of Document 0700.

B. If, due to the actions of Contractor or a Subcontractor, an OFCI item's manufacturer's warranty is voided due to Contractor's handling, storing, or installing the OFCI item, then Contractor shall replace at no cost to Owner that OFCI item's voided warranty.

1.13 DAMAGED OR STOLEN OFCI ITEMS

A. If, after Contractor accepts delivery for an OFCI item, an OFCI item is damaged, stolen, or otherwise becomes unsuitable for Installation in the Project, then Contractor shall pay any costs associated with replacing that OFCI item and shall Install it at no additional cost to Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS

SAMPLE FORM 016400-F1 "OFCI DELIVERY SCHEDULE"

OFCI DELIVERY SCHEDULE
SAMPLE FORM 016400-F1

ORDERED		DESCRIPTION	DELIVERY	
PO #	Date	Include the Activity Number from Official Progress Schedule	No Earlier Than	No Later Than
Note #1: Requires Field Measurements				

END OF SECTION

SECTION 01 71 23

SURVEYING AND FIELD ENGINEERING

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents And Sections
   c. 1.03 - Definitions
   d. 1.04 - Field Layout
   e. 1.05 - Locations and Elevations in the Contract Drawings
   f. 1.06 - Survey and Site Work
   g. 1.07 - Underground Infrastructure, Utilities & Other Facilities
   h. 1.08 - Penetrations
   i. 1.09 - Quality Control
   j. 1.10 - Submittals
2. Part 2 – Products
   a. 2.01 - Equipment
3. Part 3 – Execution
   a. 3.01 - Survey
4. Part 4 – Forms (Not Used)

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00700, Article 1.06. "Requests for Information"

B. Document 00700, Article 3.02, "Review of Contract Documents and Field Conditions by the Contractor"

C. Document 00700, Article 3.26, "Submittals"

D. Section 013100.2, "Project Management and Coordination"

E. Section 014516.13, "Contractor's Quality Control (QC) System"

1.03 DEFINITIONS

A. As used in this Section, the following definitions apply:

1. Approximate Location of Subsurface Installations – A strip of land not more than 24 inches on either side of the exterior surface of an Existing Subsurface Installation.
2. Existing Subsurface Installation - Any existing underground pipeline, conduit, duct, wire, or other structure.
3. Rearranged - Rearrangement includes relocation, removal, alteration or installation.

1.04 FIELD LAYOUT

A. Contractor is responsible for all investigations, coordination, techniques and determinations as may be necessary to properly fit, Install and complete the Work.

B. Data and information shown and indicated in the Contract Documents are as accurate as could be obtained but are not guaranteed.

C. Contractor must, before beginning any Work, compare actual Project Site conditions with the requirements of the Contract Documents, and verify all existing conditions and dimensions.

D. Verifications

1. As a minimum, Contractor must perform the following verifications:

a. Field & Site Conditions

1. Contractor must carefully examine and compare all the Contract Documents relating to the Work with actual field conditions, so that all Work will be accommodated in the spaces provided. The general arrangement and location of the elements of the various systems are shown on the Drawings or specified. Final locations, levels, etc., are governed by actual material sizes used, by conditions encountered, and by the sequence in which the Work is performed.

2. Space conflicts and interferences must be resolved before any Work is installed.

3. Existing elevations shown on plans should be compared with actual benchmarks/monuments to verify survey results.

b. Dimensions

1. Contractor, prior to performing any Work and as a part of the construction layout procedures, must check and verify all dimensions for accuracy, closing and clarity, and must immediately report any discrepancies to Owner for resolution before proceeding.

2. No measurements shall be scaled from Drawings. Only dimensions appearing on Drawings will be used.

3. Where manufacturer's diagrams, Shop Drawings, etc. give specific measurements of rough-in dimensions for materials or equipment and these dimensions are in conflict with dimensions indicated on Drawings, Contractor must immediately request clarifications from Owner pursuant to Article 1.06 of Document 700.

4. In case of apparent error, discrepancy, omission, conflict, or obscurity in the Contract Documents, or discrepant conditions encountered at the Project Site or between Submittals, Contractor must immediately seek Owner’s interpretation and/or clarification pursuant to Article 1.06 of Document 700.

E. Contractor must Provide necessary lines, levels, locations, measurements and markers for all on the Work and be responsible for their accuracy.

F. On building structures, Contractor must lay out on forms, walls, floors, and columns, the exact location of partitions as a guide to all trades.

1.05LOCATIONS AND ELEVATIONS IN THE CONTRACT DRAWINGS

A. Property lines, location lines, and elevations of components of the Work are shown on the Contract Drawings.

B. Grade elevations shown for various parts of the Work are taken from a bench mark shown on the Contract Drawings, or if not shown, will be designated by the Owner in writing before starting Work.

1.06SURVEY AND SITE WORK

A. Contractor must perform all survey and site Work necessary to locate and layout the construction in plan and elevation.

B. Contractor must set all stakes and marks necessary to establish the lines and grades required for the Project, and perform all survey work to layout all Work including batter boards, roads, parking lots, site utilities, and control lines.

C. Contractor must protect and maintain marks, lines, benchmarks, monuments, etc. which have previously been installed and/or are required for construction and inspection purposes. Monuments or stakes that are disturbed or destroyed due to Contractor's negligence or failure to pursue the Work diligently must be re-established at Contractor's expense.

1.07 UNDERGROUND INFRASTRUCTURE, UTILITIES & OTHER FACILITIES

A. Attention is directed to California Government Code §4215 through §4216.9 concerning protection of underground infrastructure in public contracts.

B. Contractor must ascertain the exact location of **all** underground and concealed facilities in the Project area prior to doing any work that may damage such facilities or interfere with their service. As a minimum, at least forty-eight (48) hours before any such work is planned, Contractor must have a locating service survey the area. When shown on the Drawings, the locations of Existing Subsurface Installations are the Approximate Location of Subsurface Installations, and the accuracy or completeness of this information is not guaranteed. There may be Existing Subsurface Installations not known to Owner or located differently than indicated in the Contract Documents.

C. Contractor must protect from damage utilities and any other Existing Subsurface Installations that are to remain in place, be relocated, or otherwise Rearranged.

D. If Contractor discovers underground facilities not indicated in the Contract Documents, Contractor must immediately notify Owner in writing. Contractor must not disturb, disconnect or damage any existing facilities, unless specifically indicated in the Contract Documents to be relocated, removed, or otherwise revised. Should Contractor disturb, disconnect, or damage any existing facilities or utilities, Contractor will bear all expenses of whatever nature arising from such disturbance or the replacement or repair thereof.

E. The right is reserved to the owners of facilities or their authorized agents, to enter the Project with Owner's approval to make such changes as are necessary to rearrange their facilities or to make necessary corrections or repairs to their properties. Contractor must cooperate with forces engaged in such work and must conduct operations in such a manner as to avoid any unnecessary delay or hindrance to the work being performed by such other forces.

F. Contractor must obtain authorization from the utility involved and notify Owner at least 72 hours in advance, when it is necessary to interrupt any existing utility service to make connections. Interruption in utility service must be of the shortest possible duration for the Work at hand and must be Approved in advance by Owner.

G. Where rearrangement of facilities is necessary, Contractor must coordinate its Work with such rearrangement, and Contractor must make all arrangements with the owner of such facilities for such coordination.

H. When ordered by Owner in writing, Contractor will rearrange any facility necessary to accomplish the Project and such work will be paid for as extra Work if it is not indicated in, or cannot reasonably be inferred from, the Contract Documents.

I. If Contractor desires to rearrange any utility or facility for its convenience in order to facilitate its construction operations, and if such rearrangement is in addition to, or different from any rearrangements indicated in the Contract Documents, Contractor must make all necessary arrangements with Owner and the owners of such utility or facility for such rearrangement and bear all expenses in connection therewith.

J. Where Owner determines that rearrangement of a utility or facility, the existence of which is not shown in the Contract Documents, is essential to accommodate the Project, Owner may rearrange such utility or facility by other forces.

K. Per Government Code §4215, Contractor will not be assessed Liquidated Damages for any delay in completing the Project when such delay is caused by the failure of a utility owner or the County to remove or relocate existing utilities that were the responsibility of the utility owner or County to remove or relocate.

1.08 PENETRATIONS

A. Contractor is responsible for all penetrations through walls, floors, beams, joists and other structural and non-structural elements of the Work for passage of pipes, conduits, ducts or other devices.

B. Contractor is responsible for coordinating all penetrations and securing Owner's approval for locations of all penetrations through structural floors, walls and supporting members.

C. Contractor must schedule and coordinate the Work of all trades to locate all required penetrations. Contractor must hire an independent testing agency at Contractor's expense, to locate reinforcing bars or imbedded items within concrete or masonry walls, floors, columns or beams, and to perform such other tests as may be necessary or directed to attain required results.

1.09 QUALITY CONTROL

A. Surveys must be performed under the direction and with the review of a land surveyor licensed in the State of California.

B. All survey documentation must be signed and stamped by the licensed Land Surveyor in responsible charge of the work.

C. The Contractor must review all information to ensure it is technically accurate and complies with the requirements of this Section before providing to the Owner.

1.10 SUBMITTALS

A. Prior to performing any survey Work, Contractor shall submit to Owner four (4) copies of the qualifications of the California Licensed land surveyor.

B. Prior to Project Acceptance, Contractor must submit to Owner two (2) complete sets of Contractor's survey records with the same dimensions as the Record Documents (As-Built Drawings).

PART 2 - PRODUCTS

2.01 EQUIPMENT

A. The Contractor must provide necessary survey equipment and materials to obtain the required locations and elevations to the precision specified.

PART 3 - EXECUTION

3.01 SURVEY

A. Elevation surveys must be referenced to the County datum, and must be performed to within one one-hundredth (0.01) of a foot (ft.), unless otherwise specified.

B. Location surveys must be referenced to the baseline and survey control points shown on the Contract Drawings. Locations must be provided to within one one-hundredth (0.01) of a foot (ft.), unless otherwise specified.

PART 4 - FORMS (Not Used)

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents And Sections
   c. 1.03 - Definitions
   d. 1.04 - General
   e. 1.05 - Interface with Work of Others
   f. 1.06 - Submittals
   g. 1.07 - Quality Control
2. Part 2 – Products
   a. 2.01 - Materials
3. Part 3 – Execution
   a. 3.01 - Examination
   b. 3.02 - Preparation
   c. 3.03 - Cutting
   d. 3.04 - Patching
   e. 3.05 - Performance
4. Part 4 – Forms (Not Used)

1.02 RELATED DOCUMENTS AND SECTIONS

A. **Document 00700, Article 3.22, "Cutting and Patching"**

B. Section 01 33 00, "Submittal Procedures."

C. Section 01 50 00, Part 1.08 .M, "Hot Work."

1.03 DEFINITIONS

A. **CUTTING AND PATCHING** - Includes, but is not necessarily limited to, demolition or repair of nominally completed or previously existing Work in order to accommodate coordination of Work, installation of Work, uncovering Work for access or inspection, and to obtain samples for testing or similar purposes. It also includes integral cutting and patching during manufacturing, fabricating, erecting, and installing processes for individual items of the Work.

B. **HOT WORK** - Hot work includes any operations capable of initiating fires or explosions, including cutting, welding, brazing, soldering, grinding, thermal spraying, thawing pipe, torch applied roofing, or any other similar activity.

1.04 GENERAL

A. Contractor is responsible for all cutting, fitting, or patching required to complete the Work and to make its parts fit together properly.

B. Contractor must rework and patch to match existing surfaces at removed or demolished items.

C. Patching must achieve security, strength, and weather protection, and must preserve continuity of existing fire ratings.

D. Patching must successfully duplicate undisturbed adjacent finishes, colors, textures, and profiles. Where there is disagreement as to whether duplication is successful or has been achieved to a reasonable degree, the Owner's judgment shall be final.

1.05 INTERFACE WITH WORK OF OTHERS

A. The Contractor is responsible for any and all cutting, fitting and patching required to join its work with the work of others, except as otherwise specifically stated for in the Contract Documents.

B. Contractor must not cut or otherwise alter the work of Owner or any separate contractor except with the written consent of Owner and such separate contractor.

C. Contractor must include interface flags in their Progress Schedule indicating points of interface of its work with the work of others.

1.06 SUBMITTALS

A. Contractor must comply with requirements of Section 01 33 00, "Submittal Procedures."

B. Contractor must submit written request to Owner in advance of cutting or alteration that affects:

1. Structural integrity of any element of Project.
2. Integrity of weather exposed or moisture resistant element.
3. Efficiency, maintenance, or safety of any operational element.
4. Visual qualities of sight exposed elements.
5. Work of Owner or separate contractor.
6. Include in Submittal:
    a. Identification of Project.
    b. Location and description of affected work.
    c. Necessity for cutting or alteration.
    d. Description of proposed Cutting and Patching and Products to be used.
    e. Method for keeping existing utilities in service.
    f. Alternatives to Cutting and Patching.
    g. Date and time the Cutting and Patching will be executed.
    h. Anticipated results in terms of variations from originally completed Work.
    i. Where applicable include a description of circumstances which led to need for cutting and patching.

C. Review by Owner or Design Professional prior to proceeding with proposed Cutting and Patching does not negate Owner's right later to require complete removal and replacement of Work found to be Cut and Patched in an unsatisfactory manner.

D. Where Cutting and Patching involves addition of reinforcement to structural elements, Contractor must obtain details and engineering calculations approved by Owner's Architect/Engineer indicating how reinforcement is to be integrated with the original structure.

E. Contractor must provide Owner with a list of utilities that will be disturbed or affected by Cutting or Patching, including those that will be relocated and those that will be temporarily out of service. Indicate how long utility service will be disrupted.

1.07 QUALITY CONTROL

A. Requirements for Structural Work:

1. Contractor shall not Cut and Patch structural Work in manner resulting in reduction of load-carrying capacity or load/deflection ratio.

2. Contractor shall obtain Owner's written acceptance of Submittal before proceeding with Cutting and Patching of structural steel, structural concrete, foundation construction, basement or retaining walls, curtain walls, pressurized piping, vessels, and equipment.

B. Operational and Safety Limitations:

1. Contractor shall not Cut and Patch operational elements or safety-related components in manner resulting in reduction of capacities to perform as intended or resulting in decreased operational life, increased maintenance, or decreased safety.

2. Contractor shall obtain Owner's acceptance of Submittal before proceeding with Cutting and Patching primary operational systems and equipment; water, moisture, vapor, air, or smoke barriers; membranes and flashings; noise and vibration control elements and systems; control, communication, conveying, and electrical wiring systems; and similar categories.

PART 2 - PRODUCTS

2.01 MATERIALS

A. For replacement of Work removed, Contractor shall use only materials that comply with the pertinent requirements of the Contract Documents. (Those required and accepted for original installation.)

B. For any proposed change in materials, Contractor shall Submit request for Substitution as described in Section 01 25 13, "Product Substitution Procedures."

PART 3 - EXECUTION

3.01 EXAMINATION

A. Contractor shall examine existing conditions prior to commencing Cutting and Patching, including elements subject to damage or movement during fitting, Cutting and Patching.

B. After uncovering existing Work, Contractor shall assess conditions affecting performance of Cutting and Patching.

3.02 PREPARATION

A. Contractor shall Provide temporary supports to ensure structural integrity of the Work.

B. If Hot Work is involved, Contractor shall comply with the requirements of Section 01 50 00, Part 1.08 .M, "Hot Work."

C. Contractor shall Provide devices and methods to protect other portions of Project from damage.

D. Contractor shall protect from the elements areas that may be exposed by uncovering work.

E. Contractor shall avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

F. Except as otherwise indicated, Contractor shall proceed with Cutting and Patching at earliest feasible time in each instance, and perform Cutting and Patching promptly.

3.03 CUTTING

A. Contractor shall Cut by methods least likely to damage retained and adjoining Work.

B. Contractor shall review proposed procedure with original installer where possible, and comply with installer's recommendations.

C. Contractor shall uncover work to install improperly sequenced work.

D. Contractor shall remove and replace defective or non-conforming work.

E. Contractor shall remove samples of installed work for testing when requested.

F. Contractor shall Provide openings in the Work for penetration of mechanical and electrical work.

G. Contractor shall employ original installer or fabricator where possible to perform Cutting for:

1. Weather exposed and moisture resistant elements; or
2. Visually exposed surfaces.

H. Contractor shall Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

I. Contractor shall comply with requirements of the Contract Documents, where Cutting and Patching requires excavating and backfilling.

3.04 PATCHING

A. Contractor shall execute Patching to complement adjacent Work.

B. Contractor shall fit Products together to integrate with other Work.

C. Contractor shall avoid damage to other Work and provide appropriate surfaces to receive Patching and finishing.

D. Contractor shall employ original installer where possible to perform Patching for weather exposed and moisture resistant elements, and visually exposed surfaces.

E. Contractor shall restore Patched areas with new Products in accordance with requirements of Contract Documents.

F. Contractor shall fit Patches tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

3.05 PERFORMANCE

A. Performing Cutting or Patching operations means acceptance of existing conditions by Contractor.

B. To avoid marring existing finished surfaces, Contractor shall cut or drill from the exposed or finished side into concealed surfaces.

C. Contractor shall by-pass utility services such as pipe or conduit, before cutting, where services are required to be removed, relocated or abandoned.

1. Contractor shall remove pipe or conduit in walls to be relocated, abandoned or removed.
2. Contractor shall cap, valve or plug, and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and removing.

D. Where feasible, Contractor shall inspect and test patched areas to demonstrate integrity of installation.

E. At no additional cost to the Owner, Contractor shall remove and replace Work judged by Design Professional of Record to be visually unsatisfactory.

F. Contractor shall perform cutting, fitting and patching in a manner to prevent damage to Contractor’s Work and work by others and to provide proper surfaces for the installation of materials, equipment, and repairs.

G. Contractor shall not cut or alter structural members without prior written acceptance of Owner.

H. Contractor shall adjust and fit Products to provide a neat installation.

I. Contractor shall refinish Cut and Patched surfaces to match adjacent finish.

1. For continuous surfaces, Contractor shall refinish to nearest intersection or natural break.
2. For an assembly, Contractor shall refinish entire assembly.

J. Over patched wall or ceiling surfaces, Contractor shall refinish to nearest cut-off line for entire surface, such as intersection with adjacent wall or ceiling, beam, pilasters, or to nearest opening frame, unless otherwise indicated.

K. Refinished surfaces must not present a spotty, touched-up appearance.

PART 4 - FORMS (Not Used)

END OF SECTION

SECTION 01 74 00

CLEANING AND WASTE DISPOSAL

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents And Sections
   c. 1.03 – Definitions
   d. 1.04 - General Cleanup Responsibility
   e. 1.05 - Immediate Cleanup Activities
   f. 1.06 - Daily Cleanup Activities
   g. 1.07 - Weekly Cleanup Activities
   h. 1.08 - Owner's Right to Cleanup
   i. 1.09 - Storage and Disposal
   j. 1.10 - Sand Blasting
   k. 1.11 - Final Cleaning
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms (Not Used)

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00700, Article .3.13, "Cleanup"

B. Document 00700, Article.3.14, "Disposal of Materials Outside Project Area"

C. Document 00700, Article.3.15, "Hazardous Materials"

D. Document 00700. Article 5.05, "Owner's Right to Cleanup"

E. Document 00700, Article 7.05, "Substantial and Final Completion Inspections and Certification"

F. Document 00700, Article 13, "Completion and Acceptance"

G. Document 00700, Article 13.03 .B, "Contractor's Certification that All Work of the Project is Complete"

H. Section 01 45 16.13, "Contractor's Quality Control (QC) System"

I. Section 01 50 00, "Temporary Facilities and Controls"

J. Section 01 60 00, "Product Requirements"

K. Section 01 74 20, "Solid Waste Management and Recycling Plan"

L. Section 01 77 00, "Closeout Procedures"

1.03 DEFINITIONS

A. **Clean** – as used in this Section 01 74 00, and except as may be specifically provided otherwise, the level of cleanliness generally provided by skilled cleaners using commercial quality building and parking lot cleaning equipment and materials.

1.04GENERAL CLEANUP RESPONSIBILITY

A. Contractor must keep the Work areas, Project Site, and surrounding areas free from waste materials, debris, and/or trash and rubbish caused by its operations.

B. In addition to trash and rubbish generated by Contractor's operations, Contractor must keep the Work areas, Project Site, and surrounding areas free from trash and rubbish from any source that accumulates within the Work areas or Project Site or any other area designated by the Owner for use by Contractor.

C. The Contractor must keep all surface areas (i.e., site roads, off-site streets, and parking areas) clear of dirt, mud, and debris and must Clean such surfaces as required, as needed, or as Directed by the Owner's Authorized Representative.

D. Contractor's and Subcontractors' tools, scaffolding and surplus materials must be neatly stored in designated storage areas when not in use.

E. Contractor must maintain the Project Site in a neat and orderly condition at all times.

1.05IMMEDIATE CLEANUP ACTIVITIES

A. Contractor must properly dispose of packaging materials and Clean surrounding areas of packing debris immediately after unpacking of Products, materials, equipment, or other packaged items.

B. Contractor must dispose of waste materials and Clean surrounding areas used for worker breaks and lunch immediately after worker break or lunch. Contractor must Provide trash receptacles in break and lunch areas.

C. Contractor must immediately remove any spillage, dirt and mud, and/or debris resulting from Contractor's hauling or other operations along or across any public traveled way or public area.

D. Contractor must remove debris and rubbish from pipe chases, plenums, down spouts, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

E. Contractor must broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

1.06DAILY CLEANUP ACTIVITIES

A. On a daily basis, Contractor must:

1. Not allow wood, cardboard, packing material, form lumber and similar combustible debris to accumulate within buildings and remove such debris, rubbish and waste material from buildings.
2. Leave Work areas "broom clean", or its equivalent.
3. Remove (pick up and place in trash receptacles) rubbish from and about areas of Work and the Project Site.
4. Clean the Project Site entrance area(s) of mud, dirt, displaced gravel, and rubbish.

1.07WEEKLY CLEANUP ACTIVITIES

A. On a weekly basis, Contractor must:

1. Remove rubbish (pick up and place in trash receptacles) from and about the Project Construction Fencing line. This includes areas both inside and outside of the Project Site.

2. Place concrete debris in designated areas or remove from Project Site.
3. Stack unused shipping pallets in designated areas or remove from Project Site.
4. Repair, replace, or remove damaged and/or torn plastic sheeting used to protect stored materials, Products or Work.
5. Empty all trash receptacles.
6. Remove accumulated waste from the Project Site and dispose of in a proper and lawful manner.
7. Organize and Clean storage areas.

1.08OWNER'S RIGHT TO CLEAN UP

A. Deficient Cleaning or disposal operations, as determined by the Owner's Authorized Representative, must be immediately corrected by Contractor.

B. After proper written notice, in cases where Contractor does not correct deficient Cleaning or disposal operations, Owner may remove or cause to have removed waste materials, debris, and/or trash and rubbish, etc., and reduce the Contract Sum by the cost thereof by issuing to Contractor a deductive Change Order.

C. If a disagreement arises between the Contractor and other separate contractors performing work at or adjacent to the Project Site, as to the responsibility pursuant to their respective contracts for maintaining the Project Site and surrounding areas free from waste materials, debris, and/or trash and rubbish, Owner may Clean up or cause to be cleaned up the waste materials, debris, and/or trash and rubbish and allocate the costs among those responsible, and reduce the Contract Sum by Contractor's proportionate share of the cost thereof by issuing to Contractor a deductive Change Order.

1.09STORAGE AND DISPOSAL

A. Storage

1. Waste materials, trash, and rubbish must be stored in covered containers.
2. Storage containers must not be allowed to overflow due to excessive waste materials, trash, and rubbish being placed in the storage container.
3. Storage container lids must be unobstructed by waste materials, trash, and rubbish when they are in the closed position.
4. Storage container lids must be closed at all times except when waste materials, trash, and rubbish are being placed into or removed from the storage container.
5. Recyclable materials must be segregated before storage and stored in separate containers or areas.

B. Disposal

1. Under no circumstances shall rubbish or waste material be disposed of in fills or backfills on the Project Site.
2. Contractor is responsible for making all arrangements and paying all costs for disposal of waste materials, debris, and/or trash and rubbish.
3. Waste materials, debris, and/or trash and rubbish, must be removed from the Project Site at least once each week.
4. When any material is to be disposed of outside the Project area, at other than a public disposal or recycling facility, Contractor must first obtain a written permit from the property owner of the proposed disposal site, and furnish Owner said permit or a certified copy thereof together

with a written release from the property owner absolving Owner from any and all responsibility in connection with the disposal of said material on said site.

5. Before any material is disposed of on said site, Contractor must obtain written permission from the Owner to dispose of the material at the location designated in said permit.
6. Disposal of Hazardous Materials must comply with all legal requirements, including but not limited to containerization, labeling, manifesting, transportation, disposal site, and use of properly trained personnel. The Contractor is responsible for chain-of-custody documentation for all Hazardous Materials and Hazardous Wastes.
7. Prior to Owner issuance of Final Completion, Contractor must submit electronic copies of all Hazardous Waste Manifests signed by Toxic Substances Disposal Facilities ("TSDF's") and certificates of disposal, to prove that Contractor has legally disposed of such materials.
8. Contractor must separate and recycle the following waste material types in accordance with Contractors Solid Waste Management Plan (See Section 01 74 20, "Solid Waste Management and Recycling Plan")
    a. Concrete
    b. Metal
        1. Ferrous
        2. Non-ferrous
    c. Wood
    d. Debris
    e. Glass
    f. Paper
        1. Bond
        2. Newsprint
        3. Cardboard and paper packaging materials
    g. Others as appropriate.

1.10SAND BLASTING

A. Sand blasting shall be only used upon receipt of written permission of the Owners Authorized Representative.

B. Perform sand blasting by experienced mechanics using sound modulated power machinery designed for this use.

1. Comply with all applicable regulatory agencies.
2. Use blasting aggregate uniformly graded, free from all animal or vegetable material, and not larger than No. 30 grit.
3. Air compressor must be capable of providing air at a pressure of 100-110 pounds at 210-300 cfm. Use blast nozzle of 5/16-inch orifice.

C. Operation

1. Sand blast by the "flash" method.
2. Pass continuously over the surface, to provide a uniform cutting of the surface, without pitting or excessive erosion of the base material.
3. Exercise care to prevent corners or sharp edges from being broken or unduly rounded.
4. Used aggregate must not be reused.

5. Protect installed work of others from damage by blast, rebound, or used aggregate.
6. Cover and protect mechanical work, air intakes, and similar items, as well as finished surfaces.

D. Contractor must replace damaged work.

E. Contractor must secure and pay for necessary permits required by state and local Authorities Having Jurisdiction.

1.11 FINAL CLEANING

A. Substantial Completion Certification:

1. Contractor must, before requesting a Substantial Completion Inspection, perform a Final Cleaning of all Work. If the results of the Substantial Completion Inspection requires the scheduling of another Substantial Completion Inspection (see Document 00700 Articles 13.02 through 13.05), then the Contractor again must perform a Final Cleaning.

B. Final Completion Certification:

1. Contractor must, before requesting a Final Completion Inspection of the entire Work of the Project, perform a Final Cleaning of all Work areas and the Project Site including all areas associated with previously completed Substantial Completion. If the results of the Final Inspection requires the scheduling of another Final Inspection (see Document 00700 Articles 13.02 through 13.05), then the Contractor again must perform a Final Cleaning.

C. Final Cleaning Requirements:

1. General:
   a. Cleaning for specific items of Work is specified in the Contract Documents.
   b. Comply with manufacturer's instructions for Cleaning operations.
   c. Clean interior and exterior surfaces exposed to view.
   d. Remove labels that are not required as permanent labels.
   e. Dust, dirt, stains, hand marks, paint spots, and like defects must be completely removed from surfaces.
   f. Metal surfaces must be Cleaned, using only non-corrosive and non-abrasive materials.
   g. Remove debris and surface dust from limited-access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
2. Transparent Surfaces:
   a. Clean all glass, interior and exterior, affected by Work of this Project; including removal of foreign material from glass.
   b. Polish transparent and glossy surfaces.
   c. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances that are noticeable as vision-obscuring materials.
   d. Replace broken glass and damaged transparent materials.
3. Soft Surfaces:
   a. Vacuum carpeted surfaces.
   b. Vacuum all other soft surfaces.
4. Hard Surfaces:

a. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of dust, stains, films, and similar noticeable distracting substances.

b. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces.

c. Restore reflective surfaces to original reflective condition.

d. Clean concrete floors in unoccupied spaces broom clean.

5. Equipment and Fixtures:

a. Clean equipment and fixtures to sanitary condition.

b. Clean or replace filters of mechanical equipment.

c. Wipe surfaces of equipment and fixtures Clean, including elevator equipment and similar equipment

d. Remove excess lubrication and other substances.

e. Clean plumbing fixtures to a sanitary condition, free of stains including those resulting from water exposure.

f. Clean food service equipment to a condition of sanitation ready and acceptable for intended food service use.

6. Roofs, gutters, downspouts and drainage systems:

a. Clean roofs, gutters, downspouts and drainage systems.

7. Exterior Grounds:

a. Clean Project Site (yard and grounds), including landscape development areas, of litter, surplus materials, and foreign substances.

b. Sweep and power wash paved areas to Clean condition; remove stains, petro-chemical spills, and other foreign deposits.

c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.

8. Lights and Lamps:

a. Clean light fixtures and lamps so as to function with full efficiency.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS (Not Used)

END OF SECTION

SECTION 01 74 20

SOLID WASTE MANAGEMENT AND RECYCLING PLAN

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Sections
   c. 1.03 - Definitions
   d. 1.04 - Intent
   e. 1.05 - Submittals
   f. 1.06 - Recycling Requirements
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms
   a. Form 017420-F1 "Summary of Solid Waste Disposal and Diversion"

1.02 RELATED SECTIONS

A. Division 00 Document 00700, Article 3.25, "Recycling of Materials"
B. Division 01 Section 013300, "Submittal Procedures"
C. Division 01 Section 015000, "Temporary Facilities and Controls"
D. Division 01 Section 017400, "Cleaning and Waste Disposal"

1.03 DEFINITIONS

A. **Inert Fill -** A permitted facility that accepts inert waste such as asphalt and concrete exclusively.

1. Inert Solids/Inert Waste: Non-liquid solid waste including, but not limited to, soil and concrete that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional water board and does not contain significant quantities of decomposable solid waste.

B. **Class III Landfill -** A landfill that accepts non-hazardous waste such as household, commercial and industrial waste, including construction, remodeling, repair and demolition operations.

C. **Construction and Demolition Waste -** Includes solid wastes, such as building materials, packaging, rubbish, debris and rubble resulting from construction, remodeling, repair and demolition operations.

1. Rubbish: Includes both combustible and noncombustible wastes, such as paper, boxes, glass, crockery, metal and lumber scrap, tin cans, and bones.
2. Debris: Includes both combustible and noncombustible wastes, such as leaves and tree trimmings that result from construction or maintenance and repair work.

D. **Chemical Waste** - Includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals and inorganic wastes.

E. **Sanitary Wastes –** Includes:

1. Garbage: Refuse and scraps resulting from preparation, cooking, distribution or consumption of food.

2. Sewage: Domestic sanitary sewage.

1.04 INTENT

A. Owner is committed to promoting efforts to have the Work performed in an environmentally sensitive manner.

B. To promote this effort the Contractor is required to:

1. Make reasonable efforts to affect optimum control of solid wastes.

2. Prepare and comply with a Project specific Solid Waste Management and Recycling Plan.

1.05 SUBMITTALS

A. Contractor must submit the following according to the requirements of the Contract Documents:

1. Solid Waste Management and Recycling Plan:

a. No later than twenty-eight (28) Days after the start date for the Work stated in the Notice to Proceed, Contractor must schedule and conduct a meeting with Owner to discuss Contractor's proposed Solid Waste Management and Recycling Plan.

b. No later than forty-five (45) Days after the start date for the Work stated in the Notice to Proceed, prepare and submit three (3) copies of a written and/or graphic Solid Waste Management and Recycling Plan including, but not limited to, the following:

.1 Permit or license and the location of the solid waste disposal area(s).

.2 Procedures for Recycling/Re-Use Program.

c. Revise and resubmit Solid Waste Management and Recycling Plan as required by Owner.

2. Review of the Contractor's Solid Waste Management and Recycling Plan will not relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures.

B. Prior to Owner's recommendation to the Director of General Services for final Acceptance of the Work, Contractor must submit two (2) copies of a summary of solid waste generated by the Contractor's operations.

1. Submit on Form 017420-F1 or other form acceptable to Owner.

2. Include manifests, weight tickets, receipts, and invoices specifically identifying the Project and waste material from:

a. Recycling Centers.

b. Class III Landfills.

c. Inert Fills.

1.06 RECYCLING REQUIREMENTS

A. Recycling: Contractor must implement a recycling program that complies with Section 5.408 "Construction Waste Reduction, Disposal and Recycling" of the 2013 California Green Building Standards Code and Santa Barbara County Ordinance Section 17-23.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS

Form 017420-F1

SUMMARY OF SOLID WASTE DISPOSAL AND DIVERSION

Project Name: _____

Project Number: _____

Contractor Name: _____

Address: _____

_____

License Number: _____

Enter the weight and cubic yardage of each Type of Material diverted or disposed of in the appropriate column.

Type of Material	Disposed in Class III Landfill	Disposed in Inert Fill	Diverted from Landfill by Recycling
Asphalt			
Concrete			
Porcelain			
Ferrous metal			
Non-ferrous metal			
Wood			
Debris			
Glass			
Red clay brick			
Bond paper			
Newsprint			
Cardboard			
Others			

END OF SECTION

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents And Sections
   c. 1.03 - Definitions
   d. 1.04 - Closeout Conference
   e. 1.05 - Contractor's Responsibility to Manage Incomplete and Deficient Work
   f. 1.06 - Spare Parts and Keys
   g. 1.07 - Operations and Maintenance (O&M) Data
   h. 1.08 - Final Cleaning
   i. 1.09 – Substantial and Final Completion Inspections
   j. 1.10 – Project Records for Completion of the Work
   k. 1.11 - Project Records Required for Acceptance of the Work and Recording the Notice of Completion
   l. 1.12 - Acceptance of the Work
   m. 1.13 - Final Payment Request
   n. 1.14 – Final Payment
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms (Not Used)

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00700, Article 3.13, "Cleanup"
B. Document 00700, Article 3.14, "Disposal of Material Outside Project Area"
C. Document 00700, Article 3.25, "Recycling of Materials"
D. Document 00700, Article 3.26, "Submittals"
E. Document 00700, Article 6, "Changes in the Work"
F. Document 00700, Article 7.05, "Substantial and Final Completion Inspections"
G. Document 00700, Article 8, "Payments"
H. Document 00700, Article 9, "Disputed Items & Claims"
I. Document 00700, Article 10.04, "Protection and Restoration of Property"
J. Document 00700, Article 13, "Substantial Completion and Acceptance"
K. Section 012900.2, "Payment Procedures"
L. Section 013100.2, "Project Management and Coordination"
M. Section 013300, "Submittal Procedures"
N. Section 014516.13, "Contractor's Quality Control (QC) System"

O. Section 015000, "Temporary Facilities and Controls"
P. Section 017400, "Cleaning and Waste Disposal"
Q. Section 017420, "Solid Waste Management and Recycling Plan"
R. Section 017823.2, "Operation and Maintenance Data"
S. Section 017839, "As-Built Documents"
T. Section 017900.2, "Demonstration and Training"
U. Section 018100, "Commissioning"

1.03 DEFINITIONS

A. **Incomplete Work –** Work required by the Contract Documents that is not yet Installed.

B. **Deficient Work –** Installed Work that does not meet all the requirements of the Contract Documents.

1.04 CLOSEOUT CONFERENCE

A. The Owner's Authorized Representative will schedule a Closeout Conference approximately 90 Days before scheduled completion of the entire Work of the Project.

B. Conference will be held at Project Site or another convenient location designated by Owner's Authorized Representative.

C. Attendees:

1. Owner's Authorized Representative
2. Owner's Inspector of Record
3. Owner's Construction Manager
4. Contractor's Authorized Representative (Mandatory Attendance Required)
5. Contractor's QC Manager (Mandatory Attendance Required) (See Section 01 45 16.13)
6. Other interested parties

D. Agenda: Items of significance, as appropriate to the Project, to be discussed at the Closeout Conference include, but are not limited to, the following:

1. Closeout Process
2. Final Cleaning
3. Change Orders
4. Preliminary Final Inspection
5. Punch List correction
6. Final Inspection
7. Spare Parts
8. Keys
9. Owner Fixture, Furniture, and Equipment (FF&E) Schedule
10. Operation and Maintenance Data
11. Commissioning
12. Owner Training
13. Permits

14. Substantial and Final Completion Submittals
15. Project Close-out/Director of General Services Acceptance submittals
16. Warranties/Guarantees
17. As-Built Documents
18. QC Documents
19. Disputes and Claims
20. Demobilization
21. Graffiti Removal
22. Project Completion Certification

E. The Owner will prepare agenda and meeting minutes of the Closeout Conference and distribute minutes to the attendees.

F. Follow-up closeout meetings will occur at least monthly until Owner's Authorized Representative recommends Acceptance of the Project.

G. At a minimum, the Contractor will maintain notes for the Closeout Conference and all follow-up closeout meetings in the form of a Decision/Action Tracking Report.

1.05 CONTRACTOR'S RESPONSIBILITY TO MANAGE INCOMPLETE AND DEFICIENT WORK

A. Pursuant to Section 01 45 16.13 of this Contract, the Contractor is responsible for identifying and managing Incomplete and Deficient work. Incomplete and Deficient work includes, but is not limited to: non-compliance items, Rework Items, and non-conforming tests, pursuant to Section 01 45 16.13; deficiencies relating to inspections by the Building Official and Inspector of Record pursuant to Section 01 41 27; and items of work not complete per the Contract Documents.

B. The Substantial Completion Inspection and Final Inspection will not be conducted until (See Section 01 45 16.13, "Contractors Quality Control (QC) System" for a complete listing):

1. The entire Work of the Project is complete;
2. Cleaning has occurred pursuant to Section 01 74 00; and
3. Deficient Work identified in all outstanding non-conformance notices has been corrected.

1.06 SPARE PARTS & KEYS

A. Spare Parts: All Spare Parts required by the Contract Documents must be submitted to the Owner prior to Final Completion.

B. Keys, Key Control: Contractor is responsible for key control of ALL keys (electrical panels, electrical/security/fire alarm control cabinets, doors, furniture, irrigation controllers, etc.), until Final Acceptance of the Work. Contractor shall coordinate key delivery with Owner's Authorized Representative.

1.07 OPERATION AND MAINTENANCE DATA (See Section 01 78 23.2, "Operation and Maintenance Data")

A. Contractor shall submit O&M Data in accordance with the Contract Documents. All Operations and Maintenance (O&M) Data required by the Contract Documents must be submitted as follows:

1. **Initial Submittal**: Submit electronic copies of each O&M manual at least sixty (60) Days before certifying Substantial Completion.
2. **Final Submittal**: Submit electronic copies of each O&M manual in final form no later than fifteen (15) Days before certifying Final Completion.

3. **Corrected Final Submittal**: Correct or modify each O&M manual to comply with Owner's comments. Submit electronic copies of each corrected Final Submittal within fifteen (15) Days of receipt of Owner's comments on the Final Submittal.

1.08 FINAL CLEANING

A. Contractor must, before requesting the Substantial Completion Inspection perform a Final Cleaning of all Work areas and the Project Site. (See also Section 01 74 00, Part 1.11, "Final Cleaning")

1.09 SUBSTANTIAL AND FINAL COMPLETION INSPECTIONS

A. Refer to Section 01 45 16.13"Contractors Quality Control (QC) System" for details.

1.10 PROJECT RECORDS FOR COMPLETION OF THE WORK

A. In addition to the requirement to complete the Work, prior to Owner issuance of Notice of Final Completion, Contractor must submit required documents/information (also, refer to the listing in Section 01 33 27.2), including, but not limited to,:

1. Submit electronic copies of all Hazardous Waste Manifests signed by Toxic Substances Disposal Facilities ("TSDF's") and certificates of disposal (See Document 00700, Article 3.14 .C and Section 01 74 00, Part 1.09 .B .7);
2. Applicable CBC Chapter 17 Certification (See Section 01 45 16.13);
3. Submit Substantial and Final Completion Certification (See Section 01 45 16.13);
4. Satisfactory completion of all permit-required inspections, such as California State Fire Marshal, County Fire, County Hazardous Materials Compliance Division, and any permits required by local jurisdictions (See Document 00700, Article 3.32 .D);
5. Submit all keys;
6. Conduct all required training (except factory training) and submit all sign-in sheets for attendance at Training;
7. Submission of and acceptance by Owner of Operation and Maintenance Manuals; and
8. Submit all spare parts.

1.11 PROJECT RECORDS REQUIRED FOR ACCEPTANCE OF THE WORK AND RECORDING THE NOTICE OF COMPLETION

A. Prior to Owner's Acceptance of the Project by the Director, General Services, Contractor must submit all required Project Records, including, but not limited to,:

1. Project Completion certification by Contractor's Authorized Representative, pursuant to Document 00700, Article 13.07 .B;
2. Submit electronic copies of summary of solid waste generated by the Contractor's operations. (Form 017420-F1) (See Section 01 74 20, Part 1.05 .B);
3. Submit, and have Owner Accept, As-Built Documents, including the CQC Certification.
4. Submit Warranty Register, pursuant to Section 01 78 36, containing information regarding extended Warranties, as well as any information required by Section 01 91 13.2;
5. Submit copies of the Contractor's survey records (See Section 01 71 23, Part 1.10 "Submittals");
6. QC Records Binder (See Section 01 45 16.13); and
7. Contractor's, Subcontractors', and Suppliers' Release Forms pursuant to California Civil Code.

1.12 ACCEPTANCE OF THE WORK

A. Acceptance of the Work will be made by the Owner's Director, General Services.

B. Contractor must take special note that, unless otherwise stated in the Contract Documents, without regard to the date(s) items of Work were actually put into service, all Guarantees/Warrantees will commence on the date of Substantial Completion.

C. After formal Acceptance of the Work, Owner will record a Notice of Completion with the County Recorder.

1.13 FINAL PAYMENT REQUEST (See Section 01 29 00.2, Part 1.08 B, "Final Payment Request")

A. After Acceptance of Work Contractor must submit electronic copies of their Final Payment Request.

1.14 FINAL PAYMENT

A. Release of Retention will occur within sixty (60) Days of completion of the Work in accordance with Public Contract Code § 7107.

B. Thirty-five (35) Days after the date of recording of the Notice of Completion by the County Recorder, Owner's Authorized Representative will forward a request for Final Payment for the Work to the County's Auditor-Controller for payment.

C. Owner will withhold from Final Payment such amounts that are in dispute between Owner and Contractor, amounts subject to offset/setoff, and all other amounts that must be withheld by law (such as Stop Payment Notice sums and Civil Wage and Penalty Assessments.)

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS: (Not Used)

END SECTION

SECTION 01 78 36

GUARANTEES AND WARRANTIES

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes

1. Part 1 – General
    a. 1.01 – Summary
    b. 1.02 – Related Documents and Sections
    c. 1.03 – Description of Requirements
    d. 1.04 – Requirements Included
    e. 1.05 – Submittal Requirements – Warranty and Guarantee Register
    f. 1.06 – Form of Submittals
    g. 1.07 – Time of Submittals
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms- Extended Guarantee-Warranty Form

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00700, Article 13.12 "Warranty & Guarantees".

B. Section 01 77 00, "Closeout Procedures," Part 1.11.

1.03 DESCRIPTION OF REQUIREMENTS

A. The one-year minimum warranty period for all Work begins on the date of Substantial Completion.

B. Contractor shall compile a Warranty and Guarantee Register which:

1. Identifies all warranties longer than one year in duration.
2. Identifies all warranties for System and System Components listed in Part 2.03 of Section 01 78 23.2.
3. For the warranties identified in Parts 1.03 .B .1 and 1.03 .B .2 of this Section 01 78 36 above, includes the information described in Part 1.05 of this Section 01 78 36.
4. Includes the Extended Guarantee-Warranty Forms required by Part 4 of this Section 01 78 36.

C. General Limitations: It is recognized that specific guarantees and warranties are intended to protect Owner against failure of the Work to perform as required, and against deficient, defective, and faulty materials and workmanship, regardless of sources.

D. Related Damages and Losses: When correcting guaranteed or warranted work which has failed, Contractor shall also remove and replace other Work of Project which has been damaged as a result of such failure or which must be removed and replaced to provide access for correction of Work.

E. Reinstatement of Guarantee or Warranty Period: In addition to requirements in Document 00700, "General Conditions", when Work covered by a special project guaranty or product warranty has failed and has been

corrected by replacement or restoration, Contractor shall reinstate guaranty or warranty by written endorsement for 1 year starting on date of Owner's acceptance of replaced or restored Work.

F. Replacement Cost, Obligations: Except as otherwise indicated, cost of replacing or restoring failing guaranties or warranted units or products is Contractor's obligation, without regard for whether Owner has already benefited from use through a portion of anticipated useful service lives.

G. Specific Guarantee or Warranty Forms: Where a special project guaranty or specified project warranty is required, Contractor shall complete an Extended Guarantee-Warranty Form, as provided in Part 4 of this Section 01 78 36.

1. Refer to the Extended Guarantee-Warranty Form in Part 4 of this Section 01 78 36.
2. Refer to individual Sections of Divisions 2 through 44 for specific content and requirements.

1.04 REQUIREMENTS INCLUDED

A. Contractor shall compile specified warranties.

B. Contractor shall compile specified service and maintenance contracts, if any.

1.05 SUBMITTAL REQUIREMENTS – WARRANTY AND GUARANTEE REGISTER

A. Contractor shall in the Warranty and Guarantee Register include warranty/guarantee contact information for each Product/System identified in Part 2.03 .C of Section 01 78 23.2.

B. In addition to Part 1.05 .A of this Section 01 78 36 above, Contractor shall assemble and include in the Warranty and Guarantee Register all extended (more than one year) warranties, bonds, and service and maintenance contracts, executed by each of the respective manufacturers, Suppliers, and Subcontractors.

C. Number of original signed copies required: two (2) each.

D. Table of Contents: Neatly typed, in orderly sequence. Provide complete index information for each item.

1. Product or work item with index number to bound item.
2. Firm, with name of principal, address, and telephone number.
3. Scope.
4. Duration of warranty, bond, or service maintenance contract.
5. Provide information for Owner's personnel:
   a. Procedure to be followed in case of failure.
   b. Circumstances which might affect the validity of warranty or bond.
6. Contractor, name of responsible principal, address and telephone number.

1.06 FORM OF SUBMITTALS

A. Prepare in duplicate packets.

B. Format:

1. Size 8-1/2 x 11 inches on punched sheets for standard 3-ring binder.
   a. Fold larger sheets to fit into binders.
2. Warranty-Guaranty wording shall be as printed below.
3. Cover: Identify each packet with typed or printed title "GUARANTIES AND WARRANTIES". List:
   a. Title of Project.

b. Name of Contractor.

C. Binders: Commercial quality, 3-ring, with durable and cleanable plastic covers.

1.07 TIME OF SUBMITTALS

A. Make all Submittals required by this Section 01 78 36 within ten (10) days after date of Substantial Completion of the Work.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not used)

PART 4 - FORMS

EXTENDED GUARANTEE-WARRANTY FORM

Instructions: Contractor shall complete the below form for the following Products, equipment, or Systems which require, pursuant to the technical Sections of this Contract, a warranty period of greater than one year from Substantial Completion of the Project. The below document shall be in the form of the following on the Contractor/Subcontractor's own letterhead. The list of Products, equipment, and Systems below may not be all-inclusive. Contractor is required to identify all warranties of greater than one year and include this form for each of those Products, equipment, or Systems.

Sample List of Products:

Water Repellent Coating;
Exterior Insulation and Coating Systems (EIFS);
Manufactured Copings and Roof Expansion Joint Cover;
Joint Sealants;
Aluminum-Framed Entrances and Storefronts;
Unit Skylights;
Roofing Systems;
Insulated Glazing;
Carpeting;
Operable Partitions;
Security Glazing;
Security Windows;
HVAC; etc.

Sample Form:

To: (*Owner*)

From:

Date:

RE: **EXTENDED GUARANTEE-WARRANTY FORM**

GUARANTEE-WARRANTY FOR (*NAME OF PROJECT*) (*OWNER NAME*):
We hereby warrant and the General Contractor and/or Material Manufacturer guarantee that the (*name of Product, equipment or System*) which we have installed in the (*name of Project*) for the (*OWNER NAME*), has been done in accordance with the Contract Documents.

We agree to remedy at, at our expense, any failure to conform, or any defect, within a period of ____ years from the date of Substantial Completion of the Project, without any expense to the Owner. Ordinary wear and tear and unusual abuse or neglect is excepted**.**

In addition, we agree to remedy, at our expense, any damage to Owner-owned or controlled real or personal property, when that damage is the result of:

(1) A failure to conform to Contract requirements; or
(2) Any defect of equipment, material, workmanship, or design furnished.

In the event of our failure to comply with the above mentioned conditions, within 21 days after being notified in writing by the Owner, we collectively or separately do hereby authorize the Owner to proceed to have said defects repaired and made good at our expense, and we will honor and pay the costs and charges therefore upon demand.

Signed _____ Counter-signed _____

(Subcontractor)	(Contractor Authorized Representative)
Name _____ (Print)	Name _____ (Print)
Company _____	Company _____

END OF SECTION

SECTION 01 78 39

AS-BUILT DOCUMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes:

1. Part 1 – General
   a. 1.01 – Summary
   b. 1.02 – Related Documents and Sections
   c. 1.03 - Definitions
   d. 1.04 – As-Built Documents
   e. 1.05 - Concealed Work
   f. 1.06 – Maintenance of Documents and Samples
   g. 1.07 – Final As-Built Documents
   h. 1.08 - Progress Payments
   i. 1.09 - Closeout and Acceptance of the Work
   j. 1.10 - Submittals
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms (Not Used)

1.02 RELATED DOCUMENTS AND SECTIONS

A. Document 00700, Article 3.03, "Documents & Samples at the Project Site"
B. Document 00700, Article 8.02, "Progress Payments"
C. Document 00700, Article 13.07, "Recommendation for Acceptance"
D. Section 01 29 00.2, "Payment Procedures for Projects with Cost-Loaded Schedule Requirements"
E. Section 01 33 00, "Submittal Procedures"
F. Section 01 33 24, "Coordination Drawings and Coordination"
G. Section 01 77 00, "Closeout Procedures"

1.03 DEFINITIONS

A. **As-Built Drawings** – Drawings, as defined in Article 1.01 of Document 00700, that have been updated on a daily basis with Addenda, Change Orders, Requests for Information (RFIs), and Submittals to convey the "as-built" state of the Project. Synonymous with "Record Drawings."
B. **As-Built Documents** – Documents updated on a daily basis with Addenda, Change Orders, Requests for Information (RFIs), and Submittals to convey the "as built" state of the project including the actual locations of Installed components of the Work. Synonymous with "Record Documents." For the purposes of this Section "As-Built Documents" include, but are not limited to, the following:

1. As-Built Drawings;
2. Project Manual;
3. Owner-accepted Coordination Drawings (Synonymous with "As-Built Coordination Drawings");
    a. HVAC ductwork drawings shall also be submitted individually as well as part of the overall Coordination Drawings.
4. Structural Steel Shop Drawings; and
5. Contractor Design-build aspects of the Project, such as Fire Protection systems.

C. **Final As-Built Documents –** As-Built Documents submitted pursuant to Document 00700, Article 13.07, "Recommendation for Acceptance" and updated to reflect all Addenda, Change Orders, Requests for Information (RFI), Submittals, and any other information necessary to convey the final "as built" state of the Project.

D. **Concealed Work –** That Work which is not visible without disturbing the finished construction Work. Concealed Work includes all above-ceiling Work; Work in foundation slabs and below grade; Work underground and/or in trenches, etc.

1.04 AS-BUILT DOCUMENTS

A. As-Built Drawings

1. Contractor must maintain at the Project Site at least one (1) set of As-Built Drawings (as defined in Part 1.03 .A of this Section 01 78 39), and As-Built Coordination Drawings indicating the actual configuration of the Project as it is constructed.
2. The As-Built Drawings and/or Coordination Drawings must provide sufficient detail to make it possible to correctly and easily locate, identify, and establish sizes and routing of all piping and ducts that are "concealed" above ceiling and in utility chases.
3. Changes made to shop drawings during the submittal process must be reflected in the appropriate Contract Drawing(s).
4. Contractor must update on a daily basis As-Built Drawings and/or Coordination Drawings and must indicate, by appropriate notations, all modifications or changes made to the As-Built Drawings and/or Coordination Drawings by Addenda, Change Orders, RFIs, or Approved Product Substitutions.
    a. When the Owner issues drawings and/or sketches making changes to the design, the Contractor may post these changes to the As-Built Drawings by one of two methods:
        i. Pasting the drawing/sketch on the blank page opposite the design drawing, and referencing in red pencil on the As-Built Drawing the Owner-issued sketch/drawing.
        ii. Make changes to the Contract Drawing, in red pencil.
    b. If the Contractor must make field adjustments from the Owner-issued sketch/design change, the Contractor must draw any "adjustments" in red pencil on the As-Built Drawings.
5. If Work is installed differently from, or in a location other than that shown on the Contract Documents, or if Contractor finds existing conditions to be different than indicated on the Contract Documents, Contractor must accurately note such variations on the As-Built Documents. These updates are to be made on a daily basis as the Work progresses.
6. The Contractor must update, on the As-Built Drawings, any changes/updates to the following:
    a. Lighting Control Panel(s), including panel schedule;

b. Fire Alarm Control Panel;

c. Electrical panel(s) and panel schedules; and

d. Final Air Balancing numbers for supply and return duct outlets.

7. Label each page of the field set of the As-Built Drawings, "As Built Drawings" in neat large printed letters in the lower right hand corner. Label each page of the field-set of the Owner-accepted Final Coordination Drawings, “As-Built Coordination Drawings.”

8. When submitting As-Built Coordination Drawings to Owner, Contractor shall provide a cover sheet with a table of contents in a format acceptable to the Owner.

B. As-Built Project Manual

1. Contractor must post to the As-Built Project Manual on a daily basis:

a. All modifications or changes made to the Project Manual by:

1. Addenda

2. Change Orders

3. Requests for Information (RFI)

4. Approved Product Substitutions

b. The Products selected and used in the Work of the Project

1. For each Product actually Provided and/or Installed, legibly mark each section of the Project Manual to record:

a. Manufacturer

b. Trade name

c. Catalog number

d. Supplier

1.05CONCEALED WORK

A. Contractor shall not conceal underground Work such as utility lines and wet pipe utility lines permanently embedded in concrete slabs (floor and foundation) until the specific location of all turns, centerline, invert elevations and rates of fall in underground and concealed Work is recorded in the As-Built Drawings.

1. Dimensions to column lines, walls or other prominent features must be used for proper reference.

2. Contractor shall legibly mark As-Built Drawings to record actual construction:

a. Depths of various elements of foundation in relation to finish first floor datum.

b. Dimensional sizing, and horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

1. Give sufficient horizontal and vertical dimensions to accurately trace route and invert of each concealed line or item.

2. Accurately locate each capped, plugged or stubbed line.

B. Contractor shall accurately locate on As-Built Drawings each capped, plugged or stubbed line both internal and external to the building.

C. Contractor shall accurately note on As-Built Drawings any previously unidentified utility lines and structures encountered during site work.

1.06 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Store As-Built Documents in Contractor's field office apart from documents used for construction.

B. Contractor shall Provide files and racks for storage of As-Built Documents.

C. Contractor shall maintain all As-Built Documents in a clean, dry, legible condition and in good order.

D. Do not use As-Built Documents for construction purposes.

E. Contractor shall make As-Built Documents available at all times for inspection by Owner.

1.07 FINAL AS-BUILT DOCUMENTS

A. As-Built Product Data. Contractor shall:

1. Maintain one (1) copy of each Owner-accepted Product Data Submittal at the Project Site.
2. Mark-up changes in actual Work in comparison with submitted information.
    a. Include both variations in product as delivered to Project Site and variations from manufacturer's instructions and recommendations for installation.
    b. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned at a later date by direct observation.
3. Note related Change Orders, if any.

1.08 PROGRESS PAYMENTS

A. The Owner's Construction Manager shall review the As-Built Documents prior to and as a condition of approving each progress payment.

1.09 CLOSEOUT AND ACCEPTANCE OF THE WORK

A. Contractor must mark each sheet of the drawings "Final As-Built Drawings" and mark the cover of the Final As-Built Project Manual "Final As-Built Project Manual."

B. Contractors Authorized Representative must sign each drawing in the final set of As-Built Drawings and Coordination Drawings, **and** sign the cover of the final As-Built Project Manual.

C. In accordance with Document 00700, Article 13.07, "Recommendation for Acceptance", the Work shall not be recommended for Acceptance until Owner receives satisfactory Final As-Built Documents from Contractor.

D. All changes recorded in the Final "As-Built" Documents must be of good drafting quality.

E. The As-Built Drawings and Project Manual updated by the Contractor during construction must be available for Owner's review prior to Acceptance of the Project.

F. Final As-Built Drawings shall be submitted to the CSFM for review and approval.

1.10 SUBMITTALS

A. Prior to Acceptance of the project, Contractor must submit to Owner four (4) copies of the Final As-Built Documents.

1. Accompany submittal with a transmittal letter, in duplicate, containing:
    a. Date;
    b. Project title and number;
    c. Contractor's name and address;

d. Title and number of each Record Document (As-Built); and

e. QC Manager As-Built Document Certification (See Section 01 45 16.13).

B. Samples

1. Before Owner's recommendation of Final Acceptance to the Director of General Services pursuant to Document 00700, Article 13.07, "Recommendation for Acceptance", Owner's Authorized Representative will meet with Contractor at Project Site to determine which, if any, of submitted samples maintained by Contractor during progress of the Work shall be transmitted to Owner for record purposes.

2. Contractor shall comply with Owner's instructions for packaging, identification marking, and delivery to Owner's sample storage space.

3. Contractor shall deliver to Owner any samples requested pursuant to this Part 1.10 of Section 01 78 39 or required to be delivered to Owner by the Technical Specifications. Contractor shall deliver such samples to Owner prior to Owner's Acceptance of the Project, according to the timing specified by the Contract Documents, or according to Owner's instructions pursuant to this Part 1.10 of Section 01 78 39.

C. Prior to Owner issuance of Certificate of Substantial Completion, submit two (2) copies of evidence of compliance with the requirements of Governing Agencies and regulatory authorities:

1. Certificates of Inspection:

a. Santa Barbara County Fire

b. State Fire Marshal

2. Other Certificates:

a. Occupancy Certificate from local building department

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - FORMS (Not Used)

END OF SECTION

CONSTRUCTION DRAWINGS
With Specifications

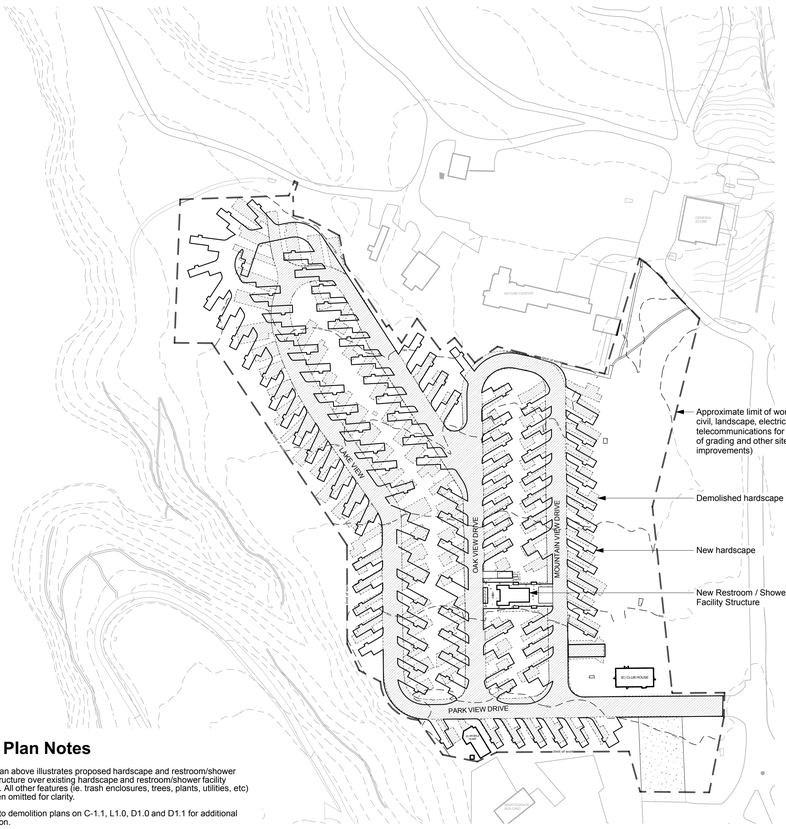
Cachuma Lake Recreation Area - Cachuma Trailer Resort Renewal Project

2265 HWY 154, Santa Barbara, CA 93105

Bid Set 06.28.2023

Vicinity Map





Plot Plan Notes

1. Plot plan above illustrates proposed hardscape and restroom/shower facility structure over existing hardscape and restroom/shower facility structure. All other features (ie. trash enclosures, trees, plants, utilities, etc) have been omitted for clarity.

2. Refer to demolition plans on C-1.1, L1.0, D1.0 and D1.1 for additional information.

3. Refer to Civil drawings for grading, drainage, utilities, erosion control and horizontal control joint information.

4. Refer to Landscape drawings for hardscape, planting and irrigation information.

5. Refer to Architectural & Structural drawings for trash enclosure and restroom/shower facility structure information.

5. Refer to Electrical drawings for electrical information.

6. Refer to Mechanical drawings for mechanical information.

7. Refer to Plumbing drawings for plumbing information.

8. Refer to Telecommunication drawings for communication information.

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		Bid Set - 06.28.23
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G0.3	Specifications	X
G0.4	Specifications	X
G0.5	Survey	X
G0.6	Soil report	X
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C-0.2	Notes sheet	X
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C-2.1	Grading and Drainage Index	X
C-2.2	Grading and Drainage Plan	X
C-2.3	Grading and Drainage Plan	X
C-2.4	Grading and Drainage Plan	X
C-2.5	Grading and Drainage Plan	X
C-2.6	Horizontal Control Plan	X
C-2.7	Horizontal Control Plan	X
C-2.8	Horizontal Control Plan	X
C-2.9	Horizontal Control Plan	X
C-2.10	Horizontal Control Plan	X
C-2.11	Horizontal Control Plan	X
C-2.12	Horizontal Control Plan	X
C-2.13	Horizontal Control Plan	X
C-2.14	Horizontal Control Plan	X
C-2.15	Horizontal Control Plan	X
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L0.4	Specifications	X
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L1.1	Hardscape Plan Sheet Index	X
L1.2	Hardscape Plan	X
L1.3	Hardscape Plan	X
L1.4	Hardscape Plan	X
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L1.6	Enlarged Hardscape Plan	X
L1.7	Hardscape Details	X
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L2.1	Planting Plan Sheet Index	X
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L2.4	Planting Plan	X
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L2.6	Planting Details	X
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T-3.1	Details	X
T-3.2	Details	X
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	Total Sheets	**111**

Project Description

The project consists of demolition, grading and utility development across the RV camp site area, construction (7) new trash enclosures, demolition and reconstruction of one (1) restroom/shower building, and miscellaneous site improvements.

The site is archaeologically sensitive. Refer to Front End Special Conditions document provided by the County regarding necessary archaeological monitoring.

Scope of Work

Site demolition includes: complete removal of the existing driveway loop, removal of all existing concrete RV parking pads, removal of all existing underground utilities, removal of all existing light pole fixtures, removal of select telephone poles, removal of utility sheds & propane tanks, removal of select trees and stumps, and removal of the existing restroom/shower structure (1,549 gsf).

The (108) existing RV camp site areas will be demolished and replaced with (105) new RV camp site areas. There is (1) existing mobile home on site, and it will be demolished and replaced with (1) additional new RV camp site area in the future - making a future total of (106) RV campsites. No existing utilities are to be abandoned in place, and all existing utilities shall be removed per plans. Construction of the campsite at large will consist of: demo; grading (over excavation & recompaction as indicated per plans); new and narrowed asphalt roadway loop; new asphalt car parking at each RV camp site; new concrete RV parking pad; new utility lines for electricity, data/communication, water and sewer; landscape improvements including new decomposed granite areas, drought-tolerate native shrubs and trees; and (1) firepit and (1) picnic table at each site. Eight (8) of the sites will be ADA compliant, and (4) sites will be designated as a the group campsite area.

Proposed project building components include a new restroom and shower facility structure. The structure will be located over in the area that is currently the existing restroom & shower facility structure to limit the potential impact to the archaeologically sensitive area. Construction in this area will consist of: demo; grading (over excavation & recompaction); a new foundation with slab on grade; new utility lines for electricity, data/communication, propane gas, water and sewer; and installation of a solar thermal flat plate collection system. The structure will include (6) ADA compliant single-occupant unisex restrooms, (2) ADA compliant single-occupant showers, (4) single occupant showers, and a support area for utilities.

Proposed trash enclosure structures will be located across the site. These structures will be located relatively over their existing locations on site. Construction in this area will consist of: demo; grading (over excavation & recompaction); a new perimeter footing and slab on grade; new utility lines for electricity. There are (7) structures proposed - (6) of which will contain (1) 4 cubic-yard trash dumpster, and (1) will contain (2) 4 cubic-yard trash dumpster. All enclosures will contain ash cans and misc. utility panels.

Proposed (2) car parking area is located just east of the proposed restroom and shower facility structure.

Proposed truck parking area is located just west of the existing clubhouse and trellis area and will accommodate catering and deliveries.

Proposed pedestrian pathways constructed of decomposed granite will be provided connecting the RV camp site area to the nature center & general store to the north east, and the Borona Shores & Borona Butte areas to the north west. Additional pathways are proposed cutting through the RV camp site area.

New landscaping will include drought-tolerant native trees and shrubs throughout the RV park, a berm running north/south along the eastern-most RV sites, and a recreational activity area directly west & north of the existing Club House. The recreational area west of the Club House will include new picnic tables, benches, and ping-pong tables. The recreational area north of the Club House will include a linear "log walk" climbing experience derived from existing wood logs sourced on-site.

Fabrication of the "log walk" climbing feature north of the Club House is not part of this phase of the construction project. However, all new utility rerouting and planting & irrigation within the "log walk" limit of work is to be included in the main construction project and provided by the contractor.

Two existing concrete disc golf pads (#12 & #13) located along the north west of the site will need to be demolished and relocated to accommodate the extended footprint of the RV camp site. This work is to be provided by the Owner (NIC).

Proposed electricity on site will require new transformers and switchgear located near the southeast gravel parking lot south of the Club House. Power will be routed from the switchgear to the new Restroom and Shower Facility Structure and distributed across the site to the proposed distribution panels located within the trash enclosures. From there, power will tie into the proposed 50 amp pedestal hook-ups at each RV camp site.

The proposed electrical switch gear will be designed accordingly to accommodate the tie in of a future photovoltaic panel array located in the Trailer Storage area south west of the RV camp site.

Proposed propane tank within a lockable chain link fence area is to be provided north of the new Restroom and Shower Facility Structure. This tank is to provide gas utilities to both the new Restroom and Shower Facility and the existing Club House building.

Proposed WiFi on site will require satellite dishes on top of the new Restroom and Shower Structure. WiFi connectivity will be routed from the data cabinet within the new Restroom and Shower Facility Structure and distributed across the site underground to the proposed WAPs concealed within the bollards. Cabling will also run and tie into the existing Club House building and connect to the campground system at large.

New fire hydrants are proposed throughout the campsite per the previously approved *Lake Cachuma Water Storage and Distribution System Improvements* drawings.

Symbols

- **Datum** or **Elevation**
- **Section Callout** — drawing number; sheet where occurs (4 / A4.1)
- **Elevation Callout** — drawing number; sheet where occurs (2 / A3.1)
- **Detail Callout** — drawing number; sheet where occurs (15 / A6.6)
- **Interior Elevation Callout** — drawing number; sheet where occurs; drawing directional subtitle (W / A2.1)
- **Gridline** — centerline or face of Glu-Lam face of exterior wall (15)
- **Signage** (S#)
- **Window and Exterior Door Type** (S)
- **Interior Door Type** (3)
- **Gate Door Type** (0)
- **Revision** (1)
- **Align** (align)
- **Flush Adjacent Surfaces**
- **Stepped Surfaces** indicated amount (3")
- **Drawing Key Note** see sheet for note key (#)

Project Information

Owner		Santa Barbara County
Project Address		2265 HWY 154 Santa Barbara, CA, 93105
Assessor's Parcel Number		145 160 072
Zone		REC
Gross lot area		201.55 acres
Demolished Building Areas:		
Restroom & Shower Structure	total	1,549 gsf
Proposed Building Areas:		
Restroom & Shower Structure	total	1,300 gsf
Construction Type		VB, Non-Sprinklered
Occupancy Type		U, Utilities & Miscellaneous
Proposed Site Area of Development:		450,000 sf

Grading Quantities

Approximate cubic yards are per Civil drawings:

Excavation	3,300 cy
Fill	3,700 cy
Import	400 cy
Export	0 cy

Special Inspections / Monitoring

See Structural Observation Requirements on Structural Drawings Sheets: **S0.1 & SE0.1**

See Foundation Observation Requirements on Soils Report

Very High Fire Hazard Severity Zone

Exterior buidling materials, systems and/or assemblies shall meet 2019 CBC Chapter 7A, including all subsections and State Fire Marshall regulations.

Design Build / Delegated Design System

eCard reader (cashless payment) system
The Restroom and Shower Building will be equipped with an eCard reader payment system to operate the showers.

Prior to installation, plans for the proposed eCard reader payment system shall be designed by a qualified professional using the design intent noted in the drawings.

Reference schedule on A7.2 for additional information regarding design intent.

heavy timber log gateway
A heavy timber log gateway shall be installed on site.

Prior to installation, plans for the proposed gateway shall be designed by a qualified professional using the design intent noted in the drawings.

Design approval by the Landscape Architect and Owner is required before starting construction.

Reference detail 6/L1.8 for additional information regarding design intent.

Applicable Codes

Title 24 California Building Standards Code:
2019 California Building Standards Administrative Code
2019 California Building Code (CBC)
2019 California Electrical Code
2019 California Mechanical Code
2019 California Plumbing Code
2019 California Energy Code
2019 California Fire Code
2019 California Existing Building Code
County of Santa Barbara Code Amendments
Santa Barbara Municipal Code

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805 967 4416

Cachuma Lake RV Site Renewal

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Santa Barbara, CA 93105

145 160 072

Revisions

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LICENSED ARCHITECT
KENNETH G. RADTKEY
C - 26761
REN. 7.31.2023
STATE OF CALIFORNIA

Title sheet

G0.0

Bid Set 06.28.23

General Notes

A. All construction shall comply with the latest edition of the State of California Building Code which adopts by reference portions of the Uniform Building Code and all other applicable codes, ordinances, statutes, and regulations including, but not limited to, the following:

2019 California Building Code (CBC)
2019 California Mechanical Code
2019 California Plumbing Code
2019 California Electrical Code
2019 California Fire Protection Code
2019 California Energy Code (CEnC)
County of Ventural Code Amendments

Partial list of applicable codes as of January 1, 2020*:

2019 California Administrative Code (CAC), Part 1, Title 24 CCR*
2019 California Building Code (CBC), Part 2, Title 24 CCR
(2018 International Building Code, Vol. 1 & 2, and 2019 California amendments)
2019 California Electrical Code (CEC), Part 3, Title 24 CCR
(2017 National Electrical Code and 2019 California amendments)
2019 California Mechanical Code (CMC), Part 4, Title 24 CCR
(2018 IAPMA Uniform Mechanical Code and 2019 California amendments)
2019 California Plumbing Code (CPC), Part 5, Title 24 CCR
(2018 IAPMO Uniform Plumbing Code and 2019 California amendments)
2019 California Energy Code (CEC), Part 6, Title 24 CCR
2019 California Fire Code (CFC), Part 9, Title 24 CCR
(2018 International Fire Code and 2019 California amendments)
2019 California Existing Building Code (CEBC), Part 10, Title 24 CCR
(2018 International Existing Building Code and 2019 California amendments)
2019 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR
2019 California Referenced Standards Code, Part 12, Title 24 CCR
Title 19 CCR, Public Safety, State Fire Marshal Regulations
2016 ASME A17.1/CSA B44-13 Safety Code for Elevators and Escalators
(per 2019 CBC Part 2 Ch 35)

For a complete list of applicable NFPA standards refer to 2019 CBC (SFM) Chapter 35 and California Fire Code Chapter 80.

See California Building Code Chapter 35 for State of California amendments to the NFPA Standards.

*All parts of the 2019 California Building Code become effective January 1, 2020 except the effective date for the use of the 2019 Building Energy Efficiency Standards (Title 24, Part 1, Chapter 10) is January 8, 2019 and the effective date for the use of the California Administrative Code (Title 24, Part 1, Chapter 4) is January 8, 2019.

B. All new construction relating to the building or site shall conform with the standards of access by the State of California.

C. Trenches or excavations 5 feet or more in depth into which a person is required to descend require separate permits.

Permits, Fees and Approvals:
The Contractor shall obtain and pay for all permits, licenses, and fees, required by all governing entities as necessary for successful completion of the project with the exception of the general building permit and deputy inspections which will be furnished and paid for by the owner.

The Contractor shall procure all notices and licenses required for the completion of the work. The cost of these notices and licenses is incidental to other items and as such, no additional payment will be made for costs incurred in obtaining the required notices and licenses or in conforming to the requirements thereof.

General Conditions:
The contract documents represent the finished structure. Unless otherwise shown, they do not indicate the method of construction. The Contractor shall supervise and direct the work and shall be solely responsible for all construction means, methods, techniques, sequences and procedures.

Observation visits to the site by field representatives of The Architect shall not include inspections of the protective measures or the construction procedures used by The Contractor. Any support services performed by The Architect during construction shall be distinguished from continuous and detailed inspection services furnished by others. The support services performed by The Architect are performed solely for the purpose of assisting the quality control and in achieving conformance with the contract documents, but they do not guarantee The Contractor's performance and shall not be construed as supervision of construction.

Submittals:
Provide 6 copies of submittal packages for all products listed on these sheets. Submittals shall include: standards and testing, product description, technical data, shop drawings, finish, and manufacturer's warranty.

Samples:
Submit samples requested by Architect for review of size, kind, color, pattern, and texture of each item on these sheets. Submit a full set of choices where Samples are submitted for selection of color, pattern, texture, or similar characteristics from a range of standard choices. Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit 3 sets. The Architect will return one set marked with the action taken. Maintain sets of Samples, as returned, at the Project Site, for quality comparisons throughout the course of construction.

Shop Drawings:
Shop Drawings include fabrication and installation Drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Include the following information:

1. Dimensions.
2. Identification of products and materials included by sheet and detail number.
3. Compliance with specified standards.
4. Notation of coordination requirements.
5. Notation of dimensions established by field measurement.
6. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8 1/2 by 11 inches but no larger than 36 by 48 inches.
7. Submittal: Submit 3 blue- or black-line prints and 2 additional prints where required for maintenance manuals, plus the number of prints needed by the Architect for distribution. The Architect will retain 2 prints and return the remainder.
   a. One of the prints returned shall be marked up and maintained as a "Record Document."
8. Do not use Shop Drawings without an appropriate final stamp indicating action taken.

Provide shop drawings as indicated in the drawings and for the following items:

1. Site utilities and layout
2. Concrete slab and layout
3. Asphalt and layout
4. Decomposed granite and layout
5. Trees, plants and layout
6. Bioswale and layout
7. Bridge over bioswale
8. Trash enclsoure layout and CMU block
9. Steel gates
10. Site RV numbering, signage and layout
11. Grading and drainage layout
12. Raised storm drain planter and layout
13. Foundation
14. Concrete board form and layout
15. Doors, windows and louvers
16. Plaster and layout
17. Lighting fixtures and layout
18. Sink and faucet
19. Bathroom accessories & fixtures
20. Shower accessories & fixtures
21. Wall tile and layout
22. Mechanical registers and layout
23. Gutters & rainchains & storm drain connection
24. Room and tactile signage
25. Roof and penetrations layout

General:
All specified products must follow manufacturer's preparation, handling and installation guidelines.

Erosion Control and Best Management Practices:
It shall be the Contractor's responsibility to maintain control of the entire construction operation and to keep the entire site in compliance with the Best Management Practices. If applicable, see the Erosion Control Plan for erosion control measures.

Existing Conditions:
The Contractor shall verify all dimensions, elevations, and any existing conditions at the site before commencing work and report any discrepancies to the District Representative prior to starting the work. Any work performed without the authorization of the District Representative shall be corrected by the General Contractor at his own expense and at no expense to the District Representative or Architect.

It is The Contractor's responsibility to inspect and examine the work, and to ascertain and evaluate the job conditions, and access the complexities or difficulties to be encountered as not all existing conditions are indicated on the drawings.

Utilities:
The Contractor will be held responsible for the location and the protection of all existing utility lines above and below grade, including but not limited to, electrical, sewer, water, reclaimed water, irrigation, gas, telephone, data etc. In addition, The Contractor shall caution all subcontractors that the site and public right-of-way contains underground utility lines. The drawings show diagrammatically the approximate location of the underground utilities where information is available, but the drawings are not exact as to the quantity, extent or location of such lines. The Contractor shall contact Dig Alert at 1.800.227.2600 two working days prior to any excavation.

The Contractor shall record on the Record Drawings, the exact location of all underground utilities encountered, disconnect and cap as required, and repair any damage to existing utilities as a result of the work under this contract. All anticipated interruption of utility services shall be reported to the Owner two days prior to work commencing on said utility.

Demolition:
Demolition drawings, if provided, are for general information only. The Contractor and Sub-Contractors shall review the drawings and existing conditions to define the scope of demolition involved to accomplish the work.

Asbestos Alert:
The Contractor is made aware of, that in buildings or portions thereof constructed prior to 1972, or thereabouts, there is a serious possibility that some existing construction materials may contain asbestos.

If asbestos containing materials, or suspected materials are encountered, The Contractor shall notify The District Representative immediately to engage a qualified industrial engineer to inspect the existing materials in the area to be altered or renovated, identify the existing materials containing asbestos, take random samples, submit to a laboratory for tests, and write a report regarding the abatement of existing, if any, asbestos fibers. The Contractor shall not disturb materials containing asbestos until these materials have been positively identified.

Refer to California Department of Industrial Relations.

a) Title 8, Section 5208

b) Asbestos Federal Code Regulations 006

c) EPA title 4, Code of federal regulations Part 6

d) EPA 560/5-83-002 asbestos abatement

e) EPA 560/5-83-002 guidance for controlling friable asbestos-containing materials in building.

Lead Alert:
The employer or contractor must send notification prior to the start of the job unless: the lead content of the material disturbed is less than 0.5 percent, 5,000 parts per million (weight by weight) or 1.0 mg./cm2: the amount of lead-containing material is less than 100 square feet or 100 linear feet; or the only task is torch cutting or welding for no longer than one hour per shift.
Applicable standards
Title 8, California Code of Regulations, Chapter 4, Subchapter 4, Article 4, Section 1532.1(d)

What's needed
The written notification must be sent in a manner to reach the nearest Cal/OSHA district office at least 24 hours prior to the start of lead work. Urgent and unforeseen work may be reported by phone at the start of the job, but must be followed by written confirmation within 24 hours of the call. There is an annual notification option for employers conducting ongoing lead-related operations and maintenance work on stationary steel structures.

Temporary Protection:
The Contractor shall assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all persons and property. This requirement shall apply continuously and not be limited to normal hours of operation.

Damage and Theft:
Any work or materials of one trade damaged by another trade becomes the responsibility of the offending trade. The damaged work shall be repaired or replaced by the original installer and the costs borne by the offender. Any materials stolen from the premises or damaged either before or after installation shall be replaced by The Contractor at no additional cost to The District Representative & Owner. The General Contractor shall take all necessary precautions such as barricades, guards, etc., as required to prevent damage and theft. Special care shall be taken to protect work in place, materials and equipment stored, etc., from theft and vandalism.

Clean-Up: The Contractor shall at all times keep the site clean and free of all waste material or rubbish caused by his operations. At the completion of the work, The Contractor shall remove all waste materials and rubbish from and about the project and legally dispose of. All tools, construction equipment, machinery, and surplus materials shall be removed from the site. All demolished and removed materials and fixtures become the property of The Contractor unless otherwise noted.

Waste Management:
The following waste categories, at a minimum, shall be diverted from landfill:

a) green waste
b) inerts (soil, rock, concrete, masonry , glass)
c) clean dimensional wood, palette wood, plywood, particle board, etc.
d) cardboard, paper, packaging
e) all metals
f) insulation
g) gypsum wall board
h) carpet and pad
i) paint
j) plastics: ABS, PVC

Construction waste reduction, disposal and recycling to comply with Section 5.408 of the California Green Building Standards Code.

Construction Waste Management Plan:
Documentation shall be provided to the enforcing agency which demonstrates compliance with section 5.408.2, Items 1-4. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

1. Identify the materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.

2. Determine if materials will be sorted on-site or mixed.

3. Identify diversion facilities where material collected will be taken.

4. Specify that the amount of materials diverted shall be calculated by weight or volume, but not both.

Certificate of Compliance: Upon completion of the work, The Contractor shall submit a "Certificate of Compliance" signed by The General Contractor to Department of Building and Safety of the authority having jurisdiction, acting on behalf of The Owner, stating that the work relating to energy standards has been performed and materials have been installed according to plans and specifications.

Documents:
The contract documents include these drawings, the general and supplemental conditions, the specifications, and all addenda, bulletins, and sketches issued prior to and during construction.

The drawings and specifications are divided into separate sections and/or divisions for convenience only and are not intended to limit the areas of work. It is the responsibility of The Contractor to coordinate the work of the trades to complete the project in accordance with the contract requirements.

Refer to the consultant drawings for additional notes that apply.

These drawings are not complete until approved by the authority having jurisdiction.

Conflicts:
The Landscape, Civil, Structural, Mechanical, Electrical, and Plumbing drawings are supplementary to The Architectural drawings. It shall be the responsibility of the General Contractor to check with the Architectural drawings before the installation of civil, structural, mechanical, electrical and plumbing work. Should there be a discrepancy between the Architectural drawings and the consulting engineer's drawings, it shall be brought to The Architect's attention for clarification prior to beginning work. Any work installed in conflict with any of The Architectural drawings shall be corrected by The General Contractor at his own expense and at no expense to The District Representative or Architect.

Symbols and Abbreviations:
All symbols, abbreviations, and material indications used in the drawings are considered to be construction standards. Refer to the symbols and abbreviations key for the Architectural drawings, and each set of consultants drawings separately for interpretation. If The Contractor still has questions regarding their exact meaning, The Contractor shall request The Architect to issue clarification.

Dimensions:
Dimensions shown on the drawings are to gridline, face of stud and face of concrete or concrete block unless noted otherwise.

Boxed dimensions are clear dimensions measured from finish to finish, usually indicating a minimum or maximum code required clearance.

Alignment takes precedent over dimensions. Verify all dimensions and conditions and notify Architect of any discrepancies.

Elevation Datums:
Finish floor elevations are to top of final hard surface material, unless noted otherwise. Carpeting shall not be used as a finish floor elevation. Finish floor elevations are noted in Plans, Sections, and Elevations.

Vertical control is relative to a structure-specific datum elevation. The datum elevation is tied to a site topography elevation. The datum elevation is shown in Section.

Ceiling height elevations are from finish floor to finish ceiling.

Details:
Architectural details are intended to clarify the design intent of the work. Minor modifications may be required to suit the job dimensions or conditions and shall be included as parts of the work.

Scale:
Do not scale off of drawings. Dimensions missing from plans or needed for execution of work shall be clarified or provided by The Architect before the work is installed.

Notes:
Specific notes on details shall apply to similar conditions on all other details, unless noted otherwise, and are not limited to reference items.

Coordination:
The Contractor shall verify all sizes and preparatory work for equipment or work for others and shall coordinate the work of this contract with N.I.C. or work furnished and/or installed by others.

The Contractor shall provide and coordinate the exact dimensions to the sizes and positions of all equipment, mounting, attachments and conduit related to the work.

The Contractor shall provide and coordinate the exact dimensions, sizes, and positions of openings in building components necessary for the installation of the work.

All valves, controls, cleanouts, and termination shall be positioned for safe, direct, and easy access. All piping shall be installed for convenient future additions and modifications.

It is The Contractor's responsibility to coordinate all work at the site. The Contractor shall be responsible for the work of his subcontractors and shall anticipate and coordinate all existing and new conditions with work to be performed as part of this contract. Unless brought to the attention of The Architect and The District Representativeprior to starting work, The Contractor shall resolve any conflicts among the work of himself and his subcontractors at no additional expense to The District Representative or Architect.

Record Drawings:
The Contractor shall maintain a complete set of drawings at the job site for use in making Record Drawings. Any revisions shall be noted thereon and submitted to the Architect at the completion of the job. A copy of the Record Drawings shall be provided to the Owner.

Operation and Maintenance Manual:
The Contractor shall provide the District Representative with a complete operations manual prior to final inspection. The manual shall include a complete set of product operating, maintenance care and warranty instructions and information for all appliances, equipment, and finishes.

Manufacturers Directions:
Where specifications require work to be performed in accordance with manufacturer's directions, the Contractor shall obtain and distribute copies of said directions to The Architect and The District Representative before starting the affected part of the work.

Concrete Embedment:
Prior to pouring any Concrete, the Contractor shall make certain that all embedded items and materials, including the work of other trades, are in place and securely anchored prior to any inspection. All embedded items partially exposed, or with less than the required coverage, shall be of a corrosion resistant finish or material.

Fireblocking:
Fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and shall form an effective barrier between stories and between the top story and the roof space.

Fireblocking materials shall consist of 2 inches nominal lumber or two thicknesses 1-inch nominal lumber with broken lap joints or one thickness of 12/32 inch wood structural panel with joints back by 23/32 wood structural panel or one thickness of 3/4" Type 2-M particleboard with joints backed by 3/4 inch Type 2-M particle board. Fire blocks may also be of gypsum board, cement fiber board, batts or plankets of mineral or glass fiber, or other approved materials installed in such a manner as to be securely retained in place. Loose-fill insulation material shall not be used as a fire block material. Walls having parallel or staggered studs for sound-transmission control shall have fire blocks of batts or blankets of mineral or glass fiber or other approved flexible material.

Mounting Backing:
The Contractor shall provide mounting backing behind all wall, floor, and ceiling mounted items such as toilet accessories, light fixtures, cabinets, etc., in accordance with these documents, per manufacturer requirements, CBC requirements, and as required for a proper installation.

Exterior Joints:
All exterior joints around window and door frames, between walls and foundations, between walls and roof, between wall panels, at penetrations of utilities through the envelope shall be sealed, and/or weather stripped to limit air leakage.

Insulation:
All insulation materials installed within floor-ceiling assemblies, roof-ceiling assemblies, walls, crawl spaces or attic shall have a flame spread rating not to exceed 25 and a smoke density not to exceed 450 when tested in accordance with ASTM E 84.

Welding:
All welding shall be done by certified welders only. See Special Inspections for required deputy inspection of field welds. All exposed welds to be continuous U.N.O.

Dissimilar Metals:
All dissimilar metals shall be effectively isolated from each other to prevent molecular breakdown. If the Contractor is unsure if isolation is required for a particular detail or condition, notify The Architect for clarification.

Finishes:
All finishes shall comply with requirements of the Building Code and local codes, whichever is most restrictive.

All gypsum wall board (GWB) shall be 5/8" thick typically. Use "type x" gypsum board where indicated on the Drawings or as required in areas needing fire-resistive construction.

Use water resistant gypsum wall board (WR GWB), or equivalent, where indicated or required in areas subject to moisture penetration.

Where framed walls and partitions are covered on the interior with plaster, tile, or similar materials and are subjected to water splash, the framing shall be protected with approved waterproofing paper.

Where applicable, box-in all electrical boxes and all recessed ceiling light fixtures with 5/8" "type x" gypsum wall board to maintain the assembly integrity when installed in fire rated assemblies.

Necessary work such as cutting holes, repairing holes, access panel installation, finish repairs, wall texturing, paint touch-up, and telecommunications systems shall be included as a part of the work of this contract. Where matching existing finishes, the new finish shall cover the surface to nearest plane change.

California Green Building Code:
At the time of final inspection, a manual, compact disk or web based reference shall be placed in the building. This manual shall include all of the items listed on the California Green Building Standards Code Section 4.410.1. (CGBSC 4.410)

Environmental Quality

Adhesives, Sealants, and Caulks (2013 CGBSC 5.504.3):
Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:
1. Adhesives, adhesive bonding primers adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMDRule 1168VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below.
2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weighmore than one pound and do not consist ofmore than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with Section 94507.

Paints and Coatings (2013 CGBSC 5.504.4.3):
Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

Carpet Systems (2013 CGBSC 5.504.4.4):
All carpet installed in the building interior shall meet the testing and product requirements
of one of the following:
1. Carpet and Rug Institute's Green Label Plus Program.
2. CaliforniaDepartment of PublicHealth Standard Practice for the testing of VOCs (Specification 01350).
3. NSF/ANSI 140 at the Gold level.
4. Scientific Certifications Systems Sustainable Choice.
5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.
5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.

Composite Wood Products (2013 CGBSC 5.504.4.5):
Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 5.504.4.5.

Resilient Flooring Systems (2013 CGBSC 5.504.4.6):
For 50 percent of floor area receiving resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List (or Product Registry) or certified under the Resilient Floor Covering Institute (RFCI) FloorScore program.

Chlorofluorocarbons (CFCs) and Halons (2013 CGBSC 5.508):
Install HVAC, refrigeration, and fire suppression equipment that do not contain CFCs or Halons.

VOC Limits for Architectural Coatings

Table 4.504.4.3 (2013 CGBSC)

Coating Catagory	VOC Limits (g/L, less water)
Flat coatings	50
Nonflat coatings	100
Nonflat high gloss coatings	150
Specialty Coatings:	
Aluminum roof coatings	400
Basement specialty coatings	400
Bituminous roof coatings	50
Bituminous roof primers	350
Bond breakers	350
Concrete curing compounds	350
Concrete/masonry sealers	100
Driveway sealers	50
Dry fog coatings	150
Faux finishing coatings	350
Fire resistive coatings	350
Floor coatings	100
Form-release compounds	250
Graphic arts coatings (sign paints)	500
High-temperature coatings	420
Industrial maintenance coatings	250
Low solids coatings1	120
Magnesite cement coatings	450
Mastic texture coatings	100
Metallic pigmented coatings	500
Multicolor coatings	250
Pretreatment wash primers	420
Primers, sealers and undercoaters	100
Reactive penetrating sealers	350
Recycled coatings	250
Roof coatings	50
Rust preventative coatings	400
Shellacs, Clear	730
Shellacs, Opaque	550
Specialty primers, sealers and undercoaters	350
Stains	250
Stone consolidants	450
Swimming pool coatings	340
Traffic marking coatings	100
Tub and tile refinish coatings	420
Waterproofing membranes	250
Wood coatings	275
Wood preservatives	350
Zinc-rich primers	340

Formaldehyde Limits for Wood

Table 5.504.4.5 (2010 CGBSC)

Product	Limits (PPM)
Hardwood plywood veneer core	0.05
Hardwood plywood composite core	0.08
Particle Board	0.09
Medium Density fiberboard	0.11
Thin medium density fiberboard	0.21

VOC Limits for Sealants

Table 5.504.4.2 (2013 CGBSC)

Sealants	VOC Limits (g/L, less water)
Architectural	250
Marine deck	760
Nonmembrane roof	300
Roadway	250
Single-ply roof membrane	450
Other	420
Sealant Primers	
Architectural	
Nonporous	250
Porous	775
Modified bituminous 500	500
Marine deck	760
Other	750

VOC Limits for Adhesives

Table 5.504.4.1 (2013 CGBSC)

Architectural Applications	VOC Limits (g/L, less water)
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Drywall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesive not specifically listed	50
Specialty Applications	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top and trim adhesive	250
Substrate Specific Applications	
Metal to metal	30
Plastic foams	50
Porous material (except wood)	50
Wood	30
Fiberglass	80

Abbreviations

&	and
@	at
A.B.	anchor bolt
AC	asphaltic concrete
ACT	acoustical ceiling tile
A.D.A.	Americans with Disabilities Act
AD.	area drain
ADJ.	adjustable or adjacent
A.F.C.I.	arc fault circuit interrupter
A.F.F.	above finish floor
A.F.G.	above finish grade
AGGR.	aggregate
ALUM.	aluminum
APPROX.	approximate
ARCH.	architectural
BD.	board
BITUM.	bituminous
BLDG.	building
BLK.	block
BLKG.	blocking
BM.	beam
B.O.	bottom of
BOT.	bottom
BTWN	between
BW	bottom of wall
CAB.	cabinet
CAP	capacity
C.F.	contractor furnished
C.I.	contractor installed
C.J.	control joint
CJ	ceiling joist
CL	center line
CLG.	ceiling
CLKG.	caulking
CLO.	closet
CLR.	clear
CMU	concrete masonry unit
CNTR.	counter
COL.	column
CONC.	concrete
CONN.	connection
CONSTR.	construction
CONT.	continous
CSK.	countersink
CTR.	center
(D)	demolish
DBL.	double
DEPT	department
DET.	detail
DF	drinking fountain
DIA.	diameter
DIM.	dimension
DN	down
DR.	door
DS.	downspout
DWG.	drawing
(E)	existing
E.	east
EA.	each
E.J.	expansion joint
EL.	elevation
ELEC.	electrical
E.P.	electrical panel
EQ.	equal
EQUIP.	equipment
EXP.	expansion
EXT.	exterior
F	fluorescent
F.A.U.	forced air unit
FDN.	foundation
F.F.	finish floor
FRP	fiber-reinforced plastic
F.G.	finish grade
FIN.	finish
FJ	floor joist
FL	flowline
FLASH.	flashing
FLR.	floor
F.O.	face of
F.O.B.	face of block
F.O.C.	face of concrete
F.O.F.	face of finish
F.O.S.	face of stud
FP	fireplace
FS	finish surface
FT.	foot or feet
FTG.	footing
FURR.	furring
(F)	future
GALV.	galvanized
G.F.C.I.	ground fault circuit interrupter
GL.	glass
GND.	ground
GRD.	grade
GWB.	gypsum wall board
GYP.	gypsum
H.	height
H.B.	hose bibb
HNDRL.	handrail
HORIZ.	horizontal
HR.	hour
HVAC.	heating, ventilation & air conditioning
I.D.	inside diameter (DIM.)
INSUL.	insulation
INT.	interior
JT.	joint
JST.	joist
KIT.	kitchen
K.P.	kick plate
LAM.	laminate
LAUN.	laundry
LB.	pound
LT.	light
MAT'L.	material
M.B.	master bedroom
MAX.	maximum
M.C.	medicine cabinet
MDF	medium density fiberboard
MECH.	mechanical
MEMB.	membrane
MFG.	manufacturer
MIN.	minimum
MISC.	miscellaneous
MUL.	mullion
(N)	new
N.	north
N/A	nat applicable
N.I.C.	not in contract
NO. or #	number
NOM.	nominal
N.T.S.	nt to scale
O/	over
O.C.	on center
O.D.	outside diameter (DIM.)
O.F.	outside face
OFC.	office
O.F.C.I.	owner furnished, contractor installed
O.F.O.I.	owner furnished, owner installed
OPNG.	opening
ORD	overflow roof drain
OVRHD.	overhead
OWTS	onsite wastewater treatment system
PAV.	paving or pavement
PDRCTD	powder coated
PLAM	plastic laminate
PLAS.	plaster
PLYWD.	plywood
P.T.	pressure treated
PT.	point
PTCLBD.	particle board
PTD.	painted
PTDF	pressure treated douglas fir
(R)	remove
(R/S)	remove and save. salvage
R.	riser
R.A.	return air
RAD.	radius
RD	roof drain
RDWD.	redwood
REINF.	reinforced
REQ.	required
RM.	room
R.O.	rough opening
RS	rough sawn
S4S	surfaced four sides
S.	south
S.A.D.	see architectural drawing
SCHED.	schedule
SERV.	service
SF	square feet
SH.	shelf/shelves
SHT.	sheet
SHTG.	sheathing
SIM.	similar
SPEC.	specification
SQ.	square
SS	stainless steel
STC	sound transmission class
STD.	standard
STND.	stained
STL.	steel
STOR.	storage
STRUCT.	structural
T&G	tounge and groove
T.	toilet
T	tempered glass
T	tread
T.B.	towel bar
TC	top of curb/concrete
TEL.	telephone
TEMP.	temperature
THRES.	threshold
T.O.	top of
T.O.C.	top of curb/concrete
T.O.P.	top of paving
T.O.S.	top of slab/steel
T.O.W.	top of wall
T.P.	top plate
TPO	thermoplastic polyolefin (roofing)
TW	top of wall
TYP.	typical
U.N.O.	unless noted otherwise
VERT.	vertical
V.I.F.	verify in field
W.	west
W/	with
WD.	wood
WDW.	window
W.H.	water heater
W/O	without
W.P.	waterproof
W.R.	water resistant

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Revisions

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C - 26761
REN. 7.31.2023
STATE OF CALIFORNIA

General Notes

G0.1

Specifications CSI Definitions

All definitions shall comply with nomenclature used on all architectural construction drawings. Substitutions shall be approved by the architect prior to implementation.

Provide 6 copies of submittal packages for all products listed on this sheet. Submittals shall include; standards and testing, product description, technical data, finish, and Manufacturer's warranty.

All specified products must follow manufacturer's preparation, handling and installation guidelines.

00 0000: xxxx = CSI number and category classification
Nomenclature = word used in the construction drawings

2019 California Building Standards Administrative Code
2019 California Building Code (CBC)
2019 California Electrical Code
2019 California Mechanical Code
2019 California Plumbing Code
2019 California Energy Code
2019 California Fire Code
2019 California Existing Building Code
2019 California Green Building Standards Code
County of Santa Barbara Code Amendments

01 4339: MOCKUPS AND FIELD SAMPLES

Mockups

Before installing portions of the Work requiring mockups, build mockups for each form of construction with finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain Architect's written approval of mockups before starting work, fabrication, or construction.
6. Allow seven days for initial review and each re-review of each mockup.
7. Accepted mock-ups establish the standard of quality the Architect will use to judge the Work.
8. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
9. Acceptable mockups in place may be retained in completed Work upon written approval of Architect or Owner.
10. Demolish and remove mockups when directed unless otherwise indicated.
11. Comply with requirements of Construction Waste Management and Disposal.
12. Contractor shall coordinate all schedules and obtain mock-up approval from both Architect and Owner prior to fabrication of the Work.

02 4113 SITE DEMOLITION

GENERAL

Administrative Requirements

A. Coordination
   1. Contractor shall contact an Underground Service Alert entity 48 hours in advance of work, and have all utilities marked prior to Preconstruction Meeting or ground disturbance.
   2. Contractor shall request access to owner's water service controls.
   3. Contractor shall coordinate with affected utilities, transportation agencies, schools, waste disposal companies, and any other pavement users.
   4. Contractor shall coordinate with other contractors working on the site.
   5. Contractor shall use approved trucking routes from the municipalities on project haul routes.

B. Preconstruction Meeting
   1. Contractor shall schedule a preconstruction meeting prior to initiating work.
   2. Attendees at the preconstruction meeting shall include but not be limited to:
      a. Owner's Representative
      b. Contractor's Project Manager and General Superintendent
      c. Subcontractor Representatives (if applicable)
      d. QA Representative
      e. QC Representative
      f. Other pavement users or affected parties as applicable.

C. Sequencing
   1. Contractor shall sequence the work to minimize disruption to existing project users.
   2. Contractor shall sequence the work to prevent demolition operations from damaging new and existing sitework features.
   3. Contractor shall not commence demolition until all Storm Water protection BMPs have been installed.

D. Scheduling
   1. Include on Construction Schedule detailed sequence of individual site demolition operations.
   2. Coordinate with Owner for equipment and materials to be removed by Owner, if necessary.

Submittals

Per plans, all existing utilities buried underground in project limit of work are to be removed per County standards. No existing utilities in project area are to be abandoned in place unless noted otherwise in the plans.

Upon Project Closeout - Identify abandoned utility and service lines and capping locations, if any, on record drawings.

Closeout Submittals

Provide Owner documentation of disposal and recycling of site demolition material.

Examination

Examine site to determine extent of work necessary to separate work to be removed from work to remain. If separation procedure is unclear, request clarification from Owner's Agent at least 5 working days in advance of demolition.

Preparation

Notify corporations, companies, individuals, and local authorities owning conduits running to property.

1. Protect and maintain conduits, drains, sewers, pipes, and wires that are to remain on the property.
2. Arrange for removal of wires running to and on property. Remove pipes and sewers in accordance with instructions of above owners.
3. Mark locations of all underground utilities encountered including abandoned, damaged, repaired or unknown facilities on Record Drawings.

Contractor shall be responsible for protecting soil stability underlying facilities during demolition.

Contractor shall be responsible for protecting existing facilities.

Performance

A. Execute work in an orderly and careful manner, with due consideration for neighbors and the public. Control dust.
B. Carefully remove, disassemble, or dismantle as required, and store in approved location on site, existing items to be reused in completed work.
C. Concrete and Paving Removal
   1. Full depth saw cut joints between material to be removed and material to remain.
   2. Existing concrete site elements or pavement damaged during demolition or work shall be resawcut and replaced at Contractor's expense.
D. Site Clearing
   1. Tree and Brush Removal
      a. Cut off trees, shrubs, brush and vegetative growth 12 inches maximum above ground.
      b. Remove stumps and roots 12 inches below original ground surface or until stump and all roots 1 inch or larger are removed.
      c. Entirely remove roots of plants which normally sprout from roots as identified by Owner's Agent.
   2. Root Pruning and Removal
      a. Hand excavate trench one foot wide and 20 inches deep along concrete or paving to be removed.
      b. Cut roots encountered with saw, axe, or pruners. Do not cut roots with excavating equipment.
      c. Remove roots under concrete and paving to 12 inches below top of base or native subgrade.
   3. Stripping
      a. Strip existing vegetation layer 2 inches and remove from site prior to stripping topsoil for storage and reuse if necessary.
      b. After stripping existing vegetation layer, strip existing topsoil 4 additional inches. Store onsite for reuse if necessary.
E. Excavation
   1. Use excavation equipment and methods which do not cause or increase subgrade instability.
   2. Use methods which preclude tracking of soils or debris off site or onto streets, etc.
F. Disposal
   1. Immediately remove from site all trees, shrubs, stumps, vegetative layer, asphalt concrete, removed concrete site elements and surface debris unless noted otherwise in project plans or by County.
   2. Do not bury or burn waste.
   3. Comply with all local, state, and federal disposal and recycling regulations.
   4. If hazardous materials are encountered refer to the General Conditions.
G. Site Maintenance
   1. Broom clean all remaining surfaces immediately after demolition and removal of debris. Maintain broom clean condition.
   2. Maintain all storm water protection measures.
   3. Provide continuous dust control measures until work is complete.

02 4115 SITE UTILITY REPAIR

Submittals

The workman or subcontractors to perform the repairs shall be identified prior to the initiation of work and telephone number made available to the Owner's Representative.

The contractor shall have the resources available to immediately and expeditiously repair damaged utilities, without impact to the schedule, including:

a. site lighting
b. irrigation lines and wires
c. water services
d. electrical lines
e. sewer lines
f. telecommunication lines
g. storm water lines

Closeout Submittals

Provide Owner with record drawings indicating site utility repairs with related information including photographs.

Materials

A. The materials used for repairs shall be compatible and similar with the site utility to be repaired.
B. Minimum thickness of plastic pipe for irrigation repairs shall be Schedule 40.
C. Utility Boxes: Traffic-rated box and lid in pavement areas; Plastic or composite box in landscape areas.
D. Wire Connectors: 3M AY type connectors shall be used for wire splices.

Protection

The contractor is responsible for protecting existing site utilities identified or which should have been identified by compliance with these specifications.

Construction

A. Repair of damaged lines or wiring due to the contractor's failure to adequately identify or protect existing utility lines shall be the contractor's responsibility.
B. Damaged utilities which were not able to be identified or protected shall be repaired by the contractor.
   1. The contractor shall make all repairs in accordance with the applicable codes. Care shall be exercised to avoid further damage to existing facilities during repairs.
   2. The repaired lines or wiring shall be tested prior to backfilling.
   3. The contractor shall be responsible for any damage to the completed work due to improper repairs of existing site utilities.
   4. Electrical splices.
      a. Damaged electrical lines shall be replaced from existing pull boxes or facilities. Splices shall only be made with the express permission of the Owner.
      b. Damaged irrigation wiring may be spliced with wire connectors. Splices in wiring run shall have a utility box placed over the splice.

03 1513: WATERSTOPS

Submittals

1. Product Data: Submit manufacturers' data on all specified manufactured products showing compliance with specified requirements and installation instructions.
   a. Product data for components and for system.
   b. Property specifications for waterstop materials.
2. Shop Drawings: Indicate proposed construction joints required to construct the structure.
   a. Location of construction joints is subject to approval of the Architect.
3. Installation instructions.
   a. Recommendations for cleaning and preparing surfaces to receive waterstop.
4. Include sample of warranty customized for this Project.

Quality Assurance

Perform work of this Section in accordance with ACI 117, ACI 301 and ACI 318 and manufacturer's published literature.

1. Maintain one copy of each document on site.

Single Source Responsibility: Furnish materials from waterproofing manufacturer.

Installer Qualifications: A qualified installer who employs on Project personnel qualified as acceptable to manufacturer with experience on at least five projects of similar nature in past five years, and who is an Approved Applicator as determined by waterstop manufacturer.

Manufacturer Qualifications: A firm experienced in manufacturing Products specified in this Section with minimum ten years experience.

Testing and Inspection:

1. Completed Systems: Manufacturer's representative and Independent inspector will inspect completed installation and submit installation report summarizing installation and confirm installation is in conformance with manufacturer's installation requirements and the Contract Documents, and will result in a properly functioning system with no leaks.
2. Independent inspection service to verify and approve substrate prior to installation; monitor waterstop material installation compliance with the project contract documents and manufacturer's published literature and site specific details. Independent Inspection Firm shall be an approved company participating with the waterstop manufacturer's Certified Inspection Program. Inspection service shall produce reports and digital photographs documenting each inspection. Reports shall be made available to the Contractor, waterstop installer, waterstop material manufacturer, and Architect. Inspections should include substrate examination, beginning of waterproofing installation, periodic intervals, seam welding and final inspection prior to concrete or backfill placement against the waterproofing.
3. Post-Installation Observation: Inspect membrane following the installation of waterstop and structural reinforcing, but prior to the placement of concrete and other superimposed materials. Repair damage or unacceptable conditions prior to placement of concrete and other superimposed materials.

03 3000: CAST-IN-PLACE CONCRETE

Quality Assurance

Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94 requirements for production facilities and equipment.

Special Inspection: Inspection and testing of the building subgrade and of the concrete construction shall be performed in accordance with CBC Chapter 17 and as delineated in the Statement of Special Inspections.

The Geotechnical Engineer shall review and approve the Foundation Plan, Foundation Details, and this Specifications Section prior to commencement of construction. Contractor shall coordinate. Construction is subject to addenda made by the Geotechnical Engineer.

Submittals

1. Product Data: For each type of product indicated.
2. Design Mixtures: For each concrete mixture.
3. Shop Drawings: For steel reinforcement. Material certificates.
4. Proposed Finishes: Submit to Architect and District Representative for approval.

Form-Facing Materials

Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

Subgrade Preparation

Grading, excavations, compaction and other subgrade preparation shall be in accordance with Division 31 – Earthwork and under the supervision of the Geotechnical Engineer.

Formwork

Design, erect, shore, brace, and maintain formwork according to ACI 301 to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

Chamfer exterior corners and edges of permanently exposed concrete when required by the Owner or Architect.

Removal of Formwork: Comply with ACI 301 and ACI 318.

Embedded Items

Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

Embedded items shall be secured in place prior to foundation inspection and prior to pouring concrete.

Epoxy/Adhesive: Use only where specifically detailed by the Engineer or Architect. Install per the manufacturer's ICC Evaluation Report.

Expansion Anchors: Use only where specifically detailed by the Engineer or Architect. Install per the manufacturer's ICC Evaluation Report.

03 3000: CAST-IN-PLACE CONCRETE (continued)

Vapor Retarders

Basis of Design: as specified in Section 07 2616 - Below Grade Vapor Retarder.

Installation: Place, protect, and repair vapor retarders according to ASTM E1643, the referenced Soils Engineering Report, and manufacturer's written instructions. Lap joints 6 inches and seal with manufacturer's recommended tape, provide pipe boots at all required locations. Refer to the referenced Soils Report and the drawings for additional requirements.

Concrete Placement

Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

Floor Slabs: Comply with ACI 302.1R. When concrete is placed directly on top of the vapor retarder, the concrete contractor shall make the necessary changes in the concrete placement.

Cold-Weather Placement: Comply with ACI 306.1.

Hot-Weather Placement: Comply with ACI 301.

Field Quality Control

The Contractor shall suitably protect the work in order to maintain finishes in perfect condition until final completion and acceptance.

Repair and patch defective areas where required by the Owner, Architect, or Engineer. Remove and replace concrete that cannot be repaired and patched to Owner, Architect or Engineer's approval. Any repair or replacement shall be at no additional cost to the Owner.

Testing and Inspecting: Contractor shall engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

Testing Services: Tests shall be performed according to ACI 301, CBC Chapter 17 for concrete construction, and the Statement of Special Inspections, except where specifically excluded.

The Geotechnical Engineer shall provide the Owner with a report that the building pad was prepared in accordance with the soils report and that the foundation excavations, the soil properties and bearing capacity conform to the Soils Engineering Report and the design parameters indicated on the structural drawings.

The Geotechnical Engineer shall inspect, test, and sign-off all grading and excavations prior to placement of forms, reinforcing steel or concrete.

03 3300: ARCHITECTURALLY EXPOSED CAST-IN-PLACE CONCRETE

Administrative Requirements

Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.

Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this Section.

1. Required Attendance: Contractor's quality control supervisor or superintendent, Architect, structural engineer, and all affected trades including reinforcing subcontractor and concrete supplier.
2. Discuss construction document requirements, required clarifications to construction documents, coordination of affected trades, and specific aesthetic concerns of Architect for architecturally exposed cast-in-place concrete.

Submittals

Action Submittals:

1. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
2. Shop Drawings: Submit shop drawings for formwork and accessories, including the following:
   a. Wall elevations showing layout of form panels, locations of joints between form panels, and layout of reveals and other architectural features.
   b. Locations of form ties, details of form tie holes, and locations of formwork items, and features that will be visible on final architecturally exposed cast-in-place concrete surfaces.
3. Mix Designs: Submit proposed mix design for each class of concrete specified. Include proportions of ingredients, aggregate analysis, cement brand and type, slump, water/cement ratio, and strength test reports for 7 and 28 day strengths.
   a. Prepare in accordance with ACI 301.
   b. Provide specific aggregate analysis for recycled aggregates proposed for use in concrete mixes.
   c. For mixes specifying a maximum allowed drying shrinkage, submit data according to ASTM C157/C157M substantiating conformance with specified requirements.
   d. Fly-Ash Content Submittal: If any fly ash or ground granulated blast furnace slag is used in mix designs to replace Portland cement, submit the total volume of concrete cast in place, mix design(s) used showing the quantity of portland cement replaced, reports showing successful cylinder testing, and temperature on day of pour if cold weather mix is used.
4. Samples for Pigment and Color Selection: Submit manufacturer's complete sample chip set, including pigment number and required dosage rate for each color.
5. Verification Samples: Submit sample chips of specified colors indicating pigment numbers and required dosage rates, for subsequent comparison to installed concrete.
6. Samples: For each of the following materials:
   a. Form ties.

Informational Submittals:

1. Manufacturer's Certificate: Provide written certification for each admixture actually used that admixtures contain no thiocyanates, and admixtures do not exceed 0.1 percent chloride ions.

Mock-Up

Construct 100 sq. ft. mockup, showing all typical conditions including penetrations, reveals, cold joints, etc. and various finishes. Repair or reconstruct mockup as required to meet requirements of this section and Architect's approval of finish.

Mock-up may not remain as part of the Work.

Accepted mock-up panel is considered basis of quality for the finished work. Keep mock-up exposed to view for duration of concrete work.

Formwork

Comply with requirements of Section 03 3000 - Cast-In-Place Concrete.

Forming Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.

1. Board Form: 2x6 doug fir. Stagger vertical joints offset minimum 24 inches (610 mm). Do not chamfer board corners.
2. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide Class A, smooth, stain-free final appearance, according to ACI 347R.
3. Form Coating: Release agent that will not stain or adversely affect specified concrete finish.
4. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches (38 mm) of concrete surface; one inch diameter.

Form Ties: Factory-fabricated, internally disconnecting ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Provide internally disconnecting wedge form ties that will leave no metal closer than 1-1/2 inch (38 mm) from the architectural concrete surface.

Placing Concrete

Place concrete in accordance with ACI 304R.

Notify Architect not less than 24 hours prior to commencement of placement operations.

Maintain records of concrete placement. Record date, location, quantity, air temperature, humidity, wind, and test samples taken.

Ensure reinforcement, inserts, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.

Consolidate concrete placed in forms by mechanical vibrating equipment supplemented by hand spading, rodding, and tamping according to ACI 309R. Vibration of forms and reinforcing in not permitted.

Finish floors level and flat, unless otherwise indicated, within the tolerances specified in this Section.

Concrete Finishing

Repair surface defects, including tie holes, immediately after removing formwork.

Architecturally Exposed Concrete Form Finish: Rub down or chip off and smooth fins or other raised areas 1/16 inch (1.6 mm) or more in height. Avoid damage to adjacent surface finish as other imperfections are being removed. Finish repaired surfaces to match adjacent finished surfaces to achieve uniform appearance from a viewing distance of 20 feet or more.

03 3523: EXPOSED AGGREGATE CONCRETE FINISHING

Submittals

1. Product Data: For each type of product
2. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
   a. location of construction joints is subject to approval of the Architect.

Mock-Up

Construct mock-up comprised of one horizontal field sample panel, 60" x 60" with full aggregate color range represented.

1. locate where directed.
2. mock-up may not remain as part of the Work.
3. contractor shall coordinate and obtain mock-up approval from both Architect and Owner prior to pouring of the Work.

Accessory Materials

Surface Retarder for Horizontal Surfaces: Spray-on liquid that retards surface set.
Basis of Design Project:
a. Dayton Superior Corporation; Top Cast: www.daytonsuperior.com
b. prior approval required

Surface Retarder: Water based top-surface retarder designed to retard setting of upper layer of cement paste, producing an exposed-aggregate appearance of the concrete surface.
a. Finish: 05 - Light Blue: Sandblast Finish

Preparation

A. Clean formwork surfaces.
B. Apply surface retarder to formwork in accordance with manufacturer's instructions.
C. Clean previously placed concrete with steel brush and apply bonding agent in accordance with manufacturer's instructions.

Aggregate Exposure

A. Install in accordance with manufacturer's recommendations.
B. Application:
   1. Begin application while slab is still wet, after evaporation of bleed water from surface.
   2. Apply surface retarder using low pressure sprayer to produce even, continuous coating.
      a. Follow manufacturer's recommended coverage rate; do not under-apply.
   3. Comply with manufacturer's recommendations regarding rain protection until material is dry.
C. Removal:
   1. Begin removing retarded cement matrix after dwell time recommended by manufacturer, adjusted for field conditions. Unless field conditions substantially differ from those under which acceptable mockup was produced, begin removal after same time period as was used for mockup.
   2. Remove cement matrix with garden hose or 25 degree nozzle power washer.
      a. Stiff bristle broom or mechanical scrubber may be used as the primary or a supplementary means of removal.
      b. Take care not to mechanically remove more material than intended by using overly aggressive methods.
   3. Rinse water and cement matrix removal shall be in accordance with local codes and should not be allowed to be washed or flow down to arroyos, storm sewers, ponds, streams or sanitary sewers by precipitation or other surface flows.
   4. Prior to completion of the project, remove wash water residue from the site to location approved by the local district.

03 3541: CONCRETE SEALING

Submittals

1. Product Data: For each type of product.
2. Sealed Concrete Schedule: Submit plan showing sealed concrete surfaces and schedule of sealing operations for each area of sealed concrete before start of sealing operations. Include locations of all joints, including construction joints.
3. Samples for Initial Selection: For each type of product requiring color selection.
4. Samples for Verification: For each type of exposed color.
5. Qualification Data: For Installer.
7. Material Certificates: For each of the following, signed by manufacturers:
   a. Repair materials.
   b. Liquid floor treatments.

Mock-Up

Cast and finish three 48 inch (1219.20 mm) by 48 inch (1219.20 mm) sample panels for Architect's review of color consistency and workmanship. Provide workmanship and procedures necessary to match Architect approved submittal.

Maintain accepted sample application during construction as standard for Work.

Architect's Review:

1. Architect will review field sample for visual acceptance of materials and workmanship.
2. Replace unsatisfactory Work as directed by Architect.
3. Approved samples may not remain as part of the Work.

Liquid Floor Treatments

Water Based Acrylic Sealing Compounds:

1. ASTM C1315, Type I, Class A, VOC compliant, free of natural or petroleum waxes. Dries clear with satin sheen.
2. Compatible with subsequent coatings and toppings.
3. VOC Requirement: Less than 100 g/L
4. Provide gray tint.
5. Acceptable Products:
   a. Euclid Chemical Company; Super Diamond Clear VOX.
   b. L&M Construction Chemicals, Inc.; Lumiseal WB Plus.
   c. W. R. Meadows; VOCOMP-30.
   d. Monopole; MonoChem AquaSeal W20.
   e. Monopole; MonoChem PermaSeal.

Sealers: Only use sealers in the building that meet or do not exceed the VOC limits of the CURRENT requirements of SCAQMD 1113 on the interior of the building and CAL-Green Table 5.504.4.3 for VOC Content Limits for Architectural Coatings.

05 0000: METALS

All metal shall be hot-dipped galvanized or stainless-steel, including but not limited to interior metal panels, metal flashing, counter flashing, trim, fascia, reglets, roof drainage systems, etc.

Install metal panels, sheet metal flashing, and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing.

Provide field mock-ups for each system type to be reviewed by the Architect.

05 1213: ARCHITECTURALLY EXPOSED STRUCTURAL STEEL FRAMING

Administrative Requirements

Preinstallation Meeting: Schedule and conduct a preinstallation meeting at project site one week prior to start of work of this section; require attendance by all affected installers. Coordinate requirements for shipping, special handling, storage, attachment of safety cables and temporary erection bracing, final coating, touch-up painting, mock-up coordination, Architect's observations, and other requirements for AESS.

Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

Submittals

1. Product Data:
   a. Submit paint systems in accordance with Section 09 9600.
   b. Tension-control, high-strength, bolt-nut-washer assemblies.
   c. Corrosion-resisting (weathering steel), tension-control, high-strength, bolt-nut-washer assemblies.
   d. Filler.
   e. Primer.
2. Shop Drawings: Detailing for fabrication of AESS components.
   a. Provide erection documents clearly indicating which members are AESS members and the AESS category of each part.
   b. Include details that clearly identify AESS requirements found in this specification. Provide connections for AESS consistent with concepts shown on drawings.
   c. Indicate welds by AWS A2.4 symbols, distinguishing between shop and field welds, and show size, length and type of each weld. Identify grinding, finish and profile of welds as defined by the designated AESS category.
   d. Indicate orientation of hollow structural section (HSS) seams and mill marks (where applicable).
   e. Indicate type, size, finish and length of bolts, distinguishing between shop and field bolts. Identify high-strength bolted slip-critical, direct-tensioned shear/bearing connections. Indicate orientation of bolt heads.
   f. Indicate which surfaces or edges are exposed and what class of surface preparation is being used.
   g. Indicate special tolerances and erection requirements as noted on drawings or defined by the designated AESS category.
   h. Indicate vent or drainage holes for HSS members.
3. AESS 3 and AESS 4 Samples: Provide samples of specific AESS characteristics. Samples may be small size samples or components of conventional structural steel demonstrating specific AESS characteristics, including surface preparation, sharp edges ground smooth, continuous weld appearance, weld show through, and fabrication mark removal.
4. Samples: Submit Samples of AESS to evaluate quality standards for exposed welds.
   a. Two steel plates, 3/8 inch (9.53 mm) by 8 inches (203.20 mm) by 4 inches (101.6 mm), with long edges joined by a groove weld and with weld ground smooth.
   b. Steel plate, 3/8 inch (9.53 mm) by 8 inches (203.20 mm) by 8 inches (203.20 mm), with one end of a short length of rectangular steel tube, 4 inches (101.6 mm) by 6 inches (150 mm) by 3/8 inch (9.53 mm), welded to plate with a continuous fillet weld and with weld ground smooth and blended.
   c. Provide unpainted and painted samples.

Mock-Up

Mockups: At least four weeks prior to fabricating AESS, construct mockups to demonstrate aesthetic effects as well as qualities of materials and execution.

Review mockup during daylight hours.

Provide mock-ups for AESS 3 and AESS 4 of nature and extent indicated in contract documents.

Locate mock-ups in fabricator's shop. Mock-ups to be full-size unless Architect approves smaller models. Alternatively, when a mock-up is not practical, the first piece of an element or connection can be used to determine acceptability.

Notify Architect one week in advance of dates and times when mock-ups will be available for review.

Demonstrate applicable AESS characteristics for specified category of AESS on elements and joints in mock-up.

Build mock-ups using member sizes and materials indicated for final work.

Mock-up to demonstrate weld quality, contouring of welds at aligned walls of members, specified surface preparation, and finish coating.

HSS members to extend at least 6 inches (152.4 mm) from joint in mock-up.

Obtain Architect's written approval of mock-ups before starting fabrication.

Retain and maintain mock-ups during construction in an undisturbed condition as a standard for judging completed work.

Mock-up may not remain as part of the Work.

Shop Priming

Shop prime steel surfaces, except the following:

1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches (50.8 mm).
2. Surfaces to be field welded.

Surface Preparation:

1. Provide surface preparations to meet SSPC-SP 6.
2. Coordinate required surface profile with approved paint submittal prior to beginning surface preparation.
3. Prior to blasting, remove any grease and oil using solvent cleaning to meet SSPC-SP 1.
4. Remove weld spatter, slivers and similar surface discontinuities.
5. Ease sharp corners resulting from shearing, flame cutting or grinding.

Priming: Immediately after surface preparation, apply primer according to manufacturer's instructions to provide a dry film thickness of not less than 1.5 mils (0.038 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
2. Apply two coats of shop primer to surfaces that are inaccessible after assembly or erection.
3. Primer: Zinc-Rich primer

Field Connections

High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using High-Strength Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened.

Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

05 5213: PIPE AND TUBE RAILINGS

Reference Standards

1. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2018.
2. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.
3. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2012.
4. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel; 2017.
5. SCAQMD 1113 - Architectural Coatings; 1977 (Amended 2016).
6. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic", and Type II, "Organic"); 2002 (Ed. 2004).

Submittals

1. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.
   a. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
   b. Include the design engineer's seal and signature on each sheet of shop drawings.
2. Samples: Submit two, 12 inch long samples of handrail. Submit two samples of elbow, wall bracket, and end stop.
3. Designer's Qualification Statement.
4. Fabricator's Qualification Statement.
5. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is certified under AISC 201 & accredited under IAS AC172.
6. Delayed-Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
7. Welder's Certificates.
8. Welder's Certificates: Show certification of welders employed on the Work, verifying AWS qualification within the previous 12 months.

Performance Requirements

Design and fabricate railing and handrails in accordance with California Building Code 11B-505.

1. Top of gripping surfaces of handrails shall be 34 inches (863.60 mm) minimum and 38 inches (965.20 mm) maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above such surfaces.
2. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1-1/2 inches (38 mm) minimum. Handrail may be located in a recess if the recess is 3 inches (76.20 mm) maximum deep and 18 inches (457.20 mm) minimum clear above the top of the handrail.
3. Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1-1/2 inches (38 mm) minimum below the bottom of the handrail gripping surfaces.
4. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1-1/4 inches (31.75 mm) minimum and 2 inch (50.8 mm) maximum.
5. Handrail gripping surfaces with a non-circular cross section shall have an outside dimension of 4 inches (101.60 mm) maximum and 6-1/4 inches (158.75 mm) maximum, and a cross-sectional dimension of 2-1/4 inches (57.15 mm) max.
6. Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements and shall have rounded edges.
7. Handrails shall not rotate within their fittings.
8. Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with CBC Section 11B-505.10. Such extensions are not required for continuous handrails at the inside turn of switchback or dogleg stairs and ramps.
9. A 2 inch (50.8 mm) minimum high curb or barrier shall be provided to prevent the passage of a 4 inches (101.60 mm) diameter sphere, where any portion of the sphere is within 4 inches (101.60 mm) of the finish floor or ground surface. Such a curb or a barrier shall be continuous and uninterrupted along the length of a ramp. CBC Section 11B-405.9.2.

Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of ASTM E985 and applicable local code.

Distributed Loads: Design railing assembly, wall rails, and attachments to resist distributed force of 75 pounds per linear foot (1095 N/m) applied to the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935.

Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds (890 N) applied at any point on the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935.

Allow for expansion and contraction of members and building movement without damage to connections or members.

Dimensions: Refer to Drawings for configurations and heights.

Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.

1. For anchorage to concrete, provide inserts to be cast into concrete, for bolting anchors.
2. For anchorage to stud walls, provide backing plates, for bolting anchors.
3. Posts: Provide adjustable flanged brackets.

Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of applicable local code.

Dimensions: Refer to drawings for configurations and heights.

1. Hand Rails: 1-1/2 inches (38 mm) diameter, round.
2. Posts: 1-1/2 inches (38 mm) diameter, round.

Metals

Provide metal free from pitting, seam marks, roller marks, stains, discolorations, and other imperfections where exposed to view on finished units.

Steel Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish (unless another grade and weight is required by structural loads).

Galvanized finish for exterior installations and where indicated.

Touch-up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

Miscellaneous Materials

Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.

1. Water-Resistant Product: At exterior locationsprovide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

Fabrication

Accurately form components to suit specific project conditions and for proper connection to building structure.

Fit and shop assemble components in largest practical sizes for delivery to site.

Fabricate components with joints tightly fitted and secured.

Welded Joints:

1. Exterior Components: Continuously seal joined pieces by continuous welds. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.
2. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

Anchoring Posts

Form or core-drill holes not less than 5 inch (127 mm) deep and 3/4 inch (19.05 mm) larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.

Leave anchorage joint exposed with 1/8 inch (3 mm) buildup, sloped away from post.

1. Anchor posts to metal surfaces with oval flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members as follows:
2. For aluminum pipe railings, attach posts using fittings designed and engineered for this purpose.

Protection

Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

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Revisions

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Specifications CSI Definitions

07 2616: BELOW GRADE VAPOR RETARDER

Submittals

1. Product Data: Manufacturer's data sheets on each product to be used, including:
   a. Product Test Reports: For each product, for tests performed by a qualified testing agency.
   b. Preparation instructions and recommendations.
   c. Storage and handling requirements and recommendations.
   d. Installation methods.
   e. Typical Details.
2. Shop Drawings: Provide typical details called out on plans and elevations.

Quality Assurance

Manufacturer Qualifications: Company specializing in manufacturing products specified in this Section, with not less than 10 years of documented experience.

Installer Qualifications: Company specializing in performing the work of this Section with minimum 5 years of documented experience; approved by vapor barrier system manufacturer.

Single Source Responsibility for Weather barrier: Provide and install products from single source.

Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document that prescribes execution requirements.

Basis of Design:
Stego Wrap Vapor Barrier 15-mil or heavier, per Soils Engineer recommendations.

Warranty

Provide written five year material warranty issued by the membrane manufacturer upon completion of work.

07 5113: BUILT-UP ASPHALT ROOFING, COLD-APPLIED

Action Submittals

1. Product Data: For each type of product indicated.
2. Shop Drawings: For roofing system, include plans, elevations, sections, details, and attachments to other work. Provide roof plan showing orientation and types of roof deck, orientation of membrane roofing, and fastening spacings and patterns for mechanically fastened components.
   a. Base flashings and built-up terminations.
      1) Indicate that details meet requirements of this Section.
   b. Crickets, saddles, and tapered edge strips, including slopes.
3. Samples for Verification: For the following products:
   a. Sheet roofing materials, of color specified for exposed material.
   b. Sample of aggregate surfacing materials in gradation and color indicated or requested.
4. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

Informational Submittals

1. Qualification Data: For Installer, Manufacturer, and Roofing Inspector.
   a. Include letter from Manufacturer written for this Project indicating approval of Installer.
2. Contractor's Product Certificate: Submit notarized certificate, indicating products intended for Work of this Section, including product names and numbers and manufacturers' names, with statement indicating that products to be provided meet the requirements of the Contract Documents.
3. Warranties: Unexecuted sample copies of special warranties.

Closeout Submittals

1. Maintenance Data: To include in maintenance manuals.
2. Warranties: Executed copies of warranties.

Mock-Up

Cast and finish three 36 inch (914.40 mm) by 36 inch (914.40 mm) sample panels for Architect's review of Aggregate Surfacing Material. Provide workmanship and procedures necessary to match Architect approved submittal.

Maintain accepted sample application during construction as standard for Work.

Architect's Review:
1. Architect will review field sample for visual acceptance of materials and workmanship.
2. Replace unsatisfactory Work as directed by Architect.
3. Approved samples may not remain as part of the Work.

Quality Assurance

1. Installer Qualifications: An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of five years' experience installing similar work, able to communicate verbally with Contractor, Architect, and employees, and qualified by the manufacturer to furnish warranty of type specified.
2. Manufacturer Qualifications: Approved manufacturer with UL listed roofing systems comparable to those specified for this Project, with minimum five years' experience in manufacture of comparable products in successful use in similar applications, and able to furnish warranty with provisions matching specified requirements.
3. Approval of Comparable Products: Submit the following in accordance with project substitution requirements, within time allowed for substitution review:
   a. Product data, including certified independent test data indicating compliance with requirements.
   b. Samples of each component.
   c. Sample submittal from similar project.
   d. Project references: Minimum of five installations of specified products not less than five years old, with Owner and Architect/Owner's Consultant contact information.
   e. Sample warranty.
   f. Substitutions following award of contract are not allowed except as stipulated in Division 01 General Requirements.
4. Roofing Inspector Qualifications: A technical representative of manufacturer and experienced in the installation and maintenance of the specified roofing system, qualified to perform roofing observation and inspection specified in Field Quality Control Article to determine Installer's compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification. The Roofing Inspector shall be one of the following:
   a. An authorized full-time technical employee of the manufacturer.
5. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products.

Warranty

1. Manufacturer's Warranty: Roof System Manufacturer's standard form in which Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within warranty period, as follows.
   a. Form of Warranty: Manufacturer's standard warranty form.
   b. Scope of Warranty: Work of this Section and including sheet metal details and termination details installed by the roof system Installer and approved by the Roof System Manufacturer.
   c. Warranty Period: 20 years from date of completion.
2. Manufacturer Inspection Services: By manufacturer's technical representative, to report maintenance responsibilities to Owner necessary for preservation of Owner's warranty rights. The cost of manufacturer's inspections is included in the Contract Sum.
   a. Inspections to occur in following years: 2, 5, 10, 15 following completion.
3. Installer Warranty: Installer's warranty signed by Installer, as follows.
   a. Form of Warranty: Form acceptable to Roofing Manufacturer and Owner.
   b. Scope of Warranty: Work of this Section.
   c. Warranty Period: 2 years from date of completion.

Manufacturers

1. Basis of Design: The roof system specified in this Section is based upon products of Tremco CPG Inc, Beachwood, OH, (800) 562-2728, www.tremcoroofing.com. Local Rep: Daniel Gilday- dgilday@tremcoinc.com
   a. Manufacturers of comparable products: Approved by Owner, Architect, or Owner's Consultant prior to bid.
2. Source Limitations: Obtain components for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

Performance Requirements

1. General Performance: Roofing shall withstand exposure to weather without failure or leaks due to defective manufacture or installation.
   a. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
   b. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D3746/D3746M, ASTM D4272/D4272M, or the "Resistance to Foot Traffic Test" in FM Approvals 4470
2. Flashings and Fastening: Provide base flashings, perimeter flashings, detail flashings and component materials and installation techniques that comply with requirements and recommendations of the following:
   a. FM Global 1-49: Loss Prevention Data Sheet for Perimeter Flashings.
   b. FM Global 1-29: Loss Prevention Data Sheet for Above Deck Roof Components.
   c. NRCA Roofing Manual (Sixth Edition) for construction details and recommendations.
   d. SMACNA Architectural Sheet Metal Manual (Seventh Edition) for construction details.
3. Exterior Fire-Test Exposure: ASTM E 108, Class A; for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.

07 5113: BUILT-UP ASPHALT ROOFING, COLD-APPLIED (continued)

Materials, General

Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.

Roofing Membrane Materials

1. Base-Ply Sheet:
   a. SBS-modified asphalt coated composite polyester / fiberglass/fiberglass mat reinforced high tensile strength base sheet, ASTM D4601 Type II.
      1) Basis of design product: Tremco, BURmastic Composite Ply HT.
      2) Tensile Strength at 77 deg. F (25 deg. C), minimum, ASTM D5147: Machine direction, 165 lbf/in (725 N); Cross machine direction, 150 lbf/in (660 N).
      3) Tear Strength at 77 deg. F (25 deg. C), minimum, ASTM D5147: Machine direction, 260 lbf (1150 N); Cross machine direction, 230 lbf (1120 N).
      4) Thickness, minimum, ASTM D5147: 0.060 inch (1.5 mm).
2. Ply Sheets:
   a. Asphalt and glass-fiber roofing base and ply sheet for cold-applied built-up roofing systems, non-perforated, asphalt-impregnated and coated, ASTM D4601 Type II.
      1) Basis of design product: Tremco, BURmastic Glass Ply.
      2) Breaking Strength, minimum, ASTM D146: Machine direction, 90 lbf/in (15 kN/m); Cross machine direction, 70 lbf/in (12 kN/m).
      3) Pliability, 1/2 inch (13 mm) radius bend, ASTM D146: No failures.
      4) Weight, ASTM D228: 33 lb/100 sq. ft. (1.6 kg/m2).
3. Membrane Flashing Sheets:
   a. SBS-modified asphalt-coated glass-fiber-reinforced sheet, granular surfaced, ASTM D6163 Type I Grade G.
      1) Basis of design product: Tremco, POWERply Standard FR.
      2) Exterior Fire-Test Exposure, ASTM E108: Class A.
      3) Tensile Strength at 77 deg. F (25 deg. C), minimum, ASTM D5147: Machine direction 80 lbf/in (14 kN/m); Cross machine direction 75 lbf/in (13 kN/m).
      4) Tear Strength at 77 deg. F (25 deg. C), minimum, ASTM D5147: Machine direction, 100 lbf (460 N); Cross machine direction 108 lbf (480 N).
      5) Elongation at 77 deg. F (25 deg. C), minimum, ASTM D5147: Machine direction 7 percent; Cross machine direction 8 percent.
      6) Low Temperature Flex, maximum, ASTM D5147: -15 deg. F (-26 deg. C)
      7) Thickness, minimum, ASTM D5147: 0.120 inch (3.0 mm).
      8) Color: Tan
4. Detailing Fabric:
   a. Woven Glass Fiber Mesh, Vinyl-Coated: Non-shrinking, non-rotting, vinyl-coated woven glass mesh for reinforcing flashing seams, membrane laps, and other roof system detailing.
      1) Basis of design product: Tremco, BURmesh.
      2) Tensile strength, 70 deg. F, min ASTM D146: Warp, 65 lbf/in (285 N); fill, 75 lbf/in (310 N).
      3) Color: Aqua green.
3. Asphalt Roofing Cement / Mastic:
   1. Roof Cement, Asphalt-Based: ASTM D4586, Type II, Class I, fibrated roof cement formulated for use in installation and repair of asphalt ply and modified bitumen roofing plies and flashings; UL-classified for fire resistance.
      1) Basis of design product: Tremco, ELS.
      2) Volatile Organic Compounds (VOC), maximum, ASTM D3960: 190 g/L.
      3) Non-Volatile Matter, ASTM D4586: 85 percent.
      4) Resistance to sag ASTM D4586: 1/8 in. (3 mm).
4. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening built-up roofing components to substrate, tested by manufacturer for required pullout strength, and acceptable to roofing manufacturer.
5. Metal Flashing Sheet: Metal flashing sheet is specified in Division 07 Section "Sheet Metal Flashing and Trim."
6. Miscellaneous Accessories: Provide miscellaneous accessories recommended by built-up roofing manufacturer.

Roof Insulation Materials

1. Roofing Insulation, General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated
   a. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated, not less than two times the roof slope.

Roof Insulation Accessories

1. Insulation Cover Board:
   a. Board Insulation, Cellulosic-fiber: With water-resistant binders, non-asphaltic primer coated on four sides and chemically treated for deterioration, ASTM C208, Type II, Grades 1 and 2.
      1) Basis of design product: Tremco/Blue Ridge Structodek High Density Fiberboard.
      2) Compressive strength, ASTM C165: 15 lbf/sq. in.
      3) Thermal resistance at 75 deg. F (24 deg C.) ASTM C518: R 1.3.
      4) Recycled content, pre-consumer: 20 percent.
      5) Rapidly renewable content: 6 percent.
      6) Thickness: 1/2 inch (13 mm).
2. Insulation Cant Strips: ASTM C208, Type II, Grade 1, cellulosic-fiber insulation board.
3. Insulation Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.

Surfacing

1. Cold-Applied Adhesive Surfacer:
   a. Cold-applied roofing adhesive and surfacer, one-part, formulated for compatibility and use with specified roofing membranes and flashings.
      1) Basis of design product: Tremco, BURmastic Adhesive.
      2) Volatile Organic Compounds (VOC), maximum, ASTM D6511: 250 g/L.
      3) Nonvolatile Content, minimum, ASTM D6511: 72 percent.
2. Aggregate Surfacing Material:
   a. Aggregate Stone Surfacing: Clean, dry, opaque, water-worn or crushed stone, free of sharp edges.
      1) Basis of design product: Aggregate Stone Surfacing.
      2) Size, ASTM D 1863: No. 3/4 mix
      3) Color: TBD (color must be approved by Architect/Owner prior to installation)
      4) Aggregate application rate, average: 400 lb/100 sq ft (19.5 k/m2).

Installation, General

Install roofing system in accordance with manufacturer's written instructions, approved shop drawings, and Contract Documents.

Install wood cants, blocking, curbs, and nailers in accordance with requirements of Division 06 Section "Miscellaneous Rough Carpentry."

Installation Details

NRCA Installation Details: Install roofing system in accordance with applicable NRCA Manual Plates and NRCA recommendations; modify as required to comply with manufacturer's approved details.

07 5113: BUILT-UP ASPHALT ROOFING, COLD-APPLIED (continued)

Insulation Installation

1. Comply with built-up roofing manufacturer's written instructions for installing roof insulation.
2. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
3. Cant Strips: Install and secure preformed 45-degree cant strips at junctures of built-up roofing with vertical surfaces or angle changes greater than 45 degrees.
4. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.
5. Cover Board Installation: Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together. Tape joints if required by roofing manufacturer.
   a. Fasten cover boards to resist uplift pressure at corners, perimeter, and field of roof.

Cold-Applied Built-Up Roofing Installation, General

1. Install roofing membrane system according to roofing system manufacturer's written instructions and applicable recommendations in NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing" and as follows:
   a. Base-Ply Sheet: One.
      1) Adhering Method: Cold-applied adhesive.
   b. Number of Ply Sheets: Two.
      1) Adhering Method: Cold-applied adhesive.
   c. Surfacing Type: Aggregate.
2. Start installation of built-up roofing in presence of manufacturer's technical personnel.
3. Cooperate with testing agencies and personnel engaged or required to perform services for installing roofing.
4. Coordinate installation of roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
   a. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing.

Roofing Membrane Installation

1. Sheathing Paper: Loosely lay one course of, lapping edges and ends a minimum of sheathing paper 2 inches (50 mm) and 6 inches (150 mm), respectively.
2. Install lapped base-ply sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, installing as follows:
   a. Adhere sheet to cold-applied adhesive.
3. Ply Sheets: Install ply sheets starting at low point of roofing. Align ply sheets without stretching. Shingle side laps of ply sheets uniformly to achieve required number of plies throughout thickness of roofing membrane. Shingle in direction to shed water. Extend ply sheets over and terminate beyond cants.
   a. Embed each ply sheet in cold-applied membrane adhesive applied at rate required by roofing manufacturer, to form a uniform membrane without ply sheets touching.

Flashing and Stripping Installation

1. Install base flashing over cant surfaces and other sloping and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to built-up roofing manufacturer's written instructions and as follows:
   a. Extend base flashing up walls or parapets a minimum of 12 inches (300 mm) above built-up roofing and 6 inches (150 mm) onto field of built-up roofing.
   b. Prime substrates with asphalt primer if required by built-up roofing manufacturer.
   c. Flashing Sheet Application: Adhere flashing sheet to substrate in cold-applied adhesive. Apply cold-applied flashing sheet adhesive to back of flashing sheet if recommended by roofing manufacturer. Mechanically fasten top of base flashing securely at terminations and perimeter of roofing.
      1) Flashing Sheet Top Termination: Mechanically fasten top of base flashing securely at terminations and perimeter of roofing.
         a) Seal top termination of base flashing with a metal termination bar and a continuous bead of joint sealant.
      2) Flashing Sheet Bottom Termination: Adhere flashing sheet to roofing membrane at continuous bed of cold-applied adhesive.
         a) Bituminous Flashing: Seal bottom termination of base flashing by adhering to roofing membrane and stripping flashing to membrane joint.
         b) Elastomeric Flashing Sheet: Heat weld vertical flashing joints. Seal bottom termination of base flashing by adhering to roofing membrane with cold-applied adhesive and sealing flashing-to-membrane joint with joint sealant.

Surfacing and Coating Installation

1. Flood Coat and Aggregate Surfacing: Promptly after installing and testing roofing membrane, base flashing, and stripping, flood-coat roof surface with cold-applied adhesive surfacing adhesive applied at rate required by roofing manufacturer.
   a. While adhesive coating is fluid, cast aggregate surfacing in a uniform application at the average weight indicated in "Surfacing" section.

Field Quality Control

1. Roofing Inspector: Owner will engage a qualified roofing inspector to perform roof tests and inspections and to prepare test reports.
2. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation at commencement and upon completion.
   a. Notify Architect and Owner 48 hours in advance of date and time of inspection.
3. Repair or remove and replace components of built-up roofing where test results or inspections indicate that they do not comply with specified requirements.
   a. Additional testing and inspection, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

Protecting and Cleaning

Protect built-up roofing from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

Correct deficiencies in or remove built-up roofing that does not comply with requirements, repair substrates, and repair or reinstall roofing to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

07 6200: SHEET METAL FLASHING AND TRIM

Submittals

1. Product Data: Provide product criteria, characteristics, accessories, jointing and seaming methods, and termination conditions.
   a. Submit for each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
2. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
   a. Include plans, elevations, sections, and attachment details. reference details to plans. elevations, and sections. Key details to plans, elevations and sections.
   b. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work.
   c. Include identification of material, thickness, weight, and finish for each item and location in Project.
   d. Include details for forming, including profiles, shapes, seams, laps, and dimensions.
   e. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
   f. Include details of termination points and assemblies.
   g. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
   h. Include details of roof-penetration flashing.
   i. Include details of edge conditions, including eaves, ridges, valleys, rakes, crickets, and counterflashings as applicable.
   j. Include details of special conditions.
   k. Include details of connections to adjoining work.
   l. Detail formed flashing and trim at scale of not less than 1-1/2 inches per 12 inches.
3. Samples for Initial Selection: For each type of sheet metal and accessory indicated with factory-applied finishes.

Performance Requirements

General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

Sheet Metal Standard for Flashing and Trim: Comply with NRCA's The NRCA Roofing Manual, and SMACNA's Architectural Sheet Metal Manual requirements for dimensions and profiles shown unless more stringent requirements are indicated.

FM Approvals Listing: Manufacture and install roof edge flashings that are listed in FM Approvals' RoofNav and approved for windstorm classification, Class 1-90. Identify materials with name of fabricator and design approved by FM Approvals.

SPRI Wind Design Standard: Manufacture and install roof edge flashings tested according to SPRI ES-1 and capable of resisting the design pressure as noted on drawings.

Recycled Content of Steel-Sheet Flashing and Trim: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 20 percent.

Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
1. Temperature Change: 120 deg F (50 deg C), ambient; 180 deg F (82 deg C), material surfaces.

Comply with SMACNA Architectural Sheet Metal Manual.

07 9200: SEALANTS

Sealant

Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful inservice performance.

Obtain each type of joint sealant through one source from a single manufacturer.

Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range for this characteristic.

Comply with joint sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

08 1000: DOORS & FRAMES

Doors: General

Door opening force: The force for pushing or pulling open interior swinging egress doors, other than fire doors, shall not exceed 5 pounds. For other swinging doors, as well as sliding and folding doors, the door latch shall release when subjected to a 15-pound force. The door shall be set in motion when subjected to a 30-pound force. The door shall swing to a full open position when subjected to a 15-pound force. (CBC 1008.1.3)

There shall be a floor or landing on each side of a door. Such floor or landing shall be at the same elevation on each side of the door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal (2-percent slope). (CBC 1008.1.5)

Landings at doors: Landings shall have a width not less than the width of the stairway or the door, whichever is greater. Doors in the fully open position shall not reduce a required dimension by more than 7 inches (178 mm). When a landing serves an occupant load of 50 or more, doors in any position shall not reduce the landing to less than one-half its required width. Landings shall have a length measured in the direction of travel of not less than 44 inches (1118 mm). (CBC 1008.1.6)

Hardware height: Door handles, pulls, latches, locks and other operating devices shall be installed at 34 inches (864 mm) minimum and 48 inches (1219 mm) maximum above the finished floor. Locks used only for security purposes and not used for normal operation are permitted at any height. (CBC 1008.1.9.2)

Swing Doors: Fiberglass Reinforced Polyester Doors & Frames - see section 08 1613 Provide exterior grade doors, maximum duty, unless otherwise indicated. Construct doors with smooth, flush surfaces without visible joints or seams on exposed faces or stile edges. Provide fiberglass reinforced polyester doors and frames per manufacturers specifications and install per manufacturers recommendations.

Doors Hardware - Swing Doors:
Provide hardware free of defects, blemishes and excessive play. Obtain each kind of hardware (latch and locksets, exit devices, and hinges) from one manufacturer. Final selections shall be coordinated with The Owner to match any County Park standards.

Coordination: Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated, as necessary for proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents. Furnish related trades with the following information:
1. Location of embedded and attached items to concrete.
2. Location of wall-mounted hardware, including wall stops.
3. Location of finish floor materials and floor-mounted hardware.
4. At masonry construction, coordinate with the anchoring and fiberglass reinforcing hydrostatic supports prior to hardware installation, when the frame is grouted in place, the backing will allow drilling and tapping without dulling or breaking the installer's bits.
5. Locations for conduit and raceways as needed for electrical, electronic and electro-pneumatic hardware items. Fire/life-safety system interfacing. Point-to-point wiring diagrams plus riser diagrams to related trades.
6. Coordinate: flush top rails of doors at outswinging exteriors, and throughout where adhesive-mounted seals occur.
7. Manufacturers' templates to door and frame fabricators.

Use products and sizes appropriate for door size, material, weight and configuration in accordance with manufacturer's recommendations.

Fastening devices for application of the hardware shall match hardware in finish and material.

08 1613: FIBERGLASS DOORS & FRAMES

Furnish and install doors, frames of FRP composite construction in accordance with details and schedule shown on the project drawings and as specified herein. Door and frame products of aluminum, steel or wood constructions that use FRP face sheets are strictly excluded.

Experience: Manufacturer shall be ISO 9001 certified and been engaged in the manufacture of FRP door and frame systems for a minimum of five (5) years documented experience prior to the start of this work, and who has a history of successful production as approved by the Architect.

Referenced Standard: Where labeled fire doors are required, Fiberglass Doors and frames shall be UL listed and shall be tested successfully to UL10B / UL10C, UBC 7-2 standards.

Process: Certify that FRP doors are manufactured via press-molding technology.

Warranty: Provide written limited guarantee for FRP doors and frames as follows:
1. Heavy Duty doors are guaranteed for the life of the product against delamination and failure due to corrosion and specific chemical environment named at the time of purchase. Furthermore, all products are inspected prior to shipment and guaranteed against defective workmanship for a period of ten (10) calendar years after the date of purchase.

Manufacturer

Basis of Design:

FRP Doors and Frames shall be as manufactured by Tiger Door, 5224 FM 802 Brownsville, TX 78521 ph 888.891.4416 Website: www.tigerdoor.com. Heavy Duty FRP Doors

Or approved equal

Design: FRP doors shall be of seamless press-molded construction. Laminated FRP face sheets shall be applied while wet and uncured to an internal door stile and rail subframe/core assembly and then press- molded under heat and pressure. The composite door panel must be integrally fused over its entire surface area, not just adhesive-bonded at perimeter stiles and rails. Doors shall remain under pressure during curing for flat, warp-free surfaces.

Stiles & Rails: A high-modulus pultruded FRP square or rectangular tube subframe is to be provided within the door. Tubes are to be mitered and joined internally at the corners with solid polymer blocks to yield a one-piece unit that does not require any secondary external sealing. Provide a tubular midrail across width of door at lock height, and additional horizontal rails where specific design conditions dictate. Doors shall incorporate molded-in FRP edge strips, chemically bonded to the subframe stiles, for machining of hardware mortises so as not to cut or otherwise compromise the integrity of the pultruded stiles, nor allow moisture to penetrate into the core of the door. All connections shall be chemically welded. No mechanical fasteners will be allowed. The use or inclusion of aluminum, steel, gypsum or wood into stile and rail construction is not permitted.

Core: For maximum rigidity and compressive strength a triangular shaped 3/8" cell phenolic resin impregnated kraft paper honeycomb core shall be used. Molding pressure and resin gel time shall be sufficient to allow for penetration of resin into the cellular structure of the core to maximize shear and peel strengths at the skin/core interface and eliminate the possibility of delamination. The honeycomb is to be completely enclosed within the stile and rail subframe. Use of foam or balsa wood is not permitted.

Internal Reinforcement: High-modulous pultruded tubular FRP, high-density polymer compression blocks, or plastic compression blocking at all hardware locations, and corner locations. No wood blocking, steel or aluminum reinforcing plates, ribs or fittings shall be used. A minimum of 900 lbs of pullout strength is required for each factory supplied hinge screw.

Faces: Door facings shall utilize a chemical resistant thermosetting polyester resin system with fiber reinforcing layers. Supplier shall furnish door faces as shown on the drawings and in the door elevations. Chopped strand mat layers shall be used to provide bond integrity between gelcoat, laminated facings and the internal door structure. Structural reinforcement shall be in the form of a knitted multi-layer material with layers of uni-directional glass fiber oriented in both the vertical and horizontal directions for high stiffness, impact resistance and resistance to warping. Gelcoat surface integrally molded to be 25/30 mils thick (wet) ultra-violet light stabilized marine grade NPG-isophthalic polyester gelcoat.

Finish: The exposed FRP door faces shall have a 3-4 mils (wet) factory applied two-part aliphatic polyurethane fully cured coating of industrial urethane. Coating shall have a minimum hardness of H to 2H. Finish shall be a slightly textured semi-gloss to minimize the visual effects of wear and tear.

Astragals: All pairs of doors shall be furnished with an astragal from door manufacturer made of same pultruded FRP material as door stile, rail and edge as required. Astragal shall be located on the meeting stile edge of each inactive leaf of double door pairs. Architect shall advise active leaf of door, and astragal shall be installed to cover meeting stile gap to effect seal and security.

08 1613: FIBERGLASS DOORS & FRAMES (continued)

Lights: Glass per job specification shall be factory furnished, glazed and installed. Standard glass thickness is 1/4". Centered glazing shall be installed between 45 degree pultruded FRP glazing stops and vinyl foam tape with concealed compression retainers for 1/4" glazing. No exposed fasteners or exposed silicone will be allowed for securing 1/4" glazing. Stainless steel screws may be allowed for other glazing thicknesses. Offset glazing shall be installed against a molded-in 5/8" wide exterior face flange with a bed of tape caulk, square 5/8" pultruded glazing stops with stainless steel screws shall complete the installation to secure the glazing in place and cover all unsightly caulking. All glazing stop material shall be pultruded FRP with a minimum fiberglass content of 50%. Metal, pvc, or vinyl "Glass Kit" type lights are not acceptable for non-fire rated openings.

Louvers: Fiberglass inverted V blade privacy or flat blade louvers shall be factory furnished and installed. All louvers and lover trim shall be manufactured exclusively from putruded FRP profiles with a minimum fiberglass content of 50%. All louvers shall be coated to match door in color and sheen. Inverted V blade minimum thickness shall be 3/32" thick, flat blade louver minimum thickness shall be 3/16" thick. Adhesives for louver assembly shall meet or exceed all requirements set forth in section 2.05.1 Mechanical Properties and test performance. Metal, pvc, vinyl or other non-fiberglass louvers are not acceptable for non-fire rated openings.

FRP FRAMES

Design: FRP Door frames furnished under this specification shall utilize a high-modulus pultruded structural FRP shape. The frame section shall be standard double rabbeted 5-3/4" deep x 2" face, 3/16" thick, with integral 5/8" doorstop with 1 15/16" soffits, to match typical hollow metal configurations.

Corner Joints: Frame jambs and header shall be joined at corners via miter connections with hidden FRP angle clips and associated fasteners. Post and beam corners will not be acceptable. Exposed fasteners for miter connections will not be acceptable except for wrap wall applications.

Hardware Reinforcements: FRP reinforcing shall be chemically welded to door frame material at required locations. Minimum screw pullout strength of 1100 lb per #12 x 1" sheet metal screw is required. Mechanically fastened reinforcements are not permitted.

Anchors: Provided manufacturer's required anchorage system and install per their specifications. Stainless steel fasteners shall be furnished by the factory.

Finish: Frames shall have a 3-4 mils (wet) factory applied two-part aliphatic polyurethane fully cured coating of industrial urethane. Industrial urethane chemical coating color topcoat, to match the color and sheen of the doors, for superior weatherability. Gelcoat may not be sprayed onto the frame as a secondary coating.

FASTENERS

All fasteners for all hardware shall be type 304 CRSS (18-8 series corrosion resistant stainless steel) with no exception. No carbon steel or aluminum components shall be used.

HARDWARE

Doors shall be factory mortised and drilled for mortise template butt hinges. with #12 x 2" long stainless steel screws pre-installed for hinge attachment. Provide cylindrical lock bore, rim deadbolt, ANSI 86 mortise lock edge prep and pocket, or flushbolt cutouts as required.

Frames shall be factory machined and drilled for all hardware requiring mortises, with #12 x 1" long stainless steel screws pre-installed for hinge attachment.

Supplier shall furnish manufacturer's standard templates, installation instructions, or full size approved door and frame preparation instructions as approved by the architect and as required by door and frame manufacturer prior to door and frame factory initiated manufacture.

08 6200: UNIT SKYLIGHTS

Submittals

1. Product Data: Provide structural, thermal, and daylighting performance values.
   a. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for unit skylights.
   b. Multiple Units: Methods of connection and structural support for multiple units clustered together.
2. Shop Drawings: Indicate configurations, dimensions, locations, fastening methods, and installation details.
3. Aluminum Finish Samples: For each type of exposed finish required, in a representative section of each unit skylight in manufacturer's standard size.
4. Glazing Samples: For each color and finish of glazing indicated, 12 inches (300 mm) square and of same thickness indicated for the final Work.

Warranty

Provide two year manufacturer warranty, including coverage for leakage due to defective skylight materials or construction.

Manufacturer

Basis of Design Product:
1. Velux America, Inc.; QPF, fixed, self-flashed, deck mount: www.veluxusa.com.
2. Other Acceptable Manufacturers:
   a. Bristolite Daylighting Systems, Inc.: www.bristolite.com.
   b. Oldcastle BuildingEnvelope: www.oldcastlebe.com.
   c. Wasco Products, Inc.: www.wascoproducts.com.
   d. PHP Systems/Design: www.vtechskylights.com.
   e. Skyline Sky-Lites, LLC:
   f. Prior approved equal.

Accessories

1. Provide manufacturer's standard hardware, weatherstripping, gaskets, and sealants to meet performance specified and intended function.
2. Sealants: Only use sealants that meet or do not exceed the VOC limits of the CURRENT requirements of South Coast Air Quality Management District (SCAQMD) Rule No. 1168, CAL-Green Table 5.504.4.2 Sealant VOC Limit requirements.
   a. Current requirement refers to the date on which the materials are installed in the building.
3. Fasteners and Anchorage Devices: Aluminum, non-magnetic stainless steel, or galvanized steel as recommended by manufacturer, and compatible with items being fastened. Do not use exposed fasteners unless unavoidable for the assembly of units, and installation of hardware. Finish fasteners to match the exposed item being fastened.
4. Counterflashings: Same metal type and finish as skylight frame.
5. Protective Back Coating: Zinc molybdate alkyd.
6. Sealant: Type as specified in Section 07 9200 - Joint Sealants.

09 0500: COMMON WORK FOR FINISHES

Finishes

All finishes shall comply with requirements of the Building Code and local codes, whichever is most restrictive.

Provide Level 5 finish at all gypsum wall board locations.

All gypsum wall board (GWB) shall be 5/8" thick typically. Use "type x" gypsum board where indicated on the Drawings or as required in areas needing fire-resistive construction.

Use water resistant gypsum wall board (WR GWB), or equivalent, where indicated or required in areas subject to moisture penetration.

Where framed walls and partitions are covered on the interior with plaster, tile, metal panels, or similar materials and are subjected to water splash, the framing shall be protected with approved waterproofing paper.

Where applicable, box-in all electrical boxes and all recessed ceiling light fixtures with 5/8" "type x" gypsum wall board to maintain the assembly integrity when installed in fire rated assemblies.

Necessary work such as cutting holes, repairing holes, access panel installation, finish repairs, wall texturing, paint touch-up, and telecommunications systems shall be included as a part of the work of this contract. Where matching existing finishes, the new finish shall cover the surface to nearest plane change.

Remove and replace panels that are wet, moisture damaged and mold damaged.

09 2236: METAL LATH

Submittals

Product Data: Provide data on furring and lathing components, structural characteristics, material limitations, and finish.

Shop drawings: show locations and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other work. Include details for all plaster accessories depicting integration with adjacent membranes and finishes

Samples: Metal Trim

Quality Assurance

Maintain one copy of each specified installation standard on site throughout the duration of lathing and plastering work.

Installer qualifications: Company specializing in performing the work of this Section a minimum three years documented experience.

1. Experience: Company with not less than 10 years experience in performing specified Work similar to scope of this Project, and with a record of successful in-service performance, and sufficient production capability, facilities and personnel, to produce required Work.
2. Supervision: Installer shall maintain a competent supervisor who is at Project during times specified Work is in progress, and, who is experienced in installing systems similar to type and scope required for Project.

Manufacturers

Acceptable Manufacturers - Metal Lath:
1. Structa Wire Corporation; Structa Mega Lath: www.structawire.com.
2. Prior approved equal.

Lath Assemblies

Provide completed assemblies with the following characteristics:
1. Maximum Deflection of Vertical Assemblies:

Specifications CSI Definitions

09 2400: CEMENT PLASTERING (continued)

Accessories

Lath: As specified in Section 09 2236 - Metal Lath.

Beads, Screeds, and Joint Accessories: As specified in Section 09 2236 - Metal Lath.

Sealant: As specified in Section 07 9200 - Joint Sealants.

Fiber Reinforcement: Nylon or polypropylene monofilament fibers conforming to ASTM C 1116 Type III (synthetic fiber-reinforced concrete or shotcrete). AR chopped glass fiber strands are not permitted.
1. Fiber Content: Add fiber to base-coat mixes after ingredients have mixed at least two minutes. Comply with fiber manufacturer's written instructions for fiber quantities in mixes, but do not exceed 1 lb of fiber/cu. yd. (0.6 kg of fiber/cu. m) of cementitious materials.

Basis of Design

Manufacturer: Parex - Armourwall 300 Stucco Systems

Assembly:
1. Lath: As specified in Section 09 2236 - Metal Lath.
2. Scratch coat
3. Brown coat
   a. Acrylic Additive: *Parex Adacryl* (additive to base coat to increase strength)
   b. Crack Suppression: *Parex Krak-Shield* (fiberglass mesh)
4. Tinted primer
5. Acylic based elastomeric finish (primer & integral color finish coats)
   a. *Parex AquaSol Finish* (acrylic finish with hydrophobic and photocatalytic properties to provide self-cleaning properties)
   b. *Parex Color Fast Plus Pigments* (fade resistant pigment system)
6. Finish texture: smooth
7. Color: per Finish Schedule on Exterior Elevations

09 3000: TILING

Submittals

Product Data: Provide manufacturer's data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.

