CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
FROM SKYHAWK TO 3800' EASTERLY
APRIL 2022
CIP# 311309

GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE MOST CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CITY OF IRVINE STANDARD DRAWINGS, CITY OF IRVINE STANDARD SPECIFICATIONS, THE UNIFORM BUILDING CODE, THE WORK AREA TRAFFIC CONTROL HANDBOOK (W.A.T.C.H. MANUAL), CALTRANS STANDARD SPECIFICATIONS, ADA, CALIFORNIA MUTCD AND TITLE 24.
2. THE CONTRACTOR SHALL TELEPHONE THE CITY OF IRVINE INSPECTIONS (949) 724-6500 AND THE CITY OF IRVINE TRAFFIC OPERATIONS (949) 724-7649, AT LEAST TWO WORKING DAYS (48 HOURS) PRIOR TO STARTING CONSTRUCTION.
3. ALL UNDERGROUND FACILITIES SHALL BE INSTALLED PRIOR TO SURFACING OF STREETS. THE INSTALLATION OF ALL UNDERGROUND FACILITIES CROSSING EXISTING ARTERIAL STREETS REQUIRES BORING OR JACKING, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
4. ANY EXISTING PAVEMENT DISTURBED BY THE CONSTRUCTION OF UNDERGROUND INSTALLATIONS SHALL BE COVERED BY A PERMIT ISSUED BY THE CITY OF IRVINE.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR AND COORDINATE THE RELOCATION OF ANY EXISTING UTILITIES DEEMED NECESSARY BY THE PROPOSED IMPROVEMENT.
6. WHENEVER IT BECOMES NECESSARY TO TUNNEL UNDER EXISTING IMPROVEMENTS, THE CONTRACTOR SHALL SUPPORT THOSE IMPROVEMENTS IN A MANNER APPROVED BY THE CITY ENGINEER, OR THE CONTRACTOR SHALL SAWCUT, REMOVE AND REPLACE THOSE IMPROVEMENTS IN ACCORDANCE WITH THE CITY OF IRVINE STANDARD DRAWINGS.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE NEW SEWER LATERALS CONSTRUCTED AND TO STAMP THE CURB WITH AN "S" ABOVE THE NEW LATERAL. INDIVIDUAL SEWER AND WATER SERVICES SHALL NOT BE LOCATED UNDER A DRIVEWAY.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND STAMP THE CURB ON EACH SIDE OF THE STREET WITH THE APPROPRIATE LETTER: "E" FOR EDISON, "T" FOR TELEPHONE, ETC., WHEREVER UNDERGROUND FACILITIES CROSS A STREET.
9. PRIOR TO PLACING OF UNDERGROUND UTILITIES, THE LOCATION OF ALL UNDERGROUND FACILITIES (ELECTRICAL, TELEPHONE, CABLE TV, GAS, ETC.) SHALL BE ADDED TO IMPROVEMENT PLANS.
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES (BY POTHOLING OR OTHER MEANS). CONTRACTORS SHALL NOTIFY UNDERGROUND SERVICE ALERT (U.S.A.) (800) 422-4133 AT LEAST TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION TO LOCATE EXISTING UTILITIES.
11. ALL CONCRETE WORK AS SHOWN ON PLANS (CURB & GUTTER, STORM DRAIN, PIPE, MANHOLES, SIDEWALK, ETC.) SHALL BE EXTRA STRENGTH CONCRETE WITH 7 SACK TYPE II CEMENT OR 6 SACK TYPE V CEMENT, UNLESS DEEMED UNNECESSARY BY SULPHATE CONTENT TESTS AS APPROVED BY THE CITY OF IRVINE.
12. CONTRACTOR SHALL OBTAIN ANY REQUIRED O.S.H.A. PERMITS PRIOR TO ANY EXCAVATIONS.
13. ARROW BOARDS SHALL BE USED ON ANY LANE CLOSURES ON ARTERIAL STREETS.
14. SLURRY BACKFILL SHALL BE REQUIRED WHEN TUNNELING UNDER CURB AND GUTTER. SLURRY BACKFILL IS REQUIRED AROUND ALL MANHOLE CONSTRUCTION WITHIN PAVED STREETS.
15. THE FOLLOWING SIGN SHALL BE POSTED AT ALL STREET INTERSECTIONS AND TRACT ENTRANCES.

    MAINTENANCE OF THIS STREET AND RIGHT-OF-WAY IS THE DEVELOPER'S RESPONSIBILITY.

    DEVELOPER HERITAGE FIELDS PHONE (949) 456-2555

    THE SIGN SHALL HAVE 3" HIGH (MINIMUM) LETTERING AND MUST BE INSTALLED PRIOR TO ANY OCCUPANCY. DEVELOPERS SHALL REMOVE SIGNS AT THE TIME OF CITY ACCEPTANCE OF STREET IMPROVEMENTS.
16. STREET CONSTRUCTION AND IMPROVEMENTS SHALL NOT BE OPENED FOR PUBLIC USE UNTIL ACCEPTED BY THE CITY.
17. ALL IMPROVEMENTS AND TRAFFIC SIGNAL WORK WITHIN THE STATE RIGHT-OF-WAY SHALL CONFORM TO CURRENT CALTRANS STANDARD SPECIFICATIONS.
18. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING WORK. SHOULD CONDITIONS EXIST WHICH ARE CONTRARY TO THOSE SHOWN ON PLANS, THE DESIGN ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH WORK.
19. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT ALL PIPES WALLS, ETC. ARE ADEQUATELY BRACED DURING CONSTRUCTION.
20. ALL WORK SHALL CONFORM TO THE PLANS AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO APPROVAL BY THE CITY'S INSPECTOR.
21. PURSUANT TO SECTION 8771 OF THE BUSINESS AND PROFESSIONS CODE, EXISTING SURVEY MONUMENTS SHALL BE NOTED AND DOCUMENTED BEFORE CONSTRUCTION. IF MONUMENTS ARE DISTURBED DURING CONSTRUCTION, THE CONTRACTOR SHALL PAY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER TO RESET SUCH MONUMENTS, UNLESS OTHERWISE SPECIFIED OR DESIGNATED.
22. CONSTRUCTION ACTIVITIES MAY OCCUR BETWEEN 7:00 A.M. AND 7:00 P.M. MONDAYS THROUGH FRIDAYS, AND 9:00 A.M. AND 6:00 P.M. ON SATURDAYS. NO CONSTRUCTION ACTIVITIES SHALL BE PERMITTED OUTSIDE OF THESE HOURS OR ON SUNDAYS AND FEDERAL HOLIDAYS UNLESS A TEMPORARY WAIVER IS GRANTED BY THE CHIEF BUILDING OFFICIAL OR HIS OR HER AUTHORIZED REPRESENTATIVE.
23. NO WORK MAY OCCUR ON ARTERIAL STREETS BEFORE 9:00 A.M. OR CONTINUE AFTER 3:00 P.M. UNLESS A TEMPORARY WAIVER IS GRANTED BY THE CHIEF BUILDING OFFICIAL OR HIS OR HER AUTHORIZED REPRESENTATIVE.
24. IF THE CONTRACTOR WISHES TO ENGAGE IN CRUSHING OPERATIONS AT THE PROJECT SITE, HE OR SHE MUST PROVIDE A WRITTEN REQUEST AND OBTAIN THE CITY'S WRITTEN APPROVAL PRIOR TO AWARD OF THE CONSTRUCTION CONTRACT. THE WRITTEN REQUEST MUST STATE THE PROPOSED LOCATION OF THE CRUSHER AND THE SOURCE OF RUBBLE TO BE CRUSHED. THE CITY HAS THE OPTION TO PERMIT OR PROHIBIT CRUSHING OPERATIONS FOR UNTREATED BASE MATERIAL IN THE IMMEDIATE VICINITY OF THE PROJECT SITE. IF ALLOWED, THE CRUSHING OPERATION MUST BE IN COMPLIANCE WITH SECTION 200-2 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

STORM DRAIN NOTES:

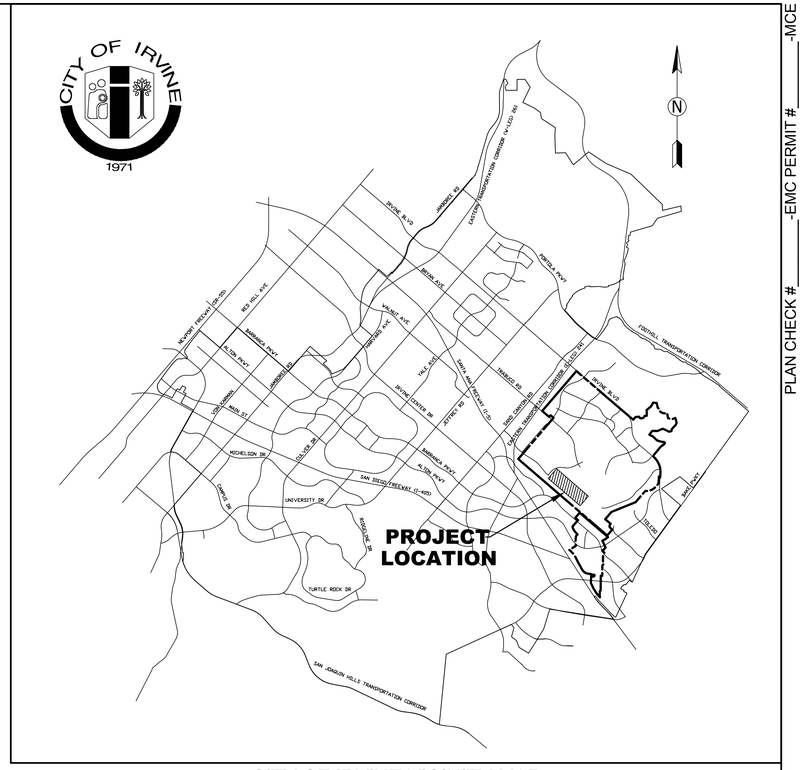
1. STATION SHOWN AS (0 + 00) ARE STORM DRAIN STATIONS AND ARE INDEPENDENT OF ALL CENTERLINE STATIONS.
2. ALL WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CITY OF IRVINE STANDARD DRAWINGS, CITY OF IRVINE STANDARD SPECIFICATIONS, ALL APPLICABLE GENERAL NOTES AND THE STANDARD SPECIFICATIONS OF THE STATE OF CALIFORNIA WHERE APPLICABLE.
3. ALL TRENCH EXCAVATIONS SHALL CONFORM TO STATE OF CALIFORNIA CONSTRUCTION SAFETY ORDERS.
4. ALL PIPES SHALL BE BEDDED IN ACCORDANCE WITH DETAILS SHOWN ON STD PLAN 318 UNLESS OTHERWISE NOTED.
5. THE CITY OF IRVINE INSPECTION DEPARTMENT SHALL BE NOTIFIED AT LEAST TWO WORKING DAYS (48 HOURS) PRIOR TO START OF WORK AT (949) 724-6500. A PRE-CONSTRUCTION CONFERENCE IS REQUIRED PRIOR TO START OF CONSTRUCTION.
6. R.C.P. SHALL CONFORM TO APPLICABLE A.S.T.M. STANDARDS.
7. ALL FILL MATERIAL SHALL BE COMPACTED TO MINIMUM 90% RELATIVE COMPACTION AS DETERMINED BY CALIFORNIA TEST METHODS 216F.
8. ALL MATERIAL TESTING FOR THE DRAINAGE FACILITIES SHALL BE PROVIDED BY THE CONTRACTOR OR DEVELOPER IN ACCORDANCE WITH THE NUMBER, LOCATION, AND FREQUENCY REQUESTED BY THE CITY INSPECTOR.

