

SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

UNIT II CHANNEL DRAINAGE IMPROVEMENTS PROJECT

AREA OF SANTA MARIA SANTA BARBARA COUNTY, CALIFORNIA

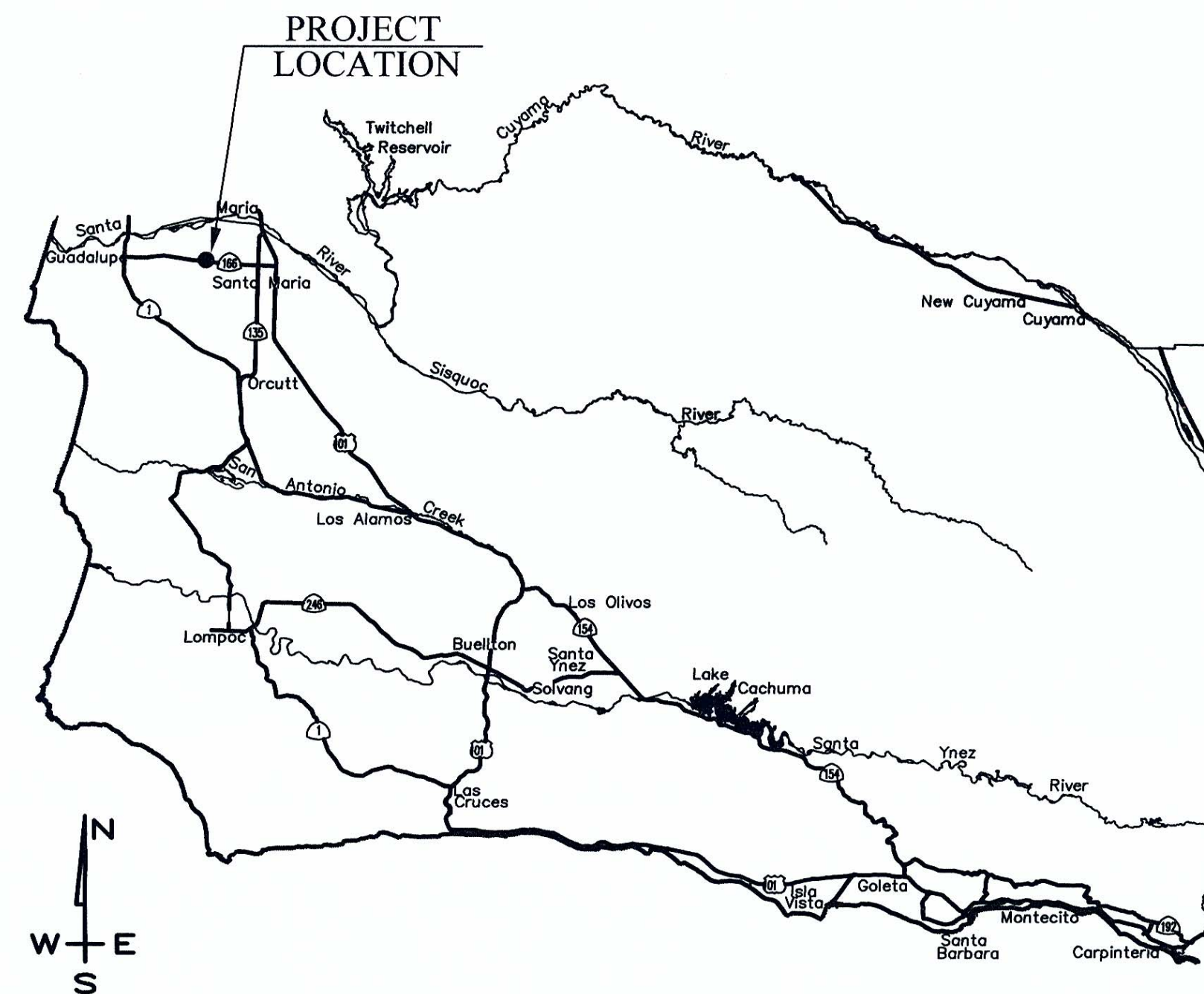


DISTRICT BOARD OF DIRECTORS

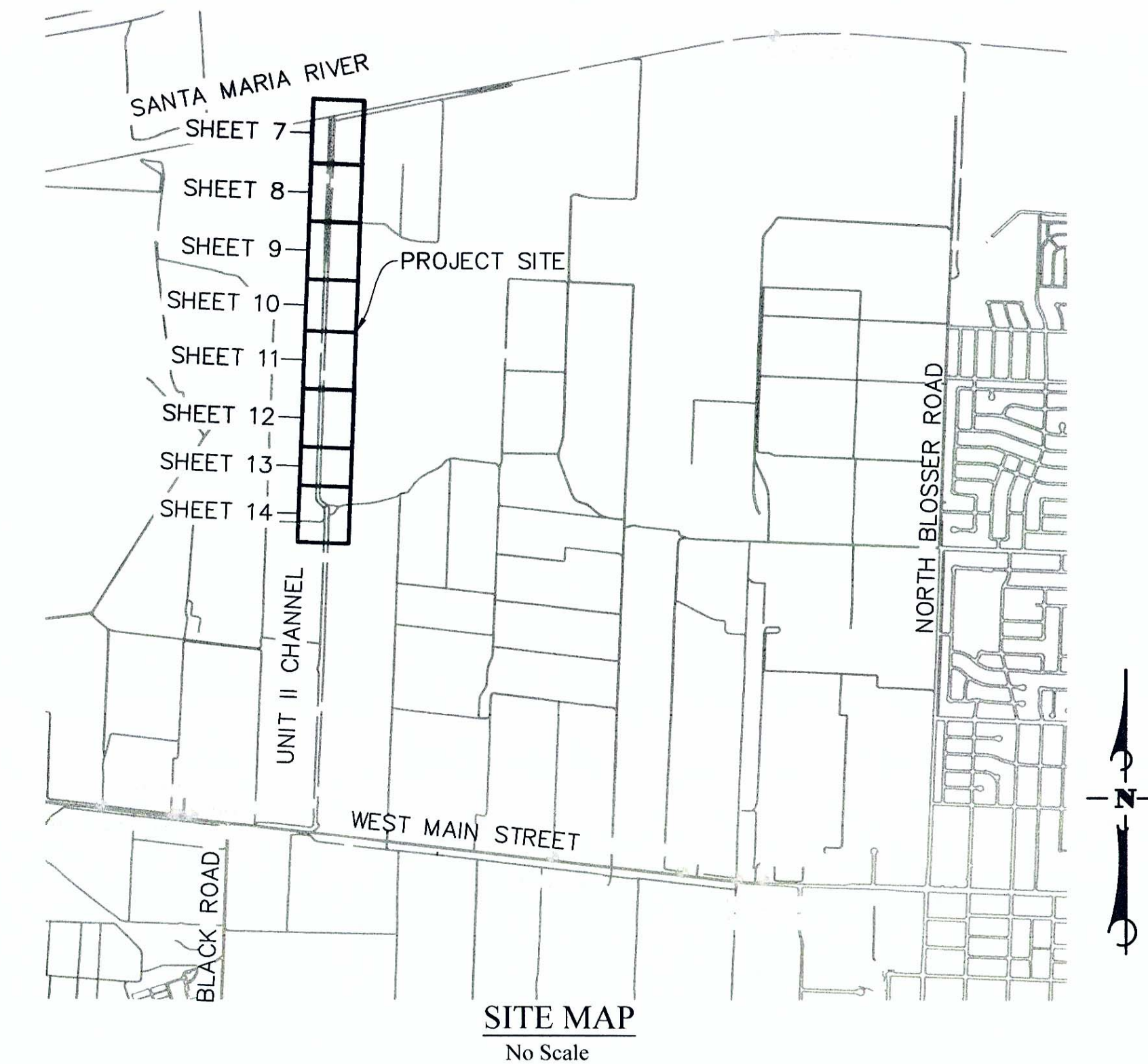
FIRST DISTRICT	Salud Carbajal
SECOND DISTRICT	Janet Wolf
THIRD DISTRICT	Doreen Farr
FOURTH DISTRICT	Peter Adam
FIFTH DISTRICT, CHAIR	Steve Lavagnino

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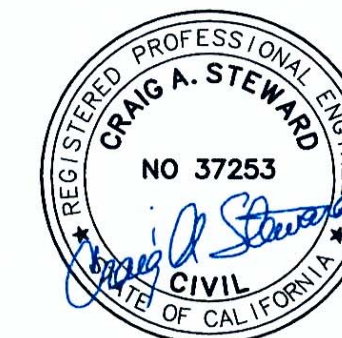
VICINITY MAP
No Scale



SITE MAP
No Scale



111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801
PROJECT MANAGER: CRAIG STEWARD
PROJECT ENGINEER: AUTUMN GLAESER



Know what's below.
Call before you dig.

ALL UNDERGROUND UTILITIES SHOWN ARE PLOTTED BASED ON INFORMATION PROVIDED BY OTHERS, AND ARE APPROXIMATE. OVERHEAD UTILITIES ARE NOT SHOWN.
THE SANTA BARBARA COUNTY FLOOD CONTROL DISTRICT IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS INFORMATION. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF TWO WORKING DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION @ 1-800-422-4133.
THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE" ADVERTISING FOR BIDS.
UNAUTHORIZED CHANGES OR USES:
THE SANTA BARBARA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT AND ITS EMPLOYEES WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL PROPOSED CHANGES TO THE PLANS MUST BE PRESENTED IN WRITING TO THE DISTRICT AND APPROVED IN WRITING BY THE DISTRICT PRIOR TO IMPLEMENTATION OF ANY SUCH CHANGE OR USE.

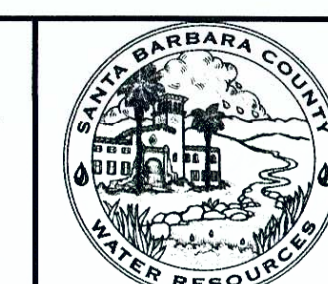
REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:	
DESIGN ENGINEER	
REVIEWED BY:	
FLOOD CONTROL ENGINEERING MANAGER	
REVIEWED BY:	
FLOOD CONTROL DEPUTY DIRECTOR	

DESIGNED BY:	
DESIGN ENGINEER	
REVIEWED BY:	
MAINTENANCE SUPERINTENDENT	
REVIEWED BY:	
ENVIRONMENTAL SERVICES MANAGER	

DESIGNED BY:	
DESIGN ENGINEER	
REVIEWED BY:	
MAINTENANCE SUPERINTENDENT	
REVIEWED BY:	
ENVIRONMENTAL SERVICES MANAGER	

SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT

AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

TITLE SHEET

DESIGNED BY:	ALG
DRAWN BY:	OWP
CHECKED BY:	CAS
SHEET 1 OF 26	
Filename: 20643.01 Title Sheets.dwg	

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MONUMENT AND CONTROL POINT TABLE

POINT#	NORTHING	EASTING	ELEVATION	DESCRIPTION	RECORD
CP1	2184004.28	5816849.15	168.68	SET PIPE WITH 2" OUTSIDE DIAMETER BRASS CAP STAMPED "SANTA BARBARA COUNTY SURVEYOR STA CONTROL PT" NEAR INFORMATION BOARD	N/A
CP2	2179239.96	5817046.32	177.67	FOUND PK NAIL SET ON TOP OF CONCRETE STRUCTURE FOR CALIFORNIA STATE WATER. OLD POINT 100	S637, S691
CP3	2179065.32	5817370.70	174.42	FOUND 5/8" REBAR SET 6" NORTHERLY OF POWER POLE. OLD POINT 101	S458
CP4	2181765.86	5817242.72	177.18	SET MAG NAIL IN TOP OF CONCRETE SCTRURE FOR CALIFORNIA STATE WATER	N/A
CP5	2184226.62	5817420.56	170.08	SET 2" OUTSIDE DIAMETER IRON PIPE WITH 2" BRASS CAP STAMPED "SANTA BARBARA COUNTY SURVEYOR STA CONTROL PT" NEAR INFORMATION BOARD	N/A
CP6	2184307.30	5817080.67	162.58	FOUND 1 1/2" IRON PIPE WITH CONE AND NAIL SHANK. OLD POINT 511.	S637, S691, 86/RS/33
CP7	2190239.77	5817333.88	167.41	SET MAG NAIL IN TOP OF WESTERLY CORNER OF CONCRETE PAD WITH SHUT OF VALVE RISER TO 10" CALIFORNIA STATE WATER LINE LATERAL	N/A
CP8	2190173.47	5817379.26	170.68	SET MAG NAIL IN TOP OF CONCRETE STRUCTURE FOR CALIFORNIA STATE WATER AT SOUTHWEST CORNER OF OVERSPILL NEAR FLAPGATE TO LEVEE	N/A
CP9	2190125.85	5817459.54	166.51	SET MAG NAIL IN TOP OF CONCRETE STRUCTURE FOR CALIFORNIA STATE WATER VAULT AT THE EASTERLY CORNER IN CLF ENCLOSURE	N/A
CP10 RESECT9-7	2190267.46	5817375.45	167.97	NOTHING SET, NOTHING FOUND	N/A
MON100*	2178410.02	5824000.29	191.66	FOUND 6"X6" CHC MON, "38-112"	CalTrans ROW Map SB 166 PM 006.6 and Tentative Monumentation Map SB 166 PM 000.0 SHT 24
MON101*	2178440.01	5823586.77	190.96	FOUND 6"X6" CHC MON, "37-110"	CalTrans ROW Map SB 166 PM 006.3 and Tentative Monumentation Map SB 166 PM 000.0 SHT 23
MON102*	2178441.27	5823575.67	191.06	FOUND 6"X6" CHC MON, "37-108"	CalTrans ROW Map SB 166 PM 006.3 and Tentative Monumentation Map SB 166 PM 000.0 SHT 23
MON103*	2178537.35	5822745.70	187.65	FOUND MAG NAIL AND WASHER STAMPED "LS4597" LOCATED IN SAME POSITION AS "37-51"	CalTrans ROW Map SB 166 PM 006.3 and Tentative Monumentation Map SB 166 PM 000.0 SHT 23
MON104*	2178765.13	5820754.68	182.78	FOUND 2" IP WITH TAG STAMPED "LS3485"	148/RS/1-2
MON105*	2179404.40	5815192.48	167.56	FOUND 3/4" IP, OPEN, "36-33"	140/RS/30, CalTrans ROW Map SB 166 PM 004.8 and Tentative Monumentation Map SB 166 PM 000.0 SHT 18
MON106*	2179418.82	5814994.36	168.44	FOUND 1" IP WITH PLASTIC PLUG STAMPED "CAL DOT" AT PM 4.64	Caltrans Control
MON107*	2179440.06	5814883.40	168.64	FOUND 3/4" IP WITH TAG, STAMPED "RE 2928" LOCATED AT SAME POSITION AS "36-29"	CalTrans ROW Map SB 166 PM 004.8 and Tentative Monumentation Map SB 166 PM 000.0 SHT 18

* LOCATION SHOWN ON TITLE SHEET SITE PLAN
 ** NOT SHOWN ON PLANS

MONUMENT AND CONTROL POINT TABLE

POINT#	NORTHING	EASTING	ELEVATION	DESCRIPTION	RECORD
MON108*	2179563.38	5813810.26	167.29	FOUND 6"X6" CHC MON "36-103"	CalTrans ROW Map SB 166 PM 004.5 and Tentative Monumentation Map SB 166 PM 000.0 SHT 17
MON109	2179236.92	5815777.35	172.24	FOUND 3 1/2" BRASS DISC ON TOP SOUTHERLY END CONCRETE HEADWALL, STAMPED "FOR MORE INFORMATION OR TO REPORT DAMAGE WRITE THE DIRECTOR NATIONAL GEODETIC SURVEY WASHINGTON, D. C. VERTICAL CONTROL MARK T 1215 RESET 1994" AT PM 4.82	Caltrans Control Database
MON110	2179216.27	5816167.04	170.74	FOUND 1" IP WITH PLASTIC PLUG STAMPED "CALIF DOT" LOCATED AT PM 4.9	CalTrans Tentative Monumentation Map SB 166 PM 000.0 SHT 19
MON111	2179065.92	5817376.31	174.63	FOUND 1" IP WITH PLASTIC PLUG STAMPED "CALIF DOT" LOCATED AT PM 5.12	Caltrans Control Database
MON112	2187781.71	5815910.89	156.92	FOUND 2" IP WITH 2" BRASS CAP STAMPED "RE 2928"	86/RS/33
MON113	2185584.38	5816406.23	160.17	FOUND 2 1/2" IP WITH 2" BRASS DISC STAMPED "MON 86/RS/33 NO. 118 R.E. 2928"	88/RS/15
MON114	2184161.20	5817241.45	169.50	FOUND 1/2" IP WITH TAG STAMPED "LS 3166"	142/RS/22
MON115	2184206.73	5817221.20	167.50	FOUND REBAR WITH PLASTIC CAP STAMPED "LS 4597"	178/RS/28-29
MON116	2184205.65	5817216.60	169.08	FOUND 3/4" IP WITH TAG STAMPED "LS 3485"	NO RECORD
MON117	2188913.48	5817257.02	159.49	FOUND 3/4" IP WITH TAG STAMPED "RE 2928" DISTURBED, SHOT AT BASE	178/RS/28-29
MON118	2190275.29	5817914.61	161.38	FOUND REBAR WITH PLASTIC CAP STAMPED "LS 4597"	178/RS/28-29
MON119	2190173.97	5817440.03	165.17	FOUND REBAR WITH PLASTIC CAP STAMPED "LS 4597"	178/RS/28-29
MON120	2188946.12	5817370.15	155.38	FOUND 1" IP WITH TAG STAMPED "LS 3485"	178/RS/28-29
MON121	2188953.80	5817395.41	158.47	FOUND 1 3/4" IP WITH TAG STAMPED "LS 3485"	178/RS/28-29
MON122	2184353.58	5817187.27	163.53	FOUND REBAR WITH PLASTIC CAP STAMPED "LS 4597"	178/RS/28-29
MON123	2184249.15	5817326.80	165.08	FOUND REBAR WITH PLASTIC CAP STAMPED "LS 4597"	178/RS/28-29
MON124	2186817.58	5817282.31	160.41	FOUND REBAR WITH PLASTIC CAP MARKED "LS 4597"	178/RS/28-29
MON125	2186817.76	5817277.39	161.15	FOUND REBAR WITH PLASTIC CAP MARKED "LS 4597"	178/RS/28-29
MON126	2187335.21	5817311.25	158.61	FOUND REBAR WITH PLASTIC CAP MARKED "LS 4597"	178/RS/28-29
MON127	2187335.65	5817301.30	158.79	FOUND REBAR WITH PLASTIC CAP MARKED "LS 4597"	178/RS/28-29
MON1003	2179264.68	5815749.46	171.40	FOUND A 9/16" DIAMETER STAINLESS STEEL ROD WITH A 2 1/2" DIAMETER BRASS CAP STAMPED "S.B. CO. GPS CONTROL 1992 PLS 5470 STA. 1003" AND CENTER PUNCHED, INSIDE A 6" DIA. ALUMINUM MON. WELL, MISSING COVER, FLUSH WITH THE ASPHALT ROAD SURFACE AT THE INTERSECTION OF THE CENTERLINE OF BLACK ROAD WITH THE SOUTHERLY EDGE OF PAVEMENT OF HWY 166	147/RS/57-61
MON1106**	2173040.43	5824163.40	197.56	FOUND A 1" DIAMETER IRON PIPE WITH 1 1/2" DIAMETER BRASS CAP STAMPED "LS 3480" AND CENTER PUNCHED. THE STATION IS IN A STANDARD 12" DIAMETER, CAST IRON MONUMENT WILL FLUSH WITH THE ASPHALT ROAD SURFACE AT THE INTERSECTION OF HANSON WAY AND STOWELL ROAD.	147/RS/57-61
MON1135*	2191514.48	5824159.91	192.50	THE STATION IS A 3 1/2" BRASS DISC SET IN THE TOP OF A TRIPLE CONCRETE RIVER INLET STRUCTURE ON THE SOUTHERLY SANTA MARIA RIVER LEVEE, APPROX. 2900 WESTERLY OF THE NORTHERLY PROLONGATION OF BLOSSER ROAD AT LEVEE STATION 619+65. THE STATION IS A UNITED STATES ARMY CORPS OF ENGINEERS BRASS DISC STAMPED "2 SM-107 1971 LA DIST."	147/RS/57-61

SURVEYOR'S NOTES:

Horizontal positions of control points CP1 derived from static observation holding Santa Maria Valley Control Survey Stations 1003 and 1135 fixed to the coordinates shown on Record of Survey book 147 pages 57 through 61 based on California Coordinate System 1983 (CCS83) 1991.35 epoch.

Elevations of control points CP1 derived by static GPS observation and converted to the North American Vertical Datum 1988 (NAVD88) using the National Geodetic Survey's program GEOID99 holding Santa Maria Valley Control Survey Stations 1003 and 1135 fixed to the elevations shown on Record of Survey book 147 pages 57 through 61.

Horizontal Positions and Vertical Elevations for Control Points CP2, CP3, CP4, CP5, CP6, CP7, CP8, CP9 derived from FastStatic observation holding CP1, MON1003, and MON1135.

CP1003 N:2179264.680USF E:5815749.460USF Z:171.400USF
 CP1135 N:2191514.480USF E:5824159.910USF Z:192.500USF

All coordinate values shown are grid values. All distances are based on the U.S. Survey Foot. (one survey foot = 1200/3937 meters).

CONTOUR INTERVAL:

The contour interval is shown at 1 foot intervals with majors at every 5 feet

BASIS OF BEARINGS:

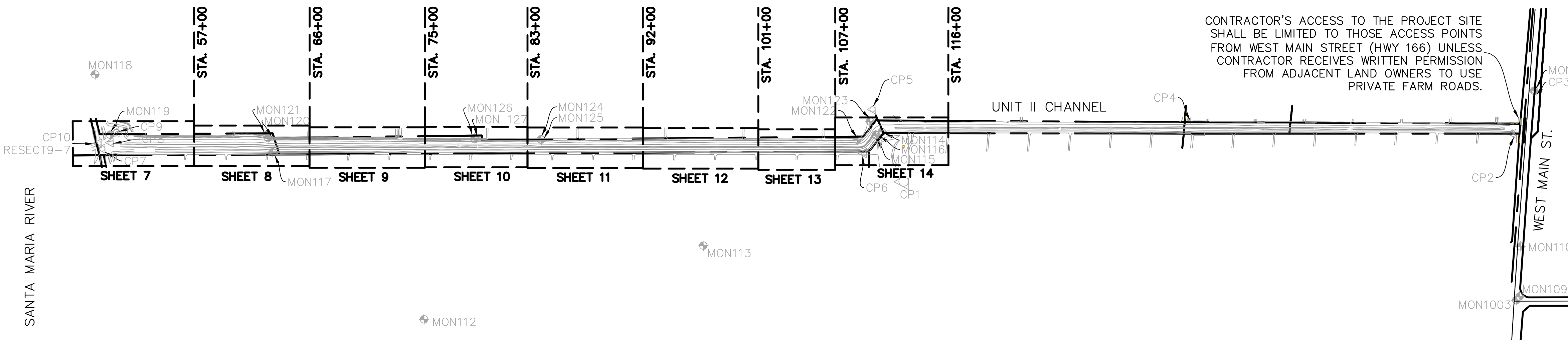
The Basis of Bearings was calculated in the project S458 Santa Maria Levee Flap Gate Modification and it is between Santa Maria Valley Control Survey Stations 1003 and 1135 as shown on Record of Survey book 147 pages 57 through 61, calculated as N 34°28'22" E, 14859.11' and measured as N 34°28'22" E, 14859.13'.

GROUND TO GRID FACTORS:

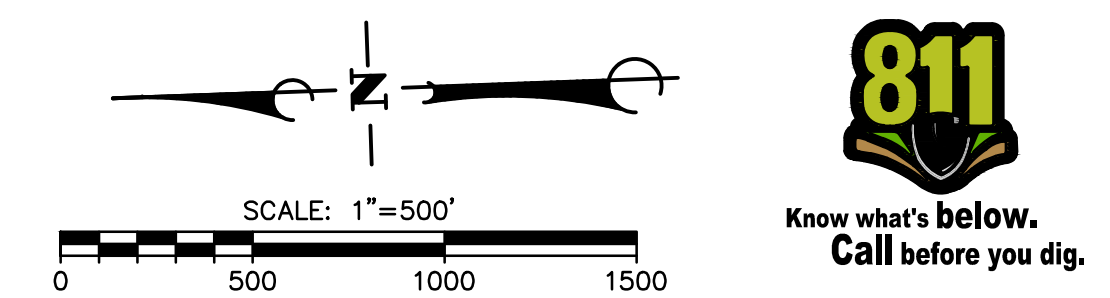
Convergence Factor: -01°19'48.81630"
 Scale Factor: 1.003935005
 Combined Factor: 1.003933635
 Factors Calculated for: CP1

BOUNDARY NOTE:

Parcel boundary calculated per RS 86/33, Subdivision Map BK 9/37, Grant Deeds: inst.1972-38193 O.R.bk2423pg0432, inst.1972-38194 O.R.bk2423pg0437, inst.173-48648 O.R.bk2494pg1230, inst.1973-48649 O.R.bk2494pg1236; fit to CP6 & MON112 for graphical purposes only.
 Right-Of-Way boundary for West Main St. calculated Per CALTRANS Tentative Monumentation Map S.B. 166 Post Mile 0.0 to 6.87; fit to MON108 & MON100 for graphical purposes only.



CONTRACTOR'S ACCESS TO THE PROJECT SITE SHALL BE LIMITED TO THOSE ACCESS POINTS FROM WEST MAIN STREET (HWY 166) UNLESS CONTRACTOR RECEIVES WRITTEN PERMISSION FROM ADJACENT LAND OWNERS TO USE PRIVATE FARM ROADS.



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REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:	
DESIGN ENGINEER:	
DATE:	

SANTA BARBARA COUNTY
 FLOOD CONTROL AND
 WATER CONSERVATION DISTRICT
 130 E. VICTORIA STREET
 SANTA BARBARA, CA 93101
 (805) 568-3440



UNIT II CHANNEL DRAINAGE
 IMPROVEMENTS PROJECT
 AREA OF SANTA MARIA
 SANTA BARBARA COUNTY, CALIFORNIA

**SURVEY NOTES
 & SHEET INDEX**

DESIGNED BY:	ALG
DRAWN BY:	OWP
CHECKED BY:	CAS
SHEET 2 OF 26	
Filename: 20643.01 Title Sheets.dwg	

PLOT DATE: 5/2/2017 11:32 AM V:\2064\active\2064020643\20643\ccad\Civil\20643.01 Title Sheets.dwg

SYMBOL LEGEND

	BOUNDARY EASEMENT LINE
	EXISTING BUILDING
	EXISTING WATER LINE
	EXISTING FIBER OPTIC CABLE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING OVERHEAD WIRES
	EXISTING ROCK SLOPE PROTECTION
	EXISTING STORM DRAIN
	EXISTING STRUCTURE CONCRETE
	EXISTING STRUCTURAL FOUNDATION
	EXISTING WATER LINE
	EXISTING WOOD FENCE
	EXISTING FLOW LINE
	EXISTING PROPERTY LINE
	PROPOSED PROPERTY LINE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	PROPOSED SAWCUT
	PROPOSED STORM DRAIN
	TEMPORARY CONSTRUCTION EASEMENT (TCE)
	CONTROL POINT
	EXISTING BOLLARD
	EXISTING MONUMENT
	EXISTING SIGNAGE
	EXISTING UTILITY ELECTRIC BOX
	EXISTING UTILITY ELECTRIC GUY WIRE
	EXISTING UTILITY POWER POLE
	EXISTING UTILITY TELEPHONE POLE
	EXISTING UTILITY WATER AIR VACUUM VALVE
	EXISTING UTILITY WATER VALVE
	GEOTECHNICAL BORING APPROXIMATE LOCATION

ABBREVIATION LEGEND

AB	AGGREGATE BASE
APN	ASSESSORS PARCEL NUMBER
BEG	BEGINNING
CCWA	CENTRAL COAST WATER AUTHORITY
CFS	CUBIC FEET PER SECOND
CL	CENTER LINE
CLR	CLEARANCE
CMP	CORRUGATED METAL PIPE
CP	CONTROL POINT
DIA	DIAMETER
EBOX	ELECTRICAL BOX
EL	ELEVATION
EM	ELECTRICAL METER
EX	EXISTING
FL	FLOW LINE
FT	FEET
FOC	FIBER OPTIC CABLE
GWE	GUY WIRE ELECTRIC
IN.	INCH
INV	INVERT
HDPE	HIGH DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
MB	METER BOX
MON	MONUMENT
PI	POINT OF INTERSECTION
P/L	PROPERTY LINE
PP	POWER POLE
PROP.	PROPOSED
PVC	POLYVINYL CHLORIDE
Qdes	DESIGN FLOW RATE
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
STA	STATION
TCE	TEMPORARY CONSTRUCTION EASEMENT
TP	TELEPHONE POLE
W	WATER
WV	WATER VALVE
TCE	TEMPORARY CONSTRUCTION LIMIT

GEOTECHNICAL BORING LOG NOTES

SOIL BORING INFORMATION WAS DERIVED FROM SEVERAL GEOTECHNICAL REPORTS AND ARE PROVIDED FOR GENERAL INFORMATION. LOCATION OF THE BORINGS WERE ESTIMATED FROM THE GEOTECHNICAL REPORT AND ARE APPROXIMATE. PLEASE REFER TO ORIGINAL REPORTS FOR COMPLETE SOIL BORING INFORMATION.

BORINGS: DH-113, DH-120 TO DH-129, CB-4672P, CPT-1, CPT-2
 REPORT BY: FUGRO WEST INC.
 REPORT DATE: APRIL 1995
 PROJECT #: 95-92-7111
 PREPARED FOR: MONTGOMERY WATSON

BORINGS: B-7, B-101, B-102
 REPORT BY: FUGRO WEST INC.
 REPORT DATE: APRIL 2003
 PROJECT #: 3190.009
 PREPARED FOR: SANTA BARBARA COUNTY FLOOD CONTROL DISTRICT

BORINGS: DH-01 TO DH-04
 REPORT BY: FUGRO WEST INC.
 REPORT DATE: APRIL 2013-DRAFT
 PROJECT #: 04.6213.0006
 PREPARED FOR: PENFIELD & SMITH ENGINEERS

SOIL TYPE ABBREVIATIONS AND SYMBOLOGY

SYMBOL	ABBREVIATION	DESCRIPTION
N/A	af	ARTIFICIAL FILL
N/A	Qal	ALLUVIUM
	CL	SILTY CLAY SANDY LEAN CLAY LEAN CLAY
	ML	CLAYEY SILT FINE SANDY SILT
	SC	CLAYEY SAND
	SM	SILTY FINE SAND SILTY SAND
	SP	FINE SAND MEDIUM SAND POORLY GRADED SAND
	SP/SW	SAND WITH GRAVEL
	SP-SC	SAND WITH CLAY
	SP-SM	POORLY GRADED SAND WITH SILT

REFERENCED STANDARD PLANS

- 2010 CALTRANS STANDARD PLAN-REVISED STANDARD PLAN RSP A77P1: MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUT FOR EMBANKMENTS. METAL GUARD RAILING RECONSTRUCTION INSTALLATION.
- 2010 CALTRANS STANDARD PLAN D97A: CORRUGATED METAL PIPE COUPLING DETAILS No. 1 ANNULAR COUPLING BAND BAR AND STRAP AND ANGULAR CONNECTIONS.
- APWA STANDARD PLAN 380-4: CONCRETE COLLAR FOR RCB 12" THROUGH 72". PLAN 308-2: MONOLITHIC CATCH BASIN CONNECTION, USED FOR JOINING THE 72" RCP TO THE HEADWALLS AT THE LEVEE OUTFALL.
- SANTA BARBARA COUNTY STANDARD DETAIL 2-020: PIPE BEDDING DETAILS.

EARTHWORK AND BACKFILL NOTES

- ONCE TRENCH EXCAVATION HAS BEEN COMPLETED TO THE SPECIFIED DEPTHS AND THE TRENCH IS DEWATERED (IF REQUIRED) TO AT LEAST THE TRENCH BOTTOM, THE TRENCH BOTTOM SHALL BE MOISTURE CONDITIONED TO AT OR NEAR OPTIMUM AND COMPACTED TO AT LEAST NINETY PERCENT OF THE MAXIMUM ASTM D1557 DENSITY.
- APPROVED BEDDING SHALL BE PLACED AND COMPACTED TO A THICKNESS OF NOT LESS THAN SIX (6) INCHES. NO PIPE AND/OR BACKFILL SHALL BE PLACED UNLESS THE TRENCH HAS A FIRM, UNYIELDING BOTTOM.
- WHERE UNSTABLE, SPONGY OR OTHERWISE UNSUITABLE SOILS ARE ENCOUNTERED, THEY SHALL BE REMOVED TO FIRM SOILS AND REPLACED WITH COMPACTED BEDDING MATERIAL. IF UNSTABLE SOILS ARE SUCH THAT REMOVING TO FIRM SOILS IS NOT REASONABLE, THE FOLLOWING ALTERNATIVES WILL BE CONSIDERED BY THE ENGINEER:
 - PLACE ONE (1) FOOT OF CRUSHED ROCK IN SIX (6) INCH LAYERS ADEQUATELY PACKED ON THE EXCAVATION BOTTOM. GRANULOMETRY OF THE ROCK SHOULD INCLUDE NOT MORE THAN FIVE (5) PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
 - PLACE A LAYER OF GEOTEXTILE FABRIC ON TOP OF THE ROCK LAYER AND EXTEND IT UPWARD ALONG THE TRENCH SIDES FOR A MINIMUM OF ONE (1) FOOT. THE GEOTEXTILE WILL SERVE AS A SEPARATOR BETWEEN THE ROCK AND BEDDING AND MAY BE EITHER A WOVEN OR NON-WOVEN FABRIC.
 - APPLY A LAYER OF BEDDING OVER THE GEOTEXTILE FABRIC. THERE SHOULD BE A THICKNESS OF AT LEAST SIX (6) INCHES OF BEDDING MATERIAL UNDER THE BOTTOM OF THE PIPE.
 - OVEREXCAVATE TO FOUR (4) FEET BELOW THE BOTTOM OF THE PROPOSED PIPE. PLACE A LAYER OF TENSAR SS-2 GEOGRID ON THE EXCAVATION BOTTOM AND TO TWO (2) FEET UP ON THE TRENCH SIDES. COARSE BEDDING MATERIAL SHALL THEN BE PLACED ON TOP OF THE GEOGRID IN A SINGLE TWO-FOOT (2') THICK LAYER. THE ROCK SHALL BE COMPACTED TO NINETY (90) PERCENT MAXIMUM DRY DENSITY OR GREATER. PLACE A SECOND LAYER OF TENSAR SS-2 GEOGRID ON THE COMPACTED ROCK LAYER AND EXTENDING TWO (2) FEET UP THE TRENCH SIDES. COARSE BEDDING MATERIAL SHALL BE PLACED ON THE GEOGRID IN A MINIMUM OF TWO (2) LIFTS, EACH LIFT BEING COMPACTED TO NINETY (90) PERCENT RELATIVE COMPACTION. FILTER FABRIC AND BEDDING SHALL THEN BE PLACED ON THE COMPACTED ROCK AS DIRECTED BY THE ENGINEER.
- PLACE FILL SOIL IN LIFTS WITH A LOOSE THICKNESS NOT GREATER THAN EIGHT (8) INCHES. MOISTURE CONDITION THE SOIL TO NEAR OPTIMUM AND COMPACT TO AT LEAST NINETY (90) PERCENT OF THE MAXIMUM ASTM D1557 DENSITY. FOR PAVED AREAS COMPACT TO AT LEAST NINETY-FIVE (95) PERCENT OF THE MAXIMUM ASTM D1557 DENSITY FOR THE TOP 3- FEET BELOW PAVEMENT FINISHED SURFACE.
- FOR TRENCHES OUTSIDE PUBLIC RIGHT-OF-WAY, EXCAVATED ON-SITE CUT SOILS MAY BE USED FOR TRENCH BACKFILL WHEN CLEANED OF ROCK PIECES LARGER THAN THREE (3) INCHES IN MAXIMUM DIMENSION, PLACED IN LOOSE LIFTS WITH A THICKNESS NOT GREATER THAN EIGHT (8) INCHES AND MECHANICALLY COMPACTED. A COMMERCIAL QUALITY GRANULAR IMPORT SOIL MAY BE USED FOR FILL. SEE SPECIFICATIONS.
- A SHRINKAGE FACTOR DUE TO COMPACTION IS EXPECTED. LOSS DUE TO REMOVAL OF NONCOMPLYING FILL, STRIPPING AND RECOMPACTION OPERATIONS MAY AFFECT QUANTITY CALCULATIONS AND SHOULD BE TAKEN INTO ACCOUNT.
- FINAL SITE GRADE SHALL BE SUCH THAT ALL WATER IS DIVERTED AWAY FROM AND IS NOT ALLOWED TO POND ON OR NEAR PAVEMENT SECTIONS.
- CONTRACTOR SHALL PROVIDE DETAILS OR PLANS FOR CONFINED SPACES ENTRY, TRENCH SHORING, TRAFFIC CONTROL, AND STORM WATER POLLUTION PREVENTION.

**COUNTY OF SANTA BARBARA AIR POLLUTION CONTROL DISTRICT
 DUST CONTROL REQUIREMENTS**

- DURING CLEARING, GRUBBING, GRADING, EARTH MOVING OR EXCAVATION:
 - WATER TRUCKS OR SPRINKLER SYSTEMS SHALL BE USED IN SUFFICIENT QUANTITIES TO PREVENT DUST RAISED FROM LEAVING THE SITE.
 - THE ENTIRE AREA OF DISTURBED SOIL SHALL BE WET DOWN, SUFFICIENT TO CREATE A CRUST, AFTER EACH DAY'S ACTIVITIES CEASE.
- AFTER CLEARING, GRADING, EARTH MOVING OR EXCAVATION IS COMPLETED:
 - THE ENTIRE AREA OF DISTURBED SOIL SHALL BE TREATED TO PREVENT WIND PICK UP OF SOIL. THIS MAY BE ACCOMPLISHED BY:
 - SEEDING AND WATERING UNTIL GRASS COVER IS ESTABLISHED.
 - SPREADING SOIL BINDERS.
 - WETTING THE AREA DOWN, SUFFICIENT TO FORM A CRUST ON THE SURFACE WITH REPEATED SOAKINGS AS NECESSARY TO MAINTAIN THE CRUST AND PREVENT DUST PICK UP BY THE WIND.
 - OTHER METHODS APPROVED IN ADVANCE BY THE AIR POLLUTION CONTROL DISTRICT.
- DURING CONSTRUCTION:
 - WATER TRUCKS OR SPRINKLER SYSTEMS SHALL BE USED TO KEEP ALL AREAS OF VEHICLE MOVEMENT DAMP ENOUGH TO PREVENT DUST RAISED FROM LEAVING THE SITE. AS A MINIMUM, THIS WILL INCLUDE WETTING DOWN SUCH AREAS IN THE LATE MORNING AND AFTER WORK IS COMPLETED FOR THE DAY.
 - INCREASED WATERING FREQUENCY WILL BE REQUIRED WHENEVER THE WIND SPEED EXCEEDS 15 MPH.
- ACTIVATION OF INCREASED DUST CONTROL MEASURES:
 - THE CONTRACTOR SHALL DESIGNATE A PERSON OR PERSONS TO MONITOR THE DUST CONTROL PROGRAM AND TO ORDER INCREASED WATERING, AS NECESSARY, TO PREVENT TRANSPORT OF DUST OFF SITE. THEIR DUTIES SHALL INCLUDE HOLIDAY AND WEEKEND PERIODS WHEN WORK MAY NOT BE IN PROGRESS. THE NAME AND TELEPHONE NUMBER OF SUCH PERSONS SHALL BE PROVIDED TO THE AIR POLLUTION CONTROL DISTRICT PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT.
- TRUCKS HAULING GRADING MATERIALS SHALL BE COVERED.
- SOIL STOCKPILED FOR MORE THAN TWO (2) DAYS SHALL BE COVERED, KEPT MOIST, OR TREATED WITH SOIL BINDERS TO PREVENT DUST GENERATION.

PROPOSED CHANNEL CENTERLINE / LAYOUT LINE GEOMETRIC DATA

LINE	BEARING	DISTANCE
L1	S11°37'10"E	153.45'
L2	S11°24'01"E	34.54'
L3	S14°57'14"E	12.02'
L4	S1°24'24"W	126.97'
L5	S4°14'47"W	73.03'
L6	S2°05'52"W	882.80'
L7	S5°27'12"W	222.00'
L8	S2°05'51"W	2060.11'
L9	S4°31'42"W	117.89'
L10	S2°05'51"W	2245.27'

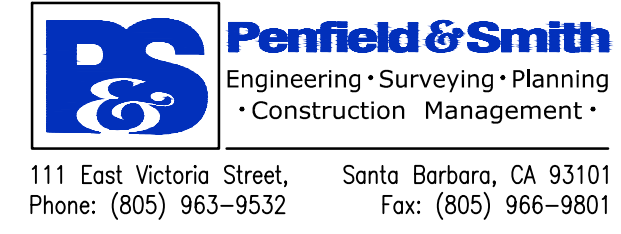
CURVE	DELTA	RADIUS	LENGTH
C1	22°46'38"	1000.00'	397.54'
C2	22°46'41"	1000.00'	397.55'



ALL UNDERGROUND UTILITIES SHOWN ARE PLOTTED BASED ON INFORMATION PROVIDED BY OTHERS, AND ARE APPROXIMATE. OVERHEAD UTILITIES ARE NOT SHOWN.
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REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:	DATE:
DESIGN ENGINEER:	DATE:



SANTA BARBARA COUNTY
 FLOOD CONTROL AND
 WATER CONSERVATION DISTRICT
 130 E. VICTORIA STREET
 SANTA BARBARA, CA 93101
 (805) 568-3440

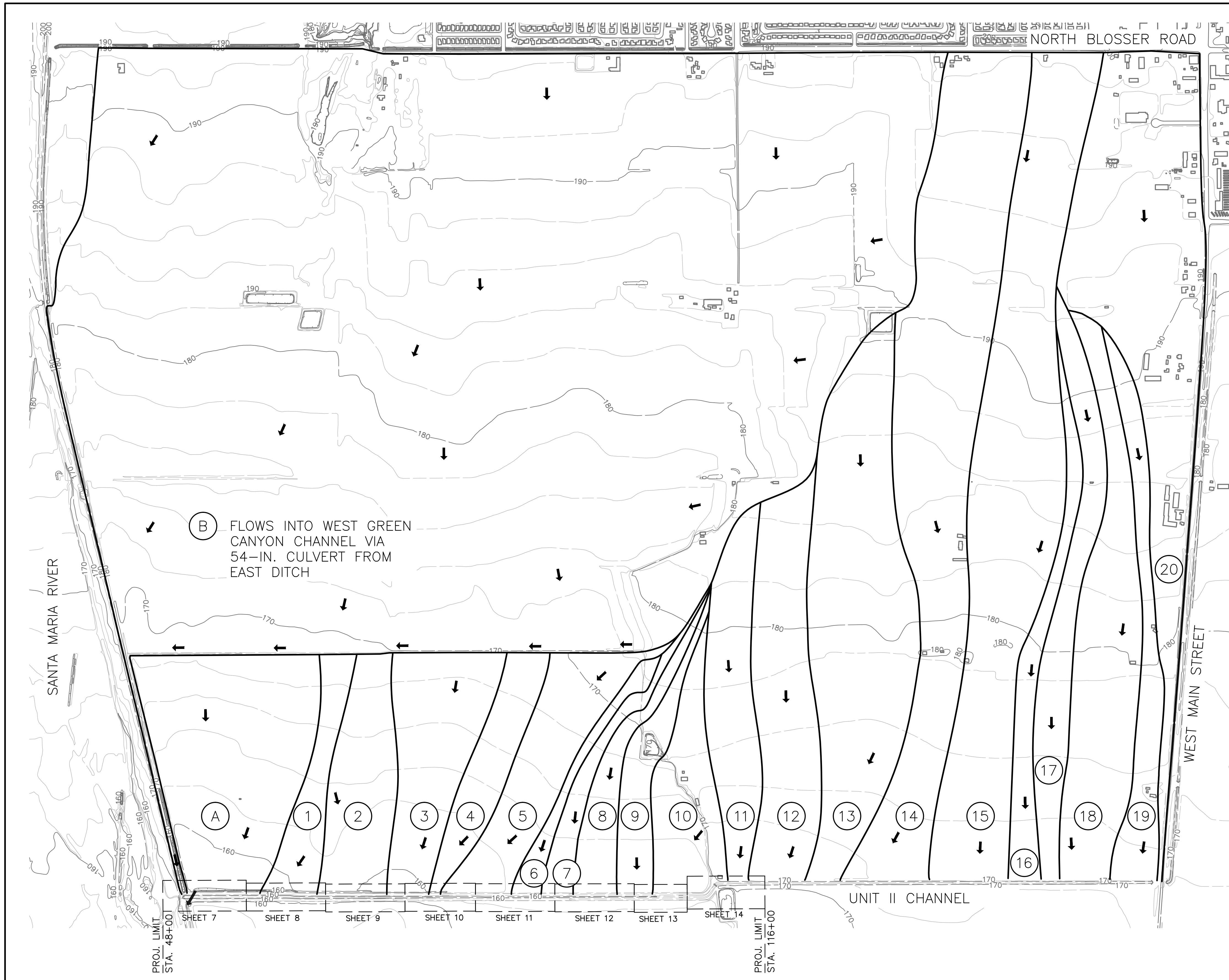


UNIT II CHANNEL DRAINAGE
 IMPROVEMENTS PROJECT
 AREA OF SANTA MARIA
 SANTA BARBARA COUNTY, CALIFORNIA

LEGEND & NOTES

DESIGNED BY:	ALG
DRAWN BY:	OMP
CHECKED BY:	CAS
SHEET 3 OF 26	
Filename: 20643.01 Title Sheets.dwg	

PLOT DATE: 5/2/2017 11:14 AM V:\2064\active\2064020643\20643\ccad\Civil\20643.01 Title Sheets.dwg



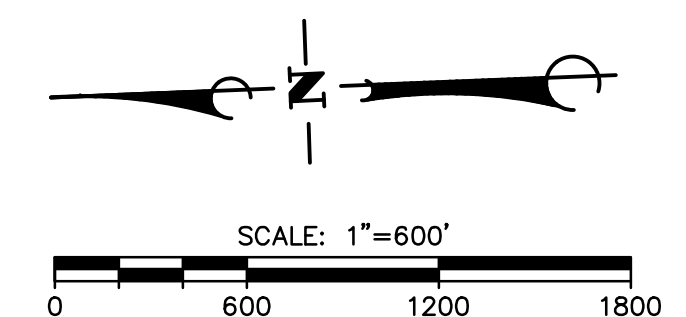
LEGEND

- (X) DRAINAGE AREA LABEL
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION

DRAINAGE AREA	AREA, AC	Qdes, CFS
A	101	21
Does not enter Unit II Channel		

DRAINAGE AREA	AREA, AC	Qdes, CFS
B	1356	287
1	23	5
2	42	9
3	52	11
4	28	6
5	48	10
6	11	2
7	15	3
8	20	4
9	22	5
10	36	8
11	45	15
12	67	22
13	127	42
14	178	59
15	173	58
16	27	9
17	45	15
18	80	27
19	36	12
20	152	51
TOTAL	2583	660
Drains into Unit II Channel		

(B) FLOWS INTO WEST GREEN CANYON CHANNEL VIA 54-IN. CULVERT FROM EAST DITCH



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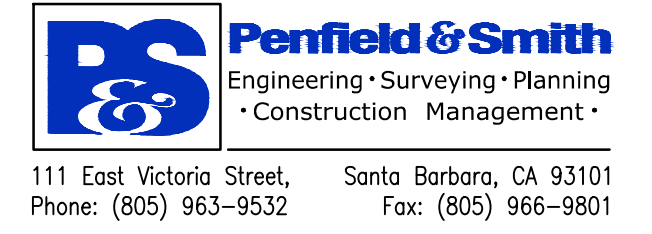
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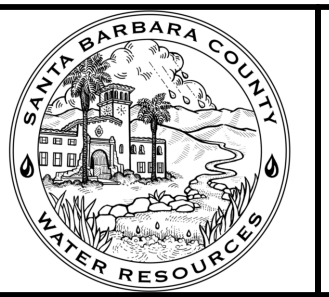
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REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:	DATE:
DESIGN ENGINEER:	DATE:



SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



**UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT**

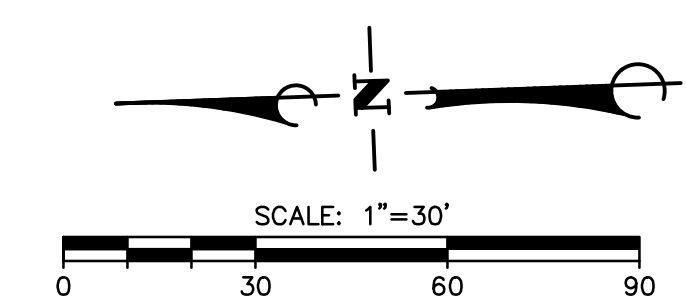
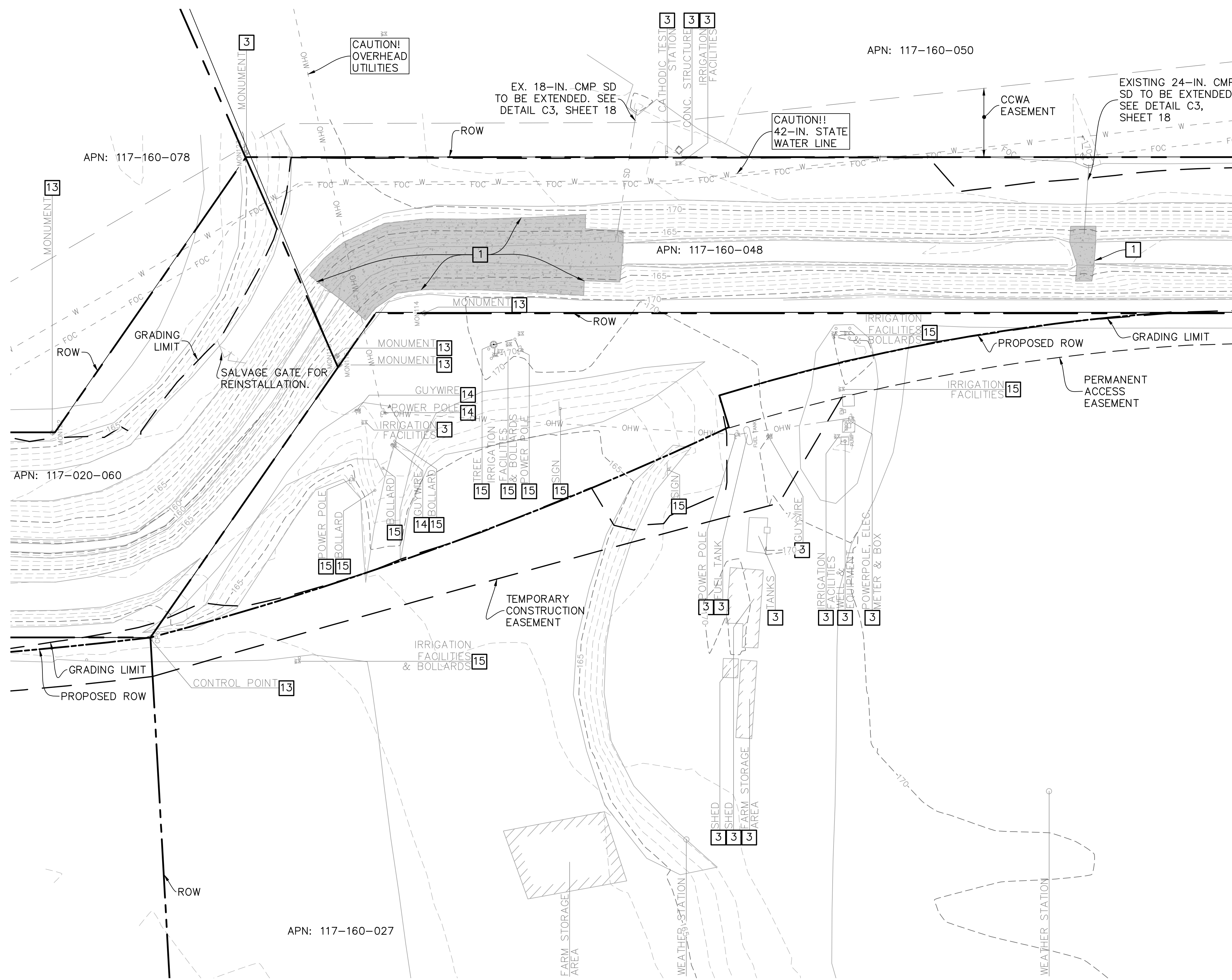
AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

DRAINAGE MAP

DESIGNED BY:	ALG
DRAWN BY:	OWP
CHECKED BY:	CAS
SHEET 4 OF 26	
Filename: 20643.01 Drainage Map.dwg	

DEMOLITION NOTES

- 1 REMOVE, AND LEGALLY DISPOSE OF EXISTING REINFORCED CONCRETE CHANNEL LINING.
- 3 PROTECT EXISTING FACILITY.
- 13 CONTACT THE RESIDENT ENGINEER A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO CONFIRM SURVEY MONUMENTS AND CONTROL POINTS ARE TIED-OUT.
- 14 TO BE RELOCATED BY PGE.
- 15 TO BE RELOCATED BY OTHERS.