Samples: Submit three 4 inch (101.6 mm) by 4 inch (101.6 mm) samples of each tile type, noting actual tile size.
1. Include samples of specified accessories per Finish Schedule.
2. Submit three samples of each grout color per Finish Schedule.

Samples: Submit manufacturer's color boards consisting of actual tiles showing full range of colors, textures, and patterns available for each type and composition of tile specified.
1. Include samples of specified accessories requiring color selection.
2. Submit manufacturer's color samples of available grout consisting of actual sections of grout showing full range of colors available for each type of grout specified.

Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

Master Grade Certificate: Submit for each type of tile, signed by the tile manufacturer and tile installer.

Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.

Closeout Submittals

Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. Extra Tile: 2 percent of each size, color, and surface finish combination, but not less than 10 square feet of each type.

Quality Assurance

Maintain one copy of and ANSI A108/A118/A136 and TCNA (HB) on site.

Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this Section, with minimum 5 years of documented experience.

Installer Qualifications:
1. Company specializing in performing tile installation, with minimum of five years of documented experience.
   a. Accredited Five-Star member of the National Tile Contractors Association (NTCA) or Trowel of Excellence member of the Tile Contractors' Association of America (TCAA).

Provide materials obtained from only one manufacturer for each type and color of tile, and for each type of mortar, grout, adhesive, and sealant.

Floor Tile Slip Resistance: Comply with ANSI A137.1, Dynamic Coefficient of Friction AcuTest of 0.42 wet as tested with BOT-3000 Universal Walkway Tester.

Certifications:
1. Submit "Master Grade Certificate" for each type of ceramic and quarry tile in accordance with requirements of ANSI A137.1.
2. Submit manufacturer's certifications that mortars, adhesives and grouts are suitable for intended use.

Mock-Up

Construct tile mock-up as directed by Architect, incorporating all components specified for the location.
1. Architect to review tile layout prior to installation.
2. Approved mock-up may remain as part of the Work.

Tiling Materials

Refer to Finish Schedule for selected products and finishes.

Ceramic tile flooring shall be stable, firm, and slip resistant.

Setting Materials

Setting Materials - General:

1. Comply with volatile organic compound (VOC) product requirements specified in Section 01 8114 - Greenhouses.
2. Use only the types of mortar bed materials to set the types of tile for which the mortar is labeled.

Polymer Modified Thinset Dryset Mortar Bond Coat: ANSI A118.4 or ANSI A118.15.
1. Applications: Use this type of bond coat where indicated.
   a. Acceptable Products:
      1) Custom Building Products; MegaFlex Crack Prevention Mortar: www.custombuildingproducts.com.
      2) LATICRETE International, Inc.; Laticrete 253 Gold: www.laticrete.com.
      3) Mapei Corporation: Kerabond and Keralastic.
      4) Prior approved equal.

Latex-Portland Cement Mortar Bond Coat: ANSI A118.4 or ANSI A118.15.
1. Applications: Use this type of bond coat where indicated.
2. Large and Heavy Tile Mortar: For floor and wall applications in new construction, provide high-bond Portland cement mortar for large format tile, medium bed. Provide product that is approved by manufacturer for application thickness up to 3/4 inch (19 mm).
   a. Basis of Design Product:
      1) Custom Building Products; MegaLite RS Ultimate Rapid Setting Crack Prevention Large Format Tile Mortard, with Multi-Surface Bonding Primer: www.custombuildingproducts.com.
      2) LATICRETE International, Inc.; LATICRETE 254 Platinum: www.laticrete.com.
      3) Mapei Corporation: Grani/Rapid with Ker 318.
      4) Prior approved equal.
3. Applications: For wall applications, provide non-sagging, latex Portland cement mortar complying with ANSI A118.4 for mortar of this type.
   a. For wall applications with large and heavy tile.
   b. For floor applications with large and heavy tile.

Portland Cement Mortar Thickset Installation Materials: ANSI A108.02.
1. Acceptable Products:
   a. Custom Building Products; Thick Bedding Mortar with CustomCrete Latex Mortar Admix.
   b. Laticrete International, Inc.; Laticrete 3701 Mortar Admix with Laticrete 226 Thick Bed Mortar Mix.
   c. MAPEI Corporation; Planicrete AC.
2. Mortar Sand: ASTM C144, free of deleterious materials, well graded.
3. Setting Bed Sand: ASTM C136, 100 percent passing No. 4 sieve.
4. Cleavage Membrane: Asphalt felt, ASTM D 226/D 226M, Type I (No. 15); or polyethylene sheeting, ASTM D 4397, 4.0 mils thick.
5. Reinforcing Wire Fabric: Galvanized, welded-wire fabric, 2 by 2 inches by 0.062-inch diameter; comply with ASTM A 185/A 185M and ASTM A 82/A 82M, except for minimum wire size.

Grouts

Stain-Resistant High Performance Grout: ANSI A118.7 polymer modified cement grout.
1. Applications: as indicated on Drawings.
2. Use sanded grout for joints 1/8 inch (3.17 mm) wide and larger; use unsanded grout for joints less than 1/8 inch (3.17 mm) wide.
3. Polymer Type: As recommended by manufacturer in liquid-latex form for addition to prepackaged dry-grout mix.
4. Color(s): As indicated on Finish Schedule.
5. Acceptable Products:
   a. Custom Building Products; Fusion Pro Single Component Grout: www.custombuildingproducts.com.
   b. LATICRETE International, Inc; Spectralock: www.laticrete.com.
   c. Mapei Corporation; Ultracolor Plus.

09 3000: TILING (continued)

Accessory Materials

Adhesives and Sealants (including grouts): Only use adhesives and sealants (grouts) in the interior of the building that meet or do not exceed the VOC limits of the CURRENT requirements of South Coast Air Quality Management District (SCAQMD) Rule No. 1168 on the interior of the building.

1. Current requirement refers to the date on which the materials are installed in the building.
2. SCAQMD 1168 referenced in Section 01 8114 that was current as of the date of this specification. Refer to www.aqmd.gov/rules for the actual current version of the rule that will be applicable at the date of installation during construction.
3. Interior refers to all building construction that is inside of the exterior weatherproofing material.
   a. Adhesives: Meet or exceed the VOC and chemical component limits of CAL-Green Table 5.504.4.1 Adhesive VOC Limit requirements.
   b. Sealants: Meet or exceed the VOC and chemical component limits of CAL-Green Table 5.504.4.2 Sealant VOC Limit requirements.

Sealant: As specified in Section 07 9200 - Joint Sealants.
1. Color: Match grout.
2. Ensure sealant is chemically compatible with tile, mortar, and grout.
3. Ensure sealant can physically and chemically withstand environmental conditions normally expected at installation areas.

Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

Crack Prevention Membrane: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
1. Fluid or Trowel Applied Type:
   a. Material: Synthetic rubber or Acrylic.
   b. Thickness: 25 mils (0.6 mm), minimum, dry film thickness.
   c. Basis of Design Product:
      1) Custom Building Products; RedGard Crack Prevention and Waterproofing Membrane: www.custombuildingproducts.com.
      2) LATICRETE International, Inc; LATICRETE HYDRO BAN: www.laticrete.com.
      3) Mapei Corporation; Mapelastic AquaDefense.
      4) Prior approved equal.

Waterproofing Membrane: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
1. Fluid or Trowel Applied Type:
   a. Material: Synthetic rubber or Acrylic.
   b. Thickness: 25 mils (0.6 mm), minimum, dry film thickness.
   c. Acceptable Products:
      1) Custom Building Products; RedGard Crack Prevention and Waterproofing Membrane: www.custombuildingproducts.com.
      2) LATICRETE International, Inc; LATICRETE HYDRO BAN: www.laticrete.com.
      3) Mapei Corporation; Mapelastic AquaDefense.

Backing Board: for surfaces behind tile in wet areas including toilet rooms.
1. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
2. ANSI Cement-Based Backing Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.
   a. Thickness: 5/8 inch (1.58 mm), U.N.O. in the drawings
   b. Acceptable Products:
      1) Custom Building Products Wonderboard: www.custombuildingproducts.com.
      2) National Gypsum Company; PermaBase Cement Board: www.nationalgypsum.com.
      3) USG Corporation; Durock Cement Board: www.usg.com.

Backing Board: for non-wet areas and ceilings in wet areas:
1. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
2. At Assemblies Indicated with Fire-Resistance Rating: use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
3. Type: Regular and Type X, in locations indicated.
   a. Thickness: 5/8 inch (16 mm), U.N.O. in the drawings
4. Thickness: As indicated on Drawings.
5. Edges: Tapered.
6. Acceptable Products:
   a. American Gypsum Company: M-Bloc: www.americangypsum.com/#sle.
   b. American Gypsum Company; M-Bloc Type X: www.americangypsum.com/#sle.
   c. Georgia-Pacific Gypsum; DensShield Tile Guard
   d. National Gypsum Company; Gold Bond XP Gypsum Board: www.nationalgypsum.com/#sle.
   e. Lafarge North America Inc.; Mold Defense Drywall.
   f. Pacific Coast Building Products, Inc.; PABCO Mold Curb Gypsum Wallboard.
   g. USG Corporation; USG Sheetrock Brand Mold Tough Panels.

Schedules

Wall Tile Installation Schedule:

1. Interior Wall Tile System:
   a. Description: Interior partitions using cementitious tile backing board.
   b. Tile: Porcelain
   c. Mortar: Polymer Modified Thinset Dryset Mortar.
   d. Grout: Stain-resistant high performance grout sanded.
   e. TCNA System: W244C.
2. Interior Wall Tile System:
   a. Description: Interior partitions with large heavy tile (large format) using cementitious tile backing board.
   b. Tile: Porcelain
   c. Mortar: Large Heavy Tile Dryset Mortar.
   d. Grout: Stain-resistant high performance grout sanded.
   e. TCNA System: W244C.
3. Interior Wall Tile System:
   a. Description: Interior partitions using cementitious tile backing board.
   b. Location: Toilet Rooms.
   c. Tile: Porcelain
   d. Mortar: Polymer Modified Thinset Dryset Mortar.
   e. Grout: High-performance sanded and Stain-resistant high performance grout sanded.
   f. TCNA System: W244C.

Shower Installations:

1. Tile Shower Wall; thinset mortar on waterproof membrane using cementitious tile backing board.
   a. Location: Showers.
   b. Membrane: Fluid.
   c. Mortar: Polymer Modified Thinset Dryset.
   d. Grout: Stain-resistant high performance grout sanded.
   e. TCNA system: B415.
2. Tile Shower Wall; with large heavy tile (large format), thinset mortar on waterproof membrane over solid backing:
   a. Location: Showers.
   b. Membrane: Fluid.
   c. Mortar: Large Heavy Tile Dryset Mortar.
   d. Grout: Stain-resistant high performance grout sanded.
   e. TCNA system: B421.

09 9123: INTERIOR PAINTING

Paint

Paint exposed surfaces, except where the drawings indicate that a surface or material is not to be painted or is to remain natural. If the drawings do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. Confirm with Architect prior to painting. If the schedules do not indicate color or finish, the Architect will select from standard colors and finishes available.

Do not paint pre-finished items, concealed surfaces, finished metal surfaces, operating parts, and labels, u.n.o.

Engage an experienced applicator who has completed painting system applications similar in material and extent to that indicated for this Project with a record of successful in-service performance.

Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.

Provide block fillers, primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

Provide manufacturer's best-quality paint material of the various\ coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

Metal primer paint shall be compatible with finish coats of paint.

Use painting methods that will result in full coverage of joints, corners, edges, and exposed surfaces.

All painted surfaces shall receive a minimum of one primer coat, one intermediate coat, and one final/top coat.

Multiple paint colors are to be cut in per the contract documents.

Site Mock-Up: Provide for all selected paint colors. Minimum of 5' x 5' area of wall for each mock-up. Mock-ups to be approved by Architect/Owner prior to continuing with work. Final approval of color selections will be based on mockups.

Manufacturer: Basis-of-Design Product: Dunn-Edwards Corp., or approved equal.

09 9123: INTERIOR PAINTING (continued)

VOC Content: Products shall comply with VOC limits of SCAQMD and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
1. Flat Paints and Coatings: 50 g/L.
2. Nonflat Paints and Coatings: 50 g/L.
3. Primers, Sealers, and Undercoaters: 100 g/L.
4. Rust Preventative Coatings: 100 g/L.
5. Floor Coatings: 100 g/L.
6. Shellacs, Clear: 730 g/L.
7. Shellacs, Pigmented: 550 g/L.

Colorants: The use of colorants containing hazardous chemicals, such as ethylene glycol, is prohibited.
Colors: Provide color selections made by the Architect. If color is not indicated submit request to Architect and University Representative for selection. A designated color may be required in one or more types and gloss, depending upon paint system specified for each specific surface.

09 9600: HIGH-PERFORMANCE COATINGS

Submittal:

Product Data: Provide complete list of all products to be used, with the following information for each:
1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
2. Cross-reference to specified coating system(s) product is to be used in; include description of each system.
3. Manufacturer's installation instructions.

Product Data: Provide data indicating coating materials.

Samples: Submit two samples 8 by 8 inch (203 by 203 mm) in size illustrating colors and coating systems in project for approval prior to construction of mockup.

Informational Submittals:
1. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
2. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
3. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
4. Certification: By manufacturer that all paints and coatings comply with VOC limits specified.
5. Certification: By manufacturer that all paints and coatings do not contain any of the prohibited chemicals specified; GreenSeal GS-11 certification is not required but if provided shall constitute acceptable certification.
6. Maintenance Data: Include cleaning procedures and repair and patching techniques.

Closeout Submittals:
1. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   a. Refer to Section 01 6000 - Product Requirements, for additional provisions.
   b. Extra Coating Materials: 1 gallon (4 liters) of each type and color.
   c. Label each container with manufacturer's name, product number, color number, and room names and numbers where used.

Mock-Up:

Apply mock-ups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified
   a. Architect will designate items or areas required.
2. Final approval of color selections will be based on mock-ups.
3. Approval of mock-ups does not constitute approval of deviations from Contract Documents contained in mock-ups unless Architect specifically approves such deviations in writing.

Basis of Design:

Manufacturer: Tnemec

Galvanized steel (non-tapered)
1. System: Acrylic Polymer/Urethane.
2. Surface Preparation of Hot Dipped Galvanized Steel.
3. SSPC-SP1 Solvent clean to remove all soluble contamination. Hand or Power Tool Clean to remove all insoluble contaminants such as zinc oxides. Chemically treat with either Henkle Galavaprep 5, Clean and Etch by Great Lake Laboratories, or Krud Kutter. Reference ASTM D6386-99 (2005) Section 5.4.2. SSPC-SP11 Power Tool Clean to Bare Metal all welds.
4. Spot Prime Welds: Tnemec 94-H20 Hydro-Zinc @ 2.5 to 3.5 mils DFT.
5. Prime Coat: Tnemec V115 Uni-Bond @ 2.0 to 4.0 mils DFT. (2 coats if roller application is required)
6. Finish Coat: Tnemec 1095 Endura-Shield @ 2.0 to 4.0 mils DFT. Tinted to provide finish color, reference Finish Schedule on Exterior Elevations.

Ferrous Metal
1. In Shop:
   a. System: Shop Prime-Zinc
   b. Surface Preparation: SSPC-SP6 Commercial Blast Clean
   c. Prime Coat: Tnemec Company: 94-H20-Zinc @ 2.5 to 3.5 mils DFT
2. In Field:
   a. System: Zinc/Epoxy/ Urethane
   b. Surface Preparation: SSPC-SP11 Power Tool Clean to Bare Metal all Welds and damaged Organic Urethane Zinc primer
   c. Spot Prime: Tnemec 94-H20 Hydro-Zinc @ 2.5 to 3.5 Mils DFT
   d. Intermediate Coat: Tnemec L69 Epoxoline @ 2.0 to 4.0 Mils DFT
   e. Finish Coat: Tnemec 1095WB Endura-Shield @ 2.0 to 4.0 mils DFT. Tinted to provide finish color, reference Finish Schedule on Exterior Elevations.

Tnemec Rep:
Tony Hobbs
CIP Level 3- AMPP Senior Certified Coatings Inspector
Credential # N-5408
TPC Consultants, Inc. | Coatings Consultant
Cell: 310-804-2326 | Ofc: 310-637-2363
thobbs@tnemec.com | http://www.tnemec.com/tpc

10 1201: DISPLAY CASES (lockable bulletin board)

Submittals

Product Data: Provide manufacturer's data on lockable bulletin board and accessories.

Shop Drawings: Indicate wall elevations, dimensions, joint locations, special anchor details.

Samples: Submit color charts for selection of color and texture for all components and hardware.

Quality Assurance

Manufacturer Qualifications: Company specializing in manufacturing the products specified in this Section with minimum three years documented experience.

Materials

Natural-Cork Sheet: Seamless, single-layer, compressed fine-grain cork sheet; bulletin board quality; face sanded for natural finish.

Extruded-Aluminum Bars and Shapes: ASTM B221, Alloy 6063. Sizes & Finishes as indicated in Drawings.

Aluminum Tubing: ASTM B429/B429M, Alloy 6063.

Clear Tempered Glass: ASTM C1048, Kind FT, Condition A, Type I, Class 1, Quality q3, with exposed edges seamed before tempering, 6 mm thick, unless otherwise indicated.

Fasteners: Provide screws, bolts, and other fastening devices made from same material as items being fastened, except provide hot-dip galvanized, stainless-steel, or aluminum fasteners for exterior applications. Provide types, sizes, and lengths to suit installation conditions. Use security fasteners where exposed to view.

Accessories

Mounting Brackets: Concealed.
Miscellaneous Accessories: As indicated on Drawings.

Cleaning

Clean board surfaces in accordance with manufacturer's instructions.
Cover with protective cover, taped to frame.
Remove temporary protective cover at Date of Substantial Completion.

10 1414: REGULATORY SIGNAGE

Submittals

Action Submittals:
1. Product Data.
2. Shop Drawings: For panel signs.
   a. Include fabrication and installation details and attachments to other work.
   b. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
   c. Show message list, type styles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.
   d. Show locations of electrical service connections.
   e. Include diagrams for power, signal, and control wiring.
3. Samples for Verification: For each type of sign assembly showing all components and with the required finishes, in manufacturer's standard size unless otherwise indicated and as follows:
   a. Room-Identification Signs: Full-size Sample.
   b. Field-Applied, Vinyl-Character Signs: Full-size Sample of characters on glass.
   c. Variable Component Materials: Full-size Sample of each base material, character letter, number, and graphic element) in each exposed color and finish not included in Samples above.
   d. Exposed Accessories: Full-size Sample of each accessory type.
4. Template: Submit full-size template drawing for approval of letter size, stock, spacing, setting screws.
5. Sign Schedule: use same designations specified or indicated on Drawings or in a sign schedule.

Informational Submittals:
1. Delegated-Design Submittal: For signs indicated in Performance Requirements Article.
   a. Include structural analysis calculations for signs indicated to comply with design loads; signed and sealed by the qualified professional engineer responsible for their preparation.
2. Sample Warranty: For special warranty.
3. Maintenance Data: For signs to include in maintenance manuals.

Quality Assurance

Manufacturer Qualifications: Company specializing in manufacturing the products specified in this Section with minimum three years of documented experience.

Quality Standard Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines, CBC Chapter IIB, Section 216.

Sign Mateials

Acrylic Plastic: "Plexiglas"by Rohm & Haas, or equal.
1. Provide non-glare with fine sanded edges.
2. Exterior grade acrylics and finishes must be used for all exterior room sign conditions.

Specialty Acrylic: Blue tinted acrylic - Finish and thickness as indicated on the Drawings. Manufacturer: Cyro - Acrylite, GP-FL #61S7-9 Blue, or equal.

Vinyl: Computer cut with a minimum 5 year exterior and seven 7 year interior guarantee. Sizes, spacing and fonts as indicated on the drawings. Vinyl shall be premium grade unless otherwise specified as manufactured by 3M, Gerber or equal.

Door Signs

Toilet Room Doors:
1. Conform to Title 24 with sign at center of toilet room door at 60 inches (1524 mm) above the finished floor. Do not use raised pictograms and text on door signs.
   a. Sign Panels: Sign panel material shall be solid acrylic at interior and 1/4 inch (6.35 mm) aluminum or zinc at exterior with eased square edges of 1/4 inch (6.35 mm) thickness.
   b. Graphics: Graphics shall be first surface screen printed, utilizing screens that have been photographically reproduced from Owner-approved electronic files and shall follow dimensions and spacing qualities verba- tim.
   c. Edge finish: All visible edges shall be painted with polyurethane paint. Saw marks, kerfs, rough or uneven edges shall be unacceptable. Edges shall be precision machined and visually smooth.
   d. Mounting: 3M #4432 black foam tape, 1/2 inch (12.70 mm) wide, at all perimeter sign edges.
   e. Color:
      1) Color: As selected by Architect from manufacturer's full range.
      2) Size and Design: Match Campground Standard Colors.
      3) Sign color shall contrast with door color.
2. Women: 12 inch (305 mm) diameter circle by 1/4 inch (6.35 mm) thick with gender pictogram.
3. Men: 12 inch (305 mm) by 12 inch (305 mm) by 1/4 inch (6.35 mm) triangle with gender pictogram.
4. Single Accommodation: Overlay 12 inch (305 mm) by 1/4 inch (6.35 mm) triangle to contrasting 12 inch (305 mm) diameter circle 1/4 inch (6.35 mm) thick with unisex gender pictogram.

Room Identification Signs, Toilet Room Identification Signs (Wall), and Interior Directional Signs

Painted acrylic sign backer with eased edges and multipolymer acrylic sign face with eased edges, photopolymer process to produce raised letter and Braille at interior. Painted Aluminum or zinc plaque with eased edges, surface etched to produce raised numbers and Braille at exterior.
1. Mounting: 3M #4432 black foam tape (1/2 inch (12.70 mm) wide) at all perimeter edges, or appropriate silicone adhesive as needed.
2. Color: As selected by Architect from manufacturer's full range.
3. Size and Design: Match Campground Standard Colors.
4. Interior Directional Signs: Provide a base bid allowance of five interior directional signs.
   a. Two layers of 1/8 inch (3.17 mm) acrylic, exposed edges eased, painted.
   b. Changeable message strips with screen-printed messages secured with roll adhesive, removable.
   c. Mounting: 3M #4432 black foam tape (1/2 inch (12.70 mm) wide) at all perimeter edges, or appropriate silicone adhesive as needed.
   d. Colors: to match Campus Standard Colors.
   e. Size and Design to match Campus Signage Standard.

Wall-Mounted Photopolymer (One-Piece) Panel Signs

Description: Single-piece construction, permanent identification signs consisting of moisture resistant, non-glare photopolymer bonded to sign base material.

Products: Design is based on interior grade photopolymer panels by Jet USA.

Comply with the Following:
1. Sizes:
   a. Restroom Signs:
      1) Women's Room: 12 inch (305 mm) diameter circle.
      2) Men's Room: Equilateral triangle with 12 inch (305 mm) long edges and vertex pointing upward.
   b. Egress Stairway Doors: 12 inches (305 mm) square.
   c. Exit Passageway Doors: 12 inches (305 mm) square.
   d. Exit Discharge Doors: 12 inches (305 mm) square.
2. Thickness: Between 1/8 inch (3.17 mm) minimum and 1/4 inch (6.35 mm) maximum.
3. Edge Condition: Square cut.
4. Corner Condition: Square.
5. Mounting: Wall mounted with mechanical fasteners or adhesive.
6. Materials:
   a. Photopolymer Layer: 0.040-inch acrylic photopolymer.
   b. Base Material:
      1) Interior Locations: "Jet 388" 0.120-inch phenolic base.
      2) Interior Locations: "Jet 388 EX" exterior grade photopolymer applied to a 0.120-inch phenolic base.

Colors: As selected by Architect from Manufacturer's full range.
1. Sign Text:
   a. Copy: Copy must follow the dimensions and spacing indicated on the Design Drawings and/or approved copy patterns.
      1) Letter spacing must conform to standards shown and kerned optically to the acceptance of the Owner.
      2) Lines of copy must be straight and parallel to the sign format, unless otherwise specified.
      3) Edges of letters, numbers, and symbols must be smooth and continuous, with straight and curved portions reproducing the original forms exactly, with corners sharp and true.
      4) All form shall be free of ticks, line waiver, discontinuous curves and other imperfections.
   b. Font: As selected by Architect.

Accessbile Parking Signs

Screen printed, 12 gage, 0.105 inch (2.66 mm) bonderized steel with blue baked enamel finish and white screen printed copy.

Size: 12 by 18 inches (305 by 457 mm) and 12 by 18 inches (305 by 457 mm) .

Copy:
1. "Accessible Parking Only".
2. "Van Accessible".
3. "Maximum Fine $250"
4. " Unauthorized vehicles parked in designated accessible spaces not displaying distinguishing placards or special license plates issued for persons with disabilities will be towed away at the owner's expense.
   a. Towed vehicles may be reclaimed at...
   b. Or by telephoning..."
5. See drawings for additional copy

Acceptable Products:
1. Accessible Parking: Best Traffic Signs No. SS04 with SS52 as required.

Post: Galvanized pipe column minimum 9 feet long.

10 1414: REGULATORY SIGNAGE (continued)

Accessories

Fasteners: Non-removable mechanical fasteners and anchors suitable for secure attachment to substrate and placed through predrilled holes as recommended in writing by the sign manufacturer.

Signs Mounted on Glass: Provide blanks on opposite side of glass, match sign.

Adhesives: As furnished, required, recommended, approved or accepted by the sign manufacturer for a secure and permanent installation.
1. Adhesives & Sealants: Only use adhesives and sealants in the interior of the building that meet or do not exceed the VOC limits of the CURRENT requirements of SCAQMD 1168, CAL-Green Table 5.504.4.1 Adhesive VOC Limit, and Cal GREEN Table 5.504.4.2 Sealant VOC Limit requirements.
   a. Current requirement refers to the date on which the materials are installed in the building.
   b. A copy of SCAQMD 1168 is referenced in Section 01 8114 - Greenhouses that was current as of the date of this specification. Refer to www.aqmd.gov/rules for the actual current version of the rule that will be applicable at the date of installation during construction.

VOC Limits: Provide paints and coatings with VOC content not more than 100 g/L when calculated according to 40 CFR 59, Subpart D (EPA method 24).
Methylene chloride and perchloroethylene may not be intentionally added to paints and coatings.

Paint Maximum Product Emissions Limits: Top coat and primer interior paints must meet current requirements for VOC (Volatile Organic Compounds) limits of SCAQMD 1113 and CAL-Green Table 5.504.4.3 for VOC Content Limits for Architectural Coatings. CAL-Green Requirements for typical paint coatings:
1. Primers, Sealers, and Undercoaters: 100 grams per liter of product minus water.
2. Flats: 50 grams per liter of product minus water.
3. Non-flats: 100 grams per liter of product minus water.
4. Non-flat High Gloss: 150 grams per liter of product minus water.

Other Accessories: Provide other accessories and similar secondary items, including and cleaning agents selected by the Contractor, as furnished, required, recommended, approved or accepted by the sign manufacturer.

Protection

Protect installed signs in place against damage until Substantial Completion.
Remove protection when no longer needed and prior to Substantial Completion.

10 2800: TOILET AND BATH ACCESSORIES

Submittals

Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

Quality Assurance

Provide accessories by the same manufacturer for each type of accessory unit, and for units exposed in the same areas, to ensure matching of finishes.

Comply with ASTM F446 for grab bars and accessories, anchorage, test methods, and performance.

Performance Requirements

Elements of Sanitary facilities shall be mounted at locations in compliance with CBC Sections 118-602 through 118-612.

Grab bars in toilet facilities and bathing facilities shall comply with CBC Section 11B-609. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements and shall have rounded edges. The space around the grab bars shall be as follows:
1. 1-1/2 inches (38 mm) between the grab bar and the wall.
2. 1-1/2 inches (38 mm) minimum between the grab bar and projecting objects below and at the ends. 12 inch (305 mm) minimum between the grab bar and projecting objects above.

Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Materials

Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
1. Grind welded joints smooth.
2. Fabricate units made of metal sheet of seamless sheets with flat surfaces.

Keys: Provide two keys for each accessory to Owner.

Stainless Steel Sheet: ASTM A666, Type 304.

Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.

Fasteners, Screws, and Bolts: Hot dip galvanized, tamper-proof, security type.

Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

Finishes

Stainless Steel: Satin finish, unless otherwise noted.

Back paint components where contact is made with building finishes to prevent electrolysis.

Toilet Room Accessories

Refer to Drawings for selected products and finishes.

Shower Room Accessories

Refer to Drawings for selected products and finishes.

Utility Room Accessories

Combination Utility Shelf/Mop and Broom Holder: 0.05 inch (1.3 mm) thick stainless steel, Type 304.

1. Drying Rod: Stainless steel, 1/4 inch (6 mm) diameter.
2. Mop/Broom Holders: 4 spring-loaded rubber cam holders at shelf front.
3. Length: 36 inches (900 mm).
4. Basis of Design Product:
   a. Bobrick; B-224.

10 4400: FIRE PROTECTION SPECIALTIES

Submittals

Product Data: Provide color and finish, anchorage details, and installation instructions.

Shop Drawings: Indicate locations of cabinets and cabinet physical dimensions.

Samples: For each type of exposed finish required.

Samples for Verification: For each type of exposed finish required, prepared on Samples 6 by 6 inches square.

Product Schedule: For fire-protection cabinets. Indicate whether semirecessed mounted.

Coordinate final fire-protection cabinet schedule with fire-extinguisher schedule to ensure proper fit and function. Use same designations indicated on Drawings.

Performance Requirements

Fire Extinguisher Cabinets must comply with CBC Sections 11B-307, 11B-308, 11B-309, and 11B-403.

NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers"

Fabricate and label fire extinguishers to comply with Title 19 CCR, Chapter 3, "Portable Fire Extinguishers."

Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.
1. Provide fire extinguishers approved, listed, and labeled by FM Global.

Provide fire extinguisher and cabinet from the same manufacturer.

Fire Extinguisher Cabinets

Fire Extinguisher Cabinets FEC-1:
1. Basis of Design Product:
   a. JL Industries, Inc.; Ambassador 2014WB: www.jlindustries.com.
   b. Other Acceptable Manufacturers:
      1) Potter-Roemer: www.potterroemer.com.
      2) Prior approved equal.
2. Fire Rating: Non-rated
3. Cabinet Type: Surface Mounted
4. Cabinet Material: Steel.
   a. Color: White.
5. Door Material: Steel sheet.
6. Door Style: Vertical Duo with frame, flat trim.
7. Door Glazing: 1/8 inch clear acrylic.
8. Door Hardware: Manufacturer's standard door-operating hardware of proper type for cabinet ype, trim style, and door material and style indicated.
   a. Provide piano hinge permitting door to open 180 degrees.
9. Accessories:
   a. Mounting Bracket: Manufacturer's standard steel, designed to secure fire extinguisher to fire-protection cabinet, of sizes required for types and capacities of fire extinguishers indicated, with plated or baked-enamel finish.
   b. Door Lock: Cam lock that allows door to be opened during emergency by pulling sharply on door handle.
   c. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Located as directed by Architect.
      1) Identify fire extinguisher in fire-protection cabinet with the words "FIRE EXTINGUISHER", on cabinet door, red text, vertical alignment.
         (a) Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location.

Fire Extinguishers

Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
1. Provide extinguishers labeled by UL (DIR) or FM (AG) for purpose specified and as indicated.

Multipurpose Dry Chemical Type Fire Extinguishers: Carbon steel tank, with pressure gage, with monoammonium phosphate-based dry chemical in enameled-steel container.
1. Stored Pressure Operated: Deep Drawn.
2. Class: 2-A:10-B:C.
3. Size: 5 pound (2.27 kg).
4. Size and classification as scheduled.
5. Finish: Baked polyester powder coat, red color.

blackbird architects

235 Palm Ave.
Santa Barbara CA
93101 USA

t 805 957 1315
f 805 957 1317

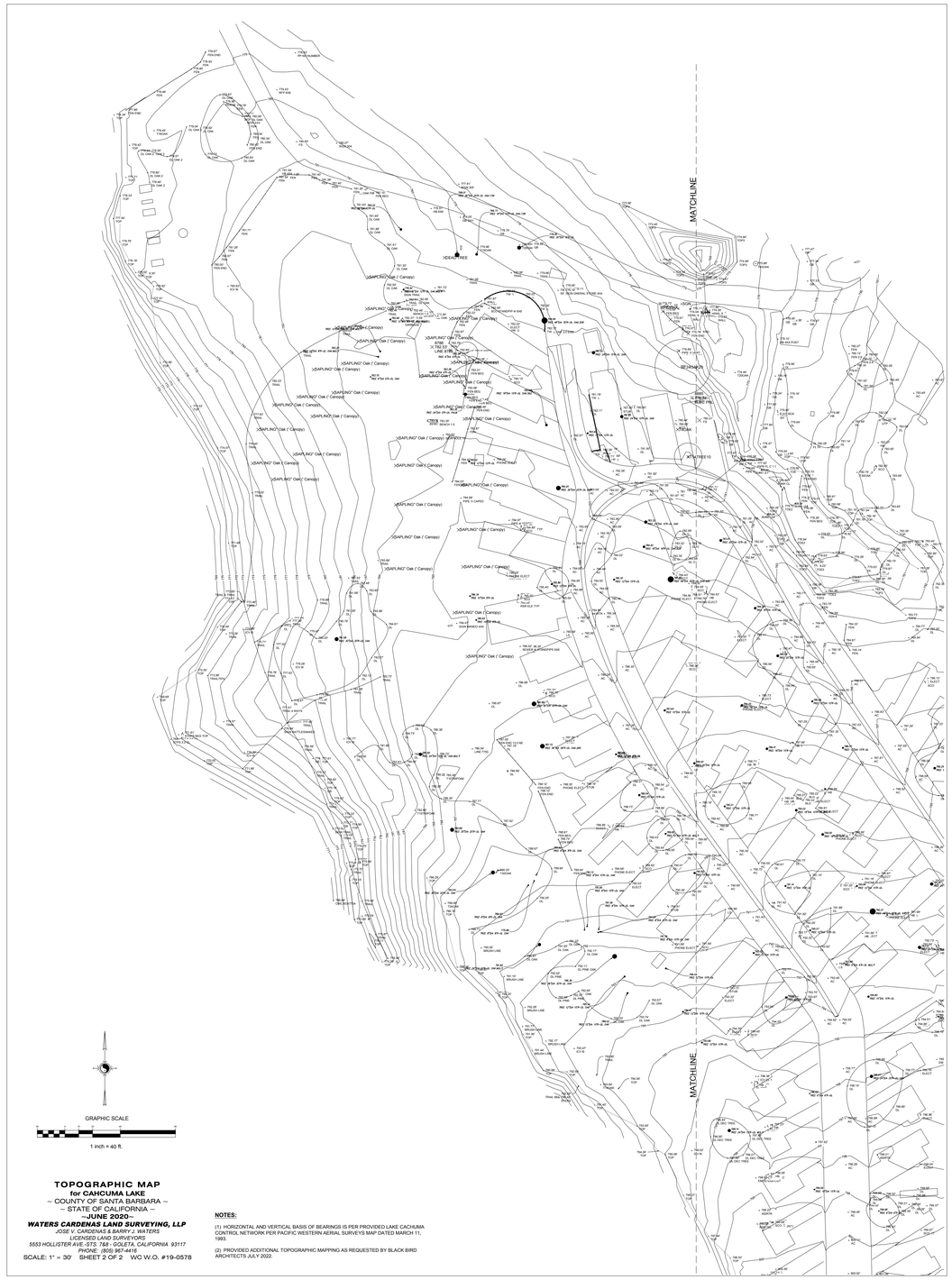
www.bbird.com

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structural engineer:
Thom Hume
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landscape architect:
Susan Van Atta, FASLA
235 Palm Ave.
Santa Barbara, CA 93101
805 730 7444
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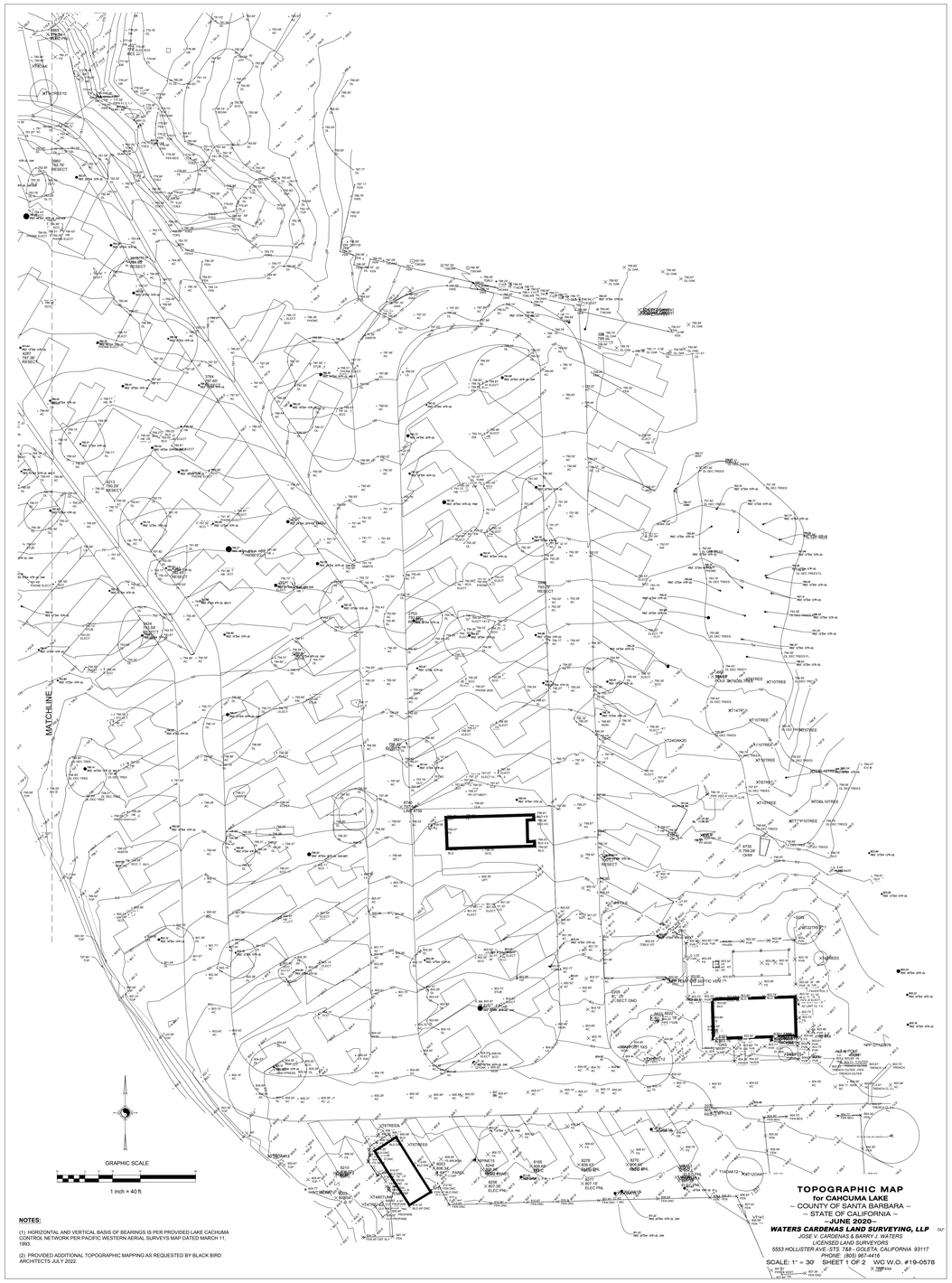


TOPOGRAPHIC MAP
for CAHCUMA LAKE
~ COUNTY OF SANTA BARBARA ~
~ STATE OF CALIFORNIA ~
~JUNE 2020~
WATERS CARDENAS LAND SURVEYING, LLP
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5553 HOLLISTER AVE. STE. 7&8 - GOLETA, CALIFORNIA 93117
PHONE: (805) 967-4416
SCALE: 1" = 30' SHEET 2 OF 2 WC W.O. #19-0578

NOTES:

(1) HORIZONTAL AND VERTICAL BASIS OF BEARINGS IS PER PROVIDED LAKE CACHUMA CONTROL NETWORK PER PACIFIC WESTERN AERIAL SURVEYS MAP DATED MARCH 11, 1993.

(2) PROVIDED ADDITIONAL TOPOGRAPHIC MAPPING AS REQUESTED BY BLACK BIRD ARCHITECTS JULY 2022.



TOPOGRAPHIC MAP
for CAHCUMA LAKE
~ COUNTY OF SANTA BARBARA ~
~ STATE OF CALIFORNIA ~
~JUNE 2020~
WATERS CARDENAS LAND SURVEYING, LLP
JOSE V. CARDENAS & BARRY J. WATERS
LICENSED LAND SURVEYORS
5553 HOLLISTER AVE. STE. 7&8 - GOLETA, CALIFORNIA 93117
PHONE: (805) 967-4416
SCALE: 1" = 30' SHEET 1 OF 2 WC W.O. #19-0578

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PROVIDED FOR REFERENCE ONLY

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Cachuma Lake
RV Site Renewal

2265 HWY 154
Santa Barbara, CA 93105

145 160 072

Revisions

Survey

G0.5

Pacific Materials Laboratory of Santa Barbara, Inc.

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PRELIMINARY GEOTECHNICAL INVESTIGATION

Proposed Improvements to Existing Cachuma Trailer Resort (CTR)

2225 Highway 154

County of Santa Barbara

California

CLIENT
County of Santa Barbara Community Services Dept.
Attn: Jill Van Wie, Capital Projects Mgr.
123 Anapamu Street, Second Floor
Santa Barbara, CA 93101

September 14, 2022
Lab No: 138895-2
File No: 22-13447C-2

"We Test The Earth"

F:\Word Docs\PP\Rpts\138895-2.doc

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INTRODUCTION

This report presents the results of a preliminary geotechnical investigation performed at the Cachuma Trailer Resort (CTR), in the County of Santa Barbara, California. It is proposed to replace the existing bathroom with a new building and place concrete pavement for patios and parking. Shade structures and walls for trash enclosures are also proposed. The site is approximately level.

SCOPE OF WORK

It is the purpose of this investigation to classify the soil disclosed by the exploratory borings and excavations by observation and tests on selected samples. In addition, this study includes laboratory tests to evaluate soil strength, the effect of moisture variation on the soil-bearing capacity, compressibility, liquefaction, and expansiveness. Based upon this information, we will provide preliminary grading and foundation recommendations for the proposed improvements to the existing Cachuma Trailer Resort (CTR).

The scope of this investigation does not include the analysis of the corrosive potential of the soil, previous site construction, or analysis of geologic structures and their associated features, such as faults, fractures, bedding planes, strike and dip angles, ancient landslides, potential for earth movement in undisturbed or natural soil formations sloped or level, or other sources of potential instability which relate to the geologic conditions, as these items should be addressed by a qualified Engineering Geologist.

This exploration was conducted in accordance with presently accepted geotechnical engineering procedures currently applied in the local community in order to provide the appropriate geotechnical design characteristics of the foundations soils and of the proposed fill soils in order to properly evaluate the proposed structure with respect to differential settlement based upon the anticipated soil characteristics at the time of construction.

LIMITATIONS

This Laboratory's basic assumption is that the soil borings presented herein are representative of the entire footprint of the proposed development, however, no warranty is implied. If, during the course of construction, soil conditions are encountered which vary from those presented herein, please contact this Laboratory immediately so appropriate field modifications may be expeditiously proposed.

It is your responsibility to contact our office, providing at least 48 hours of notice for grading or footing excavation observations and testing. The observation of excavations during the construction phase represents an opportunity by our firm to either confirm soil conditions estimated by the exploratory borings or to discover soil conditions which have not been addressed. When such undisclosed conditions are encountered, opinions and recommendations addressing these conditions will be rendered at that time.

This report is considered preliminary and no person should consider the recommendations or soil conditions described herein as conclusive. The recommendations and conclusions of this report are considered preliminary until all excavations have been observed during the construction phase, after which a final report will be issued stating that the grading and foundation works accomplished and installed are appropriate for the soil conditions encountered.

FIELD INVESTIGATION

The subsurface soil conditions were explored by five hand auger borings, which were drilled to depths of up to 6 feet, supplemented by one field density test. The locations of the borings were selected as appropriate and representative. Representative, relatively "undisturbed" tube soil samples were obtained during the drilling operation by the thin-walled sampling tube method (ASTM D-1587). Laboratory tests and analysis of representative soil samples, obtained during the drilling operation, were performed to estimate the engineering properties and determine the soil classification. The locations of the borings are shown on Plate 1; these locations are approximate and have not been located by surveyed measurements. The boring log data is presented in Appendix A, "Field Investigation", while the results of the laboratory tests are provided in Appendix B, "Laboratory Tests".

SOIL CONDITIONS

1. No groundwater was encountered in the exploratory borings, which extended to depths of up to 6 feet. It should be recognized that water table elevations, even seasonal perched water tables, might fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.
2. The soil profile consists of a brown silty sand which was found to have a very low potential for expansion.
3. The surface soils were found to have a relative compaction of 77.3%. It should be noted 90% relative compaction is desired for pavement and foundation support.
4. The soil profile at this site is judged to be stiff soil corresponding to a Site Class D (not default D) as specified in Section 1613.3.2 of the 2019 California Building Code (CBC). This estimate is based on the borings, which encountered the geologic formation known as the Older Alluvium, which is widely regarded as a Type D soil profile since the Standard Penetration Resistance typically results in blow counts having a range of between 15 to 50.

PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS

It is the understanding of this Laboratory the proposed improvements to the existing Cachuma Trailer Resort (CTR) are feasible from a soil-engineering perspective provided the recommendations contained in this soil engineering report are incorporated into the design and implemented during construction. Based upon this understanding, we present the following preliminary recommendations:

GRADING FOR PROPOSED NEW BATHROOM STRUCTURE

1. The area to be graded shall be cleared of surface vegetation, including roots and root structures.
2. If, during the removal and scarification process, excessive root structures are encountered, these areas shall be deep ripped in two directions to the depth of the root structure, after which the disturbed soils and the roots shall be completely removed, and the resulting cavities shall be scarified and processed to receive fill in accordance with recommendations contained in this section.
3. If, during the grading operations, previously placed undocumented fill material is encountered, this fill material shall be removed under the direction of this Laboratory prior to commencement of the filling operations. Also, all buried man-made features from the previous structure shall be removed.
4. The footings of the proposed structures shall be supported completely by a **uniform** thickness of non-expansive compacted soil. **The structures shall not be supported over a cut/fill transition unless the foundation is engineered to account for the transition.**
5. Beneath the proposed structures and for a minimum distance of 5 feet beyond the exterior perimeters, the loose topsoil and compressible surface soils shall be removed and observed by a representative of our firm. Upon approval of excavation, the exposed ground surface shall be scarified an additional 6 to 8 inches, moistened or dried to near the optimum moisture content, and compacted to 90% of the relative compaction. We anticipate the depth of the surface soil removal to be from 20 to 30 inches below the existing grade. The minimum depth of removal shall be at least 12 inches below the bottom of the proposed footings.
6. The removed surface soils and/or imported approved fill may then be placed in loose lifts of approximately 6 inches, thoroughly mixed, moistened or dried to near optimum moisture content, and compacted to a minimum of 90% relative compaction.
7. Rocks greater than 6 inches in size shall be removed from the soil being spread for compaction.

8. All fill slopes which are created during the grading operation shall be properly shaped to a maximum slope angle of 2 horizontal to 1 vertical, and compacted by rolling the sheepsfoot roller or similar compaction equipment over the slope face at vertical lift intervals of 30 inches or less.
9. Import soils, if required for compacted fill, shall be granular, non-expansive soils which are equal to, or superior in quality to, the on-site soils as determined by this Laboratory prior to importation of the fill material to the site.
10. The compaction standard shall be the latest adoption of the ASTM D-1557 method of compaction.
11. Positive surface drainage shall direct water away from all slopes and away from the foundation system of the proposed structure.

FOUNDATIONS FOR PROPOSED REPLACEMENT RESTROOM

1. These recommendations assume a uniform thickness of compacted soil will support the proposed footings.
2. All continuous exterior footings for one-story portions of the structure shall extend a minimum of 18 inches and all continuous interior one-story footings shall extend a minimum distance of 12 inches below compacted ground surface.
3. All footings shall contain a minimum of two No. 4 horizontal rebar; one placed in the base and one in the stem of the footing. The Project Civil or Structural Engineer shall specify the foundation steel reinforcement.
4. Isolated piers may be utilized and shall extend a minimum of 18 inches below compacted ground surface.
5. Concrete slab-on-grade floors shall be placed over a subgrade soil conforming to the GRADING recommendations of this report.
6. As a minimum, concrete slabs on grade shall be a full 4 inches thick and shall contain No. 3 rebar spaced 24 inches on center each way. The steel reinforcement shall be placed near the center of the slab. Concrete slabs on grade shall be doweled into all adjacent footings using No. 3 rebar spaced 24 inches on center. The traditional or conventional subgrade preparation below a concrete slab-on-grade floor is some variation of the following: A minimum 4-inch coarse, washed concrete sand layer is placed over the soil subgrade. A 10-mil or heavier impervious membrane is placed over the sand layer. These concrete slab-on-grade and sand layer recommendations shall be modified and/or eliminated as needed by the designers for surcharge loads, wheel loads, concentrated loads, or for moisture control. The floor covering supplier or manufacturer should be contacted for their specifications for design features, which will result in a successful bond between the concrete slab and floor covering. Floor flatness and shrinkage crack control must be addressed by a

competent contractor experienced in the skill of concrete placement. The owners or their agents shall inform those designing, building, and installing the concrete slab on grade and flooring of the performance and aesthetics expected. It is the sole purpose of the recommendations contained in this report to analyze the mechanical properties of the soil with respect to achieving a stable soil subgrade. By stable, we refer to the settlement or heave properties of the subgrade soil.

7. This Laboratory shall be requested to inspect the footing excavation prior to placement of reinforcing steel and timber form boards.
8. Based upon compliance with the above recommendations, an allowable soil bearing value for compacted soil of 3,500 psf for 12-inch-deep footings and 2,000 psf for 18-inch-deep footings, with a one-third increase when considering wind or seismic forces, may be assumed.
9. Floor elevations located lower than the surrounding exterior grades are recommended to be protected from moisture intrusion. Please consult the building designer for details, such as waterproofing and French drains.

PAVEMENT

1. In the areas to be paved, we recommend the top loose surface soils be removed from below the proposed final soil subgrade elevation, moistened or dried to at or near the optimum moisture content, and compacted to 90% relative compaction with the top 9 inches being compacted to 95% relative compaction where pavement will be subject to vehicle travel or parking. The subgrade area shall be check rolled in order to detect isolated soft spots. Any areas found to be yielding under the wheel loads of the equipment shall be stabilized by removal and compaction.
2. The Class 2 aggregate base shall be recompacted to a minimum of 95% relative compaction in accordance with the ASTM D-1557 test method. Asphalt concrete shall be placed only after the Class 2 aggregate base has been demonstrated to be firm and unyielding.
3. The R-Value was determined to be 48. The following pavement sections are provided depending on the Traffic Index (T.I.) deemed appropriate:

T.I.	Asphalt (In.)	Class 2 Aggregate (In.)
4.0	2.5	4.0
5.5	2.5	5.0
6.0	3.5	5.5

4. Maintenance to assist in reducing the potential for rapid deterioration of the asphalt paved areas shall include surface treatment approximately six months to one year after construction and approximately three years from the first treatment. Pavement conditions should be reviewed at least once a year for cracks, puddling of surface water, and overall appearance. If possible, this review should be done in the fall such that cracks may be repaired which may otherwise allow moisture to pass through the pavement and weaken the subgrade.

SHADE STRUCTURES AND MASONRY WALLS FOR TRASH ENCLOSURES

1. Column footings and new continuous spread footing excavations shall extend a minimum depth of 24 inches below the exterior grade, shall penetrate old fill and porous topsoil, or shall penetrate to a depth necessary to achieve a 12-inch-deep embedment into firm undisturbed native soil. The deeper condition described above shall govern. The bottom of these footing excavations shall then be compacted with a handheld mechanical plate compacter, such as a BS 45Y Wacker, to attain a relative compaction of 90%, based on the ASTM D-1557 method. The bottom of these footing excavations shall be compaction tested by a representative of our firm to verify the achievement of 90% compaction.
2. The subgrade below the proposed concrete slab-on-grade floor shall be prepared by removing all surface vegetation and at least the top 6 inches of surface soils. If old fill or the loose natural topsoil is deeper than 6 inches, it may be required to remove the soil to a deeper elevation until firm undisturbed soil is encountered. The exposed subgrade shall then be scarified an additional 6 inches. The scarified soil shall then be moisture conditioned at or near the optimum moisture content and compacted to a minimum of 90% relative compaction based upon the ASTM D-1557 method of compaction.
3. This Laboratory shall be requested to perform compaction tests on the subgrade and bottom of the footing when 90% relative compaction has been achieved. Approval will then be provided to place rebar and concrete.
4. An allowable soil bearing value of 2,000 psf is recommended for the new footings specified in this report with a one-third increase when considering wind or seismic forces.
5. The Geotechnical Engineer shall be requested to observe the footing excavations after the compaction tests are completed and prior to placement of the rebar reinforcing.

6. All continuous footings shall contain a minimum of two No. 4 horizontal continuous rebar; one placed near the bottom and one near the top of the footings. The Project Civil or Structural Engineer shall specify the foundation reinforcing steel if additional rebar is needed for shear walls or any other purpose.
7. As a minimum, concrete slabs on grade shall be a full 4 inches thick and shall contain No. 3 rebar spaced 24 inches on center each way. The steel reinforcement shall be placed near the center of the slab. Concrete slabs on grade shall be doweled into all adjacent footings using No. 3 rebar spaced 24 inches on center. The traditional or conventional subgrade preparation below a concrete slab-on-grade floor is some variation of the following: A minimum 4-inch coarse, washed concrete sand layer is placed over the soil subgrade. A 10-mil or heavier impervious membrane is placed over the sand layer. These concrete slab-on-grade and sand layer recommendations shall be modified and/or eliminated as needed by the designers for surcharge loads, wheel loads, concentrated loads, or for moisture control. The floor covering supplier or manufacturer should be contacted for their specifications for design features, which will result in a successful bond between the concrete slab and floor covering. Floor flatness and shrinkage crack control must be addressed by a competent contractor experienced in the skill of concrete placement. The owners or their agents shall inform those designing, building, and installing the concrete slab on grade and flooring of the performance and aesthetics expected. It is the sole purpose of the recommendations contained in this report to analyze the mechanical properties of the soil with respect to achieving a stable soil subgrade. By stable, we refer to the settlement or heave properties of the subgrade soil.
8. If footings are to be located on, adjacent to, or within 10 feet of the top of a slope, these footings shall extend to such a depth so that the horizontal distance between the bottom outside edge of the footing and the face of the adjacent slope is a minimum distance of 10 feet. The slope setback required by the CBC, Figure 1805.3.1, shall also apply.

POLE STRUCTURE FOUNDATIONS

Pole footings may be designed in accordance with CBC Section 1807.3 and Table 1806.2, using a Class of Material No. 4, having a lateral bearing pressure of 150 pcf and a vertical end bearing value of 2,000 psf.

RESISTANCE TO LATERAL LOADS

Lateral loads for spread footings may be resisted by frictional resistance along the foundation base and passive earth pressures along the foundation sides. An allowable friction coefficient of 0.35 may be used. The passive pressures of 350 pcf of footing may be used. A triangular distribution should be used. The frictional resistance and the passive pressure may be combined without reduction. The resistance may be increased by one-third for wind or seismic loading.

ADJACENT LOADS

Where footings are placed at varying elevations, the effect of adjacent loads may be calculated using the widely published Formulas for Stresses in Semi-infinite Elastic Foundations or the Boussinesq figures and equations for both vertical and horizontal surcharge loads.

SETTLEMENT

It is the intent of the recommendations contained in this report to achieve angular distortions[1] of approximately 1/480. A total settlement of approximately 1 inch or less is anticipated for foundations supported on the undisturbed native soil and approximately 1% to 1.5% of the fill height is the anticipated total settlement at areas where compacted fill soil is placed in accordance with the GRADING recommendations provided in this soil engineering report. The soil bearing values and estimated settlements contained in this report are preliminary and may need to be modified after the foundation and grading plans are substantially complete.

CONSTRUCTION OBSERVATION

The owner or his agent shall request the Project Geotechnical Engineer to observe all excavations prior to placement of compacted soil, gravel backfill, or rebar and concrete.

PLAN REVIEW

We request the grading and foundation plans be submitted to our office for a general review to verify substantial compliance to the recommendations contained in this report.

CLOSURE

The recommendations contained herein are for the sole use of our client and are based upon this Laboratory's understanding of the project which has been described herein. If the project scope, location, or conceptual design is subsequently altered, this Laboratory shall be requested to modify, as necessary, the recommendations contained herein as is appropriate for the new development concept. If the recommendations of this report are not implemented within one year, we recommend an update and review of the contents of this report be performed by this Laboratory.

[1] Angular distortion is the ratio of the vertical differential settlement divided by the horizontal distance over which the vertical differential is measured.

The recommendations contained herein are based upon the assumption that Pacific Materials Laboratory shall be requested to perform the testing and observation services which will be required during the grading and foundation operations in order to verify that the actual soil conditions encountered and the construction procedures are consistent with the recommendations contained herein. If this service is performed by others, only the technical correctness of the actual analytical soil tests described here is attested to by this Laboratory.

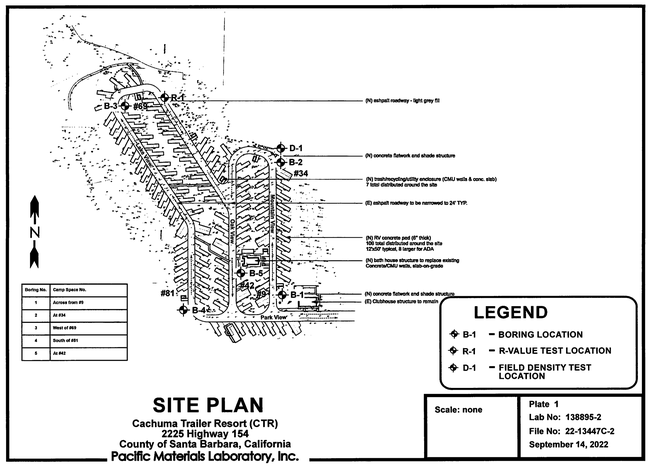
Thank you for the opportunity of providing this service. If you have any questions regarding this matter, please do not hesitate to call.

Respectfully submitted,

PACIFIC MATERIALS LABORATORY, INC.

Ronald J. Pike
Geotechnical Engineer, G. E. 2291

RJP:lec
cc: County of Santa Barbara Community Services Dept., Attn: Jill Van Wie, Capital Projects Mgr.,
Email: jvanwie@co.santa-barbara.ca.us



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surveyor:
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805 967 4416

Cachuma Lake RV Site Renewal

2265 HWY 154
Santa Barbara, CA 93105

145 160 072

Revisions

Soil report

G0.6

Bid Set 06.28.23

CACHUMA LAKE CTR RENEWAL

2265 HWY 154
SANTA BARBARA, CA 93105

LEGEND

SD	STORM DRAINAGE
W	WATER SERVICE
G	GAS
S	SANITARY SEWER
E	POWER ELECTRICAL
	DITCH / FLOWLINE
	GRADING LIMIT
	GRADE SLOPE
	PROPERTY LINE
	CENTERLINE
	SAWCUT

VICINITY MAP



SURVEY NOTES

EXISTING TOPOGRAPHIC AND BOUNDARY INFORMATION SHOWN HEREON PER SURVEY BY WATERS CARDENAS LAND SURVEYING, LLP DATED JUNE 2020

HORIZONTAL AND VERTICAL BASIS OF BEARINGS: LAKE CACHUMA CONTROL NETWORK PER PACIFIC WESTERN AERIAL SURVEYS MAP CATED MARCH 11, 1993

BENCHMARK: THE RIM ELEVATION OF A SEWER MANHOLE LOCATED APPROXIMATELY 365 FEET NORTH OF THE EXISTING BUILDING AT THE PROJECT ENTRANCE AT THE SOUTHEAST CORNER OF THE PROPERTY AND SHOWN ON THESE PLANS HAVING AN ELEVATION OF 792.27 FEET, NAVD 88.

SURVEY MONUMENT PROTECTION:

PROTECT AND PRESERVE, IN PLACE, ALL SURVEY MONUMENTS AND BENCHMARKS. DO NOT DISTURB, MOVE, OR RELOCATE MONUMENTS OR BENCHMARKS WITHOUT THE PRIOR REVIEW AND APPROVAL BY THE AGENCY HAVING JURISDICTION OVER THE MONUMENT OR BENCHMARK. THE CONTRACTOR SHALL CONTRACT WITH A LICENSED SURVEYOR FOR MONUMENTS REQUIRING DISTURBANCE OR REMOVAL, AND THE SURVEYOR SHALL RESET THE MONUMENTS OR PROVIDE PERMANENT WITNESS MONUMENTS AND FILE THE REQUIRED DOCUMENTATION WITH THE AUTHORITY HAVING JURISDICTION, PURSUANT TO ALL APPLICABLE BUSINESS AND PROFESSIONAL CODES.

PROJECT CLEAN WATER CONSTRUCTION NOTES

1. SUBMIT INSTALLATION ELEVATIONS OF EMBEDMENT STONE (BASE & TOP ELEVATIONS) PERFORMED BY A LICENSED SURVEYOR TO PROJECT CLEAN WATER WITHIN 7 DAYS OF INSTALLATION.
2. SUBMIT INVOICES AND MATERIAL CERTIFICATION FORMS FOR EMBEDMENT STONE TO PROJECT CLEAN WATER WITHIN 7 DAYS OF INSTALLATION.
3. SUBMIT OUTLET STRUCTURE INVERT ELEVATIONS SIGNED & STAMPED BY PROJECT ENGINEER, TO PROJECT CLEAN WATER WITHIN 7 DAYS OF INSTALLATION.
4. PROVIDE INVOICE & PHOTO-DOCUMENTATION OF INSTALLED STORMTECH CHAMBERS TO PROJECT CLEAN WATER WITHIN 2 WEEKS OF INSTALLATION.

STANDARD ABBREVIATIONS

AC	ASPHALTIC CONCRETE	GB	GRADE BREAK
BLDG	BUILDING	IE	INVERT ELEVATION
BCR	BEGIN CURB RETURN	INV	INVERT
BVC	BEGIN VERTICAL CURVE	LA	LANDSCAPE AREA
BW	BOTTOM OF WALL	NG	NATURAL GRADE
CB	CATCH BASIN	PA	PLANTER AREA
C/L	CENTERLINE	PCC	PORTLAND CEMENT CONCRETE
CMU	CONCRETE MASONRY UNIT	P/L	PROPERTY LINE
CONC	CONCRETE	POC	POINT OF CONNECTION
DI	DUCTILE IRON	PS	PARKING STRIPE
DW	DRIVEWAY	PVC	POLYVINYL CHLORIDE
ECR	END CURB RETURN	RW	RIGHT OF WAY
EG	EXISTING GRADE	SD	STORM DRAIN
EP	EDGE OF PAVEMENT	SG	SUB-GRADE ELEVATION
EVC	END VERTICAL CURVE	SS	SANITARY SEWER
FF	FINISHED FLOOR	TB	TOP OF BANK
FG	FINISHED GRADE	TC	TOP OF CURB, CONCRETE
FH	FIRE HYDRANT	TF	TOP OF FOOTING
FL	FLOW LINE	TG	TOP OF GRATE
FS	FINISHED SURFACE	TW	TOP OF WALL
		VC	VERTICAL CURVE

PROJECT INFORMATION

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GEOTECH:	PACIFIC MATERIALS LABORATORY 35-A SOUTH LA PATERA LANE P.O. BOX 96 GOLETA, CA 93116 (805) 964-6901
SURVEYOR:	WATERS CARDENAS LAND SURVEYING, LLP 5553 HOLLISTER AVE.-STS. 7&8 GOLETA, CA 93117 (805) 967-4416
APN:	145-160-072

GRADING INFORMATION*

CUT QUANTITY:	3,300 CUBIC YARDS
FILL QUANTITY:	3,700 CUBIC YARDS
NET QUANTITY:	400 CUBIC YARDS IMPORT

*NOTE: THE ABOVE QUANTITIES ARE FOR PLANNING AND PERMITTING PURPOSES ONLY. SHRINKAGE; CONSOLIDATION AND SUBSIDENCE FACTORS; LOSSES DUE TO CLEARING AND DEMOLITION OPERATIONS; AND TRENCHING FOR UTILITIES AND FOUNDATIONS ARE NOT INCLUDED. ESTIMATED EARTHWORK QUANTITIES ARE BASED ON THE APPROXIMATE DIFFERENCE BETWEEN EXISTING GRADES AND PROPOSED FINISHED GRADES OR PAVEMENT SUBGRADES, AS INDICATED ON THE PLANS, AND SHOULD VARY ACCORDING TO THESE FACTORS AND LOSSES. THE CONTRACTOR SHALL PERFORM AN EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING A LUMP SUM BID PRICE FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF EARTH MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS EARTH MATERIALS.

DIG ALERT

DIGALERT
DIAL TOLL FREE **811** OR (1-800-422-4133) AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT

PRIOR TO COMMENCING OF ANY EXCAVATION, DIGGING, POT HOLING, ETC. CALL DIG ALERT FOR ASSIGNMENT OF AN INQUIRY ID NUMBER, BECAUSE NO EARTH WORK SHALL COMMENCE UNLESS THE CONTRACTOR HAS OBTAINED THIS AND EACH UTILITY OR OWNER OF SUBSURFACE FACILITIES HAS LOCATED AND MARKED THEIR SUBSURFACE FACILITIES IN THE AREA OF WORK.

SHEET INDEX

SHEET	SHEET TITLE
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CIVIL • STRUCTURAL

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Revisions:

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Project Engineer: BWV	Ext: 130
Project Manager: JJG	
Date: 06.09.2023	Scale: PER PLAN
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TITLE SHEET

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GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE COUNTY OF SANTA BARBARA AND THE CURRENT EDITION OF THE CALIFORNIA BUILDING CODE.
2. IN THE EVENT OF A CONFLICT BETWEEN ANY REFERENCED STANDARD, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
3. STORMWATER POLLUTION PREVENTION REQUIREMENTS PER COUNTY OF SANTA BARBARA AND SWRCB.
4. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
5. BEFORE BEGINNING WORK, CONTRACTOR SHALL CONFIRM WITH AGENCIES HAVING JURISDICTION THAT ALL REQUIRED PERMITS AND LICENSES HAVE BEEN OBTAINED AND ALL REQUIRED NOTICES GIVEN.
6. UNDERGROUND AND OVERHEAD CONSTRUCTION IN ADDITION TO WHAT IS SHOWN ON THESE PLANS MAY BE PART OF THIS PROJECT, INCLUDING ARCHITECTURAL AND LANDSCAPE ARCHITECTURAL IMPROVEMENTS. ADDITIONAL PERMITS MAY BE REQUIRED.

A. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK AND INTERFACING IMPROVEMENTS WITH WORK BY OTHER CONTRACTORS AT THIS JOB SITE AND WITH IMPROVEMENTS REQUIRED BY PLANS BY OTHERS.

B. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR BUILDING AND SITE LAYOUT DIMENSIONING.

C. CONTRACTOR SHALL REFER TO ARCHITECTURAL AND LANDSCAPE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR SITE DEVELOPMENT CONSTRUCTION DETAILS AND DIMENSIONING, INCLUDING THOSE FOR BUILDINGS, PATIOS, WALKWAYS, DRIVEWAYS, WALLS/FENCES, PLUMBING, ELECTRICAL, UTILITIES, LANDSCAPING, AND IRRIGATION.

7. ALL SITE WORK AND THAT DONE IN CONFORMANCE WITH THE RECOMMENDATIONS CONTAINED IN THE FOLLOWING GEOTECHNICAL ENGINEERING REPORT FOR THIS PROJECT:

A. PREPARED BY: PACIFIC MATERIALS LABORATORY, FILE NO. 22-13447C-2, CATED SEPTEMBER 14, 2022 AND ALL ADDENDA TO THE REPORT SHALL BE CONSIDERED PART OF THESE PLANS.

B. THIS REPORT AND ANY ADDENDA SHALL BE INCORPORATED INTO THESE PLANS AND MADE A PART HEREOF AS IF SPELLED OUT IN THEIR ENTIRETY HEREON; IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE APPLICABLE GEOTECHNICAL REPORTS. CONTRACTOR SHALL CONTACT THE GEOTECHNICAL ENGINEER TO OBTAIN OR REVIEW COPIES OF THESE REPORTS AND ADDENDA.

C. PRIOR TO BIDDING, CONTRACTOR SHALL CONTACT THE GEOTECHNICAL ENGINEER TO DETERMINE THE LOCATION AND DEPTH OF ALL TEST BORINGS AND EXPLORATORY PITS AND EXCAVATIONS. CONTRACTOR SHALL / SHALL NOT EXCAVATE. GEOTECHNICAL ENGINEER WHAT REMEDIAL WORK IS RECOMMENDED TO MAKE THESE DISTURBED LOCATIONS SUITABLE FOR THE PROPOSED IMPROVEMENTS. CONTRACTOR SHALL INCLUDE IN HIS BID ALL COSTS FOR THE RECOMMENDED REMEDIAL WORK AND SHALL ADJUST HIS OPERATIONS TO PROPERLY SEQUENCE THE WORK TO ACCOMMODATE REMEDIAL WORK WITH CONSTRUCTION OF PROPOSED IMPROVEMENTS.

8. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE HEALTH AND SAFETY LAWS, ORDINANCES, REGULATIONS, RULES, AND STANDARDS INCLUDING ALL REQUIREMENTS OF CAL-OSHA AND OSHA.
9. ALL UNSUITABLE CONSTRUCTION MATERIALS AND RUBBISH AND DEBRIS SHALL BE REMOVED FROM THE JOB SITE; TRANSPORTED TO A SUITABLE LOCATION, AND DISPOSED OF IN A PROPER AND LEGAL MANNER.
10. ALL WORK INVOLVING EXCAVATION, INCLUDING THAT FOR WATER, SEWER, STORM DRAIN AND UTILITY CONDUITS AND ALL SERVICE CONNECTIONS AND METER BOXES (NOT PERMITTED IN DRIVEWAYS) SHALL BE COMPLETED AND OBSERVED AND APPROVED BY THE AGENCY HAVING JURISDICTION AND THE STRUCTURAL BACKFILL OBSERVED AND TESTED FOR COMPACTION AND APPROVED BY THE GEOTECHNICAL ENGINEER BEFORE AGGREGATE BASE, PAVING AND OTHER PERMANENT SURFACE CONSTRUCTION MAY COMMENCE.
11. BEFORE COMMENCING EXCAVATION, CONTRACTOR SHALL CONTACT PUBLIC WORKS AND UTILITY COMPANIES OR OTHER OWNERS OF SUBSURFACE FACILITIES WITHIN THE WORK SITE AND SHALL VERIFY WHETHER OR NOT A REPRESENTATIVE WILL BE PRESENT BEFORE AND/OR DURING EXCAVATION, AND SHALL DETERMINE SITE SPECIFIC REQUIREMENTS FOR EXCAVATION.
12. CONTRACTOR SHALL NOTIFY PUBLIC WORKS, BUILDING AND SAFETY, UTILITY COMPANIES, GEOTECHNICAL ENGINEER, AND ENGINEER OF RECORD, AT LEAST 48 HOURS BEFORE START OF ANY CONSTRUCTION AND OF THE TIME AND LOCATION OF PRE-CONSTRUCTION CONFERENCE, AND SHALL DETERMINE FROM EACH PARTY THEIR SCOPE OF WORK TO BE OBSERVED BY WHOM AND SCOPE OF TESTING. DURING THE COURSE OF WORK, CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR OBSERVATION AND TESTING AS PERTINENT TO ABOVE DETERMINATIONS. WORK NOT OBSERVED AND TESTED WILL BE SUBJECT TO REJECTION.
13. CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN SUCH SHEETING, SHORING, BRACING, AND/OR OTHER PROTECTION AS IS NECESSARY TO PREVENT FAILURE OF TEMPORARY EXCAVATIONS AND EMBANKMENTS AND TO PREVENT DAMAGE TO ADJACENT PROPERTY, TEMPORARY IMPROVEMENTS, AND PARTIALLY COMPLETED PORTIONS OF THE WORK. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SUFFICIENCY OF SUCH SUPPORTS AND/OR OTHER PROTECTION PER ALL REQUIREMENTS OF CAL-OSHA AND OSHA.
14. CONTRACTOR SHALL PROMPTLY NOTIFY ENGINEER OF RECORD AND AUTHORITY HAVING JURISDICTION BY TELEPHONE AND IN WRITING UPON DISCOVERY OF, AND BEFORE DISTURBING ANY PHYSICAL CONDITIONS DIFFERING FROM THOSE REPRESENTED BY APPROVED PLANS AND SPECIFICATIONS.
15. CONTRACTOR SHALL MAINTAIN A COMPLETE AND ACCURATE RECORD OF ALL CHANGES OF CONSTRUCTION FROM THAT SHOWN ON THESE PLANS AND SPECIFICATIONS FOR THE PURPOSE OF PROVIDING A BASIS FOR CONSTRUCTION-RECORD DRAWINGS. NO CHANGES SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF ENGINEER OF RECORD AND AUTHORITY HAVING JURISDICTION. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL DELIVER THIS RECORD OF ALL CONSTRUCTION CHANGES TO ENGINEER ALONG WITH A LETTER WHICH DECLARES THAT, OTHER THAN THESE NOTED CHANGES, "THE PROJECT WAS CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS."
    WARNING: ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE APPROVED IN WRITING BY PREPARER.
16. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONALS HARMLESS FROM ALL LIABILITY AND CLAIMS, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT AND ACCEPTS LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONALS.
17. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR VEHICULAR AND PEDESTRIAN TRAFFIC CONTROL AND SAFETY AND SHALL FURNISH, INSTALL, AND MAINTAIN SUCH FENCING, SIGNS, LIGHTS, TRENCH PLATES, BARRICADES, AND/OR OTHER PROTECTION AS IS NECESSARY FOR SAID CONTROL AND SAFETY.
18. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR PROTECTION OF PUBLIC AND PRIVATE PROPERTY AT OR IN THE VICINITY OF THE JOB SITE AND FURTHER AGREES TO, AT CONTRACTOR'S EXPENSE, REPAIR OR REPLACE TO ORIGINAL CONDITION, ALL EXISTING IMPROVEMENTS WITHIN OR IN THE VICINITY OF THE JOB SITE WHICH ARE NOT DESIGNATED FOR REMOVAL AND WHICH ARE DAMAGED OR REMOVED AS A RESULT OF CONTRACTOR'S OPERATIONS.

GENERAL GRADING NOTES:

1. GRADING SHALL BE IN CONFORMANCE WITH RECOMMENDATIONS MADE BY THE GEOTECHNICAL ENGINEER DURING OBSERVATION AND TESTING OF SITE DEMOLITION, PREPARATION, GRADING, AND DEVELOPMENT WORK. FOR ANY CONFLICT BETWEEN THESE PLANS AND THE RECOMMENDATIONS AND/OR SPECIFICATIONS OF THE GEOTECHNICAL ENGINEER, THE MORE STRINGENT PROVISION SHALL GOVERN.
2. AREAS TO BE GRADED SHALL BE CLEARED OF ALL VEGETATION (EXCEPT TREES INDICATED TO REMAIN), INCLUDING ROOTS AND ROOT STRUCTURES, OTHER ORGANIC MATERIAL, DEBRIS, NON-COMPLYING FILL, AND OTHER MATERIAL UNSUITABLE FOR SUPPORT OF FILL AND/OR PROPOSED IMPROVEMENTS, AS RECOMMENDED BY AND UNDER THE OBSERVATION AND TESTING OF THE GEOTECHNICAL ENGINEER. CALL THE INSPECTOR FOR INITIAL INSPECTION.
3. ALL UNSUITABLE SOIL MATERIALS AND RUBBISH AND DEBRIS RESULTING FROM DEMOLITION AND GRADING OPERATIONS SHALL BE REMOVED FROM THE JOB SITE; TRANSPORTED TO A SUITABLE LOCATION AND DISPOSED OF IN A PROPER AND LEGAL MANNER.
4. AREAS TO RECEIVE FILL MATERIAL AND AREAS TO RECEIVE BUILDINGS, EXTERIOR SLABS, WALKWAYS, WALLS, PAVEMENT AND OTHER STRUCTURAL IMPROVEMENTS SHALL BE PREPARED AS RECOMMENDED BY AND UNDER THE OBSERVATION AND TESTING OF THE GEOTECHNICAL ENGINEER. RECOMMENDATIONS FOR OVER EXCAVATION, ADDITIONAL SCARIFICATION, BACKFILL AND RECOMPACTION ARE CONTAINED IN THE PROJECT GEOTECHNICAL REPORT REFERENCED IN THE GENERAL NOTES ON THESE PLANS.
5. PRIOR TO PLACEMENT OF FILL AND BACKFILL MATERIAL, THE PREPARED AREA SHALL BE INSPECTED AND APPROVED BY THE INSPECTOR. THE GEOTECHNICAL ENGINEER SHALL ALSO OBSERVE THE AREAS TO BE FILLED IN, ALLOW A MINIMUM 48-HOUR NOTICE. FILL ARE NOT TO BE PLACED ON THE PREPARED AREA WITHOUT THE REQUIRED OBSERVATION SHALL BE REMOVED.
6. ALL FILL MATERIAL, WHETHER EXCAVATED ON-SITE OR IMPORTED FROM OFF-SITE, SHALL BE TESTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT. IMPORTED FILL MATERIAL SHALL BE EQUAL TO OR BETTER IN QUALITY THAN THE ON-SITE SOILS AND SHALL CONFORM TO THE RECOMMENDATION OF THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL TEST AND APPROVE THE SOIL PROPOSED FOR IMPORT FOR STRUCTURAL FILL PRIOR TO IMPORTATION TO THE SITE. THE LANDSCAPE ARCHITECT AND GEOTECHNICAL ENGINEER SHALL TEST AND APPROVE THE SOIL PROPOSED FOR IMPORT FOR LANDSCAPE AREA SURFACE MATERIAL PRIOR TO IMPORTATION TO THE SITE.
7. CONTRACTOR SHALL REFER TO THE FOLLOWING AS APPLICABLE:
   - ARCHITECT'S PLANS FOR ADDITIONAL GRADING REQUIREMENTS IN BUILDING AREAS.
   - LANDSCAPE ARCHITECT'S PLANS FOR TREE PRESERVATION REQUIREMENTS AND FOR SUBGRADE ALLOWANCES IN LANDSCAPE AREAS.
   - PUBLIC IMPROVEMENT PLANS FOR INTERFACING WITH PUBLIC GRADING, PAVING, STORM DRAINAGE AND UTILITY IMPROVEMENTS.
8. WHERE PLANTER AREAS ARE SHOWN ON THE PLANS ADJACENT TO BUILDINGS AND ARE CONTAINED BY WALLS OR CURBS, SHALL BE CONSTRUCTED WITH BOTTOM OF SOIL PLATE OR WHERE ADJACENT FINISH GRADE OUTSIDE A BUILDING IS SHOWN TO BE LESS THAN 6" BELOW BOTTOM OF SILL PLATE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT BUILDING PLANS CALL FOR APPROPRIATE DAMPPROOF OR WATERPROOF CONSTRUCTION AND IS CONSTRUCTED IN ACCORDANCE WITH ALL BUILDING APPLICABLE CODE REQUIREMENTS.
9. PLAN ELEVATIONS SHOWN ON SOIL AND LANDSCAPED AREAS ARE FINISH GRADE (FINISH SURFACE) ELEVATIONS INTENDED TO ALLOW FOR FINISH SURFACE DRAINAGE CONTROL FOR THESE AREAS. DURING GRADING OPERATIONS, THICKNESSES (SUBGRADE ALLOWANCES) SPECIFIED BY LANDSCAPE ARCHITECT FOR TURF, WOOD CHIPS, MULCH, ETC. SHALL BE SUBTRACTED FROM THESE ELEVATIONS TO ESTABLISH FINISH GRADE.
10. BEFORE PLACEMENT OF AGGREGATE BASE OR SUBBASE MATERIAL IN PAVEMENT AREAS, THE SUBGRADE SOIL SHALL BE REVIEWED AND TESTED BY THE GEOTECHNICAL ENGINEER. DURING PAVING OPERATIONS, STRUCTURAL SECTION COMPACTION SHALL BE OBSERVED AND TESTED BY THE GEOTECHNICAL ENGINEER.
11. QUALITY REVIEW AND REPORTING REQUIREMENTS.

A. GRADING AND IMPROVEMENTS FOUND NOT IN CONFORMANCE WITH APPROVED PLANS AND DESIGN INTENT SHALL BE CORRECTED BY CONTRACTOR AT CONTRACTOR'S EXPENSE. ADDITIONAL SURVEYING TO CONFIRM ELEVATIONS AFTER CORRECTIVE MEASURES SHALL ALSO BE AT CONTRACTOR'S EXPENSE.

REQUIREMENTS FOR VARIOUS SURFACING CONDITIONS ARE AS FOLLOWS:

- DIRT: NOT LESS THAN 2% (1/4" PER FOOT) SLOPE IN DIRECTION OF SURFACE DRAINAGE AND 0.10 FOOT MAXIMUM DEVIATION FROM DESIGN ELEVATION AT ANY LOCATION
- A.C. PAVEMENT: NOT LESS THAN 1% (1/8 INCH PER FOOT) SLOPE IN DIRECTION OF SURFACE DRAINAGE AND 0.04 FOOT MAXIMUM DEVIATION FROM DESIGN ELEVATION AT ANY LOCATION
- CONCRETE: NOT LESS THAN 0.5% (1/16 INCH PER FOOT) SLOPE IN DIRECTION OF SURFACE DRAINAGE AND 0.02 FOOT MAXIMUM DEVIATION FROM DESIGN ELEVATION AT ANY LOCATION UNLESS NOTED OTHERWISE ON PLANS.

TRENCHING AND BACKFILL NOTES:

1. ALL TRENCHING, BEDDING AND BACKFILL MATERIAL AND CONSTRUCTION, SHALL BE IN ACCORDANCE WITH THESE PLANS, INCLUDING THE PIPE TRENCH DETAIL.
2. TRENCH OR STRUCTURE EXCAVATION SUBGRADE SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF BEDDING MATERIAL OR FORMS. WET OR UNSTABLE SOIL ENCOUNTERED IN THE BOTTOM OF THE EXCAVATION AND DEEMED BY THE GEOTECHNICAL ENGINEER TO BE INCAPABLE OF SUPPORTING THE PIPE OR STRUCTURE BEING CONSTRUCTED, SHALL BE REMOVED TO THE DEPTH RECOMMENDED BY THE GEOTECHNICAL ENGINEER AND THE EXCAVATION BACKFILLED TO THE BOTTOM OF THE PIPE OR STRUCTURE GRADE WITH SUITABLE MATERIAL RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
3. WATER ENCOUNTERED IN TRENCH OR STRUCTURE EXCAVATION SHALL BE REMOVED BY THE CONTRACTOR TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER TO PROVIDE DRY CONDITIONS DURING CONSTRUCTION OF PIPE OR STRUCTURE.
4. BEDDING AND BACKFILL MATERIAL AND COMPACTED DENSITY, SHALL BE TESTED FOR COMPLIANCE WITH APPLICABLE REQUIREMENTS BY THE GEOTECHNICAL ENGINEER.
5. BEDDING AND PIPE ZONE BACKFILL MATERIAL, SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DENSITY. TRENCH BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 90% OF MAXIMUM DENSITY. THE UPPER 12" BELOW THE BASE OR SUB-BASE COURSE IN PAVED AND OTHER TRAFFIC AREAS AND BELOW BOTTOM OF SLAB TO CONCRETE OR MASONRY SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DENSITY. BACKFILL COMPACTION SHALL BE TESTED FOR COMPLIANCE WITH ASTM D1557, LATEST REVISION, AND/OR COMPLIANCE WITH ASTM D-1557, LATEST REVISION, AND REPORTED BY THE GEOTECHNICAL ENGINEER.
6. CLASS I OR CLASS II (TRENCH) BACKFILL SHALL NOT BE PLACED UNTIL BEDDING AND INITIAL (PIPE ZONE) BACKFILL HAVE BEEN OBSERVED, TESTED AND APPROVED.
7. COMPACTION BY FLOODING OR JETTING IS NOT PERMITTED.
8. CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT(S), THE PROJECT WORK AREA AND VICINITY, AND SHALL EXAMINE HIMSELF WITH THE WORK AREA CONDITIONS. CONTRACTOR SHALL MAKE HIS OWN DEDUCTIONS AND CONCLUSIONS AS TO HOW EXISTING SURFACE AND SUB-SURFACE CONDITIONS WILL AFFECT OR BE AFFECTED BY HIS CONSTRUCTION OPERATIONS, INCLUDING THE NATURE OF MATERIALS TO BE EXCAVATED. THE DEGREE OF DIFFICULTY ASSOCIATED WITH MAKING AND MAINTAINING THE REQUIRED EXCAVATIONS, AND THE DEGREE OF DIFFICULTY WHICH MAY ARISE FROM SUBSURFACE CONDITIONS INCLUDING GROUNDWATER, AND SHALL ACCEPT FULL RESPONSIBILITY THEREOF.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THE INTEGRITY OF EXISTING PAVEMENT ALONG AND BEHIND THE TRENCH SAWCUT LINES DURING CONSTRUCTION. IF THIS PAVEMENT IS BROKEN-OFF OR OTHERWISE DAMAGED BEFORE NEW PAVEMENT IS PLACED, CONTRACTOR SHALL SAWCUT A NEW CONFORM LINE PARALLEL WITH, FULL LENGTH OF, AND SUFFICIENT DISTANCE (1-FOOT MINIMUM) BEHIND ORIGINAL SAWCUT SO AS TO REMOVE DAMAGED PAVEMENT AND / OR IRREGULARITY ALONG THE CONFORM LINE.

ASPHALT PAVEMENT NOTES:

1. UNLESS MODIFIED OR OTHERWISE SPECIFIED BY THE CONSTRUCTION NOTES THAT FOLLOW HEREON INCLUDING THOSE UNDER SEPARATE HEADINGS, PRIVATE ROADWAY MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC), CURRENT EDITION PER LOCATION.
2. ASPHALT CONCRETE SHALL BE IN CONFORMANCE WITH SECTION 203-6. OF THE STANDARD SPECIFICATIONS AND SHALL BE C2-PG 64-10-RAP FOR A SINGLE LAYING COURSE UP TO A THICKNESS NOT EXCEEDING 0.25-FEET IN COMPACTED THICKNESS. IF TOTAL ASPHALT CONCRETE THICKNESS IS GREATER THAN 0.25-FEET (3 INCHES), IT SHALL BE SPREAD AND COMPACTED IN AT LEAST TWO (2) LAYERS WITH THE TOP LAYER (FINISH COURSE) NOT EXCEEDING 0.20-FEET IN COMPACTED THICKNESS AS FOLLOWS:

FINISH COURSE:	C2-PG 64-10
BASE COURSE:	B-PG 64-10
OVERLAY:	C2-PG-64-10
LEVELING COURSE AND SKIN PATCHING:	D2-PG-64-10

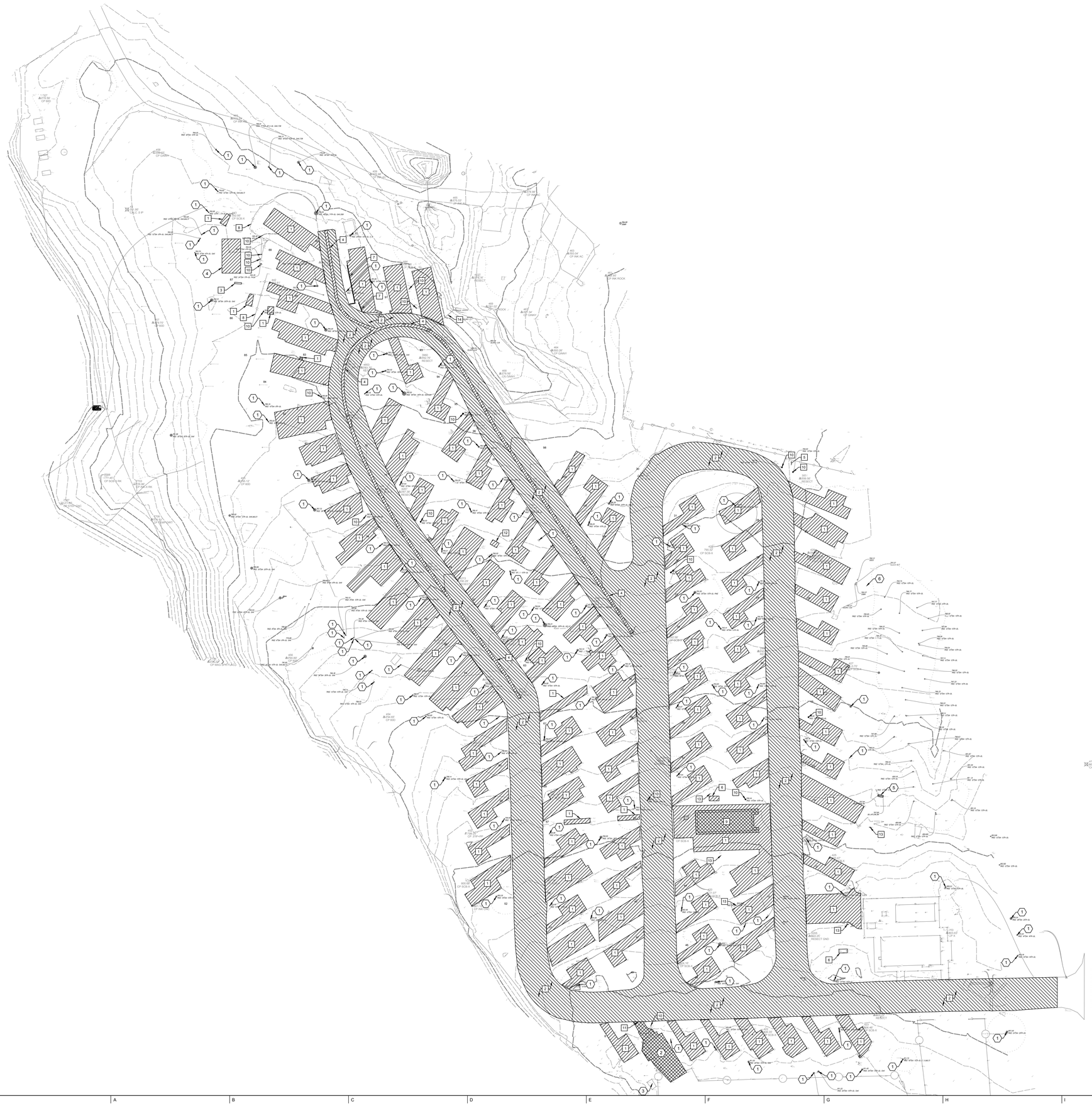
   PAVING ASPHALT SHALL BE GRADE PG64-10 IN CONFORMANCE WITH SECTION 203-1 OF THE STANDARD SPECIFICATIONS. NO RECYCLED ASPHALT SHALL BE INCORPORATED INTO THE A.C. MIX.
3. BEFORE PAVING, A PAINT BINDER (TACK COAT) OF ASPHALTIC EMULSION SHALL BE APPLIED TO ALL EXISTING VERTICAL SURFACES AGAINST WHICH PAVING IS TO BE PLACED AND BETWEEN PAVEMENT COURSES CONSTRUCTED MORE THAN 24 HOURS APART.
4. THE COMPOSITION OF ALL CUTBACK AND EMULSIFIED ASPHALT USED IN THE MANUFACTURE, PLACEMENT OR MAINTENANCE OF ASPHALT CONCRETE PAVEMENT SHALL CONFORM WITH THE AIR POLLUTION CONTROL DISTRICT RULE 329. CONTRACTOR SHALL MAINTAIN RECORDS AVAILABLE FOR INSPECTION FOR A PERIOD OF 2 YEARS WHICH DOCUMENT THE TYPES AND AMOUNTS OF ASPHALTS USED.
5. BASE MATERIAL SHALL BE CRUSHED AGGREGATE BASE IN CONFORMANCE WITH 200-2.2 OF THE STANDARD SPECIFICATIONS.
6. THE PRELIMINARY ESTIMATED ASPHALT PAVEMENT STRUCTURAL SECTION IS AS SHOWN ON THE PLAN DETAILS AND CONSTRUCTION NOTES. ACTUAL THICKNESS OF PAVEMENT SURFACING AND BASE COURSES SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AFTER COMPLETION OF ROUGH GRADING BASED ON "R"-VALUE TESTS OF COMPLETED SUBGRADE MATERIAL AND THE TRAFFIC INDEXES (T.I.'S) SHOWN ON THE PLAN DETAILS, SUBJECT TO APPROVAL BY THE ENGINEER. PREPARATION OF AREAS TO RECEIVE PAVEMENT AND APPURTENANT CONCRETE IMPROVEMENTS, INCLUDING REMOVAL AND RECOMPACTION OF EXISTING SOIL AND PLACEMENT OF FILL SOIL, SHALL BE AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. DURING PAVING OPERATIONS, STRUCTURAL SECTION COMPACTION SHALL BE OBSERVED AND TESTED BY THE GEOTECHNICAL ENGINEER.
7. COMPACTION OF FILL, SUBGRADE AND BASE COURSES AS WELL AS ALL TRENCH BEDDING AND BACKFILL SHALL BE OBSERVED AND TESTED FOR COMPLIANCE WITH APPLICABLE REQUIREMENTS BY THE GEOTECHNICAL ENGINEER.
8. ALL EXISTING AND PROPOSED VALVE AND UTILITY BOXES AND MANHOLE FRAMES AND COVERS SHALL BE ADJUSTED TO FINISH GRADE.
9. AFTER CONSTRUCTION A FLOOD TEST SHALL BE CONDUCTED TO REVIEW SURFACE DRAINAGE, AS FOLLOWS:
   A. WATER SHALL BE SUPPLIED AND DISCHARGED IN SUFFICIENT QUANTITY TO COMPLETELY WET AND COVER ALL PAVEMENT AND CONCRETE GUTTER AREAS; THE OUTLINE LIMITS OF RESIDUAL STANDING/PONDED WATER SHALL THEN BE MARKED
   B. PAVEMENT SHALL BE REMOVED AND REPLACED, AT NO ADDITIONAL COST TO THE OWNER, AS NECESSARY TO PROVIDE POSITIVE SURFACE DRAINAGE AND TO PREVENT PONDING OF WATER ON PAVEMENT SURFACES AND IN GUTTERS
   C. ADDITIONAL FLOOD TESTING SHALL BE CONDUCTED TO CONFIRM SUCCESS OF CORRECTIVE MEASURES.
   D. WHERE SAWCUT LINE IS CONSTRUCTED ALONG CONFORM LINE WITH EXISTING A.C. PAVEMENT, IT IS CONTRACTOR'S RESPONSIBILITY TO PROTECT THE INTEGRITY OF THE PAVEMENT ALONG AND BEHIND THE SAWCUT LINE DURING CONSTRUCTION; IF THIS PAVEMENT IS BROKEN-OFF OR OTHERWISE DAMAGED BEFORE NEW PAVEMENT IS PLACED, CONTRACTOR SHALL SAWCUT A NEW CONFORM LINE PARALLEL WITH, FULL LENGTH OF, AND SUFFICIENT DISTANCE BEHIND ORIGINAL SAWCUT SO AS TO REMOVE DAMAGED PAVEMENT AND/OR IRREGULARITY ALONG THE CONFORM LINE.

DEMOLITION NOTES:

1. THE EXISTENCE AND APPROXIMATE LOCATIONS OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE CONTAINED IN THE AVAILABLE RECORDS PROVIDED. THE CIVIL ENGINEER ASSUMES NO LIABILITY AS TO THE EXACT LOCATION OF SAID LINES, NOR FOR UTILITY OR IRRIGATION LINES WHOSE LOCATIONS ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO WORK OR POTHOLE TO DETERMINE THE EXACT LOCATIONS OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HEREON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO OR PROTECTION OF ALL EXISTING UTILITY LINES.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION OF THE SITE AND SHALL REMOVE AND DISPOSE OF ALL STRUCTURES ABOVE AND OR BELOW GROUND UNLESS NOTED OTHERWISE. ANY HAZARDOUS MATERIALS ENCOUNTERED SHALL BE HANDLED AND REMOVED AS REQUIRED BY LOCAL AND/OR STATE LAWS AT NO COST TO THE OWNER.
3. THE CONTRACTOR SHALL EXERCISE DUE CARE TO AVOID DAMAGE TO EXISTING HARDSCAPE IMPROVEMENTS, UTILITY FACILITIES, AND LANDSCAPING FEATURES THAT ARE NOT AFFECTED BY THESE PLANS.
4. ALL JOIN LINES SHALL BE SAWCUT ON A NEAT, STRAIGHT LINE PARALLEL WITH THE JOIN. THE CUT EDGE SHALL BE PROTECTED FROM CRUSHING, AND ALL BROKEN EDGES SHALL BE RE-CUT PRIOR TO JOINING.
5. ALL EXISTING OBJECTIONABLE MATERIALS THAT CONFLICT WITH PROPOSED IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO, BUILDING FOUNDATIONS, UTILITIES, APPURTENANCES, TREES, SIGNS, STRUCTURES, ETC. SHALL BE REMOVED AND DISPOSED BY THE CONTRACTOR AT NO COST TO THE OWNER, UNLESS NOTED OTHERWISE HEREIN, OR AS DIRECTED BY THE CONSTRUCTION MANAGER.
6. THE CONTRACTOR SHALL PROTECT ALL EXISTING STREETS FROM DAMAGES CAUSED BY HIS OPERATIONS. ANY CURBS DAMAGED DURING HIS OPERATIONS SHALL BE SAWCUT AND REPLACED AT NO COST TO THE OWNER. ANY EXISTING PAVING IDENTIFIED AS POTENTIALLY NEEDING TO BE REPLACED SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO THE COMMENCEMENT OF WORK.
7. THE CONTRACTOR SHALL PERFORM AND BE RESPONSIBLE FOR ALL CLEARING AND GRUBBING OPERATIONS AS NECESSARY TO COMPLETE THE WORK, INCLUDING TRANSPORTATION AND DISPOSAL OF ALL REMOVED MATERIALS, AND ALL ASSOCIATED COSTS.

CONCRETE PAVEMENT AND APPURTENANT CONCRETE NOTES:

1. UNLESS MODIFIED OR OTHERWISE SPECIFIED BY THE CONSTRUCTION NOTES THAT FOLLOW HEREON INCLUDING THOSE UNDER SEPARATE HEADINGS, PRIVATE ROADWAY MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC), CURRENT EDITION PER LOCATION.
2. COMPACTION OF FILL, SUBGRADE AND BASE COURSES AS WELL AS ALL TRENCH BEDDING AND BACKFILL SHALL BE OBSERVED AND TESTED FOR COMPLIANCE WITH APPLICABLE REQUIREMENTS BY THE GEOTECHNICAL ENGINEER.
3. CONCRETE FOR DRIVEWAYS, DRAINAGE STRUCTURES, AND PAVEMENT SHALL BE CLASS 560-A-3250.
4. WHERE GUTTER GRADIENT IS LESS THAN 1.0%, FORM ELEVATIONS SHALL BE CONFIRMED BY LICENSED LAND SURVEYOR PRIOR TO POURING CONCRETE.
5. REINFORCING STEEL SHALL BE GRADE 60 BILLET STEEL, CONFORMING TO ASTM A 615. STEEL BENDING PROCESS SHALL CONFORM TO THE REQUIREMENTS OF MANUAL OF STANDARD PRACTICE OF THE CONCRETE REINFORCING STEEL INSTITUTE. BENDING OR STRAIGHTENING SHALL BE ACCOMPLISHED SO THAT THE STEEL WILL NOT BE DAMAGED. KINKED BARS SHALL NOT BE USED.
6. JOINTS IN CONCRETE PAVEMENT
   A. WEAKENED PLANE CONTROL (CONTRACTION) JOINTS SHALL BE CONSTRUCTED AT REGULAR INTERVALS NOT EXCEEDING 10-FEET EACH WAY (LONGITUDINAL AND TRANSVERSE) AND AT ADDITIONAL LOCATIONS AS MAY BE CALLED FOR IN THE FIELD. JOINTS SHALL BE CONSTRUCTED PER SUBSECTION 303-5.4.2 OF THE SSPWC AS MODIFIED BY THE PLAN DETAILS AND THESE NOTES. REINFORCEMENT SHALL BE CONTINUOUS THROUGH JOINTS. DEPTH OF JOINTS SHALL BE 1/4 SLAB THICKNESS + 1/2-INCH (I.E., 2-INCHES FOR 6-INCH SLAB). JOINTS SHALL BE CONSTRUCTED BY SAWCUTTING GROOVES AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT RAVELING (USUALLY 4 TO 14 HOURS AFTER PLACEMENT). JOINTS SHALL BE FILLED WITH JOINT SEALANT (SIKAFLEX-2CNS OR EQUIVALENT, COLOR LIMESTONE GRAY) AS SOON AFTER COMPLETION OF THE CURING PERIOD AS IS FEASIBLE AND BEFORE PAVEMENT IS OPENED TO TRAFFIC. JOINTS SHALL BE CLEANED OF ALL FOREIGN MATERIAL, INCLUDING MEMBRANE CURING COMPOUNDS, AND SHALL BE SURFACE-DRY WHEN SEALANT IS INSTALLED. JOINT LOCATIONS SHALL BE ADJUSTED AS NECESSARY TO ALIGN WITH THOSE ALREADY CONSTRUCTED IN EXISTING ADJACENT (CONTIGUOUS) FEATURES SUCH AS CURBS AND GUTTERS. ALONG CURVES, TRANSVERSE JOINTS SHALL BE RADIAL.
   B. EXPANSION JOINTS SHALL BE CONSTRUCTED AT LOCATIONS CALLED FOR ON THE PLANS. JOINTS SHALL BE CONSTRUCTED PER SUBSECTION 303-5.4.2 AS MODIFIED BY THE PLAN DETAILS AND THESE NOTES. JOINTS SHALL BE CONSTRUCTED 1/2-INCH WIDE USING ONE PIECE OF PREFORMED JOINT FILLER INSTALLED FROM BOTTOM OF SLAB TO WITHIN 1" OF CONCRETE SURFACE. THE RESULTING RESERVOIR SHALL BE FILLED WITH JOINT SEALANT TO WITHIN ½" OF CONCRETE SURFACE AS SOON AFTER COMPLETION OF THE CURING PERIOD AS IS FEASIBLE AND BEFORE PAVEMENT IS OPENED TO TRAFFIC. JOINTS SHALL BE CLEANED OF ALL FOREIGN MATERIAL, INCLUDING MEMBRANE CURING COMPOUND, AND SHALL BE SURFACE-DRY WHEN SEALANT IS INSTALLED. REINFORCING BARS SHALL BE INTERRUPTED 3 INCHES CLEAR OF EXPANSION JOINTS AND MINIMUM 14-INCH LONG SMOOTH DOWELS INSTALLED ACROSS, AND CENTERED ON, THE JOINT. DOWEL DIAMETER SHALL BE 1/8 SLAB THICKNESS (I.E., 1" FOR 8" SLAB,



GENERAL NOTES:

1. ALL EXISTING UTILITIES BURIED UNDERGROUND IN PROJECT AREA ARE TO BE REMOVED PER COUNTY STANDARDS. NO EXISTING UTILITIES IN PROJECT AREA ARE TO BE ABANDONED IN PLACE. COMPACT ALL TRENCHES TO 95 PERCENT AND HAVE A CALTRANS MATERIAL LAB CHECK COMPACTION EVERY 50-100 FEET.
2. CONTRACTOR TO VERIFY, PRIOR TO START OF DEMOLITION, ALL ITEMS TO BE SALVAGED AND PACKAGED FOR DELIVERY TO COUNTY.
3. EXISTING ASPHALT TO BE REMOVED SHALL BE GROUND UP AND USED AS ROAD BASE.
4. TREES THAT ARE TO BE REMOVED SHALL BE GROUND UP AND USED AS MULCH.
5. ALL EXISTING LIGHT POSTS IN THE PROJECT AREA ARE TO BE REMOVED.

DEMOLITION NOTES

1. EXISTING CONCRETE TO BE REMOVED
2. EXISTING ASPHALT PAVEMENT TO BE REMOVED
3. EXISTING BENCH TO BE REMOVED
4. EXISTING CONCRETE RIBBON CURB TO BE REMOVED
5. EXISTING ASPHALT SIDEWALK TO BE REMOVED
6. EXISTING PROPANE TANK TO BE REMOVED
7. EXISTING WALL TO BE REMOVED
8. EXISTING FENCE TO BE REMOVED
9. EXISTING BUILDING TO BE REMOVED
10. EXISTING TREE TO BE REMOVED
11. EXISTING CONCRETE APRON TO BE SAWCUT AND REMOVED TO ALLOW FOR TIE IN WITH NEW ASPHALT ROAD.
12. EXISTING STRUCTURE TO BE REMOVED
13. EXISTING POWER POLE TO BE REMOVED
14. EXISTING CLAY STORM DRAIN AND ATTACHED INLET AND HEADWALL TO BE REMOVED.

PROTECTION NOTES:

1. PROTECT EXISTING TREE IN PLACE
2. PROTECT EXISTING STRUCTURE AND ACCOMPANYING LANDSCAPING AND FLATWORK IN PLACE. REMOVAL OF HARDSCAPE AND BUILDING IS FOR FUTURE PHASE. CONTRACTOR TO COORDINATE PHASING WITH COUNTY.
3. EXISTING PROPANE TANK AND CONCRETE SLAB TO REMAIN.
4. SAPLING OAK RELOCATION AREA. REFER TO LANDSCAPE PLANS FOR SAPLING OAK RELOCATION INFORMATION.
5. EXISTING BACKFLOW PREVENTER TO BE RELOCATED WEST INTO THE PROPOSED BERM. SEE LANDSCAPE PLANS FOR PROPOSED BERM.
6. EXISTING CONCRETE VAULT. CONTRACTOR TO COORDINATE WITH OWNER TO DETERMINE IF VAULT IS PART OF THE OLD SEWER SYSTEM. IF SO, THEN CONTRACTOR TO REMOVE CONCRETE VAULT AND BACKFILL. OTHERWISE, CONCRETE VAULT TO REMAIN AND BE PROTECTED IN PLACE.

DIGALERT
DIAL TOLL FREE
811 OR
(1-800-422-4133)
AT LEAST TWO DAYS
BEFORE YOU DIG
UNDERGROUND SERVICE ALERT

HORIZONTAL SCALE: 1" = 10'
10 0 10 20

Plan Prepared By:
Ashley & Vance ENGINEERING, INC.
210 East Cota Street
Santa Barbara, CA 93101
(805) 962-8966
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Engineer of Record:

REGISTERED PROFESSIONAL ENGINEER
JASON J GOTS
66701
CIVIL
STATE OF CALIFORNIA

CACHUMA LAKE CTR RENEWAL

2265 HWY 154
SANTA BARBARA, CA 93105

Revisions:		
1	-	
2	-	
3	-	
4	-	
5	-	
Project Engineer: BWV		Ext: 130
Project Manager: JJG		
Date: 06.09.2023	Scale: PER PLAN	
AV Job No: 191478	Sheet Size: 30" x 42"	

DEMOLITION PLAN

C-1.1

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SEE SHEET C-2.2

SEE SHEET C-2.3

SEE SHEET C-2.2

SEE SHEET C-2.4

SEE SHEET C-2.3

SEE SHEET C-2.5

SEE SHEET C-2.4

SEE SHEET C-2.5

BENCHMARK
SSMH
RIM EL = 792.27

LAKE VIEW

MOUNTAIN VIEW DRIVE

OAK VIEW DRIVE

PARK VIEW DRIVE

PARK VIEW DRIVE

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40 0 40 80

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SANTA BARBARA, CA 93105

Revisions:

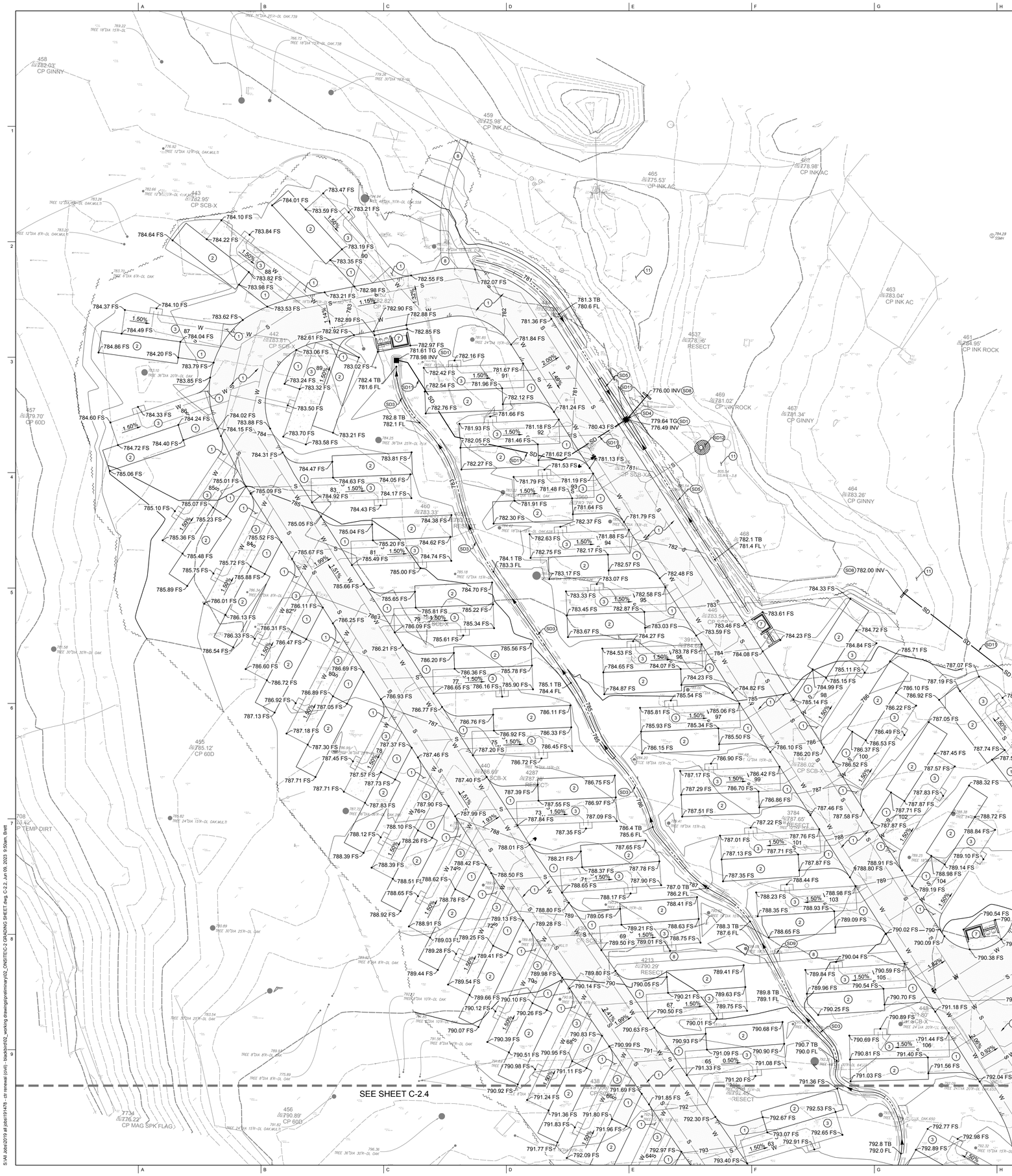
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Project Engineer: BWV	Ext: 130
Project Manager: JJG	
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GRADING AND DRAINAGE INDEX

C-2.1

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GENERAL NOTES:

1. SEE DEMOLITION AND PROTECTION PLAN FOR ADDITIONAL INFORMATION.
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   CONTACT: RONALD J. PIKE, G.E. PHONE: (805) 964-6901
3. PROPOSED TREES ARE NOT SHOWN ON THESE PLANS. PLEASE REFER TO LANDSCAPING PLAN FOR PROPOSED TREE LOCATIONS.
4. CONTRACTOR IS TO COORDINATE VEHICULAR ACCESS TO EXISTING MOBILE HOME WITH COUNTY PRIOR TO START OF CONSTRUCTION.
5. TREES TO BE INSPECTED DURING CONSTRUCTION BY ARBORIST.

SITE CONSTRUCTION NOTES:

(1) CONSTRUCT ASPHALT DRIVEWAY SECTION PER DETAIL 1, SHEET C-4.1.

(2) CONSTRUCT DG CAMPING AREA PER LANDSCAPE PLANS.

(3) CONSTRUCT CONCRETE DRIVEWAY SECTION PER DETAIL 2, SHEET C-4.1. FINISH AND CONTROL JOINT LAYOUT PER LANDSCAPE DRAWINGS.

(4) CONSTRUCT CONCRETE WALKWAY SECTION PER DETAIL 3, SHEET C-4.1.

(5) CONSTRUCT PAVER DRIVEWAY SECTION PER DETAIL 5, SHEET C-4.1.

(6) CONSTRUCT ADA PARKING STALL PER ARCHITECTURAL PLANS AND DETAIL 6, SHEET C-4.1.

(7) CONSTRUCT TRASH ENCLOSURE PER ARCHITECTURAL PLANS. CONCRETE SLAB PER DETAIL 2, SHEET C-4.1. CONTRACTOR TO COORDINATE SIZE OF TRASH ENCLOSURE WITH ARCHITECT PRIOR TO CONSTRUCTION.

(8) CONSTRUCT DG WALK PATH PER LANDSCAPE PLANS.

(9) CONSTRUCT BENCH PER ARCHITECTURAL PLANS.

(10) CONSTRUCT PING PONG TABLE CONCRETE PAD SECTION PER DETAIL 3, SHEET C-4.1. SEE LANDSCAPE PLANS FOR FINAL LOCATION AND SIZE.

(11) CONTRACTOR TO REGRADE EXISTING DRAINAGE CHANNEL AS NEEDED TO PROVIDE POSITIVE DRAINAGE THROUGHOUT.

(12) CONSTRUCT HEAVY TIMBER GATEWAY. SEE LANDSCAPE DRAWINGS FOR ADDITIONAL INFORMATION.

(13) INSTALL TELECOMMUNICATIONS PER TELECOMMUNICATION PLANS. CONTRACTOR TO PATCH AND REPAIR PAVER PATIO AS NECESSARY.

(14) CONTRACTOR TO COORDINATE DESIGN INTENT LAYOUT OF THIS AREA PER LANDSCAPE DRAWINGS. CONTRACTOR TO COORDINATE AND PROVIDE POSITIVE DRAINAGE AS NOTED IN THESE PLANS.

STORM DRAIN CONSTRUCTION NOTES:

(SD1) INSTALL 18-INCH PEDESTRIAN RATED FLAT GRATE DRAIN PER DETAIL 11, SHEET C-4.1.

(SD2) INSTALL 4-INCH SDR35 OR APPROVED EQUAL PVC STORM DRAIN LINE PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS AND DETAIL 12, SHEET C-4.1.

(SD3) CONSTRUCT SWALE PER LANDSCAPE PLANS AND PER DETAIL 20, SHEET C-4.1.

(SD4) CONNECT TO EXISTING STORM DRAIN.

(SD5) CONSTRUCT VEGETATED SWALE PER LANDSCAPE PLANS.

(SD6) INSTALL 4-INCH INLET PER DETAIL 17, SHEET C-4.1.

(SD7) CONSTRUCT DRY STACK HEADWALL PER DETAIL 10, SHEET C-4.1.

(SD8) CONSTRUCT CONCRETE HEADWALL PER DETAIL 15, SHEET C-4.1.

(SD9) CONSTRUCT CONCRETE SLAB BRIDGE OVER SWALE PER DETAIL 16, SHEET C-4.1.

(SD10) INSTALL 12-INCH OR APPROVED EQUAL HDPE STORM DRAIN LINE PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS AND DETAIL 19, SHEET C-4.1.

(SD11) INSTALL 18-INCH OR APPROVED EQUAL HDPE STORM DRAIN LINE PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS AND DETAIL 19, SHEET C-4.1.

(SD12) CONSTRUCT MANHOLE RIPRAP ARMORING PER DETAIL 32, SHEET C-4.1.

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SANTA BARBARA, CA 93105

Revisions:	
1	.
2	.
3	.
4	.
5	.

Project Engineer: BWV	Ext: 130
Project Manager: JJG	
Date: 06.09.2023	Scale: PER PLAN
AV Job No: 191478	Sheet Size: 30" x 42"

GRADING AND DRAINAGE PLAN

C-2.2

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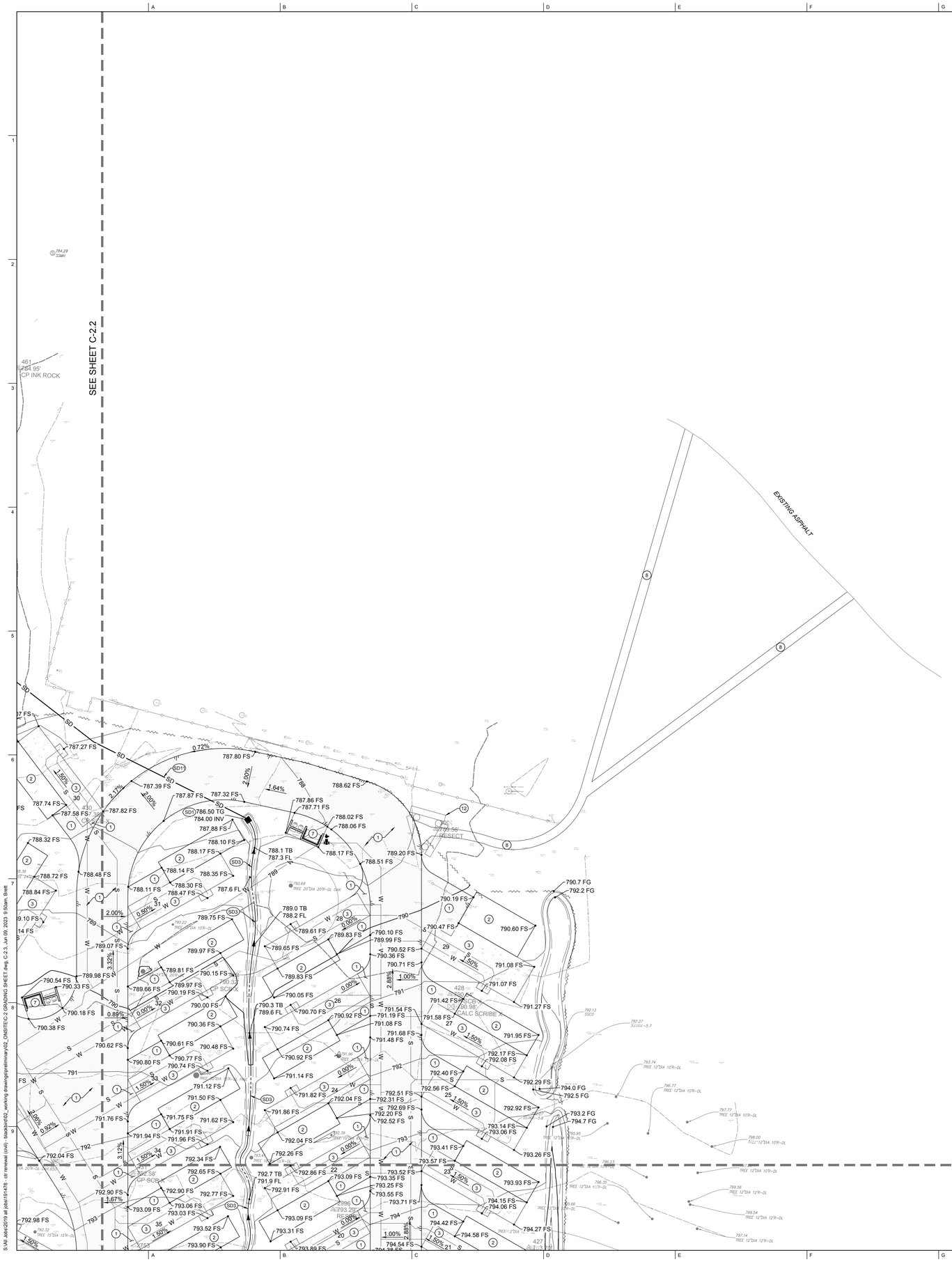
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- SD12 CONSTRUCT MANHOLE RIPRAP ARMORING PER DETAIL 32, SHEET C-4.1.

SEE SHEET C-2.2

SEE SHEET C-2.5


EXISTING ASPHALT
784.29 SSMH
461 LF 25" RCP 795.95 CP INK ROCK
787.27 FS
787.80 FS
787.39 FS
787.87 FS
787.32 FS
787.74 FS
787.58 FS
787.82 FS
786.50 TG
784.00 INV
787.88 FS
788.62 FS
787.86 FS
787.71 FS
788.02 FS
788.06 FS
788.10 FS
788.17 FS
788.1 TB
787.3 FL
788.51 FS
789.20 FS
788.32 FS
788.72 FS
788.48 FS
788.14 FS
788.35 FS
788.11 FS
788.30 FS
788.47 FS
787.6 FL
788.84 FS
789.0 TB
788.2 FL
789.75 FS
789.61 FS
789.83 FS
790.10 FS
789.99 FS
790.52 FS
790.36 FS
790.71 FS
790.19 FS
790.47 FS
790.60 FS
790.7 FG
792.2 FG
789.07 FS
789.97 FS
789.65 FS
789.81 FS
789.15 FS
789.83 FS
791.08 FS
790.54 FS
790.33 FS
789.98 FS
789.66 FS
789.97 FS
790.19 FS
790.05 FS
791.07 FS
790.3 TB
789.6 FL
790.70 FS
790.92 FS
791.54 FS
791.19 FS
791.08 FS
791.42 FS
791.58 FS
791.27 FS
790.18 FS
790.00 FS
790.38 FS
790.36 FS
790.74 FS
791.68 FS
791.48 FS
790.62 FS
790.61 FS
790.48 FS
790.80 FS
790.77 FS
790.74 FS
790.92 FS
791.95 FS
792.17 FS
792.08 FS
791.14 FS
792.40 FS
792.29 FS
794.0 FG
792.5 FG
791.12 FS
791.50 FS
791.82 FS
792.04 FS
792.51 FS
792.31 FS
792.56 FS
792.92 FS
793.2 FG
794.7 FG
791.76 FS
791.75 FS
791.62 FS
791.86 FS
792.69 FS
792.20 FS
792.52 FS
793.14 FS
793.06 FS
791.94 FS
791.91 FS
791.96 FS
792.04 FS
793.41 FS
793.26 FS
792.04 FS
792.34 FS
792.26 FS
793.57 FS
792.58' CP SCE
792.65 FS
792.86 FS
793.09 FS
793.52 FS
792.7 TB
791.9 FL
792.91 FS
793.35 FS
793.25 FS
793.55 FS
793.71 FS
793.93 FS
792.90 FS
792.77 FS
793.06 FS
793.03 FS
793.09 FS
794.15 FS
794.06 FS
792.98 FS
793.52 FS
793.31 FS
794.42 FS
794.58 FS
794.27 FS
793.90 FS
793.89 FS
794.54 FS
794.38 FS
428 LF 30" RCP 790.98' CALC SCRIBE X
427 LF 30" RCP 793.25' CALC SCRIBE X
792.68 TREE 20"DIA 20'R-DL OAK
791.96 TREE 12"DIA 10'R-DL
792.13 SSCO
792.27 SSMH
793.74 TREE 12"DIA 10'R-DL
796.77 TREE 12"DIA 10'R-DL
797.77 TREE 12"DIA 10'R-DL
798.00 TREE 12"DIA 10'R-DL
796.21 TREE 12"DIA 10'R-DL
796.35 TREE 12"DIA 10'R-DL
795.66 TREE 12"DIA 10'R-DL
799.56 TREE 12"DIA 12'R-DL
799.54 TREE 12"DIA 12'R-DL
797.14 TREE 12"DIA 12'R-DL
792.32 TREE 12"DIA 15'R-DL
792.37 TREE 12"DIA 10'R-DL
793.95 TREE 12"DIA 10'R-DL
793.66 TREE 12"DIA 10'R-DL
793.96 TREE 12"DIA 10'R-DL
793.89 TREE 12"DIA 10'R-DL
796.96 TREE 12"DIA 10'R-DL
796.95

SEE SHEET C-2.2

SEE SHEET C-2.5

1 EXISTING MOBILE HOME DRIVE MODIFICATION
1"=10'

NOTE: CONTRACTOR IS TO COORDINATE VEHICULAR ACCESS TO EXISTING MOBILE HOME WITH COUNTY PRIOR TO START OF CONSTRUCTION.

RV STALL AT THIS LOCATION TO BE INSTALLED IN THE FUTURE. CONTRACTOR IS TO COORDINATE VEHICULAR ACCESS TO EXISTING MOBILE HOME WITH COUNTY PRIOR TO START OF CONSTRUCTION.

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9. CONSTRUCT BENCH PER ARCHITECTURAL PLANS.
10. CONSTRUCT PING PONG TABLE CONCRETE PAD SECTION PER DETAIL 3, SHEET C-4.1. SEE LANDSCAPE PLANS FOR FINAL LOCATION AND SIZE.
11. CONTRACTOR TO REGRADE EXISTING DRAINAGE CHANNEL AS NEEDED TO PROVIDE POSITIVE DRAINAGE THROUGHOUT.
12. CONSTRUCT HEAVY TIMBER GATEWAY. SEE LANDSCAPE DRAWINGS FOR ADDITIONAL INFORMATION.
13. INSTALL TELECOMMUNICATIONS PER TELECOMMUNICATION PLANS. CONTRACTOR TO PATCH AND REPAIR PAVER PATIO AS NECESSARY.
14. CONTRACTOR TO COORDINATE DESIGN INTENT LAYOUT OF THIS AREA PER LANDSCAPE DRAWINGS. CONTRACTOR TO COORDINATE AND PROVIDE POSITIVE DRAINAGE AS NOTED IN THESE PLANS.

STORM DRAIN CONSTRUCTION NOTES:

- SD1 INSTALL 18-INCH PEDESTRIAN RATED FLAT GRATE DRAIN PER DETAIL 11, SHEET C-4.1.
- SD2 INSTALL 4-INCH SDR35 OR APPROVED EQUAL PVC STORM DRAIN LINE PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS AND DETAIL 12, SHEET C-4.1.
- SD3 CONSTRUCT SWALE PER LANDSCAPE PLANS AND PER DETAIL 20, SHEET C-4.1.
- SD4 CONNECT TO EXISTING STORM DRAIN.
- SD5 CONSTRUCT VEGETATED SWALE PER LANDSCAPE PLANS.
- SD6 INSTALL 4-INCH INLET PER DETAIL 17, SHEET C-4.1.
- SD7 CONSTRUCT DRY STACK HEADWALL PER DETAIL 10, SHEET C-4.1.
- SD8 CONSTRUCT CONCRETE HEADWALL PER DETAIL 15, SHEET C-4.1.
- SD9 CONSTRUCT CONCRETE SLAB BRIDGE OVER SWALE PER DETAIL 16, SHEET C-4.1.
- SD10 INSTALL 12-INCH OR APPROVED EQUAL HDPE STORM DRAIN LINE PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS AND DETAIL 19, SHEET C-4.1.
- SD11 INSTALL 18-INCH OR APPROVED EQUAL HDPE STORM DRAIN LINE PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS AND DETAIL 19, SHEET C-4.1.
- SD12 CONSTRUCT MANHOLE RIPRAP ARMORING PER DETAIL 32, SHEET C-4.1.

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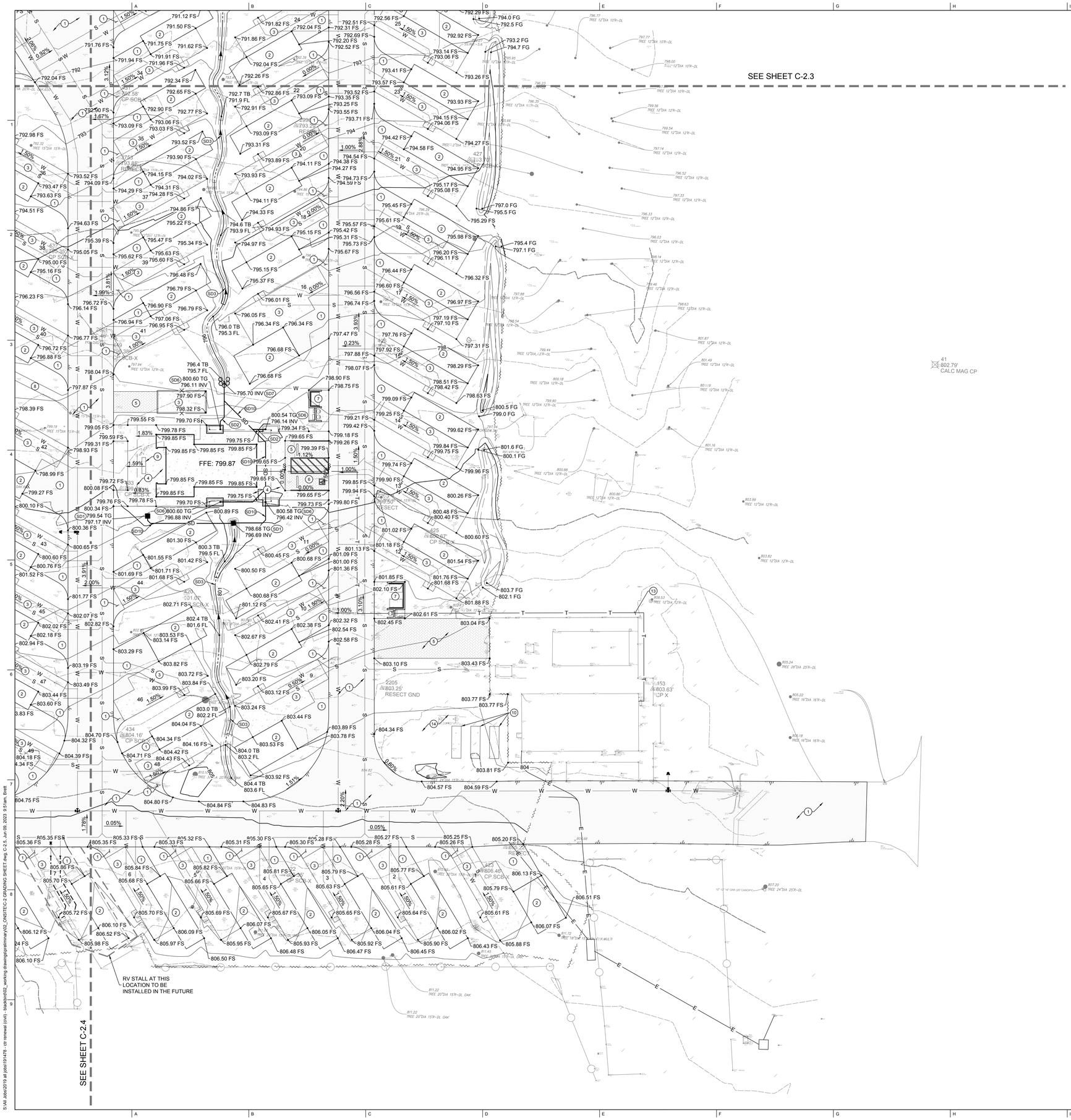
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Revisions:	
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Project Engineer: BWV	Ext: 130
Project Manager: JJG	
Date: 06.09.2023	Scale: PER PLAN
AV Job No: 191478	Sheet Size: 30" x 42"

GRADING AND DRAINAGE PLAN

C-2.4

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GENERAL NOTES:

1. SEE DEMOLITION AND PROTECTION PLAN FOR ADDITIONAL INFORMATION.
2. ALL DEMOLITION AND GRADING SHALL BE IN COMPLIANCE WITH THE RECOMMENDATIONS CONTAINED IN THE SOILS REPORT PREPARED BY PACIFIC MATERIALS LABORATORY, FILE NO. 22-13447C-2, DATED SEPTEMBER 14, 2022 AND ALL ADDENDA TO THE REPORT SHALL BE CONSIDERED PART OF THESE PLANS. CONTRACTOR SHALL CONTACT SOILS ENGINEER PRIOR TO START OF DEMOLITION WORK.

   CONTACT: RONALD J. PIKE, G.E. PHONE: (805) 964-6901
3. PROPOSED TREES ARE NOT SHOWN ON THESE PLANS. PLEASE REFER TO LANDSCAPING PLAN FOR PROPOSED TREE LOCATIONS.
4. CONTRACTOR IS TO COORDINATE VEHICULAR ACCESS TO EXISTING MOBILE HOME WITH COUNTY PRIOR TO START OF CONSTRUCTION.
5. TREES TO BE INSPECTED DURING CONSTRUCTION BY ARBORIST.

SITE CONSTRUCTION NOTES:

1. CONSTRUCT ASPHALT DRIVEWAY SECTION PER DETAIL 1, SHEET C-4.1.
2. CONSTRUCT DG CAMPING AREA PER LANDSCAPE PLANS.
3. CONSTRUCT CONCRETE DRIVEWAY SECTION PER DETAIL 2, SHEET C-4.1. FINISH AND CONTROL JOINT LAYOUT PER LANDSCAPE DRAWINGS.
4. CONSTRUCT CONCRETE WALKWAY SECTION PER DETAIL 3, SHEET C-4.1.
5. CONSTRUCT PAVER DRIVEWAY SECTION PER DETAIL 5, SHEET C-4.1.
6. CONSTRUCT ADA PARKING STALL PER ARCHITECTURAL PLANS AND DETAIL 6, SHEET C-4.1.
7. CONSTRUCT TRASH ENCLOSURE PER ARCHITECTURAL PLANS. CONCRETE SLAB PER DETAIL 2, SHEET C-4.1. CONTRACTOR TO COORDINATE SIZE OF TRASH ENCLOSURE WITH ARCHITECT PRIOR TO CONSTRUCTION.
8. CONSTRUCT DG WALK PATH PER LANDSCAPE PLANS.
9. CONSTRUCT BENCH PER ARCHITECTURAL PLANS.
10. CONSTRUCT PING PONG TABLE CONCRETE PAD SECTION PER DETAIL 3, SHEET C-4.1. SEE LANDSCAPE PLANS FOR FINAL LOCATION AND SIZE.
11. CONTRACTOR TO REGRADE EXISTING DRAINAGE CHANNEL AS NEEDED TO PROVIDE POSITIVE DRAINAGE THROUGHOUT.
12. CONSTRUCT HEAVY TIMBER GATEWAY. SEE LANDSCAPE DRAWINGS FOR ADDITIONAL INFORMATION.
13. INSTALL TELECOMMUNICATIONS PER TELECOMMUNICATION PLANS. CONTRACTOR TO PATCH AND REPAIR PAVER PATIO AS NECESSARY.
14. CONTRACTOR TO COORDINATE DESIGN INTENT LAYOUT OF THIS AREA PER LANDSCAPE DRAWINGS. CONTRACTOR TO COORDINATE AND PROVIDE POSITIVE DRAINAGE AS NOTED IN THESE PLANS.

STORM DRAIN CONSTRUCTION NOTES:

- (SD1) INSTALL 18-INCH PEDESTRIAN RATED FLAT GRATE DRAIN PER DETAIL 11, SHEET C-4.1.
- (SD2) INSTALL 4-INCH SDR35 OR APPROVED EQUAL PVC STORM DRAIN LINE PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS AND DETAIL 12, SHEET C-4.1.
- (SD3) CONSTRUCT SWALE PER LANDSCAPE PLANS AND PER DETAIL 20, SHEET C-4.1.
- (SD4) CONNECT TO EXISTING STORM DRAIN.
- (SD5) CONSTRUCT VEGETATED SWALE PER LANDSCAPE PLANS.
- (SD6) INSTALL 4-INCH INLET PER DETAIL 17, SHEET C-4.1.
- (SD7) CONSTRUCT DRY STACK HEADWALL PER DETAIL 10, SHEET C-4.1.
- (SD8) CONSTRUCT CONCRETE HEADWALL PER DETAIL 15, SHEET C-4.1.
- (SD9) CONSTRUCT CONCRETE SLAB BRIDGE OVER SWALE PER DETAIL 16, SHEET C-4.1.
- (SD10) INSTALL 12-INCH OR APPROVED EQUAL HDPE STORM DRAIN LINE PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS AND DETAIL 19, SHEET C-4.1.
- (SD11) INSTALL 18-INCH OR APPROVED EQUAL HDPE STORM DRAIN LINE PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS AND DETAIL 19, SHEET C-4.1.
- (SD12) CONSTRUCT MANHOLE RIPRAP ARMORING PER DETAIL 32, SHEET C-4.1.

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Project Engineer: BWV	Ext: 130
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Date: 06.09.2023	Scale: PER PLAN
AV Job No: 191478	Sheet Size: 30" x 42"

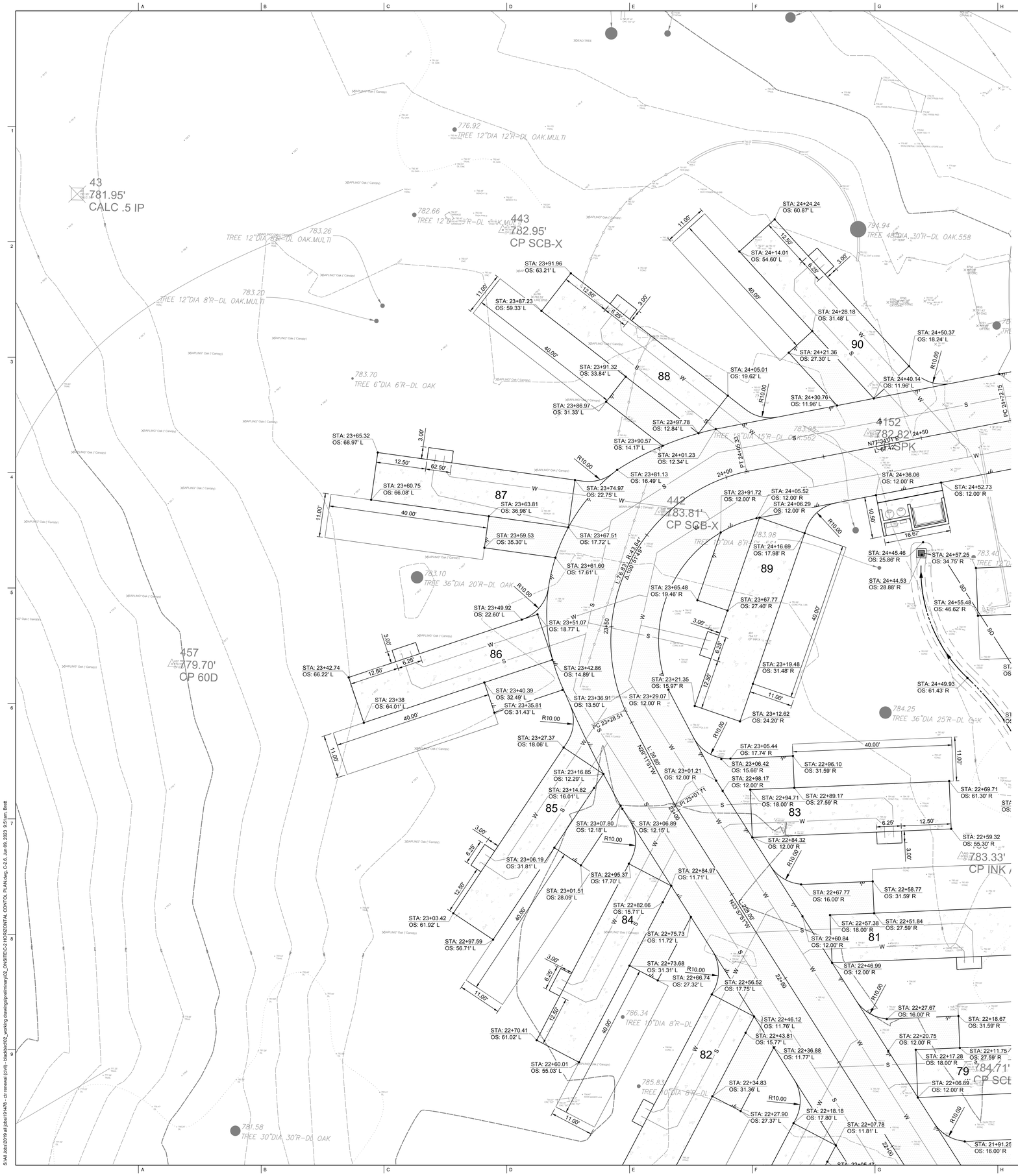
GRADING AND DRAINAGE PLAN

C-2.5

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1 KEYMAP

1" = 100'

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Project Manager: JJG	
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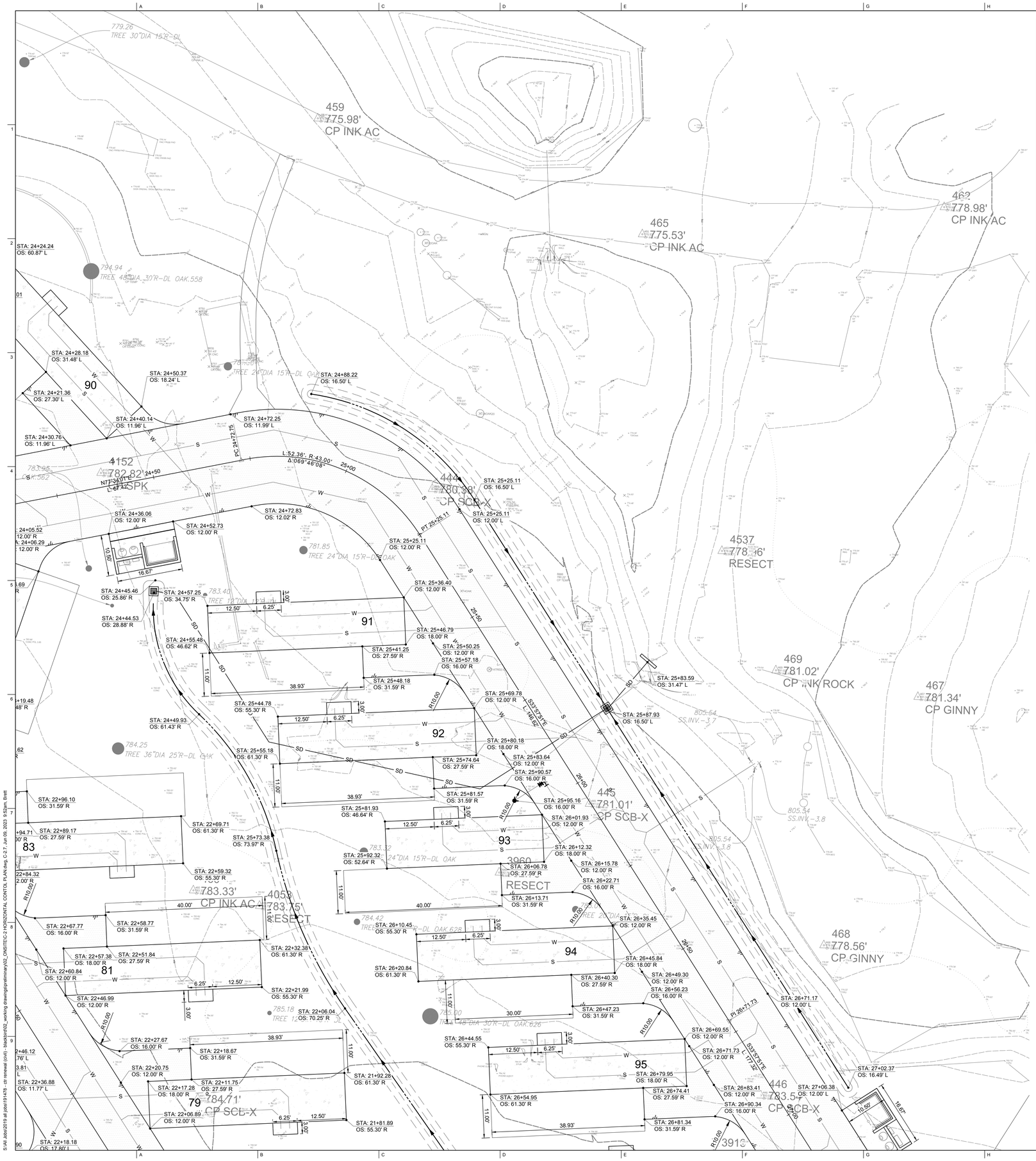
HORIZONTAL CONTROL PLAN

C-2.6

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1 KEYMAP
1" = 100'

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Project Manager: JJG	
Date: 06.09.2023	Scale: PER PLAN
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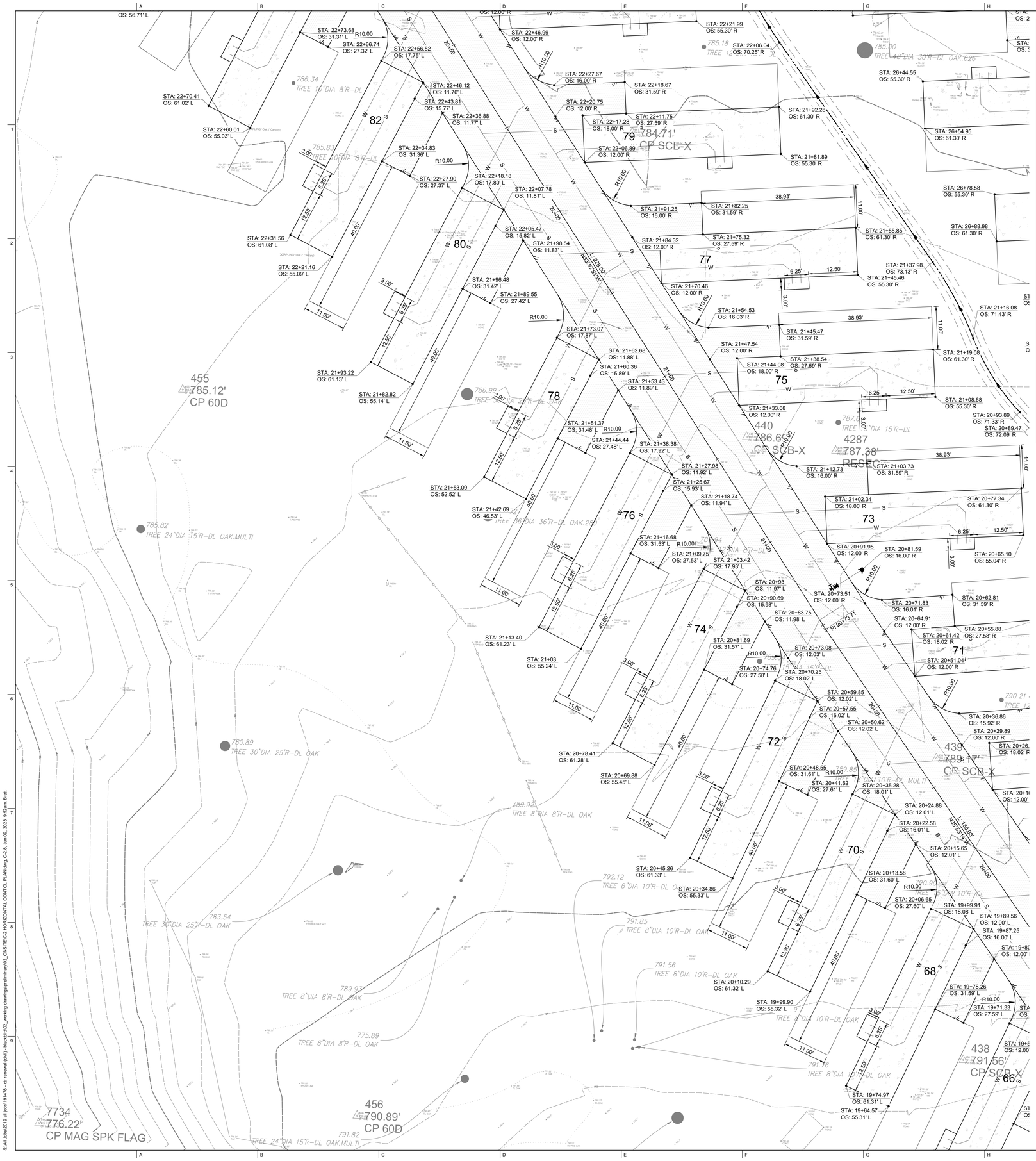
HORIZONTAL CONTROL PLAN

C-2.7

DIGALERT
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BEFORE YOU DIG
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1 KEYMAP

1" = 100'

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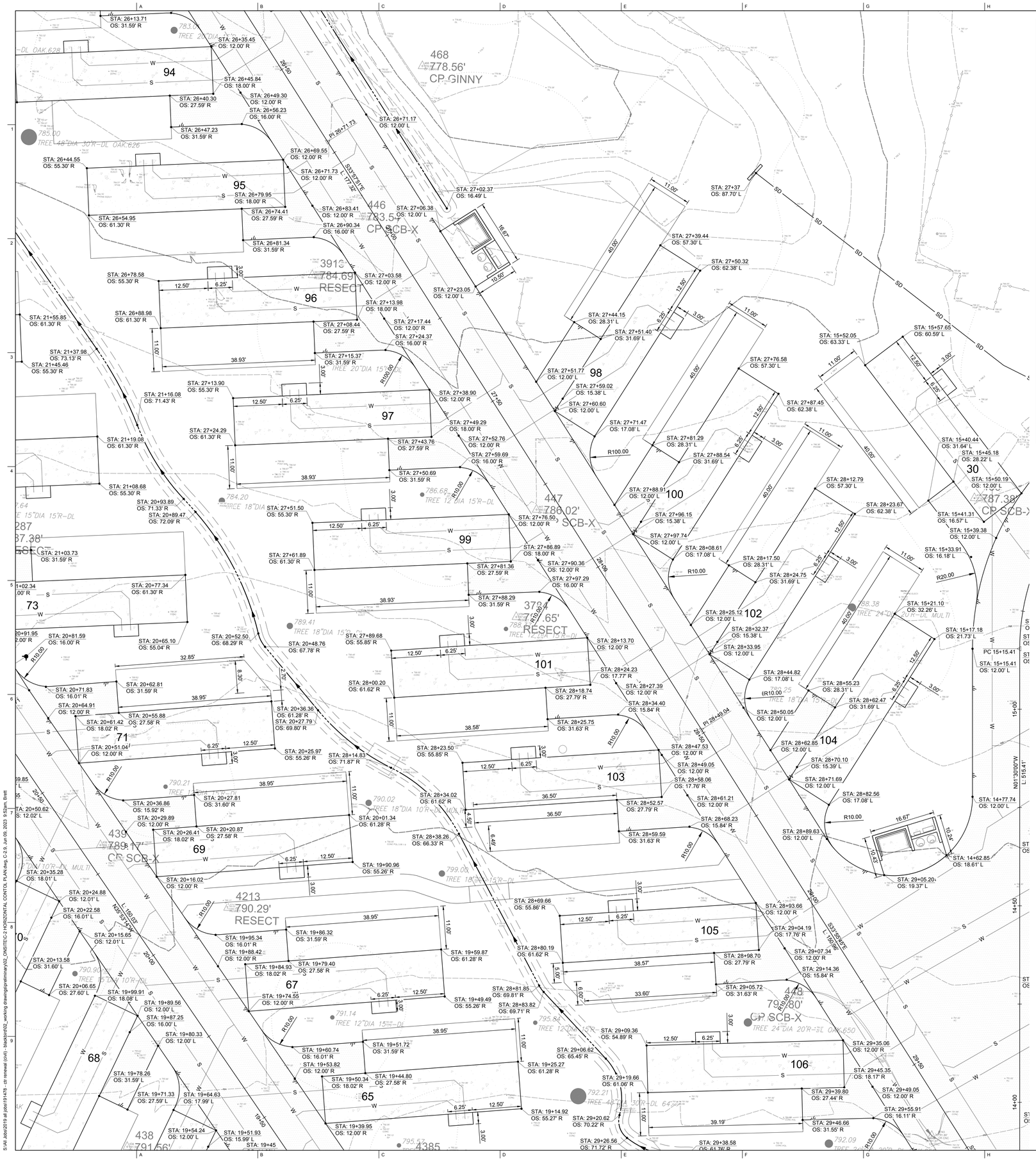
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HORIZONTAL CONTROL PLAN

C-2.8

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Project Manager: JJG	
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HORIZONTAL CONTROL PLAN

C-2.9

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Project Manager: JJG	
Date: 06.09.2023	Scale: PER PLAN
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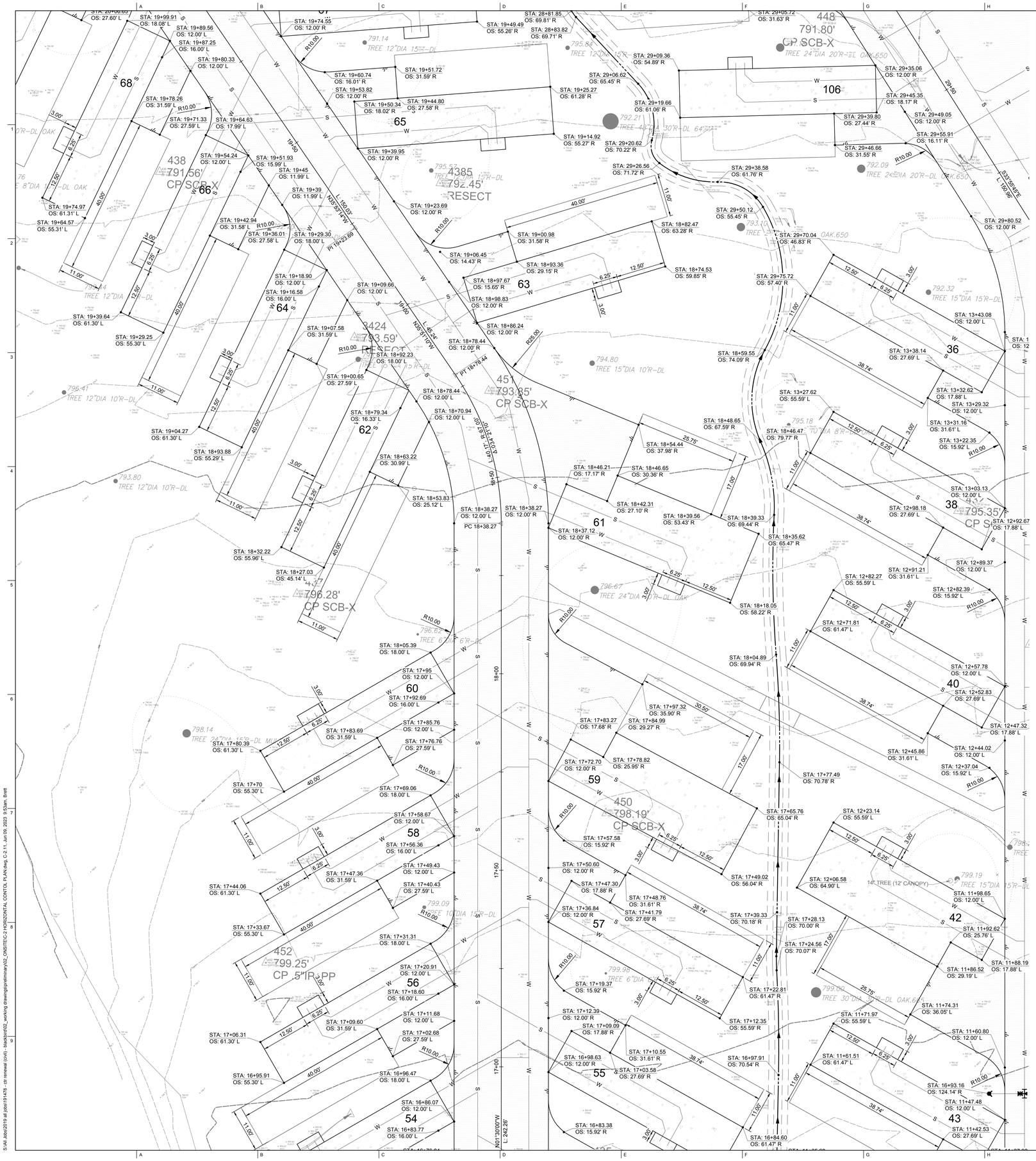
HORIZONTAL CONTROL PLAN

C-2.10

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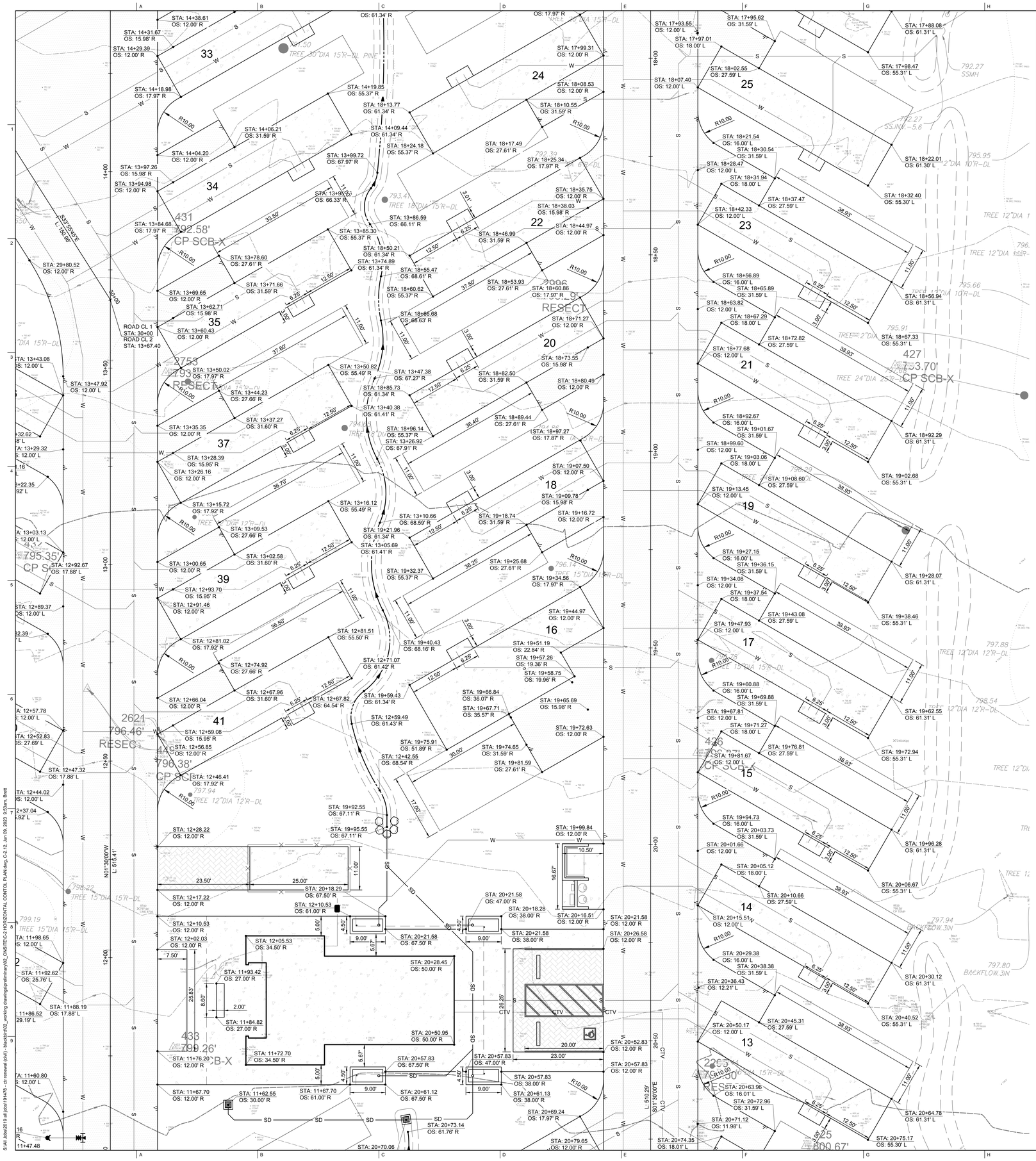
HORIZONTAL CONTROL PLAN

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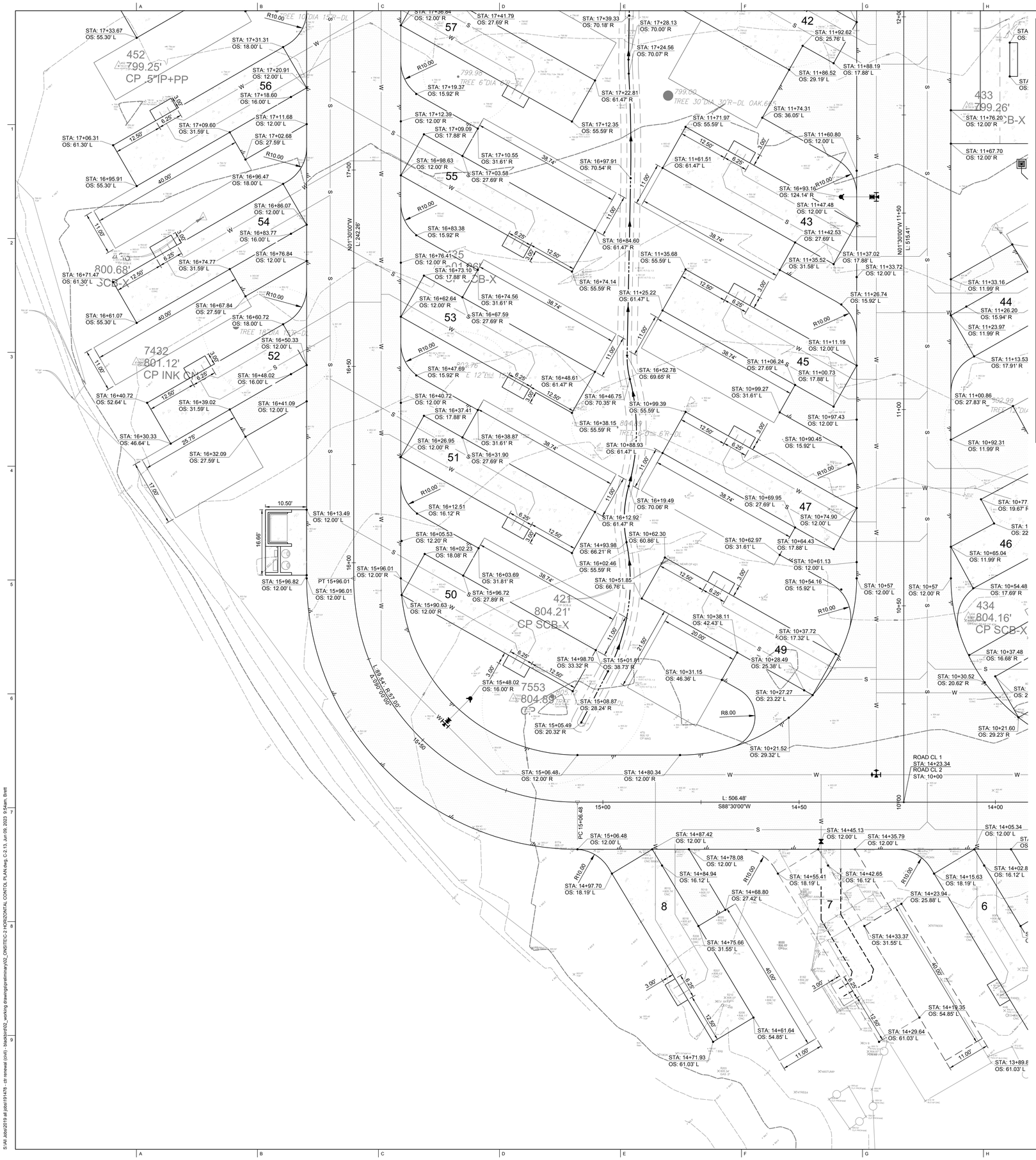
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HORIZONTAL SCALE: 1" = 10'
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HORIZONTAL CONTROL PLAN

C-2.12

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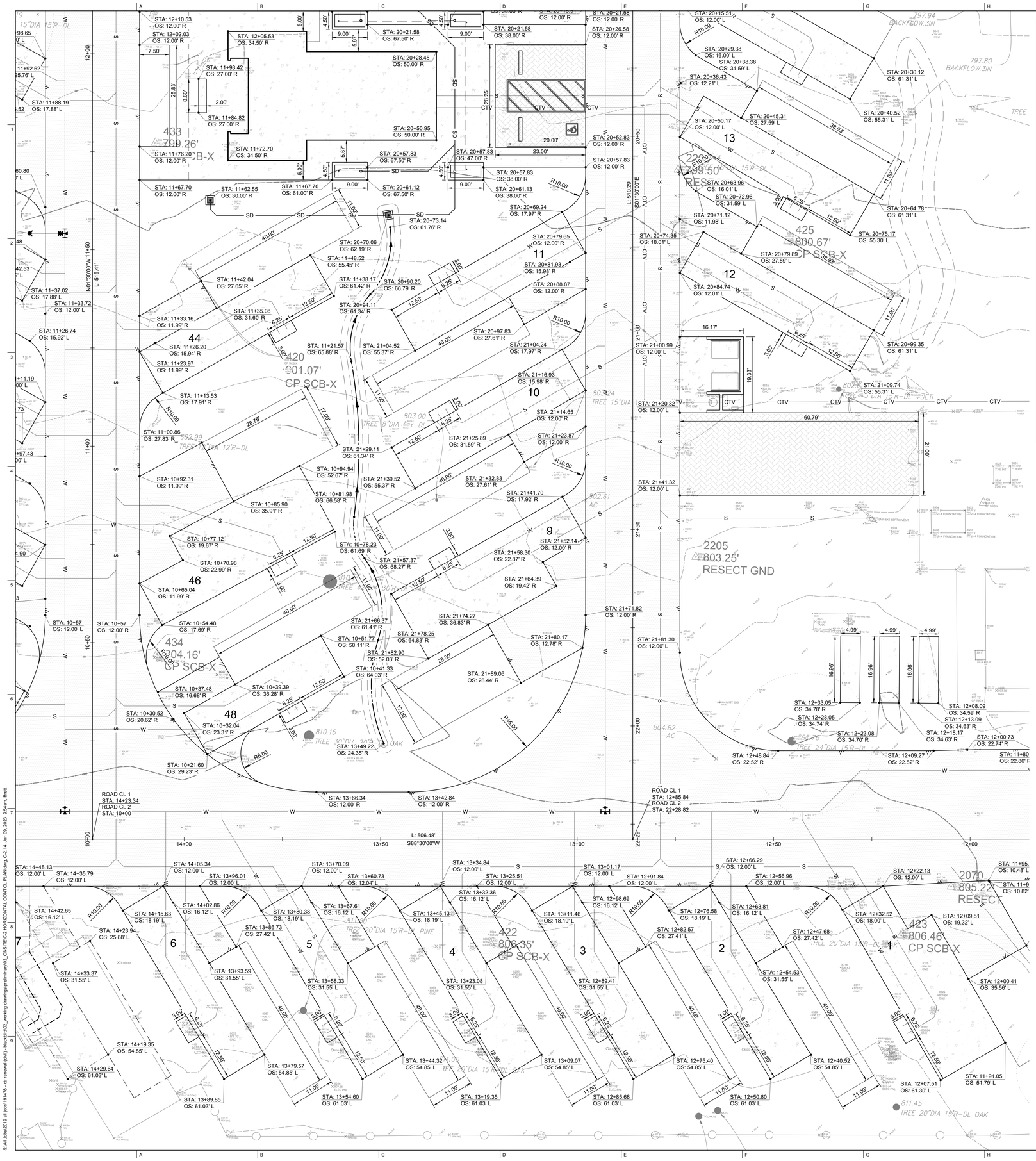
HORIZONTAL CONTROL PLAN

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Date: 06.09.2023	Scale: PER PLAN
AV Job No: 191478	Sheet Size: 30" x 42"

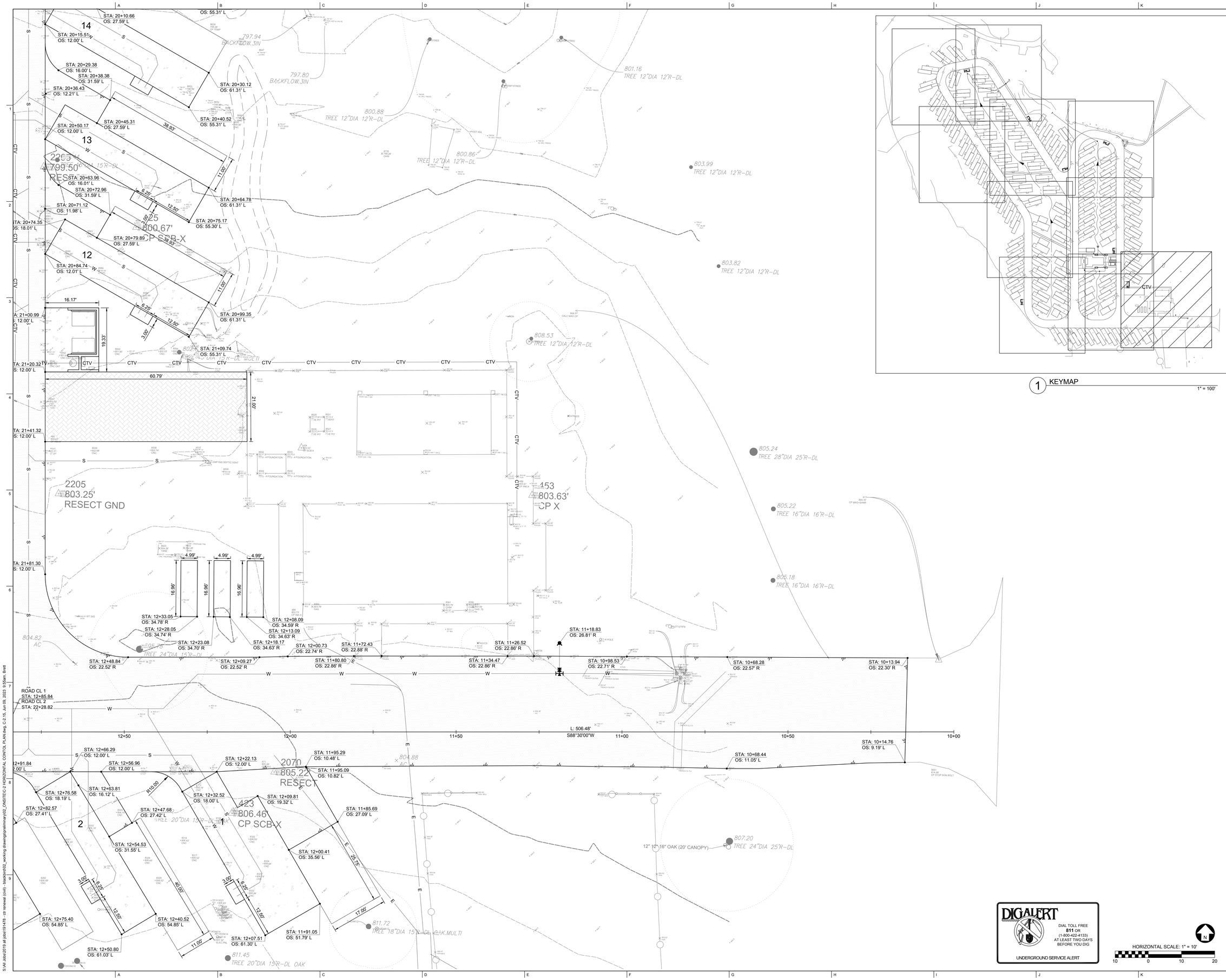
HORIZONTAL CONTROL PLAN

C-2.14

DIGALERT
DIAL TOLL FREE
811 OR
(1-800-422-4133)
AT LEAST TWO DAYS
BEFORE YOU DIG
UNDERGROUND SERVICE ALERT

HORIZONTAL SCALE: 1" = 10'
10 0 10 20

S:\All Jobs\2019 all jobs\191478 - ctr renewal (civil) - blacks\civil\02_working drawings\preliminary\02_ONSITE\C-2 HORIZONTAL CONTOL PLAN.dwg, C-2.14, Jun 09, 2023, 9:54am, Brett



1 KEYMAP
1" = 100'

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Engineer of Record:

REGISTERED PROFESSIONAL ENGINEER
JASON J. GOTS
66701
CIVIL
STATE OF CALIFORNIA

CACHUMA LAKE CTR RENEWAL

2265 HWY 154
SANTA BARBARA, CA 93105

Revisions:

1	.
2	.
3	.
4	.
5	.
6	.

