

County of Santa Barbara-Public Works

# Attachment A

Reimbursement Agreement with Vintage Ranch LLC

## AGREEMENT FOR REIMBURSEMENT

**THIS AGREEMENT FOR REIMBURSEMENT** (hereafter "Agreement") is made by and between the County of Santa Barbara, a political subdivision of the State of California (hereafter "County"), and Vintage Ranch Orcutt, LLC, a California limited liability company ("Owner"), as successor in interest to Mesa Verde Development Partners II, LLC, a California limited liability company (hereafter "Former Owner") wherein Owner agrees to provide and County agrees to accept the services specified herein.

**WHEREAS**, Owner owns certain real property identified by Assessor Parcel No. 101-570-045, and previously dedicated to the County as Open Space Areas certain adjacent real property identified by Assessor Parcel Nos. 101-570-042 and 101-570-043 pursuant to Instrument No. 2021-0083916 recorded on December 9, 2021 in Official Records (collectively, the "Project Site") in the unincorporated area of the County located approximately 0.5 acres south of Clark Avenue at the terminus of Black Oak Drive, in Key Site 7 of the Orcutt Community Plan ("OCP") area, Fourth Supervisorial District;

**WHEREAS**, on March 9, 2005, the Santa Barbara County Planning Commission (Planning Commission) approved a Vesting Tentative Tract Map (TM 14,556) to subdivide into 55 lots the 33.07-acre real property formerly identified by Assessor Parcel No. 100-400-008, including 52 lots for single family dwellings, two public open space lots totaling approximately 20 acres, and one private open space lot. Due to the downturn in the economy, this map was not recorded;

**WHEREAS**, on March 19, 2015, Former Owner filed an application for approval of a Vesting Tentative Tract Map (TM 14,812) in compliance with County Code Chapter 21 to subdivide the 33.07-acre property into: 1) 41 residential lots ranging in size from 9,685 sq. ft. to 17,575 sq. ft.; 2) two lots for private roads totaling 1.93 acres, and 3) two lots for open space totaling 18.46 acres on property zoned PRD (Case No. 15TRM-00000-00002/TM 14,812); a Final Development Plan in compliance with Section 35.82.080 of the County Land Use and Development Code on property zoned PRD to develop 41 market rate single family dwellings and associated infrastructure (Case No. 15DVP-00000-00002); a Minor Conditional Use Permit to allow for the construction of a retaining wall/privacy fence combination of up to 10 feet in height in compliance with Section 35.82.060 of the County Land Use and Development Code, on property zoned PRD (Case No. 15CUP-00000-00006); the naming of four private roads within the proposed tract in compliance with Chapter 35.76 of the County Land Use and Development Code, on property zoned PRD (Case No. 15RDN-00000-00002); and to accept the Addendum to the Orcutt Community Plan Environmental Impact Report (95-EIR-01, certified 7/22/97) pursuant to the State Guidelines for Implementation of the California Environmental Quality Act, hereinafter referred to as the "Project";

**WHEREAS**, on January 11, 2017, pursuant to its jurisdiction under County Code Chapter 21-6 and County Land Use and Development Code ("LUDC") Sections 35.82.080, Table 8-2; 35.80.020, Table 8-1; 35.76.050.C.2.a.3; and 35.80.020, the Planning Commission approved the Project with revisions to the Conditions of Approval. The Project was not appealed after the Planning Commission's approval. The time to appeal the Planning Commission's approval of the Project has expired;

**WHEREAS**, OCP Development Standard KS7-3 and KS7-4 require the Owner to construct a bridge or a box culvert if a span bridge is not feasible, on Black Oak Drive across Orcutt Creek ("Orcutt Creek Crossing Improvements"), funded in part through Orcutt Transportation Improvement Plan ("OTIP") fees;

**WHEREAS**, the OTIP does not reference the Orcutt Creek Crossing Improvements, nor does it include funding for any portion of the Orcutt Creek Crossing Improvements through collection of OTIP fees, which in turn gives rise to the need for County and Owner to agree on a mechanism for Owner's reimbursement of certain construction costs related to the Orcutt Creek Crossing Improvements as required by the OCP;

**WHEREAS**, County and Owner (individually a "Party" and collectively the "Parties") have agreed on the portion of the Orcutt Creek Crossing Improvements that will be funded by the County pursuant to this Agreement (hereinafter the "Structure"); and

**WHEREAS**, the Parties hereto desire to set forth each's obligations regarding (1) construction of the Structure on Black Oak Drive by Owner, and (2) reimbursement of Owner up to a certain dollar amount by County, in accordance with this Agreement and the Conditions of Approval on the Project.

**NOW, THEREFORE**, in consideration of the mutual covenants and conditions contained herein, the Parties agree as follows:

**1. DESIGNATED REPRESENTATIVE**

Chris Sneddon with Santa Barbara County Public Works, is the representative of County and will administer this Agreement for and on behalf of County. Quincy Daniels, with Coastal Community Builders, Inc. is the representative of the Owner. Changes in designated representatives shall be made only after advance written notice to the other Party.

**2. NOTICES**

Any notice or consent required or permitted to be given under this Agreement shall be given to the respective parties in writing, by personal delivery, or with postage prepaid by first class mail, registered or certified mail, or express courier service, as follows:

To County: Chris Sneddon  
Santa Barbara County Public Works  
Transportation Division  
123 E. Anapamu St.  
Santa Barbara, CA 93101  
o. 805-568-3064

To Owner: Quincy Daniels, Senior Project Manager  
330 James Way, Ste. 270  
Pismo Beach, CA 93449  
c. 805.264.3555  
o. 805.556.3060 ext 114  
[CoastalCommunityBuilders.com](http://CoastalCommunityBuilders.com)

or at such other address or to such other person that the Parties may from time to time designate in accordance with this Notices section. Notices and consents under this Agreement shall be deemed delivered (a) if sent by first class mail, five (5) days following their deposit in the U.S. mail; (b) if by personal delivery, the day of such personal delivery; and (c) if delivered by overnight express courier service, the next business day after posting. This Notices section shall not be construed as meaning that either party agrees to service of process except as required by applicable law.

**3. SCOPE OF SERVICES**

Owner agrees to construct the Structure in accordance with EXHIBIT A attached hereto and incorporated herein by reference.

**4. TERM**

Owner shall complete the Work (defined in EXHIBIT A) prior to issuance of an occupancy clearance for the first residential structures. Unless terminated earlier pursuant to Section 18 or by law, the term of this Agreement shall expire thirty (30) days after the later to occur of (a) the County's funding of final payment to Owner under this Agreement, or (b) the date of issuance of an occupancy clearance for the first residential structures at the Project.

**5. COMPENSATION OF OWNER**

In full consideration for the Work, Owner shall be reimbursed for performance under this Agreement in accordance with the terms of EXHIBIT B attached hereto and incorporated herein by reference. Progress billing shall be made by invoice, which shall include the contract number assigned by County and which is delivered to the address given in Section 2 (Notices) above following completion of the project deliverables identified on Exhibit B-1. Unless otherwise specified on EXHIBIT B, payment shall be net thirty (30) days from presentation of any invoice. In no event shall Owner be paid an amount in excess of the Contract Maximum (see EXHIBIT B attached hereto and incorporated herein by reference), plus Owner's actual costs associated with any County-approved change order(s) that Owner completes.

**6. INDEPENDENT CONTRACTOR**

It is mutually understood and agreed that Owner (including any and all of its officers, agents, and employees), shall perform all of its services under this Agreement as an independent contractor as to County and not as an officer, agent, servant, employee, joint venture, partner, or associate of County. Furthermore, County shall have no right to control, supervise, or direct the manner or method by which Owner shall perform its work and function. However, County shall retain the right to administer this Agreement so as to verify that Owner is performing its obligations in accordance with the terms and conditions hereof, including but not limited to the Standard of Performance below. Owner understands and acknowledges that it shall not be entitled to any of the benefits of a County employee, including but not limited to vacation, sick leave, administrative leave, health insurance, disability insurance, retirement, unemployment insurance, workers' compensation and protection of tenure. Owner shall be solely liable and responsible for providing to, or on behalf of, its employees all legally-required employee benefits. In addition, Owner shall be solely responsible and save County harmless from all matters relating to payment of Owner's agents, contractors/subcontractors, and employees, including compliance with Social Security withholding and all other regulations governing such matters. It is acknowledged that during the term of this Agreement, Owner may be providing services to others unrelated to the County or to this Agreement.

**7. STANDARD OF PERFORMANCE**

Owner represents that any persons or entities with whom he contracts to perform the Work shall have the skills, expertise, and licenses/permits necessary to perform the Work required under this Agreement. Accordingly, such persons or entities shall perform all such Work in the manner and according to the standards observed by a competent practitioner of the same profession in which such persons or entities are engaged. All products of whatsoever nature, which Owner delivers to County pursuant to this Agreement, shall be completed using County and Caltrans design standards and construction practices as set forth in Caltrans Standard Plans and Specifications (2018) and County Engineering Design Standards (2011), and reflected in the approved project documents attached as EXHIBIT A-1. Owner shall correct or revise any construction related errors or omissions, at County's request without additional compensation. Permits necessary to complete the Work shall be obtained and maintained by Owner the reasonable costs of which shall be a component of the Contract Maximum.

**8. DEBARMENT AND SUSPENSION**

Owner certifies to County that he shall not contract with persons or entities for the Work who are debarred, suspended, or otherwise excluded from or ineligible for, participation in federal, state, or County government contracts.

**9. TAXES**

Owner shall pay all taxes, levies, duties, and assessments of every nature due in connection with installation and construction of the Work under this Agreement and shall make any and all payroll deductions required by law. County shall not be responsible for paying any taxes on Owner's behalf, and should County be required to do so by state, federal, or local taxing agencies, Owner 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.

**10. CONFLICT OF INTEREST**

Owner certifies that it shall not contract with or employ persons or entities for the Work who have 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 services required to be performed under this Agreement. Owner must promptly disclose to County, in writing, any potential conflict of interest. County retains the right to waive a conflict of interest disclosed by Owner if County determines it to be immaterial, and such waiver is only effective if provided by County to Owner in writing.

**11. OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY**

Owner and County shall have joint ownership of the following items incidental to this Agreement upon production, whether or not completed: all data collected, all documents of any type whatsoever, engineering plans and as-built drawings, including CAD files, all photos, design documents, sound or audiovisual recordings, software code, inventions, technologies, and other materials, and any material necessary for the practical use of such items, from the time of collection and/or production, whether or not performance under this Agreement is completed or terminated prior to completion. Owner shall not release any of such items to other parties except after prior written approval of County.

Unless otherwise specified in EXHIBIT A, Owner hereby assigns to County joint ownership rights to all copyright, patent, and other intellectual property and proprietary rights to all data, documents, reports, photos, designs, sound or audiovisual recordings, software code, inventions, technologies, and other materials prepared or provided by Owner pursuant to this Agreement (collectively referred to as "Copyrightable Works and Inventions"). County shall have the unrestricted authority to copy, adapt, perform, display, publish, disclose, distribute, create derivative works from, and otherwise use in whole or in part, any Copyrightable Works and Inventions. Owner agrees to take such actions and execute and deliver such documents as may be needed or requested by County to validate, protect and confirm the rights and assignments provided hereunder. Owner warrants that any Copyrightable Works and Inventions and other items provided under this agreement will not infringe upon any intellectual property or proprietary rights of any third party. Owner at its own expense shall defend, indemnify, and hold harmless County against any claim that any Copyrightable Works or Inventions or other items provided by Owner hereunder infringe upon intellectual or other proprietary rights of a third party, and Owner shall pay any damages, costs, settlement amounts, and fees (including attorneys' fees) that may be incurred by County in connection with any such claims. This Ownership of Documents and Intellectual Property provision shall survive expiration or termination of this Agreement.

**12. NO PUBLICITY OR ENDORSEMENT**

Owner shall not use County's name or logo or any variation of such name or logo in any publicity, advertising or promotional materials. Owner shall not use County's name or logo in any manner that would give the appearance that the County is endorsing Owner. Owner shall not in any way contract on behalf of or in the name of County. Owner shall not release any informational pamphlets, notices, press releases, research reports, or similar public notices concerning the County or its projects, without obtaining the prior written approval of County.

**13. COUNTY PROPERTY AND INFORMATION**

All of County's property, documents, and information provided for Owner's use in connection with the services shall remain County's property, and Owner shall return any such items whenever requested by County and whenever required according to the Termination section of this Agreement. Owner may use such items only in connection with the Work. Owner shall not disseminate any County property, documents, or information without County's prior written consent.

**14. RECORDS, AUDIT, AND REVIEW**

Owner shall keep such business records pursuant to this Agreement as would be kept by a reasonably prudent developer and shall maintain such records for at least four (4) years following the termination of this Agreement. All accounting records shall be kept in accordance with generally accepted accounting principles. County shall have the right to audit and review all such documents and records at any time during regular business hours or upon reasonable notice. In addition, if this Agreement exceeds ten thousand dollars (\$10,000.00), Owner shall be subject to the examination and audit of the California State Auditor, at the request of the County or as part of any audit of the County, for a period of three (3) years after final payment under the Agreement (Cal. Govt. Code Section 8546.7). Owner shall participate in any audits and reviews, whether by County or the State, and each Party shall bear its own costs related to same.

If federal, state or County audit exceptions are made relating to this Agreement, Owner shall reimburse all costs incurred by federal, state, and/or County governments associated with defending against the audit exceptions or performing any audits or follow-up audits, including but not limited to: audit fees, court costs, attorneys' fees based upon a reasonable hourly amount for attorneys in the community, travel costs, penalty assessments and all other costs of whatever nature. Immediately upon notification from County, Owner shall reimburse the amount of the audit exceptions and any other related costs directly to County as specified by County in the notification.

**15. INDEMNIFICATION AND INSURANCE**

A. Owner agrees to the indemnification and insurance provisions as set forth in EXHIBIT C attached hereto and incorporated herein by reference.

B. Owner shall require its contractor(s) performing work on the Project Site to agree to the indemnification and insurance provisions set forth in EXHIBIT C attached hereto and incorporated herein by reference.

**16. NONDISCRIMINATION**

County hereby notifies Owner that County's Unlawful Discrimination Ordinance (Article XIII of Chapter 2 of the Santa Barbara County Code) applies to this Agreement and is incorporated herein by this reference with the same force and effect as if the ordinance were specifically set out herein and Owner agrees to comply with said ordinance. Owner further agrees that persons or entities with whom he contracts shall also be required comply with such ordinance in regards to the Work.