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REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:	DATE:
DESIGN ENGINEER:	DATE:

Penfield & Smith
Engineering • Surveying • Planning
• Construction Management •

111 East Victoria Street,
Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



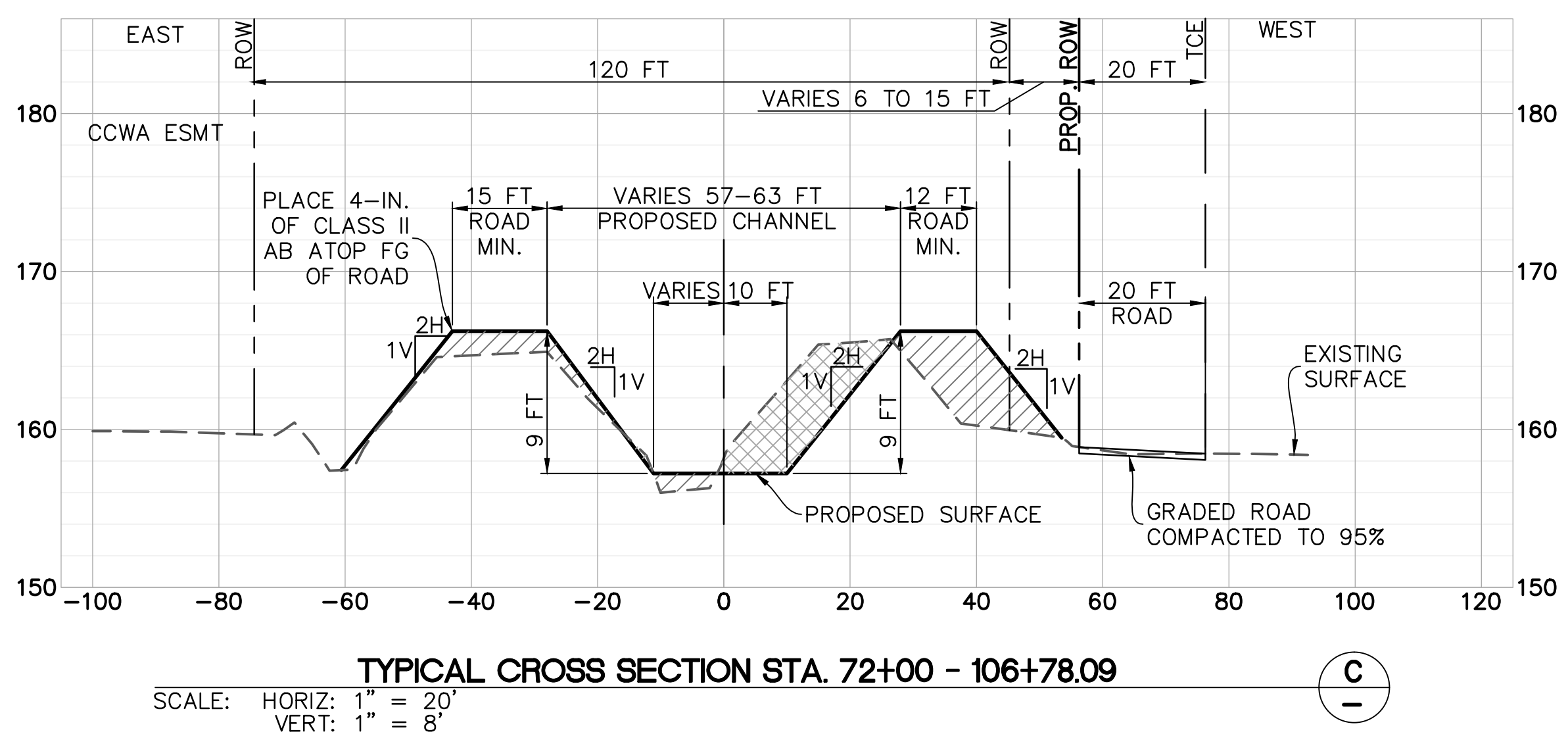
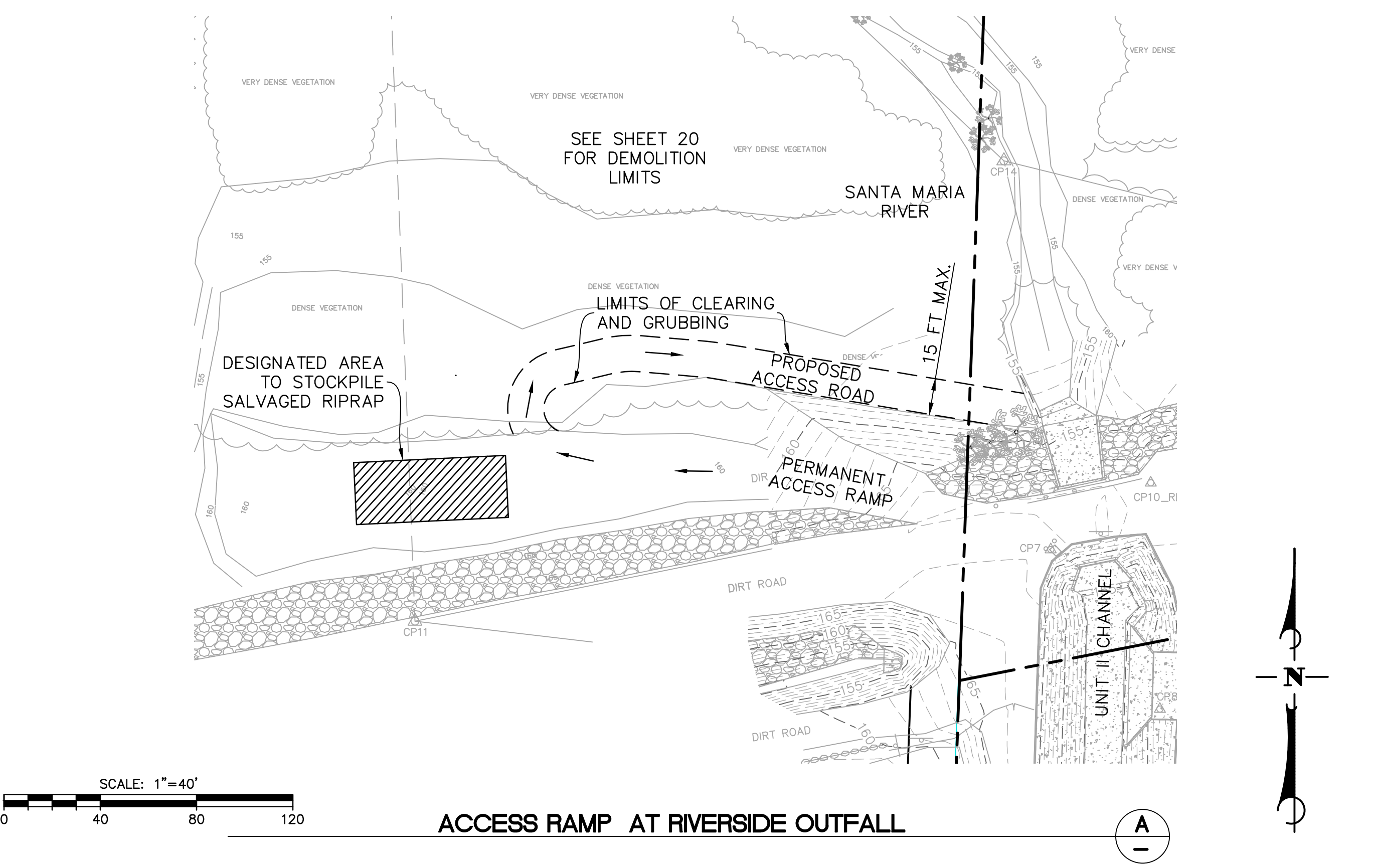
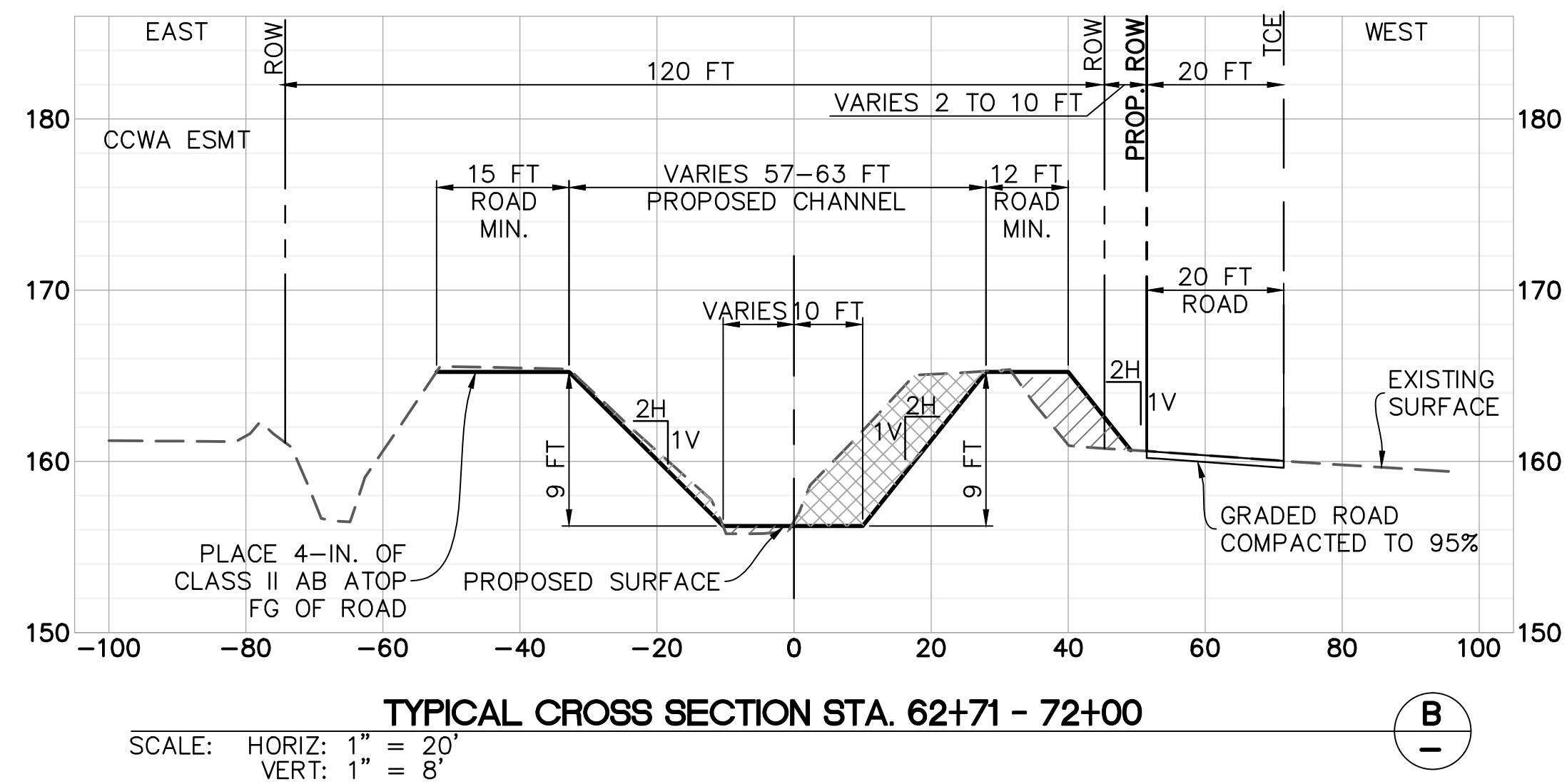
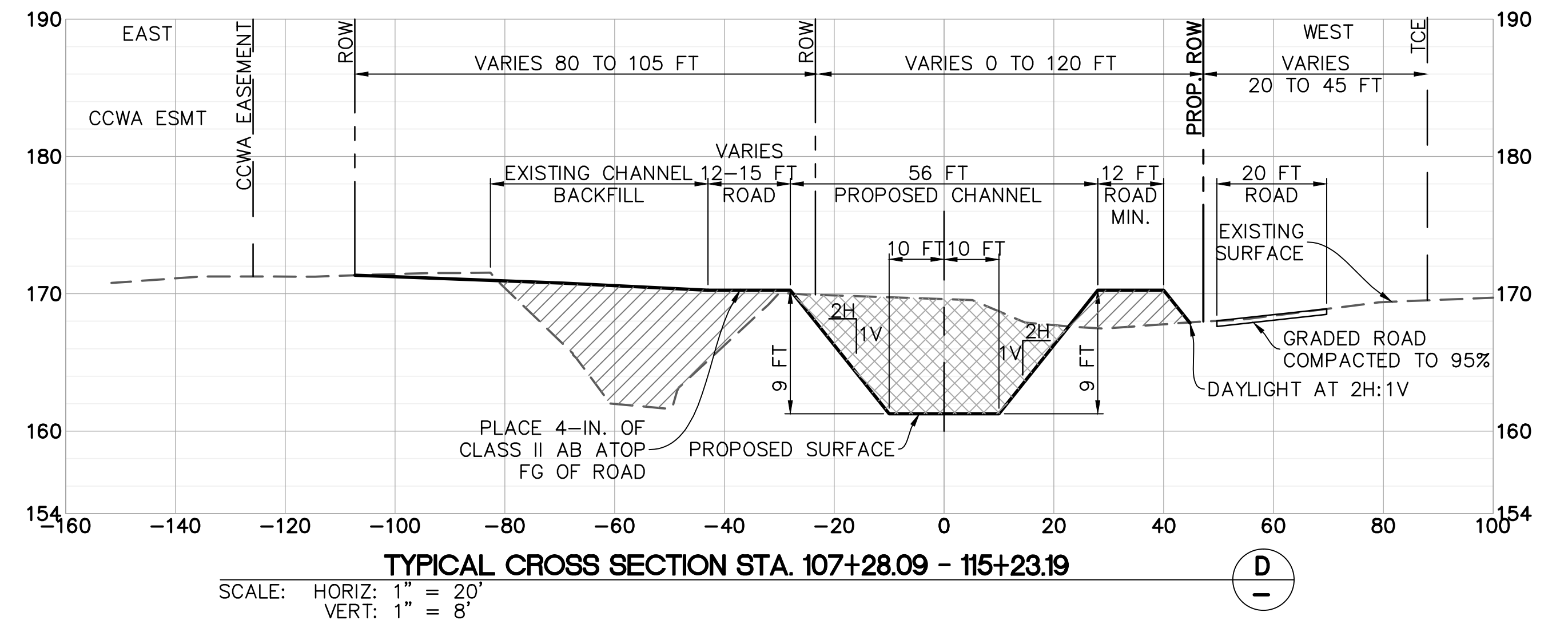
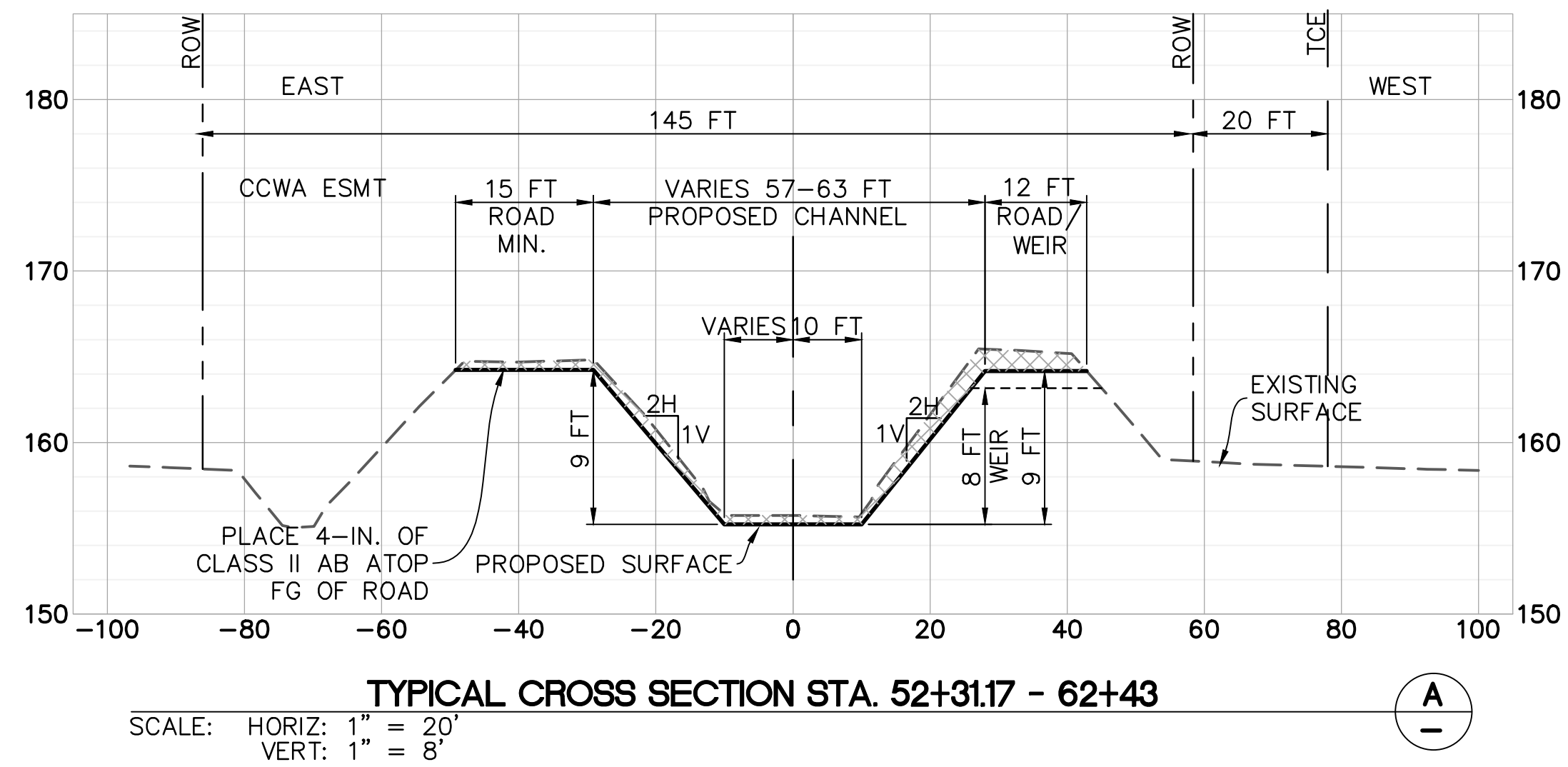
UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT

AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

DEMOLITION PLAN
STA. 108+50 TO 115+00

DESIGNED BY:	ALG
DRAWN BY:	OWP
CHECKED BY:	CAS
SHEET 5 OF 26	
Filename: 20643.01 Demolition Plans.dwg	

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LEGEND

- EXCAVATION
- COMPACTED FILL

NOTE: CROSS SECTION VIEWS ARE FACING UPSTREAM

ALL UNDERGROUND UTILITIES SHOWN ARE PLOTTED BASED ON INFORMATION PROVIDED BY OTHERS, AND ARE APPROXIMATE. OVERHEAD UTILITIES ARE NOT SHOWN.

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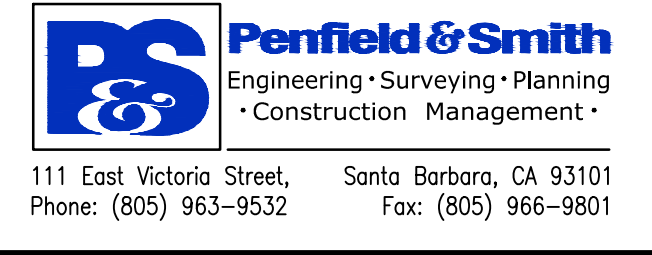
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REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:
DESIGN ENGINEER: _____ DATE: _____



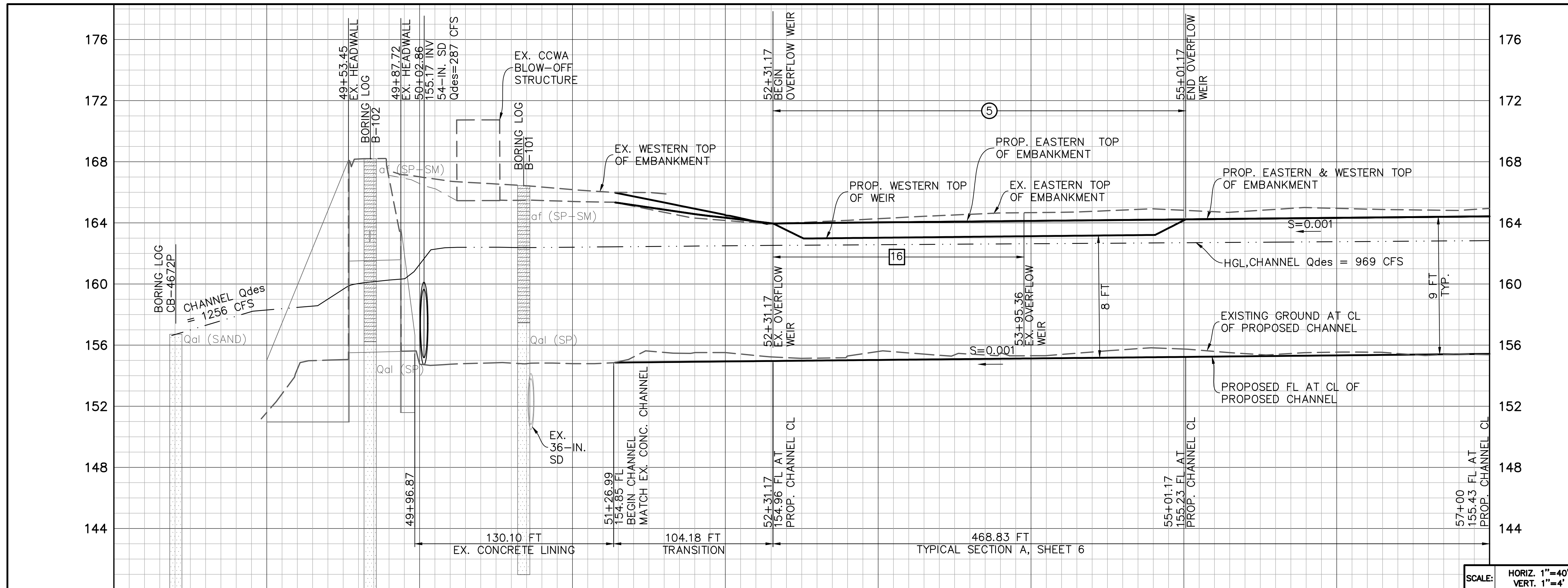
SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT
AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

TYPICAL CROSS SECTIONS

DESIGNED BY: ALG
DRAWN BY: OWP
CHECKED BY: CAS
SHEET 6 OF 26
Filename: 20643.01 Typ Cross Sections.dwg

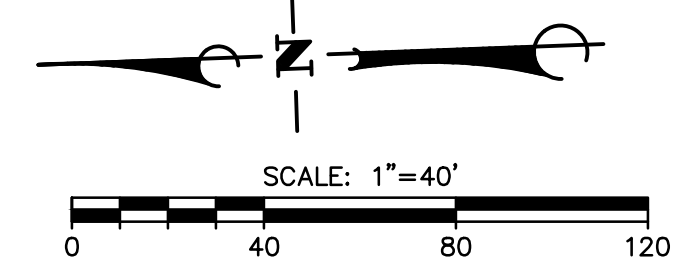
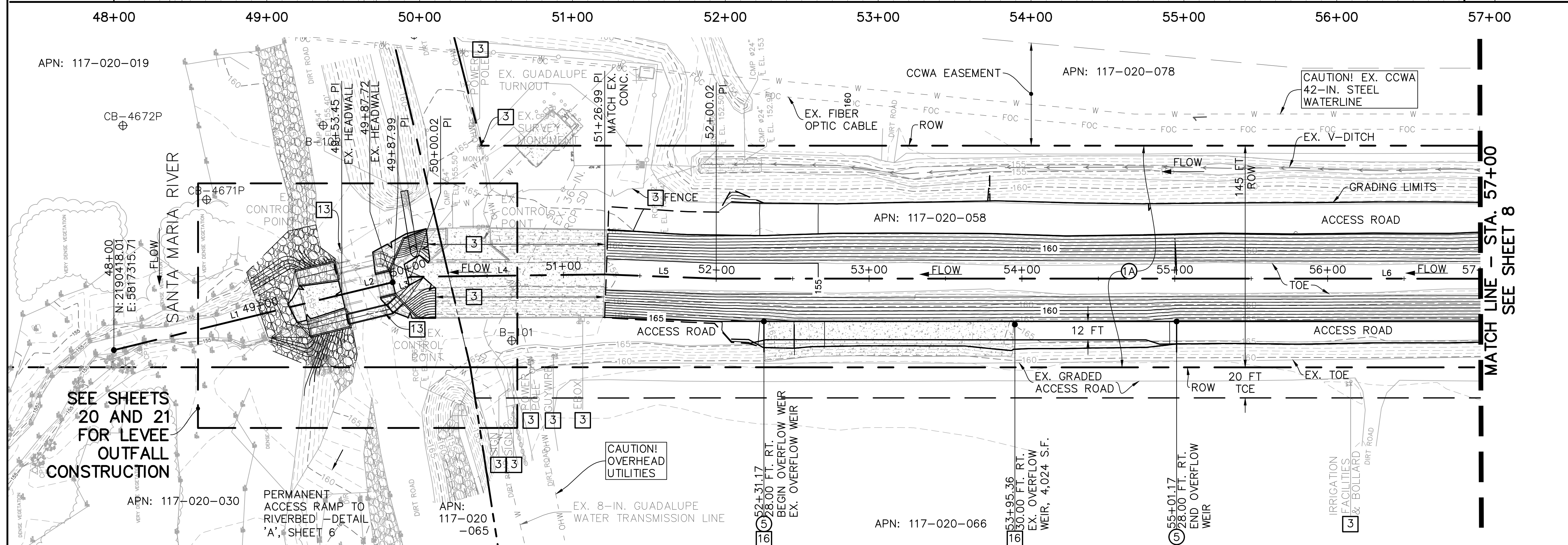


- DEMOLITION NOTES**
- 3 PROTECT EXISTING FACILITY.
 - 13 CONTACT THE RESIDENT ENGINEER A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO CONFIRM SURVEY MONUMENTS AND CONTROL POINTS ARE TIED-OUT.
 - 16 REMOVE AND LEGALLY DISPOSE OF EXISTING REINFORCED CONCRETE WEIR AND TOE WALLS.

- CONSTRUCTION NOTES**
- A CONSTRUCT GRADED CHANNEL, EMBANKMENT AND ACCESS ROADS PER TYPICAL SECTION 'A', SHEET 6. SEE SHEET 15 FOR CHANNEL CROSS SECTIONS.
 - 5 CONSTRUCT REINFORCED CONCRETE LATERAL OVERFLOW WEIR PER DETAIL C2, SHEET 18.

LINE TABLE

LINE	BEARING	DISTANCE
L1	S11°37'10"E	153.45'
L2	S11°24'01"E	34.54'
L3	S14°57'14"E	12.02'
L4	S1°24'24"W	126.97'
L5	S4°14'47"W	73.03'
L6	S2°05'52"W	882.80'



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REVISIONS

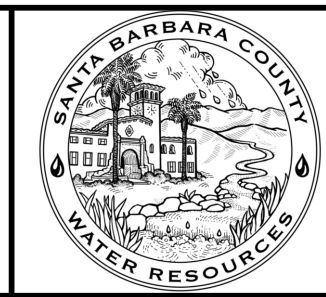
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:
 DESIGN ENGINEER: _____ DATE: _____

Penfield & Smith
 Engineering • Surveying • Planning
 • Construction Management •

111 East Victoria Street, Santa Barbara, CA 93101
 Phone: (805) 963-9532 Fax: (805) 966-9801

SANTA BARBARA COUNTY
 FLOOD CONTROL AND
 WATER CONSERVATION DISTRICT
 130 E. VICTORIA STREET
 SANTA BARBARA, CA 93101
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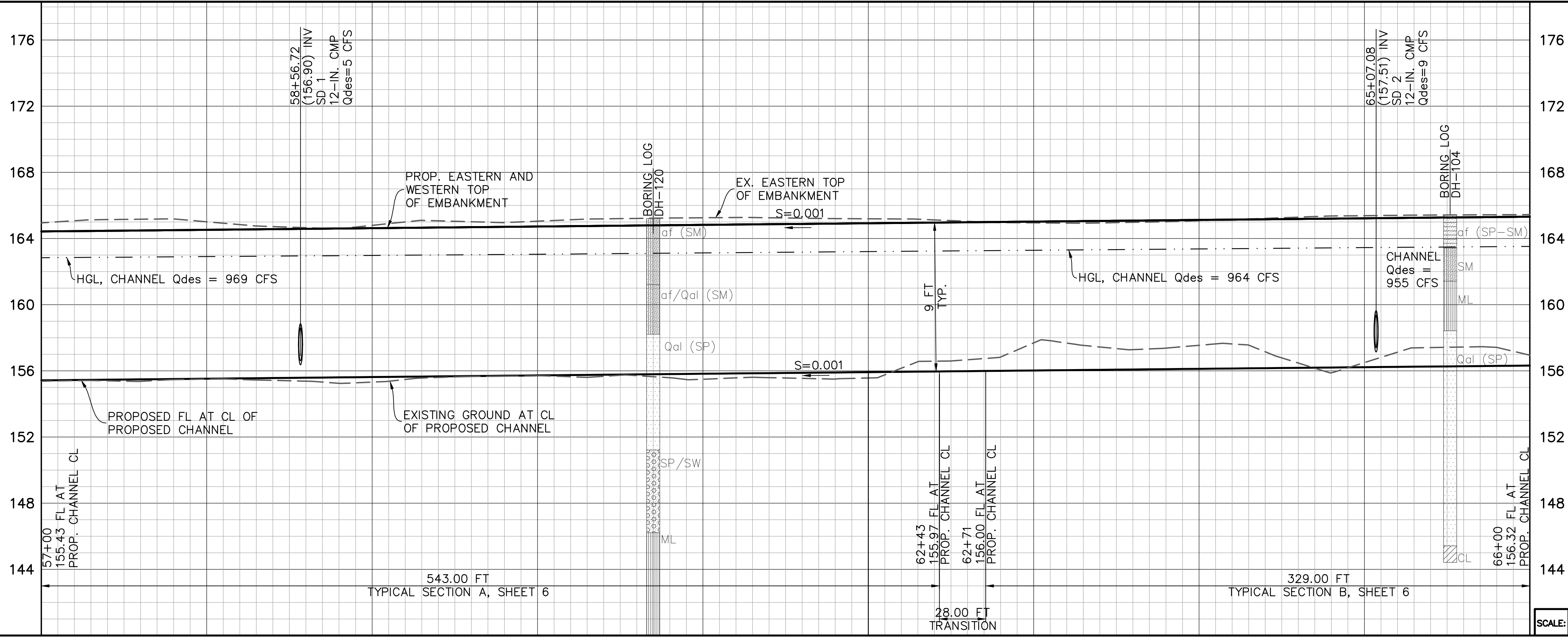
UNIT II CHANNEL DRAINAGE
 IMPROVEMENTS PROJECT

AREA OF SANTA MARIA
 SANTA BARBARA COUNTY, CALIFORNIA

**CHANNEL
 PLAN & PROFILE
 STA. 48+00 TO 57+00**

DESIGNED BY: ALG
 DRAWN BY: OMP
 CHECKED BY: CAS

SHEET 7 OF 26
 Filename: 20643.01 Channel (2).dwg



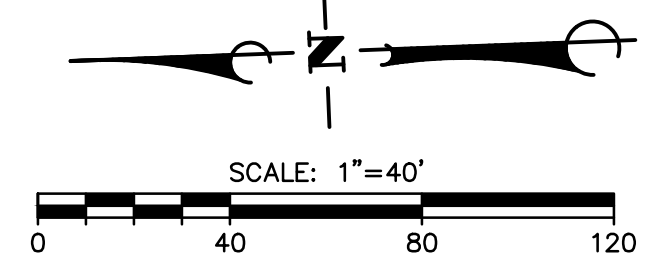
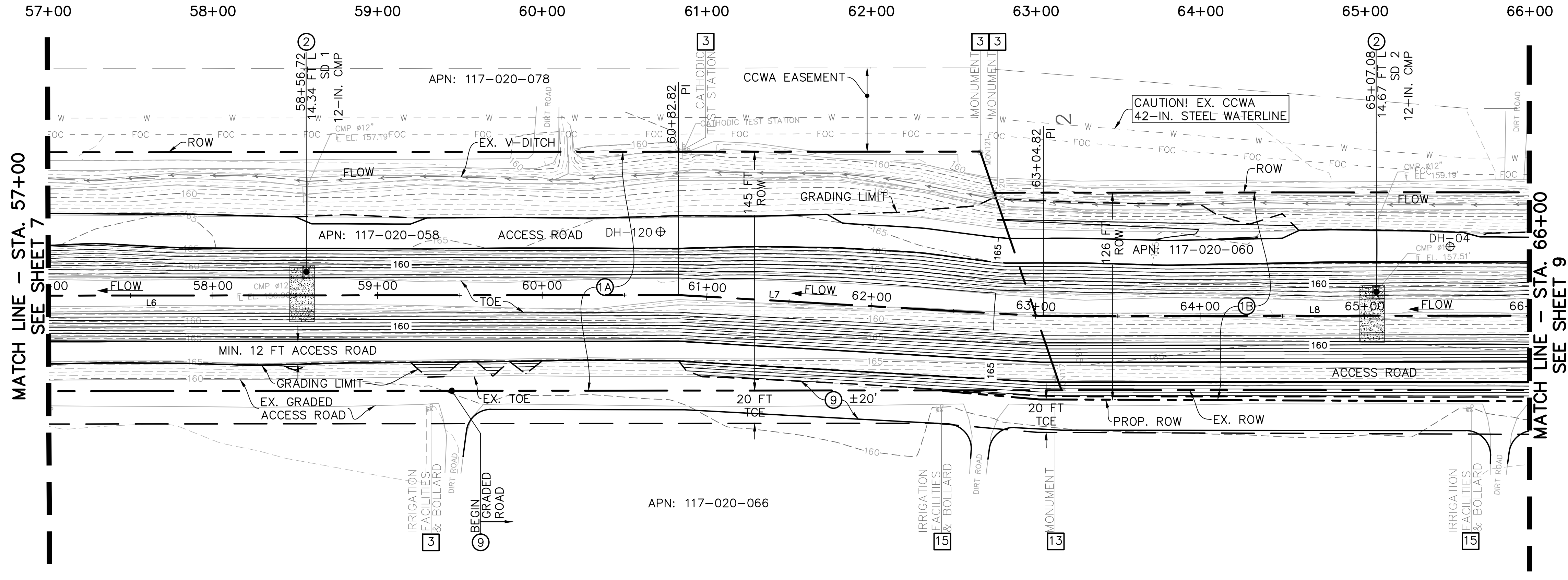
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- 3 PROTECT EXISTING FACILITY.
 - 13 CONTACT THE RESIDENT ENGINEER A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO CONFIRM SURVEY MONUMENTS AND CONTROL POINTS ARE TIED-OUT.
 - 15 TO BE RELOCATED BY OTHERS.

- CONSTRUCTION NOTES**
- 1A CONSTRUCT GRADED CHANNEL, EMBANKMENT AND ACCESS ROADS PER TYPICAL SECTION 'A', SHEET 6. SEE SHEET 15 FOR CHANNEL CROSS SECTIONS.
 - 1B CONSTRUCT GRADED CHANNEL, EMBANKMENT AND ACCESS ROADS PER TYPICAL SECTION 'B', SHEET 6. SEE SHEET 15 FOR CHANNEL CROSS SECTIONS.
 - 2 CONSTRUCT GRADE CONTROL STRUCTURE AND RECESSED HEADWALL PER DETAILS C1 ON SHEET 18, AND C6 ON SHEET 19. TRIM EXISTING CMP SD TO BE FLUSH WITH HEADWALL.
 - 9 CONSTRUCT ROAD WITH NATIVE MATERIAL BY SCARIFYING TO A DEPTH OF 6", GRADING, AND COMPACTING TO 95% RELATIVE COMPACTION.

LINE TABLE

LINE	BEARING	DISTANCE
L6	S2°05'52"W	882.80'
L7	S5°27'12"W	222.00'
L8	S2°05'51"W	2060.11'

SCALE: HORIZ. 1"=40'
VERT. 1"=4'



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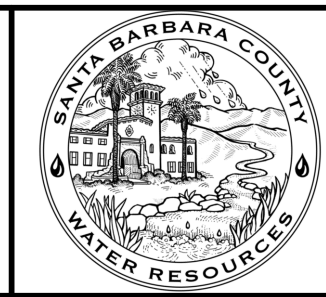
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REVISIONS

NO.	DESCRIPTION	DATE	APR

DESIGNED BY: _____
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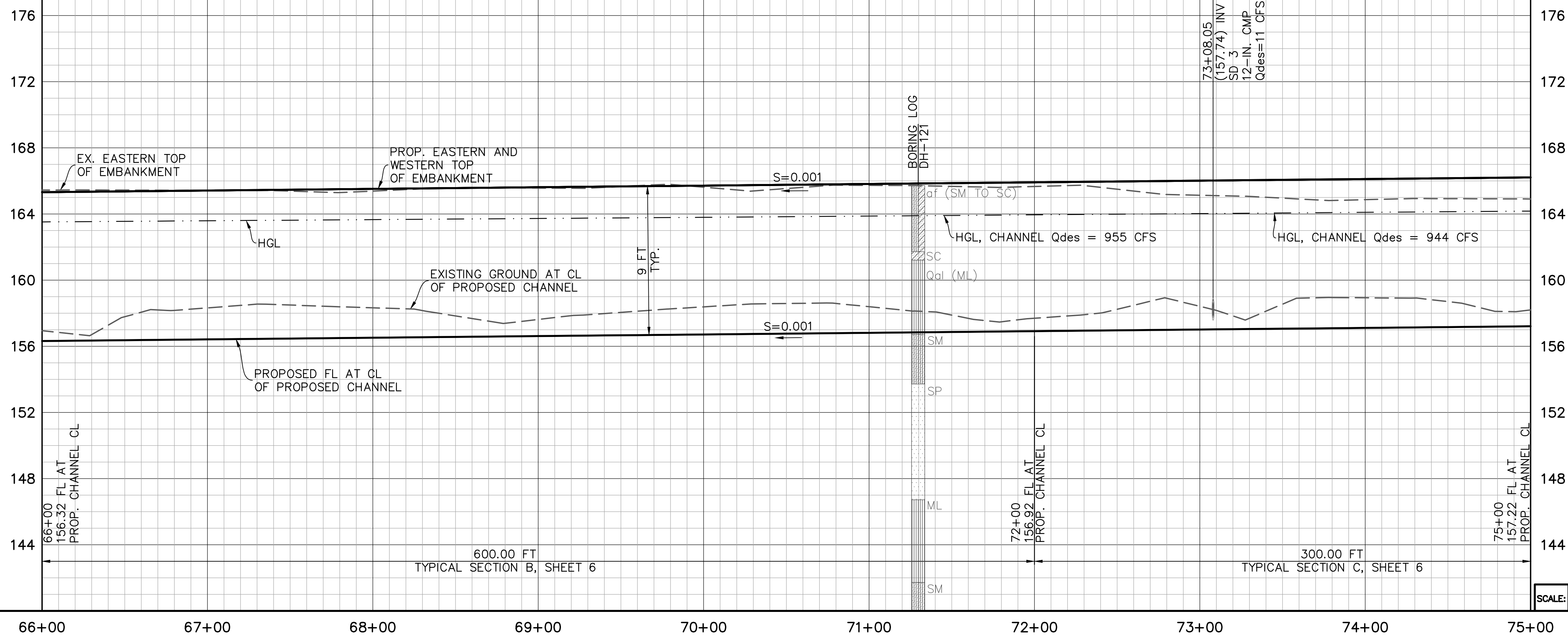
SANTA BARBARA COUNTY
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130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT
AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

**CHANNEL
PLAN & PROFILE
STA. 57+00 TO 66+00**

DESIGNED BY: ALG
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SHEET 8 OF 26
Filename: 20643.01 Channel (2).dwg



DEMOLITION NOTES

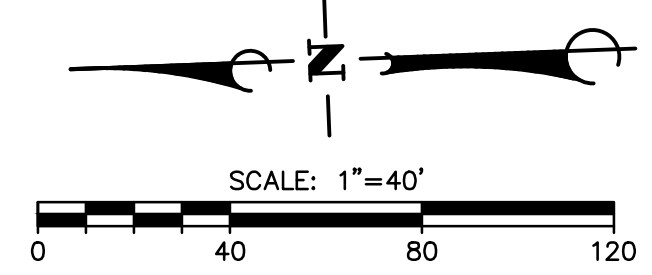
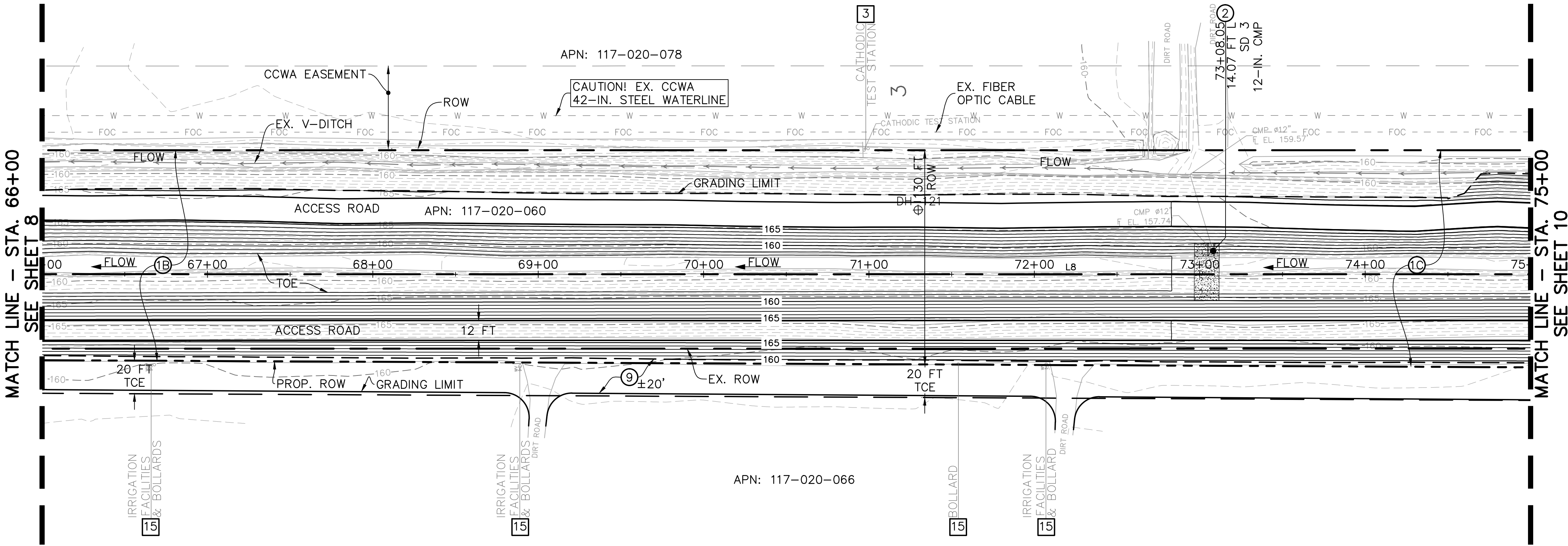
- 3 PROTECT EXISTING FACILITY.
- 15 TO BE RELOCATED BY OTHERS.

CONSTRUCTION NOTES

- 10 CONSTRUCT GRADED CHANNEL, EMBANKMENT AND ACCESS ROADS PER TYPICAL SECTION 'B', SHEET 6. SEE SHEET 15 FOR CHANNEL CROSS SECTIONS.
- 10 CONSTRUCT GRADED CHANNEL, EMBANKMENT AND ACCESS ROADS PER TYPICAL SECTION 'C', SHEET 6. SEE SHEETS 15 AND 16 FOR CHANNEL CROSS SECTIONS.
- 2 CONSTRUCT GRADE CONTROL STRUCTURE AND RECESSED HEADWALL PER DETAILS C1 ON SHEET 18, AND C6 ON SHEET 19. TRIM EXISTING CMP SD TO BE FLUSH WITH HEADWALL.
- 9 CONSTRUCT ROAD WITH NATIVE MATERIAL BY SCARIFYING TO A DEPTH OF 6", GRADING, AND COMPACTING TO 95% RELATIVE COMPACTION.

LINE TABLE		
LINE	BEARING	DISTANCE
LB	S2'05'51"W	2060.11'

SCALE: HORIZ. 1"=40'
VERT. 1"=4'



ALL UNDERGROUND UTILITIES SHOWN ARE PLOTTED BASED ON INFORMATION PROVIDED BY OTHERS, AND ARE APPROXIMATE. OVERHEAD UTILITIES ARE NOT SHOWN.

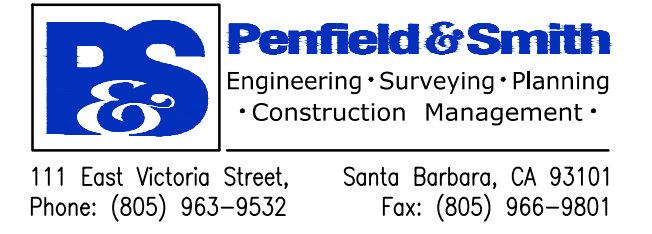
THE SANTA BARBARA COUNTY FLOOD CONTROL DISTRICT IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS INFORMATION. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF TWO WORKING DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION @ 1-800-422-4133.

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE" ADVERTISING FOR BIDS.