Project Engineer: BWV	Ext: 130
Project Manager: JJG	
Date: 06.09.2023	Scale: PER PLAN
AV Job No: 191478	Sheet Size: 30" x 42"

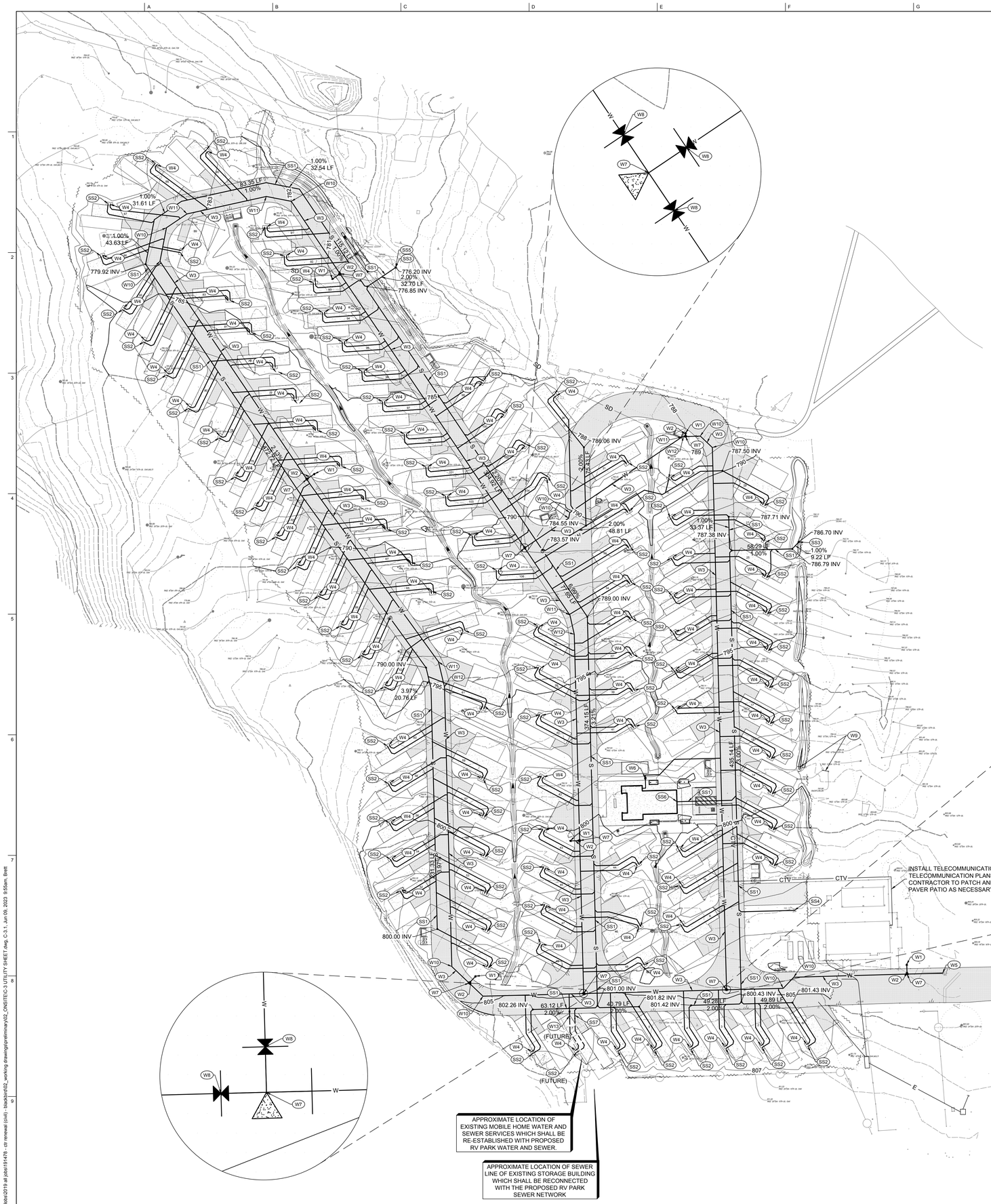
HORIZONTAL CONTROL PLAN

C-2.15

DIGALERT
DIAL TOLL FREE
811 OR
(1-800-422-4133)
AT LEAST TWO DAYS
BEFORE YOU DIG
UNDERGROUND SERVICE ALERT

HORIZONTAL SCALE: 1" = 10'
10 0 10 20

S:\All Jobs\2019 all jobs\191478 - ctr renewal (civil) - blackjord\02_working drawings\preliminary\02_ONSITE\C-2 HORIZONTAL CONTOL PLAN.dwg, C-2.15, Jun 09, 2023 - 9:45am, Brett



GENERAL NOTES:

1. ALL EXISTING UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR TO POTHOLE ALL POINTS OF CONNECTION AND VERIFY ALL CLEARANCES. MATERIAL DEPTH AND LOCATION SHALL BE IDENTIFIED BY CONTRACTOR. IF THERE ARE ANY DIFFERENCES FROM PLAN WITH ANY OF THESE ITEMS, ENGINEER OF WORK SHALL BE NOTIFIED IMMEDIATELY.
2. ALL WATERLINE BENDS TO BE INSTALLED WITH THRUSTBLOCKS PER DETAIL 23 AND 24, SHEET C-4.1.
3. ELECTRICAL SHOWN FOR REFERENCE ONLY, SEE ELCTRICAL PLANS FOR LAYOUT.

SANITARY SEWER CONSTRUCTION NOTES:

- (SS1) INSTALL 6-INCH SDR35 PVC SANITARY SEWER LATERAL PER DETAIL 14, SHEET C-4.1.
- (SS2) SEWER SERVICE CONNECTION POINT. INSTALL 4-INCH SDR35 PVC SEWER SERVICE LINE LATERAL PER DETAIL 14, SHEET C-4.1. INSTALL SEWER CLEANOUT PER DETAIL 18, SHEET C-4.1. SEE DETAIL 25, SHEET C-4.1, FOR RV PAD UTILITY LAYOUT.
- (SS3) CONNECT TO EXISTING MANHOLE.
- (SS4) CONNECT TO EXISTING CLEANOUT.
- (SS5) EXISTING MANHOLE TO BE BOLTED & GASKETED TO PREVENT WATER INTRUSION.
- (SS6) INSTALL SEWER CONNECTION TO BUILDING.
- (SS7) INSTALL 8-INCH SDR35 PVC SANITARY SEWER LATERAL PER DETAIL 14, SHEET C-4.1. EXTEND 5-FT BEYOND ASPHALT ROAD AND CAP FOR FUTURE CONNECTION.

WATER CONSTRUCTION NOTES:

- (W1) INSTALL FIRE HYDRANT ASSEMBLY W/ AMERICAN AVK SERIES 45 DI GATE VALVE PER MANUFACTURERS STANDARDS AND SPECIFICATIONS AND PER DETAIL 22, SHEET C-4.1.
- (W2) INSTALL 6-INCH DUCTILE IRON PIPE FIRE HYDRANT WATER LINE.
- (W3) INSTALL 8-INCH C900 DR14 PVC WATER LATERAL PER DETAIL 31, SHEET C-4.1.
- (W4) WATER SERVICE CONNECTION POINT. INSTALL 1-INCH SCH-40 PVC WATER SERVICE LINE LATERAL PER DETAIL 13, SHEET C-4.1. SEE DETAIL 25, SHEET C-4.1, FOR RV PAD UTILITY LAYOUT.
- (W5) CONNECT TO EXISTING WATERLINE.
- (W6) INSTALL 3/4-INCH WATER METER WITH 1-INCH SCH40 PVC WATER SERVICE LINE.
- (W7) INSTALL 8-INCH X 8-INCH TEE W/ THRUST BLOCK PER DETAIL 23, SHEET C-4.1.
- (W8) INSTALL TRAFFIC VALVE BOX W/ AMERICAN AVK SERIES 45 DI GATE VALVE PER MANUFACTURERS STANDARDS AND SPECIFICATIONS AND PER DETAIL 21, SHEET C-4.1.
- (W9) EXISTING BACKFLOW PREVENTER TO BE RELOCATED WEST INTO THE PROPOSED BERM. SEE LANDSCAPE PLANS FOR PROPOSED BERM.
- (W10) INSTALL 45° HORIZONTAL BEND W/ THRUST BLOCK PER DETAIL 23, SHEET C-4.1.
- (W11) INSTALL 22.5° HORIZONTAL BEND W/ THRUST BLOCK PER DETAIL 23, SHEET C-4.1.
- (W12) INSTALL 11.25° HORIZONTAL BEND W/ THRUST BLOCK PER DETAIL 23, SHEET C-4.1.
- (W13) INSTALL 1-INCH SCH-40 PVC WATER SERVICE LINE LATERAL PER DETAIL 13, SHEET C-4.1. INSTALL TRAFFIC VALVE BOX W/ AMERICAN AVK SERIES 03 GATE VALVE PER MANUFACTURERS STANDARDS AND SPECIFICATIONS AND PER DETAIL 21, SHEET C-4.1. EXTEND WATER SERVICE LINE 5-FT BEYOND ASPHALT ROAD AND STUB FOR FUTURE CONNECTION.

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UNDERGROUND SERVICE ALERT

HORIZONTAL SCALE: 1" = 40'
40 0 40 80

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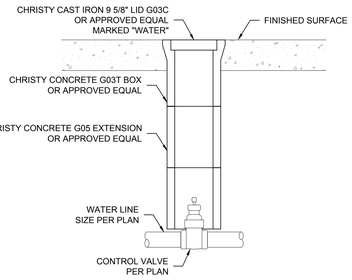
2265 HWY 154
SANTA BARBARA, CA 93105

Revisions:	
1	-
2	-
3	-
4	-
5	-
Project Engineer: BWV	Ext: 130
Project Manager: JJG	
Date: 06.09.2023	Scale: PER PLAN
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UTILITY PLAN

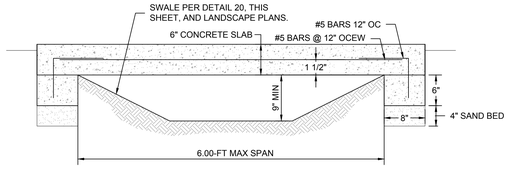
C-3.1

S:\All Jobs\2019 all jobs\191478 - ctr renewal (civil) - backup\02_working drawings\preliminary\02_CNSITE\C-3 UTILITY SHEET.dwg, C-3.1, Jun 09, 2023 - 9:55am, Brett



21 TRAFFIC VALVE BOX DETAIL

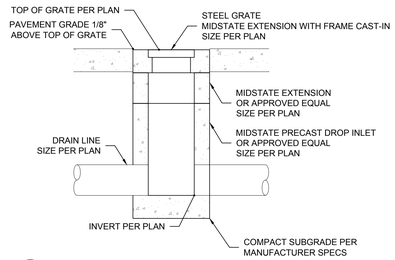
NTS



DETAIL IS DIAGRAMMATIC. CONTRACTOR TO COORDINATE INTERSECTION OF BIOSWALE AND BRIDGE WITH PLANS AND LANDSCAPE ARCHITECT.

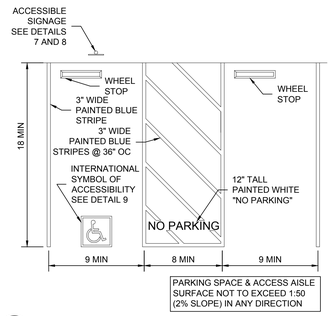
16 CONCRETE SLAB BRIDGE

NTS



11 PEDESTRIAN FLAT INLET DETAIL

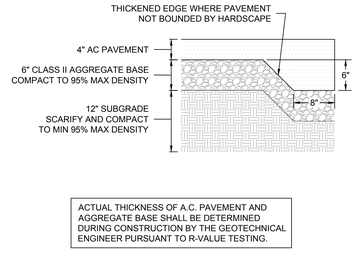
NTS



PARKING SPACE & ACCESS AISLE SURFACE NOT TO EXCEED 1:50 (2% SLOPE) IN ANY DIRECTION

6 VAN ACCESSIBLE PARKING STALL DETAIL

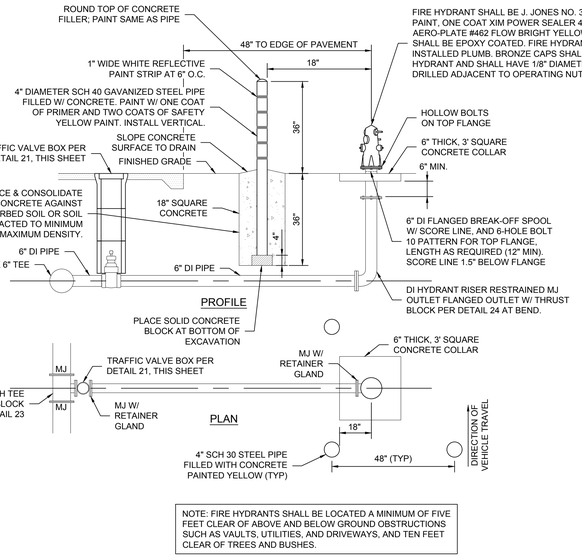
NTS



ACTUAL THICKNESS OF A.C. PAVEMENT AND AGGREGATE BASE SHALL BE DETERMINED DURING CONSTRUCTION BY THE GEOTECHNICAL ENGINEER PURSUANT TO R-VALUE TESTING.

1 TYPICAL ASPHALT DRIVEWAY SECTION

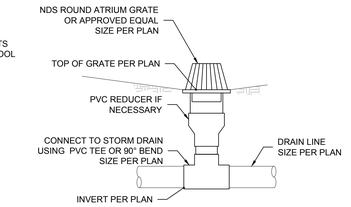
NTS



NOTE: FIRE HYDRANTS SHALL BE LOCATED A MINIMUM OF FIVE FEET CLEAR OF ABOVE AND BELOW GROUND OBSTRUCTIONS SUCH AS VAULTS, UTILITIES, AND DRIVEWAYS, AND TEN FEET CLEAR OF TREES AND BUSHES.

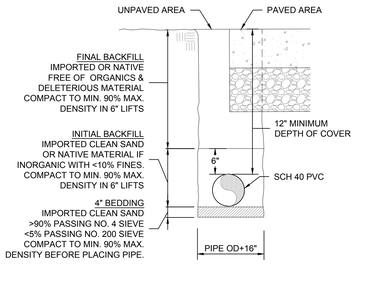
22 FIRE HYDRANT DETAIL

NTS



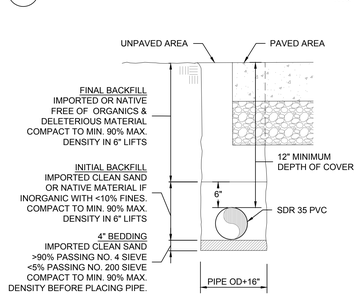
17 LANDSCAPE INLET

NTS



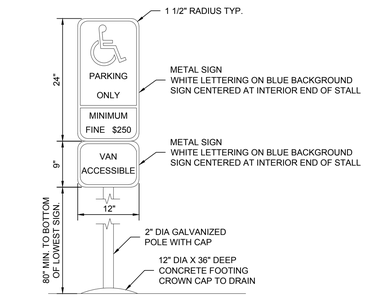
18 LANDSCAPE SEWER CLEANOUT DETAIL

NTS



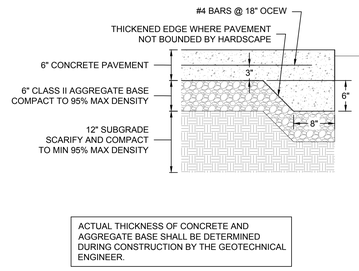
12 STORM DRAIN TRENCH DETAIL

NTS



7 VAN ACCESSIBLE PARKING STALL SIGN DETAIL

NTS



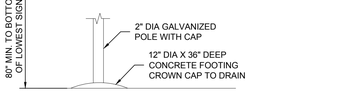
ACTUAL THICKNESS OF CONCRETE AND AGGREGATE BASE SHALL BE DETERMINED DURING CONSTRUCTION BY THE GEOTECHNICAL ENGINEER.

2 TYPICAL CONCRETE DRIVEWAY SECTION

NTS

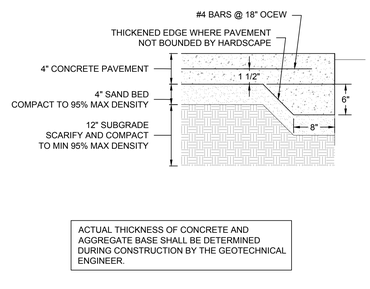
13 WATER LATERAL TRENCH SECTION

NTS



8 TOW AWAY SIGN DETAIL

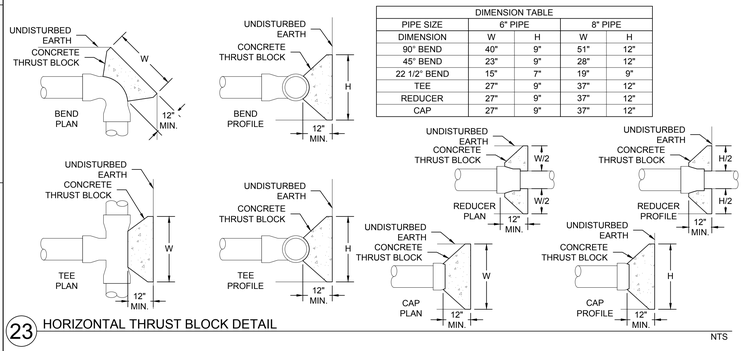
NTS



ACTUAL THICKNESS OF CONCRETE AND AGGREGATE BASE SHALL BE DETERMINED DURING CONSTRUCTION BY THE GEOTECHNICAL ENGINEER.

3 TYPICAL CONCRETE WALKWAY SECTION

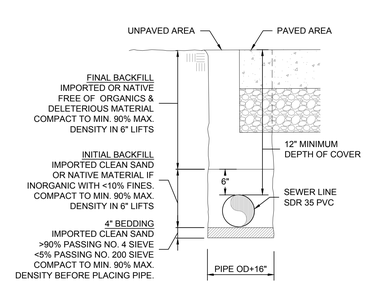
NTS



DIMENSION TABLE				
PIPE SIZE	6" PIPE		8" PIPE	
DIMENSION	W	H	W	H
90° BEND	40"	9"	51"	12"
45° BEND	23"	9"	28"	12"
22 1/2° BEND	15"	7"	19"	9"
TEE	27"	9"	37"	12"
REDUCER	27"	9"	37"	12"
CAP	27"	9"	37"	12"

23 HORIZONTAL THRUST BLOCK DETAIL

NTS

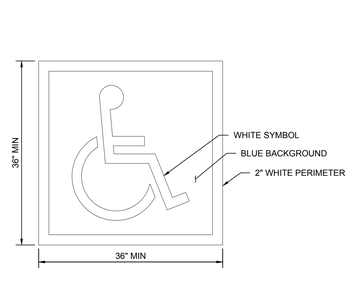


19 STORM DRAIN TRENCH DETAIL

NTS

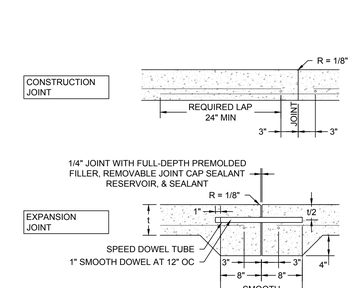
14 SEWER LATERAL TRENCH SECTION

NTS



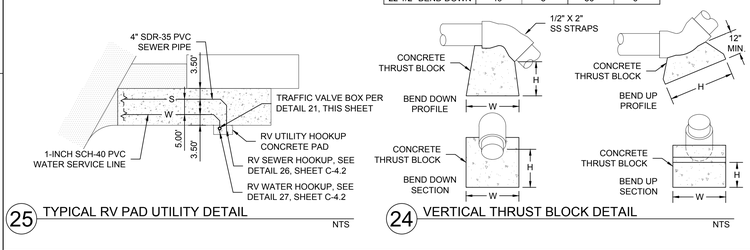
9 INTERNATIONAL SYMBOL OF ACCESSIBILITY

NTS



4 CONCRETE JOINT DETAILS

NTS



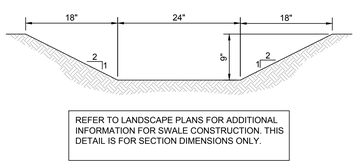
25 TYPICAL RV PAD UTILITY DETAIL

NTS

DIMENSION TABLE				
PIPE SIZE	6" PIPE		8" PIPE	
DIMENSION	W	H	W	H
90° BEND UP	40"	9"	51"	12"
45° BEND UP	23"	9"	28"	12"
22 1/2° BEND UP	15"	7"	19"	9"
90° BEND DOWN	56"	9"	71"	12"
45° BEND DOWN	48"	9"	55"	11"
22 1/2° BEND DOWN	49"	5"	56"	6"

24 VERTICAL THRUST BLOCK DETAIL

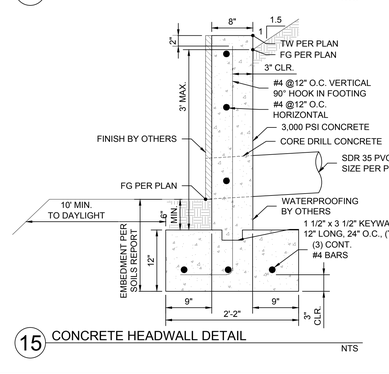
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REFER TO LANDSCAPE PLANS FOR ADDITIONAL INFORMATION FOR SWALE CONSTRUCTION. THIS DETAIL IS FOR SECTION DIMENSIONS ONLY.

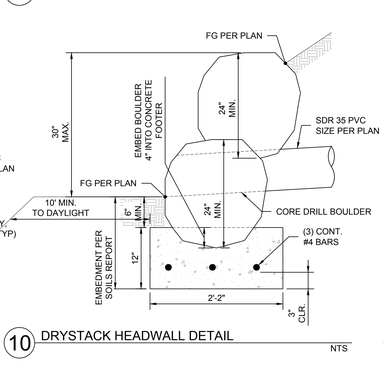
20 SWALE SECTION DETAIL

NTS



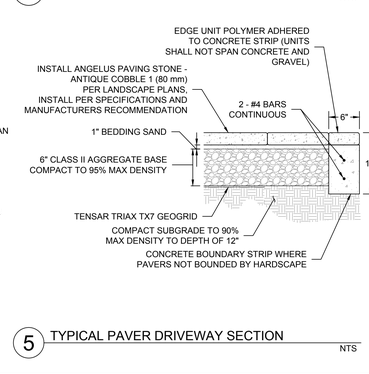
15 CONCRETE HEADWALL DETAIL

NTS



10 DRYSTACK HEADWALL DETAIL

NTS



5 TYPICAL PAVER DRIVEWAY SECTION

NTS

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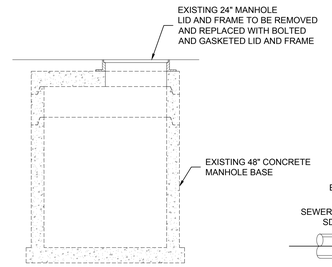
Revisions:	
1	-
2	-
3	-
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Project Engineer: BWV	Ext: 130
Project Manager: JJG	
Date: 06.09.2023	Scale: PER PLAN
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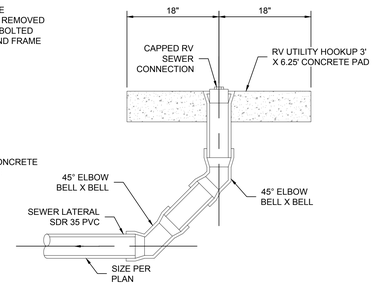
DETAIL SHEET

C-4.1

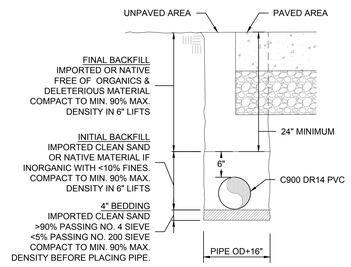
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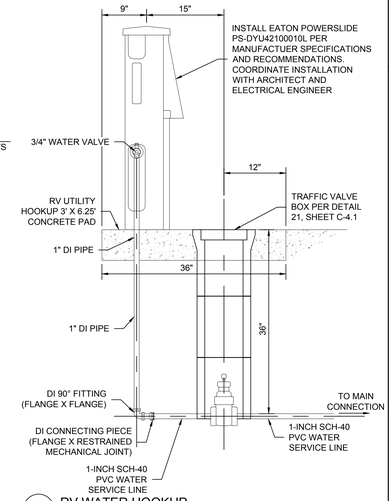
30 BOLTING AND GASKETING EXISTING MANHOLE
NTS



26 RV SEWER HOOKUP
NTS

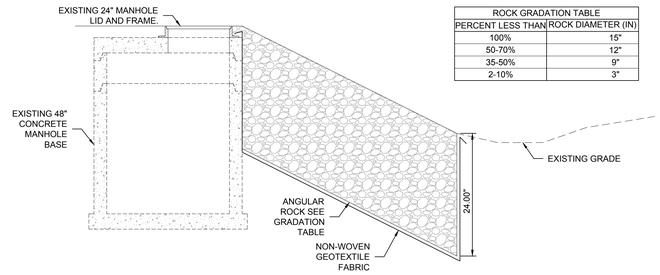


31 WATER LATERAL TRENCH SECTION
NTS

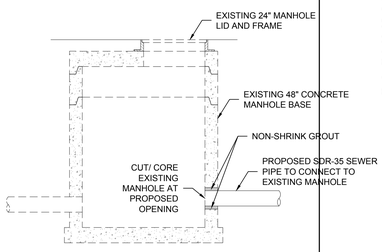


27 RV WATER HOOKUP
NTS

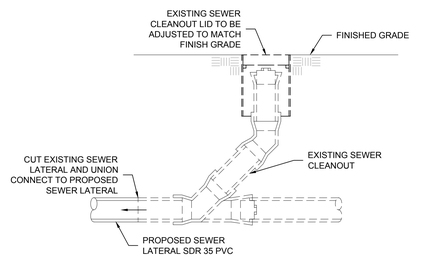
ROCK GRADATION TABLE	
PERCENT LESS THAN	ROCK DIAMETER (IN)
100%	15"
50-70%	12"
35-50%	9"
2-10%	3"



32 EXISTING MANHOLE RIPRAP ARMORING
NTS



28 CONNECTION TO EXISTING MANHOLE
NTS



29 CONNECTION TO EXISTING CLEANOUT
NTS

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Engineer of Record:

REGISTERED PROFESSIONAL ENGINEER JASON J. GOTO 66701 CIVIL STATE OF CALIFORNIA

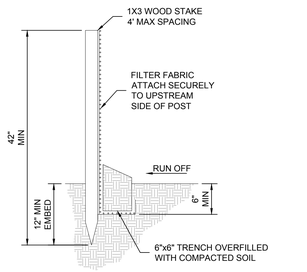
CACHUMA LAKE CTR RENEWAL
2265 HWY 154
SANTA BARBARA, CA 93105

Revisions:	
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Project Engineer: BWV	Ext: 130
Project Manager: JJG	
Date: 06.09.2023	Scale: PER PLAN
AV Job No: 191478	Sheet Size: 30" x 42"

DETAIL SHEET

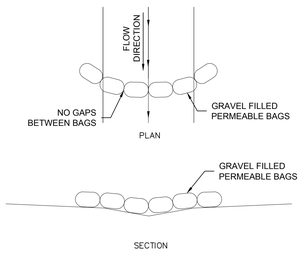
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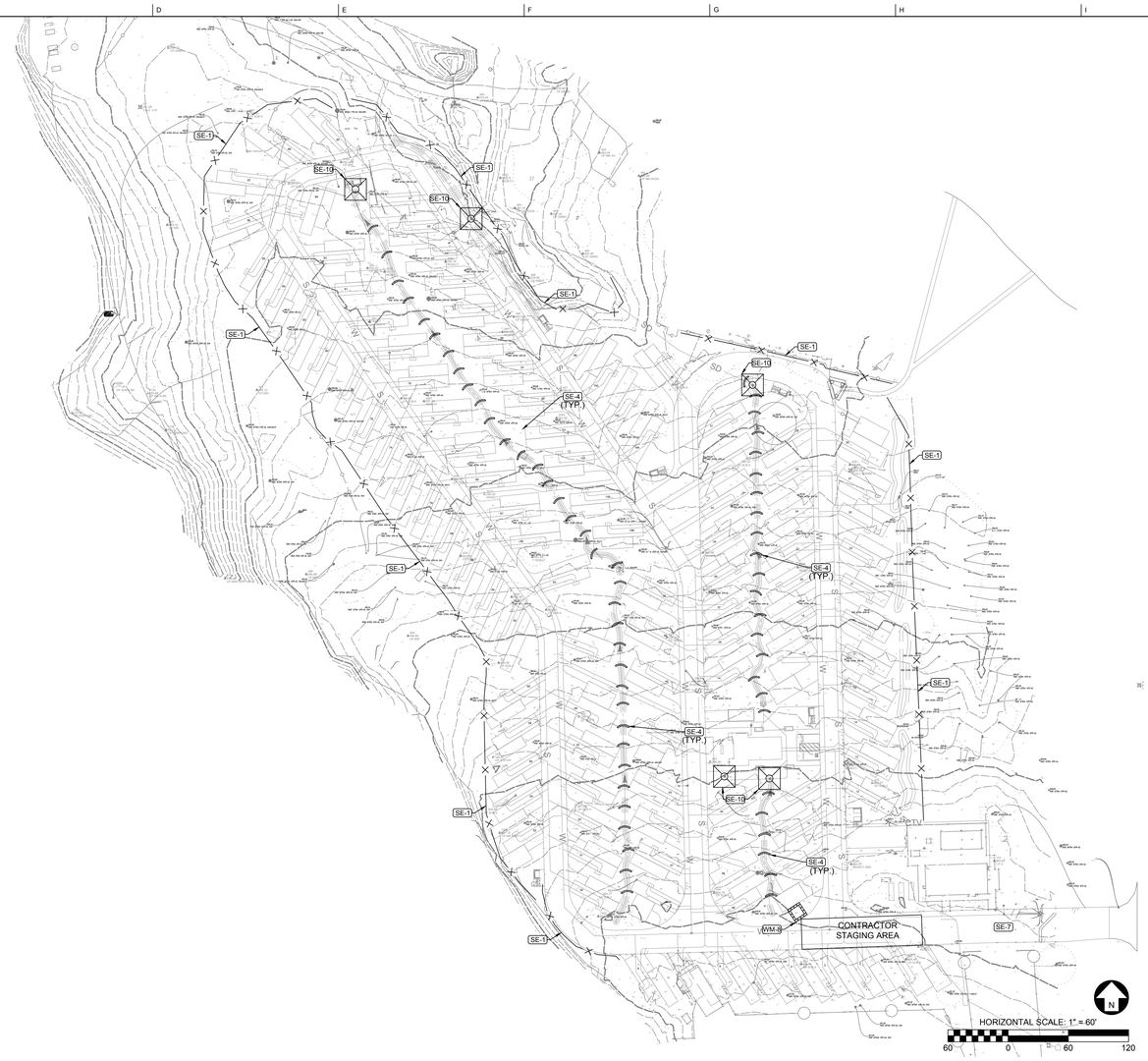
SE-1 SILT FENCE DETAIL

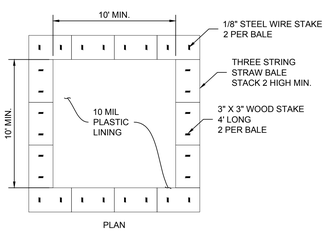
NTS

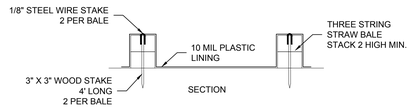


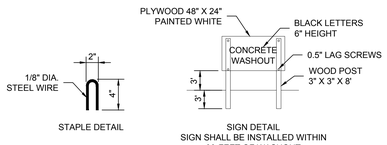
SE-4 SWALE CHECK DAM DETAIL

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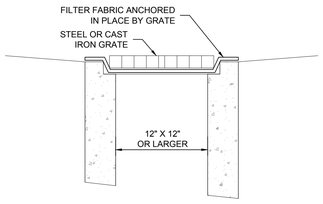


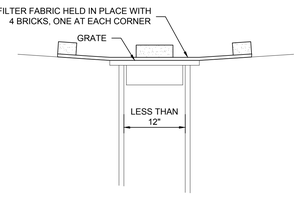




WM-8 CONCRETE WASHOUT DETAIL

NTS





SILT TRAPS SHALL BE MAINTAINED AND CLEANED BY CONTRACTOR DURING RAINFALL AS NECESSARY TO MAINTAIN INFLOW TO BASIN

SE-10 INLET PROTECTION DETAIL

NTS

EROSION CONTROL NOTES:

1. EROSION CONTROL MEASURES FOR WIND, WATER, MATERIAL STOCKPILES, AND TRACKING SHALL BE IMPLEMENTED ON ALL PROJECTS AT ALL TIMES AND SHALL INCLUDE SOURCE CONTROL, INCLUDING PROTECTION OF STOCKPILES, PROTECTION OF SLOPES, PROTECTION OF ALL DISTURBED AREAS, PROTECTION OF ACCESSES, AND PERIMETER CONTAINMENT MEASURES. EROSION CONTROL SHALL BE PLACED PRIOR TO THE COMMENCEMENT OF GRADING AND SITE DISTURBANCE ACTIVITIES UNLESS THE PUBLIC WORKS DEPARTMENT DETERMINES TEMPORARY MEASURES TO BE UNNECESSARY BASED UPON LOCATION, SITE CHARACTERISTICS OR TIME OF YEAR. THE INTENT OF EROSION CONTROL MEASURES SHALL BE TO KEEP ALL GENERATED SEDIMENTS FROM ENTERING A SWALE, DRAINAGE WAY, WATERCOURSE, ATMOSPHERE, OR MIGRATE ONTO ADJACENT PROPERTIES OR ONTO THE PUBLIC RIGHT-OF-WAY.
2. SITE INSPECTIONS AND APPROPRIATE MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES SHALL BE CONDUCTED AND DOCUMENTED AT ALL TIMES DURING CONSTRUCTION AND ESPECIALLY PRIOR TO, DURING, AND AFTER RAIN EVENTS.
3. THE OWNER, OR OWNER'S REPRESENTATIVE, SHALL BE RESPONSIBLE FOR THE PLACEMENT AND MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES AS SPECIFIED BY THE APPROVED PLAN UNTIL SUCH TIME THAT THE PROJECT IS ACCEPTED AS COMPLETE BY THE AUTHORITY HAVING JURISDICTION OR UNTIL RELEASED FROM THE CONDITIONS OF APPROVAL OF THEIR GENERAL PERMIT. EROSION CONTROL MEASURES/DEVICES MAY BE RELOCATED, DELETED OR ADDITIONAL MEASURES/DEVICES MAY BE REQUIRED DEPENDING ON THE ACTUAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION. CONTRACTOR TO IMPLEMENT ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AT THEIR DISCRETION OVER THE LIFE OF THE PROJECT TO PREVENT THE RUNOFF OF SEDIMENT AND POLLUTANTS FROM THE PROJECT SITE. ADDITIONAL EROSION CONTROL MEASURES/DEVICES SHALL BE PLACED AT THE DISCRETION OF THE ENGINEER OF WORK, INSPECTOR, QUALIFIED SWPPP PRACTITIONER (QSP) (IF A SWPPP IS IN PLACE FOR THE PROJECT), OR RWQCB INSPECTOR. GUIDELINES FOR DETERMINING APPROPRIATE EROSION CONTROL DEVICES SHALL BE INCLUDED IN THE PLANS WITH ADDITIONAL MEASURES/DEVICES NOTED FROM THE APPENDIX OF THE PUBLIC IMPROVEMENT STANDARDS.
4. WET WEATHER EROSION CONTROL MEASURES/DEVICES SHALL BE AVAILABLE, INSTALLED, AND/OR APPLIED BETWEEN OCTOBER 15 AND APRIL 15 OR ANYTIME WHEN THE RAIN PROBABILITY EXCEEDS 30%
5. THE CONTRACTOR, DEVELOPER, AND ENGINEER OF WORK SHALL BE RESPONSIBLE TO REVIEW THE PROJECT SITE PRIOR TO OCTOBER 15 (RAINY SEASON) AND TO COORDINATE AN IMPLEMENTATION PLAN FOR WET WEATHER EROSION CONTROL DEVICES. A LOCALLY BASED STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE AND STOCK PILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OR MAINTENANCE OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
6. IN THE EVENT OF A FAILURE, THE DEVELOPER AND/OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR CLEANUP AND ALL ASSOCIATED COSTS OR DAMAGE. IN THE EVENT THAT DAMAGE OCCURS WITHIN THE RIGHT-OF-WAY AND THE COUNTY IS REQUIRED TO PERFORM CLEANUP, THE OWNER SHALL BE RESPONSIBLE FOR REIMBURSEMENT OF ALL ASSOCIATED COSTS OR DAMAGE.
7. IN THE EVENT OF FAILURE AND/OR LACK OF PERFORMANCE BY THE OWNER AND/OR CONTRACTOR TO CORRECT EROSION CONTROL RELATED PROBLEMS, THE PUBLIC WORKS DEPARTMENT MAY REVOKE ALL ACTIVE PERMITS AND RECOMMEND THAT CODE ENFORCEMENT PROVIDE A WRITTEN NOTICE OR STOP WORK ORDER IN ACCORDANCE WITH THE LAND USE ORDINANCE.
8. PERMANENT EROSION CONTROL SHALL BE PLACED AND ESTABLISHED WITH 90% COVERAGE ON ALL DISTURBED SURFACES OTHER THAN PAVED OR GRAVEL SURFACES, PRIOR TO FINAL INSPECTION. PERMANENT EROSION CONTROL SHALL BE FULLY ESTABLISHED PRIOR TO FINAL ACCEPTANCE. TEMPORARY EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT MEASURES ARE ESTABLISHED.
9. THE AIR POLLUTION CONTROL DISTRICT (APCD) MAY HAVE ADDITIONAL PROJECT SPECIFIC EROSION CONTROL REQUIREMENTS. THE CONTRACTOR, DEVELOPER, AND ENGINEER OF WORK SHALL BE RESPONSIBLE FOR MAINTAINING SELF-REGULATION OF THESE REQUIREMENTS.

BMP SELECTION & LEGEND:

BMP'S SPECIFIED ON THIS PLAN REFERENCE THE JANUARY 2015 EDITION OF THE CASQA "CALIFORNIA STORMWATER HANDBOOK". IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN BMP DETAILS AVAILABLE AT WWW.CASQA.ORG.

THE FOLLOWING BMPS ARE NOT SHOWN IN SPECIFIC LOCATIONS ON THIS PLAN AND ARE APPLICABLE TO THE PROJECT. THE CONTRACTOR SHALL INCORPORATE THESE BMPS INTO THE PROJECT SCOPE:

- EC-1 PROJECT SCHEDULING
- EC-2 PRESERVATION OF EXISTING VEGETATION
- NS-1 WATER CONSERVATION
- NS-3 PAVING AND GRINDING
- NS-6 DISCHARGE REPORTING
- NS-7 POTABLE WATER / IRRIGATION
- NS-8 VEHICLE CLEANING
- NS-9 VEHICLE FUELING
- NS-10 VEHICLE MAINTENANCE
- WE-1 WIND EROSION CONTROL

THE FOLLOWING BMPS SHALL BE USED IN THE CONTRACTOR STAGING AREA:

- WM-1 MATERIAL STORAGE
- WM-2 MATERIAL USAGE
- WM-3 STOCK PILE MANAGEMENT
- WM-4 SPILL PREVENTION KIT
- WM-5 SOLID WASTE (TRASH)
- WM-8 CONCRETE WASTE (WASH OUT), SEE DETAIL WM-8, THIS SHEET
- WM-9 SEPTIC / SANITARY FACILITIES

THE FOLLOWING BMPS ARE SPECIFIED ON THIS PLAN AND ARE TO BE INSTALLED OR CONSTRUCTED PER DETAIL REFERENCES:

- SE-1 SILT FENCING, SEE DETAIL SE-1, THIS SHEET
- SE-4 CHECK DAM, SEE DETAIL SE-4, THIS SHEET
- SE-7 STREET SWEEPING AND VACUUMING
- SE-10 STORM DRAIN INLET PROTECTION, SEE DETAIL SE-10, THIS SHEET

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EROSION CONTROL PLAN

C-5.1

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Specifications CSI Definitions

All definitions shall comply with nomenclature used on all architectural construction drawings.
Substitutions shall be approved by the architect prior to implementation.

Provide 6 copies of submittal packages for all products listed on this sheet. Submittals shall include; standards and testing, product description, technical data, finish, and Manufacturer's warranty.

All specified products must follow manufacturer's preparation, handling and installation guidelines.

00 0000: xxxx = CSI number and category classification
Nomenclature = word used in the construction drawings

2019 California Building Standards Administrative Code
2019 California Building Code (CBC)
2019 California Electrical Code
2019 California Mechanical Code
2019 California Plumbing Code
2019 California Energy Code
2019 California Fire Code
2019 California Existing Building Code
2019 California Green Building Standards Code
County of Santa Barbara Code Amendments

01 4339: MOCKUPS AND FIELD SAMPLES

Mockups

Before installing portions of the Work requiring mockups, build mockups for each form of construction with finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Landscpe Architect.
2. Notify Landscpe Architect seven days in advance of dates and times when mockups will be constructed.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain Landscpe Architect's written approval of mockups before starting work,fabrication, or construction.
6. Allow seven days for initial review and each re-review of each mockup.
7. Accepted mock-ups establish the standard of quality the Landscpe Architect will use to judge the Work.
8. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
9. Acceptable mockups in place may be retained in completed Work upon written approval of Landscpe Architect or District Representative.
10. Demolish and remove mockups when directed unless otherwise indicated.
11. Comply with requirements of Construction Waste Management and Disposal.

06 15 40 HEADERBOARDS

PART 1 GENERAL

1.1 SUMMARY

A. Includes But Not Limited To
   1. Providing and installing headerboards as described in Contract Documents.

B. Related Sections
   1. Section 32 00 01 - General Exterior Site Construction Requirements

PART 2 PRODUCTS

2.1 MATERIALS

A. Wood
   1. Headerboard
      a. 2x4 or 2x6 nominal size as specified construction-heart grade redwood for straight runs.
      b. 1/2x4 or 1/2x6 resawn construction heart laminated with 3 layers per detail for curved sections.
   2. Stakes -
      a. Joints - 2x6 x 18" construction heart redwood.
      b. Field
         i. 1x3x18" construction heart redwood.
         ii. 2x4x18" construction heart redwood.

B. Fasteners
   1. Screws - galvanized No. 8 minimum
      a. 2" for 1" stakes.
      b. 2-1/2" for 2" stakes.
      c. 1-1/4" for laminating benderboard.
   2. Nails - **NOT ACCEPTED**

PART 3 EXECUTION

3.1 PERFORMANCE

A. Demolition
   1. Remove all previous headerboard and stakes in entirety.
   2. Remove asphalt concrete and/or base as necessary.

B. Placement and Alignment
   1. Top of new headerboard to match design elevation or surface of new paving.
   2. **Finished elevations shall be reviewed by owners representative prior to final grading and asphalt placement.**
   3. Align top to conform to required grade breaks for drainage.
   4. Place as designated in Contract Documents
   5. Straight alignments shall be within +/- 1/4" of stringline after paving or installation of landscape materials.
   6. Curved alignments shall be true arcs within +/- 2" of a true arc or designed alignment.
   7. All joints shall be square and true. Maximum gap at joints of 1/4 inch.
   8. No chain saw cuts allowed.
   9. 12 foot minimum between joints on straight runs. Straight runs 20 feet or less shall be made with one piece.
   10. Individual curved joints shall be staggered a minimum of 32 inches. 12 foot minimum individual board lengths. If curve radius is 12 feet or less, no joints allowed.

C. Staking
   1. Stakes to be plumb, square and flush with back of headerboard.
   2. Drive stakes to refusal without breaking. Replace broken or misaligned stakes.
   3. Trim off top of stakes with a 20-30 degree downward slope from the headerboard outward. Do not damage headerboard. **Top of stakes shall be recessed to ¼ inch below top of headerboard.** No chain saws allowed for cutting.

D. Fastening
   1. Two fasteners at each field stake.
   2. Two fasteners on each piece for 2x4 stake. Three fasteners on each piece for 2x6 stake.
   3. Laminated benderboard shall be fastened at 12" centers with a fastener top and bottom. Fasteners shall be 1" +/- 1/4" from edges.

SECTION 32 0190

LANDSCAPE MAINTENANCE

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section.

1.02 SUMMARY

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B. Furnish all labor, material, equipment and services required to maintain the landscape in an attractive condition as specified herein for a period to be determined with owner.

C. Related Sections include the following:
   1. Section 32 9200 – Turf and Grasses
   2. Section 32 9300 – Plants
   3. Section 32 8400 – Planting Irrigation

1.03 QUALITY ASSURANCE

A. Work force: Contractor's representative shall be experienced in landscape maintenance of California native plants and shall have received an education in ornamental horticulture.

1.04 MAINTENANCE PERIOD

A. Continuously maintain all landscape and irrigation work during the progress of the work and during the maintenance period until final acceptance of the work by the Owner's Authorized Representative.

B. Improper maintenance or possible poor conditions of any planting at the termination of the scheduled maintenance period may cause postponement of the final completion date of the Contract. Maintenance shall be continued by the Contractor until all work is acceptable.

C. In order to carry out the plant establishment work, furnish sufficient labor adequate to perform the work during the plant maintenance period.

D. Start of Maintenance Criteria: Maintenance period shall not start until all elements of construction, planting, and irrigation for the entire Project is Substantially Complete. Project will not be segmented into maintenance phases unless specifically authorized in writing by Owner's Authorized Representative.

E. The Contractor shall request an inspection to begin the plant maintenance period after all planting and related work has been completed in accordance with Construction Documents. A prime requirement is that all groundcover areas be planted. If such criteria are met to the satisfaction of the Owner's Authorized Representative, a notification will be issued to the Contractor to establish the effective beginning date of the period.

F. Any day when the Contractor fails to adequately maintain plantings, replace unsuitable plants or do weed control or other work, as determined necessary by the Landscape Architect, will not be credited as one of the plant maintenance working days. The Contractor's maintenance period will be extended if the provisions required within the Drawings and Specifications are not filled.

G. The Contractor shall submit a schedule of all activities planned during the maintenance period. This shall be accepted by the Owner's Authorized Representative prior to the start of maintenance. All schedule changes shall be documented and accepted by the Landscape Architect.

1.05 INSPECTIONS

A. Normal progress inspections shall be requested by the Contractor from the Owner's Authorized Representative at least 7 days in advance of anticipated inspection. Inspections are as follows.
   1. Commencement of maintenance (Pre-maintenance).
   2. At 30- day intervals through the maintenance period.
   3. Completion of maintenance period- final walk-through: 10 days prior to end of maintenance period.

B. All conditions noted in Sections 329200 and 329300 – Landscape Planting shall apply herein.

1.06 FINAL ACCEPTANCE OF THE PROJECT

A. Prior to the date of the final walk-through, the Contractor shall deliver to the Landscape Architect and as required to any government agency having jurisdiction, Record Drawings prepared in accordance with Section 328400, Part 1, Section 1.9, Letter A.

PART 2 MATERIALS

2.01 MATERIALS

A. All materials used shall either conform to landscape planting specifications in other Sections or shall otherwise be acceptable to the Landscape Architect. The Owner's Authorized Representative shall be given monthly record of all herbicides, insecticides and disease control chemicals used.

B. Tree/Shrub/Groundcover Fertiliizer: To be applied as specifically recommended by the soil analysis and described in Section 32 9300.

PART 3 EXECUTION

3.01 MAINTENANCE

A. Maintenance shall be according to the following standards:
   1. All areas shall be kept free of debris and all planted areas shall be weeded and cultivated at intervals of not more than 10 days. Watering, edging, trimming, fertilization, spraying and pest control, as may be required, shall be included in the maintenance period. The Contractor shall be responsible for maintaining adequate protection of the area. Damaged areas shall be required at the Contractor's expense.
   2. The Contractor shall be responsible for maintaining adequate protection of the area. Damaged areas shall be repaired at the Contractor's expense.

B. Tree and Shrub Care
   1. Avoiding Damage:
      a. Plants native to dry regions are often some of the most tenacious and tough plants in the landscape. Once established they will thrive on neglect, but not negligence. Care must be taken to avoid breakage of limbs, scarring of tree or shrub bark, and damage to root systems and generally any damage, which will enable disease to establish a foothold in the plant.
   2. Irrigation:
      a. The Contractor shall maintain the landscape in a healthy and vigorous condition, insuring that the plants are watered frequently enough to avoid wilting between watering, but not so frequently as to leave the soil constantly wet. Attention must be paid to the changes in the environment, such as hot, dry winds, or rain, which will alter irrigation intervals.
      b. Drought tolerant plants (plants which are native to areas which receive most of their yearly rainfall during the winter months, or those which receive small amounts of rain just a few times a year) once established in their environment, do not need, and often dislike large amounts water and fertilizer.
      c. Plants native to dry areas are susceptible to root rot and other diseases due to over watering in a landscape situation. A plant which is container grown in a very light soil may be planted in a type of soil, such as clay, which holds water for a much longer time. The plant may dry out while the surrounding soil remains moist or it may remain saturated for extended periods.
      d. Poor drainage and tight soil are the most common problems with native plant success.
      e. Special care and greater than average observation on the part of the personnel responsible for planting establishment of drought tolerant plants must occur to ensure success.
      f. Recently planted container plants require frequent watering, regardless of whether they will become drought tolerant once established. The Contractor shall check the condition of newly planted areas at least twice weekly to determine irrigation schedules.
      g. During hot spells, and/or for plants that are in direct sun all day or are in areas where the sun is very warm in the afternoon, watering may have to be done every other day.
      h. During the rainy season, watering basins should be leveled out to match the surrounding terrain so as to prevent over-watering of the plants.
      i. Maintain a large enough water basin around plants so that enough water can be applied to establish moisture through the major root zone.
   3. Soil Level Changes:
      a. It is essential to be aware of the soil level of the plants as they are removed from the containers when planting, and to keep the level of soil at the base of the plant equal to or slightly above the surrounding soil surface. Changes in soil levels around the plants, even after becoming established, will adversely affect their health and growth.
   4. Plants should retain, as much as possible, a natural habit, without the imposition of manmade shapes upon them. Shaping shrubs into tight balls or clipping a massing of plants into a squared off hedge should avoided, as it detracts from the overall blending of plant forms.
   5. Trees:
      a. Pruning of trees shall be completed only with consent of the Landscape Architect. Trees may be pruned without consent of the Landscape Architect when necessary to prevent damage to persons and/or property. Prune trees to select and develop permanent scaffold branches that are smaller in diameter than the trunk or branch to which they are attached, and which have vertical spacing of from 18 inches to 48 inches and radial orientation so as not overlay one another; to eliminate diseased or damaged growth; to eliminate narrow V-shaped branch forks that lack strength; to reduce toppling and wind damage by thinning out crowns; to maintain a natural appearance.
      b. Under no circumstances will stripping of lower branches ("raising up") of young trees be permitted. Lower branches shall be retained with as much foliage as possible to promote caliper trunk growth (trunk taper). Lower branches shall be subordinated with reduction cuts only after the tree is able to stand erect without staking or other support. Sucker growth shall be removed if deemed appropriate by the Landscape Architect.
      c. Evergreen and deciduous tree branches shall be thinned when necessary to prevent wind and storm damage. Damaged trees or those that constitute health or safety hazards shall be pruned at any time of the year as required to eliminate these conditions.
         The primary pruning of evergreen trees shall be completed when trees are not actively growing new foliage or seed, typically during the winter. The primary pruning of deciduous trees shall be done during the dormant season. Wait no less than (3) days after rainfall event to prune trees to avoid airborne pathogens that may infect trees.
   6. Shrubs:
      a. No shrubs equal to or greater than 15- gallon size shall be pruned without consent of the Landscape Architect. The objectives of shrub pruning are the same as for tress. Shrubs shall not be clipped into balled or boxed forms under any circumstances unless specified on the planting plans.
      b. All pruning cuts shall be made to lateral branches or buds or flush with the trunk. "Stubbing" will not be permitted.
   7. Weed Control:
      a. Keep basins and areas between plants free of weeds. Hand weeding is required. No herbicides may be used.
   8. Insect and Disease Control:
      a. Maintain a reasonable control with approved materials.
   9. Fertilization:
      a. Careful observation of plant health and site conditions must take place prior to any supplemental fertilizer applications. Plans that have been exposed to an excess of fertilizer will be adversely affected for a long period of time, and attempts to leach out excessive fertilizer from the soil may result in drowning the plants.
      b. Fertilizing should be restricted to light applications of a low nitrogen formulation during winter and spring, or one application of a time released fertilizer in the fall.
      c. Avoid applying fertilizer to the root ball and base of main stem: rather, spread evenly under plant to drip line.
      d. After application, water thoroughly.
   10. Replacement of Plants:
      a. Replace dead, dying and missing plants and plants of a size, condition and variety acceptable to the Landscape Architect at Contractor's expense.

C. Groundcover Care
   1. Weed Control:
      a. Control weeds by mechanical means so as to cause minimal damage to planted materials.
   2. Watering:
      a. Water enough that moisture penetrates throughout root zone and only as frequently as necessary to maintain healthy growth.
      b. Levee area to be irrigated by water truck during establishment period.
   3. Fertilization:
      a. Fertilizer as specified in the soils report.
   4. Remove trash weekly.
   5. Replace dead and missing plants at Contractor's expense.

D. Irrigation System
   1. The Contractor shall check weekly all systems for proper operation:
      a. Check pressure regulator for correct pressure setting (PSI)
      b. Check controller program for correct operation.
   2. Set and program automatic controllers for seasonal water requirements. Give Owner's Authorized Representative a key to controllers and written instructions on how to turn off system in case emergency.
   3. Contractor is responsible for the complete operation and maintenance of the irrigation system.
   4. Repair/correct all damages/ malfunctions to irrigation system at Contractor's expense. Repairs shall be made within 1 watering period.

SECTION 32 0800

IRRIGATION COMMISSIONING

PART 1 GENERAL

1.01 WORK INCLUDED

A. The work of this Section shall include, but is not limited to, the following:
   1. Work under this Contract shall conform to the requirements of Division 1, General Requirements, Conditions of the Contract, and Supplementary Conditions. This specification covers commissioning of irrigation systems that are part of this project.
   2. Furnish Labor and materials to accomplish complete irrigation commissioning as specified herein.

B. Definitions:
   1. Commissioning: The process of ensuring that systems are designed, installed, functionally tested and capable of being operated and maintained to perform in conformity with the design intent. The commissioning begins with planning and includes design, construction, start up, acceptance, and training, and can be applied throughout the life of the system.
   2. Commissioning Authority: The designated person, company, or agent, retained by the Owner, who implements the overall commissioning process.
   3. Commissioning Plan: A document defining the commissioning process, which is developed by the Commissioning Authority in increasing detail as the project progresses through its various phases.
   4. Commissioning Report: The document that records the results of the commissioning process, including the as-built performance of the irrigation system and unresolved issues, and documents all sign-offs.
   5. Commissioning Specification: The Contract Document that details the objective, scope, and implementation of the construction and acceptance phases of the commissioning process as developed in the design-phase Commissioning Plan.
   6. Commissioning Team: Those people responsible for working together in carrying out the commissioning process.
   7. Design Intent: A detailed explanation of the ideas, concepts, and criteria that are defined by the Owner to be important. This typically is an expansion of the information provided in the Owner's Program.
   8. Design Intent Document: A detailed written document, evolving throughout the commissioning process, clearly defining items and criteria of the design intent.
   9. Performance Testing: The process of determining the ability of the irrigation system to deliver water to landscape areas in accordance with the final design intent.
   10. Construction Documents: Design plans and specifications. Also referred to as Contract Documents.
   11. Design Professional: The Owner's Architectural, Landscape Architectural, Civil Engineering and Other Consultants who prepared the Construction Documents.
   12. Systems Manual: A composite document that expands the scope of the operation manual and maintenance manual by including the additional information gathered by the commissioning process.
   13. Verification: That full range of checks and tests carried out to determine if all components, systems, sub-systems, and interfaces between systems operate in accordance with the Contract Documents. In this context, "operate" includes all modes and sequences of control operation and specified responses to abnormal conditions.

C. Purpose: The commissioning is a process and its purpose it to:
   1. Clearly document the design intent.
   2. Verify that the irrigation installation and performance are in accordance with the plans, specifications and design intent.
   3. Train the Owner's operators so that they fully understand the design intent and the operation and maintenance (O & M) requirements of the equipment.

1.02 SCOPE OF WORK

A. During Pre-Design Phase:
   1. Document the Owner's requirements as specified in the Owner's Program; select the Commissioning Authority
   2. Identify and assign responsibilities.
   3. Document the initial design intent.
   4. Develop preliminary commissioning plan.

B. During Design Phase:
   1. Document the design intent as it evolves
   2. Continue development of the Commissioning Plan
   3. Develop the commissioning specification
   4. Prepare Contract Documents that clearly reveal, describe, and fulfill the design intent.
   5. Review and accept Contract Documents for compliance with design intent.
   6. Coordinate other site improvement requirements with irrigation layout, equipment, and systems.

C. During Construction Phase:
   1. Review submittals.
   2. Finalize details of the Commissioning Plan.
   3. Conduct periodic commissioning team meetings.
   4. Observe construction, installation, start up, operation, and testing.
   5. Conduct O&M training.

D. During Acceptance Phase:
   1. Verify that the system complies with the Contract Documents.
   2. Identify and document deficiencies.
   3. Remedy deficiencies and verify.
   4. Submit verification report to the commissioning team to review.
   5. Do performance testing.
   6. Identify and document deficiencies.
   7. Remedy deficiencies and retest.
   8. Submit performance tests to the commissioning team to review.
   9. Establish an as-built record of system performance.
   10. Complete the as-built records.
   11. Complete the Commissioning Report.
   12. Complete the Systems Manual.
   13. Turn over the system to the Building Owner

E. Systems to be included in the Commissioning Process: All irrigation systems, sub-systems, and equipment included in Division 32, and not only limited to the following, shall have commissioning:
   1. Water distribution systems, including pressure readings at the beginning and end of the piping run for the purpose of dynamic pressure verification during system operation.
   2. Controller wiring to control valves and other sensors, including Ohm readings for each station to verify wiring integrity and record for future reference.
   3. Irrigation spray heads and drip line, including verification that irrigation map is consistent with controller settings for each station.
   4. Controller settings/schedule.

F. Review the current irrigation schedule to:
   1. Assure the run times are proper for the amount of water needed
   2. Assure that cycle and soak times are utilized to avoid runoff.
   3. Compare water usage for current schedule with water budget or allowance based upon real time ET information or soil moisture readings.
   4. Verify that information about the controller settings/schedule is available at the controller so settings can be restored if necessary.

G. Prepare reports outlining the findings of the commissioning activity within 30 days after verification of the system operation and performance, including:
   1. Precipitation rate for each sprinkler zone/station
   2. Quality of the system based upon low-quarter distribution uniformity
   3. Deficiencies that need to be corrected
   4. Schedule to measure system performance to assure maintenance is being properly completed.

H. Other documents:
   1. Verify that record drawings of the irrigation system and installation are completed and copies are available to the property owner, property manager and landscape irrigation manager.
   2. Operator's manual that indicates the basis of design and system operation, equipment list including manufacturer, model number, and size. The system management intent shall also be provided in Owner's manual, and include an irrigation system for peak demand showing station run times and watering days (Copies should be available to the property owner, property manager, and maintenance staff who will be managing the irrigation system.

1.03 QUALITY ASSURANCE

Commissioning Authority shall meet the following qualifications:

A. Commissioning Authority shall have a minimum of five (5) years of demonstrated experience in the commissioning of plumbing systems similar in size and complexity to this project.

B. Commissioning Authority shall hold a Certified Commissioning Professional (CCP) designation from the Building Commissioning Association.

1.04 ROLES AND RESPONSIBILITIES

A. Contracting Officer is the Building Owner.
   1. Contracting Officer will advise irrigation Commissioning Authority regarding changes in irrigation system usage.
   2. Assign maintenance personnel and schedule them to participate in meetings, training session as follows:
      a. Construction-Phase coordination meeting.
      b. Initial Owner training session at installation of all system components.
      c. Maintenance orientation and inspection.
      d. Owner's training session.
      e. Verification demonstrations.
      f. Final review at acceptance meeting.
   3. Provide qualified personnel for video taping and editing of training sessions.
   4. Provide any utilities required for the commissioning process.
   5. Provide detailed program clearly stating the Owner's objectives, parameters, budgets, etc. for this facility.

B. Commissioning Authority:
   1. Commission Authority must be contracted with the Building Owner directly and not through the General Contractor.
   2. Develop the commissioning requirements and all related testing, verification and quality control sections.
   3. Prepare the irrigation system commissioning program required as part of the Commissioning Specification. Include lists of all contractors for commissioning events by name, firm, and trade specialty.
   4. Develop detailed pre-test and final test reports forms, to be used by the Commissioning Authority for data recording purposes throughout the testing process. The Commissioning Authority shall specifically develop these forms for each system and piece of equipment installed on the project. All forms to be submitted for approval a minimum of one hundred and twenty (120) days prior to initial testing.
   5. Execute the irrigation system commissioning program, through organization of all tests, meetings, demonstrations, training events and performance verifications described in the Contract Documents and the approved irrigation commissioning program. Organizational responsibilities include preparation of agendas, attendance lists, and arrangements for facilities and timely notification to participants for each commissioning event. The Commissioning Authority shall act as chairman at all commissioning events and assure the execution of all agenda items. The Commissioning Authority shall prepare minutes of every commissioning event and send copies to all those in attendance and the Owner within five (5) workdays of the event.
   6. Review the Construction Documents that define the scope of the commissioning process and the final performance of the irrigation system. This includes verification that appropriate commissioning guidelines have been followed, and that there are adequate devices included in the design to ensure the ability to properly test, adjust and balance the systems, and to document the performance of each piece of equipment and each system. Any items required but not shown shall be brought to the attention of the Contractor prior to system installation.
   7. Review all approved submittals (e.g. equipment, piping, valves, etc.) for coordination with the commissioning process and the performance testing of the irrigation system.
   8. Schedule regular Construction-Phase coordination meetings to include Owner, Contractor and Design Professional. These meetings shall be for the purpose of reviewing the complete irrigation commissioning program and establishing tentative schedules for irrigation system orientation and inspections, O&M submittals, training sessions, system flushing and testing, job completion, and verification and functional performance testing.
   9. Schedule Owner training sessions so that they will be held at an appropriate timeframe relative to the turnover of the irrigation system to the Owner. These sessions shall be attended by the Owner's O&M personnel, the Contractor, the Design Professional, and the Commissioning Authority. The Design Professional shall conduct this session giving an overview of the system, the system design goals and the reasoning behind the selection of the equipment.
   10. Conduct and record the results of periodic inspections, undertaken by the Commissioning Authority, of work in progress to ensure that all systems are installed according to specifications. The Commissioning Authority shall note in writing any deficiencies discovered. Once the deficiencies have been corrected, as reported by the Contractor, the Commissioning Authority shall re-inspect the work and report that the corrections have been made.
   11. Assist the Contractor in recommending solutions to minor deficiencies.
   12. Conduct the irrigation system orientation and inspection following the initial training session. Any subsequent irrigation system orientation and inspection shall be conducted by the landscape Contractor. The emphasis of this irrigation system orientation and inspection shall be an observation of the equipment location with respect to irrigation coverage and schedule timing. Prepare minutes of this meeting, with separate items of deficiency findings by the Owner and Commissioning Authority. Distribute to attendees and the Owner.
   13. Adequate accessibility for maintenance and component replacement or repair is the Contractor's responsibility and shall be checked by the Commissioning Authority.
   14. Review and approve the Operation and Maintenance (O&M) manuals as submitted by the Contractor (ensuring that they follow the specified outline and format), and as reviewed and approved by the Design Professional. Insert systems description as provided by the Design Professional.
   15. Witness equipment and system start-up and testing. Ensure the results are documented (including a summary of deficiencies), and incorporated in the O&M manuals. The Commissioning Authority shall record all test results on pre-test and final test forms for each piece of equipment.
   16. Schedule the O&M training sessions. All training sessions shall be on-site, except where otherwise specified. These training sessions are to be attended by the Owner, Commissioning Authority, Design Professional, Contractors and equipment suppliers as necessary. The format shall follow the outline in the O&M manuals. This irrigation system orientation and inspection should include hands-on training. The Commissioning Authority shall be solely responsible for recording all demonstration and training sessions on videotape, or alternative approved media, and furnish two (2) copies of the recording media to the Owner. Each session shall clearly reflect the content of each training session. Video tapes or other approved media and enclosures shall be neatly labeled.
   17. Submit detailed verification test procedures and datasheets to the Design Professional for review.
   18. Provide and install calibrated test instrumentation to monitor and record data as necessary.
   19. Conduct verification tests.
   20. Record verification test data, and submit to the Design Professional for review and acceptance.
   21. Re-test if performance deficiencies are found, corrected and additional testing is requested.
   22. Review as-built drawings for accuracy with respect to installed systems. Review revisions to achieve accuracy.
   23. Ensure that the O&M manuals and all other as-built records have been updated to include all modifications made during the Construction Phase.
   24. Observe and record verification tests to accommodate seasonal variations in irrigation schedule and/or correct any performance deficiencies. Revise and re-submit the commissioning report.
   25. Prepare the final commissioning report.
   26. Assemble the final project documentation, which shall include the commissioning report and all as-built records. Submit this documentation to the Design Professional for review and acceptance.
   27. The Commissioning Authority shall verify that all O&M manuals, "as-built" documentation, and training manuals and training sessions are complete in every aspect and in accordance with the project specifications. The Commissioning Authority shall supplement the above documentation, as required, to make them complete.

C. Architect:
   1. Provide support to the Design Professional who must provide a service as a part of the commissioning process. This shall include providing adequate space for equipment installation and maintenance.
   2. Conduct periodic inspections of work in progress to ensure that all systems and equipment are installed according to specifications.

D. General Contractor:
   1. Include cost for commissioning requirements in the contract price.
   2. Coordinate the construction progress with the commissioning schedule to assure that the building envelope and systems that affect proper operation and control of mechanical equipment and systems being tested are completed prior to testing.
   3. Include commissioning requirements in the Landscape Contractor contracts, as well as all other applicable sub-contractors, to ensure cooperation of all parties in the mechanical commissioning program.
   4. Ensure acceptable representation, with the means and authority to prepare and coordinate execution of the mechanical commissioning program as described in the Contract Documents.
   5. Issue a statement that control systems have been tested and calibrated.
   6. Remedy deficiencies identified in verification tests.
   7. The equipment supplier shall document the performance of their equipment. The Commissioning Authority shall witness performance testing.

E. Equipment Suppliers and Miscellaneous Contractors
   1. Include cost for commissioning requirements in the contract price.
   2. Provide submittals, and appropriate O&M manual section(s).
   3. Attend initial commissioning coordination meeting scheduled by the Commissioning Authority.
   4. Participate in training sessions as scheduled by the Commissioning Authority.
   5. Demonstrate performance of equipment as applicable.

1.05 DOCUMENTATION

The Commissioning Authority shall oversee and maintain the development of commissioning documentation. The commissioning documentation shall be kept in three ring binders, and organized by system and sub-system when practical. All pages shall be numbered, and a table of contents page(s) shall be provided. The commissioning documentation shall include, but not be limited to, the following:

A. A detailed description of the design intent for the project, including operating parameters.

B. A complete description of how the irrigation system is intended to operate.

C. All performance test checklists/results, signed by indicated personnel, organized by system and sub-system.

D. Three copies of the operation and maintenance (O&M) manual(s) specified in other sections of these specifications shall be included with the commissioning documentation. The manuals shall be incorporated in the commissioning documentation prior to commencement of O&M training required in this and other sections of the specification. Preparation of O&M manuals shall be as specified in Part 3 of this specification.

PART 2 PRODUCTS

2.01 TEST EQUIPMENT

A. The appropriate Contractor(s) shall furnish all special tools and equipment required during the commissioning process. A list of all tools and equipment to be used during commissioning shall be submitted to the Commissioning Authority for approval.

B. The Owner shall furnish necessary utilities for the commissioning process.

2.02 TEST EQUIPMENT - PROPRIETARY

A. Proprietary test equipment and software required by any equipment manufacturer for programming and/or start-up, whether specified or not, shall be provided by the manufacturer of the equipment. Manufacturer shall provide the test equipment, demonstrate its use, and assist in the commissioning process as needed. Proprietary test equipment (and software) shall become the property of the Owner upon completion of the commissioning process.

PART 3 EXECUTION

3.01 GENERAL

A. A pre-construction meeting of all commissioning team members shall be held at a time and place designated by the Owner. The purpose shall be to familiarize all parties with the commissioning process, and to ensure that the responsibilities of each party are clearly understood.

B. The Contractor shall complete all phases of work so the systems can be started, tested, balanced, and acceptance procedures undertaken. This includes the complete installation of all equipment, materials, heads, pipe, valves, wire, etc. per the Contract Documents and related directives, clarifications, and change orders, as applicable.

C. A Commissioning Plan shall be developed by the Commissioning Authority. The Contractor shall assist the Commissioning Authority in preparing the Commissioning Plan by providing all necessary information pertaining to the actual equipment and installation. If contractor-initiated system changes have been made that alter the commissioning process, the Commissioning Authority shall notify the Contracting Officer.

D. Acceptance procedures are normally intended to begin prior to completion of a system and/or sub- systems, and shall be coordinated with the Contractor. Start of acceptance procedures before system completion does not relieve the Contractor from completing those systems as per the schedule.

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Specifications

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E. The Commissioning Authority shall develop a detailed schedule for acceptance procedures and training. The Commissioning Authority shall work in a cooperative manner with the Contractor to assure that the commissioning process does not interfere with the completion of work in accordance with the overall schedule.

3.02 PARTICIPATION IN ACCEPTANCE PROCEDURES

A. The Contractor shall provide skilled technicians to start up and troubleshot all systems within Division 32. These same technicians shall be made available to assist the Commissioning Authority in completing the commissioning program. Work schedules, time required for testing, etc. shall be requested by the Commissioning Authority and coordinated by the Contractor. Contractor shall ensure that the qualified technician(s) are available and present during the agreed-upon schedules and of sufficient duration to complete the necessary tests, adjustments, and/or problem resolutions.

B. System performance problems and discrepancies may require additional technician time, Commissioning Authority time, reconstruction of systems, and/or replacement of system components. The additional technician time shall be made available for subsequent commissioning periods until the required system performance is obtained.

C. The Commissioning Authority reserves the right to question the appropriateness and qualifications of the technicians relative to each item of equipment, system, and/or sub-system. Qualifications of technicians shall include expert knowledge relative to the specific equipment involved and a willingness to work with the Commissioning Authority. Contractor shall provide adequate documentation and tools to start up and test the equipment, system, and/or sub-system(s).

3.03 DEFICIENCY RESOLUTION

A. In some systems, improper adjustments, misapplied equipment, and/or deficient performance will result in additional work being required to commission the systems. This work shall be completed under the direction of the Contracting Officer, with input from the contractor, equipment supplier, and Commissioning Authority. Whereas all members shall have input and the opportunity to discuss, debate, and work out problems, the Contracting Officer shall have final jurisdiction over any additional work done to achieve performance.

B. Corrective work shall be completed in a timely fashion to permit the completion of the commissioning process. Experimentation to demonstrate system performance may be permitted. If the Commissioning Authority deems the experimentation work to be ineffective or untimely as it relates to the commissioning process, the Commissioning Authority shall notify the Contracting Officer, indicating the nature of the problem, expected steps to be taken, and suggested deadline(s) for completion of activities. If the deadline(s) pass without resolution of the problem, the Contracting Officer reserves the right to obtain supplementary services and/or equipment to resolve the problem. Costs incurred to solve the problems in an expeditious manner shall be the Contractor's responsibility.

3.04 ADDITIONAL COMMISSIONING

A. Additional commissioning activities may be required after system adjustments, replacements, etc., are completed. The Contractor(s), suppliers, and Commissioning Authority shall include a reasonable reserve to complete this work as part of their contractual obligations.

3.05 ACCEPTANCE PROCEDURES

A. Verification Tests:
1. Scope
   a. Operating tests and checks to verify that all components, equipment, systems, sub-systems, and interfaces between systems operate in accordance with the Contract Documents. These tests are to include all operating modes, specified control responses, specific responses to abnormal conditions and verifications of the proper response to System controllers and sensors.
2. Participants
   a. The Commissioning Authority shall be responsible for preparing the scope of these tests. The Commissioning Authority shall schedule the tests and assemble the commissioning team members who shall be responsible for the tests. Participating contractors, manufacturers, suppliers, etc. shall include all costs to do the work involved in these tests in their proposals. Following is a list of tasks and supporting information that shall be required:
      1) General Contractor: Provide the services of technician(s) who is (are) familiar with the construction and operation of this system. Provide access to the contract plans, and equipment cut sheets of all installed equipment.
3. Documentation and Reporting Requirements
   a. Provide checklists for each component, piece of equipment, system, and sub-system. Each item to be tested shall have a different entry line with space provided for comments. Separate checklists shall be prepared for each mode of operation (e.g. drip zones vs. spray zones, etc.). Provide space to indicate whether the mode under test responded as required or not. Also, provide space for all necessary parties to sign off on each checklist.
   b. Data sheets used in verification of the proper operation of the control system shall include space for recording the readout of the controller, the reading at the controller's sensor(s), the controller location, and any comments. Also, provide space for all necessary parties to sign off on each checklist.
   c. All test procedures and data sheets shall be submitted to the design professional for review and acceptance.
4. Instrumentation
   a. The Commissioning Authority shall furnish all measurement instrumentation for the verification tests. All instruments will have been calibrated within the six-month period prior to these tests.
5. Procedures
   a. The Commissioning Authority shall direct and witness the verification operating tests and checks for all equipment and systems.
      1) Set the system into the operating mode to be tested and activate system.
      2) The Commissioning Authority shall inspect and verify the position of each system component identified on the checklist. Each item shall be signed off as acceptable (yes), or failed (no).
      3) This test shall be repeated for each irrigation station that applies to the irrigation system being tested.
      4) If during a test an operating deficiency is observed, appropriate comments shall be added to the checklist datasheet.
      5) Verification of the irrigation system shall include the following:
         (a) Meter readings if available as part of the audit process
         (b) Irrigation water catchment devices to determine distribution uniformity and precipitation rate.
         (c) Pressure readings at the beginning and end of piping runs
         (d) Proper controller and all pertinent sensor wiring, including ohm readings for each station to verify wiring integrity
         (e) Consistency of irrigation map with the controller settings for each station.
         (f) Availability of information about the controller settings/schedule at controller panel location so settings can be restored if necessary.
         (g) Verification that run times are proper for the amount of water needed.
         (h) Verification that cycle and soak times are utilized to avoid runoff
         (i) Verification that irrigation schedule is incompliance with water budget or allowance based upon real time ET information on soil moisture readings.
6. Documentation and Reporting Requirements
   a. All measured data, datasheets, and a comprehensive summary, describing the operation of the irrigation system at the time of testing, shall be submitted to the Commissioning Authority. This shall include:
      1) Precipitation rate for each sprinkler zone/station
      2) Quality of the system based upon low-quarter distribution uniformity
      3) Deficiencies that need to be corrected
      4) Schedule to measure system performance to assure maintenance is being properly completed
   b. A preliminary Performance Test report shall be prepared by the Commissioning Authority and submitted to the Design Professional for review. Any identified deficiencies need to be evaluated by the Design Professional and Construction Manager to determine if they are part of the Contractor's contractual obligations. Construction deficiencies shall be corrected by the responsible Contractor(s) and the specific functional performance test repeated.
   c. If it is determined that the irrigaiton system is constructed in accordance with the Contract Documents, and the performance deficiencies are not part of the Contract Documents, the Contracting Officer must decide whether any required modifications needed to bring the performance of the irrigation system up to the finalized design intent shall be implemented, or if the test shall be accepted as submitted. If corrective work is performed, the Contracting Officer shall determine if a portion or all required functional performance tests should be repeated, and a revised report submitted.

3.06 OPERATING AND MAINTENANCE MANUAL (O & M)

A. The operating and maintenance manual shall consist of a sturdy binder with 8.5-inch by 11-inch sheets containing the following major sections:
1. System descriptions
   a. Each major system shall be described, typewritten, in general terms, including major components, interconnections, theory of operation, theory of controls, unusual features and major safety precautions. This information should correlate with information provided in the manufacturer's instruction book. This Section shall include, but not be limited to, the following data:
      (1) Detailed description of each system and each of its components showing piping, valves, controls, and other components, with diagrams and illustrations where applicable
      (2) Wiring and control diagrams with data to explain detailed operation and control of each component
      (3) Control sequences describing start-up, all modes of operation, and shut-down
      (4) Approved products data including all performance curves and rating data
      (5) Copies of approved certifications and laboratory test reports (where applicable)
      (6) Copies of warranties
2. Operating Instructions
   a. Condensed, typewritten, suitable for posting, instructions shall be provided for each major piece of equipment. Where more than one (1) common unit is installed, one instruction is adequate. The instructions shall provide procedures for:
      (1) Starting up the equipment/system
      (2) Shutting down the equipment/system
      (3) Operating the equipment in emergency or unusual conditions
      (4) Safety precautions
      (5) Troubleshooting suggestions
      (6) Other pertinent data applicable to the operation of particular systems or equipment
   b. The instructions shall be suitable for posting adjacent to the equipment concerned.
   c. The Contractor shall provide instructions for:
      (1) Irrigation mainline and lateral line maintenance procedures
      (2) Drip irrigation line maintenance procedures
      (3) Irrigation valve maintenance procedures
      (4) Irrigation head maintenance procedures
3. Ongoing and Preventive Maintenance
   a. Condensed, typewritten procedures for recommended ongoing and preventive maintenance actions shall be provided for each category of equipment/system listed above.
   b. This information shall include, but not be limited to, the following:
      (1) Maintenance and overhaul instructions
      (2) Name, address, and 24-hour telephone number of each sub-contractor who installed equipment and systems, and local representative for each type of system
      (3) Other pertinent data applicable to the maintenance of particular systems or equipment
   c. These recommended preventive maintenance actions shall be categorized by the following recommended frequencies:
      (1) Weekly
      (2) Monthly
      (3) Quarterly
      (4) Semi-Annual
      (5) Annual
      (6) Other
4. Posted Operating Instructions and Diagrams
5. Operating Instructions
   a. Copies of operating instructions provided in the operating manual shall be posted in the near vicinity of irrigation controller. Instructions mounted outdoors shall be suitably protected from weather.

3.07 OPERATING AND MAINTENANCE TRAINING

A. The Contractor, and appropriate sub-contractors, shall provide comprehensive operating and maintenance instruction on building systems in accordance with the Contract Documents prior to delivery. The instruction shall include classroom instruction delivered by competent instructors based upon the contents of the operating manual. Emphasis shall be placed upon overall systems diagrams and descriptions, and why systems were designed as they were. The classroom instruction(s) shall also include detailed equipment instruction by qualified manufacturer representatives for all equipment for which operating instructions are provided. The manufacturer representative training shall emphasize operating instructions, and preventive maintenance as described in the operating manual. At a minimum, the training sessions shall cover the following items:
1. Types of installed systems
2. Theory of operation (ideally presented by Design Professional)
   a. Design intent
   b. Seasonal modes of operation
   c. Emergency conditions and procedures
3. System operation
4. Use of control system
   a. Sequence of operation
   b. Problem indicators
   c. Diagnostics
   d. Corrective actions
5. Service, maintenance, diagnostics, and repair
6. Use of reports and logs

B. Troubleshooting, investigation of malfunctions, and determining reasons for the problems.

C. Each classroom training period shall be followed by an inspection, explanation and demonstration of the system concerned by the instructors. All equipment shall be started up and shut down.

D. The Contractor shall be responsible for organizing, arranging, and delivering in a manner and on a

E. chedule agreeable to the Contracting Officer.

F. The Contractor shall provide, at or before substantial completion, a proposed agenda and schedule of the above training for approval by the Commissioning Authority and the Contracting Officer.

G. Each classroom training session and demonstration shall be recorded on videotape or alternative acceptable media and submitted to the Contracting Officer.

H. The Division 32 Contractor shall provide a letter of certification to the Project Representative stating that project site training session(s) of at least two (2) hours duration were conducted for this project for the Sub-contractor's supervisory and installing personnel.

SECTION 32 1316

DECORATIVE CONCRETE PAVING

PART 1 GENERAL

1.01 SUMMARY

A. Section specifies:
1. Construction of Portland cement concrete improvements in or relating to exterior paved pedestrian areas.
2. Abrasive blasted finishing of site flatwork.
3. Exposing of aggregate of site flatwork.
4. Sand-cast finish of pathways.
5. Broom finish of pathways.

B. Related Sections:
1. Section 31 2000 – Earthwork
2. Section 32 1313 – Cast-In-Place Concrete
3. Section 32 1373 – Joint Sealants
4. Section 03 3523 – Concrete Finishes

1.02 REFERENCES

A. Paved surfaces and related drainage improvement materials shall be in accordance with the plans and any applicable City, County, or State requirements.

B. California Building Code

C. For any conflict between reference requirements, or between reference requirements and the requirements of these project specifications, the more stringent provision shall govern.

D. All referenced specifications, codes, drawings and details shall be incorporated into these Contract Documents, plans and specifications and made a part hereof as if spelled out or delineated in their entirety hereon.

E. The specifications and recommended practices of the American Concrete Institute (ACI), American Society for Testing and Materials (ASTM), the Construction Specification Institute (CSI) are to be considered part of this specification. The latest revision of each recommended practice or specification shall apply.

F. Manufacturer's specifications and written recommendations.

1.03 SUBMITTALS

A. Product Data: Manufacturer's literature describing products.

B. Mix Design: For each concrete pavement mix, include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.

C. Laboratory and Cement Test Reports
1. Submit copies of laboratory test reports for concrete materials and a certificate with each concrete mixer truck, stating: mix design, cement quantity, water, fine and coarse aggregate and color additives.

D. Provide signed material certificate certifying that each of the following materials complies with requirements:
   a. cementitious materials
   b. steel reinforcement and reinforcement accessories
   c. fiber reinforcement
   d. admixtures
   e. curing compounds
   f. applied finish materials
   g. bonding agent or adhesive
   h. joint filler

E. Furnish samples of typical sandblast finished, and exposed aggregate surfaces showing a range of textures, for each. Identify grit or grits of proposed sand. Identify proposed and not inconspicuous area for site mock-up.

F. Integral Color Chart, if color is required.

G. Product data for sealer.

H. Installation Instructions: Manufacturer's published installation instruction.

1.04 QUALIFICATIONS

A. Installer Qualifications: An experienced installer who has completed decorative concrete work similar in material, design, and extent to that indicated for this project and whose work has resulted in construction with a record of successful in-service performance. The concrete contractor shall make several prior installations available for the Owner to view to evaluate the level of quality and expertise.

B. Manufacturer Qualifications: A Manufacturer of ready mixed concrete products complying with ASTM C94 requirements for production facilities and equipment. Manufacturer must be certified according to the National Ready Mix Concrete Association's Plant Certification Program.

1.05 GENERAL REQUIREMENTS

A. Contractor shall be solely responsible for vehicular and pedestrian traffic control and safety and shall furnish, install, and maintain such fencing, signs, lights, trench plates, barricades, and/or other protection as is necessary for said control and safety.

B. Contractor shall be responsible for coordinating work and interfacing improvements with work by other Contractors at this job site and with improvements required by plans by others.

C. Contractor agrees that, in accordance with generally accepted construction practices, Contractor will be required to assume sole and complete responsibility for job site conditions during the course of construction of this project including safety of all persons and property, that this requirement shall be made to apply continuously and not be limited to normal working hours, and Contractor further agrees to defend, indemnify and hold design professionals harmless from all liability and claims, real or alleged, in connection with the performance of work on this project, excepting liability arising from the sole negligence of design professionals.

D. Contractor agrees to assume sole and complete responsibility for protection of public and private property in the vicinity of the job site and further agrees to, at Contractor's expense, repair or replace to original condition all existing improvements within or in the vicinity of the job site which are not designated for removal and which are damaged or removed as a result of Contractor's operations.

E. Subsurface Conditions
1. All existing buried conduits and structures are not known to the Landscape Architect and are not shown on these plans. Locations of conduits and structures shown are approximate only and have not been independently verified by the preparer of the plans.
2. Contractor shall independently verify the presence of buried conduits and structures, both active and abandoned-in-place and, before commencing work, Contractor shall determine the exact location including depths of all existing underground utilities, conduits and structures, including service connections, which may affect or be affected by construction operations. Contractor agrees to be fully responsible for any and all damages which might be occasioned by Contractor's failure to exactly locate and preserve any and all underground utilities, conduits and structures.
3. Upon encountering existing buried conduits or structures not shown or located differently than shown on the plans, Contractor shall immediately notify the Project Landscape Architect, the Engineer and the Owner of the conduit or structure by telephone and in writing. If such conduit or structure affects or is affected by the work, Contractor shall obtain written permission and direction before proceeding with the work, excepting that in an emergency affecting safety of life, work or adjacent property, Contractor shall act at once without instructions to prevent injury or loss.

F. Contractor is responsible for preservation and/or perpetuation of all existing monuments which control subdivisions, tracts, boundaries, easements, streets, highways or other rights-of-way, or which provide survey control which will be disturbed or removed due to Contractor's work. Prior to disturbance or removal of existing monuments, Contractor shall contract with licensed land surveyor to reset monuments or provide permanent witness monuments and tie the required documentation with the County surveyor pursuant to Business and Professions Code Section 8771.

G. All unsuitable construction materials and rubbish and debris shall be removed from the job site, be transported to a suitable recycling location to the maximum extent economically feasible. All unusable, non-recyclable material shall be removed from the job site, be transported and disposed of in a proper and legal manner.

H. Contractor shall make independent deductions and conclusions as to how existing surface and sub-surface conditions will affect or be affected by construction operations, including the nature of materials to be excavated, the degree of difficulty associated with making and maintaining the required excavations, and the degree of difficulty which may arise from subsurface conditions including groundwater, and shall accept full responsibility therefore.

1.06 REGULATORY REQUIREMENTS

A. Section 4215.5 through 4217 of the government code of the State of California requires that, two working days prior to commencing any excavation, "Underground Service Alert of Southern California" be notified by phone, toll free 1-800-422-4133, for the assignment of an inquiry identification number. No excavation shall commence unless the Contractor has obtained the inquiry identification number and each utility or other Owner of subsurface facility has located and physically marked their subsurface facilities in the area of work.

B. Before beginning work, Contractor shall confirm with agencies having jurisdiction that all required permits and licenses have been obtained and all required notices given.

C. Contractor shall not begin work before "General Construction Activity Storm Water Permit" has been obtained from, or has been determined to not be required by, the State Water Resources Control Board - Central Coast Region.

D. All materials and construction shall be in accordance with applicable health and safety laws, ordinances, regulations, rules, and standards including all requirements of the State of California Division of Industrial Safety and of CAL-OSHA. Curing compounds shall comply with California State Air Resources Board emission standards for volatile organic compounds.

1.07 NOTIFICATIONS

A. Before beginning work, Contractor shall notify the following a minimum 48 hours in advance of work pertinent to this section and to determine the time and location of the Pre-Construction Conference specifically for the work described within this section:
1. Architect and Landscape Architect
2. Each Utility Company or other Owner of subsurface facilities within the work site

B. Before commencing excavation, Contractor shall contact the County General Services Department and each utility company or other Owner of subsurface facilities, shall determine specific requirements for excavation in the vicinity of each subsurface facility, and shall verify whether or not a representative will be present before and/or during excavation.

C. Contractor shall promptly notify the Landscape Architect, and the Agency having jurisdiction by telephone and in writing upon discovery of, and before disturbing, any physical conditions differing from those represented by approved plans and specifications.

1.08 RECORD DOCUMENTS

A. Provide field verification and written certification by licensed surveyor (provided by the Contractor) that paving and appurtenant concrete curb, gutter, sidewalk and drainage structure improvements conform to lines and grades indicated on the Drawings.

B. Specific reference to manufacturer's names and products specified in this Section are used as standards of quality, this implies no right of the Contractor to substitute other materials without prior written approval.

C. Contractor shall maintain a complete and accurate record of all changes of construction from that shown in these plans and specifications for the purpose of providing a basis for construction record drawings. No changes shall be made without prior written approval of the Landscape Architect and the Agency having jurisdiction.

D. Any materials installed without written approval may be rejected and the Contractor shall at his own cost remove such materials from the site.

E. Upon completion of the project, Contractor shall deliver this record of all construction changes to the Landscape Architect along with a letter which declares that other than these noted changes "the project was constructed in conformance with the approved plans and specifications." CAUTION: THE LANDSCAPE ARCHITECT PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE APPROVED IN WRITING BY THE PREPARER.

F. If an approval is granted for a substitution, adjustment in the Contract price will be made in accordance with the Contract Conditions.

G. Accurately record location of pipelines, conduits and structures which are abandoned in place, including depth below finish grade, for Record Documents.

H. Accurately record changes in construction from that called for on the Drawings and Specifications, including unexpected physical conditions and unmarked or inaccurately marked existing pipelines, conduits and structures, for Record Documents.

1.09 ON-SITE MOCK-UPS

A. Furnish an area of a minimum size of 5-feet x 5-feet x depth specified on plans of each type of concrete finish and color specified in this Section and on the Drawings. Samples are to contain all proposed jointing. Locate the samples in a safe and convenient location. Approved samples shall be standards for finishes in later concrete work.

B. Blasted finish mock-up: Based upon the submitted and approved sample and in the presence of the Architect, begin blasting operations over the pre-selected and approved area. Make successive passes until the Landscape Architect approves finish. Approved mock-up shall become the standard for blast finishes and may be incorporated into the work.

C. Exposed Aggregate mock-up: Based upon the submitted and approved sample and in the presence of the Architect, begin aggregate exposing operations over the pre-selected and approved area. Make successive passes until finish is approved by the Landscape Architect. Approved mock-up shall become the standard for aggregate surfaced finishes and may be incorporated into the work.

D. Any mock-up that does not comply with specifications shall be completely removed from the site and disposed of in an approved landfill at no cost to the Owner.

E. Notify the Landscape Architect a minimum of 96 hours before blasting operations are to begin.

1.10 PROJECT CONDITIONS

A. The Contractor shall keep his work area clean, and in a safe and workmanlike condition so that rubbish, waste and debris do not interfere with the work of other trades.

B. Exposed aggregate: Concrete must bear a worker's weight on kneeboards with no indentation and be cured enough so that no aggregate will become dislodged by brooming operations.

1.11 SCHEDULING

A. Schedule blasting so that blasted surfaces are of approximately same age and strength when abrasive blasting occurs.

B. Schedule exposing of aggregate so that surfaces are of approximately same age and strength when aggregate surfacing occurs.

1.12 PRODUCT HANDLING

A. Store materials in a dry and protected location. Protect from rusting, deformation, staining and moisture damage.

B. Any cement delivered to job shall be packed in strong paper or jute bags with brand name and manufacturer's name stamped thereon. Cement shall be stored under cover and should it become wet or show any signs of caking or deterioration of any kind, it shall be immediately removed from the site. Concrete materials shall be protected from contamination.

C. Brand of cement or source of aggregate shall not be changed during course of work without prior written permission of the Owner's Authorized Representative.

PART 2 PRODUCTS

2.01 PORTLAND CEMENT CONCRETE (CONCRETE)

A. Portland Cement shall be Type II conforming to ASTM C150. Use one brand and source of cement throughout the entire length of the project.

B. Reinforcement steel shall be deformed billet-steel for concrete reinforcement conforming to ASTM A-615 for Grade 60. All reinforcement steel shall be clean and free of any rust, dirt, grease or oils.

2.02 SAND: Sand shall be clean, hard, durable and conform to ASTM C33. All sand shall be from single source and shall be like in visual appearance

2.03 FINE AGGREGATE: Fine aggregate shall conform to ASTM C33. Fine aggregate shall be from a single source and shall be uniformly graded and be like in visual appearance.

2.04 COARSE AGGREGATE: Coarse aggregate shall be San Gabriel or equal aggregate and conform to ASTM C33. Size range shall be from 3/8-inch to 1-inch. Coarse aggregate shall be from a single source and shall be like in visual appearance.

2.05 WATER: Water shall conform to ASTM C94 and be free from deleterious materials such as oils, acids, and organic matter.

2.06 ADMIXTURES:

A. General: Admixtures certified by manufacturer to contain not more than 0.1 percent water soluble chloride ions by mass of cement and to be compatible with other admixtures.

B. Air Entrainments
1. Air entraining admixtures shall conform to ASTM C260.

C. Chemical Admixtures
1. Chemical admixtures shall conform to ASTM C494 and ASTM C1017.

D. Water Reducing Admixtures
1. Shall conform to ASTM C494, Type A and not contain more than 0.1% chloride ions.

2.07 SURFACE RETARDER: Proprietary surface retarder shall be used to create sand finish concrete. Reference Specification Section **03 3523: EXPOSED AGGREGATE CONCRETE FINISHING** on sheet G0.2 for specified product. Retarder sprayed on concrete surface during installation creates a sand finish concrete with very consistent exposure. Acid washing or sandblasting of the concrete surface to expose the sands of the concrete are not acceptable alternates.

2.08 READY MIXED CONCRETE: Shall be batched, mixed and transported in accordance with ASTM C94 - "Specifications for Ready Mixed Concrete".

2.09 INTEGRALLY MIXED COLOR: Meets quality standards per manufacturer's testing.

2.10 FORM MATERIAL

A. Shall be free from warp, with smooth and straight upper edges. Wooden forms for straight work shall have a net thickness of at least 1-1/2 inches. Plywood for such work shall be of a thickness that will provide equivalent rigidity and strength and shall be so supported as to adequately resist springing or deflection from placing and tamping the concrete. All material shall be clean at the time that it is used.

B. Form-release agent shall be commercially formulated that will not bond with, stain, or adversely affect concrete substances and will not impair subsequent treatments of concrete surfaces.

2.11 REINFORCING

A. Reinforcing Steel
1. Shall conform to ASTM A615 and be clean and free of any rust, dirt, grease or oils.

B. Welded Wire Mesh
1. Shall be welded plain cold-drawn steel wire fabric conforming to ASTM A185 and be free of any rust, dirt, grease or oils

C. Tie Wire
1. 16 gauge plain cold-drawn steel conforming to ASTM A82 and free of any rust, dirt, grease or oils.

D. Supports for Reinforcement
1. Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire mesh in place.
2. For slabs on grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
3. For concrete surfaces exposed to view where legs of supports are in contact with forms, provided supports with legs that are plastic protected or stainless steel protected.

2.12 CURING MATERIALS

A. Curing materials shall conform to the following specifications:

Type Specification	
Burlap cloth made from jute or kenaf	AASHTO M182
White Liquid membrane-forming	AASHTO M184, ASTM C309
Compounds for curing concrete	CGSB 90-GP-la
Sheeting materials for curing concrete	AASHTO M171, ASTM C171

B. When applying liquid membrane, moisture loss should not exceed more than 0.055 grams/ square cm (when applied at the rate of 200 square feet/ gallon.

2.13 CONCRETE SLIP DOWELS

A. Dowels shall be #5 rebar x 18 inches long and free of dirt, grease and oils. 50% of each dowel shall be encased in a plastic sleeve to allow parallel lateral movement of the dowel. Plastic sleeve to be "Speed Dowel" distributed by Aztec Concrete Accessories, (909) 829-2765, or equivalent as approved by Landscape Architect.

2.14 JOINT MATERIALS

A. Poured sealer for weakened plane joints shall conform to the requirements of AASHTO M173 or ASTM D1190. Sealer shall be a hot applied elastomeric, Crafco Super seal 444 sealant or equal.

B. Preformed fillers for joints shall conform to the requirements of AASHTO, M33 or ASTM D 994 conforming to the dimensions of Section 302-6.45.3, and shall be punched to admit dowels where called for in the plans. The filler for each joint shall be furnished in a single piece for the full depth and width required for the joint unless otherwise authorized for a joint, the abutting ends shall be fastened securely and held accurately to shape by stapling or other positive fastening satisfactory to the Engineer. Sealant color shall match the adjacent concrete color.

2.15 EPOXY ADHESIVES

A. Two-part component material suitable for use on dry or damp surfaces conforming to ASTM C881.
1. Approved Products:
   a. Sikadur Hi-Mod – Sika Chemal Corporation.
   b. Patch and Bond Epoxy – The Burke Company.

2.16 CONCRETE SURFACE SEALER

A. Prime Coat Penetrant - "511 Pre-Treat" as manufactured by Miracle Sealants Company, (818) 814-8988, or equivalent as approved by Landscape Architect. This product must be used in conjunction with "511 Impregnator." It cannot be used alone.

B. Polymerized silicone penetrant - "511 Impregnator" as manufactured by Miracle Sealants Company, (818) 814-8988, or equivalent as approved by Landscape Architect.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Perform grading operations as necessary to achieve subgrade elevations based on the Finish grades shown on the Drawings.

B. Construct concrete improvements in accordance with the drawings and Drawing Details.

C. Contractor shall refer to Landscape Architectural plans for layout dimensioning of hardscape, and other site dimensioning information.

D. Contractor shall refer to Landscape Architectural plans and specifications for site development construction details and dimensioning including those for walkways.

E. Compaction of fill, subgrade and base courses as well as trench bedding and backfill shall be tested for compliance with ASTM Standard D-1557-91.

F. All existing and proposed valve and utility box covers, manhole and cleanout frames and covers, and catch basin frames and grates shall be adjusted to finish grade in paved areas.

G. Prior to finishing operations, mask, cover, and protect surrounding areas and dissimilar finishes with abrasive resistant materials.

3.02 TESTING, INSPECTION AND OBSERVATION

A. A minimum of one set of 4 compression test cylinders shall be taken by the Contractor for each 100 cubic yards of concrete poured or for each day's pour if less than 100 cubic yards.

B. After construction of concrete pavement, but before seal coating and painting striping and markings, a flood test shall be conducted to review surface drainage, as follows:
1. Water shall be supplied and discharged in sufficient quantity to completely wet and cover all pavement and concrete gutter areas; the outline limits of residual standing/ponded water shall then be marked.
2. Pavement and concrete gutter improvements shall be removed and replaced, at no additional cost to the Owner, as necessary to provide positive surface drainage and to prevent ponding of water on pavement surfaces and in gutters.
3. Additional flood testing shall be conducted to confirm success of corrective measures.

3.03 WASTE MANAGEMENT

A. Separate and recycle offcuts and waste materials in accordance with the Waste Management practices established onsite by the General Contractor and to the maximum extent economically feasible.

B. Place materials defined as hazardous or toxic waste in designated containers.

C. Return solvent and oil soaked rags for contaminant recovery and laundering or for proper disposal.

D. Use trigger operated spray nozzles for water hoses.

E. Set aside and protect the following surplus and uncontaminated waste materials: cementitious concrete, asphaltic concrete. General Contractor to deliver to or arrange collection for recycling of the same waste materials.

F. General Contractor to provide designated locations for the following materials:
1. Recyclable trash (included but not limited to glass, plastics, cardboard, and paper products); all materials acceptable for recycling, sorted and separated from other trash, delivered to recycling center (or collected by recycling agency) as necessary to maintain site in an organized and clean condition.

G. All trades shall use the least toxic sealants, adhesives, sealers, and finishes necessary to comply with the requirements of this section.

3.04 SUBGRADE PREPARATION

A. Scarifying and cultivating will be required for dry soils, which are impervious to the penetration of water, for soils which contain excessive amounts of moisture, which may result in unstable foundations, for soils which are non-uniform in character, which may result in non-uniform relative compactions and subsequent differential settlements of finished surfaces, or when pavement is to be placed directly on the subgrade material.

B. After rough grading has been completed and if scarifying and cultivating are required, the subgrade shall be loosened to a depth of at least 6 inches. The loosened material shall then be worked to a finely divided condition and all rocks larger than 3 inches in diameter shall be removed. The material shall then be compacted by approved equipment to the specified relative compaction.

C. Uniform pervious soils, that allow the immediate penetration of water or uniform impervious soils which allow the penetration of water to a depth of at least 6 inches after the addition of a suitable wetting agent, will not require scarifying and cultivating unless a condition previously set forth in this subsection requires such processing. When scarifying and cultivating are not required, the moisture content of the top 6 inches of the subgrade material shall be brought to optimum by the addition of water at the surface, and the material shall be compacted by approved equipment to the specified relative compaction.

D. Relative Compaction
1. When pavement is to be placed directly on subgrade material refer to Section 32000 for relative compaction.
2. After compaction and trimming, the subgrade shall be firm, hard and unyielding.

E. Subgrade Tolerances
1. Subgrade for pavement, sidewalk, curb, game courts, or other structures shall not vary more than 0.04 foot from the specified grade and cross-section. Variations within the above specified tolerances shall be compensating so that the average grade and cross-section specified are met.

3.05 FORMING

A. The design and engineering of the formwork as well as its construction shall be the responsibility of the Contractor and shall conform to recommended practice for concrete form work (ACI 347), latest edition.

B. Forms shall be used, wherever necessary, to confine the concrete and shape it to the required dimensions and shall be constructed accurately to dimensions, plumb and true to line and grade. Forms shall be of such cross-section and strength and so secured as to resist the pressure of the concrete when placed and the impact and vibration of any equipment they support, without springing or settlement. Forms shall be substantial, mortar right and braced and tied so as to maintain position and shape during placing or reinforcing and concrete. The method of connection between sections shall be such that the joints shall not move in any direction. The maximum deviation of the to surface shall not exceed 1/8 inch in 10 feet or the inside face or more than 1/4 inch in 10 feet from a straight line. Flexible or curved forms of proper radius shall be used for curves of 100 feet radius or less. Wavy surfaces and bulged walls or slab surfaces resulting from settlement or springing of form work will not be accepted.

C. The subgrade under the forms shall be compacted and cut to grade so that when the form is set, it will be uniformly supported for its entire length at the specified elevation. All forms shall be cleaned and oiled each time they are used. Forms used for concrete which is exposed to view shall be smooth and unsplintered so as to produce a first class finish. Rough concrete shall be ground, filled, and sacked and otherwise finished to the satisfaction of the Owner's Authorized Representative.

D. The Contractor shall check and correct alignment and grade elevations of the forms immediately before placing the concrete. When any form has been disturbed or any grade has become unstable, the form shall be reset and rechecked. Reference Sections above.

E. Earth forms may be used for footings only where soil is firm and stable and concrete will not be exposed. Excavations shall be cut neat and accurate to size, and all exposed concrete shall be formed with the form extending at least 6 inches below finish grade.

F. The Contractor shall carefully examine Drawings and provide all recesses and all openings of proper sizes or shapes required or as may be directed by Landscape Architect for installation of all work requiring openings.

G. Forms shall be constructed and assembled in such a manner that construction joints shall occur at approved locations, forms may be thoroughly cleaned out before concrete is placed and forms may be removed without damage to concrete.

H. After forms have been placed and approved, the Contractor shall see that all other trades have been properly notified and are given sufficient time to complete installation of their work. Placing of reinforcing steel shall proceed progressively with work of other trades and each shall arrange its working schedules so as to avoid disturbing or moving of work already installed by one trade to admit the work of another. Each trade shall be entirely responsible for proper installation and securing of the work and each shall keep its work under observation during placing of concrete.

I. Forms shall remain in place long enough to allow concrete to set properly and the Contractor shall assume all responsibility for removing same. In no case shall supporting forms or shoring be removed until concrete has sufficient strength to carry its own weight and the load upon it with safety.

3.06 EMBEDDED ITEMS AND ROUGH HARDWARE

A. Every workman of other trades who is required to fasten his work to concrete work or is required to insert therein any pipe, box, bolt, anchor or other rough hardware shall be afforded every facility for accurately setting such items. No pipe shall be embedded in concrete unless specifically detailed.

B. The Contractor shall request information for accurate location of all other embedded items from other trades.

3.07 WETTING AND OILING FORMS

A. Inside surfaces of wood board forms shall be soaked with clean water and be kept continuously wet for 12 hours before any concrete is placed. If the forms have been erected for sometime and have become dry so that joints have opened, forms shall be thoroughly soaked at least twice a day for at least 3 days prior to placing concrete.

B. Plywood forms shall be treated with approved form oil. Excess oil shall be wiped off with rags to leave surface free of oil or visible to touch. Material used shall not have an effect on bond of any paint that may be applied to finished concrete surfaces.

3.08 REINFORCEMENT

A. Steel reinforcement shall be transported to the site, handled, and stored in such a manner as to prevent damage and accumulation of moisture, dirt, grease, or other material that might impair the bond to concrete. Identification of reinforcement pieces shall be maintained after breaking bundles.

B. Place all reinforcement as indicated on the Drawings. Place accurately and securely fasten and support reinforcement to prevent displacement before or during pouring. Hang footing bars from forms. Support wire mesh with suitable metal cradles.

C. Clean, bend and place reinforcement in accordance with current requirements of the ACI Manual of Concrete Practice.

D. Reinforcement Splices
1. Welded wire fabric – one mesh minimum
   Reinforcing bars: #3 through # 7 = 30 bar diameter
   #8 through # 9 = 40 bar diameter
   #10 through #11 = 54 bar diameter
2. Spacers, chairs, ties and all items required shall be provided for supporting, assembling and spacing reinforcement.
3. Minimum concrete protective covering for reinforcement except in extremely corrosive atmosphere and other severe exposure shall be as follows:
   a. Formed surfaces exposed to weather or in contact with the ground: 2 inches for reinforcing bars #6 or larger; 1-1/2 inches for reinforcing bars less than #6.
4. All reinforcement at the time concrete is placed shall be free of mud, oil or other materials that may adversely affect or reduce the bond.
5. All reinforcement shall be supported and fastened together to prevent displacement by the placement of concrete.
6. Additional bars shall be supplied where needed to fasten other reinforcement securely in place. 16-gauge wire shall be used to secure all intersecting bars at the required spacing and position. Tie wire ends shall be bent away from the form surface.
7. The Landscape Architect shall be notified at the completion of reinforcement and a minimum of 24 hours before placement of concrete.
8. All defective or damaged reinforcement shall be replaced or repaired as directed by the Landscape Architect at no cost to the Owner.

E. Install reinforcing steel continuous through construction joints with a minimum 18-inch lap.

F. Interrupt reinforcing steel at expansion joints and construct dowels across joints.

G. Adjust the perimeter edge of valve box, utility vault, and manhole frames and covers to conform to finish pavement surface.

3.09 DESIGN OF MIXES AND PROPORTIONING

A. Proportioning and mixing of cement, aggregate, admixture and water to attain required plasticity and strength shall be in accordance with the current edition of the ACI Manual of Concrete Practice and the PCA "Design and Control of Concrete Mixtures".

B. Proportions of concrete materials and water content for various grades of concrete shall be established by concrete mix designs made at expense of Owner by an approved testing laboratory to conform to concrete strengths specified herein. At least 5 days prior to beginning placing concrete, Owner's Authorized Representative shall be furnished with 2 copies of

Specifications CSI Definitions

Concrete on grade shall be placed only on sound, undisturbed, damp, natural soil free of standing water.

G. Concrete shall be thoroughly consolidated against and along the faces of all forms and along the full length and on both sides of all joint assemblies. Vibrators shall not be permitted to come in contact with a joint assembly, the grade, or a side form. The vibrator shall never be operated longer than 15 seconds in any one location. Eliminate air, rock pockets or other causes of honeycombing or pitting.

H. Concrete shall be deposited as near to expansion and contraction joints as possible without disturbing them but shall not be dumped onto a joint assembly.

3.11 REMOVAL OF FORMS

A. Forms shall be removed on standard reinforced concrete work only when concrete has developed sufficient strength to safely sustain its own weight.

3.12 STRIKEOFF, CONSOLIDATION, AND FINISHING

A. The sequence of operations shall be the Strike-off and consolidation, floating if necessary, straight edging, and final surface finish. The pavement shall be struck off and consolidated with a mechanical finishing machine, vibrating screed, or by hand-finishing methods when approved by the Engineer. A slip form paver may be used.

B. Adding water to the surface of the concrete to assisting finishing operations shall not be permitted.

C. After the pavement has been struck off and consolidated, it shall be scraped with a straightedge 10 ft long equipped with a handle to permit operation from the edge of the pavement. Any excess water and laitance shall be removed from the surface of the pavement. The straightedge shall be operated parallel to the centerline of the pavement and shall be moved forward one-half its length after each pass. Irregularities shall be corrected by adding or removing concrete. All disturbed places shall again be straight edged. The use of long-handled wood floats shall be confined to a minimum; they may be used only in emergencies and in areas not accessible to finishing equipment.

D. Before final finishing is completed and before the concrete has taken its initial set, the edges of the slab and curb shall be carefully finished with an edge of the radius shown in the plans.

3.13 CURING

A. Concrete shall be cured by protecting it against loss of moisture, rapid temperature change, and mechanical injury for at least 5 days after placement. Moist curing, waterproof paper, white polyethylene sheeting, white liquid membrane compound, or a combination thereof may be used. After finishing operations have been completed, the entire surface of the newly placed concrete shall be covered by whatever curing medium is applicable to local conditions and accepted by the Landscape Architect. The edges of concrete slabs exposed by the removal of forms shall be protected immediately to provide these surfaces with continuous curing treatment equal to the method selected for curing the slab and curb surface.

B. The Contractor shall have at hand and ready to install before actual placement begins the equipment needed for adequate curing.

C. Moist Curing. Moist curing shall be accomplished by a covering of burlap or other approved fabric mat used singly or in combination. Curing mats shall be thoroughly wet when applied and kept continuously wet and in intimate contact with the pavement surface of the duration of the moist-curing period. Burlap or fabric mats shall be long enough to cover the entire width and edges of the pavement lane and lapped at joints to prevent drying between adjacent sheets.

D. Waterproof Paper or White Polyethylene. Waterproof paper or white polyethylene sheets shall be in pieces large enough to cover the entire width and edges of the slab and shall be lapped not less than 18 inches. The paper or polyethylene shall be adequately weighted to prevent displacement or billowing due to wind, and material folded down over the side of the pavement edges shall be secured by a continuous bank of earth. Tears or holes appearing in the paper or polyethylene during the curing period shall be immediately repaired.

E. Membrane. The membrane method of curing shall be applied behind the final finishing operation after all free water has disappeared from the surface. Complete and uniform coverage at the required rate of 150 sq. ft. per gallon shall be required. The compound shall be kept agitated to prevent the pigment from settling, and it shall be applied to the pavement edges immediately after the forms have been removed. Membrane curing will not be permitted in frost-affected areas on paving that will be exposed to deicing chemicals within 30 days after completion of the curing period.

3.14 STOPPAGES AND PROTECTION

A. Do not place fresh concrete over cured concrete before any laitance thereon is removed and before clean, course aggregate is exposed by wire brush and water under pressure shortly after placing or by chipping and washing with water after it has hardened or by sandblasting. No concrete shall be placed in forms or against hardened concrete that has not been kept wet 24 hours prior to placing. Concrete surfaces on which masonry work starts shall be prepared in same manner as a concrete construction joint.

3.15 INSPECTION

A. Finished paving surfaces shall not vary more than 1/4 inch measured with a 10-foot metal straightedge, except at grade changes. No pooling water or other surface irregularities will be permitted. Correct irregularities to the satisfaction of Owner's Authorized Representative.

B. A qualified testing laboratory will take samples for testing during the course of the work as considered necessary. Cooperate in making these tests as well as be responsible for notifying the designated laboratory in sufficient time to allow taking of concrete samples at the time of pouring.

C. Should tests show that concrete is below specified strength, Contractor shall remove all such concrete, as directed by Owner's Authorized Representative. Full cost of removal of low strength concrete, its replacement with concrete of proper specified strength and testing shall be borne by the Contractor.

D. All construction shall conform to current CBC and all other local building and safety codes.

3.16 JOINTS

A. Joints (General)
1. Contraction joints, expansion joints, and all longitudinal joints shall be placed as required by the Landscape Architect and at 10-foot maximum spacing, each way. Joints shall also be constructed in adjacent curb, gutter and sidewalk to align with those in concrete pavement. All products used for construction of joints shall be installed as recommended by the manufacturer. If a conflict exists between these specifications and the manufacturers product information it shall be brought to the attention of the Landscape Architect and the Landscape Architect's determination shall be final. Transverse construction joints shall be used as required (as called for in other sections of these specifications). Transverse joints shall extend continuously through the pavement and curb.
2. Should uncontrolled cracking occur, at any time prior to acceptance, the Owner may, at its option, require the removal and replacement of affected areas of pavement, at Contractor's expense. The area of pavement to be removed will be such as is determined by the Landscape Architect to be necessary in order to provide proper function and integrity to the pavement system.

B. Saw-Cut Control Joints: Control joints shall consist of planes of weakness created by forming or cutting grooves in the surface of the pavement. They shall be equal to at least one-fourth the depth of the slab.

C. Isolation Joints
1. Transverse expansion joints shall consist of a vertical expansion joint filler placed in a butt-type joint with or without dowel bars as shown in the plans. The expansion joint filler shall be continuous from form to form, shaped to the subgrade, curb section, and to the keyway along the form. Preformed joint filler shall be furnished in lengths equal to the pavement width or equal to the width of one lane. Damaged or repaired joint filler shall not be used.
2. The expansion joint filler shall be held in a vertical position. An approved installing bar or other device shall be used if necessary to ensure proper grade and alignment during placing and alignment during placing and finishing of the concrete. Finished joints shall not deviate in horizontal alignment more than 1/4 inch from a straight line. If joint fillers are assembled in sections, there shall be no offsets between adjacent units. No plugs of concrete shall be permitted anywhere within the expansion space.

D. Saw-cut Construction Joins
1. Transverse expansion joints shall consist of a vertical expansion joint filler placed in a butt-type joint with or without dowel bars as shown in the plans. The expansion joint filler shall be continuous from form to form, shaped to the subgrade, curb section, and to the keyway along the form. Preformed joint filler shall be furnished in lengths equal to the pavement width or equal to the width of one lane. Damaged or repaired joint filler shall not be used.
2. The expansion joint filler shall be held in a vertical position. An approved installing bar or other device shall be used if necessary to ensure proper grade and alignment during placing and alignment during placing and finishing of the concrete. Finished joints shall not deviate in horizontal alignment more than 1/4 inch from a straight line. If joint fillers are assembled in sections, there shall be no offsets between adjacent units. No plugs of concrete shall be permitted anywhere within the expansion space.
3. A saw-cut control joint shall be installed in the same location as the joint filler as shown on plans.

3.17 FINISHES

A. General:

1. Wetting of concrete surfaces during screening, initial floating, or finishing operations is prohibited.

B. Broom Finish
1. After surface water disappears and floated surface is sufficiently hardened, produce a light transverse scored texture perpendicular to the direction of traffic by drawing a broom across the surface. A stiff bristled broom shall be drawn from the center to the edge of the pavement with adjacent strokes slightly over lapping to produce surface corrugations of uniform appearance and about 1/16 inch in depth.
2. A medium broom finish shall be used on all Portland cement concrete paving less than 6% and a heavy broom finish on all surfaces greater than 6%.

C. Exposed Aggregate Finish
1. Lightly brush with a stiff nylon-bristle broom and remove excess mortar.
2. Simultaneously with brushing flush away the loosened mortar with a fine water spray.
3. Washing and brushing may proceed at a more vigorous pace as concrete sets.
4. Brush and wash until exposure is uniform and to the approved depth.
5. Continue operations until flushing water runs clear and there is no noticeable cement film on aggregate.

D. Sand Cast Finish
1. After placing concrete, apply Surface Retarder at the proper time to achieve the required finish, prior to installing control and expansion joints per the drawings.
2. After seven days, clean the concrete with hot water to remove the surface of any laitance; dispose of wastewater in compliance with all governing regulations.
3. Seal the concrete after cleaning and curing.

3.18 CLEANING AND PATCHING

A. All projecting fins, bolts, wire and nails not necessary for the work shall be removed or cut back 1 inch from the surface and patched in an inconspicuous manner.

B. All defects in concrete work not meeting the approval of the Owner's Authorized Representative shall be removed and replaced.

C. All repairs of defects shall be in accordance with ACI 301, latest edition.

D. Metal form ties extending from the face of permanently exposed concrete shall be cut off at least 1 inch deep in the concrete immediately after removal of forms. Fill holes with a 1:3 cement to sand mortar as dry as possible and finish to match the adjacent concrete surface.

E. Traces of blasting operations shall be removed from the site at conclusion of blasting.

F. Upon completion of the work under this Section, the Contractor shall remove all rubbish, waste, and debris resulting from his operations offsite or as directed by the Owner's Authorized Representative. Remove all equipment and implements of service, and leave the entire work area in a neat and clean condition as accepted by the Owner's Authorized Representative.

3.19 TRAFFIC LOADING

A. Concrete pavement shall not be opened to traffic or traffic loads until the concrete has attained a compressive strength of 3,500 psi. If such tests are not conducted, the pavement shall not be opened to traffic until 14 days after the concrete was placed. Before opening to traffic, the pavement shall be cleaned.

B. Early strength concrete shall be used at intersections and any other locations that due to scheduling require traffic loading of pavement prior to 14 days of cure time. The accelerated loading time shall be determined by the Engineer based on actual compression test results of the mix supplied by the Contractor, but in no case less than three days. If compression test results are not available to the Engineer, traffic loading shall not be prior to 7 days of curing.

3.20 REPAIR WORK

A. Repair concrete work that is not formed as indicated, or is not true to intended alignment, or is not plumb or level where so intended, or is not true to intended grades and levels, or has void or rock pockets that have not been filled (unless under direction of Owner's Authorized Representative), or has any sawdust, wood or debris embedded in it, or does not fully conform to specifications.

B. Any concrete finish that is not true to line and plane, or is not thoroughly troweled and surfaces as specified, or varies more than 3/32 inch from the specified finish grade (except slabs having drains), or does not connect properly to adjoining work, will be deemed to be defective, and if directed by the Owner's Authorized Representative shall be removed and replaced with cement finish complying with specifications.

C. Where concrete repairing is required because of changes, errors or damage, it shall be performed in such a manner as to obtain surfaces true to line and level with existing work so that when new surfaces are finished they will not be lower than adjoining work.

D. Where reinforcing steel has been cut back to make repairs or changes, it shall be cleaned of all incrustations and be reinstalled, using splicing bars and obtaining laps on both sides of cut or at least 24 bar diameters.

E. Edges and other surfaces or hardened concrete against which new concrete will be placed shall be vertical and be thoroughly wetted and wire brushed with heavy, neat, cement paste just prior to placing concrete. Feather patching will not be permitted. In general, edges shall be saw cut.

32 15 40 DECOMPOSED GRANITE SURFACE

SUBMITTALS:

1. Shop drawings: submit plan layout of all decomposed granite surfacing areas and detail drawings showing the various components of the surfacing system, including subbase and edging.
2. PRODUCT DATA: manufacturer's literature completely describing all components of the decomposed granite surfacing system, including:
   a. Preparation instructions and recommendations
   b. Installation methods and application procedures.
3. SAMPLES: three pound sample of each type and color of decomposed granite surfacing material.
4. CERTIFICATION: MANUFACTURER AND INSTALLER QUALIFICATIONS

QUALITY ASSURANCE:

1. MANUFACTURER: company specializing in manufacturing work in this section with minimum 25 years documented experience.
2. SINGLE SOURCE RESPONSIBILITY: obtain each type of decomposed granite surfacing from single manufacturer.
3. MOCK UP: provide a mock-up for evaluation of surface preparation, installation techniques and quality of application.
   a. Install a 4-feet x 4-feet minimum of decomposed granite surfacing, including subbase course and edging, at location approved by landscape architect.
   b. Do not proceed with remaining work until installation of mock-up is approved by landscape architect.
   c. Approved mock-up may remain as part of completed work.

PROJECT CONDITIONS:

1. Surfaces to receive decomposed granite surfacing shall be frost free and free of oil or any other foreign matter, which may impair the proper installation of the surfacing system.
2. Do not install decomposed granite surfacing when subbase course is muddy or saturated with standing water.
3. Perform work in dry weather when subgrade is sufficiently stable to be properly compacted.

MANUFACTURER:

GAIL MATERIALS - NATRACIL STABILIZED DECOMPOSED GRANITE

22300 TREMESCAL CANYON ROAD

CORONA, CA 92883

951.667.6106

SUBSTITUTIONS: not permitted

MATERIALS:

STABILIZED DECOMPOSED GRANITE SPECIFICATIONS

1. Decomposed granite as produced from Gail Materials (951-279-1095) is derived from the crushing and screening of naturally friable granite. The blending of course sand with rock dust is not an equal product. The granite is screened to include stone particles of 1/2" minus. The particles that pass the 200 screen mesh as determined by ASTM methodology shall not exceed 18 percent. The sand equivalent shall be a minimum of 30 and the R-value shall be a minimum of 70.
2. Stabilizing organic binder Natracil™ as distributed by Gail Materials shall have a minimum swell volume of 32 ml/gm. The binder shall be incorporated with the granite fines by the use of a pug mill that includes a weight belt feeder that insures the proper ratio of binder to granite fines. Blending with the use of a bucket loader or similar is not acceptable. For pathways the binder shall be blended at the rate of 12 lbs. per ton of granite fines. For parking lots, campsites, or roadways the binder shall be incorporated at the rate of 14 lbs. per ton.
3. For pathways, Stabilized decomposed granite shall be placed to a minimum depth of 3" compacted. For driveways, vehicular roadways, or campsites Stabilized decomposed granite shall be placed to a minimum depth of 4" compacted.
4. For each 2" lift evenly spread the material over area of concern. Grade and smooth as desired. Thoroughly water entire area so that the entire depth of the material is moist. After a period of +/- 6 hours compact the finale lift with a 1000 – 3000 lb static drum roller. Allow for a sufficient curing period of +/- 4 days prior to use.

INSTALLATION:

1. Spread and evenly distribute the stabilized dg in two approximate equal lifts.
2. If stabilized dg is purchased from the quarry "pre-wet" or you opt to pre-moisten the stabilized dg before installing the pre-moistened dg can be installed in one single lift (skip steps 3-7)
3. Thoroughly water each lift of stabilized dg so that the entire depth of material is moistened. A rule of thumb is 20 gallons per ton of stabilized dg. Flood the area of placement before spreading any stabilized dg. Periodically check multiple areas to ensure that moisture is reaching full penetration.
4. Do not spread an entire placement of two inches or greater and then try to water from the top down. The water will never get all the way through. This is the biggest mistake that can be made.
5. When installing the final lift allow for 15 – 20 percent shrinkage during compaction.
6. Once the material is graded and watered correctly allow the material to sit undisturbed for approximately 4-6 hours or until free water drains or the material does not stick to the roller.
7. Compact with an asphalt roller that weights a minimum of 1 ton. A larger roller of 3-5 tons is preferred. In areas that a roller cannot be used then a vibratory plate can be used.
8. Trying to compact at the same time of watering is a sign that insufficient amount of water has been applied.
9. Allow 3-5 days for curing prior to use. This is weather depended and it may take weeks before the entire depth of stabilized dg is cured.
10. Any required compaction test need to wait until the material is cured. Once cured, providing that the installation was as indicated then the stabilized dg will meet compaction of 95%.
11. Do not conduct compaction tests on uncured material.

32 31 13 CHAIN LINK FENCING

PART 1 GENERAL

1.1 SUMMARY

A. Includes But Not Limited To
1. Furnish and install complete fence as described in Contract Documents.

1.2 REFERENCES

A. American Society For Testing And Materials
1. ASTM A 123-00, 'Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products'
2. ASTM A 153-98, 'Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware'
3. ASTM A 392-96, 'Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric'
4. ASTM A 570-98, 'Standard Specification for Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality'
5. ASTM A 1011-01, 'Standard Specification Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability'
6. ASTM C 1107-99, 'Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)'
7. ASTM F 1043-00, 'Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework'
8. ASTM F 1083-97, 'Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures'

PART 2 PRODUCTS

2.1 MATERIALS

A. Fabric
1. Chain link fabric of 9 gauge wire galvanized after weaving with 1.2 ounce zinc coating conforming to requirements of ASTM A 392, Class I, 2 inch mesh.

B. Framework
1. Posts and rails shall be roll-formed, self-draining shapes meeting strength requirements of ASTM F 669, Table 3, and with 2 ounce zinc coating per sq ft of surface area conforming to ASTM A 123.
2. Line Posts - 2.375 inch outside diameter Schedule 40 tubular section weighing 3.65 lbs/lin ft meeting requirements of ASTM F 1083.
3. Terminal And Gate Posts -3 inch outside diameter Schedule 40 pipe weighing 5.79 pounds per lineal foot meeting requirements of ASTM F 1083.
4. Top And Brace Rail - 1.660 inch outside diameter Schedule 40 pipe weighing 2.27 lbs/lin ft meeting requirements of ASTM F 1083.
5. Fittings - Pressed steel or malleable iron, hot-dip galvanized conforming to ASTM A 153. Tie wires shall be 12 gauge minimum galvanized steel or 9 gauge minimum aluminum wire.
6. Tension Wire - 7 gauge minimum galvanized spring steel.

2.2 MIXES

A. Post Foundation Concrete
1. One cu ft cement, 2 cu ft sand, 4 cu ft gravel, and 5 gallons minimum to 6 gallons maximum water.
2. Mix thoroughly before placing.

PART 3 EXECUTION

3.1 INSTALLATION

A. Fence shall be installed by mechanics skilled and experienced in erecting fences of this type and in accordance with Contract Documents.
1. When general ground contour is to be followed, make changes of grade in gradual, rolling manner.
2. Evenly space posts in line of fence a maximum of 10 feet center to center.

B. Post Foundations
1. Except atop retaining walls, set posts with concrete post foundations as specified below -
   Line Posts -,Diameter 8 inches, Depth 36 inches
   Gate, End, And Corner Posts - Diameter 12 inches, Depth 42 inches
   a. At mow strips, set top of post foundation below grade sufficient to allow for placing of mow strip. Measure post foundation depth from top of mow strip.
   b. Where fences are incorporated into slabs, measure post foundation depth from top of slab. Extend bottom of slab footing sufficient to allow specified amount of concrete around post. At existing slabs, install fence outside perimeter of slab.
   c. For fences on retaining walls, provide 12 inch long sleeves to be cast into retaining wall. Set pipe in sleeve and grout space between sleeve and post full.

C. Fence
1. After posts have been permanently positioned and concrete cured for one week minimum, install framework, braces, and top rail. Join top rail with 6 inch minimum couplings at not more than 21 foot centers.
2. Stretch fabric by attaching one end to terminal post and supplying sufficient tension to other end of stretch so slack is removed.
   a. Fasten fabric to line posts with tie wires. Pass ties over one strand of fabric and hook under line post flange.
   b. Place one tie as close to bottom of fabric as is possible with additional ties equally spaced between top and bottom band on approximately equal spacings not to exceed 14 inches on center.
   c. Attach fabric to roll formed terminals by weaving fabric into integral lock loops formed in post. Attach fabric to tubular terminals with tension bars and bands.
   d. Hold fabric approximately 2 inches above finish grade line.
   e. On top rail, space tie wires at no more than 24 inches on center.
   f. Securely attach fittings and firmly tighten nuts.

3.2 CLEANING

A. Spread dirt from foundation excavations evenly around surrounding area unless otherwise directed. Leave area free of excess dribbles of concrete, pieces of wire, and other scrap materials.

SECTION 32 8400

PLANTING IRRIGATION

PART 1 GENERAL

1.01 SUMMARY

A. It is the intent of the specifications and drawings that the finished system is complete in every respect and shall be ready for operation satisfactory to the Owner.

B. The work shall include all materials, labor, services, transportation, and equipment necessary to perform the work as indicated on the drawings, in these specifications, and as necessary to complete the contract.

C. Related sections include the following:
1. 32 9200 – Turf and Grasses
2. 32 9300 – Plants
3. 32 0800 – Irrigation Commissioning

1.02 CONSTRUCTION DRAWINGS

A. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings, sleeves, etc. which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of his work and plan his work accordingly, furnishing such fittings, etc. as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting, and architectural features.

B. All work called for on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications. When an item is shown on the plans but not shown on the specifications or vice versa, it shall be deemed to be as shown on both. The Landscape Architect shall have final authority for clarification.

C. The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been considered in engineering. Such obstructions or differences should be brought to the attention of the Landscape Architect as soon as detected. In the event this notification is not performed, the Irrigation Contractor shall assume full responsibility for any revision necessary.

1.03 QUALITY ASSURANCE

A. Provide at least one English speaking person who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed and the manufacturer's recommended methods of installation and who shall direct all work performed under this section.

B. Manufacturer's directions and detailed drawings shall be followed in all cases where the manufacturer of articles used in this contract furnish directions covering points not shown in the drawings and specifications.

C. All local, municipal, and state laws, rules and regulations governing or relating to any portion of this work are hereby incorporated into and made a part of these specifications, and their provisions shall be carried out by the Contractor. Anything contained in these specifications shall not be construed to conflict with any of the above rules and regulations of the same. However, when these specifications and drawings call for or describe materials, workmanship, or construction of a better quality, higher standard, or larger size than is required by the above rules and regulations, the provisions of these specifications and drawings shall take precedence.

D. All materials supplied for this project shall be new and free from any defects. All defective materials shall be replaced immediately at no additional cost to Owner.

E. The Contractor shall secure the required licenses and permits including payments of charges and fees, give required notice to public authorities, verify permits secured or arrangements made by others affecting the work of this section.

1.04 SUBMITTALS

A. Submittals Materials List:

B. After award of contract and before any irrigation system materials are ordered from suppliers or delivered to the job site, submit to the Owner a complete list of all irrigation system materials, or processes proposed to be furnished and installed as part of this contract.

C. The submittals materials list shall include the following information:
1. A title sheet with the job name, the contractor's name, contractor's address and telephone number, submittal date and submittal number.
2. An index sheet showing the item number (i.e. 1,2,3, etc.); an item description (i.e. sprinkler head); the manufacturer's name (i.e. Hunter Industries); the item model number (i.e. I-40-ADV/36V); and the page(s) in the submittal set that contain the catalog cuts.
3. The catalog cuts shall be one or two pages copied from the most recent manufacturer's catalog that indicate the product submitted. Do not submit parts lists, exploded diagrams, price lists or other extra information.
4. The catalog cuts shall clearly indicate the manufacturer's name and the item model number. The item model number, all specified options and specified sizes shall be circled on the catalog cuts.
5. Submittals for equipment indicated on the legend without manufacturer names, or "as approved", shall contain the manufacturer, Class or Schedule, ASTM numbers and/or other certifications as indicated in these specifications.

D. Submittal materials list format requirements:
1. Submittals shall be provided as one complete package for the project. Multiple partial submittals will not be reviewed.
2. Submittal package shall be stapled or bound in such a way as to allow for disassembly for review processing. Submittals shall not have tabs, tab sheets, spiral binding, or any other type of binding that will interfere with automated copying of submittals.
3. Submittal package shall have all pages numbered in the lower right hand corner. Page numbers shall correspond with submittal index.
4. Re-submitted packages must be revised to include only the equipment being re-submitted. Equipment previously reviewed and accepted shall not be re-submitted in the materials list/index sheet or in the catalog cut sheet package.

E. Substitutions: If the Irrigation Contractor wishes to substitute any equipment or materials for those equipment or materials listed on the irrigation drawings and specifications, he may do so by providing the following information to the Landscape Architect or Owner's authorized representative for approval.

F. Provide a written statement indicating the reason for making the substitution.

G. Provide catalog cut sheets, technical data, and performance information for each substitute item.

H. Provide in writing the difference in installed price if the item is accepted.

I. The Landscape Architect or Owner's authorized representative will allow no substitutions without prior written acceptance.

J. Manufacturer's warranties shall not relieve the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.

K. The Landscape Architect or Owner's authorized representative will not review the submittal package unless provided in the format described above.

1.05 EXISTING CONDITIONS

A. The Contractor shall verify and be familiar with the locations, size and detail of points of connection provided as the source of water, electrical supply connection to the irrigation system.

B. Irrigation design is based on the available static water pressure shown on the drawings. Contractor shall verify static water on the project prior to the start of construction. Should a discrepancy exist, notify the Landscape Architect and Owner's authorized representative prior to beginning construction.

C. Prior to cutting into the soil, the Contractor shall locate all cables, conduits, sewer septic tanks, and other utilities as are commonly encountered underground and he shall take proper precautions not to damage or disturb such improvements. If a conflict exists between such obstacles and the proposed work, the Contractor shall promptly notify the Landscape Architect and Owner who will arrange for relocations. The Contractor will proceed in the same manner if a rock layer or any other such conditions are encountered.

D. The Contractor shall protect all existing utilities and features to remain on and adjacent to the project site during construction. Contractor shall repair, at his own cost; all damage resulting from his operations or negligence.

E. The Irrigation Contractor shall coordinate with the General Contractor for installation of required sleeving as shown on the plans prior to paving operations.

F. The Contractor shall verify and be familiar with the existing irrigation systems in areas adjacent to and within the Project area of work.

G. The Contractor shall protect all existing irrigation systems, in areas adjacent to and within the project area of work, from damage due to his operations.

H. Contractor shall notify Owner's Representative if any existing system is temporarily shut off, capped or modified. Provide 48-hour notice, prior to turning off or modifying any existing irrigation system.

I. The Contractor shall repair or replace all existing irrigation systems, in areas adjacent to and within the project area of work, damaged by the construction of this project. Adjacent irrigation systems shall be made completely operational and provide complete coverage of the existing landscaped areas. All repairs shall be complete to the satisfaction of the Owner's Representative.

J. The contractor shall provide bore holes under any existing pavement or paving encountered for the required lateral, mainline and low voltage control wire sleeving. Bore holes under 2 inches in diameter and smaller shall be made with a BulletMole® underground boring tool as manufactured by Dimension Tools, LLC (Contact telephone number (888)-650-5554 or at www.bulletmole.com). Bore holes larger than 2 inches in diameter shall be made with an approved mechanical boring tool. No air jacking or hydraulic boring of any kind shall be allowed.

1.06 INSPECTIONS

A. Inspections shall comply with all requirements outlined in Section 32 0800 – Irrigation Commissioning.

B. The Contractor shall permit the Landscape Architect and Owner's authorized representative to visit and inspect at all times any part of the work and shall provide safe access for such visits.

C. Where the specifications require work to be tested by the Contractor, it shall not be covered over until accepted by the Landscape Architect, Owner's authorized representative, and/or governing agencies. The Contractor shall be solely responsible for notifying the Landscape Architect, Owner, and governing agencies, a minimum of 48 hours in advance, where and when the work is ready for testing. Should any work be covered without testing or acceptance, it shall be, if so ordered, uncovered at the Contractor's expense.

D. Inspections will be required for the following at a minimum:
1. Pre-construction meeting.
2. System layout.
3. Pressure test of irrigation mainline (Four hours at 125 PSI or 120% of static water pressure, whichever is greater.) Mainline pressure loss during test shall not exceed 2 PSI.
4. Coverage test of irrigation system. Test shall be performed prior to any planting.
5. Final inspection prior to start of maintenance period.
6. Final acceptance prior to turnover.

E. Site observations and testing will not commence without the field record drawings as prepared by the Irrigation Contractor. Record drawings must complete and up to date for each site visit.

F. Work that fails testing and is not accepted will be retested. Hourly rates and expenses of the Landscape Architect, Owner's authorized representative, and governing agencies for re-inspection or retesting will be paid by the Irrigation Contractor at no additional expense to Owner.

1.07 STORAGE AND HANDLING

A. Use all means necessary to protect irrigation system materials before, during, and after installation and to protect the installation work and materials of all other trades. In the event of damage, immediately make all repairs and replacements necessary to the acceptance of the Landscape Architect and Owner and at no additional cost to the Owner.

B. Exercise care in handling, loading, unloading, and storing plastic pipe and fittings under cover until ready to install. Transport plastic pipe only on a vehicle with a bed long enough to allow the pipe to lay flat to avoid undue bending and concentrated external load.

1.08 CLEANUP AND DISPOSAL

A. Dispose of waste, trash, and debris in accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction. Bury no such waste material and debris on the site. Burning of trash and debris will not be permitted. The Contractor shall remove and dispose of rubbish and debris generated by his work and workmen at frequent intervals or when ordered to do so by the Owner's authorized representative.

B. At the time of completion the entire site will be cleared of tools, equipment, rubbish and debris which shall be disposed of off-site in a legal disposal area.

1.09 TURNOVER ITEMS

A. Record Drawings:
1. Record accurately on one set of drawings all changes in the work constituting departures from the original contract drawings and the actual final installed locations of all required components as shown below:
2. The record drawings shall be prepared to the satisfaction of the Owner. Prior to final inspection of work, submit record drawings to the Landscape Architect or Owner's authorized representative.
3. All record drawings shall be prepared using AutoCAD 2010 drafting software and the original irrigation drawings as a base. No manual drafted record drawings shall be acceptable. The Contractor may obtain digital base files from the Landscape Architect or Owner's authorized representative.
4. If the Contractor is unable to provide the AutoCAD drafting necessary for the record drawings, the irrigation designer does provide record drawing drafting as a separate service.
5. Prior to final inspection of work, submit record drawings plotted onto vellum sheets for review by the Landscape Architect or Owner's authorized representative. After acceptance by the Landscape Architect, City Inspector or Owner's authorized representative re-plot the record drawings onto reproducible Mylar sheets. The Contractor shall also provide record drawing information on a digital AutoCAD Release 2010 drawing file. All digital files shall be provided on a compact disc (CD) clearly marked with the project name, file descriptions and date.
   a. Record drawing information and dimensions shall be collected on a day-to-day basis during the installation of the pressure mainline to fully indicate all routing locations and pipe depths. Locations for all other irrigation equipment shall be collected prior to the final inspection of the work.
   b. Two dimensions from two permanent points of reference such as buildings, sidewalks, curbs, streetlights, hydrants, etc. shall be shown for each piece of irrigation equipment shown below. Where multiple components are installed with no reasonable reference point between the components, dimensioning may be made to the irrigation equipment. All irrigation symbols shall be clearly shown matching the irrigation legend for the drawings. All lettering on the record drawings shall be minimum 1/8 inch in size.
6. Show locations and depths of the following items:
   a. Point of connection (including water POC, backflow devices, master control valves, flow sensors, etc.)
   b. Routing of sprinkler pressure main lines (dimensions shown at a maximum of 100 feet along routing)
   c. Isolation valves
   d. Automatic remote control valves (indicate station number and size)
   e. Quick coupling valves
   f. Drip air relief and flush valves
   g. Routing of control wires where separate from irrigation mainline
   h. Irrigation controllers (indicate controller number and station count)
   i. Related equipment (as may be directed)

B. Controller Charts:
1. Provide one controller chart for each automatic controller. Chart shall show the area covered by the particular controller. The areas covered by the individual control valves shall be indicated using colored highlighter pens. A minimum of six individual colors shall be used for the controller chart unless less than six control valves are indicated.
2. Landscape Architect or Owner's authorized representative must approve record drawings before controller charts are prepared.
3. The chart is to be a reduced copy of the actual "record" drawing. In the event the controller sequence is not legible when the drawing is reduced, it shall be enlarged to a readable size.
4. When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being a minimum 20 mils in thickness.

C. Operation and Maintenance Manuals:
1. Two individually bound copies of operation and maintenance manuals shall be delivered to the Landscape Architect or Owner's authorized representative at least 10 calendar days prior to final inspection. The manuals shall describe the material installed and the proper operation of the system.
2. Each complete, bound manual shall include the following information:
3. Index sheet stating Contractor's address and telephone number, duration of guarantee period, list of equipment including names and addresses of local manufacturer representatives.
   a. Operating and maintenance instructions for all equipment.
   b. Spare parts lists and related manufacturer information for all equipment.

D. Equipment:
1. Supply as a part of this contract the following items:
   a. Two (2) wrenches for disassembly and adjustment of each type of sprinkler head used in the irrigation system.
   b. Three 30-inch sprinkler keys for manual operation of control valves.
   c. Two keys for each automatic controller.
   d. Two quick coupler keys with a 3/4" bronze hose bib, bent nose type with hand wheel and two coupler lid keys.
   e. One valve box cover key or wrench.
   f. Six extra sprinkler heads of each size and type.
   g. For specified butterfly valves if required: One (1) 5-foot long valve handle, to fit 2-inch square AWWA operating nut, for use with the specified butterfly valves.
2. The above equipment shall be turned over to Owner's authorized representative at the final inspection.

1.10 COMPLETION

A. At the time of the pre-maintenance period inspection, the Landscape Architect, Owner's authorized representative, and governing agencies will inspect the work, and if not accepted, will prepare a list of items to be completed by the Contractor. Punch list to be checked off by contractor and submitted to Landscape Architect or Owner's Authorized representative prior to any follow-up meeting. This checked off list to indicate that all punch list items have been completed. At the time of the post-maintenance period or final inspection the work will be re-inspected and final acceptance will be in writing by the Landscape Architect, Owner's authorized representative, and governing agencies.

B. The Owner's authorized representative shall have final authority on all portions of the work.

C. After the system has been completed, the Contractor shall instruct Owner's authorized representative in the operation and maintenance of the irrigation system and shall furnish a complete set of operating and maintenance instructions.

D. Any settling of trenches which may occur during the one-year period following acceptance shall be repaired to the Owner's satisfaction by the Contractor without any additional expense to the Owner. Repairs shall include the complete restoration of all damage to planting, paving or other improvements of any kind as a result of the work.

1.11 GUARANTEE

A. The entire sprinkler system, including all work done under this contract, shall be unconditionally guaranteed against all defects and fault of material and workmanship, including settling of backfilled areas below grade, for a period of one (1) year following the filing of the Notice of Completion.

B. Should any problem with the irrigation system be discovered within the guarantee period, it shall be corrected by the Contractor at no additional expense to Owner within ten (10) calendar days of receipt of written notice from Owner. When the nature of the repairs as determined by the Owner constitute an emergency (i.e. broken pressure line) the Owner may proceed to make repairs at the Contractor's expense. Any and all damages to existing improvement resulting either from faulty materials or workmanship, or from the necessary repairs to correct same, shall be repaired to the satisfaction of the Owner by the Contractor, all at no additional cost to the Owner.

C. Guarantee shall be submitted on Contractors own letterhead as follows:

GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

We hereby guarantee that the sprinkler irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse, or neglect excepted. We agree to repair or replace any defective material during the period of one year from date of filing of the Notice of Completion and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the Owner. We shall make such repairs or replacements within 10 calendar days following written notification by the Owner. In the event of our failure to make such repairs or replacements within the time specified after receipt of written notice from Owner, we authorize the Owner to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

PROJECT NAME:

PROJECT LOCATION:

CONTRACTOR NAME:

ADDRESS:

TELEPHONE:

SIGNED:

DATE:

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San Luis Obispo, CA 93401
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f

Specifications CSI Definitions

PART 2 MATERIALS

2.01 SUMMARY

Use only new materials of the manufacturer, size and type shown on the drawings and specifications. Materials or equipment installed or furnished that do not meet Landscape Architect's, Owner's, or governing agencies standards will be rejected and shall be removed from the site at no expense to the Owner.

2.02 PIPE

A. Pressure supply line between the water meter and the backflow prevention device shall be type K copper, one size larger than backflow device.

B. Backflow prevention assemblies, and all other above grade assemblies, shall be constructed of threaded brass pipe and threaded brass fittings the same size as the backflow device, unless otherwise directed.

C. Pressure supply lines 1 1/2 inches in diameter and smaller downstream of the backflow prevention unit shall be Schedule 40 solvent weld PVC conforming to ASTM D1785.

D. Pressure supply lines 2 inches in diameter and up to 3 inches in diameter downstream of backflow prevention unit shall be Class 315 solvent weld PVC. Piping shall conform to ASTM D2241.

E. Non-pressure lines 3/4 inch in diameter and larger downstream of the remote control valve shall be SCH 40 solvent weld PVC conforming to ASTM D1785.

F. Reclaimed water PVC pipe to be color-coded purple in color marked on two sides with reclaimed water warning statements "Caution-Reclaimed Water". Reclaimed water piping must be accepted by the local reclaimed water governing agencies.

2.03 METAL PIPE AND FITTINGS

A. Brass pipe shall be 85 percent red brass, ANSI, IPS Standard 125 pounds, Schedule 40 screwed pipe.

B. Fittings shall be medium brass, screwed 125-pound class.

C. Copper pipe and fittings shall be Type "K" sweat soldered, or brazed as indicated on the drawings.

2.04 PLASTIC PIPE AND FITTINGS

A. Pipe shall be marked continuously with manufacturer's name, nominal pipe size, schedule or class, PVC type and grade, National Sanitation Foundation approval, Commercial Standards designation, and date of extrusion.

B. All plastic pipe shall be extruded of an improved PVC virgin pipe compound in accordance with ASTM D2672, ASTM D2241 or ASTM D1785.

C. All solvent weld PVC fittings shall be standard weight Schedule 40 (and Schedule 80 where specified on the irrigation detail sheet, all mainline fittings shall be Schedule 80 PVC) and shall be injection molded of an improved virgin PVC fitting compound. Slip PVC fittings shall be the "deep socket" bracketed type. Threaded plastic fittings shall be injection molded. All tees and ells shall be side gated. All fittings shall conform to ASTM D2464 and ASTM D2466.

D. All threaded nipples shall be standard weight Schedule 80 with molded threads and shall conform to ASTM D1785.

E. All solvent cementing of plastic pipe and fittings shall be a two-step process, using primer and solvent cement applied per the manufacturer's recommendations. Cement shall be of a fluid consistency, not gel-like or ropy. Solvent cementing shall be in conformance with ASTM D2564 and ASTM D2855.

F. When connection is plastic to metal, female adapters shall be hand tightened, plus one turn with a strap wrench. Joint compound shall be non-lead base Teflon paste, tape, or equal.

G. All pressure mainlines installed with solvent weld PVC fittings shall be installed with concrete thrust blocking at all directional changes in the mainline routing. Concrete thrust blocking shall not be required when ductile iron fittings and mechanical restraints are specified.

H. PVC fittings used with UVR pipe shall be Schedule 40 UVR PVC type.

2.05 VALVES

A. Ball Valves:
1. Ball valves shall be of the manufacturer, size, and type indicated on the drawings.
2. All ball valves shall have a minimum working pressure of not less than 150 PSI and shall conform to AWWA standards.

B. Quick Coupler Valves:
1. Quick coupler valves shall be of the manufacturer, size, and type indicated on the drawings.
2. Quick coupler valves shall be brass with a wall thickness guaranteed to withstand normal working pressure of 150 psi without leakage. Valves shall have 1" female threads opening at base, with two-piece body. Valves to be operated only with a coupler key, designed for that purpose. Coupler key is inserted into valve and a positive, watertight connection shall be made between the coupler key and valve.
3. Vinyl quick coupler cover to be purple in color with the words "Warning-Reclaimed Water-Do Not Drink" permanently marked on lid.

C. Automatic Control Valves:
1. Automatic control valves shall be of the manufacturer, size, and type indicated on the drawings.
2. Automatic control valves shall be electrically operated.

2.06 VALVE BOXES

A. Valve boxes shall be fabricated from a durable, weather-resistant plastic material resistant to sunlight and chemical action of soils.

B. The valve box cover shall be purple in color and secured with a hidden latch mechanism or bolts.

C. The cover and box shall be capable of sustaining a load of 1,500 pounds.

D. Valve box extensions shall be by the same manufacturer as the valve box.

E. The plastic irrigation valve box cover shall be an overlapping type.

F. Automatic control valve, master valve, flow sensor, and basket strainer valve boxes shall be 16"x11"x12" 'nominal' rectangular size. Valve box covers shall be marked "RCV" with the valve identification number, or "MV", "FS", "BS" "heat branded" onto the cover in 1-1/4 inch high letters / numbers.

G. Drip flush valve and Air relief valve boxes shall be 6" circular size. Valve box covers shall be marked with "FV" or "ARV" "heat branded" onto the cover in 1-1/4 inch high letters.

H. Quick coupler and ball valve boxes shall be 10" circular size. Valve box covers shall be marked with "QCV" or "BV" "heat branded" onto the cover in 1-1/4 inch high letters.

I. Valve box cover shall be purple in color and permanently marked (attached tags are not acceptable) on valve box cover plate with the words "Warning-Reclaimed Water-Do Not Drink".

2.07 AUTOMATIC CONTROLLER

A. TBD

2.08 ELECTRICAL

A. All electrical equipment shall be NEMA Type 3, waterproofed for exterior installations.

B. All electrical work shall conform to local codes and ordinances.

2.09 LOW VOLTAGE CONTROL WIRING

A. Remote control wire shall be direct-burial AWG-UF type, size as indicated on the drawings, and in no case smaller than 14 gauge.

B. Connections shall of the manufacturer, size, and type indicated on the drawings.

C. Common wires shall be white in color. Control wires shall be red (where two or more controllers are used, the control wires shall be a different color for each controller. These colors shall be noted on the "Record Drawings" plans located on controller door).