PAVING NOTES:

1. A PRE-PAVING MEETING SHALL BE HELD FORTY-EIGHT (48) HOURS PRIOR TO PAVING. THE CITY OF IRVINE INSPECTOR SHALL BE NOTIFIED FOR ATTENDANCE AT THIS MEETING.
2. ASPHALT CONCRETE MIX DESIGN AND PAVEMENT SHALL BE PER THE REQUIREMENTS OF THE CITY OF IRVINE.
3. UNTREATED BASE BENEATH ASPHALT CONCRETE SHALL BE COMPACTED TO MINIMUM OF 95% RELATIVE DENSITY. COMPACTION TESTING SHALL BE IN ACCORDANCE WITH ASTM D1557 AND D6938.
4. FINAL PAVEMENT SECTIONS MUST BE APPROVED BY THE ENGINEER. THE SOILS ENGINEER SHALL SUBMIT PAVEMENT SECTION RECOMMENDATIONS BASED ON "R" VALUE ANALYSIS OF THE SUBGRADE SOILS, AND CITY APPROVED TRAFFIC INDICES. "R" VALUE TESTS SHALL BE IN ACCORDANCE WITH STATE OF CALIFORNIA TESTING METHOD 301 OR ASTM D2844 OF THE SUBGRADE SOILS.

SURVEY MONUMENT NOTE

1. ALL EXISTING SURVEY MONUMENTS ON OR AROUND THE SITE MUST BE IDENTIFIED AND SHOWN HERON. IF EXISTING MONUMENTS ARE PRESENT WITHIN THE PROPOSED CONSTRUCTION AREA, A RECORD OF SURVEY OR CORNER RECORD SHALL BE REQUIRED TO BE FILED WITH THE COUNTY SURVEYOR (PRIOR TO PLAN APPROVAL) IN ACCORDANCE WITH THE CALIFORNIA BUSINESS AND PROFESSIONS CODE. IF EXISTING SURVEY MONUMENT(S) ARE DISTURBED, THE PROJECT SURVEYOR WILL BE REQUIRED TO RE-ESTABLISH SAID MONUMENTS AND FILE A FINAL RECORD OF SURVEY OR CORNER RECORD WITH THE COUNTY SURVEYOR, PRIOR TO CITY OF IRVINE PROJECT ACCEPTANCE.



CITY OF IRVINE VICINITY MAP

BASIS OF BEARINGS:

THE BEARINGS SHOWN HEREON ARE BASED ON THE BEARING BETWEEN O.C.S. HORIZONTAL CONTROL STATION GPS NO. 6621 AND STATION GPS NO. 6678 BEING SOUTH 29°04'24" EAST PER RECORDS ON FILE IN THEOFFICE OF THE ORANGE COUNTY SURVEYOR.

BENCH MARK:

ORANGE COUNTY SURVEYOR BENCHMARK NO. "3E-120-99"

DESCRIBED BY OCS 2002 - FOUND 3 3\4" OCS ALUMINUM BENCHMARK DISK STAMPED "3E-120-99", SET IN THE NORTHERLY CORNER OF A 4 FT. BY 11 FT. CONCRETE CATCH BASIN. MONUMENT IS LOCATED ALONG THE SOUTHWESTERLY SIDE OF IRVINE BOULEVARD, 500 FT. NORTHWESTERLY OF THE CENTERLINE OF N STREET AND 60 FT. SOUTHWESTERLY OF THE CENTERLINE OF IRVINE. MONUMENT IS SET LEVEL WITH THE SIDEWALK.

NAVD 88-1999 ADJ. ELEV.= 421.098

INDEX OF DRAWINGS

811 Know what's below. Call before you dig.

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

PREPARED FOR:
Heritage Fields El Toro, LLC
Great Park NEIGHBORHOODS
25 ENTERPRISE, SUITE 400
ALISO VIEJO CA 92656

CITY APPROVAL:

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

		DATE
DRAWN BY:	SR	4/18
DESIGNED BY:	SR	4/18
CHECKED BY:	JCL	4/18
RECOMMENDED BY:		DATE

APPROVED BY: CITY ENGINEER
STEVEN CARRILLO R.C.E. NO. 73170 DATE

APPROVED BY: ORANGE COUNTY FIRE MARSHAL
DATE

APPROVED BY: IRVINE RANCH WATER DISTRICT SANITARY SEWER FACILITIES
DATE

APPROVED BY: IRVINE RANCH WATER DISTRICT WATER FACILITIES
DATE

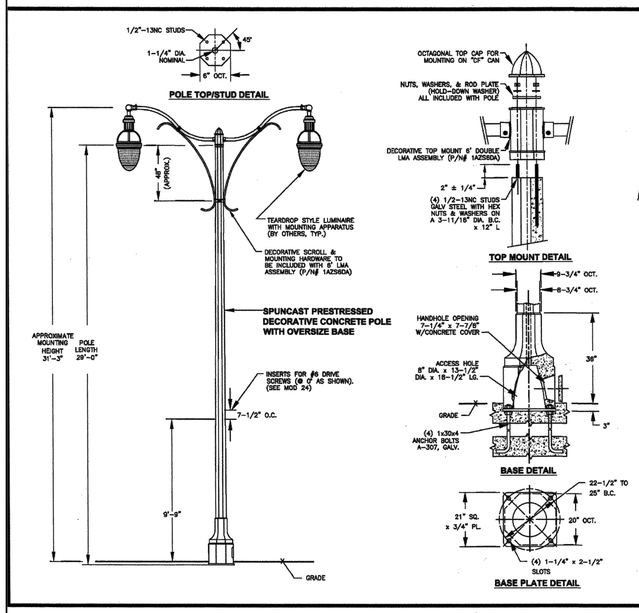
CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
TITLE SHEET
FROM SKYHAWK TO 3800' EASTERLY

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
CIP# 311309
SHEET 1 OF 28

PLAN CHECK # _____ -EMC PERMIT # _____ -MCE

Project No. U0000-0127-CA0000 Specification No. Title: Improvement Plans and Profiles 2020-2021 Date: 7/14/2022 12:00:00 AM



( ) POLES REQUIRED, EACH WITH DECORATIVE 6' DOUBLE LMA ASSEMBLY (P/N# 1A2556DA).

REV.	DATE	DESCRIPTION	DRN.	APPR.

NOTES:

1. MIX (01I): SCE BLACK & WHITE, EXPOSED AGGREGATE FINISH, WITH AMERSHIELD ANTI-GRAFFITI COATING.
2. ASTM C-150 TYPE III GRAY CEMENT.
3. f'c @ 28 DAYS = 6,000 PSI, USING SPUN CYLINDER TEST.
4. f'c @ 28 DAYS = 5,000 PSI, USING ASTM C-31 CYLINDER TEST.
5. POLES MANUFACTURED PER ASTM C-1089-97 SPECIFICATIONS.
6. PROTECTIVE COAT EXPOSED P.C. WIRES AT POLE ENDS.
7. BASEPLATE (ASTM A36) FULLY PRESTRESSED WITH (8) 5/16" DIA. PRESTRESSING TENDONS (CABLES, A-416).
8. ORDER ENTRY: SPECIFY CONCRETE HANDHOLE COVER.
9. MOD 24: SCE ID TAG INSERTS.
10. LMA PAINT COLOR IS TO BE SPECIFIED.
11. MOUNTING HEIGHT VARIES ACCORDING TO LUMINAIRE TYPE.

APPROVED BY DATE

Ameron POLE PRODUCTS & SYSTEMS

SCE #040-01285

5B1-29 (01I) WITH SPECIAL 6' DOUBLE LMA ASSEMBLY

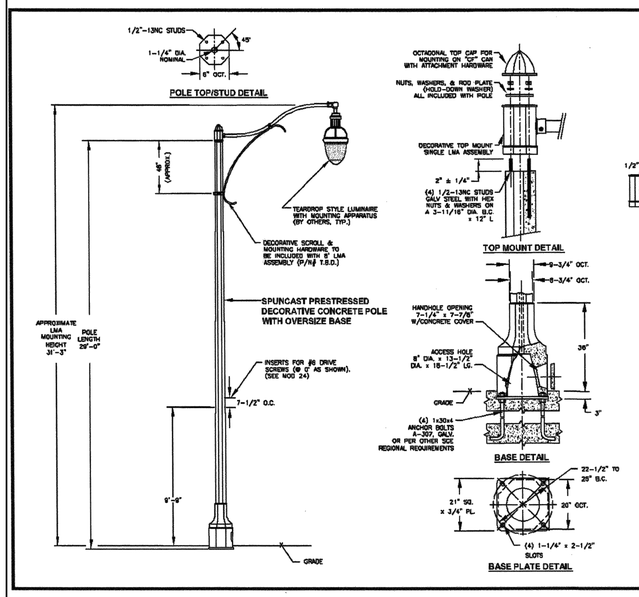
DRAWN: M.L.	09/03	SCALE N.T.S.	DWG. NO. 040-01285	REV
CHK'D:				

(15) DOUBLE ARM STREET LIGHT

NOT TO SCALE

100 WATT STREET LIGHT SPECIFICATION

POLE = 30' CARPENTARIA
MAST ARM = 6' (DOUBLE MAST ARM)
FIXTURE = TEAR DROP W/ 9,500 (LUMENS) LED
SCROLL/BRACKET = IRVINE SCROLL (C-SHAPE)
POLE COLOR = MIX 05 - JASPER BROWN
ALL EXPOSED METAL IS PAINTED RAL 8028 - EDISON BROWN
NO ANTI-GRAFFITI COATING



( ) POLES REQUIRED, EACH WITH DECORATIVE 8' SINGLE LMA ASSEMBLY (P/N# T.B.D.).

REV.	DATE	DESCRIPTION	DRN.	APPR.

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9. MOD 24: SCE ID TAG INSERTS.
10. LMA PAINT COLOR IS TO BE SPECIFIED.
11. MOUNTING HEIGHT VARIES ACCORDING TO LUMINAIRE TYPE.