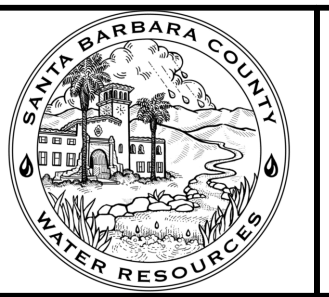
UNAUTHORIZED CHANGES OR USES:
THE SANTA BARBARA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT AND ITS EMPLOYEES WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL PROPOSED CHANGES TO THE PLANS MUST BE PRESENTED IN WRITING TO THE DISTRICT AND APPROVED IN WRITING BY THE DISTRICT PRIOR TO IMPLEMENTATION OF ANY SUCH CHANGE OR USE.

REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:	
DESIGN ENGINEER:	
DATE:	



SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



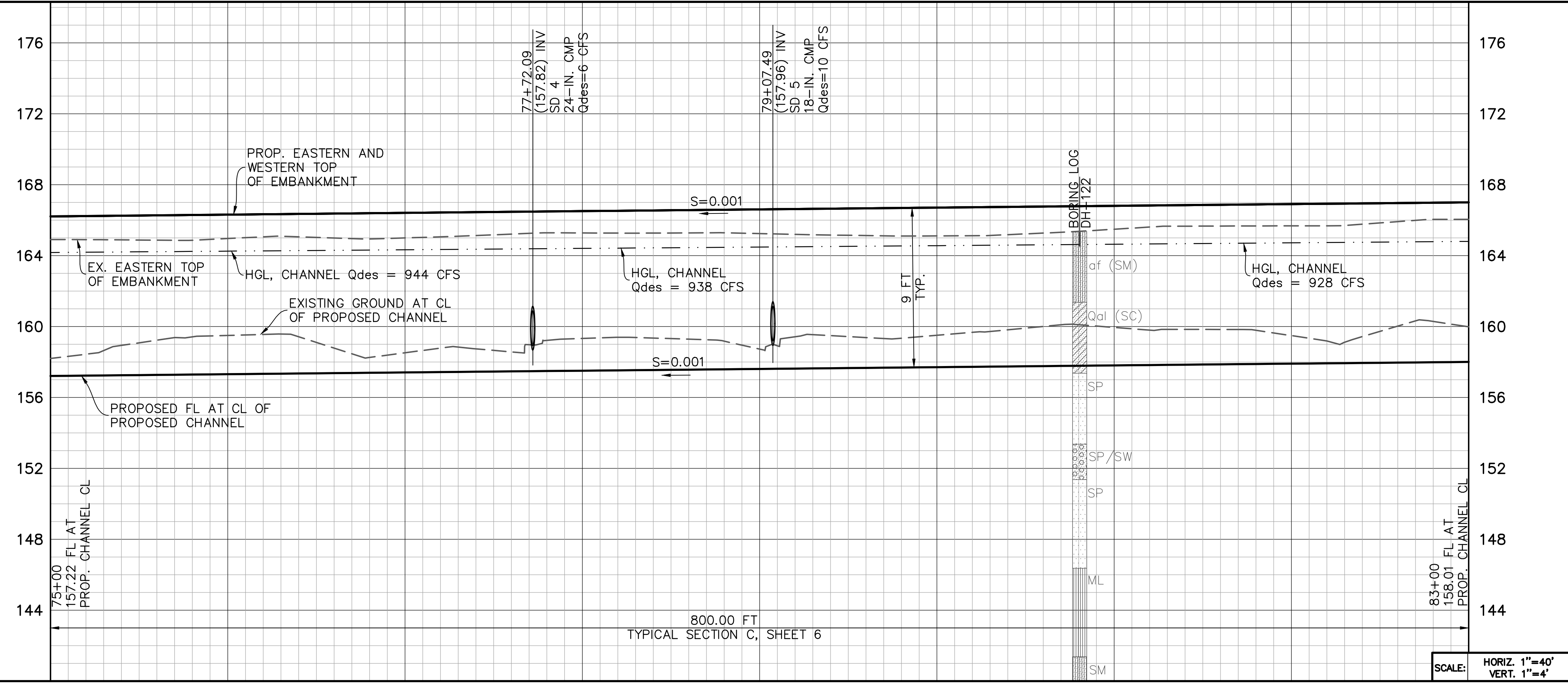
UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT

AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

**CHANNEL
PLAN & PROFILE
STA. 66+00 TO 75+00**

DESIGNED BY:	ALG
DRAWN BY:	OMP
CHECKED BY:	CAS
SHEET 9 OF 26	
Filename: 20643.01 Channel (2).dwg	

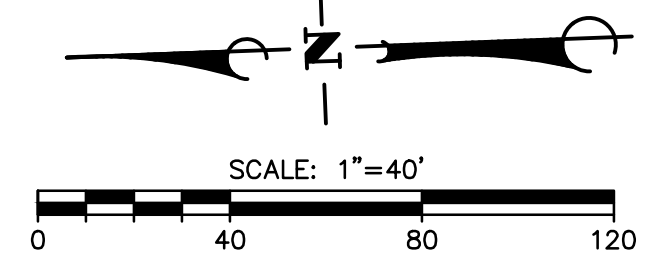
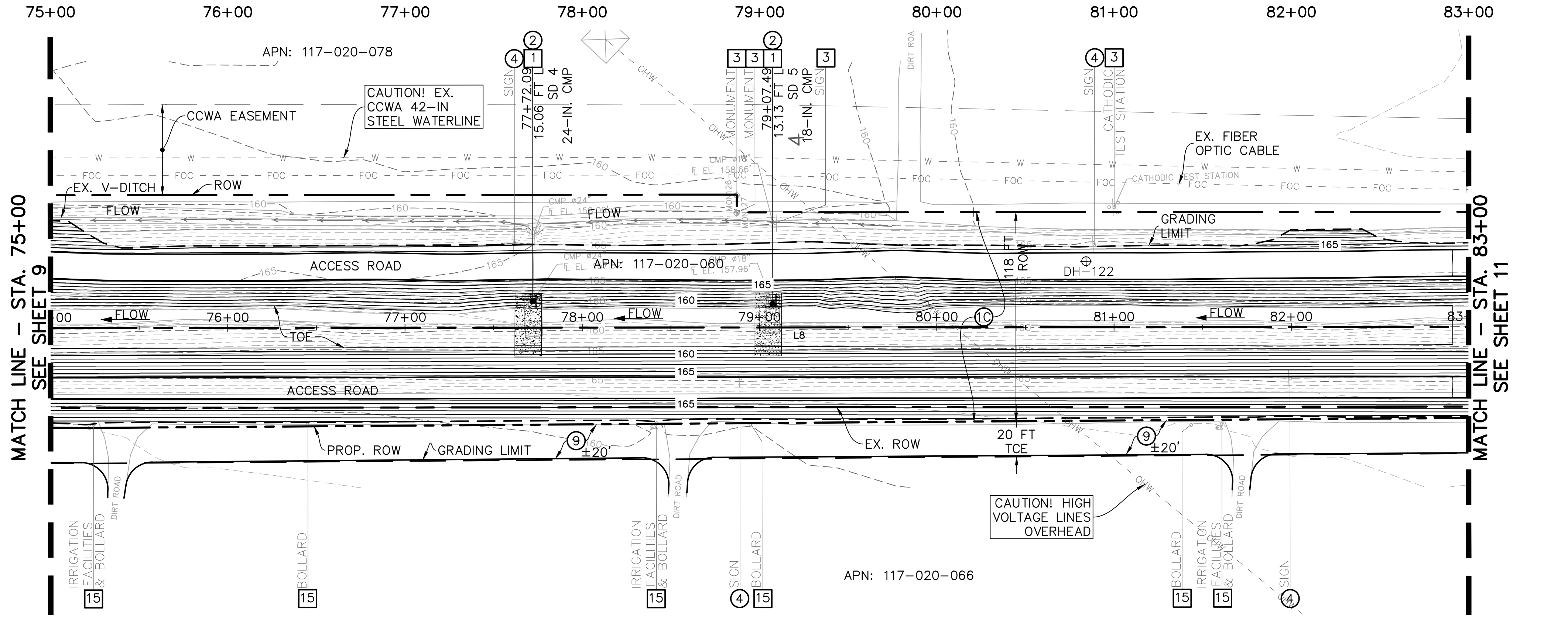
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- DEMOLITION NOTES**
- 1 REMOVE AND LEGALLY DISPOSE OF EXISTING REINFORCED CONCRETE CHANNEL LINING.
 - 3 PROTECT EXISTING FACILITY.
 - 15 TO BE RELOCATED BY OTHERS.

- CONSTRUCTION NOTES**
- 10 CONSTRUCT GRADED CHANNEL, EMBANKMENT AND ACCESS ROADS PER TYPICAL SECTION 'C', SHEET 6. SEE SHEETS 15 AND 16 FOR CHANNEL CROSS SECTIONS.
 - 2 CONSTRUCT GRADE CONTROL STRUCTURE AND RECESSED HEADWALL PER DETAILS C1 ON SHEET 18, AND C6 ON SHEET 19. TRIM EXISTING CMP SD TO BE FLUSH WITH HEADWALL.
 - 4 SALVAGE AND RESET SIGN AFTER CONSTRUCTION IS COMPLETED PER DETAIL C8, SHEET 19.
 - 9 CONSTRUCT ROAD WITH NATIVE MATERIAL BY SCARIFYING TO A DEPTH OF 6", GRADING, AND COMPACTING TO 95% RELATIVE COMPACTION.

LINE TABLE		
LINE	BEARING	DISTANCE
L8	S2°05'51"W	2060.11'



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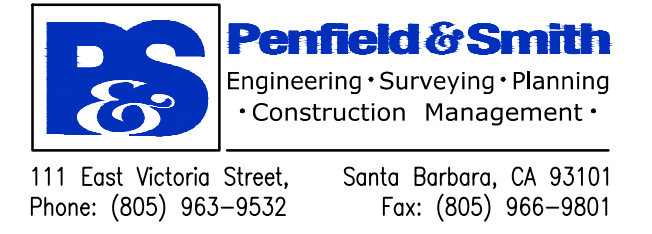
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REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:
DESIGN ENGINEER: _____ DATE: _____



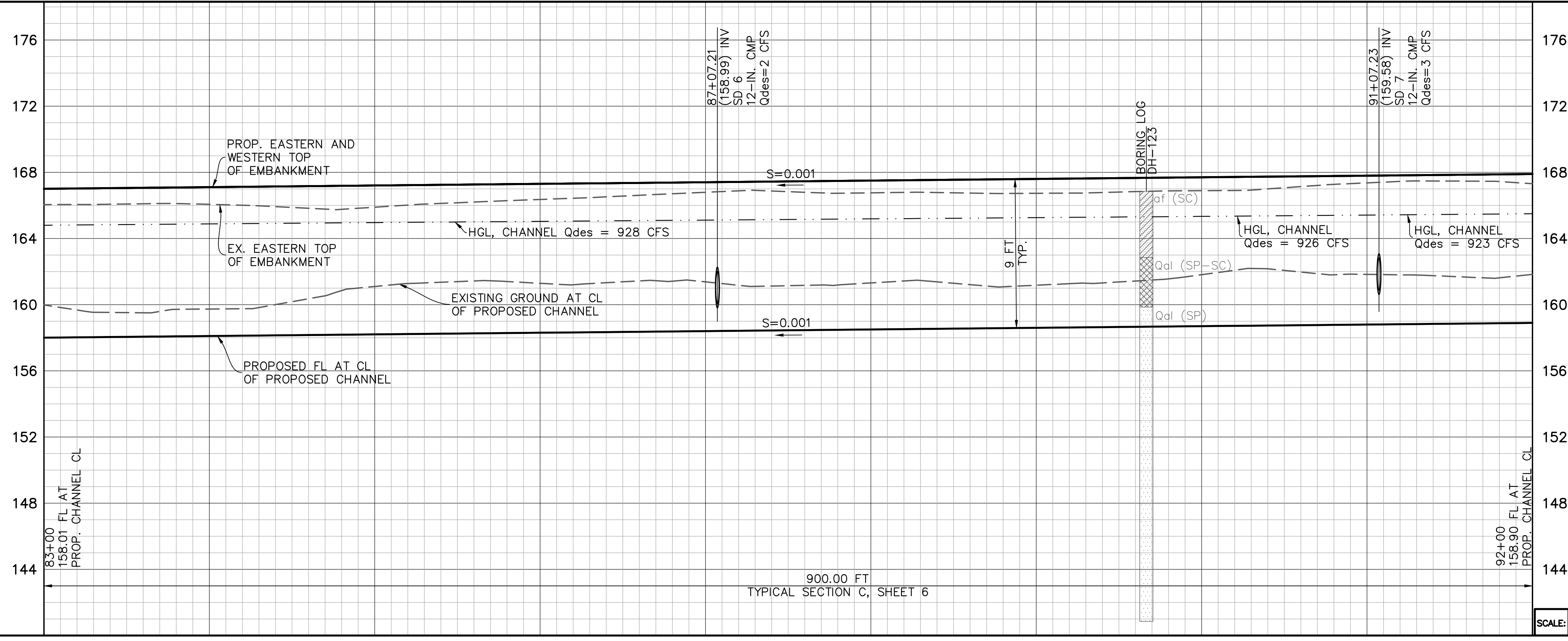
SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT
AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

CHANNEL PLAN & PROFILE STA. 75+00 TO 83+00

DESIGNED BY: ALG
DRAWN BY: OWP
CHECKED BY: CAS
SHEET 10 OF 26
Filename: 20643.01 Channel (2).dwg

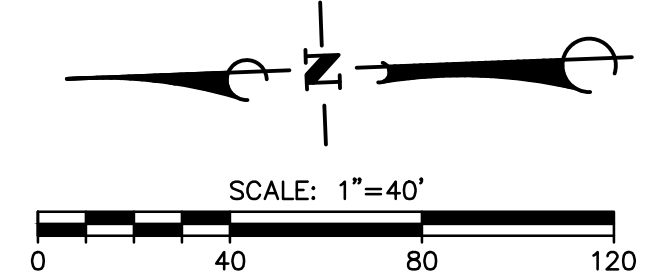


- DEMOLITION NOTES**
- 3 PROTECT EXISTING FACILITY.
 - 13 CONTACT THE RESIDENT ENGINEER A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO CONFIRM SURVEY MONUMENTS AND CONTROL POINTS ARE TIED-OUT.
 - 15 TO BE RELOCATED BY OTHERS.

- CONSTRUCTION NOTES**
- 10 CONSTRUCT GRADED CHANNEL, EMBANKMENT AND ACCESS ROADS PER TYPICAL SECTION 'C', SHEET 6. SEE SHEETS 15 AND 16 FOR CHANNEL CROSS SECTIONS.
 - 2 CONSTRUCT GRADE CONTROL STRUCTURE AND RECESSED HEADWALL PER DETAILS C1 ON SHEET 18, AND C6 ON SHEET 19. TRIM EXISTING CMP SD TO BE FLUSH WITH HEADWALL.
 - 9 CONSTRUCT ROAD WITH NATIVE MATERIAL BY SCARIFYING TO A DEPTH OF 6", GRADING, AND COMPACTING TO 95% RELATIVE COMPACTION.

LINE TABLE

LINE	BEARING	DISTANCE
L8	S2°05'51"W	2060.11'
L9	S4°31'42"W	117.89'
L10	S2°05'51"W	2245.27'

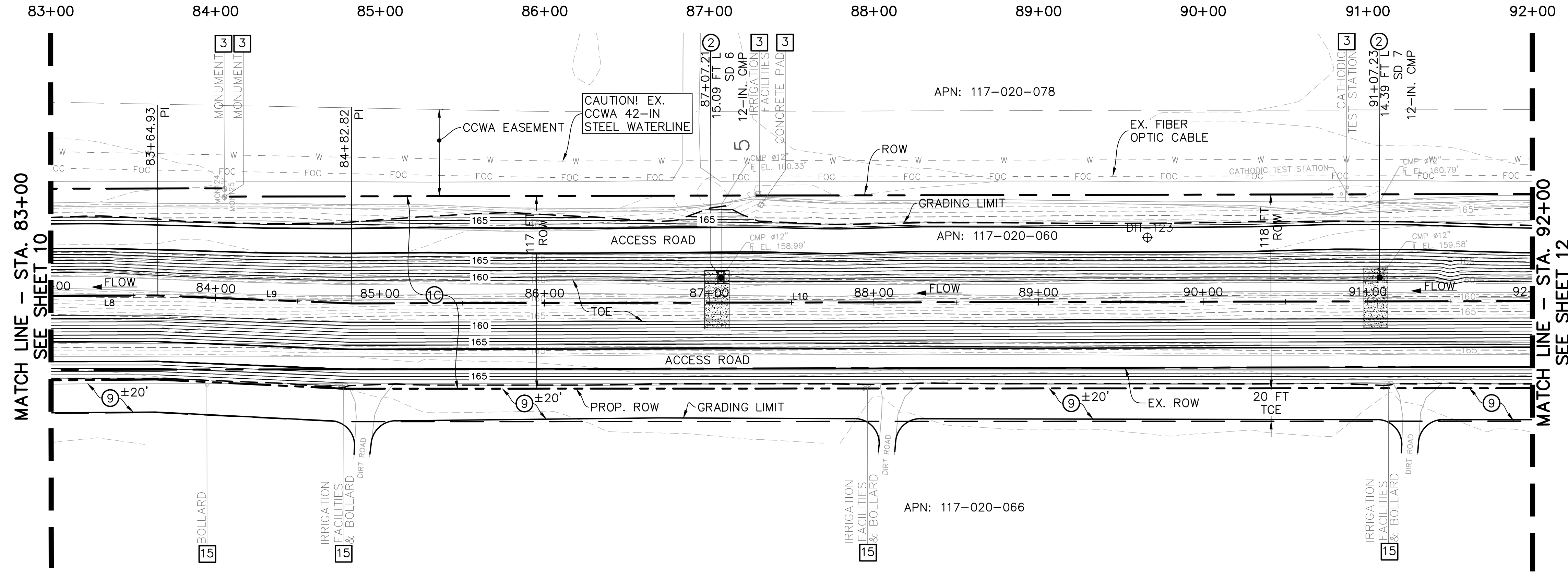


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THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE" ADVERTISING FOR BIDS.

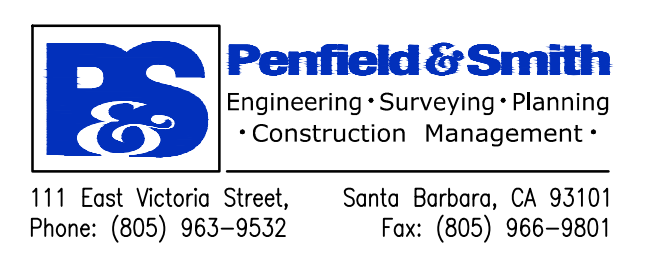
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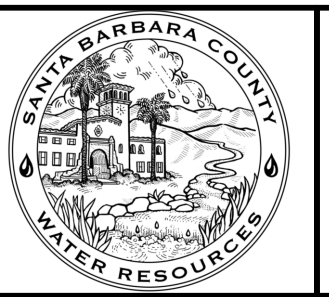
REVISIONS

NO.	DESCRIPTION	DATE	APR

DESIGNED BY: _____
 DESIGN ENGINEER _____ DATE _____



SANTA BARBARA COUNTY
 FLOOD CONTROL AND
 WATER CONSERVATION DISTRICT
 130 E. VICTORIA STREET
 SANTA BARBARA, CA 93101
 (805) 568-3440

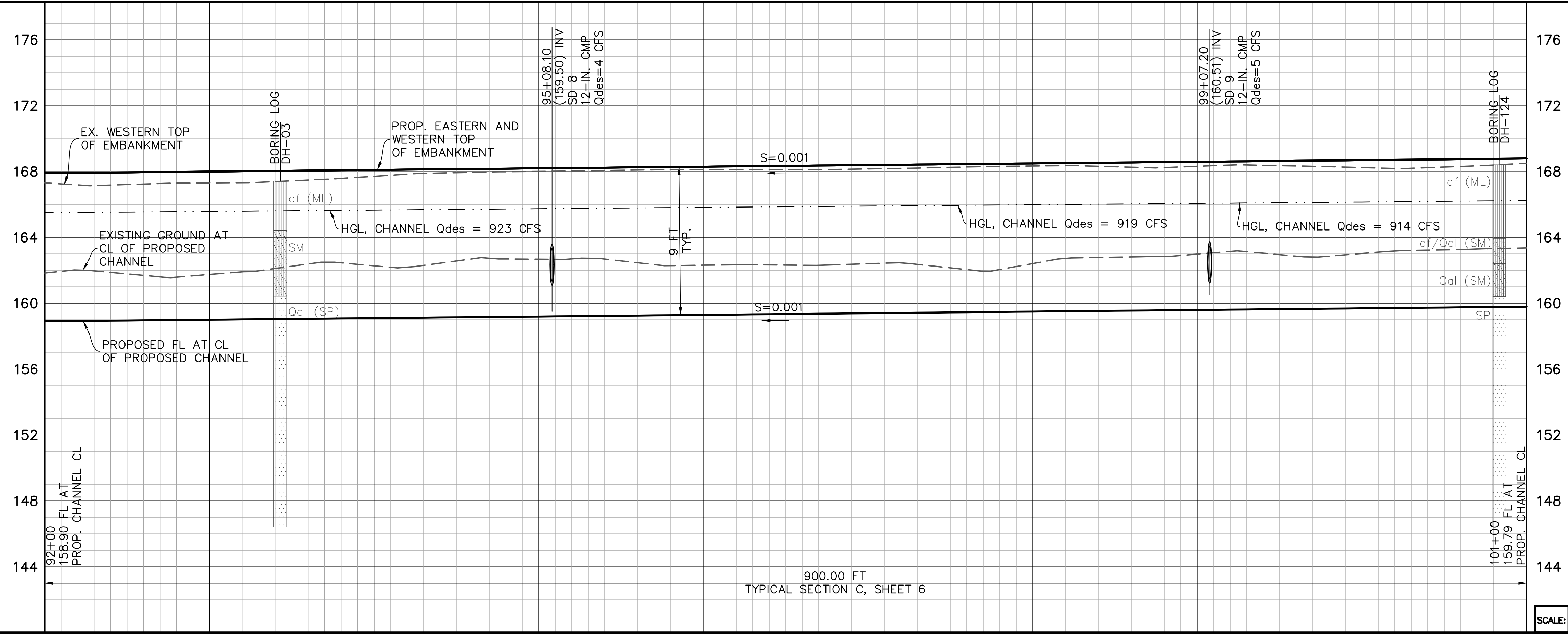


UNIT II CHANNEL DRAINAGE
 IMPROVEMENTS PROJECT
 AREA OF SANTA MARIA
 SANTA BARBARA COUNTY, CALIFORNIA

**CHANNEL
 PLAN & PROFILE
 STA. 83+00 TO 92+00**

DESIGNED BY: ALG
 DRAWN BY: OWP
 CHECKED BY: CAS
 SHEET 11 OF 26
 Filename: 20643.01 Channel (2).dwg

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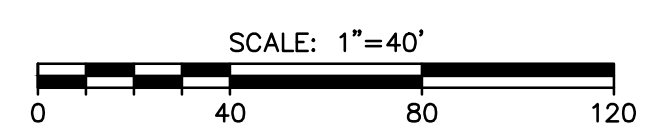
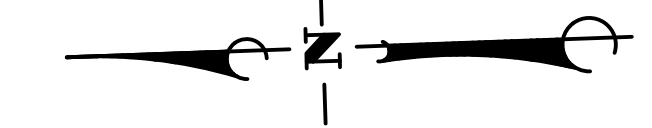
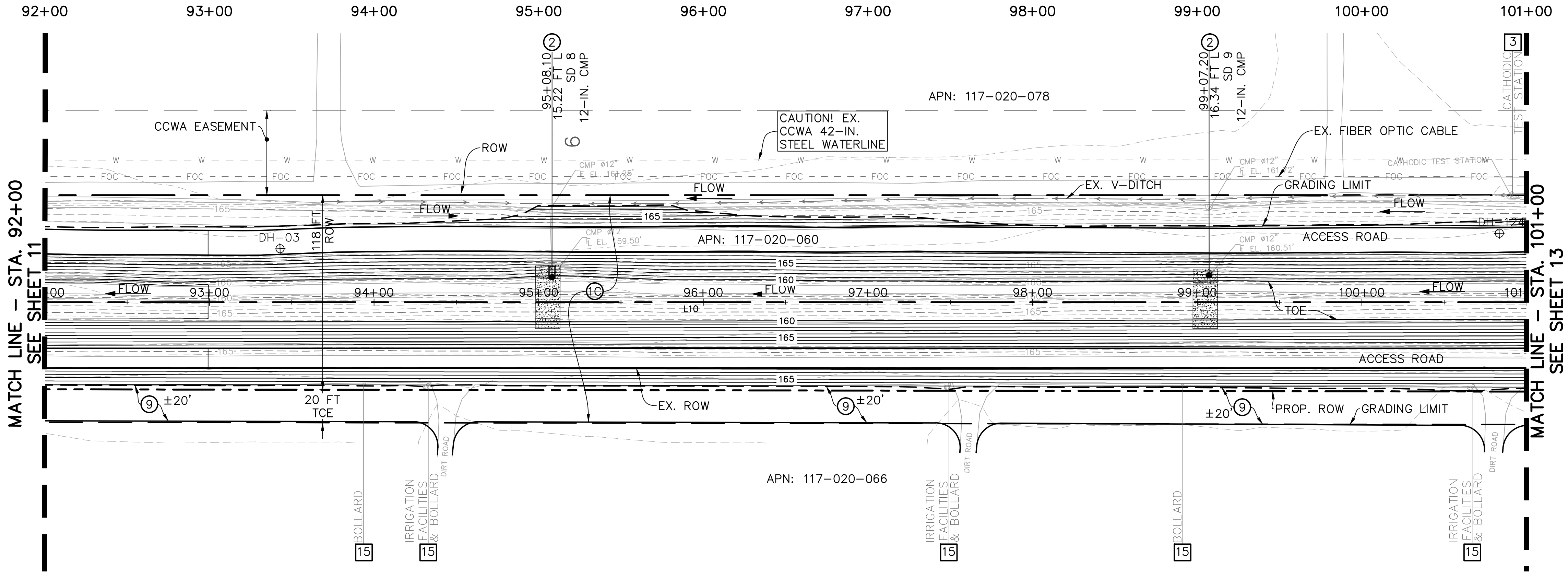
- DEMOLITION NOTES**
- 3 PROTECT EXISTING FACILITY.
 - 15 TO BE RELOCATED BY OTHERS.

- CONSTRUCTION NOTES**
- 10 CONSTRUCT GRADED CHANNEL, EMBANKMENT AND ACCESS ROADS PER TYPICAL SECTION 'C', SHEET 6. SEE SHEETS 15 AND 16 FOR CHANNEL CROSS SECTIONS.
 - 2 CONSTRUCT GRADE CONTROL STRUCTURE AND RECESSED HEADWALL PER DETAILS C1 ON SHEET 18, AND C6 ON SHEET 19. TRIM EXISTING CMP SD TO BE FLUSH WITH HEADWALL.
 - 9 CONSTRUCT ROAD WITH NATIVE MATERIAL BY SCARIFYING TO A DEPTH OF 6", GRADING, AND COMPACTING TO 95% RELATIVE COMPACTION.

LINE TABLE

LINE	BEARING	DISTANCE
L10	S2°05'51"W	2245.27'

SCALE: HORIZ. 1"=40'
VERT. 1"=4'



ALL UNDERGROUND UTILITIES SHOWN ARE PLOTTED BASED ON INFORMATION PROVIDED BY OTHERS, AND ARE APPROXIMATE. OVERHEAD UTILITIES ARE NOT SHOWN.

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REVISIONS

NO.	DESCRIPTION	DATE	APR

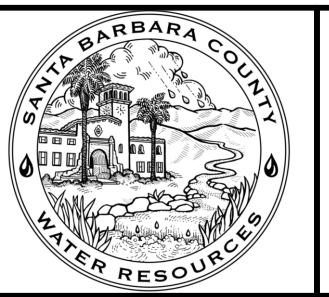
DESIGNED BY:

DESIGN ENGINEER	DATE

Penfield & Smith
Engineering • Surveying • Planning
• Construction Management •

111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



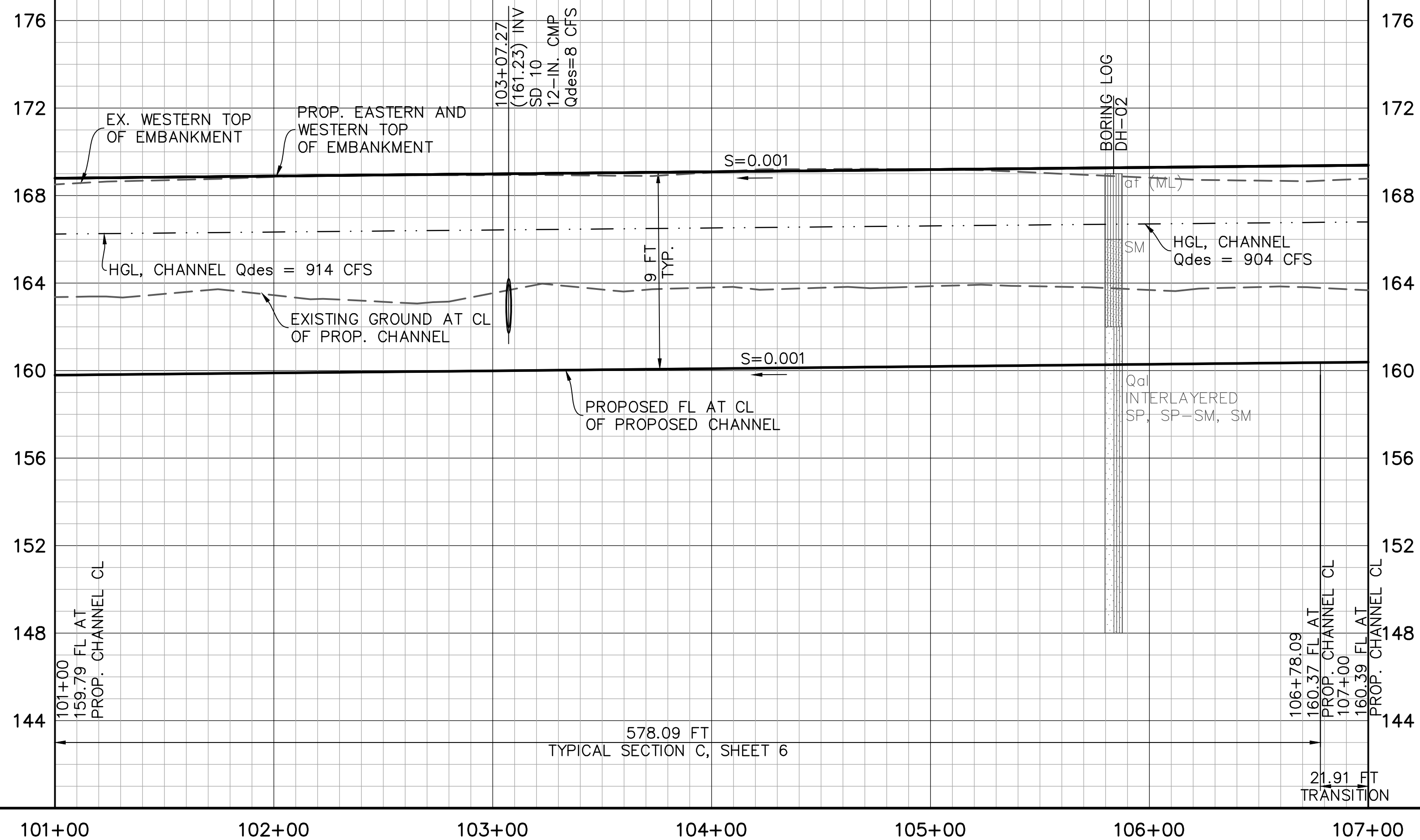
UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT

AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

**CHANNEL
PLAN & PROFILE
STA. 92+00 TO 101+00**

DESIGNED BY:	ALG
DRAWN BY:	OMP
CHECKED BY:	CAS
SHEET 12 OF 26	
Filename: 20643.01 Channel (2).dwg	

PLOT DATE: 5/3/2017 3:56 PM
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SCALE: HORIZ. 1"=40'
VERT. 1"=4'

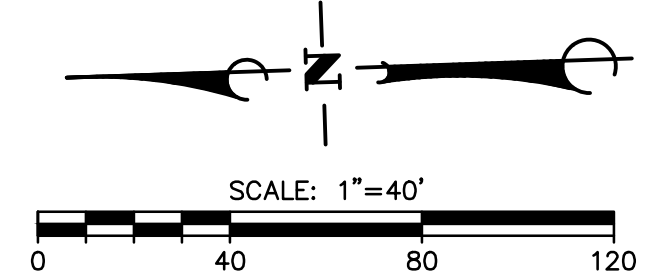
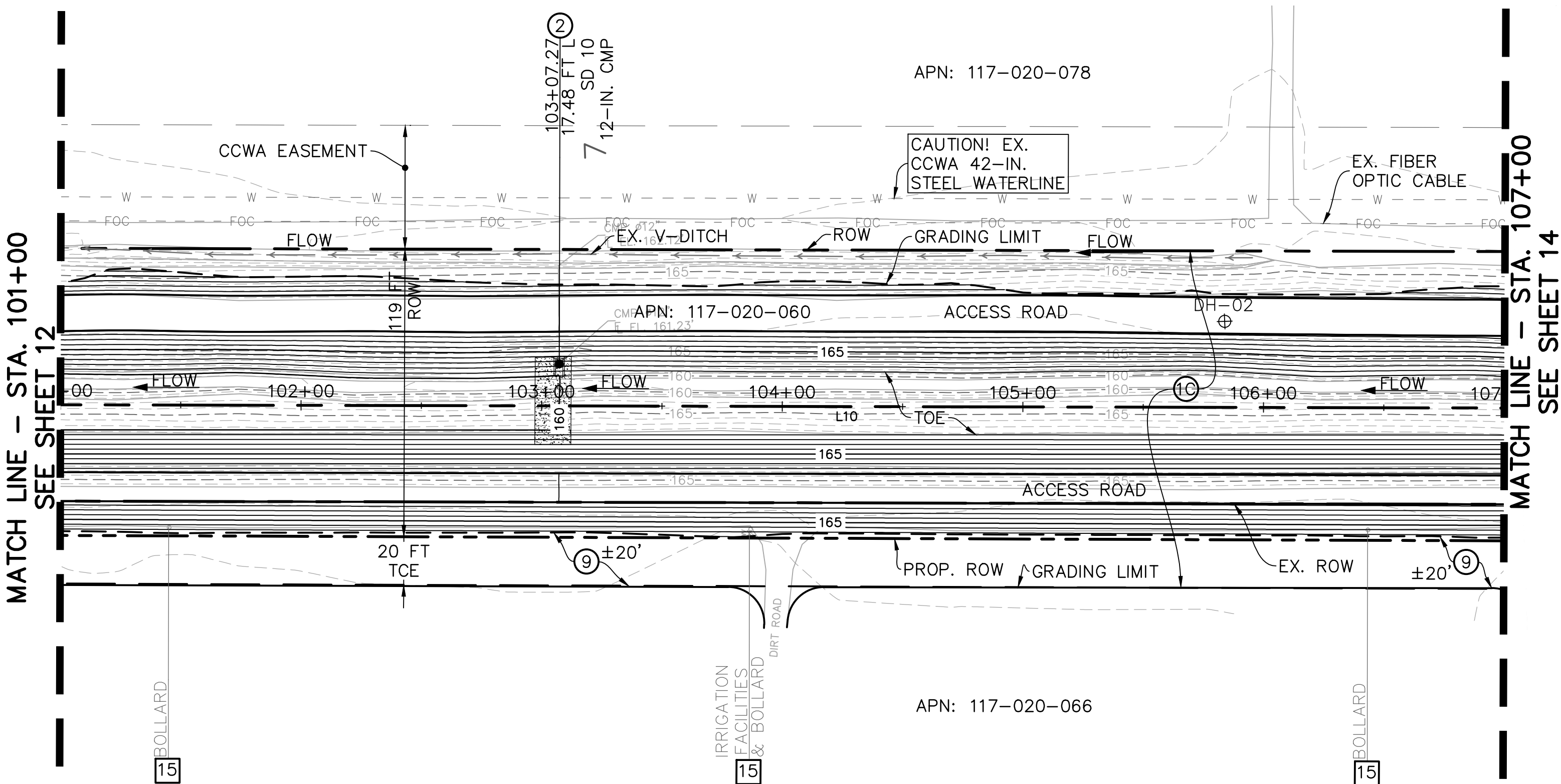
DEMOLITION NOTES

15 TO BE RELOCATED BY OTHERS.

CONSTRUCTION NOTES

- ① CONSTRUCT GRADED CHANNEL, EMBANKMENT AND ACCESS ROADS PER TYPICAL SECTION 'C', SHEET 6. SEE SHEETS 15 AND 16 FOR CHANNEL CROSS SECTIONS.
- ② CONSTRUCT GRADE CONTROL STRUCTURE AND RECESSED HEADWALL PER DETAILS C1 ON SHEET 18, AND C6 ON SHEET 19. TRIM EXISTING CMP SD TO BE FLUSH WITH HEADWALL.
- ③ CONSTRUCT ROAD WITH NATIVE MATERIAL BY SCARIFYING TO A DEPTH OF 6", GRADING, AND COMPACTING TO 95% RELATIVE COMPACTION.

LINE TABLE		
LINE	BEARING	DISTANCE
L10	S2°05'51"W	2245.27'



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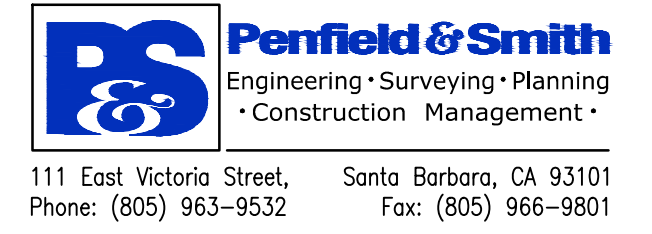
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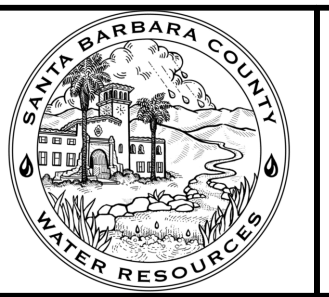
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REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:
DESIGN ENGINEER DATE



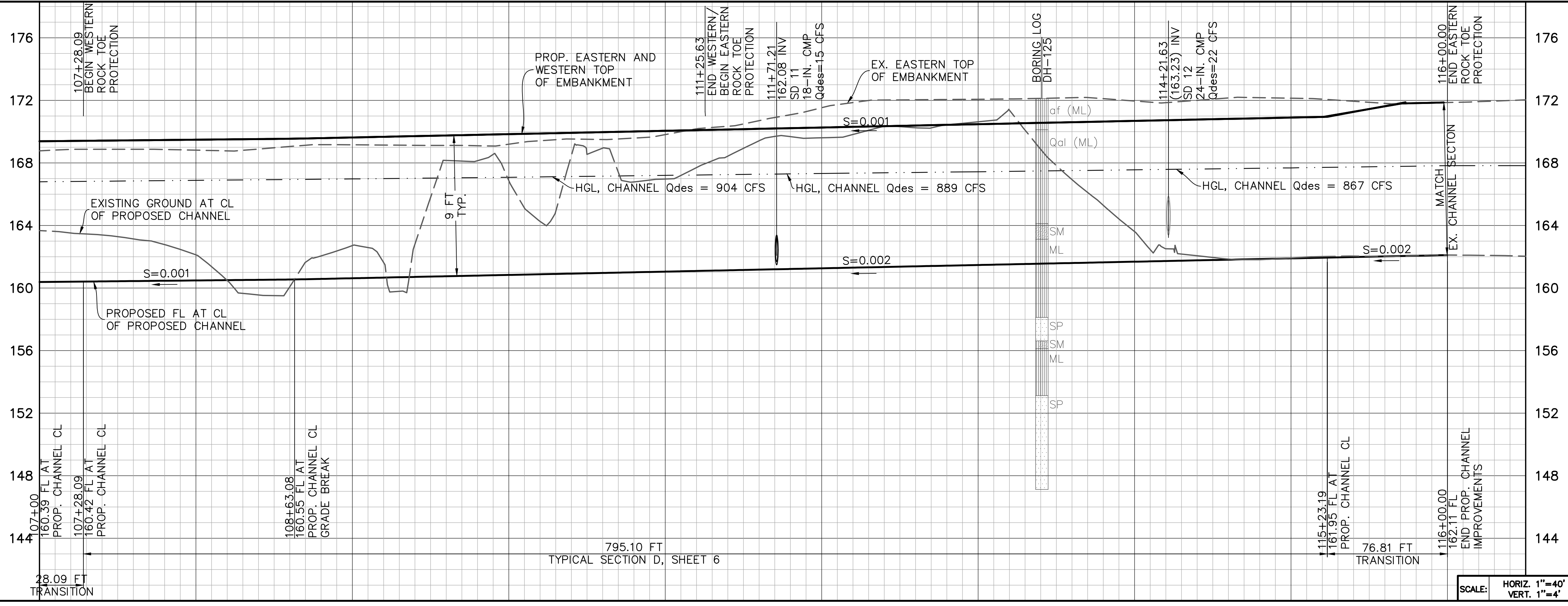
SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT
AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

**CHANNEL
PLAN & PROFILE**
STA. 101+00 TO 107+00

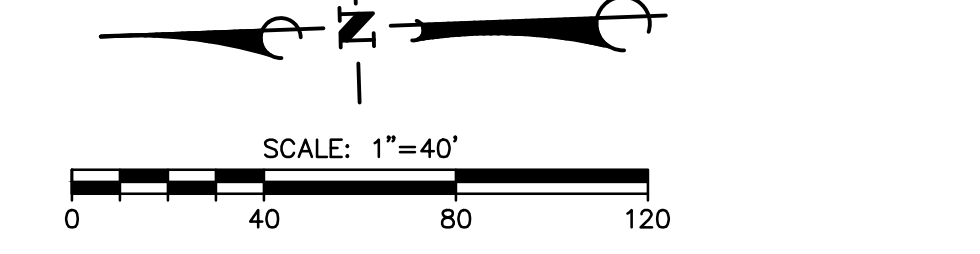
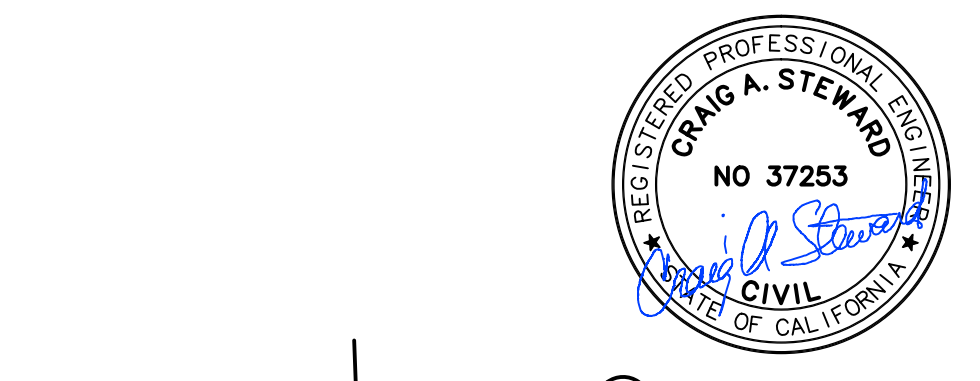
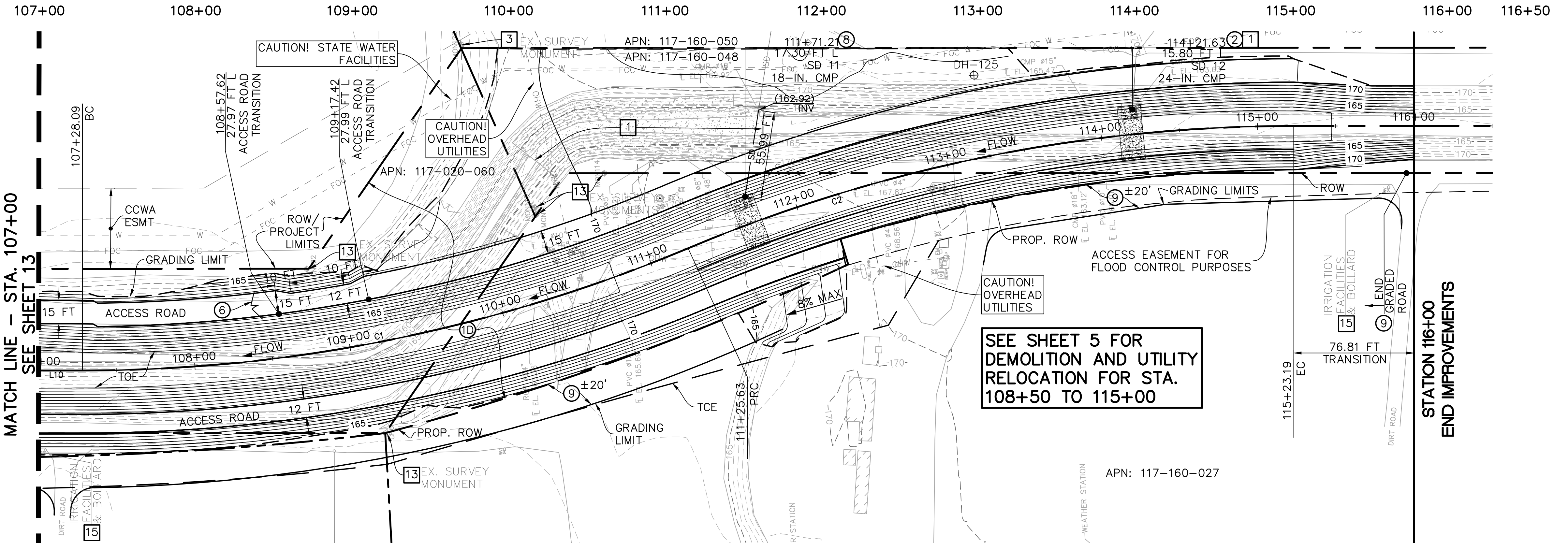
DESIGNED BY: ALG
DRAWN BY: OMP
CHECKED BY: CAS
SHEET 13 OF 26
Filename: 20643.01 Channel (2).dwg



- DEMOLITION NOTES**
- 1 REMOVE AND LEGALLY DISPOSE OF EXISTING REINFORCED CONCRETE CHANNEL LINING.
 - 3 PROTECT EXISTING FACILITY.
 - 13 CONTACT THE RESIDENT ENGINEER A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO CONFIRM SURVEY MONUMENTS AND CONTROL POINTS ARE TIED-OUT.
 - 15 TO BE RELOCATED BY OTHERS.

- CONSTRUCTION NOTES**
- 10 CONSTRUCT GRADED CHANNEL, EMBANKMENT AND ACCESS ROADS PER TYPICAL SECTION 'D', SHEET 6. SEE SHEETS 16 AND 17 FOR CHANNEL CROSS SECTIONS.
 - 2 CONSTRUCT GRADE CONTROL STRUCTURE AND RECESSED HEADWALL PER DETAILS C1 ON SHEET 18, AND C6 ON SHEET 19. TRIM EXISTING CMP SD TO BE FLUSH WITH HEADWALL.
 - 6 INSTALL SALVAGED GATE PER DETAIL C7, SHEET 19.
 - 8 CONSTRUCT CMP COUPLING AND EXTEND EXISTING STORM DRAIN PER DETAIL C3, SHEET 18. CONSTRUCT GRADE CONTROL STRUCTURE AND RECESSED HEADWALL PER DETAILS C1 ON SHEET 18, AND C6 ON SHEET 19.
 - 9 CONSTRUCT ROAD WITH NATIVE MATERIAL BY SCARIFYING TO A DEPTH OF 6", GRADING, AND COMPACTING TO 95% RELATIVE COMPACTION.