D. Ground wires shall be green in color or bare copper and in no case smaller than 6 gauge.

2.10 IRRIGATION HEADS AND DRIP EMITTERS AND INLINE DRIP TUBING

A. Irrigation heads, drip emitters and inline drip tubing shall be of the manufacturer, size, type, with radius of throw, operating pressure, and discharge rate indicated on the drawings.

B. Irrigation heads, drip emitters and inline drip tubing shall be used as indicated on the drawings.

C. Irrigation heads shall have purple reclaimed water warning cover.

2.11 DRIP IRRIGATION EQUIPMENT

Drip tubing equipment such as flush valves, air relief valves, wye strainers and pressure regulators shall be of the manufacturer, size, and type indicated on the drawings.

2.12 MISCELLANEOUS EQUIPMENT

A. Landscape Fabric:
1. Landscape fabric for valve box assemblies shall be 5.0- oz. weight woven polypropylene weed barrier. Landscape fabric shall have a burst strength of 225 PSI, a puncture strength of 60 lbs. and capable of water flow of 12 gallons per minute per square foot.
2. Type: DeWitt Pro 5 Weed Barrier or approved equal.

B. Equipment such as flow sensors, rain sensors, flush valves, air relief valves, basket strainers, and master valves shall be of the manufacturer, size and type indicated on the drawings.

PART 3 EXECUTION

3.01 SITE CONDITIONS

A. Inspections:
1. Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.
2. Verify that irrigation system may be installed in strict accordance with all pertinent codes and regulations, the original design, the referenced standards, and the manufacturer's recommendations.

B. Discrepancies:
1. In the event of discrepancy, immediately notify the Landscape Architect or Owner's authorized representative.
2. Do not proceed with installation in areas of discrepancy until all discrepancies have been resolved.

C. Grades:
1. Before starting work, carefully check all grades to determine that work may safely proceed, keeping within the specified material depths with respect to finish grade.
2. Final grades shall be accepted by the Engineer before work on this section will be allowed to begin.

D. Field Measurements:
1. Make all necessary measurements in the field to ensure precise fit of items in accordance with the original design. Contractor shall coordinate the installation of all irrigation materials with all other work.
2. All scaled dimensions are approximate. The Contractor shall check and verify all size dimensions prior to proceeding with work under this section.
3. Exercise extreme care in excavating and working near existing utilities. Contractor shall be responsible for damages to utilities, which are caused by his operations or neglect.

E. Diagrammatic Intent:
The drawings are essentially diagrammatic. The size and location of equipment and fixtures are drawn to scale where possible. Provide offsets in piping and changes in equipment locations as necessary to conform with structures and to avoid obstructions or conflicts with other work at no additional expense to Owner.

F. Layout:
1. Prior to installation, the Contractor shall stake out all pressure supply lines, routing and location of sprinkler heads, valves, and automatic controller.
2. Layout irrigation system and make minor adjustments required due to differences between site and drawings. Where piping is shown on drawings under paved areas, but running parallel and adjacent to planted areas, install the piping in the planted areas.

G. Water Supply:
Connections to existing irrigation mainlines shall be at the locations shown on the drawings. Minor changes caused by actual site conditions shall be made at no additional expense to Owner.

H. Electrical Service:
1. Existing electrical service system to remain and be protected.

3.02 TRENCHING

A. Excavations shall be straight with vertical sides, even grade, and support pipe continuously on bottom of trench. Trenching excavation shall follow layout indicated on drawings to the depths below finished grade and as noted. Where lines occur under paved area, these dimensions shall be considered below subgrade.

B. Provide minimum cover of 18 inches on pressure supply lines 2 ½ inches and smaller.

C. Provide minimum cover of 24 inches on pressure supply lines 3 inches and larger.

D. Provide minimum cover of 18 inches for control wires.

E. Provide minimum cover of 36 inches on pressure supply lines under vehicular travel ways.

F. Provide minimum cover of 12 inches for non-pressure lines.

G. Pipes installed in a common trench shall have a 4-inch minimum space between pipes.

3.03 THRUST BLOCKS

A. Thrust blocks must be constructed of Class "B" concrete.

B. Thrust blocks shall be poured against undisturbed site soil.

C. PVC fitting joints shall be kept free of concrete. Do not encase fitting in concrete.

D. Thrust blocking shall be sized to provide the minimum bearing areas as shown below. Bearing areas indicated have been calculated for Class 200 PVC pipe at a test pressure of 150 PSI in soil with 2,000 PSI bearing capacity. Increase thrust block sizing as necessary for varying soil conditions.
1. Provide a minimum thrust block bearing area of 2.0 square feet on all bends (all degrees) and tees installed on pressure supply lines 4 inches and smaller.

3.04 BACKFILLING

A. Backfill material on all lines shall be the same as adjacent soil free of debris, litter, and rocks over 1/2 inches in diameter.

B. Backfill shall be tamped in 4-inch layers under the pipe and uniformly on both sides for the full width of the trench and the full length of the pipe. Backfill materials shall be sufficiently damp to permit thorough compaction, free of voids. Backfill shall be compacted to dry density equal to adjacent undisturbed soil and shall conform to adjacent grades.

C. Flooding in lieu of tamping is not allowed.

D. Under no circumstances shall truck wheels be used to compact backfill.

E. Provide sand backfill a minimum of 4 inches over and under all piping under paved areas.

3.05 PIPING

A. Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. No hydraulic driving is permitted under asphalt pavement.

B. Cutting or breaking of existing pavement is not permitted.

C. Carefully inspect all pipe and fittings before installation, removing dirt, scale, burrs, and reaming. Install pipe with all markings up for visual inspection and verification.

D. Remove all dented and damaged pipe sections.

E. All lines shall have a minimum clearance of 4 inches from each other and 12 inches from lines of other trades.

F. Parallel lines shall not be installed directly over each other.

G. In solvent welding, use only the specified primer and solvent cement and make all joints in strict accordance with the manufacturer's recommended methods including wiping all excess solvent from each weld. Allow solvent welds at least 15 minutes setup time before moving or handling and 24 hours curing time before filling.

H. PVC pipe shall be installed in a manner, which will provide for expansion and contraction as recommended by the pipe manufacturer.

I. Center load all plastic pipe prior to pressure testing.

J. All threaded plastic-to-plastic connections shall be assembled using Teflon tape or Teflon paste.

K. For plastic-to-metal connections, work the metal connections first. Use a non-hardening pipe dope on all threaded plastic-to-metal connections, except where noted otherwise. All plastic-to-metal connections shall be made with plastic female adapters.

3.06 CONTROLLER

A. Existing controller equipment to remain and be protected.

B. The irrigation system shall be programmed to operate during the periods of minimal use of the design area.

3.07 CONTROL WIRING

A. Low voltage control wiring shall occupy the same trench and shall be installed along the same route as the pressure supply lines whenever possible.

B. Where more than one wire is placed in a trench, the wiring shall be taped together in a bundle at intervals of 10 feet. Bundle shall be secured to the mainline with tape at intervals of 20 feet.

C. All connections shall be of an approved type and shall occur in a valve box. Provide an 18-inch service loop at each connection.

D. An expansion loop of 12 inches shall be provided at each wire connection and/or directional change, and one of 24 inches shall be provided at each remote control valve.

E. A continuous run of wire shall be used between a controller and each remote control valve. Under no circumstances shall splices be used without prior approval.

3.08 VALVES

A. Automatic control valves, quick coupler, and ball valves are to be installed in the approximate locations indicated on the drawings.

B. Valve shall be installed in shrub areas whenever possible.

C. Install all valves as indicated in the detail drawings.

D. Valves to be installed in valve boxes shall be installed one valve per box.

3.09 VALVE BOXES

A. Valve boxes shall be installed in shrub areas whenever possible.

B. Each valve box shall be installed on a foundation of 3/4 inch gravel backfill, 3 cubic feet minimum. Valve boxes shall be installed with their tops 1/2 inch above the surface of surrounding finish grade in lawn areas and 2 inches above finish grade in ground cover areas.

3.10 IRRIGATION HEADS DRIP EMITTERS AND INLINE DRIP TUBING

A. Irrigation heads, drip emitters and inline drip tubing shall be installed as indicated on the drawings.

B. Spacing of heads and inline drip tubing shall not exceed maximum indicated on the drawings.

C. Riser nipples shall be of the same size as the riser opening in the sprinkler body.

3.11 MISCELLANEOUS EQUIPMENT

A. Install all assemblies specified herein according to the respective detail drawings or specifications, using best standard practices.

B. Quick coupler valves shall be set approximately 18 inches from walks, curbs, header boards, or paved areas where applicable.

C. Install devices such as rain sensors, freeze sensors, flush valves, and air relief valves, master valves and flow sensors as indicated on the drawings and as recommended by the manufacturer.

3.12 FLUSHING THE SYSTEM

A. Prior to installation of irrigation heads, the valves shall be opened and a full head of water used to flush out the lines and risers.

B. Irrigation heads shall be installed after flushing the system has been completed.

3.13 ADJUSTING THE SYSTEM

A. Contractor shall adjust valves, align heads, and check the coverage of each system prior to coverage test.

B. If it is determined by the Landscape Architect or Owner's authorized representative that additional adjustments or nozzle changes will be required to provide proper coverage, all necessary changes or adjustments shall be made prior to any planting.

C. The entire system shall be operating properly before any planting operations commence.

D. Automatic control valves are to be adjusted so that the irrigation heads, drip emitters and inline drip tubing operate at the pressure recommended by the manufacturer.

3.14 TESTING AND OBSERVATION

A. Do not allow or cause any of the work of this section to be covered up or enclosed until it has been observed, tested and accepted by the Landscape Architect, Owner, and governing agencies.

B. The Contractor shall be solely responsible for notifying the Landscape Architect, Owner, and governing agencies, a minimum of 48 hours in advance, where and when the work is ready for testing.

C. When the sprinkler system is completed, the Contractor shall perform a coverage test of each system in its entirety to determine if the water coverage for the planted areas is complete and adequate in the presence of the Landscape Architect.

D. The Contractor shall furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from the plans, or where the system has been willfully installed as indicated on the drawings when it is obviously inadequate, without bringing this to the attention of the Landscape Architect. This test shall be accepted by the Landscape Architect and accomplished before starting any planting.

E. Areas to be maintained for the formal maintenance period shall start maintenance at the same time, as directed by the Landscape Architect, Owner, and governing agencies. Partial areas will not be released into maintenance prior to completion of items listed in the pre-maintenance review. The maintenance period may not be phased.

F. If the Landscape Architect does not accept the irrigation system after the maintenance review, the contractor shall reimburse the Landscape Architect for additional site visits, or additional time required to review the work. All additional time will be billed at the Landscape Architect's hourly rate and will be paid for by the contractor at no additional cost to the owner.

G. Final inspection will not commence without record drawings as prepared by the Irrigation Contractor.

3.15 MAINTENANCE

During the maintenance period the Contractor shall adjust and maintain the irrigation system in a fully operational condition providing complete irrigation coverage to all intended plantings.

3.16 COMPLETION CLEANING

Clean up shall be made as each portion of the work progresses. Refuse and excess dirt shall be removed from the site, all walks and paving shall be swept, and any damage sustained on the work of others shall be repaired to original conditions.

SECTION 32 9200

TURF AND GRASSES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section.

1.02 SUMMARY

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B. Work Included: The work consists of furnishing all materials, labor, supervision, equipment and related work necessary to grow established plantings as shown on the Planting Plan.

C. Related Sections include the following:
1. Section 32 8400 – Planting Irrigation
2. Section 32 9300 – Plants

1.03 SUBMITTALS

A. A copy of each delivery slip and invoice for all materials used on this Project shall be given to the Landscape Architect.

1.04 INSPECTIONS

A. The seed is subject to the inspection and approval of the Landscape Architect upon arrival at the site, for quality, species and purity, before mixing and application. Rejected seed shall be removed from the site. Give seed bag labels to the Owner's Authorized Representative.

B. No substitutions for the specified seed and other materials will be permitted unless the substitute items are first reviewed by the Landscape Architect and the substitutions are to be made at no additional cost to the Owner.

C. Site visits may be performed by the Landscape Architect as follows:
1. During the final soil preparation and surface preparation.
2. During the mixing and preparation of the seeding materials.
3. During the seeding operation.
4. During germination and establishment period.
5. At the attainment of germination coverage and final inspection.

D. Notify the Owner's Authorized Representative and Landscape Architect 48 hours before the operations indicated.

1.05 VERIFICATION OF DIMENSIONS, ELEVATIONS AND QUANTITIES

A. All scaled dimensions on the Drawings are approximate. Before proceeding with the work, check and field verify all dimensions, elevations and slope area quantities and inform the Landscape Architect of any discrepancy, such as an increase in size of the area(s) to be seeded.

1.06 QUANTITY, TYPES AND QUALITY CONTROL

A. Quantities of materials shall be furnished as required to complete the work as shown on the Drawings.

B. All seed shall be in accordance with laws and regulations pertaining to the sale and shipment of seeds required by the Federal Seed Act.

PART 2 PRODUCTS

2.01 MATERIALS

A. All seeding materials to be used in the work shall be new or newly processed recycled materials and without flaws or defects. All materials shall be delivered to the site in original, unopened manufacturer's containers and they shall remain closed until use is authorized by the Owner's Authorized Representative.

B. Fertilizer: Gro-Power and Gro-Power Controlled Release with these characteristics:
1. Grow-Power Plus: 1.25 percent soil penetrate and consisting of the following percents by weight: 5 percent nitrogen, 3 percent phosphoric acid, 1 percent potash, 50 percent humus, 15 percent humic acids.
2. Gro-Power Controlled Release consisting of the following percents by weight: 12 percent nitrogen (100 percent from SCU), 8 percent phosphoric acid, 8 percent potash, 25 percent humus, 5 percent humic acid.

C. Soil-Stabilizer-Binder: Ecology Controls 'M' Binder by Ecology Controls Co., or Eco-Tak by Eastern Products Co., or equivalent as approved by LANDSCAPE ARCHITECT.

D. Cellulose paper fiber mulch: Agri-Fiber Mulch or Second Nature Paper Mulch, both composed of recycled paper fiber

E. Seed species for Hydroseeding: see landscape drawings

F. Water for Irrigation and Mixing: From quick coupler valves on the site, served by the irrigation main.

G. Gypsum: Hydrated calcium sulfate containing 23 percent calcium and 18 percent sulfur, as produced by Kellogg Supply Co. 213.830.2206.

PART 3 EXECUTION

3.01 EXECUTION

A. Soil Cultivation and Amendments: After other trades have finished with their use of the areas to be seeded, apply gypsum at the rate of 100 pounds per 1000 sq.ft. The top 2inches of soil shall be cultivated and loosened by ripping in two directions with a harrow or a ripper, or by other approved method. Float the surface level but not smooth. Apply water to the soil as required to stop dust from forming and irrigate just prior to seeding to make a moist seed bed.

B. All seed shall be uniformly applied by the hydroseed method using equipment designed for commercial seeding applications. Mixing of ingredients shall be performed on-site in a mobile tank system of sufficient operating capacity to produce a homogenous mixture of stabilizing emulsion, fertilizer, seed, mulch, and water in the designated proportions, and a discharge system which will apply the mixture to the soil surface at a uniform rate. Mix materials in accordance with Gro-Power hydroseeding recommendations.

C. The hydroseed slurry mixture shall be mixed and applied in approximately the following proportions, per surface-acre (43,560 square feet, or a square of 205 feet on a side), measured on the slope of the ground surface (not level):
1. Fertilizer:
Gro-Power Plus100 pounds per acre
Gro-Power Controlled Release 200 pounds per acre
2. Paper fiber mulch:
1,500 pounds per acre
3. Water:
As required for application, Usually 2,000 gal. to 4000 gal. per acre.
4. Seed:
At rates indicated on landscape plans

D. Application shall not be made just before or during rainfall at temperatures below 50 deg. F or during windy weather. The hydroseed slurry shall be allowed to cure (dry) prior to irrigation, normally 24 hours. The Contractor shall begin irrigation as necessary to germinate the seed and achieve an average growth height of two inches.

E. Follow up applications may be needed to cover weak spots and to maintain adequate soil protection.

F. Irrigate the seeded area(s) using the permanently installed irrigation system. For the Levee area irrigate with water truck during establishment. Avoid erosion due to irrigation water application. Repair and re-seed any irrigation-caused erosion. Areas that do not germinate and grow shall be reseeded and re-irrigated as required to achieve a growth of species of at least two inches.

G. Post signs and erect barricades to restrict access of any kind across the seeded areas and they shall remain until the seeded areas are established. For turf or meadow areas, seeded areas must be able to support foot traffic prior to removal of access restrictions.

H. After acceptance of the seeding by the Owner's Authorized Representative, remove all barriers and restore the area to a clean condition.

SECTION 32 9300

PLANTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 GENERAL PROVISIONS

A. Furnish all labor, materials and equipment necessary to provide and install all trees, plants and groundcovers as shown on the Drawings. The Contractor's work shall include:
1. Take representative soil samples.
2. Prepare soil for planting and furnish all soil amendments.
3. Furnish and install all plant materials per the planting plan.
4. Prune plants as required.
5. Stake, tie and guy plant materials as specified.
6. Dispose of trash, debris and surplus materials.
7. Maintain the planting and irrigation system until such time as the Project has been accepted.
8. Guarantee all 24" box size and larger trees for a period of one (1) year following the date of final project completion

1.03 QUALITY ASSURANCE

A. Contractor must have knowledge and experience with the native plants specified. Contractor must also have successfully completed native landscape projects of similar size and nature and demonstrate familiarity and competence with planting techniques and identification of plants native to the Southern California region.

1.04 SUBMITTALS

A. Submit documentation to Landscape Architect within 15 days after award of the Contract that all plant material is available. Contractor shall be responsible for all material listed on the plant list. All substitutions due to unavailability must be requested in writing prior to confirmation of ordering. All materials shall be subject to inspection by Landscape Architect at any time after confirmation of ordering.

B. The Contractor shall furnish Landscape Architect with copies of receipts for all amendments specified in Article 2.1 - Materials.

C. Certified copies of soils analysis results.

D. Manufacturer's or Supplier's installation instructions.

E. Samples of each of the following:
1. Edging materials and accessories to verify type selected.
2. Mulch material to verify quality selected.
3. Soil amendment materials.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery:
1. Deliver fertilizer to site in original unopened containers bearing manufacturer's guaranteed chemical analysis, name, trademark, and conformance to State law.
2. Deliver all plants with legible identification labels.
a. State correct plant name and size indicated on plant list.
b. Use durable waterproof labels with water-resistant ink which will remain legible for at least 60 days.
3. Protect plant material during delivery to prevent damage to root ball or desiccation of leaves.
4. The Contractor shall notify the Landscape Architect 7 days in advance of delivery of all plant materials and shall submit an itemized list of the plants in each delivery.

B. Storage:
1. Store plant material in shade and protect from weather and mechanical damage.
2. Maintain and protect plant material not to be planted within 4 hours in a healthy, vigorous condition.

C. Handling:
1. The Contractor is cautioned to exercise care in handling, loading, unloading and storing of plant materials. Plant materials that have been damaged in any way shall be discarded, and, if installed, shall be replaced with undamaged materials at the Contractor's expense.

1.06 JOB CONDITIONS

A. Site Conditions: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Landscape Architect before planting.

B. Field Conditions: The planting plan is diagrammatic. Scaled dimensions are approximate. Prior to proceeding with installation work, the Contractor shall verify all dimensions with field conditions and notify the Landscape Architect of any deviation on the Drawing.

PART 2 PRODUCTS

2.01 MATERIALS

A. All materials shall be of standard, approved and first-grade quality and shall be in prime condition when installed and accepted. Commercially processed or packaged material shall be delivered to the site in the original unopened container bearing the manufacturer's guaranteed analysis. Contractor shall supply the Landscape Architect with a sample of all supplied materials accompanied by analytical data from an approved laboratory source illustrating compliance or bearing the manufacturer's guaranteed analysis.

B. Organic Amendment: For rates of application, see section 3.2 Preparation
1. Shall be All Around Compost (available from All Around Irrigation, 4760 Carpinteria Avenue, Carpinteria CA (805) 684.3115)) or approved equal, incorporated with on-site soils at the application site prior to use.
2. The compost shall not contain paint, petroleum products, herbicides, fungicides or other chemical residues that would be harmful to plant or animal life. Contaminants and deleterious materials such as plastic, glass, metal, dirt, or rocks shall not exceed 0.1 percent.
3. Particle Size: 97 percent passing through 1/2" screen.
4. Salinity: Salinity of compost shall not be excessive.
5. N -P-K : Less than 5 percent.
6. Organic Content: Minimum 40 percent
7. pH: Shall range from 6.0 - 8.0
8. Moisture: Shall be less than 30%.
9. Weed Seeds and pathogens: Shall be eliminated through minimum sterilization procedure of 15 days at 55° Celsius.
10. Compost must be mature, passing Solvita Compost Maturity Test to level #6. Test kit available from Solvita at Wood's End Research, P. O. Box 297, Mt.Vernon, Maine 04352. Solvita@woodsend.org. ph 207.293.2457

C. Soil Amendments:
1. Soil Sulfur: Agricultural grade sulfur containing a minimum of 99 percent sulfur (expressed as elemental).
2. Iron Sulfate: 20 percent iron (expressed as metallic iron), derived from ferric and ferrous sulfate, 10 percent sulfur (expressed as elemental).
3. Calcium Carbonate: 95 percent lime as derived from oyster shells.
4. Gypsum: Agricultural grade product containing 98 percent minimum calcium sulfate.
5. Zinc: Agricultural grade zinc sulfate (36 percent elemental zinc).

D. Fertilizer:
1. Planting Fertilizer: Shall be commercial, granular-type suitable for meeting the recommendations of the soil analysis.
2. Time Release Fertilizer: Osmocote 14-14-14

E. Imported Topsoil:
1. Fertile, friable, natural topsoil of character and texture similar to the Project site soil; without admixture of subsoil material, obtained from a well-drained arable site, reasonably free from clay, lumps, coarse sands, stones, plants, roots, sticks, and other foreign materials, with an acidity range of between pH 5.8 and 8.2. The sodium absorption ratio (SAR) shall not exceed 6 and the electrical conductivity (Ece) of the saturation extract of this soil shall not exceed 3.0 millimhos per centimeter at 25 degrees centigrade. The boron content shall be no greater than 1 part per million as measured on the saturation extract. In order to insure conformance, samples of the imported soil shall be submitted to an approved laboratory for analysis prior to, and following, backfilling.

F. Multi-course Lightweight Soil – Green Roof
1. Lightweight soil, separation layer, and granular drainage course is to be used throughout over *roof protection layer*, except below walkway pavers where only granular drainage course is to be used.
2. Lightweight growing medium and drainage course shall be Rooflite® Certified Green Roof Media, or approved equal.
a. A growing medium designed for extensive green roof systems, with a separate drainage course below pavers, shall be used. Overall depth of growing medium and drainage course shall be (4) inches throughout. Depth of individual layers and rate of compaction shall be per manufacturer recommendation.
b. Growing medium shall be Rooflite® Extensive MC, or approved equal. Growing medium shall be a balanced blend of light weight mineral aggregates like HydRocks®, or approved equal, and premium organic components like USCC STA approved compost, complying with the following requirements:

i. Particle Size Distribution:

Proportion of silting components	< 0.063 mm	Mass %	≤ 10

ii. Density Measurements:

Bulk Density (dry weight basis)		g/cm³	0.55 - 0.72
Bulk Density (dry weight basis)		lbft³	35 - 45
Bulk Density (at max. water-holding capacity)		g/cm³	0.70 – 0.95
Bulk Density (at max. water-holding capacity)		lbft³	44 – 60

iii. Water/Air Measurements:

Total Pore Volume		Vol. %	≥ 50
Maximum water-holding capacity		Vol. %	35 – 65
Air-filled porosity at max water-holding capacity		Vol. %	≥ 10
Water permeability (saturated hydraulic conductivity)		cm/sec	0.001 – 0.12
Water permeability (saturated hydraulic conductivity)		in/min	0.024 – 2.83

iv. PH and Salt Content:

pH (in $CaCl_2$)		6.0 - 8.5
Soluble salts (water, 1:10, m:v)	g (KCl)/L	< 3.5

v. Organic Measurements:

Organic matter content	g/L	25 - 90

vi. Nutrients:

Phosphorus, P205 (CAL)	mg/L	≤ 200
Potassium, K2O (CAL)	mg/L	≤ 700
Magnesium, Mg (CaCl2)	mg/L	≤ 200
Nitrate + Ammonium (CaCl2)	mg/L	≤ 80

c. Separation layer below soil lightweight soil shall be Rooflite® separation fabric SF105, or approved equal. Separation fabric shall be a thin, mechanically strengthened, non-woven, endless fiber fleece with certified water permeability in accordance with FLL requirements for green roofs, complying with the following requirements:

i. Technical Details and Properties:

Material	PP (polypropylene)
Nominal Thickness	approx. 1.1 mm

ii. Specific Properties:

Mass per Unit Area	ASTM D 3776	3 oz/yd²
Apparent Opening Size - Average AOS = O_{95}	ASTM D 4751	0.340
Permittivity	ASTM D4491	0.344 sec⁻¹
CBR Puncture	ASTM D 6241	267 lb
Puncture Resistance	ASTM D 4833	50 lb
Mullen Burst Strength	ASTM D 3786	136 lb/in
Grab Strength and Elongation	ASTM D 4632	125 lb

iii. Delivery Form:

In rolls with a cardboard core	approx. 6 ½ ' x 328' = 1,076 ft²
Weight per roll	approx. 48.5 lb

d. Granular drainage medium shall be Rooflite® drain, or approved equal. Granular drainage medium shall be used below filter fabric layer and shall be composed of light weight mineral aggregate like HydRocks®, complying with the following requirements:

i. Particle Size Distribution:

Proportion of silting components	< 0.063 mm	Mass %	≤ 10

ii. Density Measurements:

Bulk Density (dry weight basis)		g/cm³	0.55 - 0.72
Bulk Density (dry weight basis)		lbft³	35 - 45
Bulk Density (at max. water-holding capacity)		g/cm³	0.70 – 0.95
Bulk Density (at max. water-holding capacity)		lbft³	44 – 60

iii. Water/Air Measurements:

Total Pore Volume		Vol. %	≥ 50
Maximum water-holding capacity		Vol. %	≥ 15
Water permeability (saturated hydraulic conductivity)		cm/sec	≥ 0.3
Water permeability (saturated hydraulic conductivity)		in/min	≥ 7.08

iv. PH and Salt Content:

pH (in $CaCl_2$)		6.0 - 8.5
Soluble salts (water, 1:10, m:v)	g (KCl)/L	≤ 2.5

e. Install all green roof media per Manufacturer specification.
f. Submit samples for approval by Owner's Representative.

G. Plant Material:
1. Quality: Plants shall be in accordance with the California State Department of Agriculture's regulation for nursery inspections, rules and rating. All plants shall have a normal habit of growth and shall be sound, healthy, vigorous and free of insect infestations, plant diseases, sunscalds, fresh abrasions of the bark, excessive abrasions, or other objectionable disfigurements. Tree trunks shall be sturdy and have well "hardened" systems and vigorous and fibrous root systems which are not root- or pot-bound. In the event of disagreement as to condition of root system, the root conditions of the plants furnished by the Contractor in containers will be determined by removal of earth from the roots of not less than two plants or more than two percent of the total number of plants of each species or variety. Where container-grown plants are from several sources, the roots of not less than two plants from each source of each species or variety will be inspected. In case the sample plants inspected are found to be defective, the Landscape Architect reserves the right to reject the entire lot or lots of plants represented by the defective samples. The Landscape Architect is the sole judge as to acceptability. Any defective plants rendered unsuitable for planting because of this inspection will be considered as samples and will be provided at the expense of the Contractor.
2. Size: The size of the plants shall correspond with that normally expected for species and variety of commercially available nursery stock or as specified on Drawings. The minimum acceptable size of all plants measured before pruning with the branches in normal position, shall conform with the measurements, if any, specified on the Drawings in the list of plants to be furnished. Plants larger in size than specified may be used with the approval of the Landscape Architect, but the use of larger plants will make no change in the Contract Price. If the use of larger plants is approved, the ball of earth or spread of roots for each plant will be increased proportionately.
3. Replacement: All plants not conforming to the requirements herein specified, shall be considered defective and such plants, whether in place or not, shall be marked as rejected and immediately removed from the site of work and replaced with new plants at the Contractor's expense. The plants shall be of the species, variety, size and condition specified herein or as shown on the Drawings. Under no condition will there be any substitutions of plants or sizes listed on the Drawings, except with the expressed consent of the Landscape Architect, in accordance with Sections relating to Changes in Work and Control of Materials.
4. Pruning: At no time shall trees or plant materials be pruned, trimmed or topped prior to delivery and any alteration of their shape shall be conducted only with the approval and when in the presence of the Landscape Architect.
5. Plant material shall be true to botanical and common name and variety as specified on the plans. Substitute plant material will not be permitted unless specifically approved in writing by the Landscape Architect, in accordance with Sections relating to Changes in Work and Control of Materials.
6. Nursery Grown and Collected Stock:
a. Grown under climatic conditions similar to those in locality of Project.
b. Container-grown stock in vigorous, healthy condition, not root-bound or with root system hardened off.
c. Use only flatted or liner stock plant material which is well established in removable containers or formed homogeneous soil sections.
7. Substitute plant material will not be permitted unless specifically approved in writing by the Landscape Architect.

H. Guying and Staking Materials: Install per plan details.

I. Tree Paint: Morrison Tree Seal, Cabot Tree Paint, or equal.

J. Water: Must be potable, and/or containing no substances harmful to plant life.

K. Mulch: All planting areas, to a minimum depth of 3", submit samples to Landscape Architect for approval.

L. Root Barrier: 'Root Solutions' Improved Root Guide and Barrier Panels- RS-48 by Vespro, Inc. 1-800-554-0914 or approved equal. Install per manufacturer's specifications with root guides facing towards tree roots. The top of panel must not be below finished grade.

2.02 SOURCE QUALITY CONTROL

A. Plants shall be subject to inspection and approval of Landscape Architect at place of growth or upon delivery for conformity to Specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Submit written request for inspection of plants at place of growth to Landscape Architect. Written request shall state the place of growth and quantity of plants to be inspected. Landscape Architect reserves the right to refuse in

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growth and survival of plant material is concerned. Should any such condition exist, the Contractor shall notify the Landscape Architect and submit a proposal for corrective measures and their cost. Should the Contractor fail to provide such notification, he will be held solely responsible for any corrections deemed necessary by the Owner and the Landscape Architect should damage occur.

3.02 PREPARATION

A. Soil Analysis:
1. Prior to starting work, the Contractor shall take representative soil samples of Project site from the following areas; areas receiving cut grades; areas receiving fill; and undisturbed existing soil.
2. Soil shall be analyzed by an approved commercial soil testing company- (Tri-C Emterprises, LL.C. 4011 Schaefer Ave. Chino, CA, 91710, 1-800-927-3311 or Wallace Laboratories, 310-615-0116) for suitability for ornamental planting as specified on Drawings.
3. Soils report shall include required amounts of fertilizer and amendments to provide a suitable medium for planting.
4. Contractor shall amend and fertilize as recommended by the report to provide a suitable medium for planting. The Contractor shall notify the Landscape Architect of harmful substances found in the soil. Failure to act as specified may result in Contractor assuming financial responsibility for damage to plants.
5. A copy of the results of this analysis shall be submitted to the Landscape Architect.

B. Soil Preparation:
1. After approximate finished grades have been established, soil shall be conditioned and fertilized according to recommendations provided in the soil analysis report if required. The following amendments shall be uniformly spread and cultivated thoroughly by means of mechanical tiller into the top 6 inches of soil
   a. All Around Compost or approved equal, screened to 1/2" incorporated with on-site soils at the application site prior to use, 3 cu. yards per 1,000 sq. ft. Compost must be mature, passing Solvita Compost Maturity Test to level #6. Test kit available from Solvita at Wood's End Research, P. O. Box 297, Mt Vernon, Maine 04352 . solvita@woodsend.org (207) 293-2457
   b. Fertilizer and amendments as recommended by the soil analysis report.
2. At the time of planting, the top 2 inches of all areas to be planted shall be free of stones, stumps, or other deleterious matter 1 inch in diameter or larger, and shall be free from all wire, plaster or similar objects that would be a hindrance to planting or maintenance.

C. Final Grades:
1. Minor modifications to grade may be required to establish the final grade.
2. Finish grading shall insure proper drainage of the site.
3. All areas shall be graded so that the final grades will be 2 inch below adjacent paved areas, sidewalks, valve boxes, clean-outs, drains, manholes, etc., or as indicated on Drawings. Final grade shall consider the required depth of mulch application.
4. Surface drainage shall be away from all building foundations.
5. Where trench drains are used to drain stormwater from a planter, surface drainage shall be directed towards the drain by ensuring the lowest point of the planter is the inlet to the trench drain.
6. Eliminate erosion scars prior to commencing maintenance period.

D. Disposal of Excess Soil: Dispose of any unacceptable soil at an offsite location approved by Owner.

E. Weed Eradication:
1. Prior to installation of plants, planting area will be free of exotics, invasive, or other plant material likely to inhibit or confine native plant growth. All weed removal operations to be performed at the direction of the Owners's Authorized Representative. Mechanical removal of weeds is preferred in most cases.
   a. Removal process should not promote spreading of weeds. All removed weeds shall be entirely removed from the site.
   b. Remove plants prior to seed distribution, or assure no seeds are distributed during removal processes.
   c. Entire root system of plants that reproduce by rhizome or stolon must be removed.
2. Grow/Kill cycles: Prior to planting, planting areas shall be irrigated for a minimum of 14 days to allow weed seeds to germinate. All weeds shall be removed by mechanical means or through the use of herbicide. After weeds have been removed, or enough time has passed for herbicide to take effect, all planted areas shall be irrigated again for a minimum of 14 days. Prior to weed removal after the second grow cycle the Owners Authorized Representative or Landscape Architect shall be consulted to inspect the amount of weed growth. Depending on the amount of weed growth, a third grow and kill cycle may be required.
3. Contractor shall obtain all permits associated with the application of herbicides and application shall be by licensed personnel.
   a. No spraying shall occur without prior approval of Owner's Authorized Representative of Contractor's methods to protect non-target species.
   b. No application will be permitted when wind speed exceeds 5 MPH.
   c. No spraying will be allowed when coastal fog is present, unless effectiveness under these conditions is demonstrated.
   d. No spraying shall be permitted within 24 hours of rainfall.
   e. No non-target plants shall be contaminated by spray drift.
   f. Ambient temperatures shall be within the recommended range for each of the specified herbicides.
   g. Target plants shall not be disturbed until the herbicide has taken effect.

3.03 PLANTING INSTALLATION:

A. General:
1. Actual planting shall be performed during those periods when weather and soil conditions are suitable and in accordance with locally accepted practice.
2. Only as many plants as can be planted and watered on that same day shall be distributed in a planting area.
3. Containers shall be opened and plants shall be removed in such a manner that the ball of earth surrounding the roots is not broken and they shall be planted and watered as herein specified immediately after removal from the containers. Containers shall not be opened prior to placing the plants in the planting area.

B. Installation of Imported Topsoil: Contractor to provide and install imported topsoil in all planter areas as required to a finish grade of 1 inches below the top of adjacent concrete paving/curbs. Allow for settling.

C. Lay-Out of Plantings: All containerized plants shall be laid out in their containers at the locations indicated by the Drawings before plant pits are dug. All such locations shall be approved by the Landscape Architect. If underground construction or utility line is encountered in the excavation of planting areas, other locations for planting may be selected by the Landscape Architect. It shall be the Contractor's responsibility to confirm with the Owner and governing agencies the location and depth of all underground utilities and obstructions.

D. Planting of Trees and Shrubs:
1. Excavation for planting shall include the stripping and stacking of all acceptable topsoil encountered within the areas to be excavated for trenches, tree holes, plant pits, and planting beds.
2. Excess soil generated from the planting holes and not used as backfill or in establishing the final grades shall be removed from the site.
3. Protect all areas from excessive compaction when trucking plants and other material to the planting site.
4. Center plant in pit or trench.
5. Set plant plumb and hold rigidly in position until soil has been tamped firmly around ball or roots.
6. All excavated holes shall have vertical sides with roughened surfaces and shall be of a size that is twice the diameter and one-half times the depth of the root ball for all trees and shrubs.
7. All plants which settle deeper than the surrounding grade shall be raised to the correct level. After the plant has been placed, additional backfill shall be added to the hole to cover approximately one-half of the height of the root ball. At this stage, water shall be added to the top of the partly-filled hole to thoroughly saturate the root ball and adjacent soil.
8. Container Removal:
   a. Do not injure root ball.
   b. After removing plant, superficially cut edge roots with knife on 3 sides.
9. Box Removal:
   a. Remove bottom of plant boxes before planting.
   b. Remove sides of box without damage to root ball after positioning plant and partly backfilling.
10. Plant Tablets:
   a. The Contractor shall consult with the nurseryman supplying the various plant materials as to the conditions under which they were grown, adding pre-plant fertilizer only if the nurseryman believes it necessary.
   b. If planting occurs in the fall or winter, a time released fertilizer, such as Agriform 20-10-5 or Gro-Power tablets should be incorporated according to manufacturer's specifications for the placement and number of tablets.
   c. A shorter duration time released fertilizer, such as Osmocote 14-14-14 or approved equal, should be used for spring plantings, according to manufacturer's recommendations.
   d. Summer planting of drought tolerant plants is not recommended, but if absolutely necessary, no additional fertilizer should be added until October.
11. Backfill:
   a. The remainder of the hole shall then be backfilled and thoroughly watered. DO NOT OVERLY COMPACT BACKFILL BY STEPPING ON OR TAMPING SOIL. If settling occurs after initial watering, additional backfilling may be necessary.
   b. All planting holes shall be backfilled with: (per cubic yard of mix)(1) 3 parts by volume on-site soil.(2) 2 parts by volume mature compost, tested for maturity as specified in Part 3.2 B.
   c. After backfilling, an earthen basin shall be constructed around each plant. Each basin shall be of a depth sufficient to hold at least 2 inches of water. The basins shall be constructed of amended backfill materials. Remove basin in all turf areas after initial watering.
   d. Backfill in containers on structure planting areas shall consist of 100% soil mix as specified above.
12. Watering:
   a. Drought tolerant plants, (plants which are native to areas which receive most of their yearly rainfall during the winter months, or those which receive small amounts of rain just a few times a year), once established in their environment, do not need, and often dislike large amounts of water and fertilizer.
   b. Extra care should be taken to prevent over watering in clay soil situations. Extremely heavy or very poorly drained soils are not recommended for these plantings, and if such conditions occur, the Contractor shall notify the Landscape Architect prior to planting.
13. Pruning: Pruning shall be limited to the minimum necessary to remove injured twigs and branches, and to shape the plant material as directed by the Landscape Architect. Pruning may not be done prior to delivery of plants. Cuts over 3/4 inch in diameter shall be painted with tree paint.
14. Staking and Guying: Staking and guying of all trees shall be completed immediately after planting. All stakes and guys shall be installed as indicated in details.

E. Planting of Groundcovers:
1. Groundcover plants shall be flats as indicated on the plans. Plants shall remain in nursery containers until transplanting. The soil shall contain sufficient moisture so that it will not fall apart when lifting the plants.
2. Groundcover shall be planted in straight rows and evenly spaced, unless otherwise noted, and at intervals called out in the Drawings. Triangular spacing shall be used unless otherwise noted on the Drawings.
3. Each rooted plant shall be planted with its proportionate amount of soil. Plantings shall be immediately sprinkled after planting until the entire hole is soaked to its full depth.

3.04 CALIFORNIA NATIVE PLANT ESTABLISHMENT RECOMMENDATIONS

A. Container-Grown Drought-Tolerant Plants: Drought tolerant plants, (plants which are native to areas which receive most of their yearly rainfall during the winter months, or those which receive small amounts of rain just a few times a year), once established in their environment, do not need, and often dislike large amounts of water and fertilizer.
1. Soil and Watering: In the same way that plants native to dry areas are susceptible to root rot and other diseases due to over-watering in a landscape situation, they are also unable to tolerate over-watering in a container while being grown at a nursery. This situation may be overcome by altering the watering frequency at the nursery, but more often a very light, well draining soil mixture is used to help prevent an overabundance of water in the root zone. Therefore, watering in the nursery is done on a much more frequent basis than one might expect given the low water using requirements of the plants in their natural environment. Special problems may result from this situation. For example, a plant which is container grown in a very light soil may be planted in a type of soil, such as clay, which holds water for a much longer time. The plant may dry out while the surrounding soil remains moist, or it is equally possible that the plant's rootball may remain saturated because the water holding soil will not let the water drain away from the area. Therefore, special care and greater than average observation on the part of the personnel responsible for planting and establishment of drought tolerant plants must occur to ensure success.
2. Fertilization: It is a common practice to use slow release fertilizers, or a fertilizer injection system to feed container nursery stock. As is true with watering, the plants become adapted to the "perfect" conditions provided to them while in containers, and extra care must be given at the time of planting to insure success. Further information may be found under Section 5, Fertilization.

B. Planting of Drought-Tolerant Plants
1. Soil Types and Amending:
   a. The Contractor shall follow the requirements of section 2.01 C. Soil Amendments and section 3.02 A. Soil analysis.
   b. Clay soils are the most troublesome when installing drought tolerant plantings. Poor drainage and tight soil are the most common problems. Extremely heavy or very poorly drained soils are not recommended for these plantings, and if such conditions occur, the Contractor shall notify the Landscape Architect prior to planting. For manageable clay soils, amending should be to improve soil texture. Amendments should be long lasting.(redwood mulch as opposed to fir or "forest" products). For individual plant holes, a fork should be used rather than a shovel to loosen clay soils in order to reduce possible layering of soil types.
   c. Sandy and rocky soils generally are less problematic, generally due to better drainage and less compaction. Amending should be to improve soil water retention as well as to improve soil structure. Excessive amendment of the backfill soil causes a stratification of soil types and potential rooting-out problems. As a general guideline, these soils should be amended at a rate of three (3) yards of amendment per 1000 sq. ft.
   d. Drainage: Good drainage is essential to the establishment and continued health of plants native to dry regions. If the soil will not allow water to drain out of a hole one (1) foot deep in one(1) hour, the Contractor shall notify the Landscape Architect of such a condition before planting begins.

C. Irrigation
1. To Establish:
   a. Recently planted container plants require frequent watering, regardless of whether they will become drought tolerant once established. The Contractor shall check the condition of newly planted areas at least twice weekly to determine irrigation schedules.
   b. During hot spells, and/or for plants which are in direct sun all day or are in areas where the sun is very warm in the afternoon, watering may have to be done every other day. Of course, cooler weather will require less watering. It is especially important that water be applied directly to the soil immediately surrounding the root-ball. Therefore, watering basins shall be built according to section 3.3 D-12 Backfill. During the rainy season, these watering basins should be leveled out to match the surrounding terrain so as to prevent over-watering of the plants.
   c. After a period of two (2) months, watering should be decreased to once weekly, (depending on the occurrence of rain), and after the first year, reduced to one (1) deep watering per month for for the second year. Such watering must not be only enough to wet the surface inches of the soil, but must be deep enough to wet the soil to a depth of two (2) to three (3) feet.
   d. After two years, plants should be watered only during times of extended winter drought, that is, when there is no rain from September through December.
2. Once Established:
   a. After plants have been in their planted environment for a period of at least one year, (or two summers), it will be advantageous to reduce the amount of water which they receive, slowly allowing them to become acclimated to the conditions which will eventually resemble actual weather conditions in the area. Drip watering systems allow for deep, infrequent watering, and are often most suitable to wean the plants from their artificial dependence on frequent watering.

D. Fertilization
1. To Establish: The Contractor shall consult with the nurseryman supplying the various plant materials as to the conditions under which they were grown, adding pre-plant fertilizer only if the nurseryman believes it necessary.
   a. If planting occurs in the fall or winter, a time released fertilizer, such as Agriform tablets or Woodace IBDU briquettes should be incorporated according to manufacturer's specifications.
   b. A shorter duration time released fertilizer, such as Osmocote 14-14-14, should be used for spring plantings.
   c. Summer planting of drought tolerant plants is not recommended, but if absolutely necessary, no additional fertilizer should be added until October.
2. Once Established: Fertilizing should be restricted to light applications of a low nitrogen formulation during winter and spring, or one application of a time released fertilizer in the fall. The Contractor should refer to the graphs provided for specific application rates and times.

E. Establishment Period
1. Watering: The Contractor shall maintain the landscape in a healthy and vigorous condition, insuring that the plants are watered frequently enough to avoid wilting between watering, but not so frequently as to leave the soil constantly wet. Attention must be paid to the changes in the environment, such as hot, dry winds, or rain, which will alter irrigation intervals.
2. Fertilizing: Careful observation of plant health and site conditions must take place prior to any supplemental fertilizer applications. Plants which have been exposed to an excess of fertilizer will be adversely affected for a long period of time, and attempts to leach out excessive fertilizer from the soil may result in drowning the plants.
3. Soil Level Changes:_It is essential to be aware of the soil level of the plants as they are removed from the containers when planting, and to keep the level of soil at the base of the plant equal to or slightly above the surrounding soil surface. Changes in soil levels around the plants, even after becoming established, will adversely affect their health and growth.
4. Pruning and Shaping: Plants should retain, as much as possible, a natural habit, without the imposition of man-made shapes upon them. Shaping shrubs into tight balls or clipping a massing of plants into a squared off hedge should be avoided, as it detracts from the overall blending of plant forms.
5. Avoiding Damage: Plants native to dry regions are often some of the most tenacious and tough plants in the landscape. Once established they will thrive on neglect, but not negligence. Care must be taken to avoid breakage of limbs, scarring of tree or shrub bark, damage to root systems and generally any damage which will enable disease to establish a foothold in the plant
6. Washing Off Plants: Once monthly during the dry season, (May through September), it benefits plants on drip systems to have accumulated dust and dirt washed off. Care should be taken to not damage the softer herbaceous perennials, or those with large blooms, such as Bush poppy *(Dendromecon rigida)* or Matilija poppy *(Romneya coulteri)*. Such a hosing off should be done in the morning to avoid leaving plants, especially the trunk and bark, wet at night.

3.05 CLEANING

A. After all planting operations have been completed, remove all trash, excess soil, empty plant containers, and rubbish from the property. All scars, ruts or other marks in the ground caused by this work shall be repaired and the ground left in a neat and orderly condition throughout the site. Contractor shall pick up all trash resulting from this work no less frequently than each Friday before leaving the site, once a week, or the last working day of each week. All trash shall be removed completely from the site.

B. The Contractor shall leave the site area broom-clean and shall wash down all paved areas within the contract area, leaving the premises in a clean condition. All walks shall be left in a clean and safe condition.

3.06 OBSERVATION SCHEDULE

A. The Contractor shall be responsible for notifying the Landscape Architect in advance for the following site visits, according to the time indicated:
1. Plant material review: 48 hours.
2. Plant layout review: 48 hours.
3. Soil preparation and planting operations: One tree with each type of specified staking shall be approved prior to planting of trees: 48 hours.
4. Pre-maintenance: 7 days.
5. Final walk-through: 7 days.

B. When observations are conducted by someone other than the Landscape Architect, the Contractor shall show evidence in writing of when and by whom these inspections were made.

C. No site visits shall commence without all items noted in previous observation reports either completed or remedied unless such compliance has been waived by the Owner. Failure to accomplish punch list tasks or prepare adequately for desired inspections shall make the Contractor responsible for reimbursing the Landscape Architect at his current billing rates per hour portal to portal (plus transportation costs). No further site visits shall be scheduled until this charge has been paid and received.

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I.S.C. Group, Inc.
40 W Easy Street, Suite 4
Simi Valley, CA 93065
925 371 8230
www.isc-groupinc.com

mechanical / plumbing / title 24:
Linda Altomore and Tom Hughes
Mechanical Engineering Consultants, Inc.
315 E. Cañon Perdido Street, Suite B
Santa Barbara, CA 93101
805 957 4632

electrical engineer:
Alan Noelle
Alan Noelle Engineering
315 E. Cañon Perdido Street, Suite B
Santa Barbara, CA 93101
805 563 5444

telecommunications:
David Johnson
Engineering Enterprises
1305 Marina Village Parkway
Alameda, CA 94501
510 263 1516

surveyor:
Jose Cardenas
Waters Cardenas
5553 Hollister Ave # 7
Goleta, CA 93117
805 967 4416

Cachuma Lake RV Site Renewal

2265 HWY 154
Santa Barbara, CA 93105

145 160 072

Revisions

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LICENSED LANDSCAPE ARCHITECT
Susan Van Atta, FASLA
01/31/24
04/18/22
STATE OF CALIFORNIA

Specifications

L0.4

Bid Set 06.28.23

GENERAL NOTES: LANDSCAPE DEMOLITION

A. This drawing identifies which trees and landscape features that are to be demolished and removed. This drawing does not identify the hardscape features or structures to be removed, please reference Civil and Architectural demo plans for additional information.

B. Contractor shall read and understand the specifications and conditions of approval prior to commencement of work. Failure to adhere to the specifications may result in a delay of the project at the contractor's expense. Contractor is responsible for any loss due to his/her decision to alter the design or layout of this project in any way.

C. Contractor shall confirm all field dimensions and conditions prior to the start of work. Any discrepencies with plans shall be reported to the Landscape Architect and Owner. These plans were developed utilizing survey information provided by others. Landscape Architect holds no obligation to verify and / or adjust base.

D. Existing light posts and telephone poles to be removed are omitted from this drawing. Please reference Civil and Architectural demo plans for additional information.

E. Paving to remain shall not be damaged. Paving edges to remain shall be left clean, even and smooth. Contractor responsible for all repairs.

F. Preserve and protect existing trees and shrubs to remain.

G. Remove and salvage existing information signs.

H. All salvage material to be returned to County of Santa Barbara Parks Division.

I. Contractor to maintain site drainage during construction.

J. Scrub and remove (e) vegetation and trees as noted in plan.

K. Contractor to remove all tree stumps within project limit of work. Tree clippings to remain on site for composting.

TREE PROTECTION NOTES

A. Tree protection shall be overseen by a county approved arborist.

B. Fence off all trees from construction at 2'-0" from face of tree trunk (or where practical) with 4' tall orange polyethylene safety fence material; see detail on this sheet for additional information.

C. Anchor posts at protected tree fencing shall consist of steel U-channel sign posts that are 6 foot long and 2 inches wide; see detail on this sheet for additional information.

D. No activities or storage of construction materials shall be allowed within fenced tree areas.

E. Any digging within the root zone of any protected trees shall be done by hand.

F. All roots encountered shall be cut cleanly with a sharp saw to allow for new root regeneration, backfilled immediately or kept moist to prevent drying out.

G. Any tree affected by the construction process shall be deep-root fertilized to promote better health and vigor.

H. Compaction of the root zone shall be avoided by spreading 3-4" of mulch. Mulch shall be kept 6" MIN away from tree trunk.

I. During hot, dry periods, tree foliage may need to be washed with high pressure water to remove construction dust.

J. All trenching of utilities, irrigation and lighting shall not encroach within the critical root zone unless approved by County of Santa Barbara's representative.

LEGEND: EXISTING SITE PLAN

- proposed limit of work
- (E) fence
- (E) asphalt (REF. Civil and Architectural demolition plans)
- (E) concrete pavement (REF. Civil and Architectural demolition plans)
- (E) pavers
- (E) designated unpaved surface (gravel)
- demolished landscape feature
- (E) disc golf pad
- (E) picnic table
- Sapling Oak to be transplanted unless not recommended by the County's Arborist.
- Feature to remove
- Tree in poor health to remove

CALIFORNIA NATIVE TREES

Deciduous

Platanus racemosa	California Sycamore
Quercus lobata	Valley Oak

Evergreen

Quercus agrifolia	Coast Live Oak

DOMINANT NON-NATIVE TREES

Deciduous

Platanus occidentalis	American Sycamore
Fraxinus velutina	Arizona Ash Tree
Morus alba	Fruitless Mulberry Tree

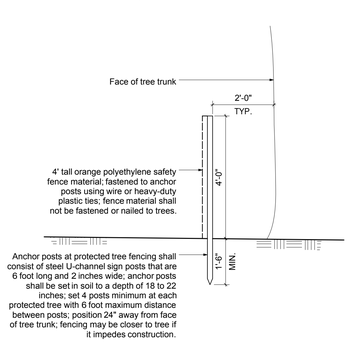
OTHER NON-NATIVE TREES ONSITE

Deciduous

Populus spp.	Poplar
Pistachia chinensis	Chinese Pistache
Ulmus parvifolia	Chinese Elm
Prunus persica	Peach Tree

Evergreen

Cupressus macrocarpa	Monterey Cypress
Schinus terebinthifolia	Brazilian Pepper Tree
Various Palms	
Various Pines	



2 Temporary Protective Fencing
Scale 1/2"=1'-0"

1 Existing / Demo Landscape Plan

0 20 40FT
SCALE: 1" = 40'

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CLA# 2928

Cachuma Lake RV Site Renewal

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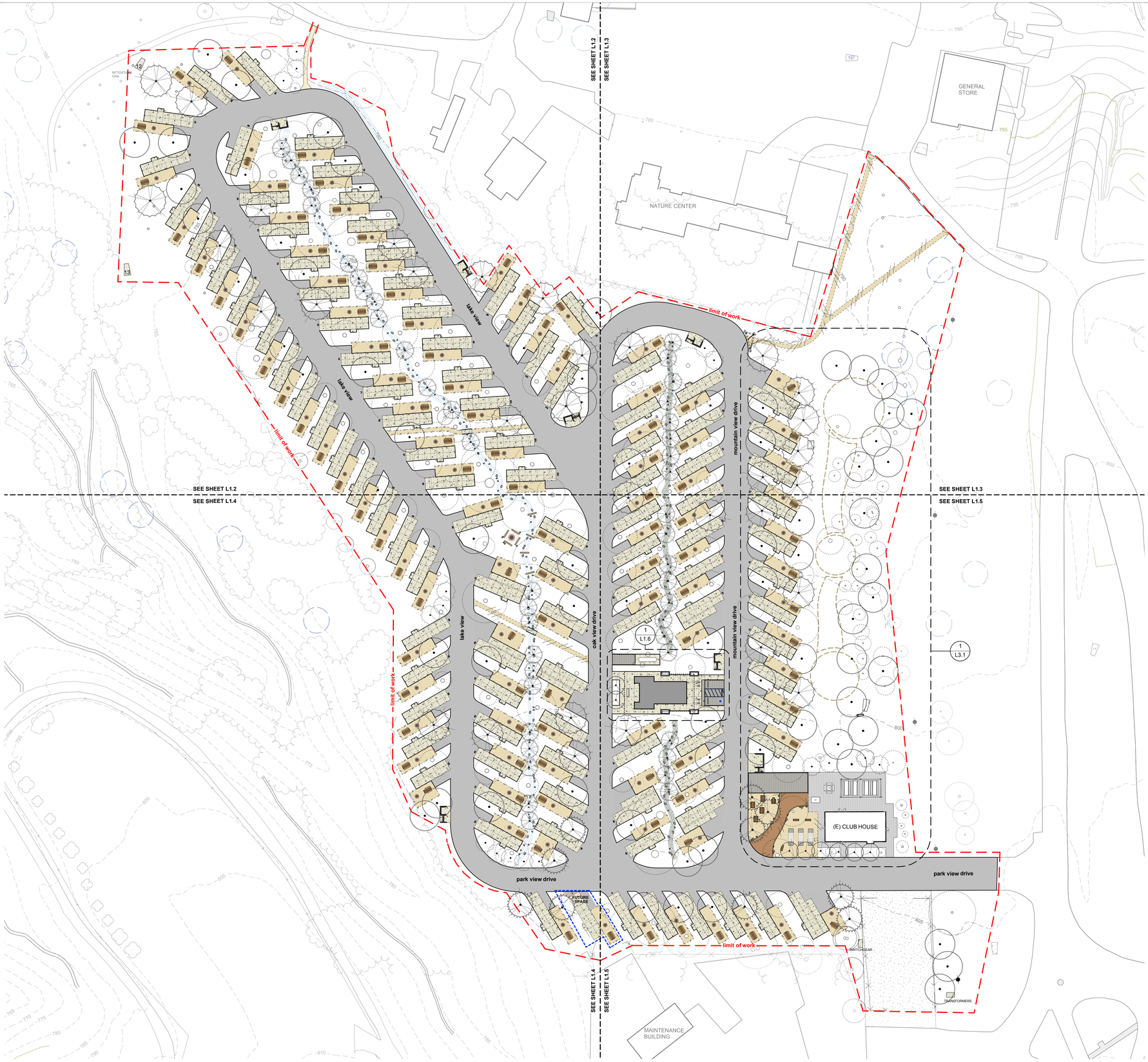
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LICENSED LANDSCAPE ARCHITECT
Jeff Van Atta
04/18/24
STATE OF CALIFORNIA

Existing/demo plan

L1.0

Bid Set 06.28.23



1 Proposed Hardscape Plan

0 20 40FT
SCALE: 1" = 40'

HARDSCAPE PLAN NOTES

A. Contractor shall verify all existing conditions of the site before commencing work and report any discrepancies to the County Project Manager & Architect prior to starting the work.

B. See Civil sheets for grading & drainage, utility routing & information, fire hydrants, horizontal control plan and applicable notes & information.

C. See Electrical sheets for electrical routing and applicable notes & information.

D. See Plumbing sheets for site gas routing & information, utility POC to buidings, and application notes & information.

E. See Telecommunication sheets for data/cable utility routing and applicable notes & information.

F. The hardscape plan is to be staked by the contractor, then reviewed by Landscape Architect and clients on site for evaluation and possible field adjustments.

G. Contractor shall read and understand the specifications and conditions of approval prior to commencement of work. Failure to adhere to the specifications may result in a delay of the project at the contractor's expense. Contractor is responsible for any loss due to his/her decision to alter the design or layout of this project in any way.

H. Contractor shall be responsible for becoming aware of all underground utilities, pipes and structures. The contractor shall be held responsible for contacting the County Representative for field location of underground utility lines prior to any excavation. The contractor shall take sole responsibility of any cost to remove existing underground utilities, unless noted otherwise.

I. Due to unforeseen circumstances that occur as projects undergo construction, site conditions will change. Therefore, if a proposed built element, grade changes, or planting seems problematic and is evident that it is not realistic due to new site conditions, please contact the Architect to coordinate changes to the plan.

J. These plans were developed utilizing survey information provided by others. Architect holds no obligation to verify and or adjust base drawings.

K. Contractor shall make modifications to material and method of installation as required by local code, and shall notify the County Project Manager of such changes.

L. Contractor shall provide a 4'x4' area sample of each type of paving for approval by County Project Manager and Landscape Architect.

M. The locations of spot elevations and extent of all earthwork and boardwalk foundations must be staked prior to grading by a licensed surveyor, County project manager, Landscape Architect, Civil Engineer and Architect to review and approve field layout prior to proceeding with grading.

N. All paving shall have a minimum slope of 1%, and ensure drainage away from retaining or freestanding walls.

O. Adjustments to final DG layout may be required to protect existing trees. General contractor to coordinate with Landscape Architect for necessary adjustments.

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Cachuma Lake RV Site Renewal

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LICENSED LANDSCAPE ARCHITECT
Susan Van Atta RLA #2968
01/31/24
04/18/22
STATE OF CALIFORNIA

Hardscape Plan

Sheet Index

L1.1

Bid Set 06.28.23



SEE SHEET L1.3

HARDSCAPE PLAN NOTES

reference L1.1 for general notes

PLAN LEGEND

- match line
- proposed limit of work
- future work
- (E) fence
- (N) chain link fence
- (E) tree
- (N) tree
- flush
- # / LXX — detail / sheet — detail callout
- L# — gate tag; REF. SCHED. on A1.5

MATERIALS LEGEND

symbol	description	detail
	(E) concrete paving	
	(E) designated unpaved surface (gravel)	
	(E) pavers; Angelus Paving Stones - Antique Cobble 1 (60 mm), Tumbled Mocha Solid Color; contractor to verify existing pattern	
	(N) vehicular pavers, Angelus Paving Stones - Antique Cobble 1 (80 mm), color and pattern to match existing	2,3,7 L1.7; 11,14 L1.7; 15 L1.7
	(N) detectable warning ADA pavers; contrasting color and size TBD; per CBC 11B-705	14 L1.7
	(N) concrete paving; "Top Cast" Surface retarder (Top Cast #5 - Light Blue), estimated etch depth - sandblast finish; integral color: palamino 5447 (Davis colors); sawcut joints	4,8 L1.7; 10,12 L1.7; 14,15 L1.7; 2,3 C4.1
	(N) asphalt, per Civil	3,4 L1.7; 9,16 L1.7; 1 C4.1
	(N) Natracil stabilized decomposed granite; 3" thick at pathways, 4" thick at campsites; color: California Gold (Gail Materials - 1.951.667.6106)	1,2,5 L1.7; 6,9,10 L1.7
	(N) Natracil stabilized decomposed granite; 3" thick at pathways, 4" thick at campsites; color: TBD (Gail Materials - 1.951.667.6106)	1,2 L1.7; 5,9 L1.7
	(N) sandstone cobble; size varies; 70% 2"-3" DIA, 30% 6"-8" DIA	5 L1.7; 4 L1.8; 6 L2.6
	(N) 2x redwood header	6 L1.7
	(N) post with site number	3 L1.8
	(N) native sandstone boulders relocated from on site (if available); size 2' - 5' W; landscape architect to approve before delivery to site and final placement	4 L2.6
	(N) concrete paving bridge; finish, integral color & joints to match (N) concrete paving	4 L1.8
	(N) picnic table; Contractor to coordinate specification with County; CFCI	
	(N) ADA accessible picnic table; Contractor to coordinate specification with County; CFCI	
	(N) fire pit; Contractor to coordinate specification with County; CFCI	

PROJECT ELEMENTS

item #	description	detail
1	**existing concrete vault** contractor to coordinate with Owner if removal of existing vault is feasible, and if so then coordinate its removal	
2	**site numbering** white liquid thermoplastic high performance traffic marking paint with embedded reflective glass beads; contractor to confirm design intent via shop drawing and mock up.	5 L1.6
3	**heavy timber log gateway**	6 L1.8
4	**prefabricated wood benches with reinforced concrete bases** Contractor to coordinate specification with County; CFCI	
5	**prefabricated concrete ping pong tables** The Silk Table with reinforced concrete footings Prism Net powder coated Jet Black; hengetable.com or approved equal	8 L1.8
6	**ash bin** provided by County; OFOI	
7	**trash dumpster** 4 yard dumpster, provided by Others (MarBorg)	
8	**bioswale**	20 C4.1; 6 L2.6
9	**logs** 36" to 48" diameter log to bridge across bioswale; log to be sourced from the site; Contractor to coordinate sourcing with County; Contractor to coordinate final placement on site with Landscape Architect.	
10	**pathway** 4' wide with flared ends; finish per legend	
11	**electrical transformer** contractor to coordinate all adjustments to hardscape plan as necessary in the field with Landscape Architect and Owner prior to construction.	
12	**electrical panel.** REF. Electrical drawings	

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LICENSED LANDSCAPE ARCHITECT — Frank Van Atta, #2928 — 01/31/24 — 04/18/22 — STATE OF CALIFORNIA

Hardscape Plan

Northwest Quadrant

L1.2

Bid Set 06.28.23

1 Enlarged Hardscape Plan - NW

SCALE: 1" = 20'



1 Enlarged Hardscape Plan - NE

SCALE: 1" = 20'

HARDSCAPE PLAN NOTES

reference L1.1 for general notes

PLAN LEGEND

- match line
- proposed limit of work
- future work
- (E) fence
- (N) chain link fence
- (E) tree
- (N) tree
- flush
- # / LXX — detail / sheet — detail callout
- L# — gate tag; REF. SCHED. on A1.5

MATERIALS LEGEND

symbol	description	detail
	(E) concrete paving	
	(E) designated unpaved surface (gravel)	
	(E) pavers; Angelus Paving Stones - Antique Cobble 1 (60 mm), Tumbled Mocha Solid Color; contractor to verify existing pattern	
	(N) vehicular pavers, Angelus Paving Stones - Antique Cobble 1 (80 mm), color and pattern to match existing	2,3,7 L1.7; 11,14 L1.7; 15 L1.7
	(N) detectable warning ADA pavers; contrasting color and size TBD; per CBC 11B-705	14 L1.7
	(N) concrete paving; "Top Cast" Surface retarder (Top Cast #5 - Light Blue), estimated etch depth - sandblast finish; integral color: palamino 5447 (Davis colors); sawcut joints	4,8 L1.7; 10,12 L1.7; 14,15 L1.7; 2,3 C4.1
	(N) asphalt, per Civil	3,4 L1.7; 9,16 L1.7; 1 C4.1
	(N) Natracil stabilized decomposed granite; 3" thick at pathways, 4" thick at campsites; color: California Gold (Gail Materials - 1.951.667.6106)	1,2,5 L1.7; 6,9,10 L1.7
	(N) Natracil stabilized decomposed granite; 3" thick at pathways, 4" thick at campsites; color: TBD (Gail Materials - 1.951.667.6106)	1,2 L1.7; 5,9 L1.7
	(N) sandstone cobble; size varies; 70% 2"-3" DIA, 30% 6"-8" DIA	5 L1.7; 4 L1.8; 6 L2.6
	(N) 2x redwood header	6 L1.7
	(N) post with site number	3 L1.8
	(N) native sandstone boulders relocated from on site (if available); size 2' - 5' W; landscape architect to approve before delivery to site and final placement	4 L2.6
	(N) concrete paving bridge; finish, integral color & joints to match (N) concrete paving	4 L1.8
	(N) picnic table; Contractor to coordinate specification with County; CFCI	
	(N) ADA accessible picnic table; Contractor to coordinate specification with County; CFCI	
	(N) fire pit; Contractor to coordinate specification with County; CFCI	

PROJECT ELEMENTS

item #	description	detail
1	**existing concrete vault** contractor to coordinate with Owner if removal of existing vault is feasible, and if so then coordinate its removal	
2	**site numbering** white liquid thermoplastic high performance traffic marking paint with embedded reflective glass beads; contractor to confirm design intent via shop drawing and mock up.	5 L1.6
3	**heavy timber log gateway**	6 L1.8
4	**prefabricated wood benches with reinforced concrete bases** Contractor to coordinate specification with County; CFCI	
5	**prefabricated concrete ping pong tables** The Silk Table with reinforced concrete footings Prism Net powder coated Jet Black; hengetable.com or approved equal	8 L1.8
6	**ash bin** provided by County; OFOI	
7	**trash dumpster** 4 yard dumpster, provided by Others (MarBorg)	
8	**bioswale**	20 C4.1; 6 L2.6
9	**logs** 36" to 48" diameter log to bridge across bioswale; log to be sourced from the site; Contractor to coordinate sourcing with County; Contractor to coordinate final placement on site with Landscape Architect.	
10	**pathway** 4' wide with flared ends; finish per legend	
11	**electrical transformer** contractor to coordinate all adjustments to hardscape plan as necessary in the field with Landscape Architect and Owner prior to construction.	
12	**electrical panel.** REF. Electrical drawings	

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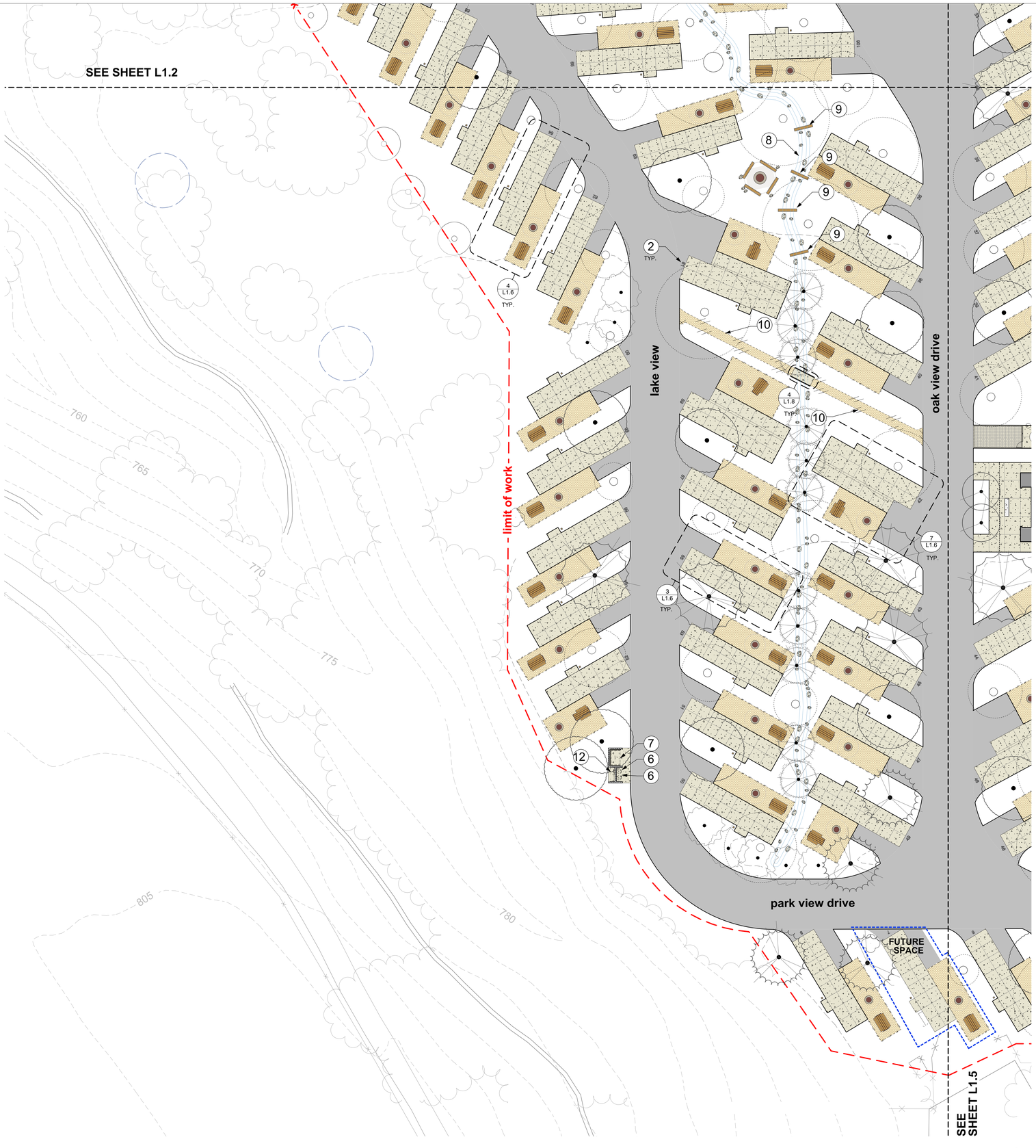
LICENSED LANDSCAPE ARCHITECT — Susan Van Atta #2928 — 01/31/24 — 04/18/22 — STATE OF CALIFORNIA

Hardscape Plan

Northeast Quadrant

L1.3

Bid Set 06.28.23



1 Enlarged Hardscape Plan - SW

0 10 20FT
SCALE: 1" = 20'

HARDSCAPE PLAN NOTES

reference L1.1 for general notes

PLAN LEGEND

- match line
- proposed limit of work
- future work
- (E) fence
- (N) chain link fence
- (E) tree
- (N) tree
- flush
- # / LXX — detail / sheet — detail callout
- L# — gate tag; REF. SCHED. on A1.5

MATERIALS LEGEND

symbol	description	detail
	(E) concrete paving	
	(E) designated unpaved surface (gravel)	
	(E) pavers; Angelus Paving Stones - Antique Cobble 1 (60 mm), Tumbled Mocha Solid Color; contractor to verify existing pattern	
	(N) vehicular pavers, Angelus Paving Stones - Antique Cobble 1 (80 mm), color and pattern to match existing	2,3,7 L1.7; 11,14 L1.7; 15 L1.7
	(N) detectable warning ADA pavers; contrasting color and size TBD; per CBC 11B-705	14 L1.7
	(N) concrete paving; "Top Cast" Surface retarder (Top Cast #5 - Light Blue), estimated etch depth - sandblast finish; integral color: palamino 5447 (Davis colors); sawcut joints	4,8 L1.7; 10,12 L1.7; 14,15 L1.7; 2,3 C4.1
	(N) asphalt, per Civil	3,4 L1.7; 9,16 L1.7; 1 C4.1
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	(N) sandstone cobble; size varies; 70% 2"-3" DIA, 30% 6"-8" DIA	5 L1.7; 4 L1.8; 6 L2.6
	(N) 2x redwood header	6 L1.7
	(N) post with site number	3 L1.8
	(N) native sandstone boulders relocated from on site (if available); size 2' - 5' W; landscape architect to approve before delivery to site and final placement	4 L2.6
	(N) concrete paving bridge; finish, integral color & joints to match (N) concrete paving	4 L1.8
	(N) picnic table; Contractor to coordinate specification with County; CFCI	
	(N) ADA accessible picnic table; Contractor to coordinate specification with County; CFCI	
	(N) fire pit; Contractor to coordinate specification with County; CFCI	

PROJECT ELEMENTS

item #	description	detail
1	**existing concrete vault** contractor to coordinate with Owner if removal of existing vault is feasible, and if so then coordinate its removal	
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4	**prefabricated wood benches with reinforced concrete bases** Contractor to coordinate specification with County; CFCI	
5	**prefabricated concrete ping pong tables** The Silk Table with reinforced concrete footings Prism Net powder coated Jet Black; hengetable.com or approved equal	8 L1.8
6	**ash bin** provided by County; OFOI	
7	**trash dumpster** 4 yard dumpster, provided by Others (MarBorg)	
8	**bioswale**	20 C4.1; 6 L2.6
9	**logs** 36" to 48" diameter log to bridge across bioswale; log to be sourced from the site; Contractor to coordinate sourcing with County; Contractor to coordinate final placement on site with Landscape Architect.	
10	**pathway** 4' wide with flared ends; finish per legend	
11	**electrical transformer** contractor to coordinate all adjustments to hardscape plan as necessary in the field with Landscape Architect and Owner prior to construction.	
12	**electrical panel.** REF. Electrical drawings	

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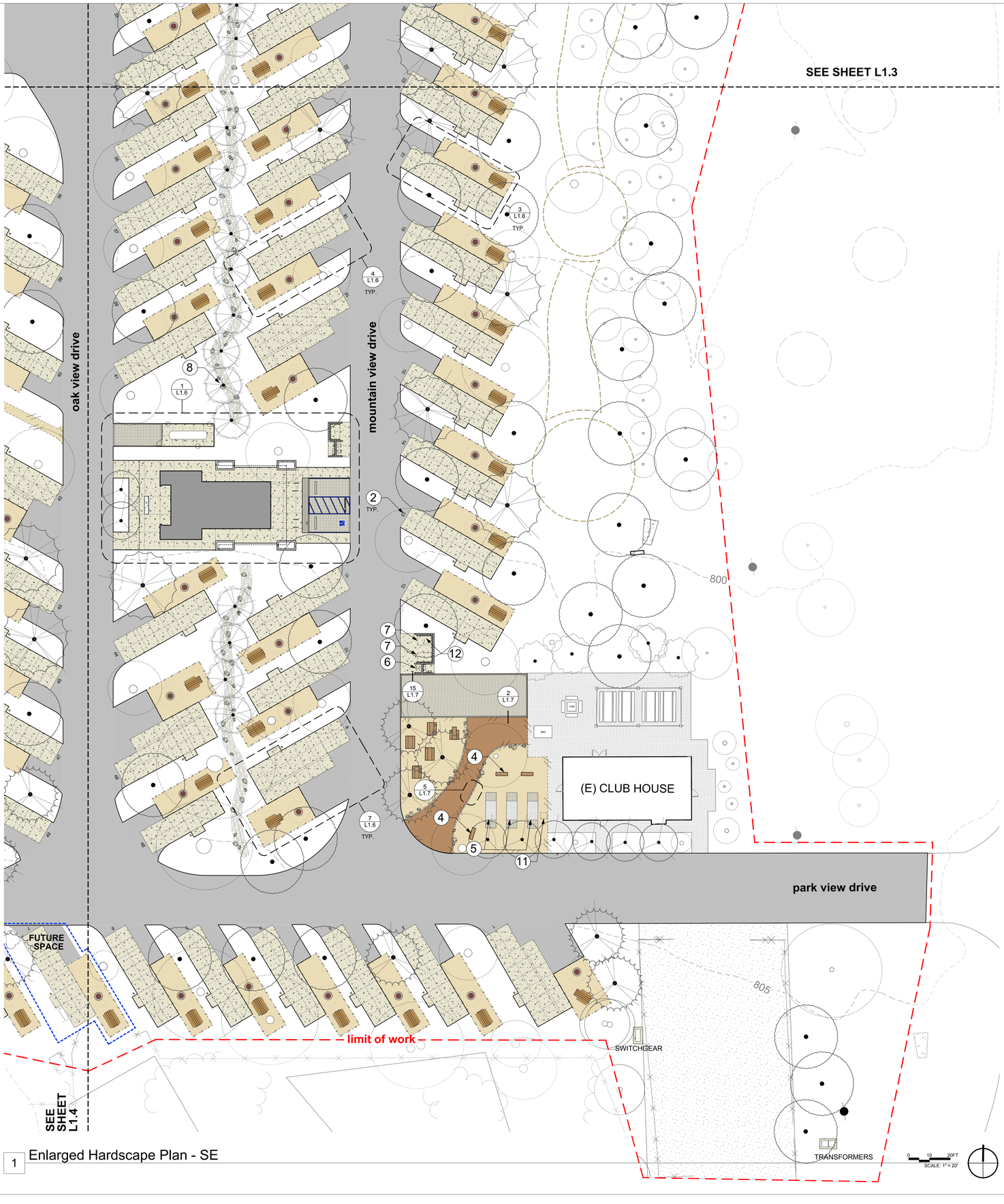
LICENSED LANDSCAPE ARCHITECT — Van Atta — STATE OF CALIFORNIA
01/31/24
04/18/22

Hardscape Plan

Southwest Quadrant

L1.4

Bid Set 06.28.23



1 Enlarged Hardscape Plan - SE

HARDSCAPE PLAN NOTES

reference L1.1 for general notes

PLAN LEGEND

- match line
- proposed limit of work
- future work
- (E) fence
- (N) chain link fence
- (E) tree
- (N) tree
- flush
- # / LXX — detail / sheet — detail callout
- L# — gate tag; REF. SCHED. on A1.5

MATERIALS LEGEND

symbol	description	detail
	(E) concrete paving	
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	(N) ADA accessible picnic table; Contractor to coordinate specification with County; CFCI	
	(N) fire pit; Contractor to coordinate specification with County; CFCI	

PROJECT ELEMENTS

item #	description	detail
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4	**prefabricated wood benches with reinforced concrete bases** Contractor to coordinate specification with County; CFCI	
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6	**ash bin** provided by County; OFOI	
7	**trash dumpster** 4 yard dumpster, provided by Others (MarBorg)	
8	**bioswale**	20 C4.1; 6 L2.6
9	**logs** 36" to 48" diameter log to bridge across bioswale; log to be sourced from the site; Contractor to coordinate sourcing with County; Contractor to coordinate final placement on site with Landscape Architect.	
10	**pathway** 4' wide with flared ends; finish per legend	
11	**electrical transformer** contractor to coordinate all adjustments to hardscape plan as necessary in the field with Landscape Architect and Owner prior to construction.	
12	**electrical panel.** REF. Electrical drawings	

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Cachuma Lake RV Site Renewal

2265 HWY 154
Santa Barbara, CA 93105

145 160 072

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LICENSED LANDSCAPE ARCHITECT Sandra Van Atta #2928 STATE OF CALIFORNIA
01/31/24
04/18/22

Hardscape Plan

Southeast Quadrant

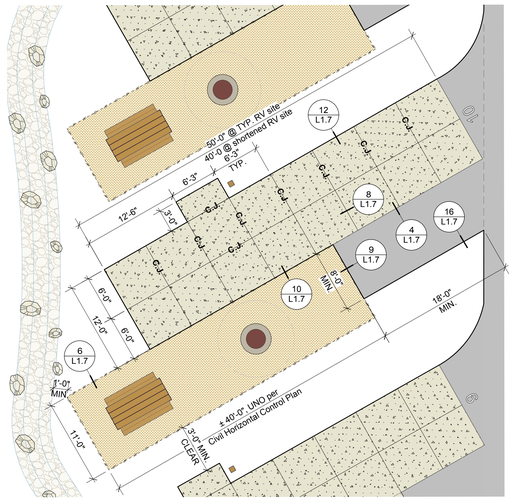
L1.5

Bid Set 06.28.23



Site plan: Accessible RV site 7

feet 0 4' 8' 16' 1/8" = 1'-0"



Site plan: RV site 4

feet 0 4' 8' 16' 1/8" = 1'-0"



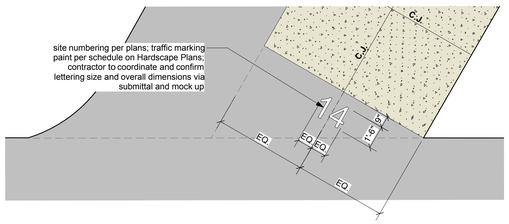
Site plan: RV site 3

feet 0 4' 8' 16' 1/8" = 1'-0"



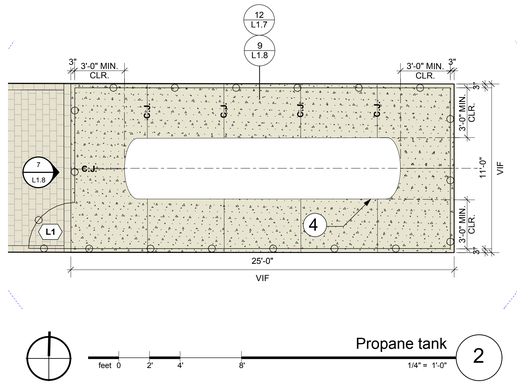
Site plan: Accessible RV site 6

feet 0 4' 8' 16' 1/8" = 1'-0"



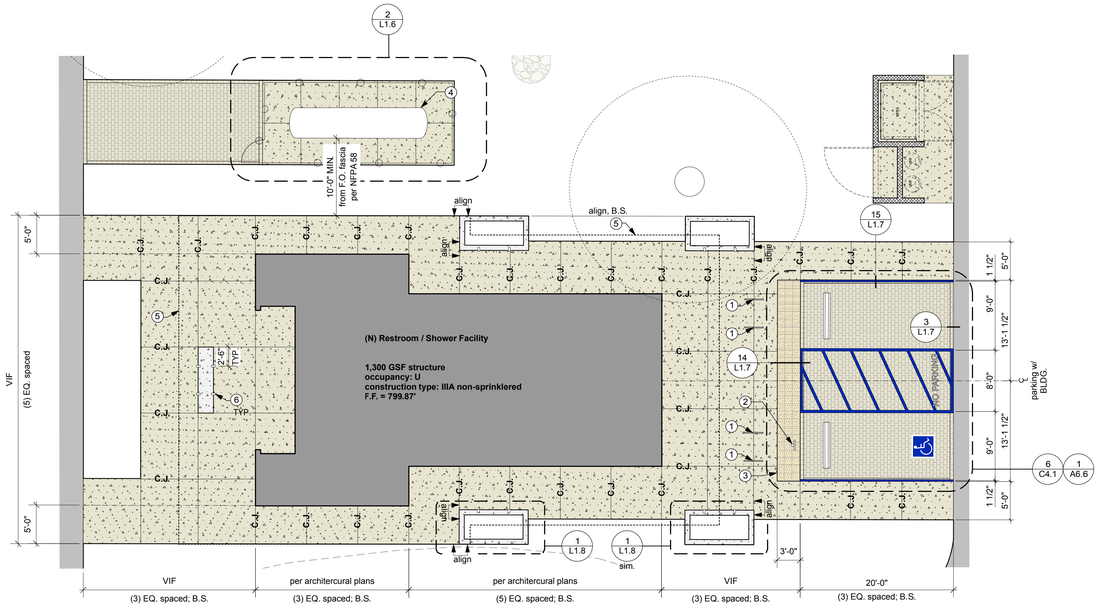
Typical site number marking 5

feet 0 2' 4' 8' 1/4" = 1'-0"



Propane tank 2

feet 0 2' 4' 8' 1/4" = 1'-0"



Enlarged Hardscape Plan: Restroom / Shower Facility 1

feet 0 4' 8' 16' 1/8" = 1'-0"

HARDSCAPE PLAN NOTES

reference L1.1 for general notes

PLAN LEGEND

- match line
- proposed limit of work
- future work
- (E) fence
- (N) chain link fence
- (E) tree
- (N) tree
- flush
- # / LXX detail / sheet — detail callout
- L# — gate tag; REF. SCHED. on A1.5

MATERIALS LEGEND

symbol	description	detail
	(E) concrete paving	
	(E) designated unpaved surface (gravel)	
	(E) pavers; Angelus Paving Stones - Antique Cobble 1 (60 mm), Tumbled Mocha Solid Color; contractor to verify existing pattern	
	(N) vehicular pavers, Angelus Paving Stones - Antique Cobble 1 (80 mm), color and pattern to match existing	2,3,7 L1.7; 11,14 L1.7; 15 L1.7
	(N) detectable warning ADA pavers; contrasting color and size TBD; per CBC 11B-705	14 L1.7
	(N) concrete paving; "Top Cast" Surface retarder (Top Cast #5 - Light Blue), estimated etch depth - sandblast finish; integral color: palamino 5447 (Davis colors); sawcut joints	4,8 L1.7; 10,12 L1.7; 14,15 L1.7; 2,3 C4.1
	(N) asphalt, per Civil	3,4 L1.7; 9,16 L1.7; 1 C4.1
	(N) Natracil stabilized decomposed granite; 3" thick at pathways, 4" thick at campsites; color: California Gold (Gail Materials - 1.951.667.6106)	1,2,5 L1.7; 6,9,10 L1.7
	(N) Natracil stabilized decomposed granite; 3" thick at pathways, 4" thick at campsites; color: TBD (Gail Materials - 1.951.667.6106)	1,2 L1.7; 5,9 L1.7
	(N) sandstone cobble; size varies; 70% 2"-3" DIA, 30% 6"-8" DIA	5 L1.7; 4 L1.8; 6 L2.6
	(N) 2x redwood header	6 L1.7
	(N) post with site number	3 L1.8
	(N) native sandstone boulders relocated from on site (if available); size 2' - 5' W; landscape architect to approve before delivery to site and final placement	4 L2.6
	(N) concrete paving bridge; finish, integral color & joints to match (N) concrete paving	4 L1.8
	(N) picnic table; Contractor to coordinate specification with County; CFCI	
	(N) ADA accessible picnic table; Contractor to coordinate specification with County; CFCI	
	(N) fire pit; Contractor to coordinate specification with County; CFCI	
C.J.	sawcut control joint per	8 L1.7

PROJECT ELEMENTS

item #	description	detail
1	**bicycle rack** Bola Bike Rack, "steel" color.	5 L1.8
2	**international Symbol of Accessibility sign**	1 A6.6; 7,8 C4.1
3	**detectable warning ADA pavers** contractor to coordinate extents with Owner and Architect prior to construction.	
4	**propane tank** see Plumbing plans and gas piping riser diagram for size and information. Contractor to confirm dimensional size of tank prior to constructing concrete slab and chain link fencing in order to maintain minimum clearances around tank. Install per NFPA 58 code requirements. Per NFPA 58 Annex-1 Figure-1.1, the clearance to the nearest source of external ignition for a single container of 1,200 gallons or less can be 10' min., provided such container is at least 25' from any other LP-gas container of more than 125 gallons. Locate 10'-0" min. away from roof overhang and electrical. Contractor to coordinate any field adjustments as necessary prior to construction.	
5	**building roof overhang** reference architectural drawings	
6	**decorative skate deterrent** basis of design: Nikls Group - Oak Leaf Decorative Anti-Skateboarding Guard, bronze finish or approved equal; install per manufacturer specifications	6 C4.1; 1 A6.6



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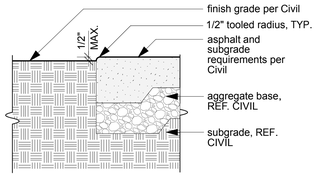
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Enlarged Hardscape

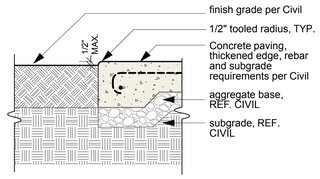
Restroom & Shower Building
Typical RV Sites

L1.6

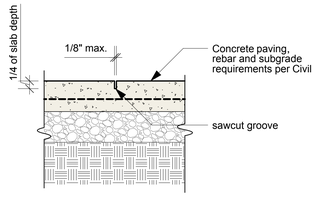
Bid Set 06.28.23



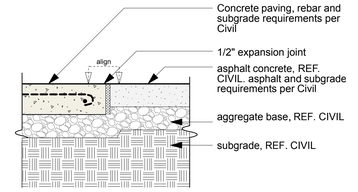
16 Grade to Asphalt Transition
Scale: 1 1/2" = 1'-0"



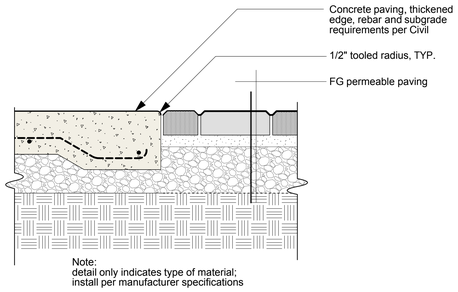
12 Concrete to Compacted Dirt Transition
Scale: 1 1/2" = 1'-0"



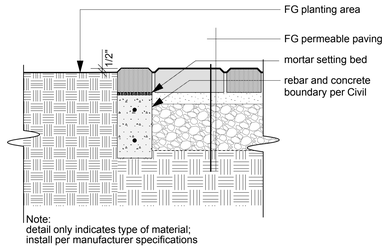
8 Concrete Slab Sawcut Groove Detail
Scale: 1 1/2" = 1'-0"



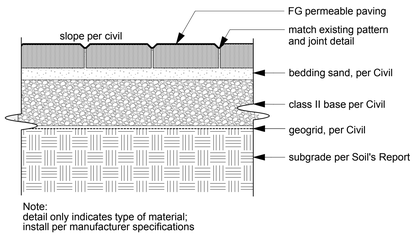
4 Concrete to Asphalt Concrete Transition
Scale: 1 1/2" = 1'-0"



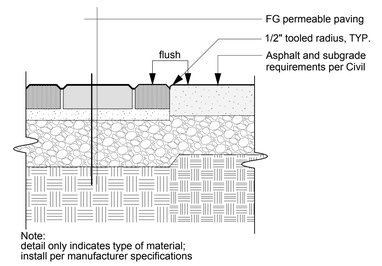
15 Concrete to Pavers transition
Scale: 1 1/2" = 1'-0"



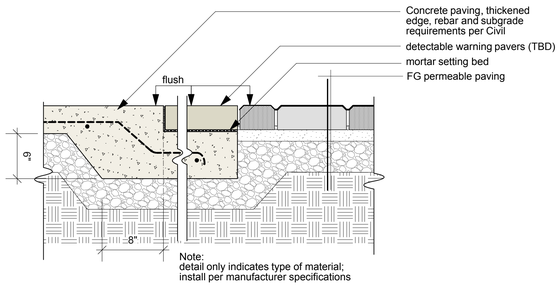
11 Permeable Paving Edge at Planting
Scale: 1 1/2" = 1'-0"



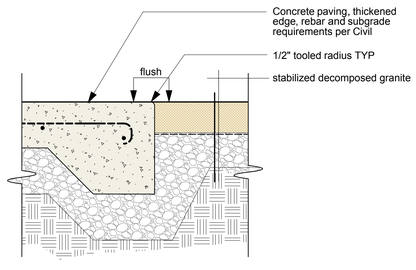
7 FG Permeable Paving Detail
Scale: 1 1/2" = 1'-0"



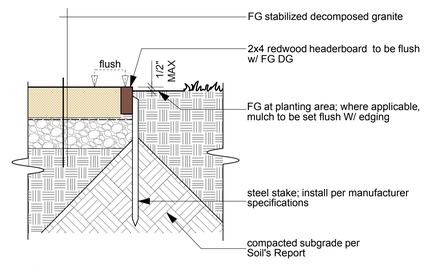
3 Paving Edge at Asphalt
Scale: 1 1/2" = 1'-0"



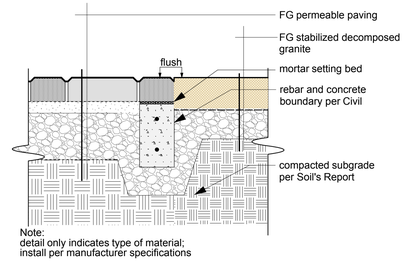
14 ADA Accessible Pavers @ Restroom Parking
Scale: 1 1/2" = 1'-0"



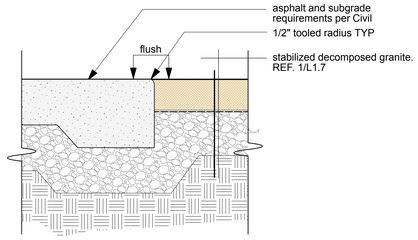
10 Concrete Edge at DG Path
Scale: 1 1/2" = 1'-0"



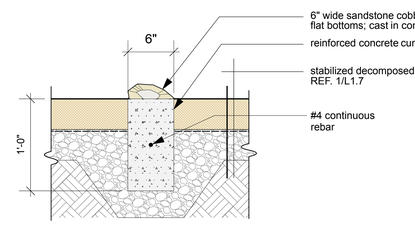
6 2x4 Redwood Landscape Edging
Scale: 1 1/2" = 1'-0"



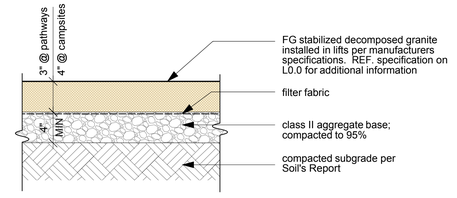
2 Paving Edge at DG
Scale: 1 1/2" = 1'-0"



9 Asphalt to DG transition
Scale: 1 1/2" = 1'-0"



5 DG to DG transition
Scale: 1 1/2" = 1'-0"



1 Stabilized Decomposed Granite
Scale: 1 1/2" = 1'-0"

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structural engineer:
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Mechanical Engineering Consultants, Inc.
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electrical engineer:
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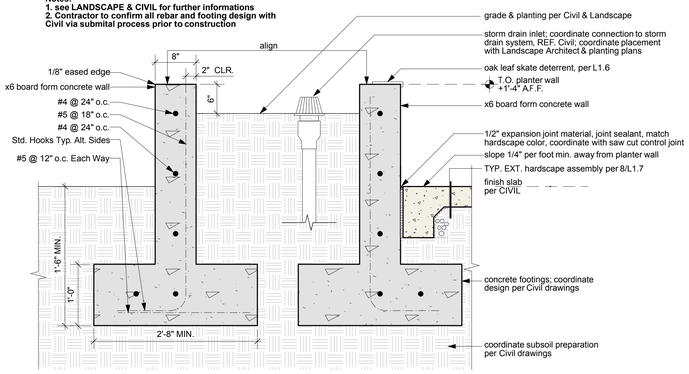
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Susan Van Atta, FASLA
01/31/24
04/18/22
STATE OF CALIFORNIA

Hardscape Details

L1.7

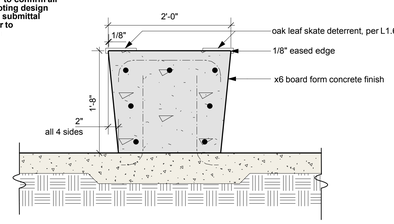
Bid Set 06.28.23

Notes:
1. see LANDSCAPE & CIVIL for further informations
2. Contractor to confirm all rebar and footing design with Civil via submital process prior to construction

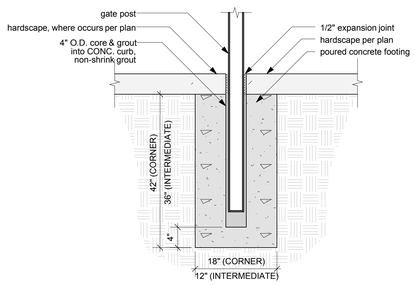


Planter detail 11
feet 0 6" 1' 2' 1" = 1'=0"

Note:
1. Contractor to confirm all rebar and footing design with Civil via submittal process prior to construction



Bench 10
feet 0 6" 1' 2' 1" = 1'=0"



Fence post footing 9
1" = 1'-0"



tennis tables confirm w/ county representative.
Note: Install per manufacturer specifications

Ping pong table 8

Heavy Timber Log Gateway - Basis of Design Notes:

A. These details communicate the BASIS OF DESIGN for the desired heavy timber log gateway, location, and layout. Gateway installation is design build. Contractor to coordinate final design with Owner and Landscape Architect via submittal and shop drawing process.

B. Contractor to coordinate and provide structural drawings and details.

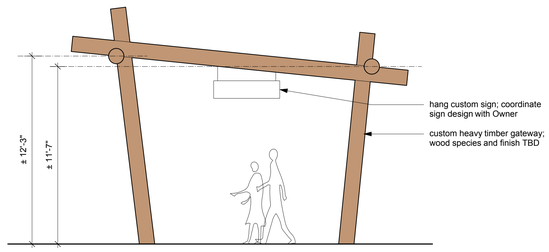
C. All finishes are TBD. Assume stained wood.

D. Contractor to verify wood species, size, finish and anchorage details with Owner and Landscape Architect via submittal and shop drawing process. Assume douglas fir.

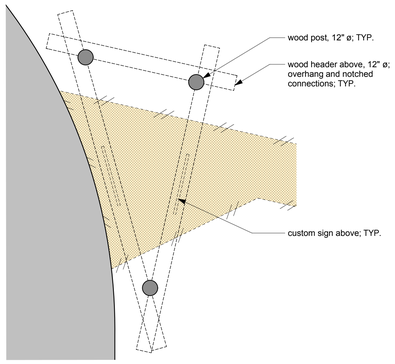
D. Contractor to verify signage design with Owner and Landscape Architect.

E. Contractor to coordinate with Civil drawings for grading, drainage, storm water management, and site utilities.

F. Contractor to coordinate with Landscape drawings for hardscape, planting, tree protection and groundcover information.



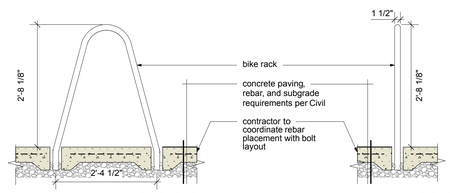
elevation



plan

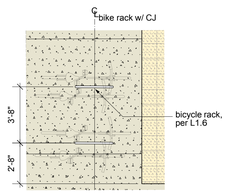
Heavy Timber Log Gateway - Basis of Design 6
feet 0 2' 4' 8' 1/4" = 1'-0"

Contractor to install **bike rack** per manufacturer specifications, and use anchoring cement that matches color with the adjacent concrete finish.



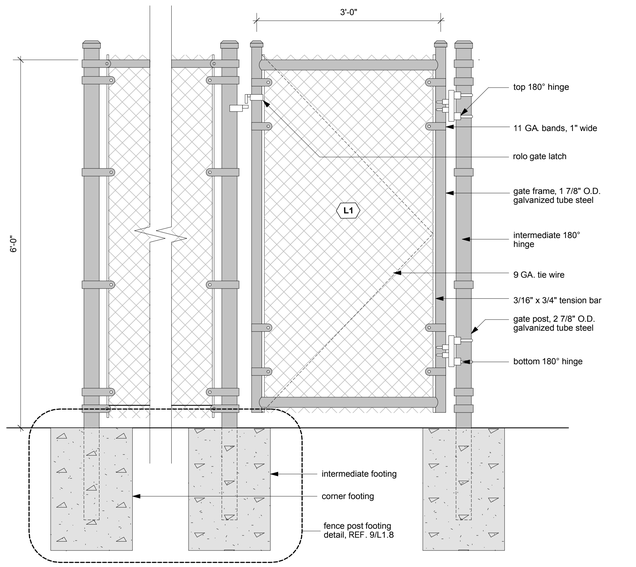
side elevation
scale: 3/4" per 1'-0"

front elevation
scale: 3/4" per 1'-0"

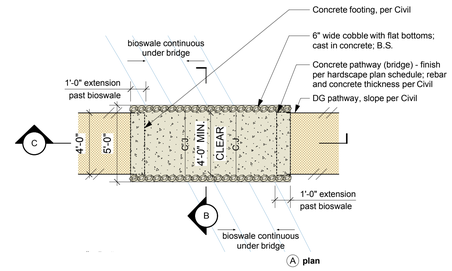


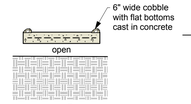
plan
scale: 1/4" per 1'-0"

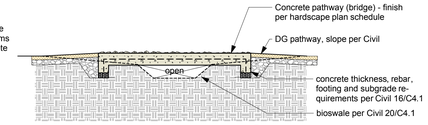
Bike posts
varies 5



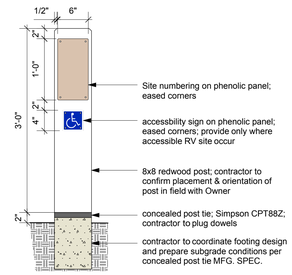
Chain Link fence elevation 7
1" = 1'-0"





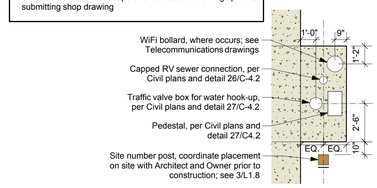


Bridge 4
feet 0 2' 4' 8' 1/4" = 1'-0"

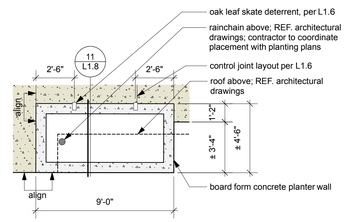


Sign post elevation 3
feet 0 6" 1' 2' 1" = 1'-0"

NOTE:
1. contractor to coordinate and provide consistent placement of all pullboxes, utility lines, and hook-ups at each RV site
2. contractor to confirm typical placement of these features with Architect and Owner via submittal process with a shop drawing prior to construction
3. contractor to review scope of all consultant drawings prior to submitting shop drawing



Typical RV pedestal area - pedestal, wifi, post 2
feet 0 2' 4' 8' 1/4" = 1'-0"



Rain chain and planter 1
feet 0 2' 4' 8' 1/4" = 1'-0"

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structural engineer:
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irrigatrion designer:
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925 371 8230
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surveyor:
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Waters Cardenas
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Cachuma Lake RV Site Renewal

2265 HWY 154
Santa Barbara, CA 93105

145 160 072

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LICENSED LANDSCAPE ARCHITECT Susan Van Atta, FASLA 01/31/24 04/18/22 STATE OF CALIFORNIA

Hardscape Details

L1.8

Bid Set 06.28.23



1 Proposed Planting Plan

SCALE: 1" = 40'

VAN ATTA Associates, Inc.
landscape architecture + planning
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Santa Barbara, CA 93105

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LICENSED LANDSCAPE ARCHITECT
Van Atta, Eric
STATE OF CALIFORNIA
01/31/24
04/18/22
Date

Planting Plan

Sheet Index

L2.1

Bid Set 06.28.23



1 Planting Plan - NW

0 10 20FT
SCALE: 1" = 20'

PLANT LEGEND

Symbol	*Botanical Name*	Common Name
TREES		
Co	*Cercis occidentalis*	Western Redbud
Cl	*Chilopsis linearis*	Desert Willow
Ha	*Heteromeles arbutifolia*	Toyon
Pr	*Platanus racemosa*	California Sycamore
Qa	*Quercus agrifolia*	Coast Live Oak
Ql	*Quercus lobata*	Valley Oak
BIO-SWALE PLANTING		
TREES		
Sm	*Sambucus mexicana*	Elderberry
HERBACEOUS		
	Anemopsis californica	Yerba mansa
	Juncus patens	Rush
	Juncus textilis	Basket Rush
Xx	EXISTING TREES TO REMAIN	
	CALIFORNIA NATIVE TREES	
	Deciduous	
Pr	*Platanus racemosa*	California Sycamore
Ql	*Quercus lobata*	Valley Oak
	Evergreen	
Qa	*Quercus agrifolia*	Coast Live Oak
	DOMINANT NON-NATIVE TREES	
	Deciduous	
Po	*Platanus occidentalis*	American Sycamore
Fv	*Fraxinus velutina*	Arizona Ash Tree
Ma	*Morus alba*	Fruitless Mulberry Tree
	OTHER NON-NATIVE TREES ONSITE	
	Deciduous	
Pa	*Populus spp.*	Poplar
Pc	*Pistachia chinensis*	Chinese Pistache
Up	*Ulmus parvifolia*	Chinese Elm
Pp	*Prunus persica*	Peach Tree
	Evergreen	
Cm	*Cupressus macrocarpa*	Monterey Cypress
St	*Schinus terebinthifolia*	Brazilian Pepper Tree
	Various Palms	
	Various Pines	

Symbol	*Botanical Name*	Common Name
SCREEN SHRUBS		
Ac	*Artemisia californica*	California Sage
Bp	*Baccharis pilularis*	Coyote Bush
Cc	*Ceanothus cuneatus*	Buckbrush
Mf	*Malocothamnus fasciculatus*	Chaparral Mallow
Rc	*Rhamnus californica*	Coffeeberry
R	*Rhamnus crocea*	Redberry
BERM PLANTING		
	10% Acmispon glaber	Deerweed
	50% Baccharis pilularis	Pigeon Point
	10% Keckiella cordifolia	Heartleaf Keckiella
	20% Mimulus aurantiacus	Monkeyflower
	10% Salvia spathacea	Hummingbird Sage (shade only)

PLAN LEGEND

- match line
- proposed limit of work
- future work
- (E) fence
- (N) chain link fence
- (E) tree
- (N) tree
- flush
- detail callout (# / LXX sheet)

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CLA 2928

Cachuma Lake RV Site Renewal

2265 HWY 154
Santa Barbara, CA 93105

145 160 072

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LICENSED LANDSCAPE ARCHITECT — Susan Van Atta #2928 — 01/31/24 — 04/18/22 — STATE OF CALIFORNIA

Planting Plan

Northwest Quadrant

L2.2

Bid Set 06.28.23



1 Planting Plan - NE

0 10 20FT
SCALE: 1" = 20'

PLANT LEGEND

Symbol	*Botanical Name*	Common Name
TREES		
Co	*Cercis occidentalis*	Western Redbud
Cl	*Chilopsis linearis*	Desert Willow
Ha	*Heteromeles arbutifolia*	Toyon
Pr	*Platanus racemosa*	California Sycamore
Qa	*Quercus agrifolia*	Coast Live Oak
Ql	*Quercus lobata*	Valley Oak
BIO-SWALE PLANTING		
TREES		
Sm	*Sambucus mexicana*	Elderberry
HERBACEOUS		
	Anemopsis californica	Yerba mansa
	Juncus patens	Rush
	Juncus textilis	Basket Rush
Xx	EXISTING TREES TO REMAIN	
	CALIFORNIA NATIVE TREES	
	Deciduous	
Pr	*Platanus racemosa*	California Sycamore
Ql	*Quercus lobata*	Valley Oak
	Evergreen	
Qa	*Quercus agrifolia*	Coast Live Oak
	DOMINANT NON-NATIVE TREES	
	Deciduous	
Po	*Platanus occidentalis*	American Sycamore
Fv	*Fraxinus velutina*	Arizona Ash Tree
Ma	*Morus alba*	Fruitless Mulberry Tree
	OTHER NON-NATIVE TREES ONSITE	
	Deciduous	
Pa	*Populus spp.*	Poplar
Pc	*Pistachia chinensis*	Chinese Pistache
Up	*Ulmus parvifolia*	Chinese Elm
Pp	*Prunus persica*	Peach Tree
	Evergreen	
Cm	*Cupressus macrocarpa*	Monterey Cypress
St	*Schinus terebinthifolia*	Brazilian Pepper Tree
	Various Palms	
	Various Pines	

Symbol	*Botanical Name*	Common Name
SCREEN SHRUBS		
Ac	*Artemisia californica*	California Sage
Bp	*Baccharis pilularis*	Coyote Bush
Cc	*Ceanothus cuneatus*	Buckbrush
Mf	*Malocothamnus fasciculatus*	Chaparral Mallow
Rc	*Rhamnus californica*	Coffeeberry
R	*Rhamnus crocea*	Redberry
BERM PLANTING		
	10% Acmispon glaber	Deerweed
	50% Baccharis pilularis	Pigeon Point
	10% Keckiella cordifolia	Heartleaf Keckiella
	20% Mimulus aurantiacus	Monkeyflower
	10% Salvia spathacea	Hummingbird Sage (shade only)

PLAN LEGEND

- match line
- proposed limit of work
- future work
- (E) fence
- (N) chain link fence
- (E) tree
- (N) tree
- flush
- detail callout (# / LXX sheet)

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Cachuma Lake RV Site Renewal

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Santa Barbara, CA 93105

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LICENSED LANDSCAPE ARCHITECT — Susan Van Atta #2928 — 01/31/24 — 04/18/22 — STATE OF CALIFORNIA

Planting Plan

Northeast Quadrant

L2.3

Bid Set 06.28.23



1 Planting Plan - SW

SCALE: 1" = 20'

PLANT LEGEND

Symbol	*Botanical Name*	Common Name
TREES		
Co	*Cercis occidentalis*	Western Redbud
Cl	*Chilopsis linearis*	Desert Willow
Ha	*Heteromeles arbutifolia*	Toyon
Pr	*Platanus racemosa*	California Sycamore
Qa	*Quercus agrifolia*	Coast Live Oak
Ql	*Quercus lobata*	Valley Oak
BIO-SWALE PLANTING		
TREES		
Sm	*Sambucus mexicana*	Elderberry
HERBACEOUS		
	Anemopsis californica	Yerba mansa
	Juncus patens	Rush
	Juncus textilis	Basket Rush
Xx	EXISTING TREES TO REMAIN	
	CALIFORNIA NATIVE TREES	
	Deciduous	
Pr	*Platanus racemosa*	California Sycamore
Ql	*Quercus lobata*	Valley Oak
	Evergreen	
Qa	*Quercus agrifolia*	Coast Live Oak
	DOMINANT NON-NATIVE TREES	
	Deciduous	
Po	*Platanus occidentalis*	American Sycamore
Fv	*Fraxinus velutina*	Arizona Ash Tree
Ma	*Morus alba*	Fruitless Mulberry Tree
	OTHER NON-NATIVE TREES ONSITE	
	Deciduous	
Pa	*Populus spp.*	Poplar
Pc	*Pistachia chinensis*	Chinese Pistache
Up	*Ulmus parvifolia*	Chinese Elm
Pp	*Prunus persica*	Peach Tree
	Evergreen	
Cm	*Cupressus macrocarpa*	Monterey Cypress
St	*Schinus terebinthifolia*	Brazilian Pepper Tree
	Various Palms	
	Various Pines	

Symbol	*Botanical Name*	Common Name
SCREEN SHRUBS		
Ac	*Artemisia californica*	California Sage
Bp	*Baccharis pilularis*	Coyote Bush
Cc	*Ceanothus cuneatus*	Buckbrush
Mf	*Malocothamnus fasciculatus*	Chaparral Mallow
Rc	*Rhamnus californica*	Coffeeberry
R	*Rhamnus crocea*	Redberry
BERM PLANTING		
	10% Acmispon glaber	Deerweed
	50% Baccharis pilularis	Pigeon Point
	10% Keckiella cordifolia	Heartleaf Keckiella
	20% Mimulus aurantiacus	Monkeyflower
	10% Salvia spathacea	Hummingbird Sage (shade only)

PLAN LEGEND

- match line
- proposed limit of work
- future work
- (E) fence
- (N) chain link fence
- (E) tree
- (N) tree
- flush
- detail callout (# / LXX detail / sheet)

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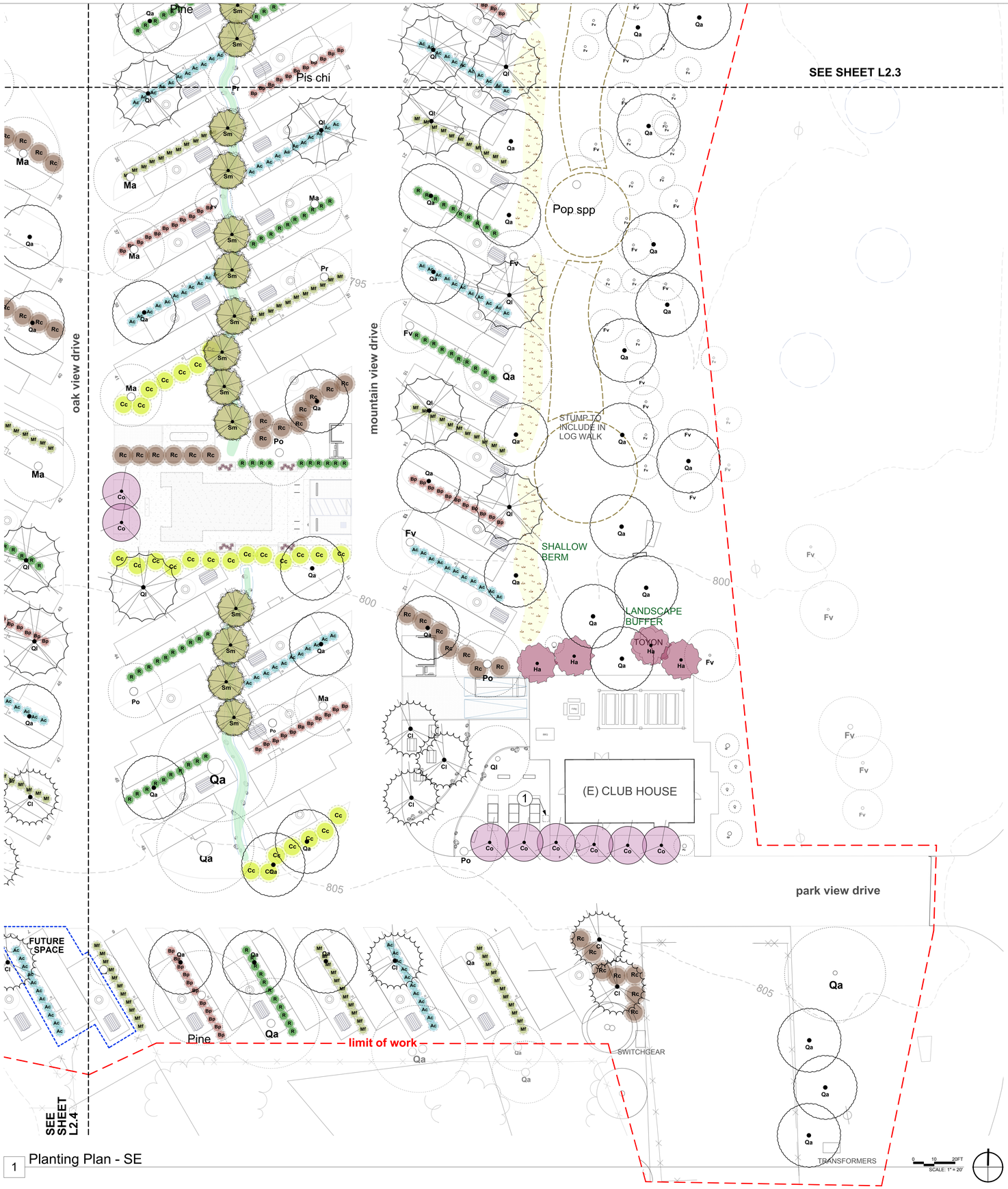
LICENSED LANDSCAPE ARCHITECT
Sarah Van Atta #2928
01/31/24
04/18/22
STATE OF CALIFORNIA

Planting Plan

Southwest Quadrant

L2.4

Bid Set 06.28.23



1 Planting Plan - SE

PLANT LEGEND

Symbol	*Botanical Name*	Common Name
TREES		
Co	*Cercis occidentalis*	Western Redbud
Cl	*Chilopsis linearis*	Desert Willow
Ha	*Heteromeles arbutifolia*	Toyon
Pr	*Platanus racemosa*	California Sycamore
Qa	*Quercus agrifolia*	Coast Live Oak
Ql	*Quercus lobata*	Valley Oak
BIO-SWALE PLANTING		
TREES		
Sm	*Sambucus mexicana*	Elderberry
HERBACEOUS		
	Anemopsis californica	Yerba mansa
	Juncus patens	Rush
	Juncus textilis	Basket Rush
Xx	EXISTING TREES TO REMAIN	
	CALIFORNIA NATIVE TREES	
	Deciduous	
Pr	*Platanus racemosa*	California Sycamore
Ql	*Quercus lobata*	Valley Oak
	Evergreen	
Qa	*Quercus agrifolia*	Coast Live Oak
	DOMINANT NON-NATIVE TREES	
	Deciduous	
Po	*Platanus occidentalis*	American Sycamore
Fv	*Fraxinus velutina*	Arizona Ash Tree
Ma	*Morus alba*	Fruitless Mulberry Tree
	OTHER NON-NATIVE TREES ONSITE	
	Deciduous	
Pa	*Populus spp.*	Poplar
Pc	*Pistachia chinensis*	Chinese Pistache
Up	*Ulmus parvifolia*	Chinese Elm
Pp	*Prunus persica*	Peach Tree
	Evergreen	
Cm	*Cupressus macrocarpa*	Monterey Cypress
St	*Schinus terebinthifolia*	Brazilian Pepper Tree
	Various Palms	
	Various Pines	

Symbol	*Botanical Name*	Common Name
SCREEN SHRUBS		
Ac	*Artemisia californica*	California Sage
Bp	*Baccharis pilularis*	Coyote Bush
Cc	*Ceanothus cuneatus*	Buckbrush
Mf	*Malacothamnus fasciculatus*	Chaparral Mallow
Rc	*Rhamnus californica*	Coffeeberry
R	*Rhamnus crocea*	Redberry
BERM PLANTING		
	10% Acmispon glaber	Deerweed
	50% Baccharis pilularis	Pigeon Point
	10% Keckiella cordifolia	Heartleaf Keckiella
	20% Mimulus aurantiacus	Monkeyflower
	10% Salvia spathacea	Hummingbird Sage (shade

PLAN LEGEND

- match line
- proposed limit of work
- future work
- (E) fence
- (N) chain link fence
- (E) tree
- (N) tree
- flush
- detail callout (# / LXX detail / sheet)

PROJECT ELEMENTS

item #	description
1	**electrical transformer** contractor to coordinate all adjustments to planting plan as necessary in the field with Landscape Architect and Owner prior to construction.

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Cachuma Lake RV Site Renewal

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REGISTERED LANDSCAPE ARCHITECT Susan Van Atta #2928 STATE OF CALIFORNIA
01/31/24
04/18/22

Planting Plan

Southeast Quadrant

L2.5

Bid Set 06.28.23

PLANTING NOTES

All plant materials shall be set out as shown on plan. Final locations shall be approved by the Landscape Architect prior to planting.

1. Landscape Contractor shall be responsible for any coordination with subcontractors as required to accomplish planting operations.
2. Do not willfully proceed with construction as designed when it is obvious that unknown obstructions and/or grade differences exist that may not have been known during design. Such conditions shall be immediately brought to the attention of the Landscape Architect, Van Atta Associates (805) 730-7444. The Contractor shall assume full responsibility for all necessary revisions due to failure to give such notification.
3. Prior to starting work, Contractor shall take soil samples where different soil types are encountered on the project site. Soil shall be analyzed by an approved commercial soil testing laboratory (Wallace Labs, www.bettersoils.com), or equal, for suitability for ornamental plant material as called out on plan. The laboratory shall also be instructed to make specific recommendations of soil amendment/fertilization for California native plants as listed on plan. A copy of the results of this analysis shall be submitted to the Landscape Architect. Contractor shall follow the recommendations of the soils lab as to the rate and analysis of fertilizer & amendments to provide a suitable medium for planting. The Contractor shall notify the Owner and Landscape Architect of any potential problems which may result due to harmful substances found in the soil. Failure to act as specified may result in the Landscape Contractor assuming financial responsibility for any damage to plants.
4. Landscape Contractor shall allow for the addition of soil amendments or conditioners in soil preparation and finish grading as specified in soil analysis results.
5. The Landscape contractor shall loosen all compacted soils to a minimum depth of 24 inches in planting areas.
6. The Landscape Contractor shall be responsible for positive drainage in planting areas with accurately set flow lines and or drain inlets connected to the overall drainage system. Low spots or ponding of surface water in planting areas will not be accepted in the final work.
7. The Landscape Architect will approve finish grades in all landscape areas prior to plant material placement. After planting material placement, final plant material locations shall be approved by Landscape Architect prior to planting.
8. The Landscape Contractor shall provide healthy, vigorous plant stock grown under climatic conditions similar to the conditions in the locality of the project. It is the Landscape Contractor's responsibility to furnish plant material free of pests or plant diseases. Contract-grown or "tagged" material must be inspected by the Landscape Contractor and certified disease-free. It is the Landscape Contractor's obligation to warranty all shrubs for a period of 90 days and trees for a period of 1 year.
9. The Landscape Contractor is responsible for completing quantity take-offs for all plant materials shown on plans; plant quantities shown are for convenience only. Landscape Contractor shall provide a list of all plant materials, including species name and size, to be acquired, making note of any deviations from quantities, species or size shown on plans. Any substitutions of plant materials (quantity, species or size) to be approved by Landscape Architect. Failure to act as specified may result in Landscape Contractor assuming financial responsibility for removal of non-approved plant material and supplying plant material as shown on plans.
10. The Landscape Contractor shall coordinate plant material installation with all utilities (above & below ground), wall footings, pavement, or other hardscape features. The Landscape Contractor shall not damage improvements by others. Failure to act as specified may result in Landscape Contractor assuming financial responsibility for any damages.
11. See details for staking method, plant pit dimensions, and backfill requirements. Plant crown elevations shall be installed higher than finish grade as shown on planting details. Proper compaction of backfill to prevent settlement is required.
12. The Landscape Architect reserves the right to adjust the location of plant material during installation as appropriate to the project.
13. Landscape mulch shall be applied at 3 inches thick over all landscape surfaces. The mulch shall be a high quality pre-composted mulch, and shall not contain debris. A representative sample of mulch must be approved by Landscape Architect prior to application.
14. The Landscape Contractor shall be responsible to furnish and install a continuous root barrier near trees around the edge of nearby hardscape and decomposed granite. Barrier shall be placed to maximize area for tree growth. Contractor to coordinate and install per manufacturer recommendations. Deep Root Barrier - UB-12, or approved equal.

PLANT LEGEND

Symbol	*Botanical Name*	Common Name	Container Size	Notes	Quantity
TREES					
Co	*Cercis occidentalis*	Western Redbud	24" box		8
Cl	*Chilopsis linearis*	Desert Willow	24" box		10
Ha	*Heteromeles arbutifolia*	Toyon	24" box		17
Pr	*Platanus racemosa*	California Sycamore	36" box		0
Qa	*Quercus agrifolia*	Coast Live Oak	36" box		74
Ql	*Quercus lobata*	Valley Oak	36" box		32
BIO-SWALE PLANTING					
TREES					
Sm	*Sambucus mexicana*	Elderberry	15 gal		45
HERBACEOUS					
	Anemopsis californica	Yerba mansa	Mix in 5'-0" O.C.		
	Juncus patens	Rush	1 gal 3'-0" O.C.		
	Juncus textilis	Basket Rush	1 gal		20
Xx	EXISTING TREES TO REMAIN				

CALIFORNIA NATIVE TREES

Deciduous		
Pr	*Platanus racemosa*	California Sycamore
Ql	*Quercus lobata*	Valley Oak
Evergreen		
Qa	*Quercus agrifolia*	Coast Live Oak

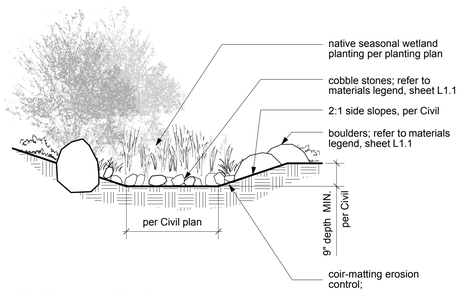
DOMINANT NON-NATIVE TREES

Deciduous		
Po	*Platanus occidentalis*	American Sycamore
Fv	*Fraxinus velutina*	Arizona Ash Tree
Ma	*Morus alba*	Fruitless Mulberry Tree

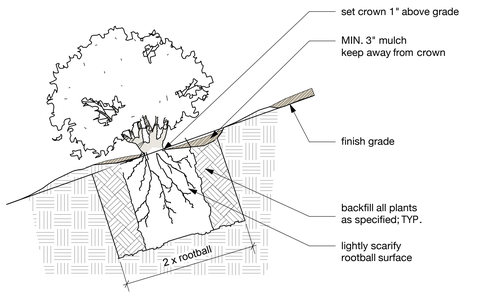
OTHER NON-NATIVE TREES ONSITE

Deciduous		
Pa	*Populus spp.*	Poplar
Pc	*Pistachia chinensis*	Chinese Pistache
Up	*Ulmus parvifolia*	Chinese Elm
Pp	*Prunus persica*	Peach Tree
Evergreen		
Cm	*Cupressus macrocarpa*	Monterey Cypress
St	*Schinus terebinthifolia*	Brazilian Pepper Tree
	Various Palms	
	Various Pines	

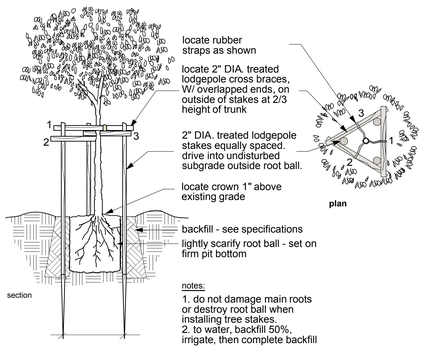
Symbol	*Botanical Name*	Common Name	Container Size	Quantity
SCREEN SHRUBS				
Ac	*Artemisia californica*	California Sage	5 gal	252
Bp	*Baccharis pilularis*	Coyote Bush	5 gal	253
Cc	*Ceanothus cuneatus*	Buckbrush	5 gal	33
Mf	*Malocothamnus fasciculatus*	Chaparral Mallow	5 gal	242
Rc	*Rhamnus californica*	Coffeeberry	5 gal	69
R	*Rhamnus crocea*	Redberry	5 gal	244
BERM PLANTING				
	10% Acmispon glaber	Deerweed		390 sqft
	50% Baccharis pilularis	Pigeon Point	4'-0" O.C.	1950 sqft
	10% Keckiella cordifolia	Heartleaf Keckiella		390 sqft
	20% Mimulus aurantiacus	Monkeyflower		780 sqft
	10% Salvia spathacea	Hummingbird Sage (shade only)		390 sqft



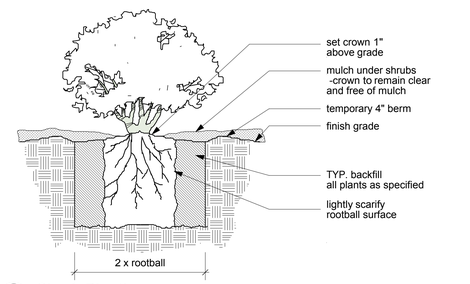
6 Bioswale Section
Scale: 1" = 1'-0"



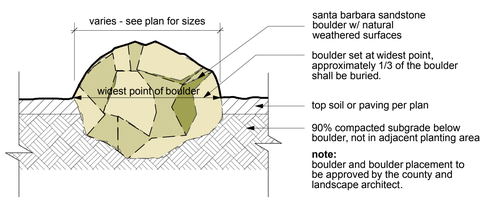
3 Shrub Planting on Slope
Scale: 1" = 1'-0"



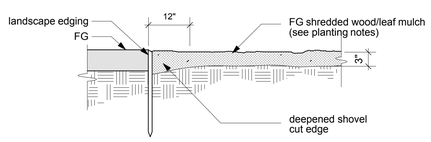
5 Treee Planting
N.T.S.



2 Shrub Planting
Scale: 1" = 1'-0"



4 Boulder Placement
Scale: 1" = 1'-0"



Note:
mulch under trees and shrubs & blend into groundcover areas

1 Mulch Installation
Scale: 1" = 1'-0"

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Waters Cardenas
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Cachuma Lake RV Site Renewal

2265 HWY 154
Santa Barbara, CA 93105

145 160 072

Revisions

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LICENSED LANDSCAPE ARCHITECT Susan Van Atta, FASLA 01/31/24 04/18/22 STATE OF CALIFORNIA

Planting Details

L2.6

PLAN LEGEND

- proposed limit of work
- proposed limit of log walk work
- (E) fence
- (N) chain link fence
- (N) tree
- flush
- # / LXX detail / sheet — detail callout

LOG WALK NOTES

A. Fabrication of "Log Walk" is not part of this phase of the construction project.

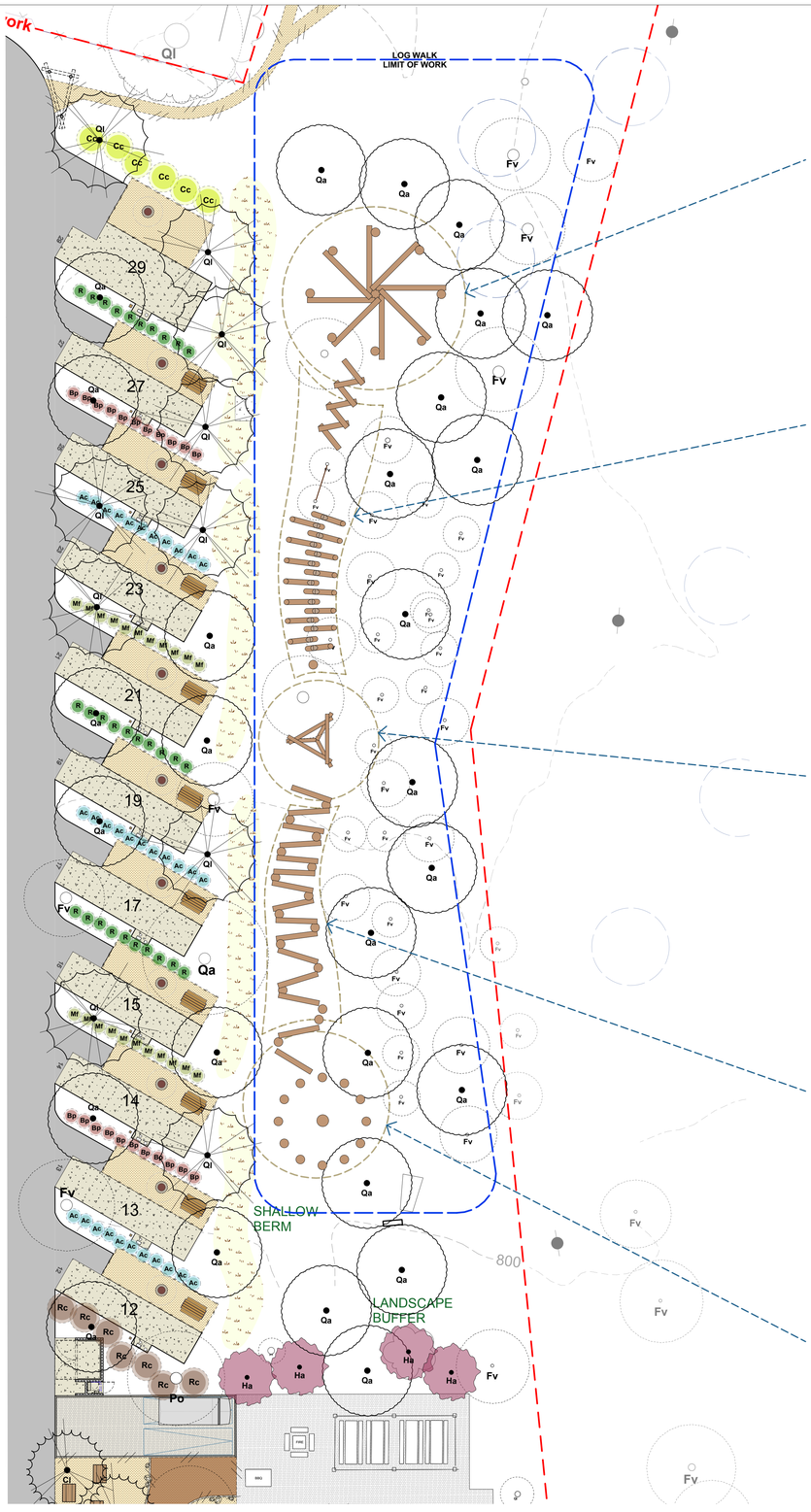
B. All logs are located on Cachuma Lake property outside of the main construction site.

C. Relocation of logs and storage within the project site area is part of the main construction project and is to be coordinated and provided by the Contractor. Contractor to coordinate log storage placement on site with County.

D. All large logs (36" to 48" in diameter) are to be sourced from the site. Contractor to coordinate with county for sourcing.

E. All new landscape planting and irrigation within the "Log Walk" area is part of the main construction project and is to be provided by the Contractor. Coordinate with planting and irrigation drawings.

F. All new utility rerouting withing the "Log Walk" limit of work is to be included in the main construction project and provided by the Contractor. Coordinate with Civil drawings.



1 Log Walk - Basis of Design

SCALE: 1" = 20'

SPIRAL LOG NODE



LOG VERTEBRAE SUPPORTED SLACK LINE PLANK WALK



LOG TEEPEE NODE



ZIG ZAG LOGS



COUNCIL RING LOGS



PLANT LEGEND

Symbol	*Botanical Name*	Common Name
TREES		
Co	*Cercis occidentalis*	Western Redbud
Cl	*Chilopsis linearis*	Desert Willow
Ha	*Heteromeles arbutifolia*	Toyon
Pr	*Platanus racemosa*	California Sycamore
Qa	*Quercus agrifolia*	Coast Live Oak
Ql	*Quercus lobata*	Valley Oak
BIO-SWALE PLANTING		
TREES		
Sm	*Sambucus mexicana*	Elderberry
HERBACEOUS		
	Anemopsis californica	Yerba mansa
	Juncus patens	Rush
	Juncus textilis	Basket Rush
Xx	EXISTING TREES TO REMAIN	
	CALIFORNIA NATIVE TREES	
	Deciduous	
Pr	*Platanus racemosa*	California Sycamore
Ql	*Quercus lobata*	Valley Oak
	Evergreen	
Qa	*Quercus agrifolia*	Coast Live Oak
	DOMINANT NON-NATIVE TREES	
	Deciduous	
Po	*Platanus occidentalis*	American Sycamore
Fv	*Fraxinus velutina*	Arizona Ash Tree
Ma	*Morus alba*	Fruitless Mulberry Tree
	OTHER NON-NATIVE TREES ONSITE	
	Deciduous	
Pa	*Populus spp.*	Poplar
Pc	*Pistachia chinensis*	Chinese Pistache
Up	*Ulmus parvifolia*	Chinese Elm
Pp	*Prunus persica*	Peach Tree
	Evergreen	
Cm	*Cupressus macrocarpa*	Monterey Cypress
St	*Schinus terebinthifolia*	Brazilian Pepper Tree
	Various Palms	
	Various Pines	

Symbol	*Botanical Name*	Common Name
SCREEN SHRUBS		
Ac	*Artemisia californica*	California Sage
Bp	*Baccharis pilularis*	Coyote Bush
Cc	*Ceanothus cuneatus*	Buckbrush
Mf	*Malocothamnus fasciculatus*	Chaparral Mallow
Rc	*Rhamnus californica*	Coffeeberry
R	*Rhamnus crocea*	Redberry
BERM PLANTING		
	10% Acmispon glaber	Deerweed
	50% Baccharis pilularis	Pigeon Point
	10% Keckiella cordifolia	Heartleaf Keckiella
	20% Mimulus aurantiacus	Monkeyflower
	10% Salvia spathacea	Hummingbird Sage (shade

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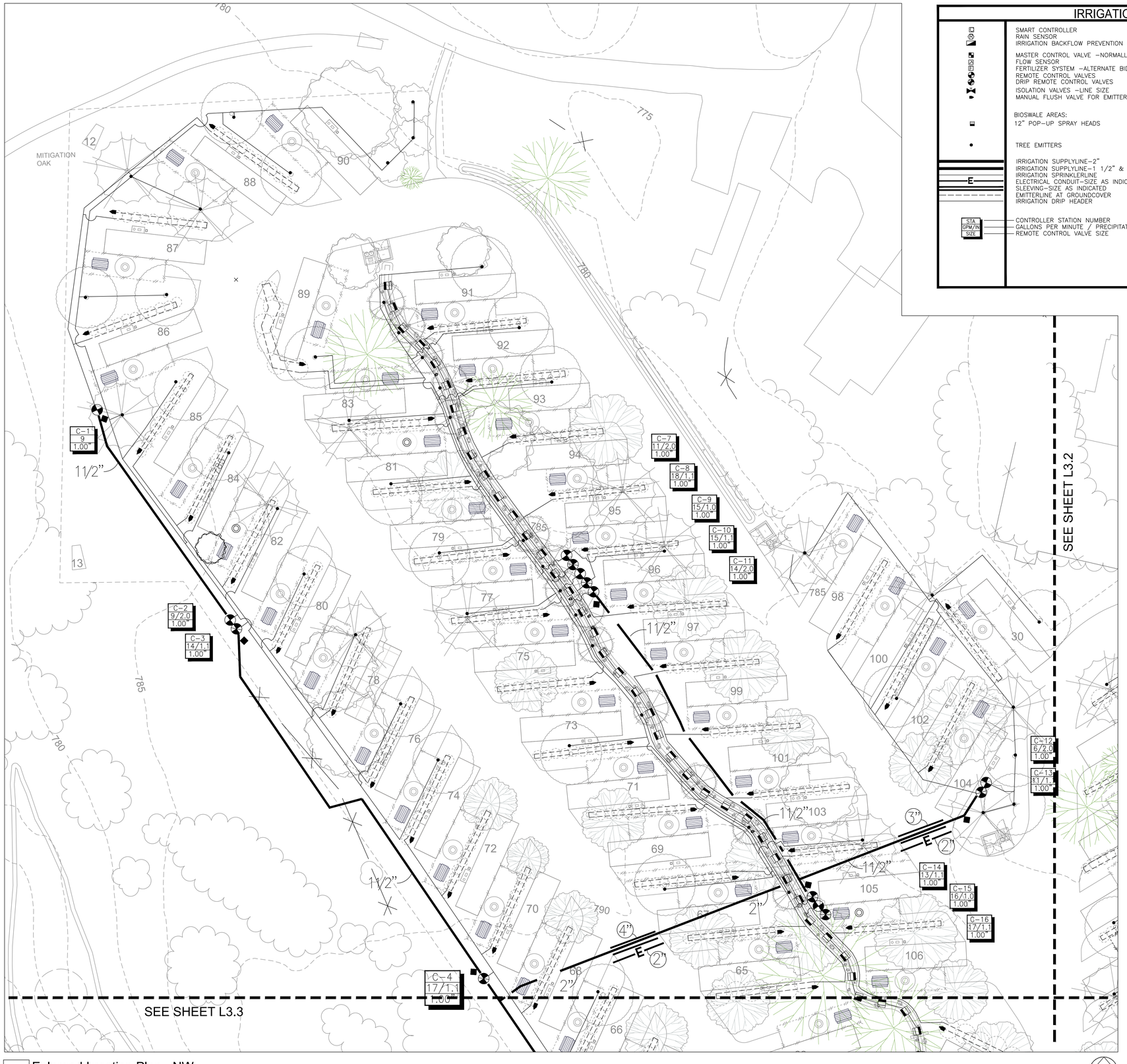
LICENSED LANDSCAPE ARCHITECT — James Van Atta #2928 — 01/31/24 — 04/18/22 — STATE OF CALIFORNIA

Log Walk

Basis of Design

L3.1

Bid Set 06.28.23



IRRIGATION SYSTEM LEGEND

SMART CONTROLLER	–RAINBIRD–ESP–LXME2P–48	
RAIN SENSOR	–RAINBIRD–RSD–BEX	
IRRIGATION BACKFLOW PREVENTION DEVICE	–WILKINS–975–XLU–1.50"	
MASTER CONTROL VALVE –NORMALLY CLOSED	–RAINBIRD–PEB–1.50	
FLOW SENSOR	–CREATIVE SENSOR TECH–CST–FSI–T10–001	
FERTILIZER SYSTEM –ALTERNATE BID ITEM	–EZ FLO–EZ005–FX	
REMOTE CONTROL VALVES	–RAINBIRD–PEB–1.00 with –PRS–D Pressure Regulator	
DRIP REMOTE CONTROL VALVES	–RAINBIRD–PEB–1.00 with –RAINBIRD–PRF–075–RBY	
ISOLATION VALVES –LINE SIZE	–NIBCO–T113–IR	
MANUAL FLUSH VALVE FOR EMITTERLINE	–SEE DETAIL	
BIOSWALE AREAS:		
12" POP–UP SPRAY HEADS	–TORO–570Z–12–P–PRX–COM–4X30SST	
TREE EMITTERS	–SEE DETAIL –FOUR PER TREE	
IRRIGATION SUPPLYLINE–2"	–1120/CLASS 315 PVC PIPE	–18" COVER
IRRIGATION SUPPLYLINE–1 1/2" & SMALLER	–1120/SCHEDULE 40 PVC PIPE	–18" COVER
IRRIGATION SPRINKLERLINE	–1120/SCHEDULE 40 PVC PIPE	–12" COVER
ELECTRICAL CONDUIT–SIZE AS INDICATED	–1120/SCHEDULE 40 PVC PIPE	–24" COVER
SLEEVING–SIZE AS INDICATED	–1120/SCHEDULE 40 PVC PIPE	–24" COVER
EMITTERLINE AT GROUNDCOVER	–RAINBIRD–XFD–06–12	– 3" COVER
IRRIGATION DRIP HEADER	–1120/SCHEDULE 40 PVC PIPE	–12" COVER

STA
GPM/IN
SIZE

– CONTROLLER STATION NUMBER
– GALLONS PER MINUTE / PRECIPITATION RATE IN/HR
– REMOTE CONTROL VALVE SIZE

SPRINKLERLINE PIPE SIZING SCHEDULE

G.P.M.	SIZE
0–8	3/4"
9–12	1"
13–19	1 1/4"
20–30	1 1/2"
31–45	2"
46–60	2 1/2"

1 Enlarged Irrgation Plan - NW

NORTH 1"=40'-0"

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IRRIGATION PLAN

L4.1

100% CDs Jan. 20, 2023



1 Enlarged Irrgation Plan - NE

NORTH 1"=40'-0"

IRRIGATION SYSTEM LEGEND

	SMART CONTROLLER	-RAINBIRD-ESP-LXME2P-48
	RAIN SENSOR	-RAINBIRD-RSD-BEX
	IRRIGATION BACKFLOW PREVENTION DEVICE	-WILKINS-975-XLU-1.50"
	MASTER CONTROL VALVE -NORMALLY CLOSED	-RAINBIRD-PEB-1.50
	FLOW SENSOR	-CREATIVE SENSOR TECH-CST-FSI-T10-001
	FERTILIZER SYSTEM -ALTERNATE BID ITEM	-EZ FLO-EZ005-FX
	REMOTE CONTROL VALVES	-RAINBIRD-PEB-1.00 with -PRS-D Pressure Regulator
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	MANUAL FLUSH VALVE FOR EMITTERLINE	-SEE DETAIL
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STA — CONTROLLER STATION NUMBER
GPM/IN — GALLONS PER MINUTE / PRECIPITATION RATE IN/HR
SIZE — REMOTE CONTROL VALVE SIZE

SPRINKLERLINE PIPE SIZING SCHEDULE

G.P.M.	SIZE
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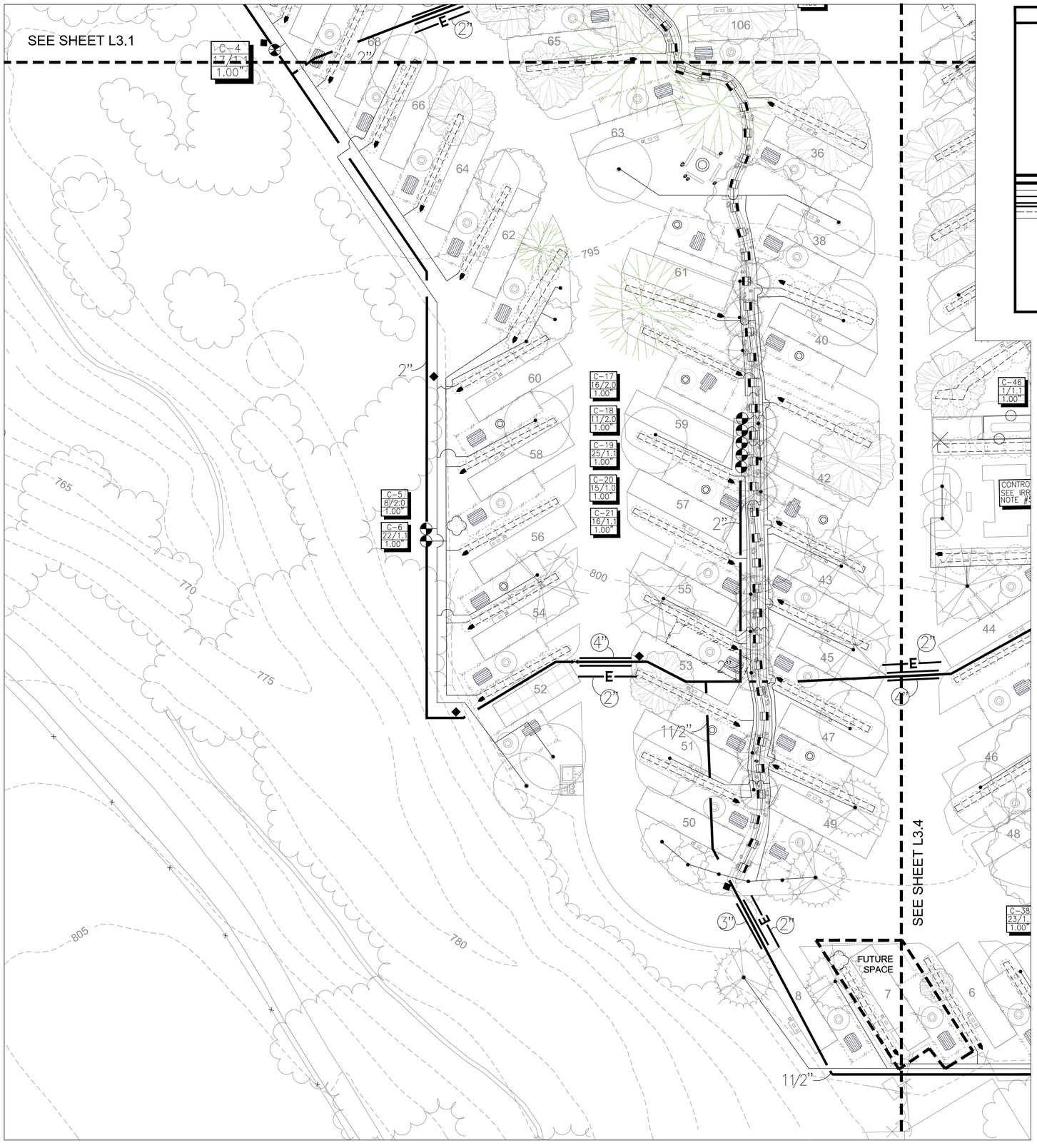
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IRRIGATION PLAN

L4.2

100% CDs Jan. 20, 2023



IRRIGATION SYSTEM LEGEND

	SMART CONTROLLER	–RAINBIRD–ESP–LXME2P–48
	RAIN SENSOR	–RAINBIRD–RSD–BEX
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	ISOLATION VALVES –LINE SIZE	–NIBCO–T113–IR
	MANUAL FLUSH VALVE FOR EMITTERLINE	–SEE DETAIL
	BIOSWALE AREAS:	
	12" POP–UP SPRAY HEADS	–TORO–570Z–12–P–PRX–COM–4X30SST
	TREE EMITTERS	–SEE DETAIL –FOUR PER TREE
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	IRRIGATION SUPPLYLINE–1 1/2" & SMALLER	–1120/SCHEDULE 40 PVC PIPE –18" COVER
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STA / GPM/IN / SIZE
- CONTROLLER STATION NUMBER
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SPRINKLERLINE PIPE SIZING SCHEDULE

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1 Enlarged Irrgation Plan - NW

NORTH 1"=40'-0"

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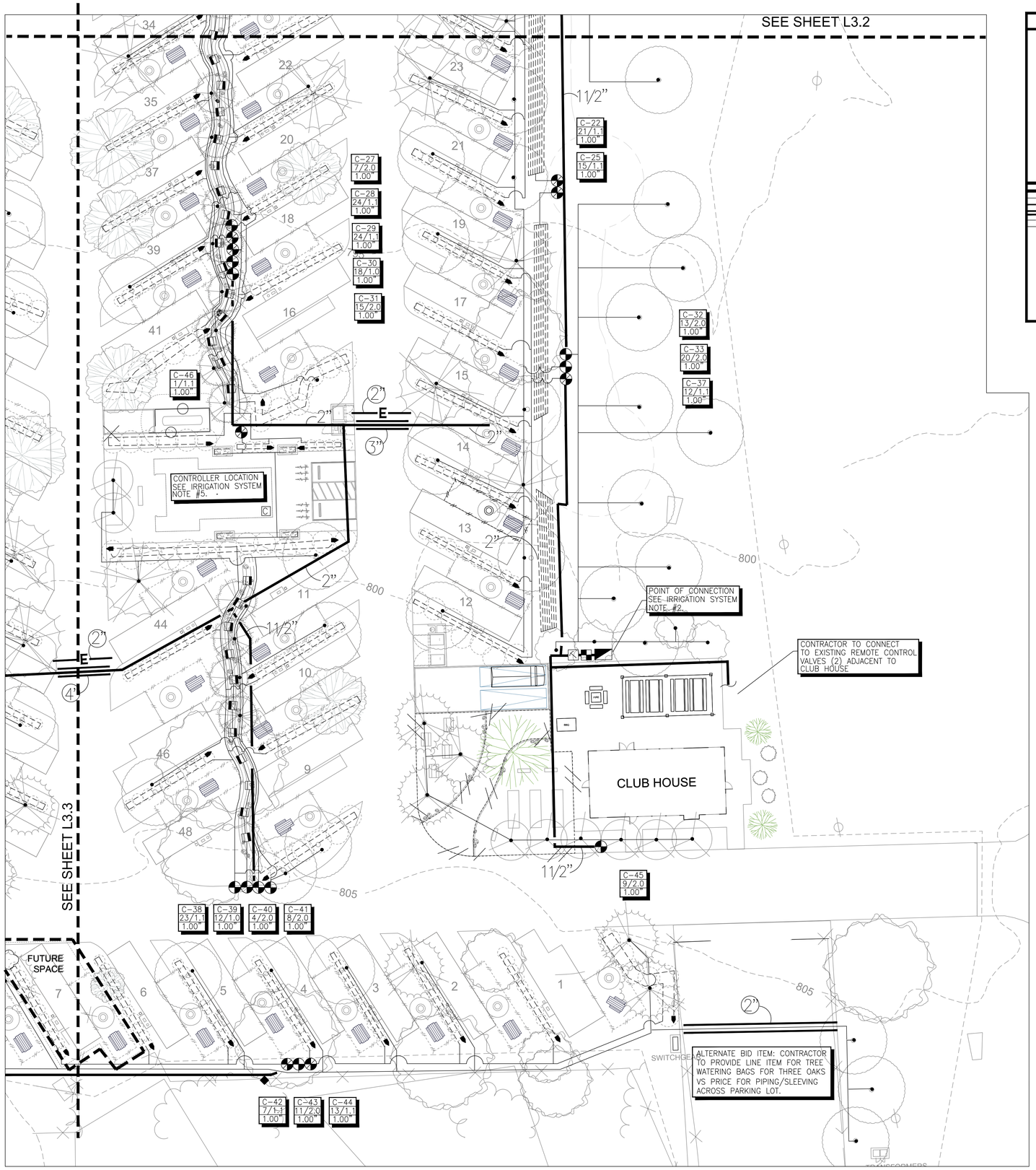
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IRRIGATION PLAN

L4.3

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1 Enlarged Irrgation Plan - NW

NORTH 1"=40'-0"

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MANUAL FLUSH VALVE FOR EMITTERLINE	–SEE DETAIL	
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SPRINKLERLINE PIPE SIZING SCHEDULE

G.P.M.	SIZE
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DAVID LANGENDORFF Certified Irrigation Designer CID

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IRRIGATION PLAN

L4.4

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IRRIGATION WATER USE INFORMATION

WATER EFFICIANT LANDSCAPE WORKSHEET

Reference Evapotranspiration (Eto) 40.6

Hydrozone# / Planting Description [a]	Plant Factor	Irrigation Method [b]	Irrigation Efficiency [c]	ETAF	Landscape Area	ETAF X Area	Estimated Total Water Use (ETWU) [d]
Regular Landscape Areas							
1	0.3	DRIP	0.81	0.37	2,985	1,106	27,829
2	0.3	DRIP	0.81	0.37	4,200	1,556	39,156
3	0.3	DRIP	0.81	0.37	800	296	7,458
4	0.3	DRIP	0.81	0.37	2,795	1,035	26,058
5	0.3	SPRAY	0.75	0.40	7,830	3,132	78,839
6	0.3	DRIP	0.81	0.37	25,800	9,556	240,532
7	0.3	DRIP	0.81	0.37	105	39	979
				Totals	44,515	16,719	420,852
Special Landscape Areas							
1				1	0		0
2				1	0		0
3				1	0		
				Totals	0		

ETWU TOTAL	420,852
Maximum Allowed Water Allowence (MAWA) [e]	616,292

[a] Hydrozone #/Planting Description
E.g
1.) front lawn
2.) low water use plantings
3.) medium water use planting

[b] Irrigation Method
Efficiency
overhead spray *0.75 for spray head or drip*
0.81 for drip

[c] Irrigation

[d] ETWU (Annual Gallons Required) = *Eto x 0.62 x ETAF x Aread* where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

[e] MAWA (Annual Gallons Allowed) = (Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet,

ETAF CALCULATIONS

Regular Landscape Areas

Total ETAF X Area	16,719
Total Area	44,515
Average ETAF	0.376

Total ETAF X Area	16,719
Total Area	44,515
Sitewide ETAF	0.377

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

Hydrozone Information Table

Plant type / irrigation method	Description (valves included)	PF	Sq Ft	% of Landscape
low water use - drip shrubs at berms	C22 C25	0.30	2,985	6.7%
low water use - drip at trees	C2 C5 C7 C12 C17 C27 C33 C41 C43 C45	0.30	4,200	9.4%
low water use - drip at trees in open space	C23 C32	0.30	800	1.8%
low water use - drip at trees in bioswale	C11 C18 C31 C40	0.30	2,795	6.3%
low water use - spray shrubs in bioswale	C9 C15 C20 C30 C39	0.30	7,830	17.6%
low water use - drip at privacy shrubs	C1 C3 C4 C6 C8 C10 C13 C14 C16 C19 C21 C2	0.30	25,800	58.0%
	C28 C29 C37 C38 C42 C44			
low water use - drip at raised planters	C46	0.30	105	0.2%
			44,515	100%

Base Schedule

	CACHUMA RV PARK SANTA BARBARA	PRECIP	PF	RUN TIME	CYC	CYC TIME	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ROOT DEPTH
1	low water use - drip shrubs at berms	1.10	0.30	20	1	16	0	0	2	3	5	6	7	6	5	3	1	0	0.60
2	low water use - drip at trees	2.00	0.30	19	2	9	0	0	1	2	3	3	4	4	3	2	1	0	1.00
3	low water use - drip at trees in open space	2.00	0.30	19	2	9	0	0	1	2	3	3	4	4	3	2	1	0	1.00
4	low water use - drip at trees in bioswale	2.00	0.30	19	2	9	0	0	1	2	3	3	4	4	3	2	1	0	1.00
5	low water use - spray shrubs in bioswale	1.00	0.30	36	2	18	0	0	1	2	3	3	3	3	3	1	0	0	0.60
6	low water use - drip at privacy shrubs	1.10	0.30	65	8	8	0	0	1	1	1	1	2	1	1	1	0	0	0.60
7	low water use - drip at raised planters	1.10	0.30	65	8	8	0	0	1	1	1	1	2	1	1	1	0	0	0.60

IRRIGATION SCHEDULE NOTES

1. THESE IRRIGATION SCHEDULES REPRESENTING MONTHLY FREQUENCIES ARE BASED ON THE IRRIGATION SYSTEM'S ATTRIBUTES AND ARE ONLY GUIDELINES FOR PROGRAMMING CONTROLLERS. THESE SCHEDULES TAKE INTO ACCOUNT IRRIGATION SYSTEM UNIFORMITY. SINCE RUN TIMES ARE BASED ON AVERAGE HISTORICAL WEATHER DATA FOR A PARTICULAR REGION, THE PROGRAMS SHOULD BE ADJUSTED TO REFLECT ACTUAL VARIATIONS IN THE WEATHER. IDEALLY ADJUSTMENTS SHOULD BE MADE FOR EACH WATERING CYCLE; HOWEVER, WEEKLY ADJUSTMENTS ARE ACCEPTABLE. MONTHLY ADJUSTMENTS BEING THE MINIMUM REQUIREMENT, IN ORDER TO AFFECT SIGNIFICANT WATER SAVINGS. IN ADDITION TO MAKING THESE ADJUSTMENTS, THE GROUNDS SHOULD BE MONITORED REGULARLY TO ASSESS THE ESTIMATED SCHEDULE AND THE CONTROLLER PROGRAMS SHOULD BE TUNED TO ADJUST TO SITE CONDITIONS AS FOLLOWS:
   A. WATER DEPLETION WILL RESULT AT VARIED RATES WITH SOIL TYPES AND PLANT ROOT DEPTHS, ADJUST FREQUENCY OF IRRIGATION TO COMPENSATE. NO SOIL REPORTS WERE AVAILABLE; SOIL FOR ON-GRADE IS ASSUMED TO BE CLAY-LOAM TEXTURE. THE PREDOMINATE SOIL TYPE OF THE AREA. A LIGHT WEIGHT SOIL IS ASSUMED TO BE USED ON-STRUCTURE.
   B. PRESENTLY THERE IS MINIMAL RESEARCH DATA AVAILABLE QUANTIFYING AMOUNTS AND FREQUENCY OF WATER REQUIREMENTS FOR ORNAMENTAL TREES, SHRUBS AND GROUND COVERS. WE REFERRED TO THE W.U.C.O.L.S. LIST FOR THIS INFORMATION. IRRIGATION OF TREES, SHRUBS, AND GROUND COVERS SHOULD BE MONITORED AND ADJUSTED AS IS PERMISSIBLE. WATER REQUIREMENTS OF THESE ORNAMENTAL PLANTINGS VARY WITH SPECIFIC TYPES OF PLANTS. A PERIODIC INSPECTION AND MONITORING PROGRAM OF ROOT MOISTURE LEVELS THROUGH THE USE OF A SOIL PROBE SHOULD BE IMPLEMENTED.
   C. THE AMOUNT OF WATER REQUIRED TO BE APPLIED DEPENDS ON THE CONDITION OF THE IRRIGATION SYSTEM. FACTORS WHICH WERE NOT CONSIDERED IN THE DEVELOPMENT OF THESE SCHEDULES BUT WHICH SHOULD BE CONSIDERED WHEN MONITORING THE IRRIGATION SYSTEM ARE WEATHER OR NOT THE SYSTEM IS INSTALLED AS DESIGNED AND MAINTAINED AS REQUIRED.
   D. EMPIRICAL ESTIMATES WERE MADE CONSIDERING THE AFFECT OF SHADE, WIND EXPOSURE, AND SLOPES ON WATERING REQUIREMENTS. AS WITH THE OTHER FACTORS MENTIONED, THE GROUNDS SHOULD ALSO BE MONITORED TO "TUNE" THE PROGRAM FOR THESE FACTORS.
2. IF PRECIPITATION RATE EXCEEDS INFILTRATION RATE OF SOIL, MULTIPLE START TIMES ARE REQUIRED TO AVOID RUNOFF.
3. THIS SCHEDULE IS FOR ESTABLISHED PLANT MATERIAL ONLY. PLANT MATERIAL DURING ESTABLISHMENT PERIOD WILL REQUIRE MORE WATER AT MORE FREQUENT INTERVALS. THE WATERING FREQUENCIES SHOULD BE DECREASED AS THE PLANT MATERIAL BECOMES ESTABLISHED. IT IS ESPECIALLY IMPORTANT TO KEEP SOD LAWNS AND GROUND COVER ROOTS MOIST THROUGHOUT THE ESTABLISHMENT PERIOD. TREES IN OVERHEAD SPRAY AREAS WILL REQUIRE DEEP ROOT WATERING USING THE BUBBLERS THROUGHOUT THEIR ESTABLISHMENT PERIODS. (THE ESTABLISHMENT PERIODS FOR THE TREES WILL VARY DEPENDING UPON SPECIES AND CLIMATE). AFTER THE ESTABLISHMENT PERIOD, A SCHEDULE FOR SUPPLEMENTAL WATER FROM THE OVERHEAD SPRAY SYSTEM TO CONTINUE TO PROVIDE DEEP ROOT WATERING FOR THE TREES MAY BE REQUIRED.
4. THE NUMBER UNDER RUN TIME REPRESENTS THE TOTAL RUNTIME IN MINUTES, THE CYC TIME IS THE RUNTIME BROKEN DOWN INTO CYCLES BY THE NUMBER OF CYCLES INDICATED IN # OF CYC COLUMN. THE NUMBER UNDER THE MONTH INDICATES THE NUMBER OF TIMES THAT ZONE NEEDS TO BE IRRIGATED DURING THAT MONTH. FOR FRACTIONS OF RUNTIMES PER MONTH, MULTIPLY THE # OF CYC BY THE DECIMAL (EXAMPLE: VALVE C-9 REQUIRES .4 RUNTIMES PER MONTH OF JULY = .4 X 9 (# OF CYC) = 4 CYCLES OF 8 MINUTES EACH (CYC). THE TOTAL NUMBER OF CYCLES IS FURTHER DIVIDED OVER CONSECUTIVE DAYS BY THE MAXIMUM NUMBER OF START TIMES AVAILABLE FOR THE CONTROLLER.