APPROVED BY DATE

Ameron POLE PRODUCTS & SYSTEMS

SOUTHERN CALIFORNIA EDISON

5B1-29 (01I) WITH SPECIAL 8' SINGLE LMA ASSEMBLY

DRAWN: SJB	08/04	SCALE N.T.S.	DWG. NO. SK087804	REV
CHK'D:				

(14) SINGLE ARM STREET LIGHT

NOT TO SCALE

100 WATT STREET LIGHT SPECIFICATION

POLE = 30' CARPENTARIA
MAST ARM = 6' (SINGLE MAST ARM)
FIXTURE = TEAR DROP W/ 9,500 (LUNENS) LED
SCROLL/BRACKET = IRVINE SCROLL (C-SHAPE)
POLE COLOR = MIX 05 - JASPER BROWN
ALL EXPOSED METAL IS PAINTED RAL 8028 - EDISON BROWN
NO ANTI-GRAFFITI COATING

NOTICE TO CONTRACTOR

ALL UNDERGROUND UTILITIES OR STRUCTURES REPORTED BY THE OWNER OR OTHERS, AND THOSE SHOWN ON THE RECORDS EXAMINED, ARE INDICATED WITH THEIR APPROXIMATE LOCATION AND EXTENT. THE OWNER, BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS PURSUANT THERETO, AGREES TO ASSUME LIABILITY AND TO HOLD UNDERSIGNED HARMLESS FOR ANY DAMAGES RESULTING FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES NOT REPORTED TO THE UNDERSIGNED, NOT INDICATED ON THE PUBLIC RECORDS EXAMINED, LOCATED AT VARIANCE WITH THOSE REPORTED OR SHOWN ON RECORDS EXAMINED. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK.THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THIS PLAN ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS.

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE US. DEPARTMENT OF LABOR, AND WITH THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS' "CONSTRUCTION SAFETY ORDERS."

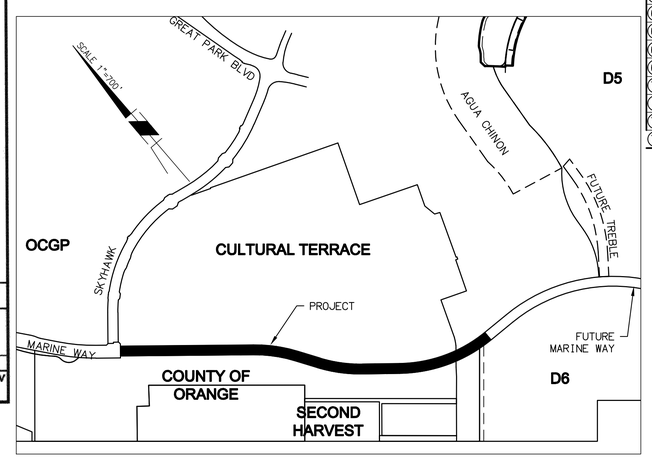
THE ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS' AND SUBCONTRACTORS' COMPLIANCE WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR OR WITH THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS' "CONSTRUCTION SAFETY ORDERS."

CONTRACTOR FURTHER AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT. EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

THE ESTIMATED QUANTITIES HEREON ARE ONLY FOR THE PURPOSE OF OBTAINING THE NECESSARY PERMITS. THE ACCURACY OF THE ESTIMATED QUANTITIES CANNOT BE GUARANTEED. THE CONTRACTOR SHALL PERFORM HIS OWN QUANTITY ESTIMATES BEFORE SUBMITTING A BID FOR ANY PORTION OF THE IMPROVEMENTS COVERED BY THESE PLANS.

LEGEND

SYMBOL:	EXPLANATION	SYMBOL:	EXPLANATION
(200.0)	EXISTING ELEVATION		WALL
200.00	DESIGN ELEVATION		PROPOSED CURB & GUTTER
Ⓣ	MANHOLE		EXISTING CURB & GUTTER
○	CLEANOUT OR VALVE		ASPHALT CONCRETE DIKE
□	VAULT OR PULLBOX		FUEL MODIFICATION BOUNDARY
▫	METER		PLANTING LIMITS
	FIRE HYDRANT		EXIST. GUARDRAIL
⊕	SURVEY MONUMENT		PROP. GUARDRAIL
JF	JET FUEL		PROP. CONC. K-RAIL
HPG	HIGH PRESSURE GAS		FENCE
SD	STORM DRAIN	C F	CUT/FILL TRANSITION
T	TELEPHONE		GRADING LIMITS
E	ELECTRICAL		RIGHT-OF-ENTRY LIMITS
W	DOMESTIC WATER		SLOPE EASEMENT
RW	RECLAIMED WATER		SIGN
S	SEWER		GATE
	R/W OR PROPERTY LINE		POWER POLE
	FLOW LINE/SWALE		STREET LIGHT
	TOP OF SLOPE OR LIMITS OF GRADING/DAYLIGHT		EXISTING STREET LIGHT
	TOE OF SLOPE OR LIMITS OF GRADING/DAYLIGHT		



LOCATION MAP

STREET CONSTRUCTION NOTES

		UNITS	QUANTITY
1	CONSTRUCT 2" ARHM OVER 4.5" AC OVER 19.5" CMB STRUCTURAL SECTION TO BE VERIFIED BY PROJECT SOILS ENGINEER DURING GRADING AND WITH APPROVAL OF THE CITY ENGINEER	SF	247,209
2	CONSTRUCT CONCRETE CURB AND GUTTER PER CITY OF IRVINE STD. PLAN NO. 200, TYPE A-2	LF	7,623
3	CONSTRUCT CONCRETE CURB PER CITY OF IRVINE STD. PLAN NO. 200, TYPE B-8	LF	7,328
4	CONSTRUCT LOCAL DEPRESSION PER CITY OF IRVINE STD. PLAN NO. 303	EA	10
5	INSTALL WOOD HEADER PER DETAIL ON SHEET 9	LF	983
6	CONSTRUCT PARABOLIC MEDIAN CURB FLARE PER CITY OF IRVINE STD. PLAN NO. 108	EA	1
7	NOT USED	--	--
8	NOT USED	--	--
9	CONSTRUCT DRIVEWAY TYPE I PER CITY OF IRVINE STD. PLAN NO. 204 (WIDTH PER PLAN) X=4'	SF	3,235
10	CONSTRUCT DRIVEWAY TYPE II PER CITY OF IRVINE STD. PLAN NO. 205 (WIDTH PER PLAN)	SF	2,963
11	CONSTRUCT DEAD END SIGNING PER CITY OF IRVINE STD. PLAN NO. 400 & 401	EA	2
12	CONSTRUCT 8" AC CURB D1-8 PER SPPWC STD. PLAN 120-2 (SEE SHEET 23)	LF	1,008
13	RELOCATE EXISTING TEMPORARY FENCE PER PLAN WITH GRAVEL BAGS ON LEG SUPPORTS	LF	1,320
14	SINGLE ARM STREET LIGHT PER CITY OF IRVINE STD. PLAN 215 AND DETAIL SHEET 2, TO BE INSTALLED BY SCE	EA	6
15	DOUBLE ARM STREET LIGHT PER CITY OF IRVINE STD. PLAN 215 AND DETAIL SHEET 2, TO BE INSTALLED BY SCE	EA	22
16	CONSTRUCT FULL DEPTH AC TO PATCH PER CITY OF IRVINE STD. PLAN NO. 203 ALTERNATIVE A	SF	100
17	CONSTRUCT 4" AC OVER 8" CMB DRIVEWAY ON COMPACTED NATIVE PER SOILS ENGINEER	SF	23,375
18	CONSTRUCT 4' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3	LF	1,034
19	CONSTRUCT 3' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3	LF	1,692
20	INSTALL CHAIN LINK FENCE AND GATE PER SPPWC STD PLAN 600-3 (SEE SHEET 23)	LF	283
21	RAISE TO GRADE EXISTING WATER VALVE CAN	EA	23
22	RAISE TO MANHOLE TO GRADE	EA	19
23	SAWCUT AND REMOVE EXISTING 1' MINIMUM AC PAVEMENT	EA	103
24	INSTALL 8" CMB OVER COMPATED NATIVE PER SOIL ENGINEER	SF	1,515
25	CONSTRUCT ACCESS RAMP PER CITY OF IRVINE STD PLAN 202 AND DETAIL SHEET 22	SF	2,830

STORM DRAIN CONSTRUCTION NOTES

		UNITS	QUANTITY
40	INSTALL 48" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)	LF	3,027
41	INSTALL 30" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318	LF	10
42	REMOVE GRATED INLET, FILL CATCH BAISIN WITH CMB, POUR 6" THICK TOP TO MATCH EX CONCRETE SWALE	EA	1
43	INSTALL 30" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)	LF	367
44	INSTALL 24" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)	LF	444
45	INSTALL 18" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)	LF	524
46	CONSTRUCT CATCH BASIN TYPE II PER CITY OF IRVINE STD. 301 (L & H PER PLAN)	EA	10
47	CONSTRUCT JUNCTION STRUCTURE NO. I PER CITY OF IRVINE STD. 306 AND 306A	EA	5
48	CONSTRUCT JUNCTION STRUCTURE NO. II PER CITY OF IRVINE STD. 307 and 307A	EA	6
49	INSTALL BRICK AND MORTAR PLUG PER DETAIL SHEET 3	EA	3
50	CONSTRUCT HEADWALL PER CALTRANS STD D89 (SEE SHEET 23)	EA	6
51	INSTALL 6'L X 4'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3	EA	1
52	INSTALL 6.5'L X 4'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3	EA	1
53	INSTALL 8'L X 4'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3	EA	4
54	INSTALL 6'L X 6'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3	EA	2
55	INSTALL 8'L X 6'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3	EA	4
56	INSTALL 10'L X 6'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3	EA	2
57	CONSTRUCT CONCRETE COLLAR PER CITY OF IRVINE STD. 310	EA	14
58	CONSTRUCT CSP RISER PER CITY OF IRVINE STD PLAN 304	EA	1
59	CONSTRUCT BASIN RISER PER DETAIL SHEET 13	EA	4
60	INSTALL 6" (SCH 40) PVC PIPE @ 2% MIN	LF	15
61	INSTALL 4" (SCH 40) PVC PIPE @ 2% MIN	LF	102
62	CONSTRUCT CSP DROP INLET PER CITY OF IRVINE STD PLAN 304, AS MODIFIED FOR TEE AT THE BOTTOM	EA	1
63	CONSTURCT CSP DROP INLET PER CITY OF IRVINE STD PLAN 304, AS MODIFIED PER DETAIL SHEET 19	EA	5
64	CONSTRUCT GRATING CATCH BASIN PER SPPWC STD PALN 304-3 (SEE SHEET 23)	EA	1
65	CONSTRUCT ANTI SEEP COLLAR PER OCPW STD PLAN 1333 (SAME AS SLOPE ANCHOR)	EA	12
66	INSTALL UNGROUTED RIP RAP PER DETAIL ON SHEET 15	SF	1,865
67	CONSTRUCT CSP FLARED END SECTION, PIPE SIZE PER PLAN	EA	3
68	INSTALL 42" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318	LF	85
69	INSTALL 36" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318	LF	92
70	INSTALL 18" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318	LF	342
71	CONSTRUCT JUNCTION STRUCTURE NO. III PER CITY OF IRVINE STD PLAN 308 and 308A	EA	1
72	INSTALL 12" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318	LF	118
73	INSTALL 24" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318	LF	86