LINE TABLE			CURVE TABLE			
LINE	BEARING	DISTANCE	CURVE	DELTA	RADIUS	LENGTH
L10	S2°05'51"W	2245.27'	C1	22°46'38"	1000.00'	397.54'
			C2	22°46'41"	1000.00'	397.55'



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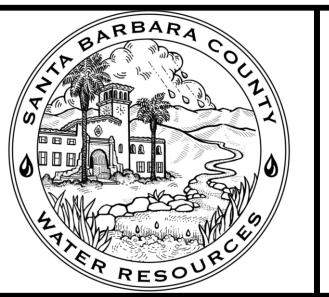
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REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:
DESIGN ENGINEER: _____ DATE: _____

Penfield & Smith
Engineering • Surveying • Planning
• Construction Management •
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

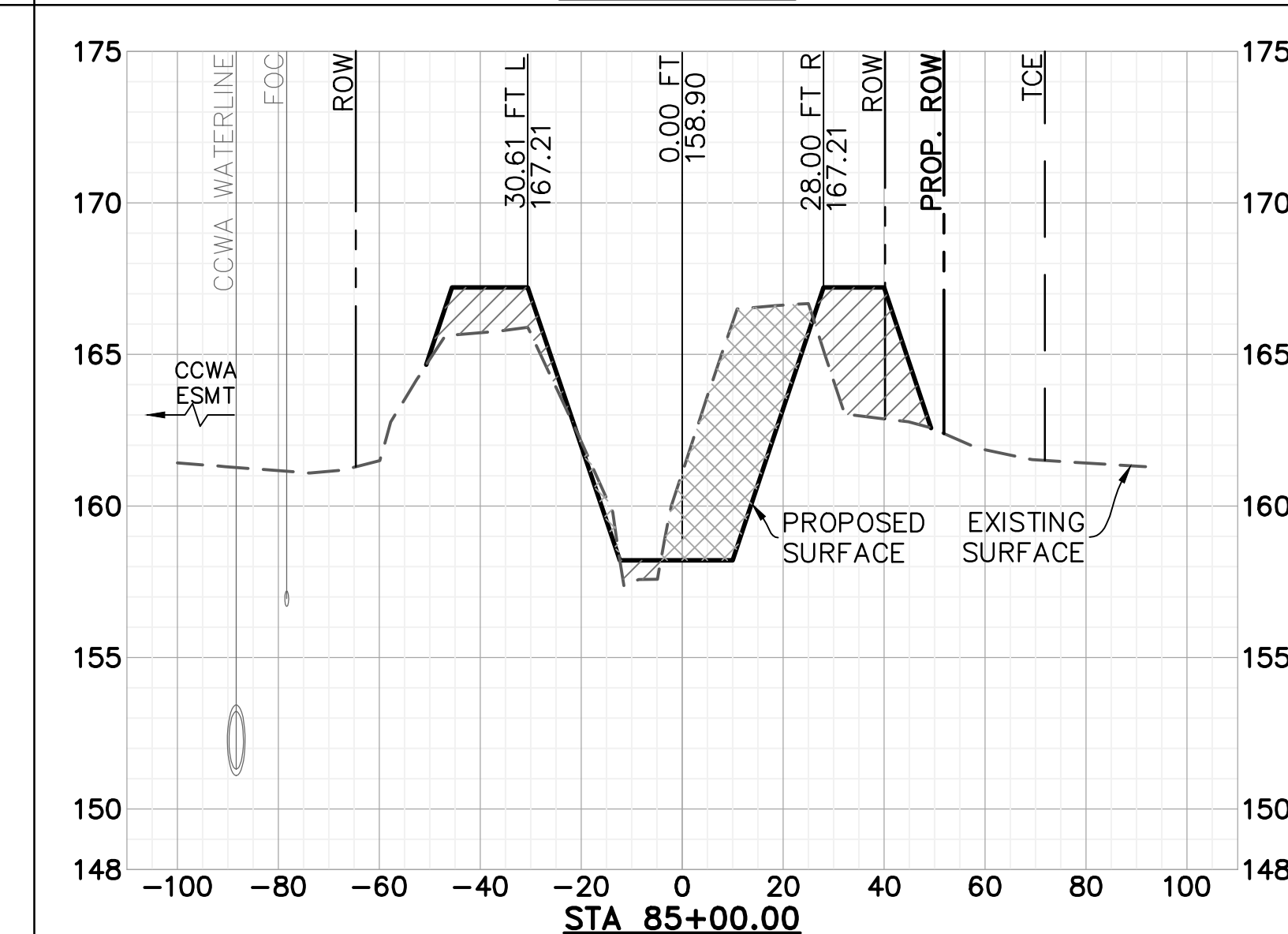
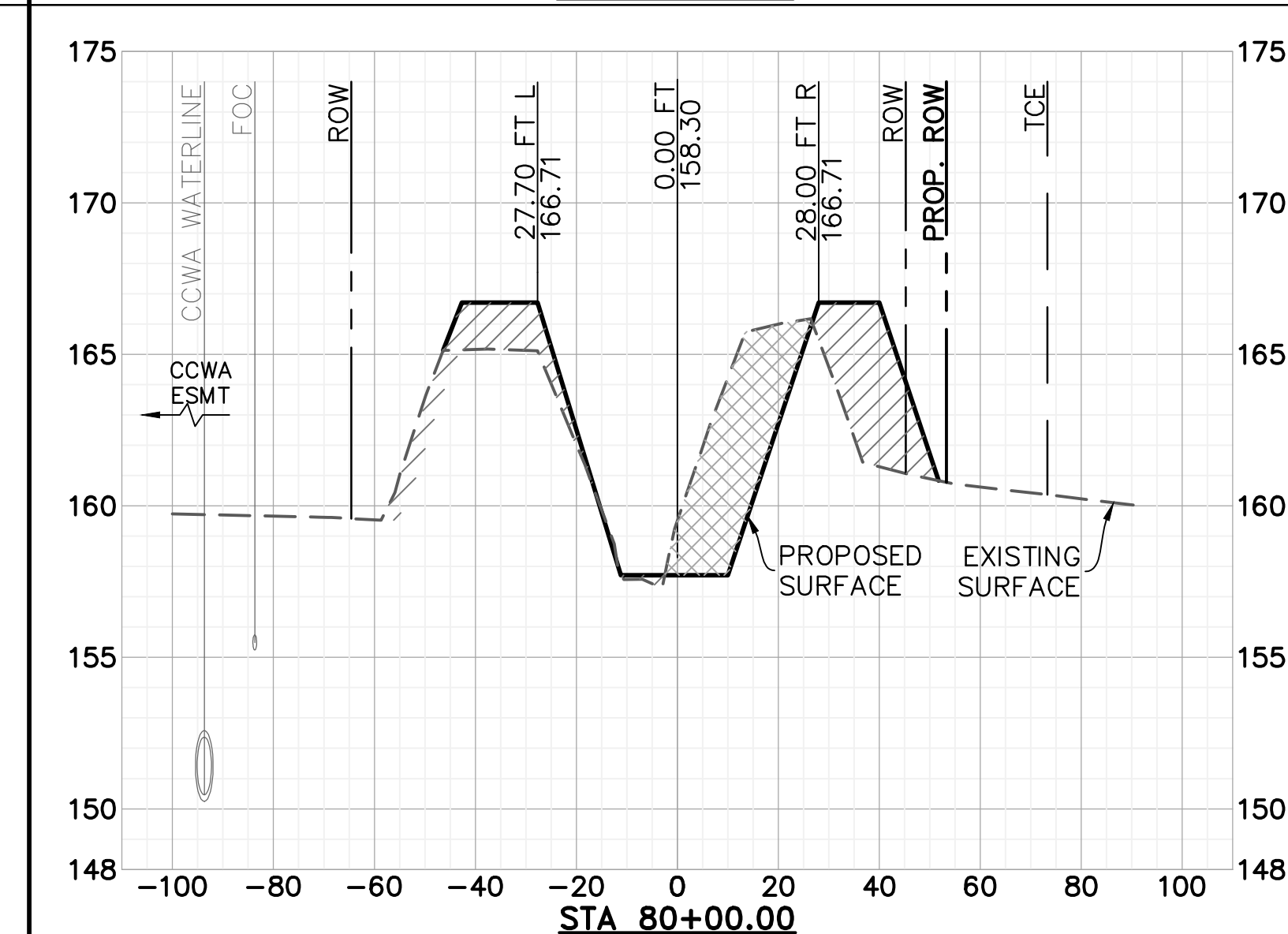
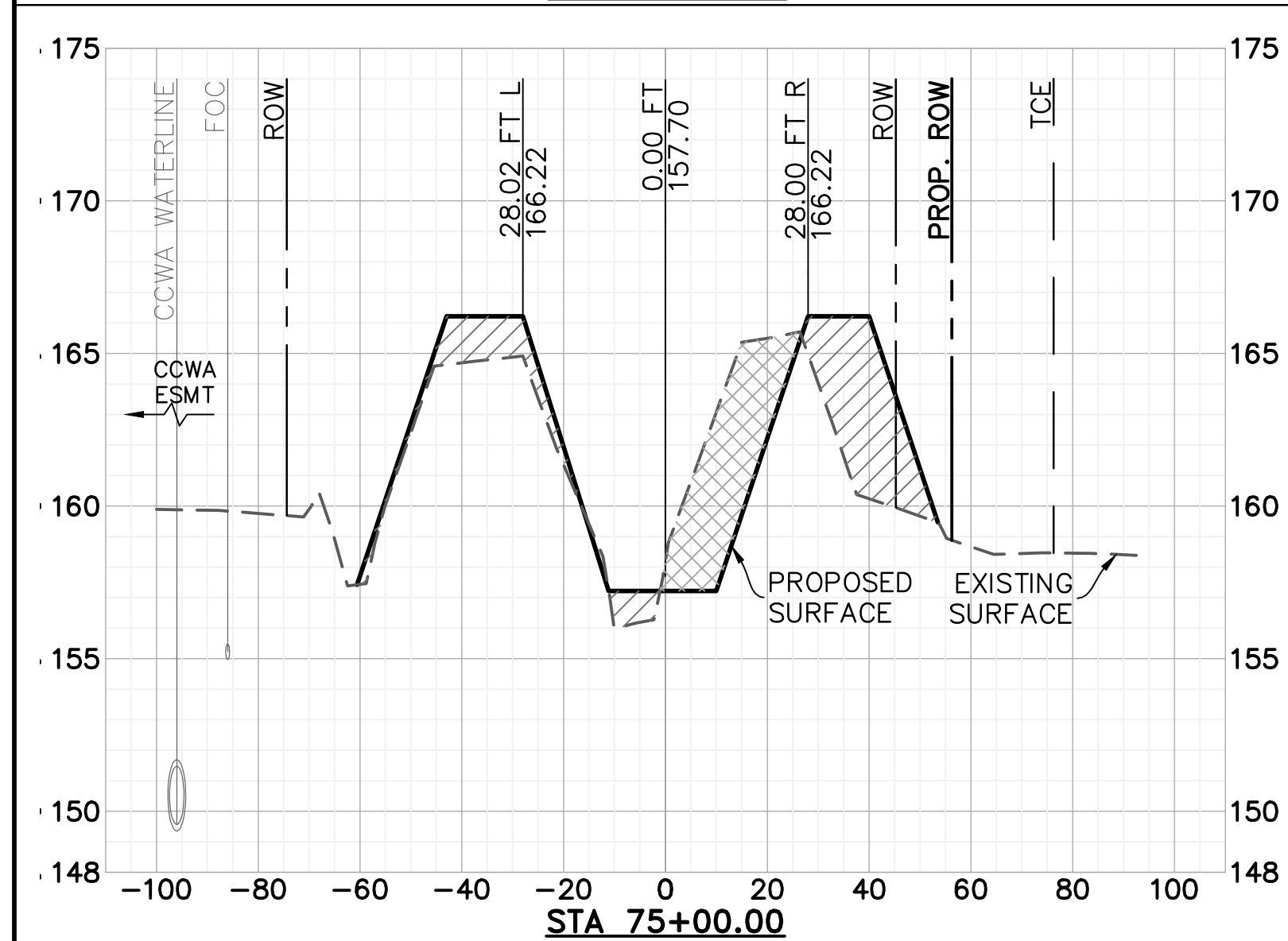
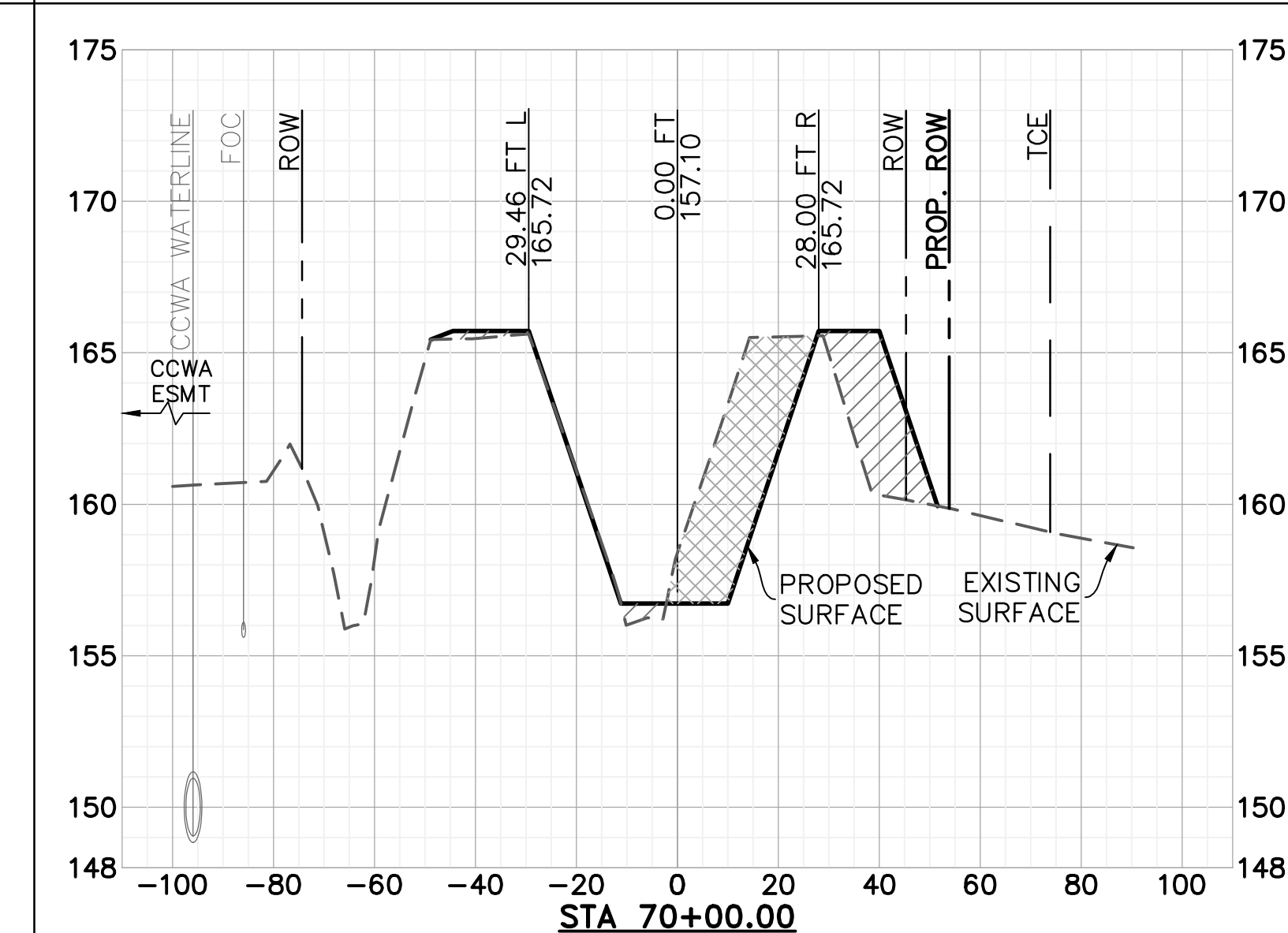
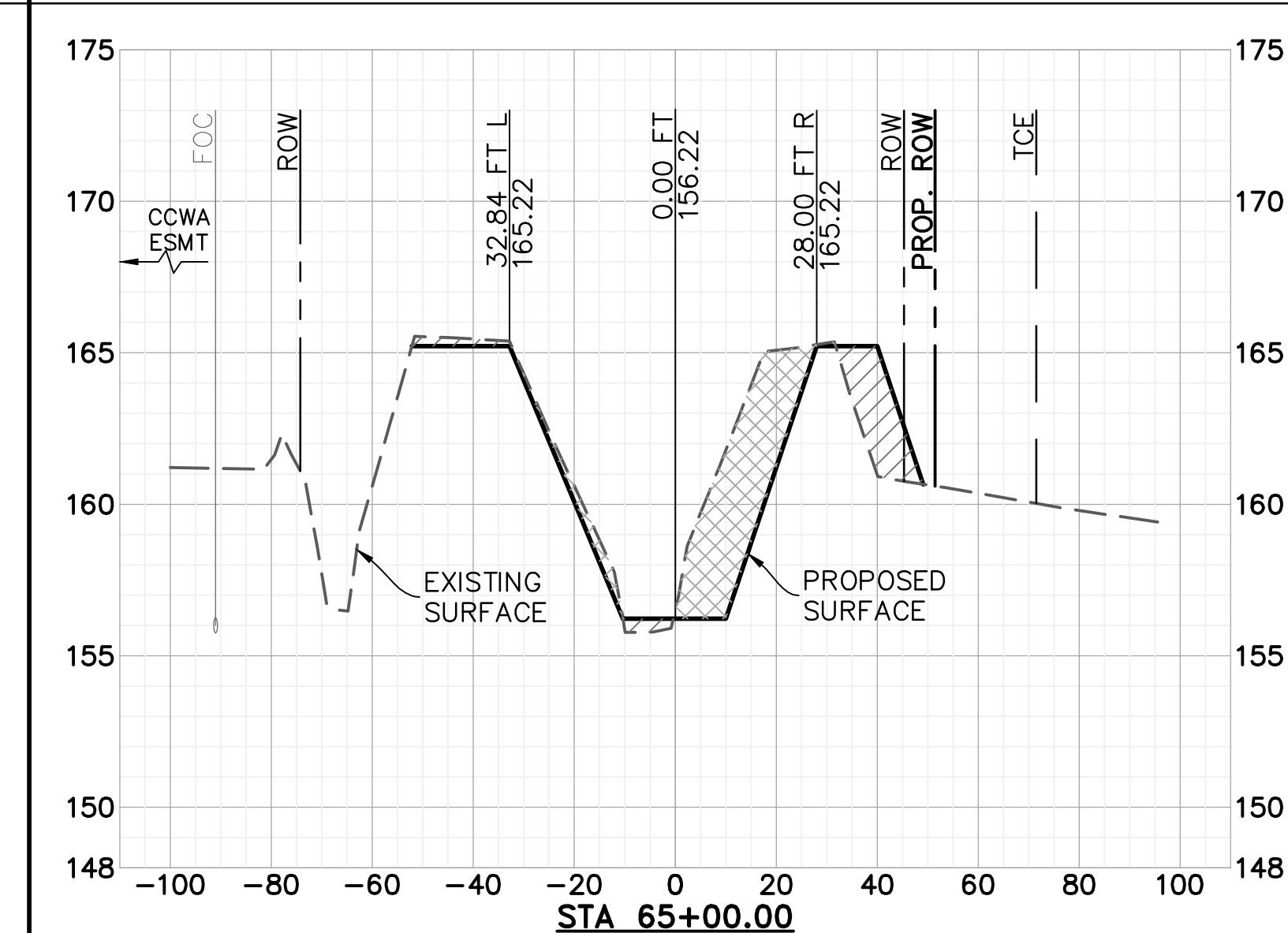
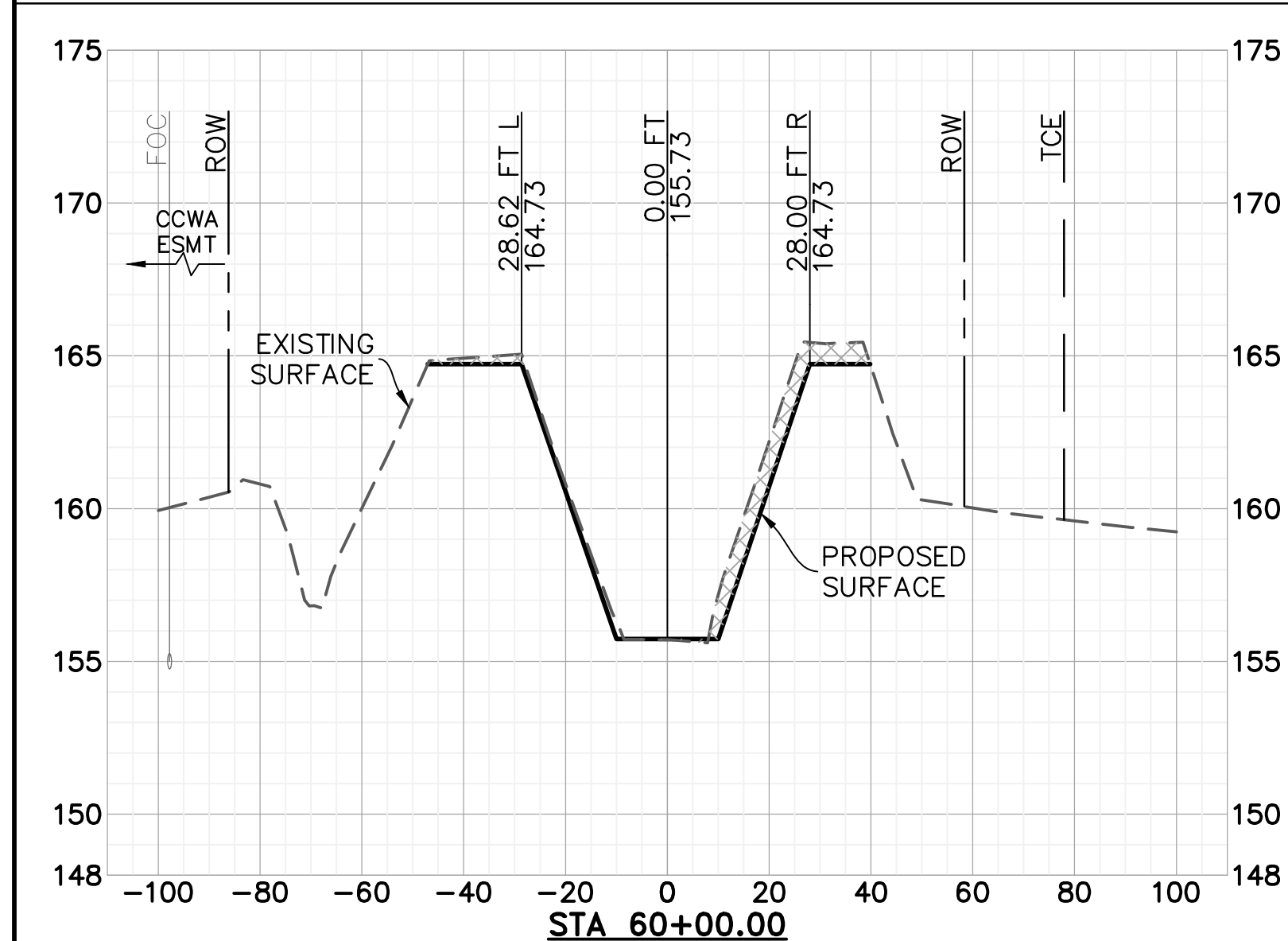
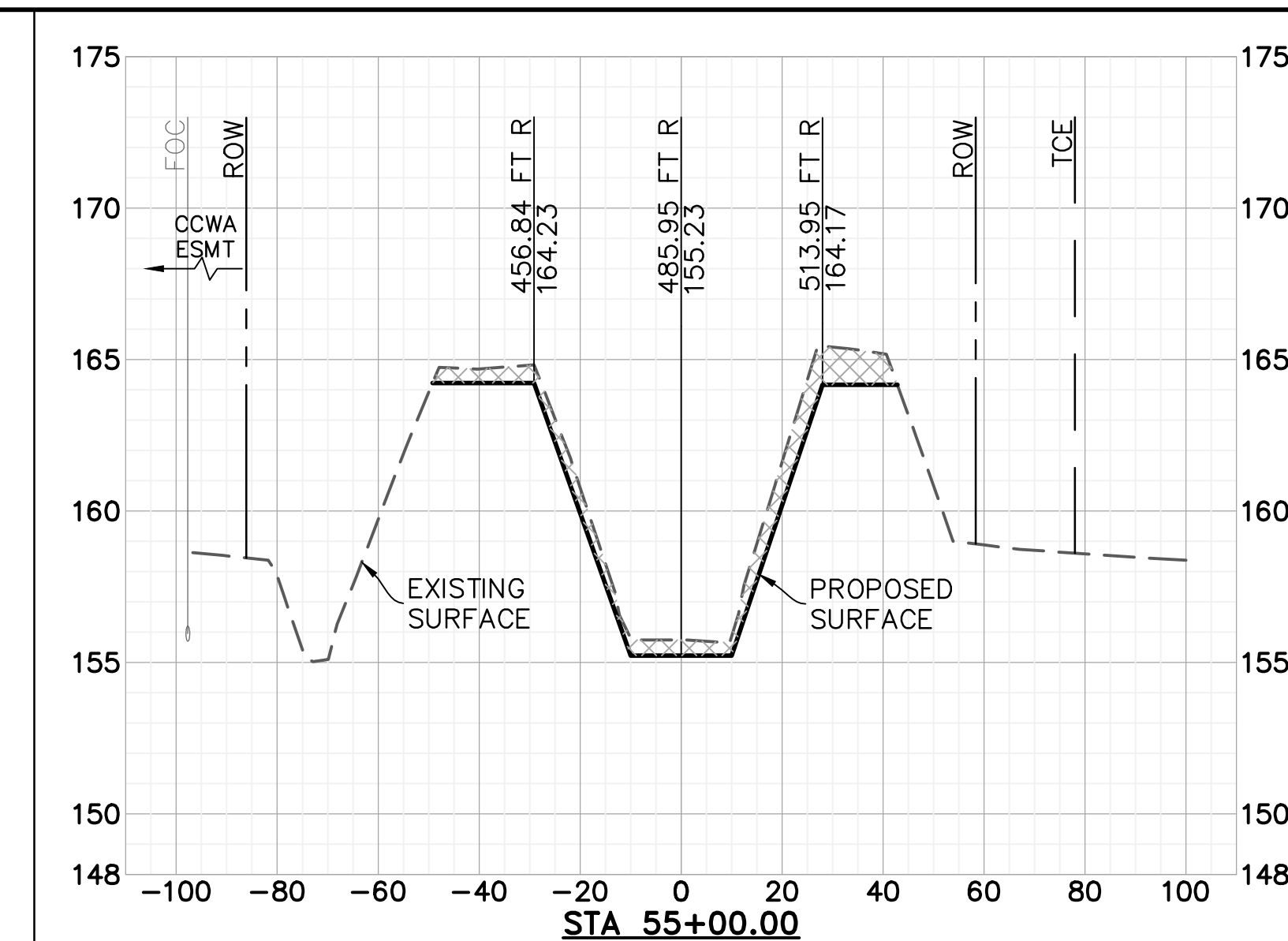
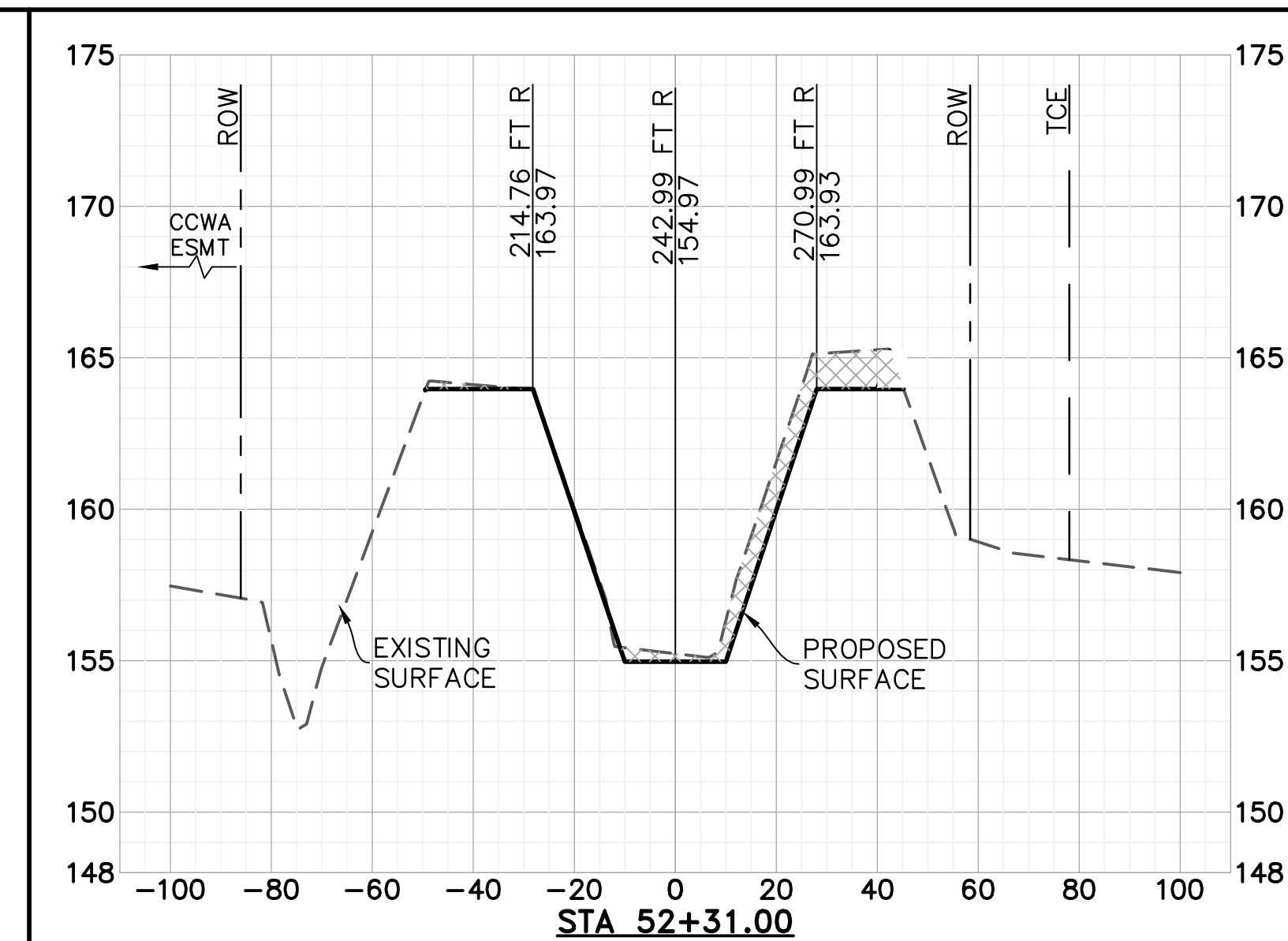
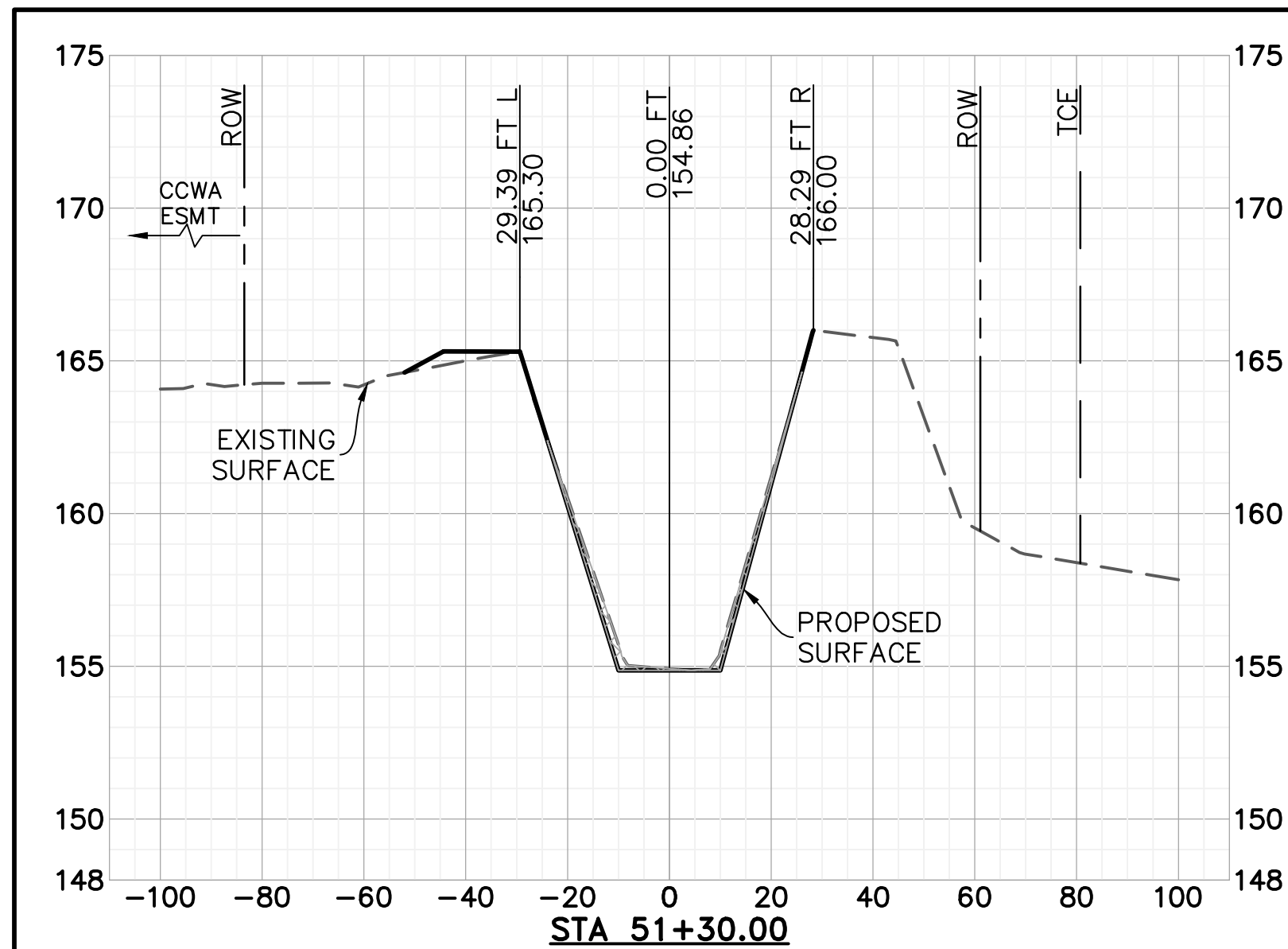
SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT
AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

CHANNEL PLAN & PROFILE STA. 107+00 TO 116+00

DESIGNED BY: ALG
DRAWN BY: OMP
CHECKED BY: CAS
SHEET 14 OF 26
Filename: 20643.01 Channel (2).dwg



LEGEND

EXCAVATION

COMPACTED FILL

SCALE: HORIZ: 1" = 30'
VERT: 1" = 5'

NOTE: CROSS SECTION VIEWS ARE FACING UPSTREAM

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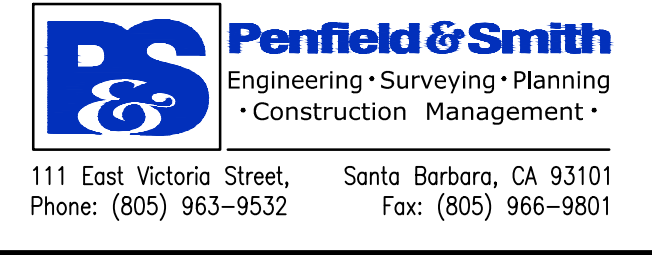
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REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:	
DESIGN ENGINEER	DATE



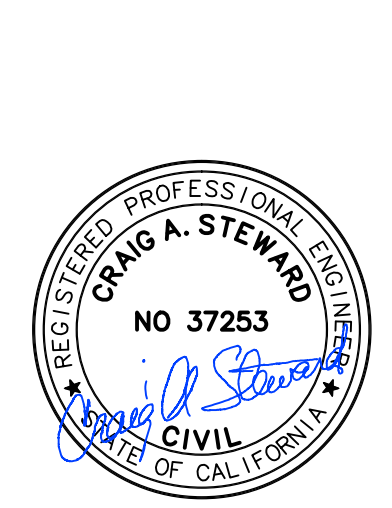
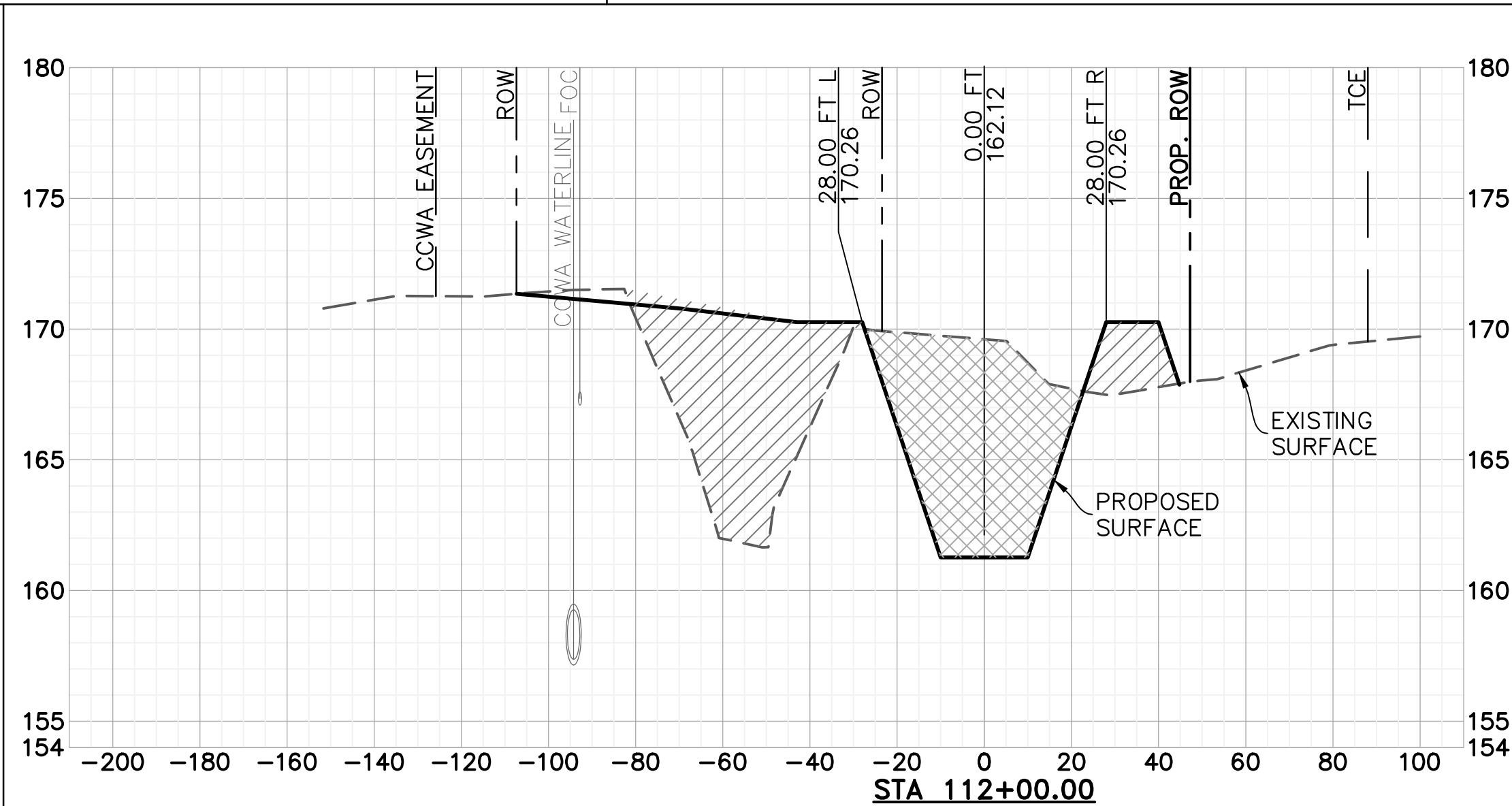
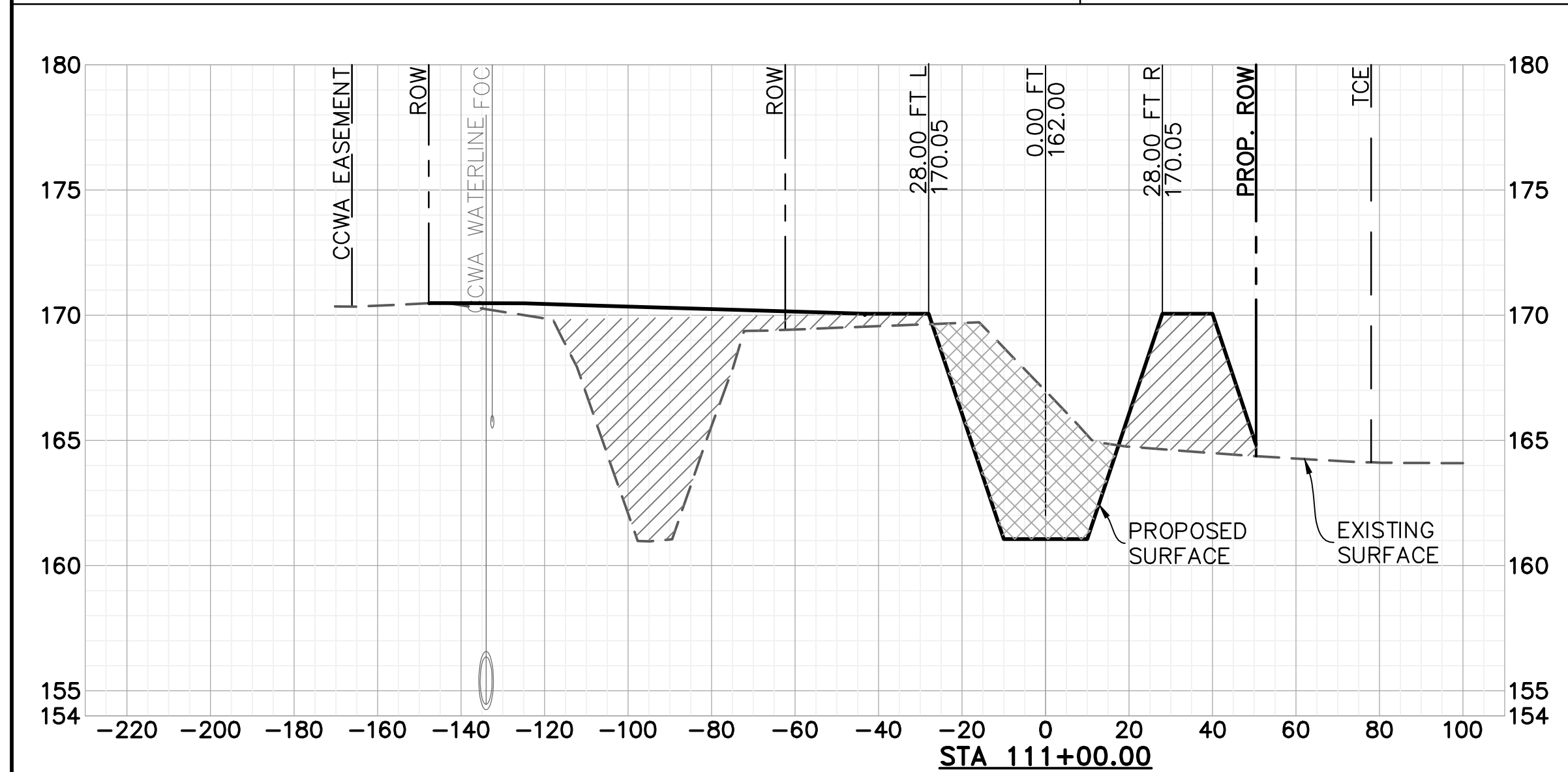
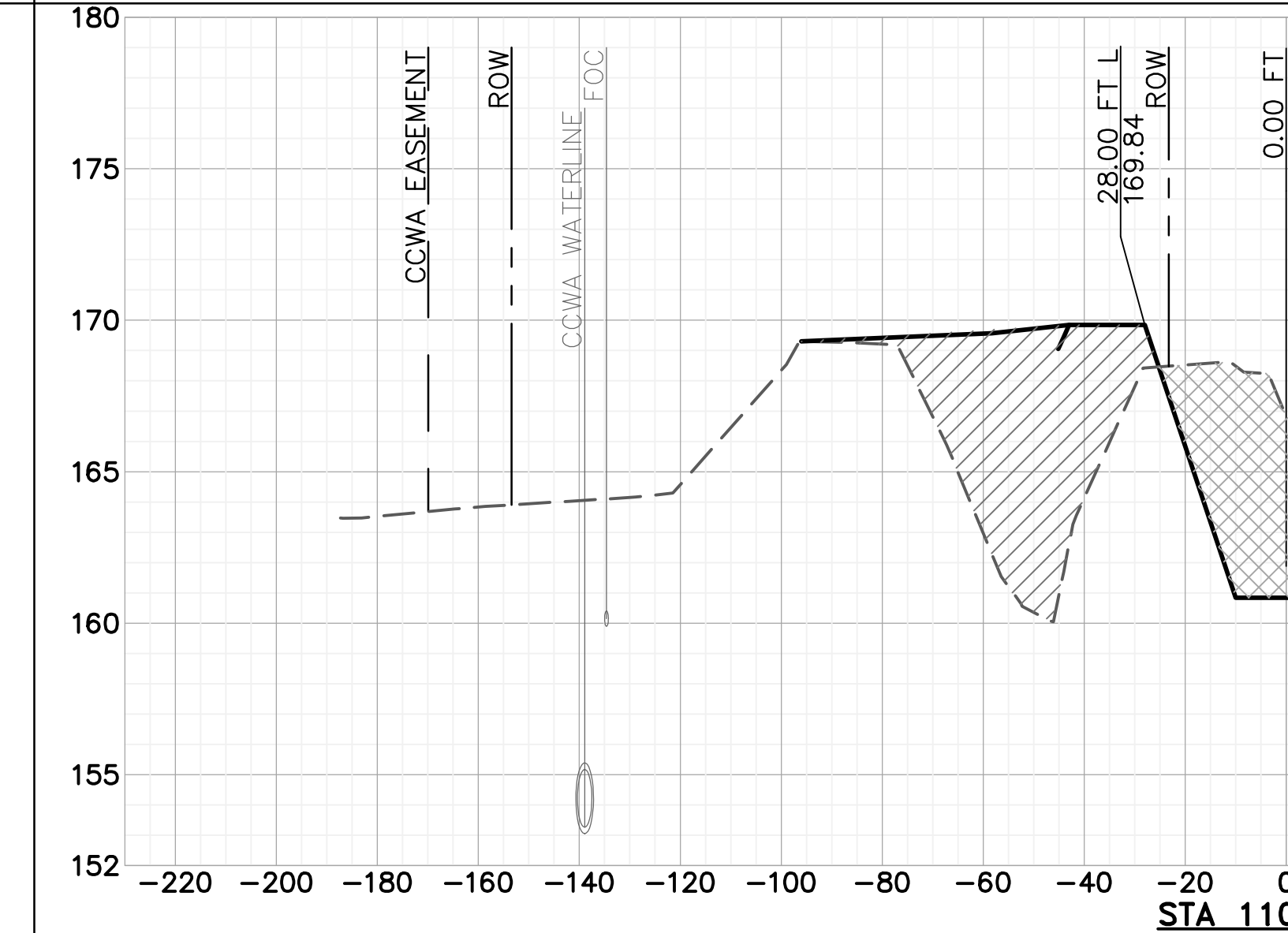
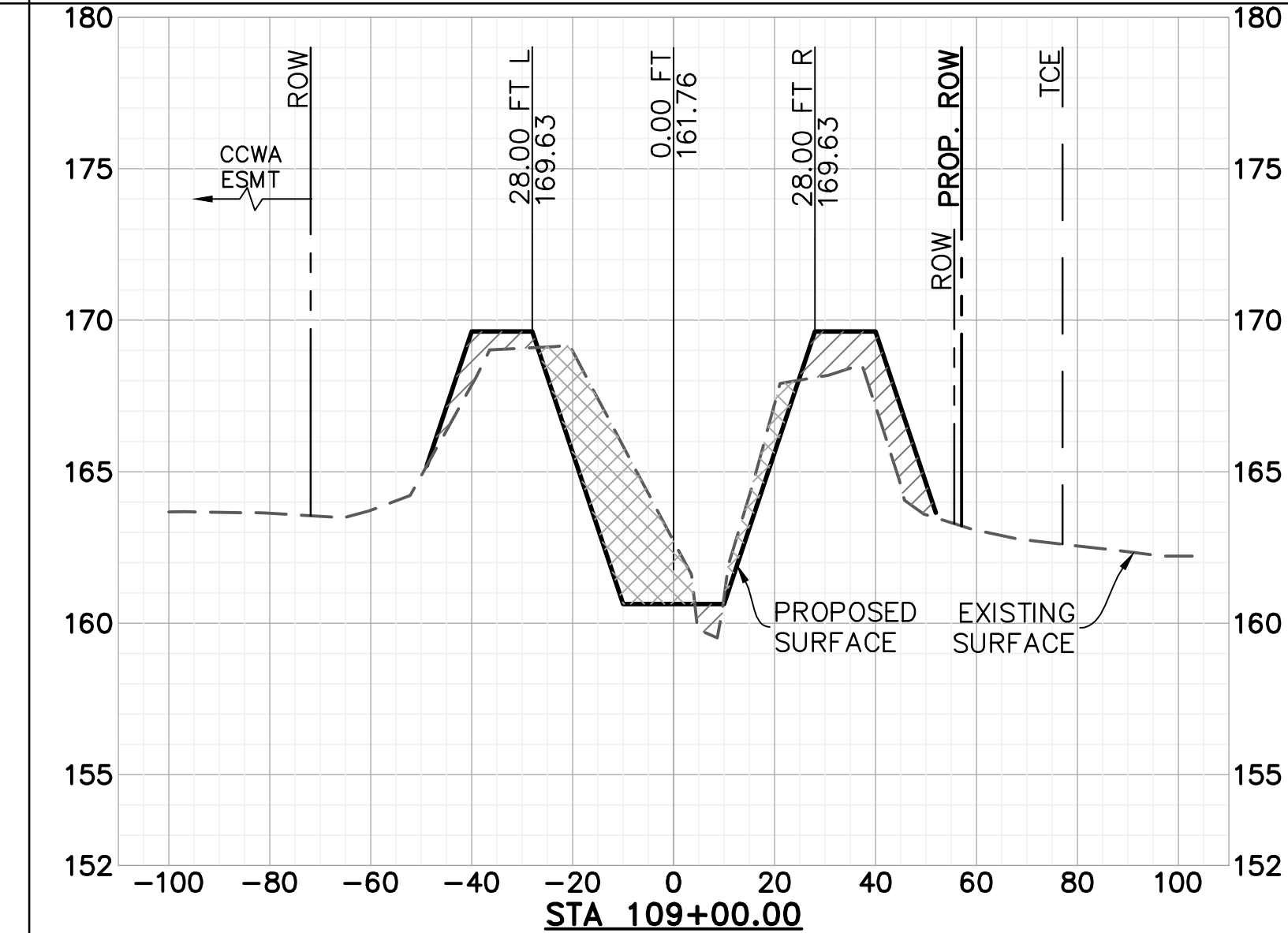
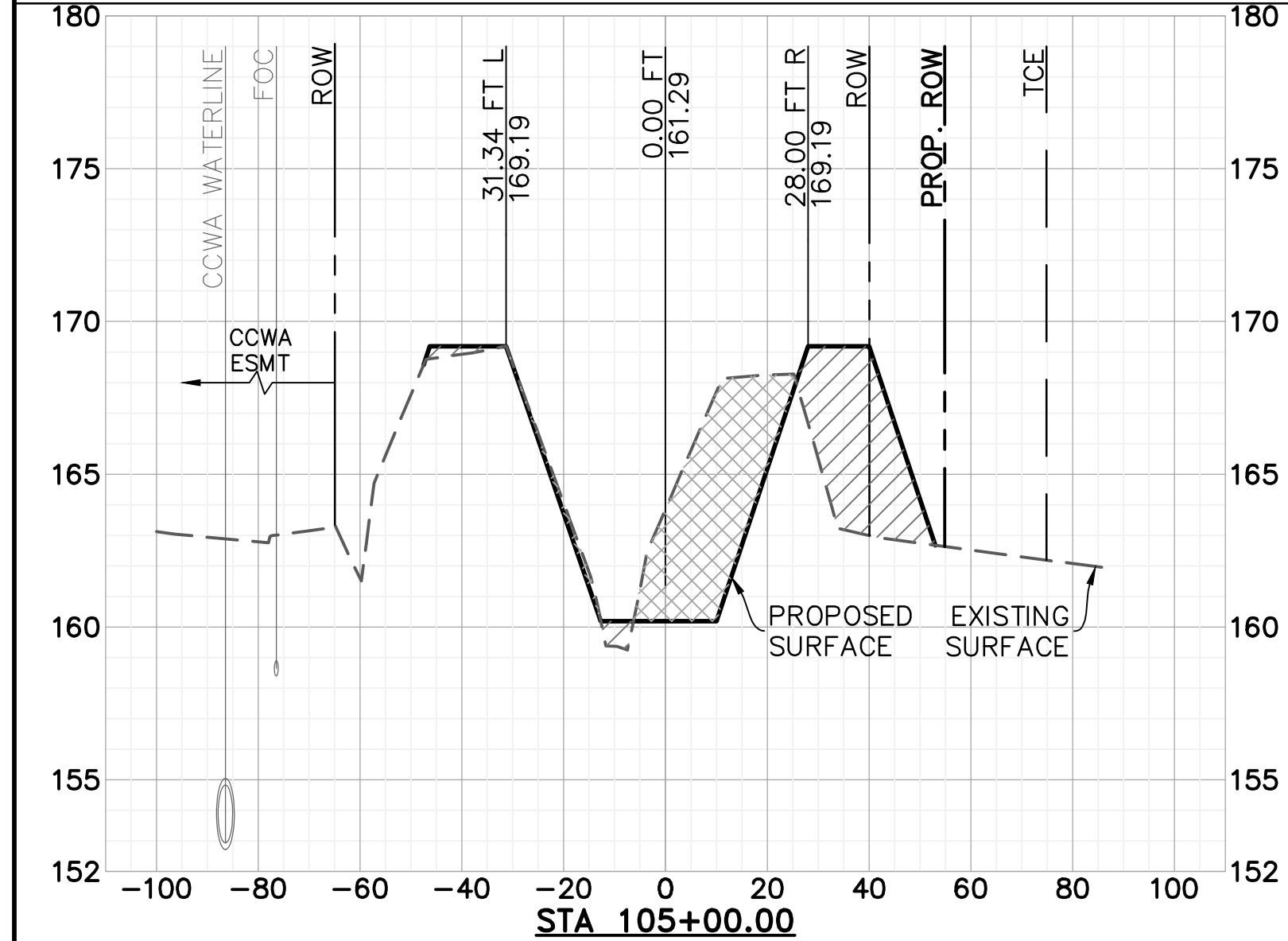
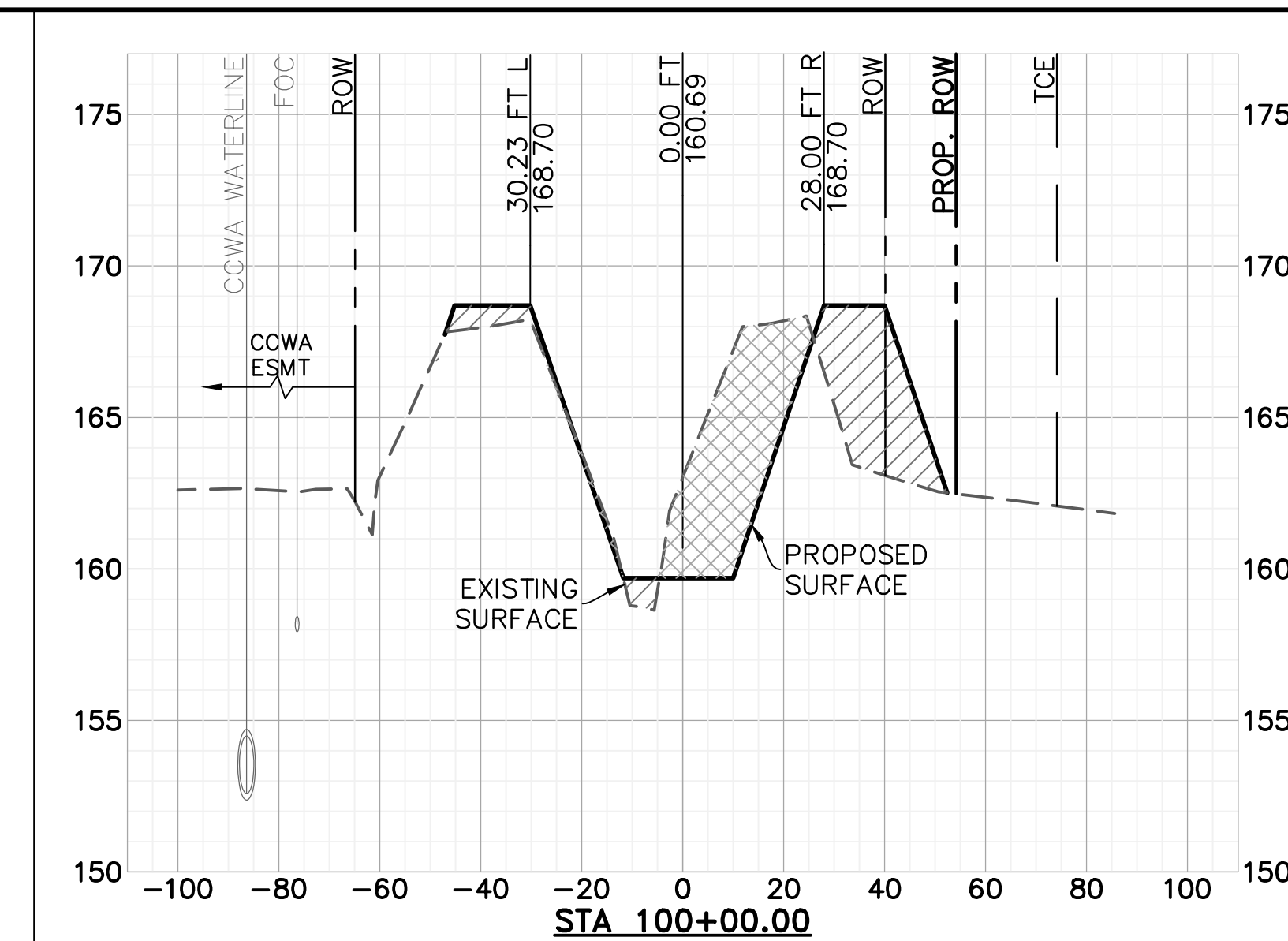
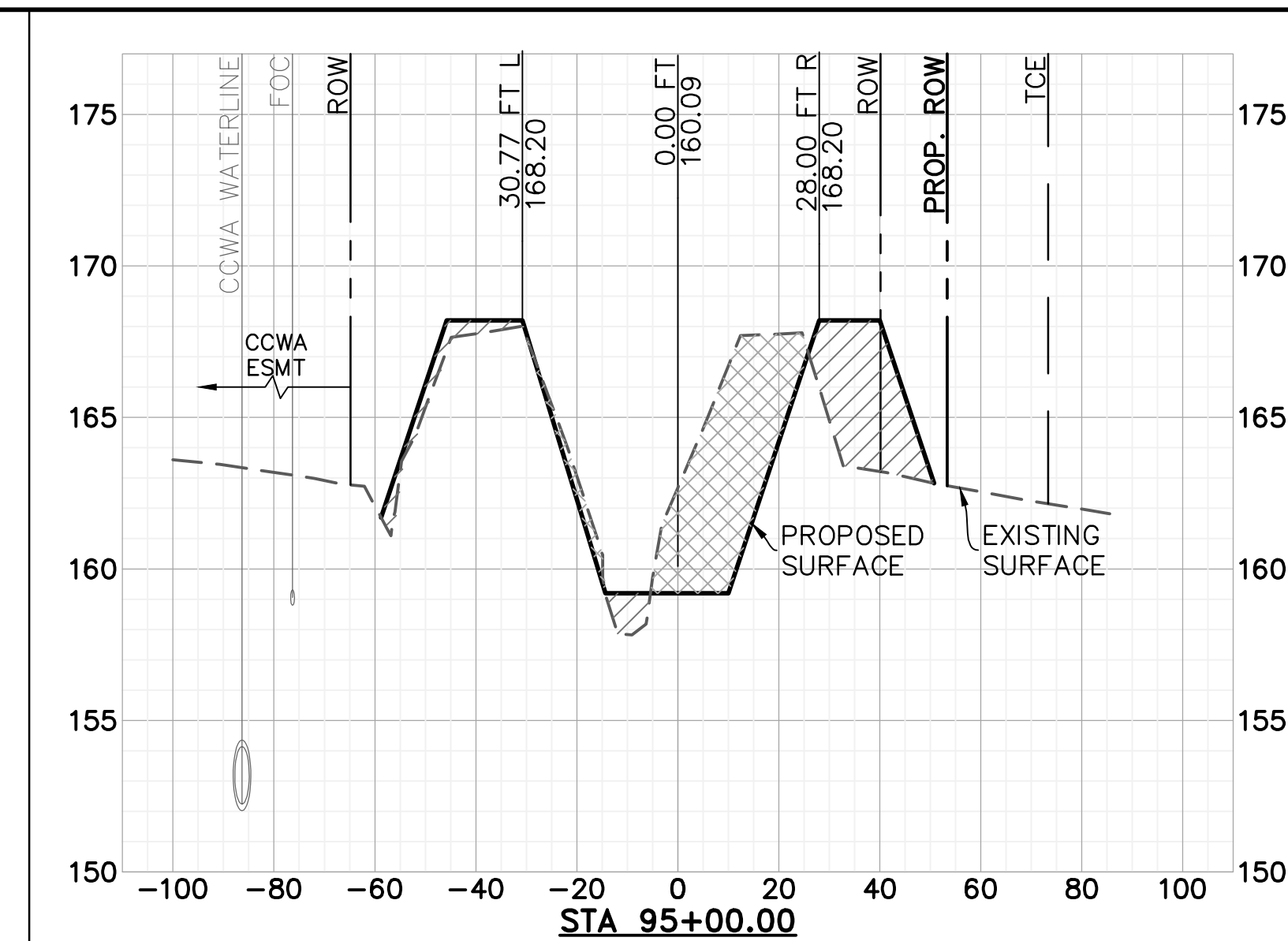
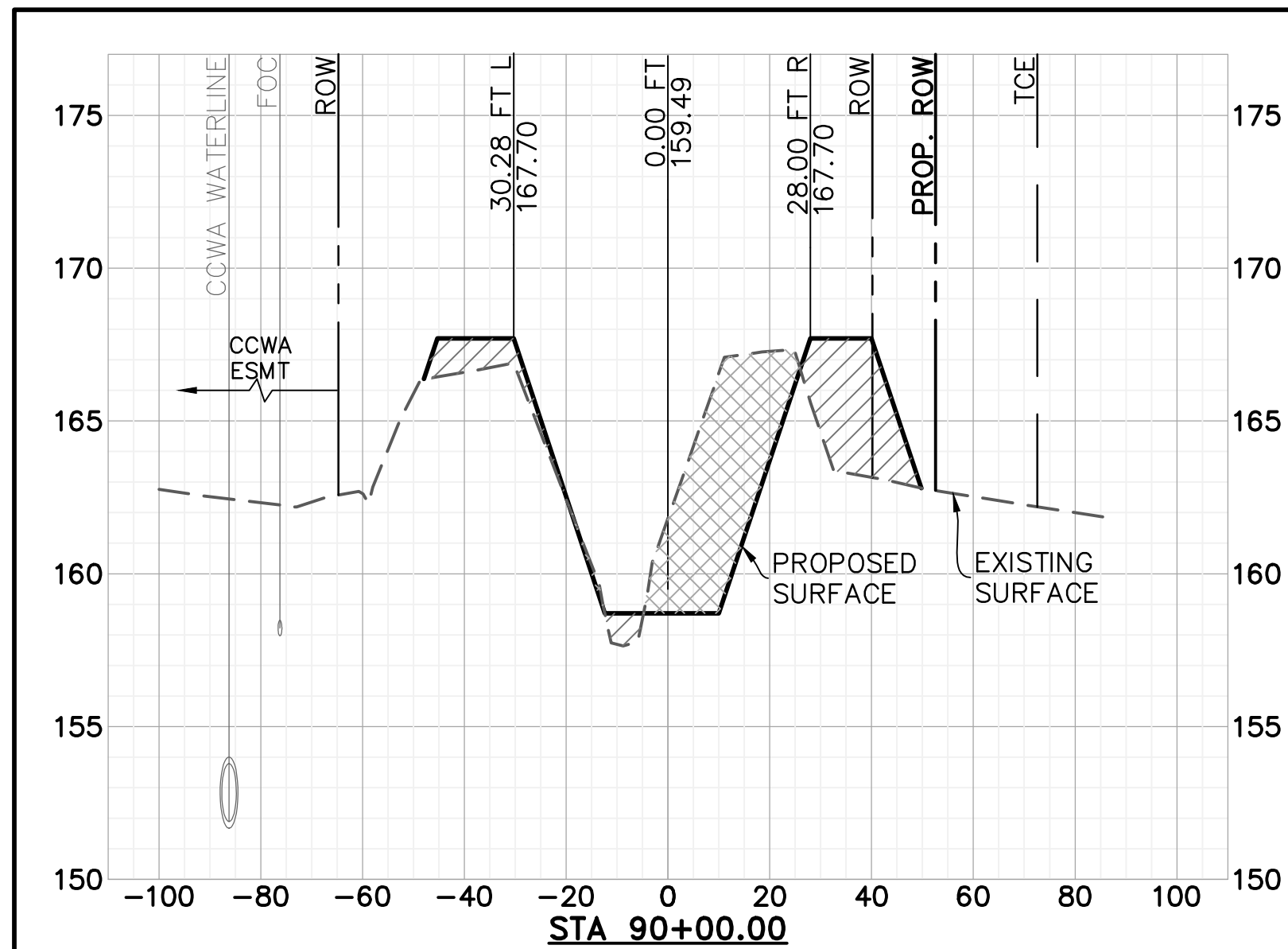
SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT
AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