**17. NON-ASSIGNMENT**

Owner shall not assign or transfer this Agreement or any of its rights or obligations under this Agreement without notice to County and appointment of a transferee subject to the terms of this Agreement. Upon delegation of the duties and obligations under this Agreement to a transferee, Owner shall be released from his obligations under this Agreement with respect to the Work so transferred arising subsequent to the effective date of such transfer if (i) the transferee or Owner has provided the County prior written notice of such transfer and (ii) the transferee has agreed in writing to be subject to the provisions of this Agreement.

**18. TERMINATION**

A. By County. County may, by written notice to Owner, terminate this Agreement in whole or in part at any time, whether for County's convenience, for nonappropriation of funds, or because of the failure of Owner to fulfill the obligations herein.

**1. For Convenience.** County may terminate this Agreement in whole or in part upon thirty (30) days written notice. During the thirty (30) day period, Owner shall, as directed by County, wind down and cease its services as quickly and efficiently as reasonably possible, without performing unnecessary services or activities and by minimizing negative effects on County from such winding down and cessation of services.

**2. For Nonappropriation of Funds.** Notwithstanding any other provision of this Agreement, in the event that no funds or insufficient funds are appropriated or budgeted by federal, state or County governments, or funds are not otherwise available for payments in the fiscal year(s) covered by the term of this Agreement, then County will notify Owner of such occurrence and County may terminate or suspend this Agreement in whole or in part, with or without a prior notice period. Upon receipt of notice of termination or suspension pursuant to this subsection, Owner shall immediately discontinue all services affected (unless the notice directs otherwise) and notify County as to the status of its performance. The date of termination shall be the date the notice is received by Owner, unless the notice directs otherwise.

**3. For Cause.** Should Owner default in the performance of this Agreement or materially breach any of its provisions, provided such default is not remedied by Owner within thirty (30) days of written notice to Owner, County may, at County's sole option, terminate or suspend this Agreement in whole or in part by written notice. Upon receipt of notice, Owner shall immediately discontinue all services affected (unless the notice directs otherwise) and notify County as to the status of its performance. The date of termination shall be the date the notice is received by Owner, unless the notice directs otherwise.

**4. County Completion of Work.** In the event the County terminates the Agreement pursuant to subsection A.1. or A.2. above, the County shall timely complete the Work itself at its own expense without unreasonable delay. The Parties recognize and expressly acknowledge that completion of the Work must occur prior to occupancy clearance for the first residential structures. In the event County performs the Work, in whole or in part, Owner shall grant to County easements or other permissions reasonably necessary for County to perform such Work.

B. By Owner. Should County fail to pay Owner all or any part of the payment set forth in EXHIBIT B, Owner may, at Owner's option terminate this Agreement if such failure is not remedied by County within thirty (30) days of written notice to County of such late payment.

C. Upon termination, Owner shall deliver to County copies of all data, estimates, graphs, summaries, reports, and all other property, records, documents or papers as may have been

accumulated or produced by Owner in performing this Agreement, whether completed or in process. Notwithstanding any other payment provision of this Agreement, County shall pay Owner for performance of the Work to the date of termination to include a prorated amount of compensation due hereunder less payments, if any, previously made. In no event shall Owner be paid an amount in excess of the Contract Maximum under this Agreement, plus any County-approved change orders completed prior to the date of termination. Owner shall furnish to County such financial information as in the judgment of County is necessary to determine the reasonable value of the services rendered by Owner. In the event of a dispute as to the reasonable value of the services rendered by Owner, the decision of County shall be final. The foregoing is cumulative and shall not affect any right or remedy which County or Owner may have in law or equity.

**19. SECTION HEADINGS**

The headings of the several sections, and any Table of Contents appended hereto, shall be solely for convenience of reference and shall not affect the meaning, construction or effect hereof.

**20. SEVERABILITY**

If any one or more of the provisions contained herein shall for any reason be held to be invalid, illegal or unenforceable in any respect, 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 Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

**21. REMEDIES NOT EXCLUSIVE**

No remedy herein conferred upon or reserved to County is intended to be exclusive of any other remedy or remedies, and each and every such remedy, to the extent permitted by law, shall be cumulative and in addition to any other remedy given hereunder or now or hereafter existing at law or in equity or otherwise.

**22. TIME IS OF THE ESSENCE**

Time is of the essence in this Agreement and each covenant and term is a condition herein.

**23. NO WAIVER OF DEFAULT**

No delay or omission of County to exercise any right or power arising upon the occurrence of any event of default shall impair any such right or power, or shall be construed to be a waiver of any such default or an acquiescence therein; and every power and remedy given by this Agreement to County shall be exercised from time to time and as often as may be deemed expedient in the sole discretion of County.

**24. ENTIRE AGREEMENT AND AMENDMENT**

In conjunction with the matters considered herein, this Agreement contains the entire understanding and agreement of the Parties 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. This Agreement may be altered, amended or modified only by an instrument in writing, executed by the Parties to this Agreement and by no other means. Each Party waives their 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.



**25. SUCCESSORS AND ASSIGNS**

All representations, covenants and warranties set forth in this Agreement, by or on behalf of, or for the benefit of any or all of the Parties hereto, shall be binding upon and inure to the benefit of such Party, its successors and assigns.

**26. COMPLIANCE WITH LAW**

Owner shall, at its sole cost and expense, comply with all County, State and Federal ordinances and statutes now in force or which may hereafter be in force with regard to this Agreement. The judgment of any court of competent jurisdiction, or the admission of Owner in any action or proceeding against Owner, whether County is a Party thereto or not, that Owner has violated any such ordinance or statute, shall be conclusive of that fact as between Owner and County.

**27. CALIFORNIA LAW AND JURISDICTION**

This Agreement shall be governed by the laws of the State of California. Any litigation regarding this Agreement or its contents shall be filed in the County of Santa Barbara, if in state court, or in the federal district court nearest to Santa Barbara County, if in federal court.

**28. EXECUTION OF COUNTERPARTS**

This Agreement 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. AUTHORITY**

All signatories and parties to this Agreement warrant and represent that they have the power and authority to enter into this Agreement in the names, titles and capacities herein stated and on behalf of any entities, persons, or firms represented or purported to be represented by such entity(ies), person(s), or firm(s) and that all formal requirements necessary or required by any state and/or federal law in order to enter into this Agreement have been fully complied with. Furthermore, by entering into this Agreement, Owner hereby warrants that he shall not have breached the terms or conditions of any other contract or agreement to which Owner is obligated, which breach would have a material effect hereon.

**30. SURVIVAL**

All provisions of this Agreement which by their nature are intended to survive the termination or expiration of this Agreement shall survive such termination or expiration to the extent necessary for the enforcement of the parties' rights and obligations hereunder.

**31. PRECEDENCE**

In the event of conflict between the provisions contained in the numbered sections of this Agreement and the provisions contained in the Exhibits, the provisions of the Exhibits shall prevail over those in the numbered sections.

*[Signature Pages Follow]*

Agreement for Reimbursement between the **County of Santa Barbara** and **Vintage Ranch Orcutt, LLC**.

**IN WITNESS WHEREOF**, the Parties have executed this Agreement to be effective on the date executed by County.

**ATTEST:**

Mona Miyasato  
County Executive Officer  
Clerk of the Board

By: \_\_\_\_\_  
Deputy Clerk

**COUNTY OF SANTA BARBARA:**

By: \_\_\_\_\_  
Chair, Board of Supervisors

Date: \_\_\_\_\_

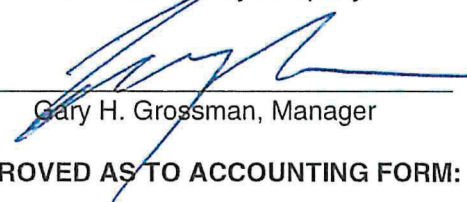
**RECOMMENDED FOR APPROVAL:**

PUBLIC WORKS

By:  \_\_\_\_\_  
Department Head

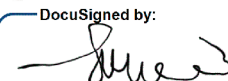
**OWNER:**

VINTAGE RANCH ORCUTT, LLC,  
a California limited liability company

By:  \_\_\_\_\_  
Gary H. Grossman, Manager


**APPROVED AS TO FORM:**

Rachel Van Mullem  
County Counsel

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Deputy County Counsel

**APPROVED AS TO ACCOUNTING FORM:**

Betsey M. Schaffer, CPA  
Auditor-Controller

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Deputy

**APPROVED AS TO FORM:**

RISK MANAGEMENT

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RISK Management

Agreement for Reimbursement between the **County of Santa Barbara** and **Vintage Ranch Orcutt, LLC**.

**IN WITNESS WHEREOF**, the Parties have executed this Agreement to be effective on the date executed by County.

**ATTEST:**

Mona Miyasato  
County Executive Officer  
Clerk of the Board

By: \_\_\_\_\_  
Deputy Clerk

**COUNTY OF SANTA BARBARA:**

By: \_\_\_\_\_  
Chair, Board of Supervisors

Date: \_\_\_\_\_

**RECOMMENDED FOR APPROVAL:**

PUBLIC WORKS

By:  \_\_\_\_\_  
Department Head

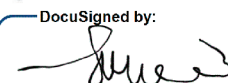
**OWNER:**

VINTAGE RANCH ORCUTT, LLC,  
a California limited liability company

By:  \_\_\_\_\_  
Gary H. Grossman, Manager


**APPROVED AS TO FORM:**

Rachel Van Mullem  
County Counsel

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By: \_\_\_\_\_  
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Deputy County Counsel

**APPROVED AS TO ACCOUNTING FORM:**

Betsey M. Schaffer, CPA  
Auditor-Controller

DocuSigned by:  
  
By: \_\_\_\_\_  
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Deputy

**APPROVED AS TO FORM:**

RISK MANAGEMENT

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By: \_\_\_\_\_  
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RISK Management

## EXHIBIT A

### STATEMENT OF WORK

#### I. THE WORK

1. Owner shall do the following: (a) cause the construction of the Structure as shown in EXHIBIT A-1, (County-approved project documents), attached hereto and incorporated herein by reference, according to approved specifications; and (b) comply with all necessary County and/or environmental permits throughout construction of the Structure (the "Work").

#### II. PERFORMANCE OF THE WORK

2. Owner shall submit plans and specifications for the Structure to be approved by Public Works. The County-approved plans and specifications shall be attached as EXHIBIT A-1.

3. Owner shall build or cause to be built the Structure as shown in EXHIBIT A-1, and shall furnish all labor, equipment and materials necessary to perform and complete the Work. Owner shall complete such Work in a workmanlike manner in compliance with all County-approved specifications for such Work set forth in EXHIBIT A-1 to the satisfaction of the Santa Barbara County Director of Public Works.

4. Owner shall ensure all permits necessary for the Work are obtained in accordance with applicable County permitting requirements. County shall act diligently and without unreasonable delay in the review of said permit applications. Nothing herein shall be deemed to be a waiver or infringement of the County's police power, nor shall any part or all of this Agreement be construed on the part of the County as an obligation to grant any permits, entitlements, or approvals.

5. Any Work performed by Owner or his agents under this Agreement shall be done in compliance with all regulations governing engineering and construction standards and specifications, including California Department of Transportation Standard Specifications, design review and right of way, and Local Assistance Procedures Manual, the Santa Barbara County Engineering Design Standards; and all uniform codes adopted by the State of California and subsequently adopted by the County, including local amendments to those codes pursuant to those codes; and the Project's Conditions of Approval.

6. Owner shall be responsible to otherwise satisfy the conditions of the Project.

7. Owner understands that no permits will be issued until all bonds, insurance certificates and other required certifications have been provided to County as required.

8. Owner guaranties that he shall engage a construction management specialist that has the skills, expertise, and licenses necessary to perform the Work required under this Agreement. Owner shall provide the name and contact information of such construction management specialist for review and approval by the County's Designated Representative prior to commencement of the Work. Accordingly, Owner and his agents shall perform the Work in the manner and according to the standards observed by a competent person engaged in the design and construction of this type of Work. The Work shall be prepared in a first class and workmanlike manner and shall conform to the standards of quality normally observed by a person engaged in the design and construction of this type of Work. Owner shall correct or revise any errors or omissions, at County's request without additional compensation. Permits and/or licenses shall be obtained and maintained by Owner through completion of the Project without additional compensation. Pursuant to Section 18 of the Agreement, the County may terminate the Agreement and complete the Work itself at its own expense. If the County terminates the Agreement

pursuant to Section 18, unless the Owner has abandoned the Project, as determined by the County, the County shall timely complete the Work without unreasonable delay. In such event, the County shall not be liable to Owner for any reimbursement regarding the Work, except for any portion of the Work completed by Owner prior to the County's provision of notice of termination of the Agreement. In the event County performs the Work, in whole or in part, Owner shall grant to County easements or other permissions reasonably necessary for County to perform such Work.

9. County's reimbursement for the Work under EXHIBIT B (or the completion of the Work by County in accordance with this EXHIBIT A) shall fully fulfill the obligations of County regarding the Structure.

### **III. PUBLIC WORKS**

10. Any work performed by Owner or his agents shall be performed in the same manner and subject to the same requirements as would be applicable to the County or such other public agency should it have undertaken such construction of the Work, including, but not limited to, the Local Agency Public Construction Act (Public Contracts Code sections 20100 *et seq.*), the Uniform Public Construction Cost Accounting Act (Public Contracts Code sections 22000 *et seq.*), dispute resolution (Public Contracts Code section 9201 *et seq.*), and the payment of the prevailing wages pursuant to Labor Code section 1770 *et seq.*

11. Owner warrants that he understands that the Work is a "public work" as defined in Division 2, Part 7, Chapter 1 of the Labor Code to which Labor Code section 1771 Requirement of Prevailing Local Rate for Work under Contract applies.