DEMOLITION NOTES

C	CAP PIPE END
P	PROTECT IN PLACE
R	REMOVE AND DISPOSE
RL	RELOCATE
RS	REMOVE AND SALVAGE
S	SALVAGE

UTILITY COMPANIES

UTILITY\OWNER	PHONE NO.
IRVINE RANCH WATER DISTRICT	(949) 453-5611
SBC/PACIFIC BELL	(800) 310-2355
SOUTHERN CALIFORNIA EDISON	(714) 973-5409
SOUTHERN CALIFORNIA GAS CO.	(714) 634-3120
COX COMMUNICATIONS	(949) 546-2810
AT&T LOCAL SERVICES	(951) 354-9041
CITY OF IRVINE - INSPECTION	(949) 724-6500
THE IRVINE COMPANY (TIC)	(949) 720-2421
COUNTY OF ORANGE (OCPW)	(714) 834-2300
MCI	(909) 421-3339

NOTICE TO CONTRACTOR

PURSUANT TO CALIFORNIA GOVERNMENT CODE SECTION 4216, NO EXCAVATION PERMIT IS VALID UNLESS THE FOLLOWING IS PERFORMED:

1. UNDERGROUND SERVICES ALERT HAS BEEN CONTACTED AND HAS PROVIDED INQUIRY I.D. # _____
2. THE UNDERSIGNED AGREES TO CONTACT AND OBTAIN AN INQUIRY I.D.# FROM UNDERGROUND SERVICES ALERT (800) 422-4133 AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF EXCAVATION.

SIGNED _____ DATE _____

PLAN CHECK NO. 00760917-EMC

PERMIT NO. 00766614-MCE

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

DRAWN BY: SR	DATE 4/18
DESIGNED BY: JCL	DATE 4/18
CHECKED BY: JCL	DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460

JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
NOTES AND QUANTITY ESTIMATE
FROM SKYHAWK TO 3800' EASTERLY

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

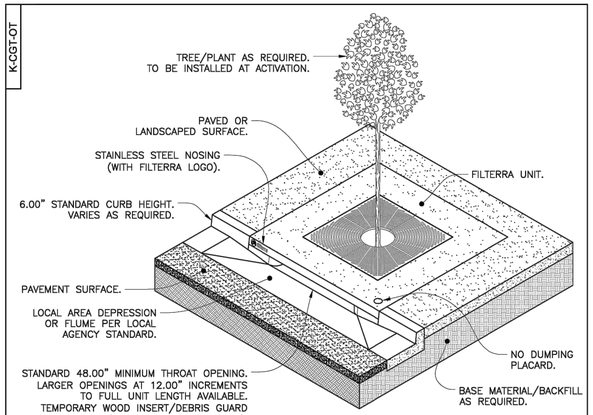
PROJECT NO. 20.059

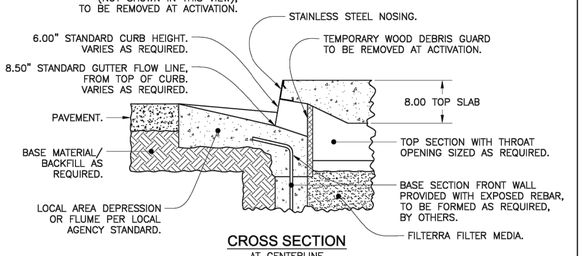
SHEET 2 OF 28

MARINE WAY STAGE 2

H:\pdata\10108417\CADD\IN8 Specialists\Div\Improve\MarineWay\32\0059-002-STI.dwg 7/14/2022 11:24:08 AM

K-CGT-OT





CROSS SECTION
AT CENTERLINE

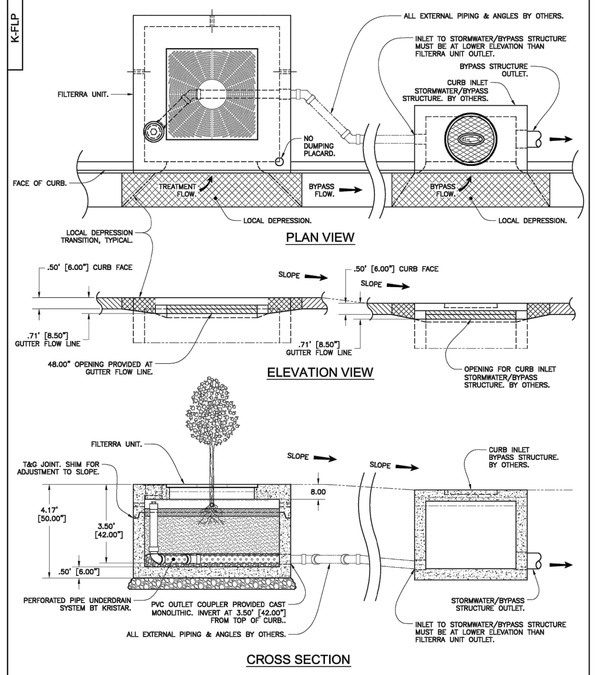
MODIFICATION OF DRAWINGS IS PERMITTED ONLY BY WRITTEN AUTHORIZATION FROM KRISTAR ENTERPRISES, INC.

TITLE
Filterra®
Precast Curb Inlet Opening and Gutter / Flume Detail for Open Throat Versions

KriStar Enterprises, Inc.
360 Sutton Place, Santa Rosa, CA 95407
Ph: 800.579.8819, Fax: 707.524.8186, www.kristar.com
US PAT. 6,277,274 AND 6,599,321

DRAWING NO.	REV	F-DOD	DATE
K-CGT-OT	01	0010 NEW 1/14/12	JPR 1/14/12

K-FLP

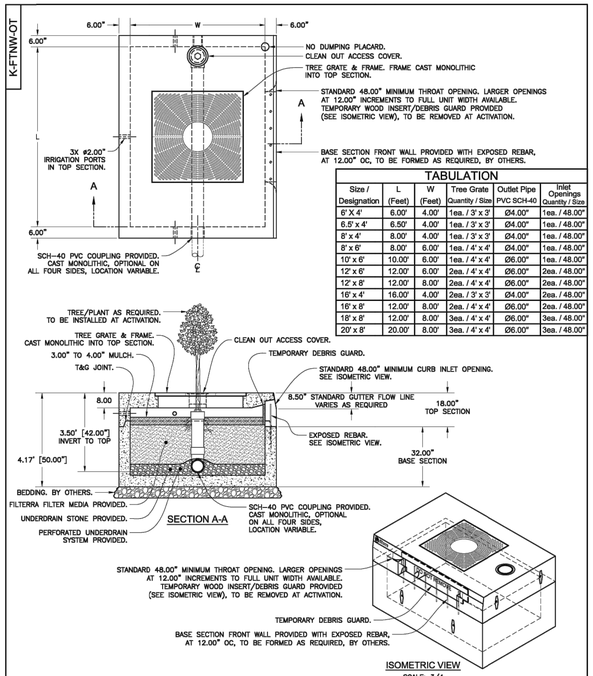


TITLE
Filterra®
Typical Flowline and Outlet Pipe Relationship

KriStar Enterprises, Inc.
360 Sutton Place, Santa Rosa, CA 95407
Ph: 800.579.8819, Fax: 707.524.8186, www.kristar.com
US PAT. 6,277,274 AND 6,599,321

DRAWING NO.	REV	F-DOD	DATE
K-FLP	03	0006 JPR 6/17/11	JPR 1/5/11

K-FTNW-OT



TABULATION

Size / Designation	L (Feet)	W (Feet)	Tree Grate Quantity / Size	Outlet Pipe PVC SCH-40	Inlet Openings Quantity / Size
6' X 4'	6.00'	4.00'	1ea. / 3' x 3'	Ø4.00"	1ea. / 48.00"
6.5' x 4'	6.50'	4.00'	1ea. / 3' x 3'	Ø4.00"	1ea. / 48.00"
8' x 4'	8.00'	4.00'	1ea. / 3' x 3'	Ø4.00"	1ea. / 48.00"
8' x 6'	8.00'	6.00'	1ea. / 4' x 4'	Ø4.00"	1ea. / 48.00"
10' x 6'	10.00'	6.00'	1ea. / 4' x 4'	Ø6.00"	1ea. / 48.00"
12' x 6'	12.00'	6.00'	2ea. / 4' x 4'	Ø6.00"	2ea. / 48.00"
12' x 8'	12.00'	8.00'	2ea. / 4' x 4'	Ø6.00"	2ea. / 48.00"
16' x 4'	16.00'	4.00'	2ea. / 3' x 3'	Ø4.00"	2ea. / 48.00"
16' x 8'	12.00'	8.00'	2ea. / 4' x 4'	Ø6.00"	2ea. / 48.00"
16' x 8'	12.00'	8.00'	3ea. / 4' x 4'	Ø6.00"	3ea. / 48.00"
20' x 8'	20.00'	8.00'	3ea. / 4' x 4'	Ø6.00"	3ea. / 48.00"

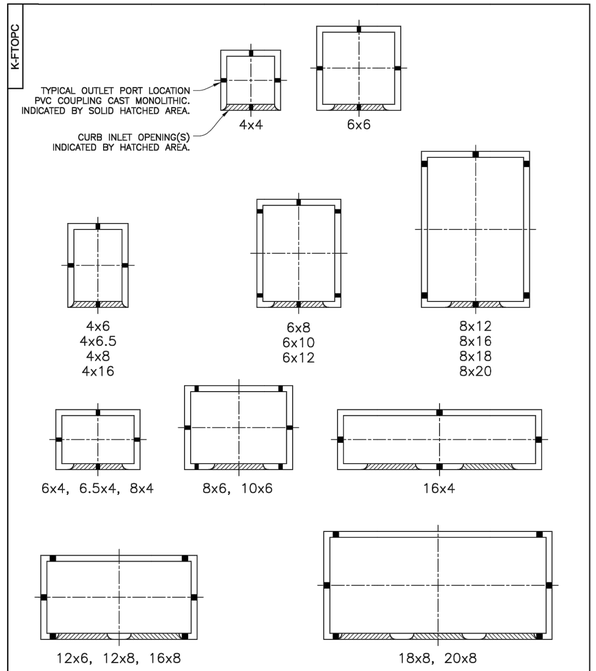
MODIFICATION OF DRAWINGS IS PERMITTED ONLY BY WRITTEN AUTHORIZATION FROM KRISTAR ENTERPRISES, INC.