CROSS SECTIONS STA. 51+30 TO 85+00

DESIGNED BY:	ALG
DRAWN BY:	OWP
CHECKED BY:	CAS
SHEET 15 OF 26	
Filename: 20643.01 Cross Sections.dwg	



SCALE: HORIZ: 1" = 30'
VERT: 1" = 5'

NOTE: CROSS SECTION VIEWS ARE FACING UPSTREAM

- LEGEND**
- EXCAVATION
 - COMPACTED FILL

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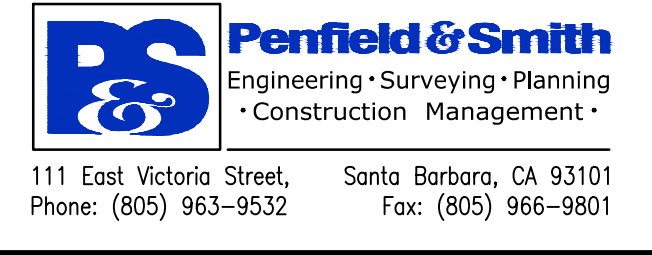
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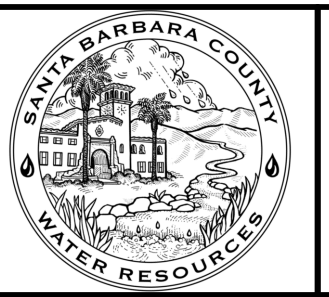
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REVISIONS			
NO.	DESCRIPTION	DATE	APR

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DESIGN ENGINEER:	



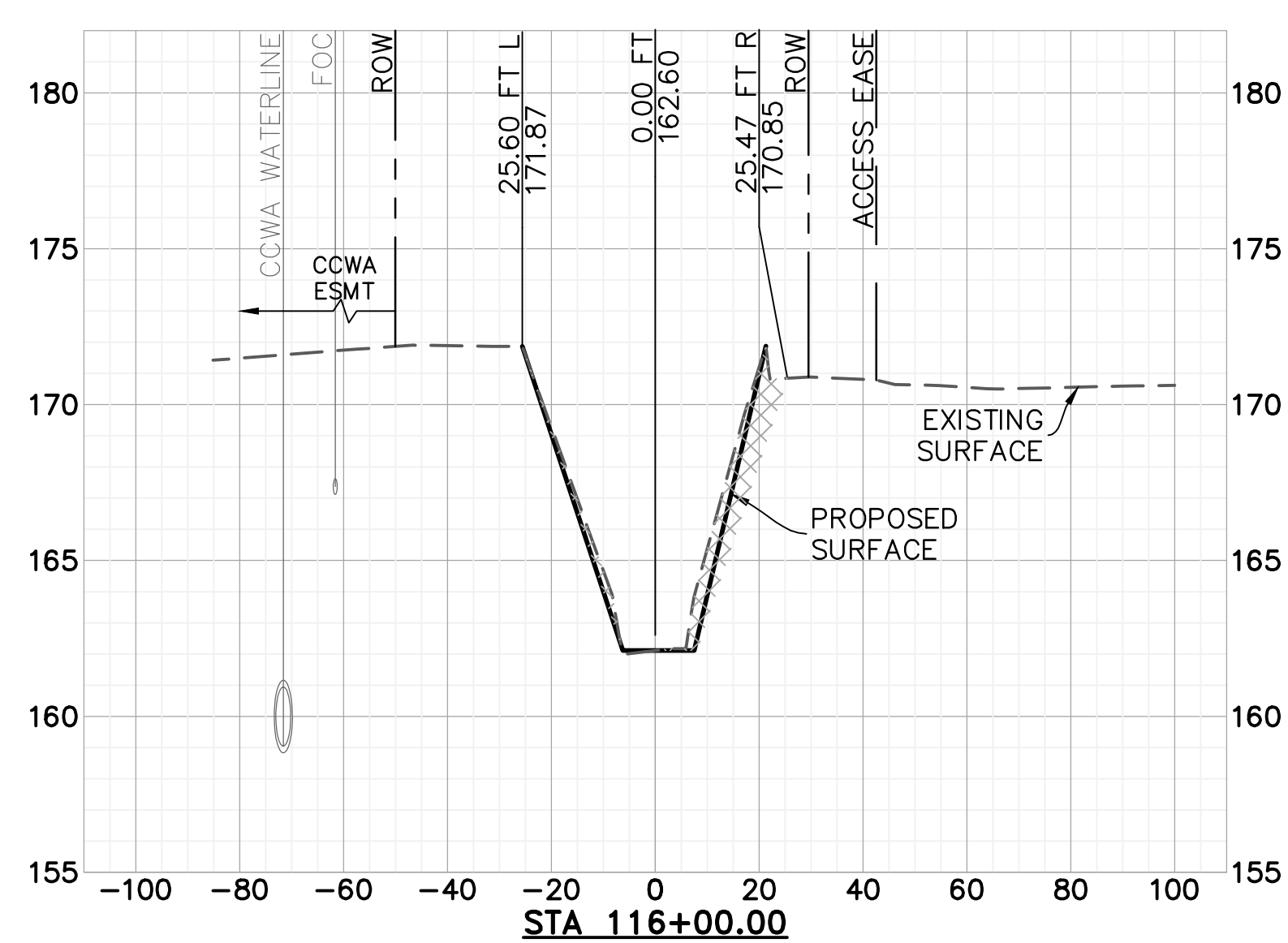
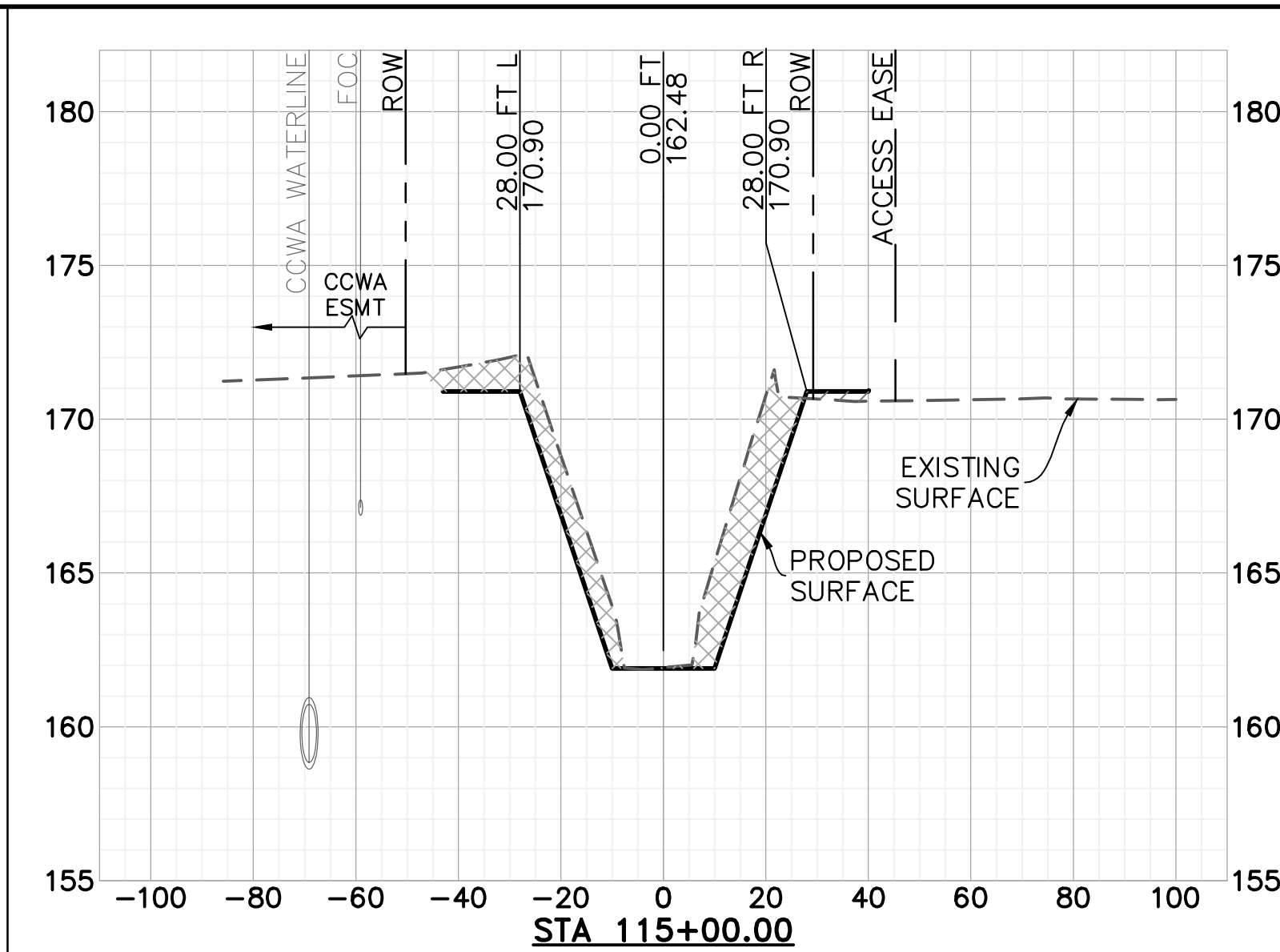
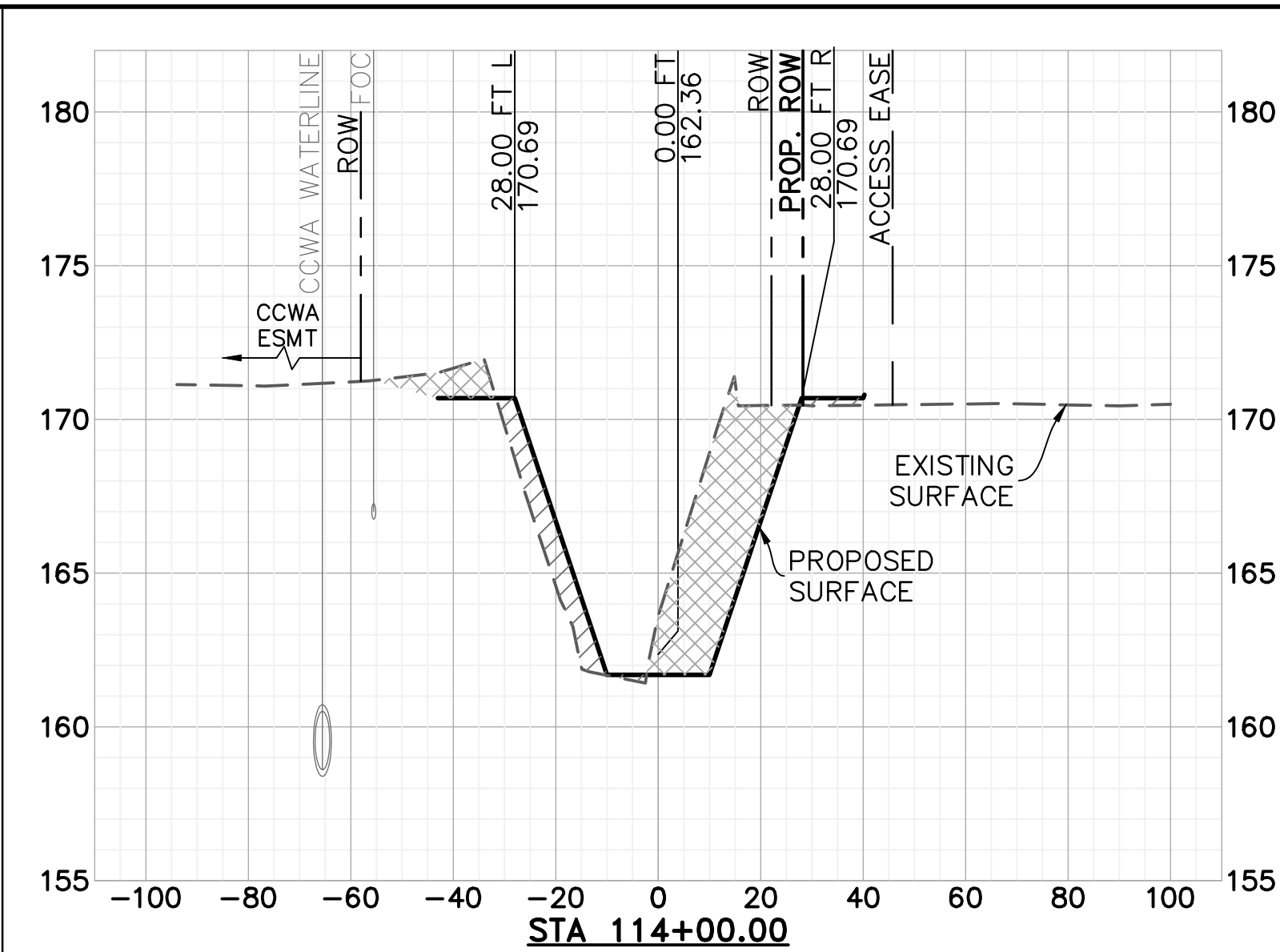
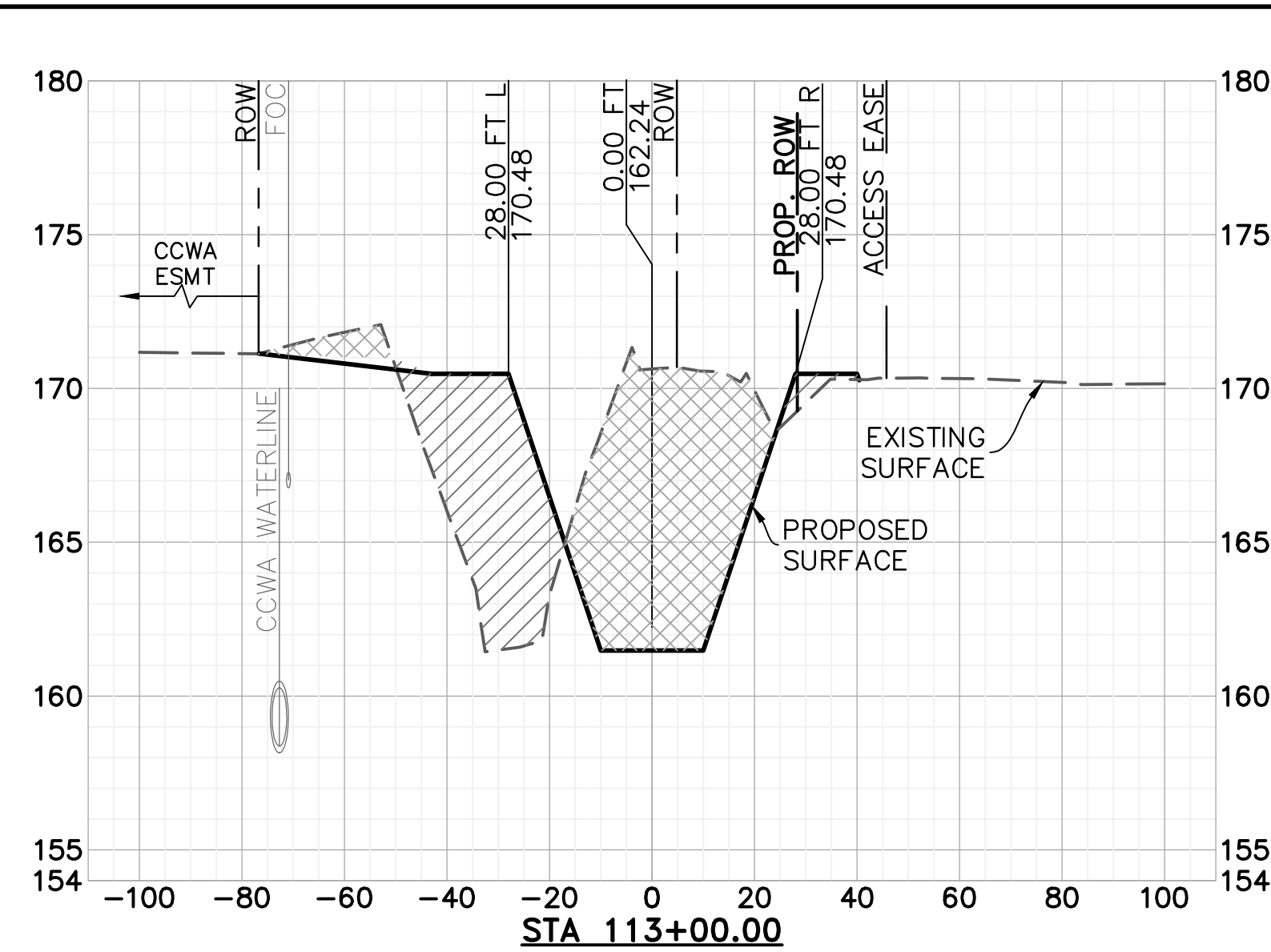
SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT
AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

CROSS SECTIONS STA. 90+00 TO 112+00

DESIGNED BY:	ALG
DRAWN BY:	OWP
CHECKED BY:	CAS
SHEET 16 OF 26	
Filename: 20643.01 Cross Sections.dwg	



LEGEND

SCALE: HORIZ: 1" = 30'
VERT: 1" = 5'

- EXCAVATION
- COMPACTED FILL

NOTE: CROSS SECTION VIEWS ARE FACING UPSTREAM



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DESIGNED BY:	
DESIGN ENGINEER	

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Engineering • Surveying • Planning
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Phone: (805) 963-9532 Fax: (805) 966-9801

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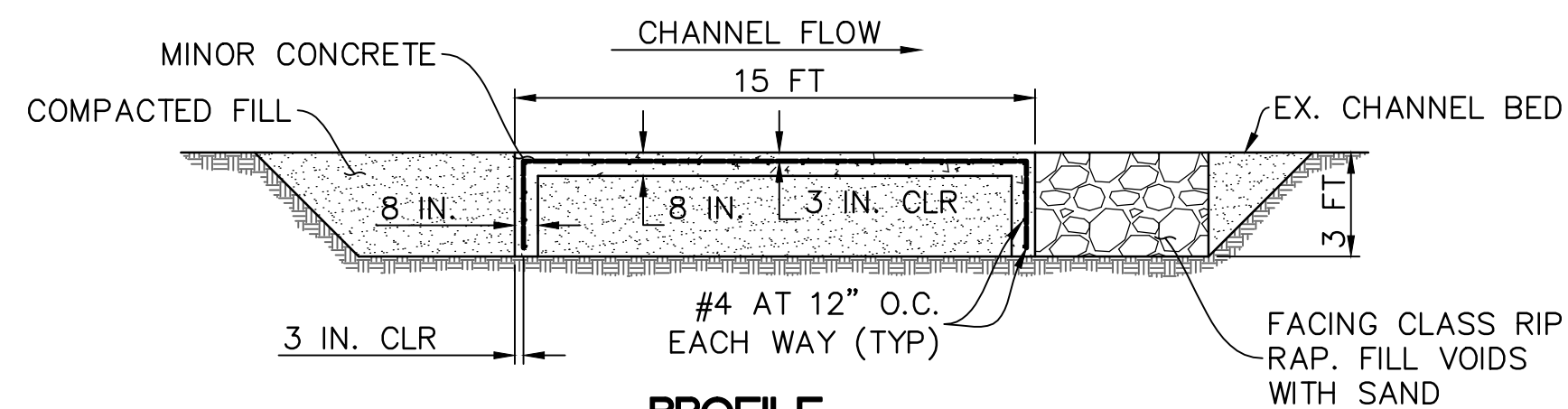


UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT

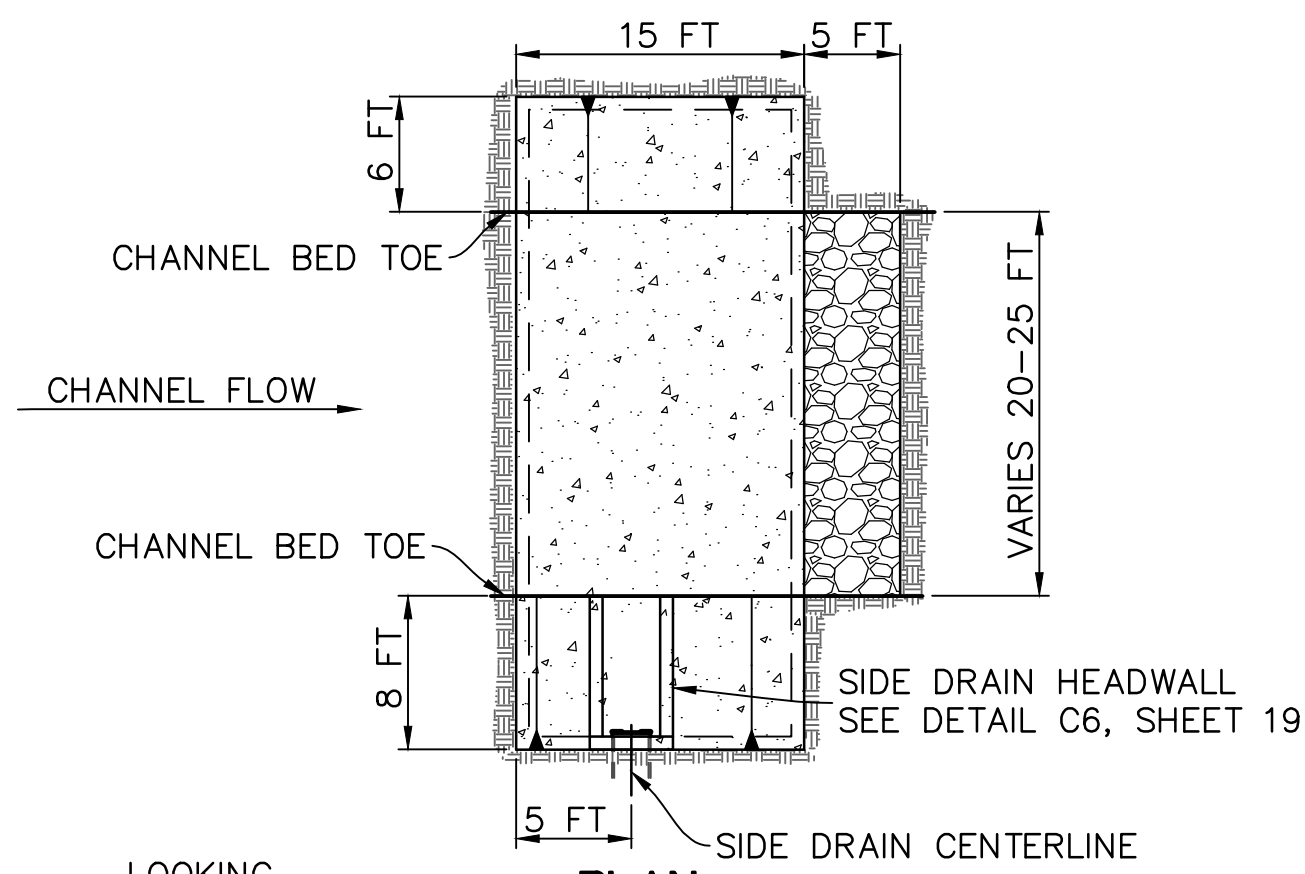
AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

**CROSS SECTIONS
STA. 113+00 TO 116+00**

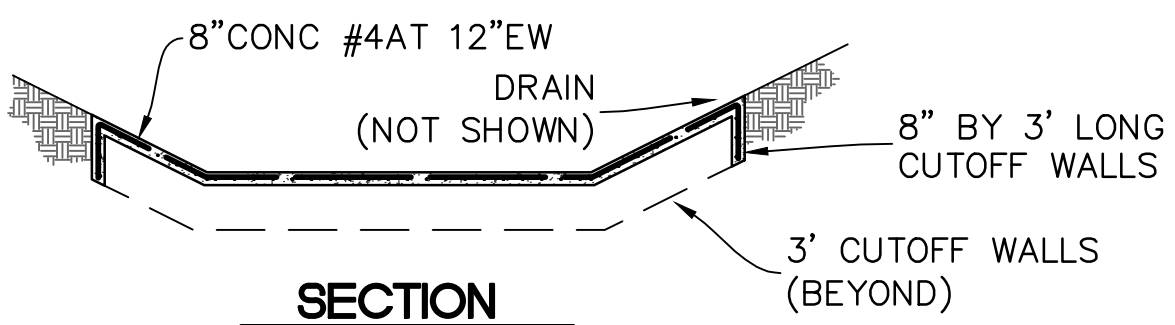
DESIGNED BY:	ALG
DRAWN BY:	OMP
CHECKED BY:	CAS
SHEET 17 OF 26	
Filename: 20643.01 Cross Sections.dwg	



PROFILE
SCALE: HORIZ: 1" = 5'
VERT: 1" = 5'



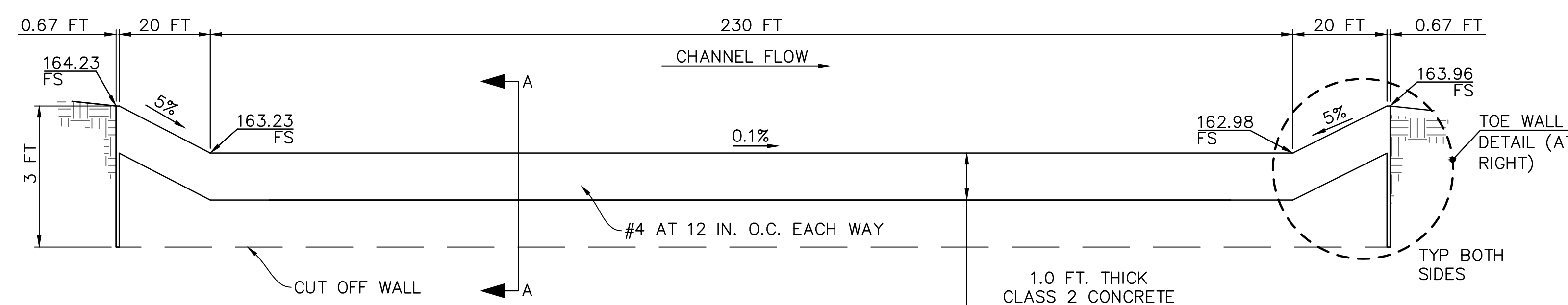
PLAN
SCALE: 1" = 10'



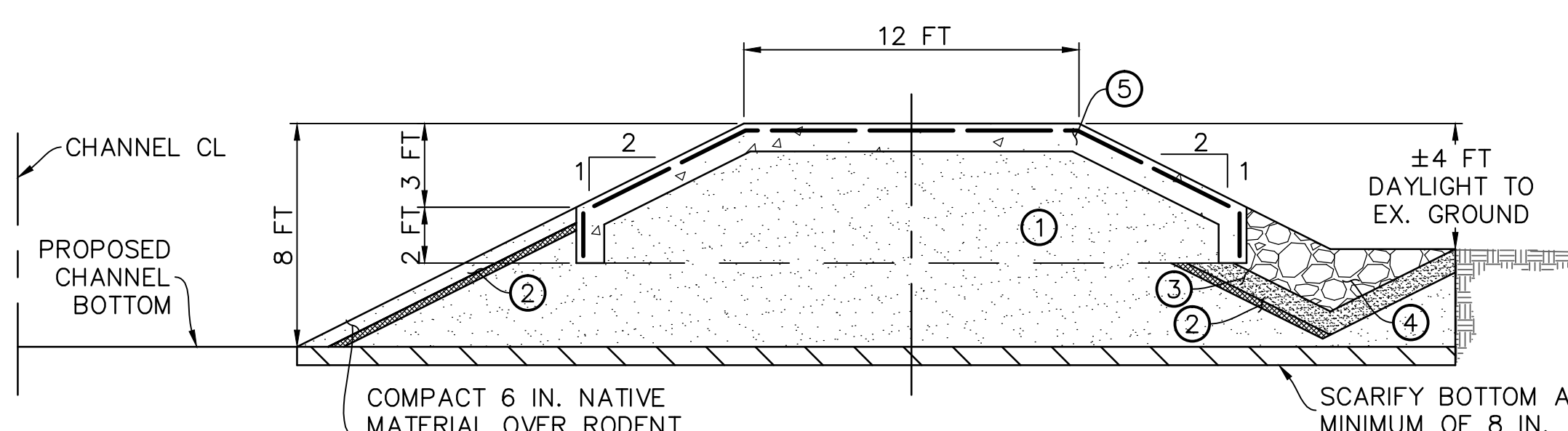
SECTION
SCALE: 1" = 10'

GRADE CONTROL STRUCTURE AT SIDE DRAINS
SCALE: AS SHOWN

C1



PROFILE
SCALE: HORIZ: 1" = 20'
VERT: 1" = 2'

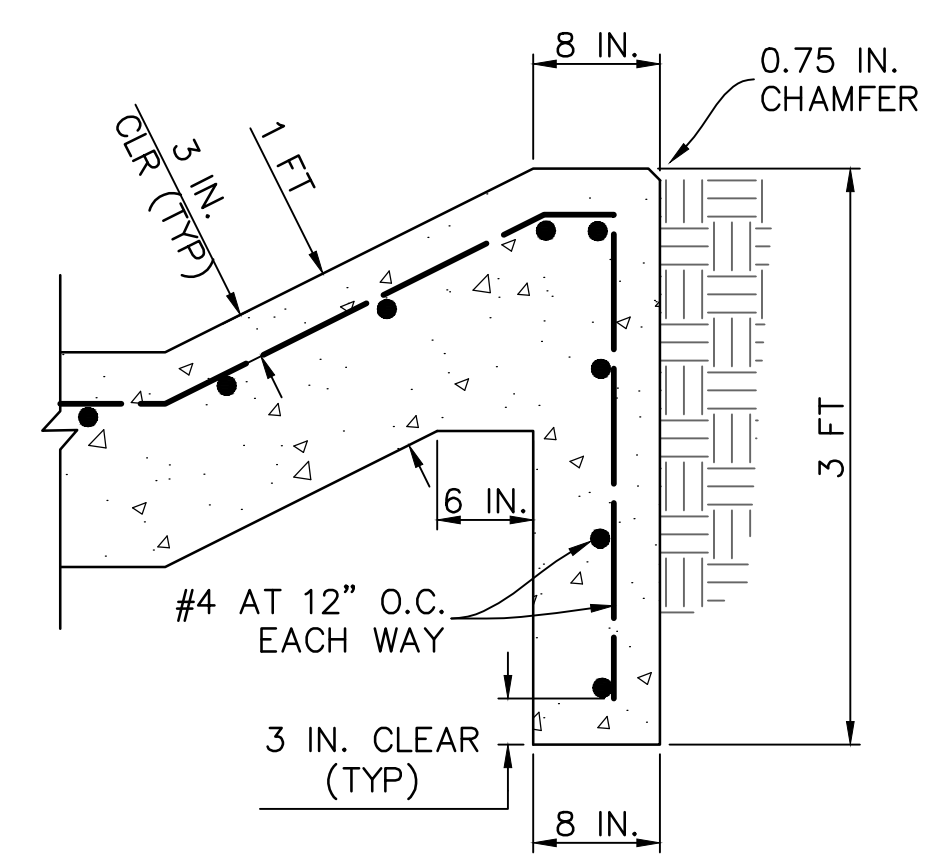


CROSS SECTION A-A
SCALE: HORIZ: 1" = 5'
VERT: 1" = 5'

LATERAL WEIR

SCALE: AS SHOWN

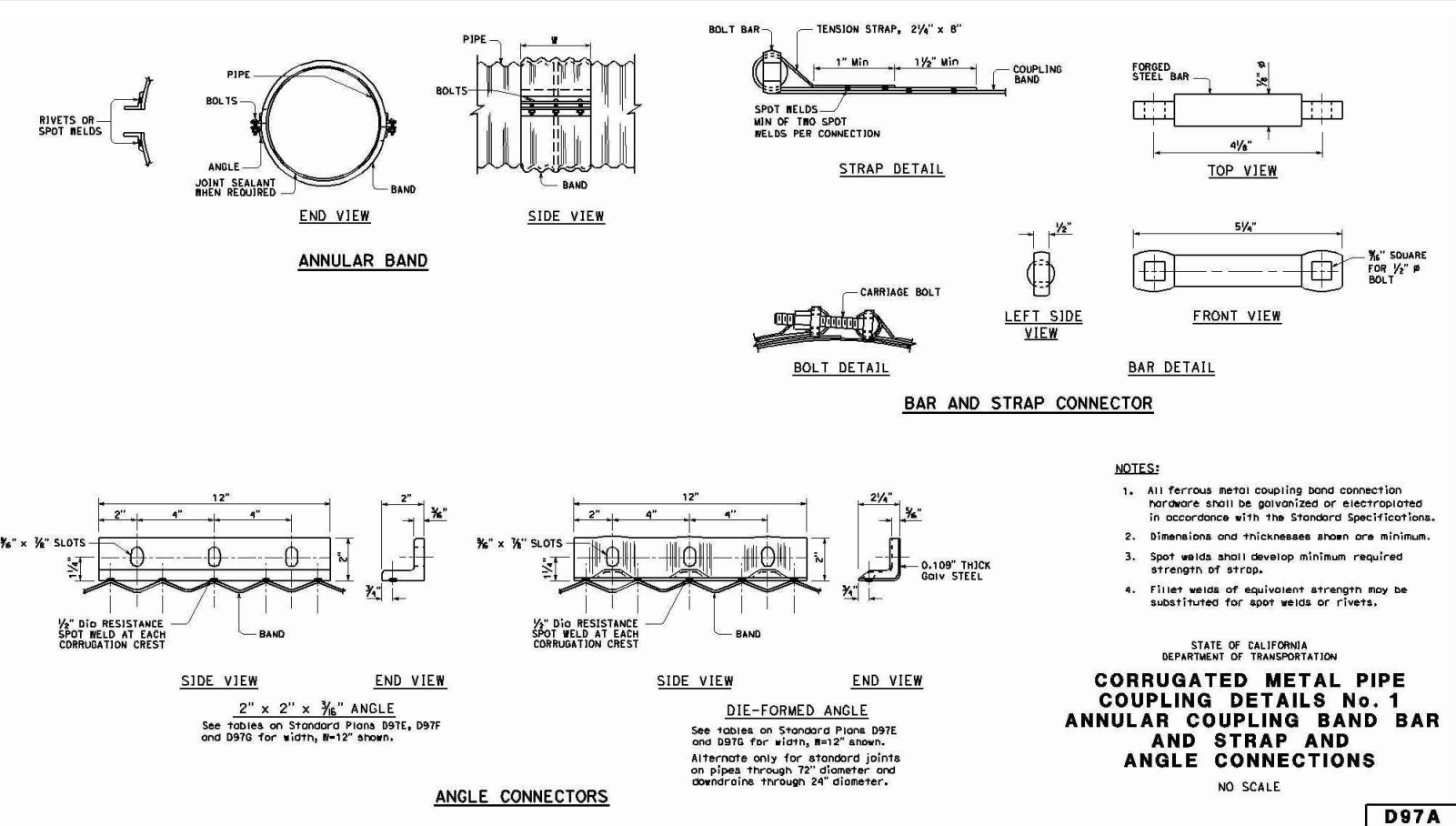
C2



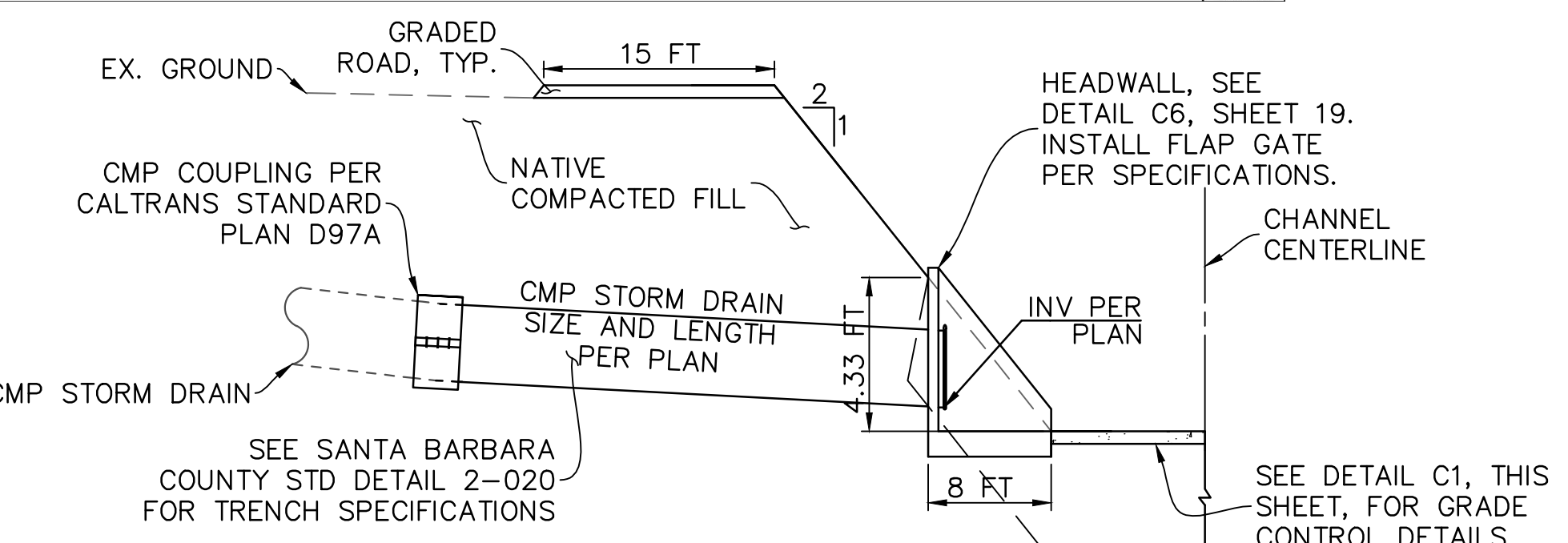
TOE WALL DETAIL
SCALE: HORIZ: 1" = 1'
VERT: 1" = 1'

DETAIL CONSTRUCTION NOTES

- ① BACKFILL WITH NATIVE MATERIAL IN LIFTS OF 8 IN. MAXIMUM THICKNESS COMPACTED TO 90% AND 95% RELATIVE COMPACTION IN ACCORDANCE WITH THE SPECIFICATIONS AND THE GEOTECHNICAL REPORTS.
- ② INSTALL XCLUDER GEO (OR EQUAL) RODENT CONTROL FABRIC PER SPECIFICATIONS.
- ③ INSTALL 1 FT OF SAND FILTER.
- ④ INSTALL 2 FT OF FACING CLASS RIP RAP.
- ⑤ CONSTRUCT CONCRETE WEIR.