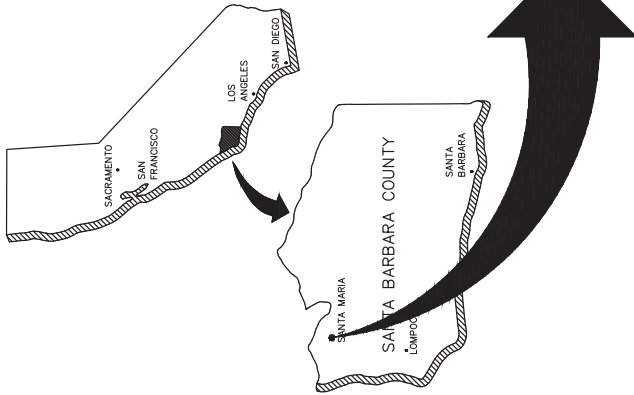
12. Owner shall identify in the notice inviting bids for the Work that the Work is a "public work" as defined in Division 2, Part 7, Chapter 1 of the Labor Code to which Labor Code Section 1771 Requirement of Prevailing Local Rate for Work applies and shall state the requirement for contractors and subcontractors to pay at least the prevailing wage for performance of such Work.

### **IV. ENVIRONMENTAL MATTERS**

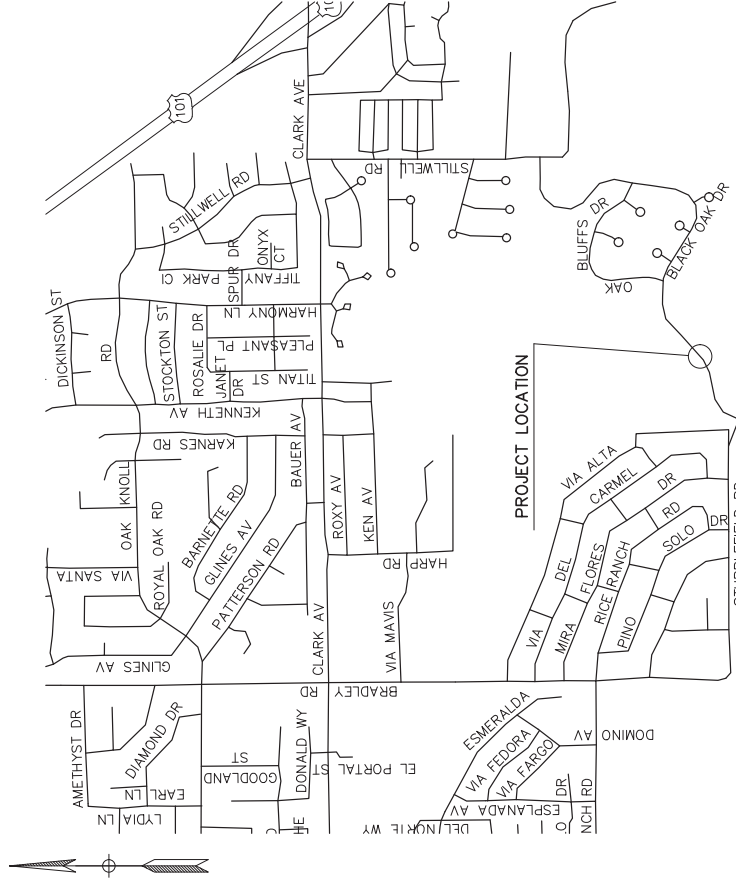
13. Owner is responsible for complying with all necessary environmental permits throughout construction of the Structure, the reasonable costs of which are a component of the Contract Maximum.

**EXHIBIT A-1**  
**APPROVED PROJECT DOCUMENTS**

(attached)



**NOTE:**  
 IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO WORK WITH THE LOCAL UTILITY COMPANIES TO LOCATE ALL UNDERGROUND UTILITY SERVICE LINES WITHIN THE PROJECT LIMITS. CALL UNDERGROUND SERVICE ALERT AT (800) 422-4133 OR BITT A MINIMUM OF TWO WORKING DAYS PRIOR TO ANY EXCAVATION WORK.



VICINITY MAP  
 NOT TO SCALE

INDEX TO SHEETS

PAGE SHEET	DESCRIPTION
1	TS TITLESHEET
2	SD SURVEY DATA
3	L-1 LAYOUT
4	C-1 DETAILS
5	C-2 DETAILS

APPROVED - CHAIRMAN, BOARD OF SUPERVISORS DATE  
 DocuSigned by: *Christina Swadlow* 6/28/2022 1:44 PM PDT  
 2C7CE183C6741F... DATE

DocuSigned by: *Diana Estorga* 6/26/2022 11:19 PDT  
 892C154926A3401... DATE  
 ENGINEERING SECTION MANAGER

CONSTRUCTION STARTED:	PROJECT NO. 862423	SHEET NO. 1 OF 5
CONSTRUCTION COMPLETED:	SCALE NTS	FILE NO.
RECORD DRAWING APPROVED BY:	CHECKED BY: D. ESTORGA	CONSTRUCTION REVIEW BY: L. CADENA
SURVEY CHECKED BY:	DRAWN BY: L. CADENA	REVISION DATES (PRELIMINARY STAGE ONLY)

TITLE SHEET TS

COUNTY OF SANTA BARBARA  
 DEPARTMENT OF PUBLIC WORKS  
 TRANSPORTATION DIVISION

FOR REDUCED PLANS  
 ORIGINAL SCALE IN INCHES



PROJECT ENGINEER:  
*Chris Swadlow*  
 DATE: 6/24/22



Point #	Northing	Easting	Elevation	Description
10152	18014.556	21863.976	577.43	FD X
10004	18027.705	20006.878	0.00	FS-2 (P) OPEN
5007	18116.023	21331.316	0.00	2 IP W/BRASS DISC LS 5702
5005	18048.334	20565.600	0.00	2 IP TO RT
10155	17159.894	22067.325	625.65	FD X
10001	17823.218	21320.075	0.00	FD 3/8 RBR LS702
10010	18612.658	21320.155	0.00	FD 1 1/2 IP W/BRASS DISC LS702
10009	16844.775	19998.155	0.00	CD 3/8 RBR
10006	17794.635	20863.881	0.00	FD 1 1/2 IP 1.5 ABV GRID
111	18236.464	19998.819	0.00	FD 3/4 IP LS3485
99	17288.113	21319.657	608.57	RPRF RBR

BASIS OF BEARINGS: FOR THIS PROJECT WAS ESTABLISHED BY THE DESIGN PLANS AS SHOWN ON THE CHITIC 812. IMPROVEMENT PLANS THE BASIS OF BEARINGS IS THE EAST LINE OF PARCEL 1 OF DOCUMENT NUMBER 2007-0019420 AND ITS NORTHERLY PROLONGATION BETWEEN FOUND MONUMENTS, BEARING BEING N00°25'57"E PER DOCUMENT NUMBER 2007-0019420 AND 174/RS/056.

BENCHMARK:  
 A 2 1/2" BRASS CAP STAMPED "SB. Co. GPS CONTROL 1992 PLS 5470 STA. 1012" INSIDE A 6" ALUMINUM MONUMENT WELL FLUSH WITH ASPHALT ROAD SURFACE AT INTERSECTION OF THE CENTERLINES OF CLARK AVENUE AND STILLWELL ROAD. ELEVATION BEING 561.40 FEET REFERENCED TO NAVD 88 PER CONTROL NETWORK DONE BY PENFIELD AND SMITH AS SHOWN ON 147/RS/57.

SD-1  
SURVEY DATA

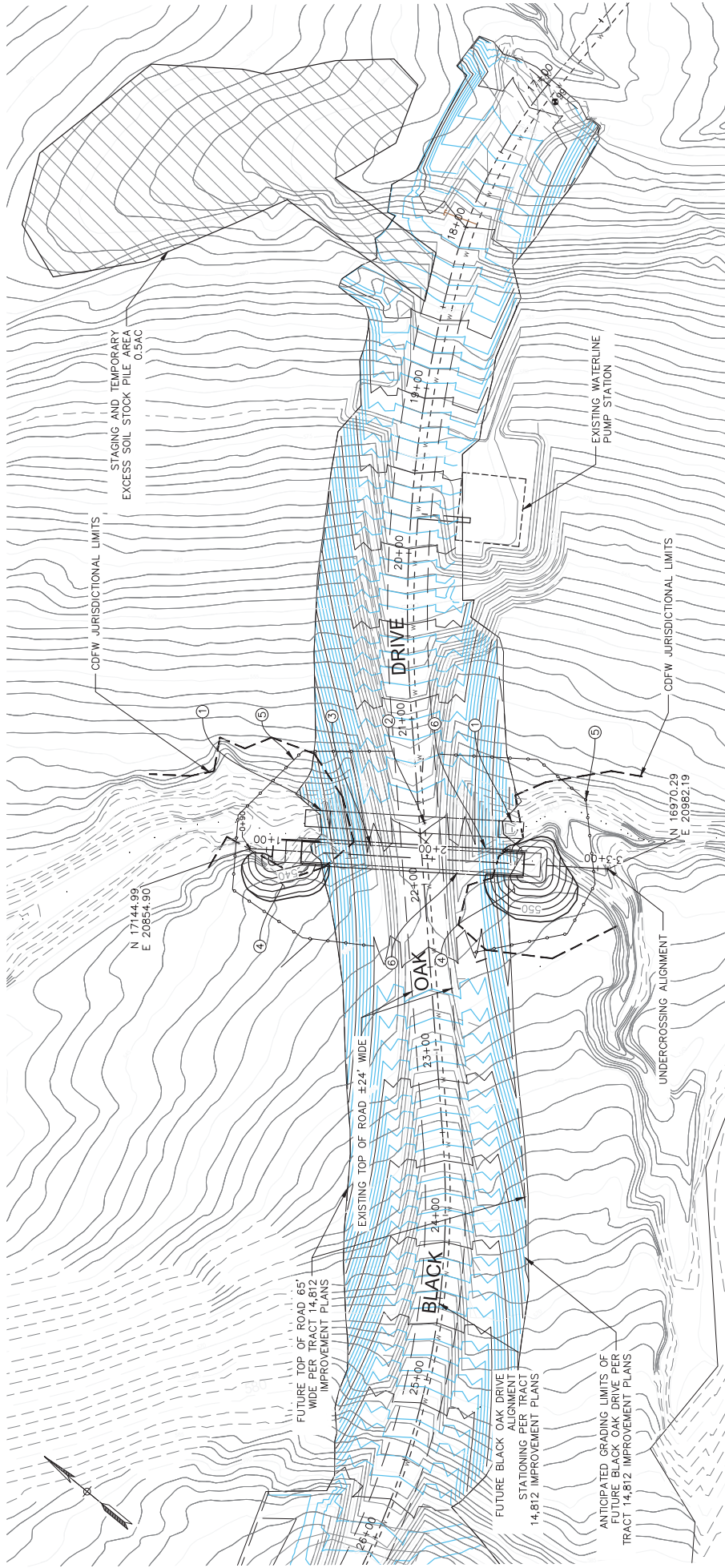
CONSTRUCTION STARTED:	PROJECT ENGINEER:	DESIGN BY:	CHECKED BY:	PROJECT NO.	SHEET NO.
CONSTRUCTION COMPLETED:	<i>Chris Swadlow</i>	L. CADENA	D. ESTORGA	862423	2 OF 5
RECORD DRAWING APPROVED BY:	DATE	DRAWN BY:	CONSTRUCTIBILITY REVIEW BY:	SCALE	FILE NO.
SURVEY CHECKED BY:	6/24/22	L. CADENA	NAME	1" = 100'	
				DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)



COUNTY OF SANTA BARBARA  
 DEPARTMENT OF PUBLIC WORKS  
 TRANSPORTATION DIVISION

FOR REDUCED PLANS  
 ORIGINAL SCALE IN INCHES 0 1 2 3





**CONSTRUCTION NOTES:**

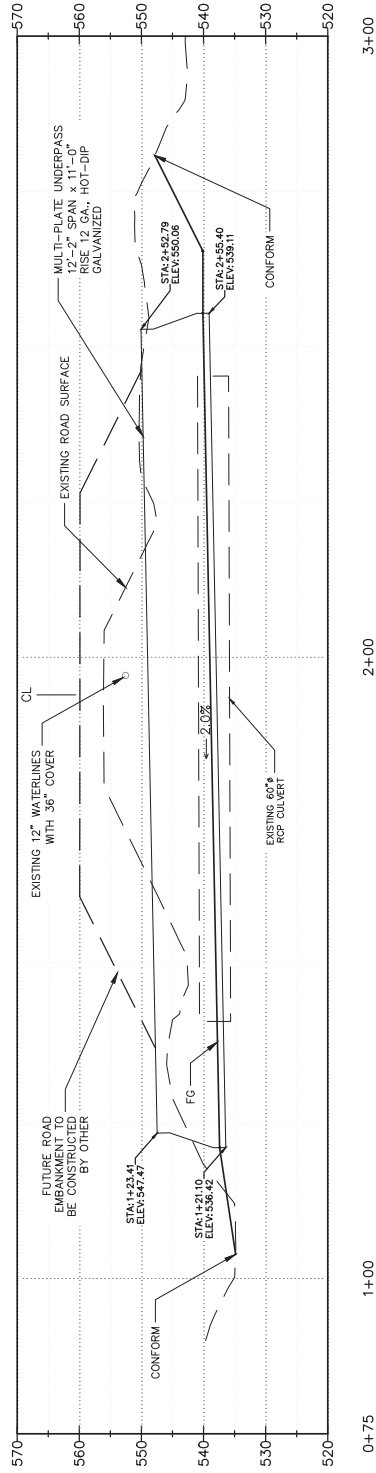
- ① PROTECT IN PLACE AND EXTEND 15' OF EXISTING 60" RCP PIPE. CONNECT NEW RCP TO EXISTING RCP USING SBCCO 3-115.
- ② PROTECT EXISTING 12" DIP WATERLINE IN-PLACE.
- ③ INSTALL MULTI PLATE ARCH CULVERT PER CONTECH SHEETS 1-4.
- ④ APPLY HYDROSEED AND EROSION CONTROL (JUTE MESH) TO GRADING AREA OR AS DIRECTED BY THE ENGINEER EXCEPT FOR WALKING PAD.
- ⑤ INSTALL TEMPORARY SILT FENCE.
- ⑥ TEMPORARY SHORING FOR CULVERT TRENCH AS REQUIRED. SEE CONTECH SHEETS 1-4 FOR EXCAVATION AND BACKFILL LIMITS.