TITLE
Precast Filterra® Unit
Narrow Width Configuration Open Throat Version

KriStar Enterprises, Inc.
360 Sutton Place, Santa Rosa, CA 95407
Ph: 800.579.8819, Fax: 707.524.8186, www.kristar.com
US PAT. 6,277,274 AND 6,599,321

DRAWING NO.	REV	F-DOD	DATE
K-FTNW-OT	01	0010 NEW 1/14/12	JPR 1/14/12

K-FTOPC



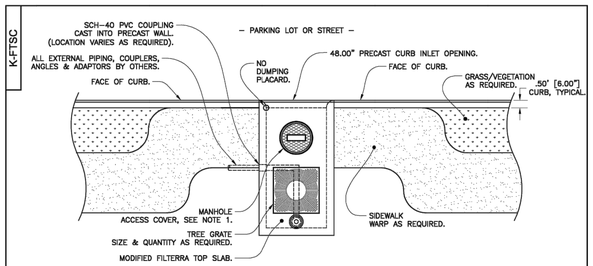
MODIFICATION OF DRAWINGS IS PERMITTED ONLY BY WRITTEN AUTHORIZATION FROM KRISTAR ENTERPRISES, INC.

TITLE
Filterra®
PVC Outlet Pipe Coupling Locations

KriStar Enterprises, Inc.
360 Sutton Place, Santa Rosa, CA 95407
Ph: 800.579.8819, Fax: 707.524.8186, www.kristar.com
US PAT. 6,277,274 AND 6,599,321

DRAWING NO.	REV	F-DOD	DATE
K-FTOPC	03	0006 JPR 6/17/11	JPR 1/7/11

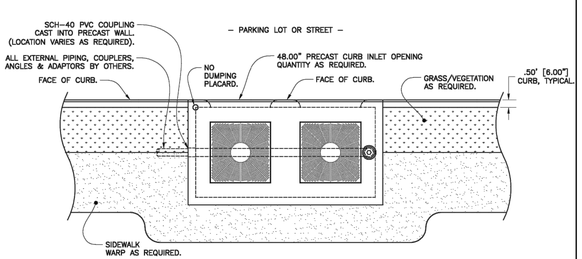
K-FTSC



NARROW LENGTH
(END INLET)
4.00' X 8.00' (MODIFIED) VERSION WITH OFFSET GRATE SHOWN.

NOTES:

1. A MANHOLE COVER MAY BE REQUIRED FOR SOME MODIFIED (OFFSET) TOP SECTIONS FOR ADDITIONAL MAINTENANCE/INSPECTION ACCESS.



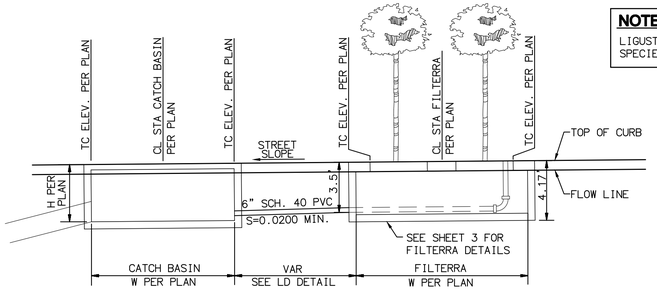
NARROW WIDTH
(SIDE INLET)
12.00' X 8.00' VERSION WITH MULTIPLE GRATES & PRECAST CURB INLETS SHOWN.

MODIFICATION OF DRAWINGS IS PERMITTED ONLY BY WRITTEN AUTHORIZATION FROM KRISTAR ENTERPRISES, INC.

TITLE
Typical Filterra®
Sidewalk Configurations

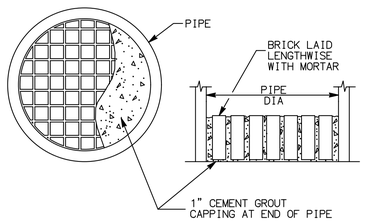
KriStar Enterprises, Inc.
360 Sutton Place, Santa Rosa, CA 95407
Ph: 800.579.8819, Fax: 707.524.8186, www.kristar.com
US PAT. 6,277,274 AND 6,599,321

DRAWING NO.	REV	F-DOD	DATE
K-FTSC	01	0006 JPR 6/17/11	JPR 6/17/11

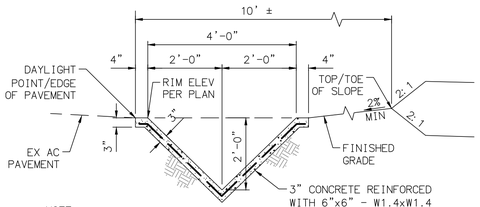


(51)(52)(53)(54) **FILTERRA AND CATCH BASIN DETAIL**
NOT TO SCALE

NOTE:
LIGUSTRUM IS THE ONLY PLANT SPECIES ALLOWED IN FILTERRAS.



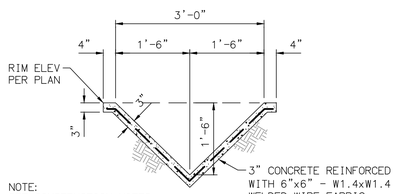
(49) **BRICK AND MORTAR PLUG**
NO TO SCALE



NOTE:
SEE CONSTRUCTION NOTES FOR PAVED DRAINAGE DEVICES HEREON.

3" CONCRETE REINFORCED WITH 6"x6" – W1.4xW1.4 WELDED WIRE FABRIC. TREAT EXPOSED CONCRETE SURFACES WITH CURING COMPOUND.

(18) **4' CONCRETE V-DITCH DETAIL**
NOT TO SCALE



NOTE:
SEE CONSTRUCTION NOTES FOR PAVED DRAINAGE DEVICES HEREON.

3" CONCRETE REINFORCED WITH 6"x6" – W1.4xW1.4 WELDED WIRE FABRIC. TREAT EXPOSED CONCRETE SURFACES WITH CURING COMPOUND.

(19) **3' CONCRETE V-DITCH DETAIL**
NOT TO SCALE

CONSTRUCTION NOTES FOR PAVED DRAINAGE DEVICES

1. APPROVED MATERIAL FOR CONSTRUCTION OF DEVICE IS 3" THICK MINIMUM W/6"x6"-W1.4xW1.4 WELDED WIRE FABRIC UNLESS OTHERWISE SHOWN.
2. INSPECTION BY CITY INSPECTOR OR SOILS ENGINEER OF GRADED SWALE AND PLACEMENT OF WIRE FABRIC PRIOR TO INSTALLATION OF CONCRETE IS REQUIRED
3. GROUND SHALL BE PRE-WETTED TO THE SATISFACTION OF THE SOILS ENGINEER PRIOR TO PLACEMENT OF CONCRETE.
4. PAVED DEVICE SHALL BE CURED WITH A MOISTURE LOSS RETARDANT.
5. SHOTCRETE IS AN ACCEPTABLE PRODUCT. SHOTCRETE WITH 3" MINIMUM THICKNESS MAY BE INSTALLED WITH 6"x6"-W1.4XW1.4 WELDED WIRE FABRIC UNLESS OTHERWISE SHOWN.
6. CONCRETE SHALL BE TYPE V WITH A MINIMUM THICKNESS OF 3" AND HAVE A MINIMUM ULTIMATE COMPRESSION STRENGTH AT 28 DAYS OF 2500 P.S.I. CONCRETE MAY BE PNEUMATICALLY PLACED AND SHALL CONFORM TO SECTION 1924 OF THE UNIFORM BUILDING CODE.
7. REINFORCEMENT SHALL BE PLACED A MINIMUM OF 1" CLEAR OF EARTHEN BEDDING.

ABBREVIATIONS

△	CURVE DELTA	NIC	NOT IN CONTRACT
AB	AGGREGATE BASE	OG	ORIGINAL GROUND
AC	ASPHALT CONCRETE	OC	ON CURVE
BC	BEGIN CURVE	OH	OVERHEAD
BCR	BEGIN CURB RETURN	PB	PULL BOX
BFP	BACK FLOW PREVENTER	PCC	POINT OF COMPOUND CURVE
BVC	BEGIN VERTICAL CURVE	PCC	PORTLAND CEMENT CONCRETE
BW	BACK OF WALK	PI	POINT OF INTERSECTION
C&G	CURB AND GUTTER	PL	PROPERTY/LOT LINE
CB	CATCH BASIN	POC	POINT ON CURVE
CF	CURB FACE	POT	POINT ON TANGENT
CL	CENTERLINE	PRC	POINT OF REVERSE CURVE
DWY	DRIVEWAY	PVC	POLYVINYL CHLORIDE
DW	DOMESTIC WATER	PVI	POINT OF VERTICAL INT
E	ELECTRIC	R	RADIUS
EASE	EASEMENT	RT	RIGHT
EC	END CURVE	RW	RECLAIMED WATER
ECR	END CURB RETURN	R/W	RIGHT OF WAY
EP	EDGE OF PAVEMENT	RCP	REINFORCED CONCRETE PIPE
ES	EDGE OF SHOULDER	S	SEWER
ETW	EDGE OF TRAVELED WAY	SD	STORM DRAIN
EVC	END VERTICAL CURVE	SL	STATION LINE
EX	EXISTING	SR	STATE ROUTE
FG	FINISH GRADE	SW	SIDEWALK
FH	FIRE HYDRANT	T	TELEPHONE
FL	FLOW LINE	TAN	TANGENT LENGTH
FS	FINISH SURFACE	TB	TOP OF BERM
G	GAS	TC	TOP OF CURB
GB	GRADE BREAK	TCE	TEMPORARY CONSTRUCTION EASE
GM	GAS METER/SERVICE	TF	TOP OF FOOTING
GV	GAS VALVE	TG	TOP OF GRATE
GW	GUYWIRE	TP	TURNING POINT
HGL	HYDRAULIC GRADE LINE	TM	TOP OF MASONRY
INV	INVERT	TS	TRAFFIC SIGNAL/CONDUIT
INT	INTERSECTION	TSME	TS MAINTENANCE EASE
JS	JUNCTION STRUCTURE	TW	TOP OF WALL
L	LENGTH	UNK	UNKNOWN
LD	LOCAL DEPRESSION	V	VALVE
LOL	LAYOUT LINE	VCP	VITRIFIED CLAY PIPE
LT	LEFT	VLT	VAULT
MBGR	METAL BEAM GUARD RAIL	VNT	VENT
MH	MANHOLE	W	WATER
MOC	MIDDLE OF CURVE	WM	WATER METER/SERVICE
NB	NORTHBOUND		