IRRIGATION MAINTENENCE SCHEDULE

1. LANDSCAPE SHALL BE MAINTAINED TO ENSURE WATER EFFICIENCY. A REGULAR MAINTENANCE SCHEDULE SHALL INCLUDE BUT NOT BE LIMITED TO:
   A. INSPECTING, ADJUSTING, AND REPAIRING IRRIGATION EQUIPMENT.
   B. RESCHEDULING AUTOMATIC CONTROLLER AS NECESSARY FOR MONTHLY CONDITIONS AT A MINIMUM.
   C. AERATING AND DETHATCHING TURF AREAS TO AVOID RUNOFF.
   D. REPLENISHING MULCH TO MAXIMIZE WATER HOLDING CAPACITY OF SOIL.
   E. FERTILIZING, PRUNING AND WEEDING AS REQUIRED FOR THE GENERAL HEALTH OF THE LANDSCAPE.
2. ALL REPAIRS OR REPLACEMENTS OF IRRIGATION EQUIPMENT SHALL BE DONE WITH ORIGINALLY SPECIFIED MATERIALS AND PRODUCTS TO MAINTAIN THE INTEGRITY OF THE SYSTEM AS DESIGNED.

IRRIGATION AUDIT SCHEDULE

1. AT A MINIMUM, AUDITS SHALL BE IN ACCORDANCE WITH THE STATE OF CALIFORNIA LANDSCAPE AUDITOR HANDBOOK.
2. AUDITS SHALL BE CONDUCTED BY A STATE CERTIFIED LANDSCAPE IRRIGATION AUDITOR AT LEAST ONCE EVERY FIVE YEARS. THE AUDIT REPORT SHALL BE SUBMITTED TO THE LOCAL WATER PURVEYOR.

IRRIGATION SYSTEM NOTES

1. IRRIGATION SYSTEM IS DESIGNED TO OPERATE AT 30 GPM AT 65 PSI OPERATING PRESSURE. CONTRACTOR TO ENSURE PRESSURE REGULATION IS SET TO 65 PSI PRIOR TO INSTALLATION OF THE IRRIGATION SYSTEM ADDITIONS. NO REGULATION REQUIRED IF MEASURED PRESSURE AT POINT OF CONNECTION IS LESS THAN 75 PSI.
2. CONTRACTOR TO CONNECT TO EXISTING IRRIGATION SUPPLY. INSTALL NEW BACKFLOW, MASTER VALVE, FLOW SENSOR & COMMUNICATION CABLE AS DETAILED AND ACCORDING TO MANUFACTURERS REQUIREMENTS. BID ALTERNATE COMPONENT FOR FERTILIZING IS SHOWN ON LEGEND. AREAS OF EXISTING PLANT MATERIAL THAT ARE TO REMAIN WHICH ENCOUNTER INTERRUPTED IRRIGATION SERVICE DUE TO CONSTRUCTION OPERATIONS SHALL BE HAND WATERED AS REQUIRED TO MAINTAIN PLANT HEALTH.
3. ALL EQUIPMENT REQUIRED BUT NOT SPECIFIED ON THE PLANS SHALL BE PROVIDED TO ENSURE A COMPLETE AND FUNCTIONAL SYSTEM. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL CODES, MANUFACTURERS INSTRUCTIONS AND AS INDICATED ON THE PLANS. AVOID ANY CONFLICTS BETWEEN SPRINKLER SYSTEM, PLANTING OR OTHER ARCHITECTURAL FEATURES. NOTIFY IRRIGATION CONSULTANT, PRIOR TO INSTALLATION, OF ANY AREA OR GRADE DIFFERENCES OR OBSTRUCTIONS NOT INDICATED ON THE PLANS.
4. PRIOR TO CUTTING INTO SOIL, LOCATE ALL CABLES, CONDUITS, SEWERS, AND OTHER UTILITIES OR ARCHITECTURAL FEATURES THAT ARE COMMONLY ENCOUNTERED UNDERGROUND AND TAKE PROPER PRECAUTIONS NOT TO DAMAGE OR DISTURB SUCH IMPROVEMENTS. ANY DAMAGE MADE DURING THE INSTALLATION OF THE IRRIGATION SYSTEM OF THE AFOREMENTIONED ITEMS SHALL BE REPAIRED AND/OR REPLACED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTORS OWN EXPENSE.
5. NEW CONTROLLER SHALL BE INSTALLED AND GROUNDED AS DETAILED. NEW 14AWG WIRING SHALL BE INSTALLED FOR ALL REMOTE CONTROL VALVES. CONNECT TO 120V SERVICE , PROVIDED BY OTHERS, USE THIN WALL METAL CONDUIT FOR ANY WIRING ABOVE GRADE. USE WATERPROOF CONNECTORS. PROGRAM CONTROLLER TO NOT EXCEED MAXIMUM FLOW RATE STATED IN NOTE NO. 1. INSTALL PER MANUFACTURERS SPECIFICATIONS. CONTROLLER SHALL BE PROPERLY GROUNDED PER ARTICLE 250 OF THE NATIONAL ELECTRIC CODE AND CONFORM TO LOCAL REGULATIONS. INSTALL AS DETAILED. SEAL ALL CONDUIT HOLES WITH SILICONE OR EQUAL.
6. MONITOR INFILTRATION RATE OF SOIL TO DEFINE MAXIMUM RUNTIME. UTILIZE CYCLE AND SOAK APPROACH FOR PROGRAMMING TO ELIMINATE RUNOFF OF WATER AND SLOPE/SOIL EROSION DUE TO PROLONGED APPLICATIONS. APPLICATION RATE NOT INTENDED TO EXCEED INFILTRATION RATE OF SOIL.
7. INSTALL RAIN SENSOR AT RESTROOM BUILDING AND VERIFY SENSOR IS OPERATIONAL. ALL WIRING AND CONNECTIONS TO BE PER MANUFACTURERS SPECIFICATIONS. REFER TO INSTALLATION GUIDELINES. SENSOR TO HAVE UNOBSTRUCTED RAINFALL.
8. USE APPROPRIATE SOLVENT AND APPLICATOR, AND PRIMER IF REQUIRED, FOR PIPE SIZE AND TYPE APPLICATIONS. APPLY PER MANUFACTURERS RECOMMENDATIONS. PIPE JOINT COMPOUND FOR THREADED JOINTS SHALL BE WHITLAM BLUE MAGIC INDUSTRIAL GRADE THREAD SEALING COMPOUND.
9. EACH REMOTE CONTROL VALVE INSTALL R.C.V. ID TAG MANUFACTURED BY T. CHRISTY ENT. STANDARD SIZE, 1 1/8" HOT STAMPED BLACK LETTERS ON YELLOW BACKGROUND ON SOLENOID WIRES. LETTERS TO CONFORM TO CONTROLLER/STATION NUMBER.
10. INSTALL CHECK VALVES AS SHOWN ON BUBBLER RISER ASSEMBLY DETAIL WHERE LOW HEAD DRAINAGE OCCURS. NOTE ESPECIALLY TO AVOID DRAINAGE AT SIDEWALKS AND OTHER POINTS WHERE PUDDLING WILL CAUSE DAMAGE OR HAZARD. INSTALL TREE BUBBLERS ON UP HILL SIDE OF TREES AS APPLICABLE.
11. ALL PIPE UNDER ASPHALT PAVEMENT SHALL BE SCHEDULE 40 PVC FOR 1 1/2" AND SMALLER AND CLASS 315 PVC FOR 2" AND LARGER. ALL PIPE AND WIRING UNDER ASPHALT PAVEMENT SHALL BE INSTALLED AT A TWENTY FOUR INCH (24") DEPTH BELOW GRADE. ALL PIPE AND WIRING UNDER ASPHALT PAVEMENT SHALL BE INSTALLED IN PVC SCHEDULE 40 SLEEVING AND ELECTRICAL CONDUIT. SLEEVING AND ELECTRICAL CONDUIT SHALL EXTEND TWELVE INCHES (12") BEYOND EDGE OF PAVEMENT OR CURB. CONTRACTOR HAS THE OPTION OF INSTALLING PVC SCHEDULE 40 SLEEVING FOR ALL PIPING UNDER ASPHALT AND CONCRETE PAVEMENTS AT HIS OWN EXPENSE. INSTALL SAND FOR BACKFILL IN ASPHALT PAVEMENT AREAS TO 6" COVER ABOVE PIPE. SURROUND PIPE WITH SAND IN AREAS WHERE ROCKY TERRAIN IS ENCOUNTERED.
12. CARE SHALL BE TAKEN WHEN PIPE INSTALLATION IS REQUIRED WITHIN EXISTING TREE ROOT AREAS. AVOID TRENCHING WITHIN DRIPLINE OF TREES WHERE POSSIBLE. WHEN NOT POSSIBLE, THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:
    A.) OPEN TRENCHES CAN BE DUG MECHANICALLY UNTIL REACHING THE DRIPLINE OF THE TREE. TRENCHES WITHIN THE DRIPLINE OF THE TREE SHOULD BE CONTINUED BY HAND. DAMAGED ROOTS OVER 1 1/2" IN DIAMETER SHALL BE CUT LEAVING A CLEAN SMOOTH SURFACE. ROOTS OVER 4 INCHES IN DIAMETER SHALL BE CAREFULLY HAND DUG UNDER. IF MANY ROOTS ARE CUT, THE TOP OF THE TREE SHOULD BE THINNED PROPORTIONALLY. CONSULT WITH LANDSCAPE ARCHITECT PRIOR TO THINNING.
    B.) IF PIPE INSTALLATION IS TO PASS BY THE TREE TRUNK WITHIN DIMENSION "A" (OF THE TUNNELING DETAIL), THEN TRENCH FROM OPPOSITE SIDES OF THE TREE UNTIL DIMENSION "B" (OF THE TUNNELING DETAIL) IS REACHED. A TUNNEL IS THEN TO BE AUGURED BETWEEN THESE TRENCHES AT THE CORRESPONDING DIMENSION "C" DEPTH (ON THE TUNNELING DETAIL) AND PIPE INSTALLED. TO AVOID POSSIBLE TAP ROOTS, NEVER TUNNEL DIRECTLY BELOW TREE TRUNK.
    C.) ONCE THE ABOVE PROCEDURES ARE COMPLETED, IMMEDIATELY INSTALL PIPES, CONTROL WIRE, ETC., BACKFILL TRENCH AND SOAK. THE INFORMATION ON TUNNELING WAS OBTAINED FROM "ARBORACULTURE CARE OF TREES, SHRUBS AND VINES IN THE LANDSCAPE" BY RICHARD HARRIS.
13. ALL SUPPLYLINE PIPES SHALL BE TESTED HYDRAULICALLY AT 125% OF DESIGN PRESSURE AND SPRINKLER LINE PIPES SHALL BE TESTED AT LINE PRESSURE. THERE SHALL BE NO LEAKS FOR A PERIOD OF TWO (2) HOURS. CENTER LOAD PIPING (BUT DO NOT COVER FITTINGS) TO PREVENT ARCHING OR SLIPPING UNDER PRESSURE.
14. ALL BACKFILL MATERIAL SHALL BE FREE OF ROCKS, CLODS, AND OTHER EXTRANEOUS MATERIALS. COMPACT BACKFILL TO ORIGINAL DENSITY OF SOIL.
15. AT JOB COMPLETION, SUPPLY OWNER WITH CONTROLLER KEYS AND ANY OTHER EQUIPMENT SPECIFIC EQUIPMENT REQUIRED FOR ADJUSTING OR MAINTAINING SYSTEM.
16. PROVIDE TO OWNER A SET OF "AS-BUILT" CAD DRAWINGS WITH ALL CHANGES SHOWN AND DIMENSIONED.
17. GUARANTEE THE IRRIGATION SYSTEM AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE.

WE HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.

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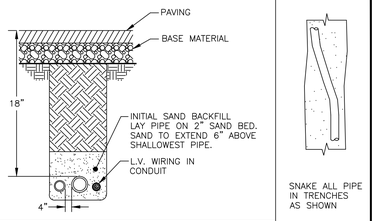
Revisions

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IRRIGATION NOTES & WATER USE

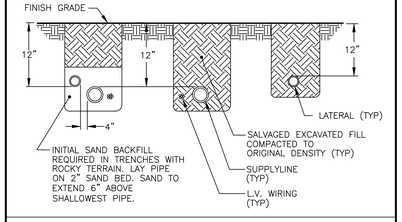
L4.5

100% CDs Jan 20, 2023



SNAKE ALL PIPE IN TRENCHES AS SHOWN

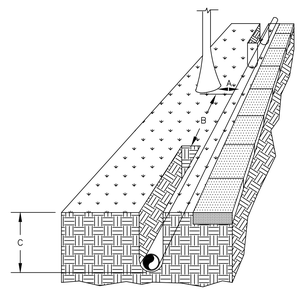
TRENCHES IN PAVED AREAS



TRENCHES IN PLANTING AREAS

A TRENCHING DETAILS — NTS

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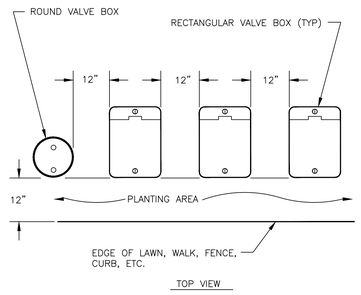


TREE DIAMETER		DISTANCE OF TUNNEL FROM EACH SIDE OF TREETRUNK "A"		DISTANCE OF OPEN TRENCH FROM TREE–TRUNK "B"		DEPTH OF TUNNEL OR TRENCH "C"	
mm	in	m	in	m	ft	m	ft
50	2	0.6	2	0.9	3	0.9	3.0
75	3	0.9	3	1.8	6	1.0	3.25
150	6	1.5	5	3.0	10	1.0	3.33
300	12	1.8	6	3.6	12	1.1	3.67
450	18	2.1	7	4.2	14	1.2	4.0
600	24	2.4	8	4.8	16	1.3	4.33
750	30	2.7	9	5.5	18	1.4	4.67
900	36	3.0	10	6.0	20	1.5	4.83
1050	42	3.6	12	6.6	22	1.5	5.0

B TUNNELING AT EXISTING TREES DETAIL — NTS

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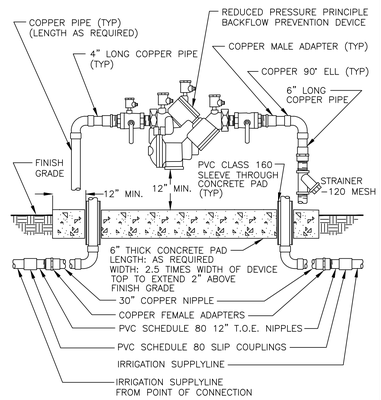
NOTES:
1. CENTER BOXES OVER VALVES.
2. SET BOXES IN GROUND COVER/SHRUB AREA WHERE POSSIBLE.
3. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.
4. AVOID HEAVILY COMPACTING SOIL AROUND BOXES TO PREVENT DAMAGING VALVE BOXES.



C VALVE BOX INSTALLATION DETAIL — NTS

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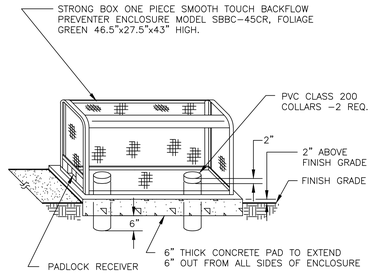
NOTE: ALL COPPER PIPE TO BE TYPE "L".



D BACKFLOW PREVENTION ASSEMBLY DETAIL — NTS

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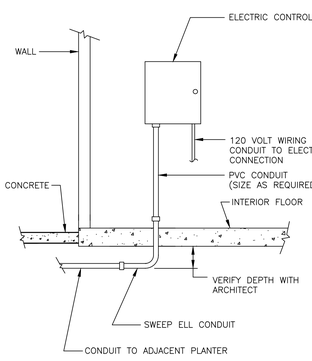
NOTE: 1. ON SLOPES, PAD TO BE OF SUFFICIENT THICKNESS TO EXTEND 3" BELOW LOWEST POINT OF FINISH GRADE.
2. EMBED CORNER HOLD–DOWN ASSEMBLIES IN CONCRETE EQUIPMENT PAD PER MANUFACTURERS SPECIFICATIONS



E BACKFLOW PREVENTER ASSEMBLY ENCLOSURE — NTS

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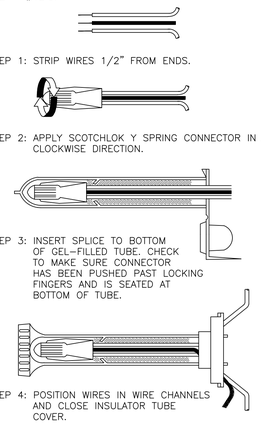
NOTE: ALL CONDUIT SHALL BE RIGID METAL–SIZE AS REQUIRED



F ELECTRICAL ROOM (INDOOR) WALL MOUNT CONTROLLER INSTALLATION DETAIL — NTS

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NOTE: MAXIMUM WIRE SIZES PER CONNECTOR ARE 3 – #14'S OR 2 – #12'S.



STEP 1: STRIP WIRES 1/2" FROM ENDS.

STEP 2: APPLY SCOTCHLOK Y SPRING CONNECTOR IN A CLOCKWISE DIRECTION.

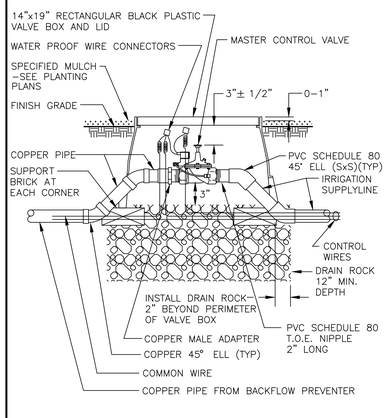
STEP 3: INSERT SPLICE TO BOTTOM OF GEL–FILLED TUBE. CHECK TO MAKE SURE CONNECTOR HAS BEEN PUSHED PAST LOCKING FINGERS AND IS SEATED AT BOTTOM OF TUBE.

STEP 4: POSITION WIRES IN WIRE CHANNELS AND CLOSE INSULATOR TUBE COVER.

G 3M DBR/Y–6 WIRE CONNECTION DETAIL — NTS

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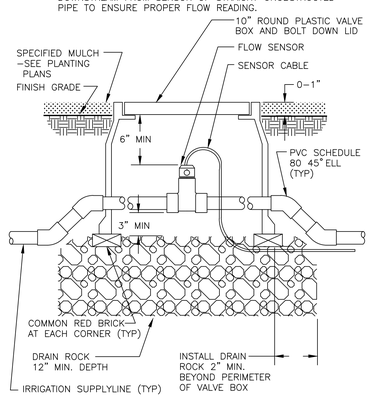
NOTE: SET TOP OF BOX EVEN WITH FINISH GRADE IN TURF AREAS.



MASTER CONTROL VALVE INSTALLATION DETAIL — NTS

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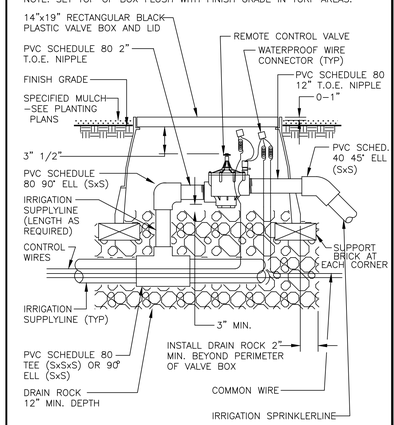
NOTE: 1. SET TOP OF BOX EVEN WITH FINISH GRADE IN TURF AREAS.
2. ALLOW 10 PIPE DIAMETERS UPSTREAM AND 5 PIPE DIAMETERS DOWNSTREAM FROM SENSOR OF STRAIGHT UNOBSTRUCTED PIPE TO ENSURE PROPER FLOW READING.



FLOW SENSOR INSTALLATION DETAIL — NTS

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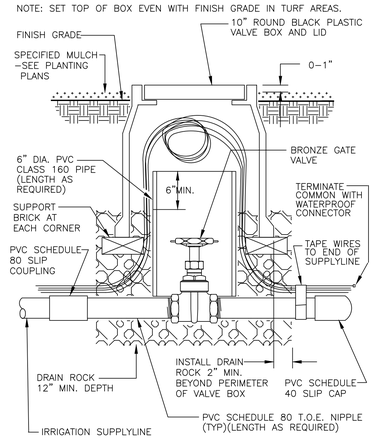
NOTE: SET TOP OF BOX FLUSH WITH FINISH GRADE IN TURF AREAS.



H SPRAY REMOTE CONTROL VALVE INSTALLATION DETAIL — NTS

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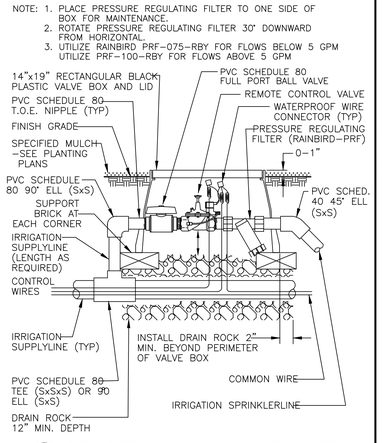
NOTE: SET TOP OF BOX EVEN WITH FINISH GRADE IN TURF AREAS.



I GATE VALVE STUBOUT INSTALLATION DETAIL — NTS

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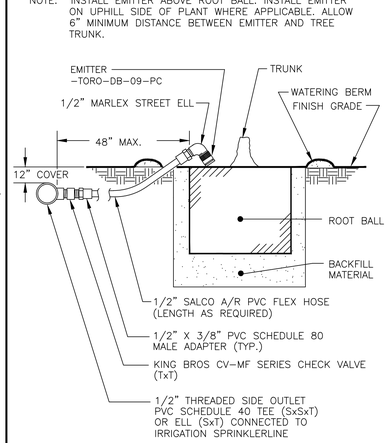
NOTE:
1. PLACE PRESSURE REGULATING FILTER TO ONE SIDE OF BOX FOR MAINTENANCE.
2. ROTATE PRESSURE REGULATING FILTER 30° DOWNWARD FROM HORIZONTAL.
3. UTILIZE RAINBIRD PRF–075–RBY FOR FLOWS BELOW 5 GPM UTILIZE PRF–100–RBY FOR FLOWS ABOVE 5 GPM



J DRIP CONTROL VALVE INSTALLATION DETAIL — NTS

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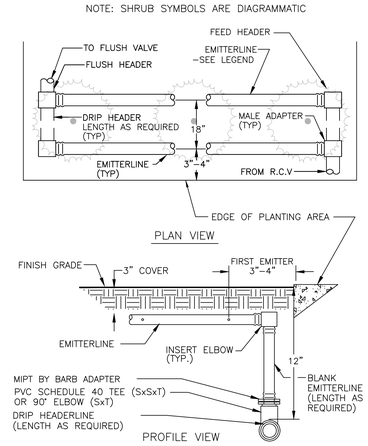
NOTE: INSTALL EMITTER ABOVE ROOT BALL. INSTALL EMITTER ON UPHILL SIDE OF PLANT WHERE APPLICABLE. ALLOW 6" MINIMUM DISTANCE BETWEEN EMITTER AND TREE TRUNK.



K BUBBLER INSTALLATION DETAIL FOR TREES — NTS

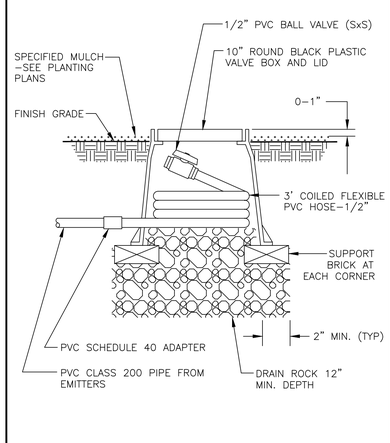
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NOTE: SHRUB SYMBOLS ARE DIAGRAMMATIC



L EMMITERLINE INSTALLATION DETAIL — NTS

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N FLUSH VALVE INSTALLATION DETAIL — NTS

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WE HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.

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Cachuma Lake RV Site Renewal

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145 160 072

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IRRIGATION DETAILS

DAVID LANGENDORFF certified irrigation designer CID 4617

L4.6

100% CDs — Jan 20,2023



GENERAL NOTES: EXISTING SITE PLAN

A. Contractor shall read and understand the specifications and conditions of approval prior to commencement of work. Failure to adhere to the specifications may result in a delay of the project at the contractor's expense. Contractor is responsible for any loss due to his/her decision to alter the design or layout of this project in any way.

B. Contractor shall confirm all field dimensions and conditions prior to the start of work. Any discrepencies with plans shall be reported to the Architect and Owner.

C. Due to unforeseen circumstances that occur as projects undergo construction, site conditions will change. Therefore, if a proposed built element, grade changes, or planting seems problematic and is evident that it is not realistic due to new site conditions, please contact the Architect to coordinate changes to the plan.

D. These plans were developed utilizing survey information provided by others. Architect holds no obligation to verify and or adjust base.

E. Contractor shall locate existing electrical, water, irrigation, gas, data/communications, sewer & storm water lines within project boundaries for relocation and/or removal as directed per Civil drawings.

LEGEND: EXISTING SITE PLAN

- proposed limit of work
- (E) fence
- (E) asphalt
- (E) concrete pavement
- (E) pavers
- (E) designated unpaved surface (gravel)
- (E) disc golf pad
- (E) power pole
- (E) lamp post
- (E) picnic table
- (E) Trees

Exisitng Site Plan 1

feet 0 20' 40' 80' 1" = 40'

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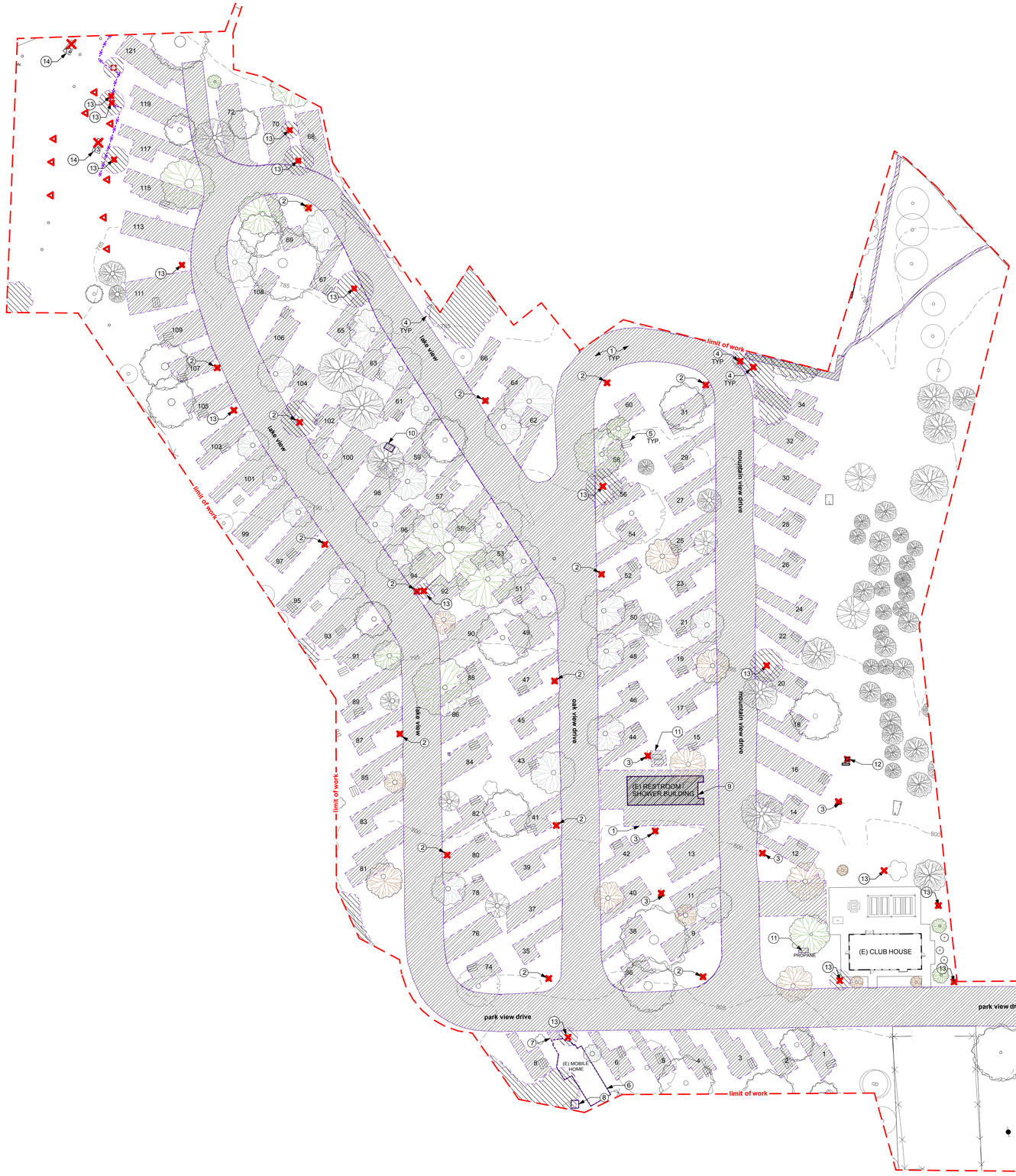
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LICENSED ARCHITECT
KENNETH G. RADTKEY
C - 26761
REN. 7.31.2023
STATE OF CALIFORNIA

Exisiting Site Plan

D1.0

Bid Set 06.28.23



GENERAL NOTES: DEMO SITE PLAN

A. Contractor shall read and understand the specifications and conditions of approval prior to commencement of work. Failure to adhere to the specifications may result in a delay of the project at the contractor's expense. Contractor is responsible for any loss due to his/her decision to alter the design or layout of this project in any way.

B. Contractor shall confirm all field dimensions and conditions prior to the start of work. Any discrepencies with plans shall be reported to the Architect and Owner.

C. These plans were developed utilizing survey information provided by others. Architect holds no obligation to verify and or adjust base.

D. Due to unforeseen circumstances that occur as projects undergo construction, site conditions will change. Therefore, if a proposed built element, grade changes, or planting seems problematic and is evident that it is not realistic due to new site conditions, please contact the Architect to coordinate changes to the plan.

E. Contractor shall reference and coordinate with Civil sheets for demolition and applicable notes.

F. Contractor shall reference and coordinate with Landscape sheets for demolition, tree protection and applicable notes.

G. Contractor shall reference and coordinate with Electrical, Mechanical, Plumbing and Telecommunication sheets for applicable demolition notes.

H. Contractor shall locate existing electrical, water, irrigation, gas, data/communications, sewer & storm water lines within project boundaries for relocation and/or removal as directed per Civil drawings.

I. Contractor shall coordinate all utility interruptions with Owner and provide at least (2) working days notice prior to any utility interruptions.

J. Contractor shall notify Dig Alert (1-800-422-4133) at least (2) days prior to starting work and shall coordinate all work with utility companies.

K. Limits of demolition are approximate. Any damage to adjacent asphaltic concrete requires patching and/or resealing to restore surfaces. Any damage to adjacent concrete hardscape mandates replacement to the next control joint with new concrete.

L. Work shall comply with the provisions of Chapter 33 of CBC "Safeguards During Construction".

M. Contractor to verify, prior to start of demolition, all items to be salvaged and packaged for delivery to the Owner.

N. If asbestos or transite piping are encountered, stop work and contact Owner.

KEYNOTES - DEMO

1. Sawcut and remove (E) asphalt and concrete. Contractor to coordinate with Civil demolition drawings for additional information.
2. Demolish and remove (E) electrical light poles and pedestals.
3. Demolish and remove (E) telephone poles and lines. GC to coordinate telephone line removal with utility providers.
4. Scrub and remove (E) vegetation, trees and stumps per landscape demo drawing. See landscape plan for new planting.
5. Remove and salvage existing picnic tables. Coordinate salvaged material with Owner.
6. Contractor to protect existing mobile home structure, landscape, hardscape and utilities throughout the duration of this project. Removal of these features is for future phase. Contractor to coordinate and maintain fully functioning utilities and vehicular access to the existing mobile home throughout the duration of this project. Contractor to coordination phasing with Owner prior to start of construction.
7. Driveway demolition at the mobile home will be limited to a small portion of concrete that serves as the apron tying the new road to the existing driveway. Reference Civil drawings for additional information.
8. Propane tank to remain in place throughout duration of this project, but will be demolished as part of the future phased project.
9. Demolish and remove existing restroom & shower building and foundation.
10. Demolish and remove existing storage shed and foundation.
11. Contractor to disconnect, remove and salvage existing propane tank. Contractor to coordinate with Owner and propane service provider (Delta Liquid Energy) regarding its removal from the site. Contractor to remove all existing propane gas lines buried within in the site. Contractor to demolish and remove existing concrete pad.
12. Existing utility to be relocated, rerouted as required. Reference Civil drawings for additional information.
13. Tree to be removed, see Landscape demolition sheet L1.0 for additional information
14. Remove and relocate disc golf pad, by Owner; NIC

LEGEND: DEMO SITE PLAN

- proposed limit of work
- (E) fence
- (D) fence
- feature to be demolished
- tree canopy / shrubs to be demolished
- Feature to remove
- Sapling Oak to be transplanted REF. Landscape L1.0 for additional information

Demolition Plan 1

feet 0 20' 40' 80'

1" = 40'

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LICENSED ARCHITECT
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REN. 7.31.2023
STATE OF CALIFORNIA

Demolition Plan

D1.1

Bid Set 06.28.23



GENERAL NOTES: PROPOSED SITE PLAN

A. Contractor shall read and understand the specifications and conditions of approval prior to commencement of work. Failure to adhere to the specifications may result in a delay of the project at the contractor's expense. Contractor is responsible for any loss due to his/her decision to alter the design or layout of this project in any way.

B. Contractor shall confirm all field dimensions and conditions prior to the start of work. Any discrepencies with plans shall be reported to the Architect and Owner.

C. Due to unforeseen circumstances that occur as projects undergo construction, site conditions will change. Therefore, if a proposed built element, grade changes, or planting seems problematic and is evident that it is not realistic due to new site conditions, please contact the Architect to coordinate changes to the plan.

D. These plans were developed utilizing survey information provided by others. Architect holds no obligation to verify and or adjust base.

E. See Civil sheets for grading, drainage, horizontal control plan, erosion control plan, utility plan, and applicable notes.

F. See Landscape sheets for hardscape, planting & irrigation plans, log walk basis of design, and applicable notes.

G. See Electrical sheets for electrical plans, panels, one line diagram, fixtures and applicable notes.

H. See Mechanical sheets for mechanical plans & equipment and applicable notes.

I. See Plumbing sheets for plumbing plans & equipment, one line diagram and applicable notes.

J. See Telecommunication sheets for communication plans & equipment and applicable notes.

K. Work shall comply with the provisions of Chapter 33 of CBC "Safeguards During Construction".

L. Contractor to verify, prior to start of demolition, all items to be salvaged and packaged for delivery to the Owner.

M. If asbestos or transite piping are encountered, stop work and contact Owner.

N. Contractor shall make modifications to material or method of installation as required by local code, and shall notify the Architect and Owner of such changes.

O. The ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one unit vertical in 20 units horizontal (5-percent) for a minimum distance of 10 feet measured perpendicular to the face of the wall. Impervious surfaces within 10 feet of the building foundation shall be sloped a minimum of 2 percent away from the building. See Civil for more information.

P. Accessibility for disabled persons will be provided as required by the 2019 CBC.

Q. All walks/sidewalks shall comply with 2019 CBC Section 118-403 - all subsections inclusive (widths, slopes, slip resistant surfaces, grating, level changes etc.).

KEYNOTES : PROPOSED SITE PLAN

1. Construction of RV site 7 is for future phase. Contractor to coordinate phasing with County prior to start of construction.
2. Heavy timber log gateway (see 6/L1.8).
3. Coordinate with Telecommunication drawings for routing of new utilities to existing building. Patch and repair existing features as necessary.
4. Coordinate with Civil, Plumbing and Electrical Drawings for routing of new utilities to existing building. Patch and repair existing features as necessary.
5. Relocated disc golf pad per Owner; NIC
6. electrical transformer; contractor to coordinate and confirm location with Architect and Owner prior to construction

LEGEND: PROPOSED SITE PLAN

- proposed limit of work
- future work
- (E) fence
- (E) asphalt
- (E) concrete
- (E) old pavers
- (E) designated unpaved surface (gravel)
- (N) DG
- (N) asphalt
- (N) concrete
- (N) pavers
- (E) power pole
- (E) Trees
- (N) Trees

Site Plan 1

feet 0 20' 40' 80' 1" = 40'

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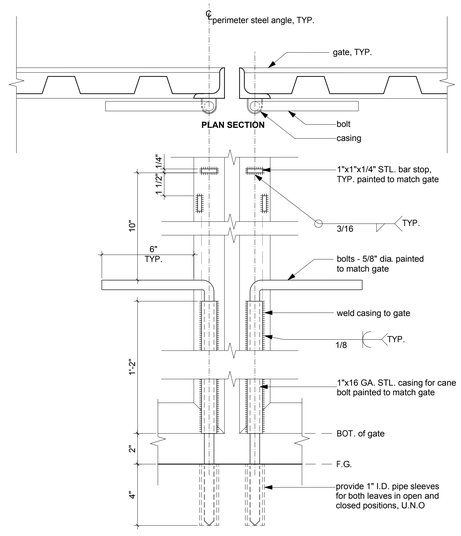
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LICENSED ARCHITECT
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REN. 7.31.2023
STATE OF CALIFORNIA

Proposed Site Plan

A1.1

Bid Set 06.28.23



Cane bolt 3

3" = 1'-0"

GENERAL NOTES: ELEVATIONS

A. Refer to Sections (A4.1) and Details (A6.Xs) for construction assemblies.

B. Refer to Mechanical, Plumbing, Electrical and Telecommunications drawings for applicable notes, equipment and vents.

C. Dimensioning:
1) all dimensions are to face of concrete, CMU or stud U.N.O.
2) all T.O. Roof elevations are to top of sheathing U.N.O.
3) refer to Sections for Top Plate.

D. Roof covering, valleys, and gutters per 2019 CBC Section 705A (High Fire Hazard - Chapter 7A)

E. Exterior wall protection and openings per 2019 CBC Section 707A (High Fire Hazard)

F. Roof pitch for roof covering per 2019 CBC Chapter 15.

G. Exterior building materials, systems and/or assemblies shall meet 2019 CBC Chapter 7A.

EXTERIOR FINISH SCHEDULE

1 **Concrete Masonry Wall**
8" CMU wall per Structural, split-face at exterior, smooth-face at interior, running bond pattern, mortar joints shall be tooled flush & smooth, integral color mortar to match CMU; CMU color (TBD)
Basis of Design: Air Vol Block, Inc - Split-Face block, or approved equal

2 **Gate**
metal gate and frame, prefinished color (TBD), REF. schedule and details on A1.5

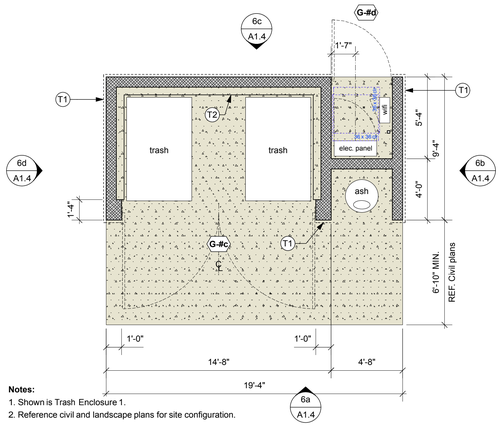
3 **CMU Wall Cap**
3" thick split-face wall cap, overhang CMU wall below equally on both sides, no overhang at gate jambs, mitered corners, color (TBD)
Basis of Design: Air Vol Block, Inc - Split-Face block, or approved equal

4 **Telecommunications Pole & Box**
post and WiFi box per Telecommunications drawings, painted to match Gate color

KEYNOTES: TRASH ENCLOSURE PLAN

T1. extent of split-face CMU block finish

T2. continuous curb; per structural detail 111/SED1.1



LEGEND: TRASH ENCLOSURE PLAN

8" CMU wall per STRUCT, UNO; REF. EXT. finish SCHED.

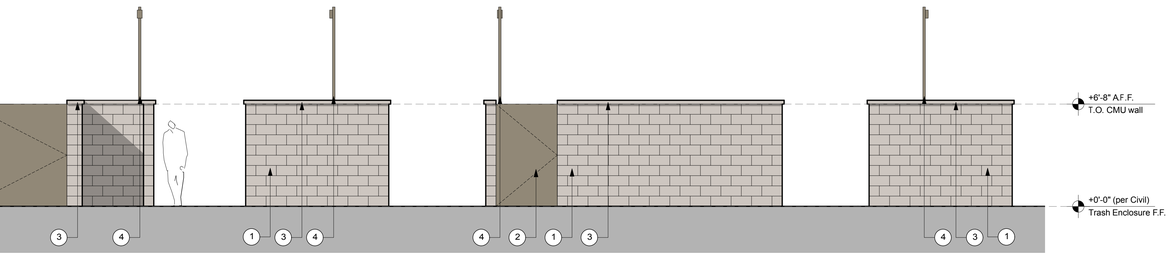
concrete slab, integral color & top cast finish per Landscape Drawings

G-#a gate ID
trash enclosure number, REF: site plan
gate type

Notes:
1. Shown is Trash Enclosure 1.
2. Reference civil and landscape plans for site configuration.

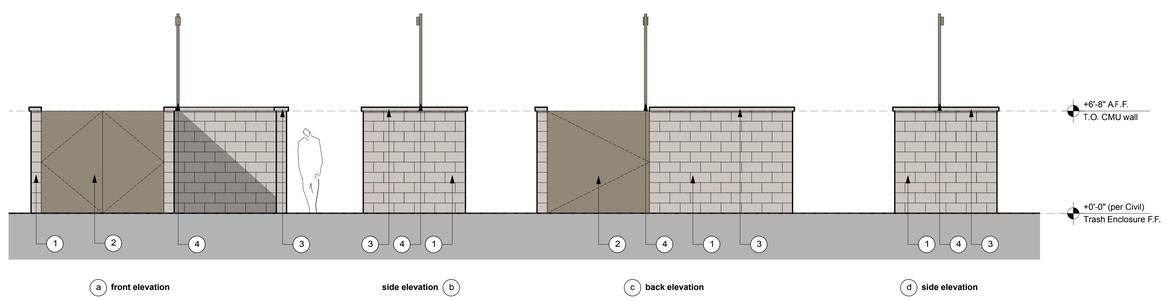
Trash Enclosure by Club House: Plan 2

feet 0 2 4 8 1/4" = 1'-0"



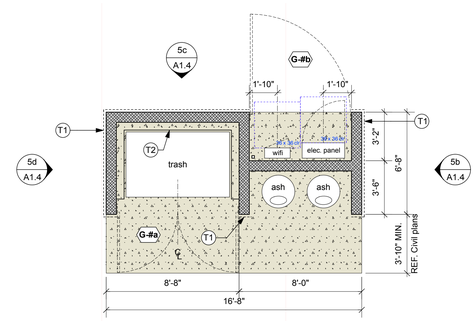
Trash Enclosure at Club House: Exterior Elevations 6

1/4" = 1'-0"



Typical Trash Enclosure: Exterior Elevations 5

1/4" = 1'-0"



Notes:
1. Shown is Trash Enclosure 2, 3, 4, 5, 6 & 7.
2. Reference civil and landscape plans for site configuration.

Typical Trash Enclosure: Plan 1

feet 0 2 4 8 1/4" = 1'-0"

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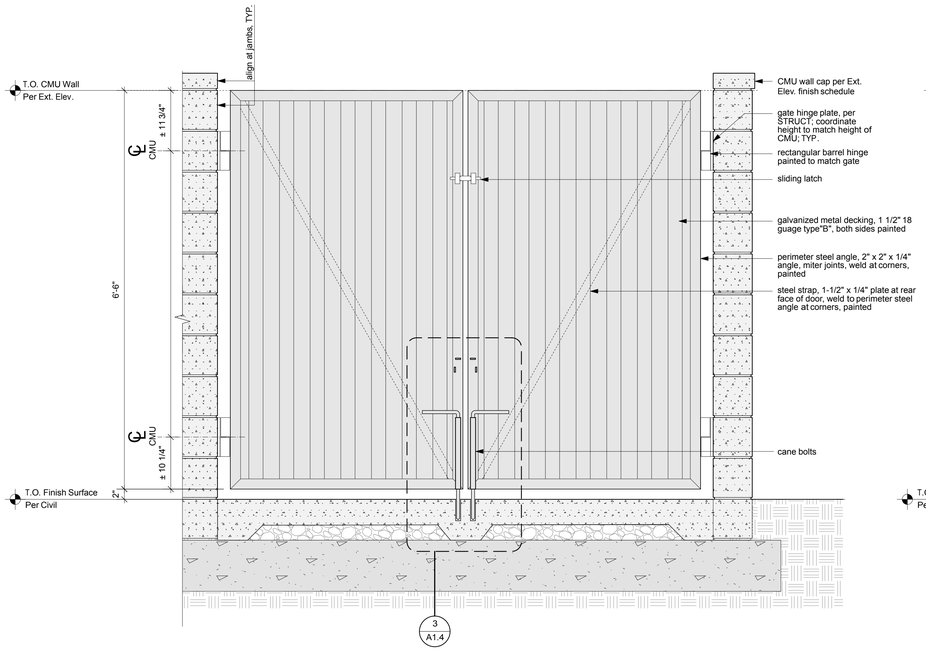
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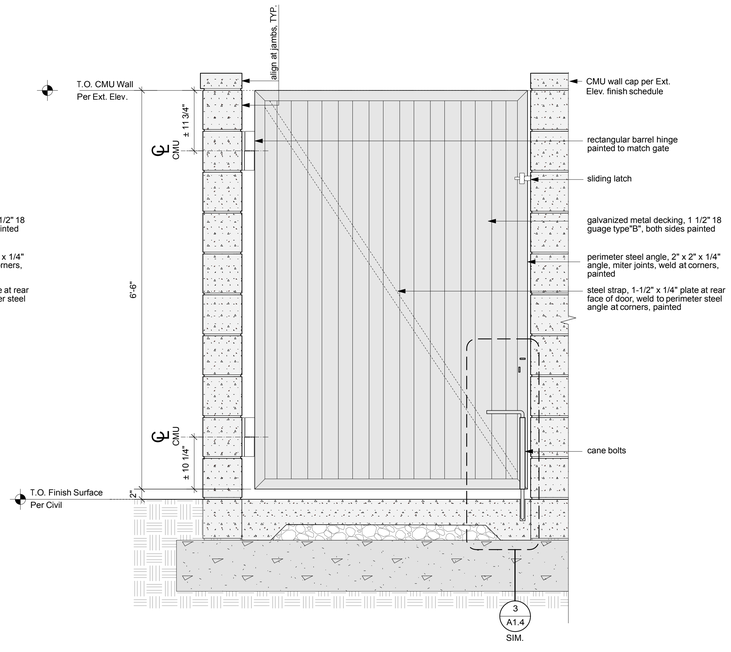
Trash Enclosure

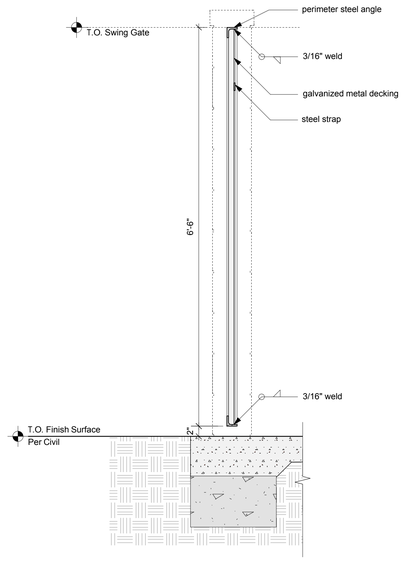
Plans
Elevations
Details

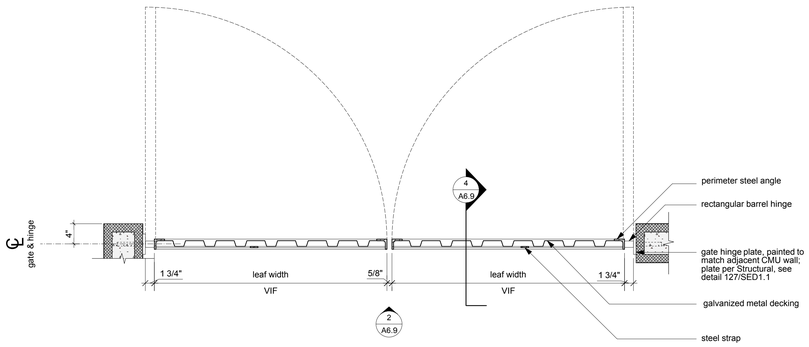
A1.4

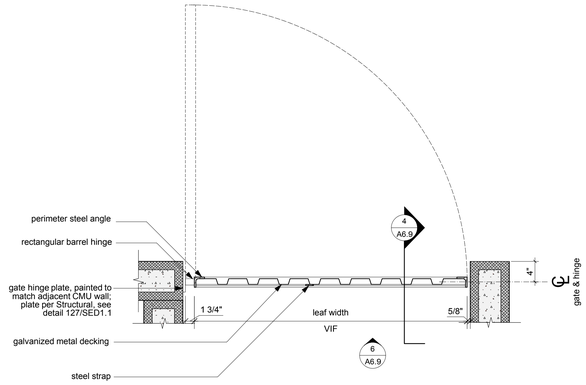
Bid Set 06.28.23











Site Gate Hardware Specifications*

Hinge	Jansen Hinges #BHRC7; heavy duty
Latch	Dolco #207
Cane Bolts	contractor to coordinate per detail 3/A1.4

* confirm all hardware and finishes via submittal process

Gate Schedule

Gate ID	Trash Enclosure	Gate Type	Material	Finish	Width	Height	Details	Hardware	Signage	Notes
G-1c	1	c	steel	painted, color TBD	6'-7 1/4"	6'-6"		TBD	TBD	
G-1d	1	d	steel	painted, color TBD	3'-10 1/2"	6'-6"		TBD	TBD	
G-2a	2	a	steel	painted, color TBD	3'-11 1/4"	6'-6"		TBD	TBD	
G-2b	2	b	steel	painted, color TBD	6'-6 1/2"	6'-6"		TBD	TBD	
G-3a	3	a	steel	painted, color TBD	3'-11 1/4"	6'-6"		TBD	TBD	
G-3b	3	b	steel	painted, color TBD	6'-6 1/2"	6'-6"		TBD	TBD	
G-4a	4	a	steel	painted, color TBD	3'-11 1/4"	6'-6"		TBD	TBD	
G-4b	4	b	steel	painted, color TBD	6'-6 1/2"	6'-6"		TBD	TBD	
G-5a	5	a	steel	painted, color TBD	3'-11 1/4"	6'-6"		TBD	TBD	
G-5b	5	b	steel	painted, color TBD	6'-6 1/2"	6'-6"		TBD	TBD	
G-6a	6	a	steel	painted, color TBD	3'-11 1/4"	6'-6"		TBD	TBD	
G-6b	6	b	steel	painted, color TBD	6'-6 1/2"	6'-6"		TBD	TBD	
G-7a	7	a	steel	painted, color TBD	3'-11 1/4"	6'-6"		TBD	TBD	
G-7b	7	b	steel	painted, color TBD	6'-6 1/2"	6'-6"		TBD	TBD	
L-1	-	swing	steel	galvanized	3'0"	6'0"	7 / L1.8	TBD	TBD	Reference Landscape Plans

Notes

Window and exterior door type locations per plan and elevations. Door swings per plan.

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LICENSED ARCHITECT
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REN. 7.31.2023
STATE OF CALIFORNIA

Trash Enclosure

Details
Gate Schedule

A1.5

Bid Set 06.28.23

KEYNOTES: SLAB INTERFACE PLAN

1. Contractor to coordinate recess in CMU wall above with semi-recessed custom bulletin board prior to start of construction. Reference dimensions on 1/A2.1 and 1/A3.1 for recess location.
2. Planter per Landscape. Coordinate roof rainchain tie in into storm drain system within planter. Locate planter per enlarged hardscape plan on 1/L1.6 and construct per details 1 & 11 / L1.8.
3. Slot drain per plumbing; coordinate slab recess & slope per dimensions noted on detail 11/A6.1.
4. Raised concrete slab sized to accommodate mechanical & plumbing equipment; REF. Mechanical and Plumbing drawings
5. Raised concrete slab sized to accommodate future water softening equipment; REF. plumbing drawings

GENERAL NOTES: SLAB INTERFACE PLAN

A. Refer to Plumbing, Mechanical, Electrical and Telecommunication drawings for additional slab penetrations, recesses or other slab coordination items.

B. Refer to Structural drawings for foundation design and additional information.

C. Refer to Landscape and Civil drawings for exterior hardscape information.

D. Dimensioning:
1) all dimensions are to face of stud/structure U.N.O.

2) refer to Floor Plans for dimensions locating door/window openings, walls, etc.

E. F.F. (finish floor) refers to top-of-finish-floor, U.N.O.

F. Concrete curb height to be 6" min. A.F.F. U.N.O. per Structural or Architectural Details.

G. Coorindate and embed recessed wood nailer into concrete curbs per details noted on A6.1, U.N.O. See details.

H. Coordinate all recessed door tracks and sills with door manufacturers and finish floor assembly.

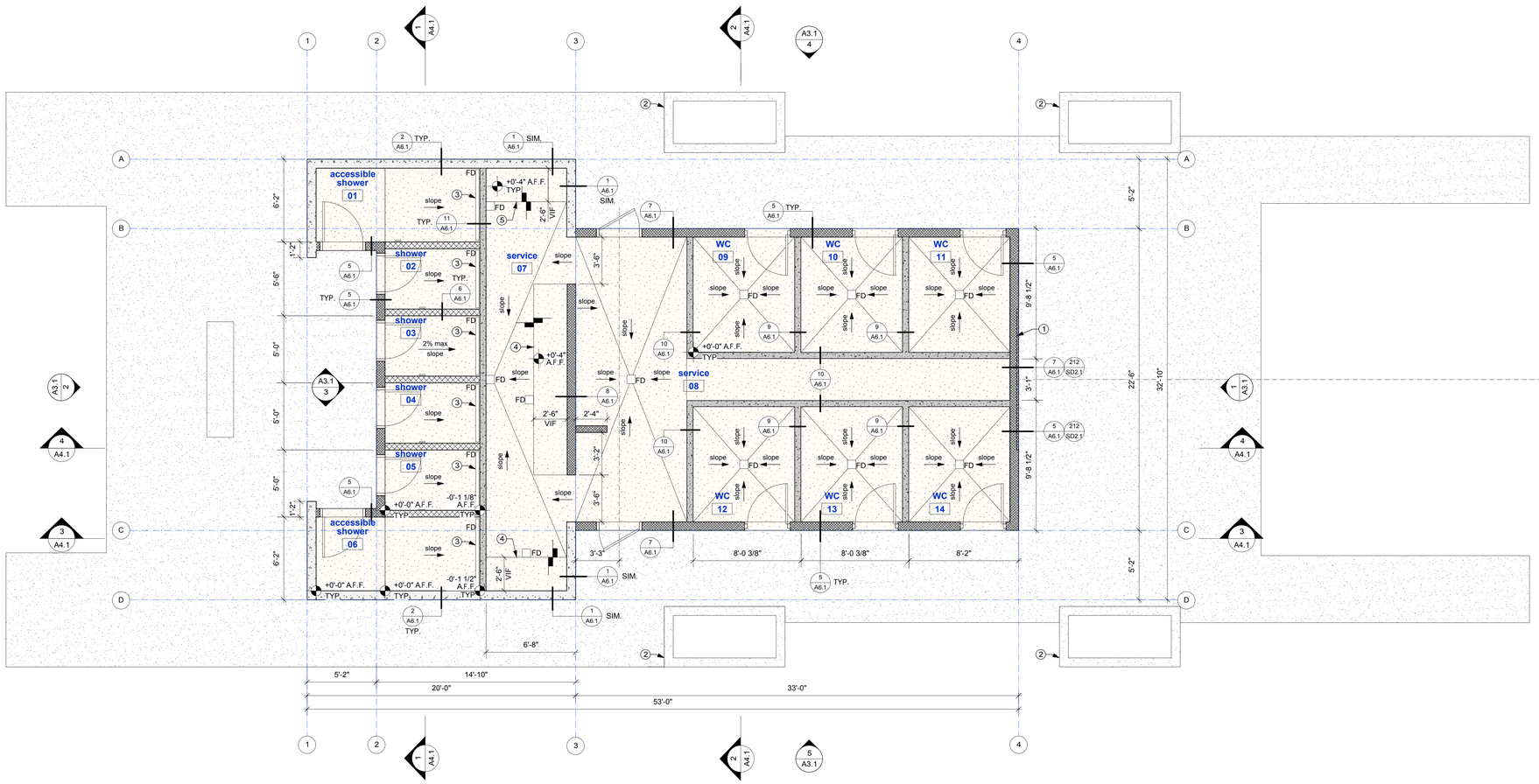
I. Review and coordinate all conduit, plumbing and other utilities that penetrate the slab prior to pouring.

J. Coordinate final location of control joints with Architect and Landscape Architect via submittal process prior to installation. Provide plan for review.

K. Floor drains and other infrastructure recessed in the slab and visible at finish surface are located/dimensioned per Architectural plans and details. Contractor to coordinate and confirm via submittal process. Provide plan for review.

L. Refer to Finish Schedule (A7.Xs) for interior finishes.

M. Slope floors to drains, where occurs, 1/8" per foot (max. path of travel cross slope 1:50) typ.



Slab interface plan 1
feet 0 2 4 8
1/4" = 1'-0"

LEGEND: SLAB INTERFACE PLAN

- feature below
- feature above
- 8" board-form concrete wall, per STRUCT.
- 8" CMU wall, per STRUCT.
- 6" CMU wall, per STRUCT.
- concrete curb (coordinate with framing widths above, see floor plan & details)
- interior concrete slab per STRUCT., see Finish Schedule and Details for treatment and finish floor assembly
- exterior concrete slab per Civil; see Landscape drawings for finish, control joint layout, and details
- depression in slab, refer to details for dimensions
- C.J. control joint in concrete slab, see details
- F.D. floor drain (see Plumbing), coordinate with Structural drawings

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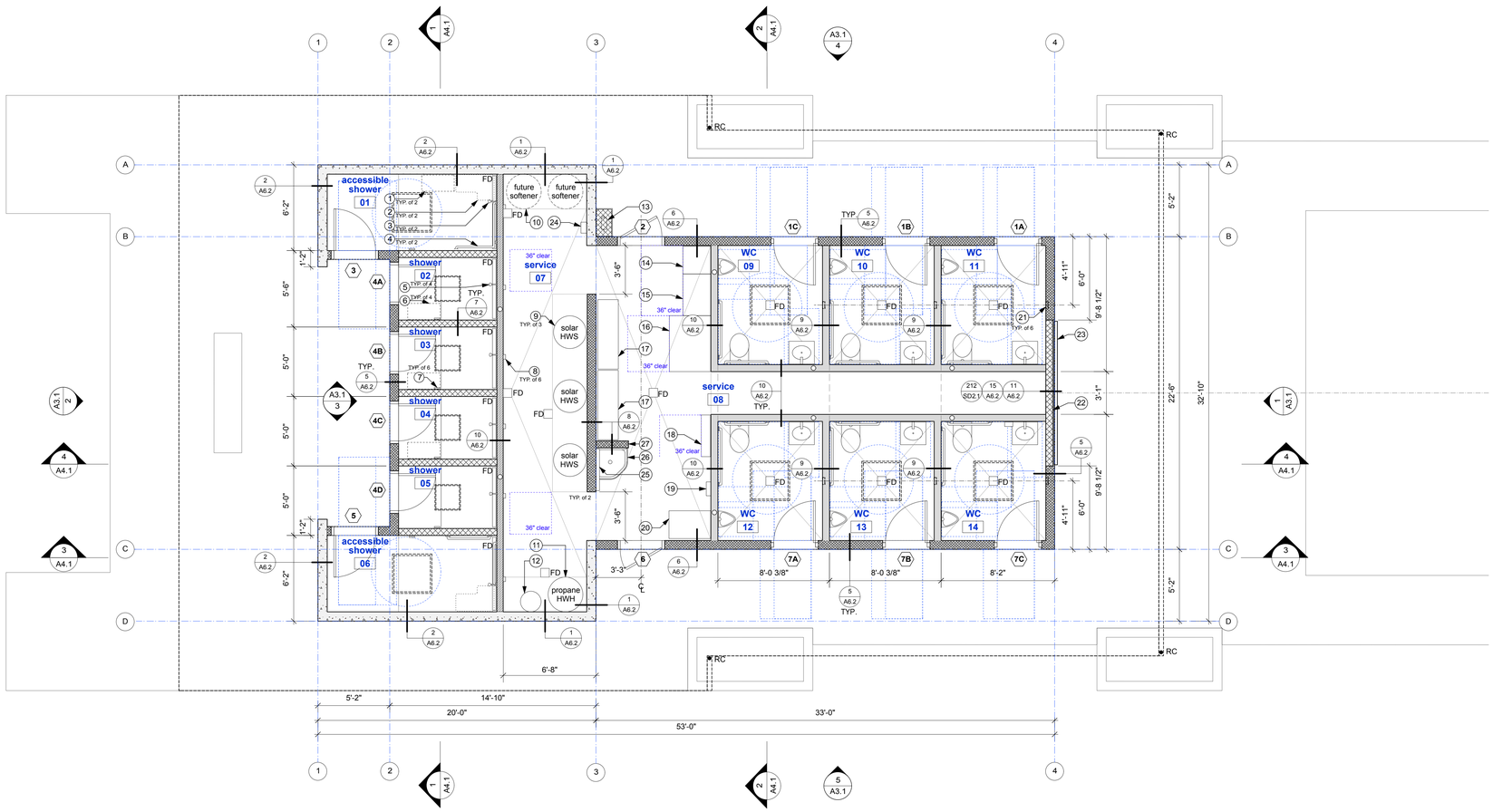
LICENSED ARCHITECT
KENNETH G. RADTKEY
C - 26761
REN. 7.31.2023
STATE OF CALIFORNIA

Slab Interface Plan

Restroom / Shower Facility

A2.0

Bid Set 06.28.23



Floor Plan 1
feet 0 2 4 8
1/4" = 1'-0"

KEYNOTES: FLOOR PLAN

1. Accessible wall-mounted folding bench; REF. INT. ELEV. & Bath Accessories Schedule on A7.2
2. Accessible shower bench; REF. INT. ELEV and Bath Accessories Schedule on A7.2
3. Accessible shower head; REF. INT. ELEV and Plumbing drawings
4. Accessible shower grab bar; REF. INT. ELEV. & Bath Accessories Schedule on A7.2
5. Shower head; REF. INT. ELEV and Plumbing drawings
6. Shower bench; REF. INT. ELEV and Bath Accessories Schedule on A7.2
7. ePort card reader; REF. INT. ELEV. and eCard reader (cashless payment) system schedule on A7.2
8. ePort telemeter; REF. INT. ELEV. and eCard reader (cashless payment) system schedule on A7.2
9. Solar storage tank; REF. Mechanical and Plumbing drawings
10. Future water softener tank location; REF. Plumbing drawings
11. Water heater; REF. Plumbing drawings
12. Expansion tank; REF. Plumbing drawings
13. Propane gas regulator with custom cage; REF. Plumbing drawings
14. Electrical panel; REF. Electrical drawings
15. Main electrical distribution panel; REF. Electrical drawings
16. Transformer; REF. Electrical drawings
17. Storage shelving; 5' wide, 6-tier, open steel shelving rack, heavy duty
18. Electrical distribution panel. REF. Electrical
19. Irrigation controller; REF. F/L4.6
20. Telecommunications equipment; REF. Telecommunication drawings
21. Provide junction box with empty conduit pathway and connection to electrical panel for future stand alone hand dryer installation; REF. Electrical drawings
22. Contractor to coordinate recess in CMU wall above with semi-recessed custom bulletin board prior to start of construction. Reference dimensions on 1/A2.1 and 1/A3.1 for recess location.
23. custom semi-recessed bulletin board; REF. detail 16/A6.2 & exterior elevations for Basis of Design; contractor to coordinate fabrication via submittal process and shop drawings; contractor to coordinate recess into CMU wall and plaster finish assembly
24. Fire extinguisher and cabinet; surface mounted; coordinate final location with Architect & Owner; REF. SPEC.
25. mop and broom holder, REF. SPEC.
26. mop sink, REF. Plumbing drawings
27. partial height CMU wall, REF. INT. ELEV.

GENERAL NOTES: FLOOR PLAN

A. Refer to Finish Schedule on A7.2 for additional finish information.

B. Coordinate blocking in walls as needed for accessories and equipment (telecommunications, plumbing, mechanical, electrical, etc.)

C. Refer to Exterior elevations (A3.1) and Interior elevations (A5.x) and Finish Schedule for finishes.

D. Refer to Sections (A4.1) and Details (A6.x) for construction assemblies.

E. Install moisture resistant G.W.B. on all walls and ceiling as noted in schedules, U.N.O.

F. Dimensioning: all dimensions are to face of stud or CONC. wall, U.N.O.

G. See Fenestration types on A7.1 for details and additional information.

H. Insulation: Roof per details

I. Use pressure treated wood for framing in contact with CONC. or CMU

J. F.F. refers to top-of-slab U.N.O.

K. Airtight Rooms & Construction Assemblies: Every precaution shall be taken to maintain construction completely airtight around a room or at a wall. Construction joints, duct penetrations, pipe and conduit penetrations, electrical boxes, frames, supports, cabinets, doors, access panels, fixtures, etc. all shall be built or installed in such a manner as to prevent sound transmission through any construction enclosing the room horizontally or vertically. Appropriate lintels, frames, blocking, escutcheons, grouting, gaskets, packing, caulking, taping, filling, etc., all shall be employed to prevent sound transmission.

L. Roof covering and gutters per 2019 CBC Section 705A (High Fire Hazard - Chapter 7A)

M. Exterior wall protection and opening per 2019 CBC Section 705A (High Fire Hazard - Chapter 7A)

N. Egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort, per 2019 CBC, Section 1010.1.9.

O. Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by Chapter 11A or 11B shall not require tight grasping, tight pinching or twisting of the wrist to operate, per 2019 CBC, Section 1010.1.9.1.

P. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 2019 CBC, Section 11B-309.4. Operable parts of such hardware shall be 34 inches minimum and 44 inches maximum above the finish floor or ground, per 2019 CBC, Section 11B-404.2.7.

Q. When provided, door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum, per 2019 CBC, Section 11B-404.2.8.1.

R. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds maximum, per 2019 CBC, Section 11B-309.4.

S. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks, per 2019 CBC, Section 11B-606.5.

T. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 2019 CBC, Section 11B-309 except they shall be located 44 inches maximum above the floor. Flush controls shall be located on the open side of the water closet except in ambulatory acces- sible compartments complying with Section 11B-604.8.2, per 2019 CBC, Section 11B-604.6.

U. Floor or ground surface within required maneuvering clearances shall comply with Section 11B-302. Changes in level are not permitted., per 2019 CBC, Section 11B-404.2.4.4.
Exceptions:
1. Slopes not steeper than 1:48 shall be permitted.
2. Changes in level at thresholds complying with Section 11B-404.2.5 shall be permitted.

V. Refer to Electrical drawings and Architectural Interior Elevations for placement of electrical receptables, switches/controls, and outlets.

LEGEND: FLOOR PLAN

- feature below
- feature above
- built-in cabinetry, low height, coordinate w/ interior elevations
- RC — rain chain, see EXT. ELEV.
- FD — floor drain, see plumbing
- stack vent, see plumbing

WALL TYPE LEGEND: FLOOR PLAN

- 8" board-form CONC. wall per STRUCT.
- 8" CMU wall per STRUCT.
- 6" CMU wall per STRUCT.
- 5-1/2" metal framed wall per STRUCT.
- 6" metal framed wall per STRUCT.

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LICENSED ARCHITECT
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REN. 7.31.2023
STATE OF CALIFORNIA

Floor Plan

Restroom / Shower Facility

A2.1

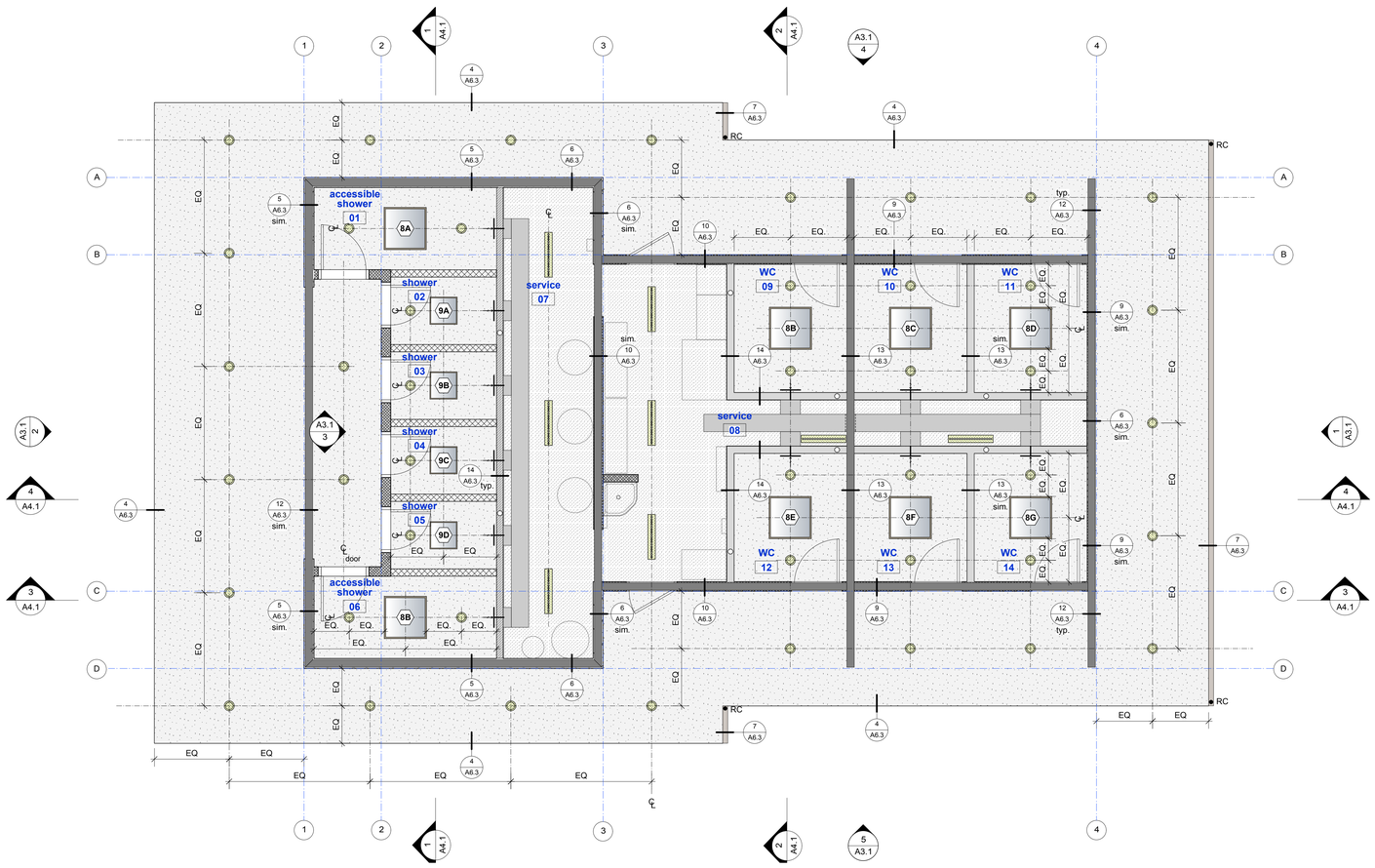
Bid Set 06.28.23

GENERAL NOTES: RCP

A. Refer to Finish Schedule (A7.2) for interior finishes.
B. Refer to Exterior Elevations (A3.1) for exterior finishes.
C. Exterior building materials, systems and/or assemblies shall meet 2019 CBC Chapter 7A requirements (High Fire Hazard).
D. Refer to Site Plan (L1.6) & Civil drawings for Finish Floor Elevation.
E. Coordinate location and connections/attachments of all ceiling fixtures with STRUCT. framing.
F. Refer to Electrical Drawings for lighting fixture types.

LEGEND: RCP

- exposed roof rafters, see STRUCT.
- 3-coat plaster, elastomeric finish, see EXT. ELEV.
- HSS steel beam, see STRUCT, finish per EXT. ELEV.
- exposed mechanical duct, see MECH.
- gutter, see EXT. ELEV.
- ●RC decorative rain chain
- lighting fixture - ceiling recessed, see Electrical
- lighting fixture - linear ceiling surface, see Electrical
- skylight, see Door & Window Schedule
- sidewall return diffuser, see MECH.



Reflected Ceiling Plan 1
feet 0 2 4 8 1/4" = 1'-0"

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Reflected Ceiling Plan

Restroom / Shower Facility

A2.3

Bid Set 06.28.23

KEYNOTES: ROOF PLAN

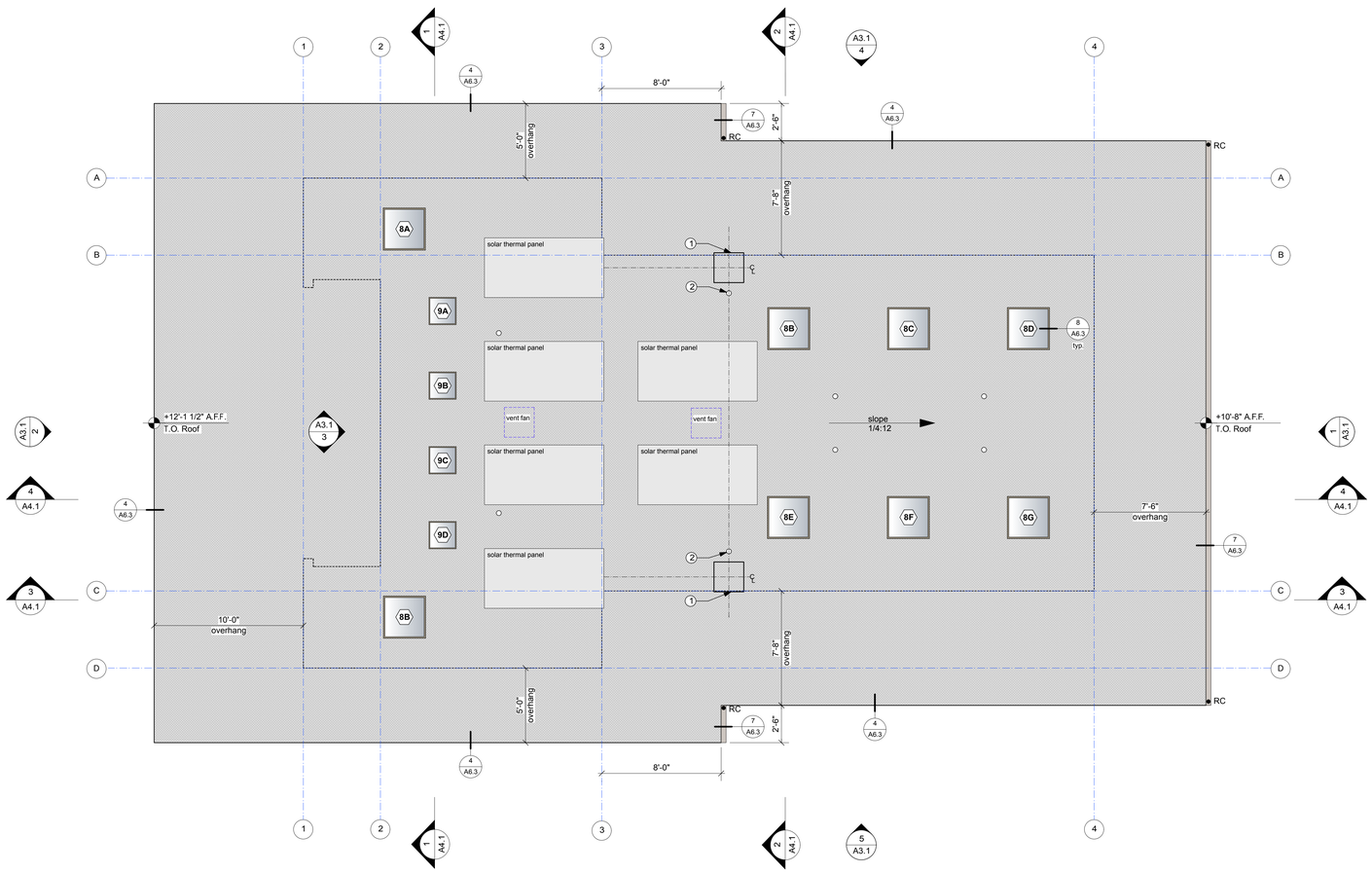
1. Satellite Dish. See Telecommunication plans for additional information. Contractor to coordinate placement with Architect prior to construction of roof.
2. Weatherhead roof penetration for satellite dish per Telecommunication plans. See detail 5/T3.1
3.

GENERAL NOTES: ROOF PLAN

A. Refer to Exterior Elevations (A3.1) for exterior finishes.
B. Refer to Sections (A4.1) and Details (A6.x) for construction assemblies.
C. Refer to Mechanical, Plumbing, Electrical and Telecommunication drawings for applicable notes, equipment and vents.
D. Dimensioning:
a. all dimensions are to face of structure U.N.O.
b. all T.O. Roof elevations are to top of sheathing U.N.O.
c. refer to Sections for Top Plate.
E. Provide minimum slope of 1/4" per 1'-0" for all roof crickets.
F. All gutters shall slope to drains.
G. Roof covering and gutters per 2019 CBC Section 705A (High Fire Hazard - Chapter 7A)
H. Exterior wall protection and opening per 2019 CBC Section 705A (High Fire Hazard - Chapter 7A)

LEGEND: ROOF PLAN

- feature below
- metal gutter, corten box gutter per detail
- RC — rain chain, see details # # # /A6.#
- vent penetration through roof, see Roof Details, see Telecommunication, Mechanical and Plumbing drawings
- Built Up Roof (BUR) system with mineral finish (Class-A roof assembly)
- metal flashing, prefinished to match door/window frames
- skylight, see RCP for location, see Door & Window Schedule
- solar thermal panel, see Mechanical



Roof Plan 1
1/4" = 1'-0"
feet 0 2 4 8

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STATE OF CALIFORNIA

Roof Plan

Restroom / Shower Facility

A2.4

KEYNOTES: ELEVATIONS

1 Solar thermal panel, see Mechanical
2 Satellite Dish. See Telecommunication plans for additional information.
3 Custom semi-recessed bulletin board; see detail 16/A6.2 for Basis of Design; pre-finished exposed frame color to match Structural Steel color
4 Galvanized steel cage over gas regulator, Ref. Plumbing drawings
5 Not Used.
6 Plaster control joint, see detail 12/A6.2

GENERAL NOTES: ELEVATIONS

A. Refer to Sections (A4.1) and Details (A6.Xs) for construction assemblies.
B. Refer to Mechanical, Plumbing, Electrical and Telecommunications drawings for applicable notes, equipment and vents.
C. Dimensioning:
1) all dimensions are to face of concrete, CMU or stud U.N.O.
2) all T.O. Roof elevations are to top of sheathing U.N.O.
3) refer to Sections for Top Plate.
D. Roof covering, valleys, and gutters per 2019 CBC Section 705A (High Fire Hazard - Chapter 7A)
E. Exterior wall protection and openings per 2019 CBC Section 707A (High Fire Hazard)
F. Roof pitch for roof covering per 2019 CBC Chapter 15.
G. Exterior building materials, systems and/or assemblies shall meet 2019 CBC Chapter 7A.

EXTERIOR FINISH SCHEDULE*

1 **Concrete Wall**
architecturally exposed cast-in-place concrete;
x6 board form finish; sealed

2 **Structural Steel**
architecturally exposed structural steel framing with high performance coating;
color: bronze

3a **Elastomeric Plaster Wall - Main**
3-coat system with acylic finish;
color: green (TBD), integral color;
finish: smooth

3b **Elastomeric Plaster Wall - Accent**
3-coat system with acylic finish;
color: blue (TBD), integral color;
finish: smooth

4 **Roof Fascia**
corten metal fascia

5 **Skylight**
bronze anodized aluminum frame to match *Structural Steel*; translucent tempered glazing

6a **Door, Window, & Louver Unit**
fiberglass reinforced plastic (FRP) doors & frames;
door frame color: to match *Structural Steel*
door color: gray (TBD)
glazing: ultra-clear dual-paned, tempered glazing;
louver: metal louver with FRP frame;
louver color: to match *door frame*

6b **Door - Accent**
fiberglass reinforced plastic (FRP) doors & frames;
door frame color: to match *Plaster Wall - Main*
door color: to match *Plaster Wall - Main*

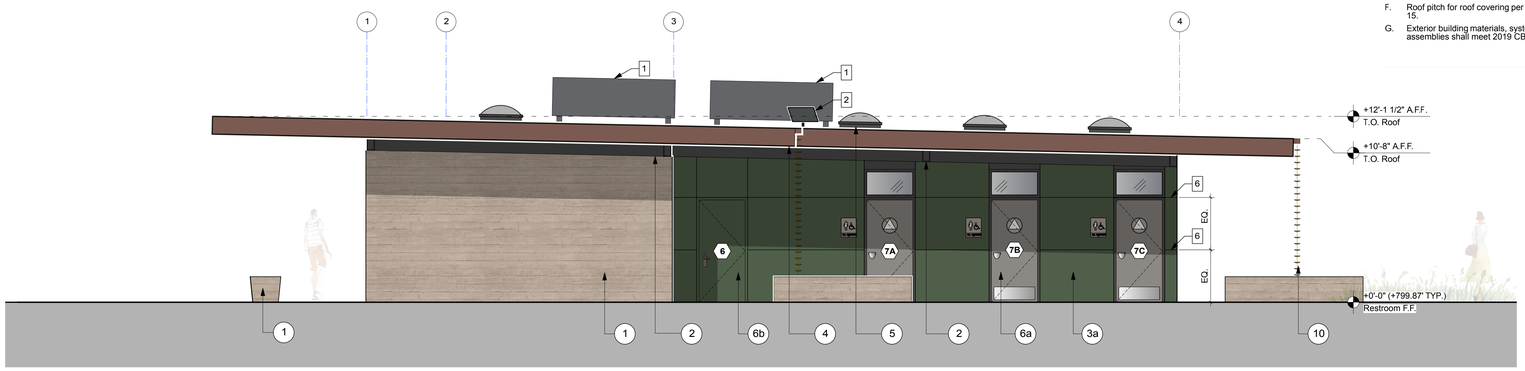
7 **Elastomeric Plaster Ceiling**
3-coat system with acylic finish;
color: white (TBD), integral color;
finish: smooth

8 **Roof**
built-up asphalt roofing system with aggregate surface (Class-A roof assembly);
color: TBD

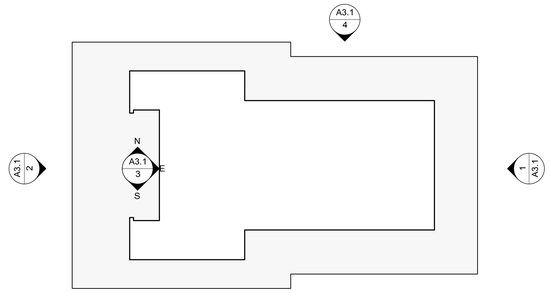
9 **Gutter**
corten sheet metal gutter, to match *Roof Fascia*

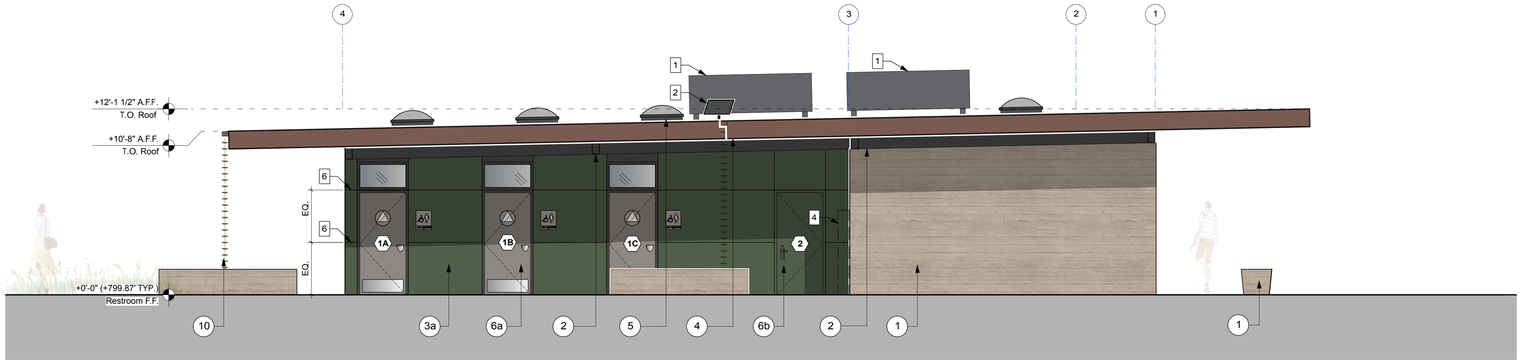
10 **Rainchain**
decorative rainchain; basis of design:
manufacturer: Nutshell Stores
model: Cast Aluminum Droplet Rain Chain
color: bronze

* reference Specifications on G0.2 - G0.4 for additional information

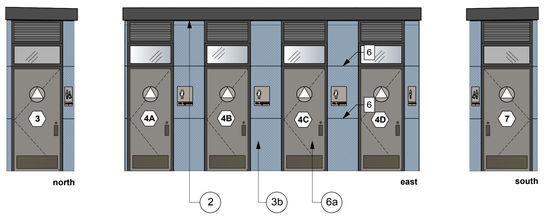


Restroom facility: South elevation 5
feet 0 2 4 8 1/4" = 1'-0"

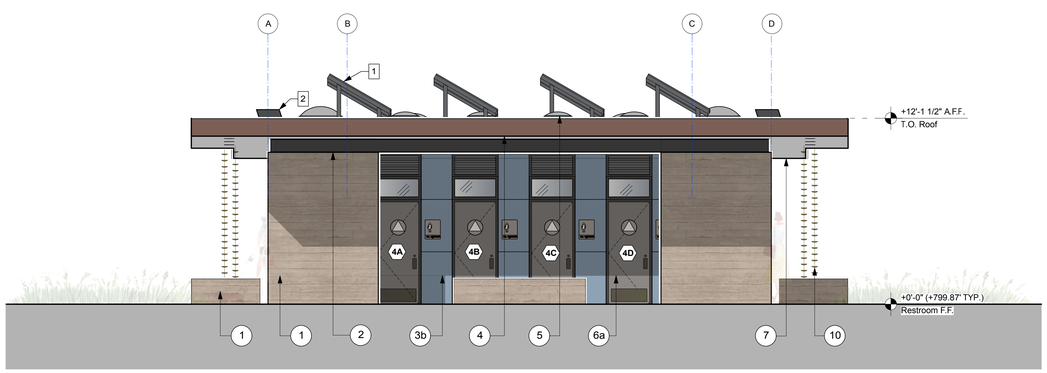




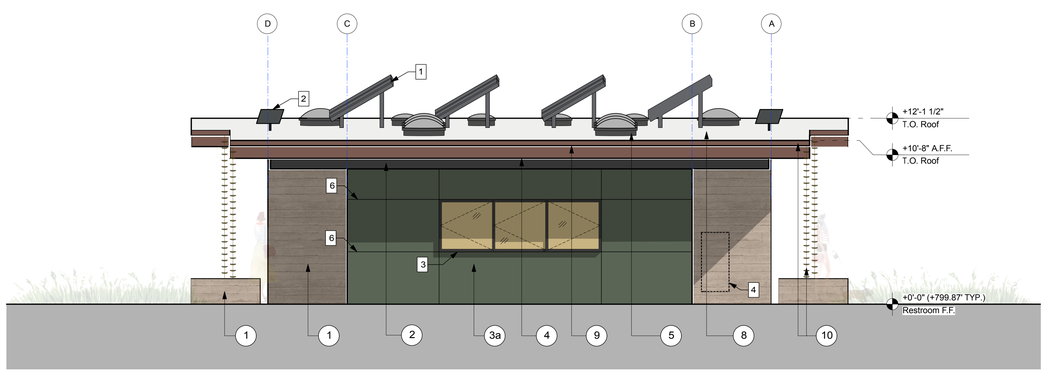
Restroom facility: North elevation 4
feet 0 2 4 8 1/4" = 1'-0"



Restroom facility: West Alcove 3
feet 0 2 4 8 1/4" = 1'-0"



Restroom facility: West elevation 2
feet 0 2 4 8 1/4" = 1'-0"



Restroom facility: East elevation 1
feet 0 2 4 8 1/4" = 1'-0"

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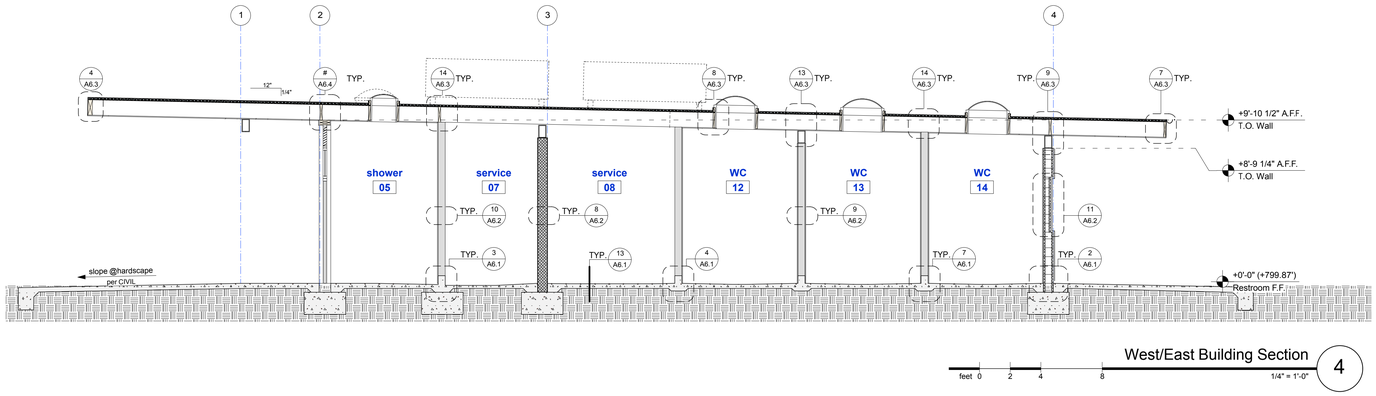
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C - 26761
REN. 7.31.2023
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Exterior Elevations

Restroom / Shower Facility

A3.1

Bid Set 06.28.23



West/East Building Section 4

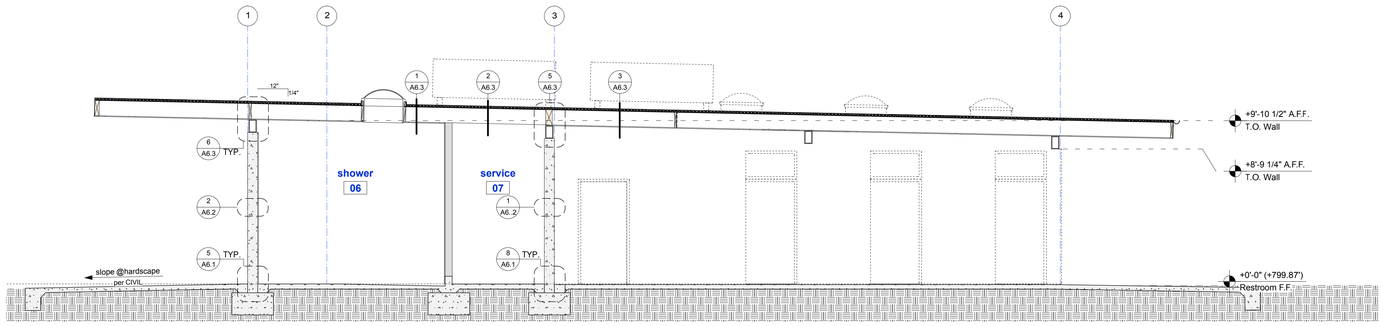
feet 0 2 4 8 1/4" = 1'-0"

GENERAL NOTES: BLDG. SECTIONS

A. Refer to Elevations (A3.x) for exterior finishes.
B. Refer to Details (A6.x) for construction assemblies.
C. Refer to Structural, Mechanical and Electrical drawings for applicable notes and additional information.
D. Refer to Civil drawings for adjacent hardscape, landscape materials and features.
E. Dimensioning:
1) all dimensions are to face of stud U.N.O.
2) doors at corners or near intersections of perpendicular walls are located 4" from face of stud to face of jamb U.N.O.
F. Sections (A4.x) do not indicate gravel, vapor retarders, geo-grid engineered fill pads and other applicable below S.O.G assemblies, components and preparation. See Soils Report and Civil drawings for additional information.
G. Install moisture resistant G.W.B. on all walls in rooms subject to wet conditions.
H. Insulation:
EXT. Walls and Roof: MIN. R-value per Title 24 analysis. Refer Details on A6.x for wall/roof assemblies
I. Exterior wall protection and openings per 2019 CBC Section 707A (High Fire Hazard)
J. Decking, floors and underfloor protection per 2019 CBC Section 709A (High Fire Hazard)
K. Exterior building materials, systems and/or assemblies shall meet 2019 CBC Chapter 7A.
L. F.F. refer to top-of-finish-floor, U.N.O.

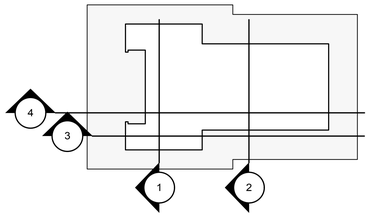
LEGEND: BUILDING SECTIONS

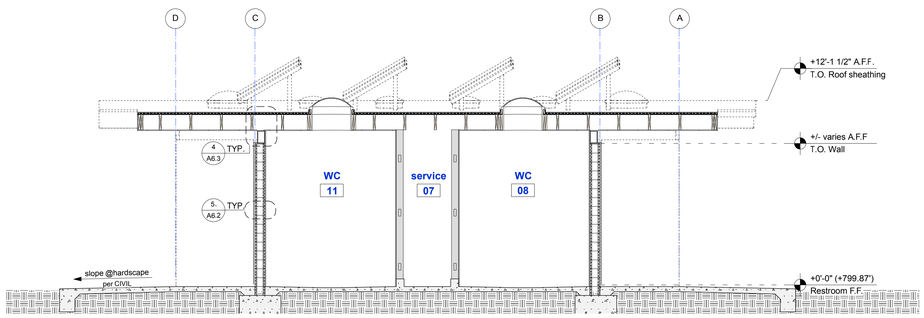
- feature hidden in front
- feature hidden behind
- (N) concrete
- (N) framing
- CMU
- rigid foam insulation



West/East Building Section 3

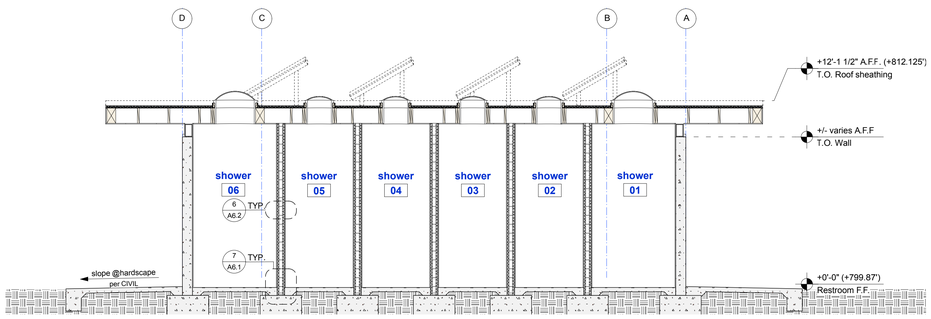
feet 0 2 4 8 1/4" = 1'-0"





South/North Building Section 2

feet 0 2 4 8 1/4" = 1'-0"



South/North Building Section 1

feet 0 2 4 8 1/4" = 1'-0"

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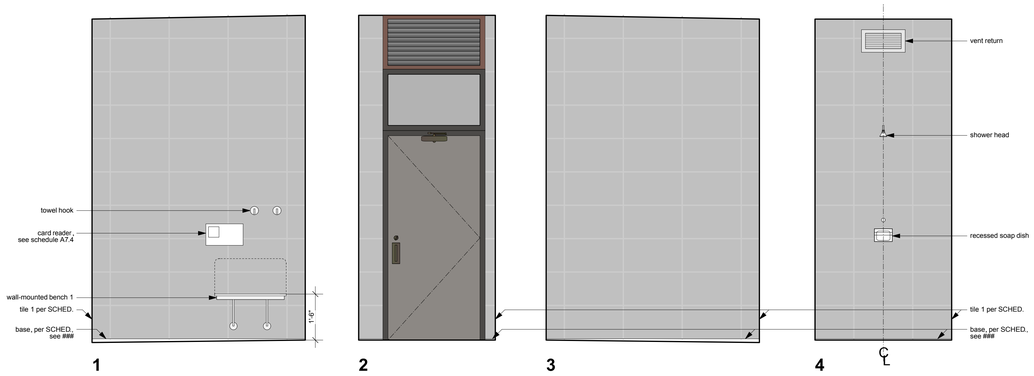
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C - 26761
REN. 7.31.2023
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Building Section

Restroom / Shower Facility

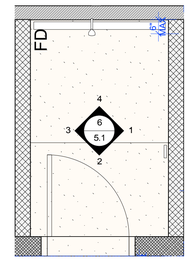
A4.1

Bid Set 06.28.23



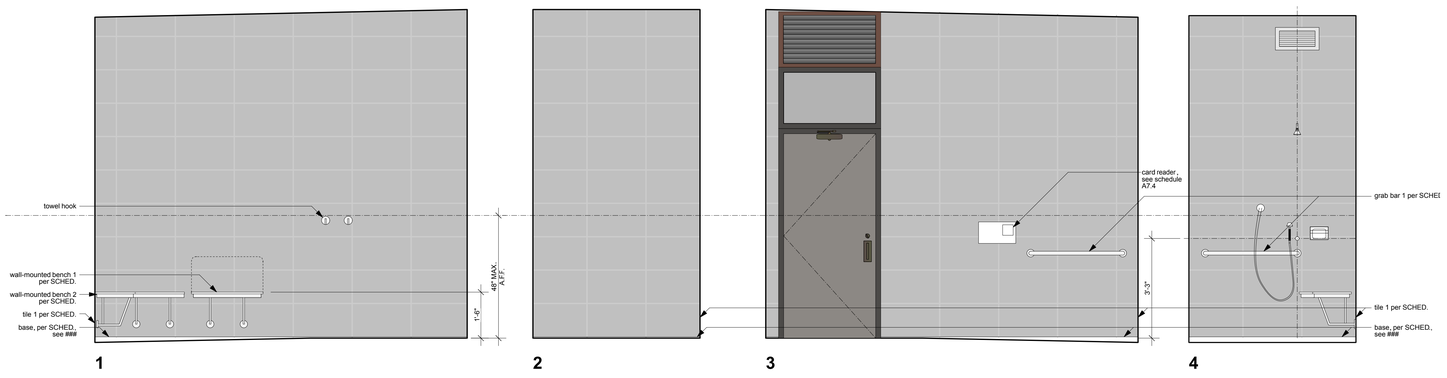
Standard shower (Rm. 02 shown, Rms. 03, 04, 05 sim.) 6

feet 0 1 2 4 1/2" = 1'-0"



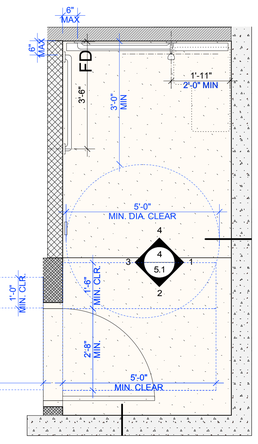
Standard shower floor plan (Rm. 02 shown) 5

feet 0 1 2 4 1/2" = 1'-0"



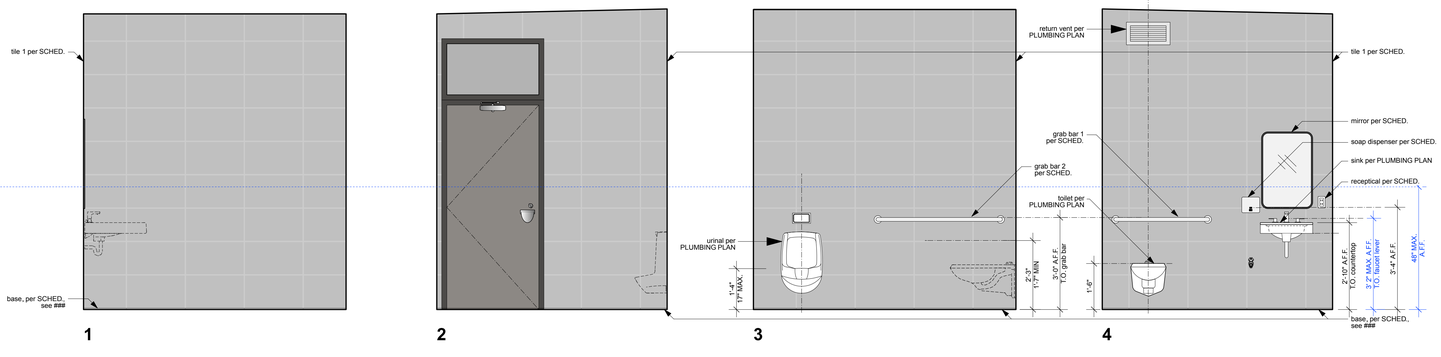
Accessible shower (Rm. 06 shown, Rm. 01 opp. sim.) 4

feet 0 1 2 4 1/2" = 1'-0"



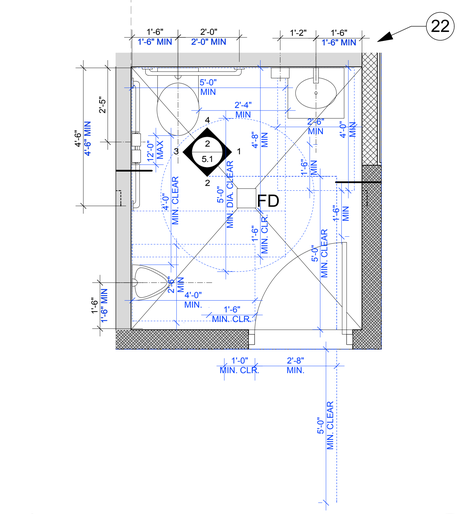
Accessible shower floor plan (Rm. 06 shown) 3

feet 0 1 2 4 1/2" = 1'-0"



W.C. (Rm. 14 shown, Rms 12, 13 sim., Rms 09, 10, 11 opp. sim.) 2

feet 0 1 2 4 1/2" = 1'-0"



W.C. floorplan (Rm. 14 shown) 1

feet 0 1 2 4 1/2" = 1'-0"

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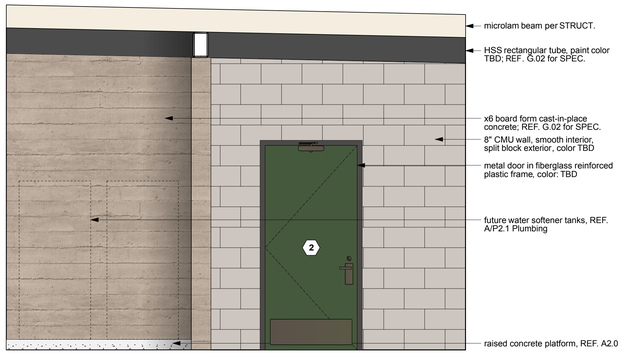
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Interior Elevations

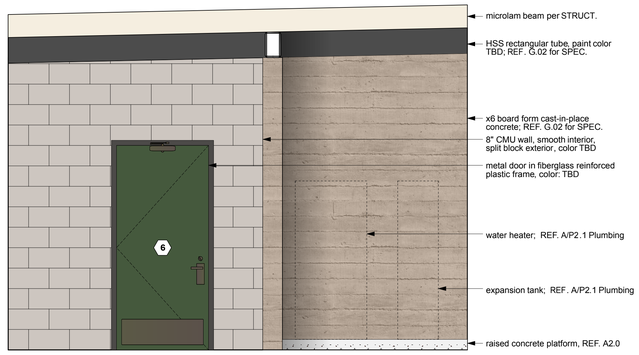
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A5.1

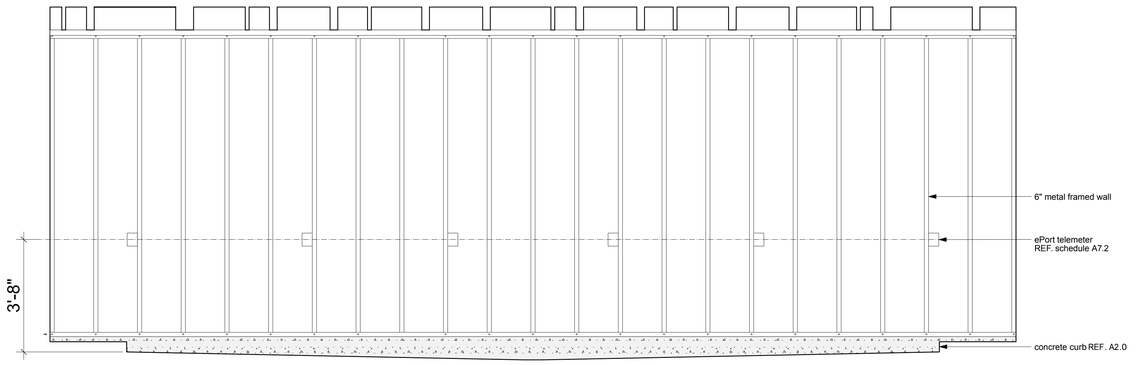
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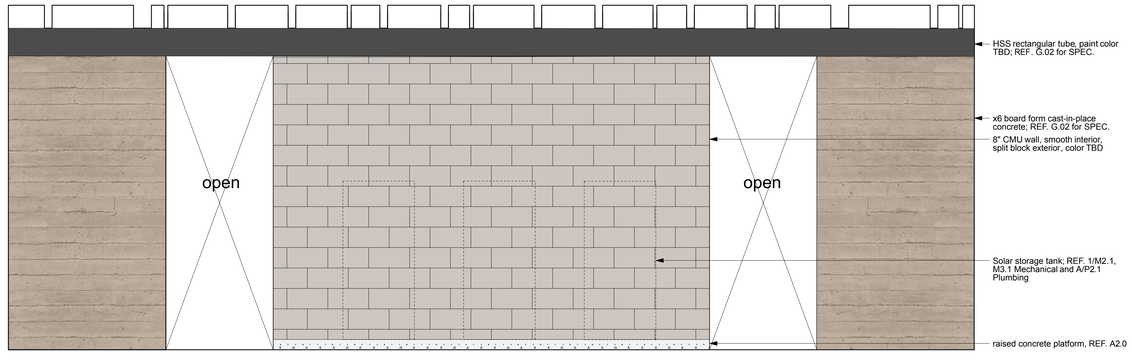
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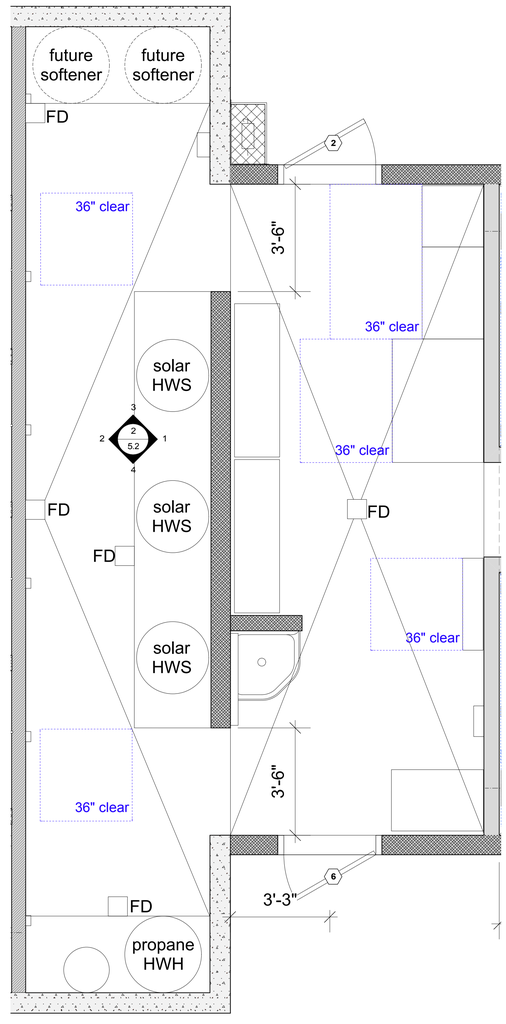
3



2



1



Service area 2

feet 0 1 2 4 1/2" = 1'-0"

Service area 1

feet 0 1 2 4 1/2" = 1'-0"

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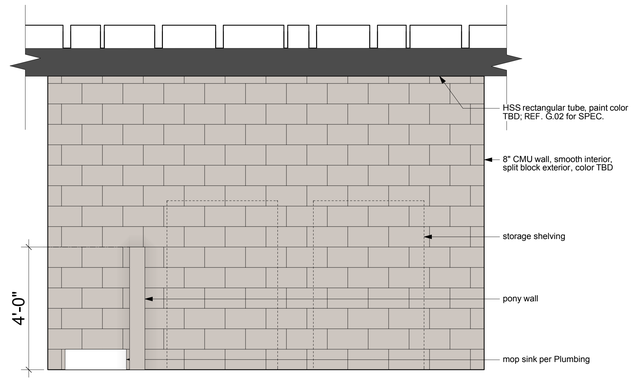
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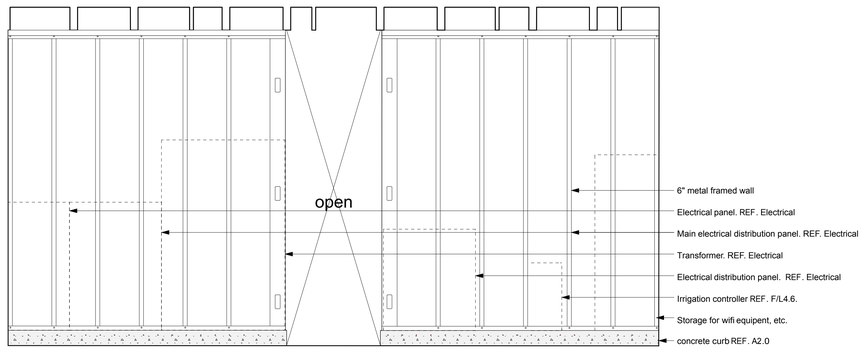
Restroom / Shower Facility

A5.2

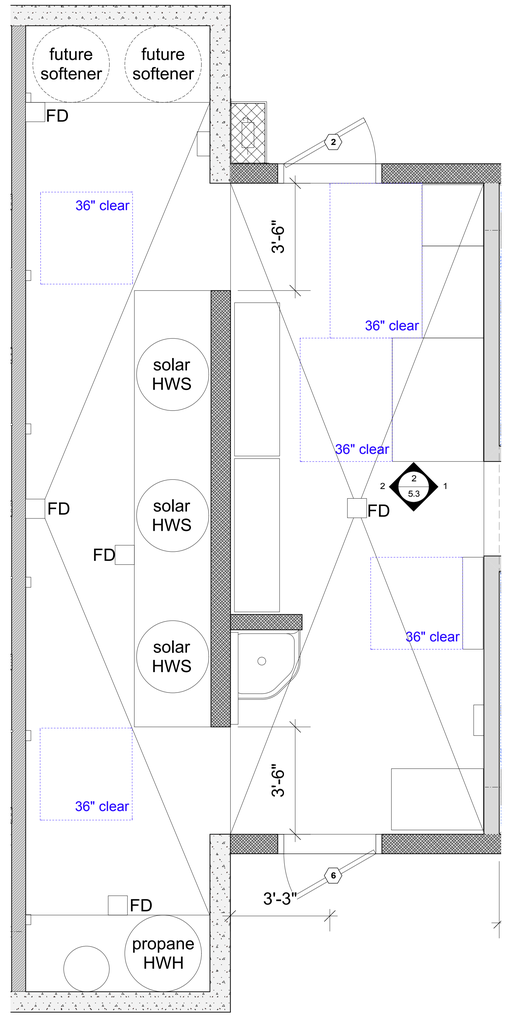
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2



1



Service area 2
feet 0 1 2 4
1/2" = 1'-0"

Service area 1
feet 0 1 2 4
1/2" = 1'-0"

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REN. 7.31.2023
STATE OF CALIFORNIA

Interior Elevations

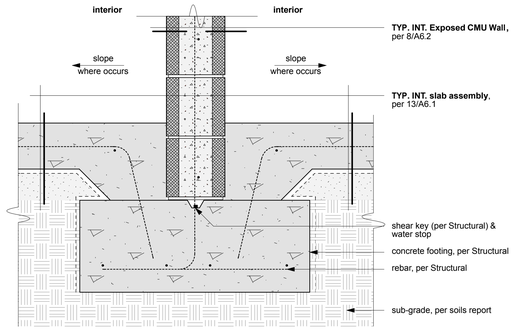
Restroom / Shower Facility

A5.3

note: regarding all details - contractor to confirm that all products are compatible and recommended by each manufacturer of the intended use in the proposed assembly

Not Used
1 1/2" = 1'-0"
16

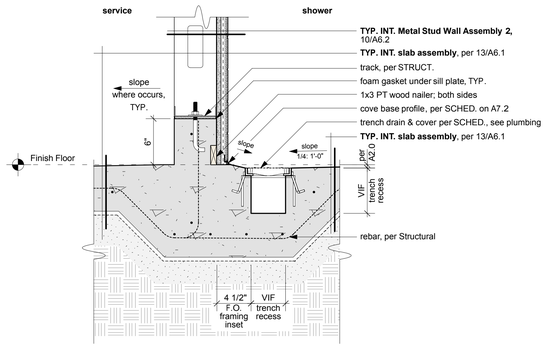
Not Used
1 1/2" = 1'-0"
12



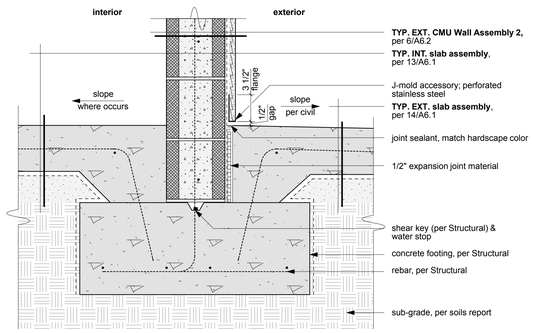
interior CMU wall @ service
1 1/2" = 1'-0"
8

Not Used
1 1/2" = 1'-0"
4

Not Used
1 1/2" = 1'-0"
15

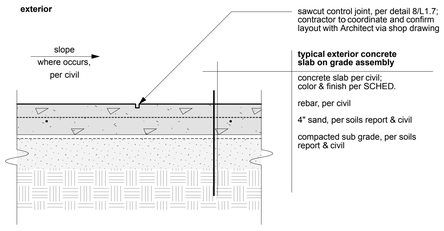


trench drain @ shower detail
1 1/2" = 1'-0"
11

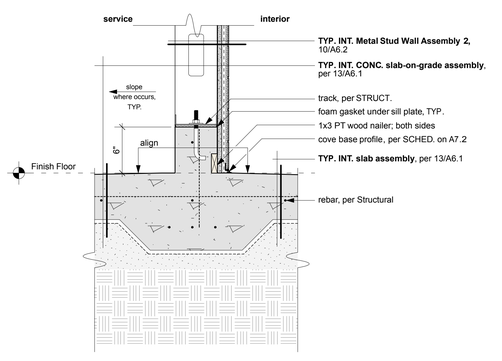


exterior CMU wall @ service
1 1/2" = 1'-0"
7

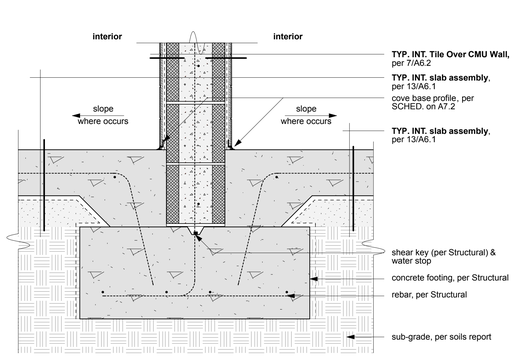
Not Used
1 1/2" = 1'-0"
3



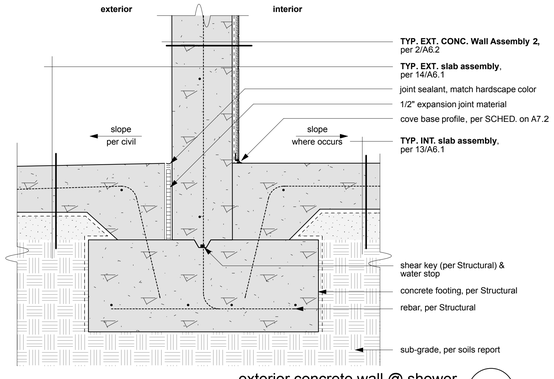
typical exterior slab on grade assembly
1 1/2" = 1'-0"
14



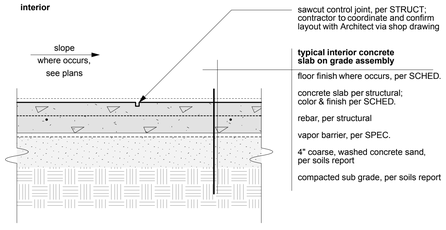
interior concrete curb @ service
1 1/2" = 1'-0"
10



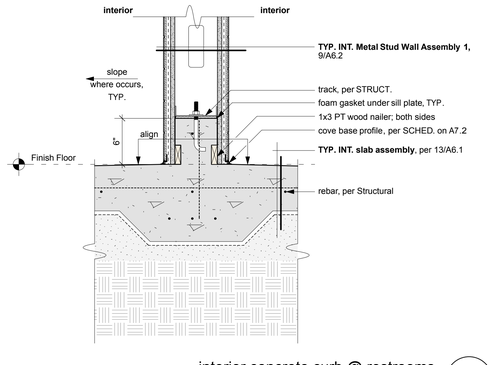
interior CMU wall @ showers
1 1/2" = 1'-0"
6



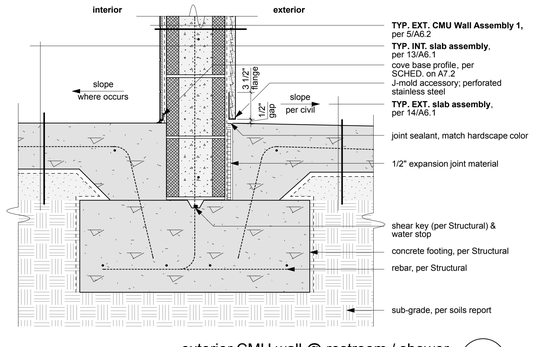
exterior concrete wall @ shower
1 1/2" = 1'-0"
2



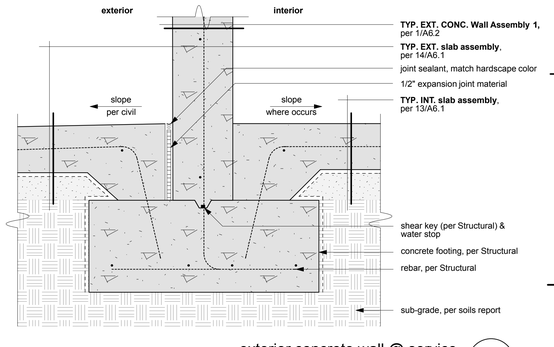
typical interior concrete slab on grade assembly
1 1/2" = 1'-0"
13



interior concrete curb @ restrooms
1 1/2" = 1'-0"
9



exterior CMU wall @ restroom / shower
1 1/2" = 1'-0"
5



exterior concrete wall @ service
1 1/2" = 1'-0"
1

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Revisions

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Details

Foundations
Floors

A6.1

Bid Set 06.28.23

note: regarding all details - contractor to confirm that all products are compatible and recommended by each manufacturer of the intended use in the proposed assembly

Custom Semi-Recessed Bulletin Board - Basis of Design

A. These details communicate the BASIS OF DESIGN for the desired custom bulletin board. Contractor to coordinate final design with Owner and Architect via submittal and shop drawing process.

B. Contractor to coordinate recess into CMU wall per structural drawings.

C. Contractor to coordinate backing and anchorage into CMU wall, and provide positive drainage with adjacent plaster finishes.

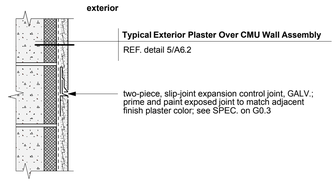
D. Provide custom cork-lined bulletin board in lockable clear tempered glass case.

E. Perimeter exposed metal frame and metal door stiles are to have equal sightlines; combined sightline (frame + stile) to be no greater than 2" wide; panel doors to operate like casement window; pre-finished to match adjacent exposed structural steel (REF. EXT. ELEV.).

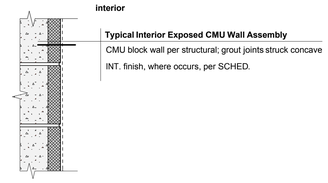
F. Reference details 11, 12, & 15 on A6.2 for design intent regarding intefacing with adjacent finishes; contractor to coordinate structural placement of CMU recess to ensure proper alignment of bulletin board with adjacent plaster and expansion accessories.

G. Contractor to coordinate size with dimensions noted on exterior elevations and floor plans.

Custom Bulletin Board - Basis of Design — 16
1 1/2" = 1'-0"

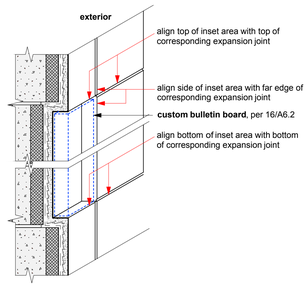


Plaster Control Joint @ EXT. CMU Wall — 12
1 1/2" = 1'-0"

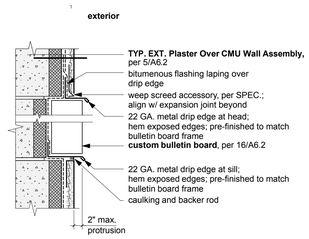


Typical Interior Exposed CMU Wall Assembly — 8
1 1/2" = 1'-0"

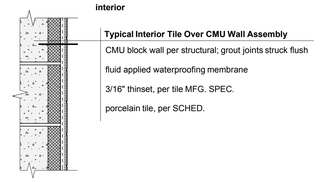
Not Used — 4
1 1/2" = 1'-0"



Control joint/recess alignment @ west exterior wall — 15
1 1/2" = 1'-0"



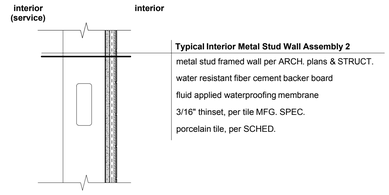
EXT. Head and Sill Detail of Bulletin Board — 11
1 1/2" = 1'-0"



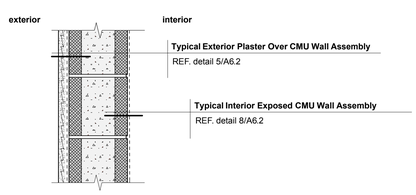
Typical Interior Tile Over CMU Wall Assembly — 7
1 1/2" = 1'-0"

Not Used — 3
1 1/2" = 1'-0"

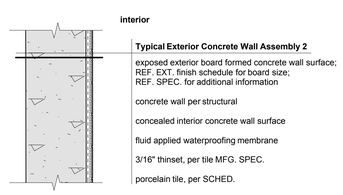
Not Used — 14
1 1/2" = 1'-0"



Typical Interior Metal Stud Wall Assembly 2 — 10
1 1/2" = 1'-0"

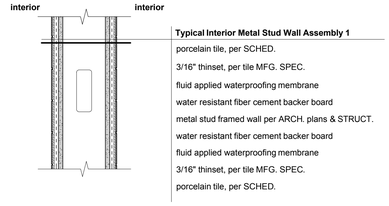


Typical Exterior CMU Wall Assembly 2 — 6
1 1/2" = 1'-0"

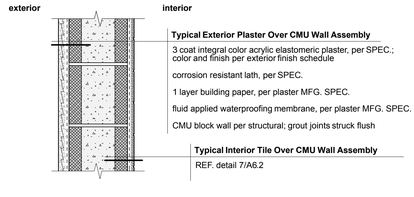


Typical Exterior Concrete Wall Assembly 2 — 2
1 1/2" = 1'-0"

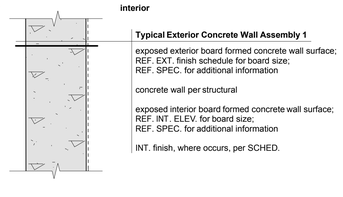
Not Used — 13
1 1/2" = 1'-0"



Typical Interior Metal Stud Wall Assembly 1 — 9
1 1/2" = 1'-0"



Typical Exterior CMU Wall Assembly 1 — 5
1 1/2" = 1'-0"



Typical Exterior Concrete Wall Assembly 1 — 1
1 1/2" = 1'-0"

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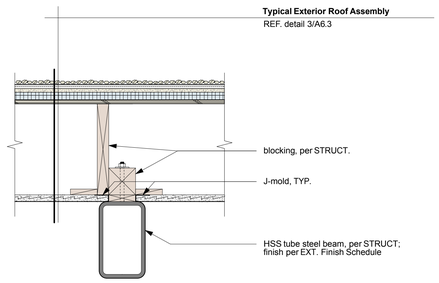
Walls
Bulletin Board

A6.2

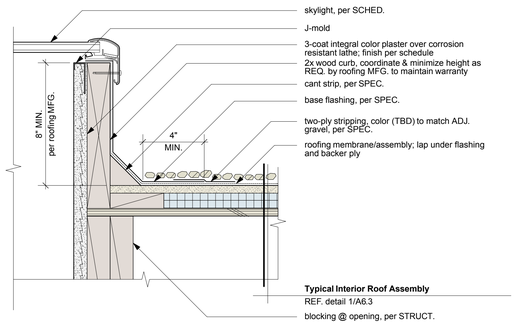
Bid Set 06.28.23

note: regarding all details - contractor to confirm that all products are compatible and recommended by each manufacturer of the intended use in the proposed assembly

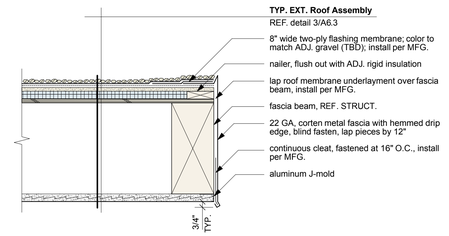
Not Used
1 1/2" = 1'-0"
16



Typical Exposed HSS Beam
1 1/2" = 1'-0"
12



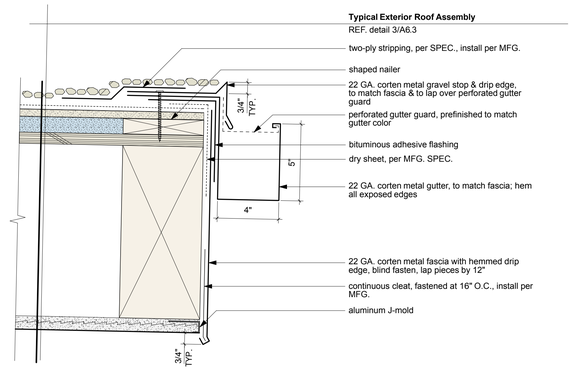
Typical Skylight Curb Detail
3" = 1'-0"
8



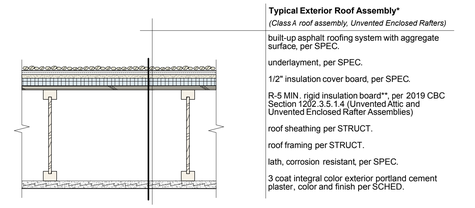
TYP. Rake Detail
1 1/2" = 1'-0"
4

Not Used
1 1/2" = 1'-0"
15

Not Used
1 1/2" = 1'-0"
11



Typical Gutter Detail
3" = 1'-0"
7

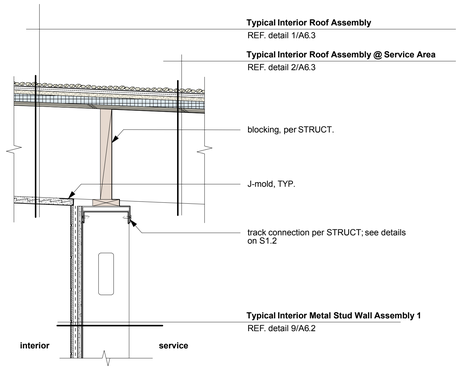


notes:

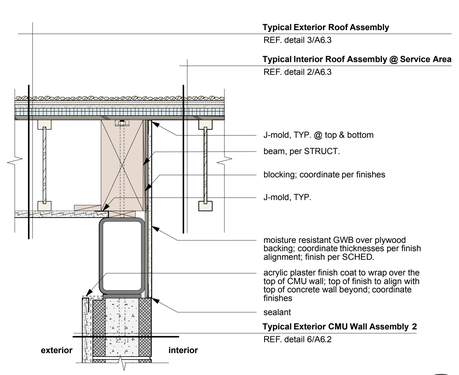
* reference detail 1/A6.3 for UL listing for this specified roof

** reference detail 1/A6.3 for air-impermeable insulation layer note

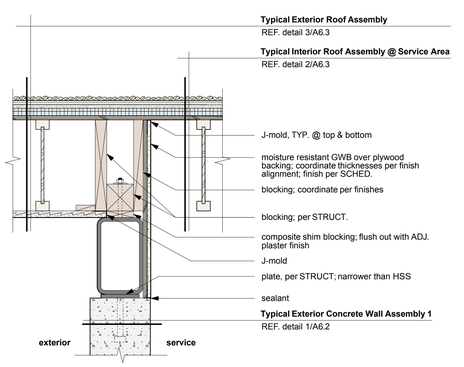
Typical Exterior Roof Assembly
1 1/2" = 1'-0"
3



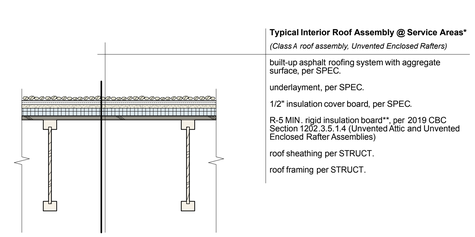
Interior Metal Stud Wall @ Service Area
1 1/2" = 1'-0"
14



Exterior CMU Wall @ Service Areas
1 1/2" = 1'-0"
10



Exterior Concrete Wall @ Service Areas
1 1/2" = 1'-0"
6

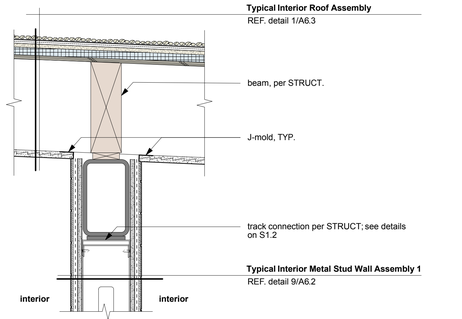


notes:

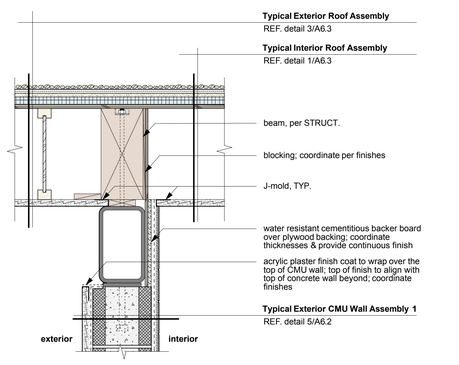
* reference detail 1/A6.3 for UL listing for this specified roof

** reference detail 1/A6.3 for air-impermeable insulation layer note

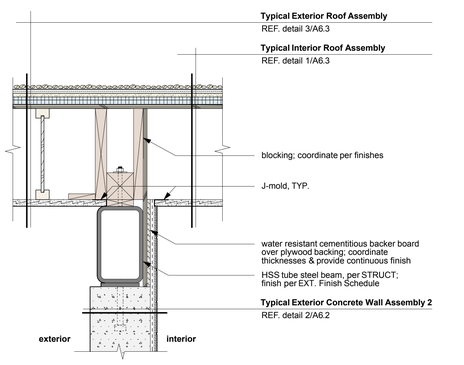
Typical Interior Roof Assembly @ Service Areas
1 1/2" = 1'-0"
2



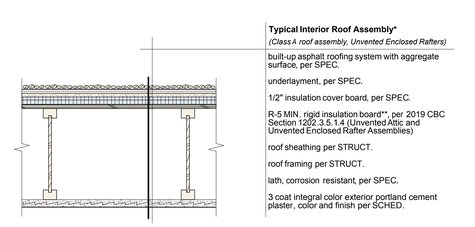
Interior Metal Stud Wall Between Restrooms
1 1/2" = 1'-0"
13



Exterior CMU Wall @ Restrooms
1 1/2" = 1'-0"
9



Exterior Concrete Wall @ Showers
1 1/2" = 1'-0"
5



notes:

*UL listing for this specified roof is:

R6692 Tremco CPG Inc. - UL Class A

1. *Deck: C-15/32 Incline: 2"*
   Insulation: Wood fiber, glass fiber or polyisocyanurate 1/2" to 1-5/8" thick.
   Ply Sheet: Three or more layers Type G2 "BURmastic Glass Ply".
   Coating: "BURmastic Adhesive" or "BURmastic Adhesive AF", 5 to 6-1/2 gal/100-ft.2.
   Surfacing: Gravel applied into wet coating.

** Rigid insulation board is used as the air-impermeable insulation layer, and shall be sealed at the perimeter of each individual sheet interior surface to form a continuous layer (per 2019 CBC Section 1202.3.5.2)

Typical Roof Assembly @ Showers & Restrooms
1 1/2" = 1'-0"
1

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Cachuma Lake Comfort Facility

2265 HWY 154
Santa Barbara, CA 93105

145 160 072

Revisions

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LICENSED ARCHITECT
KENNETH G. RADTKEY
C - 26761
REN. 7.31.2023
STATE OF CALIFORNIA

Details

Roof

A6.3

Bid Set 06.28.23

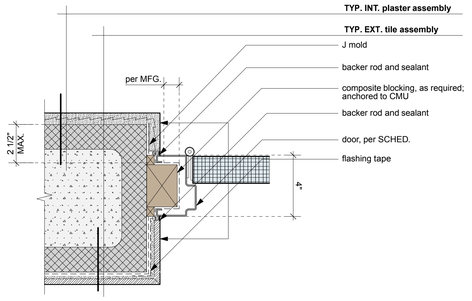
note: regarding all details - contractor to confirm that all products are compatible and recommended by each manufacturer of the intended use in the proposed assembly

Not Used 16
3" = 1'-0"

Not Used 12
3" = 1'-0"

Not Used 8
3" = 1'-0"

Not Used 4
3" = 1'-0"



Not Used 15
3" = 1'-0"

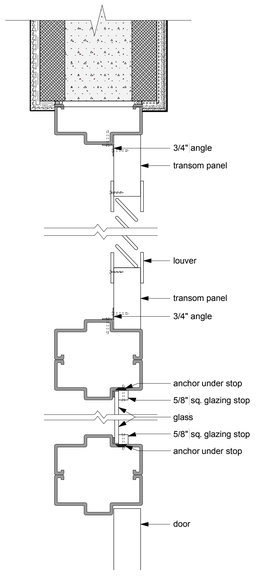
Not Used 11
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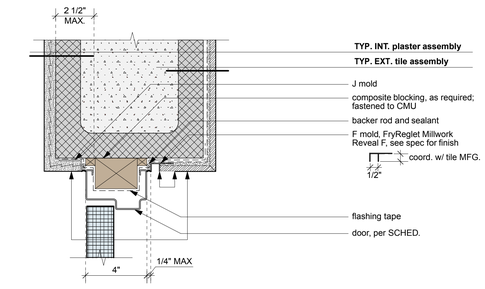
Not Used 7
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TYP. Door Jamb 3
3" = 1'-0"

Not Used 14
3" = 1'-0"

Not Used 10
3" = 1'-0"



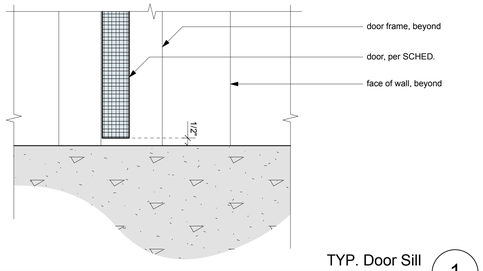


TYP. Door Head 2
3" = 1'-0"

Not Used 13
3" = 1'-0"

Not Used 9
3" = 1'-0"

TYP. Door Transom 5
3" = 1'-0"



TYP. Door Sill 1
3" = 1'-0"

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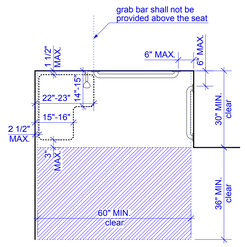
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Details

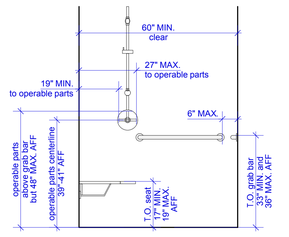
Doors & Windows

A6.4

STANDARD ROLL-IN SHOWER COMPARTMENT



PLAN

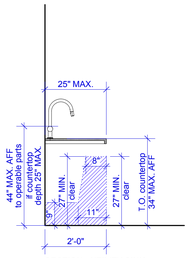


ELEVATION

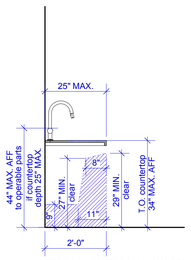
2019 CALIFORNIA BUILDING CODE

11B-608.2 Size and clearances for shower compartments. Shower compartments shall have sizes and clearances complying with Section 11B-608.2.
11B-608.2.2 Standard roll-in type shower compartments. Standard roll-in type shower compartments shall be 30 inches (762 mm) wide minimum by 60 inches (1524 mm) deep minimum clear inside dimensions measured at center points of opposing sides with a full opening width on the long side.
11B-608.2.2.1 Clearance. A 36 inch (914 mm) wide minimum by 60 inch (1524 mm) long minimum clearance shall be provided adjacent to the open face of the shower compartment.
11B-608.3 Grab bars. Grab bars shall comply with Section 11B-609 and shall be provided in accordance with Section 11B-608.3. Where multiple grab bars are used, required hori- zontal grab bars shall be installed at the same height above the finish floor. Where separate grab bars are required on adjacent walls at a common mounting height, an L-shaped or U-shaped grab bar meeting the dimensional requirements of Section 11B-608.3.2 or 11B-608.3.3 shall be permitted.
11B-608.3.2 Standard roll-in type shower compartments. Grab bars shall be provided on the back wall and the side wall opposite the seat. Grab bars shall not be pro- vided above the seat. Grab bars shall be installed 6 inches (152 mm) maximum from adjacent walls.
11B-608.4 Seats. A folding seat shall be provided in roll-in type showers and transfer type shower compartments. Seats shall comply with Section 11B-610.
11B-608.5 Controls. Controls, faucets, and shower spray units shall comply with Section 11B-309.4. Controls and fau- cets shall allow the user to close and open the water supply.
11B-608.5.2 Standard roll-in type shower compartments. In standard roll-in type shower compartments, operable parts of controls and faucets shall be installed on the back wall of the compartment adjacent to the seat wall 19 inches (483 mm) minimum and 27 inches (686 mm) maximum from the seat wall; and shall be located above the grab bar, but no higher than 48 inches (1219 mm) above the shower floor, with their centerline at 39 inches (991 mm) to 41 inches (1041 mm) above the shower floor.
Operable parts of the shower spray unit, including the handle, shall be installed on the back wall adjacent to the seat wall 19 inches (483 mm) minimum and 27 inches (686 mm) maximum from the seat wall; and shall be located above the grab bar, but no higher than 48 inches (1219 mm) above the shower floor.
11B-608.7 Thresholds. Thresholds in roll-in type shower compartments shall be 1/2 inch (12.7 mm) high maximum in accordance with Section 11B-303. In transfer type shower compartments, thresholds 1/2 inch (12.7 mm) high maximum shall be beveled, rounded, or vertical.
11B-608.8 Shower enclosures. Enclosures for shower compartments shall not obstruct controls, faucets, and shower spray units or obstruct transfer from wheelchairs onto shower seats.
11B-608.9 Shower floor or ground surface. Floor or ground surfaces of showers shall comply with Section 11B-302.1 and shall be sloped 1:48 maximum in any direction. Where drains are provided, grate openings shall be 1/4 inch (6.4 mm) maxi- mum and flush with the floor surface.
11B-608.10 Soap dish. Where a soap dish is provided, it shall be located on the control wall at 40 inches (1016 mm) maximum above the shower floor, and within the reach limits from the seat.
11B-609.4 Position of grab bars. Grab bars shall be installed in a horizontal position, 33 inches (838 mm) minimum and 36 inches (914 mm) maximum above the finish floor measured to the top of the gripping surface, except that at water closets for children's use complying with Section 11B-604.9, grab bars shall be installed in a horizontal posi- tion 18 inches (457 mm) minimum and 27 inches (686 mm) maximum above the finish floor measured to the top of the gripping surface. The height of the lower grab bar on the back wall of a bathtub shall comply with Section 11B- 607.4.1.1 or 11B-607.4.2.1.
11B-610.3 Shower compartment seats. A seat in a standard roll-in shower compartment shall be a folding type, shall be installed on the side wall adjacent to the controls, and shall extend from the back wall to a point within 3 inches (76 mm) of the compartment entry. A seat in an alternate roll-in type shower compartment shall be a folding type, shall be installed on the front wall opposite the back wall, and shall extend from the adjacent side wall to a point within 3 inches (76 mm) of the compartment entry. In transfer type showers, the seat shall extend from the back wall to a point within 3 inches (76 mm) of the compartment entry. The top of the seat shall be 17 inches (432 mm) minimum and 19 inches (483 mm) maximum above the bathroom finish floor. When folded, the seat shall extend 6 inches (152 mm) maximum from the mounting wall. Seats shall comply with Section 11B-610.3.1 or 11B-610.3.2
11B-610.3.1 Rectangular seats. The rear edge of a rectangular seat shall be 2\12 inches (64 mm) maximum and the front edge 15 inches (381 mm) minimum and 16 inches (406 mm) maximum from the seat wall. The side edge of the seat shall be 1\12 inches (38 mm) maximum from the adjacent wall.
11B-610.3.2 L-shaped seats. The rear edge of an L-shaped seat shall be 2\12 inches (64 mm) maximum and the front edge 15 inches (381 mm) minimum and 16 inches (406 mm) maximum from the seat wall. The rear edge of the "L" portion of the seat shall be 11\2 inches (38 mm) maximum from the wall and the front edge shall be 14 inches (356 mm) minimum and 15 inches (381 mm) maxi- mum from the wall. The end of the "L" shall be 22 inches (559 mm) minimum and 23 inches (584 mm) maximum from the main seat wall.

LAVATORY & UTILITY SINK



SECTION - UTILITY SINK



SECTION - BATHROOM LAVATORY

2019 CALIFORNIA BUILDING CODE

11B-606 Lavatories and sinks
11B-606.1 General. Lavatories and sinks shall comply with Section 11B-606.

11B-606.2 Clear floor space. A clear floor space complying with Section 11B-305, positioned for a forward approach, and knee and toe clearance complying with Section 11B-306 shall be provided.
***11B-306.2* Toe clearance**
***11B-306.2.1* General.** Space under an element between the finish floor or ground and 9 inches (229 mm) above the finish floor or ground shall be considered toe clearance and shall comply with *Section 11B-306.2*.
***11B-306.2.2* Maximum depth.** Toe clearance shall extend 25 inches (635 mm) maximum under an element.
***Exception:** Toe clearance shall extend 19 inches (483 mm) maximum under lavatories required to be accessible by Section 11B-213.3.4.*
***11B-306.2.3* Minimum required depth.** Where toe clearance is required at an element as part of a clear floor space, the toe clearance shall extend 17 inches (432 mm) minimum under the element.
Exceptions:
1. The toe clearance shall extend 19 inches (483 mm) minimum under sinks required to be accessible by Section 11B-212 .3.
2. The toe clearance shall extend 19 inches (483 mm) minimum under built-in dining and work surfaces required to be accessible.
***11B-306.2.4* Additional clearance.** Space extending greater than 6 inches (152 mm) beyond the available knee clearance at 9 inches (229 mm) above the finish floor or ground shall not be considered toe clearance.
***11B-306.2.5* Width.** Toe clearance shall be 30 inches (762 mm) wide minimum.
***11B-306.3* Knee clearance.**
***11B-306.3.1* General.** Space under an element between 9 inches (229 mm) and 27 inches (686 mm) above the finish floor or ground shall be considered knee clearance and shall comply with *Section 11B-306.3*.
***Exception:** At lavatories required to be accessible by Section 11B-213.3.4, space between 9 inches (229 mm) and 29 inches (737 mm) above the finish floor or ground, shall be considered knee clearance.*
***11B-306.3.2* Maximum depth.** Knee clearance shall extend 25 inches (635 mm) maximum under an element at 9 inches (229 mm) above the finish floor or ground.
***11B-306.3.3* Minimum required depth.** Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches (279 mm) deep minimum at 9 inches (229 mm) above the finish floor or ground, and 8 inches (203 mm) deep minimum at 27 inches (686 mm) above the finish floor or ground.
Exceptions:
1. At lavatories required to be accessible by Section 11B-213.3.4, the knee clearance shall be 27 inches (686 mm) high minimum above the finish floor or ground at a depth of 8 inches (203 mm) minimum increasing to 29 inches (737 mm) high minimum above the finish floor or ground at the front edge of a counter with a built-in lavatory or at the front edge of a wall-mounted lavatory fixture.
2. At dining and work surfaces required to be accessible, knee clearance shall extend 19 inches (483 mm) deep minimum at 27 inches (686 mm) above the finish floor or ground.
***11B-306.3.4* Clearance reduction.** Between 9 inches (229 mm) and 27 inches (686 mm) above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) in depth for each 6 inches (152 mm) in height.
***Exception:** The knee clearance shall not be reduced at built-in dining and work surfaces required to be accessible by Section 11B-226.1.*
***11B-306.3.5* Width.** Knee clearance shall be 30 inches (762 mm) wide minimum.

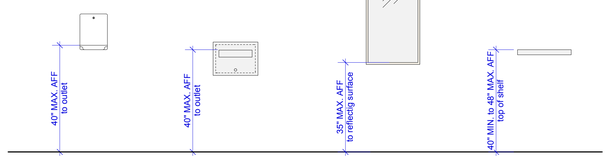
***11B-606.3 Height.** Lavatories and sinks shall be installed with the front of their highest of the rim or counter surface 34 inches (864 mm) maximum above the finish floor or ground.*

***11B-606.4 Faucets.** Controls for faucets shall comply with Section 11B-309.1. Hand-operated metering faucets shall remain open for 10 seconds minimum.*
11B-309 Operable parts
***11B-309.1 General.** Operable parts shall comply with Section 11B-309.*
***11B-309.2 Clear floor space.** A clear floor or ground space complying with Section 11B-305 shall be provided.*
***11B-309.3 Height.** Operable parts shall be placed within one or more of the reach ranges specified in Section 11B-308*
***11B-309.4 Operation.** Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum.*
11B-308.2 Forward reach.
***11B-*308.2.2 Obstructed high reach.** Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (*1219* mm) maximum where the reach depth is 20 inches (508 mm) maximum. Where the reach depth exceeds 20 inches (508 mm), the high forward reach shall be 44 inches (*1118* mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.
11B-308.3 Side reach.
***11B-*308.3.1 Unobstructed.** Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (*1219* mm) maximum and the low side reach shall be 15 inches (*381* mm) minimum above the finish floor or ground.
***11B-*308.3.2 Obstructed high reach.** Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (*864* mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (*1219* mm) maximum for a reach depth of 10 inches (*254* mm) maximum. Where the reach depth exceeds 10 inches (*254* mm), the high side reach shall be 46 inches (*1168* mm) maximum for a reach depth of 24 inches (*610* mm) maximum.

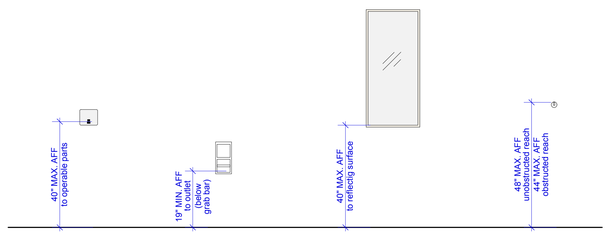
11B-606.5 Exposed pipes and surfaces. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

11B-606.7 Sink depth. Where a forward approach is required at a sink, knee and toe clearance shall be provided in compliance with Section 11B-306.

RESTROOM ACCESSORIES



PAPER TOWEL DISPENSER | TOILET SEAT COVER DISPENSER | MIRROR NOT ABOVE LAVATORY/COUNTERTOP | SHELF



SOAP DISPENSER | TOILET PAPER DISPENSER | MIRROR ABOVE LAVATORY/COUNTERTOP | HOOK

2019 CALIFORNIA BUILDING CODE

11B-604.7.1 Dispensers. Toilet paper dispensers shall comply with Section 11B-309.4 and shall be 7 inches (178 mm) minimum and 9 inches (229 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be below the grab bar, 19 inches (483 mm) minimum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow

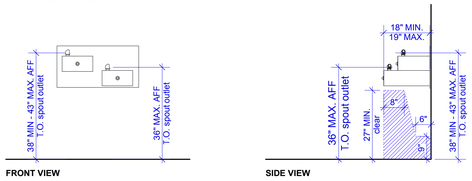
11B-604.7.2 Disposal Units. Sanitary napkin disposal units, if provided, shall comply with Section 11B-309.4 and shall be wall mounted and located on the sidewall between the rear wall of the toilet and the toilet paper dispenser, adjacent to the toilet paper dispenser. The disposal unit shall be located below the grab bar with the opening of the disposal unit 19 inches minimum (483 mm) above the finish floor.

11B-603.3 Mirrors. Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches (1016 mm) maximum above the finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches (889 mm) maximum above the finish floor or ground.

11B-603.4 Coat hooks, shelves and medicine cabinets. Coat hooks shall be located within one of the reach ranges specified in Section 11B-308. Shelves shall be located 40 inches (1016 mm) minimum and 48 inches (1219 mm) maximum above the finish floor. Medicine cabinets shall be located with a usable shelf no higher than 44 inches (1118 mm) maximum above the finish floor.

11B-603.5 Accessories. Where towel or sanitary napkin dis pensers, waste receptacles, or other accessories are provided in toilet facilities, at least one of each type shall be located on an accessible route. All operable parts, including coin slots, shall be 40 inches (1016 mm) maximum above the finish floor.

DRINKING FOUNTAIN



FRONT VIEW | SIDE VIEW

2019 CALIFORNIA BUILDING CODE

11B-602 Drinking fountains
11B-602.1 General. Drinking fountains shall comply with Sections 11B-307 and 11B-602.

11B-602.2 Clear floor space. Units shall have a clear floor or ground space complying with Section 11B-305 positioned for a forward approach and centered on the unit. Knee and toe clearance complying with Section 11B-306 shall be provided.
Exception: A parallel approach complying with Section 11B-305 shall be permitted at units for children's use where the spout is 30 inches (762 mm) maximum above the finish floor or ground and is 3 1\2 inches (89 mm) maximum from the front edge of the unit, including bumpers.

11B-602.3 Operable parts. Operable parts shall comply with Section 11B-309. The flow of water shall be activated by a manually operated system that is front mounted or side mounted and located within 6 inches (152 mm) of the front edge of the fountain or an automatic electronically controlled device.

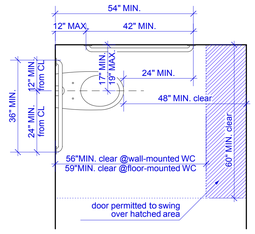
11B-602.4 Spout height. Spout outlets shall be 36 inches (914 mm) maximum above the finish floor or ground.

11B-602.5 Spout location. The spout shall be located 15 inches (381 mm) minimum from the vertical support and 5 inches (127 mm) maximum from the front edge of the unit, including bumpers.

11B-602.6 Water flow. The spout shall provide a flow of water 4 inches (102 mm) high minimum and shall be located 5 inches (127 mm) maximum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches (76 mm) of the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches (76 mm) and 5 inches (127 mm) maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum.

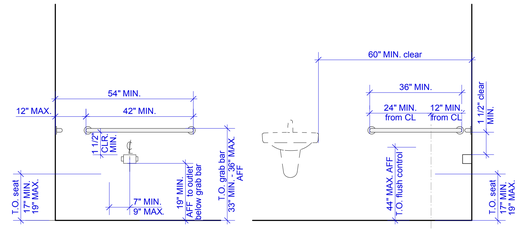
11B-602.7 Drinking fountains for standing persons. Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1092 mm) maximum above the finish floor or ground.
11B-602.8 Depth. Wall- and post-mounted cantilevered drinking fountains shall be 18 inches (457 mm) minimum and 19 inches (483 mm) maximum in depth.
11B-602.9 Pedestrian protection. All drinking fountains shall either be located completely within alcoves, positioned completely between wing walls, or otherwise positioned so as not to encroach into pedestrian ways. The protected area within which a drinking fountain is located shall be 32 inches (813 mm) wide minimum and 18 inches (457 mm) deep mini mum, and shall comply with Section 11B-305.7. When used, wing walls or barriers shall project horizontally at least as far as the drinking fountain and to within 6 inches (152 mm) vertically from the floor or ground surface.

WATER CLOSET



PLAN VIEW

NOTE:
other fixtures or obstructions shall not be located within the required watercloset clearance



SIDE VIEW | FRONT VIEW

2019 CALIFORNIA BUILDING CODE

11B-604.1 General. Water closets and toilet compartments shall comply with Sections 11B-604.2 through 11B-604.8.

11B-604.2 Location. The water closet shall be positioned with a wall or partition to the rear and to one side. The center line of the water closet shall be 17 inches (432 mm) minimum to 18 inches (457 mm) maximum from the side wall or parti tion, except that the water closet shall be 17 inches (432 mm) minimum and 19 inches (483 mm) maximum from the side wall or partition in the ambulatory accessible toilet compart ment specified in Section 11B-604.8.2. Water closets shall be arranged for a left-hand or right-hand approach.

11B-604.3 Clearance. Clearances around water closets and in toilet compartments shall comply with Section 11B-604.3.
11B-604.3.1 Size. Clearance around a water closet shall be 60 inches (1524 mm) minimum measured perpendicular from the side wall and 56 inches (1422 mm) minimum measured perpendicular from the rear wall. A minimum 60 inches (1524 mm) wide and 48 inches (1219 mm) deep reserving space shall be provided in front of the water closet.
11B-604.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

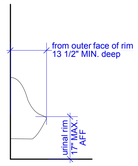
11B-604.4 Seats. The seat height of a water closet above the finish floor shall be 17 inches (432 mm) minimum and 19 inches (483 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position. Seats shall be 2 inches (51 mm) high maximum.

11B-604.5 Grab bars. Grab bars for water closets shall comply with Section 11B-609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall. Where separate grab bars are required on adjacent walls at a common mounting height, an L-shaped grab bar meeting the dimensional requirements of Sections 11B-604.5.1 and 11B 604.5.2 shall be permitted.
11B-604.5.1 Side wall. The side wall grab bar shall be 42 inches (1067 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1372 mm) minimum from the rear wall with the front end positioned 24 inches (610 mm) minimum in front of the water closet.
11B-604.5.2 Rear wall. The rear wall grab bar shall be 36 inches (914 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.
Exceptions:
1. The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered on the water closet, where wall space does not permit a length of 36 inches (914 mm) minimum due to the location of a recessed fixture adjacent to the water closet.
2. Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side of the toilet area.

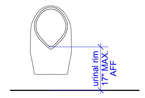
11B-604.6 Flush controls. Flush controls shall be hand oper ated or automatic. Hand operated flush controls shall comply with Section 11B-309 except they shall be located 44 inches (1118 mm) maximum above the floor. Flush controls shall be located on the open side of the wat closet except in ambula tory accessible compartments complying with Section 11B 604.8.2

11B-604.7 Dispensers. Toilet paper dispensers shall comply with Section 11B-309.4 and shall be 7 inches (178 mm) minimum and 9 inches (229 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be below the grab bar, 19 inches (483 mm) minimum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

URINAL



SIDE VIEW



FRONT VIEW

2019 CALIFORNIA BUILDING CODE

11B-605 Urinals
11B-605.1 General. Urinals shall comply with Section 11B 605.

11B-605.2 Height and depth. Urinals shall be the stall-type or the wall-hung type with the rim 17 inches (432 mm) maximum above the finish floor or ground. Urinals shall be 13 1/2 inches (343 mm) deep minimum measured from the outer face of the urinal rim to the back of the fixture.

11B-605.3 Clear floor space. A clear floor or ground space complying with Section 11B-305 positioned for forward approach shall be provided.

11B-605.4 Flush controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 11B-309 except that the flush control shall be mounted at a maximum height of 44 inches (1118 mm) above the finish floor.