LAYOUT  
L-1

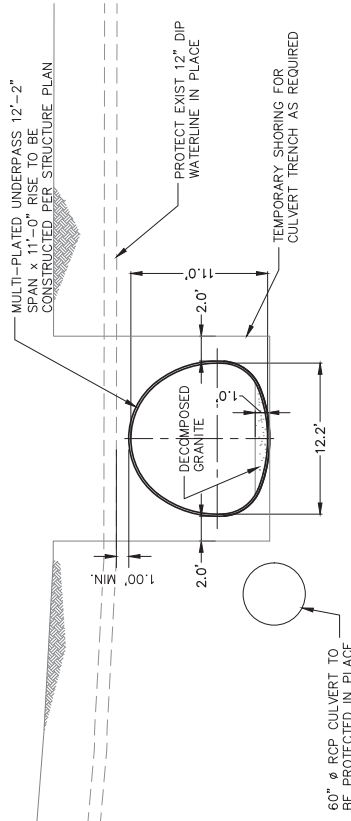
CONSTRUCTION STARTED:		PROJECT ENGINEER: <i>Chris Swanson</i>		SHEET NO. 3 OF 5	
CONSTRUCTION COMPLETED:		DATE 6/24/22		PROJECT NO. 862423	
RECORD DRAWING APPROVED BY:		DESIGN BY: L. CADENA		SCALE 1" = 30'	
SURVEY CHECKED BY:		DRAWN BY: L. CADENA		CHECKED BY: D. ESTORGA	
		CONSTRUCTION REVIEW BY: NAME		FILE NO.	
		TRANSPORTATION DIVISION		REVISION DATES (PRELIMINARY STAGE ONLY)	



FOR REDUCED PLANS  
ORIGINAL SCALE IN INCHES



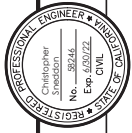
UNDERPASS PROFILE  
SCALE: 1"=10'

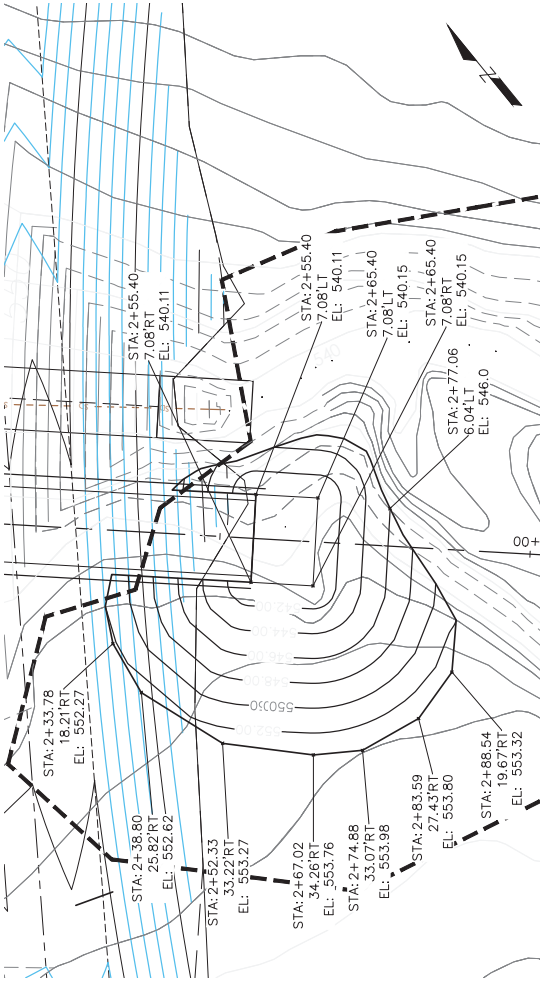
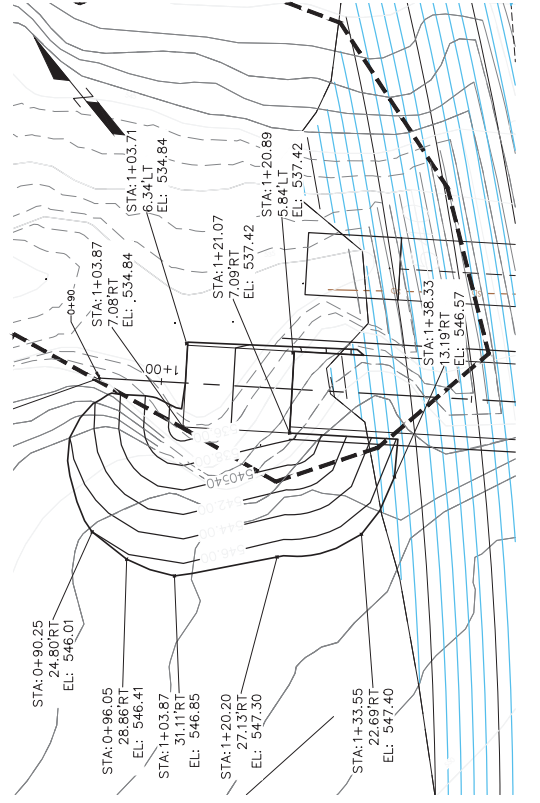


CONSTRUCTION DETAILS

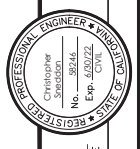
C-1

CONSTRUCTION STARTED:	PROJECT ENGINEER:	COUNTY OF SANTA BARBARA	CHECKED BY:	PROJECT NO.	SHEET NO.
CONSTRUCTION COMPLETED:	<i>Chris Swadlow</i>	DEPARTMENT OF PUBLIC WORKS	D. ESTORGA	862423	4 OF 5
RECORD DRAWING APPROVED BY:		TRANSPORTATION DIVISION	L. CADENA	AS SHOWN	FILE NO.
SURVEY CHECKED BY:		FOR REDUCED PLANS ORIGINAL SCALE IN INCHES	L. CADENA	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)





GRADING PLAN  
G-1



CONSTRUCTION STARTED:	PROJECT ENGINEER: <i>Chris Swadlow</i>	DATE 6/24/22
CONSTRUCTION COMPLETED:	PROFESSIONAL ENGINEER	NO. 89246
RECORD DRAWING APPROVED BY:	REGISTERED CIVIL	EXP. 6/30/22
SURVEY CHECKED BY:	DESIGN BY: D. GONZALEZ	DRAWN BY: D. GONZALEZ
	CHECKED BY: D. ESTORGA	CONSTRUCTIBILITY REVIEW BY: NAME
	SCALE AS SHOWN	PROJECT NO. 862423
	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)
		SHEET NO. 5 OF 5
		FILE NO.



Dayton Office

## ENGINEERING REPORT

TO: Contech Engineered Solutions LLC  
9025 Centre Pointe Drive  
Suite 400  
West Chester, OH 45069

DATE: May 23, 2022

CBC NO: 24985D-1-0522-05

ATTN: Mr. Zach Moore, P.E.  
Project Engineer

Re: Review of AASHTO LRFD Calculations and Shop Drawings for a Proposed MULTI-PLATE Underpass Structure (703615); Blacks Road Crossing, Santa Maria, California; CBC Report No. 24985D-1-0522-05

The purpose of this report is to provide an evaluation of the AASHTO structural calculations and shop drawings for the above referenced proposed MULTI-PLATE underpass structure (6" x 2" galvanized steel corrugation). The structure is proposed to be a 12'-2" span by 11'-0" rise underpass structure with 12 gage (0.111") plate thickness. The height of cover over the structure is reported to vary from a minimum of 2.0 feet to a maximum of 18.0 feet at 120 pcf with HL-93 live load at the ground surface. The AASHTO LRFD calculations have been performed for these minimum and maximum cover heights. We have evaluated the structural calculations and the shop drawings, and agree they conform to accepted industry standards for this structure type. We have not made an independent verification of the data used to perform the design calculations, and understand all initial assumptions and data are correct as presented to us. Others are responsible for all other aspects of the design of the structure, including but not limited to hydraulics, scour/abrasion/corrosion evaluation and remedial measures, end treatments, bedding/backfill evaluation, settlement, any required temporary bracing, and structure connections, and the only responsibility of CBC Engineers & Associates, Ltd. is as listed above.

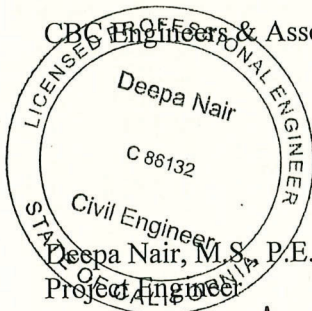
It is the responsibility of the Contractor to ensure that the select backfill around the structure is the proper material type and is placed in accordance with the project specifications, the manufacturer's requirements, and accepted industry standards. The backfill differential level between sides of the structure should not exceed 16 inches. Contractor is also responsible for any required bracing/shoring to prevent any distortion of the structure during installation and backfilling, and for knowing and following all applicable safety requirements. Care must be exercised to maintain balanced loading on the structure during any backfilling or construction operations, and the structure must be properly backfilled to

maintain this balanced loading. The dimension of the structure should be within 2% of the design dimensions at all locations during and at the completion of installation, and this should be verified by field measuring during construction. The foundation soil and embankment material below and beside the proposed structure must be a uniform non-yielding material meeting the project requirements (by others) with a minimum allowable bearing capacity of at least 4000 psf. This must be verified in the field by a geotechnical engineer before the installation of the structure. Scour is not addressed herein and is the responsibility of others than CBC Engineers & Associates, Ltd.

We have accordingly signed and sealed the shop drawings, and they are attached along with the calculations. Our professional services have been performed and our findings obtained in accordance with generally accepted engineering principles and practices. No other warranty, express or implied, is made. This report has been prepared for the exclusive use of Contech Engineered Solutions LLC and its designees for specific application to the project herein described. Anyone reviewing this report must interpret and draw their own conclusions regarding specific construction techniques and methods chosen. CBC Engineers & Associates, Ltd. is not responsible for the independent conclusions, opinions or recommendations made by others. If you have any questions, please contact us.

Respectfully submitted,

CBC Engineers & Associates, Ltd.



*Deepa Nair*  
 5/23/2022

Mitchell T. Hardert, P.E.  
 Chief Engineer

DN/MTH/mt

ec: Client (zach.moore@conteches.com)

ec: Darrell Sanders (darrell.sanders@conteches.com)

ec: Melinda Fugate (melinda.fugate@conteches.com)

1-File

**APPENDIX A**  
**CALCULATIONS**

**Structural Design Check for Corrugated Steel Plate Pipe**

Per AASHTO LRFD Bridge Design Specifications, Section 12, 9th Edition 2020

Project Name: Blacks Road UndercrossingCRM #: 703,615Location: Santa Maria, CADate: 5/23/2022

Structure Shape	<input type="text" value="Pipe Arch"/>		Select Shape Below
Corrugation Type	<input type="text" value="6 X 2 in."/>		
Loading Case	<input type="text" value="1"/>	(lanes)	<input 11'-0"="" type="text" value="12'-2" x=""/>
Gage	<input type="text" value="12"/>		
Bolting Type	<input type="text" value="4 Bolts/ft."/>		
H, Height of Cover	<input type="text" value="2.0"/>	(ft.)	S, Span <input type="text" value="146"/> (in.)
SB, Maximum Soil Bearing Pressure	<input type="text" value="4.00"/>	(ksf)	Note: Please enter Soil Bearing Pressure value in space at left
$\rho$ , Density of Cover Material (120 pcf default)	<input type="text" value="0.12"/>	(kcf)	(Table 3.5.1-1)
Design Truck (LRFD Highway Load is HL-93)	<input type="text" value="HL-93"/>		

$A_w$ , Pipe Wall Area	<input type="text" value="1.556"/>	(sq. in./ft.)	(Table A12-3)
I, Moment of Inertia	<input type="text" value="0.0604"/>	(in. <sup>4</sup> /in.)	(Table A12-3)
r, Radius of Gyration	<input type="text" value="0.682"/>	(in.)	(Table A12-3)
R <sub>t</sub> , Top Radius	<input type="text" value="67"/>	(in.)	(See Shapes Sheet)
R <sub>c</sub> , Corner Radius	<input type="text" value="38"/>	(in.)	(See Shapes Sheet)
E <sub>m</sub> , Modulus of Elasticity	<input type="text" value="29000"/>	(ksi)	(Table A12-10)
F <sub>u</sub> , Tensile Strength	<input type="text" value="45"/>	(ksi)	(Table A12-10)
F <sub>y</sub> , Yield Strength	<input type="text" value="33"/>	(ksi)	(Table A12-10)
L <sub>p</sub> , Surface Load Contact Length	<input type="text" value="0.833"/>	(ft.)	(3.6.1.2.5)
w <sub>t</sub> , Surface Load Contact Width	<input type="text" value="1.667"/>	(ft.)	(3.6.1.2.5)
<b>HS20 Controls</b>			
s <sub>w</sub> , Wheel	<input type="text" value="6.00"/>	(ft)	
s <sub>a</sub> , axle spacing	<input type="text" value="14.00"/>	(ft)	
LLDF	<input type="text" value="1.15"/>		(Table 3.6.1.2.6a-1)
H <sub>int-t</sub> , Wheel Interaction Depth	<input type="text" value="3.13"/>	(ft)	(3.6.1.2.6b-1)
W <sub>w</sub> , live load patch length W <sub>w</sub> =w <sub>t</sub> /12+s <sub>w</sub> +LLDF x H + 0.06 DI/12	<input type="text" value="4.70"/>	(ft)	(3.6.1.2.6b-3)
H <sub>int-p</sub> , Axle Interaction Depth	<input type="text" value="11.45"/>		
Number of Interacting Wheels	<input type="text" value="1"/>		
DL, Design Lane Load	<input type="text" value="0.64"/>	(klf)	(3.6.1.2.4)
l <sub>w</sub> , live load patch length l <sub>w</sub> =l <sub>t</sub> /12+LLFD(H)	<input type="text" value="3.13"/>	(ft)	(3.6.1.2.6b-5)
A <sub>LL</sub> , Area of live load patch at H	<input type="text" value="14.72"/>	(ft <sup>2</sup> )	(3.6.1.2.6a-1)
FFR, Flexibility Factor Required	<input type="text" value="30"/>	(in./kip)	(Table 12.5.6.1-1)
k, Soil Stiffness Factor	<input type="text" value="0.22"/>		(12.7.2.4)
IM, Dynamic Load Factor IM = 33(1.0-0.125H)	<input type="text" value="24.75"/>	(%)	(3.6.2.2-1)
m, Multiple Presence Factor	<input type="text" value="1.2"/>		(Table 3.6.1.1.2-1)