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

DRAWN BY: SR	DATE 4/18
DESIGNED BY: JCL	DATE 4/18
CHECKED BY: JCL	DATE 4/18

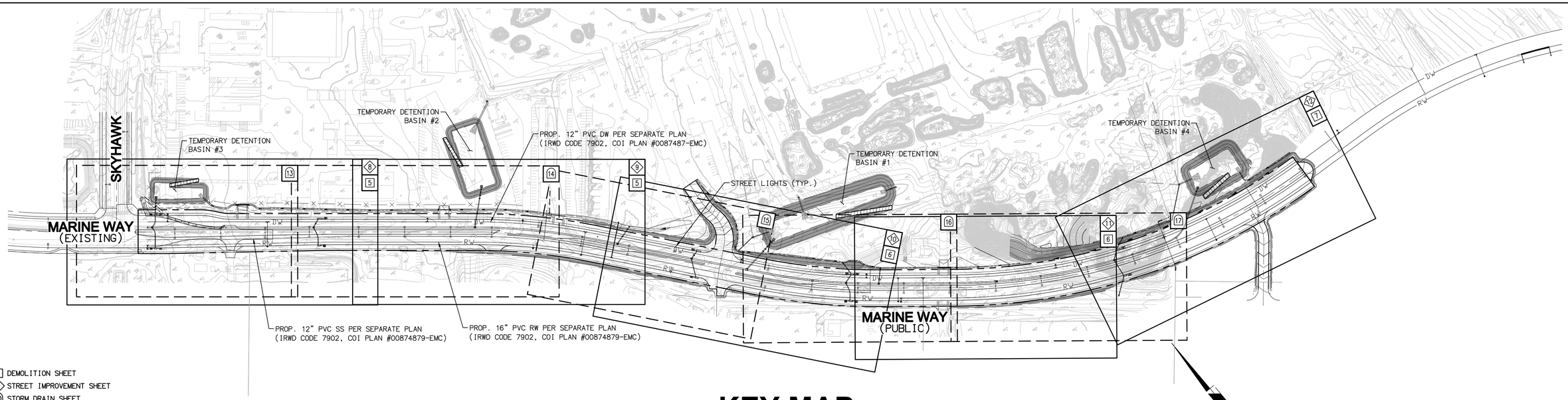
PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
CONSTRUCTION DETAILS
FROM SKYHAWK TO 3800' EASTERLY

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

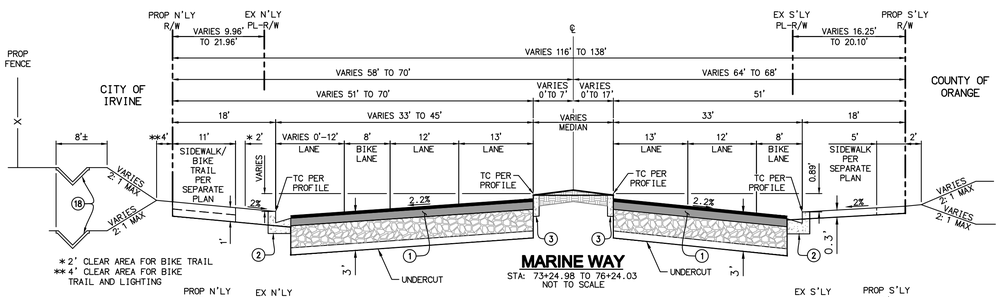
PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 3 OF 28

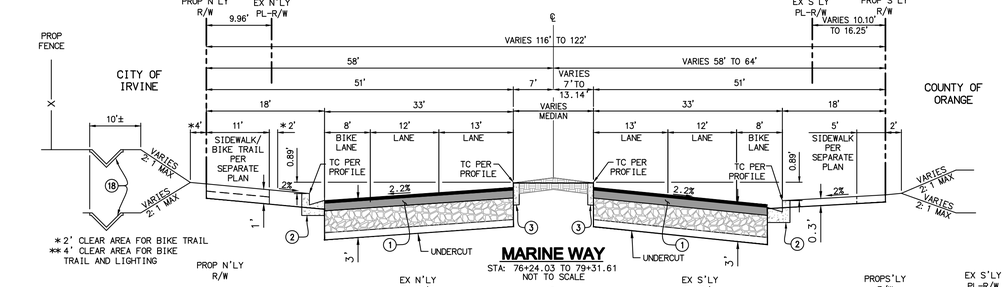
hydro10.10108457.CADD.DWG Sep-Oct-Nov-Dec-Jan-Feb-Mar-Apr-2012-2013 Plot Date: 7/9/2012 4:29:31 PM

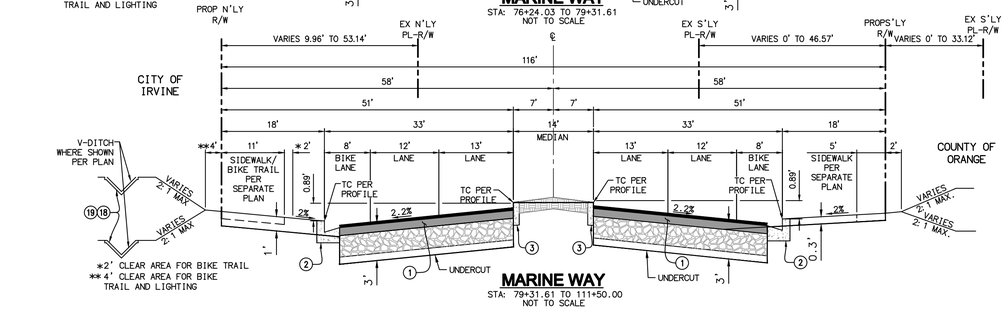


4 DEMOLITION SHEET
6 STREET IMPROVEMENT SHEET
10 STORM DRAIN SHEET
19 SIGNING & STRIPING SHEET

KEY MAP







COMMUNITY DEVELOPMENT
Building & Safety

POST CONSTRUCTION STRUCTURAL STANDARD NOTES

This document shall be completed by the design professional of record and shall be incorporated, in its entirety, into the Water Quality Management Plan (WQMP). The completed document as shown in the approved WQMP shall be also incorporated, in its entirety, into the grading plans submitted for approval prior to issuance of the grading permit.

INSTRUCTIONS: Any best management practices that are applicable shall be indicated with an "A" under the "Applicability" column; if not, enter "N/A". For any applicable best management practices, the associated sheet number(s) from the submitted plans shall be listed under the "Specified BMP (CASQA) BMP Details(s)/Sheet Number" column.

Those best management practices that are applicable shall be depicted in the grading plans via notes, details, plan and/or elevation views in a manner that clearly demonstrates compliance to the requirements.

STRUCTURAL SOURCE CONTROL REQUIREMENTS

STRUCTURAL SOURCE CONTROL REQUIREMENTS	APPLICABILITY	SPECIFIED BMP (CASQA) BMP DETAIL(S)/ SHEET NUMBER	INSTALLATION VERIFIED
A. All storm drain inlets and catch basins, constructed or modified, within the project area shall be stenciled or labeled with prohibitive language ("NO DUMPING DRAINS TO OCEAN") and/or graphical icons to discourage illegal dumping.	X	SD-13, STORM DRAIN SIGNAGE Sheet Number(s): 13-17	
B. All Trash Container Areas shall be paved with an impervious surface, designed not to allow run-on from adjoining areas, designed to divert drainage from adjoining roofs and pavements diverted around the area, screened or walled to prevent off-site transport of trash.	N/A	SD-32, TRASH STORAGE AREAS Sheet Number(s):	
C. Discharge from Vehicle Wash Areas shall be equipped with a clarifier or other pretreatment facility and discharged to sanitary sewer.	N/A	SD-33, VEHICLE WASHING AREAS Sheet Number(s):	
D. Fuel dispensing areas shall contain the following: · At a minimum, the fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may operate plus 1 foot (0.3 meters), whichever is less. · The fuel dispensing areas shall be paved with Portland cement concrete (or equivalent smooth impervious surface). The use of asphalt concrete shall be prohibited.	N/A	SD-30, FUELING AREAS Sheet Number(s):	

POST CONSTRUCTION STRUCTURAL STANDARD NOTES

TREATMENT CONTROL REQUIREMENTS	APPLICABILITY	SPECIFIED BMP (CASQA) BMP DETAIL(S)/ SHEET NUMBER	INSTALLATION VERIFIED
U. Natural Treatment System (NTS) · Certification of Construction and Planting by the NTS Engineer of the Records. · (Prior to Occupancy) Documentation from Irvine Ranch Water District (IRWD) that the NTS has been accepted into the Establishment Period. · (Post Occupancy) Documentation from IRWD for NTS Final Acceptance and responsibility of Maintenance.	N/A	Sheet Number(s):	
V. Other	N/A	Sheet Number(s):	

POST CONSTRUCTION STRUCTURAL STANDARD NOTES

STRUCTURAL SOURCE CONTROL REQUIREMENTS	APPLICABILITY	SPECIFIED BMP (CASQA) BMP DETAIL(S)/ SHEET NUMBER	INSTALLATION VERIFIED
D. CONTINUED · The fuel dispensing area shall be constructed in such a manner as to eliminate ponding, and must be separated from the rest of the site by a grade break that prevents run-on of stormwater. · An overhanging roof structure or canopy shall be provided. The cover's minimum dimensions must be equal to or greater than the area of the fuel dispensing area. The cover must not drain onto the fuel dispensing area and the downspouts must have a positive connection to the area drain system to prevent drainage across the fueling area. The fueling area shall drain to the Project's Treatment Control BMP(s) prior to discharging to the storm drain system.	N/A	SD-30, FUELING AREAS Sheet Number(s):	

TREATMENT CONTROL REQUIREMENTS

TREATMENT CONTROL REQUIREMENTS	APPLICABILITY	SPECIFIED BMP (CASQA) BMP DETAIL(S)/ SHEET NUMBER	INSTALLATION VERIFIED
E. Contech Stormfilter shall be constructed per details on grading plans and WQMP.	N/A	Sheet Number(s):	
F. Kristar FloGard Perk Filter shall be constructed per details on the grading plans and WQMP.	N/A	Sheet Number(s):	
G. Americast Filterra shall be constructed per details on the grading plans and WQMP.	X	Sheet Number(s): 13-17	
H. Modular wetland system shall be constructed per details on the grading plans and WQMP.	N/A	Sheet Number(s):	
I. Hydrodynamic Separators shall be constructed per details on the grading plans and WQMP.	N/A	MP-51, VORTEX SEPARATOR Sheet Number(s):	
J. Drain inserts shall be constructed per details on the grading plans and WQMP.	N/A	MP-52, DRAIN INLET Sheet Number(s):	