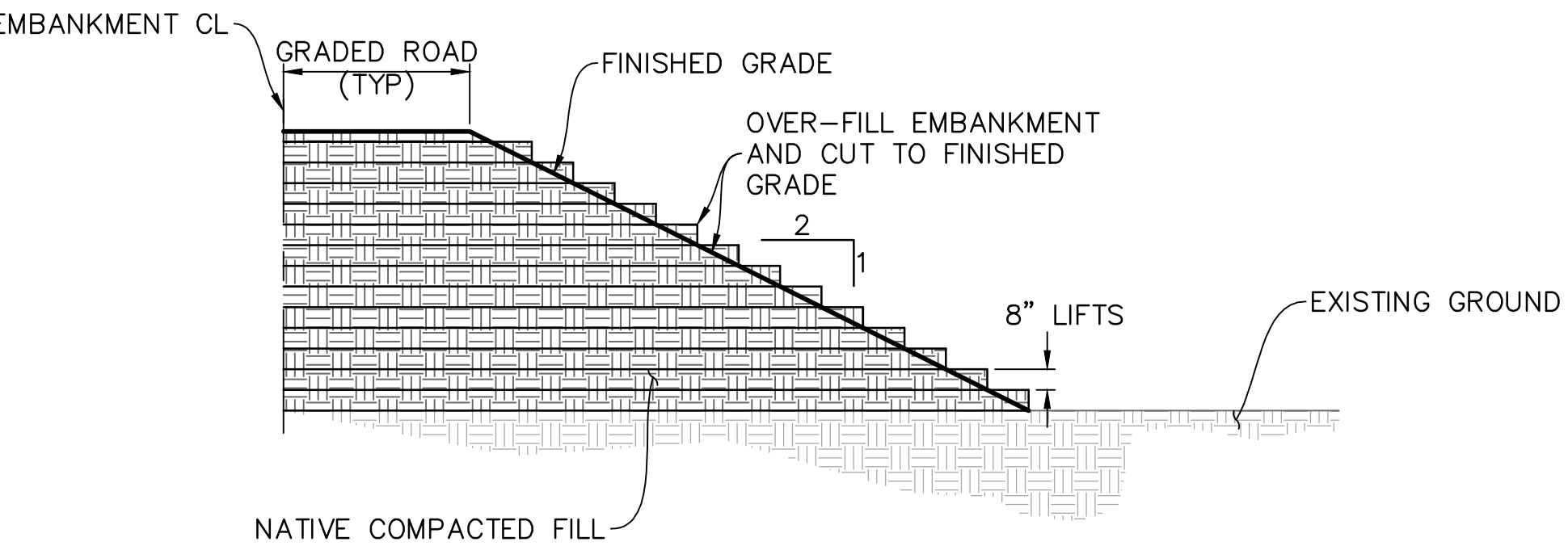


CORRUGATED METAL PIPE COUPLING DETAILS No. 1
ANNULAR COUPLING BAND AND STRAP AND ANGLE CONNECTIONS
NO SCALE



CONNECT AND EXTEND EXISTING CMP STORM DRAIN
SCALE: NOT TO SCALE
CALTRANS STANDARD PLAN D97A

C3



TYPICAL EMBANKMENT DETAIL

SCALE: HORIZ: 1" = 5'
VERT: 1" = 5'

C4

INTENTIONALLY LEFT BLANK

SCALE: NOT TO SCALE

C5



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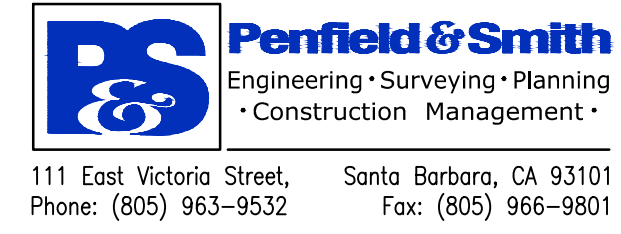
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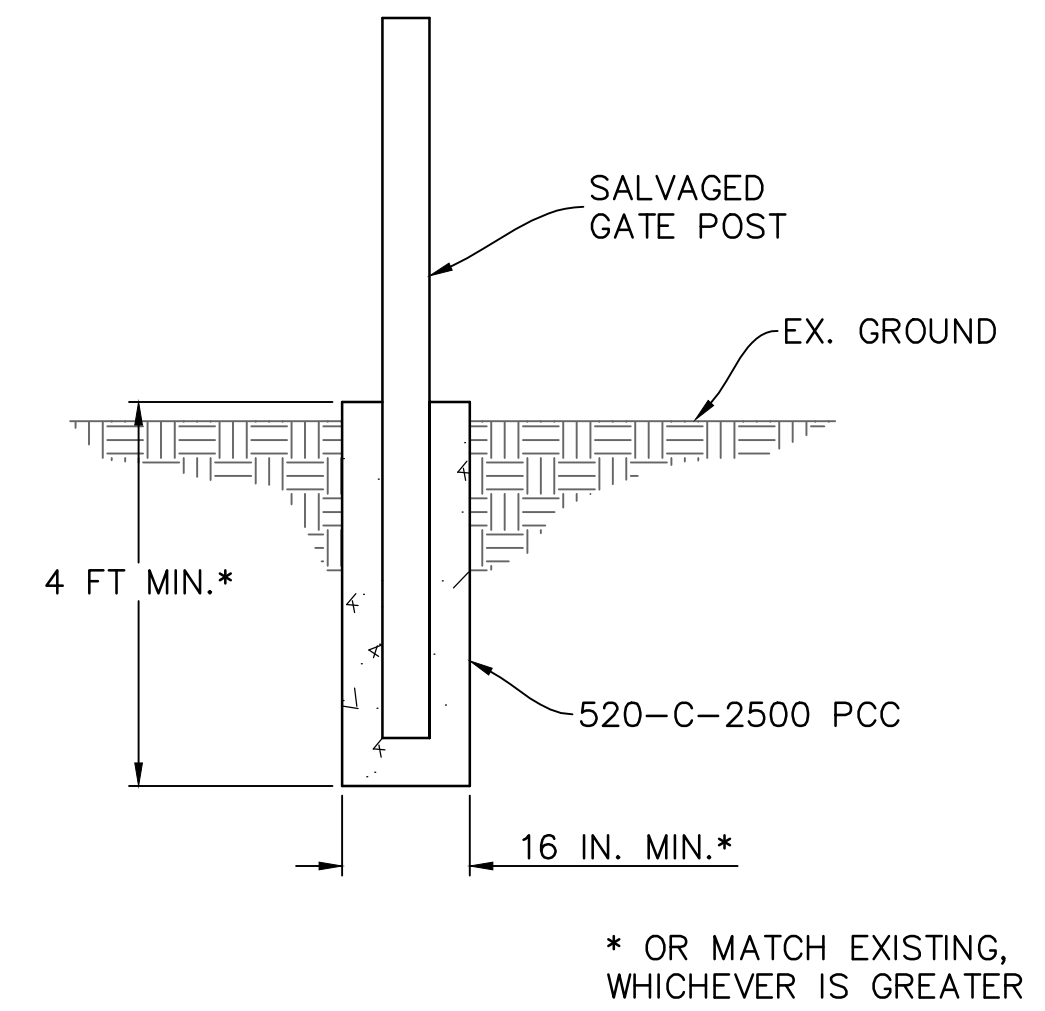
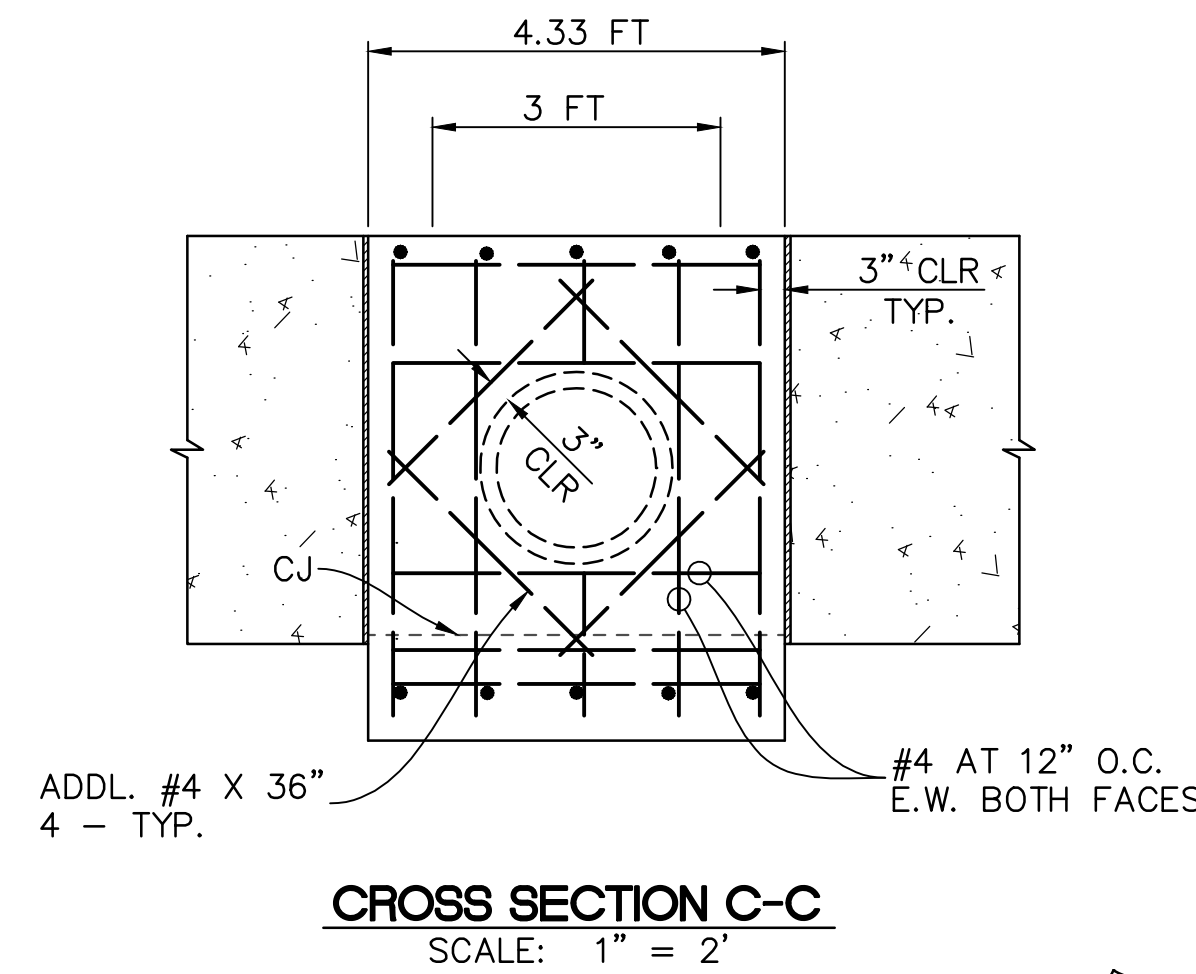
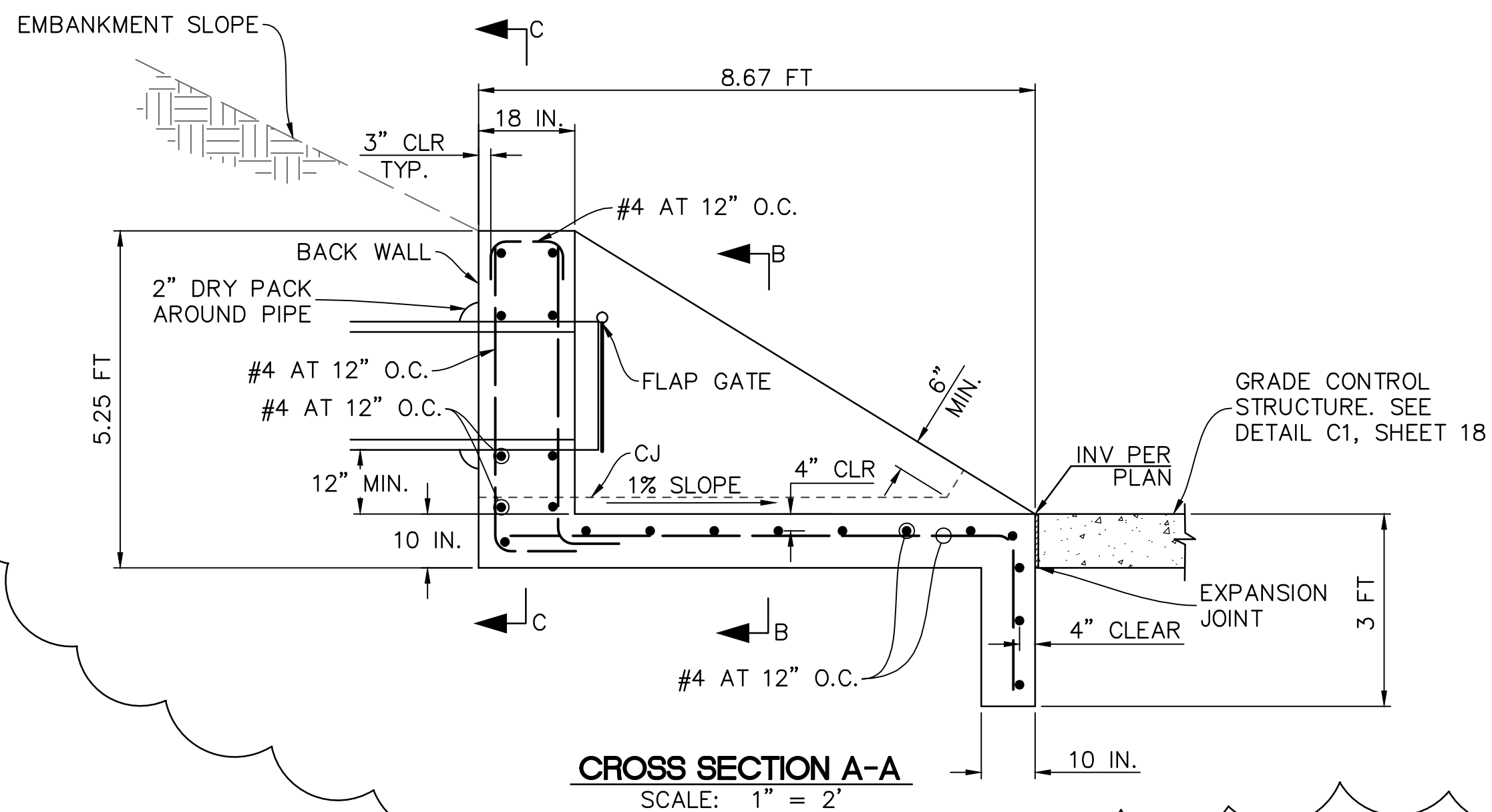
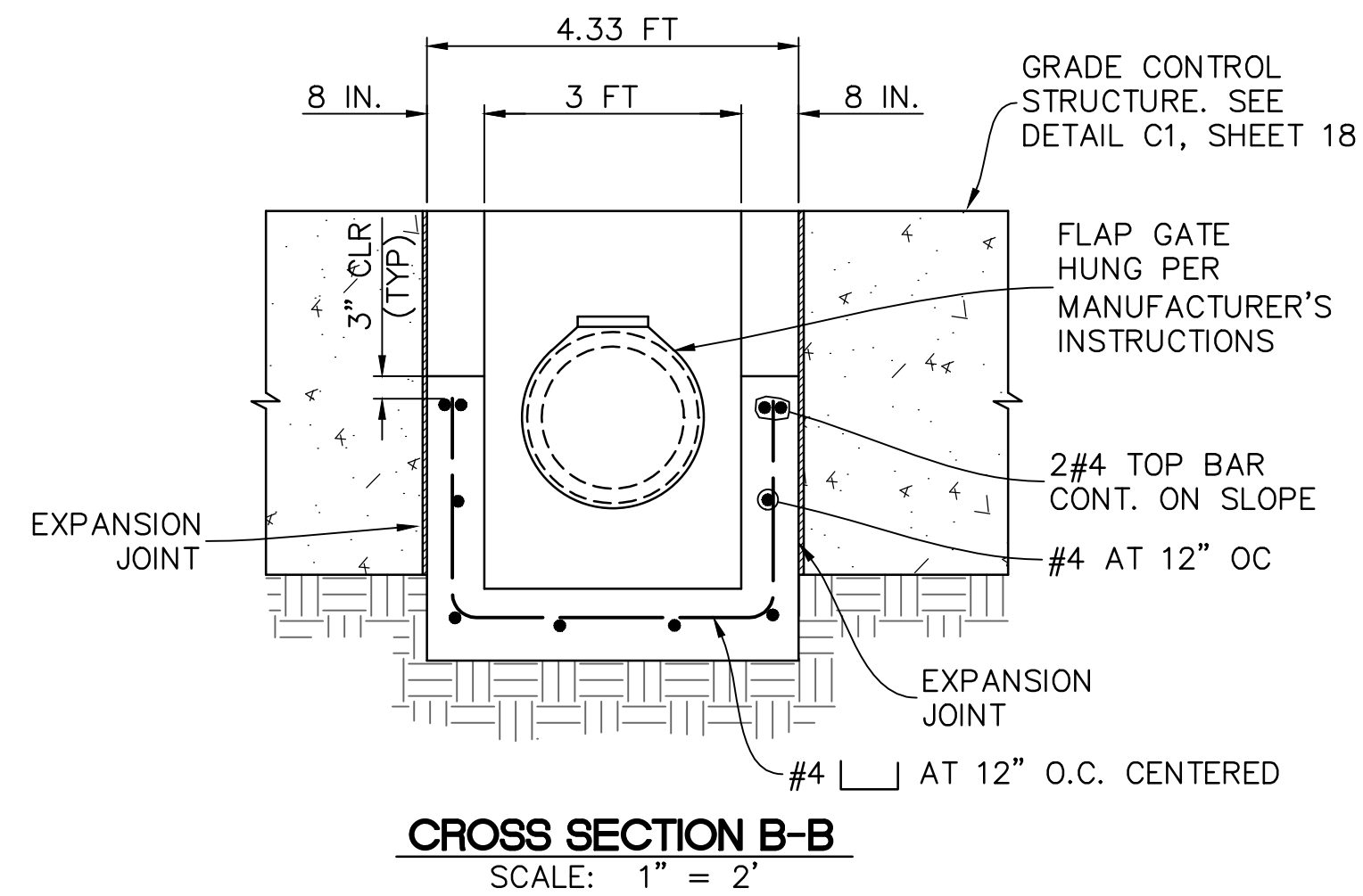
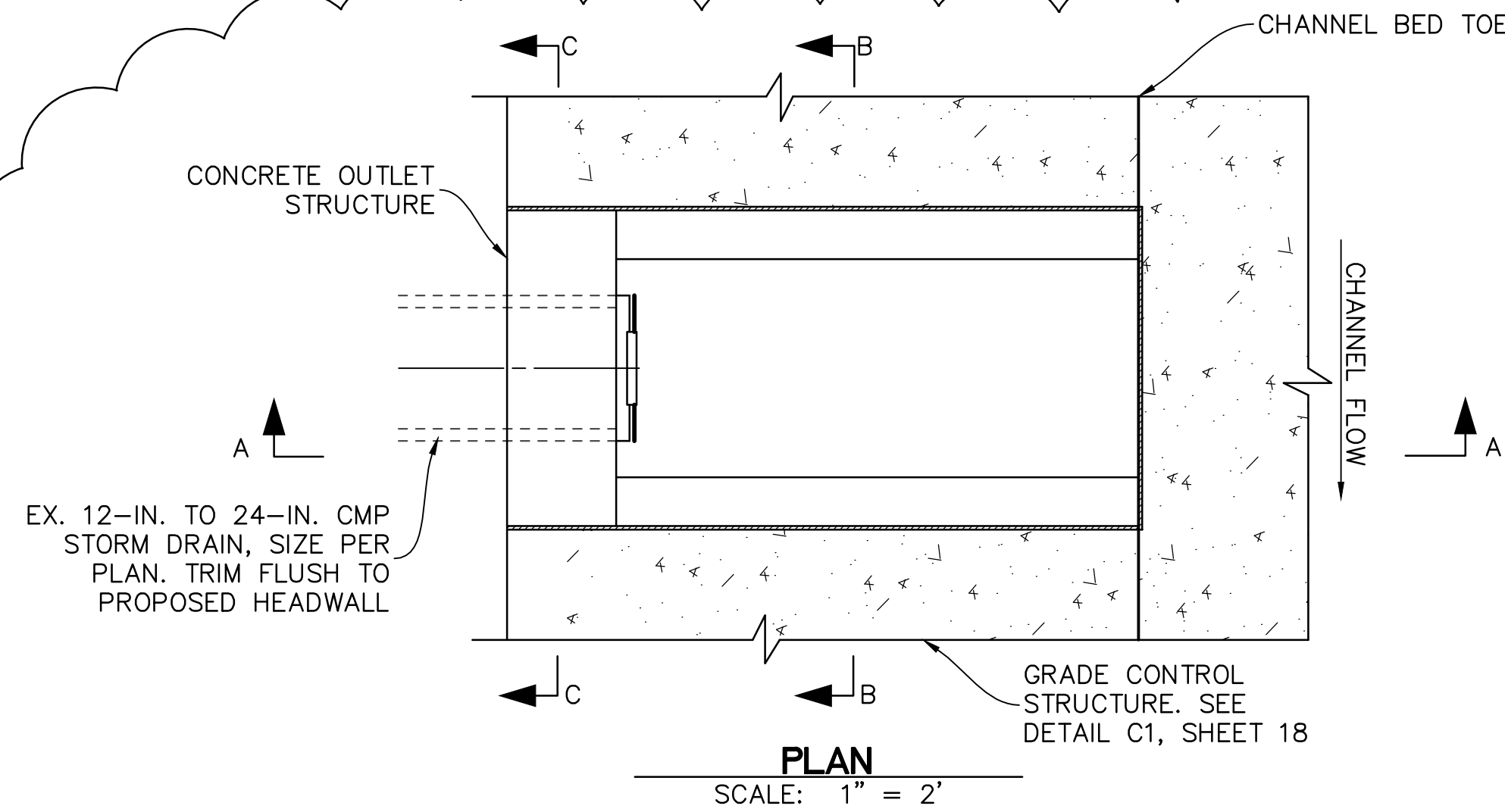
SANTA BARBARA COUNTY
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SANTA BARBARA, CA 93101
(805) 568-3440



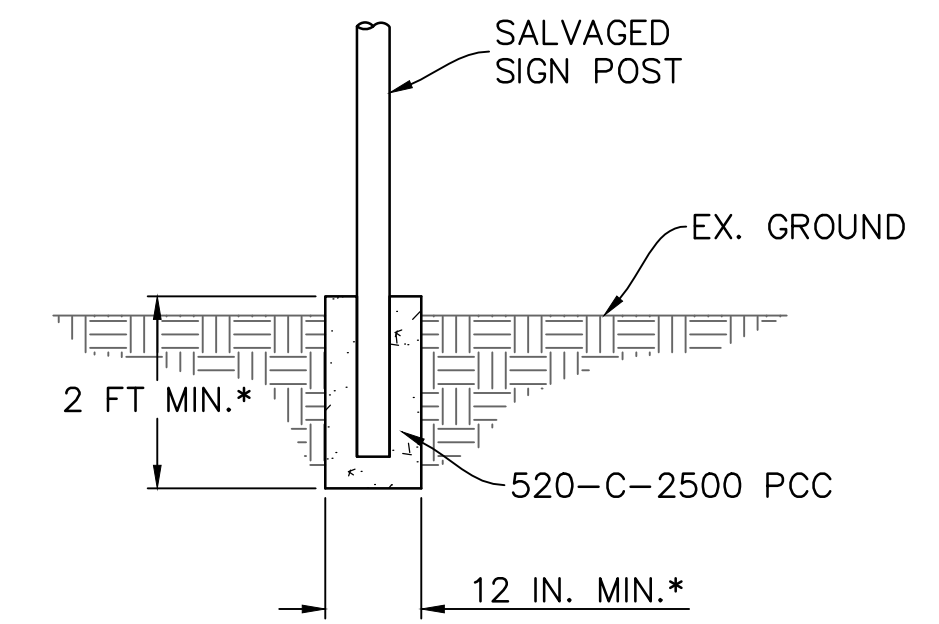
UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT
AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

CHANNEL DETAILS

DESIGNED BY:	ALG
DRAWN BY:	OMP
CHECKED BY:	CAS
SHEET 18 OF 26	
Filename: 20643.01 Details.dwg	



GATE POST INSTALLATION (C7)
SCALE: 1" = 2'



SIGN REINSTALLATION (C8)
SCALE: 1" = 2'

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INTENTIONALLY LEFT BLANK



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REVISIONS			
NO.	DESCRIPTION	DATE	APR
1	REVISED RECESSED HEADWALL DETAIL	09/12/2016	MJM

DESIGNED BY:	
DESIGN ENGINEER	DATE

Penfield & Smith
Engineering • Surveying • Planning
• Construction Management •

111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

SANTA BARBARA COUNTY
FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
130 E. VICTORIA STREET
SANTA BARBARA, CA 93101
(805) 568-3440



UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT

AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

CHANNEL DETAILS


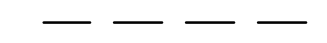
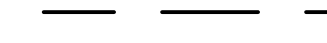
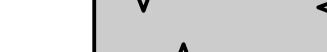
DESIGNED BY:	ALG
DRAWN BY:	OWP
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SHEET 19 OF 26	
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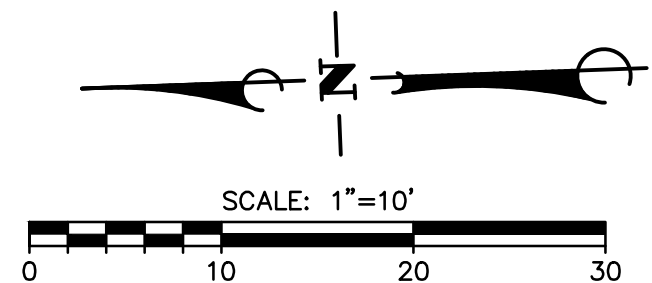
PLOT DATE: 5/2/2017 10:00 AM V:\2064\active\2064020643\20643\accad\Civil\20643.01 Details.dwg

DEMOLITION NOTES

- 1 SAW CUT, REMOVE, AND LEGALLY DISPOSE OF EXISTING REINFORCED CONCRETE CHANNEL LINING.
- 2 APPROXIMATE LIMITS OF RIP RAP REMOVAL AND SLOPE BACK CUT. SALVAGE AND STOCKPILE RIP RAP FOR RE-USE.
- 3 PROTECT EXISTING FACILITY.
- 4 REMOVE AND SALVAGE METAL BEAM GUARD RAIL, WOOD POST, AND WOOD BLOCK FOR RE-USE.
- 5 PROTECT EXISTING POLYETHYLENE WRAPPED 8-INCH DUCTILE IRON WATER MAIN IN PLACE AND MAINTAIN IN SERVICE. CONTACT CITY OF GUADALUPE AT (805) 343-1340 PRIOR TO CONSTRUCTION.
- 6 SALVAGE AIR-VACUUM VALVE ASSEMBLY AND BOLLARDS FOR RE-USE.
- 7 REMOVE EXISTING 54-INCH CMP STORM DRAIN.
- 8 REMOVE EXISTING WINGWALLS AND FOOTINGS. PROTECT BOX CULVERT AND HEADWALL.
- 9 REMOVE SECTION OF 72-INCH RCP AND BULKHEAD TO ALIGN WITH HEADWALL CONSTRUCTION.
- 10 PROTECT BURIED 72-INCH RCP. REMOVE CONCRETE BULKHEAD.
- 11 REMOVE EXISTING TREE, INCLUDING ROOT STRUCTURE, TO A MINIMUM DEPTH OF 3 FEET.
- 12 SALVAGE RAPTOR POLE AND RE-INSTALL AFTER CONSTRUCTION.
- 13 CONTACT THE RESIDENT ENGINEER A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO CONFIRM SURVEY MONUMENTS AND CONTROL POINTS ARE TIED-OUT.

LEGEND

-  SAW CUT PAVEMENT TO LEAVE A CLEAN JOINT/DEMOLITION LIMIT
-  APPROXIMATE LIMIT OF RIP RAP REMOVAL
-  CLEARING & GRADING LIMIT
-  LIMITS OF CONCRETE DEMOLITION

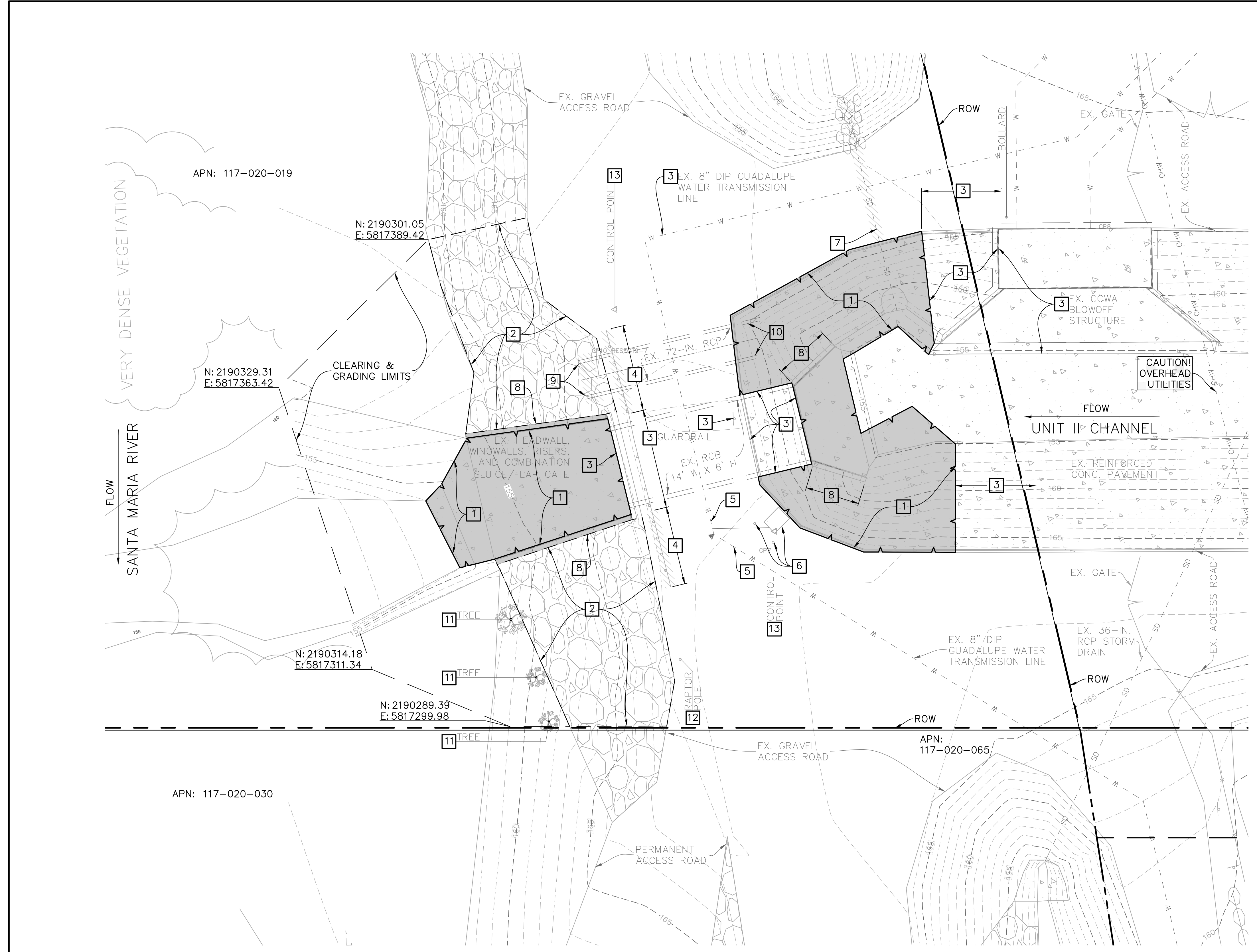


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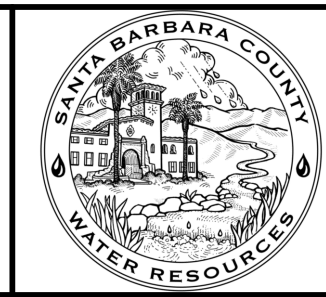
REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:	
DESIGN ENGINEER:	
DATE:	



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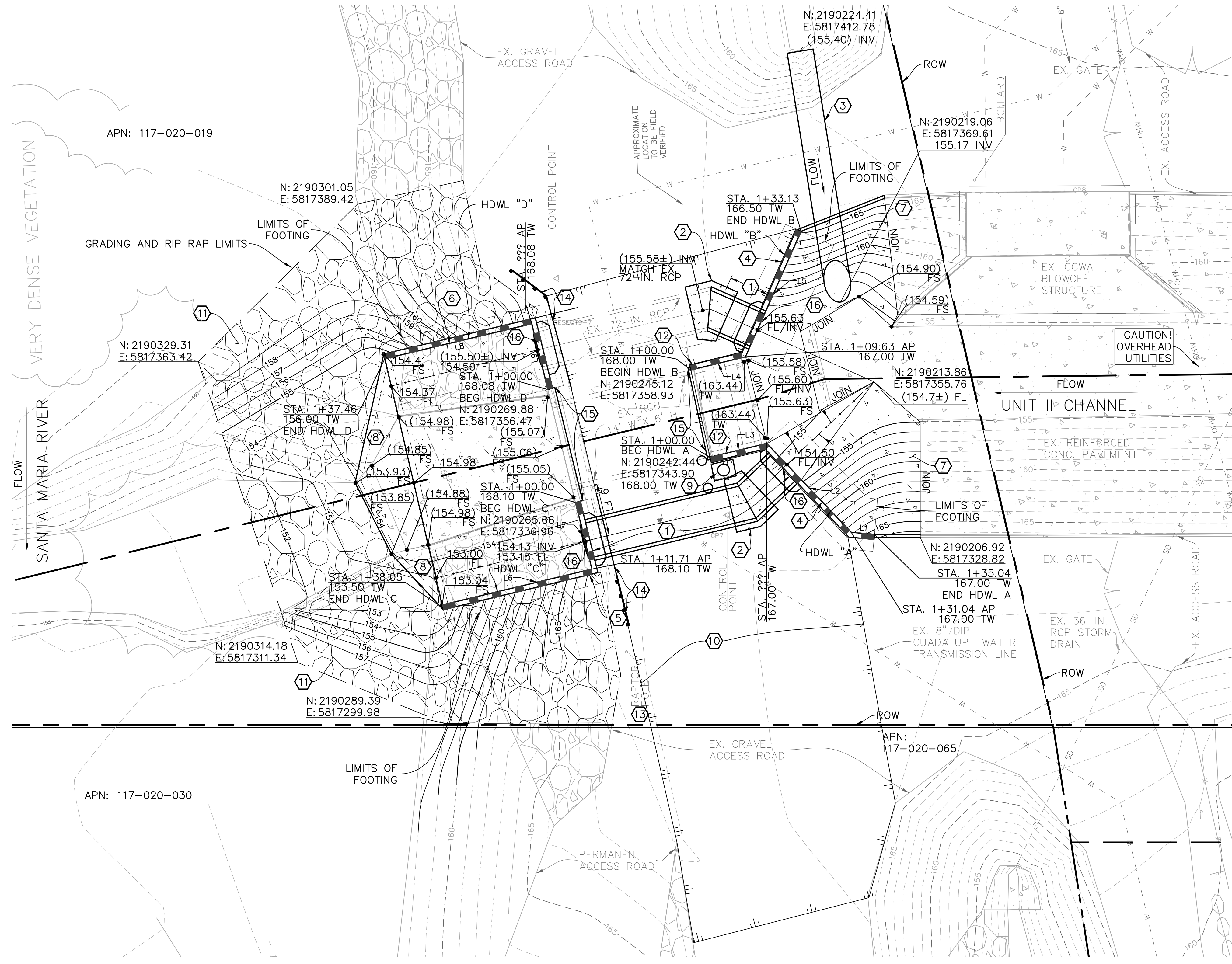
**UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT**

AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

**LEVEE OUTFALL
DEMOLITION**

DESIGNED BY:	ALG
DRAWN BY:	OMP
CHECKED BY:	CAS
SHEET 20 OF 26	
Filename: 20643.01 Demolition Plans.dwg	

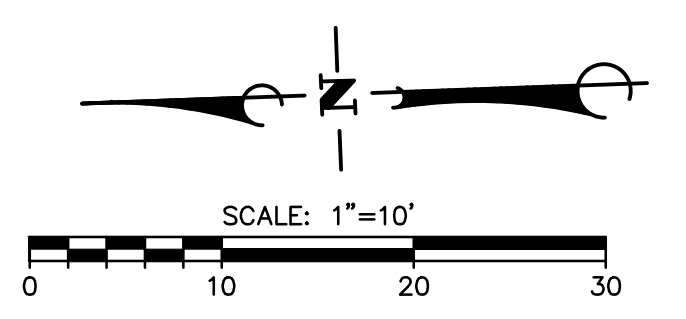
V:\2064\active\2064020643\20643\ccad\Civil\20643.01 Demolition Plans.dwg PLOT DATE: 5/2/2017 11:13 AM



CONSTRUCTION NOTES

- ① CONSTRUCT 72-INCH CLASS III RCP WITH RUBBER GASKET JOINTS PER TRENCH DETAIL L8, SHEET 23, AND PROFILES L1 & L2 ON SHEET 22. BEVEL END TO ACHIEVE A MAXIMUM GAP OF 6 IN. BETWEEN PIPES.
- ② CONSTRUCT CONCRETE COLLAR FOR RCP PER APWA STANDARD PLAN 380-4. SEE DETAIL L12, SHEET 24.
- ③ CONSTRUCT 54-INCH CMP CULVERT PER TRENCH DETAIL L8, SHEET 23, AND PROFILE L15 ON SHEET 25.
- ④ CONSTRUCT REINFORCED CONCRETE HEADWALL PER DETAIL L20 ON SHEET 25. SEE SECTION L5 ON SHEET 23.
- ⑤ CONSTRUCT REINFORCED CONCRETE HEADWALL PER DETAIL L21 ON SHEET 25 WITH 72-INCH FLAPGATE. SEE PROFILE L2 ON SHEET 22.
- ⑥ CONSTRUCT REINFORCED CONCRETE HEADWALL PER DETAIL L21 ON SHEET 25 WITH 72-INCH FLAPGATE. SEE PROFILE L1 ON SHEET 22.
- ⑦ CONSTRUCT 6-INCH THICK REINFORCED CONCRETE SLOPE PAVING PER DETAIL L16, SHEET 25.
- ⑧ CONSTRUCT REINFORCED CONCRETE SLOPE PAVING WITH TOEWALLS PER DETAIL L10, SHEET 24.
- ⑨ CONSTRUCT SALVAGED AIR-VACUUM VALVE ASSEMBLY PER DETAIL L7, SHEET 23.
- ⑩ CONSTRUCT 4-INCH THICK CLASS II AGGREGATE BASE COMPACTED TO 95% RELATIVE DENSITY FROM HEADWALL TO HEADWALL AND ALL DISTURBED AREAS ON TOP OF LEVEE.
- ⑪ GRADE RIVERSIDE LEVEE OUTFALL AREA TO LIMITS SHOWN AND INSTALL SALVAGED RIP RAP AND IMPORTED 1/2 TON RIP RAP PER DETAIL L9, SHEET 23.
- ⑫ CONSTRUCT REINFORCED CONCRETE RETAINING WALL PER DETAIL L19, SHEET 25.
- ⑬ INSTALL SALVAGED RAPTOR POLE PER DETAIL L11, SHEET 24.
- ⑭ INSTALL SALVAGED METAL BEAM GUARDRAIL PER CALTRANS STANDARD DETAIL A77A2, DETAIL L14, SHEET 24. ADD NEW GUARDRAIL TO EXTEND MINIMUM 10' PAST HEADWALLS.
- ⑮ CONSTRUCT HANDRAIL PER DETAIL L13, SHEET 24.
- ⑯ CONSTRUCT ADDITIONAL REINFORCING AT PIPE PENETRATION AT HEADWALL PER DETAIL L18, SHEET 25. CONSTRUCT RCP CONNECTION TO HEADWALL SIMILAR TO DETAIL APWA STANDARD PLAN 308-1 MONOLITHIC CATCH BASIN CONNECTION WITH ANGLE 'A'=90'. REFERENCES TO CATCH BASIN SHALL MEAN HEADWALL. SEE DETAILS L22 & L23, SHEET 26.