**Structural Design Check for Corrugated Steel Plate Pipe**

Per AASHTO LRFD Bridge Design Specifications, Section 12, 9th Edition 2020



P, Design Truck Load (HS20)	<input type="text" value="16"/>	(kip/wheel group)		(3.6.1.2.2)
PT, Design Tandem Load	<input type="text" value="12.5"/>	(kip/wheel group)		(3.6.1.2.3)
SS, Seam Strength	43	(kip/ft.)		(Table A12-8)
$\Phi_w$ , Wall Area and Buckling	1.00			(Table 12.5.5-1)
$\Phi_{SS}$ , Seam Strength	0.67			(Table 12.5.5-1)
$\Phi_{BP}$ , Backfill Bearing Resistance	<input type="text" value="1.00"/>			(Table 12.5.5-1)
$\eta_{EV}$ , Redundancy Factor	<input type="text" value="1.05"/>			(1.3.4, 12.5.4)
$\eta_{LL}$ , Redundancy Factor	<input type="text" value="1.00"/>			(1.3.4, 12.5.4)
$\gamma_{EV}$ , Dead Load Factor	<input type="text" value="1.95"/>			(Table 3.4.1-2)
$\gamma_{LL}$ , Live Load Factor	<input type="text" value="1.75"/>			(Table 3.4.1-1)
$P_L = (P(1+IM/100)m)/ALL$	1.63	(ksf)		(3.6.1.2.6b-7)
$P_{FD}$ , Factored Dead Load Crown Pressure $= \eta_{EV} \gamma_{EV} \times H \times \rho$	0.4914	(ksf)		(3.5.1)
$P_{FL}$ , Factored Live Load Crown Pressure $= \eta_{LL} \gamma_{LL} P_L$	2.85	(ksf)		
$P_{DL}$ , Factored Design Lane Load $= \eta_{LL} \gamma_{LL} m DL/10$	0.134	(ksf)		
<b>Factored Thrust (standard structures)</b>				
$F_{min}$ = greater of 15/S or 1	1.00	(dimensionless)		(12.7.2.2-4)
$F_1$ = greater of 0.75S/lw or $F_{min}$	2.91	(dimensionless)		(12.7.2.2-3)
$C_L$ , Width of Culvert on which LL is applied $= lw \leq S$	3.13	(ft)		(12.7.2.2-2)
$T_L$ , Factored Thrust $= (P_{FD} + P_{DL})S/2 + (P_{FL} C_L F_1)/2$	16.802	(kip/ft)		(12.7.2.2-1)
EV, Vertical Earth Load $EV = \rho H$	0.24	(ksf)		(3.5.1)
$R_w$ , Wall Resistance $R_w = \Phi_w F_y A_w$	51.348	(kip/ft.)	> T	$\frac{16.802}{(12.7.2.3-1)}$ <b>OK</b>
$F_{cr}$ , Critical Buckling Stress	41.773	(ksi)		
If: $S < \frac{r}{k} \sqrt{\frac{24E_m}{F_u}}$	Then:	$F_{cr} = F_u - \frac{\left(\frac{F_u k S}{r}\right)^2}{48E_m}$		(12.7.2.4-1)
But if: $S > \frac{r}{k} \sqrt{\frac{24E_m}{F_u}}$	Then:	$F_{cr} = \frac{12E_m}{\left(\frac{kS}{r}\right)^2}$		(12.7.2.4-2)
$R_b$ , Buckling Resistance $R_b = \Phi_w F_{cr} A_w$	41.773	(ksi)	>	33
	51.348	(kip/ft.)	> T	$\frac{16.802}{(12.7.2.3-1)}$ <b>OK</b>
FF, Flexibility Factor $FF = S^2/(E_m I)$	12.169	(in./kip)	< FFR	30 <b>OK</b> (12.7.2.6-1)
$R_s$ , Factored Seam Strength $R_s = \Phi_{SS} SS$	28.810	(kip/ft.)	> T	$\frac{16.802}{(12.7.2.5)}$ <b>OK</b>
Consider the trench width to reduce the corner bearing pressure?	<input type="text" value="Yes"/>			
Default to AASHTO trench width?	<input type="text" value="Yes"/>			
$W_T$ , Trench Width	<input type="text" value="12"/>	(in.)		(Table C12.6.6.2-1)
$L_1 = 40 + (12H - 12)1.75$	61	(in.)		
$L_2 = L_1 + 1.37S$	261.02	(in.)		
$L_3 = L_2 + 72$	333.02	(in.)		
$C1 = 2 \times L1/L3$	0.3663			
$\Gamma_C$ , Corner Bearing Pressure $P_C = (EV + C_1(P_L + DL/10)) \times R_T / [\Phi_{BP}(R_C + W_T)]$	1.152	(ksf)	< SB	$\frac{4.000}{(12.6.3.2, NCSPA 7-22)}$ <b>OK</b>



# Structural Design Check for Corrugated Steel Plate Pipe

Per AASHTO LRFD Bridge Design Specifications, Section 12, 9th Edition 2020

Project Name: Blacks Road UndercrossingCRM #: 703,615Location: Santa Maria, CADate: 5/23/2022

Structure Shape	<u>Underpass</u>		Select Shape Below
Corrugation Type	<u>6 X 2 in.</u>		
Loading Case	<u>2</u>	(lanes)	<u>12'-2" X 11'-0"</u>
Gage	<u>12</u>		
Bolting Type	<u>4 Bolts/ft.</u>		
H, Height of Cover	<u>18.0</u>	(ft.)	S, Span <u>146</u> (in.)
SB, Maximum Soil Bearing Pressure	<u>4.00</u>	(ksf)	Note: Please enter Soil Bearing Pressure value in space at left
$\rho$ , Density of Cover Material (120 pcf default)	<u>0.12</u>	(kcf)	(Table 3.5.1-1)
Design Truck (LRFD Highway Load is HL-93)	<u>HL-93</u>		

$A_w$ , Pipe Wall Area	<u>1.556</u>	(sq. in./ft.)	(Table A12-3)
I, Moment of Inertia	<u>0.0604</u>	(in. <sup>4</sup> /in.)	(Table A12-3)
r, Radius of Gyration	<u>0.682</u>	(in.)	(Table A12-3)
R <sub>t</sub> , Top Radius	<u>67</u>	(in.)	(See Shapes Sheet)
	<u>38</u>	(in.)	(See Shapes Sheet)
$E_m$ , Modulus of Elasticity	<u>29000</u>	(ksi)	(Table A12-10)
$F_u$ , Tensile Strength	<u>45</u>	(ksi)	(Table A12-10)
$F_y$ , Yield Strength	<u>33</u>	(ksi)	(Table A12-10)
$L_p$ , Surface Load Contact Length	<u>0.833</u>	(ft.)	(3.6.1.2.5)
$w_t$ , Surface Load Contact Width	<u>1.667</u>	(ft.)	(3.6.1.2.5)
<b>Tandem Controls</b>			
$s_w$ , Wheel	<u>6.00</u>	(ft)	
$s_a$ , axle spacing	<u>4.00</u>	(ft)	
LLDF	<u>1.15</u>		(Table 3.6.1.2.6a-1)
$H_{int-t}$ , Wheel Interaction Depth	<u>3.13</u>	(ft)	(3.6.1.2.6b-1)
$W_w$ , live load patch length	<u>29.10</u>	(ft)	(3.6.1.2.6b-3)
$W_w = w_t / 12 + s_w + LLDF \times H + 0.06 D_i / 12$			
$H_{int-p}$ , Axle Interaction Depth	<u>2.75</u>		
Number of Interacting Wheels	<u>4</u>		(3.6.1.2.4)
DL, Design Lane Load	<u>0.64</u>	(klf)	(3.6.1.2.6b-6)
$l_w$ , live load patch length	<u>25.53</u>	(ft)	
$l_w = l_t / 12 + s_a + LLDF(H)$			
$A_{LL}$ , Area of live load patch at H	<u>742.93</u>	(ft <sup>2</sup> )	(3.6.1.2.6a-1)
FFR, Flexibility Factor Required	<u>20</u>	(in./kip)	(Table 12.5.6.1-1)
k, Soil Stiffness Factor	<u>0.22</u>		(12.7.2.4)
IM, Dynamic Load Factor	<u>0</u>	(%)	(3.6.2.2-1)
IM = 33(1.0-0.125H)			
m, Multiple Presence Factor	<u>1</u>		(Table 3.6.1.1.2-1)

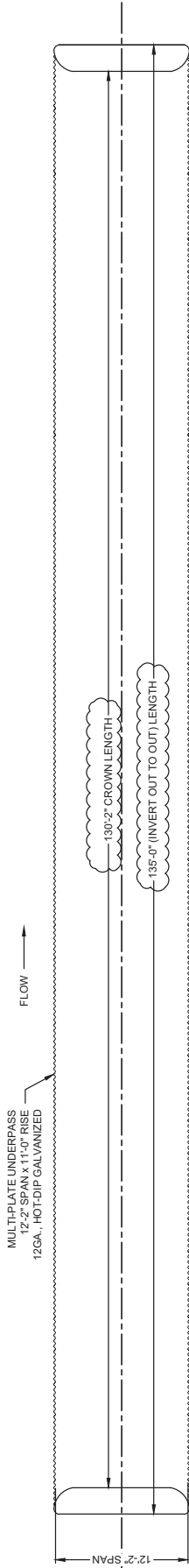
# Structural Design Check for Corrugated Steel Plate Pipe

Per AASHTO LRFD Bridge Design Specifications, Section 12, 9th Edition 2020



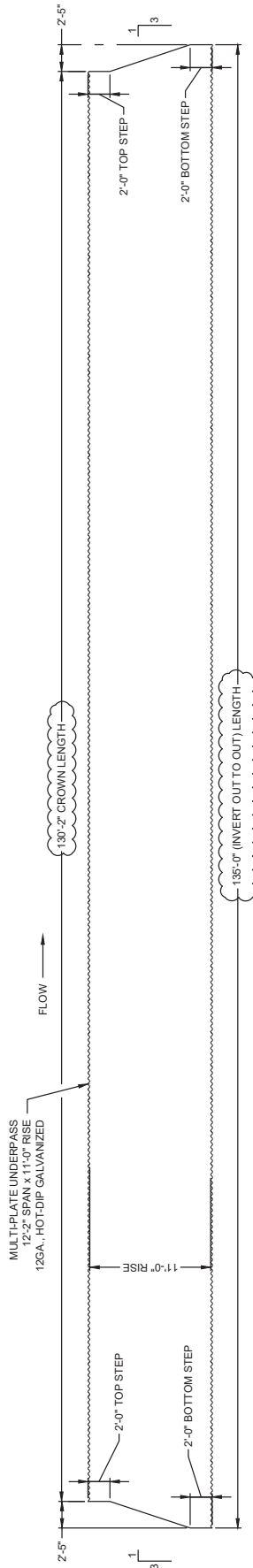
P, Design Truck Load (HS20)		16	(kip/wheel group)		(3.6.1.2.2)
PT, Design Tandem Load		12.5	(kip/wheel group)		(3.6.1.2.3)
SS, Seam Strength		43	(kip/ft.)		(Table A12-8)
$\Phi_w$ , Wall Area and Buckling		1.00			(Table 12.5.5-1)
$\Phi_{SS}$ , Seam Strength		0.67			(Table 12.5.5-1)
$\Phi_{BP}$ , Backfill Bearing Resistance		1.00			(Table 12.5.5-1)
$\eta_{EV}$ , Redundancy Factor		1.05			(1.3.4, 12.5.4)
$\eta_{LL}$ , Redundancy Factor		1.00			(1.3.4, 12.5.4)
$\gamma_{EV}$ , Dead Load Factor		1.95			(Table 3.4.1-2)
$\gamma_{LL}$ , Live Load Factor		1.75			(Table 3.4.1-1)
$P_L = (P(1+IM/100)m)/ALL$		0.07	(ksf)		(3.6.1.2.6b-7)
$P_{FD}$ , Factored Dead Load Crown Pressure $= \eta_{EV} \gamma_{EV} \times H \times p$		4.4226	(ksf)		(3.5.1)
$P_{FL}$ , Factored Live Load Crown Pressure $= \eta_{LL} \gamma_{LL} P_L$		0.00	(ksf)		
$P_{DL}$ , Factored Design Lane Load $= \eta_{LL} \gamma_{LL} mDL/10$		0.112	(ksf)		
<b>Factored Thrust (standard structures)</b>					
$F_{min}$ = greater of 15/S or 1		1.00	(dimensionless)		(12.7.2.2-4)
$F_1$ = greater of 0.75S/lw or $F_{min}$		1.00	(dimensionless)		(12.7.2.2-3)
$C_L$ , Width of Culvert on which LL is applied $= lw \leq S$		12.17	(ft)		(12.7.2.2-2)
$T_L$ , Factored Thrust $= (P_{FD} + P_{DL})S/2 + (P_{FL} C_L F_1)/2$		27.585	(kip/ft)		(12.7.2.2-1)
EV, Vertical Earth Load $EV = \rho H$		2.16	(ksf)		(3.5.1)
$R_w$ , Wall Resistance $R_w = \Phi_w F_y A_w$		51.348	(kip/ft.)	> T	27.585 <b>OK</b> (12.7.2.3-1)
$F_{cr}$ , Critical Buckling Stress		41.773	(ksi)		
If: $S < \frac{r}{k} \sqrt{\frac{24E_m}{F_u}}$	Then:				$F_{cr} = F_u - \frac{(F_u k S)^2}{48 E_m}$ (12.7.2.4-1)
But if: $S > \frac{r}{k} \sqrt{\frac{24E_m}{F_u}}$	Then:				$F_{cr} = \left(\frac{kS}{r}\right)^2 \frac{12 E_m}{48 E_m}$ (12.7.2.4-2)
$R_b$ , Buckling Resistance If: $F_{cr} > F_y$ , then $F_{cr} = F_y$ $R_b = \Phi_w F_{cr} A_w$		41.773	(ksi)	>	33
		51.348	(kip/ft.)	> T	27.585 <b>OK</b> (12.7.2.3-1)
FF, Flexibility Factor $FF = S^2/(E_m I)$		12.169	(in./kip)	< FFR	20 <b>OK</b> (12.7.2.6-1)
$R_s$ , Factored Seam Strength $R_s = \Phi_{SS} SS$		28.810	(kip/ft.)	> T	27.585 <b>OK</b> (12.7.2.5)
Consider the trench width to reduce the corner bearing pressure?		Yes			
Default to AASHTO trench width?		No			
$W_T$ , Trench Width		12			
		12			
$L_1 = 40 + (12H - 12)1.75$		397	(in.)		
$L_2 = L_1 + 1.37S$		597.02	(in.)		
$L_3 = L_2 + 72$		669.02	(in.)		
$C1 = 2 \times L1/L3$		1.1868			
$P_C$ , Corner Bearing $P_C = (EV + C_1(P_L + DL/10)) \times R_T / [\Phi_{BP}(R_C + W_T)]$		3.103	(ksf)	< SB	4.000 <b>OK</b> (12.6.3.2, NCSPA 7-22)

**APPENDIX B**  
**SHOP DRAWINGS**



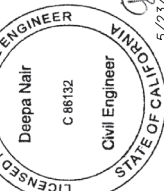
UNDERPASS PLAN

NOTE:  
STRUCTURE ENDS TO BE  
FIELD CUT BY CONTRACTOR.