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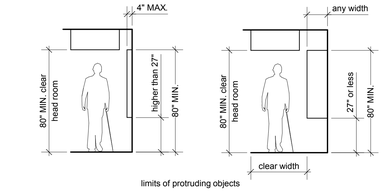
TYP. Fixture Mounting

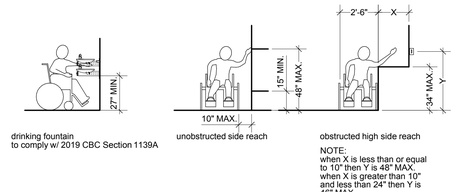
feet 0 1 2 4
1/2" = 1'-0"

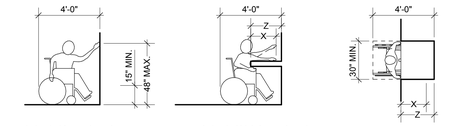
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A6.5

Bid Set 06.28.23





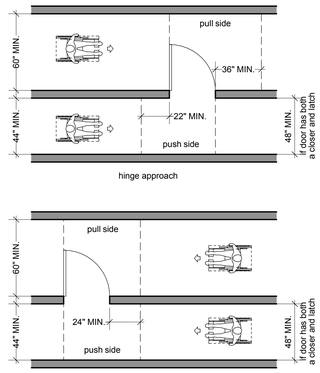


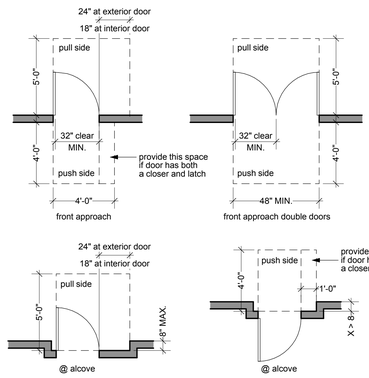
Protruding Objects 3

feet 0 1 2 4 1/4" = 1'-0"

Accessible Reach 4

feet 0 1 2 4 1/4" = 1'-0"

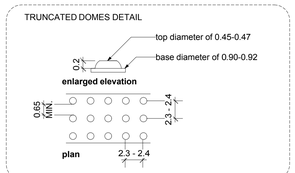


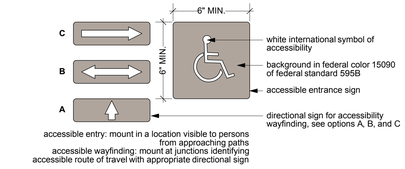


NOTE:
Maximum Operating Force:
interior hinged doors, gates, sliding or folding doors - 5 pounds
exterior hinged doors - 5 pounds
fire door - 15 pounds

Door Clearances 2

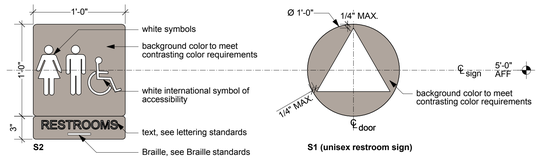
feet 0 1 2 4 1/4" = 1'-0"

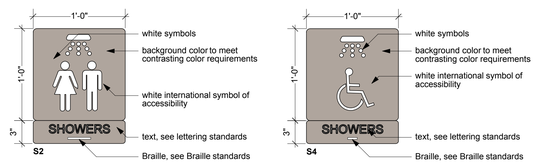




Interior signage 6

inches 0 4 8 16 1 1/2" = 1'-0"





Lettering Standards,
per 11B-703.2 in 2019 CBC
sans serif uppercase characters raised 1/32"
width to height ratio between 3:5 and 1:1
stroke width to height ratio between 1:5 and 1:10
5/8" minimum letter height, 2" maximum
contrasting color, see signage for actual color

Contracted Grade II Braille Standards,
per 11B-703.3 in 2019 CBC
domed dots raised 1/40" MIN.
dots 1/10" O.C. in each cell
2/10" space between each cell
place 3/8" MIN to 1/2" MAX. directly below lettering

Pictorial Symbol Sign Standards,
per 11B-703.6 in 2019 CBC
pictoral signs shall be accompanied by the verbal description placed directly below
the outside of the pictogram field shall be a minimum of 6" in height

Symbols of Accessibility,
per 11B-703.7 in 2019 CBC
Symbols of accessibily and their brackground shall have a non-glare finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background.
The International Symbol of Accessibility shall comply with Figure 11B-703.7.2.1 in 2019 CBC
The International Symbol of Access for Hearing Loss shall comply with Figure 11B-703.7.2.4 in 2019 CBC

Mounting Location,
per 11B-703.4, 11B-703.5 and 11B-703.7 in 2019 CBC
Signs containing tactile characters shall be located so that a clear floor space of 18" MIN. by 18" MIN., centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position.

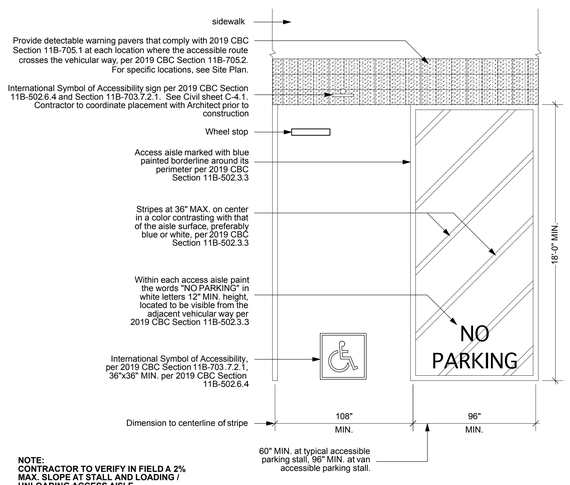
Braille and tactile signs shall be mounted such that the bottom edge of the topmost tactile characters are no higher than 60" and the bottom edge of the bottommost Braille characters are no lower than 48", above the finish floor or ground surface, measured from the baseline of the highest line of raised characters.

Geometric symbols at entrances to toilet and bathing rooms shall be mounted at 58" MIN. and 60" MAX. above finish floor or ground surface measured from the centerline of the symbol. Where a door is provided the symbol shall be mounted within 1" of the vertical centerline of the door
Mounting location shall be determined so that a person may approach within 3 inches of signage without encountering protruding objects or standing within the swing of a door.

Contrast Color Standards,
per 11B-703.6.2 in 2019 CBC
Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field

Exterior signage 5

inches 0 4 8 16 1 1/2" = 1'-0"



NOTE:
CONTRACTOR TO VERIFY IN FIELD A 2% MAX. SLOPE AT STALL AND LOADING / UNLOADING ACCESS AISLE

Accessible Parking Stall 1

feet 0 1 2 4 1/4" = 1'-0"

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Typical Accessibility Details
Signage
Parking Stall

A6.6

Bid Set 06.28.23

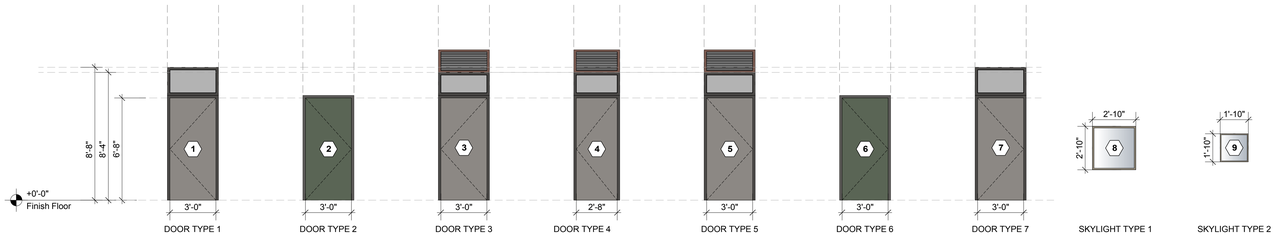
Exterior Door & Window Schedule

ID	Type	Room (#) *	Description	Manufacturer / Model	Frame Material/Finish	Door Material/Finish	Rating	Glazing Type	Shade Type	Hardware	Notes
1a	1	WC [08]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 1	
1b	1	WC [09]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 1	
1c	1	WC [10]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 1	
2	2	service [07]	swing door	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		--	--	set 2	
3	3	shower [01]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 3	
4a	4	showers [02]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 4	
4b	4	showers [03]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 4	
4c	4	showers [04]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 4	
4d	4	showers [05]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 4	
5	5	shower [05]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 3	
6	6	service [07]	swing door	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		--	--	set 2	
7a	7	WC [11]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 1	
7b	7	WC [12]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 1	
7c	7	WC [13]	swing door w/ fixed transom	tiger door TBD	fiberglass reinforced plastic, color TBD	fiberglass reinforced plastic, color TBD		dual pane temperered glass	--	set 1	
8a	8	showers [02]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass
8b	8	showers [03]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass
8c	8	showers [04]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass
8d	8	showers [05]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass
9a	9	WC [01]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass
9b	9	WC [06]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass
9c	9	WC [08]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass
9d	9	WC [09]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass
9e	9	WC [10]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass
9f	9	WC [11]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass
9g	9	WC [12]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass
9h	9	WC [13]	fixed skylight	Velux Fixed Skylight FCM or EQ.	Aluminum, color TBD	--		dual pane temperered glass	--	--	curb mounted, translucent glass

Notes

Window and exterior door type locations per plan and elevations. Door swings per plan.

Exterior Door & Widow Types



DOOR TYPE 1 | DOOR TYPE 2 | DOOR TYPE 3 | DOOR TYPE 4 | DOOR TYPE 5 | DOOR TYPE 6 | DOOR TYPE 7 | SKYLIGHT TYPE 1 | SKYLIGHT TYPE 2

Notes:
1. Contractor to reference plans for door swing orientation

Hardware Schedule

Hardware Set No. 01 (water closet doors)

Description	Catlaog Number	Finish	MFG	Notes
Hinge	-	match push/pull latch	-	heavy duty
Surface Closer	-	-	-	heavy duty
Kick Plate	-	match push/pull latch	-	10" tall plate with rounded corners
Push/Pull Latch	8200 Series (ALP)	stainless steel	Sargent	mortise lock - single cylinder with deadbolt (key lock from exterior & thumb lock on interior)
Door Sweep	-	match push/pull latch	-	bristle sweep
Seals	-	-	-	per door manufacturer

Hardware Set No. 02 (service doors)

Description	Catlaog Number	Finish	MFG	Notes
Hinge	-	dark bronze	-	heavy duty
Surface Closer	-	-	-	heavy duty
Kick Plate	-	dark bronze	-	10" tall plate with rounded corners
Door handle	-	dark bronze	-	mortise lock - single cylinder with deadbolt (key lock from exterior & thumb lock on interior)
Door Sweep	-	dark bronze	-	bristle sweep
Seals	-	-	-	per door manufacturer

Hardware Set No. 03 (accessible shower doors)

Description	Catlaog Number	Finish	MFG	Notes
Hinge	-	dark bronze	-	heavy duty
Surface Closer	-	-	-	heavy duty
Kick Plate	-	dark bronze	-	10" tall plate with rounded corners
Push Plate	-	dark bronze		4" x 16" plate with rounded corners
Pull Handle	AP1007	dark bronze	Rockwood	arm pull with 4"x16" plate (with rounded corners)
Mortise deadbolt	-	dark bronze		key lock from exterior & thumb lock on interior
Door Sweep	-	dark bronze	-	composite bristle sweep
Seals	-	-	-	per door manufacturer

Hardware Set No. 04 (shower doors)

Description	Catlaog Number	Finish	MFG	Notes
Hinge	-	dark bronze	-	heavy duty
Surface Closer	-	-	-	heavy duty
Kick Plate	-	dark bronze	-	10" tall plate with rounded corners
Push Plate	-	dark bronze		4" x 16" plate with rounded corners
Pull Handle	AP1007	dark bronze	Rockwood	arm pull with 4"x16" plate (with rounded corners)
Mortise deadbolt	-	dark bronze		key lock from exterior & thumb lock on interior
Door Sweep	-	dark bronze	-	composite bristle sweep
Seals	-	-	-	per door manufacturer

Notes

Window and exterior door type locations per plan and elevations. Door swings per plan.

GENERAL NOTES: DOORS & WINDOWS

A. Egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort, per 2019 CBC Section 1010.1.9.

B. Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by Chapter 11A or 11B shall not require tight grasping, tight pinching or twisting of the wrist to operate, per 2019 CBC Section 1010.1.9.1.

C. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 2019 CBC Section 11B-309.4. Operable parts of such hardware shall be 34 inches minimum and 44 inches maximum above the finish floor or ground, per 2019 CBC Section 11B-404.2.7.

D. When provided, door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum, per 2019 CBC Section 11B-404 2.8.1.

E. Thresholds, if provided at door- ways, shall be 1/2 inch high maximum. Raised thresholds and changes in level at doorways shall comply with Sections 11B-302 and 11B-303 , per 2019 CBC Section 11B-404.2.5.

F. The force for pushing or pulling open a door or gate shall be as follows:

1. Interior hinged doors and gates: 5 pounds (22.2 N) maximum.
2. Sliding or folding doors:5pounds(22.2N)maximum.
3. Required fire doors: the minimum opening force allowable by the appropriate administrative author- ity, not to exceed 15 pounds (66.7 N).
4. Exterior hinged doors: 5 pounds (22.2 N) maximum.

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position, per 2019 CBC Section 11B-404.2.9.

G. Swinging door and gate surfaces within 10 inches of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other and be free of sharp or abrasive edges. Cavities cre- ated by added kick plates shall be capped, per 2019 CBC Section 11B-404.2.10.

H. Doors, gates, and side lights adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches maximum above the finish floor, per 2019 CBC Section 11B-404.2.11.

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Door & Window Schedule

Restroom / Shower Facility

A7.1

Bid Set 06.28.23

Finish Type

Finish Category	Finish Type	Description	Basis of Design	Notes
wall base	base 1	Schluter DILEX-AHKA profile		
floor	floor 1	sealed CONC. slab, contractor to confirm control joints pattern w/ architect		Waterborne Dense Stone Sealer
ceiling	ceiling 1	GWB/paint 1	5/8" tyvex exterior grade gypsum wall board, tape and mud, level 4 finish / exterior grade matte paint Sherwin Williams SW 7007 Ceiling Bright White primer/3 coat, see SPEC.	
wall	wall 1	13"x23" porcelain tile	Tile: Porcelanosa Japan Marine; Grout: Colorstuk Cemento; see SPEC.	
	wall 2	exposed metal stud framing		
	wall 3	exposed CMU		

Finish Schedule

Room	Floor	Base	Walls	Ceiling	Notes
01 / shower	floor 1	Base 1	Wall 1	Ceiling 1	
02 / shower	floor 1	Base 1	Wall 1	Ceiling 1	
03 / shower	floor 1	Base 1	Wall 1	Ceiling 1	
04 / shower	floor 1	Base 1	Wall 1	Ceiling 1	
05 / shower	floor 1	Base 1	Wall 1	Ceiling 1	
06 / shower	floor 1	Base 1	Wall 1	Ceiling 1	
07 / support	floor 1	-	Wall 2, Wall 3	Ceiling 1	
08 / support	floor 1	-	Wall 2, Wall 3	Ceiling 1	
09 / WC	floor 1	Base 1	Wall 1	Ceiling 1	
10 / WC	floor 1	Base 1	Wall 1	Ceiling 1	
11 / WC	floor 1	Base 1	Wall 1	Ceiling 1	
12 / WC	floor 1	Base 1	Wall 1	Ceiling 1	
13 / WC	floor 1	Base 1	Wall 1	Ceiling 1	
14 / WC	floor 1	Base 1	Wall 1	Ceiling 1	

eCard Reader (cashless payment system) Schedule

Item	Specification / Description	Notes*
card reader	Cantaloupe: ePort G10-S kit (card reader)	
telemeter	Cantaloupe: ePort G10-S kit (telemeter)	provide and install all necessary kit components, as required
conduit & power	REF. MFG Specifications, Electrical & Telecommunication Drawings	
interface w/ plumbing fixtures	REF. MFG Specifications & Plumbing Drawings	

Notes:

* denotes to install all components per MFG. specifications.

1. The Restroom and Shower Facility Structure will be equipped with an eCard reader payment system to operate the showers.
2. Prior to installation, plans for the proposed eCard reader payment system shall be designed by a qualified professional using the design intent noted in the drawings.
3. Contractor to coordinate with MFG of cashless payment system prior to submitting shop drawing submittal.
4. Contractor to coordinate cashless payment system with all other trades prior to start of construction.
5. Contractor to coordinate coin pulse interface system.
6. Contractor to coordinate and provided sealed anchorage of all system components.

Bath Accessories

Fixture	Quantity	MFG./Model	Notes
floor sink	1	JR Smith #3110	REF. Plumbing Drawings.
wall mounted bench 1	6	Bobrick 819687	
wall mounted bench 2	2	Bobrick B-5181	reversable
soap dish	6	Bobrick B-4390	
toilet paper dispenser	6	Bobrick B-2740	
soap dispenser	6	Bobrick B-2111	
ADA grab bar 1	18	Bobrick 5806.99 x 36	for restroom wall 4 and showers
ADA grab bar 2	6	Bobrick 5806.99 x 48	for restroom wall 3
towel hook	12	Siro SD44342	
mirror	6	Bobrick B-1658 1836	
credit card payment interface	6	Cantaloupe ePort	REF. Plumbing Drawings.
toilet	6	American standard ovalyn #0496.300	REF. Plumbing Drawings.
urinal	6	Falcon waterfree technologies #F1000	REF. Plumbing Drawings.
sink	6		REF. Plumbing Drawings.
faucet	6	Dyson air blade WD04 Short	REF. Plumbing Drawings.
trench drain	6		REF. Plumbing Drawings.
drain	6		REF. Plumbing Drawings.
cove base profile		Schluter DILEX-AHKA	craisin

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Revisions

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LICENSED ARCHITECT
KENNETH G. RADTKEY
C - 26761
REN. 7.31.2023
STATE OF CALIFORNIA

Finish Schedule

Restroom / Shower Facility

A7.2

ABBREVIATIONS

AB---------- ANCHOR BOLT
ABV---------- ABOVE
ADD'L---------- ADDITIONAL
ALT---------- ALTERNATE
ARCH'L---------- ARCHITECTURAL
ATR---------- ALL THREADED ROD
BLK(G)---------- BLOCK(ING)
BLW---------- BELOW
BM---------- BEAM
BN---------- BOUNDARY NAILING
BOB---------- BOTTOM OF BEAM
BOTT---------- BOTTOM
B/T---------- BETWEEN
CALIF---------- CALIFORNIA
CANT'L---------- CANTILEVER
CB---------- CEILING BEAM
"CS"---------- SIMPSON CONNECTOR (FDN)
"CC" or "ECC" SIMPSON CONNECTOR
(alt. CONTRACTOR MAY
USE "CCQ" or "ECCQ")
CCB---------- COLAPSIBLE CARDBORD
CJ---------- CEILING JOISTS
CJP---------- COMPLETE JOINT
PENETRATION
℄---------- CENTERLINE
CLNG---------- CEILING
CLR---------- CLEAR(ANCE)
CMU---------- CONCRETE
MASONRY UNIT
CONC---------- CONCRETE
CONN---------- CONNECTION
CONT---------- CONTINUOUS
CT---------- COLLAR TIE
CTR(D) OR ℄---------- CENTER(ED)
D---------- DEEP
DBL---------- DOUBLE
DCW---------- DEMAND CRITICAL WELD
DIA OR ⌀---------- DIAMETER
DJ---------- DECK JOIST
DWG---------- DRAWING
(E) ---------- EXISTING
EA---------- EACH
EF---------- EACH FACE
ELEV---------- ELEVATION
EMBED---------- EMBEDMENT
EN---------- EDGE NAILING
ENG---------- ENGINEER
EQ---------- EQUAL
EWL---------- ENTIRE WALL LENGTH
EXP---------- EXPOSED
EXT---------- EXTERIOR
FDN---------- FOUNDATION
FF---------- FINISH FLOOR
FG---------- FINISH GRADE
FJ---------- FLOOR JOIST
FLR---------- FLOOR
FN---------- FIELD NAILING
FOC---------- FACE OF CONCRETE
FOS---------- FACE OF STUD
FOSH---------- FACE OF SHEATHING
FRMG---------- FRAMING
FS---------- FINISH SLAB
FTG---------- FOOTING
GA---------- GAUGE
GALV---------- GALVANIZED
GB---------- GRADE BEAM
GLB---------- GLUE LAMINATED BEAM
HD---------- HOLDOWN
HDR---------- HEADER
HGR---------- HANGER
HORIZ---------- HORIZONTAL
HT---------- HEIGHT
INFO---------- INFORMATION
INT---------- INTERIOR
ISB---------- ILEVEL SHEAR BRACE
K---------- KING POST
LOC---------- LOCATION(S)
LONG---------- LONGITUDINAL
LSL---------- TIMBERSTRAND
MANUF---------- MANUFACTURED
MAX---------- MAXIMUM
MB---------- MACHINE BOLT
MF---------- MOMENT FRAME
MIN---------- MINIMUM
ML---------- MICROLLAM
(N) ---------- NEW
NC---------- NO CHANGE(S)
NG---------- NATURAL GRADE
NLR---------- NAILER
NTS---------- NOT TO SCALE
N/S---------- N/S--STRUCTURAL
O/---------- OVER
oc---------- ON CENTER
OH---------- OPPOSITE HAND (MIRROR)
PA---------- POST ABOVE
PERP---------- PERPENDICULAR
PJP---------- PARTIAL JOINT PENETRATION
PL or---------- PLATE
PMW---------- PRE-MAUFACTURED WALL
PSL---------- PARALLAM BEAM
P.T.D.F. ---------- PRESSURE TREATED DOUGLAS FIR
RB---------- ROOF BEAM
REINF---------- REINFORCING(MENT)
REQ'D---------- REQUIRED
RET---------- RETAINING (RETENTION)
RR---------- ROOF RAFTER
SCHED---------- SCHEDULE
SHTG---------- SHEATHING
SIM---------- SIMILAR
SQ---------- SQUARE
SS---------- SELECT STRUCTURAL WOOD BEAM
SS---------- STAINLESS STEEL
STD---------- STANDARD
STL---------- STEEL
STRUCT'L---------- STRUCTURAL
SW---------- STRONG WALL (SIMPSON)
T---------- TRIMMER POST
T&G---------- TONGUE & GROOVE
TBR---------- TO BE REMOVED
THK---------- THICK(NESS)
TO---------- TOP OF
TOW---------- TOP OF WALL
TYP---------- TYPICAL
UNO---------- UNLESS NOTED OTHERWISE
URM---------- UNREINFORCED MASONRY
VERT---------- VERTICAL
VF---------- VERIFY
VIF---------- VERIFY IN FIELD
VWA---------- VERIFY WITH ARCHITECTURAL

This list below is not to be used to select the material only to verify the assumed loads on the ROOF Loads 11/22/2022

JOB NAME: Cachuma Lake JOB #: 22 027 Eng: KG

Live Load, RLL= (20.0psf)

Total Dead Load, RDL = (23.4psf)

Galv Steel (22 = 1.4, 24 = 1.2, 26 = 0.9)*	(1.4psf)
Solar Panels	(2.8psf)
2 Felt #30	(0.8psf)
Plywood 5/8"	(2.2psf)
1.75x11 7/8 24"oc	(2.6psf)
Rolled Insulation	(0.5psf)
7/8" Stucco	(10.0psf)
Sprinklers	(1.5psf)
Misc	(1.6psf)

Blackbird 22 027

SEISMIC: Cachuma Lake Job No: 22 027

DESIGN PROCEDURE:	Equivalent Lateral Force Analysis
IMPORTANCE FACTOR:	1
OCCUPANCY CATEGORY:	2
RISK CATEGORY:	II
S_{DS}:	1.60
S_{D1}:	0.60
S_{DS}:	1.07
S_{D1}:	0.68
SITE CLASS:	D
SEISMIC DESIGN CATEGORY:	D
C_S:	0.16
R:	6.5
SEISMIC RESISTING SYSTEM:	A15. Light-framed (wood) walls sheathed w
Ω:	3
C_d:	4

WIND:

BASIC WIND SPEED:	110 mph
EXPOSURE CATEGORY:	C
INTERNAL PRESSURE COEFFICIENT:	0.18 ±

0290 FOUNDATION INSPECTIONS

ARCHITECT/DESIGNER

1. The Architect shall review all dimensions for adequacy and accuracy prior to submittal to the Building Department.
2. The Architect shall submit the plans to the Soils Engineer for compliance with the Soils Report. Please provide letter from the Soils Engineer to Thom Hume Consulting Engineers, Inc. of record for recommendations and/or concerns.

GRADING

3. See Soils Report described and sheet
4. Grading shall be performed, per soils report.
5. Remove and re-compact, per soils report.

SITE GRADING & DEVELOPMENT

See Soils Report described above.

SLOPE CONSTRUCTION

See Soils Report described above.

UTILITY TRENCHES

See Soils Report described above.

CONTRACTOR

6. The Contractor shall review all dimensions for adequacy (FOS and/or FOC) and verify with Architect prior to construction.
7. When existing conditions occur, the Contractor shall complete demolition then fully review all drawings, notes, details, etc. to ensure the connections will adequately work with the existing condition as shown on the plans. Contractor shall notify the Architect of any discrepancies prior to any construction.
8. Prior to foundation inspection by the Building Department, The Contractor shall have the Soils Engineer's opinion to the Architect, Thom Hume Consulting Engineers, Inc. and the Building Department in writing that:
   1. The building pad was prepared in accordance with the Soils Report.
   2. The utility trenches have been properly back filled and compacted.
   3. Drainage system is in accordance with the Soils Report (where applicable)

0301 LUMBER

1. Framing lumber shall be Douglas Fir, Coast Region, grade marked by W.C.L.A. The moisture content (MC) shall be at 19% or less before any members are covered.
2. Lumber framing grades shall be as follows, except as otherwise noted on the structural drawings:
   a. Horizontal Framing — Grade
      2x joists — No.2
      4x, 6x, 8x beams — No.1
      All header beams — No.2 (Unless noted otherwise on plans)
   b. Vertical Framing
      Studs — 2x4, 2x6 — construction grade
      Posts — No.1
3. Approved bridging or solid blocking shall be spaced as follows, except as otherwise noted on the structural drawings:
   a. roof rafters more than 8" in depth at 10 feet o.c. maximum
   b. 2x floor joists more than 16"–0" in in length at 8 feet o.c. maximum except as otherwise noted.
4. Nail connections shall conform to Table **2304.10.1** (page 279 of **2019 CBC**) except as otherwise noted. All nails shall be common wire nails except as otherwise noted.
5. Kiln dried lumber shall be used when exposed beams and posts meet. Consult with architect for more information and alternatives.
6. Unless noted otherwise. Fasten ½" members together with; FOR OFFICE USE ONLY

Two plys:	3 rows of 16d @ 12"oc	705 plf
or	2 rows of SDS¼"x3" WS @ 12"oc	995 plf
Three plys:	3 rows of 16d @ 12"oc Both Sides	530 plf
or	2 rows of SDS¼"x4½" WS @ 12"oc Both Sides	745 plf
Four plys:	2 rows of ½"ø MB @ 12"oc	680 plf
or	2 rows of SDS¼"x6" WS @ 12"oc Both Sides	665 plf

PTDF LUMBER

7. All wood in contact with concrete or masonry shall be approved pressure treated Douglas Fir. Per Section **2303.1.9** of **2019 CBC**
   a. Fasteners for pressure–preservative outdoor use and fire–retartant treated wood shall be of hot–dipped zinc coated galvanized, stainless steel" or use Refer to typical details for alternate installation on anchor bolts. **2304.10.5** of **2019 CBC**
   b. For pressure–preservative indoor use fasteners shall be subjected to the local building officials recommendation. "Advance Guard" does not have any requirement for fasteners.

PTDF LUMBER INSIDE

8. All pressure treated lumber that is inside and continuously protected from water shall use "Advance Guard" w/.42DOT manufactured by Osmose, Inc. (NER–#648) (800)–241–0240. Refer to manufacturer for more information (www.osmose.com)

PTDF LUMBER OUTSIDE

9. All pressure treated lumber that is outside shall use "Lifewood" manufactured by Osmose, Inc. Refer to manufacturer for more information (www.osmose.com) (ESR–#2240) (800)–241–0240.

0302 WALL FRAMING

1. "Header" or "HDR" indicates a continuous 2–2x (MIN) top plate over the member.Header posts/trimmers (single/top story level) shall be constructed and sized per typical details unless noted otherwise.
2. All 2–2x and 3–2x posts shall be nailed together with 16d @ 8"oc each stud.
3. Top plate splices at shear walls shall be 6'–0" minimum in length with 28–16d nails.
4. All double studs shall be nailed together with 16d @ 8"oc.
5. All studs shall be balloon framed to bottom of rafters, ceiling joists or truss.
6. 2x king studs with 10–16d into header and 16d @ 8"oc to post/trimmer staggered.
7. All studs shall be ballooned framed to bottom of rafter, ceiling joists, floor joists unless noted otherwise.
8. "Header" or "HDR" indicates a continuous 2–2x top plate over the member.
9. All cripple walls under floors shall be 2x6 @ 16"oc unless noted otherwise and match shear sheathing above.
10. Contractor shall provide posts in cripple wall directly under posts above, regardless if shown or not. Match post size above unless noted otherwise.
11. Wall heights per Table 2308.5.1 PAGE 459 of **2019 CBC**
    2x4 @ 16"oc——————10'–0" maximum height.
    2x6 @ 16"oc——————14'–0" maximum height.
    For wall heights taller then **14'–0"** please notify the engineer.
12. All other posts shall be DF#1: minimum post size shall be: (unless noted otherwise).
    4x6, 4x8, 4x10 beams ———————— 2–2x DF STUD
    4x12 and deeper beams ———————— 4x DF #1
    6x8, 6x10 beams ———————— 2–2x DF STUD
    6x12 and deeper beams ———————— 4x DF #1
    3½" PSL's, GLB's or 2–ML's————————— 4x DF #1
    5½" PSL's, GLB's or 3–ML's to 14" depth——— 4x DF#1
    5½" PSL's, GLB's or 3–ML's over 14" depth——— 6x DF#1
    Match beam width with post width.
    Max post height shall be 14'–0". Contact Engineer if greater.
    Refer to typical details and specific details noted on plans for more information.

0306 BOLTS & LAG BOLTS

1. Bolt holes shall be 1/16" (maximum) larger than bolt size.
   a. Re–tighten all nuts prior to closing in.
   b. Standard cut washers shall be used under bolt heads and nuts against wood (UNO).
2. All lag bolts shall be pre–drilled prior to placement.
3. Maximum countersink depth = 1" unless noted otherwise.

HOLD DOWN ANCHORS

4. Increase footing depths for anchor as required.
5. Anchor bolt nuts shall be finger tight plus ⅓ to ½ turn w/wrench. Do not over–torque nut.
6. Re–tighten anchor bolts 7 days after roof is loaded.
7. All fasteners (hold downs, anchor bolts ect.) shall be securely fastened in place prior to inspections.

WOOD EPOXY

8. Wood epoxy where called for on plans or details shall conform to applicable standards.

0307 NAILING:

1. All nailing shall be in compliance per latest edition Table 2303.6 of **2019 CBC**

Framing	16d	SINKERS (3¼"x.148)
Shear Sheathing	10d	COMMON (3"x.148)
to PTDF sill plate		GALVANIZED.
Roof Sheathing	8d	COMMON (2½"x.131)
Floor Sheathing	10d	COMMON (3"x.148)
Metal Connectors	10d	COMMON
over plywood		(3"x.148)
directly to member(non plywood)		(1½"x.148)

2. Diaphragm (Roof and Floor) sheathing and nailing shall be inspected by the local governing authority prior to contining framing.

0308 ANCHOR BOLTS

1. Anchor Bolts shall be placed 9" from ends and spaced at intervals noted on structural drawings and shear schedules with 7" minimum AB embedment into footings.
2. All foundation AB's (including Post installed anchors) shall have plate washers 3"x3"x0.229"
3. All exterior walls shall have anchor bolts spaced at 4'–0" o.c. maximum. Two min. per plate.
4. All fasteners (hold downs, anchor bolts ect.) shall be securely fastened in place prior to inspections.
5. Refer to Shear Sheathing Notes 0360 for more information.

0410 REINFORCING STEEL –Concrete & Masonry

Reinforcing steel shall conform to the requirements listed below for use noted:

Use	Bar size	ASTM designation	Grade (ƒy)
------Footings, Stem walls, Slabs, Grade Beams & Retaining walls	All	ASTM A–615	60
------All walls, Beams & Columns above Grade	All	ASTM A–615	60
------Bars to be welded*	All	ASTM A–706	60

* Refer to 'Welding Requirements' notes for additional information.

1. All reinforcing bar bends shall be made cold. See "Standard hooks, bends & lap" detail on Typical Detail Sheet for more information.
2. All horizontal bars at corners and intersections shall be lapped. See "Typical corner/intersection" detail on Typical Detail Sheet for more information.
3. Refer to "Standard hooks, bends & lap" detail for minimum lap splice lengths.
4. Welded wire fabric shall conform to ASTM A–185. Minimum lap shall be 6" for one full mesh, whichever is greater.
5. All slab–on–grade shall be tied to footings or walls. Verify with soils report where occurs for stricter requirements. Contact Soils Engineer for "floating" slabs
   a. Minimum dowels size and spacing shall match slab reinforcement U.N.O.
6. Reinforcing steel dowel's between footing and walls, columns or pilasters shall be the same grade, size, spacing and number as the vertical reinforcing, respectively.
7. #4 and #3 Bar size may use Grade 40 steel.

STRUCTURAL OBSERVATION PROGRAM BY ENGINEER

(per latest edition CBC Chapter 17)

The Owner shall employ the Engineer of record or Engineer's representative to provide structural observation as noted below.

CONTRACTOR must inform the ARCHITECT and ENGINEER (by email or fax) two full business days in advance of reaching the following stages of construction.

At the conclusion of the work included in the permit, the structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies that, to the best of the structural observer's knowledge, have been resolved.

1. FOOTING EXCAVATIONS COMPLETED, FORMS READY FOR PLACING OF REINFORCING. (Notify Soils Engineer)
2. CONCRETE REINFORCING BARS IN PLACE.
3. WOOD FRAMING COMPLETED BUT NOT COVERED.
4. PLY NAILING COMPLETED BUT NOT COVERED.
5. ALL STRUCTURAL WORK DONE.

NO DEFERRED SUBMITTALS

SHOP DRAWING SUBMITTALS

Contractor shall submit to the ARCHITECT and ENGINEER the following shop drawings where occurs. Please allow three full weeks for review.

1. **Structural Steel**
2. **Concrete Mix Design**

0000 CODES AND REFERENCES

All general structural notes and specifications reflect the provisions of the
2019 CBC(California Building Code)
ASCE 7–16 (Minimum Design Loads) ACI 318–14 (Concrete)
AISC 360–16/AISC 341–16/AISC 358–16 (Steel) NDS–18/AWC–18 (Wood)
ACI 530–16/ASCE5–16/TMS 402–16 (Masonry)

0100 STRUCTURAL GENERAL NOTES

GENERAL

1. The plans provided will be acceptable for building for only two years after the date noted. Afterwards, Thom Hume Consulting Engineers will require a thorough review of the plans and details and make the changes as needed. This additional time will require one month of notice prior to beginning of construction.
2. The General Contractor shall be responsible for coordinating all the work of the Subcontractors indicated on the structural construction drawings and project specifications. The contractor shall verify all dimensions prior to starting construction. The Architect shall be notified of any discrepancies or inconsistencies.
3. All omissions or conflicts between the various elements of the working drawings and/or specifications shall be brought to the attention of the Architect before proceeding with any work so involved.
4. Site preparations and Temporary bracing:
   a. The General Contractor shall investigate the site during clearing and earthwork operations for fill excavations or buried structures such as cesspools, cisterns, foundations, etc. Where such structures are found the Architect shall be notified immediately.
   b. The Contractor shall be solely responsible for all excavation procedures including lagging, shoring and protection of adjacent property, structures, streets and utilities in accordance with all national state and local safety ordinances.
   c. The Contractor shall be responsible for and provide adequate shoring, bracing and guys in accordance with all national state and local safety ordinances. All temporary bracing of structural elements (steel members, masonry, concrete or work walls, etc.) during construction shall conform with all applicable codes and safety requirements of all governing agencies.
   d. Any deviation from approved and permitted conditions must be approved by the local agencies prior to erection.
5. Deviations from the structural design as indicated on the structural construction drawings are not permitted without written approval from the Structural Engineer. It will be the Contractor's responsibility to request written approval, even if the Structural Engineer has provided verbal authorization. Approval from the local governing authority Building Inspector does not constitute authority to deviate from the contract documents.

AUTHORITY OF WORK'

6. All work shall conform to the minimum standards of the latest edition of the California Building Code (**2019 CBC**) edition and any other regulating agencies which have authority over any portion of the work, including the State of California, Division of Industrial Safety.

CAL O.S.H.A.

7. The General Contractor shall be solely responsible for following, maintaining and being familiar with Cal O.S.H.A. standards and procedures for all aspects of the construction, including, but not limited to, safety of the construction personnel, excavation procedures, temporary shoring or bracing, site safety procedures, etc. All erection procedures shall conform to OSHA Standards. Any deviation must be approved by OSHA prior to erection.

TYPICAL DETAILS

8. All details designated as standard or typical shall occur in addition to any other specific detail. A detail, section, elevation, etc. reference may be indicated only once on a structural construction drawing, but is to be used at all like and similar construction conditions.
9. The work typical adjacent to a detail, section, elevation, etc. reference is implied at each like and similar construction conditions. During the construction period the General Contractor may, at their convenience, request an interpretation and/or clarification of the structural construction drawing and project specifications.

ASTM SPECIFICATION

10. All ASTM specification designations shall be of the latest revision, unless noted otherwise.

SAFETY

11. Nothing contained within the contract documents shall relieve the General Contractor and the subcontractor of:
    a. the responsibility to determine any aspect of how the work is to be performed.
    b. dealing with matters of safety of personnel.
    c. safety of property.
    d. superintending of the work.
12. It is the sole responsibility of the General Contractor to initiate, maintain and supervise:
    a. all safety instructions with regard to personnel
    b. safety precautions with regard to personnel
    c. security of property and construction material in connection with any portion of the work as the work progresses.
    d. During the construction period the Contractor shall be responsible for the safety of the building.

TRADES

13. The Contractor shall be responsible for coordinating the work of all trades and shall check all dimensions. All discrepancies shall be called to the attention of the Architect and be resolved before proceeding with the work.

0200 CONTRACTOR NOTES:

These notes are intended to help the Contractor locate special areas of consideration. They are not to be solely relied on. A complete review of the Construction Documents, including: Structural, Architectural, Mechanical, Electrical and Plumbing is required to construct this project.

1. Per Civil Code § 832. Lateral and subjacent support
   a. If at any time it appears that the excavation is to be of a greater depth than are the walls or foundations of any adjoining building or other structure, and is to be so close as to endanger the building or other structure in any way, then the owner of the building or other structure must be allowed at least 30 days, if he so desires, in which to take measures to protect the same from any damage, or in which to extend the foundations thereof, and he must be given for the same purposes reasonable license to enter on the land on which the excavation is to be or is being made.
2. Special fasteners to Pressure Treated Douglas Fir is required
   a. Refer to General Notes/Lumber/Nailing #7 and Lumber Hardware #4.
3. Drywall and shear sheathing nailing.
   Our office recommends the roof be loaded and drywall stacked 7 days prior to final edge nailing of the sole plate and hanging drywall. This will allow the framing members to "settle" and tighten up and reduce the plaster cracking.
4. Each Contractor responsible for the construction of the main wind or seismic force resisting system designated seismic system or a wind or seismic resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the Building Official and the Owner prior to the commencement of work on the system or component. The Contractor's statement of responsibility shall contain the following:
   a. Acknowledgement of awareness of the special requirements contained in the statement of special inspections.
   b. Acknowledgement that control will be exercised to obtain conformance with the construction documents approved by the Building Official.
   c. Procedures for exercising control within the Contractor's Organization, the method and frequency of reporting and the distribution of the reports.
   d. Identification and qualifications of the Person(s) exercising such control and their position(s) in the organization.

0202 MOISTURE CONTROL:

Building materials with visible signs of water damage shall not be installed. Wall and floor framing and concrete slabs shall not be enclosed when the framing members exceed 19% moisture content.
Moisture content shall be verified in compliance with the following:

1. Moisture content shall be determined withether a probe–type or contact–type moisture meter.
2. Moisture readings shall be taken at a ppint 2 feet to 4 feet from the grade stamed end of each piece verified.
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclosed the wall and floor framing and slab on grade.

0415 HORIZ REINFORCING in WALLS–Concrete & Masonry

Minimum Horizontal Reinforcement.

Stem	Concrete	CMU
6"&8"	1–#5 @ 18"oc	1–#4 @ 24"oc
6"&8"alt	1–#4 @ 12"oc	1–#4 @ 24"oc
10"	1–#5 @ 15"oc	1–#4 @ 24"oc
12–16"	2–#4 @ 12"oc	2–#4 @ 24"oc
12–16"alt	2–#5 @ 18"oc	2–#4 @ 24"oc

0408 FOOTINGS and/or GRADE BEAMS

1. All footings and grade beams shall be shall be centered under wall and/or post unless othewise detailed or noted.
2. All footings shall be placed level and into natural earth material or compacted fill approved by a soils engineer.
3. All gradebeams shall be placed level unless noted otherwise.

0250 CONTRACTOR NOTES EXISTING STRUCTURES:

1. Verify that existing footings do not have significant cracks or damage (where occurs).
2. Contractor shall meet with soils engineer at site to review the existing and proposed footings prior to bidding project.
3. Contractor shall complete demo work including removing existing flooring and survey the floor for cracks or floors out of level. The engineer of record and/or soils engineer shall be contacted prior to any construction commencing.

SPECIAL INSPECTION STATEMENT

Project:_____ Plan Check #:_____

Location:_____

This Statement of Special Inspections is submitted in fulfillment of the requirements of CBC Sections 1704 and 1705. Included are:

- Schedule of Special Inspections and tests applicable to this project:
  Special Inspections per Sections 1704 and 1705
- List of the Testing Agencies and other special inspectors that will be retained to conduct the tests and inspections.
- Special Inspections and Testing shall be performed in accordance with the approved plans and specifications, this statement and CBC sections 1704, 1705, 1707, and 1708. The Schedule of Special Inspections summarizes the Special Inspections and tests required. Special Inspectors will refer to the approved plans and specifications for detailed special inspection requirements. Any additional tests and inspections required by the approved plans and specifications will also be performed.
- Interim reports will be submitted to the Building Official and the Registered Design Professional in Responsible Charge in accordance with CBC Section 1704.2.4
- A Final Report of Special Inspections documenting required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy (Section 1704.2.4). The Final Report will document:
  - Required special inspections.
  - Correction of discrepancies noted in inspections.

The Owner recognizes his or her obligation to ensure that the construction complies with the approved permit documents and to implement this program of special inspections. In partial fulfillment of these obligations, the Owner will retain and directly pay for the Special Inspections as required in CBC Section 1704.2.

This plan has been developed with the understanding that the Building Official will:

- Review and approve the qualifications of the Special Inspectors who will perform the inspections.
- Monitor Special Inspection activities on the job site to assure that the Special Inspectors are qualified and are performing their duties as called for in this Statement of Special Inspection.
- Review Structural Observation reports and insure contractor complied with corrections.
- Review submitted inspection reports.
- Perform inspections as required by the local building code.

Prepared by:

THOM HUME CONSULTING ENGINEERS
Registered Design Professional in Responsible Charge

Signature Date

Owner's Authorization:

Owner

Signature Date

Building Official's Acceptance:

Building Official

Signature Date

SPECIAL INSPECTION SUMMARY

Notation Used in Table:
Column headers:
C Indicates continuous inspection is required.
P Indicates periodic inspections are required. The notes and or contract documents should clarify.
Box entries:
X Is placed in the appropriate column to denote either 'C' continuous or 'P' periodic inspections.
––– Denotes an activity that is either a one–time activity or one whose frequency is defined in some other manner.
Additional detail regarding inspections and tests are provided in the project specifications or notes on the drawings.

LIST OF WORK & INDIVIDUALS

SOIL: OVEREXCAVATION **Table 1705.6** — Pacific Materials Laboratory (805) 964–6901	C*	P*
4. Peform classification and testing of controlled fill materials.		X
5. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.		X
6. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly.		X
SOIL: INSPECTION OF SOILS **Table 1705.6** — **See list below for special inspectors**	**C***	**P***
1. Verify material below footings are adequate to achieve the design bearing capacity.		X
2. Verify excavations are extended to proper depth and have reached proper material.		X
3. Perform classification and testing of materials.		X
CONCRETE **Table 1705.3** — **See list below for special inspectors** — **Refer to General Notes CADD Concrete Notes for..***	**C***	**P***
1. Inspection of reinforcing steel and placement.		X
2. Verifying use of required design mix.		X
3. At time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests and determine the temperature of the concrete.	X	
4. Inspection of concrete placement for proper application techniques.	X	
5. Inspection for maintenance of specified curing temperature and techniques.		X
5. Inspect formwork for shape, location, and dimensions of the concrete member being formed.		X
7. Inspect all anchors cast in concrete. (Sill anchor bolts for wood shear walls not required.)		X
MASONRY **CBC 1705.4** – LEVEL 1 — **See list below for special inspectors**	**C***	**P***
1. At the start of masonry construction verify the following to ensure compliance: a. Proportions of site–prepared mortar. b. Construction of mortar joints. c. Location of reinforcement, connectors, prestressing tendons, and anchorages. d. Prestressing technique.		X
2. Verify: a. Size and location of structural elements. b. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction. c. Specified size, grade, and type of reinforcement. d. Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F)		X
3. Prior to grouting verify the following to verify compliance: a. Grout space is clean. b. Placement of reinforcement and connectors and anchorages. c. Proportions of site–prepared grout. d. Construction of mortar joints.		X
4. Verify grout placement to ensure compliance with code and construction document provisions.	X	
5. Observe preparation of required grout specimens, mortar specimens, and/or prisms.	X	
6. Verify compliance with required inspection provisions of the construction documents and the approved submittals.		X
STRUCTURAL STEEL **Table 1705.2, AISC 360** — **See list below for special inspectors**	**C***	**P***
1. Material verification of structural steel: a. Identification markings to conform to ASTM standards specified in the approved construction documents. b. Manufacturer's mill test reports.	––	––
AISC, Tables N5.4, 1–3 – Steel: Welding Structural Steel		
1. Material verification of weld filler materials: a. Identification markings to conform to AWS designation listed in the WPS. b. Manufacturer's certificate of compliance required.	––	––
2. Inspection of welding: a. Complete and partial penetration groove welds. b. Multi–pass fillet welds c. Single–pass fillet welds > ⅝" d. Single–pass fillet welds ≤ ⅝" e. Floor and Roof deck welds	X	X
AISC, Section A3.6 – Stud Shear Connectors		
1. Material verification 2. Welding shall conform to AWS D1.1		X
AISC, Specification for Structural Joints Using ASTM A325 or A490 Bolts		
1. Snug Tightened Joints – Section 9.1 a. Verification of fastener components to be used. b. Verification of plate sizes and bolt hole sizes. c. Verification that all plies of joints have been brought into firm contact.		X
2. Pretensioned Joints – Section 9.2 a. All requirements of Section 9.1 b. Specific requirements per the tensioning method used (9.2.1, 9.2.2, 9.2.3, 9.2.4)		X
3. Slip Critical Joints – Section 9.3 a. All requirements of Section 9.2 b. Verification of faying surfaces meet the requirements of Section 3.2.2		X
Anchors to Concrete. Not Required Unless Concrete is 3000psi or higher. (Refer to Concrete)		

Note: Special Inspection is to be provided in addition to the inspections conducted by the Department of Building and Safety and shall not be construed to relieve the owner or his authorized agent from requesting the periodic and called inspections required by Chapter 17 of **2019 CBC**

LIST OF SPECIAL INSPECTORS

Firm Name	Contact Name	Firm Number
Pacific Materials Lab	Ron Pike	(805) 964–6901
Mark Braun	Office	(805) 688–5429
Earth System Pacific	Office	(805) 642–6727
GeoSolutions, Inc	Brad Bucher	(805) 543–8539
GSI Soils Inc	Office	(805) 349–0140
Beacon Geotechnical	Greg McKay	(805) 538–5115

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ALL DESIGN, IDEAS, SPECIFICATIONS AND OTHER INFORMATION ON THE DRAWINGS ARE FOR USE ON THE SPECIFIED PROJECT AND ARE NOT TO BE USED FOR ANY OTHER PROJECT AND ARE NOT TO BE COPIED WITHOUT THE WRITTEN PERMISSION AND CONSENT OF THOM HUME CONSULTING ENGINEERS. THEIR USE SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED.

SDS Structural Drawing Services
P.O. Box 15218
San Luis Obispo, CA 93406
805-543-6311

REGISTERED PROFESSIONAL ENGINEER — FRANCIS W. HUME JR. — No. 50647 — CIVIL — STATE OF CALIFORNIA

22 027.1

Cachuma Restrooms

2265 HWY 154
Santa Barbara, CA 93105

Arch'l Contact:
TN
CO

Submittals

PRELIM SET #01	06.02.22
PRELIM SET #02	09.30.22
PRELIM SET #03	11.22.22
STAMPED SET #01	01.17.23
STAMPED SET #02	03.10.23

GENERAL NOTES

S0.1

construction documents 3.10.2023

O:\Jobs Active\22 027 Cachuma_Blackbird\22 027 DWG\xref\22 027 E- EXTALLS.dwg, 3/10/2023 10:13:23 AM, Calprop Phase 11.pc3, Mariana, Mariana

FASTENING SCHEDULE

FLOOR FRAMING
Joist to Connection Clip: #10 Teks pan head, 3 to 4 ❁ ea clip
Bridging to Joist: #10 TEKS pan head, 1 ❁ ea joist
Steel Rim Joist to End Stiffener: #10 TEKS pan head, 3 ❁ ea joist
Joist Hanger to Joist: #10 TEKS pan head, 3❁ ea joist
Joist to Overlapping Joist: #10 TEKS pan head, 3 ❁ support
End Stiffener to Joist: #10 TEKS pan head, 4 ❁ ea stiffener
Plate Track (bottom) to Joist and Track: #12 TEKS pan head w/pilot point, 1 ❁ 24"oc and max 12" from ea end of track
WALL FRAMMING (LOAD-BEARING)
Stud to Plate Track (Bot): #8 TEKS low profile pan head, 1 ❁ ea flange
Stud to Plate Track (Top): #8 TEKS low profile pan head, 1 ❁ ea flange
Diagonal Bracing to Stud: #8 TEKS low profile pan head, 1 ❁ ea stud
Lateral Bracing to Stud: #8 TEKS pan head, 1 ❁ ea stud per strap or 3 ❁ ea connection clip w/cold rolled channel
Stud to Stud (Nested): #8 TEKS pan head, 1 ❁ 24"oc through stud, ea flange
Stud to Stud (Back to Back): #8 TEKS pan head, 1 ❁ 16"oc through web
Stud to Stud (@ Wall Intersection): #10 TEKS pan head, 1 ❁ 16"oc or 1 ❁ ea blocking
WALL FRAMING (NON LOAD-BEARING)
Stud to Plate Track (Bott): #8 TEK screws low profile pan head, 1 ❁ ea flange
Stud to Plate Track (Top): #8 TEK screws low profile pan head, 1 ❁ ea flange
Lateral Bracing to Stud: #8 TEK screws pan head, 2 ❁ flange
Stud to Stud (Nested): #8 TEK screws pan head, 1 ❁ 24"oc
Stud to Stud (Back to Back): #8 TEK screws pan head, 1 ❁ 24"oc
Stud to Stud (@ Wall Intersection): #10 TEK screws pan head, 1 ❁ 24"oc or 1 ❁ ea blocking
ROOF FRAMING
Ceiling Joist to Top Plate Track: #10 TEKS pan head, 1 ❁ ea joist

0800 COLD FORMED STEEL

1. STANDARDS: ALL COLD FORMED STEEL STUDS, JOIST & TRACK SHALL BE MANUFACTURED IN ACCORDANCE WITH SSMA (STEEL STUD MANUFACTURERS ASSOCIATION) SPECIFICATIONS (ESR-3064P) & MILL CERTIFIED & CONFORM TO THE FOLLOWING:

THICKNESS			ASTM	GRADE
Ga.	Mil.	In.		
12	97	0.1017	A653 SS OR A1003 – H	50
14	68	0.0713		
16	54	0.0566		
18	43	0.0451	A653 SS OR A1003 – H	33
20	33	0.0346		
22	27	0.0283		
25	18	0.0188		

2. IDENTIFICATION: ALL STEEL STUDS, JOIST & TRACK SHALL HAVE A LEGIBLE LABEL, STAMP OR EMBOSSMENT, AT A MAXIMUM OF 48"oc, INDICATING THE MANUFACTURER'S NAME, LOGO OR INITIAL, ICBO EVALUATION SERVICE REPORT NUMBER, THE MATERIAL BASE METAL THICKNESS (UNCOATED) IN .001 IN. AND THE YIELD STRENGTH IF DIFFERENT THAN 33 ksi.

3. MILL CERTIFICATES SHALL BE MADE AVAILABLE UPON REQUEST. MILL CERTIFICATE TO INCLUDE AS A MINIMUM THE CHEMICAL COMPOSITION, YIELD STRENGTH, TENSILE STRENGTH, ELONGATION, AND COATING THICKNESS.

4. SCREW DESIGN VALUES HAVE BEEN DETERMINED IN ACCORDANCE WITH AISI SPECIFICATIONS. REFER TO "FASTENER SCHEDULE" NOTES FOR TYPICAL CONNECTIONS.

a. STANDARD – SCREWS SHALL CONFORM TO SAE J78.
b. PENETRATION – SCREW THREADS TO EXTRUDE A MINIMUM OF THREE EXPOSED THREADS THROUGH THE STEEL.
c. SIZE – REFER TO SELECTION TABLE FOR MINIMUM SCREW SIZE FOR ATTACHED MATERIAL THICKNESS.
d. MINIMUM SPACING & EDGE DISTANCE SHALL NOT BE LESS THAN 3 SCREW DIAMETERS.

SCREW SCHEDULE

MATERIAL THICKNESS			ALLOWABLE LOAD IN POUNDS *					
			No. 6 Dia.=0.138 in		No. 8 Dia.=0.164 in		No. 10 Dia.=0.190 in	
Ga.	Mil.	In.	SHEAR	PULLOUT	SHEAR	PULLOUT	SHEAR	PULLOUT
25	18	0.0188	44	24	48	29	–	–
22	27	0.0283	82	37	89	43	–	–
20	33	0.0346	151	61	164	72	177	84
18	43	0.0451	214	79	244	94	263	109
16	54	0.0566	–	–	426	171	534	198
14	68	0.0713	–	–	–	–	548	249
12	97	0.1017	–	–	–	–	548	356

MATERIAL THICKNESS			ALLOWABLE LOAD IN POUNDS *			
			No. 12 Dia.=0.216 in			
Ga.	Mil.	In.	SHEAR	PULLOUT		
25	18	0.0188	–	–		
22	27	0.0283	–	–		
20	33	0.0346	–	–		
18	43	0.0451	280	124		
16	54	0.0566	569	225		
14	68	0.0713	777	284		
12	97	0.1017	777	405		

VALUES BASED ON MINIMUM STEEL PROPERTIES:
18 – 43 MILS – Fy=33 ksi , Fu=45 ksi
54 – 97 MILS – Fy=50 ksi , Fu=65 ksi

NOTE: APPLIED LOADS MAY BE MULTIPLIED BY 0.5 FOR WIND OR SEISMIC.

5. WELDING SHALL CONFORM TO AWS D1.3 SPECIFICATIONS FOR WELDING SHEET STEEL IN STRUCTURES. ONLY SPOT VISUAL INSPECTION REQUIRED FOR FIELD WELDING.

GAUGE	MILS	FILLET WELD SIZE	ALLOWABLE LOAD* lbs/in
18	43	1/16	499
16	54	3/32	905
14	68	1/8	1140
12	97	1/8	1269

*NOTE: VALUES BASED ON 33ksi STEEL (18 GA AND THINNER), 50ksi STEEL (16GA AND THICKER)

6. POWDER DRIVEN FASTENERS (U.V.F. LOW VELOCITY FASTENERS) SHALL BE USED FOR ALL NON-SHEARWALL PLATE TO CONCRETE CONNECTIONS, TYP, (U.N.O.)

a. FASTENERS SHALL NOT BE DRIVEN UNTIL THE CONCRETE HAS REACHED ULTIMATE 28 DAY COMPRESSIVE STRENGTH.
b. USE 0.3"ø HEADS, 0.157"ø SHANK WITH 1" STEEL DISCS OR PRE-MOUNTED WASHERS. TYP, (U.N.O.)
c. MAXIMUM SPACING SHALL BE 24"oc, TYP. (U.N.O.)
d. MINIMUM PENETRATION SHALL BE 1¼" TYP. (U.N.O.)
e. MINIMUM EDGE DISTANCE & SPACING SHALL BE 4" TYP, (U.N.O.)
f. ACCEPTABLE L.V.F. FASTENERS SHALL BE AS NOTED BELOW:

1. HILTI, INC. – 0.157"ø "X-U" SERIES WITH 1¼" EMBED (ESR-2269)

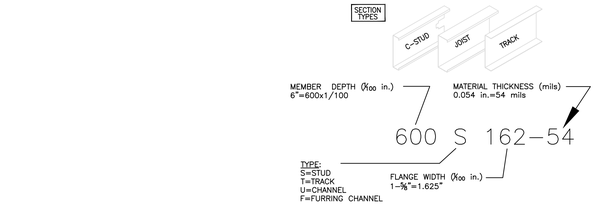
ALLOWABLE LOAD IN LBS. FOR STONE AGG. CONCRETE				
	2000 psi CONC.		4000 psi CONC.	
	TENSION	SHEAR	TENSION	SHEAR
PER L.V.F.	85	150	90	200

2. SIMPSON – 0.157"ø "PDPA" SERIES WITH 1¼" EMBED (ESR-2138)

ALLOWABLE LOAD IN LBS. FOR STONE AGG. CONCRETE				
	2500 psi CONC.		4000 psi CONC.	
	TENSION	SHEAR	TENSION	SHEAR
PER L.V.F.	320	360	380	420

7. ALL SECTIONS SHALL BE UNPUNCHED EXCEPT WALL STUDS MAY BE PUNCHED PER ICBO SIZE & PUNCH SPACING REQUIREMENTS. NO PUNCH OUTS ALLOWED WITHIN 10" OF BEARING POINTS ON WALLS/JOISTS.

8. MINIMUM SECTION PROPERTIES SHALL BE AS NOTED BELOW:



0700 STRUCTURAL STEEL

1. Wide flange shapes shall conform to ASTM A-992 (Fy=50 ksi) Unless noted otherwise.
2. Pipe columns shall conform to ASTM A-53, Grade B (Fy=35 ksi).
3. Hollow Steel Sections ("HSS") shall conform to the following:
   Square & Rectangular ASTM A500, Grade B (Fy=46 ksi)
   Round ASTM A500, Grade B (Fy=42 ksi)
4. Steel Angles shall conform to ASTM A36 (Fy=36 ksi).
5. Steel Plates and Bars shall conform to ASTM A36 (Fy=36 ksi).
6. All other structural steel shall conform to ASTM A-572 (Gr. 50). Unless noted otherwise.
7. "Dry-Pack"/Grout beneath column base plates or similar applications where called for, shall be non-shrink type. Use "Rapid Set" by "CTS Cement Mfg. Co." City of L.A. Report #RR 24654. Alternate equivalent may be used upon written approval of Engineer.
8. All bolts shall conform to ASTM A325 unless noted otherwise. Bolts designated MB (machine bolts) and threaded rods where called for, shall conform to ASTM A307 OR F1554 Gr.36 typ. U.N.O. Refer to concrete notes for embedded anchor bolts.
9. Bolt holes in steel shall be ⅛" larger diameter than nominal size of bolt used.
10. All exposed structural steel:
    Contractor shall consult with architect/owner the use of stainless steel prior to bidding.
    If approved by owner/architect use;
    Hot dip galvanized after fabrication per ASTM A123 if exposed to weather.
    Painted/finished.
    All welds/cuts shall be ground smooth per architecture specifications.
    All fasteners used to connect galvanized members shall be hot dip galvanized per ASTM A153.
    DO NOT USE STAINLESS STEEL FASTENERS AT ANY GALVANIZED MEMBER CONNECTION.
11. All interior covered structural steel surfaces shall be primed and painted.
12. The structural steel fabricator shall furnish copies of shop drawings for review by the architect prior to any fabrication. See specifications for requirements.
    The shop drawings shall note all eccentric ("offset") connections.
13. See also "0450 MARINE ENVIRONMENT" notes when noted on foundation plan or in general notes.

0750 WELDING REQUIREMENTS

1. All welding shall be performed by Certified Welders and conform to AWS standards, latest edition.
2. All structural welding shall be detailed and fabricated in an approved fabricator's shop in accordance with. See note 3 for exceptions:
   a. For licensed fabricators refer to Section 1704.2.2 of **2019 CBC**
   b. AISC specification for the Design, Fabrication and Erection of Structural steel for Buildings.
   c. A.W.S. Structural Welding Code D 1.1 (current edition).
   d. Welding electrodes shall be as stated on tables 4.1.1 of the above referenced specification.
3. Structural steel fabrication and welding not performed in an approved shop including field welding requires special inspection. See note 4 for exceptions.
4. The special inspector need not be continuously present during welding of the following items, provided the materials, qualifications of welding procedures and welders are verified prior to the start of work, periodic inspections are made of work in progress, and a visual inspection of all welds is made prior to completion or prior to shipment of shop welding:
   a. Single pass fillet welds not exceeding 5/16 inch.
   b. Floor and roof deck welding.
   c. Welded studs when used for structural diaphragm or composite systems.
   d. Welded sheet steel for cold-formed steel framing members such as studs and joists.
   e. Welding of stairs and railing systems.
5. All welding of reinforcing steel bars to structural steel members will require continuous inspection by a registered Deputy Inspector. Submit a welding procedure for approval to the Engineer of Record prior to any welding of any reinforcing steel bars. Refer to "0410 REINFORCING STEEL" notes for additional info.
6. Welds designed as Demand Critical Welds (DCW) shall be made with filler materials meeting the requirements specified in AWS D1.8/D1.8M clause 6.3.
7. Testing of studs welded through metal deck is required. See AWS 7.6 for required testing.

0400 CONCRETE NOTES FOR COMMERCIAL	(f'c)psi	Hardrock Aggregate size	Max Slump	Special Inspection Req'd
Isolated pad footings	3,000	1"	4"	No
Footings supporting light-framed walls & slab on grades	3,000	1"	4"	No
Retaining Walls	3,000	1"	4"	Yes
Caissions Shafts	4,000	1"	4"	Yes
Topping Slab for steel deck	3,500	⅜"	4"	Yes
All other concrete	4,000	1"	4"	Yes

Admixtures
a. Consult with architect for use of Xypex in mix design for exposed concrete walls and include in bid as required.
b. Plasticizers may be used per manufactures specfications.
c. For Marine enviroment where occurs refer to "0450 Marine Enviroment" general notes.

*** Pea Gravel shall not be used unless written approval is obtained from Structural Engineer.**
*** Slump measured without plasticizer. If plasticizer is used a higher final slump may be allowed upon Engineer's review.**
Concrete mix design shall be designed by an approved testing laboratory or Licensed Engineer and submitted to the Structural Engineer for approval.
1. Concrete shall have a minimum ultimate compressive strength (f'c) at 28 days as noted at the following locations: [For structures that are three stories and less(latest edition section 1905)]
2. Water-Cement Ratio
   a. 0.57 shall be used at all locations, Typical (UNO.)
   b. 0.50 max for Concrete slabs.
3. Fly Ash, where used, shall be limited to 20% of total cementitious mix.
4. "Marine Environment". Refer to notes for additional constraints.
5. Portland Cement shall conform to ASTM C-150, Type I or Type II. Aggregate for hardrock concrete shall conform to all requirements and tests of the latest ASTM C-33. Concrete mixing operations, etc., shall conform to ASTM C-94.
6. All phases of concrete work shall conform to the latest approved edition of Building Code Requirements for Reinforced Concrete: ACI-318.
7. Concrete Coverage for reinforcing bars shall be as follows (U.N.O.):
   a. Concrete cast against and exposed to earth 3" min.
   b. Concrete exposed to earth cast in forms 2" min.
   c. Concrete exposed to weather above grade 1" min.
   d. Refer to "0450 Marine Environment" under general notes for projects near the ocean.
8. Before concrete is poured, check with all trades for proper placement of sleeves, curbs, conduits, etc.
9. All reinforcing bars, anchor bolts, and other concrete inserts shall be well-secured in position prior to placing concrete. Additionally, the concrete should be thoroughly vibrated during placement.
10. Grout or Non-shrink grout called for on the drawing may be:
    a. Embeco or equal-below the slab-on-grade.
    b. Masterflow 713 grout or equal, above slab-on-grade.
11. Concrete shall not fall more than 1.8 m (6 feet).
12. Embedded anchor bolts shall conform to ASTM 1554 (old 325) grade 55 (75ksi tensile), U.N.O. See also "0300 Lumber Notes" and "0450 Marine Environment" under General Notes for more info
13. Board formed concrete
    13.1. Use 2x6 boards for forming
    13.2. Locate form ties between form boards
    13.3. Submit form ties to architect for approval prior to construction
    13.4. Concrete mix shall include plastisizer as needed to avoid rock pockets
    13.5. Provide mock up of board formed wall utilizing all materials for final construction

0405 DRY PACK/ NON-SHRINK GROUT AND PATCHING

1. Grout or Non-shrink grout called for on the drawing may be:
   a. Embeco or equal-below the slab-on-grade.
   b. Masterflow 713 grout or equal, above slab-on-grade.
2. Non- shrink grout and/or dry pack:
   a. Custom "Pour-Stone"
   b. Five Star "Special Grout 400"
   c. Master Builders "Master Flow 713".
3. Mix with the least water required to place grout without voids.
4. Cement grout and drypack Proportions by volume shall be:
   a. 2 parts sand
   b. 1 part cement and a minimum of water consistent with placing requirements.

0600 MASONRY

CONCRETE BLOCK
1. Concrete block shall be hollow load bearing concrete masonry units conforming to ASTM C-90, and CBC table 2105.2.2.1.2.
   Grade N **mediumweight** units, f'm = **1900 psi.** (f'm = 1500 psi for assembly)
   a. Standard or open end units may be used.
   b. Concave Mortar Joint per Architectural.
   c. Stagger units. Verify with architect.
   d. Refer to architectural drawings for finish surface, height of units, laying pattern and joint types.

MORTAR CEMENT
2. Mortar cement shall be as specified for concrete.
   a. Mortar shall conform to requirements of ASTM C270, latest edition – type S.
   b. No Type N or Type O nor masonry cement shall be used in Category D per MSJC 1.14.6.6
   c. Mortar shall attain a minimum compressive strength of **1800 psi** at 28 days.
   d. Admixture shall be Sika Red Label per manufacture's recommendations.
   e. Mortar strength tests shall be as set forth in ASTM C-270.
   f. Aggregates for mortar shall conform to the provisions set forth in ASTM C-144.
   g. Hydrated lime for mortar shall conform to the requirements of ASTM C-207.

GROUT
5. Grout shall conform to requirements of Table 2103.12 for Coarse Grout.
   a. Use sufficient water for grout to flow into all joints of the masonry without aggregation.
   b. Grout shall attain a minimum compressive strength of **2000 psi** at 28 days.(IBC section 2105.2.2.1.2)
   c. Aggregates for grout shall conform to the requirements as set forth in ASTM. C-404 or C-33
   d. Vibrate all cells.
   e. Provide a minimum of one-half inch grout between main reinforcing and masonry units.
   f. Maximum grout pour height is 4 feet.
   g. High lift grouted construction may be used in conformance with MSJC Table 1.16.1.
      Admixture shall be Sika Grout Aid Type I or Type II per manufacturer's recommendations.
      Use course grout with Sika Grout Aid only.
   h. All cells in concrete blocks shall be filled solid with grout except as otherwise noted.
   i. Provide a minimum of ¼" grout between steel and masonry unit when fine grout is used and a minimum of ½" when course grout is used.
   j. All blocks shall be dry prior to placement of Grout or Mortar.
   k. Between grout pours, a horizontal construction joint shall be formed by stopping all wythes at the same elevation and with the grout stopping at 1½" (38mm) below a mortar joint, except at the top of the wall. Where bond beams occur, the grout pour shall be stopped at ½" (12.7mm) below the top of the masonry. (Section 2104.1.2.7)

CONTROL JOINT
6. Control joint per typical detail. Verify locations with Architect.

0330 LUMBER HARDWARE

1. All lumber hardware (hangers, framing anchors, postcaps, fasteners, etc.) have been specified Simpson Strong Tie connectors as manufactured by Simpson company, San Leandro, California. Approved equal hardware may be substituted upon written approval by owner and The Engineer of Record.
2. All fasteners with lumber hardware shall be per Simpson recommendations (fill all holes) unless noted otherwise.
3. All lumber hardware that is exposed to the exterior or other corrosive environments, or may come in contact with corrosive materials shall be Corrosion Resistant per Simpson's recommendations. Fasteners of comparable material shall also be used to install the product. Refer to current Simpson Catalog.
4. All lumber hardware that is connected to PTDF shall be stainless steel or hot dipped galvanized or per typical details as noted on sheets S1.
   a. Nails and bolts shall be of like material.
   b. DO NOT INTERMIX coatings.

0350 MICROLAMS "MLˮ & PARALLAMS "PSLˮ & TIMBERSTRAND "LSLˮ

1. All members shall not be used where moisture content exceeds 19% (Exterior use is not permitted)
2. Microlam beams (ML (LVL)) shall be grade **2.0E** or better.
3. Paralam beams (PSL) shall be grade **2.0E** or better.
4. Timberstrand beams (LSL) shall be grade **1.55E** or better.
5. Contractor may use Paralams (PSL) in lieu of LSL or LVL members of the same dimensions.
6. Unless noted otherwise. Fasten 1¾" members together with; FOR OFFICE USE ONLY

Two plys:	3 rows of 16d @ 12"oc	705 plf
or	2 rows of SDS¼"x3" WS @ 12"oc	995 plf
Three plys:	3 rows of 16d @ 12"oc Both Sides	530 plf
or	2 rows of SDS¼"x4½" WS @ 12"oc Both Sides	745 plf
Four plys:	2 rows of ½"ø MB @ 12"oc	680 plf
or	2 rows of SDS¼"x6" WS @ 12"oc Both Sides	665 plf

0360 SHEAR SHEATHING

1. All shear sheathing shall be APA rated CDX or 5 ply Structural I, or CC with exterior glue per PS 2-10. All sheets shall be grade marked.
   1.1. "LP FlameBlock Fire-Rated Structural 1 Sheathing (ESR #1365)(PER 06013) is allowed as a substitute.
   1.2. Contractor may use existing shear wall per engineers review.
   1.3. Either side of wall for shear sheathing per Engineer's and/or Architect's written approval.
   1.4. Plywood sheets shall not be less than 16" each way.
   1.5. Plywood shall have framing or blocking at all edges of all sheets in shearwalls.
2. Minimum of 2 layers of grade D plywood between sheathing and exterior lath minimum (VWA).
3. Openings over 1'4½"x1'4½" wide, provide solid blocking at head and sill level, each side of opening. Strap with CS16 x 3 times the opening width. Maintain 24" min distance.
4. Finish edge nail of sole plate 7 days after roof is loaded. Refer to 0200 #3.

SHEAR PANEL FASTENERS
5. Panel nails shall be Common type with;
   5.1. ½" minimum penetration into studs/posts. (2" minimum nail length)
   5.2. Placed at least ⅜" from shear panel edges.
   5.3. At least ⅜" from edge of the connecting member
   5.4. Nails shall be staggered in two rows along shear panel boundary edges.
   5.5. All defective nails shall be removed and replaced with sound nailing.

SHEAR PANEL SOLE PLATE FASTENERS
6. All fasteners to PTDF plates shall be hot dipped galvanized refer to PTDF for more information
   No electroplated galvanized fasteners
7. SDS screws shall have 1¾" minimum penetration into member below plywood. Lag bolts shall have 5" minimum embed into pre-drilled 4x member below.
8. Contractors may use 16d common nails at sole plate in lieu of SDS screws, provided:
   a. Minimum nail embed into material below is 1½"
   b. Type "A" wall: 16d @ 5"oc staggered
   c. Type "B" wall: 16d @ 3"oc staggered
   d. Type "C" and above walls: Not Allowed.
9. Anchor bolts have been designed for 50% load capacity, per exception in CBC section 2305.3.11

SHEAR PANEL STUDS
10. Space studs at 16"oc (max.)
11. Use 3x minimum stud at all abutting panels, except "A" type walls
12. Use 3x minimum members where ever all nail spacing is 2" or tighter in spacing
13. If splitting occurs in studs, contractor shall pre-bore ½" pilot holes, ½"ø shank is required.
14. Abutting 2-2x members shall be connected with 2 rows of 16d. Type "A"=@16"oc. "B"=@10"oc Type "C"=@8"oc. Use 3x or 4x for other walls types

0370 FLOOR OR ROOF JOISTS/RAFTERS

1. Floor Truss joists shall be factory manufactured as follows:

Plan designation	Type of truss	Flange size	Web size
TJI/110	TJI/Pro 110	1⅜"x1⅜"–1⅞"	3/8"
TJI/210	TJI/Pro 210	2⅛"x1⅛"–1⅞"	3/8"
TJI/230	TJI/Pro 230	2⅝"x1⅛"–1⅞"	3/8"
TJI/360	TJI/Pro 360	2⅝"x1⅜"	3/8"
TJI/560	TJI/Pro 560	3½"x1⅜"	7/16"
TJI/560D	TJI/Pro 560	3½"x1½"	7/16"

The flange material shall be constructed of 2.0E Micro = Lam lumber and the web material shall be constructed of ½" Structural 1 plywood as manufactured by Trus-Joist Corporation or equal.
2. Trus-Joist Corporation or equal shall submit calculations to the Department of Building and Safety and to the Engineer for review prior to any truss fabrication.
3. Submit 5 copies of truss detail shop drawings for review by the Engineer after approval from the Department of Building and Safety. Truss detail shop drawings shall indicate all erection bracing, cross bracing, top and bottom chord bracing and camber requirements as recommended by the manufacturer and as required by all regulatory agencies.
4. Web Stiffeners
   In addition to manufacturer recommendations, provide web stiffeners to joists at all locations:
   a. between bearing walls above and girder, beam, or wall below. (Not required if rim is used)
   b. when hangers do not laterally support the top flange
   c. **intermediate bearing wall below is less then 5¼" wide.**
   d. at all bearing locations for cantilever joists.
   e. with sloped hanger and birdsmouth cut locations.
   f. when 550 joists reactions greater then 1475lbs for ITS, IUT, MIT.
   g. where supporting double I-joists with flanges less than 1⅞"ø
   h. of face mount skewed joist hangers.
   i. at bearing points with 16" and greater TJI.

Please contact engineer if there are any questions on the above.

0320 SHOT PINS

1. Shot Pins shall be powder driven type with head diameter of 3/4" and shank diameter of .140", 3" long, [75lbs with 2x wood plate parallel to grain, 60lbs perp] The pin shall have 1⅛" minimum penetration into the concrete.
   a. Use, Ramset Powder-Actuated Fasteners 1500X ESR1799 RR 22668. (230lbs shear with 2000 psi conc)
   b. Or Hilti Powder-Actuated Fasteners X-CF72 ESR2379 RR25708 (max load 105lbs for 1¾" min. edge distance or 250lbs for 3" min. edge distance, for 2000psi, min embedment to washer bearing on sill plate)
   c. Or Simpson PDPAW ESR-2138 RR25469 .(max load of 360lbs for 2500psi, min embedment of 1¼")
2. Shot Pins in contact with pressure treated lumber shall be hot dipped galvanized or stainless steel.

0420 EPOXY ANCHORS AND ADHESIVES

1. Bolt anchors, adhesives, etc. shall be as manufactured by, and installed in accordance with the written recommendations of, one of the following: Anchor Bolts and Holdown Anchors
   a. "SET-XP" high strength epoxy by Simpson Strong-Tie Company, Inc., ESR 2508, city of LA RR2,279.
   b. "ET" epoxy by Simpson Strong-Tie Company, Inc., ESR 4945, city of LA RR2,5185.
   c. TitenHD (ESR-2713) may be used provided;
      For 1¾" Edge Distance. Use ⅜"ø x8" Titen with **HALF** spacing per shearwall schedule.
      For greater then 3" Edge Distance. Use same spacing per shearwall schedule.
      Special inspection required and plate washer required.
3. Drilling of holes: Provide positive depth stop to prevent over-drilling.
4. Cleaning: Clean all holes thoroughly with air blast then use wire "bottle" brush to loosen powder, etc. and use air blast a second time before installing anchors.
5. Inspection: Provide for inspection of adequate depth and correct diameter of all holes before installing anchors.
6. All epoxy anchors shall conform to the specifications per manufacturer and local building department requirements. Special inspection will be required on all epoxy anchors in tension unless torque tested per local building department approval.

HANGERS FOR TYPICAL LETTERED BEAMS (EXAMPLE "FB-A"). BEAM WITH NUMBERS NOT ALLOWED.

2x JOISTS

1. 2x4	"LU24"	555lbs	--	2-2x4	"LUS24-2"	800lbs
2. 2x6	"LUS26"	865lbs	--	2-2x6	"LUS26-2"	1,030lbs
3. 2x8	"LUS28"	1105lbs	--	2-2x8	"LUS26-2"	1,030lbs
4. 2x10	"LUS28"	1105lbs	--	2-2x10	"LUS28-2"	1,315lbs
5. 2x12	"LUS210"	1340lbs	--	2-2x12	"LU210-2"	1,830lbs
6. 2x14	"LUS210"	1340lbs	--	2-2x14	"U210-2"	2,015lbs

3-2x JOISTS

1. 3-2x4	"LU24"	555lbs	--	3-2x4	"LU24"	555lbs

4x & 6x BEAMS

1. 4x4	"LUS44"	800lbs	--	6x4	"LUS46"	1,030lbs
2. 4x6	"LUS46"	1030lbs	--	6x6	"U66"	1,150lbs
3. 4x8	"LUS46"	1030lbs	--	6x8	"U66"	1,150lbs
4. 4x10	"LUS48"	1315lbs	--	6x10	"U610"	2,015lbs
5. 4x12	"LUS410"	1830lbs	--	6x12	"HU612"	2,380lbs
6. 4x14	"LUS410"	1830lbs	--	6x14	"HU614"	2,680lbs

MLBs (LVL) FOR LSL (1¾") ADD ½" PLY.

1. 1¾"x9¼"MLB	"LBV1.81/9.25"	2,590lbs	
2. 1¾"x9½"MLB	"ITS1.81/9.5"	1,520lbs	
3. 1¾"x11⅞"MLB	"LBV1.81/11.25"	2,590lbs	
4. 1¾"x11⅞"MLB	"ITS1.81/11.88"	1,520lbs	
5. 1¾"x14"MLB	"ITS1.81/14"	1,520lbs	

DBL MLB OR 3x PSL

1. 2-1¾x9¼" MLB or 3½"x9¼" PSL	"LBV3.56/9.25"	2,590lbs
2. 2-1¾x9½" MLB or 3½"x9½" PSL	"ITS3.56/9.5"	1,520lbs
3. 2-1¾x11¾" MLB or 3½"x11⅞" PSL	"LBV3.56/11.25"	2,590lbs
4. 2-1¾x14" MLB or 3½"x14" PSL	"ITS3.56/14"	1,520lbs
5. 2-1¾x16" MLB or 3½"x16" PSL	"ITS3.56/16"	2,590lbs

PSL's

1. 5¼"x9¼"	"HB5.50/9.25"	5,650lbs
2. 5¼"x9½"	"HB5.50/9.5"	5,650lbs
3. 5¼"x11⅞"	"HB5.50/11.25"	5,650lbs
4. 5¼"x11⅞"	"HB5.50/11.88"	5,650lbs

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22 027.1

Cachuma Restrooms

2265 HWY 154
Santa Barbara, CA 93105

Arch'l Contact:
IN
CO

Submittals

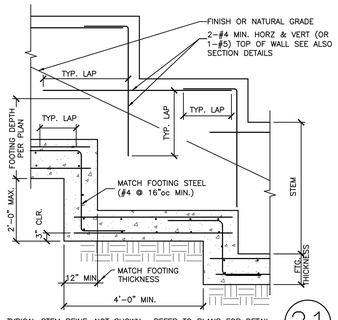
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PRELIM SET #02	09.30.22
PRELIM SET #03	11.22.22
STAMPED SET #01	01.17.23
STAMPED SET #02	03.10.23

GENERAL NOTES

S0.2

construction documents 3.10.2023

C:\Users\Active\22 027 Cachuma_Blackbird\22 027 DWG\arch\22 027 E- DETAILS.dwg, 3/10/2023 10:13:28 AM, Calprop Phase 11.pc3, Marvana, Marvana



TYPICAL STEM REINF. NOT SHOWN. REFER TO PLANS FOR DETAIL

TYP. STEPPED FOOTING 21

PARTIAL SCALE 1"=1'–0"

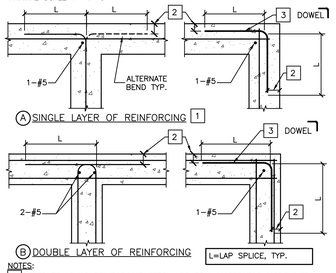
ENVIRONMENT	UNTREATED WOOD	TREATED WOOD						
	NONE	SBX/DOT & ZINC BORATE	MCQ	ACQ–C, ACQ–D (CARBONATE) CA–B & CBA–A			ACZA	OTHER OR UNCERTAIN
				NO AMMONIA	WITH AMMONIA	HIGHER CHEMICAL CONTENT[1]		
INTERIOR DRY	LOW	LOW	LOW[3]	MED [3]	MED	HIGH	HIGH	HIGH
EXTERIOR – DRY	LOW	N/A [2]	MED	MED [3]	HIGH	HIGH	HIGH	HIGH
EXTERIOR – WET	MED	N/A [2]	MED[3]	MED [3]	HIGH	HIGH	HIGH	HIGH
HIGHER PRESSURE	HIGH	N/A [2]	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
UNCERTAIN	HIGH	N/A [2]	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH

LOW = USE SIMPSON STANDARD PAINTED AND G90 GALVANIZED CONNECTORS AS A MINIMUM.
MED = USE ZMAX®/HDG GALVANIZED CONNECTORS AS A MINIMUM. USE FASTENERS WHICH MEET THE SPECIFICATIONS OF ASTM A153 OR SDS SCREWS WITH DOUBLE–BARRIER COATING.
HIGH = USE TYPE 303, 304, 305 OR 316 STAINLESS STEEL CONNECTORS AND FASTENERS.

1. WOODS WITH ACTUAL RETENTION LEVELS GREATER THAN 0.40 pcf FOR ACQ AND MCQ, 0.41 pcf FOR CBA–A, OR 0.21 pcf FOR CA–B (GROUND CONTACT LEVEL).
2. BORATE TREATED WOODS ARE NOT APPROPRIATE FOR OUTDOOR USE.
3. TEST RESULTS INDICATED THAT ZMAX®/HDG AND THE SDS DOUBLE–BARRIER COATING WILL PERFORM ADEQUATELY, SUBJECT TO REGULAR MAINTENANCE AND PERIODIC INSPECTION. HOWEVER, THE NATIONALLY–APPROVED TEST METHOD (ICC–ES ACCEPTANCE CRITERIA AMPA 1712–04, IS AN ACCELERATED TEST, SO DATA OVER AN EXTENDED PERIOD OF TIME IS NOT AVAILABLE. IF UNCERTAIN, USED STAINLESS STEEL.
4. SOME EVIDENCE HAS BEEN FOUND THAT COPPER BASED PRESERVATIVES MAY BE POTENTIALLY MORE CORROSIVE IF WOOD SURFACES ARE WET FOR LONG PERIODS OF TIME.
5. WHERE NOTED IN THE TABLE, APPLICATIONS WHERE THE WOOD IS DRY (MOISTURE CONTENT LESS THAN 19%) WHEN INSTALLED AND WILL REMAIN DRY IN–SERVICE MAY USE A MINIMUM COATING RECOMMENDATION OF "LOW".

TYPICAL CORROSION PROTECTION 22

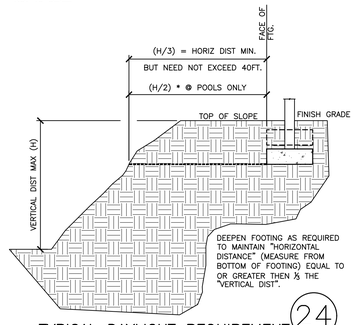
PARTIAL SCALE 1"=1'–0"



NOTES:
1. REFER TO "0410 REINFORCING STEEL" GENERAL NOTES FOR MORE INFO.
2. MAINTAIN 3" TO 4" FROM EDGE OF CONC. TO DOWEL.
3. DOWEL TO MATCH THE LARGEST DIA. HORIZ. REINF. (CONCRETE OR MASONRY)

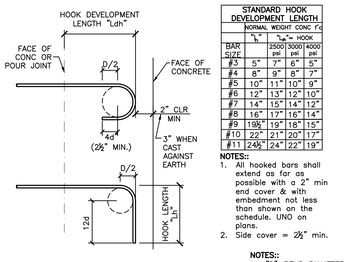
TYP. CORNER/INTERSECTION 23

NOT TO SCALE



TYPICAL DAYLIGHT REQUIREMENT 24

PARTIAL SCALE 1"=1'–0"



STANDARD HOOK DEVELOPMENT LENGTH				
	NORMAL WEIGHT CONC f'c			
	"Ldh"	"Ldc" = HOOK		
BAR SIZE		2500 psi	3000 psi	4000 psi
#3	5"	7"	6"	5"
#4	8"	9"	8"	7"
#5	10"	11"	10"	9"
#6	12"	13"	12"	10"
#7	14"	15"	14"	12"
#8	16"	17"	16"	14"
#9	18"	19"	18"	15"
#10	22"	21"	20"	17"
#11	24"	24"	22"	19"

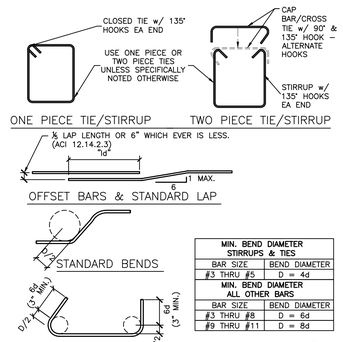
NOTES::
1. All hooked bars shall extend as far as possible with a 2" min end cover & with embedment not less than shown on the schedule. UNO on plans.
2. Side cover = 2" min.

NOTES::
1. "D"=BEND DIAMETER
2. "d"=BAR DIAMETER
3. For horizontal reinforcing placed such that less than 12" of fresh concrete is placed below the bar use the Vertical Bar Lap Splice Schedule.
4. Lap splices in concrete shear walls shall be increased by 1.25 times the scheduled length.
5. All lengths shall be increased by 1.2 times the scheduled lengths for epoxy coated rebar.

STANDARD HOOK DEVELOPMENT LENGTH

HORIZONTAL BAR LAP SPLICE SCHEDULE				
	"Ld" = LAP SPLICE LENGTH			
	CMU	CONCRETE		
BAR SIZE	f'cm= 1500	f'cm= 2500	f'cm= 3000	f'cm= 4000
#3	19"	31"	28"	25"
#4	34"	41"	38"	33"
#5	45"	51"	47"	41"
#6	54"	61"	56"	49"
#7	63"	89"	81"	71"
#8	72"	102"	93"	81"
#9	81"	115"	105"	91"
#10	NA	129"	118"	102"
#11	NA	143"	131"	114"

VERTICAL BAR LAP SPLICE SCHEDULE				
	"Ld" = LAP SPLICE LENGTH			
	CMU	CONCRETE		
BAR SIZE	f'cm= 1500	f'cm= 2500	f'cm= 3000	f'cm= 4000
#3	19"	24"	22"	18"
#4	34"	32"	29"	25"
#5	45"	39"	36"	31"
#6	54"	47"	43"	37"
#7	63"	69"	63"	54"
#8	72"	78"	72"	62"
#9	81"	88"	81"	70"
#10	NA	100"	91"	79"
#11	NA	110"	101"	87"

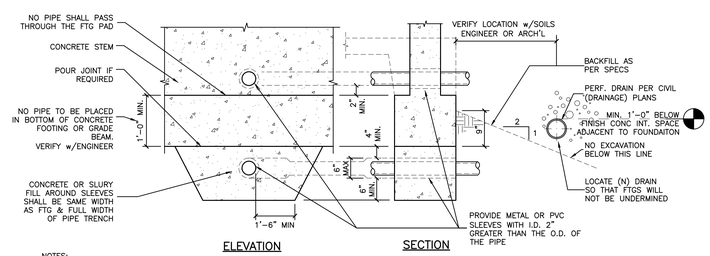


MIN. BEND DIAMETER STIRRUPS & TIES	
BAR SIZE	BEND DIAMETER
#3 THRU #5	D = 4d
MIN. BEND DIAMETER ALL OTHER BARS	
BAR SIZE	BEND DIAMETER
#3 THRU #8	D = 6d
#9 THRU #11	D = 8d

135° SEISMIC HOOK & 6d EXTENSION

STANDARD HOOKS, BENDS & LAPS 18

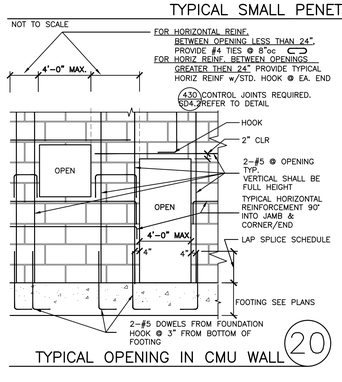
PARTIAL SCALE 1"=1'–0"



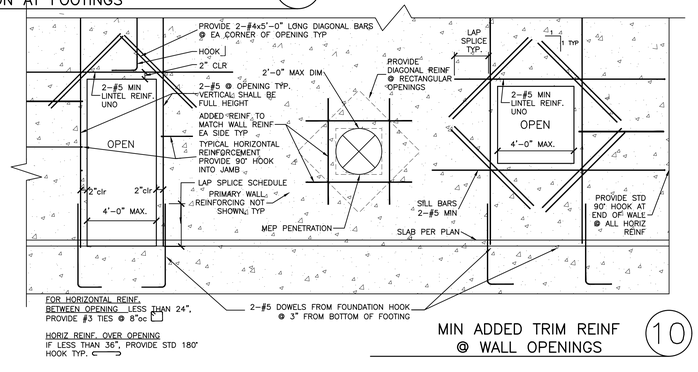
NOTES:
1. DEPTH OF FOOTING MAY BE DETERMINED BY LOCATION OF PIPES.
2. GENERAL CONTRACTOR SHALL REVIEW MECH'L/PLUMBING DRAWINGS AND SPECIFICATIONS AND CONSULT WITH MECH'L CONTRACTOR TO DETERMINE EXACT DEPTH AND LOCATION OF PIPES.
3. MULTIPLE OPENINGS SHALL HAVE A MINIMUM CLEAR SPACE BETWEEN SLEEVES OF 2x THE LARGEST ADJACENT SLEEVE SIZE. (ie 6"ø SLEEVE WILL REQUIRE 1'–0" DISTANCE BETWEEN)

TYPICAL SMALL PENETRATION AT FOOTINGS 14

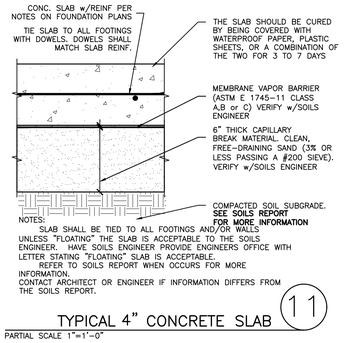
NOT TO SCALE



TYPICAL OPENING IN CMU WALL 20



MIN ADDED TRIM REINF @ WALL OPENINGS 10



NOTES:
SLAB SHALL BE TIED TO ALL FOOTINGS AND/OR WALLS UNLESS "FLOATING" THE SLAB IS ACCEPTABLE TO THE SOILS ENGINEER. HAVE SOILS ENGINEER PROVIDE ENGINEERS OFFICE WITH LETTER STATING "FLOATING" SLAB IS ACCEPTABLE.
REFER TO SOILS REPORT WHEN OCCURS FOR MORE INFORMATION.
CONTACT ARCHITECT OR ENGINEER IF INFORMATION DIFFERS FROM THE SOILS REPORT.

TYPICAL 4" CONCRETE SLAB 11

PARTIAL SCALE 1"=1'–0"

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No. 50647
CIVIL
STATE OF CALIFORNIA

22 027.1

Cachuma Restrooms

2265 HWY 154
Santa Barbara, CA 93105

Arch'l Contact:
TN
CO

Submittals

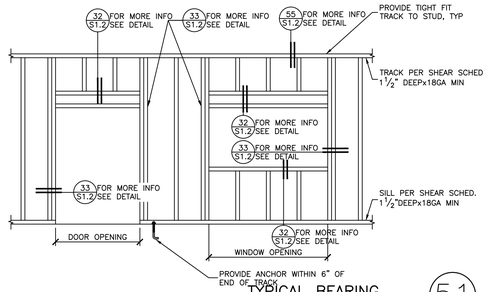
PRELIM SET #01	06.02.22
PRELIM SET #02	09.30.22
PRELIM SET #03	11.22.22
STAMPED SET #01	01.17.23
STAMPED SET #02	03.10.23

TYPICAL DETAILS

S1.1

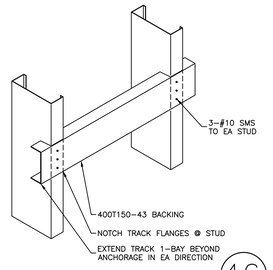
construction documents 3.10.2023

C:\Users\Active\22 027 Cachuma_Blackbird\22 027 DWG\set\22 027 E- DETAILS.dwg, 1/10/2023 10:13:31 AM, Calcprop Phase 11.pc3, Mariana, Mariana



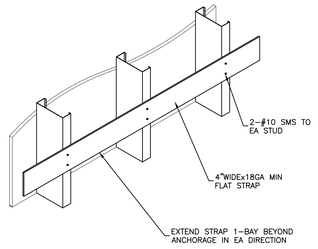
TYPICAL BEARING METAL STUD WALL 51

PARTIAL SCALE 1"=1'-0"



TYPICAL TRACK BACKING 46

PARTIAL SCALE 1"=1'-0"



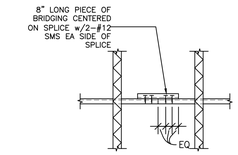
LIGHT ANCHORAGE TYPICAL STRAP BACKING 47

PARTIAL SCALE 1"=1'-0"

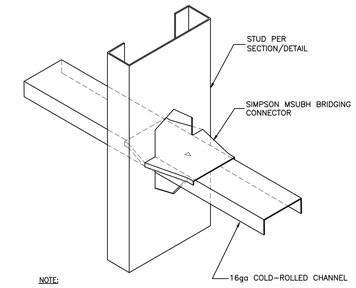
MAX HEIGHTS PER SSMA 5 PSF, L/360, BRACED AT 48"oc			
INTERIOR NON-BEARING STUD WALLS MAXIMUM ALLOWABLE HEIGHT			
STUD SECTION	Fy (ksi)	SPACING	MAX WALL HEIGHT
350S125-33	33	16"oc	13'-8"
		24"oc	11'-11"
350S125-43	33	16"oc	14'-10"
		24"oc	12'-11"
350S125-54	50	16"oc	15'-10"
		24"oc	13'-10"
400S125-33	33	16"oc	15'-2"
		24"oc	13'-3"
400S125-43	33	16"oc	16'-6"
		24"oc	14'-5"
400S125-54	50	16"oc	17'-8"
		24"oc	15'-5"
550S125-33	33	16"oc	19'-7"
		24"oc	17'-1"
550S125-43	33	16"oc	21'-3"
		24"oc	18'-7"
550S125-54	50	16"oc	22'-9"
		24"oc	19'-11"
600S125-33	33	16"oc	21'-0"
		24"oc	18'-4"
600S125-43	33	16"oc	22'-10"
		24"oc	19'-11"
600S125-54	50	16"oc	24'-6"
		24"oc	21'-5"
800S125-43	33	16"oc	29'-0"
		24"oc	25'-4"
800S125-54	33	16"oc	31'-1"
		24"oc	27'-2"

NOTES:
1. STUDS MUST BE BRACED AT 48"oc MAX
2. 1" MINIMUM END BEARING FOR LATERAL LOADS
3. NO PUNCHOUTS ALLOWED WITHIN 10" OF TOP/BOTTOM TRACK SUPPORTING STUDS
4. 1-#10 SCREW EACH STUD FLANGE TO TRACK FLANGE, MIN

NON-BEARING WALL ALLOWABLE HEIGHTS 53



A BRIDGING SPLICE DETAIL

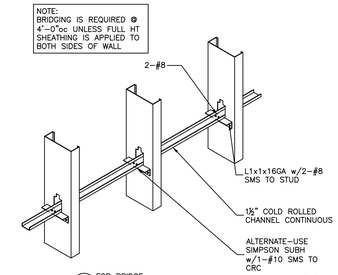


NOTE:
BRIDGING TO BE PLACED AT 4'-0" OC. MAX. VERTICALLY, EXCEPT WHERE GYP. SHEATHING IS PROVIDED ON BOTH SIDES OF METAL STUD.

METAL STUD BRIDGING 42

NTS

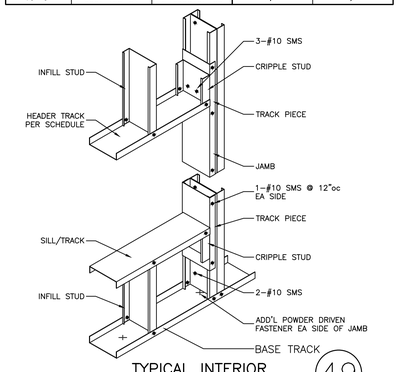
NOTE:
BRIDGING IS REQUIRED @ 4'-0"oc UNLESS FULL HT SHEATHING IS APPLIED TO BOTH SIDES OF WALL.



TYPICAL CHANNEL BRIDGING 43

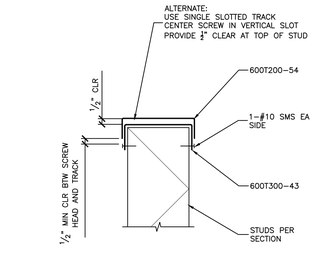
PARTIAL SCALE 1"=1'-0"

TYP. NON-BEARING HEADER AND KING STUD SCHEDULE				
	600 WALL		362 WALL	
HEADER SPAN	HEADER TRACK	KING STUD	HEADER TRACK	KING STUD
4'-0"	600T 125-33	1-600S137-33	362T 125-33	1-362S125-33
8'-0"	600T 125-33	1-600S137-33	362T 125-33	2-362S125-33
~~12'-0"~~	~~600T 125-43~~	~~1-600S137-33~~	~~362T 125-54~~	~~2-362S125-43~~
~~16'-0"~~	~~600T 125-54~~	~~2-600S137-33~~	~~N/A~~	~~N/A~~



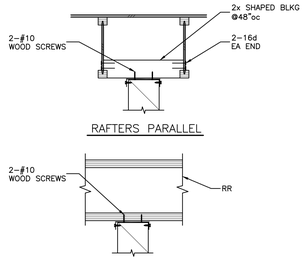
TYPICAL INTERIOR NON-BEARING HEADERS 49

PARTIAL SCALE 1"=1'-0"



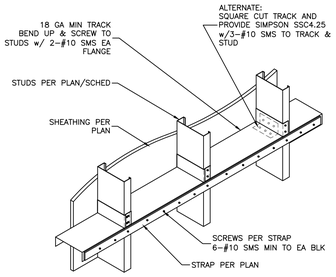
TYPICAL SLIP TRACK CONNECTION 44

PARTIAL SCALE 1"=1'-0"



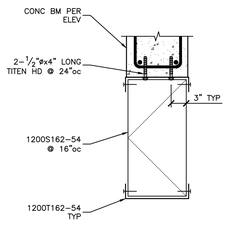
TYPICAL (LGS) LIGHT GAGE STUD WALL TO CEILING 55

PARTIAL SCALE 1"=1'-0"



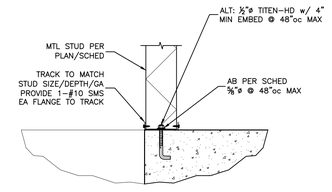
TYPICAL STRAP/BLKG 36

PARTIAL SCALE 1"=1'-0"



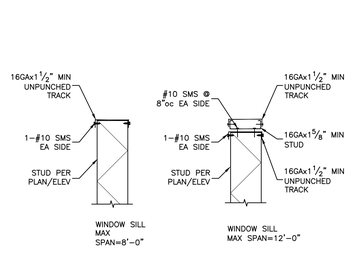
SECTION @ MTL STUD INFILL 37

PARTIAL SCALE 1"=1'-0"



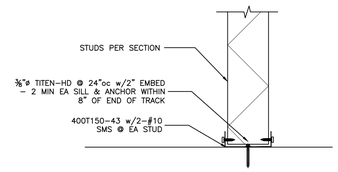
TYPICAL MTL STUD TO CONC 39

PARTIAL SCALE 1"=1'-0"



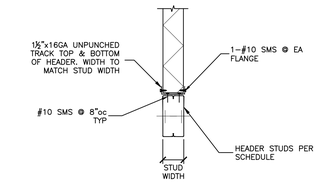
TYPICAL WINDOW SILL 38

PARTIAL SCALE 1"=1'-0"



TRACK CONNECTION 31

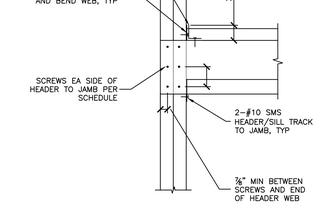
PARTIAL SCALE 1"=1'-0"



HEADER SCHEDULE		
SPAN	HEADER STUD SIZE	#10 SCREWS EA SIDE OF HEADER TO JAMB
UP TO 6'-0"	(2) 400S162-43	4 SCREWS (8 TOTAL)
6'-0" TO 9'-0"	(2) 600S200-54	6 SCREWS (12 TOTAL)
9'-0" TO 14'-0"	(2) 800S250-54	

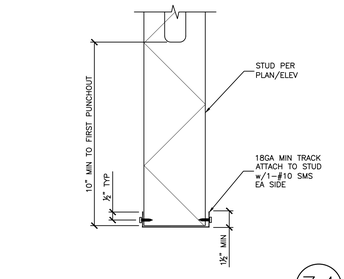
NON-BEARING HEADER SECTION 32

PARTIAL SCALE 1"=1'-0"



HDR TO JAMB CONN 33

PARTIAL SCALE 1"=1'-0"



TYPICAL STUD TO TRACK 34

PARTIAL SCALE 1"=1'-0"

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REGISTERED PROFESSIONAL ENGINEER
FRANKLIN W. HUME, JR.
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CIVIL
STATE OF CALIFORNIA

22 027.1

Cachuma Restrooms

2265 HWY 154
Santa Barbara, CA 93105

Arch'l Contact:
TN
CO

Submittals

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PRELIM SET #02	09.30.22
PRELIM SET #03	11.22.22
STAMPED SET #01	01.17.23
STAMPED SET #02	03.10.23

TYPICAL DETAILS

S1.2

construction documents 3.10.2023

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DETAIL & NOTES SHEET SCHEDULE

SPECIAL INSPECTION NOTES	S0.1
GENERAL NOTES	S0.2
1 TO 30 REFER TO SHEET	S1.1
31 TO 60 REFER TO SHEET	S1.2
201 TO 230 REFER TO SHEET	SD2.1
301 TO 330 REFER TO SHEET	SD3.1
331 TO 360 REFER TO SHEET	SD3.2

FRAMING LEGEND S2

(SIZE & TYPE) (BEAM #)	BEAM (SEE PLANS AND BEAM SCHED)
	VERTICAL STRAP
	FRAMING DIRECTION
	HOLDOWN
	POST BELOW FRAMING*
	POST ABOVE FRAMING
	BEARING WALL BELOW FRAMING
	SHEARWALL BELOW FRAMING*
	MASONRY OR CONCRETE WALL
	CONCRETE WALL
	CONC/CMU LINTEL (OR WALL ABV)
SIZE	PAD FOOTING (SIZE PER SCHED)
WALL	VENEER
STEP	STEP, VWA

Details Using

Count	DET#
5	
1	11
1	20
2	201
1	203
1	206
5	207
1	212
1	23

SFN USING

SFN	Count
2	16

Pacific Materials Laboratory — Cachuma Lake Job No: 22 027

Allowable Bearing DL+LL	2000 psf
Allowable Bearing w/Seismic	2667 psf
Report Number:	22-13447C-2
Report Date:	9/14/2022

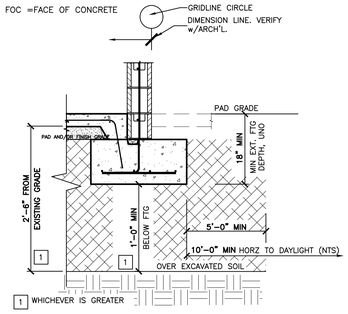
Contact: Ron Pike
Phone #: (805) 964-6901
Email: pml@pml.sbcoxmail.com
Address: 35 S. La Patera Lane, Suite A
Goleta, CA 93116

TYPICAL FOOTING NOTES — Cachuma Lake Job No: 22 027

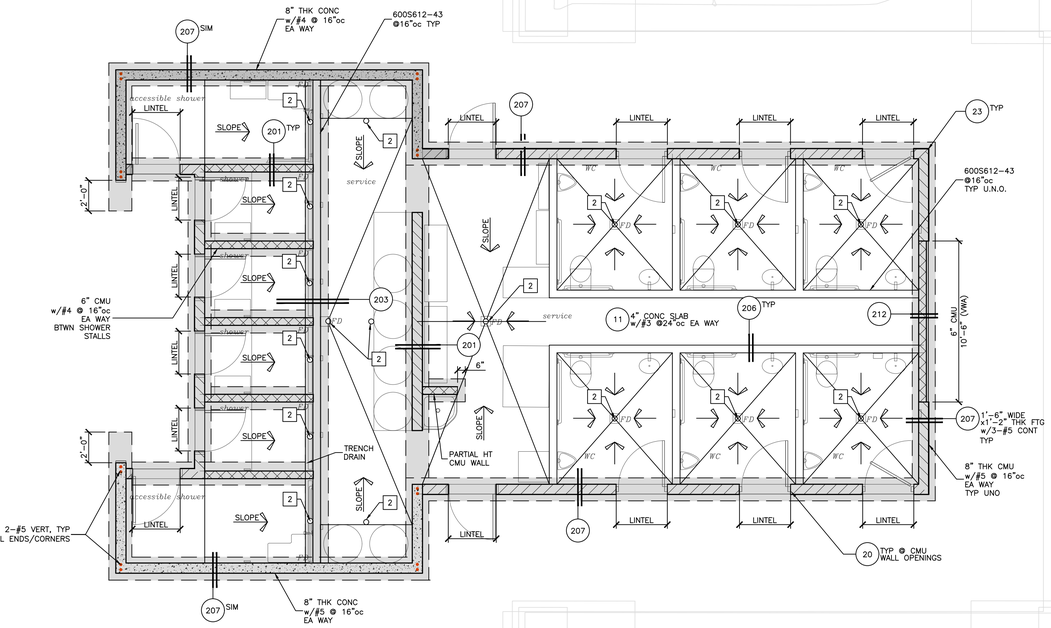
a. Footing Width:
12" min at 1 story
15" min at 2 story
18" min at 3 story
b. Footing Depths:
Depth below pad 18in
Depth below exterior grade 18in
Depth at Interior 18in
c. Footing Bearing Pressure
Dead/Live Load **2000 psf**
With Seismic Load **2667 psf**
d. Unless otherwise detailed or noted on plans
e. Match existing footing depth, unless new depth is greater (where applicable)

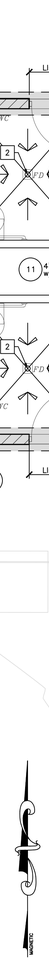
f. Refer to the structural general notes and project specifications for additional material quality control and workmanship requirements.
g. Maintain bottom of footing such that the horizontal distance to daylight is (40.0per CBC Section 1808.7.2

FOOTING NOTES:
a. Footing Widths:
12" at 1 story
15" at 2 story
18" at 3 story
b. Footing Depths:
18" min.
18" min.
per Soils Engineer's review
c. Unless otherwise detailed or noted on plans.
d. Match existing footing depth, unless new depth is greater (where applicable).
e. Refer to the Structural General Notes and project specification for additional material quality control and workmanship requirements.
f. Maintain bottom of footing such that the horizontal distance to daylight is and per Sec 1805A.3.2 of current CBC edition.



TYPICAL FOOTING w/ REMOVE AND RECOMPACT (A)
NOT TO SCALE





FOUNDATION PLAN

SCALE: 1/4"=1'-0"
DO NOT SCALE FOOTINGS FROM DRAWING
REFER TO NOTES, SCHEDULES AND DETAILS.
(VERIFY DIMENSIONS WITH ARCHITECT)

SPECIFIC FOUNDATION NOTES:
1 For exact (wall) height refer to the architectural plans. Architectural plans shall take precedence. If the height is different by more than 3" as noted on plans contact engineer.
2 Floor drain.

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FOUNDATION PLAN

S2.1

construction documents 3.10.2023

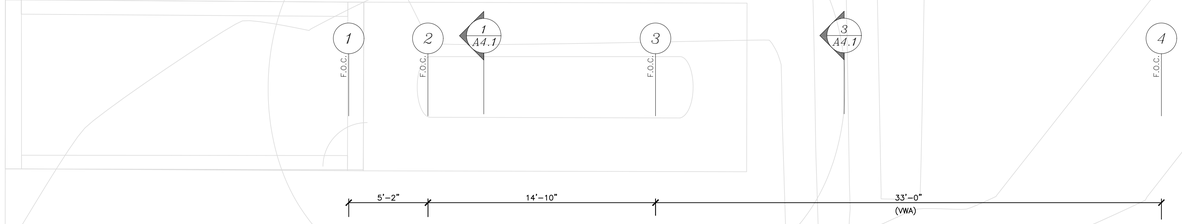
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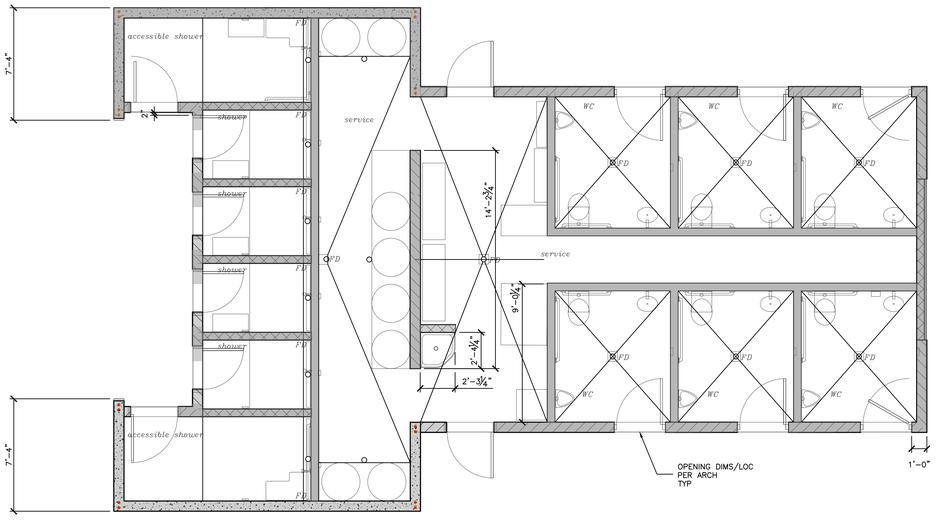
DETAIL & NOTES SHEET SCHEDULE

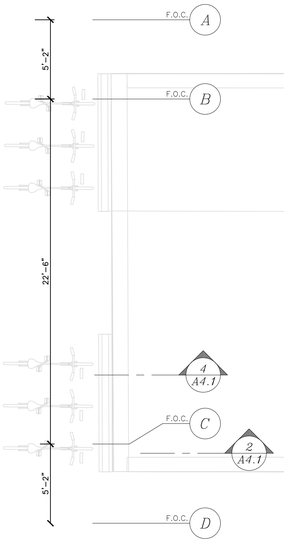
SPECIAL INSPECTION NOTES	S0.1
GENERAL NOTES	S0.2
1 TO 30 REFER TO SHEET	S1.1
31 TO 60 REFER TO SHEET	S1.2
201 TO 230 REFER TO SHEET	SD2.1
301 TO 330 REFER TO SHEET	SD3.1
331 TO 360 REFER TO SHEET	SD3.2

FRAMING LEGEND S2

(SIZE & TYPE) (BEAM #)	BEAM (SEE PLANS AND BEAM SCHED)
	VERTICAL STRAP
	FRAMING DIRECTION
	HOLDOWN
	POST BELOW FRAMING*
	POST ABOVE FRAMING
	BEARING WALL BELOW FRAMING
	SHEARWALL BELOW FRAMING*
	MASONRY OR CONCRETE WALL
	CONCRETE WALL
	CONC/CMU LINTEL (OR WALL ABV)
SIZE	PAD FOOTING (SIZE PER SCHED)
WALL	VENEER
STEP	STEP, VWA







CURB & DIMENSION PLAN

SCALE: 1/4"=1'-0"

DO NOT SCALE FOOTINGS FROM DRAWING
REFER TO NOTES, SCHEDULES AND DETAILS.
(VERIFY DIMENSIONS WITH ARCHITECT)

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FOUNDATION PLAN

S2.2

construction documents 3.10.2023

O:\Jobs Active\22 027 Cachuma, Blackbird\22 027 DWG\22 027 S2 FOUNDATION PLAN.dwg, 3/10/2023 10:27:06 AM, Calprop Phase II.pc3, Mariana, Mariana

DETAIL & NOTES SHEET SCHEDULE	
SPECIAL INSPECTION NOTES	S0.1
GENERAL NOTES	S0.2
1 TO 30 REFER TO SHEET	S1.1
31 TO 60 REFER TO SHEET	S1.2
201 TO 230 REFER TO SHEET	SD2.1
301 TO 330 REFER TO SHEET	SD3.1
331 TO 360 REFER TO SHEET	SD3.2

FRAMING LEGEND S3 or S4

(SIZE & TYPE) (BEAM #)	BEAM (SEE PLANS AND BEAM SCHED)
	VERTICAL STRAP
	FRAMING DIRECTION
	HOLDOWN
	POST BELOW FRAMING*
	POST ABOVE FRAMING
	HORIZONTAL HOLDOWN
	NON-FRAME MOMENT CONNECTION
	MOMENT FRAME CONNECTION
STEP	STEP, VWA
REFER TO SHEET S2 FOR MORE	
	CONCRETE WALL
	MASONRY OR CONCRETE WALL
	CONC/CMU LINTEL (OR WALL ABV)

SFN USING

SFN	Count
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1	2

Details Using

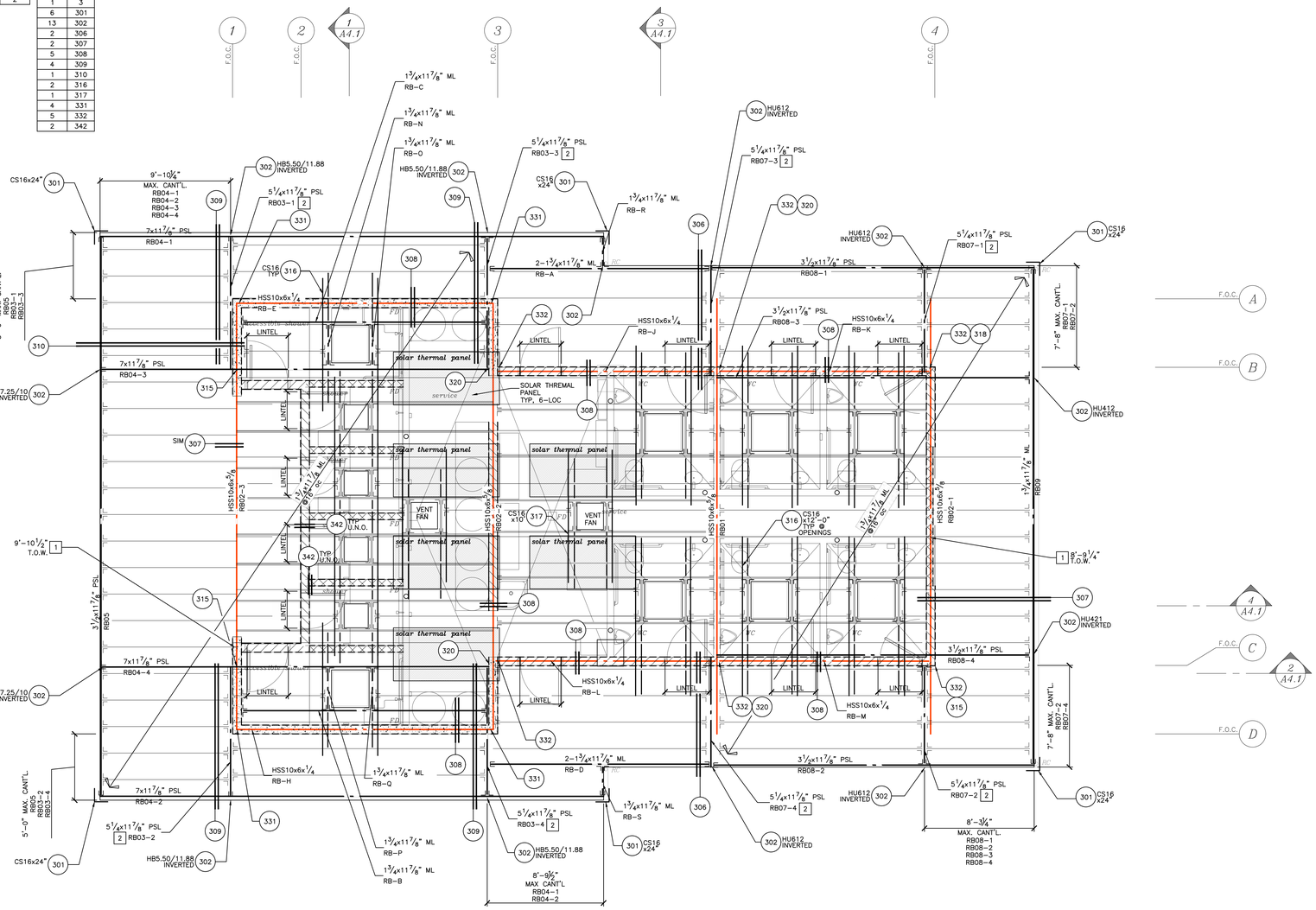
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2	342

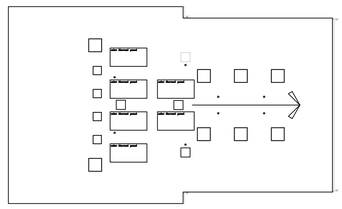
STRUCTURAL BEAM SCHEDULE

NUMBER	BEAM	STEEL	LENGTH	GRID	TYPE	LEFT DOWN	RIGHT UP	BEAM NOTES
RB01		HSS10x6x5/8	32'-10"	3.4				
RB02-1		HSS10x6x5/8	32'-10"	4				
RB02-2		HSS10x6x5/8	32'-2"	3				
RB02-3		HSS10x6x5/8	32'-2"	1				
RB03-1	5 1/4x11 7/8" PSL		9'-11"	1			HB5.50/11.88	
RB03-2	5 1/4x11 7/8" PSL		9'-8"	1		HB5.50/11.88		
RB03-3	5 1/4x11 7/8" PSL		9'-9"	3				
RB03-4	5 1/4x11 7/8" PSL		9'-6"	3				
RB04-1	7x11 7/8" PSL		38'-0"	A.08				
RB04-2	7x11 7/8" PSL		38'-0"	D.2				
RB04-3	7x11 7/8" PSL		29'-2"	B.1		HGUS7.25/10		
RB04-4	7x11 7/8" PSL		29'-2"	B.9		HGUS7.25/10		
RB05	3 1/2x11 7/8" PSL		41'-11"	0.5	RIM	HUC412	HUC412	
RB07-1	5 1/4x11 7/8" PSL		7'-9"	4		HU412		
RB07-2	5 1/4x11 7/8" PSL		7'-2"	4				
RB07-3	5 1/4x11 7/8" PSL		8'-3"	3.4				
RB07-4	5 1/4x11 7/8" PSL		8'-3"	3.4				
RB08-1	3 1/2x11 7/8" PSL		24'-3"	A0.9		HUC412		
RB08-2	3 1/2x11 7/8" PSL		24'-2"	D.1		HUC412		
RB08-3	3 1/2x11 7/8" PSL		23'-6"	B				
RB08-4	3 1/2x11 7/8" PSL		23'-6"	C				
RB09	1 3/4x11 7/8" ML		37'-2"	4.5				
RB-A	2-1 3/4x11 7/8" ML		16'-5"	A0.9		NOTE 9	NOTE 9	
RB-B	1 3/4x11 7/8" ML		18'-3"	C.7		NOTE 9	NOTE 9	
RB-C	1 3/4x11 7/8" ML		18'-3"	A.3		NOTE 9	NOTE 9	
RB-D	2-1 3/4x11 7/8" ML		16'-5"	D.1		NOTE 9	NOTE 9	
RB-E		HSS10x6x1/4	19'-4"	A				
RB-H		HSS10x6x1/4	19'-4"	D				
RB-J		HSS10x6x1/4	16'-3"	B				
RB-K		HSS10x6x1/4	15'-9"	B				
RB-L		HSS10x6x1/4	16'-6"	C				
RB-M		HSS10x6x1/4	15'-9"	C				
RB-N	1 3/4x11 7/8" ML		2'-11"	2.2		NOTE 9	NOTE 9	
RB-O	1 3/4x11 7/8" ML		2'-11"	2.4		NOTE 9	NOTE 9	
RB-P	1 3/4x11 7/8" ML		3'-0"	2.2		NOTE 9	NOTE 9	
RB-Q	1 3/4x11 7/8" ML		3'-0"	2.4		NOTE 9	NOTE 9	
RB-R	1 3/4x11 7/8" ML		2'-0"	3.3		NOTE 9	NOTE 9	
RB-S	1 3/4x11 7/8" ML		2'-0"	3.3		NOTE 9	NOTE 9	

BEAM SCHEDULE SPECIFIC NOTES
(1) Verify all beams/headers with plan. Not all beams/headers shown in schedule.
(2) All spans are estimated plan length, not actual length. Contact Engineer if length is greater than 3" noted.
(3) Match trimmers/posts on either end of beam unless noted otherwise on plans/details. or "WALL FRAMING NOTES" (g)
(4) Provide two rows of BN where floor and/or roof sheathing occurs on member. Members < 3½" wide only require one row.
(5) Continuous member w/EN entire length or provide strap (contact engineer).
(6) Verify beam heights and exposed beam sizes with Arch't. Contact engineer if information varies greater than 3" noted.
(7) Rafter/Joist/Truss per plan in line with wall beyond. Align for strap.
(8) Use max nailing for hangers.
(9) Refer to General Notes sheet S0.1 for Hanger Schedule.

0305 ROOF SHEATHING:
1. Use 19/32"(7/16) sheathing STRUCT I w/8d (.131x2½") or 10d(.148x3") (1⅜"and1½" min. penetration respectively)
   6"oc edge nailing (EN)
   6"oc boundary nailing (BN)
   12"oc field nailing (FN)
2. Index shall be 32/16
3. Stagger sheets.
4. Face grain perpendicular to trusses or rafters.
5. Use sheathing clips (Simpson "PSCL") between rafters for rafter spacing greater than 16"oc.





ROOF OVERVIEW

NO SCALE
SLOPE = 1/4:12

ROOF FRAMING PLAN

SCALE: 1/4"=1'-0"
DO NOT SCALE FROM DRAWING REFER TO NOTES, SCHEDULES AND DETAILS.

Framing for Sheet S3 Cachuma Lake Job No: 22 027 11/22/2022

Typical Roof Rafters

a) 11-7/8" TJI/110 @ 24"oc (MAX SPAN =18'-0") (0.25:12 slope) (DL=23, LL =20 psf) (TLdef 92%)
Use "ITS1.81/11.88" 975lbs hanger. Nail face 2-16d, top 4-16dx1 1/2"(80%)

Roof Rafters

b) 1-3/4"x11-7/8" ML @ 16"oc (MAX SPAN =26'-0") (0.25:12 slope) (DL=23, LL =20 psf) (TLdef 94%)
Use "MIU1.81/11" 2880lbs hanger. Nail face 20-16d, joist 2-10dx1 1/2"(26%)

SPECIFIC ROOF FRAMING NOTES:

1 For exact (wall) height refer to the architectural plans. Architectural plans shall take precedence. If the height is different by more than 3" as noted on plans contact engineer.

2 Wood beam directly over steel beam (graphically shown offset)

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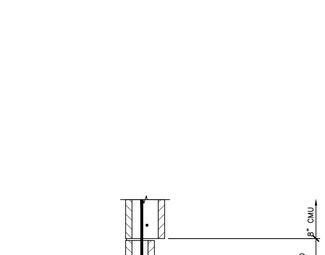
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ROOF FRAMING PLA

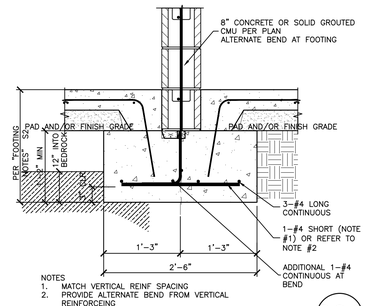
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construction documents 3.10.2023

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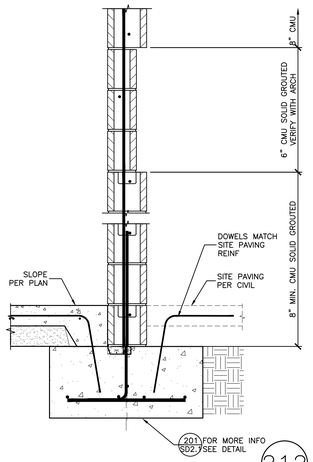


TYPICAL CURB @ SLAB ON GRADE 206



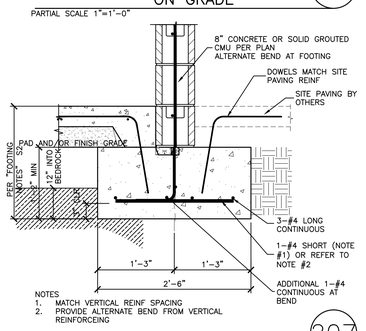
NOTES
1. MATCH VERTICAL REINF SPACING
2. PROVIDE ALTERNATE BEND FROM VERTICAL REINFORCEING

FOOTING AT CMU WALL 206



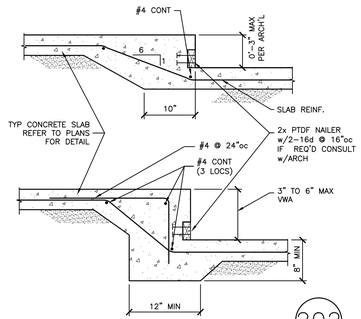
6" CMU AT RECESS 212

PARTIAL SCALE 1"=1'-0"



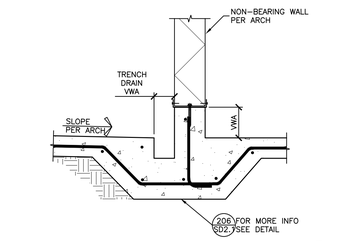
NOTES
1. MATCH VERTICAL REINF SPACING
2. PROVIDE ALTERNATE BEND FROM VERTICAL REINFORCEING

FOOTING AT CMU WALL 207



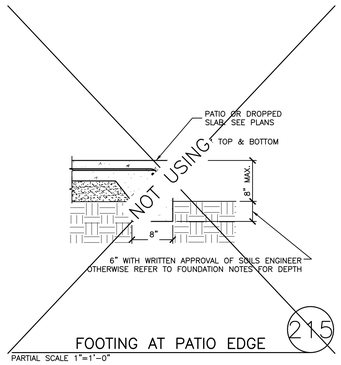
STEP IN SLAB 202

PARTIAL SCALE 1"=1'-0"



SHOWER DRAIN/CURB 203

PARTIAL SCALE 1"=1'-0"



FOOTING AT PATIO EDGE 215

PARTIAL SCALE 1"=1'-0"

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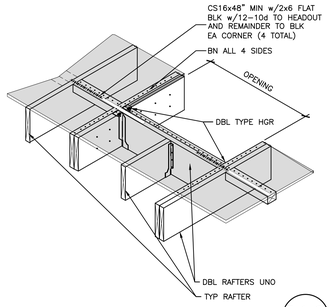
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DETAILS

SD2.1

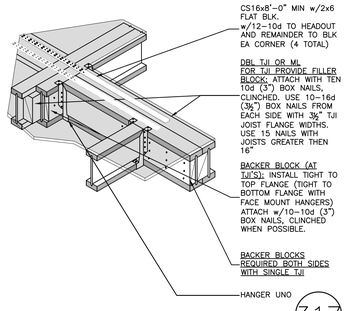
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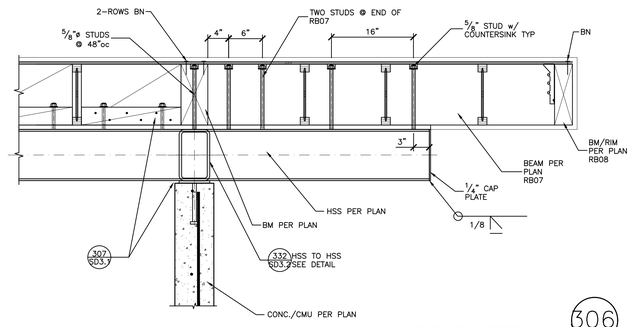
TYP DBL RAFTERS @ OPENINGS 316

PARTIAL SCALE 1"=1'-0"



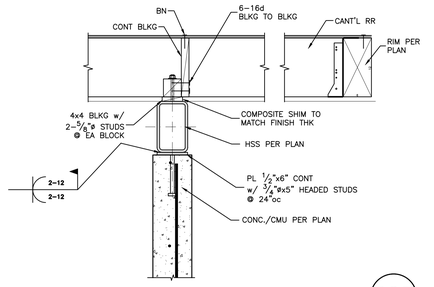
TYP OPENING AT JOISTS/RAFTERS 317

PARTIAL SCALE 1"=1'-0"



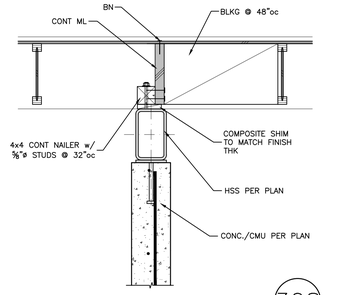
CANTILEVER STEEL 306

PARTIAL SCALE 1"=1'-0"



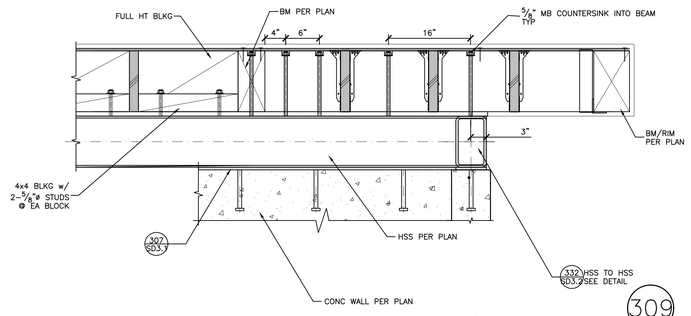
TYPICAL CANTILEVER EAVE 307

PARTIAL SCALE 1"=1'-0"



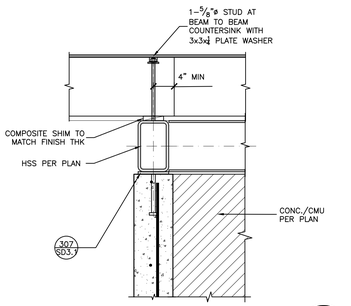
HSS BM ABOVE WALL 308

PARTIAL SCALE 1"=1'-0"



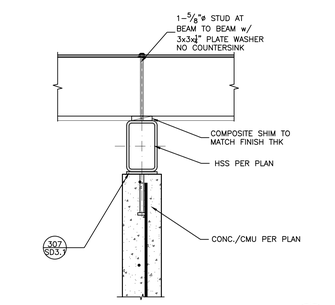
CANTILEVER BEAM 309

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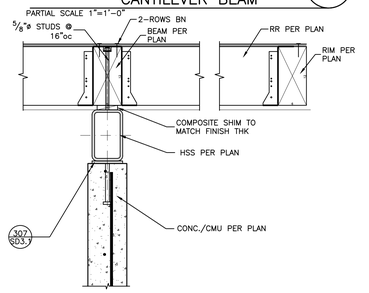
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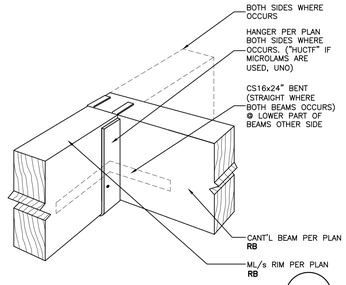
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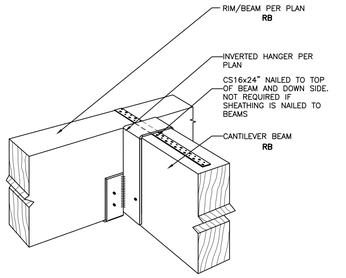
BEAM SECTION 310

PARTIAL SCALE 1"=1'-0"



CANTILEVER BEAMS/HEADERS 301

PARTIAL SCALE 1"=1'-0"



INVERTED HANGER @ CANTILEVER BEAM 302

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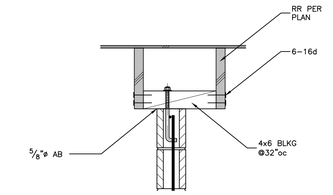
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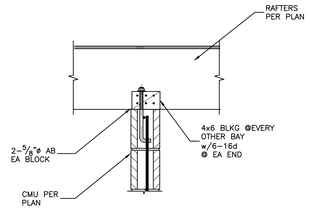
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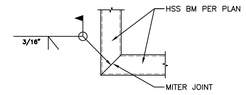
RAFTERS PARALLEL



RAFTERS PERPENDICULAR

CMU TO ROOF/FLOOR 342

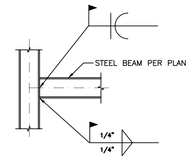
PARTIAL SCALE 1"=1'-0"



PLAN VIEW

HSS @ CORNER 331

PARTIAL SCALE 1"=1'-0"



PLAN VIEW

TYPICAL HSS TO HSS 332

PARTIAL SCALE 1"=1'-0"

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DETAILS

SD3.2

construction documents 3.10.2023

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INTRODUCTION

This report presents the results of a preliminary geotechnical investigation performed at the Cachuma Trailer Resort (CTR), in the County of Santa Barbara, California. It is proposed to replace the existing bathroom with a new building and place concrete pavement for patios and parking. Shade structures and walls for trash enclosures are also proposed. The site is approximately level.

SCOPE OF WORK

It is the purpose of this investigation to classify the soil disclosed by the exploratory borings and excavations by observation and tests on selected samples. In addition, this study includes laboratory tests to evaluate soil strength, the effect of moisture variation on the soil-bearing capacity, compressibility, liquefaction, and expansiveness. Based upon this information, we will provide preliminary grading and foundation recommendations for the proposed improvements to the existing Cachuma Trailer Resort (CTR).

The scope of this investigation does not include the analysis of the corrosive potential of the soil, previous site construction, or analysis of geologic structures and their associated features, such as faults, fractures, bedding planes, strike and dip angles, ancient landslides, potential for earth movement in undisturbed or natural soil formations sloped or level, or other sources of potential instability which relate to the geologic conditions, as these items should be addressed by a qualified Engineering Geologist.

This exploration was conducted in accordance with presently accepted geotechnical engineering procedures currently applied in the local community in order to provide the appropriate geotechnical design characteristics of the foundations soils and of the proposed fill soils in order to properly evaluate the proposed structure with respect to differential settlement based upon the anticipated soil characteristics at the time of construction.

LIMITATIONS

This Laboratory's basic assumption is that the soil borings presented herein are representative of the entire footprint of the proposed development, however, no warranty is implied. If, during the course of construction, soil conditions are encountered which vary from those presented herein, please contact this Laboratory immediately so appropriate field modifications may be expeditiously proposed.

It is your responsibility to contact our office, providing at least 48 hours of notice for grading or footing excavation observations and testing. The observation of excavations during the construction phase represents an opportunity by our firm to either confirm soil conditions estimated by the exploratory borings or to discover soil conditions which have not been addressed. When such undisclosed conditions are encountered, opinions and recommendations addressing these conditions will be rendered at that time.

This report is considered preliminary and no person should consider the recommendations or soil conditions described herein as conclusive. The recommendations and conclusions of this report are considered preliminary until all excavations have been observed during the construction phase, after which a final report will be issued stating that the grading and foundation works accomplished and installed are appropriate for the soil conditions encountered.

FIELD INVESTIGATION

The subsurface soil conditions were explored by five hand auger borings, which were drilled to depths of up to 6 feet, supplemented by one field density test. The locations of the borings were selected as appropriate and representative. Representative, relatively "undisturbed" tube soil samples were obtained during the drilling operation by the thin-walled sampling tube method (ASTM D-1587). Laboratory tests and analysis of representative soil samples, obtained during the drilling operation, were performed to estimate the engineering properties and determine the soil classification. The locations of the borings are shown on Plate 1; these locations are approximate and have not been located by surveyed measurements. The boring log data is presented in Appendix A, "Field Investigation", while the results of the laboratory tests are provided in Appendix B, "Laboratory Tests".

SOIL CONDITIONS

1. No groundwater was encountered in the exploratory borings, which extended to depths of up to 6 feet. It should be recognized that water table elevations, even seasonal perched water tables, might fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.
2. The soil profile consists of a brown silty sand which was found to have a very low potential for expansion.
3. The surface soils were found to have a relative compaction of 77.3%. It should be noted 90% relative compaction is desired for pavement and foundation support.
4. The soil profile at this site is judged to be stiff soil corresponding to a Site Class D (not default D) as specified in Section 1613.3.2 of the 2019 California Building Code (CBC). This estimate is based on the borings, which encountered the geologic formation known as the Older Alluvium, which is widely regarded as a Type D soil profile since the Standard Penetration Resistance typically results in blow counts having a range of between 15 to 50.

PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS

It is the understanding of this Laboratory the proposed improvements to the existing Cachuma Trailer Resort (CTR) are feasible from a soil-engineering perspective provided the recommendations contained in this soil engineering report are incorporated into the design and implemented during construction. Based upon this understanding, we present the following preliminary recommendations:

GRADING FOR PROPOSED NEW BATHROOM STRUCTURE

1. The area to be graded shall be cleared of surface vegetation, including roots and root structures.
2. If, during the removal and scarification process, excessive root structures are encountered, these areas shall be deep ripped in two directions to the depth of the root structure, after which the disturbed soils and the roots shall be completely removed, and the resulting cavities shall be scarified and processed to receive fill in accordance with recommendations contained in this section.
3. If, during the grading operations, previously placed undocumented fill material is encountered, this fill material shall be removed under the direction of this Laboratory prior to commencement of the filling operations. Also, all buried man-made features from the previous structure shall be removed.
4. The footings of the proposed structures shall be supported completely by a **uniform** thickness of non-expansive compacted soil. **The structures shall not be supported over a cut/fill transition unless the foundation is engineered to account for the transition.**
5. Beneath the proposed structures and for a minimum distance of 5 feet beyond the exterior perimeters, the loose topsoil and compressible surface soils shall be removed and observed by a representative of our firm. Upon approval of excavation, the exposed ground surface shall be scarified an additional 6 to 8 inches, moistened or dried to near the optimum moisture content, and compacted to 90% of the relative compaction. We anticipate the depth of the surface soil removal to be from 20 to 30 inches below the existing grade. The minimum depth of removal shall be at least 12 inches below the bottom of the proposed footings.
6. The removed surface soils and/or imported approved fill may then be placed in loose lifts of approximately 6 inches, thoroughly mixed, moistened or dried to near optimum moisture content, and compacted to a minimum of 90% relative compaction.
7. Rocks greater than 6 inches in size shall be removed from the soil being spread for compaction.

8. All fill slopes which are created during the grading operation shall be properly shaped to a maximum slope angle of 2 horizontal to 1 vertical, and compacted by rolling the sheepsfoot roller or similar compaction equipment over the slope face at vertical lift intervals of 30 inches or less.
9. Import soils, if required for compacted fill, shall be granular, non-expansive soils which are equal to, or superior in quality to, the on-site soils as determined by this Laboratory prior to importation of the fill material to the site.
10. The compaction standard shall be the latest adoption of the ASTM D-1557 method of compaction.
11. Positive surface drainage shall direct water away from all slopes and away from the foundation system of the proposed structure.

FOUNDATIONS FOR PROPOSED REPLACEMENT RESTROOM

1. These recommendations assume a uniform thickness of compacted soil will support the proposed footings.
2. All continuous exterior footings for one-story portions of the structure shall extend a minimum of 18 inches and all continuous interior one-story footings shall extend a minimum distance of 12 inches below compacted ground surface.
3. All footings shall contain a minimum of two No. 4 horizontal rebar; one placed in the base and one in the stem of the footing. The Project Civil or Structural Engineer shall specify the foundation steel reinforcement.
4. Isolated piers may be utilized and shall extend a minimum of 18 inches below compacted ground surface.
5. Concrete slab-on-grade floors shall be placed over a subgrade soil conforming to the GRADING recommendations of this report.
6. As a minimum, concrete slabs on grade shall be a full 4 inches thick and shall contain No. 3 rebar spaced 24 inches on center each way. The steel reinforcement shall be placed near the center of the slab. Concrete slabs on grade shall be doweled into all adjacent footings using No. 3 rebar spaced 24 inches on center. The traditional or conventional subgrade preparation below a concrete slab-on-grade floor is some variation of the following: A minimum 4-inch coarse, washed concrete sand layer is placed over the soil subgrade. A 10-mil or heavier impervious membrane is placed over the sand layer. These concrete slab-on-grade and sand layer recommendations shall be modified and/or eliminated as needed by the designers for surcharge loads, wheel loads, concentrated loads, or for moisture control. The floor covering supplier or manufacturer should be contacted for their specifications for design features, which will result in a successful bond between the concrete slab and floor covering. Floor flatness and shrinkage crack control must be addressed by a

competent contractor experienced in the skill of concrete placement. The owners or their agents shall inform those designing, building, and installing the concrete slab on grade and flooring of the performance and aesthetics expected. It is the sole purpose of the recommendations contained in this report to analyze the mechanical properties of the soil with respect to achieving a stable soil subgrade. By stable, we refer to the settlement or heave properties of the subgrade soil.

7. This Laboratory shall be requested to inspect the footing excavation prior to placement of reinforcing steel and timber form boards.
8. Based upon compliance with the above recommendations, an allowable soil bearing value for compacted soil of 3,500 psf for 12-inch-deep footings and 2,000 psf for 18-inch-deep footings, with a one-third increase when considering wind or seismic forces, may be assumed.
9. Floor elevations located lower than the surrounding exterior grades are recommended to be protected from moisture intrusion. Please consult the building designer for details, such as waterproofing and French drains.

PAVEMENT

1. In the areas to be paved, we recommend the top loose surface soils be removed from below the proposed final soil subgrade elevation, moistened or dried to at or near the optimum moisture content, and compacted to 90% relative compaction with the top 9 inches being compacted to 95% relative compaction where pavement will be subject to vehicle travel or parking. The subgrade area shall be check rolled in order to detect isolated soft spots. Any areas found to be yielding under the wheel loads of the equipment shall be stabilized by removal and compaction.
2. The Class 2 aggregate base shall be recompacted to a minimum of 95% relative compaction in accordance with the ASTM D-1557 test method. Asphalt concrete shall be placed only after the Class 2 aggregate base has been demonstrated to be firm and unyielding.
3. The R-Value was determined to be 48. The following pavement sections are provided depending on the Traffic Index (T.I.) deemed appropriate:

T.I.	Asphalt (In.)	Class 2 Aggregate (In.)
4.0	2.5	4.0
5.5	2.5	5.0
6.0	3.5	5.5

4. Maintenance to assist in reducing the potential for rapid deterioration of the asphalt paved areas shall include surface treatment approximately six months to one year after construction and approximately three years from the first treatment. Pavement conditions should be reviewed at least once a year for cracks, puddling of surface water, and overall appearance. If possible, this review should be done in the fall such that cracks may be repaired which may otherwise allow moisture to pass through the pavement and weaken the subgrade.

SHADE STRUCTURES AND MASONRY WALLS FOR TRASH ENCLOSURES

1. Column footings and new continuous spread footing excavations shall extend a minimum depth of 24 inches below the exterior grade, shall penetrate old fill and porous topsoil, or shall penetrate to a depth necessary to achieve a 12-inch-deep embedment into firm undisturbed native soil. The deeper condition described above shall govern. The bottom of these footing excavations shall then be compacted with a handheld mechanical plate compacter, such as a BS 45Y Wacker, to attain a relative compaction of 90%, based on the ASTM D-1557 method. The bottom of these footing excavations shall be compaction tested by a representative of our firm to verify the achievement of 90% compaction.
2. The subgrade below the proposed concrete slab-on-grade floor shall be prepared by removing all surface vegetation and at least the top 6 inches of surface soils. If old fill or the loose natural topsoil is deeper than 6 inches, it may be required to remove the soil to a deeper elevation until firm undisturbed soil is encountered. The exposed subgrade shall then be scarified an additional 6 inches. The scarified soil shall then be moisture conditioned at or near the optimum moisture content and compacted to a minimum of 90% relative compaction based upon the ASTM D-1557 method of compaction.
3. This Laboratory shall be requested to perform compaction tests on the subgrade and bottom of the footing when 90% relative compaction has been achieved. Approval will then be provided to place rebar and concrete.
4. An allowable soil bearing value of 2,000 psf is recommended for the new footings specified in this report with a one-third increase when considering wind or seismic forces.
5. The Geotechnical Engineer shall be requested to observe the footing excavations after the compaction tests are completed and prior to placement of the rebar reinforcing.

6. All continuous footings shall contain a minimum of two No. 4 horizontal continuous rebar; one placed near the bottom and one near the top of the footings. The Project Civil or Structural Engineer shall specify the foundation reinforcing steel if additional rebar is needed for shear walls or any other purpose.
7. As a minimum, concrete slabs on grade shall be a full 4 inches thick and shall contain No. 3 rebar spaced 24 inches on center each way. The steel reinforcement shall be placed near the center of the slab. Concrete slabs on grade shall be doweled into all adjacent footings using No. 3 rebar spaced 24 inches on center. The traditional or conventional subgrade preparation below a concrete slab-on-grade floor is some variation of the following: A minimum 4-inch coarse, washed concrete sand layer is placed over the soil subgrade. A 10-mil or heavier impervious membrane is placed over the sand layer. These concrete slab-on-grade and sand layer recommendations shall be modified and/or eliminated as needed by the designers for surcharge loads, wheel loads, concentrated loads, or for moisture control. The floor covering supplier or manufacturer should be contacted for their specifications for design features, which will result in a successful bond between the concrete slab and floor covering. Floor flatness and shrinkage crack control must be addressed by a competent contractor experienced in the skill of concrete placement. The owners or their agents shall inform those designing, building, and installing the concrete slab on grade and flooring of the performance and aesthetics expected. It is the sole purpose of the recommendations contained in this report to analyze the mechanical properties of the soil with respect to achieving a stable soil subgrade. By stable, we refer to the settlement or heave properties of the subgrade soil.
8. If footings are to be located on, adjacent to, or within 10 feet of the top of a slope, these footings shall extend to such a depth so that the horizontal distance between the bottom outside edge of the footing and the face of the adjacent slope is a minimum distance of 10 feet. The slope setback required by the CBC, Figure 1805.3.1, shall also apply.

POLE STRUCTURE FOUNDATIONS

Pole footings may be designed in accordance with CBC Section 1807.3 and Table 1806.2, using a Class of Material No. 4, having a lateral bearing pressure of 150 pcf and a vertical end bearing value of 2,000 psf.

RESISTANCE TO LATERAL LOADS

Lateral loads for spread footings may be resisted by frictional resistance along the foundation base and passive earth pressures along the foundation sides. An allowable friction coefficient of 0.35 may be used. The passive pressures of 350 pcf of footing may be used. A triangular distribution should be used. The frictional resistance and the passive pressure may be combined without reduction. The resistance may be increased by one-third for wind or seismic loading.

ADJACENT LOADS

Where footings are placed at varying elevations, the effect of adjacent loads may be calculated using the widely published Formulas for Stresses in Semi-infinite Elastic Foundations or the Boussinesq figures and equations for both vertical and horizontal surcharge loads.

SETTLEMENT

It is the intent of the recommendations contained in this report to achieve angular distortions[1] of approximately 1/480. A total settlement of approximately 1 inch or less is anticipated for foundations supported on the undisturbed native soil and approximately 1% to 1.5% of the fill height is the anticipated total settlement at areas where compacted fill soil is placed in accordance with the GRADING recommendations provided in this soil engineering report. The soil bearing values and estimated settlements contained in this report are preliminary and may need to be modified after the foundation and grading plans are substantially complete.

CONSTRUCTION OBSERVATION

The owner or his agent shall request the Project Geotechnical Engineer to observe all excavations prior to placement of compacted soil, gravel backfill, or rebar and concrete.

PLAN REVIEW

We request the grading and foundation plans be submitted to our office for a general review to verify substantial compliance to the recommendations contained in this report.

CLOSURE

The recommendations contained herein are for the sole use of our client and are based upon this Laboratory's understanding of the project which has been described herein. If the project scope, location, or conceptual design is subsequently altered, this Laboratory shall be requested to modify, as necessary, the recommendations contained herein as is appropriate for the new development concept. If the recommendations of this report are not implemented within one year, we recommend an update and review of the contents of this report be performed by this Laboratory.

[1] Angular distortion is the ratio of the vertical differential settlement divided by the horizontal distance over which the vertical differential is measured.

The recommendations contained herein are based upon the assumption that Pacific Materials Laboratory shall be requested to perform the testing and observation services which will be required during the grading and foundation operations in order to verify that the actual soil conditions encountered and the construction procedures are consistent with the recommendations contained herein. If this service is performed by others, only the technical correctness of the actual analytical soil tests described here is attested to by this Laboratory.

Thank you for the opportunity of providing this service. If you have any questions regarding this matter, please do not hesitate to call.

Respectfully submitted,

PACIFIC MATERIALS LABORATORY, INC.

Ronald J. Pike
Geotechnical Engineer, G. E. 2291

RJP:lec
cc: County of Santa Barbara Community Services Dept., Attn: Jill Van Wie, Capital Projects Mgr.,
Email: jvanwie@co.santa-barbara.ca.us

NOTE:
THE SOILS REPORT PAGES SHOWN ABOVE ARE ONLY A PORTION OF THE ENTIRE SOILS REPORT AND ARE PROVIDED AS A CONVENIENCE FOR THE CONTRACTOR. PLEASE REFER TO THE ORIGINAL SOILS REPORT FOR ALL RECOMMENDATIONS, FIGURES, TABLES, AND FULL REPORT TEXT

22 027.1

Cachuma Restrooms

2265 HWY 154
Santa Barbara, CA 93105

Arch'l Contact:
IN
CO

Submittals

PRELIM SET #01	06.02.22
PRELIM SET #02	09.30.22
PRELIM SET #03	11.22.22
STAMPED SET #01	01.17.23

SOILS REPORT

SR1

construction documents 1.16.2023

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ABBREVIATIONS

AB ANCHOR BOLT
ABV ABOVE
ADD'L ADDITIONAL
ALT ALTERNATE
ARCH'L ARCHITECTURAL
ATR ALL THREADED ROD
BLW BELOW
BM BEAM
BOB BOTTOM OF BEAM
BOT BOTTOM
B/T BETWEEN
CANT'L CANTILEVER
"CSP" SIMPSON CONNECTOR (FDN)
℄ CENTERLINE
CLR CLEAR(ANCE)
CMU CONCRETE MASONRY UNIT
CONC CONCRETE
CONN CONNECTION
CONT CONTINUOUS
CTR(D) OR ℄ CENTER(ED)
DBL DOUBLE
DIA OR ⌀ DIAMETER
DWG DRAWING
(E) EXISTING
EA EACH
ELEV ELEVATION
EMBED EMBEDMENT
ENG ENGINEER
EQ EQUAL
EWL ENTIRE WALL LENGTH
EXP EXPOSED
EXT EXTERIOR
FDN FOUNDATION
FF FINISH FLOOR
FG FINISH GRADE
FJ FLOOR JOIST
FLR FLOOR
FN FIELD NAILING
FOC FACE OF CONCRETE
FRMG FRAMING
FS FINISH SLAB
FTG FOOTING
GALV GALVANIZED
GB GRADE BEAM
HORIZ HORIZONTAL
HT HEIGHT
INFO INFORMATION
INT INTERIOR
LOC LOCATION(S)
LONG LONGITUDINAL
MANUF MANUFACTURER
MAX MAXIMUM
MB MACHINE BOLT
MIN MINIMUM
(N) NEW
NC NO CHANGE(S)
NG NATURAL GRADE
NTS NOT TO SCALE
N/S NON-STRUCTURAL
O/ OVER
oc ON CENTER
OH OPPOSITE HAND (MIRROR)
PA POST ABOVE
PERP PERPENDICULAR
PL or — PLATE
PTDF PRESSURE TREATED DOUGLAS FIR
REINF REINFORCING(MENT)
REQ'D REQUIRED
RET RETAINING (RETENTION)
SCHED SCHEDULE
SIM SIMILAR
SQ SQUARE
SS STAINLESS STEEL
STD STANDARD
STL STEEL
STRUCT'L STRUCTURAL
TBR TO BE REMOVED
THK THICK(NESS)
TO TOP OF
TOW TOP OF WALL
TYP TYPICAL
UNO UNLESS NOTED OTHERWISE
URM UNREINFORCED MASONRY
VERT VERTICAL
VF VERIFY
VIF VERIFY IN FIELD
VWA VERIFY WITH ARCHITECTURAL

Blackbird 22 027

SEISMIC	Cachuma Lake Job No: 22 027
DESIGN PROCEDURE:	Equivalent Lateral Force Analysis
IMPORTANCE FACTOR:	1
OCCUPANCY CATEGORY:	2
RISK CATEGORY:	II
S_S:	1.60
S_1:	0.60
S_{DS}:	1.07
S_{D1}:	0.68
SITE CLASS:	D
SEISMIC DESIGN CATEGORY:	D
C_S:	0.16
R:	6.5
SEISMIC RESISTING SYSTEM:	A15. Light-framed (wood) walls sheathed w
Ω:	3
C_d:	4
WIND:	
BASIC WIND SPEED:	110 mph
EXPOSURE CATEGORY:	C
INTERNAL PRESSURE COEFFICIENT:	0.18 ±

0700 STRUCTURAL STEEL

1. Wide flange shapes shall conform to ASTM A-992 (Fy=50 ksi) Unless noted otherwise.
2. Pipe columns shall conform to ASTM A-53, Grade B (Fy=35 ksi).
3. Hollow Steel Sections ("HSS") shall conform to the following:
   Square & Rectangular ASTM A500, Grade B (Fy=46 ksi)
   Round ASTM A500, Grade B (Fy=42 ksi)
4. Steel Angles shall conform to ASTM A36 (Fy=36 ksi).
5. Steel Plates and Bars shall conform to ASTM A36 (Fy=36 ksi).
6. All other structural steel shall conform to ASTM A-572 (Gr. 50). Unless noted otherwise.
7. "Dry-Pack"/Grout beneath column base plates or similar applications where called for, shall be non-shrink type. Use "Rapid Set" by "CTS Cement Mfg. Co." City of L.A. Report #RR 24654. Alternate equivalent may be used upon written approval of Engineer.
8. All bolts shall conform to ASTM A325 unless noted otherwise. Bolts designated MB (machine bolts) and threaded rods where called for, shall conform to ASTM A307 OR F1554 Gr.36 typ. U.N.O. Refer to concrete notes for embedded anchor bolts.
9. Bolt holes in steel shall be $\frac{1}{16}$" larger diameter than nominal size of bolt used.
10. All exposed structural steel:
    Contractor shall consult with architect/owner the use of stainless steel prior to bidding.
    If approved by owner/architect use;
    Hot dip galvanized after fabrication per ASTM A123 if exposed to weather.
    Painted/finished.
    All welds/cuts shall be ground smooth per architecture specifications.
    All fasteners used to connect galvanized members shall be hot dip galvanized per ASTM A153.
    DO NOT USE STAINLESS STEEL FASTENERS AT ANY GALVANIZED MEMBER CONNECTION.
11. All interior covered structural steel surfaces shall be primed and painted.
12. The structural steel fabricator shall furnish copies of shop drawings for review by the architect prior to any fabrication. See specifications for requirements.
    The shop drawings shall note all eccentric ("offset") connections.
13. See also "0450 MARINE ENVIRONMENT" notes when noted on foundation plan or in general notes.

0750 WELDING REQUIREMENTS

1. All welding shall be performed by Certified Welders and conform to AWS standards, latest edition.
2. All structural welding shall be detailed and fabricated in an approved fabricator's shop in accordance with. See note 3 for exceptions:
   a. For licensed fabricators refer to Section 1704.2.2 of 2019 CBC
   b. AISC specification for the Design, Fabrication and Erection of Structural steel for Buildings.
   c. A.W.S. Structural Welding Code D 1.1 (current edition).
   d. Welding electrodes shall be as stated on tables 4.1.1 of the above referenced specification.
3. Structural steel fabrication and welding not performed in an approved shop including field welding requires special inspection. See note 4 for exceptions.
4. The special inspector need not be continuously present during welding of the following items, provided the materials, qualifications of welding procedures and welders are verified prior to the start of work, periodic inspections are made of work in progress, and a visual inspection of all welds is made prior to completion or prior to shipment of shop welding:
   a. Single pass fillet welds not exceeding $\frac{5}{16}$ inch.
   b. Floor and roof deck welding.
   c. Welded studs when used for structural diaphragm or composite systems.
   d. Welded sheet steel for cold-formed steel framing members such as studs and joists.
   e. Welding of stairs and railing systems.
5. All welding of reinforcing steel bars to structural steel members will require continuous inspection by a registered Deputy Inspector. Submit a welding procedure for approval to the Engineer of Record prior to any welding of any reinforcing steel bars. Refer to "0410 REINFORCING STEEL" notes for additional info.
6. Welds designed as Demand Critical Welds (DCW) shall be made with filler materials meeting the requirements specified in AWS D1.8/D1.8M clause 6.3.
7. Testing of studs welded through metal deck is required. See AWS 7.6 for required testing.

0400 CONCRETE NOTES FOR COMMERCIAL

	(f'c)psi	Hardrock Aggregate size	Max Slump	Special inspection Req'd
Isolated pad footings	3,000	1"	4"	No
Footings supporting light-framed walls & slab on grades	3,000	1"	4"	No
Retaining Walls	3,000	1"	4"	Yes
Caissions Shafts	4,000	1"	4"	Yes
Topping Slab for steel deck	3,500	⅜"	4"	Yes
All other concrete	4,000	1"	4"	Yes

Admixtures
a. Consult with architect for use of Xypex in mix design for exposed concrete walls and include in bid as required.
b. Plasticizers may be used per manufactures specfications.
c. For Marine environment where occurs refer to "0450 Marine Enviroment" general notes.

* Pea Gravel shall not be used unless written approval is obtained from Structural Engineer.
* Slump measured without plasticizer. If plasticizer is used a higher final slump may be allowed upon Engineer's review.

Concrete mix design shall be designed by an approved testing laboratory or Licensed Engineer and submitted to the Structural Engineer for approval.

1. Concrete shall have a minimum ultimate compressive strength (f'c) at 28 days as noted at the following locations: [For structures that are three stories and less(latest edition section 1905)]
2. Water-Cement Ratio
   a. 0.57 shall be used at all locations, Typical (UNO.)
   b. 0.50 max for Concrete slabs.
3. Fly Ash, where used, shall be limited to 20% of total cementitious mix.
4. "Marine Environment". Refer to notes for additional constraints.
5. Portland Cement shall conform to ASTM C-150, Type I or Type II. Aggregate for hardrock concrete shall conform to all requirements and tests of the latest ASTM C-33. Concrete mixing operations, etc., shall conform to ASTM C-94.
6. All phases of concrete work shall conform to the latest approved edition of Building Code Requirements for Reinforced Concrete: ACI-318.
7. Concrete Coverage for reinforcing bars shall be as follows (U.N.O.):
   a. Concrete cast against and exposed to earth 3" min.
   b. Concrete exposed to earth cast in forms 2" min.
   c. Concrete exposed to weather above grade 1" min.
   d. Refer to "0450 Marine Environment" under general notes for projects near the ocean.
8. Before concrete is poured, check with all trades for proper placement of sleeves, curbs, conduits, etc.
10. All reinforcing bars, anchor bolts, and other concrete inserts shall be well-secured in position prior to placing concrete. Additionally, the concrete shall be thoroughly vibrated during placement.
11. Grout or Non-shrink grout called for on the drawing may be:
    a. Embeco or equal-below the slab-on-grade.
    b. Masterflow 713 grout or equal, above slab-on-grade.
12. Concrete shall not fall more than 1.8 m (6 feet).
13. Embedded anchor bolts shall conform to ASTM 1554 (old 325) grade 55 (75ksi tensile), U.N.O. See also "0300 Lumber Notes" and "0450 Marine Environment" under General Notes for more info. (Green Book (Standard Specifications for Public Works Construction) specifies in Section 303-1.8.3)

0415 HORIZ REINFORCING in WALLS-Concrete & Masonry

Minimum Horizontal Reinforcement.