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S7°09'41"W	4.00'
L2	S48°34'18"W	21.00'
L3	S11°25'42"E	10.04'
L4	S11°25'42"E	9.63'
L5	S64°00'18"E	23.50'
L6	N11°24'01"W	26.34'
L7	S78°21'30"W	11.71'
L8	N11°17'58"W	25.86'
L9	N78°20'27"E	11.60'



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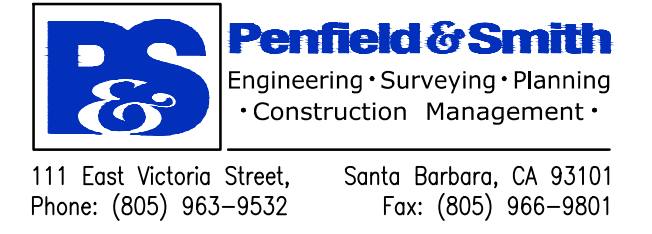
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REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY: _____ DATE: _____
 DESIGN ENGINEER _____



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 WATER CONSERVATION DISTRICT
 130 E. VICTORIA STREET
 SANTA BARBARA, CA 93101
 (805) 568-3440



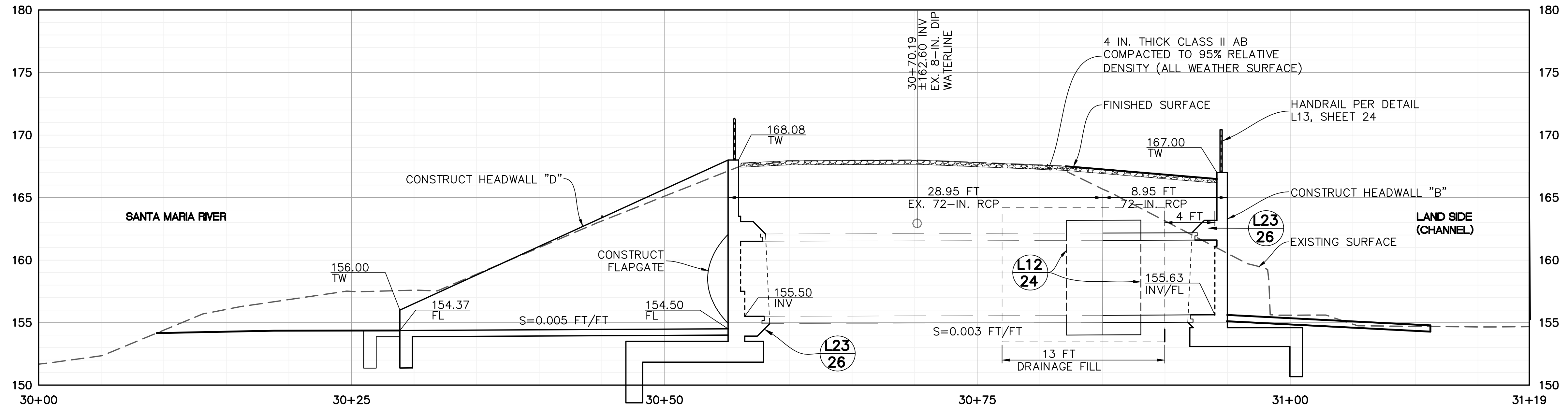
UNIT II CHANNEL DRAINAGE
 IMPROVEMENTS PROJECT
 AREA OF SANTA MARIA
 SANTA BARBARA COUNTY, CALIFORNIA

**LEVEE OUTFALL
 PLAN**

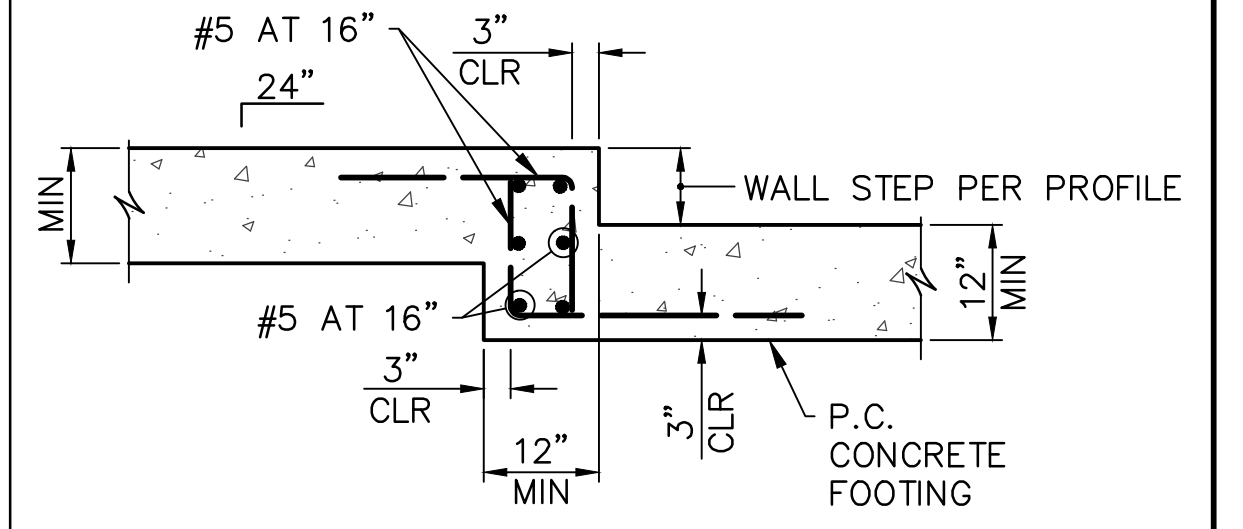
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 DRAWN BY: **OWP**
 CHECKED BY: **CAS**

SHEET 21 OF 26
 Filename: 20643.01 Levee Plans.dwg

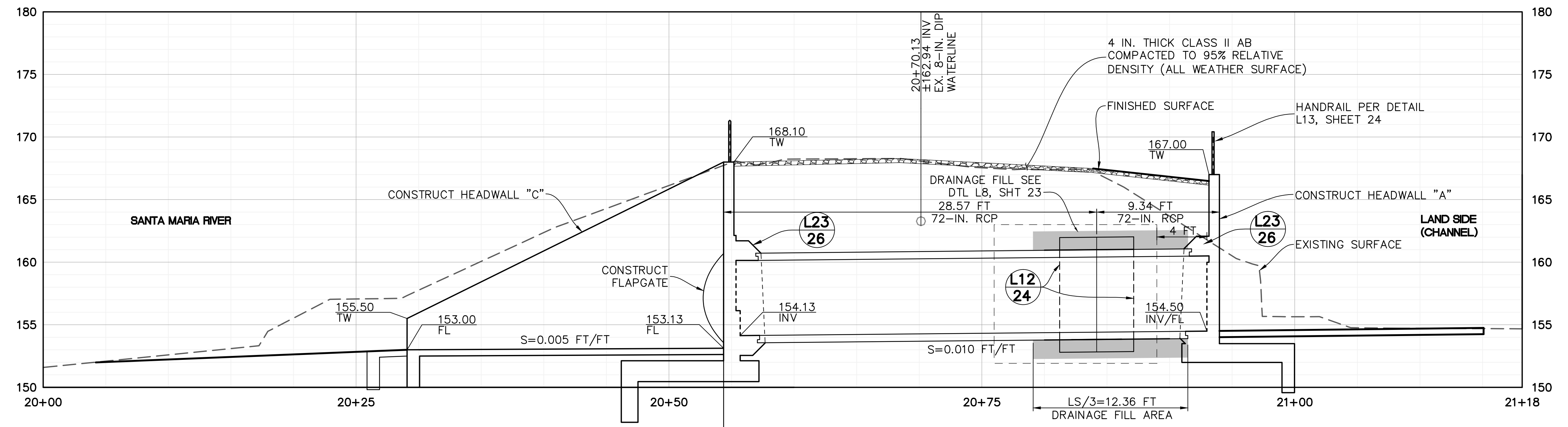
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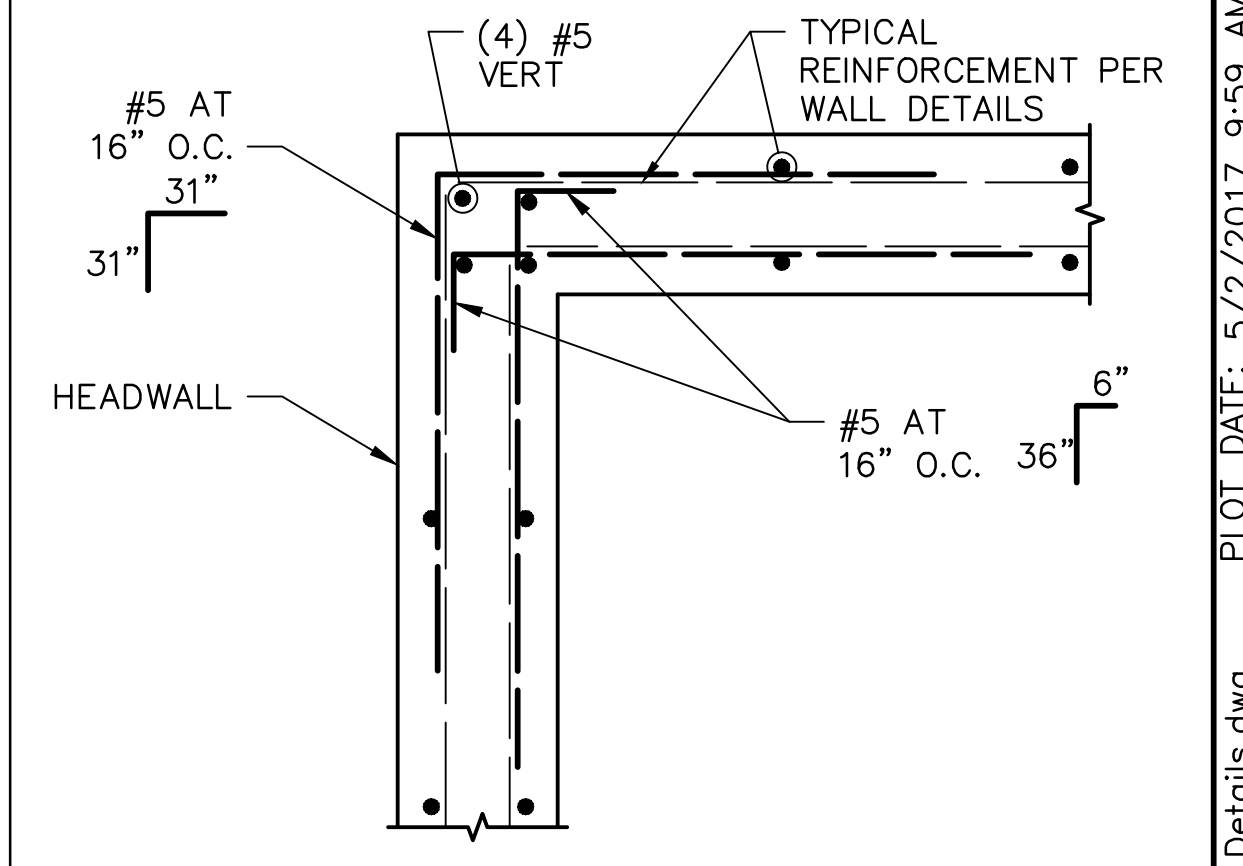
LEVEE OUTFALL - EAST
 AT CENTERLINE OF PIPE
 SCALE: HORIZ: 1" = 5', VERT: 1" = 5'



TYPICAL STEP FOOTING DETAIL
 SCALE: NOT TO SCALE



LEVEE OUTFALL - WEST
 AT CENTERLINE OF PIPE
 SCALE: HORIZ: 1" = 5', VERT: 1" = 5'



TYPICAL ANGLE POINT REINF. DETAIL
 SCALE: NOT TO SCALE

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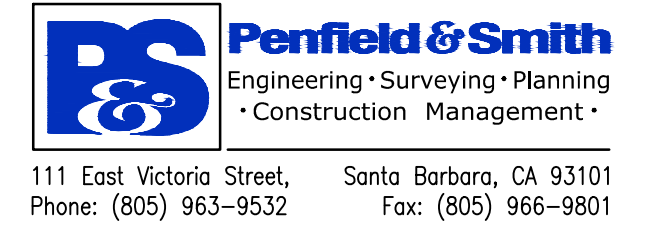
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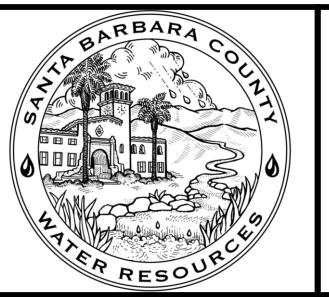


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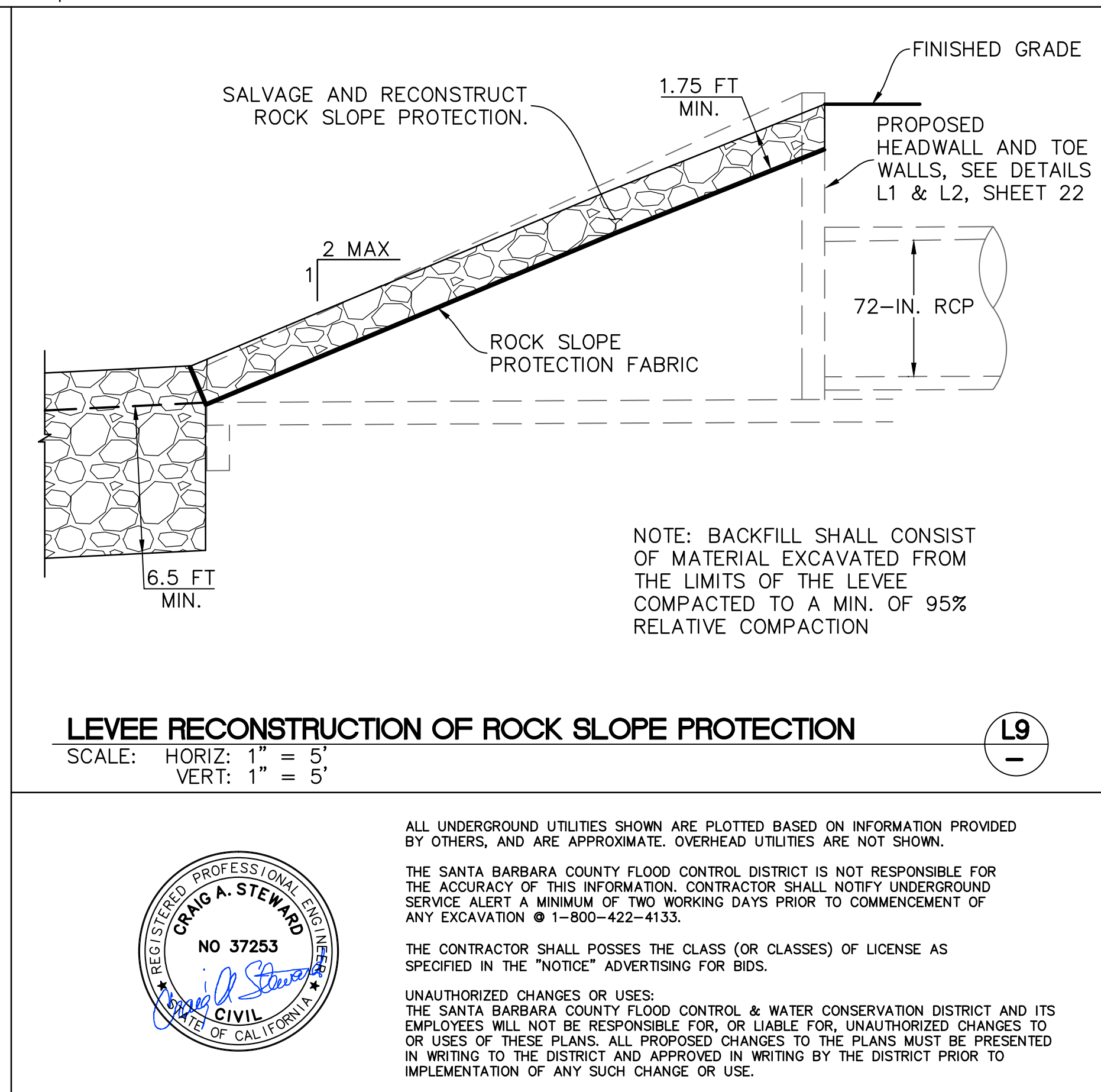
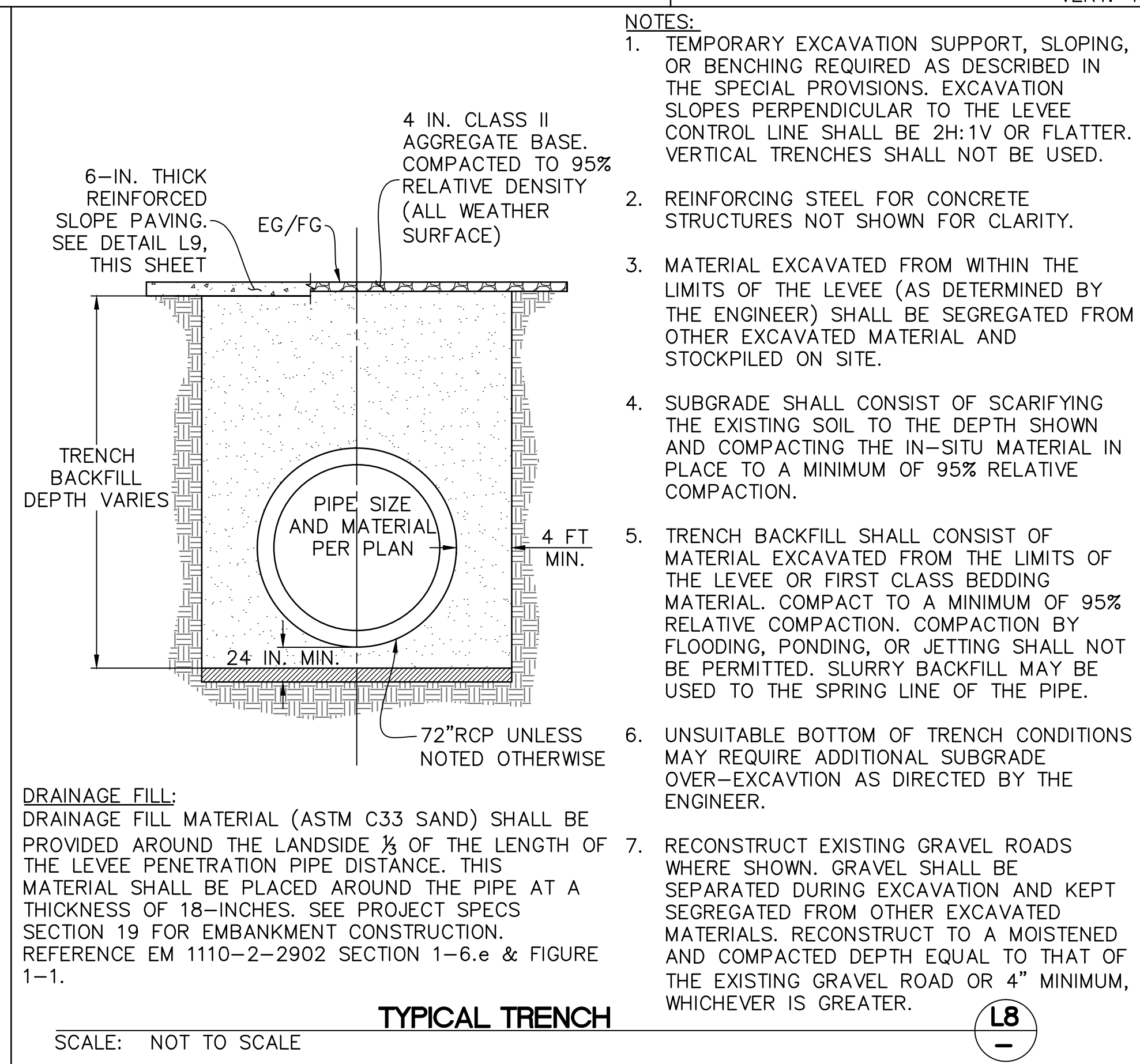
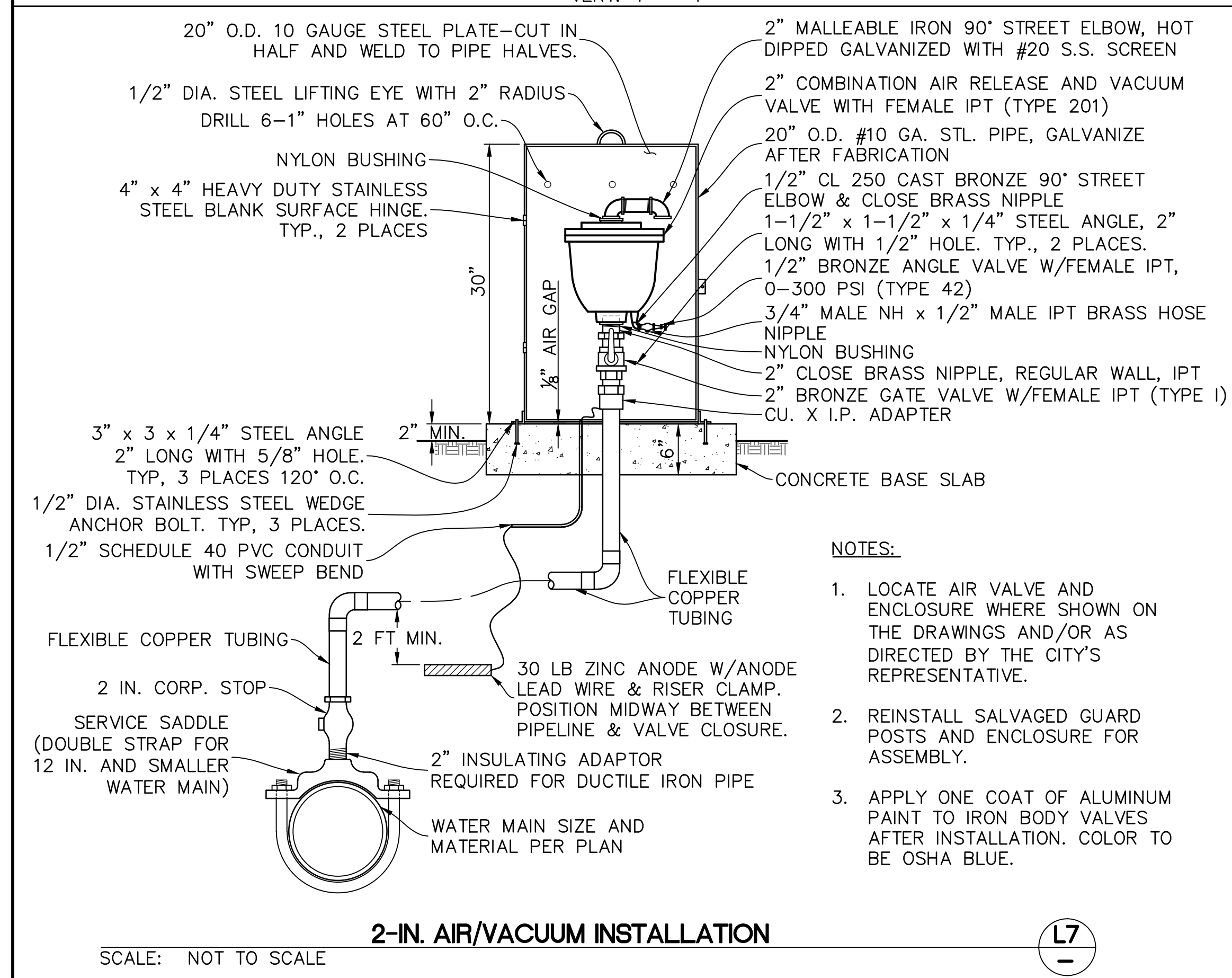
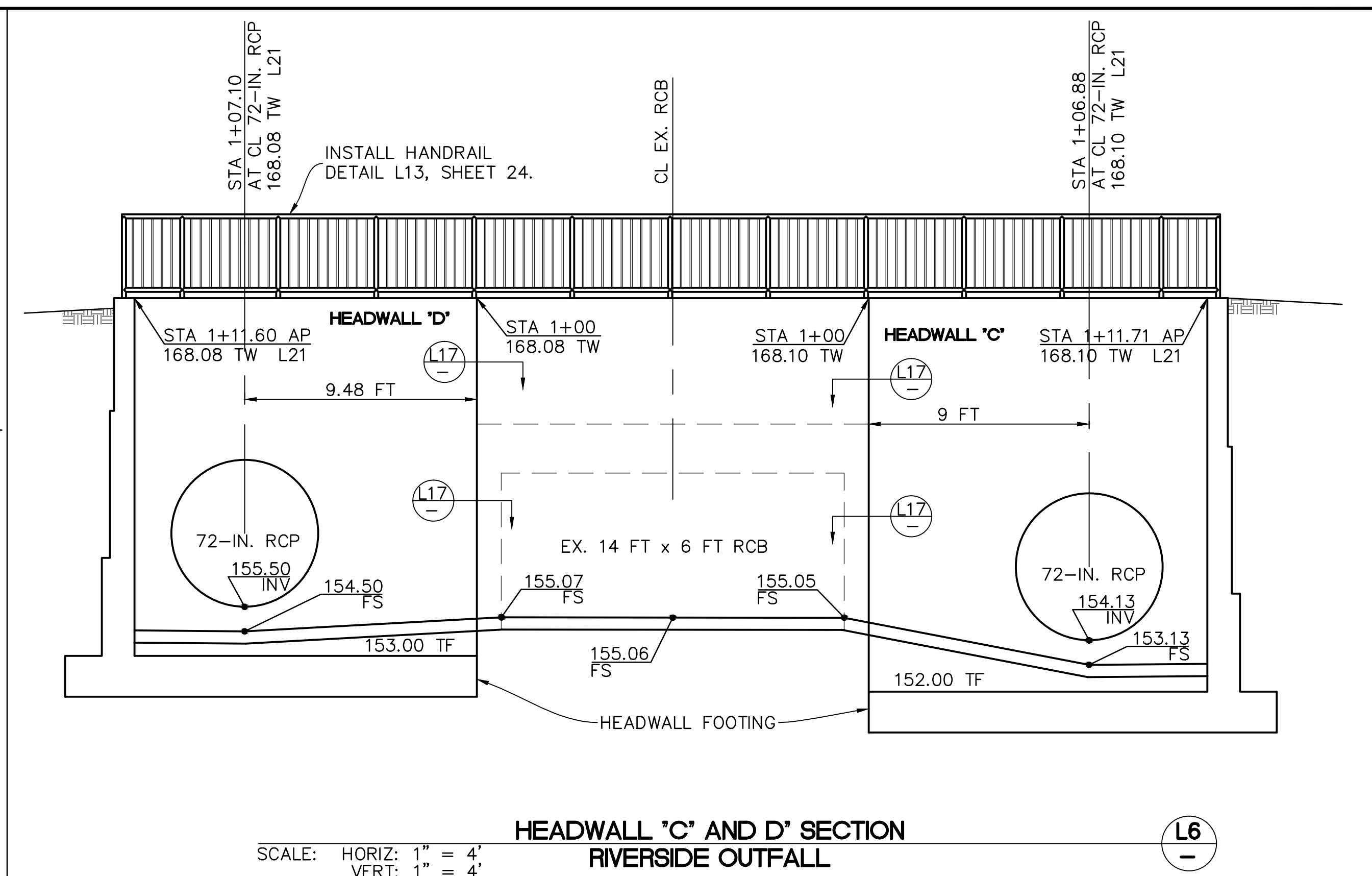
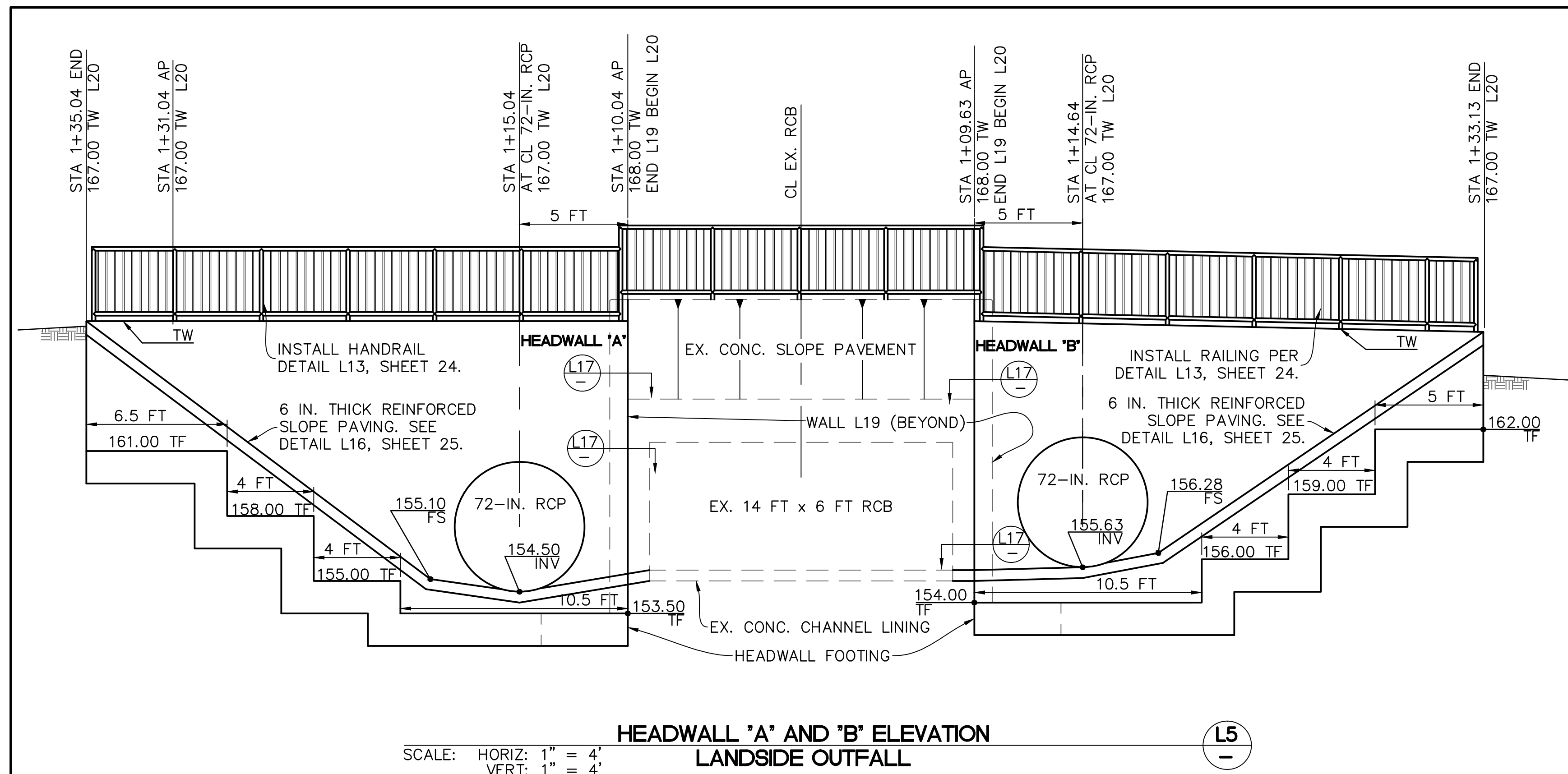
UNIT II CHANNEL DRAINAGE
 IMPROVEMENTS PROJECT
 AREA OF SANTA MARIA
 SANTA BARBARA COUNTY, CALIFORNIA

LEVEE DETAILS

DESIGNED BY:
 BTF/TJM
 DRAWN BY:
 TJM
 CHECKED BY:
 CAS

SHEET 22 OF 26
 Filename: 20643.01 Details.dwg

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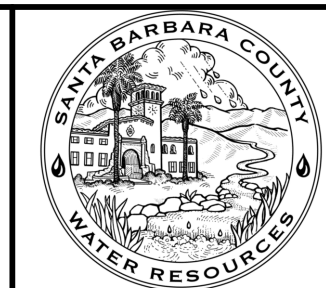
REVISIONS			
NO.	DESCRIPTION	DATE	APR

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DESIGN ENGINEER:	

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Phone: (805) 963-9532 Fax: (805) 966-9801

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UNIT II CHANNEL DRAINAGE
IMPROVEMENTS PROJECT

AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

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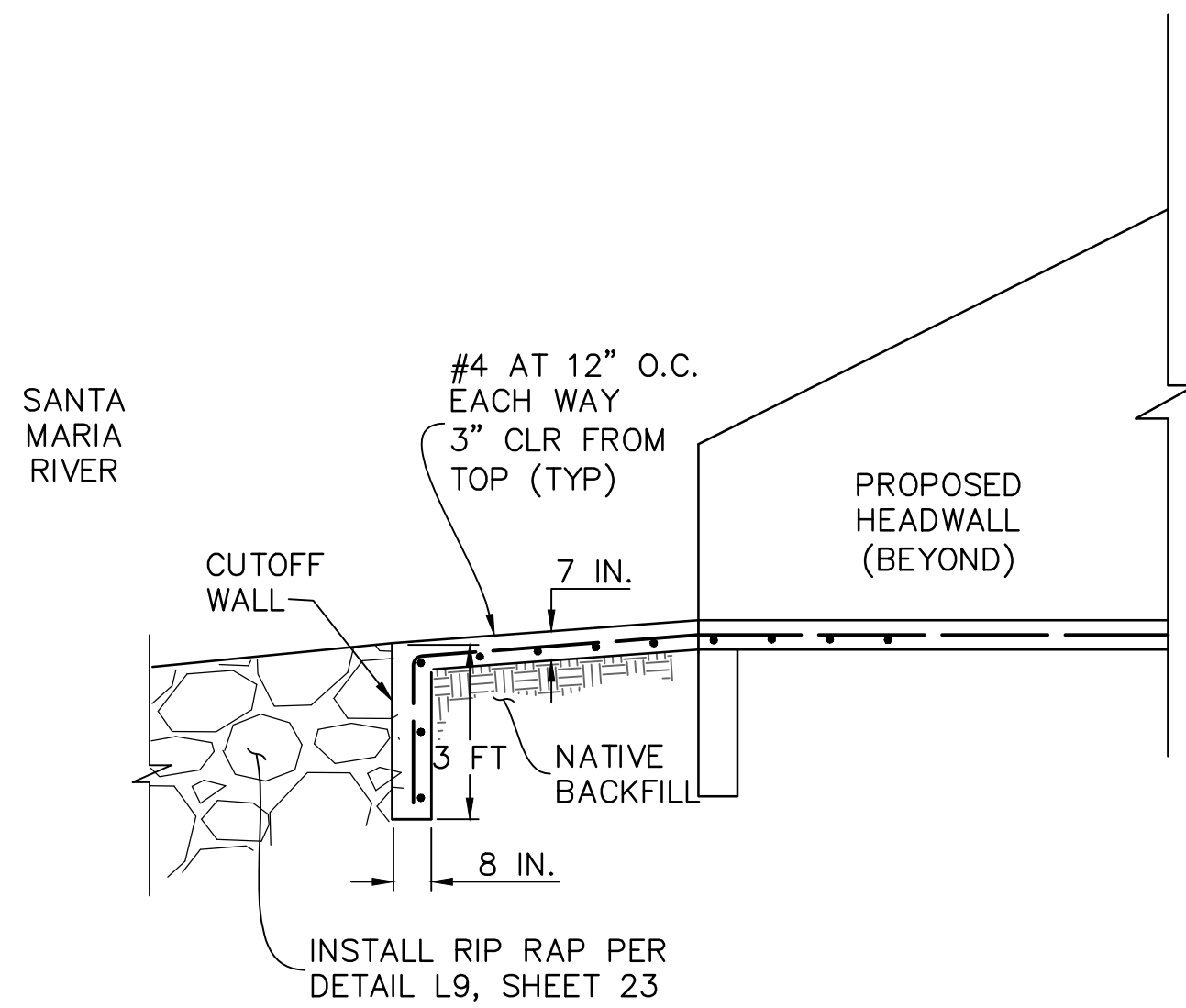
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TJM

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SHEET 23 OF 26

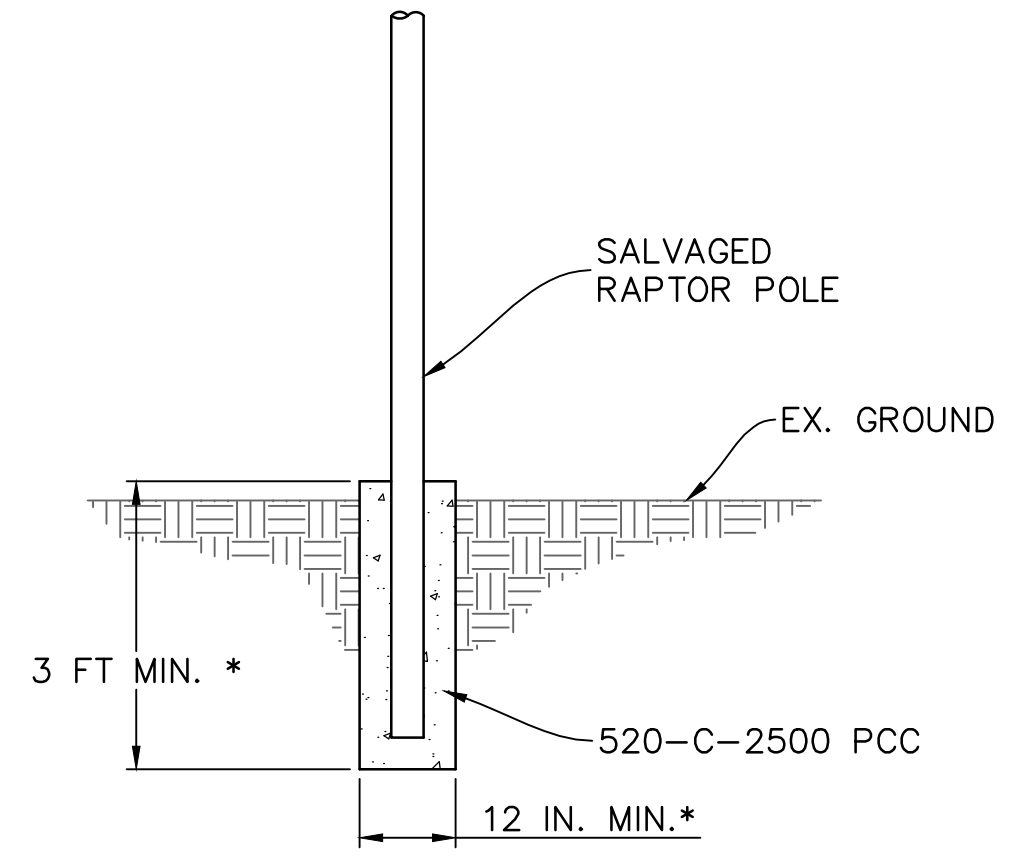
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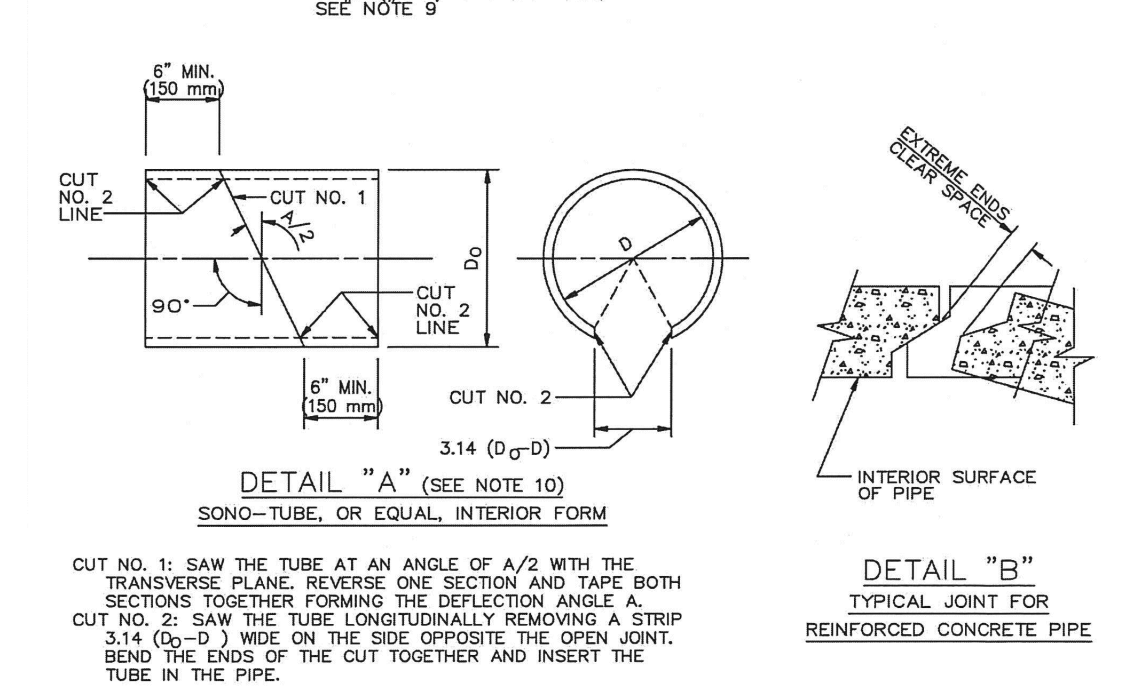
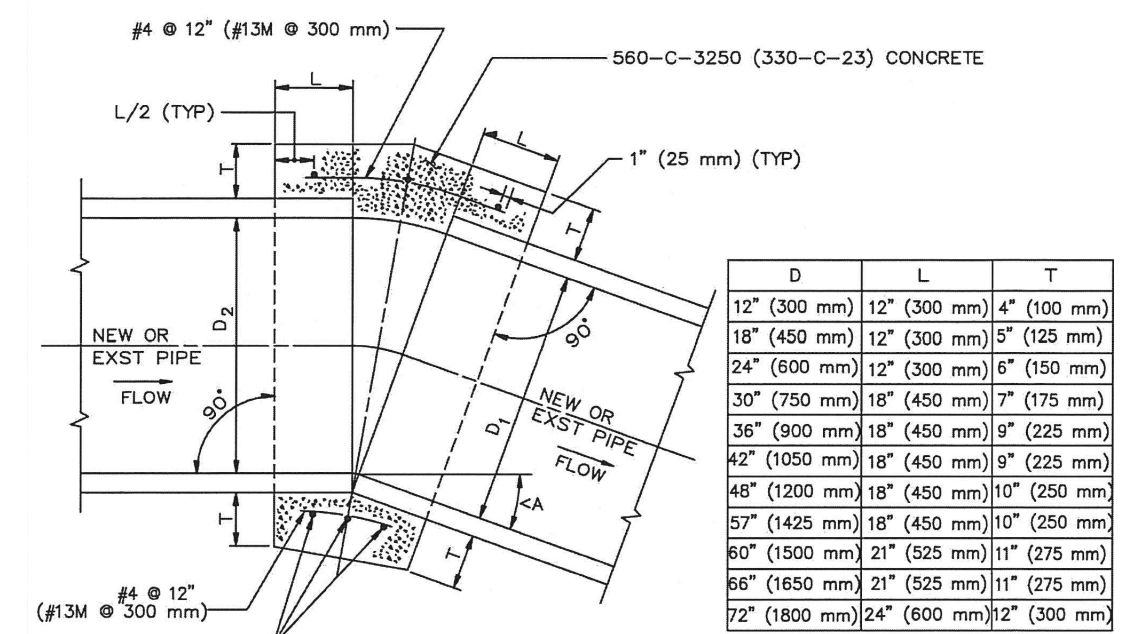
CONCRETE SLOPE PROTECTION WITH TOE WALL (L10)

SCALE: 1" = 3'



RAPTOR POLE RE-INSTALLATION (L11)

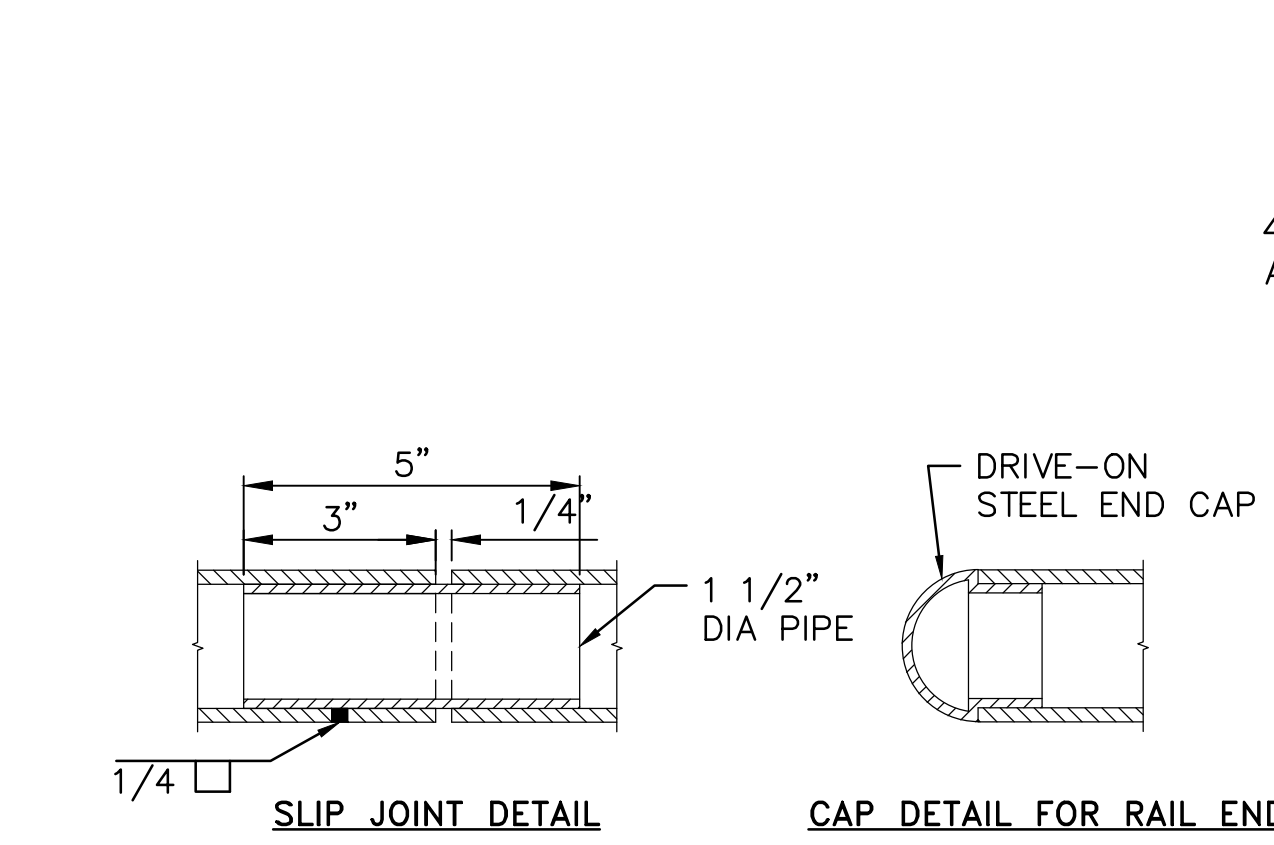
SCALE: 1" = 2'



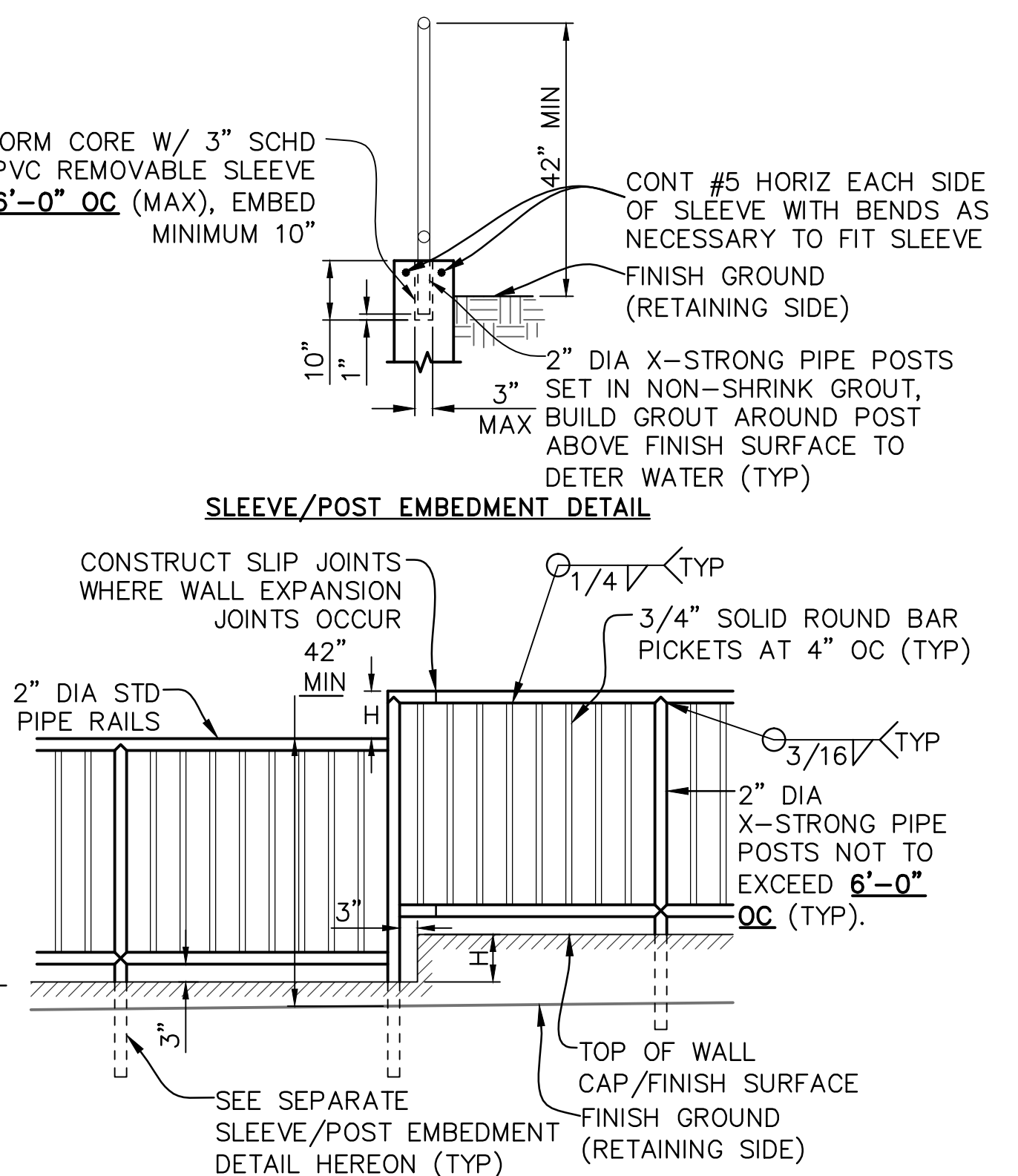
CONCRETE COLLAR FOR 72-INCH RCP (L12)

SCALE: NOT TO SCALE APWA STANDARD PLAN 380-4

- NOTES:**
- A CONCRETE COLLAR IS REQUIRED WHERE THE CHANGE IN GRADE EXCEEDS 10%.
 - FOR CURVE JOINTS (SEE DETAIL B, SHEET 1) IF THE EXTREME ENDS OF THE PIPE LEAVE A CLEAR SPACE THAT IS GREATER THAN 1" (25 mm), BUT IS LESS THAN 3" (75 mm) A CONCRETE COVER IS REQUIRED IN ACCORDANCE WITH SSPWC 306-1.2.4. IF THE EXTREME ENDS OF THE PIPE LEAVE A CLEAR SPACE THAT IS EQUAL TO OR GREATER THAN 3" (75 mm), BUT LESS THAN 6" (150 mm), A CONCRETE COLLAR IS REQUIRED. IF THE CLEAR SPACE IS 6" (150 mm) OR GREATER, A TRANSITION STRUCTURE IS REQUIRED.
 - CONCRETE COLLAR SHALL NOT BE USED FOR A SIZE CHANGE ON THE MAIN LINE.
 - CONNECTOR PIPES
 - WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A CONCRETE COLLAR, L AND T SHALL BE THOSE OF THE LARGER PIPE. D=D₁ OR D₂, WHICHEVER IS GREATER.
 - WHEN D₁ IS EQUAL TO OR LESS THAN D₂ SPECIAL COLLAR DETAILS ARE REQUIRED.
 - FOR PIPE LARGER THAN 72" (1800 mm) SPECIAL COLLAR DETAILS ARE REQUIRED.
 - FOR PIPE SIZE NOT LISTED USE NEXT SIZE LARGER.
 - REINFORCEMENT SHALL CONFORM TO ASTM A 615 (A 615 M) GRADE 40 (300).
 - WHERE REINFORCING IS REQUIRED THE DIAMETER OF THE CIRCULAR TIES SHALL BE D+(2X WALL THICKNESS) + T.
 - REINFORCING SHALL BE USED WHERE THE PIPE DIAMETER IS GREATER THAN 21" (525 mm) AND ON ALL PIPES WHERE THE SPACES BETWEEN THE EXTREME OUTER ENDS IS 3" (75 mm) OR LARGER.
- CIRCULAR TIES:**
- | PIPE DIAMETER | NO. OF CIRCULAR TIES |
|--------------------------------|----------------------|
| 21" (525 mm) OR LESS | 3 |
| 24" (600 mm) TO 30" (750 mm) | 3 |
| 33" (825 mm) TO 57" (1425 mm) | 4 |
| 60" (1500 mm) TO 72" (1800 mm) | 5 |
- WHERE THE SPACE BETWEEN PIPE ENDS EXCEEDS 3" (75 mm), THE NUMBER OF CIRCULAR TIES SHALL BE INCREASED TO MAINTAIN AN APPROXIMATE SPACING OF 6" (150 mm) O.C.
10. WHERE THE PIPE IS 21" (525 mm) OR LESS IN DIAMETER AN INTERIOR FORM OF UNSEALING SONO-TUBE OR EQUAL SHALL BE USED TO PROVIDE A SMOOTH INTERIOR JOINT. THE PAPER FORM MAY BE LEFT IN PLACE (SEE DETAIL A). WHEN THE PIPE IS 24" (600 mm) OR LARGER A REMOVABLE INTERIOR FORM SHALL BE USED OR THE INTERIOR JOINT SHALL BE COMPLETELY FILLED WITH MORTAR AND NEATLY POINTED.