UNDERPASS PROFILE

INLET	OUTLET	TYPE STRUCTURE	UNDERPASS
90	90	SIZE	141
		SPAN	12'-2"
		BEVEL	0
		LENGTH	130'-2"
		INVERT	135'-0"



FOR APPROVAL

PLANT ORDER NO.	
SALES ORDER NO.	
PROJECT NO.	703615-010-MPUP-COIN-B
DESIGNED	XXX
CHECKED	ZWM
SHEET NO.	1 OF 4

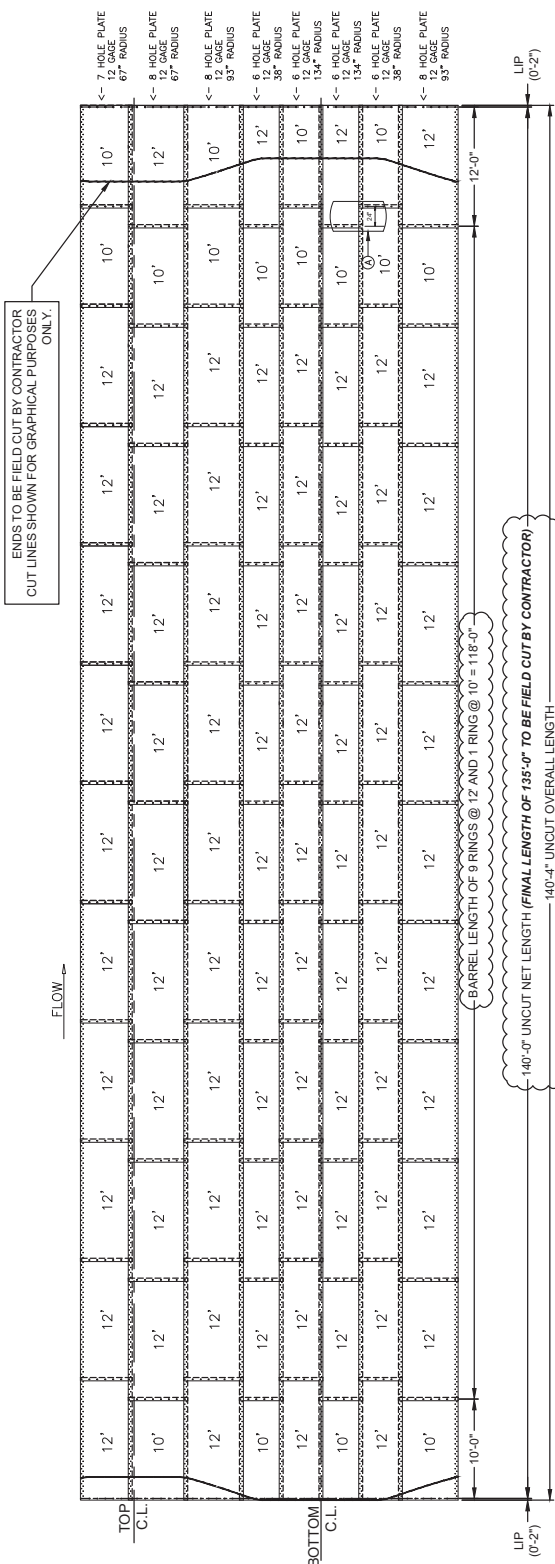
**CONTECH ENGINEERED SOLUTIONS LLC**  
 8025 Centre Pointe Dr., Suite 400, West Chester, OH 45389  
 800-338-1122 513-645-7000 513-645-7993 FAX

**CONTECH STRUCTURAL PLATE CONTRACT DRAWING**

**MULTI-PLATE UNDERPASS**  
 12'-2" SPAN X 11'-0" RISE  
 BLACKS ROAD UNDERCROSSING  
 SANTA MARIA, CA

DATE: 5/23/22  
 DATE: 4/22/2022

NO.	DATE	DESCRIPTION
3	5/20/22	REV. BACKFILL DETAIL
2	5/9/22	REVISED PER REVIEWER COMMENTS
1	5/3/22	REVISED PER REVIEWER COMMENTS



ENDS TO BE FIELD CUT BY CONTRACTOR FOR GRAPHICAL PURPOSES ONLY.

140'-0" UNCLUT NET LENGTH (FINAL LENGTH OF 135'-0" TO BE FIELD CUT BY CONTRACTOR)

140'-4" UNCLUT OVERALL LENGTH

PLATE LAYOUT -- INSIDE VIEW

BARREL LENGTH OF 9 RINGS @ 12' AND 1 RING @ 10' = 118'-0"

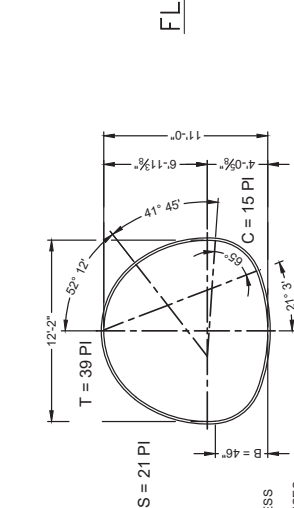
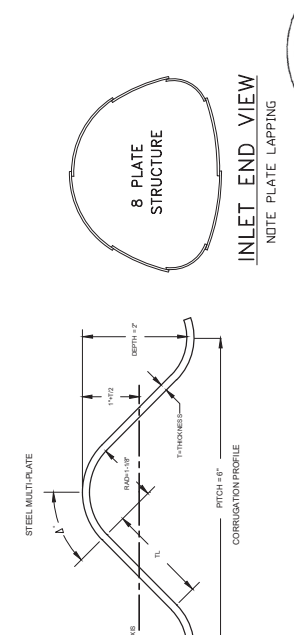


PLATE MAKE-UP:  
 TOP PLS: 1 @ 18PI, 1 @ 21PI  
 SIDE PLS: 1 @ 21PI  
 CORNER PLS: 1 @ 15PI  
 BOTTOM PLS: 2 @ 15PI

TOTAL PLS: 4 @ 15PI, 1 @ 18PI, 3 @ 21PI

AREA = 107.3 SF  
 STRUCTURE 141 PI

ALL DIMENSIONS ARE TO INSIDE CORRUGATION CRESTS, UNLESS OTHERWISE NOTED.  
 ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.  
 "B" IS THE MEASUREMENT FROM THE INVERT TO THE TOP OF THE CORNER PLATE.



STEEL MULTI-PLATE

CORRUGATION PROFILE

PITCH = 6"

NOTE: PLATE LAPPING

INLET END VIEW

8 PLATE STRUCTURE

PLATE LAPS MUST BE PROPERLY WANTED IN A TANGENT FASHION USING PROPER ALIGNMENT TECHNIQUES AND ADEQUATE BOLT TORQUE TO PREVENT PLATE SLIP. PLATE LAPPING SHOULD BE DONE AT THE END OF EACH PLATE. AN INSTANTANEOUS BOLT TORQUE OF 100,300 IN-LBS IS RECOMMENDED. WHEN SEAM SEALANT TAPE OR ASPHALT (SHOP) IS USED, IT SHOULD BE APPLIED TO THE ENTIRE LENGTH OF THE PLATE JOINTS. THE TORQUE LIMITS AFTER 4 TO 6 HOURS. TORQUE LEVELS ARE FOR INSTALLATION, NOT RESIDUAL. PRESENT THE REQUIREMENTS.

**IMPORTANT**  
 WHEN PLATE LAPPING IS DONE, CERTAIN SPACES ARE ORIENTED SO BOLT HOLE PATTERN MATCHES THAT SHOWN ON THIS DRAWING AND ASSEMBLY INSTRUCTIONS.

**IMPORTANT**  
 ASSEMBLY INSTRUCTIONS WILL BE SHIPPED WITH THE STRUCTURE. THEY ARE LOCATED IN THE BRIGHT COLORED BUCKET.

**TORQUE NOTE**  
 PLATE LAPS MUST BE PROPERLY WANTED IN A TANGENT FASHION USING PROPER ALIGNMENT TECHNIQUES AND ADEQUATE BOLT TORQUE TO PREVENT PLATE SLIP. PLATE LAPPING SHOULD BE DONE AT THE END OF EACH PLATE. AN INSTANTANEOUS BOLT TORQUE OF 100,300 IN-LBS IS RECOMMENDED. WHEN SEAM SEALANT TAPE OR ASPHALT (SHOP) IS USED, IT SHOULD BE APPLIED TO THE ENTIRE LENGTH OF THE PLATE JOINTS. THE TORQUE LIMITS AFTER 4 TO 6 HOURS. TORQUE LEVELS ARE FOR INSTALLATION, NOT RESIDUAL. PRESENT THE REQUIREMENTS.



DETAIL A

10' PLATE

12' PLATE

BOTTOM C.L.

OUTLET END

SEE PLATE LAYOUT FOR LAPPING

THE ASSEMBLY BOLTS AND NUTS ARE SPECIALLY DESIGNED WITH ROUNDED OR SPHERICAL TIRROAS FOR FITTING EITHER THE CREST OR VALLEY OF THE CORRUGATION. THE BOLTS AND NUTS ARE TO BE INSTALLED ON THE PLATES WITHOUT THE USE OF WASHERS. NOTE THAT THE BOLTS AND NUTS SHOULD BE INSTALLED SUCH THAT THE ROUNDED PORTION IS IN CONTACT WITH THE PLATES.

PLANT ORDER NO.	703615-010-MPUP-COON-B
SALES ORDER NO.	703615-010
PROJECT NO.	703615
DATE	4/22/2022
DESIGNED	XXX
DRAWN	SCC
CHECKED	ZWM
APPROVED	XXX
SHEET NO.	2 OF 4

**FOR APPROVAL**

**CONTECH STRUCTURAL PLATE**

**CONTRACT DRAWING**

**CONTECH ENGINEERED SOLUTIONS LLC**

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5/23/22

Deepa Nair  
 C-86132  
 Civil Engineer  
 LICENSED PROFESSIONAL ENGINEER  
 STATE OF CALIFORNIA

INLET	OUTLET	TYPE STRUCTURE	UNDERPASS
90	90	141	
SKEW	0	SPAN = 12'-2"	
BEVEL	0	LENGTH = 140'-0"	
REV	1	5/9/2022	REVISED PER REVIEWER COMMENTS
REV	2	5/9/2022	REVISED PER REVIEWER COMMENTS
REV	3	5/20/2022	REV BACKFILL DETAIL
MARK			REVISION DESCRIPTION

Approved By: MTH Date: 5/23/22

Project No: CBC-24085

Rev: 1

Rev: 2

Rev: 3

Rev: 4

Rev: 5

Rev: 6

Rev: 7

Rev: 8

Rev: 9

Rev: 10

Rev: 11

Rev: 12

Rev: 13

Rev: 14

Rev: 15

Rev: 16

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Rev: 90

Rev: 91

Rev: 92

Rev: 93

Rev: 94

Rev: 95

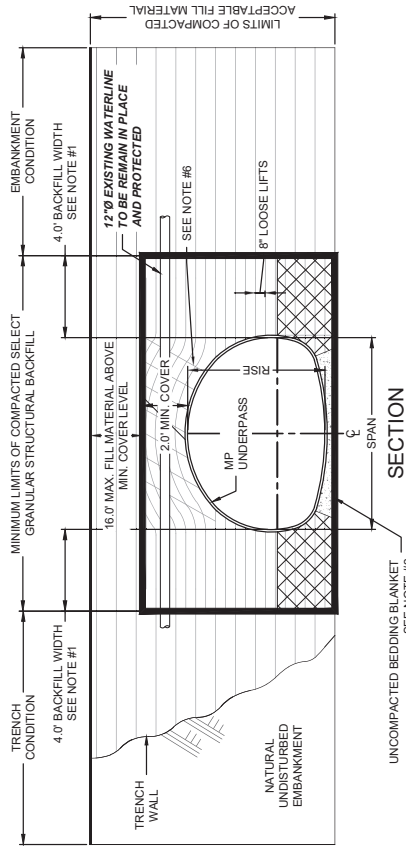
Rev: 96

Rev: 97

Rev: 98

Rev: 99

Rev: 100



**ADDITIONAL SELECT GRANULAR STRUCTURAL BACKFILL NOTES:**

SATISFACTORY BACKFILL MATERIAL, PROPER PLACEMENT, AND COMPACTION ARE KEY FACTORS IN OBTAINING MAXIMUM STRENGTH AND STABILITY.

THE BACKFILL MATERIAL SHOULD BE FREE OF ROCKS, FROZEN LUMPS, AND FOREIGN MATERIAL THAT COULD CAUSE HARD SPOTS OR DECOMPOSE TO CREATE VOIDS. BACKFILL MATERIAL SHOULD BE FREE OF ORGANIC MATERIALS. BACKFILL MATERIALS SHOULD BE TESTED TO M-144 FOR SOIL CLASSIFICATION. A-2.5 OR A-3, UNDRER, RECYCLED CONCRETE/SLAG ARE NOT RECOMMENDED FOR STRUCTURAL BACKFILL MATERIAL.

SEE THE STRUCTURAL PLATE BACKFILL GROUP CLASSIFICATION TABLE ON THIS SHEET. BACKFILL MUST BE PLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE. M.P. LOOSE LIFTS, EACH LIFT IS TO BE COMPACTED TO A MINIMUM OF 90% DENSITY PER AASHTO T-186.

A HIGH PERCENTAGE OF SILT OR FINE SAND IN THE NATIVE SOILS SUGGESTS THE NEED FOR A WELL GRADED GRANULAR BACKFILL MATERIAL TO PREVENT SOIL MIGRATION. IF THE PROPOSED BACKFILL IS NOT A WELL GRADED GRANULAR MATERIAL, A NON-WOVEN GEOTEXTILE FILTER FABRIC SHALL BE PLACED BETWEEN THE SELECT BACKFILL AND THE IN SITU MATERIAL.