POST CONSTRUCTION STRUCTURAL STANDARD NOTES

TREATMENT CONTROL REQUIREMENTS	APPLICABILITY	SPECIFIED BMP (CASQA) BMP DETAILS/ SHEET NUMBER	INSTALLATION VERIFIED
K. Biofilters (vegetated strips or swales) shall be designed per details on the grading plans and WQMP.	N/A	TC-30, VEGETATED SWALE TC-31, VEGETATED BUFFER STRIP Sheet Number(s):	
L. Bioretention shall be constructed per details on the grading plans and WQMP.	N/A	TC-32, BIORETENTION Sheet Number(s):	
M. Dry Detention Basins shall be designed per details on the grading plans and WQMP.	N/A	TC-22, EXTENDED DETENTION BASIN Sheet Number(s):	
N. Infiltration Trench or Basins shall be designed per details on the grading plans and WQMP.	N/A	TC-10, INFILTRATION TRENCH TC-11, INFILTRATION BASIN Sheet Number(s):	
O. Dry well shall be designed per details on the grading plans and WQMP.	N/A	Sheet Number(s):	
P. Wet ponds or wetlands shall be designed per details on the grading plans and WQMP.	N/A	TC-21, CONSTRUCTED WETLANDS MP-20, WETLAND Sheet Number(s):	
Q. Filtration systems shall be designed per details on the grading plans and WQMP.	N/A	MP-40, MEDIA FILTER Sheet Number(s):	
R. Green Roof shall be designed per details on the grading plans and WQMP.	N/A	Sheet Number(s):	
S. Pervious Pavement shall be designed per details on the grading plans and WQMP.	N/A	Sheet Number(s):	
T. Cistern or other retention system shall be designed per details on the grading plans and WQMP.	N/A	Sheet Number(s):	

STREET CONSTRUCTION NOTES

1. CONSTRUCT 2" ARHM OVER 4.5" AC OVER 19.5" CMB STRUCTURAL SECTION TO BE VERIFIED BY PROJECT SOILS ENGINEER DURING GRADING AND WITH APPROVAL OF THE CITY ENGINEER
2. CONSTRUCT CONCRETE CURB AND GUTTER PER CITY OF IRVINE STD. PLAN NO. 200, TYPE A-2
3. CONSTRUCT CONCRETE CURB PER CITY OF IRVINE STD. PLAN NO. 200, TYPE B-8

18. CONSTRUCT 4' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3
19. CONSTRUCT 3' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3

REGISTERED PROFESSIONAL ENGINEER
JEFFREY C. LANGDON
NO. 42429
CIVIL
STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
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DRAWN BY: SR DATE 4/18
DESIGNED BY: JCL DATE 4/18
CHECKED BY: JCL DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF MARINE WAY
KEY MAP, STREET SECTIONS AND CITY BMP NOTES
FROM SKYHAWK TO 3800' EASTERLY

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 4 OF 28

MARINE WAY STAGE 2

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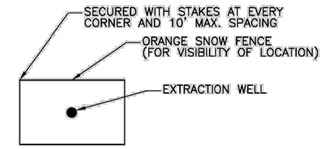
DEPARTMENT OF NAVY (DON) FACILITY NOTES

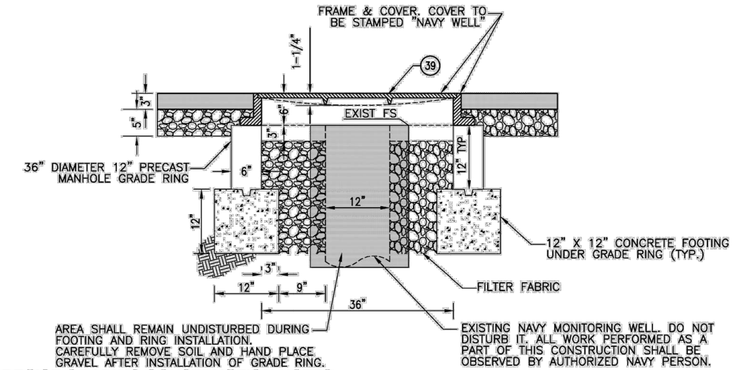
1. GRADING AND STORM DRAIN INSTALLATION ACTIVITIES WILL BE TAKING PLACE WITHIN A PORTION OF THE "INSTALLATION RESTORATION PROGRAM (IRP SITE 24) EASEMENTS , WHICH INCLUDE DEPARTMENT OF THE NAVY (DON) FACILITIES INCLUDING ELEVEN (11) NESTED MONITORING WELLS 24MW05A–B, 24MW08, 09DGMW75, AND 18PS06, TWELVE (12) EXTRACTION WELLS 24SGU–18, 24SGU–19, 24SGU–20, 24 SGU–21, 24SGU–22, 24SGU–23, 24SGU–24. 24SGU–25, 24SGU–26,24EX–13A, 24EX–13B, AND 24EX–13C WITH FORTY EIGHT (48) ASSOCIATED HAND BOXES (FOUR 4 ER EACH EXTRACTION WELL), ONE (1) CHECK VALVE VAULT, A LARGE VAULT, TWO (2) SMALL PULL BOXES, A BLIND FLANGE VAULT, AND A CONVEYANCE SYSTEM TRENCH CONTAINING PIPING, 480–VOLT CONDUIT, COOMUNICATION CONDUIT, AND A COPPER GROUND. THE ABOVE NAVY FACILITIES ARE DEPICTED ON EACH SHEET OF THIS PLAN SET HAVING CONSTRUCTION ACTIVITIES.
2. THE CONTRACTOR SHALL PROVIDE DON PERSONNEL AND ITS CONTRACTORS FULL ACCESS TO THE CONSTRUCTION SITE AT ALL TIMES.
3. THE CONTRACTOR SHALL NOT PERFORM WORK AT ANY AND ALL DON FACILITIES LOCATED BOTH WITHIN AND OUTSIDE THE IRP 24 EASEMENT (MONITORING WELLS, EXTRACTION WELLS, HAND BOXES, VAULTS, THE CONVEYANCE TRENCH, ETC.) WITHOUT THE CITY'S CONSTRUCTION MANAGER (JOE KIRKPATRICK, (949) 724–6320) AND INSPECTOR (TIM ANDERSON, (949) 724–6329 PRESENT AND ON–SITE AT ALL TIMES.
4. PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL CLEARLY ENSURE THAT THE EASEMENT AND LINES ARE VISIBLE TO ALL CONSTRUCTION PERSONNEL. THE IRP 24 EASEMENT IS FOURTEEN FEET (14 ') WIDE OVER THE CONVEYANCE SYSTEM TRENCH (SEVEN FEET (7') FROM BOTH SIDES OF THE CENTERLINE OF THE TRENCH) AND A TWENTYFIVE FOOT (25') RADIUS ORIGINATING FROM THE CENTER POINT OF EACH OF THE EXTRACTION WELL VAULTS. THE CONTRACTOR SHALL PROHIBIT CROSSING OF THE CONVEYANCE SYSTEM TRENCHES AT ALL LOCATIONS BEYOND THE CROSSINGS APPROVED BY DON. THE CROSSINGS SHALL BE PROTECTED BY STEEL PLATES TO PROTECT THE CONVEYANCE SYSTEM FROM DAMAGE BY VEHICLES AND EQUIPMENT. ALL CROSSING LOCATIONS SHALL BE CLEARLY MARKED BY APPROPRIATE SIGNAGE. ALL MARKINGS AND SIGNAGE ARE SUBJECT TO REVIEW OR PERIODIC INSPECTION AND APPROVAL BY THE DON.
5. THE CONTRACTOR SHALL PHYSICALLY MARK AND PROTECT ALL EXISTING MONITORING AND EXTRACTION WELLS, HAND BOXES, AND VAULTS AT A MINIMUM 10–FOOT RADIUS INPLACEBY K–RAIL WITH FLAGGING, AND/ OR FENCING. THESE DON FACILITIES SHALL ALSO BE PROTECTED FROM THE INTRUSION OF SILT, SOIL, AND OR DEBRIS. SEE MONITORING WELL / EXTRACTION WELL PROTECTION DETAILS A–F DRAWING NO C2–103A
6. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION/ COMPACTION WORK OVER THE TOP OF THE CONVEYANCE TRENCH, PLUS ONE FOOT (1 '–0") ON EITHER SIDE OF THE TRENCH (EQUATING TO APPROXIMATELY 5.5 FEET IN WIDTH) BY HAND AND TO NO MORE THAN 90% RELATIVE COMPACTION. IN ADDITION, THE CONTRACTOR SHALL PERFORM ALL WORK WITHIN FOUR FEET (4'–0") OF ANY DON FACILITY (MONITORING WELLS, EXTRACTION WELLS, HAND BOXES, VAULTS, THE CONVEYANCE TRENCH, ETC.) LOCATED BOTH WITHIN AND OUTSIDE THE IRP SITE 24 EASEMENT BY HAND. AT UTILITY CROSSINGS, THE CONTRACTOR SHALL PERFORM WORK OVER THE TOP AND SURROUNDING CONDUIT BY HAND, AND AT MINIMUM DISTANCE OF TWO FEET (2'–0") FROM THE CONDUIT. THE CONTRACTOR MUST CONDUCT A PREINSTALLATION CONFERENCE, IN ACCORDANCE WITH DIVISION 01 SPECIFICATION SECTION 01310, A MINIMUM OF 20 WORKING DAYS PRIOR TO ANY SCHEDULED UNDERGROUND WORK CROSSING THE DON TRENCH. CONTRACTOR SHALL PROVIDE COORDINATION DRAWINGS FOR DON REVIEW/APPROVAL AT THE PRE–INSTALLATION CONFERENCE.
7. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 18 INCHES (18") OF COVER OVER THE TOP OF THE EXISTING 480V AND COMMUNICATIONS LINES. IF THE DRAWINGS INDICATE OR INFER LESS THAN THE MINIMUM 18" OF COVER, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE CONSTRUCTION MANAGER.
8. FOR NEW WATERLINE OVERCROSSINGS OF THE EXISTING 480V LINE, THE CONTRACTOR SHALL MAINTAIN A MINIMUM 12 INCH (12") SEPARATION. IF THE DRAWINGS INDICATE OR INFER LESS THAN THE MINIMUM 12" SEPARATION, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE CONSTRUCTION MANAGER.
9. FOR ALL NEW UTILITY UNDER–CROSSINGS, THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 12 INCHES (12") BELOW THE BOTTOM OF THE EXISTING EXTRACTION SYSTEM TRENCH. THE CONTRACTOR MUST CONDUCT A PRE–INSTALLATION CONFERENCE, IN ACCORDANCE WITH PROJECT SPECIFICATION A MINIMUM OF 20 WORKING DAYS PRIOR TO ANY SCHEDULED UNDERGROUND WORK CROSSING THE DON TRENCH. CONTRACTOR TO PROVIDE COORDINATION DRAWINGS FOR DON REVIEW/APPROVAL AT THE PRE–INSTALLATION CONFERENCE.
10. FOR NEW ELECTRICAL OR COMMUNICATION LINE CROSSINGS OF THE EXISTING 480V LINE, THE CONTRACTOR SHALL COMPLY WITH MINIMUM SEPARATIONS AS PER PREVAILING STATE AND LOCAL CODES AND ORDINANCES. IF THE DRAWINGS INDICATE OR INFER SEPARATIONS OTHER THAN ALLOWED BY SUCH CODES AND ORDINANCES, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE CONSTRUCTION MANAGER.
11. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OF ANY DON FACILITIES DAMAGED IN THE COURSE OF RUNWAY DEMOLITION ACTIVITIES. SUCH REPAIR WORK WILL BE DONE TO THE SATISFACTION AND APPROVAL OF CONSTRUCTION MANAGER AND THE DON.
12. LARGE EQUIPMENT SHALL NOT CROSS THE CONVEYANCE SYSTEM TRENCH EXCEPT FOR AT THE LOCATIONS DESIGNATED AS DESCRIBED IN NOTE 4 ABOVE.
13. THE CONTRACTOR SHALL REPLACE ANY DISRUPTED UNDERGROUND WARNING TAPE WITHIN THE CONVEYANCE SYSTEM TRENCH.
14. CONTRACTOR SHALL CONFORM TO THE CONDITIONS IN THE DON PROJECT ENVIRONMENTAL REVIEW FORM (PERF) AND WORK IN EASEMENT AREA (WIEA).
15. CONTRACTOR SHALL FOLLOW REVISED PROTOCOL PLAN FOR UNKNOWN HAZARDOUS MATERIALS AND NON–RECYCLABLE MATERIALS PREPARED BY ENGEO INC. DATED OCTOBER 3, 2014, PROJECT NO 8506.0GP.000. THIS PLAN INCLUDES A REQUIREMENT THAT THE CONTRACTOR PROVIDE A SITE–SPECIFIC HEALTH AND SAFETY PLAN.