Stem	Concrete	CMU
6"x8"	1-#5 @ 18"oc	1-#4 @ 24"oc
6"x8"alt	1-#4 @ 12"oc	1-#4 @ 24"oc
10"	1-#5 @ 15"oc	1-#4 @ 24"oc
12-16"	2-#4 @ 12"oc	2-#4 @ 24"oc
12-16"alt	2-#5 @ 18"oc	2-#4 @ 24"oc

0420 EPOXY ANCHORS and ADHESIVES

1. Bolt anchors, adhesives, etc. shall be as manufactured by, and installed in accordance with the written recommendations of, one of the following: Anchor Bolts and Holdown Anchors
   a. "SET-XP" high strength epoxy by Simpson Strong-Tie Company, Inc., ESR 2508, city of LA RR2.279.
   b. "ET" epoxy by Simpson Strong-Tie Company, Inc., ESR 4945, city of LA RR2.5185.
   c. TitenHD (ESR-2713) may be used provided;
      For 1¾" Edge Distance. Use ⅝"x6" Titen with **HALF** spacing per shearwall schedule.
      For greater then 3" Edge Distance. Use same spacing per shearwall schedule.
      Special inspection required and plate washer required.
3. Drilling of holes: Provide positive depth stop to prevent over-drilling.
4. Cleaning: Clean all holes thoroughly with air blast then use wire "bottle" brush to loosen powder, etc. and use air blast a second time before installing anchors.
5. Inspection: Provide for inspection of adequate depth and correct diameter of all holes before installing anchors.
6. All epoxy anchors shall conform to the specifications per manufacturer and local building department requirements. Special inspection will be required on all epoxy anchors in tension unless torque tested per local building department approval.

0405 DRY PACK/ NON-SHRINK GROUT AND PATCHING

1. Grout or Non-shrink grout called for on the drawing may be:
   a. Embeco or equal-below the slab-on-grade.
   b. Masterflow 713 grout or equal, above slab-on-grade.
2. Non- shrink grout and/or dry pack:
   a. Custom "Pour-Stone"
   b. Five Star "Special Grout 400"
   c. Master Builders "Master Flow 713".
3. Mix with the least water required to place grout without voids.
4. Cement grout and drypack Proportions by volume shall be:
   a. 2 parts sand
   b. 1 part cement and a minimum of water consistent with placing requirements.

0600 MASONRY

CONCRETE BLOCK

1. Concrete block shall be hollow load bearing concrete masonry units conforming to ASTM C-90, and CBC table 2105.2.2.1.2.
   Grade N **medium**weight units, f'm = 1900 **psi**. (f'm = 1500 psi for assembly)
   a. Standard or open end units may be used.
   b. Concave Mortar Joint per Architectural.
   c. Stagger units. Verify with architect.
   d. Refer to architectural drawings for finish surface, height of units, laying pattern and joint types.

MORTAR CEMENT

2. Mortar cement shall be as specified for concrete.
   a. Mortar shall conform to requirements of ASTM C270, latest edition – type S.
   b. No Type N or Type O nor masonry cement shall be used in Category D per MSJC 1.14.6.6
   c. Mortar shall attain a minimum compressive strength of 1800 **psi** at 28 days.
   d. Admixture shall be Sika Red Label per manufacture's recommendations.
   e. Mortar strength tests shall be as set forth in ASTM C-270.
   f. Aggregates for mortar shall conform to the provisions set forth in ASTM C-144.
   g. Hydrated lime for mortar shall conform to the requirements of ASTM C-207.

GROUT

5. Grout shall conform to requirements of Table 2103.12 for Coarse Grout.
   a. Use sufficient water for grout to flow into all joints of the masonry without aggregation.
   b. Grout shall attain a minimum compressive strength of 2000 **psi** at 28 days.(IBC section 2105.2.2.1.2)
   c. Aggregates for grout shall conform to the requirements as set forth in ASTM. C-404 or C-33
   d. Vibrate all cells.
   e. Provide a minimum of one-half inch grout between main reinforcing and masonry units.
   f. Maximum grout pour height is 4 feet.
   g. High lift grouted construction may be used in conformance with MSJC Table 1.16.1.
      Admixture shall be Sika Grout Aid Type I or Type II per manufacturer's recommendations.
      Use coarse grout with Sika Grout Aid only.
   h. All cells in concrete blocks shall be filled solid with grout except as otherwise noted.
   i. Provide a minimum of ¼" grout between steel and masonry unit when fine grout is used and a minimum of ½" when course grout is used.
   j. All blocks shall be dry prior to placement of Grout or Mortar.
   k. Between grout pours, a horizontal construction joint shall be formed by stopping all wythes at the same elevation and with the grout stopping at ½" (38mm) below a mortar joint, except at the top of the wall. Where band beams occur, the grout pour shall be stopped at ½" (12.7mm) below the top of the masonry. (Section 2104.1.2.7)

CONTROL JOINT

6. Control joint per typical detail. Verify locations with Architect.

0410 REINFORCING STEEL –Concrete & Masonry

Reinforcing steel shall conform to the requirements listed below for use noted:

Use	Bar size	ASTM designation	Grade (7)
------Footings, Stem walls, Slabs, Grade Beams & Retaining walls	All	ASTM A-615	60
------All walls, Beams & Columns above Grade	All	ASTM A-615	60
------Bars to be welded*	All	ASTM A-706	60

* Refer to 'Welding Requirements' notes for additional information.

1. All reinforcing bar bends shall be made cold. See "Standard hooks, bends & lap" detail on Typical Detail Sheet for more information.
2. All horizontal bars at corners and intersections shall be lapped. See "Typical corner/intersection" detail on Typical Detail Sheet for more information.
3. Refer to "Standard hooks, bends & lap" detail for minimum lap splice lengths.
4. Welded wire fabric shall conform to ASTM A-185. Minimum lap shall be 6" for one full mesh, whichever is greater.
5. All slab-on-grade shall be tied to footings or walls. Verify with soils report where occurs for stricter requirements. Contact Soils Engineer for "floating" slabs
   a. Minimum dowels size and spacing shall match slab reinforcement U.N.O.
6. Reinforcing steel dowel's between footing and walls, columns or pilasters shall be the same grade, size, spacing and number as the vertical reinforcing, respectively.
7. #4 and #3 Bar size may use Grade 40 steel.

STRUCTURAL OBSERVATION PROGRAM BY ENGINEER

(per latest edition CBC Chapter 17)

The Owner shall employ the Engineer of record or Engineer's representative to provide structural observation as noted below.

CONTRACTOR must inform the ARCHITECT and ENGINEER (by email or fax) two full business days in advance of reaching the following stages of construction.

At the conclusion of the work included in the permit, the structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies that, to the best of the structural observer's knowledge, have been resolved.

1. FOOTING EXCAVATIONS COMPLETED, FORMS READY FOR PLACING OF REINFORCING. (Notify Soils Engineer)
2. CONCRETE REINFORCING BARS IN PLACE.
3. ALL STRUCTURAL WORK DONE.

NO DEFERRED SUBMITTALS

SHOP DRAWING SUBMITTALS

Contractor shall submit to the ARCHITECT and ENGINEER the following shop drawings where occurs. Please allow three full weeks for review.

1. Gate

0000 CODES AND REFERENCES

All general structural notes and specifications reflect the provisions of the
2019 CBC(California Building Code)
ASCE 7-16 (Minimum Design Loads) ACI 318-14 (Concrete)
AISC 360-16/AISC 341-16/AISC 358-16 (Steel) NDS-18/AWC-18 (Wood)
ACI 530-16/ASCE5-16/TMS 402-16 (Masonry)

0100 STRUCTURAL GENERAL NOTES

GENERAL

1. The plans provided will be acceptable for building for only two years after the date noted. Afterwards, Thom Hume Consulting Engineers will require a thorough review of the plans and details and make the changes as needed. This additional time will require one month of notice prior to beginning of construction.
2. The General Contractor shall be responsible for coordinating all the work of the Subcontractors indicated on the structural construction drawings and project specifications. The contractor shall verify all dimensions prior to starting construction. The Architect shall be notified of any discrepancies or inconsistencies.
3. All omissions or conflicts between the various elements of the working drawings and/or specifications shall be brought to the attention of the Architect before proceeding with any work so involved.
4. Site preparations and Temporary bracing:
   a. The General Contractor shall investigate the site during clearing and earthwork operations for fill excavations or buried structures such as cesspools, cisterns, foundations, etc. Where such structures are found the Architect shall be notified immediately.
   b. The Contractor shall be solely responsible for all excavation procedures including lagging, shoring and protection of adjacent property, structures, streets and utilities in accordance with all national state and local safety ordinances.
   c. The Contractor shall be responsible for and provide adequate shoring, bracing and guys in accordance with all national state and local safety ordinances. All temporary bracing of structural elements (steel members, masonry, concrete or work walls, etc.) during construction shall conform with all applicable codes and safety requirements of all governing agencies.
   d. Any deviation from approved and permitted conditions must be approved by the local agencies prior to erection.
5. Deviations from the structural design as indicated on the structural construction drawings are not permitted without written approval from the Structural Engineer. It will be the Contractor's responsibility to request written approval, even if the Structural Engineer has provided verbal authorization. Approval from the local governing authority Building Inspector does not constitute authority to deviate from the contract documents.

AUTHORITY OF WORK

6. All work shall conform to the minimum standards of the latest edition of the California Building Code (2019 CBC) edition and any other regulating agencies which have authority over any portion of the work, including the State of California, Division of Industrial Safety.

CAL O.S.H.A.

7. The General Contractor shall be solely responsible for following, maintaining and being familiar with Cal O.S.H.A. standards and procedures for all aspects of the construction, including, but not limited to, safety of the construction personnel, excavation procedures, temporary shoring or bracing, site safety procedures, etc. All erection procedures shall conform to OSHA Standards. Any deviation must be approved by OSHA prior to erection.

TYPICAL DETAILS

8. All details designated as standard or typical shall occur in addition to any other specific detail. A detail, section, elevation, etc. reference may be indicated only once on a structural construction drawing, is to be used at all like and similar construction conditions.
9. The work typical adjacent to a detail, section, elevation, etc. reference is implied at each like and similar construction conditions. During the construction period the General Contractor may, at their convenience, request an interpretation and/or clarification of the structural construction drawing and project specifications.

ASTM SPECIFICATION

10. All ASTM specification designations shall be of the latest revision, unless noted otherwise.

SAFETY

11. Nothing contained within the contract documents shall relieve the General Contractor and the subcontractor of:
    a. The responsibility to determine any aspect of how the work is to be performed.
    b. dealing with matters of safety of personnel.
    c. safety of property.
    d. superintending of the work.
12. It is the sole responsibility of the General Contractor to initiate, maintain and supervise:
    a. all safety instructions with regard to personnel
    b. safety precautions with regard to personnel
    c. security of property and construction material in connection with any portion of the work as the work progresses.
    d. During the construction period the Contractor shall be responsible for the safety of the building.

TRADES

13. The Contractor shall be responsible for coordinating the work of all trades and shall check all dimensions. All discrepancies shall be called to the attention of the Architect and be resolved before proceeding with the work.

0202 MOISTURE CONTROL

Building materials with visible signs of water damage shall not be installed. Wall and floor framing and concrete slabs shall not be enclosed when the framing members exceed 19% moisture content.
Moisture content shall be verified in compliance with the following:

1. Moisture content shall be determined witheither a probe-type or contact-type moisture meter.
2. Moisture readings shall be taken at a ppint 2 feet to 4 feet from the grade stamed end of each piece verified.
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclosed the wall and floor framing and slab on grade.

0200 CONTRACTOR NOTES:

These notes are intended to help the Contractor locate special areas of consideration. They are not to be solely relied on. A complete review of the Construction Documents, including: Structural, Architectural, Mechanical, Electrical and Plumbing is required to construct this project.

1. Per Civil Code § 832. Lateral and subjacent support
   a. If at any time it appears that the excavation is to be of a greater depth than are the walls or foundations of any adjoining building or other structure, and is to be so close as to endanger the building or other structure in any way, then the owner of the building or other structure must be allowed at least 30 days, if he so desires, in which to take measures to protect the same from any damage, or in which to extend the foundations thereof, and he must be given for the same purposes reasonable license to enter on the land on which the excavation is to be or is being made.
2. Special fasteners to Pressure Treated Douglas Fir is required
   a. Refer to General Notes/Lumber/Nailing #7 and Lumber Hardware #4.
3. Drywall and shear sheathing nailing.
   Our office recommends the roof be loaded and drywall stacked 7 days prior to final edge nailing of the sole plate and hanging drywall. This will allow the framing members to "settle" and tighten up and reduce the plaster cracking.
4. Each Contractor responsible for the construction of the main wind or seismic force resisting system designated seismic system or a wind or seismic resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the Building Official and the Owner prior to the commencement of work on the system or component. The Contractor's statement of responsibility shall contain the following:
   a. Acknowledgement of awareness of the special requirements contained in the statement of special inspections.
   b. Acknowledgement that control will be exercised to obtain conformance with the construction documents approved by the Building Official.
   c. Procedures for exercising control within the Contractor's Organization, the method and frequency of reporting and the distribution of the reports.
   d. Identification and qualifications of the Person(s) exercising such control and their position(s) in the organization.

0408 FOOTINGS and/or GRADE BEAMS

1. All footings and grade beams shall be shall be centered under wall and/or post unless othewise detailed or noted.
2. All footings shall be placed level and into natural earth material or compacted fill approved by a soils engineer.
3. All gradebeams shall be placed level unless noted otherwise.

0290 FOUNDATION INSPECTIONS

ARCHITECT/DESIGNER

1. The Architect shall review all dimensions for adequacy and accuracy prior to submittal to the Building Department.
2. The Architect shall submit the plans to the Soils Engineer for compliance with the Soils Report. Please provide letter from the Soils Engineer to Thom Hume Consulting Engineers, Inc. of record for recommendations and/or concerns.

GRADING

3. See Soils Report described and sheet
4. Grading shall be performed, per soils report.
5. Remove and re-compact, per soils report.

SITE GRADING & DEVELOPMENT
See Soils Report described above.
SLOPE CONSTRUCTION
See Soils Report described above.
UTILITY TRENCHES
See Soils Report described above.
CONTRACTOR

6. The Contractor shall review all dimensions for adequacy (FOS and/or FOC) and verify with Architect prior to construction.
7. When existing conditions occur, the Contractor shall complete demolition then fully review all drawings, notes, details, etc. to ensure the connections will adequately work with the existing condition as shown on the plans. Contractor shall notify the Architect of any discrepancies prior to any construction.
8. Prior to foundation inspection by the Building Department, The Contractor shall have the Soils Engineer's opinion to the Architect, Thom Hume Consulting Engineers, Inc. and the Building Department in writing that:
   1. The building pad was prepared in accordance with the Soils Report.
   2. The utility trenches have been properly back filled and compacted.
   3. Drainage system is in accordance with the Soils Report (where applicable)

SPECIAL INSPECTION STATEMENT

Project: _____ Plan Check #: _____

Location: _____

This Statement of Special Inspections is submitted in fulfillment of the requirements of CBC Sections 1704 and 1705. Included are:

- Schedule of Special Inspections and tests applicable to this project:
  Special Inspections per Sections 1704 and 1705
- List of the Testing Agencies and other special inspectors that will be retained to conduct the tests and inspections.
- Special Inspections and Testing shall be performed in accordance with the approved plans and specifications, this statement and CBC sections 1704, 1705, 1707, and 1708. The Schedule of Special Inspections summarizes the Special Inspections and tests required. Special Inspectors will refer to the approved plans and specifications for detailed special inspection requirements. Any additional tests and inspections required by the approved plans and specifications will also be performed.
- Interim reports will be submitted to the Building Official and the Registered Design Professional in Responsible Charge in accordance with CBC Section 1704.2.4
- A Final Report of Special Inspections documenting required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy (Section 1704.2.4). The Final Report will document:
  •• Required special inspections.
  •• Correction of discrepancies noted in inspections.

The Owner recognizes his or her obligation to ensure that the construction complies with the approved permit documents and to implement this program of special inspections. In partial fulfillment of these obligations, the Owner will retain and directly pay for the Special Inspections as required in CBC Section 1704.2.

This plan has been developed with the understanding that the Building Official will:

- Review and approve the qualifications of the Special Inspectors who will perform the inspections.
- Monitor Special Inspection activities on the job site to assure that the Special Inspectors are qualified and are performing their duties as called for in this Statement of Special Inspection.
- Review Structural Observation reports and insure contractor complied with corrections.
- Review submitted inspection reports.
- Perform inspections as required by the local building code.

Prepared by:

THOM HUME CONSULTING ENGINEERS
Registered Design Professional in Responsible Charge

Signature Date

Owner's Authorization:

Owner

Signature Date

Building Official's Acceptance:

Building Official

Signature Date

SPECIAL INSPECTION SUMMARY

Notation Used in Table:
Column headers:
C Indicates continuous inspection is required.
P Indicates periodic inspections are required. The notes and or contract documents should clarify.
Box entries:
X Is placed in the appropriate column to denote either 'C' continuous or 'P' periodic inspections.
--- Denotes an activity that is either a one-time activity or one whose frequency is defined in some other manner.
Additional detail regarding inspections and tests are provided in the project specifications or notes on the drawings.

LIST OF WORK & INDIVIDUALS

SOIL: OVEREXCAVATION Table 1705.6	Pacific Materials Laboratory (805) 964-6901	C*	P*
4. Perform classification and testing of controlled fill materials.			X
5. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.			
6. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly.			X
MASONRY CBC 1705.4 – LEVEL 1	**(805) 964-6901**	**C***	**P***
1. At the start of masonry construction verify the following to ensure compliance: a. Proportions of site-prepared mortar. b. Construction of mortar joints. c. Location of reinforcement, connectors, prestressing tendons, and anchorages. d. Prestressing technique.			X
2. Verify: a. Size and location of structural elements. b. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction. c. Specified size, grade, and type of reinforcement. d. Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F)			X
3. Prior to grouting verify the following to verify compliance: a. Grout space is clean. b. Placement of reinforcement and connectors and anchorages. c. Proportions of site-prepared grout. d. Construction of mortar joints.			X
4. Verify grout placement to ensure compliance with code and construction document provisions.		X	
5. Observe preparation of required grout specimens, mortar specimens, and/or prisms.		X	
6. Verify compliance with required inspection provisions of the construction documents and the approved submittals.			X
STRUCTURAL STEEL Table 1705.2, AISC 360	**See list below for special inspectors**	**C***	**P***
1. Material verification of structural steel: a. Identification markings to conform to ASTM standards specified in the approved construction documents. b. Manufacturer's mill test reports.		--	--
AISC, Tables N5.4, 1–3 – Steel: Welding Structural Steel			
1. Material verification of weld filler materials: a. Identification markings to conform to AWS designation listed in the WPS. b. Manufacturer's certificate of compliance required.		--	--
2. Inspection of welding: a. Complete and partial penetration groove welds. b. Multi-pass fillet welds c. Single-pass fillet welds > ¾" d. Single-pass fillet welds < ¾" e. Floor and Roof deck welds		X	
AISC, Section A3.6 – Stud Shear Connectors			
1. Material verification 2. Welding shall conform to AWS D1.1			X
AISC, Specification for Structural Joints Using ASTM A325 or A490 Bolts			
1. Snug Tightened Joints – Section 9.1 a. Verification of fastener components to be used. b. Verification of plate sizes and bolt hole sizes. c. Verification that all plies of joints have been brought into firm contact.			X
2. Pretensioned Joints – Section 9.2 a. All requirements of Section 9.1 b. Specific requirements per the tensioning method used (9.2.1, 9.2.2, 9.2.3, 9.2.4)			X
3. Slip Critical Joints – Section 9.3 a. All requirements of Section 9.2 b. Verification of faying surfaces meet the requirements of Section 3.2.2			X
Anchors to Concrete. Not Required Unless Concrete is 3000psi or higher. (Refer to Concrete)			

Note: Special Inspection is to be provided in addition to the inspections conducted by the Department of Building and Safety and shall not be construed to relieve the owner or his authorized agent from requesting the periodic and called inspections required by Chapter 17 of 2019 CBC

LIST OF SPECIAL INSPECTORS

Firm Name	Contact Name	Firm Number
Pacific Materials Lab	Ron Pike	(805) 964-6901
Mark Braun	Office	(805) 688-5429
Earth System Pacific	Office	(805) 642-6727
GeoSolutions, Inc	Brad Bucher	(805) 543-8539
GSI Soils Inc	Office	(805) 349-0140
Beacon Geotechnical	Greg McKay	(805) 538-5115
Thom Hume Consulting Eng.	Thom Hume	(805) 543-6311
Thom Hume Consulting Eng.	Tony Nixon	(805) 543-6311
Thom Hume Consulting Eng.	Esmy Garcia	(805) 543-6311
Thom Hume Consulting Eng.	Gill K.	(805) 543-6311

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www.thenngineers.com

ALL DESIGN, IDEAS, SPECIFICATIONS AND OTHER INFORMATION ON THE DRAWINGS ARE FOR USE ON THE SPECIFIED PROJECT AND ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF THOM HUME CONSULTING ENGINEERS. THEIR USE SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED.

SDS Structural Drafting Services
P.O. Box 15236
San Luis Obispo, CA 93406
805.543.5371

REGISTERED PROFESSIONAL ENGINEER
THOMAS N. HUME
No. 30643
CIVIL
STATE OF CALIFORNIA

22 027.2

Cachuma Lake Comfort Facility

2265 HWY 154
Santa Barbara, CA 93105

Arch'l Contact:
Engineer: MLS
Drafter: MLS

Submittals

PRELIM SET #01	11.22.22
STAMPED SET #01	01.17.22
STAMPED SET #02	06.06.23

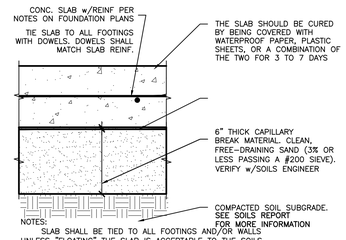
Revisions

TRASH ENCLOSURE
- DETAILS

SE0.1

T00% construction documents 01.20.2023

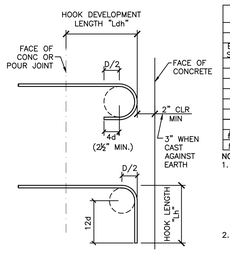
O:\Jobs z Archive\2022 Jobs\22 027 Cachuma_Blackbird\22 027 DWG\DWGs Trash Enclosures\ref\22 027.2 E- DETAILS.dwg, 6/7/2023 8:13:02 PM, Rose. Rose



NOTES:
SLAB SHALL BE TIED TO ALL FOOTINGS AND/OR WALLS UNLESS "FLOATING" THE SLAB IS ACCEPTABLE TO THE SOILS ENGINEER. HAVE SOILS ENGINEER PROVIDE ENGINEERS OFFICE WITH LETTER STATING "FLOATING" SLAB IS ACCEPTABLE.
REFER TO SOILS REPORT WHEN OCCURS FOR MORE INFORMATION.
CONTACT ARCHITECT OR ENGINEER IF INFORMATION DIFFERS FROM THE SOILS REPORT.

TYPICAL 5" CONCRETE SLAB — 11

PARTIAL SCALE 1"=1'-0"



STANDARD HOOK DEVELOPMENT LENGTH

	NORMAL WEIGHT CONC f'c			
	"Ldh"	"Ldh" = HOOK		
BAR SIZE		2500 psi	3000 psi	4000 psi
#3	5"	7"	6"	5"
#4	8"	9"	8"	7"
#5	10"	11"	10"	9"
#6	12"	13"	12"	10"
#7	14"	15"	14"	12"
#8	16"	17"	16"	14"
#9	18"	19"	18"	15"
#10	22"	21"	20"	17"
#11	24"	24"	22"	19"

NOTES::
1. All hooked bars shall extend as far as possible with a 2" min end cover & with embedment not less than shown on the schedule. UNO on plans.
2. Side cover = 2½" min.

STANDARD HOOK DEVELOPMENT LENGTH

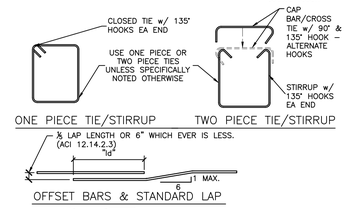
HORIZONTAL BAR LAP SPLICE SCHEDULE

	"Ls" = LAP SPLICE LENGTH			
	CMU	CONCRETE		
BAR SIZE	f'm= 1500	f'c= 2500	f'c= 3000	f'c= 4000
#3	19"	31"	28"	25"
#4	34"	41"	38"	33"
#5	45"	51"	47"	41"
#6	54"	61"	56"	49"
#7	63"	89"	81"	71"
#8	72"	102"	93"	81"
#9	81"	115"	105"	91"
#10	NA	129"	118"	102"
#11	NA	143"	131"	114"

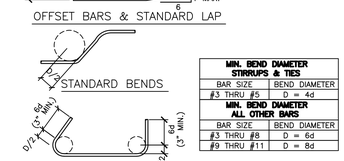
VERTICAL BAR LAP SPLICE SCHEDULE

	"Ls" = LAP SPLICE LENGTH			
	CMU	CONCRETE		
BAR SIZE	f'm= 1500	f'c= 2500	f'c= 3000	f'c= 4000
#3	19"	24"	22"	19"
#4	34"	32"	29"	25"
#5	45"	39"	36"	31"
#6	54"	47"	43"	37"
#7	63"	69"	63"	54"
#8	72"	78"	72"	62"
#9	81"	88"	81"	70"
#10	NA	100"	91"	79"
#11	NA	110"	101"	87"

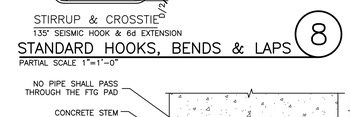
NOTES::
1. "D"=BEND DIAMETER
2. "d"=BAR DIAMETER
3. For horizontal reinforcing placed such that less than 12" of fresh concrete is placed below the bar use the Vertical Bar Lap Splice Schedule.
4. Lap splices in concrete shear walls shall be increased by 1.25 times the scheduled length. All lengths shall be increased by 1.2 times the scheduled lengths for epoxy coated rebar.
5.



ONE PIECE TIE/STIRRUP — TWO PIECE TIE/STIRRUP



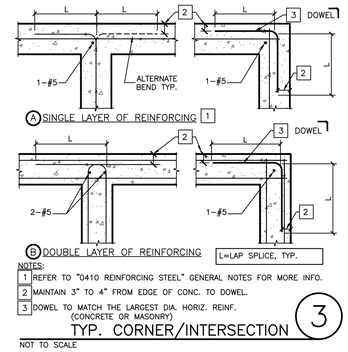
OFFSET BARS & STANDARD LAP



MIN. BEND DIAMETER STIRRUPS & TIES	
BAR SIZE	BEND DIAMETER
#3 THRU #5	D = 4d
MIN. BEND DIAMETER ALL OTHER BARS	
BAR SIZE	BEND DIAMETER
#3 THRU #8	D = 6d
#9 THRU #11	D = 8d

STANDARD HOOKS, BENDS & LAPS — 8

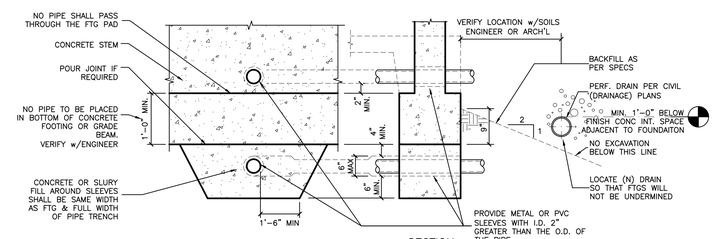
PARTIAL SCALE 1"=1'-0"



NOTES:
1 REFER TO "0410 REINFORCING STEEL" GENERAL NOTES FOR MORE INFO.
2 MAINTAIN 3" TO 4" FROM EDGE OF CONC. TO DOWEL.
3 DOWEL TO MATCH THE LARGEST DIA. HORIZ. REINF. (CONCRETE OR MASONRY)

TYP. CORNER/INTERSECTION — 3

NOT TO SCALE



NOTES:
1. DEPTH OF FOOTING MAY BE DETERMINED BY LOCATION OF PIPES.
2. GENERAL CONTRACTOR SHALL REVIEW MECH'L/PLUMBING DRAWINGS AND SPECIFICATIONS AND CONSULT WITH MECH'L CONTRACTOR TO DETERMINE EXACT DEPTH AND LOCATION OF PIPES.
3. MULTIPLE OPENINGS SHALL HAVE A MINIMUM CLEAR SPACE BETWEEN SLEEVES OF 2x THE LARGEST ADJACENT SLEEVE SIZE. (ie 6"ø SLEEVE WILL REQUIRE 1'-0" DISTANCE BETWEEN)

TYPICAL SMALL PENETRATION AT FOOTINGS — 4

NOT TO SCALE

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Drafter: MLS

Submittals

PRELIM SET #01	11.22.22
STAMPED SET #01	01.17.22
STAMPED SET #02	06.06.23

Revisions

TRASH ENCLOSURE - DETAILS

SE1.1

100% construction documents 01.20.2023

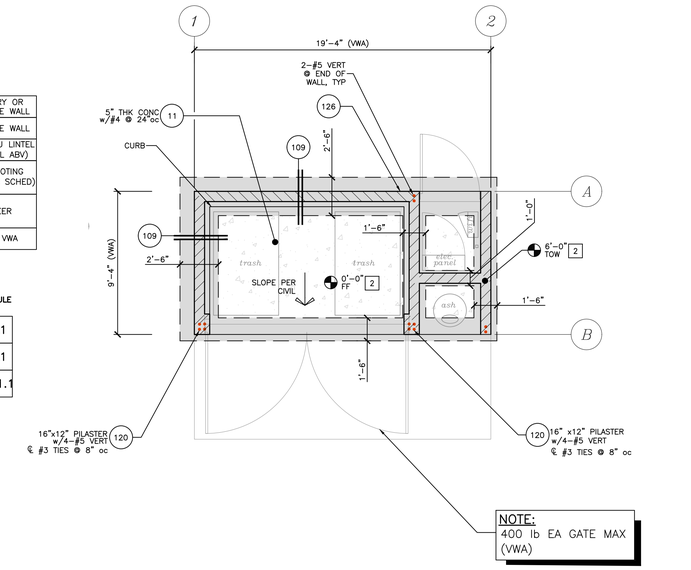
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FRAMING LEGEND S2

	MASONRY OR CONCRETE WALL
	CONCRETE WALL
	CONC/CMU LINTEL (OR WALL ABV)
SIZE	PAD FOOTING (SIZE PER SCHED)
WALL	VENEER
STEP	STEP, VWA

DETAIL & NOTES SHEET SCHEDULE
00 000 2022/00/00 twh

SPECIAL INSPECTION NOTES	SE0.1
1 TO 30 REFER TO SHEET	SE1.1
101 TO 130 REFER TO SHEET	SED1.1



TRASH ENCLOSURE AT CLUB HOUSE

SCALE: 1/4"=1'-0" 0'-0" 2'-0" 4'-0" 8'-0"

DO NOT SCALE FROM DRAWING REFER TO NOTES, SCHEDULES AND DETAILS.

TYPICAL TRASH ENCLOSURE

SCALE: 1/4"=1'-0" 0'-0" 2'-0" 4'-0" 8'-0"

DO NOT SCALE FROM DRAWING REFER TO NOTES, SCHEDULES AND DETAILS.

TYPICAL FOOTING NOTES Cachuma Lake Job No: 22 02

a. Footing Width:
12" min at 1 story
15" min at 2 story
18" min at 3 story

b. Footing Depths:
Depth below pad 18in
Depth below exterior grade 18in
Depth at Interior 18in

c. Footing Bearing Pressure

Dead/Live Load	**2000 psf**
With Seismic Load	**2667 psf**

d. Unless otherwise detailed or noted on plans

e. Match existing footing depth, unless new depth is greater (where applicable)

f. Refer to the structural general notes and project specifications for additional material quality control and workmanship requirements.

g. Maintain bottom of footing such that the horizontal distance to daylight is (40.0per CBC Section 1808.7.2

SPECIFIC FOUNDATION NOTES:

1 For exact (wall) height refer to the architectural plans. Architectural plans shall take precedence. If the height is different by more than 3" as noted on plans contact engineer.

2 Elevations from topography on ARCH'L Sheet A1.4 dated 11-14-2022. Contractor to verify. Coordinate finish slope per civil drawings.

Pacific Materials Laboratory	Cachuma Lake Job No: 22 027
Allowable Bearing DL+LL	2000 psf
Allowable Bearing w/Seismic	2667 psf
Report Number:	22-13447C-2
Report Date:	9/14/2022

Contact: Ron Pike
Phone #: (805) 964-6901
Email: pml@pml.sbcoxmail.com
Address: 35 S. La Patera Lane, Suite A
Goleta, CA 93116

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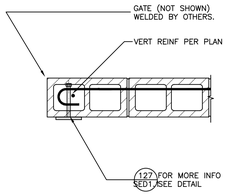
Revisions

TRASH ENCLOSURE

E2 FOUNDATION PLAN

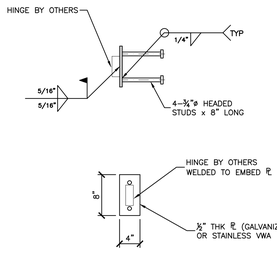
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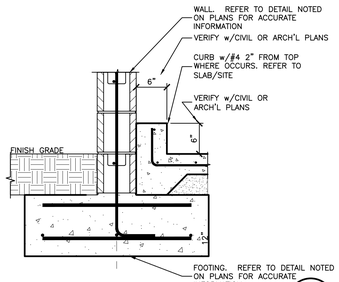


COLUMN SECTION AT GATE 126

PARTIAL SCALE 1"=1'-0"

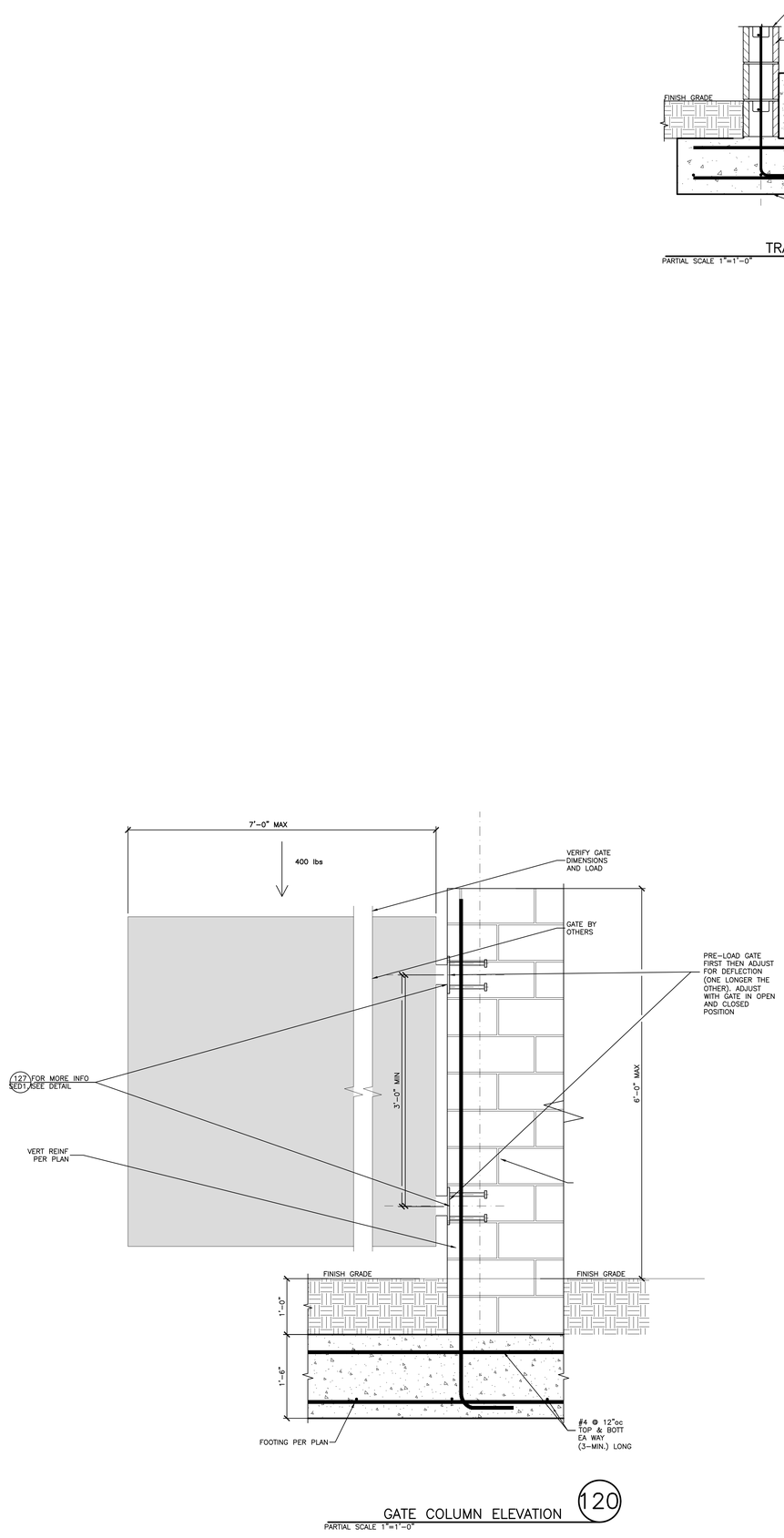


GATE HINGE PLATE 127



TRASH CURB 111

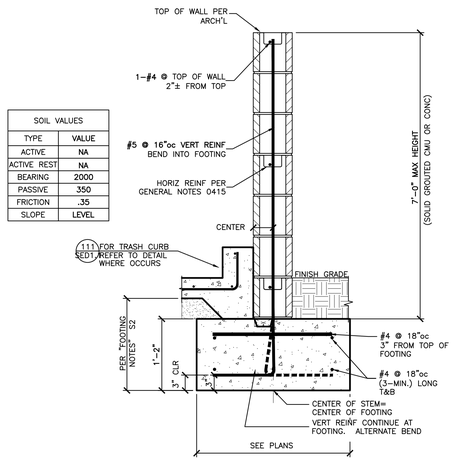
PARTIAL SCALE 1"=1'-0"



GATE COLUMN ELEVATION 120

PARTIAL SCALE 1"=1'-0"

SOIL VALUES	
TYPE	VALUE
ACTIVE	NA
ACTIVE REST	NA
BEARING	2000
PASSIVE	350
FRICTION	.35
SLOPE	LEVEL



8" CMU FENCE 109

PARTIAL SCALE 1"=1'-0"

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SOLAR THERMAL PANELS

TAG	MANUFACTURER	MODEL	TYPE	SIZE	GPM	APPROX WEIGHT (LBS)	NOTES
SP 1.1	SUN-EARTH	TRB-32	FLAT-PLATE	4x8	1.3	98	1
SP 1.2	SUN-EARTH	TRB-32	FLAT-PLATE	4x8	1.3	98	1
SP 2.1	SUN-EARTH	TRB-32	FLAT-PLATE	4x8	1.3	98	1
SP 2.2	SUN-EARTH	TRB-32	FLAT-PLATE	4x8	1.3	98	1
SP 3.1	SUN-EARTH	TRB-32	FLAT-PLATE	4x8	1.3	98	1
SP 3.2	SUN-EARTH	TRB-32	FLAT-PLATE	4x8	1.3	98	1

1 PROVIDE FACTORY MOUNTING HARDWARE, PIPING MANIFOLD, PUMPS, CONTROL PACKAGE, FLOW METER, VALVES, PIPING, AND ALL ACCESSORIES NECESSARY FOR A COMPLETE TURNKEY INSTALLATION. INSTALL PER MANUFACTURER'S INSTRUCTIONS. SEE SHEETS M3.1 AND M3.2. PROVIDE DETAILED SHOP DRAWINGS COORDINATED WITH MANUFACTURER, FOR REVIEW PRIOR TO INSTALLATION. PROVIDE FACTORY START-UP AND COMMISSIONING. COORDINATE ALL WORK WITH PLUMBING CONTRACTOR PRIOR TO CONSTRUCTION.

SOLAR STORAGE TANKS

TAG	MANUFACTURER	MODEL	VOLUME (GAL)	GPM	PRESSURE DROP	DOMESTIC CONNECTION	TST HOUR RATING (GPH)	DIAMETER	HEIGHT	SHIPPING WEIGHT (LBS)	NOTES
ST 1	SUN-EARTH	SU120HE-1	120	3.0	12.0	3/4"	–	28-1/4"	62"	380	1
ST 2	SUN-EARTH	SU120HE-1	120	3.0	12.0	3/4"	–	28-1/4	62"	380	1
ST 3	SUN-EARTH	SU120HE-1	120	3.0	12.0	3/4"	–	28-1/4"	62"	380	1
DB 1	SUN-EARTH	DBT	10	–	–	–	–	16"	17.5"	20	2

1 SOLAR STORAGE TANK WITH HEAT EXCHANGER, INSTALL PER MANUFACTURER'S INSTRUCTIONS.
2 OPTIONAL SOLAR DRAIN BACK TANK. SEE M3.1. COORDINATE WITH SUN-EARTH REPRESENTATIVE. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

PUMPS

TAG	MANUFACTURER	MODEL	RPM	GPM	PRESS DROP (Ft HEAD)	ELECTRICAL VOLT-PH-Hz	ELECTRICAL HP	MOTOR	NOTES
CP 1	BELL & GOSSETT	ECOCIRC XL-55-45	3175	9	25	120-1-60	1/2	ECM	1 2 3

1 COORDINATE WITH SOLAR THERMAL MANUFACTURER.
2 INTEGRATE CONTROLS WITH SOLAR SYSTEM CONTROLLER.
3 OR EQUAL BY TACO OR GRUNDFOS.

EXHAUST FANS

TAG	MANUFACTURER	MODEL	CFM	ESP (IWG)	ELECTRICAL VOLT-PH-Hz	ELECTRICAL HP	ELECTRICAL BHP	BACKDRAFT DAMPER	SONES	FACTORY CURB	APPROX WEIGHT (LBS)	NOTES
EF 1	COOK	ACE-D 120C10D	700	0.40	115-1-60	1/6	.055	YES	4.2	YES	50	1 2 3 4
EF 2	COOK	ACE-D 120C10D	700	0.4	115-1-60	1/6	.055	YES	4.2	YES	50	1 2 3 4

1 FACTORY SPEED CONTROL, MOUNT ON FAN. 2 PROVIDE NON-COMBUSTIBLE 1/8" WIRE MESH ON ALL OPENINGS TO THE OUTDOORS.
3 OCCUPANCY SENSOR CONTROL. COORDINATE WITH ELECTRICIAN. 4 FACTORY "HI-PRO" POLYESTER COATING ON FAN AND ACCESSORIES FOR HIGH MOISTURE.

EXPANSION TANKS

TAG	MANUFACTURER	MODEL	TYPE	VOLUME (GAL)	ACCEPTANCE (GAL)	APPROX WEIGHT (LBS)	NOTES
ET 1	BELL & GOSSETT	D-20V	DIAPHRAM	11.0	8.8	43	1

1 ASME. WITH SIGHT GLASS SEISMIC RESTRAINTS

AIR TERMINAL SCHEDULE

TAG	MANUFACTURER	MODEL	APPLICATION	NOTES
SIZE A CFM	METALAIRE	2000 SERIES	EXHAUST	1 2

1 FRAME TYPES & COLORS TO MATCH SURFACE FINISH. COORDINATE WITH ARCHITECT.
2 ALL ALUMINUM CONSTRUCTION.

GENERAL NOTES

GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH APPLICABLE CODES, LOCAL ORDINANCES, & LOCAL REQUIREMENTS, AS A MINIMUM. ADDITIONAL, MORE STRINGENT REQUIREMENTS SHALL GOVERN.
2. CONTRACT DOCUMENTS ARE SCHEMATICS, NOT SHOP DRAWINGS. SHOP DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED TO CLARIFY DETAILS OF INSTALLATION.
3. ALL SUBSTITUTIONS SHALL BE PRE-APPROVED.
4. PAY FOR ALL PERMITS & FEES RELATED TO THE EXECUTION OF THIS WORK.
5. INSPECT & REPORT ON DEFECTIVE EXISTING CONDITIONS PRIOR TO BID OR START OF WORK.
6. DO NOT CUT OR MODIFY STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN APPROVAL BY ARCHITECT.
7. COORDINATE WITH OTHER TRADES & ARCHITECT FOR THE PROPER & COMPLETE INSTALLATION OF THE WORK.
8. MAKE ALL NECESSARY PROVISIONS TO CREATE A SAFE WORK ENVIRONMENT.
9. PROVIDE SUBMITTALS FOR ALL WORK.
10. IDENTIFY ALL MECHANICAL EQUIPMENT WITH PLASTIC ENGRAVED TAGS.
11. ISOLATE MOTORIZED OR MOVING EQUIPMENT FROM STRUCTURE WITH APPROVED METHODS.
12. INSULATE INDIRECT WASTE PIPING TO PREVENT CONDENSATION.
13. COORDINATE AIR TERMINALS WITH ARCHITECTURAL CEILING TYPES AND SURFACE FINISHES, AS APPROPRIATE. PROVIDE COLOR SAMPLES TO ARCHITECT.
14. PROVIDE A 1 YEAR WARRANTY FOR ALL WORK.
15. PRODUCT INSTALLATION METHODS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S DETAILED INSTRUCTIONS.
16. DUCT SIZES ARE INSIDE CLEAR DIMENSIONS. FOR LINED DUCTS, MAINTAIN SIZES INSIDE LINING.

ELECTRICAL COORDINATION:

1. MOTOR STARTERS, LINE VOLTAGE WIRING & ALL CONDUIT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. LOW VOLTAGE WIRING & LOW VOLTAGE CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
2. ALL PRODUCTS REQUIRING ELECTRICAL CONNECTION SHALL BE LISTED & CLASSIFIED BY UL OR APPROVED TESTING FIRM.

TITLE 24 REQUIREMENTS:

1. PROVIDE ACCEPTANCE TESTING AND CERTIFICATES FOR ALL APPLICABLE SYSTEMS PER REQUIREMENTS OF 2019 TITLE 24 NON-RESIDENTIAL ENERGY STANDARDS.
2. WHERE PRESCRIPTIVE TITLE 24 MECHANICAL COMPLIANCE IS PROVIDED, AND WHERE APPLICABLE, PROVIDE DUCT LEAKAGE TESTING BY A CERTIFIED HERS RATER PER 2019 TITLE 24 REQUIREMENTS, SECTION 140.4(l). THIS SHALL BE PART OF THE BASE CONTRACT WORK.
3. PER SECTION 110.1: ANY APPLIANCE REGULATED BY THE APPLIANCE EFFICIENCY REGULATIONS, TITLE 20 CALIFORNIA CODE OF REGULATIONS, SECTION 1601 ET SEQ., MAY BE INSTALLED ONLY IF THE APPLIANCE FULLY COMPLIES WITH SECTION 1608(a) OF THOSE REGULATIONS.
4. ANY SPACE-CONDITIONING EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED TO THE CA ENERGY COMMISSION THAT THE EQUIPMENT COMPLIES WITH THE APPLICABLE REQUIREMENTS OF TITLE 24, SECTION 110.2.
5. ANY SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE SYSTEM OR EQUIPMENT COMPLIES WITH ALL OF THE REQUIREMENTS OF TITLE 24, SECTION 110.3 FOR THAT SYSTEM OR EQUIPMENT.
6. INSTALLING CONTRACTOR SHALL PROVIDE APPLICABLE CERTIFICATES OF INSTALLATION (NRCI) AND ACCEPTANCE (NRCA) AT TIME OF INSPECTION PER 2019 TITLE 24 REQUIREMENTS.

CA GREEN BUILDING CODE (CGBC):

1. COMPLY WITH ALL MANDATORY REQUIREMENTS OF CHAPTER 5 OF THE 2019 CGBC.
2. COMPLY WITH ALL ENVIRONMENTAL QUALITY REQUIREMENTS OF CHAPTER 5 OF THE 2019 CGBC INCLUDING PRE- AND POST-OCCUPANCY FILTERS AND VOC LIMITS. PROVIDE DOCUMENTATION OF COMPLIANCE AS REQUIRED.

PRODUCTS:

1. ALL PRODUCTS SHALL BE NEW, IN PERFECT CONDITION, & SHALL BEAR THE MANUFACTURER'S LABEL.
2. DUCTWORK SHALL CONFORM TO THE CMC & TO SMACNA STANDARDS FOR GAGES & INSTALLATION, UNLESS OTHERWISE NOTED TO BE MORE STRINGENT. INSULATE ALL HEATING, COOLING & RETURN DUCTS PER TITLE 24 REQUIREMENTS. DUCT LINER SHALL BE FIBER-FREE ARMAFLEX FS SA. DUCT LINER SHALL BE ALLOWED ONLY WHERE PERMITTED BY THE CMC AND LOCAL JURISDICTIONS. DUCTWRAP SHALL BE JM "MICROLITE" XG.
3. CMC COMPLIANCE: ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS, INCLUDING, BUT NOT LIMITED TO, BUILDING CAVITIES, MECHANICAL CLOSETS, AIR-HANDLER BOXES AND SUPPORT PLATFORMS USED AS DUCTS OR PLENUMS, SHALL MEET THE REQUIREMENTS OF THE CMC SECTIONS 601.0, 602.0, 603.0, 604.0, 605.0, AND ANSI/SMACNA-006-2006 HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE 3RD EDITION. CONNECTIONS OF METAL DUCTS AND THE INNER CORE OF FLEXIBLE DUCTS SHALL BE MECHANICALLY FASTENED. OPENINGS SHALL BE SEALED WITH MASTIC, TAPE, AEROSOL SEALANT, OR OTHER DUCT-CLOSURE SYSTEM THAT MEETS THE APPLICABLE REQUIREMENTS OF UL 181, UL 181A, OR UL 181B. IF MASTIC OR TAPE IS USED TO SEAL OPENINGS GREATER THAN 1/4 INCH, THE COMBINATION OF MASTIC AND EITHER MESH OR TAPE SHALL BE USED. PORTIONS OF SUPPLY-AIR AND RETURN-AIR DUCTS CONVEYING HEATED OR COOLED AIR LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-8: OUTDOORS; OR IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING; OR IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES; OR IN AN UNCONDITIONED CRAWLSPACE; OR IN OTHER UNCONDITIONED SPACES. PORTIONS OF SUPPLY-AIR DUCTS THAT ARE NOT IN ONE OF THESE SPACES, INCLUDING DUCTS BURIED IN CONCRETE SLAB, SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-4.2 OR BE ENCLOSED IN DIRECTLY CONDITIONED SPACE.
4. DUCTS EXPOSED TO WEATHER TRANSPORTING CONDITIONED AIR: 2" RIGID DUCTLINER, OR 2" RIGID DUCTBOARD ON OUTSIDE OF DUCTWORK WITH ALUMINUM CLADDING. EXTERNAL DUCTBOARD AND CLADDING ARE REQUIRED FOR ALL EXPOSED DUCTS DOWNSTREAM OF HIGH EFFICIENCY FILTERS (80% OR GREATER). DUCTWORK SEALANT: NON-HARDENING, WATER/FIRE RESISTIVE. HYDRO-STOP INC. "PREMIUMCOAT" SYSTEM ON ALL JOINTS AND ALL SURFACES OF DUCTWORK.
5. DUCTWORK SHALL BE ASTM RATED, GALVANIZED WITH G90 ZINC COATING. SEALANT: NON-HARDENING, WATER/FIRE RESISTIVE. FLEXIBLE DUCT IS NOT ALLOWED.
6. JOINTS & SEAMS OF CONCEALED DUCT SYSTEMS & THEIR COMPONENTS SHALL BE SEALED WITH NON-HARDENING, WATER RESISTANT, FIRE RESISTIVE SEALANT, COMPATIBLE WITH MATING MATERIALS; DUCT TAPE SHALL NOT BE ALLOWED AS DUCT SEALER. EXPOSED DUCTWORK SHALL BE NEATLY JOINED AND FASTENED WITH SHEET METAL SCREWS.
7. DUCT SYSTEMS USED WITH BLOWER TYPE EQUIPMENT WHICH ARE PORTIONS OF A HEATING, COOLING, ABSORPTION, EVAPORATIVE COOLING OR OUTDOOR AIR VENTILATION SYSTEM SHALL BE SIZED IN ACCORDANCE WITH CHAPTER 17 OF THE CALIFORNIA MECHANICAL CODE.
8. DUCT LEAKAGE TESTS (CMC SECTION 603.10.1): DUCTWORK SHALL BE LEAK-TESTED IN ACCORDANCE WITH THE SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL. REPRESENTATIVE SECTIONS TOTALING NOT LESS THAN 10 PERCENT OF THE TOTAL INSTALLED DUCT AREA SHALL BE TESTED. WHERE THE TESTED 10 PERCENT FAIL TO COMPLY WITH THE REQUIREMENTS OF THIS SECTION, THEN 40 PERCENT OF THE TOTAL INSTALLED DUCT AREA SHALL BE TESTED. WHERE THE TESTED 40 PERCENT FAIL TO COMPLY WITH THE REQUIREMENTS OF THIS SECTION, THEN 100 PERCENT OF THE TOTAL INSTALLED DUCT AREA SHALL BE TESTED. SECTIONS SHALL BE SELECTED BY THE BUILDING OWNER OR DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER. POSITIVE PRESSURE LEAKAGE TESTING SHALL BE PERMITTED FOR NEGATIVE PRESSURE DUCTWORK.
9. PROTECT ALL EQUIPMENT AND DUCT OPENINGS DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.

TEST AND BALANCE:

1. ALL SYSTEMS SHALL BE TESTED BY A CERTIFIED INDEPENDENT AGENCY, TO NEBB OR AABC STANDARDS. PROVIDE CERTIFIED AIR BALANCE REPORT FOR REVIEW PRIOR TO FINAL INSPECTION.
2. BALANCE SYSTEM IN AT LEAST TWO PHASES:
   2.1. PRELIMINARY/ROUGH
   2.2. FINAL FOR REVIEW BY ARCHITECT. AN ADDITIONAL REBALANCE MAY BE REQUIRED FOR FINAL APPROVAL.

ABBREVIATIONS

A	COMPRESSED AIR	MD	MANUAL DAMPER
AC	AIR CONDITIONER	MFR	MANUFACTURER
AFF	ABOVE FINISHED FLOOR	MH	MANHOLE
AFS	AUTOMATIC FIRE SPRINKLER SYSTEM	MIN	MINIMUM
AH	AIR HANDLER	MS	MOTOR STARTER
AHJ	AUTHORITY HAVING JURISDICTION	MTD	MOUNTED
AI	ANALOG INPUT	MTL	METAL
AO	ANALOG OUTPUT	MVD	MANUAL VOLUME DAMPER
AP	ACCESS PANEL	(N)	NEW
ARCH	ARCHITECTURAL DRAWINGS	N/A	NOT APPLICABLE
AV	AUTOMATIC AIR VENT	NC	NORMALLY CLOSED
BDD	BACK DRAFT DAMPER	NIC	NOT IN CONTRACT
BHP	BRAKE HORSEPOWER	NTS	NOT TO SCALE
BLDG	BUILDING	OBD	OPPOSED BLADE DAMPER
BS	BIRD SCREEN	OD	OUTSIDE DIAMETER
BTU	BRITISH THERMAL UNIT	OFD	OVERFLOW DRAIN
CA	COMBUSTION AIR	OFL	OVERFLOW RAINWATER LEADER
CBC	CALIFORNIA BUILDING CODE	OSA	OUTSIDE AIR
CD	CEILING DIFFUSER	OSY	OUTSIDE STEM & YOKE
CFH	CUBIC FEET PER HOUR	OW	OILY WASTE
CFM	CUBIC FEET PER MINUTE	P&T	PRESSURE & TEMPERATURE RELIEF
CGC	CALIFORNIA GREEN CODE	CHR	PROCESS CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY	PCHS	PROCESS CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN	PH	PHASE
CLG	CEILING	PIV	POST INDICATOR VALVE
CMC	CA MECHANICAL CODE	PLCS	PLACES
CO	CLEANOUT	POC	POINT OF CONNECTION
CONT	CONTINUATION	POT	CHEMICAL POT FEEDER
COTG	CLEAN OUT TO GRADE	PPM	PARTS PER MILLION
CR	CONTROL RELAY	PRESS	PRESSURE
CRC	CALIFORNIA RESIDENTIAL CODE	PRV	PRESSURE REDUCING VALVE
CW	COLD WATER DOMESTIC	PSI	POUNDS PER SQUARE INCH
D	CONDENSATE OR EQUIPMENT DRAIN	(R)	REMOVE
DDC	DIRECT DIGITAL CONTROL	RA	RETURN AIR
DB	DRY BULB TEMPERATURE DEGREES F	RD	ROOF DRAIN
DCW	DOMESTIC COLD WATER	REFRIG	REFRIGERATION
DHW	DOMESTIC HOT WATER	REQD	REQUIRED
DI	DIGITAL INPUT	RH	REFRIGERANT HOT GAS LINE
DIA	DIAMETER	RL	REFRIGERANT LIQUID LINE
DL	DOOR LOUVER	RLA	RATED LOAD AMPS
DN	DOWN	RPM	REVOLUTIONS PER MINUTE
DO	DIGITAL OUTPUT	RS	REFRIGERANT SUCTION LINE
DPS	DIFFERENTIAL PRESSURE SWITCH	RWL	RAIN WATER LEADER
DPT	DIFFERENTIAL PRESSURE TRANSMITTER	RZ	RADIANT ZONE
DSP	DRY STANDPIPE	RZR	RADIANT ZONE RETURN
DTR	DUCT THROUGH ROOF	RZS	RADIANT ZONE SUPPLY
DWGS	DRAWINGS	SA	SUPPLY AIR
DX	DIRECT EXPANSION	SD	STORM DRAIN / SMOKE DETECTOR
(E)	EXISTING	SE	SEASONAL EFFICIENCY
EA	EXHAUST AIR	SEER	SEASONAL ENERGY EFFICIENCY RATING
EER	ENERGY EFFICIENCY RATING	SF	SQUARE FEET
EF	EXHAUST FAN	SFD	SMOKE & FIRE DAMPER
EFF	EFFICIENCY	SL	SOUNDLINER
ELEC	ELECTRICAL DRAWINGS	SMH	SEWER MAN HOLE
ELEV	ELEVATION	SOV	SHUT OFF VALVE
ER	EXHAUST REGISTER	SP	STATIC PRESSURE
ESP	EXTERNAL STATIC PRESSURE	SPEC	SPECIFICATIONS
EWH	ELECTRIC WATER HEATER	SS	STAINLESS STEEL
(F)	FUTURE	SSC	SOLID STATE SPEED CONTROL
FC	FAN COIL	STD	STANDARD
FA	FREE AREA	STL	STEEL
FACP	FIRE ALARM CONTROL PANEL	STRUCT	STRUCTURAL DRAWINGS
FCO	FLOOR CLEAN OUT	SW	SOFTENED WATER / SWITCH
FD	FIRE DAMPER	SWD	SIDE WALL DIFFUSER
FF	FINISHED FLOOR ELEVATION	SWE	SIDE WALL EXHAUST
FL	FLOW LINE	SWR	SIDE WALL RETURN
FLA	FULL LOAD AMPS	T24	CALIFORNIA ENERGY CODE
FLD	FLOOR DRAIN	TCP	TEMPERATURE CONTROL PANEL
FLR	FLOOR	TG	TRANSFER GRILLE
FPM	FEET PER MINUTE	TH	THERMOSTAT
FS	FLOOR SINK	TS	TEMPERATURE SENSOR
FT	FEET	TSTAT	THERMOSTAT
G	GAS LINE (FUEL GAS)	TW	TEMPERED WATER
GA	GAUGE	TXV	THERMOSTATIC EXPANSION VALVE
GAL	GALLONS	TYP	TYPICAL
GALV	GALVANIZED	U	URINAL
GC	GENERAL CONTRACTOR	UC	UNDERCUT
GI	GALVANIZED IRON	UH	UNIT HEATER
GPM	GALLONS PER MINUTE	UL	UNDERWRITERS' LABORATORIES, INC.
H	HUMIDITY	UNO	UNLESS NOTED OTHERWISE
HB	HOSE BIBB	UTR	UP THROUGH ROOF
HP	HORSEPOWER	UVC	ULTRAVIOLET SUBTYPE C
HR	HEATING WATER RETURN	V	SANITARY VENT
HS	HEATING WATER SUPPLY	VA	VOLT AMPS
HSPF	HEATING SEASONAL PERFORMANCE FACTOR	VAC	HOUSE VACUUM / VOLTS AC
HW	HOT WATER	VB	VACUUM BREAKER
HWR	HOT WATER RETURN DOMESTIC	VR	VANDAL RESISTANT
HZ	HERTZ	VTR	VENT THROUGH ROOF
IW	INDIRECT WASTE	W	SANITARY WASTE
IWG	INCHES WATER GAUGE	W.C.	WATER COLUMN
KW	KILOWATT	WC	WATER CLOSET
LAV	LAVATORY	WCO	WALL CLEAN OUT
LAT	LEAVING AIR TEMP	WF	WALL FURNACE
LWT	LEAVING WATER TEMP	WH	WATER HEATER
M	MOTOR / MOTORIZED	WHA	WATER HAMMER ARRESTOR
MBH	THOUSAND BTU PER HOUR	WM	WATER METER
MCA	MINIMUM CIRCUIT AMPACITY	WT	WEIGHT

SYMBOLS

- RETURN DUCT DROP
- SUPPLY DUCT DROP
- EXHAUST DUCT DROP
- SUPPLY DUCT RISER
- RETURN DUCT RISER
- EXHAUST DUCT RISER
- CEILING DIFFUSER
- RETURN REGISTER
- EXHAUST REGISTER
- ROUND DUCT RISER
- ROUND DUCT DROP
- SIDEWALL SUPPLY DIFFUSER (SWD)
- SIDEWALL RETURN/EXHAUST DIFFUSER (SWR/SWE)
- MANUAL VOLUME DAMPER WITH LOCKING QUADRANT
- DL DOOR LOUVER
- UC DOOR UNDERCUT
- SOUND LINED DUCT
- FD FIRE DAMPER (FD)
- SFD SMOKE & FIRE DAMPER (SFD)
- DUCT DROP
- SD SMOKE DETECTOR
- PIPE/DUCT BREAK
- MOTORIZED DAMPER OR DUCT SMOKE DETECTOR
- WALL CLEAN OUT
- WATER HAMMER ARRESTOR
- PIPE DROP
- PIPE RISER
- POINT OF CONNECTION
- POINT OF DISCONNECTION
- WASTE
- VENT
- FLOOR DRAIN
- FLOOR SINK
- PRESSURE & TEMPERATURE RELIEF VALVE
- CHECK VALVE
- BALL VALVE
- BALL VALVE/MEMORY STOP
- PRESSURE REDUCING VALVE
- AUTOMATIC BALANCING VALVE
- MANUAL SERVICE/BALANCING VALVE
- BUTTERFLY VALVE
- 2 WAY CONTROL VALVE
- 3 WAY CONTROL VALVE
- TRIPLE DUTY VALVE
- UNION
- REDUCER
- STRAINER
- SOV IN RISER
- AUTOMATIC AIR VENT
- PRESSURE GAUGE
- THERMOMETER
- AQUASTAT
- E BY ELECTRICAL
- M BY MECHANICAL
- BYPASS TIMER
- R RELAY
- T THERMOSTAT
- LOW VOLTAGE
- LINE VOLTAGE
- MANUAL SWITCH
- NO CONTACT
- NC CONTACT
- OVERLOAD CONTACT
- MOTOR
- MOTOR STARTER
- TIME SWITCH
- TEMPERATURE SENSOR
- FLOW SWITCH
- DIFFERENTIAL PRESSURE SWITCH
- TEMPERATURE SENSOR
- TEST PORT
- FLEXIBLE PIPE CONNECTOR
- F FIRE
- COLD WATER
- HOT WATER
- HOT WATER RETURN
- GAS
- DEMOLITION WORK

MECHANICAL SHEET INDEX

M1.1 ABBREVIATIONS, SYMBOLS & SCHEDULES
M2.1 MECHANICAL FLOOR PLAN
M2.2 MECHANICAL ROOF PLAN
M3.1 SOLAR THERMAL PIPING SCHEMATIC
M3.2 SOLAR THERMAL DETAILS

REGISTERED ENGINEER M-25658 EXP. 9/30/2024 STATE OF CALIFORNIA

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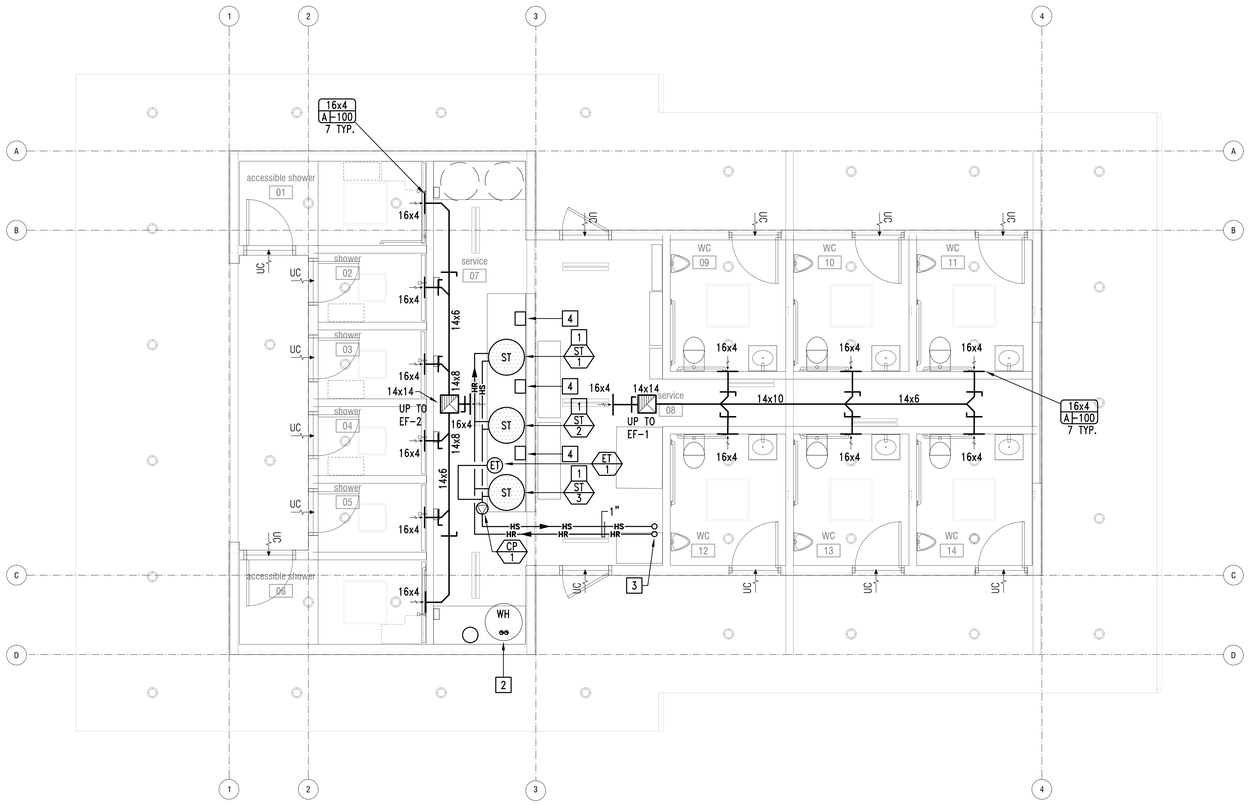
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Abbreviations,
Symbols & Schedules

M1.1

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Mechanical Floor Plan

1/4" = 1'-0"

1

KEYNOTES

1. PROVIDE SEISMIC STRAPPING, PRESSURE RELIEF VALVE AND DRAIN, AND SHUT OFF VALVES ON ALL PIPING CONNECTIONS. INSTALL TANKS PER MANUFACTURER'S INSTRUCTIONS.
2. DIRECT VENT CONDENSING WATER HEATER WITH PIPED COMBUSTION AIR AND VENT TO ROOF. TERMINATE WITH FACTORY CONCENTRIC VENT. COORDINATE WITH PLUMBER.
3. 1" INSULATED TYPE L COPPER PIPING UP TO SOLAR THERMAL PANELS ON ROOF.
4. SOLAR CONTROL PANELS. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
5. EXHAUST DUCT UP TO FAN ON ROOF.

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Mechanical Floor Plan

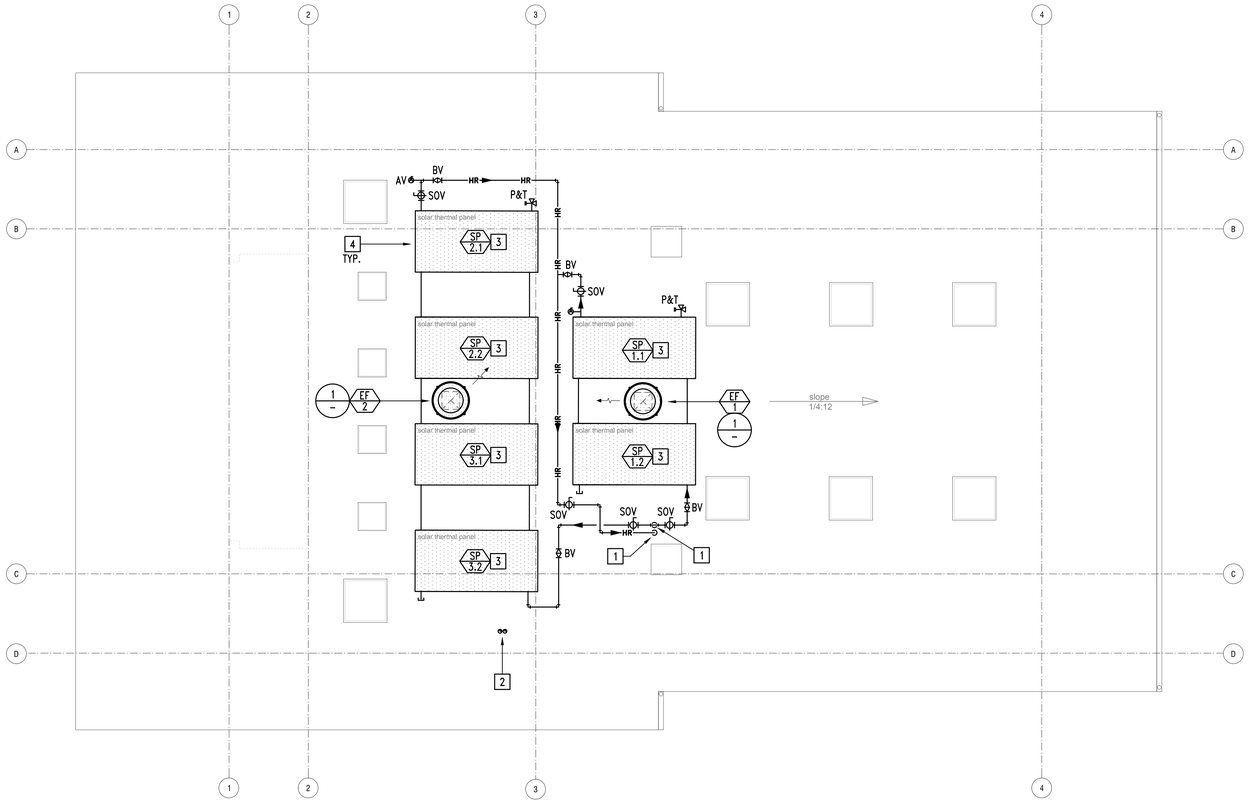
LICENSED ENGINEER
SOLIKA VON KLEIN
M-25658
EXP. 9/30/2023
STATE OF CALIFORNIA

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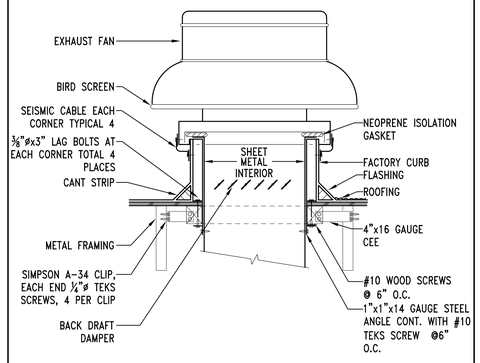
Mechanical Floor Plan 1

feet 0 2 4 8

1/4" = 1'-0"

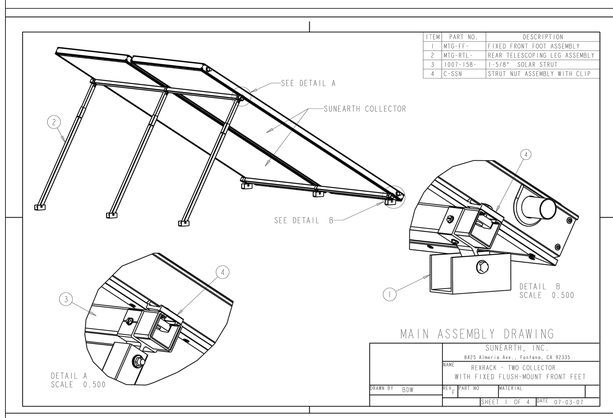
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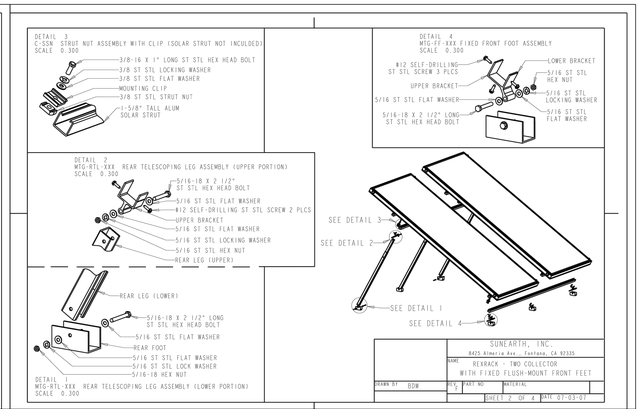
1. 1" INSULATED AND TYPE L COPPER PIPING WITH ALUMINUM JACKETING DOWN TO MECHANICAL ROOM. INSTALL PIPING PER MANUFACTURER'S INSTRUCTIONS, IN REVERSE RETURN CONFIGURATION. SLOPE PIPING PER MANUFACTURER.
2. FACTORY CONCENTRIC VENT TERMINATIONS FROM WATER HEATERS. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
3. INSTALL SOLAR THERMAL PANELS PER MANUFACTURER'S INSTRUCTIONS. PROVIDE SHUT OFF VALVES AT EACH ROW OF PANELS. PROVIDE AIR ELIMINATORS AT HIGH POINTS. PROVIDE BALANCING VALVES AND PRESSURE RELIEF VALVES PER MANUFACTURER'S INSTRUCTIONS.
4. PANELS MOUNTED ON FACTORY PRE-ENGINEERED "REX-RACK" SUPPORTS. SEE DETAILS THIS SHEET. INSTALL PER MANUFACTURER'S INSTRUCTIONS. MOUNT FEET TO STRUCTURE USING LAG BOLTS. USE FLASHING ON ALL PENETRATIONS. COORDINATE WITH GC AND ROOFER PRIOR TO INSTALLATION.

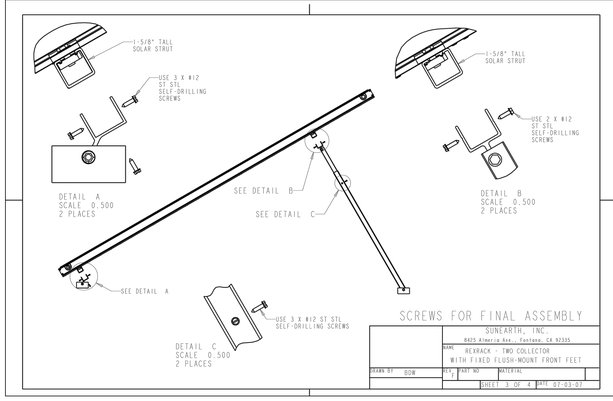


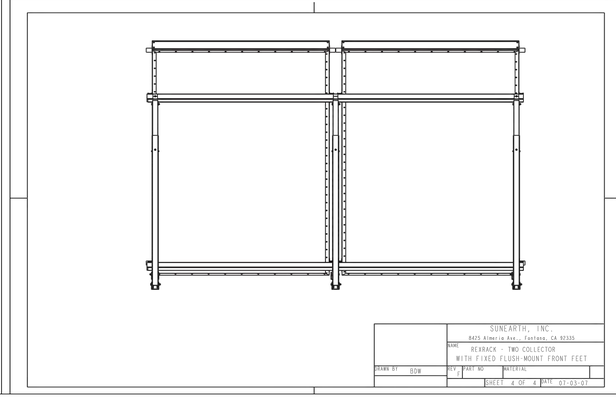
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EXHAUST FAN MOUNTING NTS 1









4

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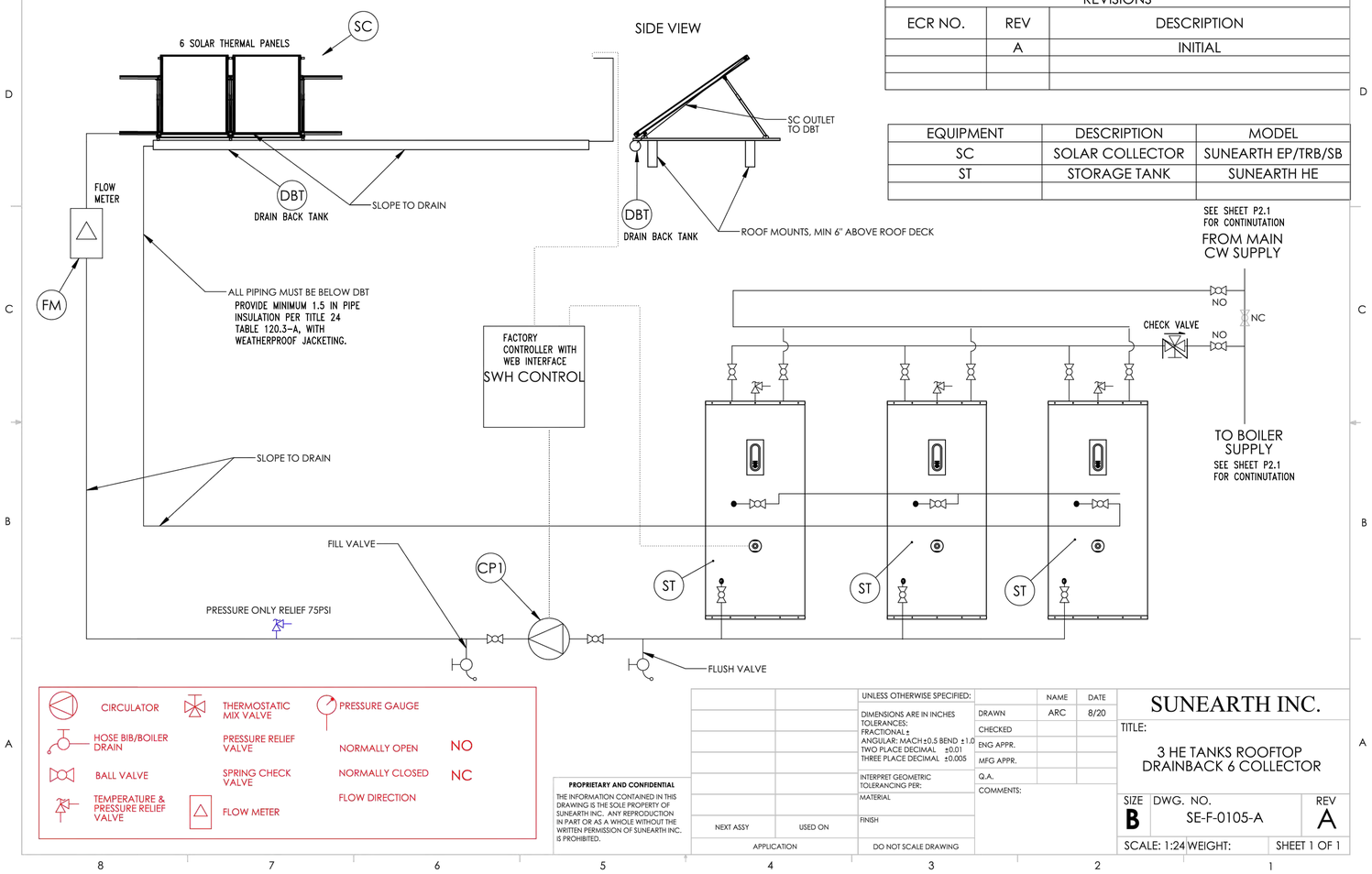
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Mechanical Roof Plan

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REVISIONS		
ECR NO.	REV	DESCRIPTION
	A	INITIAL

EQUIPMENT	DESCRIPTION	MODEL
SC	SOLAR COLLECTOR	SUNEARTH EP/TRB/SB
ST	STORAGE TANK	SUNEARTH HE

PROPRIETARY AND CONFIDENTIAL

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DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ±0.5 BEND ±1.0 TWO PLACE DECIMAL ±0.01 THREE PLACE DECIMAL ±0.005	DRAWN	ARC	8/20
	CHECKED		
	ENG APPR.		
	MFG APPR.		
INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
MATERIAL	COMMENTS:		
FINISH			
NEXT ASSY / USED ON			
APPLICATION / DO NOT SCALE DRAWING			

SUNEARTH INC.

TITLE: 3 HE TANKS ROOFTOP DRAINBACK 6 COLLECTOR

SIZE	DWG. NO.	REV
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SCALE: 1:24 WEIGHT: SHEET 1 OF 1

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Solar Thermal
Schematic

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REXRACK

MOUNTING SYSTEM **SPECIFICATION SHEET**

Applications

Solar Water Heating

Solar Pool Heating



Technical Details:

RexRack	
Support Struts/Legs:	AISI 6063 T6 Anodized Aluminum
Fasteners:	AISI 304 Stainless Steel
Collector Tilt Angle Range:	20˚ to 60˚ from Horizontal
Upper Support Strut (X):	20% of collector length from upper short end
Lower Support Strut (Y):	6" ≤ Y ≤ 20% collector lenght
Rear Leg Angle (Z):	70˚≤ Z ≤ 90˚ to collector
Anodizing:	Commercial Bronze Commercial Clear
Warranty:	10 Years

Engineering Specifications

Installation

Designed for collectors mounted in portrait orientation only. Collectors tilt angle between 20° and 60° from horizontal. Upper support strut to be installed 20% of collector length from the upper short end. Lower support strut to be installed no less than 6 inches from the lower short end. The rear leg is to be no less than 70° and no more than 90° in respect to the collector.

Material

Support Struts and legs shall be constructed of AISI 6063 T6 anodized aluminum with collector connection interfaces consisting of an integral channel as to allow flexibility of collector position laterally. Mounting fasteners shall be constructed of AISI 304 stainless steel with all bolt assemblies including a mechanical fastener lock. Mounting shall allow collectors to be affixed without intrusion of the collectors casing.

Application

Mounting shall be adjustable as to allow collector tilt angles, from horizontal, between 20° and 60°. Mounting shall allow collectors to be installed in a portrait orientation allowing easy alignment of the collector headers.

RexRack (rack will resist the tabulated loads on supported collector(s) in psf (lbs/ft^2)),[uplift,downforce]**FOS 1.5**

	Tilt Angle (from horizontal)									
Collector Dimensions:	**15˚**	**20˚**	**25˚**	**30˚**	**35˚**	**40˚**	**45˚**	**50˚**	**55˚**	**60˚**
122.2" x 48.2" ①	78,112	78,112	78,112	78,112	78,112	78,91	78,42	73,73	73,49	73,29
98.2" x 48.2" ②	97,140	97,140	97,140	97,140	97,140	97,114	97,114	91,131	91,107	91,73
98.2" x 36.2" ②	129,185	129,185	129,185	129,185	129,185	129,185	129,185	129,197	121,174	121,14 121,97
76.2" x 40.2" ③	151,216	151,216	151,216	151,216	151,216	151,216	151,216	141,202	141,23	141,21

①Panels: EP-40TRB-40SDB-40
②Panels: EP-32TRB-32SB-40-075
③Panels: EP-24SB-40
④Panels: EP-21

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June 2018

REXRACK

MOUNTING SYSTEM **SPECIFICATION SHEET**

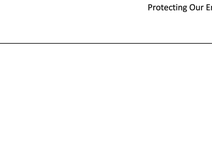
RexRack Layout Dimensions:

Collector Gross Dimensions (LxW) 122.2" x 48.2" ft: 24.5[1]

Tilt	Leg Angle 90˚		Leg Angle 70˚	
D	A	C	A	D
20	33.4	97.6	31.4	86.2
25	42.8	101.2	38.9	86.5
30	52.9	105.9	46.6	87.5
35	64.2	111.9	54.5	89.2
40	76.9	119.7	62.7	91.7
45	91.7	129.7	71.5	95.1
50	-	-	81.1	99.5
55	-	-	91.7	105.2
60	-	-	103.7	112.5

Collector Gross Dimensions (LxW) 98.2" x 36.2" ft: 19.7[2]

Tilt	Leg Angle 90˚		Leg Angle 70˚	
D	A	C	A	D
20	26.4	77.2	24.8	68.1
25	33.8	80.0	30.8	68.4
30	41.9	83.7	36.8	69.2
35	50.8	88.5	43.1	70.5
40	60.8	94.6	49.6	72.5
45	72.5	102.5	56.6	75.2
50	86.4	112.8	64.1	78.7
55	-	-	72.5	83.2
60	-	-	82.0	88.9



[1] Panels: TRB-40, EP-40 and SB-40.
Panels: TRB-26

[2] Panels: TRB-32, EP-32 and SB-32.

Collector Gross Dimensions (LxW) 98.2" x 48.2" ft: 32.8[3]

Tilt	Leg Angle 90˚		Leg Angle 70˚	
D	A	C	A	D
20	26.4	77.2	24.8	68.1
25	33.8	80.0	30.8	68.4
30	41.9	83.7	36.8	69.2
35	50.8	88.5	43.1	70.5
40	60.8	94.6	49.6	72.5
45	72.5	102.5	56.6	75.2
50	86.4	112.8	64.1	78.7
55	-	-	72.5	83.2
60	-	-	82.0	88.9

Collector Gross Dimensions (LxW) 76.2" x 40.2" ft: 21.4[4]

Tilt	Leg Angle 90˚		Leg Angle 70˚	
D	A	C	A	D
20	18.3	53.4	17.2	47.2
25	23.4	55.4	21.3	47.4
30	29.0	58.0	25.5	47.9
35	35.2	61.3	29.8	48.8
40	42.1	65.5	34.3	50.2
45	50.2	71.0	39.2	52.0
50	59.8	78.1	44.4	54.5
55	71.7	87.5	50.2	57.6
60	86.9	100.4	56.8	61.6

[3] Panels: EP-24 and SB-24.

[4] Panels: EP-21.

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June 2018

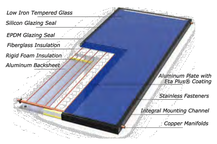
THE THERMORAY SERIES

SOLAR COLLECTOR **SPECIFICATION SHEET**

Applications

Solar Water Heating

Solar Pool Heating



Thermal Performance Ratings*

BTU /ft^2/Day

Category (Ti-Ta) Ti - inlet fluid temp Ta-ambient temp	Clear (2000)	Mildly Cloudy (1500)	Cloudy (1000)
A(-9˚F)	1471	1115	758
B(9˚F)	1340	984	627
C(36˚F)	1136	789	445
D(90˚F)	774	445	146
E(144˚F)	452	171	-

A-Pool Heating (Warm Climate) B-Pool Heating C-Water Heating (Warm Climate)
D-Water Heating (Cool Climate) E-Air Conditioning/Industrial Process Heat. **Thermal performance is obtained by multiplying the collector output for the appropriate application and insolation level by the total gross collector area** *Collector ratings are derived from The Solar Rating & Certification Corp (SRCC) Document RM-1 and OG-100. Tested at water design flowrate.

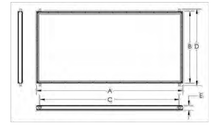
Available Connections

- 1" Sweat (Standard)
- 1" High Temperature FKM SX Press
- 1" High Temperature FKM O-Ring Union

Materials

Absorber Coating:	Highly Selective Eta Plus®
Absorbivity/Emissivity:	95%/5%
Absorber Plate:	Aluminum
Header Size:	1" Nominal Copper (1.125" OD)
Riser Size:	3/4" Nominal Copper (0.50" OD)
Glazing:	Low Iron Prismatic/Matt Tempered Glass
Glazing/Header Seal:	EPDM
Frame:	AA 6063-T6 Bronze Anodized Aluminum
Backing Plate:	AA3105-H26 Painted Embossed Aluminum
Insulation:	Polyisocyanurate and Fiberglass R≥12

Dimensions



Design Limits

Max Operating Pressure:	160psi
Max Wind/Snow Load:	±90psf
Max Operating Temperature	400˚F
Max Flow Rate:	12gpm

F = Fluid Capacity (gal.)
G = Gross Area (ft^2)

AA = Aperture Area (ft^2)
W = Dry Weight (lbs)

DF = Design Flow Rate (gpm)
ΔP = Pressure Drop at Design (psig)

MODEL	A(in)	B(in)	C(in)	D(in)	E(in)	F	G	AA	W	DF	ΔP
TRB-40	122.2	48.2	115.63	51.37	3.25	1.2	40.9	37.2	130	1.20	0.009
TRB-32	98.2	48.2	93.63	51.38	3.25	1.0	32.8	29.7	98	0.97	0.006
TRB-26	80.2	48.2	75.63	51.38	3.25	0.8	24.8	24.0	80	0.79	0.005

Due to SunEarth's policy of continuous product improvement, specifications are subject to change without notice.

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(909) 434-3100, Fax (909) 434-3101
www.sunearthinc.com

FEB 2020

THE THERMORAY SERIES

SOLAR COLLECTOR **SPECIFICATION SHEET**

Engineering Specifications

(Performance specifications subject to testing error of +/- 3%)

The following shall be the specifications for the solar collectors. Collectors shall be SunEarth ThermoRay model _____, and shall be of the glazed liquid flat plate type. Collectors shall be tested in conformance with ISO 9806-1:1994/ISO 9806-2:1995 and Solar Rating and Certification Corporation (SRCC) 100-10, and have their thermal performance rated according to SRCC Document RM-1. The collectors shall be certified by SRCC and listed by the International Association of Plumbing and Mechanical Officials (IAPMO).

GENERAL:

The dimensions of the collector shall be _____ inches in length, _____ inches in width and 3.25 inches in depth. The collector casing shall be an anodized aluminum extrusion (AA 6063 T6), minimum thickness 0.060 inch, with an architectural dark bronze finish. The casing shall have a notched framewalls for ease of plate removal and reinstallation. Sheet metal fasteners shall be stainless steel (18-8 #10). The backsheet shall be painted textured aluminum not less than .014 inch thickness. A 1 inch vent plug shall be installed in each of the four corners of the backsheet to minimize condensation. An integral mounting channel shall allow the solar collector to be mounted without penetration of the extruded aluminum casing.

GLAZING:

The collector glazing shall be on sheet of low iron tempered glass, with a minimum of .125 inch thickness (.15625 on TRB-40), and a minimum transmissivity of 91 percent (89 on TRB-40). The glazing shall be thermally isolated from the casing by a continuous EPDM gasket. There shall be a continuous secondary silicone seal between the glass and casing capstrip to minimize moisture from entering the casing.

INSULATION:

The insulation shall be foil-faced polyisocyanurate foam sheathing board of a minimum 1 inch thickness, silicone in place to the aluminum backsheet, covered by low-binder fiberglass of a minimum 1 inch thickness, providing thermal isolation of the foam from the absorber plate. Total thermal resistance shall be a minimum of R-12. The sides and ends of the collector shall be insulated with a minimum of 1 inch foil-faced polyisocyanurate foam sheathing board.

ABSORBER PLATE AND PIPING:

The absorber shall consist of an aluminum plate of no less than .017 inch thickness. Risers shall be a minimum of .50 inch O.D. copper with a wall thickness of .025 inches on no more than 4.7 inch centers continuously laser welded to the plate. The risers shall be brazed to 1.125 inch O.D. Type M copper manifolds utilizing a copper phosphorous brazing allow with no less than a minimum 5 percent silver content, and conforming to the American Welding Society's BCuP-3 classification. EPDM grommets shall isolate the manifold from the aluminum casing. The absorber plate shall be designed from a 160 psig maximum operating pressure and 400˚F maximum operating temperature.

ABSORBER COATING AND PERFORMANCE CURVE:

The absorber coating shall be blue sputtered with a minimum absorptivity of 95 percent and a maximum emissivity of 5 percent. The instantaneous efficiency of the collector shall be a minimum Y-intercept of 0.751 and a slope of no less than -0.734 Btu/ ft^2.hr.˚F.
Note: Please refer to the SRCC website at www.solar-rating.org for the current y-intercept and slope for each collector model.

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FEB 2020

SunEarth Solar Collectors

OPERATIONS AND MAINTENANCE MANUAL

Thank you for choosing SunEarth solar collectors for your solar heating and cooling project. These high quality collectors are designed for many years of trouble free performance with minimum maintenance as outlined below.

Handling and storage prior to installation:

Collectors should be stored in a clean dry environment while being protected from any accidental damage. The collector glazing must not be exposed to direct sunlight during storage as this may result in dangerously high temperatures of the absorber plate and high thermal stresses on the collector. Collectors should never be handled by the headers and care should be taken to protect the glazing from damage.

Installation:

Refer to appropriate installation manual regarding flush or tilted methods.

Plumbing Details:

- Use piping capable of withstanding 450°F for array supply and return lines.
- Supply pipe to the collector should be plumbed to the bottom header and the return from the collector should be plumbed to the opposite top header of the array.
- The maximum number of collectors that can be continuously connected is 8 for models with 1" nominal headers and 12 for models with 1.5" nominal headers.
- To ensure equal flow between banks of collectors, each bank of collectors should have an equal number of collectors and should be plumbed in reverse return with flow balancing valves located such that flow to each bank of collectors can be adjusted.
- Debris such as flux, dirt, scale and oil must be purged from all fluid passages during the commissioning process. This can be accomplished by circulating a solution of 1-2% trisodium phosphate with water in the system then flushing with water until it runs clear.
- A system flow rate of 0.025 GPM to 0.075 GPM per ft^2 of collector area should be maintained during system operation.
- Only Solder Fluxes meeting the criteria set forth by ASTM B 813 shall be utilized for joining by soldering any copper and copper alloy tube and fittings in the entire solar system.

Mounting Details:

- Structures should be in good condition before installation.
- Racking must be attached to structural members as to resist wind, snow, seismic and other environmental loading conditions.
- All roof penetrations should be flashed and sealed per best roofing practices and as required by the Authority having Jurisdiction (AHJ).
- Collectors shall be attached to racking using C100 mounting clips (4 per collector). Methods of attachment which require piercing of the collector enclosure are prohibited.
- Steps should be taken to install position and align collectors without exposing to direct sunlight for greater than 2 hours, as resultant high collector temperatures may hinder safe handling and alignment. Materials suitable as solar radiation barriers can be utilized to cover the collectors during daytime installation.
- If collectors are provided with *Solar-Mask*, 2-month radiation barrier; it should be removed after system installation and inspection. Following removal of the Solar-Mask the glazing should be cleaned immediately with a citrus based cleaner to remove any adhesive residue.

- Shading of the collectors between 10am and 3pm should be avoided.
- A minimum tilt angle of 10 degrees shall be maintained in order to allow rain run off to clean dust from the collectors glazing and to avoid water from ponding on the glazing. If the installation is to be exposed to snow, a tilt angle of 30 degrees is recommended in order to allow snow to slide off the collectors glazing.
- A tilt angle equal to the latitude of the installation is generally suggested for DHW systems while a tilt angle of the latitude plus 15 degrees is suggested for space heating systems.
- The optimal siting of the collector is facing true South (Northern hemisphere) however if this is not possible an orientation no more than 45 degrees east or west of true south is acceptable.

Thermal Fluid Details:

- If the system design calls for an antifreeze solution Dow Frost HD with a high temperature limit of 325°F mixed with distilled water at an appropriate ratio for the installation location is suggested. A mix ratio of at least 40% is suggested to assure a proper level of inhibitors even if the weather conditions do not require it.
- If the heat transfer fluid in the collectors is water then the water must meet the requirements tabulated below. In addition a Langelier Saturation Index (LSI) below 0 is required to ensure no scale potential. Ensure that there is no potential for water to freeze in the collectors and that no water can be present in a collector which is above its boiling point.

Water Property	Minimum Acceptable	Maximum Acceptable	Units
pH	7.8	9	pH
Calcium (Ca)	0	31.8	mg/l
Chloride (Cl)		6	mg/l
Free Chlorine (Cl_2)	0	0.22	mg/l
Copper (Cu)	0	1.3	mg/l
Fluoride (F)	0	0.94	mg/l
Potassium (K)	0	1.8	mg/l
Magnesium (Mg)	0	0.1	mg/l
Sodium (Na)		20	mg/l
Phosphate (PO_4)	0	0.07	mg/l
Silicon Dioxide (SiO_2)	0	7.47	mg/l
Sulfate (SO_4)		20.8	mg/l
Zinc (Zn)	0	0.02	mg/l
Hydrogen Deuterium Oxide (DOH)	0	0.007	mg/l
Total Alkalinity	40	70	mg/l
Total Dissolved Solids (TDS)	140	180	mg/l

Maintenance:

Collectors:

- Inspect for structural integrity of enclosure and glass.
- Inspect for fluid leaks.
- Clean the glazing removing dirt and debris utilizing a biodegradable cleaner and soft bristled brush as necessary in conformance with AAMA 609 & 610-02.

Racking:

- Yearly inspect for structural integrity and check all mounting fasteners for tightness. Fasters may loosen with time due to thermal expansion and contraction as well as environmental conditions.
- Re-evaluation of racking may be necessary if many joints are found to be loose.
- Clean racking removing dirt and debris utilizing a biodegradable cleaner and soft bristled brush as necessary in conformance with AAMA 609 & 610-02.

Thermal Fluid:

- For indirect pressurized systems, check system pressure and re-charge when necessary. Low pressure may be an indication of a system leak.

- For indirect atmospheric pressure systems (such as drainback) check fluid level regularly and fill if needed. A drop in fluid level may be an indication of a system leak.
- For systems employing antifreeze heat transfer fluids check fluid concentration, pH and total alkalinity.
- Attempts should be made to charge flooded systems during morning or evening hours when the collectors are not at high stagnation temperatures caused by full sun exposure.

If there is no demand for hot water for a time period of one week or more then the controller's vacation mode should be activated. If the system is to be shut down or go unused for a time period exceeding 3 months then it is recommended that the controller be turned off and the system drained. It is also advisable to cover the collectors with a radiation barrier during periods of shut down exceeding 3 months to avoid high thermal stresses from extreme sustained collector temperatures.

SunEarth, Inc. Quality Solar Energy Products

HE Solar Heat Exchanger, Solar Tank, or Electric Storage Water Heater

Available in 80 and 120 Gallon Models



- Brass drain valve
- Single element water heater specifically engineered for installation with residential indirect solar systems
- Temperature and pressure relief valve included
- Collector feed and return fittings located at front of tank for convenient installation
- Isolated tank design for better heat retention
- High efficiency stainless steel heating element
- Tank lining resists corrosion and prolongs tank life
- Heat exchanger: copper tubing wrapped around and secured to the tank
- Double wall, vented design for positive leak detection
- Cold water dip tube brings cold water to tank bottom to prevent mixing with heated water
- Anode rod equalizes aggressive water action for prolonged tank life
- Cold water inlet, hot water outlet, relief valve and anode rod at top of tank for easy access and fast, economical installation
- Automatic temperature control
- Over temperature protector
- Both models have at least 40 gallons of hot water storage at all times

DESCRIPTION				ROUGHING IN DIMENSIONS (SHOWN IN INCHES)			ENERGY INFORMATION
MODEL #	GAL CAP.	MODEL NUMBER	ELEMENT WATTAGE (VOLTAGE)	HEIGHT A	DIAMETER B	APPROX. WEIGHT (LBS.)	APPROX. ENERGY FACTOR
	80	SUB0HE-1	4500 W	58-3/4	24-1/2	222	R-17.3
	120	SU120HE-1	4500 W	62	28-1/4	380	R-17.3

* Heaters furnished with standard 240 volt AC, single phase non-simultaneous wiring and 4500 watt heating element.
• To prevent corrosion, proper pH levels in transfer fluid must be maintained.
• SunEarth models meet all current state requirements for solar storage tanks.
• The tanks are designed to operate up to 150 PSI.
• 12-Year products may have slightly different tank configuration.

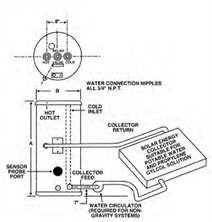
A special 1/2" NPT opening is provided for installation of a "probe type" thermostat or sensor.



COPPER COIL DATA (Type L Copper)
Maximum pressure = 150 PSI
Maximum temperature = 185° F
Tube I.D. = 5/8"

Solaraide HE Tank Capacity	Coil Capacity Gallons	Length of Tubing Around Tank (Ft)
80 Gallons	2.2	120
120 Gallons	2.6	143

PRESSURE DROP THROUGH COIL (Feet of H_2O)		
	Head Loss (Feet)	
Flow Rate	80 Gallon	120 Gallon
1 GPM	1.3	1.6
2 GPM	4.8	5.7
3 GPM	10.0	12.0



In keeping with its policy of continuous progress and product improvement, the manufacturer reserves the right to make changes without notice.

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07/10 WP FORM NO. SEHE-02 Rev. 2

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Revisions

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Solar Thermal Details

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M3.2

100% CD June 09, 2023

SPECIFICATIONS

PART 1 -- GENERAL

1.1 WORK
A. Provide and install plumbing as shown on the Drawings and as specified herein. The Work shown on Drawings is diagrammatic. Vary piping and locate equipment as required to avoid structure and other interferences as approved by the Architect.
B. Plumbing includes:
Hot and cold water distribution systems.
Waste drains and vents.
Gas piping.
Plumbing fixtures.
C. Plumbing fixtures shall be as shown on the Architectural Drawings and specifications. Work includes trim and related construction as required. See owner for plumbing fixture specifications. Contractor to purchase and install.

1.2 QUALITY STANDARDS
A. Provide experienced, well-trained workers competent to complete the work as specified.
B. Unless approved by the Architect, provide related products and accessories from one manufacturer.
C. All work shall comply with manufacturer's instructions and governing building and safety codes, including the currently adopted California Plumbing Code, California Green Code, and the California Energy Code, Mandatory Requirements for Appliances:
a. Any appliance regulated by the Appliance Efficiency
b. Regulations, Title 20 California Code of Regulations. Install appliances only fully compliant.

1.3 SUBMITTALS
A. Submit the following after receiving the Notice to Proceed.
Submit list of materials to be provided for this work.
Submit manufacturer's specifications required to prove compliance with these specifications.
Submit manufacturer's installation instructions.
Submit Shop Drawings as required with complete details and assembly instructions.
Submit samples of proposed exposed finishes and fixtures for approval by the Architect.
B. At the time of final inspection, a manual or compact disc which includes all of the following shall be placed in the building:
1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
2. Manufacturer's installation, operation, maintenance instructions, and warranty information for plumbing fixtures, plumbing equipment and systems, water heating systems, etc.

1.4 MATERIALS HANDLING
A. Provide all materials required to complete the work as shown on Drawings and specified herein. Deliver, store, and transport materials to avoid damage to the product or to any other work. Reject and return any products or materials delivered in a damaged or unsatisfactory condition. Materials and products delivered will be certified by the manufacturer to be as specified.
B. Store materials indoors, protected from dirt, moisture, contaminants, and weather.

1.5 PRECONSTRUCTION AND PREPARATION
A. Examine and verify that job conditions are satisfactory for speedy and acceptable work. Maintain and use up-to-date trade standards and manufacturer's instructions.
B. Verify utilities, site conditions and points of connection. Confirm there are no conflicts between this work and work of other trades. All work shall be in accordance to local and State Codes. Confirm that work of other trades that must precede this work has been completed. Meet all requirements to secure warranty.
C. Notify Architect when work is scheduled to be installed. Use agreed schedule for installation and for field observation by Architect.

PART 2 -- MATERIALS

2.1 GRAVITY SANITARY SEWER, WASTE & VENT PIPING
A. Building drain and vent piping materials shall comply with CPC 701 and 903, and shall be listed by an approved listing agency.
B. Sanitary sewer & waste piping, except vertical risers, shall be: made in the USA ABS per ASTM D2661 & ASTM D2680 (for building sewer applications), solid wall pipe and fittings. All pipe and fittings to be produced by a single manufacturer and to be installed in accordance with manufacturer's recommendations and applicable code requirements. Buried pipe shall be installed in accordance with ASTM D2321 and ASTM F1668. Solvent cement shall conform to ASTM D2235. The system is intended for conventional non-pressure drainage applications where the temperature will not exceed 140°F. Protect exposed ABS from exposure to sunlight with water based synthetic latex paint. Sleeve when passing thru of below footings.
C. Floor Cleanouts: polished nickel bronze non-skid adjustable top in carpeted areas by J.R. Smith or Zurn.
D. Dry Wall Cleanouts: Prime coated steel cover or wall type by J.R. Smith or Zurn.
E. Non Dry Wall Cleanouts: chrome plated cover and screws with wall thickness adequate to conceal.

2.2 INDIRECT WASTE and CONDENSATE DRAIN PIPING
A. Indirect waste shall be Type L copper DWV piping with, wrought copper fittings, and Grade 95TA soldered joints.
B. When serving condensing equipment where acidic waste is produced, indirect waste piping shall be cPVC with solvent joints.
C. Insulate piping where pipes may sweat.

2.3 WATER SUPPLY
A. Water supply piping above grade and within the building line shall be: Copper tubing, Type L, ASTM B-88, hard drawn, cast brass or wrought copper fittings, soldered joints. Ball Valves: Full port, low lead, bronze with minimum 150 PSI rating, quarter turn by Nibco or approved equal in accordance with ASME A112.4.14, ASME B16.34, ASTM F1970, ASTM F 2389, AWWA C500, AWWA C504, AWWA C507, CSA b125.3, MSS SP80, MSS SP110 MSS SP122 or NSF 359.

2.4 GAS SUPPLY
A. Fuel gas piping below grade beyond the building line and not under hardscape shall be polyethylene Pipe ASTM D2513, SDR 11.5, with ASTM D2683 socket fittings, and fusion welded joints. Provide continuous tracer wire with ends secured to risers. Provide continuous tracer wire with ends secured to risers.
B. Provide proper grounding of the electrical system and equipotential bonding of all metallic systems in accordance with NFPA 70.
C. Natural gas piping below grade beyond the building and under hardscape shall be: OmegaFlex, Inc, "TracPipe PS-II" ASTM A240 stainless steel tubing factory sleeved with polyethylene with vent channels, yellow brass fittings. All buried metallic parts shall be wrapped with Code approved metallic wrap. Provide manufacturer's striker plates as necessary. Route dedicated vent to roof. Installer shall have successfully trained through the TracPipe manufacturer's installation program. Install per manufacturer's installation instructions and recommendations.
D. Natural gas piping above grade and within the building line shall be made in the USA steel, Schedule 40 black, malleable iron or forged steel fittings, with screwed or welded joints for interior and galvanized for exterior applications.
E. Provide clearly marked, easily accessible, and tested shut off valves as required by the building code.

2.5 WATER HEATERS
A. Provide and install automatic water heaters as shown on the Drawings. Provide pressure and temperature relief valve piped to exterior, seismic bracing, and an expansion tank per CPC. Provide 24" reinforced flexible, braided stainless steel, or polymer braided with EPDM core connectors to the piping system in accordance with ASME A112.18.6/CSA B125.6

2.6 PIPING INSULATION
A. Provide and install piping insulation on entire hot water piping system, including run outs, and in accordance with Title 24 and the CPC Section 609.11. AP Armaflex or Manville insulation with minimum wall thickness of not less than the diameter of the pipe up to 2 inches and not less than 1" wall thickness, 0.25 BTU-in/hr per square foot per degree F and with flame spread and smoke rating not exceeding 25/50 per ANSI/ASTM-E-84, NFPA 225 or UL 723. Provide PVC jacketing where exposed inside the building and aluminum jacketing where exposed on exterior of the building. Provide jacketing on all components including valves and fittings.
B. In addition to insulating all the hot water supply and return piping, provide insulation on all piping and valve assemblies exposed to weather and in exterior walls that may be subject to freezing temperatures.

2.7 PLUMBING FIXTURES
A. Install plumbing fixtures which reduce the overall use of potable water within the building by a least 20 percent in compliance with California's Green Code, Title 24, Part 11, Chapter 4. Provide the required trim, and related construction.
B. Provide and install accessible fixtures in compliance with the American's with Disabilities Act.

2.8 LEAD FREE
A. Domestic water plumbing systems and components shall be lead free in compliance with California's Health and Safety Code and CPC.

2.9 VOLATILE ORGANIC COMPOUNDS (VOC)
A. Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits per CGBS Section 4.504.

PART 3 -- CONSTRUCTION AND INSTALLATION

3.1 WORK CONDITIONS
A. Correct any conditions not in compliance with Section 1.5.A. noted above.
B. All work conditions shall be as per manufacturer's instructions, trade association standards, and governing building and safety codes.

3.2 PREPARATION
A. Verify and related support construction for plumbing and mechanical equipment must be as required by the building department.

3.3 INSTALLATION
A. Install products as per Drawings and these Specifications.
B. Provide all necessary sawcutting, excavation, shoring, backfilling and compaction required for the proper installation of the items of this Section. Lay underground lines on firm bed through its entire length in compliance with CPC Section 718.2 and 718.3. Place 6" of clean cohesionless sand all around pipes. After underground piping has been tested and accepted, backfill with the excovated material or acceptable imported soil. Backfill material shall be free of clods or stone larger than 2" in dimension. Install backfill material in thin layers (less than ten inches uncompacted thickness), brought to near the optimum moisture content and compacted to a minimum of 90% of the maximum density obtainable by ASTM Test Method D1557, unless higher density is specified by the Architect. If it becomes necessary to import materials from offsite to complete site grading, imported soils should consist of essentially granular, silty sands with low expansion potential and free of grasses, weeds, debris, rocks larger than 3 inches in maximum dimension, and soluble sulfates in excess of 200 parts per million. Sawcut existing surface to facilitate new piping. Locate existing underground Work prior to marking cut lines. Do not allow cut path to disturb existing Work without prior review from the Architect. Segregate and dispose of demolished concrete or asphalt concrete. Excavate excovated soil for re-use in some location. Dispose of soil if it is not in compliance with the Contract Documents or not acceptable to Soils Engineer. Carefully excavate trench to prevent damage to existing Work. Restore existing Work found damaged to its intended condition. Comply with requirements for excavation, backfill and compaction specified by the Architect.
C. Protect any pipes crossing 'zones of influence' with Schedule 40 black steel sleeves. Zone of influence is defined as the area that projects out at 45 degrees from the outer lower perimeter of footings and grade beams. Do not run piping parallel to footings or grade beams in zones of influence.
D. Provide non-conducting dielectric connections whenever jointing dissimilar metals.
E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connections to fixtures or equipment.
F. Contractor shall install plumbing to avoid rigid contact with the building. Mount piping with Holdrite Silencer Systems Piping resilient mounts & clamps to ensure no piping or valves come in direct contact with the structure. Provide flexible pipe sleeves or custom resilient sleeves at pipe penetrations.
G. Collect vents to minimize roof penetrations and maintain the integrity of the roof assembly.
H. Provide for maintenance of this work for one year following final approval by governing agencies. Maintenance includes all work required in manufacturer's instructions such as inspection, adjustment, repair and replacement of parts as required.
I. Identify all piping with the words 'DOMESTIC WATER', 'SEWER', 'STORM DRAIN','NATURAL GAS' etc, every six feet.
J. No plumbing piping shall be directly embedded or come in direct contact with the structure. Provide sleeve over all pipes passing through concrete or masonry walls and concrete floors.
K. Install ball valves to shut off and isolate equipment.
L. Provide flexible pipe connectors and plug valves at all natural gas appliances and equipment.
M. Maintain minimum one quarter of an inch per foot slope on all drainage piping.
N. Install cleanouts, vacuum breakers, and backflow preventors in accordance to local and State codes.
O. Provide hangers and supports per CPC Table 313, capable of supporting the tributary weight of pipe and contents, maintain its alignment, and prevent sagging. Provide saddles for insulated pipes. Gas piping shall be supported by metal straps at intervals not to exceed those shown in Table 1210.2.4.1 of CPC. All piping and equipment shall be suitably restrained and anchored in both horizontal and vertical directions to withstand seismic forces as required by the State of California and in compliance with SMACNA standards (Sheet Metal and Air Conditioning Contractors' National Association, Inc.).
P. Avoid running plumbing piping above electrical equipment.
Q. Provide the next available pipe size up, if the size indicated on the Drawings is not available.
R. Test all new piping systems as specified. Install shut-off valves to isolate existing systems that do not require testing. Existing systems that have been connected to by new systems shall be tested to the extent of the closest new connection. Tests must be performed and systems approved prior to painting, covering, or concealing piping. Provide all test equipment, instrumentation and labor in conjunction with tests. Prior to test, protect or remove all devices, and other items which are not designed to stand pressures used in test. Accomplish testing of piping in sections so as not to leave any portion of pipe or joints untested. Obtain prior approval for test procedures.
Responsibility for Damages: Bear costs of repair and restoration of Work of other trades damaged by tests or cutting done in connection with tests. Domestic Water systems: Test all portions of new water systems at hydrostatic pressure of not less than 150 psig, with 5 psig permissible drop at end of four hours. Drainage Systems: Fill entire waste and vent system with water to level of highest vent stack. System shall hold water for two hours. Fuel Gas Systems: Test with air at a pressure of not less than 10 psig for a minimum of 15 minutes with no perceptible drop in pressure. For welded pipe or gas pressures of 14 inches water column, the test pressure shall not be less than 60 psig (or as approved by governing authority) and shall be continued for a minimum of 30 minutes. Rainwater Systems: Test in the same manner as described for the Drainage Systems above.
S. Disinfection of domestic water piping system. Verify system is complete, flushed and clean. Ensure Ph of water to be treated is between 7.4 and 7.6. Inject disinfectant, free chlorine in liquid, powder or gas form throughout system to obtain 50 to 80 mg/L residual. Bleed water from outlets to ensure distribution. Maintain disinfectant is system until residual is equal to incoming water of 1.0 mg/L. Analyze 24 hours after flushing in accordance with AWWA C651. Provide copies of Certificates of Performance.
T. Upon completion, secure all required pressure tests, inspections, and approvals of the completed system. Make all required adjustments and corrections at no added cost to the Owner.
U. Openings in the building envelope separating conditioned space from unconditioned space needed to accommodate piping and other necessary penetrations must be sealed in compliance with the California Energy Code. Exception: The annular spaces around pipes and other openings at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, or concrete masonry.

3.3 PROTECTION FROM MARINE/COASTAL ENVIRONMENT
A. Contractor shall be responsible for protecting all plumbing systems from premature corrosion due to the coastal environment. This includes the use of non ferrous piping, supports, equipment and other materials and components. Epoxy paint, or wrap any exterior or exposed ferrous metallic plumbing systems. No sheet metal flashing is allowed. Contractor shall be responsible for any damage resulting from his failure to protect plumbing systems from premature corrosion.

3.4 REPAIR AND CLEANUP
A. After installation, inspect all work for improper installation or damage.
B. Operating fixtures must perform smoothly. Repair or replace any defective work. Repair work will be undetectable. Redo repairs if work is still defective, as directed by the Architect or governing safety regulatory agency.
C. Clean the work area and remove all scrap and excess materials from the site and dispose of in accordance with State and local requirements.

PLUMBING FIXTURES

TAG	TYPE	MINIMUM CONNECTION SIZES CW	HW	W	V	ELECTRICAL VOLTS	AMPS	SPECIFICATION
WC 1	WALL HUNG ADA TOILET	1-1/2"	-	4"	2"	-	-	AMERICAN STANDARD "AFWALL FLOWISE WITH EVERCLEAN" MODEL #3351.101; FLUSH VALVE: SLOAN #111, 1.28 GPF; SEAT: AMERICAN STANDARD #5905.110 HEAVY DUTY OPEN FRONT LESS COVER. PROVIDE ZURN #Z1204-H ADJUSTABLE CARRIER. SEE ARCH FOR MOUNTING HEIGHT.
U 1	URINAL	1"	-	2"	1-1/2"	-	-	AMERICAN STANDARD WASHBROOK FLOWISE 0.125 GPF #6590.503 0.125; FLUSH VALVE: AMERICAN STANDARD #6045.013, TOP SPUD, 0.125 GPF; CARRIER: J.R. SMITH #0637.
LAV 1	LAVATORY WALL MOUNTED	1/2"	-	2"	1-1/2"	120	9.09	AMERICAN STANDARD "DECORUM" #9024.001EC, EVERCLEAN, SINGLE FAUCET HOLE, FOR CONCEALED ARM SUPPORT; FAUCET & DRYER: DYSON AIRBLADE WASH+DRY #WD04, , LEAD FREE; ORDER WITH 0.35 GPM LAMINAR FLOW AERATOR; GRID STRAINER: CHICAGO #327-XCP; CAST BRASS P-TRAP; SUPPLIES/STOPS: CHICAGO #1016-ABCP; TRAP COVERS: TRUEBRO "LAVGUARD 2"; CARRIER: JAY R. SMITH #0700.
SH 1	ADA SHOWER	1/2"	1/2"	2"	1-1/2"	-	-	SYMMONS "TEMPTROL" #5505-X-1.5-442HSB, 1.5 GPM FLOW RESTRICTOR, PRESSURE BALANCING MIXING VALVE WITH LEVER HANDLE DUAL DIVERTER AND 30" SLIDE BAR AND CRADLE, INTEGRAL STOPS & ADJUSTABLE LIMIT, SHOWER HEAD, FLANGE & FLEX HOSE WITH VACUUM BREAKER. LEAD FREE.
SH 2	SHOWER	1/2"	1/2"	2"	1-1/2"	-	-	SYMMONS "TEMPTROL" #5501-X-1.5-442HSB, 1.5 GPM FLOW RESTRICTOR, PRESSURE BALANCING MIXING VALVE, INTEGRAL STOPS & ADJUSTABLE LIMIT, SHOWER HEAD.
FD 1	FLOOR DRAIN	-	-	2"	1-1/2"	-	-	J.R. SMITH #2005Y-B-PB, 6" SQUARE POLISHED BRONZE TOP, INCLUDE TRAP PRIMER CONNECTION. TRAP PRIMER: MIFAB M-500 OR MI-DU WHERE MULTIPLE TRAPS ARE SERVED. INSTALL TRAP PRIMER ON CW SUPPLY OF FREQUENTLY USED FIXTURE WITH ISOLATION BALL SOV, WITH ACCESS.
FD 2	SHOWER DRAIN	-	-	2"	1-1/2"	-	-	SCHLUTER KERDI-LINE CENTER OUTLET #KL1V60E SERIES WITH SQUARE BRUSHED STAINLESS STEEL GRATE ASSEMBLY. SEE ARCHITECT FOR REQUIRED LENGTH. PROVIDE ANY REQUIRED ADJUSTMENT SPACERS. INSTALL PER MFR'S INSTRUCTIONS.
FS 1	FLOOR SINK	-	-	2"	1-1/2"	-	-	J.R. SMITH #3110, 12" TOP, NICKEL BRONZE GRATE PER FLOOR SINK DRAWINGS.
MS 1	MOP SINK	3/4"	3/4"	3"	2"	-	-	FIAT #MSB2424 WITH GRID STRAINER, MOP HANGER; FAUCET: CHICAGO #540-LD897SWXFABCP, LEVER HANDLES WITH WALL BRACE, THREADED OUTLET & VACUUM BREAKER.
HB 1	HOSE VALVE	1/2"	-	-	-	-	-	ACORN #8151-SSLF, SINGLE TEMPERATURE WITH VACUUM BREAKER HOSE BOX WITH STAINLESS STEEL WALL FLANGE AND DOOR. LEAD FREE.

PLUMBING EQUIPMENT

TAG	TYPE	MIN CONNECTION SIZES & LOADS CW	HW	VOLTS	WATTS	AMPS	GAS INPUT (MBH)	SPECIFICATION
WH 1	CONDENSING WATER HEATER	1-1/2"	1-1/2"	120	-	-	199	BRADFORD WHITE COMMERCIAL EF SERIES ENERGY STAR MODEL # EF-100T-199E-5X, 100 GAL, 235 GPH RECOVERY AT 100°F TEMP RISE. 96% THERMAL EFFICIENCY, APPROX OPERATING WEIGHT = 1733 LBS. ORDER PROPANE GAS MODEL AND 5 YEAR WARRANTY. PROVIDE FACTORY NEUTRALIZER, & CONCENTRIC VENT TERMINATION KIT. INSTALL PER MFR'S INSTRUCTIONS.
CP 1	CIRCULATING PUMP	-	3/4"	115	45	-	-	GRUNDFOS UP SERIES ALPHA 1 FOR OPEN SYSTEMS MODEL #15-55SF, 3 SPEED, 3/4" HWR, 2 GPM AT 10 FT OF HEAD. PROVIDE SEVEN DAY PROGRAMMABLE TIMER & AQUASTAT.

TRAP ARM DISTANCE

HORIZONTAL LENGTHS OF TRAP ARMS *, **
(EXCEPT FOR WATER CLOSETS)

TRAP ARM DIAMETER (INCHES)	MINIMUM TRAP TO VENT DISTANCE (INCHES)	MAXIMUM LENGTH (INCHES)
1-1/4	2-1/2	30
1-1/2	3	42
2	4	60
3	6	72
4	8	120
OVER 4	2 x DIAMETER	120

* MAINTAIN 1/4" PER FOOT SLOPE.

** THE DEVELOPED LENGTH BETWEEN THE TRAP OF A WATER CLOSET OR SIMILAR FIXTURE (MEASURED FROM THE TOPF OF THE CLOSET FLANGE TO THE INNER EDGE OF THE VENT), AND ITS VENT SHALL NOT EXCEED 6 FT.

CGC WATER REDUCTION COMPLIANCE

NEW PLUMBING FIXTURES AND FITTINGS SHALL COMPLY WITH THE FOLLOWING:

1. EFFECTIVE FLUSH OF WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH.
2. WALL MOUNTED URINALS SHALL NOT EXCEED 0.125 GPF. OTHER URINALS SHALL NOT EXCEED 0.5 GPF.
3. MAXIMUM FLOW RATE OF LAVATORY FAUCETS INSTALLED IN COMMON & PUBLIC USE AREAS IN RESIDENTIAL BUILDINGS SHALL NOT EXCEED 0.5 GPM @ 60 PSI.
4. SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF 1.8 GPM @ 80 PSI.
5. COMBINED FLOW RATE OF ALL SHOWERHEADS SERVING A SINGLE SHOWER & CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 1.8 GPM @ 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ALLOW ONLY ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME.

PROTECTION FROM COASTAL ENVIRONMENT

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING PLUMBING SYSTEMS FROM PREMATURE CORROSION DUE TO THE COASTAL ENVIRONMENT. THIS INCLUDES THE USE OF NON FERROUS PIPING, SUPPORTS, EQUIPMENT AND OTHER MATERIALS AND COMPONENTS WHERE POSSIBLE. PROVIDE FACTORY EPOXY PAINTED METALLIC PLUMBING PIPING AND COMPONENTS IF FERROUS METALLIC MATERIALS ARE PROVIDED, INCLUDING FERROUS GAS PIPING, FITTINGS, VALVES AND SUPPORTS INSIDE AND OUTSIDE THE STRUCTURE. NO SHEET METAL FLASHING IS ALLOWED. SEE ARCHITECT FOR COPPER FLASHING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM HIS FAILURE TO PROTECT PLUMBING SYSTEMS FROM PREMATURE CORROSION.

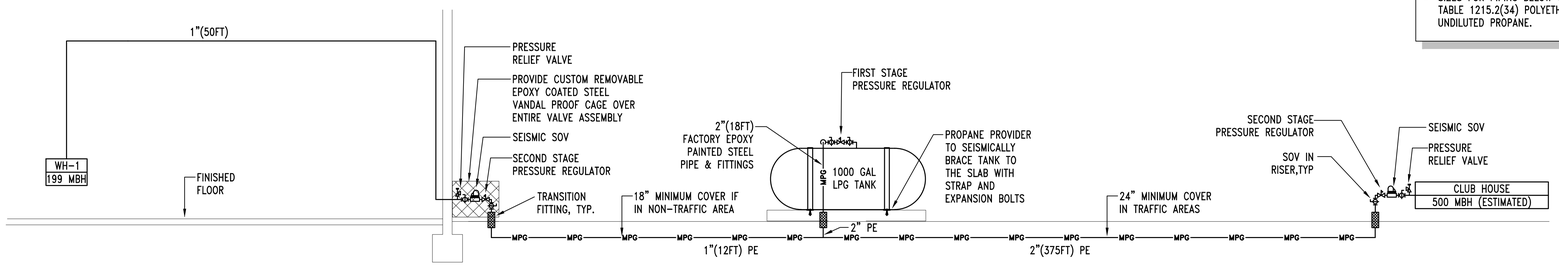
ABBREVIATIONS

A	COMPRESSED AIR	(N)	NEW
AFF	ABOVE FINISHED FLOOR	N/A	NOT APPLICABLE
AP	ACCESS PANEL	NC	NORMALLY CLOSED
ARCH	ARCHITECTURAL DRAWINGS	NIC	NOT IN CONTRACT
BLDG	BUILDING	NTS	NOT TO SCALE
BTU	BRITISH THERMAL UNIT	OFD	OVERFLOW DRAIN
CA	COMBUSTION AIR	OFL	OVERFLOW RAINWATER LEADER
CFH	CUBIC FEET PER HOUR	P&T	PRESSURE & TEMPERATURE RELIEF
CLG	CEILING	POC	POINT OF CONNECTION
CO	CLEANOUT	PRESS	PRESSURE
COTG	CLEAN OUT TO GRADE	PRV	PRESSURE REDUCING VALVE
CW	COLD WATER DOMESTIC	PSI	POUNDS PER SQUARE INCH
D	CONDENSATE OR EQUIPMENT DRAIN	(R)	REMOVE
DWH	DOMESTIC HOT WATER	RD	ROOF DRAIN
DWGS	DRAWINGS	REQD	REQUIRED
(E)	EXISTING	RWL	RAIN WATER LEADER
ELEC	ELECTRICAL DRAWINGS	SD	STORM DRAIN
ELEV	ELEVATION	SF	SQUARE FEET
EWH	ELECTRIC WATER HEATER	SOV	SHUT OFF VALVE
FCO	FLOOR CLEAN OUT	SP	STATIC PRESSURE
FF	FINISHED FLOOR ELEVATION	SPEC	SPECIFICATIONS
FL	FLOW LINE	STD	STANDARD
FLR	FLOOR	STRUCT	STRUCTURAL DRAWINGS
FS	FLOOR SINK	SW	SOFTENED WATER
FT	FEET	TMV	THERMOSTATIC MIXING VALVE
G	GAS LINE (FUEL GAS)	TW	TEMPERED WATER
GAL	GALLONS	TYP	TYPICAL
GPF	GALLONS PER FLUSH	U	URINAL
GPM	GALLONS PER MINUTE	UL	UNDERWRITERS' LABORATORIES, INC.
GW	GREY WATER	V	SANITARY VENT
HB	HOSE BIBB	VB	VACUUM BREAKER
HP	HORSEPOWER	VR	VANDAL RESISTANT
HW	HOT WATER DOMESTIC	VTR	VENT THROUGH ROOF
HWR	HOT WATER RETURN DOMESTIC	W	SANITARY WASTE
IW	INDIRECT WASTE	W.C.	WATER COLUMN
KW	KILOWATT	WC	WATER CLOSET
LAV	LAVATORY	WCO	WALL CLEAN OUT
MBH	THOUSAND BTU PER HOUR	WH	WATER HEATER
MFR	MANUFACTURER	WHA	WATER HAMMER ARRESTER
MH	MANHOLE	WM	WATER METER
MIN	MINIMUM	WT	WEIGHT

SYMBOLS

- WALL CLEAN OUT
- WATER HAMMER ARRESTOR
- PIPE DROP
- PIPE RISER
- POINT OF CONNECTION
- POINT OF DISCONNECTION
- WASTE
- VENT
- FLOOR DRAIN
- FLOOR SINK
- PRESSURE & TEMPERATURE RELIEF VALVE
- CHECK VALVE
- BALL VALVE
- BALL VALVE/MEMORY STOP
- PRESSURE REDUCING VALVE
- AUTOMATIC BALANCING VALVE
- MANUAL SERVICE/BALANCING VALVE
- BUTTERFLY VALVE
- 2 WAY CONTROL VALVE
- 3 WAY CONTROL VALVE
- TRIPLE DUTY VALVE
- UNION
- STRAINER
- SOV IN RISER
- AUTOMATIC AIR VENT
- PRESSURE GAGE
- THERMOMETER
- AQUASTAT
- FLOW SWITCH
- DIFFERENTIAL PRESSURE SWITCH
- CONDENSATE OR INDIRECT WASTE DRAIN
- FLEXIBLE PIPE CONNECTOR
- FIRE
- COLD WATER
- HOT WATER
- HOT WATER RETURN
- GAS
- DEMOLITION WORK

FUEL GAS PIPING RISER DIAGRAM



- SIZES FOR PIPING ABOVE GRADE AND WITHIN THE BUILDING ARE PER 2022 CPC TABLE 1215.2(27) SCHEDULE 40 METALLIC PIPE FOR UNDILUTED PROPANE GAS.
- SIZES FOR PIPING BELOW GRADE ARE PER 2022 CPC TABLE 1215.2(34) POLYETHYLENE PLASTIC PIPE (PE) FOR UNDILUTED PROPANE.

PLUMBING SHEET INDEX

P1.1 SCHEDULES, SPECIFICATIONS & GAS RISER DIAGRAM
P2.1 PLUMBING FLOOR PLAN & DETAILS

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Revisions

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Plumbing Schedules

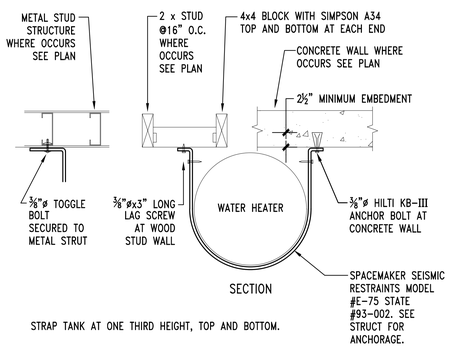
REGISTERED ENGINEER — MARLENA YORK — M-25658 — PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

EST.1995 ME INC.

BBA-1905
MECHANICAL ENGINEERING CONSULTANTS INC.
315 E Canon Perdido, Ste B
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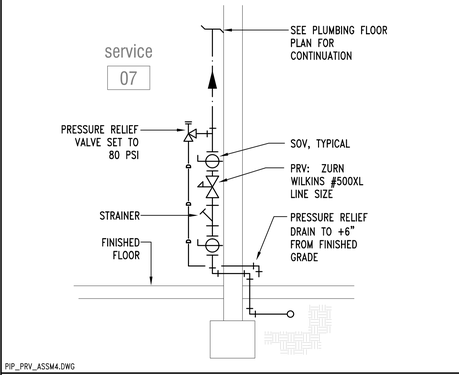
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100% CD June 09, 2023



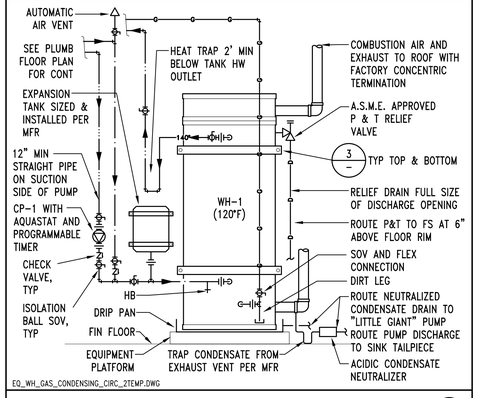
WH_ANCH4.DWG

ANCHORAGE DETAIL FOR WATER HEATER NTS (3)



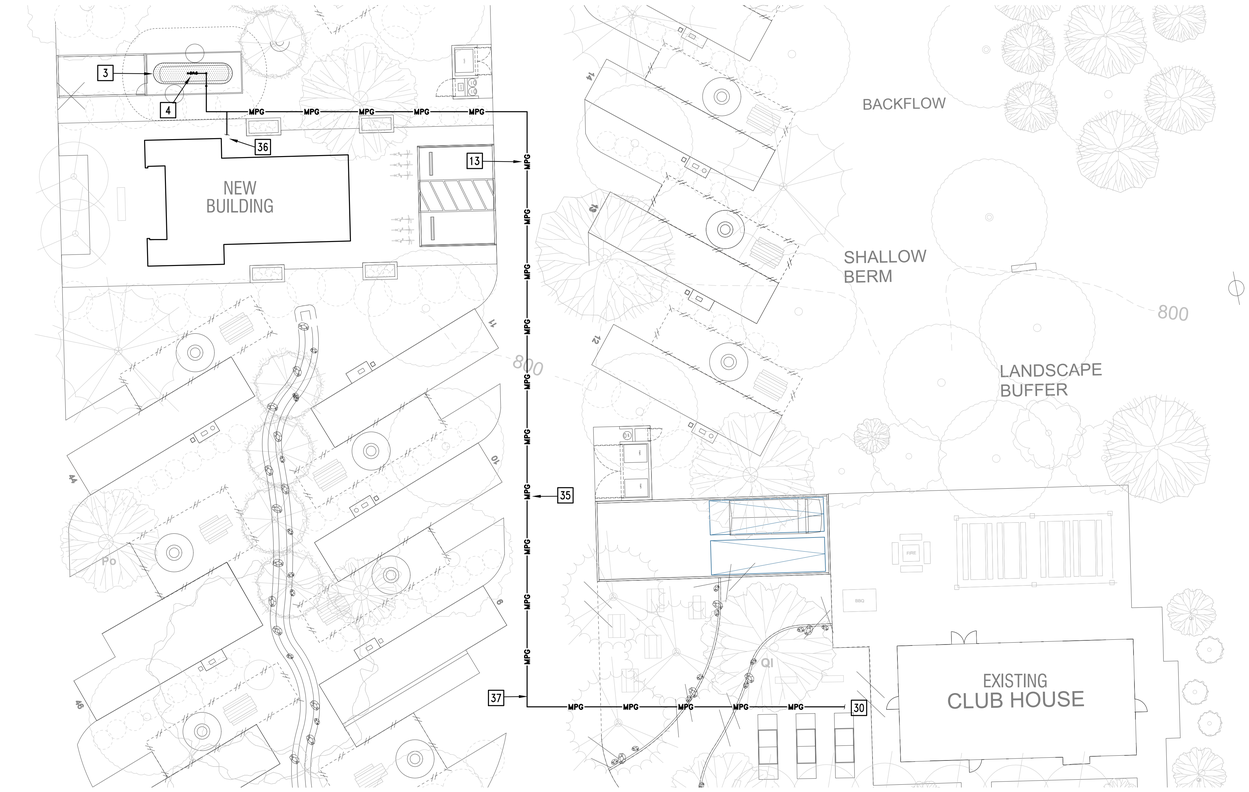
PIP_PRV_ASSM4.DWG

PRV ASSEMBLY NTS (2)

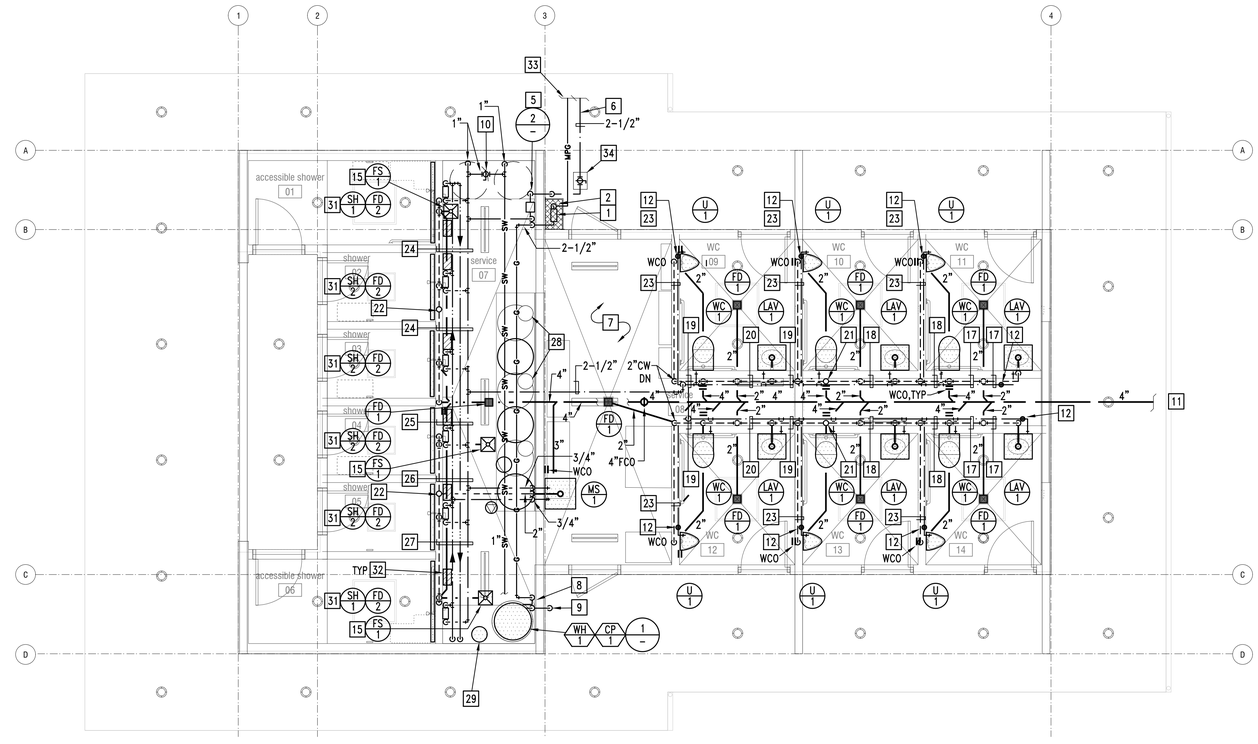


EQ_WH_GAS_CONDENSING_CIRC_2TEMP.DWG

CONDENSING WATER HEATER NTS (1)



Plumbing Site Plan B
1/16" = 1'-0"



Plumbing Floor Plan A
1/4" = 1'-0"

KEYNOTES

1. PROPANE GAS SECOND STAGE REGULATOR WITH CUSTOM REMOVABLE EPOXY COATED STEEL VANDAL PROOF CAGE.
2. MAIN SOV IN THE BASE OF THE RISER WITH SEISMIC SOV SECURED TO STRUCTURE.
3. PROPANE TANK BY SUPPLIER. SEE SHEET L1.6 SITE PLAN FOR EXACT LOCATION.
4. TANK MOUNTED FIRST STAGE REGULATOR BY PROPANE SUPPLIER.
5. PRV ASSEMBLY.
6. CONNECT TO SITE MAIN DOMESTIC WATER SUPPLY.
7. 2% MINIMUM SLOPE ON ALL DRAINAGE PIPING.
8. ROUTE GAS TO WH. PROVIDE SOV, DRIP LEG AND FLEXIBLE CONNECTOR.
9. P&T TO +6" ABOVE FINISHED GRADE WITH 90 DEGREE ELBOW FACING DOWN.
10. PROVIDE LINE SIZE BYPASS SOV WITH STUBS AND CAPS TO FUTURE WATER SOFTENING EQUIPMENT. SIZED TO ACCOMMODATE 11 GPM PEAK FLOW WITH NO MORE THAN 15 PSI PRESSURE LOSS.
11. CONNECT TO NEW SANITARY SEWER. FIELD VERIFY EXACT LOCATION AND INVERT ELEVATION.
12. WHA IN ACCESSIBLE.
13. SEE GAS SCHEMATIC ON SHEET P1.1 GAS PIPE SIZES.
14. CONNECT TRAP PRIMER TO THE TOP OF THE CW SUPPLY OF A FREQUENTLY USED FIXTURE AT LEAST 6" ABOVE THE FINISHED FLOOR AND WITH ACCESS. ROUTE THE GRAVITY OUTLET TO THE TAILPIECE OF THE FD PER MFR'S INSTRUCTIONS.
15. ROUTE INDIRECT WASTE FROM SOLAR EQUIPMENT AND WHs TO FLOOR SINK.
16. ROUTE PIPING TO AVOID CONFLICTS WITH THE STRUCTURE. NOTCH THE TOP OF FOOTINGS WITH THE ARCHITECT'S APPROVAL AS REQUIRED.
17. 1/2"CW, 1-1/2"V,2"W.
18. 1-1/2"CW, 2"V.
19. 2"CW, 2"V
20. 2"CW, 2"W, 2"W.
21. 2-1/2"VTR.
22. 2" VTR.
23. 1-1/2"V, 1-1/4"CW.
24. 1-1/2"V, 2"W, 3/4"HW, 3/4" HWR, 2-1/2"CW.
25. 2"V, 2"W, 1"HW, 3/4" HWR, 3/4"CW.
26. 1-1/2"V, 2"W, 1"HW, 3/4" HWR, 3/4"CW.
27. 1-1/2"V, 2"W, 1"HW, 3/4" HWR, 1/2"CW.
28. SEE MECHANICAL SHEETS FOR SOLAR THERMAL SYSTEM.
29. EXPANSION TANK.
30. PROPANE TO CLUB HOUSE BUILDING. FIELD VERIFY THE EXISTING POINT OF ENTRY. REPAIR OR REPLACE OR PROVIDE SECOND STAGE REGULATOR AS REQUIRED.
31. PAY SHOWERS: PROVIDE FAIL CLOSED SOLENOID VALVES ON THE HOT AND COLD WATER SUPPLY TO EACH SHOWER. THE SOLENOID VALVES SHALL BE CONTROLLED BY A TIMER WITH A PROGRAMMABLE RUN TIME SET TO 3 MINUTES. THE TIMER IS ACTIVATED BY A CARD READER AND TELEMETER. SEE ARCHITECT SYSTEM SPECIFICATIONS.
32. SEE ARCHITECT FOR TELEMETER BEHIND SHOWER AND CARD READER WITHIN THE SHOWER STALL. TYPICAL 6.
33. FOR CONTINUATION SEE PLUMBING SITE PLAN ON THIS SHEET.
34. SOV IN SIDEWALK VAULT.
35. 24 INCH3ES MINIMUM COVER IN TRAFFIC AREAS.
36. FOR CONTINUATION SEE PLUMBING FLOOR PLAN ON THIS SHEET.
37. COORDINATE THE PREFERRED LOCATION OF THE NEW GAS PIPING WITH THE ARCHITECT. FIELD VERIFY THE EXISTING UTILITIES BEFORE THE START OF ANY WORK.

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Plumbing Floor Plan

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EST. 1995

P2.1

100% CD

June 09, 2023

ELECTRICAL SPECIFICATION NOTES

PROVIDE ALL ELECTRICAL WORK, AND MATERIALS AS SHOWN ON THE DRAWINGS, AS CALLED FOR HEREIN, AND AS IS NECESSARY TO FURNISH A COMPLETE INSTALLATION.

THE INSTALLATION SHALL CONFORM TO ALL THE REQUIREMENTS OF THE CURRENTLY ADOPTED CALIFORNIA ELECTRICAL CODE, STATE OF CALIFORNIA TITLE 24, ALL OTHER APPLICABLE CODES AND ORDINANCES, AND THE REQUIREMENTS OF THE FIRE MARSHALL. ALL EQUIPMENT AND WIRING SHALL BEAR THE APPROVAL STAMP OF UNDERWRITERS' LABORATORY (UL) OR AN APPROVED TESTING LABORATORY. PAYMENT FOR ALL INSPECTION FEES AND PERMITS ARE PART OF THIS CONTRACT.

THIS CONTRACT SHALL BE RESPONSIBLE FOR THE SAFETY, AND GOOD CONDITION, OF ALL MATERIALS AND EQUIPMENT FOR THE ENTIRE INSTALLATION, AND UNIT COMPLETION OF WORK. ERECT AND MAINTAIN APPROVED AND SUITABLE BARRIERS, PROTECTIVE DEVICES, AND WARINNG SIGNS. BE FULLY RESPONSIBLE FOR ANY LOSS OR INJURY TO PERSONS OR PROPERTY RESULTING FROM NEGLIGENT MAINTENANCE AND/OR ENFORCEMENT OF ALL SAFETY PRECAUTIONS AND WARNINGS.

COORDINATE THE ELECTRICAL INSTALLATION WITH ALL OTHER TRADES.

ALL SAWCUTTING, TRENCHING, BACKFILLING, AND PATCHING SHALL BE PART OF THIS CONTRACT. ALL BACKFILLING, COMPACTION, AND RESURFACING METHODS SHALL BE APPROVED BY THE ARCHITECT.

FINALIZE ALL ELECTRICAL SERVICE ARRANGEMENTS, INCLUDING VERIFICATION OF LOCATIONS, DETAILS, COORDINATION OF THE INSTALLATION, AND PAYMENT OF ACCRUED CHARGES WITH LOCAL POWER COMPANY. VERIFY LOCATION OF FACILITIES AND DETAILS WITH POWER UTILITY. IN ADDITION TO THE REQUIREMENTS SHOWN IN THE CONTRACT DOCUMENTS, WORK SHALL COMPLY WITH CONSTRUCTION STANDARDS AND SERVICE REQUIREMENTS OF THE RESPECTIVE UTILITIES, INCLUDING ANY SUPPLEMENTAL DRAWINGS ISSUED, AND SHALL BE SUBJECT TO APPROVAL OF THESE UTILITIES.

RACEWAYS FOR ALL CONDUCTORS IN EXPOSED AREAS LESS THAN 5'-0" ABOVE GRADE SHALL BE GALVANIZED STEEL CONDUIT OR PVC SCHEDULE 80, AS PERMITTED BY BUILDING CONSTRUCTION TYPE. UNDERGROUND CONDUITS SHALL BE BURIED A MINIMUM OF 24" BELOW GRADE, AND MAY BE PVC SCHEDULE 40. ALL CONDUIT RISERS FROM UNDERGROUND RUNS SHALL BE PVC SCHEDULE 80 OR RIGID GALVANIZED STEEL. RACEWAYS IN ALL CONCEALED AREAS MAY BE TYPE EMT. FLEXIBLE STEEL CONDUIT MAY BE USED IN CONCEALED AREAS, UP TO A MAXIMUM LENGTH OF 12'-0", IF A SUITABLE BONDING WIRE IS INSTALLED. THIS BONDING CONDUCTOR SHALL BE IN ADDITION TO THE REQUIRED EQUIPMENT GROUNDING CONDUCTOR. CONCEALED RACEWAYS FOR LOW VOLTAGE SYSTEMS WITHIN BUILDING CONSTRUCTION MAY BE EQUAL TO CARLON TYPE "EFT". ALL EMPTY CONDUITS SHALL HAVE A SUITABLE PULLCORD INSTALLED. A SUITABLE GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL LINE VOLTAGE CONDUIT RUNS. NOTE THAT THIS CONDUCTOR IS NOT NECESSARILY SHOWN ON THE DRAWINGS. CONDUCTOR-IN-CONDUIT TYPE SYSTEMS, SUCH AS 'MC' CABLE SHALL NOT BE ALLOWED UNLESS SPECIFICALLY CLEARED BY THE ENGINEER. NO MORE THAN THREE NINETY DEGREE BENDS SHALL BE ALLOWED IN ANY CONDUIT RUN, BETWEEN PULL POINTS.

OUTLET AND JUNCTION BOXES SHALL BE GALVANIZED STEEL, 4" SQUARE BY 1-1/2" DEEP, OR LARGER. THEY SHALL BE FLUSH MOUNTED IN ALL FINISHED AREAS, AND SHALL INCLUDE A PLASTER RING SUITABLE FOR THE DEVICE MOUNTED IN THE BOX. TELEPHONE AND COMMUNICATIONS OUTLETS MAY CONSIST OF THE PLASTER RING, BUT NO BOX, WHERE NOISE TRANSMISSION FROM ONE ROOM TO THE NEXT IS NOT AN ISSUE. UNLESS OTHERWISE NOTED, CONDUIT STUBS SHALL STILL BE REQUIRED FOR ALL COMMUNICATIONS OUTLETS INTO ACCESSIBLE CEILING SPACE. ALL BOXES SHALL BE LISTED FOR THEIR USE, INCLUDING ANY FIRE RATING. ADDITIONALLY, REGARDLESS OF OUTLET LOCATIONS SHOWN ON THESE PLANS, BOXES SHALL BE LOCATED AS REQUIRED TO COMPLY WITH NOISE AND FIRE SEPARATION REQUIREMENTS.

PROVIDE ALL CONDUIT, WIRING, OUTLETS, DISCONNECT OR MANUAL MOTOR STARTER SWITCHES, AND EQUIPMENT NECESSARY TO CONNECT MECHANICAL SYSTEMS AND EQUIPMENT. INSTALL OUTLETS AND CONTROL WIRING FOR LOW VOLTAGE CONTROL EQUIPMENT, IF REQUIRED. PROVIDE ALL REQUIRED CONDUIT FOR LOW VOLTAGE SYSTEMS.

FURNISH AND INSTALL ALL LIGHT FIXTURES, COMPLETE WITH REQUIRED LAMPS, BALLASTS, MOUNTING TRIMS, AND DEVICES. ALL EXISTING FIXTURES TO REMAIN SHALL BE CLEANED, REPAIRED OR REPLACED, AND RELAMPED AS NECESSARY. FIXTURES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN APPROVED MANNER. CONNECT T-BAR DROP-IN FIXTURES AT DIAGONAL CORNERS DIRECTLY TO STRUCTURE OVERHEAD USING MINIMUM #12 WIRES.

ALL FIXTURE AND OUTLET HEIGHTS AND LOCATIONS SHALL BE INDIVIDUALLY COORDINATED WITH THE ARCHITECT.

LIGHT SWITCHES SHALL BE 20A, EQUAL TO HUBBELL #CS120 SERIES. DUPLEX RECEPTACLES SHALL BE 20A, EQUAL TO HUBBELL #CRF20 SERIES. ALL DEVICE COVERPLATES IN FINISHED AREAS SHALL BE SMOOTH PLASTIC, OR BRUSHED ALUMINUM, AS SPECIFIED BY THE ARCHITECT. ALL DEVICE COVERPLATES IN UNFINISHED AREAS MAY BE SMOOTH PLASTIC OR PRESSED STEEL, AS SPECIFIED BY THE ARCHITECT. ALL COVERPLATES IN EXTERIOR LOCATIONS SHALL BE WEATHERPROOF. DEVICE AND COVERPLATE COLORS SHALL BE AS SPECIFIED BY THE ARCHITECT. WHERE MULTIPLE DEVICES EXIST, THEY SHALL BE GROUPED TOGETHER, AND GROUPED DEVICES SHALL BE UNDER A SINGLE COVER PLATE. DEVICES ON AN EMERGENCY OR BACKUP POWER SYSTEM SHALL BE RED IN COLOR.

PANELBOARDS SHALL BE EQUAL TO SQUARE D TYPE "NQOD". PROVIDE TYPEWRITTEN CIRCUIT DIRECTORIES PER PANEL SCHEDULES. PANEL DIRECTORIES SHALL INCLUDE THE PANEL OR SWITCHBOARD FROM WHICH THE PANEL IS FED. (1) 3/4" STUB INTO ACCESSIBLE CEILING SPACE IS REQUIRED FOR EVERY (3) SPARES OR SPACES IN RECESSED PANELBOARDS. CIRCUIT BREAKERS USED AS SWITCHES SHALL BE LISTED FOR SWITCHING AND MARKED "SWD" PER NEC 240-83(D).

SWITCHGEAR AND DISTRIBUTION EQUIPMENT SHALL BE SPECIFICATION GRADE, AS MANUFACTURED BY SQUARE D, SIEMENS, OR APPROVED EQUAL. ALL CONNECTIONS, TERMINATIONS, GROUNDING, AND HARDWARE ASSEMBLIES SHALL BE CHECKED BY AN EXPERIENCED SWITCHBOARD INSTALLER PRIOR TO ENERGIZATION. EACH CONNECTION POINT OR FASTENER SHALL BE ALIGNED AND TORQUED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. ANCHOR EACH SECTION TO THE FLOOR AND WALL. STRUCTURAL ANCHORAGE SHALL BE PER MANUFACTURER'S SPECIFICATIONS, AND SHALL BE APPROVED BY THE AHJ.

ALL WIRING SHALL BE COPPER. INSULATION FOR BRANCH CIRCUIT CONDUCTORS SHALL BE TYPE "THWN". CONDUCTORS LARGER THAN #6 AWG MAY BE TYPE "THWN" OR "THW".

STEEL, LIQUID-TIGHT, FLEXIBLE CONDUITS ARE REQUIRED FOR MOTOR CONNECTIONS, CONNECTIONS TO LIQUID-HANDLING EQUIPMENT, AND CONNECTIONS IN WET OR EXTERIOR LOCATIONS.

PROVIDE CONDUIT SEALS FOR ALL CONDUITS PENETRATING WEATHERPROOFING OR WEATHERPROOF ENCLOSURE ENVELOPE. MASTIC SEAL ALL CONDUIT OPENING PENETRATIONS COMPLETELY WATERTIGHT.

PANELBOARDS, TERMINAL CABINETS, SWITCHGEAR, DISCONNECTS, DISTRIBUTION BREAKERS, AND MISCELLANEOUS ELECTRICAL EQUIPMENT, SHALL HAVE LAMINATED, WHITE LETTERS ON BLACK BACKGROUND, PHENOLIC NAMEPLATES PROPERLY IDENTIFYING EACH ITEM.

PROVIDE ALL MATERIALS AND WORK REQUIRED TO LOCATE, AND CONNECT TO, EXISTING DISTRIBUTION EQUIPMENT. UPDATE EXISTING PANELBOARDS WITH NEW TYPEWRITTEN CIRCUIT DIRECTORIES, AND FURNISH NEW CIRCUIT BREAKERS AS REQUIRED. EXISTING CIRCUIT DESCRIPTIONS IN EXISTING PANEL DIRECTORIES SHALL BE USED FOR EXISTING CIRCUITS TO REMAIN IF THEY ARE MORE DETAILED THAN THE PANEL SCHEDULES SHOWN IN THESE PLANS. RECONNECT ANY BRANCH CIRCUITS INTERRUPTED DURING DEMOLITION THAT ARE TO REMAIN. PANELBOARD CIRCUIT DIRECTORIES SHALL INCLUDE WHERE THE PANEL IS FED FROM.

RE-USE OF EXISTING BRANCH CIRCUIT CONDUITS AND WIRING IS ACCEPTABLE IF IN COMPLIANCE WITH ALL APPLICABLE CODES AND ORDINANCES, AND APPROVED BY THE AHJ.

INFORMATION SHOWN WAS OBTAINED FROM "AS-BUILT" DRAWINGS. VISIT THE SITE PRIOR TO BID TO VERIFY EXISTING CONDITIONS, AND MAKE ALLOWANCE FOR VARIATIONS TO THAT WHICH IS SHOWN.

(5) COPIES OF SUBMITTAL DRAWINGS ARE REQUIRED FOR DISTRIBUTION EQUIPMENT, LIGHT FIXTURES, DEVICES, AND COVERPLATES. SUBSTITUTIONS MAY BE APPROVED BY THE ENGINEER IF THE SUBMITTAL SHOWS A REASONABLE BENEFIT TO THE OWNER. NO PRIOR APPROVAL FOR SUBSTITUTIONS SHALL BE GIVEN BEFORE SUBMITTALS. AS SUCH, BID COMPARISONS MUST BE MADE BASED ON SPECIFIED EQUIPMENT. THE ENGINEER RESERVES THE RIGHT TO REJECT SUBMITTALS BASED ON INCOMPLETENESS OF THE SUBMITTAL, AS WELL AS NOT MEETING THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. SUBMITTALS MUST BE PROVIDED FOR SPECIFIED EQUIPMENT, AS WELL AS ANY SUBSTITUTIONS.

PROVIDE PANEL AND CIRCUIT NUMBER ON WALL OUTLET AND LIGHT SWITCH COVERPLATES. USE A TAPE TYPE SYSTEM EQUAL TO KROY OR BROTHER.

THE ELECTRICAL DRAWINGS SHALL BE TREATED AS DIAGRAMMATIC IN NATURE. THEY SHALL NOT BE USED TO DETERMINE EXACT DIMENSIONS OR LOCATIONS FOR ANY DEVICE. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATING WITH ARCHITECTURAL ELEMENTS AND PLANS, OTHER DISCIPLINES, THE ARCHITECT, AND OWNER, FOR ALL LOCATIONS, BEFORE COMPLETING ANY WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN RELOCATING ANY DEVICE OR CONNECTION INSTALLED IN THE WRONG LOCATION. THE CONTRACTOR SHALL ALLOW SUFFICIENT TIME FOR COORDINATION.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED LIGHTING CONTROL PROGRAMMING, TO ACHIEVE A WORKING SYSTEM TO THE SATISFACTION OF THE PLANS, ENGINEER, AND OWNER. REQUIRED PROGRAMMING INFORMATION MAY NOT BE FULLY SHOWN IN THE CONTRACT DOCUMENTS. THAT DOES NOT RELEASE THE CONTRACTOR FROM ADJUSTING/PROGRAMMING THE CONTROLS TO THE SATISFACTION OF THE OWNER. THE CONTRACTOR SHALL ALLOW SUFFICIENT TIME FOR COORDINATION.

CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SHORT CIRCUIT, COORDINATION, OR ARC FAULT CALCULATIONS REQUIRED TO PRODUCE PROPER EQUIPMENT LABELING. CONTRACTOR TO PROVIDE CODE REQUIRED SHORT CIRCUIT AND ARCH FLASH LABELS AT ALL PANELS, DISCONNECTS, AND OVERCURRENT PROTECTION.

LIGHT FIXTURE SCHEDULE

FIXT.	MANUFACTURER	CATALOGUE NUMBER	MOUNTING	LAMPING	WATTS
A	LITHONIA	BLWP4-48L-SDSM-GZ1-LP840	SURFACE, CEILING	LED INCLUDED	40
D1	GOTHAM	IC02SH-35/15-WRLSS-LTF-45D-MVOLT-UGZ	RECESSED, CEILING	LED INCLUDED	20
D2	KENALL	HADL6-FF-5FW-12L-3OK9-W-FW-9-RIG6-DIMI	RECESSED, CEILING	LED INCLUDED	12

GENERAL NOTES

ALL MOUNTING HEIGHTS AND EXACT LOCATIONS SHALL BE COORDINATED WITH ARCHITECT, BEFORE ROUGH-IN. MOUNTING OUTLET BOX, OR FIXTURE, TO NEAREST STUD IS NOT ACCEPTABLE.

ALL INTERIOR LED LAMPS SHALL BE 3500K COLOR, UON. ALL EXTERIOR LED LAMPS SHALL BE 2700K COLOR, UON.

ALL FINISHES SHALL BE CHOSEN BY ARCHITECT. FOR BID PURPOSES, ASSUME A STANDARD FINISH, UON.

KEYED NOTES LEGEND

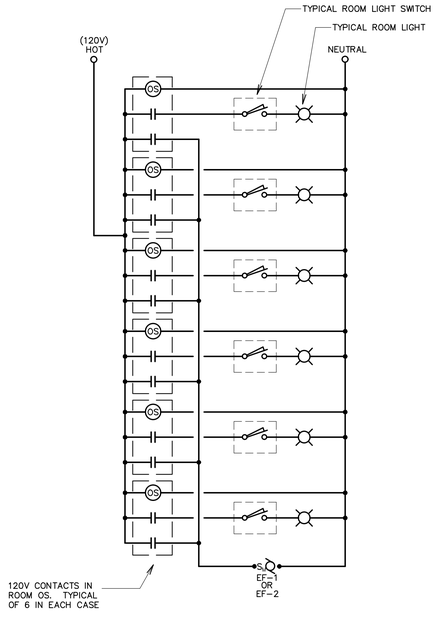
200A MLO, 200A BUSSING
120/208V, 3Ø4W
SQUARE D TYPE NQOD

PANEL "RR"

MOUNTING: SURFACE

DESCRIPTION/LOCATION	øA	øB	øC	CIRCUIT BREAKER	CIRCUIT NUMBER		CIRCUIT BREAKER	øA	øB	øC	DESCRIPTION/LOCATION
•LIGHTS (INTERIOR)	720			20/1	1	2	20/1	540			RECEPTS (NORTH RR GFI)
• (EXTERIOR)		300			3	4			540		(SOUTH RR GFI)
•EF-1,EF-2			864		5	6				900	(GENERAL)
DATA CABINET	180				7	8		100			SHOWER CONTROLS
SPARE		--			9	10			135		CIRCULATION PUMPS
			--		11	12				180	WATER HEATER CONTROLS
	--				13	14		180			
		--			15	16			360		WATER HEATER CONTROLS
HAND DRYER			1000		17	18	---			--	SPACE
	1000				19	20		--			
		1000			21	22			--		
			1000		23	24				--	
	1000				25	26		--			
		1000			27	28			--		
SPACE			--	---	29	30				--	
	--				31	32		--			
		--			33	34			--		
			--		35	36				--	
	--				37	38		--			
		--			39	40			--		
			--	---	41	42	---			--	
					CONNECTED LOAD			3.72	3.34	3.94	11.00 kVA CONN.