DURING BACKFILL, ONLY LIGHTWEIGHT TRACKED VEHICLES (D-4 OR LIGHTER) SHOULD BE NEAR THE STRUCTURE AS FILL PROGRESSES ABOVE THE CROWN AND TO THE FINISHED GRADE. THE STRUCTURE SHALL BE PROTECTED FROM OVERLOADS. CONSTRUCTION VEHICLE LOADS SHOULD BE INCREASED TO HANDLE TEMPORARY CONSTRUCTION VEHICLE LOADS (HEAVIER THAN D-4).

- NOTES:**
- TRENCH WIDTH AND/OR SELECT BACKFILL WIDTH SHALL BE DETERMINED BY THE ENGINEER DEPENDING ON SITE SPECIFIC CONDITIONS. TYPICAL BACKFILL WIDTH IS 4.0 FEET FOR STRUCTURE SPANS GREATER THAN 14 FEET.
  - SHAPED BEDDING IS REQUIRED FOR A MINIMUM WIDTH OF 6 INCHES. THE MINIMUM BEDDING THICKNESS SHALL BE 6 INCHES.
  - ALL SELECT GRANULAR BACKFILL TO BE PLACED IN A BALANCED FASHION IN THIN LIFTS (8" LOOSE TYPICALLY) T-186.
  - COMPLETE AND REGULAR MONITORING OF THE MULTI-PLATE UNDERPASS STRUCTURE IS NECESSARY DURING THE CONSTRUCTION PROCESS TO AT LEAST THE MINIMAL COVER LEVEL.
  - PREVENT DISTORTION OF SHAPE AS NECESSARY BY VARYING COMPACTION METHODS AND EQUIPMENT.
  - PLACE SELECT GRANULAR BACKFILL IN RADIAL LIFTS AT APPROXIMATELY 85% OF THE RISE OF THE UNDERPASS STRUCTURE.

**STRUCTURAL PLATE BACKFILL GROUP CLASSIFICATION REFERENCE AASHTO M-145**

GROUP CLASSIFICATION	A-1-b	A-1-s	A-1-b	A-2.4	A-2.5	A-3
Subgrade Percent Passing						
No. 10 (2.000 mm)	50 max.	50 max.	50 max.	50 max.	50 max.	50 max.
No. 40 (0.850 mm)	30 max.	30 max.	30 max.	30 max.	30 max.	30 max.
No. 200 (0.075 mm)	15 max.	15 max.	15 max.	15 max.	15 max.	15 max.
Liquid Limits	40 max.	40 max.	40 max.	40 max.	40 max.	40 max.
Plasticity Index	6 max.	6 max.	6 max.	6 max.	6 max.	6 max.
Usual Materials	Stone Fragment, Gravel and Sand	Stone Fragment, Gravel and Sand	Stone Fragment, Gravel and Sand	Silty or Clayey Gravel and Sand	Silty or Clayey Gravel and Sand	Course Sand

\*Modified from AASHTO M-145.

Fine beach sands, windblown sands, stream deposited sands, etc., exhibiting fine, rounded particles and typically classified by AASHTO M-145 as A-3 Materials should not be used.

Reference the most current version of ASTM D2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System), for comparable soil groups.

**SELECT GRANULAR STRUCTURAL BACKFILL LIMITS.**

CRITICAL HAUNCH AREA BACKFILL ZONE. PRESSURE ON SOIL GREATEST HERE.

INITIAL LIFTS OVER THE CROWN OF STRUCTURE AS INDICATED BY SHADDED AREA TO BE COMPACTED TO REQUIRED DENSITY WITH HEAVY COMPACTOR OR WITH LIGHTWEIGHT (D-4 OR LIGHTER) EQUIPMENT.

**FOR APPROVAL**

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**FOR APPROVAL**

Rev.	Date	By	Description
3	5/20/2022	REV. BACKFILL DETAIL	SCC
2	5/9/2022	REVISED PER REVIEWER COMMENTS	SCC
1	5/9/2022	REVISED PER REVIEWER COMMENTS	SCC
MARK	DATE	REVISION DESCRIPTION	BY

Approved By: MTH 5/23/22  
 Project No: CBC-24085  
 Date: 5/23/22

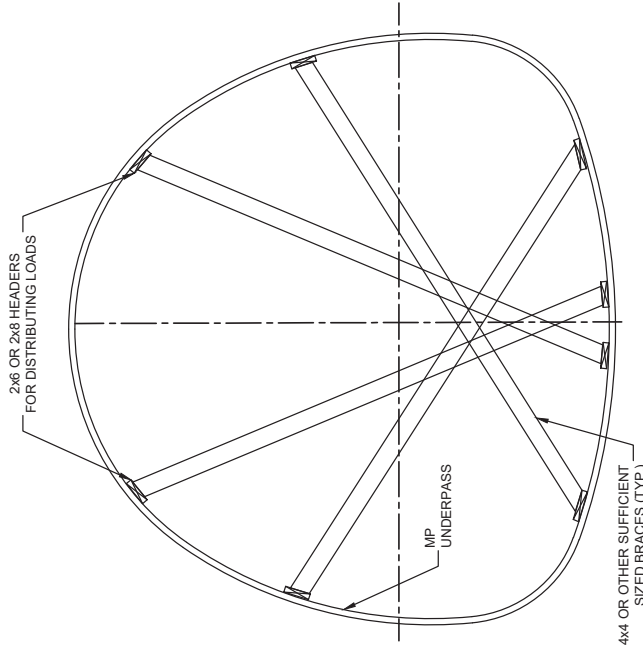
**CBC Engineers**

**Professional Engineer**  
 Deepra Nair  
 C 86132  
 Civil Engineer  
 STATE OF CALIFORNIA

5/23/22

PROJECT NO.: 703615  
 DATE: 4/22/2022  
 DESIGNED: XXX  
 DRAWN: SCC  
 CHECKED: ZWM  
 APPROVED: XXX  
 SHEET NO.: 3 OF 4

**MULTI-PLATE UNDERPASS**  
**12'-2" SPAN X 11'-0" RISE**  
**BLACKS ROAD UNDERCROSSING**  
**SANTA MARIA, CA**

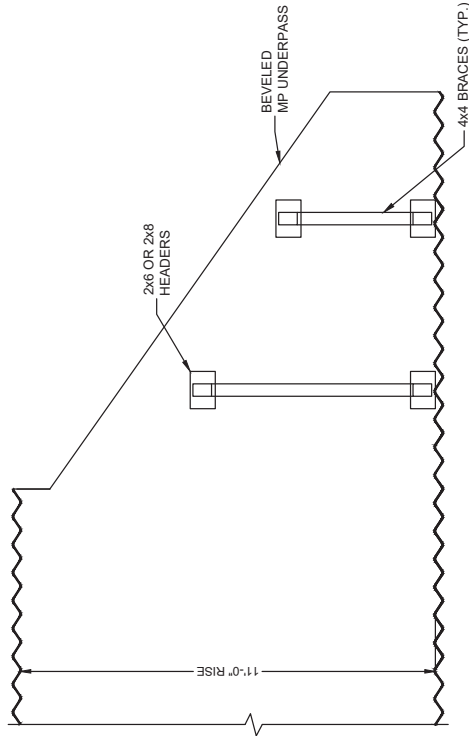


END VIEW  
NOT TO SCALE

NOTES:

- 1) TIMBER BRACING/STRUTTING DEPICTED FOR CONCEPTUAL PURPOSES ONLY. REQUIRED SIZES AND GEOMETRY OF BRACING TO BE DETERMINED BY OTHERS.
- 2) STRUT BRACING/STRUTTING TO BE TEMPORARY ONLY. - TO BE REMOVED AFTER BACKFILLING OF STRUCTURE AND END TREATMENT CONSTRUCTION IS COMPLETED.
- 3) BACKFILL ADJACENT TO CUT ENDS OF PLATE STRUCTURE TO BE PLACED IN A CONTROLLED AND BALANCED MANNER - IN THIN LIFTS - AND COMPACTED USING LIGHTWEIGHT, WALK BEHIND EQUIPMENT.

CONCEPTUAL BRACING SCHEMATIC  
NOT TO SCALE



PROFILE  
NOT TO SCALE

NOTES:

- 1) TIMBER BRACING/STRUTTING DEPICTED FOR CONCEPTUAL PURPOSES ONLY. REQUIRED SIZES AND GEOMETRY OF BRACING TO BE DETERMINED BY OTHERS.
- 2) STRUT BRACING/STRUTTING TO BE TEMPORARY ONLY. - TO BE REMOVED AFTER BACKFILLING OF STRUCTURE AND END TREATMENT CONSTRUCTION IS COMPLETED.
- 3) BACKFILL ADJACENT TO CUT ENDS OF PLATE STRUCTURE TO BE PLACED IN A CONTROLLED AND BALANCED MANNER - IN THIN LIFTS - AND COMPACTED USING LIGHTWEIGHT, WALK BEHIND EQUIPMENT.

CONCEPTUAL BRACING SCHEMATIC  
NOT TO SCALE



*Deepa Nair*  
5/23/22

Approved By	MTH	Date	5/23/22
Project No.	CBC-24085	Rev.	-



Rev.	Date	By	Description
3	5/20/22	REV	BACKFILL DETAIL
2	5/9/2022	REVISED PER REVIEWER COMMENTS	SCC
1	5/9/2022	REVISED PER REVIEWER COMMENTS	SCC
MARK	DATE	BY	REVISION DESCRIPTION

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PROJECT No.	703615	REV. No.	010	DATE	4/22/2022
DESIGNED	XXX	DRAWN	SCC	APPROVED	XXX
CHECKED	ZWM	DATE	4	OF	4
SHEET NO.	4	OF	4		

MULTI-PLATE UNDERPASS  
12'-2" SPAN X 11'-0" RISE  
BLACKS ROAD UNDERCROSSING  
SANTA MARIA, CA

# TECHNICAL PROVISIONS

## STANDARD PLANS LIST

The standard plan sheets applicable to this Contract include those listed below. The applicable revised standard plans (RSPs) listed below are included in the project plans.

### **ABBREVIATIONS, LINES, SYMBOLS, AND LEGEND**

<b>A3A</b>	<b>Abbreviations (Sheet 1 of 3)</b>
<b>A3B</b>	<b>Abbreviations (Sheet 2 of 3)</b>
<b>A3C</b>	<b>Abbreviations (Sheet 3 of 3)</b>
<b>A10A</b>	<b>Legend - Lines and Symbols (Sheet 1 of 5)</b>
<b>A10B</b>	<b>Legend - Lines and Symbols (Sheet 2 of 5)</b>
<b>A10C</b>	<b>Legend - Lines and Symbols (Sheet 3 of 5)</b>
<b>A10D</b>	<b>Legend - Lines and Symbols (Sheet 4 of 5)</b>
<b>A10E</b>	<b>Legend - Lines and Symbols (Sheet 5 of 5)</b>
<b>A62A</b>	<b>Excavation and Backfill - Miscellaneous Details</b>



**ORGANIZATION**

Special provisions are under headings that correspond with the main-section headings of the *Standard Specifications*. A main-section heading is a heading shown in the table of contents of the *Standard Specifications*.

Each special provision begins with a revision clause that describes or introduces a revision to the *Standard Specifications* as revised by any revised standard specification.

Any paragraph added or deleted by a revision clause does not change the paragraph numbering of the *Standard Specifications* for any other reference to a paragraph of the *Standard Specifications*.

^^

**DIVISION I GENERAL PROVISIONS**

**1 GENERAL**

**Add to section 1-1.01:**

**Bid Items and Applicable Sections**

Item code	Item description	Applicable section
<b>674352A</b>	<b>12'-2" X 11'-0" ERECT STRUCTURAL STEEL PLATE PIPE ARCH (.109" THICK)</b>	<b>67</b>

^^

**2 BIDDING**

**Add between the 1st and 2nd paragraphs of section 2-1.06B:**

The Department makes the following supplemental project information available:

**Supplemental Project Information**

Means	Description
Included in the <i>Information Handout</i>	Santa Barbara County, Department of Public Works, Transportation Division, Engineering Design Standards (September 2011)
Available as specified in the <i>Standard Specifications</i>	Copy of the Caltrans Revised Standard Specifications <a href="#">(04/15/2022)</a>
Included with the project plans	County of Santa Barbara, Department of Public Works, Quality Assurance Program (August 2019)

^^

## 5 CONTROL OF WORK

Replace section 5-1.24A of the RSS with:

Replace section 5-1.24 of the RSS with:

### 5-1.24 CONSTRUCTIONS SURVEYS

#### 5-1.24A General

##### 5-1.24A(1) Summary

Section 5-1.24 includes general specifications for construction surveys, furnishing, and setting construction stakes and marks to establish the lines and grades required to control the work.

Construction surveys must comply with Chapter 12, 'Construction Surveys', of the California Department of Transportation Surveys Manual as determined by the Engineer.

##### 5-1.24A(2) Submittals

Submit name, license number, and contact information of the professional land surveyor prior to beginning staking.

Submit name, license number, and contact information of the professional land surveyor or civil engineer prior to beginning staking.

Submit proposed procedures, methods, and equipment to be used.

Submit all computations, notes, and other data used to accomplish the work.

#### 5-1.24B Material

Not used

#### 5-1.24C Construction

The construction staking for this project is referenced to the California Coordinate System. Perform construction staking under the direction of a professional land surveyor registered in the State of California.

The construction staking for this project is not required to be referenced to the California Coordinate System. Perform construction staking under the direction of a professional land surveyor or civil engineer registered in the State of California.

Within 2 working days of receiving notification to proceed with right-of-way staking, stake County right-of-way and property lines adjacent to project limits. Maintain property corner stakes throughout construction.

Furnish and set stakes and marks with accuracy adequate to assure completed work conforms to lines, grades, and sections shown.

Remove all stakes when no longer needed.

#### 5-1.24D Payment

Not used

**Replace *Reserved* in section 5-1.36C(2) with:**

The utilities shown in the following table may interfere with the work and must be exposed or protected in place. During the progress of the work under this Contract, the Contractor must protect in place a portion of a water line for the utility shown in the following table. Notify the Engineer when the site is ready for utility work. Contractor must provide written notification to Golden State Water ten working days before the first working day in which the Contractor will excavate and expose water line. A Golden State Water representative must be on-site to conduct the inspection and supervision of the installed method of protection. Protection work must comply with section 79.