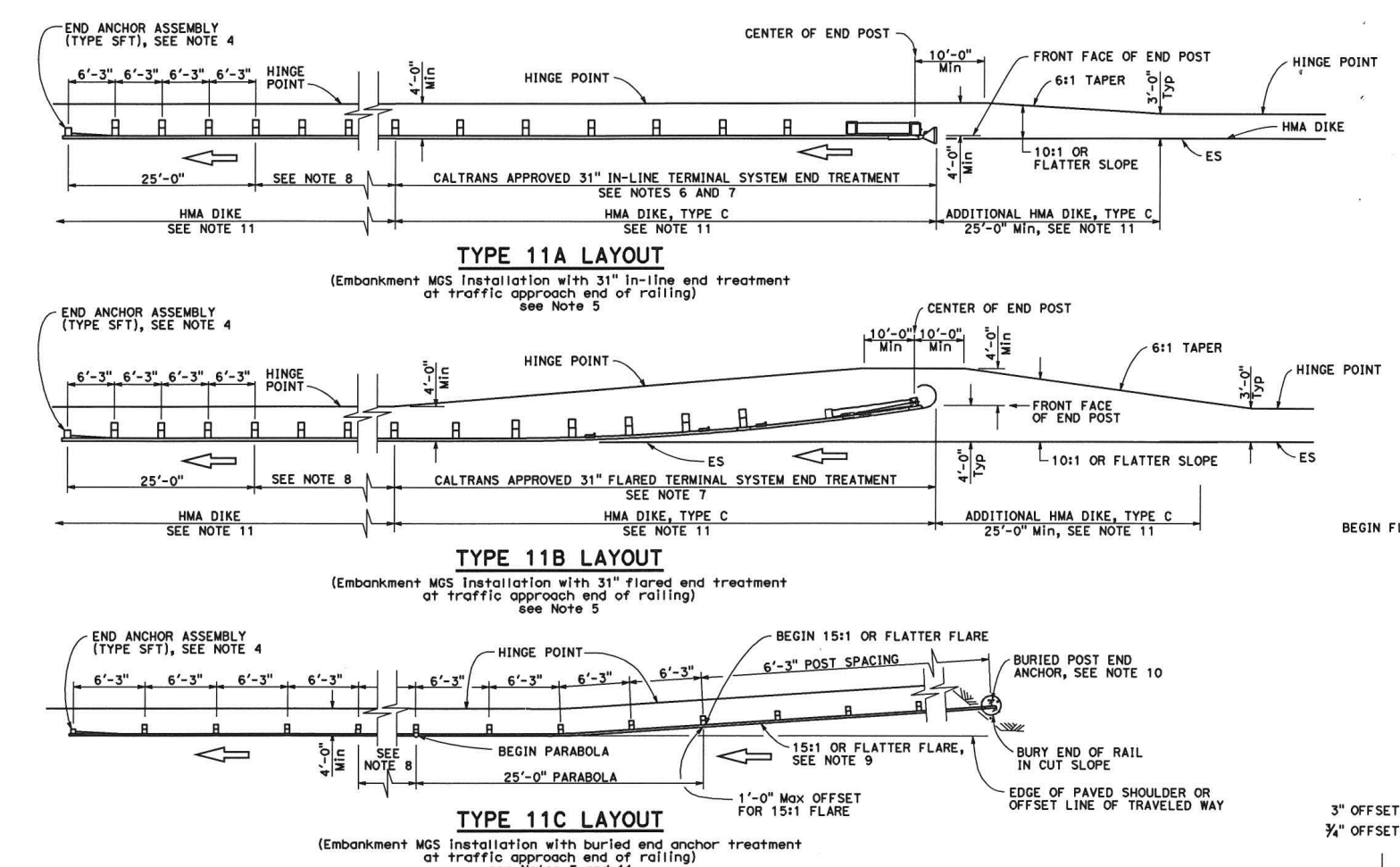


- NOTES:**
- DETAIL SHOWN HEREON IS FOR LEVEL TOP OF WALL CONDITIONS. FOR SLOPED TOP OF WALL CONDITION POSTS AND PICKETS SHALL BE INSTALLED VERTICAL AND PLUMB.
 - H SHALL BE PER WALL PROFILE, WHERE OCCURS.
 - RAILS, POST, AND PICKETS SHALL BE GALVANIZED STEEL PIPE.
 - WELDS SHALL BE SLOT OR FILLET WELDS (1/4" MIN) EQUAL TO THICKNESS OF PIPE UNLESS NOTED OTHERWISE. WELD ALL JOINTS ALL AROUND.
 - CONSTRUCT END CAP PER DETAIL WHERE RAIL TERMINATES.
 - GRIND ALL WELDS AND EXPOSED EDGES SMOOTH AND TOUCH UP WITH ZINC RICH PAINT COMPOUND (COLOR TO MATCH).



TYPICAL HANDRAIL AND SLEEVE/POST EMBEDMENT DETAIL (L13)

SCALE: NOT TO SCALE

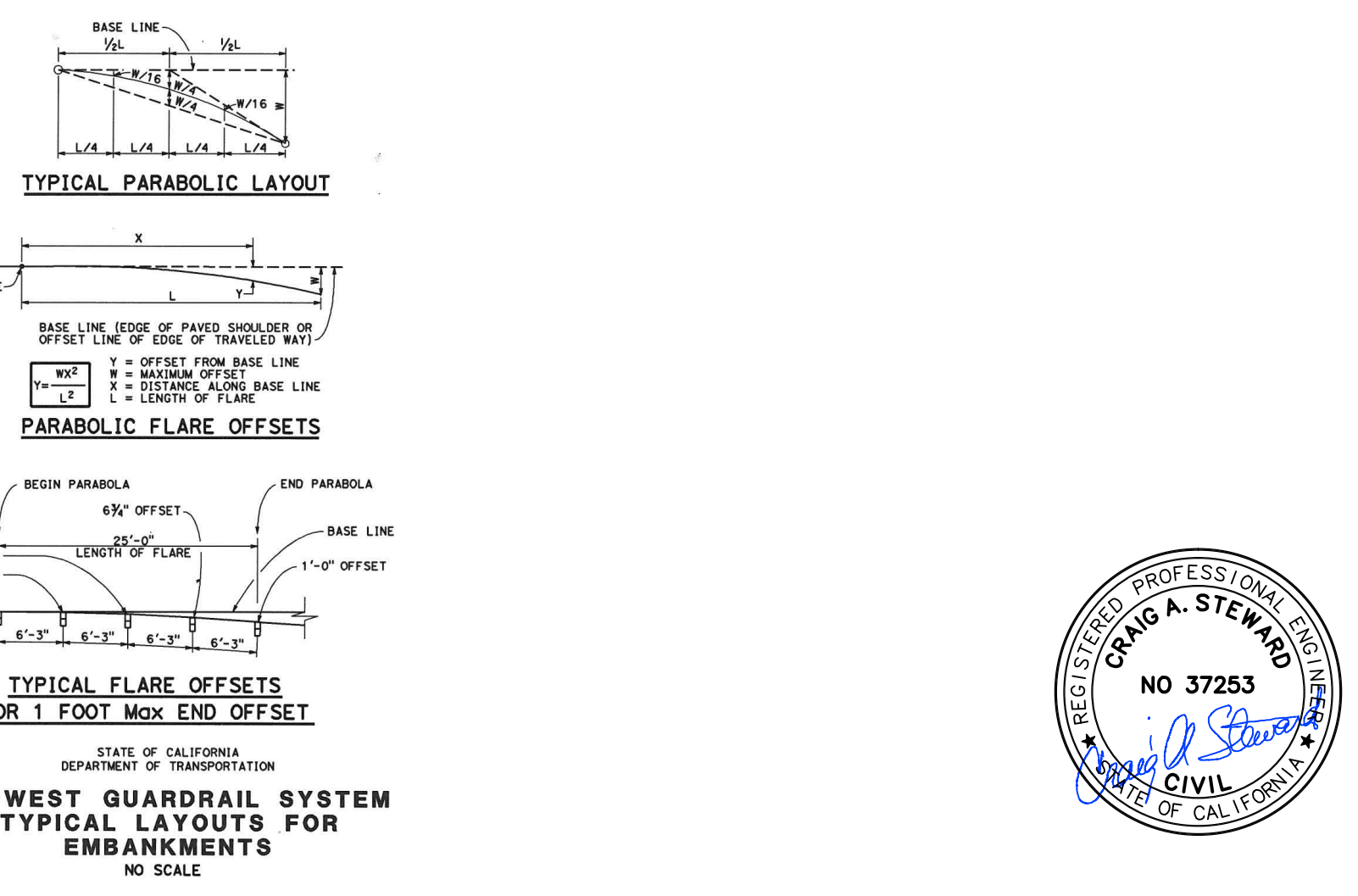


- NOTES:**
- Line posts, blocks and hardware to be used are shown on Revised Standard Plans RSP A771, RSP A772, RSP A773, RSP A774 and RSP A775.
 - MDS post spacing to be 6'-3" center to center, except as otherwise noted.
 - Except as noted, line posts are 6" x 6" x 8'-0" wood with 6" x 12" x 12" wood blocks, 6" x 8" x 8" steel posts, 6'-0" in length, with 6" x 12" x 12" notched wood blocks or recycled plastic blocks may be used for 6" x 6" x 8'-0" wood posts with 6" x 12" x 12" wood blocks where applicable and when specified.
 - For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A775.
 - Layout Types 11A, 11B or 11C are typically used where MDS is recommended to provide embankment slopes and a crestway and treatment is required for only one direction of traffic.
 - 31" in-line terminal system and treatments are used where site conditions will not accommodate a flared end treatment.
 - The type of 31" terminal system and treatment to be used will be shown on the Project Plans.
 - Dependent on site conditions (embankment height and side slope), construction of additional MDS (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
 - The 15:1 or flatter flare used with buried end posts and anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MDS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
 - For details of the buried end post and anchor used with Type 11C Layout, see Revised Standard Plan RSP A772.
 - Where placement of dikes is required with MDS installations, see Revised Standard Plan RSP A774 for dike positioning details.

NOTE: PLACEMENT NEAR TOP OF EMBANKMENT WILL BE PER CALTRANS STANDARD PLAN RSP A77N3.

GUARDRAIL INSTALLATION (L14)

SCALE: NOT TO SCALE 2010 CALTRANS STD PLAN RSP A77P1



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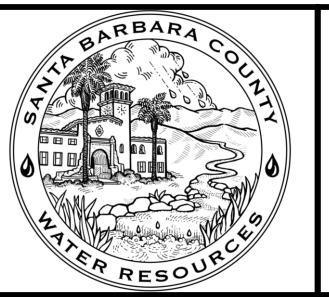
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NO.	DESCRIPTION	DATE	APR

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DESIGN ENGINEER:	
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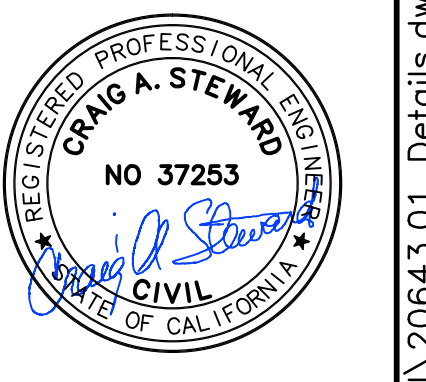


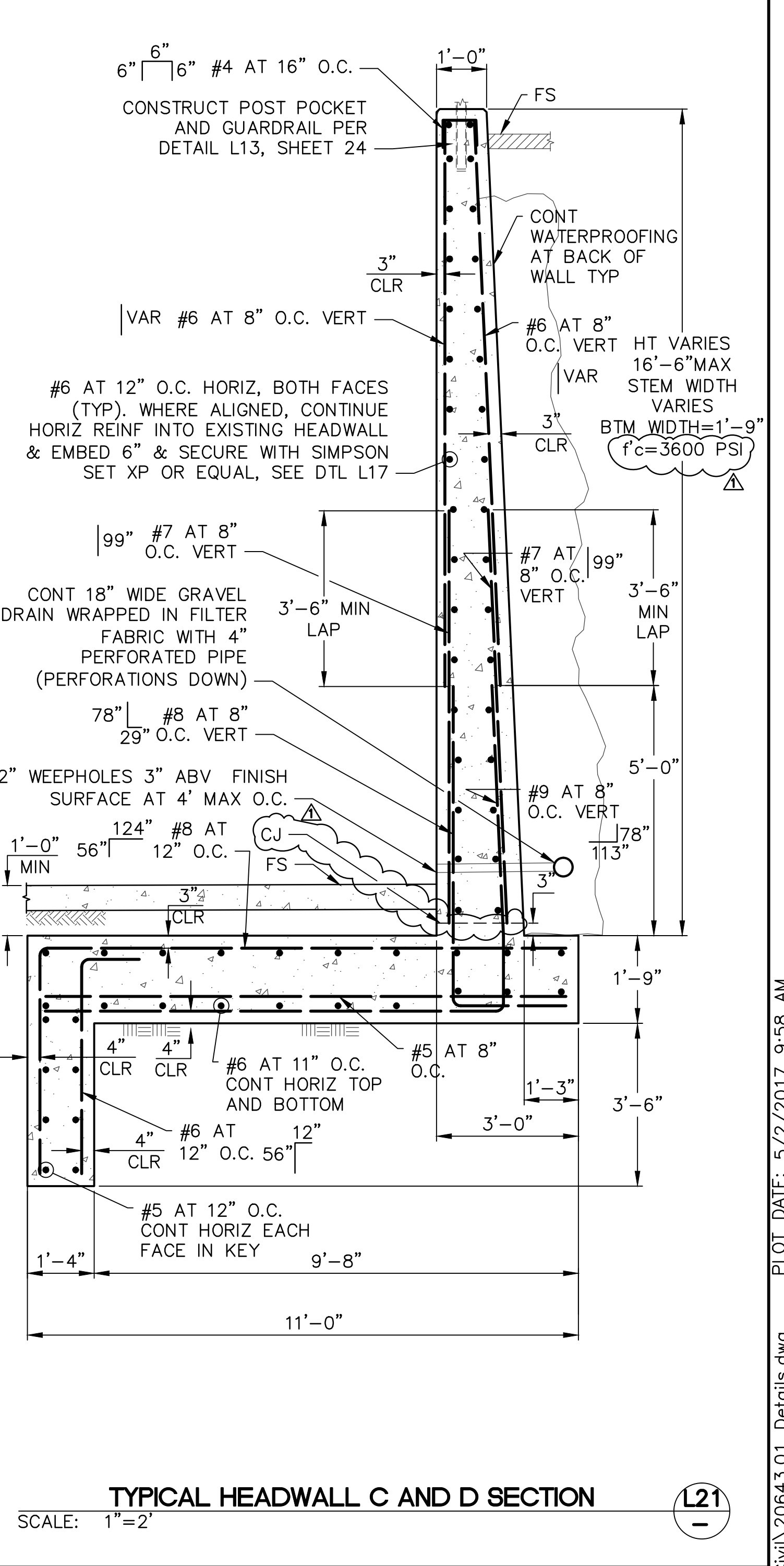
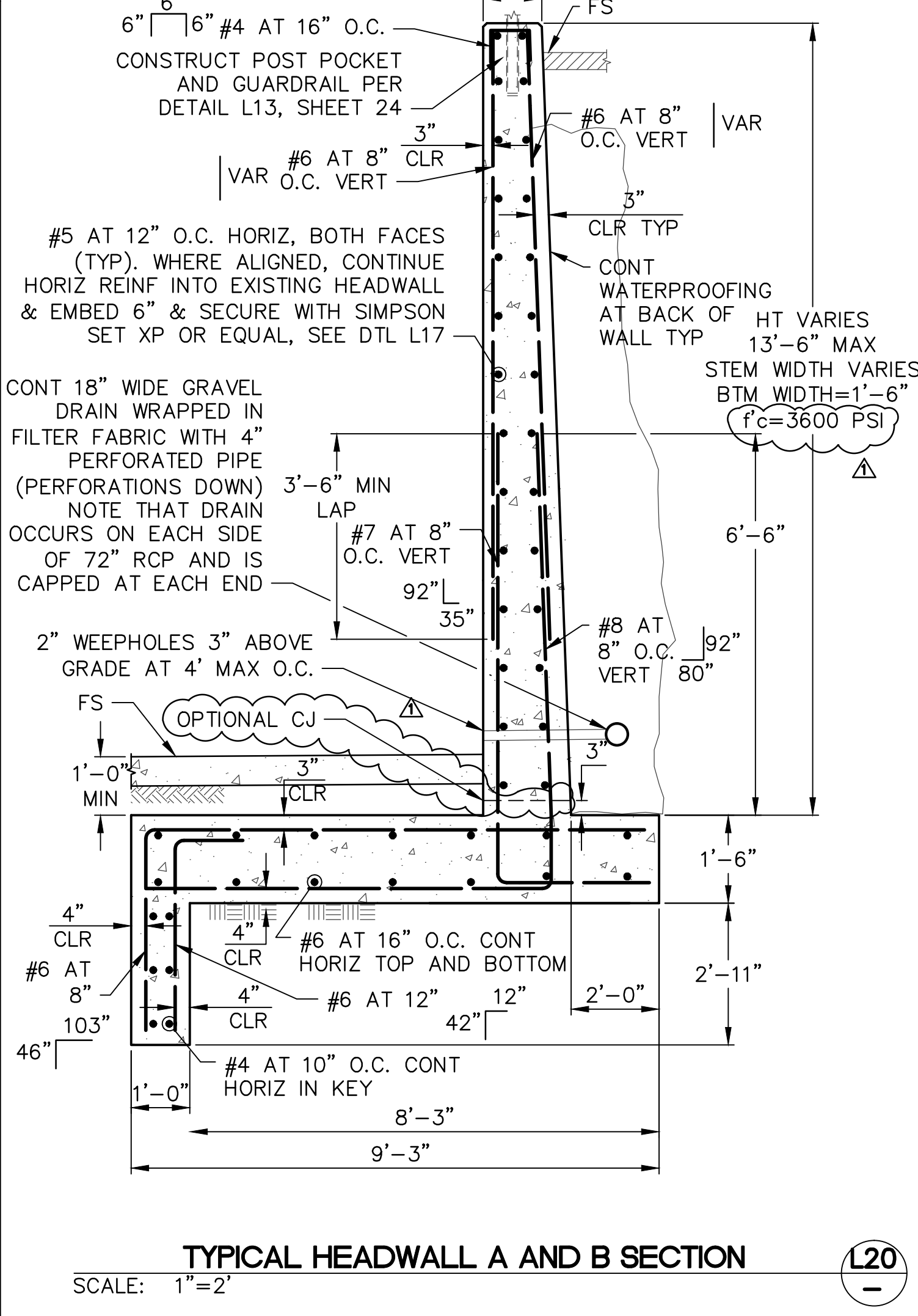
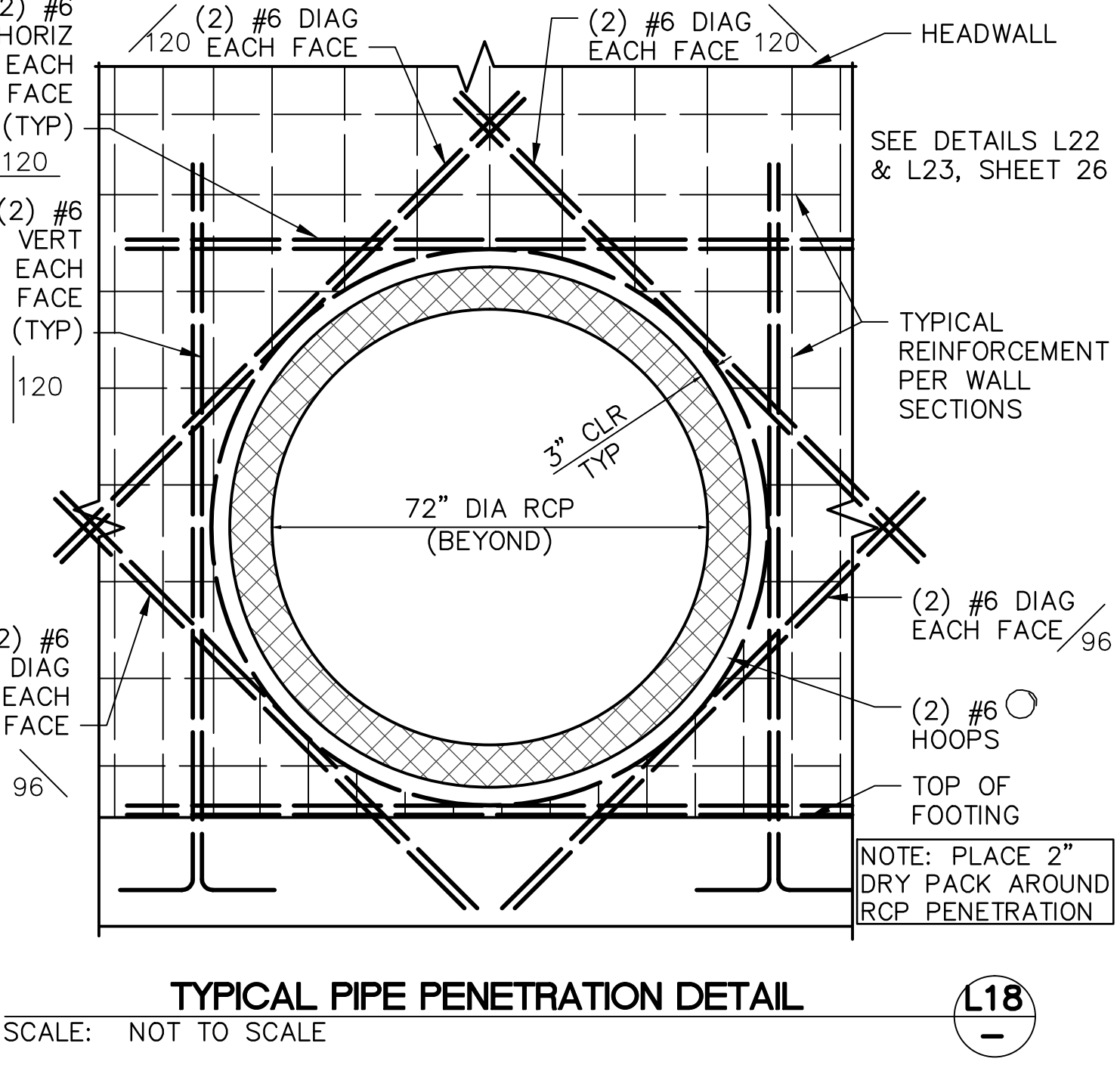
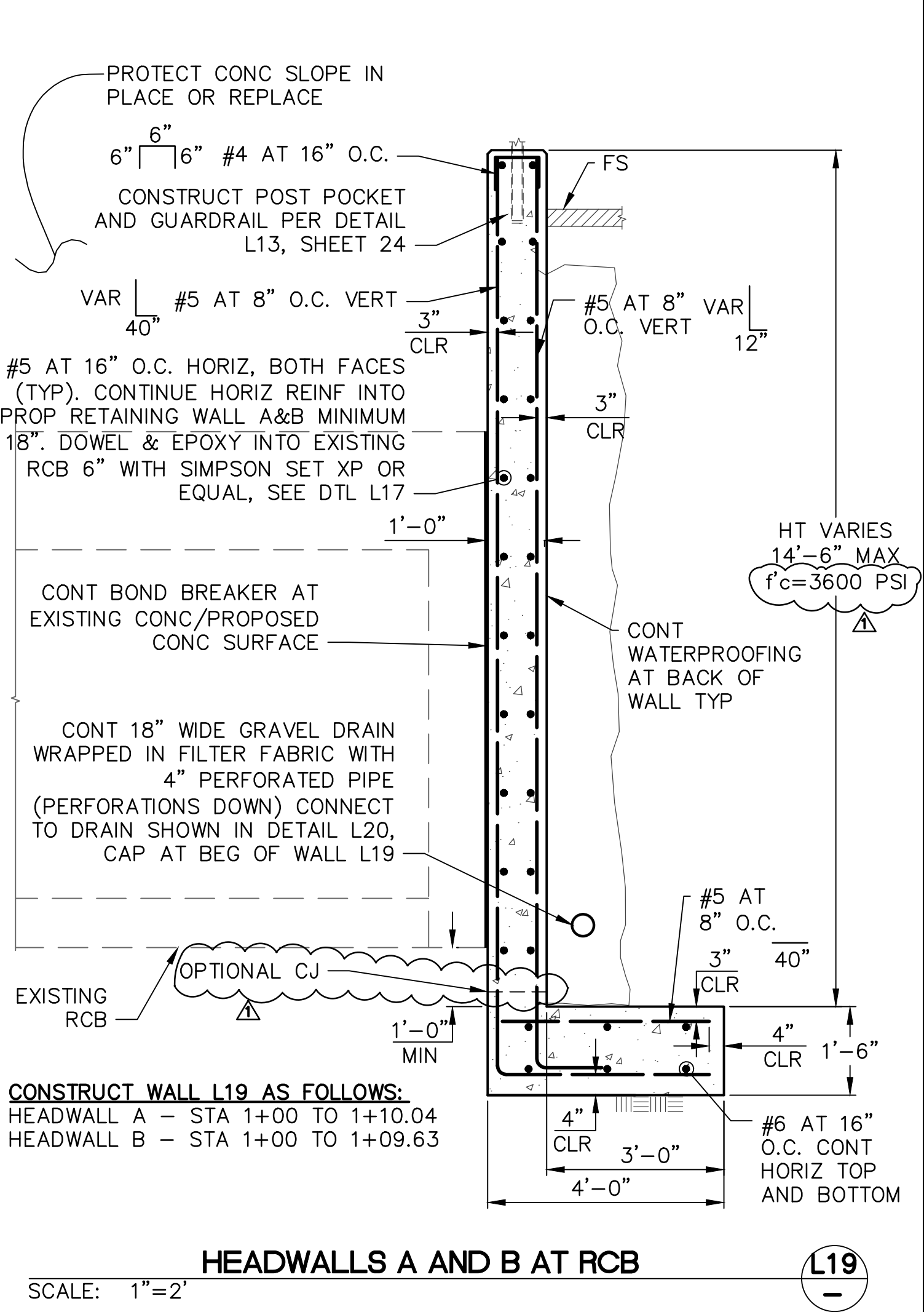
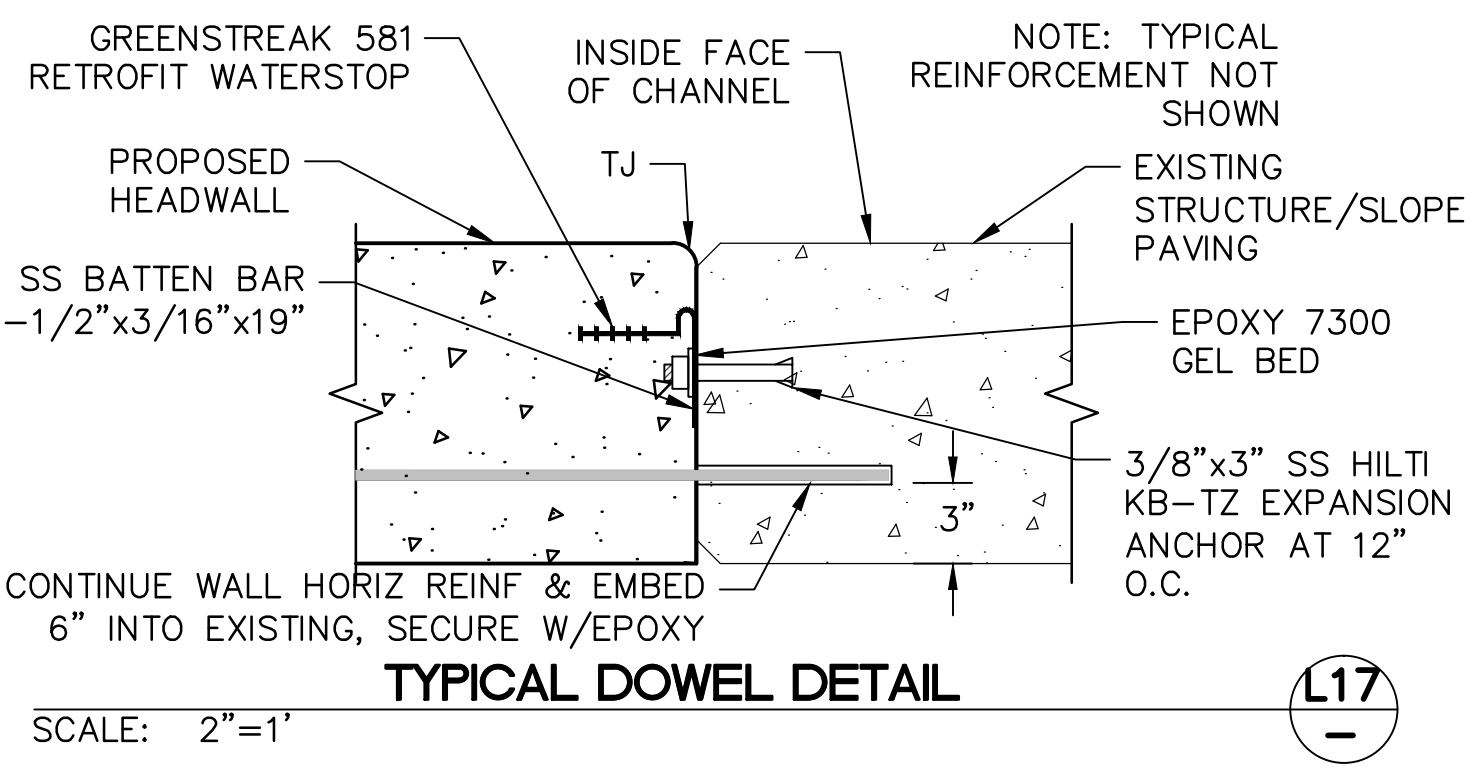
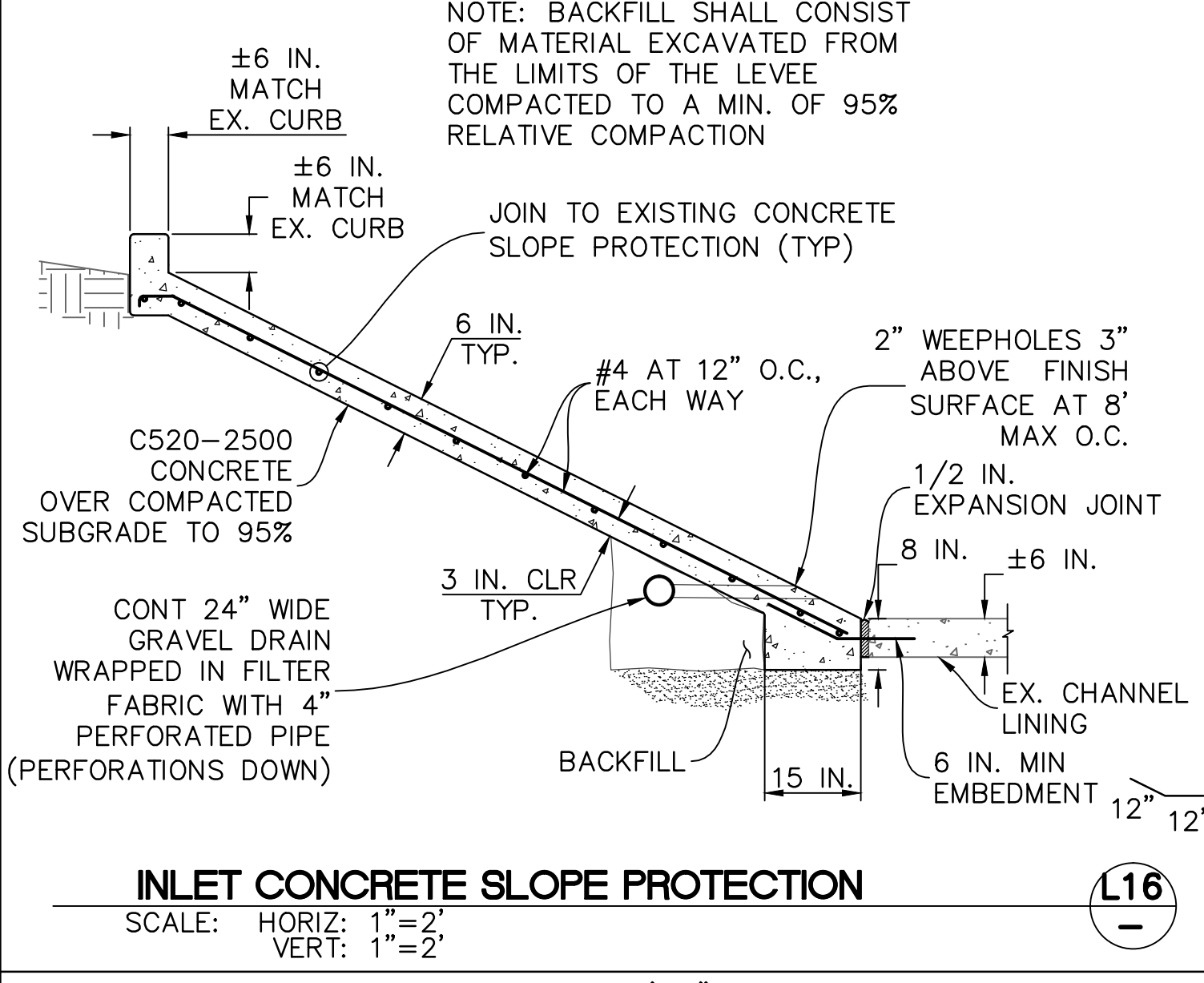
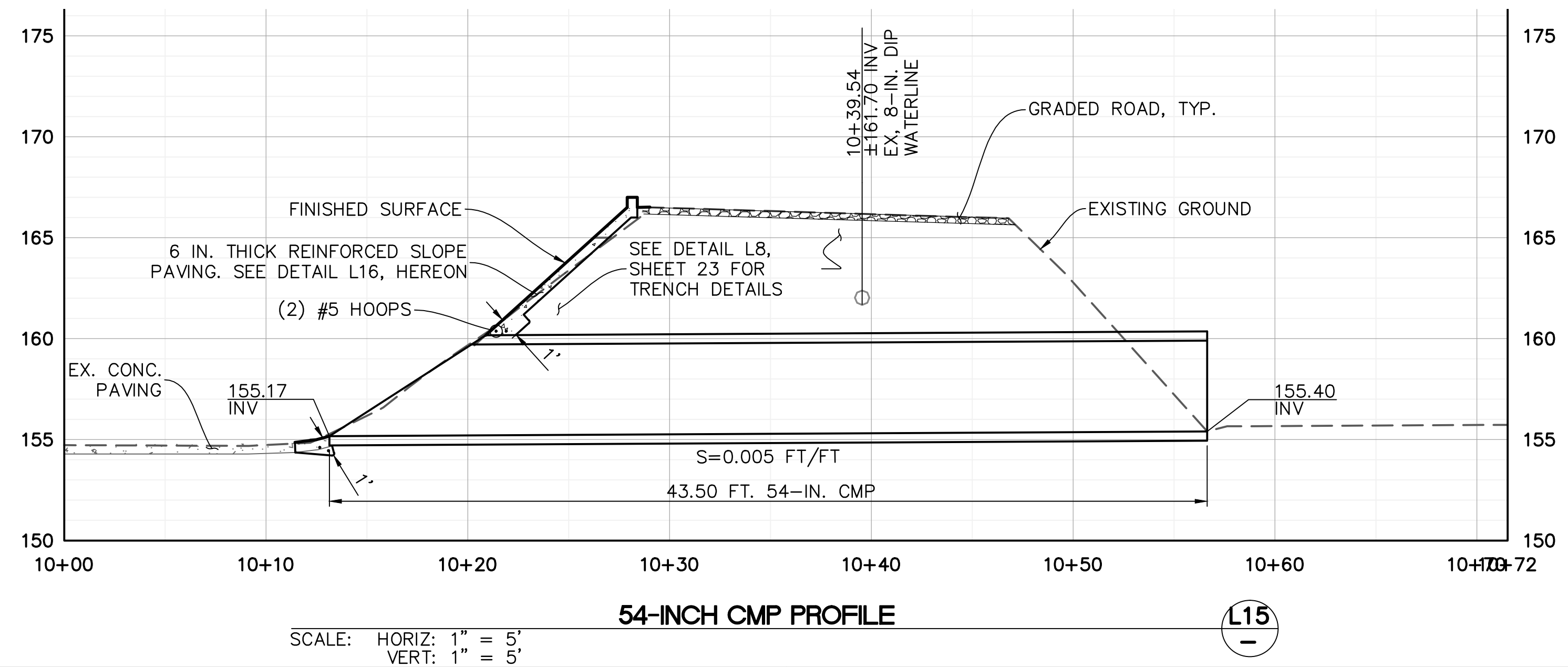
UNIT II CHANNEL DRAINAGE IMPROVEMENTS PROJECT

AREA OF SANTA MARIA
SANTA BARBARA COUNTY, CALIFORNIA

LEVEE DETAILS

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SHEET	24 OF 26
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REGISTERED PROFESSIONAL ENGINEER
GREG A. STEWARD
NO 37253
CIVIL
STATE OF CALIFORNIA

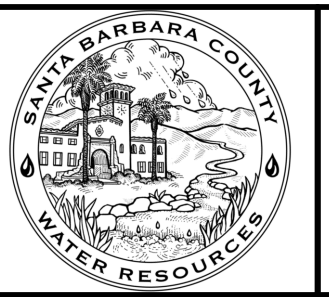
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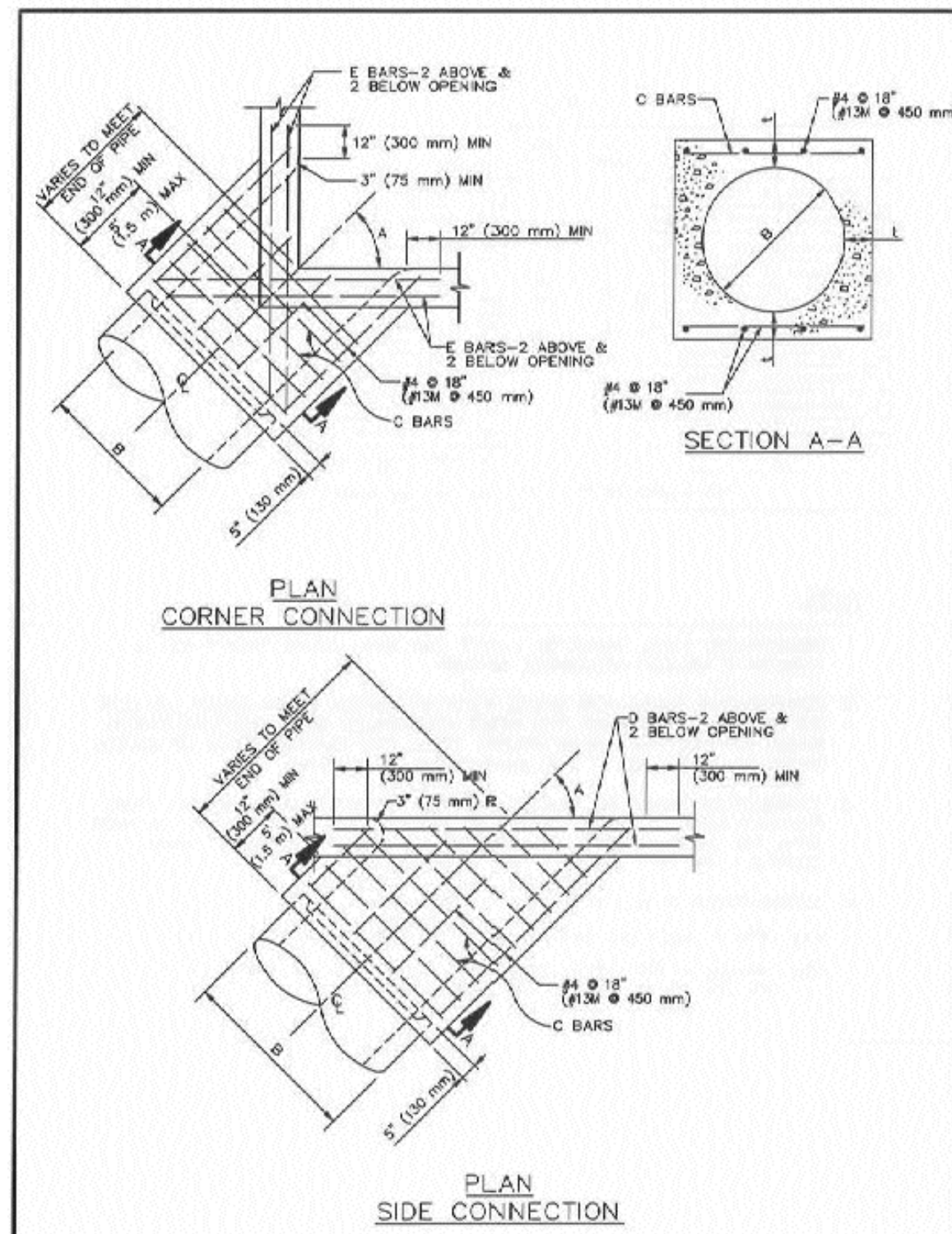
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LEVEE DETAILS

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STRUCTURAL DATA							
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12" (300 mm)	4" (115 mm)	#4 @ 6" (150 mm)	#4 (F10)	42" (1050 mm)	7 1/2" (190 mm)	#4 @ 6" (150 mm)	#4 (F10)
15" (375 mm)	4-1/4" (115 mm)	#4 @ 6" (150 mm)	#4 (F10)	45" (1125 mm)	7 3/4" (190 mm)	#4 @ 6" (150 mm)	#4 (F10)
18" (450 mm)	4-1/2" (115 mm)	#4 @ 6" (150 mm)	#4 (F10)	48" (1200 mm)	8" (215 mm)	#4 @ 6" (150 mm)	#4 (F10)
21" (525 mm)	5" (140 mm)	#4 @ 6" (150 mm)	#4 (F10)	51" (1275 mm)	8 1/2" (215 mm)	#4 @ 6" (150 mm)	#4 (F10)
24" (600 mm)	5 1/4" (140 mm)	#4 @ 6" (150 mm)	#4 (F10)	54" (1350 mm)	9" (240 mm)	#4 @ 6" (150 mm)	#4 (F10)
27" (675 mm)	5 1/2" (140 mm)	#4 @ 6" (150 mm)	#4 (F10)	57" (1425 mm)	9 1/4" (240 mm)	#4 @ 6" (150 mm)	#4 (F10)
30" (750 mm)	6" (165 mm)	#4 @ 6" (150 mm)	#4 (F10)	60" (1500 mm)	9 1/2" (240 mm)	#4 @ 6" (150 mm)	#4 (F10)
33" (825 mm)	6 1/4" (165 mm)	#4 @ 6" (150 mm)	#4 (F10)	63" (1575 mm)	10" (250 mm)	#4 @ 6" (150 mm)	#4 (F10)
36" (900 mm)	6 1/2" (165 mm)	#4 @ 6" (150 mm)	#4 (F10)	66" (1650 mm)	10 1/4" (260 mm)	#4 @ 6" (150 mm)	#4 (F10)
39" (975 mm)	7" (175 mm)	#4 @ 6" (150 mm)	#4 (F10)	69" (1725 mm)	10 3/4" (260 mm)	#4 @ 6" (150 mm)	#4 (F10)
				72" (1800 mm)	11" (280 mm)	#4 @ 6" (150 mm)	#4 (F10)

- NOTES
1. REINFORCING STEEL SHALL BE 1-1/2" (40 mm) CLEAR FROM FACE OF CONCRETE UNLESS OTHERWISE SHOWN.
 2. REINFORCING STEEL FOR INSIDE FACE OF CATCH BASIN SHALL BE CUT AT CENTER OF OPENING AND BENT INTO WALLS OF MONOLITHIC CATCH BASIN CONNECTION. REINFORCING STEEL FOR OUTSIDE FACE OF CATCH BASIN SHALL BE CUT 2" (50 mm) CLEAR OF OPENING.
 3. CONNECTION SHALL BE PLACED MONOLITHIC WITH CATCH BASIN. THE ROUNDED EDGE OF OUTLET SHALL BE CONSTRUCTED BY PLACING CONCRETE WITH THE SAME CLASS OF CONCRETE AS THE CATCH BASIN AGAINST A CURVED FORM WITH A RADIUS OF 3" (75 mm).
 4. CONNECTIONS SHALL BE CONSTRUCTED WHEN:
 - (A) PIPES INLET OR OUTLET THROUGH CORNER OF CATCH BASIN
 - (B) ANGLE A FOR PIPES THROUGH 30° (75 mm) IN DIAMETER IS LESS THAN 70° OR GREATER THAN 110°.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
 MONOLITHIC CATCH BASIN CONNECTION 308-2
 SHEET 1 OF 2

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
 MONOLITHIC CATCH BASIN CONNECTION 308-2
 SHEET 2 OF 2

RCP CONNECTION TO HEADWALL
 SCALE: NOT TO SCALE
 APWA STANDARD PLAN 308-2

L22

CONSTRUCT HIGH STRENGTH NON SHRINK LEVELING GROUT AT FRAME & FACE OF HEADWALL

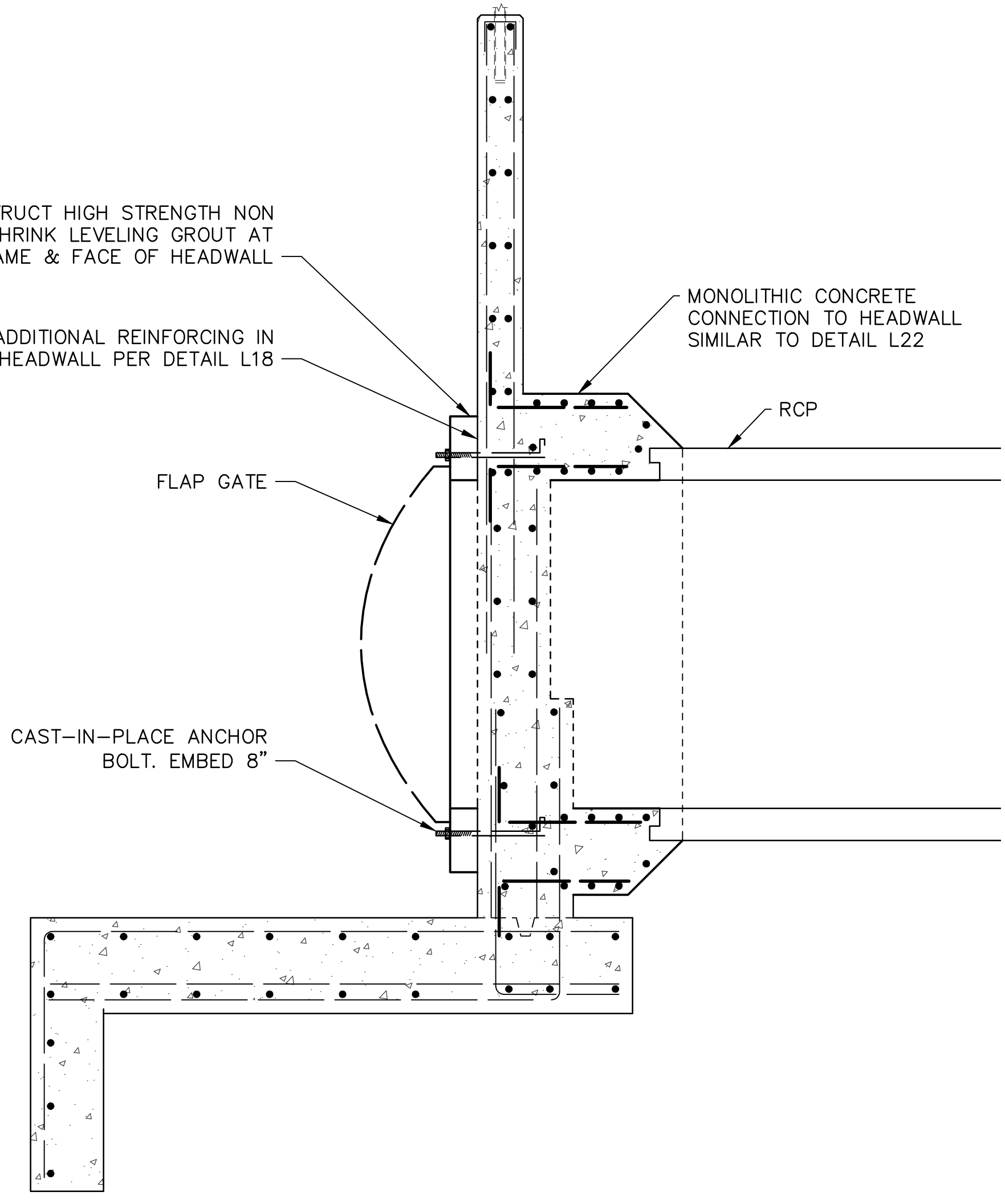
ADDITIONAL REINFORCING IN HEADWALL PER DETAIL L18

FLAP GATE

CAST-IN-PLACE ANCHOR BOLT. EMBED 8"

MONOLITHIC CONCRETE CONNECTION TO HEADWALL SIMILAR TO DETAIL L22

RCP



TYPICAL CONNECTION - RCP AT HEADWALL
 SCALE: 1"=2'

L23



ALL UNDERGROUND UTILITIES SHOWN ARE PLOTTED BASED ON INFORMATION PROVIDED BY OTHERS, AND ARE APPROXIMATE. OVERHEAD UTILITIES ARE NOT SHOWN.

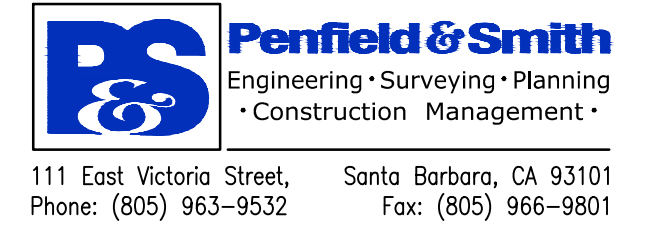
THE SANTA BARBARA COUNTY FLOOD CONTROL DISTRICT IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS INFORMATION. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF TWO WORKING DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION @ 1-800-422-4133.

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE" ADVERTISING FOR BIDS.

UNAUTHORIZED CHANGES OR USES:
 THE SANTA BARBARA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT AND ITS EMPLOYEES WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL PROPOSED CHANGES TO THE PLANS MUST BE PRESENTED IN WRITING TO THE DISTRICT AND APPROVED IN WRITING BY THE DISTRICT PRIOR TO IMPLEMENTATION OF ANY SUCH CHANGE OR USE.

REVISIONS			
NO.	DESCRIPTION	DATE	APR

DESIGNED BY:
 DESIGN ENGINEER DATE



SANTA BARBARA COUNTY
 FLOOD CONTROL AND
 WATER CONSERVATION DISTRICT
 130 E. VICTORIA STREET
 SANTA BARBARA, CA 93101
 (805) 568-3440



UNIT II CHANNEL DRAINAGE
 IMPROVEMENTS PROJECT
 AREA OF SANTA MARIA
 SANTA BARBARA COUNTY, CALIFORNIA

LEVEE DETAILS

DESIGNED BY:
 BTF/TJM
 DRAWN BY:
 TJM
 CHECKED BY:
 CAS

SHEET 26 OF 26
 Filename: 20643.01 Details.dwg