* LONG CONTINUOUS LOAD (LCL) OR LARGEST MOTOR LOAD (LML) — 0.47 LCL & LML
▵ PROVIDE CIRCUIT BREAKER LOCK-ON DEVICE AND RED HANDLED BREAKER — 11.47 TOTAL kVA
◊ ISOLATED GROUND CIRCUIT
✲ GFI TYPE BREAKER — 32 TOTAL AMPS



CONTROLS DIAGRAM FOR EF-1 & EF-2
NTS

ELECTRICAL SYMBOLS

LIGHTING
SEE LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION

- FLUORESCENT (LETTER DESIGNATION REFERS TO FIXTURE TYPE AS SPECIFIED IN THE LIGHT FIXTURE SCHEDULE)
- RECESSED DOWNLIGHT
- SURFACE MOUNTED
- SURFACE, WALL MOUNTED
- PENDANT MOUNTED
- TRACK WITH TRACK HEADS
- STRIP
- EXIT SIGN (SINGLE OR DOUBLE FACED WITH DIRECTIONAL ARROWS AS SHOWN)

WALL MOUNTED RECEPTACLES
MOUNT AT +18" TO ℄ UNLESS OTHERWISE NOTED

- 20A DUPLEX, VERTICALLY MOUNTED
- 20A DUPLEX, W/USB PORTS
- 20A HALF SWITCHED DUPLEX RECEPTACLE
- 20A DUPLEX, HORIZONTALLY MOUNTED
- DOUBLE DUPLEX
- CATV AND/OR VIDEO
- TELEPHONE AND/OR COMMUNICATIONS (PROVIDE 3/4"CO INTO ACCESSIBLE CEILING SPACE, UON)
- NON-STANDARD OUTLET (SEE PLANS FOR NEMA CONFIGURATION)

CONDUIT & WIRE
ALL WIRE SHALL BE #12 THWN CU UON

- (4) #12 + ground MAX. IN 1/2" CONDUIT
- (8) #12 + ground MAX. IN 3/4" CONDUIT
- (16) #12 + ground MAX. IN 1" CONDUIT
- BELOW GRADE OR FLOOR
- STUBBED AND CAPPED
- WIREMOLD G4000
- PLUGMOLD, WIREMOLD G20GBAX12

SWITCHES & CONTROLS
MOUNT AT +44" TO ℄ UNLESS OTHERWISE NOTED

- S SINGLE POLE (SPST)
- S_2 TWO POLE (DPST)
- S_3 3-WAY (SPDT)
- S_4 4-WAY (DPDT)
- S_P WITH PILOT LIGHT
- S_D DOOR OPERATED
- S_T TIMER
- S_K KEY OPERATED
- D WALLBOX DIMMER (RATED FOR THE LAMP TYPES AND WATTAGE OF THE LOAD THEY CONTROL, INCLUDING REQUIRED DERATING FOR MULTIGANG INSTALLATIONS)

FLOOR OUTLETS

- 20A DUPLEX (OUTLETS SHALL BE FLUSH, RECESSED, OR PEDESTAL TYPE, AND SHALL BE AS SPECIFIED IN THE PLANS AND SPECIFICATIONS)
- TEL/COMM

LETTER DESIGNATIONS

- AC ABOVE COUNTER (MOUNT ABOVE COUNTER SPLASH, BUT NOT ABOVE +48" TO TOP OF BOX, AS DIRECTED BY ARCHITECT)
- AHJ AUTHORITY HAVING JURISDICTION
- CO CONDUIT ONLY (WITH PULL CORD)
- dns DO NOT SWITCH (LIGHT FIXTURE SHALL BE WIRED HOT)
- EX EXISTING, TO REMAIN
- EXR EXISTING, TO BE REMOVED
- FLA FULL LOAD AMPS
- GD CONNECT, AS REQ'D TO GARBAGE DISPOSAL
- GFI GROUND FAULT INTERRUPTING
- GWS GANG WITH SWITCH
- MCA MINIMUM CIRCUIT AMPS
- MCB MAIN CIRCUIT BREAKER
- MFS MAXIMUM FUSE SIZE
- MLO MAIN LUGS ONLY
- NL NIGHT LIGHT (LIGHT FIXTURE TO BE LEFT ON 24-HOURS A DAY)
- REF LOCATE, AS REQ'D FOR REFRIGERATOR
- REL EXISTING, RELOCATED TO NEW POSITION
- TW TANDEM WIRED
- TYP TYPICAL
- UON UNLESS OTHERWISE NOTED
- WM OUTLET MOUNTED IN WIREMOLD
- WP WEATHERPROOF (NEMA 3R IF ENCLOSURE)
- WT WALL TELEPHONE (MOUNTING HEIGHT, AS DIRECTED BY ARCHITECT)

MISC. OUTLETS & EQUIPMENT

- TIME SWITCH
- THERMOSTAT (+44" STANDARD UON)
- JUNCTION BOX
- MOTOR
- DISCONNECT SWITCH
- TRANSFORMER
- RELAY OR CONTACTOR (ON NEMA 1 ENCLOSURE UON)
- S_M MANUAL MOTOR STARTER
- SPEAKER
- VOLUME CONTROL SWITCH
- DOORBELL
- FIRE ALARM PULL STATION
- FIRE ALARM HORN
- FIRE ALARM CHIME
- FIRE ALARM VISUAL
- FIRE ALARM AUDIO/VISUAL
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM HEAT DETECTOR
- FIRE ALARM SMOKE/CO DETECTOR
- LOW VOLTAGE/WIRELESS KEYPAD
- OS OCCUPANCY SENSOR (CEILING OR WALL MOUNTED)
- PC PHOTOCELL
- M UTILITY OR TENANT METER, INCLUDING SOCKET AND ALL REQUIRED ACCESSORIES
- B UTILITY METER SOCKET AND BLANK COVER FOR FUTURE METER

ADA OUTLET HEIGHT REQUIREMENTS

PER CBC 11B-308.1, ALL POWER, LOW VOLTAGE, AND SWITCH CONTROLS SHALL BE LOCATED AS FOLLOWS:

- MINIMUM HEIGHT AFF SHALL BE +15" TO BOTTOM OF OUTLET BOX.
- MAXIMUM HEIGHT WITHOUT OBSTRUCTION SHALL BE +48" AFF TO TOP OF OUTLET BOX.
- MAXIMUM HEIGHT WITH 20"-25" OBSTRUCTION, FORWARD APPROACH SHALL BE +44" TO TOP OF OUTLET BOX.
- MAXIMUM HEIGHT WITH 1"-24" OBSTRUCTION, SIDE APPROACH SHALL BE +46" TO TOP OF OUTLET BOX.

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Cachuma Lake RV Site Renewal

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Revisions

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Electrical

Specs, Symbols

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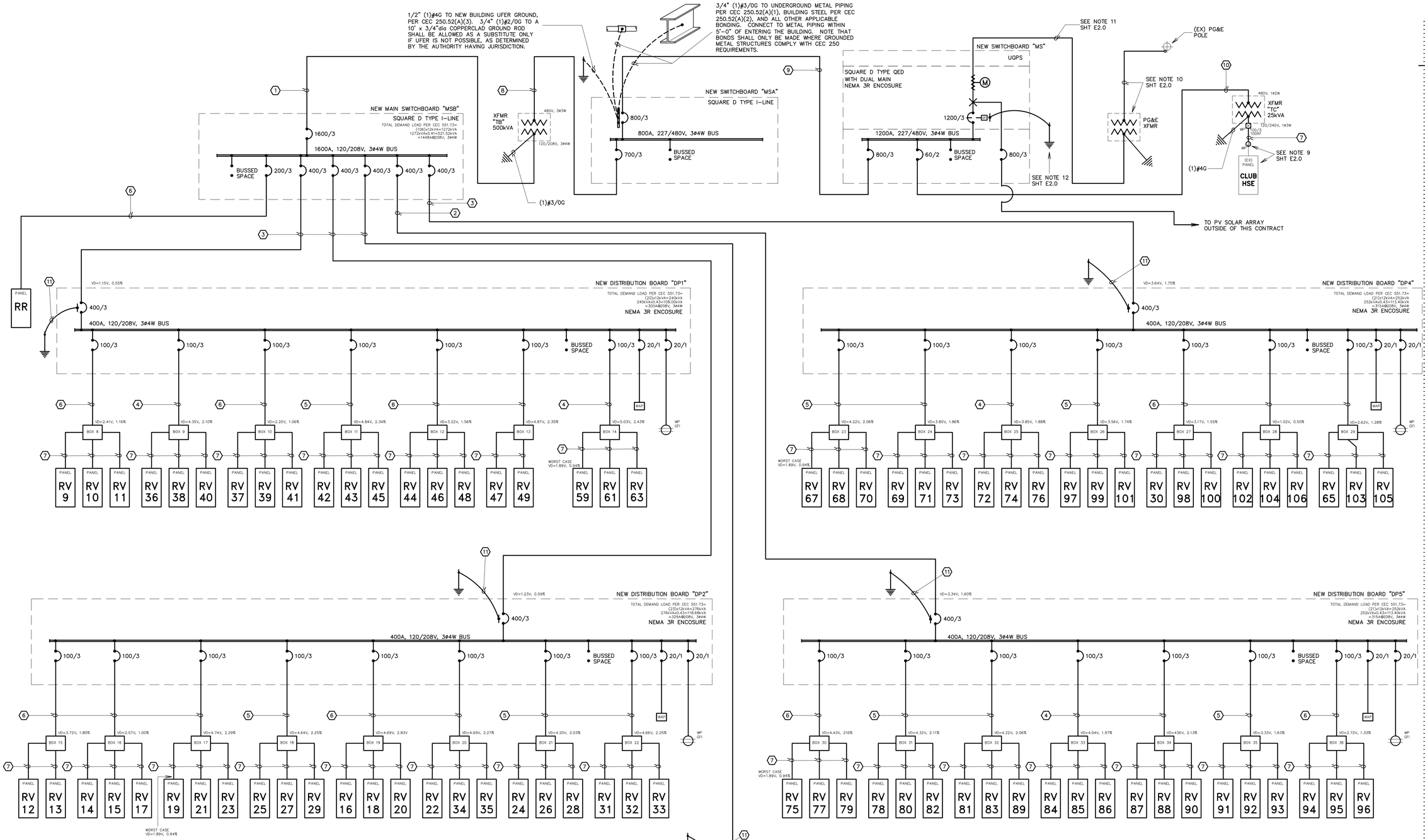
phone: 805.563.5444
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Electrical Engineering Lighting Design

B22006E10.dwg 6.23.23

E1.0

100% CDs June 23, 2023



PANELS DP1–DP5

PANELS SHALL BE EQUAL TO SQUARE D TYPE I-LINE IN NEMA-3R ENCLOSURE, 400A BUSS, 10kAIC, 45" SPACE INTERIOR. INTERIOR SHALL BE EQUAL TO SQUARE D #HCJ23734. NEMA-3R CABINET SHALL BE EQUAL TO SQUARE D #HCJ3273WP. MOUNT PANEL SO TOP IS EVEN WITH TOP OF 6'-8" ENCLOSURE WALL.

WIRE SIZE

NOTE THAT MANY FEEDERS IN THIS PROJECT ARE OVERSIZED FOR VOLTAGE DROP PURPOSES. OVERSIZED LUGS WILL BE REQUIRED FOR MANY BREAKERS, AND WIRE WITHIN ENCLOSURES MUST BE COORDINATED.

SHEET NOTES LEGEND

1. (4)4" W/(4)#600MCM+(1)#1/0G THWN CU IN EACH
2. (2)4" W/(4)#600MCM+(1)#1/0G THWN CU IN EACH
3. (2)3" W/(4)#350MCM+(1)#1G THWN CU IN EACH
4. 2"(4)#3/0+(1)#4G THWN CU
5. 2"(4)#1/0+(1)#6G THWN CU
6. 1-1/2"(4)#2+(1)#8G THWN CU
7. 1-1/4"(3)#2+(1)#8G THWN CU
8. (2)3" W/(3)#500MCM+(1)#1/0G THWN CU IN EACH
9. (3)4" W/(4)#400MCM+(1)#1/0G THWN CU IN EACH
10. 1"(2)#4+(1)#8G THWN CU
11. 1/2"(1)#4G THWN TO UFER GROUND IN TRASH ENCLOSURE SLAB. NOTE: TIE TOGETHER FOR DP1 & DP2. DO NOT REBOND NEUTRAL.

ONE LINE DIAGRAM

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Electrical Engineering Lighting Design

B22006E11.dwg 6.21.23

Electrical

One Line

E1.1

100% CDs June 23, 2023



SITE ELECTRICAL PLAN

SCALE: 1"=40'-0"

N

SHEET NOTES LEGEND

1. NEW FEEDER FOR DISTRIBUTION PANEL 'DP1'. COORDINATE UNDERGROUND CONDUIT ROUTE WITH TRENCHING AND BURY A MINIMUM OF 24" BELOW GRADE. SEE ONE LINE DIAGRAM ON SHEET E1.1 FOR CONDUIT AND WIRING SIZES.
2. NEW FEEDER FOR DISTRIBUTION PANEL 'DP2'. COORDINATE UNDERGROUND CONDUIT ROUTE WITH TRENCHING AND BURY A MINIMUM OF 24" BELOW GRADE. SEE ONE LINE DIAGRAM ON SHEET E1.1 FOR CONDUIT AND WIRING SIZES.
3. NEW FEEDER FOR DISTRIBUTION PANEL 'DP3'. COORDINATE UNDERGROUND CONDUIT ROUTE WITH TRENCHING AND BURY A MINIMUM OF 24" BELOW GRADE. SEE ONE LINE DIAGRAM ON SHEET E1.1 FOR CONDUIT AND WIRING SIZES.
4. NEW FEEDER FOR DISTRIBUTION PANEL 'DP4'. COORDINATE UNDERGROUND CONDUIT ROUTE WITH TRENCHING AND BURY A MINIMUM OF 24" BELOW GRADE. SEE ONE LINE DIAGRAM ON SHEET E1.1 FOR CONDUIT AND WIRING SIZES.
5. NEW FEEDER FOR DISTRIBUTION PANEL 'DP5'. COORDINATE UNDERGROUND CONDUIT ROUTE WITH TRENCHING AND BURY A MINIMUM OF 24" BELOW GRADE. SEE ONE LINE DIAGRAM ON SHEET E1.1 FOR CONDUIT AND WIRING SIZES.
6. TYPICAL CONDUIT TRENCH. COORDINATE WITH THE ARCHITECT, CIVIL AND EXISTING CONDITIONS FOR EXACT ROUTING.
7. SPLICE BOX FLUSH IN GRADE WITH SLIP RESISTANT COVER. FEEDER SPLICES SHALL BE WATER TIGHT ENCASED IN INSULATING MATERIAL.
8. NEW NEMA 3R RV SITE PEDISTAL WITH (1) 50A/2P 208V OUTLET, (1) 30A 120V OUTLET, AND (1) 20A 120V OUTLET.
9. RECONNECT EXISTING CLUBHOUSE PANEL TO NEW FEEDER, AS REQUIRED.
10. NEW (1)4"CO DOWN POLE, TO NEW PG&E PADMOUNT TRANSFORMER. COORDINATE ALL REQUIREMENTS WITH PG&E. ASSUME SLURRY COAT.
11. NEW (6)4"CO FROM TRANSFORMER, TO NEW SWITCHGEAR, PER PG&E REQUIREMENTS. BURY A MINIMUM OF 24"BELOW GRADE. ASSUME SLURRY COAT.
12. PROVIDE A UFER GROUND IN NEW SERVICE SLAB FOR GEAR. PROVIDE 4'DEEP PAD EXTENSION IN FRONT OF GEAR (FACING AWAY FROM PARKING LOT).
13. EXTEND 120V CIRCUIT FROM RV PEDESTAL, TO WAP POLE IN 3/4" CONDUIT. RUN CONDUIT UNDERGROUND, AND UP ON OTHER POLE. PROVIDE A SURFACE, GFI DUPLEX WITHIN WEATHERPROOF ENCLOSURE ON POLE, AND CONNECT SEE SHT T3.1.
14. PROVIDE NEW EXTERIOR MOUNTED WAP. 3/4"CO FROM NETWORK SWITCH LOCATION TO NEW WAP LOCATION, AS REQUIRED. WAP SHALL BE POWERED VIA THE NETWORK SWITCH. SEAL ALL PENETRATIONS WATER TIGHT. COORDINATE WITH ARCHITECT PRIOR TO ROUGH-IN.
15. NEW TRANSFORMER "TC" EQUAL TO SQUARE D #EE25S3H PROVIDE WITH WEATHER SHIELDS AND CONCRETE MOUNTING PAD.
16. SEE NOTE #9 ON SHEET E1.1 FOR FEEDER SIZING. PROVIDE WITH FLUSH PULL BOX, AS REQUIRED.
17. NOTE THAT NO ELECTRICAL SHALL RUN WITHIN 10' OF PROPANE TANKS.
18. PROVIDE A WEATHERPROOF (BUBBLE COVER), GFI DUPLEX AT TRASH ENCLOSURE. RUN 3/4"(2)#10+(1)#10G BACK TO PANEL. SEE TRASH ENCLOSURE DETAILS ON E2.1.
19. STUB OUT FOR FUTURE PEDESTAL CONNECTION, AS REQUIRED.
20. PROVIDE NEW WAP. 3/4"CO FROM NETWORK SWITCH LOCATION TO NEW WAP LOCATION, AS REQUIRED. WAP SHALL BE POWERED VIA THE NETWORK SWITCH. SEAL ALL PENETRATIONS WATER TIGHT. COORDINATE WITH ARCHITECT PRIOR TO ROUGH-IN.
21. EXTEND 3/4" CONDUIT ONLY FROM RV PEDESTAL, TO WAP POLE. RUN CONDUIT UNDERGROUND, AND UP ON OTHER POLE. PROVIDE A SURFACE MOUNTED WEATHERPROOF RECEPTACLE ENCLOSURE ON POLE FOR FUTURE USE. COORDINATE ALL LOCATIONS WITH TELECOMMUNICATION DRAWINGS.
22. PROVIDE CONDUIT/POWER FOR WAP AT TRASH ENCLOSURE. SEE NOTE 12 ON SHEET E2.1.

NOTE: CONDUIT ROUTING SHOWN IS DIAGRAMATIC. RUN CONDUITS IN COMMON TRENCHES WHERE CONVENIENT. AVOID ALL TREES AND OTHER SITE OBSTRUCTIONS. COORDINATE WITH ALL OTHER DISCIPLINES ON SITE.

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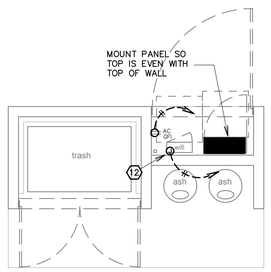
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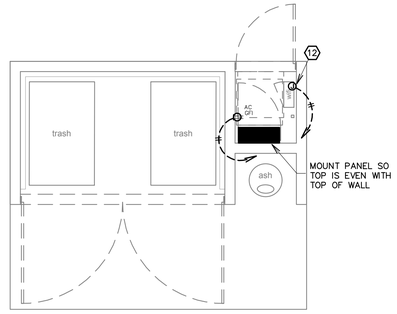
Electrical
Site Plan

E2.0

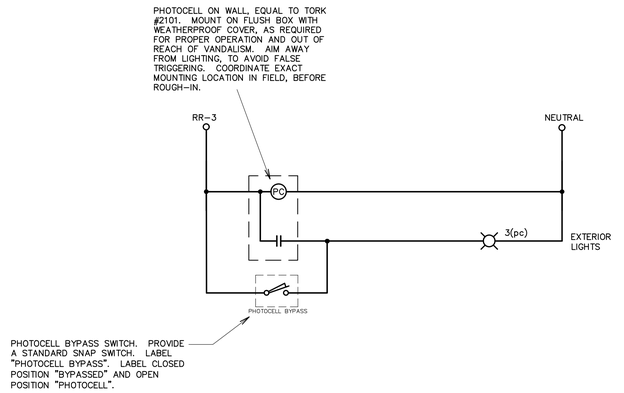
100% CDs June 23, 2023



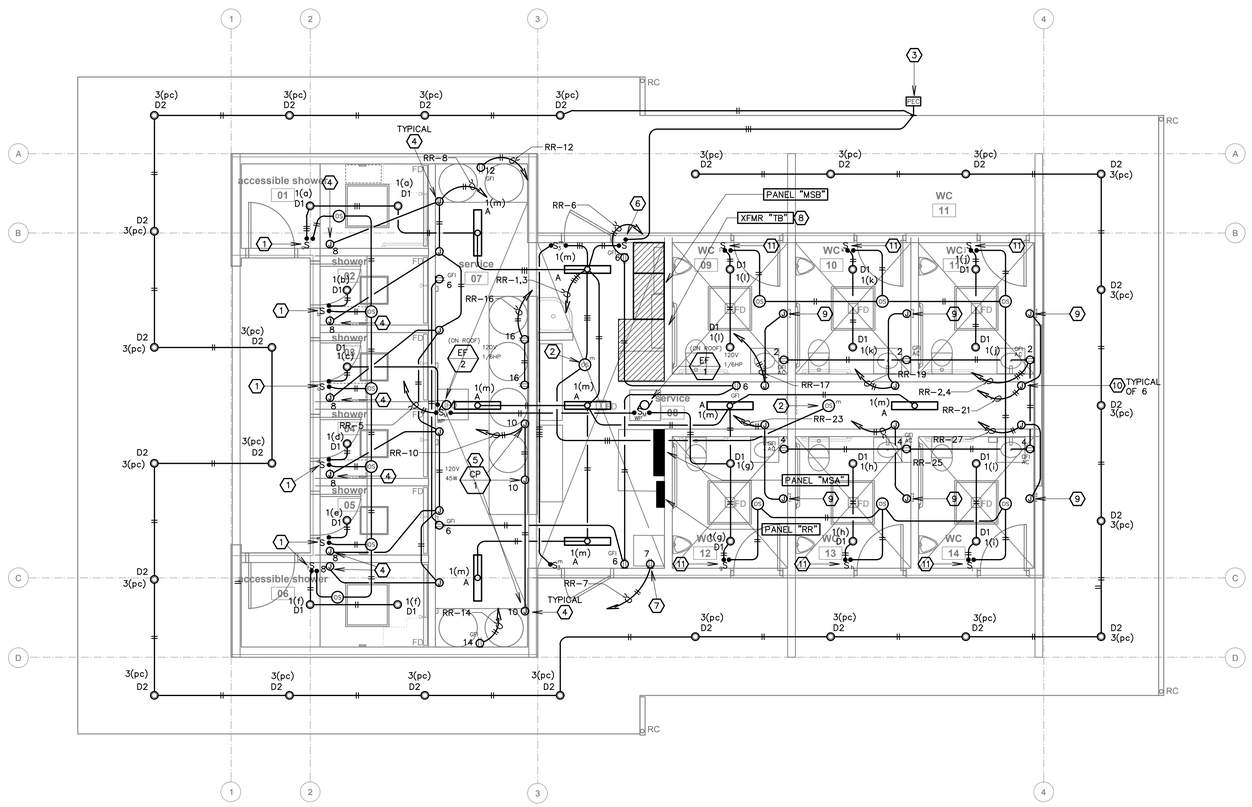
SMALL TRASH ENCLOSURE
SCALE: 1/4"=1'-0"



LARGE TRASH ENCLOSURE
SCALE: 1/4"=1'-0"



EXTERIOR LIGHTING CONTROLS DIAGRAM



RESTROOM ELECTRICAL PLAN
SCALE: 1/4"=1'-0"

SHEET NOTES LEGEND

1. PROVIDE A CEILING MOUNTED OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH #CMR-PDT-9-2P-LT. CONNECT WALL MOUNTED SWITCH TO CEILING MOUNTED OCCUPANCY SENSOR, AS REQUIRED. SEE SHEET E1.0 FOR CONTROLS DIAGRAM. ADJUST FOR PROPER OPERATION. ASSUME NEUTRAL AND GROUND MUST BE PULLED TO THE SWITCH (THIS MAY NOT BE SHOWN ON THE DRAWINGS), AND COORDINATE INSTALLATION WITH MANUFACTURER'S LITERATURE. COORDINATE FINISH WITH ARCHITECT BEFORE ORDERING.

2. PROVIDE A CEILING MOUNTED OCCUPANCY SENSOR, EQUAL TO SENSOR SWITCH #CMR PDT 10. ADJUST FOR PROPER OPERATION TO SENSE MOVEMENT IN THE ROOM. ASSUME NEUTRAL AND GROUND MUST BE PULLED TO THE SWITCH (THIS MAY NOT BE SHOWN ON THE DRAWINGS), AND COORDINATE INSTALLATION WITH MANUFACTURER'S LITERATURE. NOTE THAT ALL MANUAL SWITCHES/DIMMERS SHALL BE RUN IN SERIES WITH THE OCCUPANCY SENSOR, CREATING A MASTER OCCUPANCY SENSOR DRIVEN CONTROL.

3. PROVIDE EXTERIOR PHOTOCELL, EQUAL TO TORK #2101. MOUNT ON FASCIA AND AIM NORTH, AWAY FROM LIGHTS THAT COULD CAUSE FALSE TRIGGERING. COORDINATE EXACT LOCATION ON THE BUILDING IN THE FIELD. SEE EXTERIOR LIGHTING CONTROLS DIAGRAM ON THIS SHEET.

4. PROVIDE 120V POWER TO SHOWER CONTROLS, AS REQUIRED. COORDINATE ANY REQUIRED LOW VOLTAGE WIRING WITH INSTALLATION INSTRUCTIONS. ENSURE A MINIMUM OF 3/4"C IS USED. NOTE THAT POWER IS REQUIRED REMOTELY, IN THE SERVICE SPACE. PROVIDE CONDUIT ONLY TO EACH SHOWER LOCATION. SEE SHEET T2.1.

5. PROVIDE 120V POWER TO SOLAR POWERED WATER HEATER CIRCULATION PUMP, AS REQUIRED. COORDINATE ALL WORK AND LOCATIONS WITH MECHANICAL AND PLUMBING.

6. PHOTOCELL BYPASS SWITCH. SEE EXTERIOR LIGHTING CONTROLS DIAGRAM ON THIS SHEET.

7. PROVIDE DUPLEX RECEPTACLE WITHIN DATA CABINET, AND CONNECT DEDICATED CIRCUIT. SEE SHEET T3.1.

8. TRANSFORMER SHALL BE EQUAL TO SQUARE D #EX500T68H.

9. PROVIDE A J-BOX WITH 3/4"CO BACK TO FAUCET HAND DRYER FOR POSSIBLE WALL MOUNTED HAND DRYERS IN FUTURE IF IN SINK MODEL FAILS. COORDINATE WITH ARCHITECT FOR EXACT LOCATION PRIOR TO ROUGH-IN. PROVIDE WITH GASKETED BLANK STAINLESS STEEL COVER.

10. PROVIDE 120V POWER FOR DYSON COMBINATION WASH AND DRY UNIT, RUN 3/4" BACK TO PANEL "RR" AS REQUIRED.

11. PROVIDE A CEILING MOUNTED OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH #CMR-PDT-9-2P. CONNECT WALL MOUNTED SWITCH TO CEILING MOUNTED OCCUPANCY SENSOR, AS REQUIRED. SEE SHEET E1.0 FOR CONTROLS DIAGRAM. ADJUST FOR PROPER OPERATION. ASSUME NEUTRAL AND GROUND MUST BE PULLED TO THE SWITCH (THIS MAY NOT BE SHOWN ON THE DRAWINGS), AND COORDINATE INSTALLATION WITH MANUFACTURER'S LITERATURE. COORDINATE FINISH WITH ARCHITECT BEFORE ORDERING.

12. PROVIDE 120V POWER TO NEW WIFI PANEL FROM ELECTRICAL PANEL IN TRASH ENCLOSURE, AS REQUIRED. COORDINATE CONNECTION TYPE WITH MANUFACTURER'S INSTRUCTIONS PRIOR TO ROUGH-IN.

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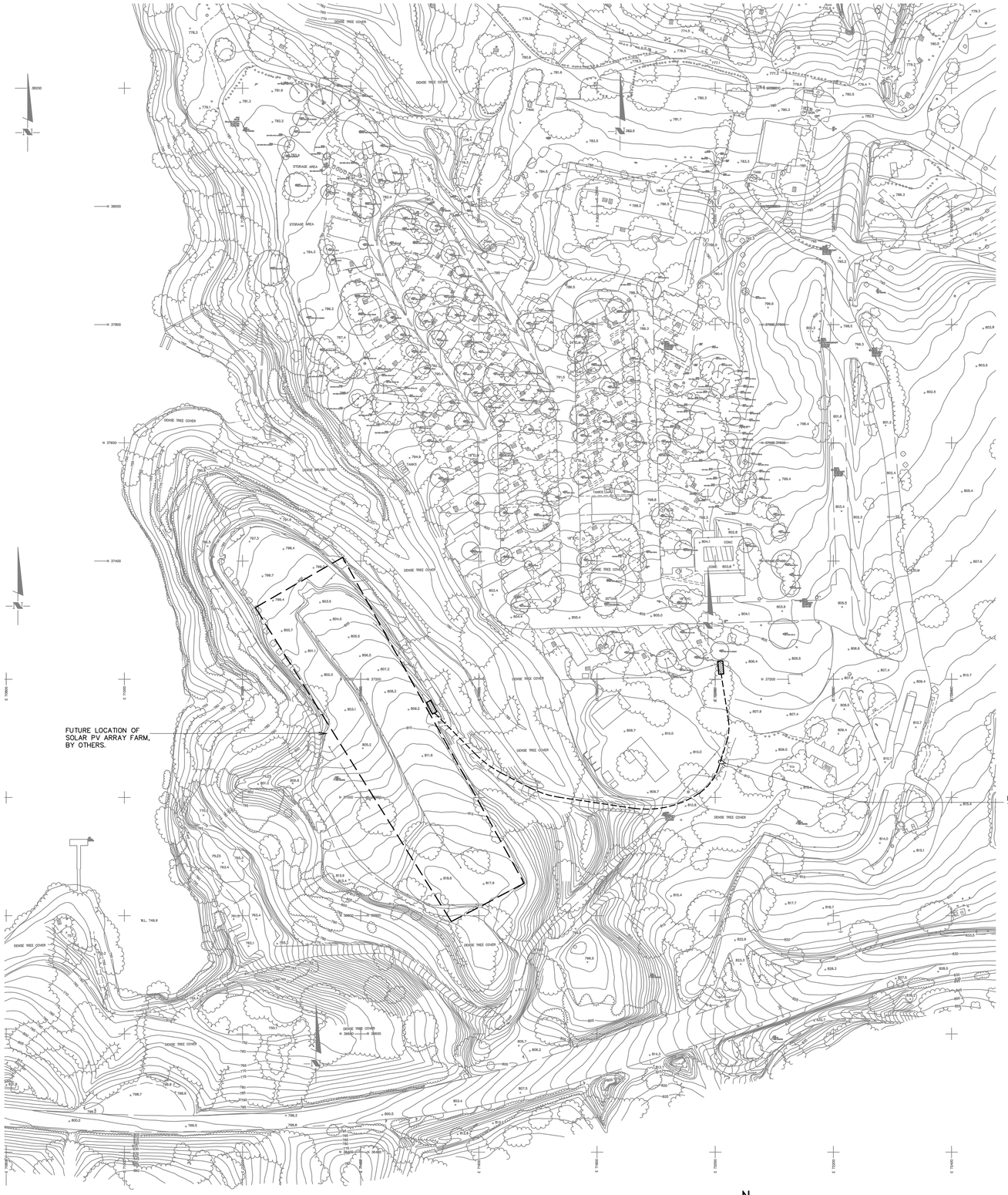
Electrical Engineering Lighting Design

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Electrical
Restroom Plan

E2.1

100% CDs June 23, 2023



SITE PV ELECTRICAL PLAN

SCALE: 1"=80'-0"

N

SHEET FOR REFERENCE ONLY

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B22006E22.dwg 6.23.23

Electrical

Site PV Plan

E2.2

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SYMBOLS LIST

CONVENTIONS

(1) NUMBERED NOTE, APPLIES TO ALL DRAWINGS.

[1] NUMBERED SHEET NOTE, APPLIES TO DRAWING CONTAINING NOTES ONLY.

(1) OVERCURRENT PROTECTIVE DEVICE NUMBER IDENTIFICATION TAG. REFERS TO LOCATION OF PROTECTIVE OR CONTROL DEVICE WITHIN SWITCHBOARDS, DISTRIBUTION BOARDS, MOTOR CONTROL CENTERS, ETC.

(NAME) EQUIPMENT IDENTIFICATION TAG: ITEM FURNISHED AND INSTALLED UNDER ANOTHER DIVISION AND WIRED UNDER THIS DIVISION.

[2004] FEEDER TAG. REFER TO FEEDER SCHEDULE.

1 / E-801 — DETAIL REFERENCE:
- DETAIL DESIGNATION
- SHEET NUMBER

2 - F3 — LUMINAIRE IDENTIFICATION TAG:
- FIXTURE TYPE
- QUANTITY

– [7S4] – UNDERGROUND CONDUIT DESIGNATION:
- CONDUIT SIZE IN INCHES
- CONDUIT SYSTEM DESIGNATION
  - P: PRIMARY POWER
  - S: SECONDARY POWER
  - T: TELECOMMUNCATIONS
- QUANTITY OF CONDUITS

2 E H 2 A — SWITCHBOARDS, DISTRIBUTION BOARDS, AND PANELBOARDS:
- BOARD DESIGNATION
- FLOOR NUMBER
- VOLTAGE CLASSIFICATION
  - PS : PRIMARY SUBSTATION
  - MS : MAIN SWITCHBOARD
  - H : 277/480 PANELBOARD
  - L : 120/208 PANELBOARD
  - SS : SECONDARY SUBSTATION
  - HD : 277/480 DIST. BOARD
  - LD : 120/208 DIST. BOARD

2 E MCC / 1 B — MOTOR CONTROL CENTERS:
- MCC DESIGNATION
- FLOOR NUMBER
- MOTOR CONTROL CENTER

2 E TX / 2 A — TRANSFORMERS:
- TRANSFORMER DESIGNATION
- FLOOR NUMBER
- TRANSFORMER
- POWER SOURCE
  - : NORMAL
  - E : EMERGENCY or ESSENTIAL
  - U : UPS
  - C : CRITICAL
  - S : LIFE SAFETY OR LEGALLY REQUIRED STANDBY
  - O : OPTIONAL STANDBY

2 T TB / 2 A — SIGNAL SYSTEM TERMINALS:
- TERMINAL DESIGNATION
- FLOOR NUMBER
- TERMINAL TYPE
  - TB : TERMINAL BOARD
  - TC : TERMINAL CABINET
- TERMINAL CLASSIFICATION
  - D : DATA
  - FA : FIRE ALARM
  - S : SECURITY
  - T : TELEPHONE
  - TV : TELEVISION
- BUILDING NUMBER (WHEN APPLICABLE)

RACEWAYS

- CONDUIT RUN EXPOSED ON WALL OR CEILING.
- CONDUIT RUN CONCEALED IN SLAB, UNDER SLAB OR UNDERGROUND.
- CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING.
- CONDUIT HOMERUN, CONTINUOUS RUN TO PANEL OR EQUIPMENT CABINET. HOMERUN CAN OCCUR ON ANY OF THE ABOVE ROUTING CONDITIONS.
- CONDUIT TURNED UP, CAN OCCUR ON ANY OF THE ABOVE ROUTING CONDITIONS.
- CONDUIT TURNED DOWN, CAN OCCUR ON ANY OF THE ABOVE ROUTING CONDITIONS.
- CONDUIT CAPPED OR STUBBED WITH INSULATED BUSHINGS, CAN OCCUR ON ANY OF THE ABOVE ROUTING CONDITIONS.
- CONDUIT SLEEVE, WITH INSULATING BUSHINGS.
- FLEXIBLE METALLIC CONDUIT, EQUIPMENT CONNECTION.
- CROSSMARKS ON BRANCH CIRCUIT CONDUIT RUNS INDICATE THE QUANTITY OF CONDUCTORS AS FOLLOWS (GROUND CONDUCTORS ARE NOT NOTED, BUT SHOULD BE INCLUDED IN EVERY CONDUIT WITH POWER CONDUCTORS):
  1. NO CROSSMARKS INDICATES TWO #12 AWG CONDUCTORS, UON.
  2. THREE TO SIX CROSSMARKS INDICATES THE QUANTITY OF #12 AWG CONDUCTORS, UON.
  3. SEVEN OR MORE CROSSMARKS INDICATES THE QUANTITY OF #10 AWG CONDUCTORS, UON.
- SURFACE RACEWAY; TYPE, DEVICE SPACING AND MOUNTING AS NOTED ON PLANS.
- CABLE TRAY, REFER TO PLANS AND/OR SPECS FOR SIZE AND MOUNTING.

TELECOMMUNICATIONS

- TELECOMMUNICATION DEVICE, WALL MOUNTED, +18" UON.
- TELECOMMUNICATION DEVICE, WALL MOUNTED, 6" ABOVE BACK SPLASH UON, BUT NO HIGHER THAN ADA REQUIREMENTS.
- W — TELEPHONE DEVICE, WALL MOUNTED, +42" UON.
- TELECOMMUNICATION DEVICE, MOUNTED IN FLUSH FLOOR BOX.
- TELECOMMUNICATION DEVICE, MOUNTED IN FIRE-RATED POKE-THRU FLOOR FITTING.
- TELECOMMUNICATION DEVICE, CEILING MOUNTED.
- COMBINATION POWER/TELECOMMUNICATION DEVICES, MOUNTED IN FLUSH FLOOR BOX. TYPE AS NOTED ON PLANS OR IN SPECIFICATIONS.
- COMBINATION POWER/TELECOMMUNICATION DEVICES, MOUNTED IN FIRE-RATED POKE-THRU FLOOR FITTINGS. TYPE AS NOTED ON PLANS OR IN SPECIFICATIONS.
- ELECTRIFIED FURNITURE PARTITION TELECOMMUNICATION CABLE FEED, WALL MOUNTED, +18" UON, CONSISTS OF 4 11/16" SQ. X 2 1/8" DEEP JUNCTION BOX, SINGLE GANG RING, AND STAINLESS STEEL COVERPLATE WITH 1.25" KO AND GROMMET.
- ELECTRIFIED FURNITURE PARTITION COMBINATION POWER/TELECOMMUNICATION FEEDS, MOUNTED IN FLUSH FLOOR BOX WITH KO'S IN COVERS TO ACCEPT FURNITURE WHIPS. TELECOMMUNICATIONS WHIP SHALL BE 1.25" MINIMUM.
- ELECTRIFIED FURNITURE PARTITION TELECOMMUNICATION CABLE FEEDS, MOUNTED IN FIRE-RATED POKE-THRU FLOOR FITTING WITH 1.25" KO'S IN COVER TO ACCEPT FURNITURE WHIPS.
- WAP — WIRELESS ACCESS POINT, WALL MOUNTED, 8" BELOW FINISHED CEILING, UON.
- WAP — WIRELESS ACCESS POINT, CEILING MOUNTED.
- #D/#V — QUANTITY OF DATA AND/OR VOICE TELECOMMUNICATIONS DEVICES.
- EL — TELECOMMUNICATION DEVICE, WALL MOUNTED, +18" UON, FOR ELEVATOR USE IN ELEVATOR MACHINE/CONTROLLER ROOM.
- EM — TELECOMMUNICATION DEVICE, FOR EMERGENCY PHONES, MOUNTED AS NOTED ON PLANS.
- TELECOMMUNICATIONS MAIN GROUNDING BUSBAR.

ABBREVIATIONS

A	AMPERES	LCP	LIGHTING CONTROL PANEL
AFI	ARC FAULT CIRCUIT INTERRUPTER	MBGB	MAIN BUILDING GROUND BUS
AF	AMPERE OVERCURRENT FRAME SIZE (WHEN APPLIED TO CIRCUIT BREAKERS) OR AMPERE FUSE SIZE (WHEN APPLIED TO FUSES)	MCB	MAIN CIRCUIT BREAKER
		MCC	MOTOR CONTROL CENTER
		MLO	MAIN LUGS ONLY
AFF	ABOVE FINISHED FLOOR	MT	EMPTY CONDUIT
AIC	ASYMMETRIC INTERRUPTING CURRENT	MTS	MANUAL TRANSFER SWITCH
AL	ALUMINUM	(N)	NEW
AT	AMPERE OVERCURRENT TRIP (WHEN APPLIED TO CIRCUIT BREAKERS)	NC	NORMALLY CLOSED
AV	AUDIO / VIDEO	NF	NON-FUSED
ATS	AUTOMATIC TRANSFER SWITCH	NIEC	NOT IN ELECTRICAL CONTRACT
BAS	BUILDING AUTOMATION SYSTEM	NL	NIGHT LIGHT, UNSWITCHED
BPS	BOLTED PRESSURE CONTACT SWITCH	NO	NORMALLY OPEN
C	CONDUIT	NTS	NOT TO SCALE
CCTV	CLOSED CIRCUIT TELEVISION	OC	ON CENTER
CEC	CALIFORNIA ELECTRICAL CODE	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CL	CURRENT LIMITING CIRCUIT BREAKER OR FUSE	PA	PUBLIC ADDRESS
CP	CIRCULATION PUMP	PDZ	PRIMARY DAYLIGHT ZONE
CT	CURRENT TRANSFORMER	PNL	PANEL
CU	COPPER	PQM	POWER QUALITY METER
DF	DRINKING FOUNTAIN	PT	POTENTIAL TRANSFORMER
(E)	EXISTING TO REMAIN	PVC	POLYVINYL CHLORIDE
EC	ELECTRICAL CONTRACTOR	(R)	EXISTING TO BE REMOVED
EF	EXHAUST FAN	(RR)	REMOVE AND RELOCATE
EP	EXPLOSION PROOF	SAD	SEE ARCHITECTURAL DRAWINGS
EPO	EMERGENCY POWER OFF	TC	TIME CLOCK
EMT	ELECTRICAL METALLIC TUBING	TP	TWISTED-PAIR
EWH	ELECTRIC WATER HEATER	SDZ	SECONDARY DAYLIGHT ZONE
F	FUSED	SPD	SURGE PROTECTION DEVICE
(F)	FUTURE	TX	TRANSFORMER
FACP	FIRE ALARM CONTROL PANEL	TYP	TYPICAL
FFCP	FIREMAN'S FAN CONTROL PANEL	UON	UNLESS OTHERWISE NOTED
FLA	FULL LOAD AMPERES	UPS	UNINTERRUPTIBLE POWER SUPPLY
FMC	FLEXIBLE METAL CONDUIT	V	VOLTS
FSD	FIRE/SMOKE DAMPER	VA	VOLTS-AMPS
FRAP	FIREMAN'S REMOTE ANNUNCIATOR PANEL	VFD	VARIABLE FREQUENCY DRIVE
		VM	VENDING MACHINE
G	GROUND	WAP	WIRELESS ACCESS POINT
GB	GROUND BUS	WP	WEATHERPROOF
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	2SP	TWO SPEED
GND	GROUND	1Ø	1-PHASE
GRAP	GENERATOR REMOTE ANNUNCIATOR PANEL	3Ø	3-PHASE
		1P	1-POLE
GRC	GALVANIZED RIGID CONDUIT	2P	2-POLE
HNC	HOME NETWORK CABINET	3P	3-POLE
HPC	HIGH PRESSURE CONTACT SWITCH	3W	3-WIRE
IG	ISOLATED GROUND	4W	4-WIRE
IMC	INTERMEDIATE METAL CONDUIT		

TELECOMMUNICATION SHEET INDEX

SHEET NO.	SHEET NAME
T-0.1	SYMBOLS LIST & DRAWING INDEX
T-1.1	OVERALL PLAN
T-2.1	SIGNAL PLAN
T-3.1	DETAILS
T-3.2	DETAILS
T-3.3	SPECIFICATION

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SYMBOLS LIST & DRAWING INDEX

T-0.1



1 OVERALL PLAN

SCALE: 1" = 40'-0"

GENERAL SHEET NOTES

A. CABLE ROUTING IS DIAGRAMMATIC. COORDINATE EXACT ROUTES WITH ON-SITE CONDITIONS.

B. JOINT TRENCH DATA WITH POWER. REFER TO DETAIL 4/T3.1.

C. PROVIDE 10" ROUND IN-GROUND PULL BOX AT ALL CAMPSITE LOCATIONS. PROVIDE (1) 1"C FROM NEAREST PULLBOX SHOWN. SEE SHEET T-3.2, DETAL 3

D. PROVIDE 17" X 30" X 24"D IN-GROUND PULL BOX AT ALL TRASH ENCLOSURES AND LOCATIONS MARKED WITH P.B.-#. COORDINATE WITH ARCHITECT PRIOR TO CONSTRUCTION.

E. PROVIDE 1" C AT ALL CAMPSITES FROM PULL BOX TO WITHIN 4' OF POWER PEDESTAL. CAP CONDUIT AND FLAG FOR FUTURE BOLLARD LOCATION

F. PROVIDE OBERON 3020 AT ALL CAMPSITES WITH A WAP SYMBOL

G. FOLLOW ELECTRICAL TRENCH AT CAMP SITE 7 TO PREVENT DISTURBING SOIL. NO TRENCH SHALL PASS THROUGH THIS SITE

NUMBERED SHEET NOTES

1. (2) 2"CONDUIT RISERS TO 18 X 18 X 6D PULL CAN LOCATED HIGH ON WALL WITH NIPPLE CONDUIT FITTINGS. STUB CONDUIT SLEEVES INTO BUILDING. PROVIDE 24 STRAND FIBER FROM DATA CABINET TO (E) IDF CABINET IN CLUB HOUSE.
2. (4) 3" CONDUIT RISERS TO DATA CABINET IN BUILDING WITH MIN. 10' SERVICE LOOP FOR ALL COPPER OSP CABLING. REFER TO T2.1.
3. PROVIDE WEATHERPROOF, WALL-MOUNTED ENCLOSURE WITHIN TRASH CAN ELECTRICAL ROOMS FOR ACTIVE NETWORK COMPONENTS (HOPE INDUSTRIAL SYSTEMS, INC NEMA 4 INDUSTRIAL ENCLOSURE). PROVIDE 120V POWER FOR ACTIVE NETWORK COMPONENTS. (1) OS2 FIBER DATA TO NETWORK SWITCH WITH 6' SERVICE LOOP IN SPECIFIED ENCLOSURE. SWEEP (2) 2" CONDUITS INTO WALL ENCLOSURE FROM PULL BOX. PROVIDE 1" SWEEP TO SURFACE MOUNTED POLE FOR WAP.
4. PROVIDE WAP, ATTACHED TO POLE. ENSURE ALL CONNECTIONS ARE PROTECTED AGAINST WATER INGRESS. ROTATE UNIT TO ENSURE MAXIUM COVERAGE.
5. (1) 2" CONDUIT, HOME RUN TO DATA CABINET IN BATHROOM
6. TERMINATE COPPER OSP CABLE FOR WAP IN SURFACE MOUNTED BOX WITH 10' SERVICE LOOP. PROVIDE CONDUIT SLEEVE TO WEATHERPROOF BOX ON EXTERIOR.
7. TERMINATE COPPER OSP CABLE FOR WAP IN SURFACE MOUNTED BOX WITH 10' SERVICE LOOP.
8. PROVIDE WAP IN BOLLARD. PROVIDE (1) COPPER OSP CABLE TO WAP WITH MIN. 10' SERVICE LOOP IN SPECIFIED BOLLARD.
9. PROVIDE WAP & OBERON ENCLOSURE, ATTACHED TO ROOF FACIA. ENSURE ALL CONNECTIONS ARE PROTECTED AGAINST WATER INGRESS. ROTATE UNIT TO ENSURE MAXIMUM COVERAGE. PAINT ENCLOSURE TO MATCH.
10. PROVIDE CAPPED 2" CONDUIT. RUN CONDUIT TO THE BACK OF THE CAMPSITE SO AS TO ALLOW FUTURE ACCESS WITHOUT DESTRUCTION OF SURROUNDING LANDSCAPE OR INFRASTRUCTURE.

DATA CABLING SPECIFICATION

GAMECHANGER LSZH OSP CABLE (GC OSP)
258330804

1.0 SCOPE
1.1 THIS CABLE CONSISTS OF 4 PAIR SOLID BARE COPPER; COLOR-CODED HIGH DENSITY POLYETHYLENE (HDPE) INSULATION; WATER-PROOF GEL; OVERALL LSZH / OSP DIRECT BURIAL JACKET. ROHS-2 COMPLIANT

2.0 CONSTRUCTION

2.1 CONDUCTOR
2.1.1 MATERIAL: BARE COPPER
2.1.2 CONSTRUCTION: SOLID 22 AWG

2.2 INSULATION
2.1.1 MATERIAL: ULTRA LOW-LOSS DIELECTRIC
2.1.3 O.D.: 0.044" NOM
2.1.4 COLOR CODE
PAIR 1: WHITE/BLUE
BLUE
PAIR 2: WHITE/ORANGE
ORANGE
PAIR 3: WHITE/GREEN
GREEN
PAIR 4: WHITE/BROWN
BROWN

2.3 CORE ASSEMBLY:
2.3.1 4 TWISTED PAIRS CABLED TOGETHER AND FULLY FLOODED WITH A WATERPROOF GEL TO FORM THE MAIN CORE.

2.4 JACKET
2.4.1 MATERIAL: PE
2.4.2 WALL THICKNESS: 0.050" NOM.
2.4.3 OD: 0.305" NOM.
2.4.4 COLOR: BLACK
2.4.5 RIPCORD UNDER JACKET
2.4.6 MARKINGS: "PAIGE® GAMECHANGER™ PATENT NO. 10,453,589) OSP C(UL) CM-LS E191596XX ROHS SUN RES" (ASCENDING/DESCENDING LENGTH MARKING)

2.5 ELECTRICAL PROPERTIES
2.5.1 CONDUCTOR RESISTANCE: ≤6.35Ω/100M
2.5.2 INSULATION RESISTANCE: ≥5000MΩKM (DC500V CHARGED 1 MIN)
2.5.3 VOLTAGE ENDURANCE: DC 1500V/MIN
2.5.4 MUTUAL CAPACITANCE: ≤7.0NF/100M
2.5.5 CORE-CORE RESISTANCE UNBALANCE: ≤5%

2.6 TEMPERATURE RATING
2.6.1 -20°C TO +75°C (INSTALLATION)
2.6.2 -40°C TO +75°C (OPERATING)

2.7 POWER OVER ETHERNET SUPPORT
2.7.1 CLASS 1 - 8

3.0 WEIGHTS AND DIMENSIONS

3.1 PUT UP
3.1.1 LENGTH: 1,000 FT BOX
3.1.2 WEIGHT: 52 LBS
3.1.3 DIMENSIONS: 16" X 12" X 16"

HITACHI FIBER OPTIC OS2 CABLE (FIBER)
61459-6

ENHANCED BEND INSENSITIVE OS2 OPTICAL FIBER

TYPE:INDOOR OUTDOOR FIBER CABLE
APPLICATION:INDOOR/OUTDOOR
CABLE TYPE:TIGHT BUFFERED
TRANSMISSION MODE:SINGLEMODE
FIBER TYPE:OS2
JACKET FLAME RATING:(UL) OFNP C(UL) OFNP FT6
JACKET MATERIAL:LOW SMOKE, FLAME RETARDANT THERMOPLASTIC
JACKET COLOR:BLACK
FIBER COUNT:6
SPEED:8.3UM
OUTSIDE DIAMETER:0.19 IN. (4.83MM)
CONSTRUCTION:TIGHT BUFFER PLENUM, 900 UM
RECOMMENDED MAXIMUM LOADS:
INSTALL: 128 LBS-F (570N)
OPERATION: 39 LBS-F (171N)
CABLE WEIGHT: 15.1 LBS/1000 FT (22.5KG/1000M)

STANDARDS:
TIA/EIA-568-C.3
ISO/IEC 11801, 2ND EDITION
TELCORDIA GR-409-CORE

COPPER OSP RUN SCHEDULE

CABLE ID	FROM:	TO:	DESCRIPTION
OSP-001	IDF-01		WAP LOCATED AT TRASH ENCLOSURE
OSP-002	IDF-01	SITE 25	BOLLARD WAP
OSP-003	IDF-01	SITE 35	BOLLARD WAP
OSP-004	IDF-02		WAP LOCATED AT TRASH ENCLOSURE
OSP-005	IDF-03		WAP LOCATED AT TRASH ENCLOSURE
OSP-006	IDF-04		WAP LOCATED AT TRASH ENCLOSURE
OSP-007	IDF-04	SITE 75	BOLLARD WAP
OSP-008	IDF-04	SITE 69	BOLLARD WAP
OSP-009	IDF-04	SITE 63	BOLLARD WAP
OSP-010	IDF-05		WAP LOCATED AT TRASH ENCLOSURE
OSP-011	IDF-06	SITE 89	BOLLARD WAP
OSP-012	IDF-06	SITE 81	BOLLARD WAP
OSP-013	IDF-07		WAP LOCATED AT TRASH ENCLOSURE
OSP-014	IDF-07	SITE 55	BOLLARD WAP
OSP-015	RESTROOM IDF	SITE 44	BOLLARD WAP
OSP-016	RESTROOM IDF	SITE 48	BOLLARD WAP
OSP-017	RESTROOM IDF		WAP LOCATED ON ROOF POLE

FIBER RUN SCHEDULE

CABLE ID	FROM:	TO:	DESCRIPTION
FBR-001	RESTROOM IDF	IDF-01	FOLLOW PATHWAYS THROUGH PULLBOXES
FBR-002	RESTROOM IDF	IDF-02	FOLLOW PATHWAYS THROUGH PULLBOXES
FBR-003	RESTROOM IDF	IDF-03	FOLLOW PATHWAYS THROUGH PULLBOXES
FBR-004	RESTROOM IDF	IDF-04	HOMERUN TO RESTROOM IDF
FBR-005	RESTROOM IDF	IDF-05	SHARE HOMERUN PATHWAY WITH IDF-04
FBR-006	RESTROOM IDF	IDF-06	SHARE HOMERUN PATHWAY WITH IDF-04
FBR-007	RESTROOM IDF	IDF-07	HOMERUN TO RESTROOM IDF
FBR-008	RESTROOM IDF	CLUBHOUSE MDF	PROVIDE 24 STRAND FIBER THROUGH P.B.1/P.B.2/P.B.10

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Revisions

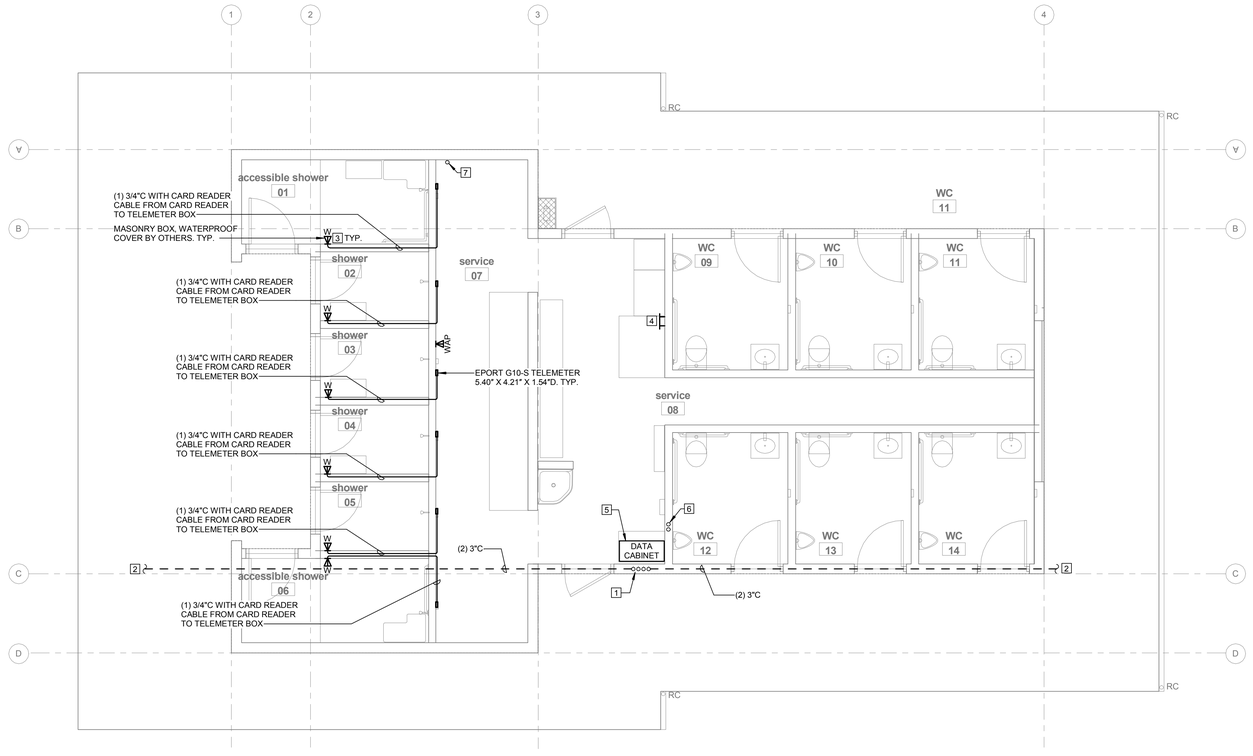
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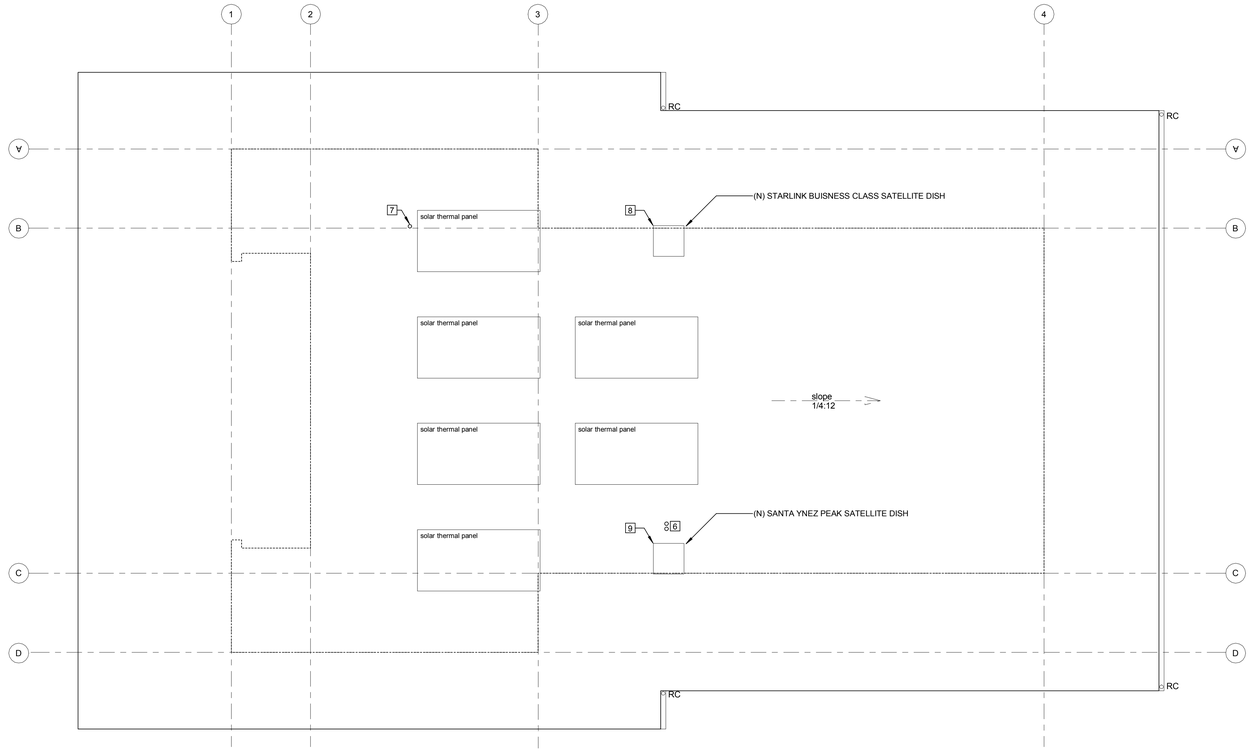
OVERALL PLAN

T-1.1



1 TELECOM PLAN

SCALE: 1/4" = 1'-0"



2 ROOF PLAN

SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

A. SATELLITE DISHES SHALL BE COORDINATED WITH SOLAR THERMAL ROOF PANELS, ROOF PENETRATIONS, AND SURROUNDING TREE CANOPIES PRIOR TO CONSTRUCTION OF ROOF. CONTRACTOR TO PROVIDE A SUBMITTAL CONFIRMING PLACEMENT OF SATELLITE DISHES AND WEATHERHEAD PENETRATIONS THROUGH ROOF.

NUMBERED SHEET NOTES

1. (4) 3" RISER CONDUIT TO FLUSH MOUNTED PULL CAN ACCESS PANEL IN WALL BEHIND IDF. (2) 2" CONDUITS TO ROOF WITH WEATHERHEAD FOR ANTENNAS.
2. CONDUIT CONTINUES TO SITE. REFER TO SITE PLAN ON T1.1.
3. TELEPHONE OUTLET FOR EPORT G10-S CARDREADER (CARDREADER BY OTHERS).
4. TELECOMMUNICATIONS MAIN GROUNDING BUSBAR WITH #6 AWG CABLE TO THE IDF CABINET AND #1/0 AWG CABLE TO BUILDING STEEL. MIN. 80" CLEARANCE HEIGHT TO THE BOTTOM OF THE BUS BAR. COORDINATE EXACT LOCATION WITH ELECTRICAL PLANS. REFER TO DETAIL 6/T3.1.
5. 36"H X 24"D CPI CUBE-IT PLUS CABINET 11900-736. 24" AFF TO THE BOTTOM OF THE CABINET. REFER TO DETAIL 5/T3.1. FIBER SWITCH AND FIBER PATCH PANEL TO BE PLACED IN CABINET. (1) 120V AC QUAD OUTLET; PLEASE COORDINATE INSTALLATION WITH ELECTRICAL. PROVIDE (1) UPS PER T-3.3
6. 2" CONDUITS WITH WEATHERHEAD EXTENDED MAX. 24" ABOVE ROOF FOR ANTENNA FROM IDF. REFER TO DETAIL 6/T3.1.
7. 2" CONDUIT WITH WEATHERHEAD EXTENDED MIN. 72" ABOVE ROOF FOR WAP FROM IDF. REFER TO DETAIL 6/T3.1 FOR ROOF PENETRATION DETAILS.
8. (N) STARLINK BUSINESS CLASS SATELLITE DISH POINTED NORTH AT HIGH ANGLE UP TOWARDS THE SKY. CABLING IS OFOI. STARLINK ACCESSORIES "FLASH MOUNT" AND "PIVOT MOUNT" ARE CFCI, COORDINATE WITH ARCHITECTURAL PLANS. ELECTRICAL TO INDICATE TO PROVIDE CONDUIT AND WEATHERHEAD CONNECTION THROUGH ROOF BY CONTRACTOR FOR PULLING OF CABLES TO CABINET (BY OTHERS). ARCHITECT SHALL INDICATE STRUCTURAL SUPPORT PENETRATION ON ROOF BY CONTRACTOR FOR DISH INSTALLATION (BY OTHERS).
9. SANTA YNEZ PEAK SATELLITE DISH POINTED SOUTH AT 45 DEGREES VERTICAL ANGLE TOWARDS THE HORIZON. (E) DISH (OFCI), NEW CAT 6 CABLING, AND WEATHERHEAD TO BE INSTALLED BY CONTRACTOR AS INDICATED ON PLANS. ARCHITECT SHALL INDICATE STRUCTURAL SUPPORT PENETRATION ON ROOF BY CONTRACTOR FOR DISH INSTALLATION BY CONTRACTOR.

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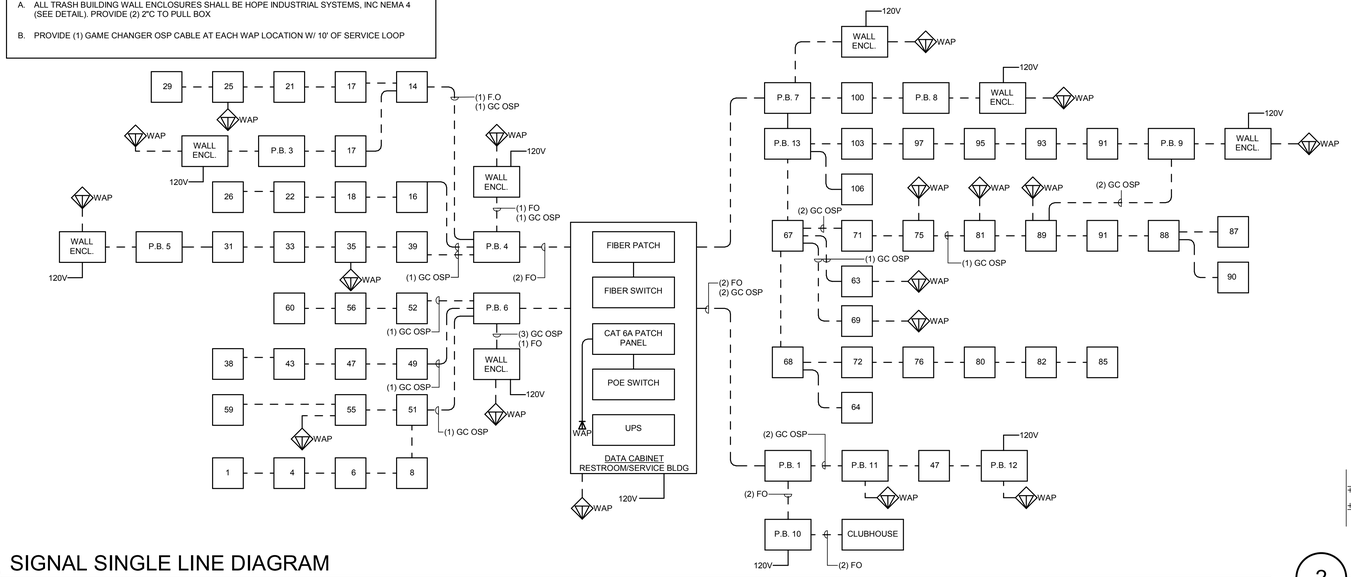
SIGNAL PLAN

T-2.1

GENERAL SHEET NOTES

A. ALL TRASH BUILDING WALL ENCLOSURES SHALL BE HOPE INDUSTRIAL SYSTEMS, INC NEMA 4 (SEE DETAIL). PROVIDE (2) 2"C TO PULL BOX

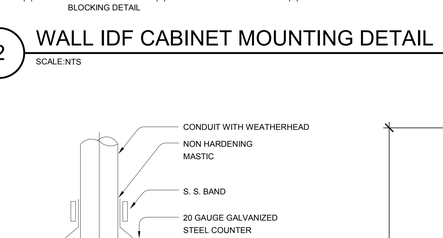
B. PROVIDE (1) GAME CHANGER OSP CABLE AT EACH WAP LOCATION W/ 10' OF SERVICE LOOP

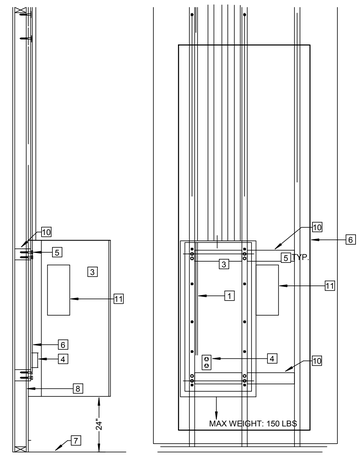


1 SIGNAL SINGLE LINE DIAGRAM

SCALE: 12" = 1'-0"

1. NEW CONDUIT FOR POWER, REFER TO ELECTRICAL PLANS.
2. CEILING
3. DATA WALL CABINET, RATED FOR 350 Lbs. STATIC LOAD
4. 120V DUPLEX RECEPTACLE MOUNTED INSIDE CABINET.
5. 2 EA. 1/4"x4" TEK SCREW W/ FENDER WASHERS INTO LIGHT GAUGE STEEL MEMBER, AT 4 CORNERS AND BETWEEN CORNERS THRU PLYWOOD. REFER TO OSHPD OPM-0196-13
6. 3/4"X4'X8' PLYWOOD FIRE RATED BACKBOARD. ATTACH TO WALL WITH #10 FLAT HEAD TEK SCREWS EVERY 12"OC AND 2" FROM EDGE. PAINT WITH 2 COATS OF PAINT TO MATCH INTERIOR WALL.
7. FINISHED FLOOR.
8. INTERIOR WALL, 6"X18ga METAL STUDS @ 16"OC MIN.
9. LIGHT GAUGE STEEL BETWEEN WALL STUDS. REFER TO ARCHITECTURAL AND STRUCTURAL BLOCKING DETAILS.
10. AC UNIT ATTACHED TO SIDE OF CABINET WHERE REQUIRED.

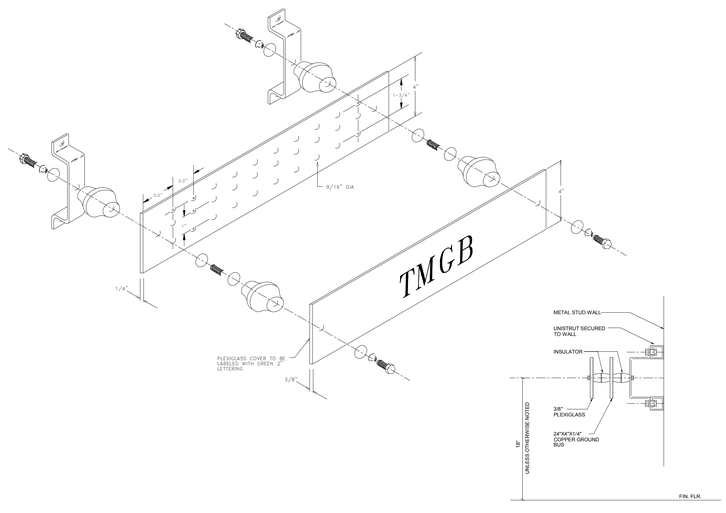




36"HX24"WX24"D DATA CABINET.

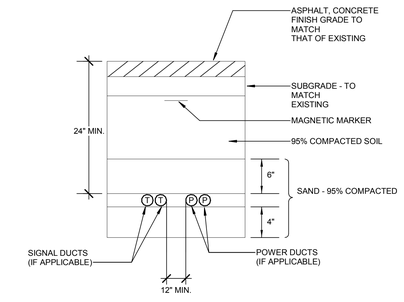
2 WALL IDF CABINET MOUNTING DETAIL

SCALE:NTS



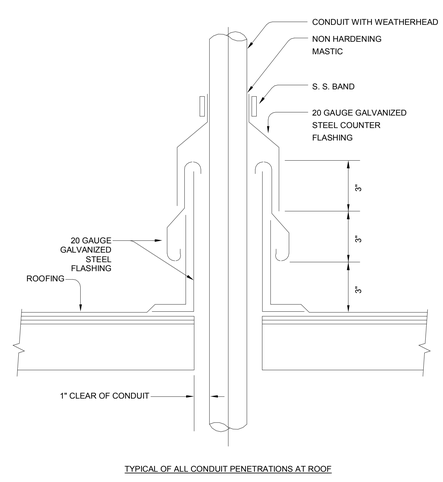
3 TELECOMMUNICATIONS MAIN GROUNDING BUSBAR DETAIL

SCALE:NTS



4 JOINT TRENCH DETAIL

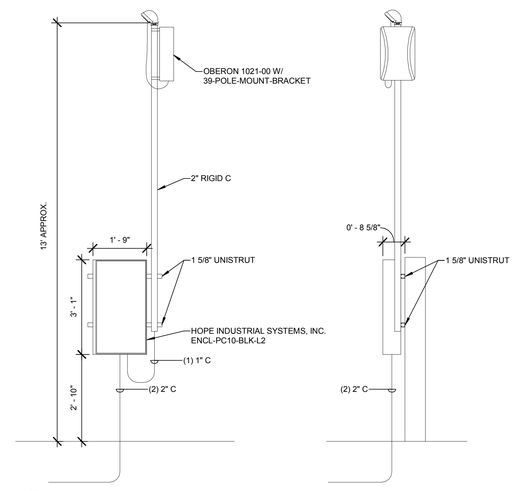
SCALE:NTS



TYPICAL OF ALL CONDUIT PENETRATIONS AT ROOF

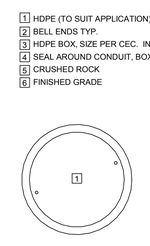
5 CONDUIT PENETRATION AT ROOF

SCALE: 12" = 1'-0"

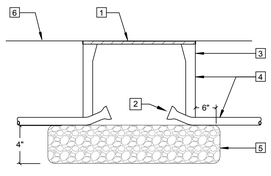


6 POLE AND NEMA ENCLOSURE DETAIL

SCALE:NTS



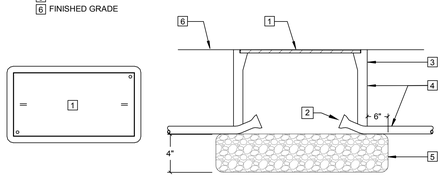
1. HDPE (TO SUIT APPLICATION) WITH STAINLESS HOLD DOWN BOLTS. LABEL COVER AS REQUIRED.
2. BELL ENDS TYP.
3. HDPE BOX, SIZE PER CEC. INSTALL FLUSH WITH GRADE.
4. SEAL AROUND CONDUIT, BOX & JUNCTION OF EXTENSION(S).
5. CRUSHED ROCK
6. FINISHED GRADE



7 10" PULLBOX DETAIL

SCALE: 12" = 1'-0"

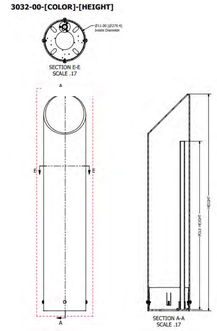
1. CONCRETE COVER (TO SUIT APPLICATION) WITH HOLD DOWN BOLTS. LABEL COVER AS REQUIRED.
2. BELL ENDS TYP.
3. PRE CAST REINFORCED CONCRETE BOX, SIZE PER CEC. INSTALL FLUSH WITH GRADE.
4. SEAL AROUND CONDUIT, BOX & JUNCTION OF EXTENSION(S).
5. CRUSHED ROCK
6. FINISHED GRADE



8 17" X 30" PULLBOX DETAIL

SCALE: 12" = 1'-0"

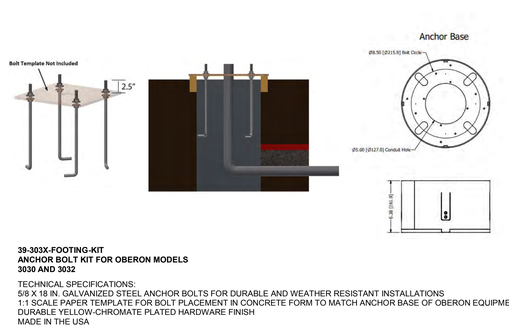
3032-00-[COLOR]-[HEIGHT]



TECHNICAL SPECIFICATIONS:
DESIGN: CYLINDRICAL POLYETHYLENE WI-FI BOLLARD. DESIGNED TO PROTECT APS AND ANTENNAS IN OUTDOOR PUBLIC SPACES. DESIGNED FOR PERMANENT AC LINE VOLTAGE AND LOW VOLTAGE INSTALLATIONS. INTERIOR EQUIPMENT STAND FOR MOUNTING APS AND ANTENNAS
PERFORMANCE: DESIGNED TO PROTECT EQUIPMENT FROM TAMPERING, ABUSE, AND WEATHER. NEMA 3R PERFORMANCE FOR INDOOR/OUTDOOR ENVIRONMENTS. FIBERGLASS IS VIRTUALLY TRANSPARENT TO WIRELESS SIGNALS
ANCHORS TO PRE-INSTALLED CONCRETE PEDESTAL. CABLING IS CONDUCTED THROUGH CONDUIT IN PEDESTAL
AVAILABLE IN 14 STANDARD COLORS (SEE THE CONFIGURATION GUIDE)
INCLUDES ANCHOR BASE, EQUIPMENT STAND, HARDWARE TO FASTEN APS AND ANTENNAS. BOLT COVER
AND TAMPER RESISTANT HARDWARE
CONSTRUCTION: 0.25 IN. THICK CENTRIFUGAL CAST POLYETHYLENE BOLLARD (65% GLASS, 35% RESIN). PAINT IS UV AND CLEANING CHEMICAL RESISTANT. ZINC COATED, 0.25 IN. THICK STEEL ANCHOR
BASE. FIBERGLASS EQUIPMENT MOUNTING STAND. ABS PLASTIC BOLT COVER, PAINTED TO MATCH BOLLARD
SIZE: 57 IN. (1,384 MM) ABOVE GRADE, 12.5 IN. (318 MM) INNER DIAMETER. ANCHOR BASE IS 15.25 X 15.25 IN.
WEIGHT: 27 LBS.
MADE IN THE USA

9 OBERON 3032 WAP BOLLARD DETAIL

SCALE:NTS



39-303X-FOOTING-KIT
ANCHOR BOLT KIT FOR OBERON MODELS 3030 AND 3032

TECHNICAL SPECIFICATIONS:
5/8 X 18 IN. GALVANIZED STEEL ANCHOR BOLTS FOR DURABLE AND WEATHER RESISTANT INSTALLATIONS
1:1 SCALE PAPER TEMPLATE FOR BOLT PLACEMENT IN CONCRETE FORM TO MATCH ANCHOR BASE OF OBERON EQUIPMENT
DURABLE YELLOW-CHROMATE PLATED HARDWARE FINISH
MADE IN THE USA

10 ANCHOR BOLT KIT DETAIL

SCALE:NTS

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The Engineering Enterprise
CONSULTING ENGINEERS
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SAN DIEGO | SANTA BARBARA
https://www.engent.com

Cachuma Lake WiFi

2265 HWY 154
Santa Barbara, CA 93105

145 160 072

Revisions

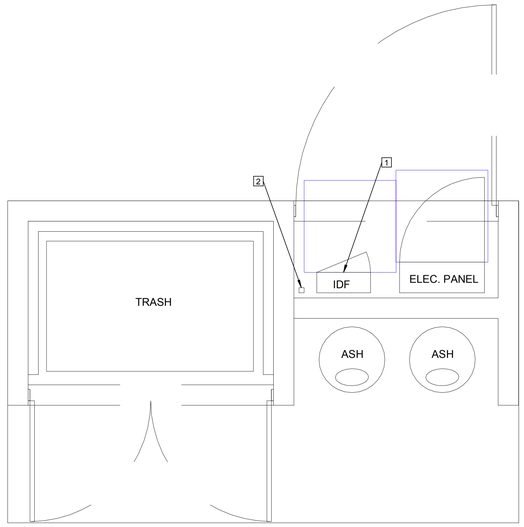
Bid Set	**06/06/6023**

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REGISTERED PROFESSIONAL ENGINEER
IEI8984
Exp. 12/31/23
DAVID JOHNSON
ELECTRICAL
STATE OF CALIFORNIA

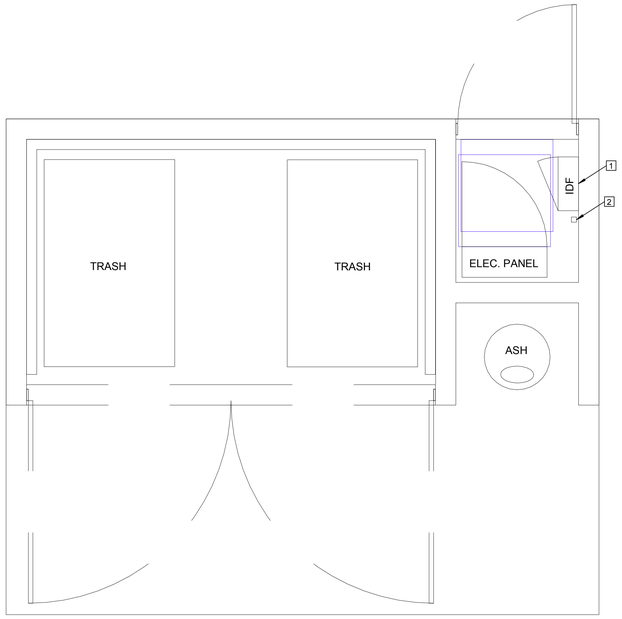
DETAILS

T-3.1



1 TRASH CAN ENCLOSURE TYP.

SCALE: 1/2" = 1'-0"



2 DOUBLE TRASH CAN ENCLOSURE

SCALE: 1/2" = 1'-0"

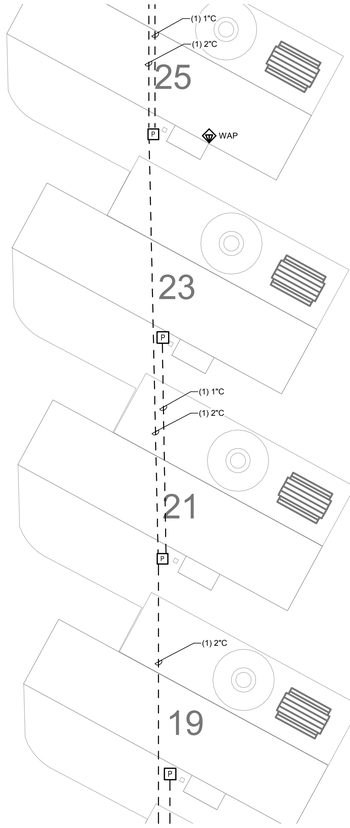
GENERAL SHEET NOTES

A. COORDINATE WALL ENCLUSE LOCATION AND PATHS WITH OTHER TRADES

B. PROVIDE (1) 120V 15A RECEPTACLE WITHIN WALL ENCLOSURE

NUMBERED SHEET NOTES

1. PROVIDE WEATHERPROOF, WALL-MOUNTED ENCLOSURE WITHIN TRASH CAN ELECTRICAL ROOMS FOR ACTIVE NETWORK COMPONENTS (HOPE INDUSTRIAL SYSTEMS, INC NEMA 4 INDUSTRIAL ENCLOSURE). PROVIDE 120V POWER FOR ACTIVE NETWORK COMPONENTS. (1) OS2 FIBER DATA TO NETWORK SWITCH WITH 6' SERVICE LOOP IN SPECIFIED ENCLOSURE. SWEEP (2) 2" CONDUITS INTO WALL ENCLOSURE FROM PULL BOX. PROVIDE 1" SWEEP TO SURFACE MOUNTED POLE FOR WAP.
2. PROVIDE WAP, ATTACHED TO POLE. ENSURE ALL CONNECTIONS ARE PROTECTED AGAINST WATER INGRESS. ROTATE UNIT TO ENSURE MAXIUM COVERAGE.



3 CAMPSITE TYPICAL PULL BOX LAYOUT

SCALE: 1" = 10'-0"

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REGISTERED PROFESSIONAL ENGINEER
#E18864
Exp. 12/31/23
DAVID JOHNSON
ELECTRICAL
STATE OF CALIFORNIA

DETAILS

T-3.2

FIBER SWITCH SPECIFICATIONS

DIVISION 27 21 29
CNGE24FX12TX12MSPOE TWENTY FOUR PORT FIBER OPTIC GIGABIT ETHERNET MANAGED SWITCH
ENGINEERING SPECIFICATIONS

PART 1 - GENERAL
1.01 SUMMARY
A. Twenty four Port Gigabit Ethernet Managed Switch with PoE
1.02 SECTION INCLUDES
A. CNGE24FX12TX12MS Series Ethernet Managed Switch
1.03 REFERENCES
A. Underwriters Laboratory (UL)
B. Underwriters Laboratory Canada (ULC)
C. European Union Compliance (CE)
D. NEMA TS2-1998
E. CALTRANS
1.04 SYSTEM DESCRIPTION
A. Performance Requirements: Provide 12 (twelve) Gigabit 10/100/1000TX RJ-45 PoE ports and 12 (twelve) Gigabit 100/1000Base-FX SFP ports.
1. The system shall have SFP ports allowing for the use of SFP modules for flexibility in determining operating wavelength, range, number of fibers, type of receptacle, and type of fiber.
1.05 SUBMITTALS
A. Manufacturer's Installation and Operating Manual: Printed installation and operating information for each type of device specified.
1.06 DELIVERY, STORAGE AND HANDLING
A. Store in original packaging in a climate controlled environment. Storage Temperature not to exceed -40° C to +85° C
1.07 PROJECT/SITE CONDITIONS
A. Temperature Requirements: Products shall operate in an environment with an ambient temperature range of -40° C to +60° C (functional to +75°C) without the assistance of fail-forced cooling.
B. Humidity Requirements: Products shall operate in an environment with relative humidity of 5% to 95% (non-condensing). If product is installed in condensation conditions, add -C to the part number.
1.08 WARRANTY:
A. Standard Communication Networks Comprehensive Lifetime Warranty: Comnet warrants the product to be free of factory defects under manufacturer's Lifetime Warranty as submitted under article 1.05 (A).
PART 2 - PRODUCTS
2.01 MANUFACTURER
A. Acceptable Manufacturer: Communication Networks; 3 Corporate Drive, Dunbury CT 068 USA; Telephone: 203-796-5300; Fax 203-796-5303; Email: sales@comnet.net; Internet: www.comnet.net
B. Substitutions: Not Permitted
C. All fiber optic Ethernet managed switches and SFP modules shall be supplied from a single manufacturer.
2.02 MANUFACTURED UNITS
A. Model Number Descriptions: Reference Table A: Product Number Descriptions
B. Model Compatibility Chart: Reference Table B: Product Compatibility Chart
2.03 GENERAL SPECIFICATIONS
B. The Ethernet managed switch system shall be a Comnet CNGE24FX12TX12MS[POE]. The module shall support transmission utilizing Category 5 cable or better, multimode, or single-mode fiber. The module shall support the Ethernet data IEEE 802.3 protocol using Auto-negotiating and Auto-MDI/MDI-X features. The module shall feature 12 (twelve) Gigabit 10/100/1000TX RJ-45 PoE ports and 12 (twelve) Gigabit 100/1000Base-FX SFP ports. The module shall require no field electrical or optical adjustments or in-line attenuators to ease installation. The module shall provide power, link speed, and fiber port status indicating LED's for monitoring proper system operation. The modules shall provide automatic re-settable solid-state current limiters on each module to reduce the chance of a single point failure of the system. The module shall have redundant power supply connections to minimize single point failure. The module shall provide a serial connection for local management of the device. The module shall have a lifetime warranty to reduce system life cycle cost in an event of a module failure.
C. The following IEEE Networking Standards shall be supported:
IEEE 802.3 10Base-T Ethernet
IEEE 802.3u 100Base-TX Fast Ethernet
IEEE 802.3ab 1000Base-TX
IEEE 802.3z Gigabit Ethernet Fiber
IEEE 802.3x Flow Control
IEEE 802.1p class of service
IEEE 802.1Q VLAN Tagging
IEEE 802.1D Spanning Tree Protocol (STP)
IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
IEEE802.3ad LACP
IEEE 802.1AB LLDP
IEEE802.1X Port-based Network Access Control
IEE802.3at for Power Sourcing Equipment (PSE) and PoE up to 30W per port, and 390 Watts total budget
IEEE 802.3az Energy Efficient Ethernet
ITU-T G.8032v1/v2 Ethernet Ring Protection Switching (ERPS)
D. Switching Performance
Switch Technology: Store and Forward
Technology with 54Gbps Switch Fabric
Switching latency 7 µs
DRAM 1GB
Flash 128Mb

VLANs: Voice, Private, Multicast
Max. Available VLANs 256
IGMP multicast groups 128 for each VLAN
Port rate limiting User Defined
Processing Store-and-Forward
Priority Queues 8
Network Redundancy STP RSTP MSTP ERPS
MAC Table 8K MAC Addresses
Jumbo Frame Up to 9.6K Bytes
Static Routing 32 Routes
Relay Alarm: Dry Relay output with 1A@24V ability
E. MANAGEMENT
Configuration: Web, HTTPS, SSH,TFTP/Web Update for fimware and configuration backup/restore, DHCP Client, Warm reboot, Reset to default, Admin password, Port Speed/Duplex control, status, statistic, MAC address table display, Static MAC, Aging time, SNMP v3,
SNMP MIB: MIB-II, Bridge MIB, VLAN MIB, SNMP MIB, RMON and Private MIB
Port Trunk: Up to 5 Static Trunk and 802.3ad LACP
VLAN: IEEE802.1Q VLAN. Up to 256 VLAN groups
Quality of Service: Four priority queues per port, IEEE802.1p COS and Layer 3 TOS/DiffServ
IGMP Snooping: IGMP Snooping V1/V2/V3 for multicast filtering and IGMP Query
Rate Control: Ingress filtering for Broadcast, Multicast, Unknown DA or all packets, and Egress filtering for all packets
NTP: Network Time Protocol to synchronize time from Internet
Embedded Watchdog: Embedded hardware watchdog timer to auto reset system when switch system failure
Port Mirroring: Online traffic monitoring on multiple selected ports
Port Security: Assign authorized MAC to specific port
IP Security: IP security to prevent unauthorized access
802.1x: Port-based Network Access Control
DHCP Server: Can assign 255 IP address, support IP and MAC binding
System Log: Supports both Local mode and Server mode
NETWORK REDUNDANCY
Rapid Spanning Tree Protocol: IEEE802.1D-2004 Rapid Spanning Tree Protocol.
Compatible with Legacy STP and IEEE802.1w.
2.04 DATA SPECIFICATIONS
A. Data Interface: Ethernet IEEE802.3
B. Data Rate: up to 1000 Mbps
C. Data Inputs/Outputs: up to 24
D. Operation Mode: Half or Full Duplex
2.05 OPTICAL SPECIFICATIONS
A. Comnet Model Number CNGE24FX12TX12MS[POE]
1. Number of Optical ports: 12 SFP-based
2. Number of Fibers Required: 1 or 2, SFP-dependant
3. Optical Wavelength: 1310 or 1550 nm, SFP-dependant
4. Optical Power Budget: SFP-dependant
5. Maximum Distance: up to 120 km (70 mi) single-mode, SFP-dependant
2.06 STATUS INDICATORS
A. Power: Proper Power = Green
B. RJ-45 Link/Data: Green, No Link/No Data: Off
C. SFP Link/Data: Green, No Link/No Data: Off
2.07 CONNECTORS
A. Optical: LC or SC, SFP-dependant
B. Power: Screw Clamp Terminal Strip.
C. Data: RJ-45
D. Console: RJ-45 serial communication.
2.08 ELECTRICAL SPECIFICATIONS
A. Power (non-PoE):
(1) 90-240 VAC & (1) 6-14 VDC or (2) 6-14 VDC
Power (PoE):
(1) 90-240 VAC & (2) 48-57 VDC or (2) 48-57 VDC
B. Current Protection: Automatic re-settable solid-state current limiters
C. Voltage Regulation: Solid-state, Independent on each board
D. Circuit Board: UL 94 flame rated and meets all IPC standards.
2.09 MECHANICAL SPECIFICATIONS
A. Size (HxWxD): 17" x 10" x 1.5" (43.2 x 25.4 x 3.8 cm)
B. Installation: desktop or 19" rack mount
C. Weight: 11 lb/5kg (Mains Powered Models), 7.9 lb/3.6 kg (DC Only Powered Models)
2.10 ENVIRONMENTAL SPECIFICATIONS
A. MTBF: >100,000 Hours
B. Operating Temp: -40° C to +60° C (Functional to +75°C)
C. Storage Temp: -40° C to +85° C
D. Relative Humidity: 5% to 95% (non-condensing).
2.11 REGULATORY AGENCIES/APPROVALS AND LISTINGS
A. Underwriters Laboratory (UL) Listing Number: I.T.E. 6D16
B. Underwriters Laboratory Canada (ULC) Listing Number: I.T.E. 6D16
C. UL 94-flame rated PCB board: 94VO
D. EMI FCC Part 15, CISPR (EN55022) class A
E. EMS EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-
F. 4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS),
G. EN61000-4-8, EN61000-4-11
H. Shock IEC60068-2-27
I. Free Fall IEC60068-2-32
J. Vibration IEC60068-2-6
K. Safety: EN60950-1
L. Rail EN50121-4
2.12 ACCESSORIES
A. 19-inch rack mount bracket automatically included
PART 3 - EXECUTION
3.01 EXAMINATION
A. All optical connectors shall be covered with dust caps and remain on the module until installing cable connectors to module.
3.02 PREPARATION
A. 19-inch Rack Mount Module
1. Shall be mounted on a properly installed 19-inch rack system adequate for the size and weight of the module. The placement of the unit shall allow provision for cable installation and maintenance as indicated on the approved detail drawings and in compliance with the Comnet mounting template and installation manual.
B. Optical Fibers
1. Caution: NEVER look into the end of an active optical fiber when using laser light output. Eye damage can occur. Wear eye protection when cleaving, terminating, and splicing fiber.
2. The number and type of optical fiber shall meet the requirements of the Comnet model number in article 2.05 used in the installation.
3. All optical fiber cables shall be properly installed and terminated with the mating optical connectors as submitted in article 2.07 (A).
4. The optical link shall be tested with either a power meter, at a minimum, or OTDR to ensure the link budget (overall path loss) plus an added 3dB of optical safety margin does not exceed the optical power budget as submitted in article 2.05.
5. All optical connectors on cable shall be cleaned in compliance to optical connector manufactures specifications and covered with dust caps until connection to the fiber optic module.
3.03 INSTALLATION
A. General: Locate fiber optic modules as indicated on the approved detail drawings and install module in compliance with the Comnet installation and operations manual.
3.04 TESTING
A. Testing the Fiber Optic Ethernet Link.
1. Verify that the data leads and optical fibers are properly connected.
2. Make sure that power is applied to all fiber optic modules, controllers, and receiver drivers or other equipment used in the system.
3. Successful data link operation should be confirmed at this point by communicating with other equipment.
3.05 CLEANING
A. Follow all instructions for proper use of solvents and adhesives used for termination and splicing.
B. At completion of the installation, dispose of all fiber scraps properly.

LC MODULE SPECIFICATION

TRENDnet SFP SINGLE MODE LC MODULE (20 km)
TEG-MGBS20 (v1.0R)

SPECIFICATIONS

TRENDnet's SFP SINGLE MODE LC MODULE, MODEL TEG-MGBS20, IS COMPATIBLE WITH STANDARD SFP SLOTS FOUND ON NETWORK SWITCHES AND FIBER MEDIA CONVERTERS. EACH TEG-MGBS20 SINGLE MODE FIBER SFP IS EQUIPPED WITH A DUPLEX LC FIBER CONNECTION INTERFACE, SUPPORTS HIGH-SPEED DATA RATES UP TO 1.25 Gbps, AND SUPPORTS GIGABIT SINGLE MODE FIBER CONNECTIONS FOR LONG DISTANCE NETWORK APPLICATIONS UP TO 20 km (12.4 mi).

STANDARDS:
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3z

DEVICE INTERFACE:
- SFP MSA COMPLIANT
- LC DUPLEX CONNECTOR

DATA TRANSFER RATE: 1.25 Gbps

WAVELENGTH: 1310 nm

OPTICAL OUPUT POWER: -9 ~ -3 dBm

DISTANCE: 20 km (12.42 mi)

SPECIAL FEATURES:
- HOT PLUGGABLE
- METAL ENCLOSURE

SENSITIVITY: -22 dBm

POWER:
- MAX. CONSUMPTION: 0.8 W

OPERATING TEMPERATURE: 0 - 70 DEG C (32 - 158 DEG F)

OPERATING HUMIDITY: MAX. 85% NON-CONDENSING

DIMENSIONS: 57 X 13 X 12 mm (2.2 X 0.5 X 0.5 in)

WEIGHT: 18 g (0.6 oz)

CERTIFICATIONS:
- CE
- FCC

WARRANTY: LIFETIME

FIBER PATCH CABLE SPECIFICATION

TRIPP LITE/EATON DUPLEX SINGLEMODE 9/125 FIBER PATCH CABLE (LC/LC), 3M (10 ft.)
N370-03M

SPECIFICATIONS

OVERVIEW:
- UPC CODE: 037332099594
- TECHNOLOGY: SINGLEMODE
- OPTICAL MODE: OS2

PHYSICAL
- CABLE JACKET COLOR: YELLOW
- CONNECTOR COLOR: BLUE; WHITE
- CABLE JACKET MATERIAL: LSZH
- CABLE JACKET RATING: OFNR
- CLAD DIAMETER (MICRONS): 125
- CORE DIAMETER (MICRONS): 9
- NUMBER OF FIBERS: 2
- CABLE LENGTH (FT.): 9.8
- CABLE LENGTH (M): 2.99
- CABLE LENGTH (IN.): 118.1
- MINIMUM BEND RADIUS: 20MM (DYNAMIC); 10MM (STATIC)
- SHIPPING DIMENSIONS (HWD / IN.): 9.00 X 7.00 X 0.50
- SHIPPING DIMENSIONS (HWD / CM): 22.86 X 17.78 X 1.27
- SHIPPING WEIGHT (LBS.): 0.08
- SHIPPING WEIGHT (KG): 0.04

ENVIRONMENTAL
- OPERATING TEMPERATURE RANGE: -4 TO 140 °F (-20 TO 60 °C)
- STORAGE TEMPERATURE RANGE: -4 TO 140 °F (-20 TO 60 °C)
- OPERATING HUMIDITY RANGE: 5% TO 85% RH, NON-CONDENSING
- STORAGE HUMIDITY RANGE: 35% TO 65% RH, NON-CONDENSING

COMMUNICATIONS
- NETWORK COMPATIBILITY: 1 GBPS (GIGABIT); 10 GBPS; 25 GBPS; 40 GBPS; 100 GBPS; 400 GBPS
- ATTENUATION @ 1310NM: 0.36DB/KM
- ATTENUATION @ 1550NM: 0.22DB/KM
- INSERTION LOSS: 0.30DB

CONNECTIONS
- SIDE A - CONNECTOR 1: LC DUPLEX (MALE)
- SIDE B - CONNECTOR 1: LC DUPLEX (MALE)
- ENDFACE POLISH: UPC

FEATURES & SPECIFICATIONS
- PUSH/PULL TABS: NO
- BREAKOUT: NO
- TRUNK: NO

STANDARDS & COMPLIANCE
- PRODUCT COMPLIANCE: ROHS; REACH

WARRANTY & SUPPORT
- PRODUCT WARRANTY PERIOD (WORLDWIDE): LIFETIME LIMITED WARRANTY

FIBER PATCH PANEL SPECIFICATION

L-COM 19 INCH RACK-MOUNT, 1U, 96 PORT, SINGLEMODE, LC QUAD FIBER PATCH PANEL
PR175LC96-SM

SPECIFICATIONS

DIMENSIONS: 19" X 1.75"
MATERIAL: .06 IN THICK COLD ROLLED STEEL.
PANEL FINISH: FLAT BLACK POWDER COAT.
SILKSCREEN COLOR: WHITE.
PANEL ASSEMBLY SHALL BE PACKAGED IN ACCORDANCE WITH L-COM SPECIFICATION PS-0014.
PRODUCT COMPLIANCE: ROHS

POE+ SWITCH SPECIFICATION

TRENDnet 26-PORT GIGABIT PoE+ SWITCH
TPE-TG262 (v1.0R)

SPECIFICATIONS

STANDARDS:
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3x
- IEEE 802.3ab
- IEEE 802.3af
- IEEE 802.3at

DEVICE INTERFACE:
- 24 X GIGABIT PoE+ PORTS
- 2 X GIGABIT SFP SLOTS
- LED INDICATORS

DATA TRANSFER RATE:
- ETHENET: 10 Mbps (HALF DUPLEX), 20 Mbps (FULL DUPLEX)
- FAST ETHENET: 100 Mbps (HALF DUPLEX), 200 Mbps (FULL DUPLEX)
- GIGABIT: 2000 Mbps (FULL DUPLEX)
- SFP: 2000 Mbps (FULL DUPLEX)

PERFORMANCE:
- DATA RAM BUFFER: 512 KB
- SWITCH FABRIC: 52 Gbps
- MAC ADDRESS TABLE: 8K ENTRIES
- FORWARDING RATE: 35.7 Mpps (64-BYTE PACKET SIZE)
- JUMBO FRAME: 10 KB

POWER:
- INPUT: 100 - 240V AC, 50/60 Hz, INTERNAL POWER SUPPLY
- MAX. CONSUMPTION: 40W (NO PD)

PoE:
- PoE BUDGET: 380W
- PoE MODE A: PINS 1, 2, 3, AND 6 FOR POWER
- OVER CURRENT PROTECTION
- SHORT CIRCUIT PROTECTION

FAN/ACOUSTICS:
- QUANTITY: 2
- MAX. NOISE LEVEL: 30dB

MTBF: 480,878 HOURS

OPERATING TEMPERATURE: 0 - 40 DEG C (32 - 104 DEG F)

OPERATING HUMIDITY: MAX. 90% NON-CONDENSING

DIMENSIONS: 435 X 195 X 44 mm (17.12 X 8.3 X 7.67 in)

WEIGHT: 3.94 kg (6.7 lbs.)

CERTIFICATIONS:
- CE
- FCC
- ETL

WARRANTY: LIFETIME

POE+ SWITCH SPECIFICATION

TRENDnet 10-PORT INDUSTRIAL L2 MANAGED SWITCH
TI-PG102i (V1.0R)

FOR USE IN ENCLOSURES AT TRASH CAN STRUCTURES

SPECIFICATIONS

STANDARDS:
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3x
- IEEE 802.3ab
- IEEE 802.3af
- IEEE 802.3at

DEVICE INTERFACE:
- 8 X GIGABIT PoE+ PORTS
- 2 X GIGABIT SFP SLOTS
- LED INDICATORS
- 6-PIN TERMINAL BLOCK

DATA TRANSFER RATE:
- ETHENET: 10 Mbps (HALF DUPLEX), 20 Mbps (FULL DUPLEX)
- FAST ETHENET: 100 Mbps (HALF DUPLEX), 200 Mbps (FULL DUPLEX)
- GIGABIT: 2000 Mbps (FULL DUPLEX)
- SFP: 2000 Mbps (FULL DUPLEX)

PERFORMANCE:
- SWITCH FABRIC: 20GBPS
- RAM BUFFER: 128MB
- MAC ADDRESS TABLE: 8K ENTRIES
- JUMBO FRAMES: 10KB
- FORWARDING MODE: STORE AND FORWARD
- FORWARDING RATE: 14.88MPPS (64-BYTE PACKET SIZE)

POWER:
- INPUT: 100 - 240V AC, 50/60 Hz, INTERNAL POWER SUPPLY
- MAX. CONSUMPTION: 40W (NO PD)

PoE:
- PoE BUDGET: 240W W/48V POWER SUPPLY
- PoE MODE A: PINS 1, 2, 3, AND 6 FOR POWER
- OVER CURRENT PROTECTION
- SHORT CIRCUIT PROTECTION

ENCLOSURE:
- IP30 RATED METAL ENCLOSURE
- FANLESS PASSIVE COOLING
- DIN-RAIL MOUNT
- GROUNDING POINT
- ESD (ETHERNET) PROTECTION: 8KV DC
- SURGE (POWER) PROTECTION: 6KV DC

MTBF: 562,234 hours @ 25° C, 142,948 hours @ 75° C

OPERATING TEMPERATURE: -40 - 75 DEG C (-40 - 167 DEG F)

OPERATING HUMIDITY: MAX. 95% NON-CONDENSING

DIMENSIONS: 160 X 120 X 50 mm (6.3 x 4.72 x 1.97 in.)

WEIGHT: 0.93 kg (2.05 lbs.)

CERTIFICATIONS:
- CE
- FCC
- Shock (IEC 60068-2-27)
- Freefall (IEC 60068-2-32)
- Vibration (IEC 60068-2-6)

WARRANTY: LIFETIME

DATA JACK AND PATCH PANEL SPECIFICATIONS

PANDUIT MINI-COM TX6A CATEGORY 6A 10 GIG UNSHIELDED JACK MODULES – PANDUIT CJ6X88TGBU

SPECIFICATIONS

CATEGORY 6A/CLASS EA, 8-POSITION, UTP JACK MODULE SHALL TERMINATE 4-PAIR, 22 – 26 AWG, 100 OHM UNSHIELDED TWISTED PAIR CABLE AND SHALL NOT REQUIRE A PUNCHDOWN TOOL. THE TERMINATION CAP SHALL BE COLOR CODED BLUE TO DESIGNATE CATEGORY 6A PERFORMANCE AND SHALL INCLUDE A UNIVERSAL LABEL CODED FOR T568A AND T568B WIRING SCHEMES. THE MINI-COM TX6A UNSHIELDED UTP JACK MODULE MUST BE INSTALLED AS PART OF THE TX6A 10GIG UTP COPPER CABLING SYSTEM TO ACHIEVE IEEE 10GBASE-T CERTIFIED PERFORMANCE.

PANDUIT MINI-COM® UNSHIELDED MODULAR PATCH PANELS - PANDUIT CPP48WBLY

SPECIFICATIONS

MODULAR PATCH PANELS SHALL CONSIST OF A METAL PANEL WITH MOLDED SNAP-IN FACEPLATES WHICH CAN BE FRONT RELEASABLE. PATCH PANELS SHALL ACCEPT ALL MINI-COM® MODULES FOR UTP, STP, FIBER, OR A/V APPLICATIONS AND SHALL MOUNT TO STANDARD 19" RACKS. PATCH PANELS SHALL BE AVAILABLE IN 24 AND 48-PORT STANDARD DENSITY AND 72-PORT HIGH DENSITY. ANGLED PATCH PANELS SHALL BE DESIGNED AT AN OPTIMUM ANGLE TO HELP ROUTE THE CABLE.

CONTRACTOR TO VERIFY COMPATIBILITY BETWEEN CONNECTORS/JACKS AND GAMECHANGER CABLE

DATA CABINET SPECIFICATION

CHATSWORTH CUBE-IT WALL MOUNT CABINET
CPI 11900-736

SPECIFICATIONS

DESCRIPTION WALL-MOUNT ENCLOSURE WITH LOCKABLE FRONT DOOR AND SWING-OUT REAR ACCESS TO EQUIPMENT

USE FOR INDOOR USE ONLY, IN ENVIRONMENTALLY CONTROLLED AREAS; MAY NOT BE USED OUTDOORS, IN HARSH ENVIRONMENTS, OR IN AIR-HANDLING SPACES

AVAILABLE SIZES • HEIGHTS: 24" (610 MM), 36" (910 MM) AND 48" (1220 MM) • WIDTHS: 24" (610 MM); 19" EIA RACK-MOUNT • DEPTHS: 18" (460 MM), 24" (610 MM), 30" (760 MM)

USABLE INTERIOR SPACE • HEIGHTS: 12U, 19U, 26U • WIDTHS: 19" EIA RACK-MOUNT • DEPTHS: REFER TO DIMENSIONAL DRAWINGS ON PAGE 2

CABLE ACCESS • (6) 1" (25.4 MM) AND 3" (76 MM) KNOCKOUTS, 4 TOP/4 BOTTOM. KNOCKOUTS CAN ACCEPT 3/4" (19 MM) OR 2.5" (63.5 MM) CONDUIT • (4) EDGE-PROTECTION GROMMETS ARE INCLUDED FOR THE 3" (76 MM) KNOCKOUTS • REMOVABLE TOP/BOTTOM PANEL ON REAR PANEL *CAN'T REMOVE WHILE UNDER LOAD; MUST REMOVE CENTER CHASSIS • (1) RECTANGULAR KNOCKOUT, 9"W X 2.2"D (230 MM X 55 MM)

EQUIPMENT SUPPORT (1) PAIR L-SHAPED EQUIPMENT MOUNTING RAILS IN THE MAIN CABINET BODY • 19"W, EIA-310-D COMPLIANT • UNIVERSAL HOLE PATTERN, 5/8"-5/8"-1/2" VERTICAL HOLE SPACING • THREADED #12-24 EQUIPMENT MOUNTING HOLES • 5"D (130 MM) REAR PANEL PUNCHED TO ACCEPT ACCESSORY EQUIPMENT MOUNTING BRACKETS, SEE DIMENSIONAL DRAWINGS ON PAGE 2 • INCLUDES 50 EACH #12-24 EQUIPMENT MOUNTING SCREW

WALL ENCLOSURE SPECIFICATION

HOPE INDUSTRIAL SYSTEMS, INC
ENCL-PC10-BLK-L2

SPECIFICATIONS

WALL MOUNT OUTDOOR ENCLOSURE

ENCLOSURE RATING: SEALED TO NEMA 4/4X, IP65/IP66 STANDARDS, 3RD-PARTY CERTIFIED
OPERATING TEMPERATURE – 0° TO 50°C (32° TO 122°F)

PHYSICAL: (W X H X D) – 533.4 MM X 939.8 MM X 179.6 MM (21.0" X 37.0" X 7.07")
(W X H X D) – 470 MM X 470 MM X 152 MM (18.5" X 18.5" X 6.0") (INTERIOR DIMENSIONS)
70 LBS (31.75 KG)
BLACK POWDER-COATED CARBON STEEL
TUBULAR KEY LOCKS

POWER: POWER INPUT – 90 TO 264 VAC
POWER DISTRIBUTION – INTEGRATED AC POWER DISTRIBUTION AND TERMINAL BLOCKS

ACCESSORIES: PROVIDE COOLING KIT (PART NUMBER: MK-PC10-STD)
US POWER STRIP (HOPE PN: MK-4OUTLET-US) – 4 X NEMA 5-15R SOCKET-OUTLETS
(INCLUDED WITH ENCL-PC10-BLK-L2)

ELECTRICAL – UL 508A LISTED – FILE NO. E340976

UPS SPECIFICATION

TRIPP LITE/EATON SMARTPRO 120V 1.5kVA 1.35kW LINE-INTERACTIVE SINE WAVE UPS, 2U, EXTENDED RUN, NETWORK CARD OPTIONS, LCD, USB, DB9
SMART1500RMXL2UA

PROVIDE AT RESTROOM IDF

SPECIFICATIONS

OVERVIEW:
- UPC CODE: 037332120403
- UPS TYPE: LINE-INTERACTIVE

INPUT:
- RATED INPUT CURRENT (MAX. LOAD): 12A
- NOMINAL INPUT VOLTAGE(S) SUPPORTED: 120V AC
- UPS INPUT CONNECTION TYPE: 5-15P
- INPUT CIRCUIT BREAKERS: 15A
- UPS INPUT CORD LENGTH: 10 FT. (3.1 M)
- RECOMMENDED ELECTRICAL SERVICE: 15A 120V
- INPUT PHASE: SINGLE-PHASE

OUTPUT:
- OUTPUT CAPACITY:
a. 1500VA
b. 1.5KVA
c. 1350W
d. 1.35kW
- OUTPUT CAPACITY DETAILS: OUTPUT IS REDUCED TO 1200 WATTS MAX. WHEN USED WITH EXTERNAL BATTERY PACKS
- POWER FACTOR: 0.9
- NOMINAL VOLTAGE DETAILS: 120V NOMINAL OUPUT IN BATTERY MODE
- FREQUENCY COMPATIBILITY: 60 Hz
- OUTPUT VOLTAGE REGULATION (LINE MODE): -14%, +6%
- OUTPUT VOLTAGE REGULATION (BATTERY MODE): +/-5%
- LOAD MANAGEMENT RECEPTACLES: TWO SWITCHABLE TWO-OUTLET 5-15R LOAD BANKS
- OUTPUT AC WAVEFORM (AC MODE): SINE WAVE
- OUTPUT AC WAVEFORM (BATTERY MODE): PURE SINE WAVE
- NOMINAL OUTPUT VOLTAGE(S) SUPPORTED: 110V; 115V; 120V
- OUTPUT RECEPTACLES: (8) 5-15R
- INDIVIDUALLY CONTROLLABLE LOAD BANKS: YES

BATTERY:
- BATTERY TYPE: VALVE REGULATED LEAD ACID (VRLA)
- RUNTIME FULL LOAD (MIN.): 4.9
- RUNTIME HALF LOAD (MIN.): 14
- EXPANDABLE BATTERY RUNTIME: EXTENDED RUNTIME SUPPORTED VIA OPTIONAL EXTERNAL BATTERY PACKS
- EXPANDABLE RUNTIME: YES
- EXTERNAL BATTERY PACK COMPATIBILITY:
a. BP36V15-2U
b. BP36V42-3U
c. BP36V27-2US
- DC SYSTEM VOLTAGE (VDC): 36
- BATTERY RECHARGE RATE (INCLUDED BATTERIES): LESS THAN 4.5 HOURS FROM 10% TO 90% (TYPICAL, FULL LOAD DISCHARGE)
- BATTERY ACCESS: FRONT PANEL BATTERY ACCESS DOOR
- INTERNAL UPS REPLACEMENT BATTERY CARTRIDGE: RBC93-2U
- BATTERY REPLACEMENT DESCRIPTION: HOT-SWAPPABLE, USER REPLACEABLE BATTERIES

VOLTAGE REGULATION
- VOLTAGE REGULATION DESCRIPTION: AUTOMATIC VOLTAGE REGULATION (AVR) MAINTAINS LINE POWER OPERATION WITH AN INPUT VOLTAGE RANGE OF 83 TO 145
- OVERVOLTAGE CORRECTION: INPUT VOLTAGES BETWEEN 127 AND 145 ARE REDUCED BY 12%
- UNDERVOLTAGE CORRECTION: INPUT VOLTAGES BETWEEN 95 AND 108 ARE BOOSTED BY 12%
- SEVERE UNDERVOLTAGE CORRECTION: INPUT VOLTAGES BETWEEN 83 AND 94 ARE BOOSTED BY 24%

USER INTERFACE, ALERTS & CONTROLS
- FRONT PANEL LCD DISPLAY: FRONT PANEL LCD INFORMATION AND CONFIGURATION SCREEN OFFERS DETAILED UPS AND SITE POWER STATUS AND OPERATING DATA, PLUS CONFIGURATION OF VOLTAGE, OPERATING MODE, ALARM FUNCTION AND A VARIETY OF ADDITIONAL OPTIONS (SEE MANUAL FOR DETAILED LCD CONFIGURATION AND MONITORING OPTIONS)
- SWITCHES: 3 PUSHBUTTON SWITCHES CONTROL OFF / ON POWER STATUS, MODE SELECTION AND MUTE / ENTER CONTROL FUNCTIONS
- ALARM CANCEL OPERATION: POWER-FAIL ALARM CAN BE TEMPORARILY SILENCED USING ALARM-CANCEL SWITCH; SILENT MODE ALARM CONFIGURATION OPTION AVAILABLE
- AUDIBLE ALARM: AUDIBLE ALARM INDICATES UPS STARTUP, POWER-FAILURE, LOW-BATTERY, OVERLOAD, UPS FAULT AND REMOTE SHUTDOWN CONDITIONS

SURGE / NOISE SUPPRESSION
- UPS AC SUPPRESSION JOULE RATING: 570
- UPS AC SUPPRESSION RESPONSE TIME: INSTANTANEOUS
- EMI / RFI AC NOISE SUPPRESSION: YES

PHYSICAL
- PRIMARY FORM FACTOR: RACKMOUNT
- RACK HEIGHT: 2U
- COOLING METHOD: FAN
- INCLUDED MOUNTING ACCESSORY DESCRIPTION: INCLUDED 4POSTRAILKIT MOUNTING BRACKET ENABLES INSTALLATION IN 4 POST RACKS FROM 20.5 TO 36 INCHES (521 TO 914MM)
- INSTALLATION FORM FACTORS SUPPORTED WITH INCLUDED ACCESSORIES: 4 POST 19 INCH RACKMOUNT
- INSTALLATION FORM FACTORS SUPPORTED WITH OPTIONAL ACCESSORIES:
a. 2 POST RACKMOUNT (2POSTRMKITWM)
b. 2-4 POST FRONT RAIL RACKMOUNT (UPSHDEARKIT)
c. 4 POST RACKMOUNT SHORT-DEPTH (4POSTRAILKITWM)
d. TOWER (2-9USTAND)
e. WALLMOUNT (2POSTRMKITWM)
- MINIMUM REQUIRED RACK DEPTH (CM): 41.78
- MINIMUM REQUIRED RACK DEPTH (INCHES): 16.45
- MINIMUM REQUIRED RACK DEPTH WITH EXTERNAL BATTERY PACK (CM): 51
- MINIMUM REQUIRED RACK DEPTH WITH EXTERNAL BATTERY PACK (IN.): 20
- MINIMUM REQUIRED RACK DEPTH WITHOUT EXTERNAL BATTERY PACK (CM): 42
- MINIMUM REQUIRED RACK DEPTH WITHOUT EXTERNAL BATTERY PACK (IN.): 16.5
- PRIMARY UPS DEPTH (MM): 342
- PRIMARY UPS HEIGHT (MM): 88
- PRIMARY UPS WIDTH (MM): 439
- SHIPPING DIMENSIONS (HWD / IN.): 8.80 X 23.00 X 19.30
- SHIPPING DIMENSIONS (HWD / CM): 22.35 X 58.42 X 49.02
- SHIPPING WEIGHT (LBS.): 53.53
- SHIPPING WEIGHT (KG): 24.28
- UPS HOUSING MATERIAL: STEEL
- UPS POWER MODULE DIMENSIONS: (HWD, CM) 8.76 X 43.94 X 34.16
- UPS POWER MODULE DIMENSIONS: (HWD, IN.) 3.45 X 17.3 X 13.45
- UPS POWER MODULE WEIGHT (KG): 21.09
- UPS POWER MODULE WEIGHT (LBS.): 46.5

ENVIRONMENTAL
- OPERATING TEMPERATURE RANGE: +32 TO +104 DEGREES FAHRENHEIT / 0 TO +40 DEGREES CELSIUS
- STORAGE TEMPERATURE RANGE: +5 TO +122 DEGREES FAHRENHEIT / -15 TO +50 DEGREES CELSIUS
- RELATIVE HUMIDITY: 0 TO 95%, NON-CONDENSING
- AC MODE BTU / HR. (FULL LOAD): 237
- BATTERY MODE BTU / HR. (FULL LOAD): 751
- AC MODE EFFICIENCY RATING (100% LOAD): 95%
- AUDIBLE NOISE: 45 DBA MAXIMUM, FRONT SIDE 1M

COMMUNICATIONS
- NETWORK MANAGEMENT CARDS: WEBCARDLX; SNMPWEBCARD
- NETWORK MONITORING PORT DESCRIPTION: SUPPORTS DETAILED MONITORING OF UPS AND SITE POWER CONDITIONS
- POWERALERT SOFTWARE: FOR LOCAL MONITORING VIA THE UPS'S BUILT-IN COMMUNICATION PORTS , DOWNLOAD POWERALERT LOCAL SOFTWARE AT HTTPS://WWW.TRIPPLITE.COM/POWERALERT
- COMMUNICATIONS CABLE: USB AND DB9 CABLING INCLUDED
- WATCHDOG COMPATIBILITY: SUPPORTS WATCHDOG APPLICATION, OS AND HARD-REBOOT RESTART OPTIONS FOR REMOTE APPLICATIONS
- NETWORK MANAGEMENT CARD DESCRIPTION: NETWORK MANAGEMENT CARD OPTIONAL
- COMMUNICATIONS INTERFACE: DB9 SERIAL; EPO (EMERGENCY POWER OFF); SLOT FOR SNMP/WEB INTERFACE; USB (HID ENABLED)

LINE / BATTERY TRANSFER
- TRANSFER TIME: 4 MILLISECONDS (AC TO BATTERY MODE), 1 MILLISECOND (BATTERY TO AC MODE)
- LOW VOLTAGE TRANSFER TO BATTERY POWER (SETPOINT): 83
- HIGH VOLTAGE TRANSFER TO BATTERY POWER (SETPOINT): 145

FEATURES & SPECIFICATIONS
- COLD START (STARTUP IN BATTERY MODE DURING A POWER FAILURE): COLD-START OPERATION SUPPORTED
- HIGH AVAILABILITY UPS FEATURES: AUTO PROBE MONITORING AND REBOOT (REQUIRES WEBCARDLX); AUTOMATIC VOLTAGE REGULATION (AVR); EXPANDABLE BATTERY BACKUP; HOT SWAPPABLE BATTERIES; REMOTE MANAGEMENT; SINE WAVE OUTPUT; SURGE/NOISE PROTECTION
- GREEN ENERGY-SAVING FEATURES: GREATER THAN 95% EFFICIENCY - GREEN UPS; INDIVIDUALLY CONTROLLABLE LOAD BANKS
- GROUNDING LUG: BACK PANEL GROUNDING LUG

STANDARDS & COMPLIANCE
- PRODUCT CERTIFICATIONS: CSA (CANADA); NOM (MEXICO); UL 1778
- PRODUCT COMPLIANCE: ROHS; FCC PART 15 CLASS A (USA)

WARRANTY & SUPPORT
- PRODUCT WARRANTY PERIOD (WORLDWIDE): 2-YEAR WARRANTY

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EXHIBIT B

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Addendum No. 6

BID FORM (00410)

1. Pursuant to and in compliance with your Notice to Bidders and the Contract Documents relating to the construction of:

COUNTY OF SANTA BARBARA
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033
Bid Due Date: Thursday, August 31, 2023, at 3:00 P.M.

including Addendum No(s). 1, 2, 3, 4, 5, 6, , , , the undersigned bidder, having become thoroughly familiar with the terms and conditions of the Contract Documents and with local conditions affecting the per-formance and the costs of the Work at the place where the Work is to be done, hereby proposes and agrees to fully perform the Work within the time stated in and in strict accordance with the Contract Documents (including the furnishing of any and all labor, materials, tools, expendable equipment and utility and transportation services necessary to fully perform the work and complete it in a workmanlike manner) for the total sum of:

2. **BASE BID**:

$ 12,650,888.00

(Place figures in appropriate boxes.)

Estimated number of work days: 211 Calendar Days

3. It is understood that Owner reserves the right to reject the proposal and that it shall remain open and not be withdrawn for a period of sixty (60) calendar days from the date prescribed for its opening.

4. Attached hereto and incorporated herein is the complete and entire list of subcontractors to be employed by the undersigned and in the performance of the Work.

5. It is understood and agreed that if written notice of the acceptance of this proposal is mailed or delivered personally to the undersigned bidder within thirty (30) calendar days after the opening of the proposal, or at any time thereafter before it is withdrawn, the undersigned bidder will execute and deliver the Contract Documents to Owner in accordance with the proposal as accepted, and will also furnish and deliver to Owner any Payment Bond required under the provisions of California Civil Code Section 3247 through 3252 and Performance Bond as required under the provisions of the California Government Code and/or California Public Contract Code all within fourteen (14) calendar days after personal delivery or deposit in the mails, as the case may be, of the notifications of award. The work under the contract shall be commenced by the undersigned bidder on the date stated in COUNTY'S written Notice to Proceed and shall be completed within **211 calendar** days thereafter.

6. Notice of acceptance or request for additional information may be addressed to the undersigned bidder at the business address set forth below.

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7. The bid, contract or other submittal of the CONTRACTOR identified below in connection with the foregoing project is not made in the interest of or on behalf or any undisclosed person, partnership, company, association, organization, or corporation; and that the bid is genuine, and not collusive or sham; that the undersigned bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid and has not directly or indirectly colluded, conspired, connived or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding; that the undersigned bidder has not directly or indirectly sought by agreement, communication or conference with anyone to fix his bid price or the bid price of any other bidder or to fix any overhead, profit or cost element of such bid price or of that of any other bidder or to secure any advantage against the COUNTY of Santa Barbara of anyone interested in the proposed contract; or all statements contained in this proposal are true; and that the undersigned bidder has not directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay any fee to any corporation, partnership, company association, organization, Bid Depository or to any member or agent thereof to effectuate a collusive or sham bid. I declare under the penalty of perjury under the laws of the State of California that the foregoing is true and correct.

8. Wherever in this proposal an amount is stated in both words and figures, in case of discrepancy between words and figures the words shall prevail; if all or any portion of the proposal is required to be given in unit prices and totals and a discrepancy existing between any such unit prices and totals so given, the unit prices shall prevail.

9. In accordance with the provisions of Sections 1860 and 1861 of the California Labor Code, every CONTRACTOR will be required to secure the payment of compensation of his or her employees. Each CONTRACTOR to whom a public works contract is awarded shall sign the following certification prior to performing the work of the contract: "I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract."

10. Protests of any bid(s) received must be in writing, must specify all grounds for the protest, and must be filed within ten working days after the opening of bids.

CONTRACTOR

Marcon Engineering
Company

IRS No.: 33-0931200

876 N.Broadway
Street Address

License Classification(s): A, B, C-8

Escondido
City

Phone Number: 760-737-8440

BY: _____
Signature

Maryory Contreras, President / CEO
Printed Name, Title

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DESIGNATION OF SUBCONTRACTORS

The bidder agrees if this proposal is accepted, that he will contract with the County of Santa Barbara to do all work and furnish all labor, materials, machinery, tools and apparatus necessary to completely perform said Contracts in the manner and time prescribed by said Contract.

COUNTY OF SANTA BARBARA
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033
Bid Due Date: Thursday, August 31, 2023, at 3:00 P.M.

In compliance with the provisions of Section 4100-4107 of the Public Contract Code of the State of California, and any amendments, thereof, the undersigned bidder has set forth below the name and location of the place of business of each subcontractor who will perform work or labor or render service to the undersigned in or about the construction of the work to be performed. That portion of the work which will be done by each subcontractor for each subcontract in excess of one-half of one percent of the undersigned's total aggregate bid shall be listed.

DIVISION OF WORK	SUBCONTRACTOR	LIC NO.	LOCATION
Entire Comfort Station	Kevcon	545368	San Diego, CA
Asphalt Paving	Toste Grading & Paiving	318439	Grover Beach,CA
Electrical	Smith	420418	Santa Maria, CA
Landscape & Irrigation	Marina	492862	Anaheim

COMPANY: Marcon Engineering BY: _____
Bidder's Signature

NOTE: This form may be reproduced and attached behind this page to list more Subcontractors.

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DIVISION OF WORK	SUBCONTRACTOR	LIC NO.	LOCATION

COMPANY: Marcon Engineering BY: _____
Bidder's Signature

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NONCOLLUSION AFFIDAVIT

In accordance with Public Contract Code § 7106. __Maryory Contreras_____
(Bidder's full name)

being first duly sworn, deposes and says that he or she is ___President / CEO_____
(Bidder's title)

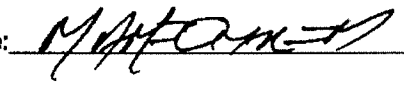
of ___Marcon Engineering_____
(Company's name)

the party making the foregoing Bid, that the Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the Bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham Bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham Bid, or that anyone shall refrain from bidding; that the Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the Bid price of the Bidder or any other Bidder, or to fix any overhead, profit, or cost element of the Bid price, or of that of any other Bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed Contract; that all statements contained in the Bid are true; and further, that the Bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham Bid and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

SIGNATURE BLOCK (*Signature Block **must be completed in ink& changes must be initialed.***)

Bidder's Signature:  **Date:** 08/31/2023

Bidder's Name & Title (Print): Maryory Contreras, President /CEO

At CITY: Escondido **STATE:** California

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CERTIFICATE OF COMPLIANCE

This is to certify that all requirements for insurance of subcontractors as specified for this project will be met.

08/31/2023
Dated

Signature of Principal

Maryory Contreras, President/CEO
Printed Name, Title of Principal

Marcon Engineering
Company

876 N.Broadway
Address

Escondido, CA 92025
City, State & Zip

DocuSign Envelope ID: A3D9B7F7-0052-4128-892C-5989E8423256

BIDDER'S STATEMENTS

REGARDING INSURANCE COVERAGE:
Bidder hereby certifies that he has reviewed the insurance coverage requirements specified in the Contract Forms. Should he be awarded the contract for the work, Bidder further certifies that he can meet all the Contract Specification requirements for insurance including insurance coverage of his subcontractors.

REGARDING PUBLIC CONTRACT CODE SECTION 10232:
In accordance with Public Contract Code Section 10232, the Contractor hereby states, under penalty of perjury, that no more than one final unappealable finding of contempt of court by a Federal Court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a Federal Court which orders the Contractor to comply with an order of the National Labor Relations Board.

REGARDING PUBLIC CONTRACT CODE SECTION 10162:
In accordance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing, a federal, state, or local government project because of a violation of law or safety regulation?

Yes ____ No X__

(If the answer is yes, explain the circumstances on a separate sheet of paper and attach to proposal)

08/31/2023
Date

Signature of Principal

Maryory Contreras, President/CEO
Printed Name, Title of Principal

Marcon Engineering
Company

876 N.Broadway
Address

Escondido, CA 92025
City, State & Zip

DocuSign Envelope ID: A3D9B7F7-0052-4128-892C-5989E8423256

ANTI-FRAUD CERTIFICATION

COUNTY OF SANTA BARBARA
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033
Bid Due Date: Thursday, August 31, 2023, at 3:00 P.M.

In accordance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury that the bidder **has , has not X** , been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or federal antitrust law in connection with the bidding upon award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or Trustees of the California State University.

The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

NOTE: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided.

08/31/2023
Date

Signature of Principal

Maryory Contreras, President/CEO
Printed Name, Title of Principal

Marcon Engineering
Company

876 N Broadway
Address

Escondido,CA 92025
City, State & Zip

DocuSign Envelope ID: A3D9B7F7-0052-4128-892C-5989E8423256

BIDDER'S BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, MarCon Engineering, Inc. as Principal, and Endurance Assurance Corporation as Surety (hereinafter referred to as Surety), are held firmly bound unto the County of Santa Barbara, State of California (hereinafter called "Owner") in the penal sum of Ten Percent (10%) of the total aggregate amount of the bid of the Principal above named, submitted by said Principal to Owner for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents. Surety shall be and hereby warrants that it is listed in the Insurance Organizations Authorized by the Insurance Commissioner to Transact Business of Insurance in the State of California, published by the Department of Insurance, State of California or successor publications. In no case shall the liability of the Surety hereunder exceed the sum of Ten Percent of Amount Bid DOLLARS ($ 10%). The condition of this obligation is such that a bid to Owner for certain construction specifically described as follows:

COUNTY OF SANTA BARBARA
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033

for which bids are due on Thursday, August 24, 2023, at 3:00 P.M. has been submitted by Principal to Owner.

NOW, THEREFORE, if the aforesaid Principal shall not withdraw said bid within the period therein after the opening of the same, or, if no period be specified within sixty (60) days after said opening and shall within the period specified therefore, or, if no period be specified, within eight (8) days after the prescribed forms are presented to him for signature, enter into a written Contract with Owner, in the prescribed form, in accordance with the bid as accepted, and file the two Bonds with Owner, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by law, then this obligation shall be null and void; otherwise, it shall remain in full force, virtue and affect.

Said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any manner affects its obligations on this bond, and it does hereby waive notice of any change, extension, alteration, or addition.

It is hereby agreed that any progress payment made after the scheduled completion date will not constitute a waiver of any liquidated damages heretofore agreed upon.

In the event suit is brought upon said Bond by Owner and judgment is recovered, the Surety shall pay all costs incurred by Owner in such suit, including a reasonable attorney's fee to be fixed by the Court.

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Death, Bankruptcy, Receivership, Going Out of Business for any reason, or incompetence of the Principal shall not relieve the Surety of its obligations hereunder.

MarCon Engineering, Inc.
Name of Principal

Dated 08/31/2023

Signature of Principal (Seal)

Endurance Assurance Corporation
Name of Surety

725 S. Figueroa St., Ste 2100
Address

Los Angeles, CA 90017
City, State & Zip

Dated August 18, 2023

~~Signature of Principal~~ Lawrence F. McMahon, Attorney-in-Fact (Seal)
Signature of Surety's Attorney-in-fact

Surety's Agent for Service of Process (located within the State of California):

Alliant Insurance Services, Inc.
Name of Agent

701 B Street, 6th Floor
Address

San Diego, CA 92101
City, State & Zip

(619) 238-1828
Telephone Number

(619) 699-2110
FAX Number

NOTE: Signatures of those executing for Surety MUST be properly acknowledged. This form may be reproduced for transmittal to the Surety for execution and attached to the front of the original Bid Bond Form.

DocuSign Envelope ID: A3D9B7F7-0052-4128-892C-5989E8423256

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT **CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of San Diego)

On AUG 18 2023 *Date* before me, N. Kirk-Smith, Notary Public *Here Insert Name and Title of the Officer*,

personally appeared Lawrence F. McMahon *Name(s) of Signer(s)*,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

N. KIRK-SMITH
Notary Public - California
San Diego County
Commission # 2417893
My Comm. Expires Sep 23, 2026

Signature _____ *Signature of Notary Public*

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____
Corporate Officer — Title(s): _____
Partner — Limited General
Individual x Attorney in Fact
Trustee Guardian or Conservator
Other: _____
Signer Is Representing: Surety Company

Signer's Name: _____
Corporate Officer — Title(s): _____
Partner — Limited General
Individual Attorney in Fact
Trustee Guardian or Conservator
Other: _____
Signer Is Representing: _____

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DocuSign Envelope ID: A3D9B7F7-0052-4128-892C-5989E8423256

SOMPO INTERNATIONAL
INSURANCE

POWER OF ATTORNEY

2697

KNOW ALL BY THESE PRESENTS, that **Endurance Assurance Corporation**, a Delaware corporation, **Endurance American Insurance Company**, a Delaware corporation, and/or **Bond Safeguard Insurance Company**, a South Dakota corporation, each, a "Company" and collectively, "**Sompo International**," do hereby constitute and appoint: **Lawrence F. McMahon** as true and lawful Attorney(s)-In-Fact to make execute, seal, and deliver for, and on its behalf as surety or co-surety: bonds and undertakings given for any and all purposes, also to execute and deliver on its behalf as aforesaid renewals, extensions, agreements, waivers, consents or stipulations relating to such bonds or undertakings provided, however, that no single bond or undertaking so made, executed and delivered shall obligate the Company for any portion of the penal sum thereof in excess of the sum of **ONE HUNDRED MILLION Dollars ($100,000,000.00).**

Such bonds and undertakings for said purposes, when duly executed by said attorney(s)-in-fact, shall be binding upon the Company as fully and to the same extent as if signed by the President of the Company under its corporate seal attested by its Corporate Secretary

This appointment is made under and by authority of certain resolutions adopted by the sole shareholder of each Company by unanimous written consent effective the 15th day of June, 2019 a copy of which appears below under the heading entitled "Certificate".

This Power of Attorney is signed and sealed by facsimile under and by authority of the following resolution adopted by the sole shareholder of each Company by unanimous written consent effective the 15th day of June, 2019 and said resolution has not since been revoked, amended or repealed:

RESOLVED, that the signature of an individual named above and the seal of the Company may be affixed to any such power of attorney or any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signature or seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached

IN WITNESS WHEREOF, each Company has caused this instrument to be signed by the following officers, and its corporate seal to be affixed this 15th day of June, 2019.

Endurance Assurance Corporation
By: Richard M Appel
Richard Appel; SVP & Senior Counsel

Endurance American Insurance Company
By: Richard M Appel
Richard Appel; SVP & Senior Counsel

Bond Safeguard Insurance Company
By: Richard M Appel
Richard Appel; SVP & Senior Counsel

ACKNOWLEDGEMENT

On this 15th day of June, 2019, before me, personally came the above signatories known to me, who being duly sworn, did depose and say that he/they is an officer of each of the Companies; and that he executed said instrument on behalf of each Company by authority of his office under the by-laws of each Company

By: Amy Taylor
Amy Taylor, Notary Public - My Commission Expires 5/9/23

CERTIFICATE

I, the undersigned Officer of each Company, DO HEREBY CERTIFY that:

1. That the original power of attorney of which the foregoing is a copy was duly executed on behalf of each Company and has not since been revoked, amended or modified: that the undersigned has compared the foregoing copy thereof with the original power of attorney, and that the same is a true and correct copy of the original power of attorney and of the whole thereof;
2. The following are resolutions which were adopted by the sole shareholder of each Company by unanimous written consent effective June 15, 2019 and said resolutions have not since been revoked, amended or modified:

   "RESOLVED, that each of the individuals named below is authorized to make, execute, seal and deliver for and on behalf of the Company any and all bonds, undertakings or obligations in surety or co-surety with others: RICHARD M. APPEL, BRIAN J. BEGGS, CHRISTOPHER DONELAN, SHARON L. SIMS, CHRISTOPHER L. SPARRO, MARIANNE L. WILBERT

   ; and be it further

   RESOLVED, that each of the individuals named above is authorized to appoint attorneys-in-fact for the purpose of making, executing, sealing and delivering bonds undertakings or obligations in surety or co-surety for and on behalf of the Company."
3. The undersigned further certifies that the above resolutions are true and correct copies of the resolutions as so recorded and of the whole thereof

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal this 18th day of August 2023.

By: Daniel S. Ichie, Secretary

NOTICE: U. S. TREASURY DEPARTMENT'S OFFICE OF FOREIGN ASSETS CONTROL (OFAC)

No coverage is provided by this Notice nor can it be construed to replace any provisions of any surety bond or other surety coverage provided. This Notice provides information concerning possible impact on your surety coverage due to directives issued by OFAC. **Please read this Notice carefully.**

The Office of Foreign Assets Control (OFAC) administers and enforces sanctions policy, based on Presidential declarations of "national emergency". OFAC has identified and listed numerous foreign agents, front organizations, terrorists, terrorist organizations, and narcotics traffickers as "Specially Designated Nationals and Blocked Persons". This list can be located on the United States Treasury's website – https://www.treasury.gov/resource-center/sanctions/SDN-List.

In accordance with OFAC regulations, if it is determined that you or any other person or entity claiming the benefits of any coverage has violated U.S. sanctions law or is a Specially Designated National and Blocked Person, as identified by OFAC, any coverage will be considered a blocked or frozen contract and all provisions of any coverage provided are immediately subject to OFAC. When a surety bond or other form of surety coverage is considered to be such a blocked or frozen contract, no payments nor premium refunds may be made without authorization from OFAC. Other limitations on the premiums and payments may also apply.

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Bond No. EACX4023218
Premium Included in
Performance Bond

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

That the County of Santa Barbara of the State of California (hereinafter referred to as the County) and MarCon Engineering, Inc. (hereinafter referred to as Principal) have by written agreement dated _____, entered into a contract identified as:

Project Title: County of Santa Barbara
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033

(Hereinafter referred to as the Contract) and

That, pursuant to law and to said Contract, and before entering upon the performance of said Contract, the principal is required to file with the County a good and sufficient bond to secure the payment of labor and materials claims.

NOW, THEREFORE, said Principal and Endurance Assurance Corporation

as corporate surety (hereinafter referred to as Surety), are held firmly bound unto the County in the amount of $ 12,650,888.00*, for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns both jointly and severally. Surety shall be and hereby warrants that it is listed in the Insurance Organizations Authorized by the Insurance Commissioner to Transact Business of Insurance in the State of California, published by the Department of Insurance, State of California or successor publications. *Twelve Million Six Hundred Fifty Thousand Eight Hundred Eighty Eight and 00/100 Dollars

THE CONDITION OF THIS OBLIGATION IS SUCH that if said principal, his or its subcontractors, heirs, executors, administrators, successors, or assigns, shall fail to pay any of the persons named or referred to in Section 9100 of the California Civil Code, or amounts due under Unemployment Insurance Code with respect to work or labor performed by any such claimant, or for any amounts required to be deducted, withheld and paid over to the Employment Development Department from the wages of employees of the Contractor and his subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor as required by the California Civil Code, or this bond, then said Surety will pay for the same, in an amount not to exceed the amount hereinafter set forth.

This bond shall insure to the benefit of any and all persons, entities, companies and corporations named or referred to in Section 9100 of the California Civil Code, so as to give a right of action to them or their assign in any suit brought upon this bond.

And the said Surety, for value received, hereby agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed thereunder, or the Specifications accompanying the same, shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Specifications.

DocuSign Envelope ID: A3D9B7F7-0052-4128-892C-5989E8423256

In the event suit is brought upon this Bond by County and judgment is recovered, Surety shall pay all costs incurred by the County in such suit, including a reasonable attorney's fee to be fixed by the court.

Death, illness, disability or disqualification of the Principal shall not relieve Surety of its obligations hereunder.

MarCon Engineering, Inc.
Principal

By: DocuSigned by: Marjory Contreras A8D416E87D964A5...

DATED: 9/28/2023 | 11:45 AM PDT

Endurance Assurance Corporation
Surety

Signature of Attorney-in-fact, Lawrence F. McMahon

DATED: September 20, 2023

725 S. Figueroa St., Ste 2100
Address

Los Angeles, CA 90017
City, State & Zip Code

Surety's Agent for Service of Process (located within the State of California):

Alliant Insurance Services, Inc.
Name of Agent

701 B Street, 6th Floor
Address

San Diego, CA 92101
City, State & Zip Code

(619)238-1828
Telephone Number

(619)699-2110
FAX Number

NOTE: Signature of those executing for Surety must be properly acknowledged.

DocuSign Envelope ID: A3D9B7F7-0052-4128-892C-5989E8423256

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT **CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of San Diego)

On SEP 20 2023 before me, N. Kirk-Smith, Notary Public,
Date *Here Insert Name and Title of the Officer*

personally appeared Lawrence F. McMahon
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

N. KIRK-SMITH
Notary Public - California
San Diego County
Commission # 2417893
My Comm. Expires Sep 23, 2026

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____
Document Date: _____ Number of Pages: _____
Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Individual ☒ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: Surety Company

Signer's Name: _____
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: _____

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DocuSign Envelope ID: A3D9B7F7-0052-4128-892C-5989E8423256

SOMPO INTERNATIONAL
INSURANCE

POWER OF ATTORNEY

2697

KNOW ALL BY THESE PRESENTS, that **Endurance Assurance Corporation**, a Delaware corporation, **Endurance American Insurance Company**, a Delaware corporation, and/or **Bond Safeguard Insurance Company**, a South Dakota corporation, each, a "Company" and collectively, "**Sompo International**," do hereby constitute and appoint: **Lawrence F. McMahon** as true and lawful Attorney(s)-In-Fact to make, execute, seal, and deliver for, and on its behalf as surety or co-surety; bonds and undertakings given for any and all purposes, also to execute and deliver on its behalf as aforesaid renewals, extensions, agreements, waivers, consents or stipulations relating to such bonds or undertakings provided, however, that no single bond or undertaking so made, executed and delivered shall obligate the Company for any portion of the penal sum thereof in excess of the sum of **ONE HUNDRED MILLION Dollars ($100,000,000.00).**

Such bonds and undertakings for said purposes, when duly executed by said attorney(s)-in-fact, shall be binding upon the Company as fully and to the same extent as if signed by the President of the Company under its corporate seal attested by its Corporate Secretary.

This appointment is made under and by authority of certain resolutions adopted by the sole shareholder of each Company by unanimous written consent effective the 15th day of June, 2019, a copy of which appears below under the heading entitled "Certificate".

This Power of Attorney is signed and sealed by facsimile under and by authority of the following resolution adopted by the sole shareholder of each Company by unanimous written consent effective the 15th day of June, 2019 and said resolution has not since been revoked, amended or repealed:

RESOLVED, that the signature of an individual named above and the seal of the Company may be affixed to any such power of attorney or any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signature or seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, each Company has caused this instrument to be signed by the following officers, and its corporate seal to be affixed this 15th day of June, 2019.

Endurance Assurance Corporation
By: Richard M Appel
Richard Appel; SVP & Senior Counsel

Endurance American Insurance Company
By: Richard M Appel
Richard Appel; SVP & Senior Counsel

Bond Safeguard Insurance Company
By: Richard M Appel
Richard Appel; SVP & Senior Counsel

ACKNOWLEDGEMENT

On this 15th day of June, 2019, before me, personally came the above signatories known to me, who being duly sworn, did depose and say that he/they is an officer of each of the Companies; and that he executed said instrument on behalf of each Company by authority of his office under the by-laws of each Company.

By: Amy Taylor
Amy Taylor, Notary Public - My Commission Expires 5/9/23

CERTIFICATE

I, the undersigned Officer of each Company, DO HEREBY CERTIFY that:

1. That the original power of attorney of which the foregoing is a copy was duly executed on behalf of each Company and has not since been revoked, amended or modified; that the undersigned has compared the foregoing copy thereof with the original power of attorney, and that the same is a true and correct copy of the original power of attorney and of the whole thereof;
2. The following are resolutions which were adopted by the sole shareholder of each Company by unanimous written consent effective June 15, 2019 and said resolutions have not since been revoked, amended or modified:

   "RESOLVED, that each of the individuals named below is authorized to make, execute, seal and deliver for and on behalf of the Company any and all bonds, undertakings or obligations in surety or co-surety with others: RICHARD M. APPEL, BRIAN J. BEGGS, CHRISTOPHER DONELAN, SHARON L. SIMS, CHRISTOPHER L. SPARRO, MARIANNE L. WILBERT

   ; and be it further

   RESOLVED, that each of the individuals named above is authorized to appoint attorneys-in-fact for the purpose of making, executing, sealing and delivering bonds, undertakings or obligations in surety or co-surety for and on behalf of the Company."
3. The undersigned further certifies that the above resolutions are true and correct copies of the resolutions as so recorded and of the whole thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal this 20th day of September 2023.

By:
Daniel S. Lane, Secretary

NOTICE: U. S. TREASURY DEPARTMENT'S OFFICE OF FOREIGN ASSETS CONTROL (OFAC)

No coverage is provided by this Notice nor can it be construed to replace any provisions of any surety bond or other surety coverage provided. This Notice provides information concerning possible impact on your surety coverage due to directives issued by OFAC. **Please read this Notice carefully.**

The Office of Foreign Assets Control (OFAC) administers and enforces sanctions policy, based on Presidential declarations of "national emergency". OFAC has identified and listed numerous foreign agents, front organizations, terrorists, terrorist organizations, and narcotics traffickers as "Specially Designated Nationals and Blocked Persons". This list can be located on the United States Treasury's website – https://www.treasury.gov/resource-center/sanctions/SDN-List.

In accordance with OFAC regulations, if it is determined that you or any other person or entity claiming the benefits of any coverage has violated U.S. sanctions law or is a Specially Designated National and Blocked Person, as identified by OFAC, any coverage will be considered a blocked or frozen contract and all provisions of any coverage provided are immediately subject to OFAC. When a surety bond or other form of surety coverage is considered to be such a blocked or frozen contract, no payments nor premium refunds may be made without authorization from OFAC. Other limitations on the premiums and payments may also apply.

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Bond No. EACX4023218
Premium: $85,491.00
SUBJECT TO ADJUSTMENT BASED ON FINAL CONTRACT PRICE

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That the County of Santa Barbara of the State of California (hereinafter referred to as the County) and MarCon Engineering, Inc. (hereinafter referred to as Principal) have by written agreement dated _____, entered into a contract identified as:

Project Title: County of Santa Barbara
Cachuma Lake Recreational Vehicle Site Renewal
1 Lakeview Drive, Santa Barbara, CA 93105
Project No. 20033

(Hereinafter referred to as the Contract) and

That, pursuant to law and to said Contract, and before entering upon the performance of said Contract, the Principal is required under the terms and conditions of said Contract to furnish a bond for the faithful performance of Contract.

NOW, THEREFORE, said Principal and Endurance Assurance Corporation

as corporate surety (hereinafter referred to as Surety), are held firmly bound unto the County in the amount of $ 12,650,888.00*, for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns both jointly and severally. Surety shall be and hereby warrants that it is listed in the Insurance Organizations Authorized by the Insurance Commissioner to Transact Business of Insurance in the State of California, published by the Department of Insurance, State of California or successor publications.

*Twelve Million Six Hundred Fifty Thousand Eight Hundred Eighty Eight and 00/100 Dollars

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Principal, his heirs, executors, administrators, successors, or assigns, shall perform all of the covenants, conditions and agreements in said Contract and any alteration thereof made as herein provided, in his or their part, to be kept and performed at the time, and in the manner therein specified, and shall indemnify and save harmless County, its officers, agents, and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force, virtue and effect.

And the said Surety, for value received, hereby agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed thereunder, or the specifications accompanying the same shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or additions to the terms of the Contract or to the work or to the specifications.

DocuSign Envelope ID: A3D9B7F7-0052-4128-892C-5989E8423256

In the event suit is brought upon this Bond by County and judgment is recovered, Surety shall pay all costs incurred by the County in such suit, including a reasonable attorney's fee to be fixed by the court.

Death, illness, disability or disqualification of the Principal shall not relieve Surety of its obligations hereunder.

MarCon Engineering, Inc.
Principal

By: DocuSigned by: Marjory Contreras A8D410E07D904A5...

DATED: 9/28/2023 | 11:45 AM PDT

Endurance Assurance Corporation
Surety

Signature of Attorney-in-fact , Lawrence F. McMahon

DATED: September 20, 2023

725 S. Figueroa St., Ste 2100
Address

Los Angeles, CA 90017
City, State & Zip Code

Surety's Agent for Service of Process (located within the State of California):

Alliant Insurance Services, Inc.
Name of Agent

701 B Street, 6th Floor
Address

San Diego, CA 92101
City, State & Zip Code

(619)238-1828
Telephone Number

(619)699-2110
FAX Number

NOTE: Signature of those executing for Surety must be properly acknowledged.

DocuSign Envelope ID: A3D9B7F7-0052-4128-892C-5989E8423256

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT **CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of San Diego)

On SEP 2 0 2023 before me, N. Kirk-Smith, Notary Public,
Date *Here Insert Name and Title of the Officer*

personally appeared Lawrence F. McMahon
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

N. KIRK-SMITH
Notary Public - California
San Diego County
Commission # 2417893
My Comm. Expires Sep 23, 2026

Signature
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____
Document Date: _____ Number of Pages: _____
Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____	Signer's Name: _____
☐ Corporate Officer — Title(s): _____	☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Individual ☒ Attorney in Fact	☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator	☐ Trustee ☐ Guardian or Conservator
☐ Other: _____	☐ Other: _____
Signer Is Representing: Surety Company	Signer Is Representing: _____

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SOMPO INTERNATIONAL
INSURANCE

POWER OF ATTORNEY

2697

KNOW ALL BY THESE PRESENTS, that **Endurance Assurance Corporation**, a Delaware corporation, **Endurance American Insurance Company**, a Delaware corporation, and/or **Bond Safeguard Insurance Company**, a South Dakota corporation, each, a "Company" and collectively, "**Sompo International**," do hereby constitute and appoint: **Lawrence F. McMahon** as true and lawful Attorney(s)-In-Fact to make, execute, seal, and deliver for, and on its behalf as surety or co-surety; bonds and undertakings given for any and all purposes, also to execute and deliver on its behalf as aforesaid renewals, extensions, agreements, waivers, consents or stipulations relating to such bonds or undertakings provided, however, that no single bond or undertaking so made, executed and delivered shall obligate the Company for any portion of the penal sum thereof in excess of the sum of **ONE HUNDRED MILLION Dollars ($100,000,000.00).**

Such bonds and undertakings for said purposes, when duly executed by said attorney(s)-in-fact, shall be binding upon the Company as fully and to the same extent as if signed by the President of the Company under its corporate seal attested by its Corporate Secretary.

This appointment is made under and by authority of certain resolutions adopted by the sole shareholder of each Company by unanimous written consent effective the 15th day of June, 2019, a copy of which appears below under the heading entitled "Certificate".

This Power of Attorney is signed and sealed by facsimile under and by authority of the following resolution adopted by the sole shareholder of each Company by unanimous written consent effective the 15th day of June, 2019 and said resolution has not since been revoked, amended or repealed:

RESOLVED, that the signature of an individual named above and the seal of the Company may be affixed to any such power of attorney or any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signature or seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, each Company has caused this instrument to be signed by the following officers, and its corporate seal to be affixed this 15th day of June, 2019.

Endurance Assurance Corporation
By: Richard M Appel
Richard Appel; SVP & Senior Counsel

Endurance American Insurance Company
By: Richard M Appel
Richard Appel; SVP & Senior Counsel

Bond Safeguard Insurance Company
By: Richard M Appel
Richard Appel; SVP & Senior Counsel

Endurance Assurance Corporation CORPORATE SEAL 2002 DELAWARE

Endurance American Insurance Company CORPORATE SEAL 1996 DELAWARE

BOND SAFEGUARD INSURANCE COMPANY A SOUTH DAKOTA INSURANCE COMPANY

ACKNOWLEDGEMENT

On this 15th day of June, 2019, before me, personally came the above signatories known to me, who being duly sworn, did depose and say that he/they is an officer of each of the Companies; and that he executed said instrument on behalf of each Company by authority of his office under the by-laws of each Company.

By: Amy Taylor
Amy Taylor, Notary Public - My Commission Expires 5/9/23

AMY TAYLOR STATE OF TENNESSEE NOTARY PUBLIC DAVIDSON COUNTY

CERTIFICATE

I, the undersigned Officer of each Company, DO HEREBY CERTIFY that:

1. That the original power of attorney of which the foregoing is a copy was duly executed on behalf of each Company and has not since been revoked, amended or modified; that the undersigned has compared the foregoing copy thereof with the original power of attorney, and that the same is a true and correct copy of the original power of attorney and of the whole thereof;
2. The following are resolutions which were adopted by the sole shareholder of each Company by unanimous written consent effective June 15, 2019 and said resolutions have not since been revoked, amended or modified:

   "RESOLVED, that each of the individuals named below is authorized to make, execute, seal and deliver for and on behalf of the Company any and all bonds, undertakings or obligations in surety or co-surety with others: RICHARD M. APPEL, BRIAN J. BEGGS, CHRISTOPHER DONELAN, SHARON L. SIMS, CHRISTOPHER L. SPARRO, MARIANNE L. WILBERT

   ; and be it further

   RESOLVED, that each of the individuals named above is authorized to appoint attorneys-in-fact for the purpose of making, executing, sealing and delivering bonds, undertakings or obligations in surety or co-surety for and on behalf of the Company."
3. The undersigned further certifies that the above resolutions are true and correct copies of the resolutions as so recorded and of the whole thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal this 20th day of September 2023.

By:
Daniel S. Lurie, Secretary

NOTICE: U. S. TREASURY DEPARTMENT'S OFFICE OF FOREIGN ASSETS CONTROL (OFAC)

No coverage is provided by this Notice nor can it be construed to replace any provisions of any surety bond or other surety coverage provided. This Notice provides information concerning possible impact on your surety coverage due to directives issued by OFAC. **Please read this Notice carefully.**

The Office of Foreign Assets Control (OFAC) administers and enforces sanctions policy, based on Presidential declarations of "national emergency". OFAC has identified and listed numerous foreign agents, front organizations, terrorists, terrorist organizations, and narcotics traffickers as "Specially Designated Nationals and Blocked Persons". This list can be located on the United States Treasury's website – https://www.treasury.gov/resource-center/sanctions/SDN-List.

In accordance with OFAC regulations, if it is determined that you or any other person or entity claiming the benefits of any coverage has violated U.S. sanctions law or is a Specially Designated National and Blocked Person, as identified by OFAC, any coverage will be considered a blocked or frozen contract and all provisions of any coverage provided are immediately subject to OFAC. When a surety bond or other form of surety coverage is considered to be such a blocked or frozen contract, no payments nor premium refunds may be made without authorization from OFAC. Other limitations on the premiums and payments may also apply.

Any reproductions are void.

Surety Claims Submission: LexonClaimAdministration@sompo-intl.com
Telephone: 615-553-9500 Mailing Address: Sompo International; 12890 Lebanon Road; Mount Juliet, TN 37122-2870

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EXHIBIT C

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EXHIBIT C

Indemnification and Insurance Requirements
(For Construction Contracts)

INDEMNIFICATION

CONTRACTOR agrees to indemnify, defend (with counsel reasonably approved by COUNTY) and hold harmless COUNTY and its officers, officials, employees, agents and volunteers from and against any and all claims, actions, losses, damages, judgments and/or liabilities arising out of this Agreement from any cause whatsoever, including the acts, errors or omissions of any person or entity and for any costs or expenses (including but not limited to attorneys' fees) incurred by COUNTY on account of any claim except where such indemnification is caused by the active negligence, sole negligence, or willful misconduct of the COUNTY.

NOTIFICATION OF ACCIDENTS AND SURVIVAL OF INDEMNIFICATION PROVISIONS

CONTRACTOR shall notify COUNTY immediately in the event of any accident or injury arising out of or in connection with this Agreement. The indemnification provisions in this Agreement shall survive any expiration or termination of this Agreement.

INSURANCE

CONTRACTOR shall procure and maintain for the duration of this Agreement insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder and the results of that work by the CONTRACTOR, its agents, representatives, employees or subcontractors.

A. Minimum Scope and Limit of Insurance
Coverage shall be at least as broad as:

1. **Commercial General Liability (CGL):** Insurance Services Office (ISO) Form CG 00 01 covering CGL on an "occurrence" basis, including products-completed operations, personal & advertising injury, with limits no less than $2,000,000 per occurrence and $4,000,000 in the aggregate.
2. **Automobile Liability**: Insurance Services Office Form CA 0001 covering Code 1 (any auto), with limits no less than $2,000,000 per accident for bodily injury and property damage.
3. **Workers' Compensation**: Insurance as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than $1,000,000 per accident for bodily injury or disease.
4. **Contractor's Pollution Legal Liability and/or Asbestos Legal Liability:** (if project involves environmental hazards) with limits no less than $1,000,000 per occurrence or claim, and $2,000,000 policy aggregate.

If the CONTRACTOR maintains higher limits than the minimums shown above, the COUNTY requires and shall be entitled to coverage for the higher limits maintained by the CONTRACTOR. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the COUNTY.

B. Other Insurance Provisions
The insurance policies are to contain, or be endorsed to contain, the following provisions:

1. **Additional Insured** – COUNTY, its officers, officials, employees, agents and volunteers are to be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the CONTRACTOR including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the

form of an endorsement to the CONTRACTOR'S insurance at least as broad as ISO Form CG 20 10 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms if later revisions used).

2. **Primary Coverage** – For any claims related to this Agreement, the CONTRACTOR'S insurance coverage shall be primary insurance coverage at least as broad as ISO CG 20 01 04 13 as respects the COUNTY, its officers, officials, employees, agents and volunteers. Any insurance or self-insurance maintained by the COUNTY, its officers, officials, employees, agents or volunteers shall be excess of the CONTRACTOR'S insurance and shall not contribute with it.

3. **Notice of Cancellation** – Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to the COUNTY.

4. **Waiver of Subrogation Rights – CONTRACTOR hereby agrees to waive rights of subrogation which any insurer of CONTRACTOR may acquire** from CONTRACTOR by virtue of the payment of any loss. CONTRACTOR agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation. **The Workers' Compensation policy shall be endorsed with a waiver of subrogation** in favor of the COUNTY for all work performed by the CONTRACTOR, its employees, agents and subcontractors. This provision applies regardless of whether or not the COUNTY has received a waiver of subrogation endorsement from the insurer.

5. **Deductibles and Self-Insured Retention** – Any deductibles or self-insured retentions must be declared to and approved by the COUNTY. At the option of the COUNTY, either: the CONTRACTOR shall cause the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the COUNTY, its officers, officials, employees, agents and volunteers; or the CONTRACTOR shall provide a financial guarantee satisfactory to the COUNTY guaranteeing payment of losses and related investigations, claim administration, and defense expenses.

6. **Acceptability of Insurers** – Unless otherwise approved by Risk Management, insurance shall be written by insurers authorized to do business in the State of California and with a minimum A.M. Best's Insurance Guide rating of "A- VII".

7. **Verification of Coverage** – CONTRACTOR shall furnish the COUNTY with proof of insurance, original certificates and amendatory endorsements as required by this Agreement. The proof of insurance, certificates and endorsements are to be received and approved by the COUNTY before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the CONTRACTOR'S obligation to provide them. The CONTRACTOR shall furnish evidence of renewal of coverage throughout the term of the Agreement. The COUNTY reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time.

8. **Failure to Procure Coverage** – In the event that any policy of insurance required under this Agreement does not comply with the requirements, is not procured, or is canceled and not replaced, COUNTY has the right but not the obligation or duty to terminate the Agreement. Maintenance of required insurance coverage is a material element of the Agreement and failure to maintain or renew such coverage or to provide evidence of renewal may be treated by COUNTY as a material breach of contract.

9. **Subcontractors** – CONTRACTOR shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and CONTRACTOR shall ensure that COUNTY is an additional insured on insurance required from subcontractors. For CGL coverage subcontractors shall provide coverage with a format least as broad as CG 20 38 04 13.

10. **Claims Made Policies** – If any of the required policies provide coverage on a claims-made basis:

    i. The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.

    ii. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of contract work.

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iii. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the contract effective date, the CONTRACTOR must purchase "extended reporting" coverage for a minimum of five (5) years after completion of contract work.

11. **Special Risks or Circumstances** – COUNTY reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.

Any change requiring additional types of insurance coverage or higher coverage limits must be made by amendment to this Agreement. CONTRACTOR agrees to execute any such amendment within thirty (30) days of receipt.

Any failure, actual or alleged, on the part of COUNTY to monitor or enforce compliance with any of the insurance and indemnification requirements will not be deemed as a waiver of any rights on the part of COUNTY.