## DIVISION II GENERAL CONSTRUCTION 12 TEMPORARY TRAFFIC CONTROL

**Replace /section 12-3.11B(5) with the following**

This site is not open to public vehicular traffic. Pedestrian trail use is allowed. Install barrier fencing and signage at each end of project indicating Trail Access is closed during construction.

AA

## 14 ENVIRONMENTAL STEWARDSHIP

**Add to the end of section 14-1.02:**

An ESA exists on this project.

Before starting job site activities, install temporary silt fencing to protect the ESA and mark its boundaries.

**Add to the 1st paragraph of section 14-6.03A:**

This project is within or near habitat for the regulated species shown in the following table:

<b>Regulated Species</b>
Monarch Butterfly
California Red Legged Frog
Western Spadefoot Toad
Western Pond Turtle
California legless lizard
Coast Horned Lizard
American Badger

This project includes the sensitive habitats shown in the following table:

<b>Sensitive Habitats</b>
Monarch Butterfly

**Replace item 1 in the 2nd paragraph of section 14-6.03A with:**

1. Stop all work within a 100-foot radius of the discovery except as shown in the following table:

Regulated species	Protective radius (feet)
Monarch Butterfly	500

**Add to section 14-6.03A:**

At the end of each working day, construct temporary escape ramps at each end of trench to allow animals that may have become entrapped in the trench to climb out overnight. Construct ramps of either native fill or wood planks at an angle no great than 30 degrees.

Monitor regulated species according to the schedule shown in the following table:

Monitoring type	Schedule
Preconstruction survey: Monarch Butterflies	One week before construction start
Monitor for regulated species as described in the Streambed Alteration Agreement-EPIMS SBA-18630-R5	Minimum 14 days before ground disturbance

**Replace the 2nd paragraph of section 14-6.03B with:**

The Department anticipates nesting or attempted nesting by migratory and nongame birds from February 1 to September 1.

**Add to section 14-6.03B:**

A biological survey for nesting birds is required 14 before work begins.

**Replace item 1 in the list in the 6th paragraph of section 14-6.03B with:**

1. Stop all work within a 100-foot radius of the discovery except as shown in the following table:

Species	Protective radius (feet)
Raptor	500

**Add to section 14-6.03D(1):**

A Contractor-supplied biologist who performs specialized activities must have demonstrated field experience working with the regulated species or performing the specialized task. The biologist must have experience that complies with the requirements shown in the following table:

Specialized activity/species	Requirements
Finding nests and monitoring	Avion Biologist

The Contractor-supplied biologist must conduct tail-gate training to all contractor personnel associated with the project construction in recognizing biological resources and conditions, and any special-status resources that may occur in the project work area.

All contractor personnel associated with the project construction must receive training before the first working day of construction.

Within 30 days before starting job site activities, submit protocols for species protection surveys. Use protocols required in the PLACs.

Survey the job site for regulated species and submit a preconstruction survey report within 14 days before starting work.

The preconstruction survey report must include one of the following:

1. Detailed observations and locations where regulated species were observed
2. Statement that no regulated species were observed

Submit an initial monitoring report as an informational submittal within 12 hours after starting ground-disturbing activities.

Submit a biological resource incident report within 24 hours of the incident.

The incident report must include:

1. Description of any take of regulated species or any violation of a biological resource PLAC
2. Species name and number taken
3. Details of required notifications with contact information
4. Corrective actions proposed or taken
5. Disposition of taken species

Submit a final monitoring report no later than 20 days after completion of the project. If the report requires revisions, the Department provides comments. Submit a revised report within 7 days of receiving comments. The final monitoring report must be a cumulative report including:

1. Start and end dates of construction
2. Project impacts on the regulated species
3. Species protection measures and implementation details
4. Incidental take details, including species name, number taken, people contacted, contact information, and disposition of taken species
5. Assessment of the effectiveness of the species protection measures in mitigating project impacts
6. Recommendations for improving species protection measures

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## DIVISION III EARTHWORK AND LANDSCAPE

### 19 EARTHWORK

**Replace the 2nd, 3rd, and 4th paragraphs of section 19-2.03B with:**

Dispose of surplus material. Ensure enough material is available to complete the embankments before disposing of it. Stockpile surplus material on site at location directed by the engineer.

**Replace the 1st paragraph of section 19-5.03B with:**

Obtain a relative compaction of at least 95 percent for at least a depth of 0.75 foot below the grading plane for widths between toe of slope and toe of slope.

^^

### 21 EROSION CONTROL

**Add to section 21-2.02F:**

Seed mix for hydroseed must be:

SPECIES	COMMON NAME	BULK LB/ACRE	MIN%PLS*
Acmispon americanus	Purshing lotus	2.00	74
Acmispon glaber	Deerweed	6.00	81
Camissoniopsis cheiranthifolia	Beach evening primrose	1.00	86
Collinsia heterophylla	Chinese houses	2.00	83
Encelia californica	Bush sunflower	4.00	21
Eriogonum fasciculatum	California buckwheat	8.00	10
Eschscholzia californica	California poppy	4.00	83
Isocoma menziesii	Coast goldenbush	3.00	10
Lasthenia californica	Dwarf goldfields	1.00	68
Lupinus succulentus	Arroyo lupine	6.00	83
Mimulus aurantiacus puniceus	Mission red monkeyflower	2.00	3
Salvia apiana	White sage	2.00	35
Salvia mellifera	Black sage	2.00	60

Sisyrinchium bellum	Blue-eyed grass	2.00	78
Stipa pulchra	Purple needle grass	4.00	73
		49.00	

**Add to section 21-2.03D:**

Apply hydroseed at the following rates:

1. Seed at the rate shown under section 21-2.02F
2. Fiber at 500 lb/ac
3. Tackifier at 125 lb/ac

**DIVISION VII DRAINAGE FACILITIES  
61 GENERAL**

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**67 STRUCTURAL PLATE CULVERTS**

**Replace Reserved in section 67-2.01D with:**

Exercise care to maintain balanced loading on the structure during any backfilling or construction operations. The dimension of the structure should be within 2% of the design dimensions at all locations during and at the completion of installation, and this should be verified by field measuring during construction. The foundation soil and embankment material below and beside the proposed structure must be a uniform non-yielding material meeting the project requirements (by others) with a minimum allowable bearing capacity of at least 4000 psf. This must be verified in the field by a geotechnical engineer before the installation of the structure.

**Add to section 67-2.02A:**

Granular select backfill around the structure must comply with AASHTO M-145 and be placed in accordance with the project specifications, the manufacturer's requirements, and accepted industry standards. The backfill differential level between sides of the structure should not exceed 16 inches. Shoring must be provided to prevent any distortion of the structure during installation and backfilling, and for following all applicable safety requirements.

**Replace 1<sup>st</sup> and 2<sup>nd</sup> paragraphs in section 67-2.01D with:**

The lump sum payment for structural metal plate pipe includes offloading of culvert plates upon delivery; placing and assembling culvert; and preparing the subgrade placing bedding material.

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**79 NON-HIGHWAY FACILITY CONSTRUCTION**

**79-1 PROTECT UNDERGROUND FACILITIES**

**79-1.01 GENERAL**

Section 79-1 includes specifications for protecting underground facilities.

**79-1.02 MATERIALS**

Not Used

**79-2103 CONSTRUCTION**

Existing 12" DIP Water Line-Supporting Exposed Water Line. Waterline exposed during culvert excavation must be supported and protected. Submit support and protection plan stamped by licensed engineer.

Native Soil Trench Backfill. Native soil compacted to 95% relative compaction is required above the select granular structural backfill limits to the top of the existing road structural section.



## EXHIBIT B

### PROGRESS PAYMENT ARRANGEMENTS

#### Compensation Upon Completion of Identified Project Deliverables

- A. Owner shall be reimbursed for the Work, including all cost expenditures, up to but not to exceed (\$430,298) ("Contract Maximum"), plus Owner's actual costs associated with any County-approved change order(s) that Owner completes.
- B. Progress payments for the Work shall be made periodically, but no more frequently than monthly, upon Owner's satisfactory completion of each project deliverable set forth in the EXHIBIT B-1 Scope and Payment Schedule, attached hereto and incorporated herein by reference, based upon the scope and methodology contained in EXHIBIT A as determined by the County.
- C. Upon completion of a project deliverable set forth in EXHIBIT B-1, and/or delivery to County of item(s) specified therein, Owner shall submit to the County Transportation Permits Section an invoice or certified claim on the County Treasury for payment of the cost associated with completion of the project deliverable. The invoice or claim must cite the assigned Board Contract Number. The County Transportation Permits Section shall evaluate the quality of the Work completed in compliance with the project deliverable and if found to be satisfactory shall initiate payment processing for that deliverable. County shall pay invoices or claims for satisfactory work within 30 days of receipt of correct and complete invoices or claims from Owner.
- D. County's failure to discover or object to any unsatisfactory work or billings prior to payment will not constitute a waiver of County's right to require Owner to correct such work or billings or seek any other legal remedy.

## EXHIBIT B-1

## SCOPE AND PAYMENT SCHEDULE

Item No.	Description	Amount	Entity
1	Plans, Specs, Estimates	N/A	County of SB
2	60" RCP (x2)- 16' Sections (County Supplied Material)	N/A	County of SB
3	Structural Steel Plate 140 Ft Underpass (County Supplied Material)	N/A	County of SB
4	Environmental/ Biological Services	\$35,500	CCB
5	Water Pollution Control Program -Reporting	\$4,500	CCB
6	Traffic Control System	\$2,500	CCB
7	Jobsite Management	\$5,000	CCB
8	Engineered Design for Shoring System	\$3,000	CCB
9	Engineered Design for Protecting 12" Waterline in Place	\$3,000	CCB
10	Silt fence, Junte Mesh, and Hydroseed and Water pollution Control Plan Implementation	\$18,500	CCB
11	Soils Engineer - Includes material testing	\$15,000	CCB
12	Surveying	\$8,880	CCB
13	Clearing and Grubbing	\$9,000	CCB
14	Roadway Excavation	\$58,700	CCB
15	Structural Backfill of Undercrossing - Material	\$49,000	CCB
16	Structural Backfill of Undercrossing - Install	\$20,000	CCB
17	Temporary Shoring - Installation	\$45,000	CCB
18	Temporary Waterline Support - Installation	\$6,000	CCB
19	Install of (x2)-16' RCP Sections	\$16,000	CCB
20	Install/Assemble Multiplate Undercrossing - Includes cutting culvert ends and installation bracing at 25' spacing	\$37,000	CCB
21	Offloading RCP material upon delivery	\$1,250	CCB
22	Offloading multi-plate undercrossing material upon delivery	\$2,900	CCB
23	Concrete Collar (x2) - Material	\$7,000	CCB
24	Concrete Collar(x2) - Install	\$2,000	CCB
25	Decomposed Granite - Material (120 Tons)	\$7,000	CCB
26	Decomposed Granite - Install	\$5,000	CCB

Total:	\$361,730
Total (less C of SB Costs)	\$361,730
10% OH:	\$36,173
Subtotal	\$397,903
Contingency (based off public contract code calculation)	\$32,395
Grand Total CCB Cost	\$430,298

**EXHIBIT C**  
**Indemnification and Insurance Requirements**  
**(For Design/Build Construction Contracts)**

INDEMNIFICATION

**A. Indemnification pertaining to other than Design Professional Services:** Owner 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.

**B. Indemnification pertaining to Design Professional Services:** Owner agrees to fully indemnify and hold harmless County and its officers, officials, employees, agents and volunteers from and against any and all claims, actions, losses, suits damages, costs, expenses, judgments and/or liabilities that arise out of, or pertain to, or relate to the negligence, recklessness, or willful misconduct of the Owner and its employees, subcontractors, or agents in the performance of services under this Agreement, but this indemnity does not apply to liability for damages arising from the sole negligence, active negligence, or willful acts of the County. The indemnity includes the cost to defend County to the extent of the Owner's proportionate percentage of fault. Should one (or more) defendants be unable to pay its share of the defense costs due to bankruptcy or dissolution of the business, Owner shall meet and confer with other parties regarding unpaid defense costs and Owner shall pay County's cost of defense to the fullest extent permitted by law.

NOTIFICATION OF ACCIDENTS AND SURVIVAL OF INDEMNIFICATION PROVISIONS

Owner 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 for the legally prescribed statute of limitations period.

INSURANCE

Owner shall procure and maintain prior to, and for the duration of construction, 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 Owner, his agents, representatives, employees, contractors or subcontractors as required by this EXHIBIT C.

**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 \$5,000,000 per occurrence and \$5,000,000 in the aggregate.

**2. Automobile Liability:** ISO Form Number CA 00 01 covering any auto (Code 1), with limit no less than \$2,000,000 per accident for bodily injury and property damage.

**3. Workers' Compensation:** as required by the State of California, with Statutory Limits, and Employers' Liability Insurance with limit of no less than \$1,000,000 per accident for bodily injury or disease.

**4. Professional Liability:** Insurance appropriate to the Owner's profession, with limit of no less than \$2,000,000 per occurrence or claim, \$3,000,000 aggregate.

**5. Contractors' 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 Owner maintains higher limits than the minimums shown above, the County requires and shall be entitled to coverage for the higher limits. 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 Owner 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 Owner's insurance at least as broad as ISO Form CG 20 10 11 85 or if not available, through the addition of both CG 20 10 and CG 20 37 if a later edition is used).

**2. Primary Coverage** – For any claims related to this Agreement, the Owner's insurance coverage shall be primary insurance 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 Owner's insurance and shall not contribute with it.

**3. Notice of Cancellation** – Each insurance policy required above shall provide that coverage shall not be cancelled, except with notice to the County.

**4. Waiver of Subrogation Rights** – Owner shall waive rights of subrogation which any insurer of Owner may acquire from Owner by virtue of the payment of any loss. Owner agrees to obtain any endorsement that may be necessary to affect 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 Owner, its employees, agents, contractors, 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 Owner 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 Owner or Owner 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** – Owner 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 Owner's obligation to provide them. The Owner shall furnish evidence of renewal of Owner's 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. 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. Contractors and Subcontractors** – Owner shall require and verify that the contractors and subcontractors hired to perform the Work shall maintain insurance meeting all the requirements stated herein, and Owner shall ensure that County is an additional insured on insurance required under this Agreement. 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.

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 Owner 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. Owner agrees to require his contractor 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.