DETAIL A
NOT TO SCALE



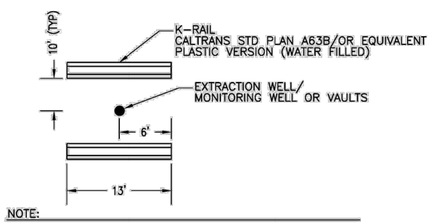
NOTE:
1. CONTRACTOR SHALL INSTALL A VISIBLE BARRIER ORANGE SNOW FENCE AROUND THE WELL OR GROUP OF WELLS FOR VISUAL LOCATION

DETAIL B
MONITORING WELL/IRP EXTRACTION WELL PROTECTION (INSIDE IMMEDIATE WORK AREA)
NOT TO SCALE



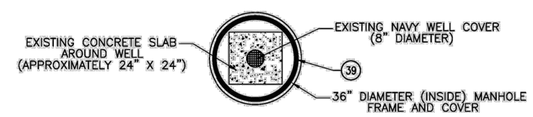
PRECISE GRADING CONSTRUCTION NOTES
(39)– CONSTRUCT MONITORING WELL PROTECTIVE COVER SEE DETAILS C AND D ON DWG C1–105

DETAIL C
MONITORING WELL PROTECTIVE COVER
NOT TO SCALE



NOTE:
1. CONTRACTOR SHALL PLACE WARNING TAPE AROUND THE WELL/ OPTIONAL ORANGE SNOW FENCE PER THE DIRECTION ENVIRONMENTAL COORDINATOR

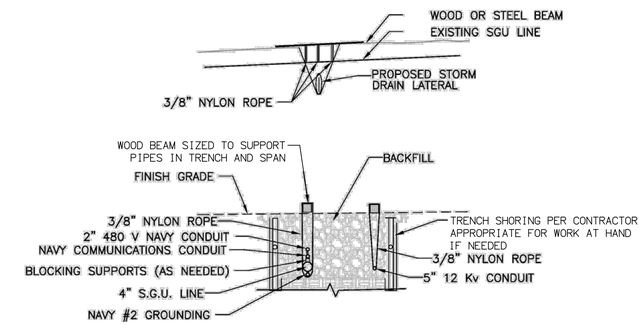
DETAIL D
MONITORING WELL/IRP EXTRACTION WELL PROTECTION (OUTSIDE IMMEDIATE WORK AREA)
NOT TO SCALE



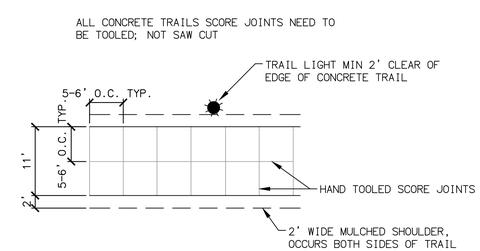
ALL WORK TO INSTALL THE MANHOLE GRADE RING AND RING AND COVER WILL BE PERFORMED OUTSIDE THE EXISTING CONCRETE PAD AROUND THE WELL COVER. THE EXISTING WELL AND COVER SHALL NOT BE TOUCHED OR DISTURBED IN ANY WAY. ALL WORK TO INSTALL THE MANHOLE RING AND COVER SHALL BE DONE BY HAND.

CONSTRUCTION NOTES
(39)– CONSTRUCT MONITORING WELL PROTECTIVE COVER SEE DETAILS C AND D ON DWG C1–105

DETAIL E
MONITORING WELL PROTECTIVE COVER
NOT TO SCALE



DETAIL F
PIPE AND CONDUIT SUPPORT AT UTILITY CROSSING
NOT TO SCALE



CLASS I PRIMARY TRAIL

TYPICAL TRAIL SCORING DETAIL
NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER — JEFFREY C. LANGDON — NO. 42429 — CIVIL — STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
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		DATE
DRAWN BY:	SR	4/18
DESIGNED BY:	JCL	4/18
CHECKED BY:	JCL	4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF MARINE WAY
NAVY NOTES AND DETAILS
FROM SKYHAWK TO 3800' EASTER;Y
CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917–EMC
PERMIT NO. 00766614–MCE
PROJECT NO. 20.059
SHEET 4A OF 28

MARINE WAY STAGE 2

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DEMOLITION GENERAL NOTES

1. REMOVE AND SALVAGE OF MATERIALS IMPLIES DELIVERING CONCRETE OR ASPHALT MATERIALS TO THE APPROPRIATE OWNERS STOCK PILE FOR CRUSHING.
2. CAPPING OF ALL PIPES AND CONDUITS ENDS INDICATED ARE TO BE PLUGGED WITH A WATER TIGHT PLUG APPROPRIATE FOR THE PIPE MATERIAL, BRICK AND MORTAR CAN BE USED FOR CONCRETE PIPE (SEE DETAIL SHEET 3)
3. OVERHEAD (OH) CABLES OF ELECTRIC, CABLE TV, TELEPHONE, OR OTHERS ARE TO BE REMOVED BACK TO THE NEAREST POLE OR AERIAL CONNECTION POINT OFF SITE.
4. REMOVAL OF A SYSTEM IMPLIES ALL PARTS OF THE SYSTEM, INCLUDING BUT NOT LIMITED TO MANHOLES, CATCH BASINS, VAULTS, POLES, VALVES, HYDRANTS, THRUST BLOCKS AND MISCELLANEOUS STRUCTURES AND FOUNDATIONS.

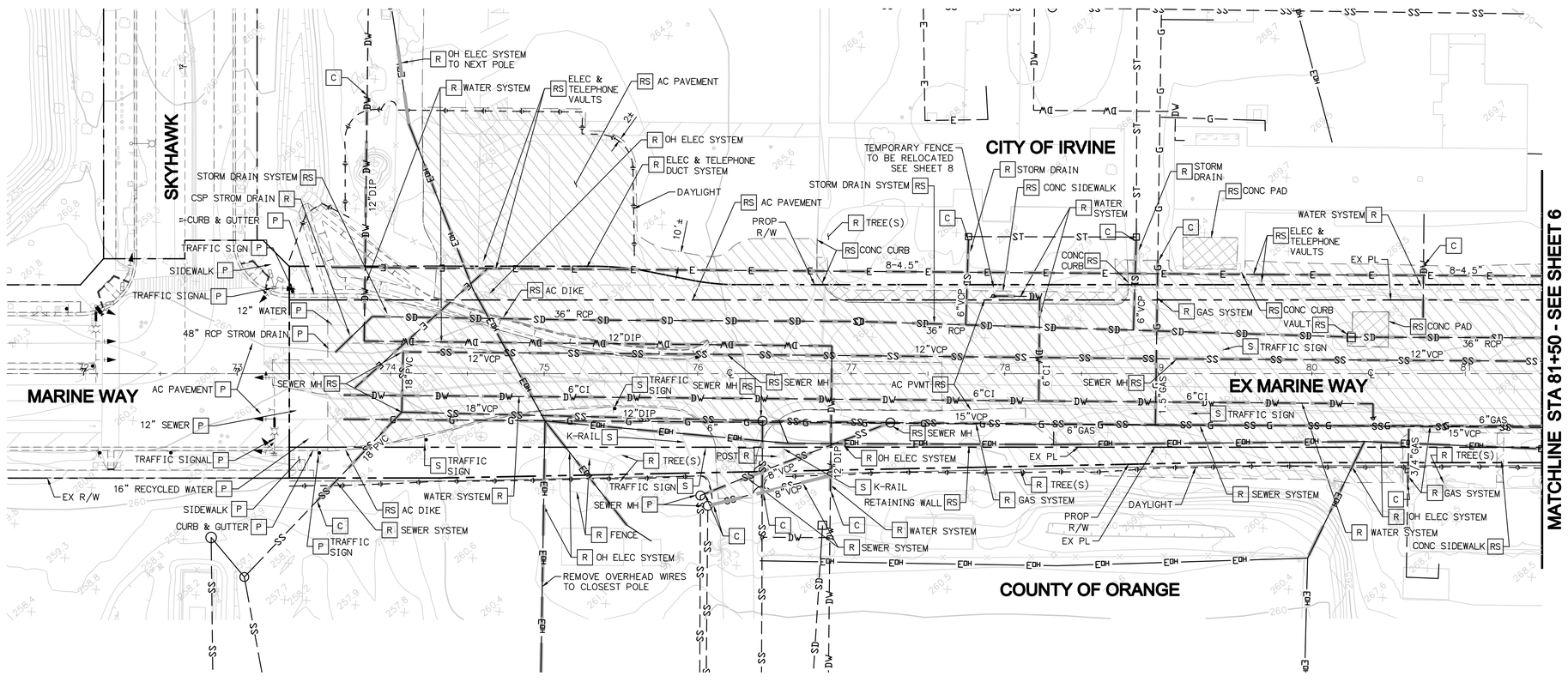
DEMOLITION NOTES

- C CAP PIPE END
- P PROTECT IN PLACE
- R REMOVE AND DISPOSE
- RL RELOCATE
- RS REMOVE AND SALVAGE
- S SALVAGE

SAWCUT AND REMOVE EX AC PAVEMENT

SAWCUT AND REMOVE EX CONCRETE PAVEMENT

MARINE WAY STAGE 2



40 20 0 40 80 120

SCALE: 1"=40'

NOTE:
CONTRACTOR TO MAINTAIN/ALLOW OR PROVIDE ACCESS TO EXISTING PROPERTY OWNERS ALONG THE FRONTAGE ON MARINE WAY.

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
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DRAWN BY: SR DATE 4/18
DESIGNED BY: JCL DATE 4/18
CHECKED BY: JCL DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460

JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
DEMOLITION PLAN
FROM STA 73+30 TO STA 81+30

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 5 OF 28

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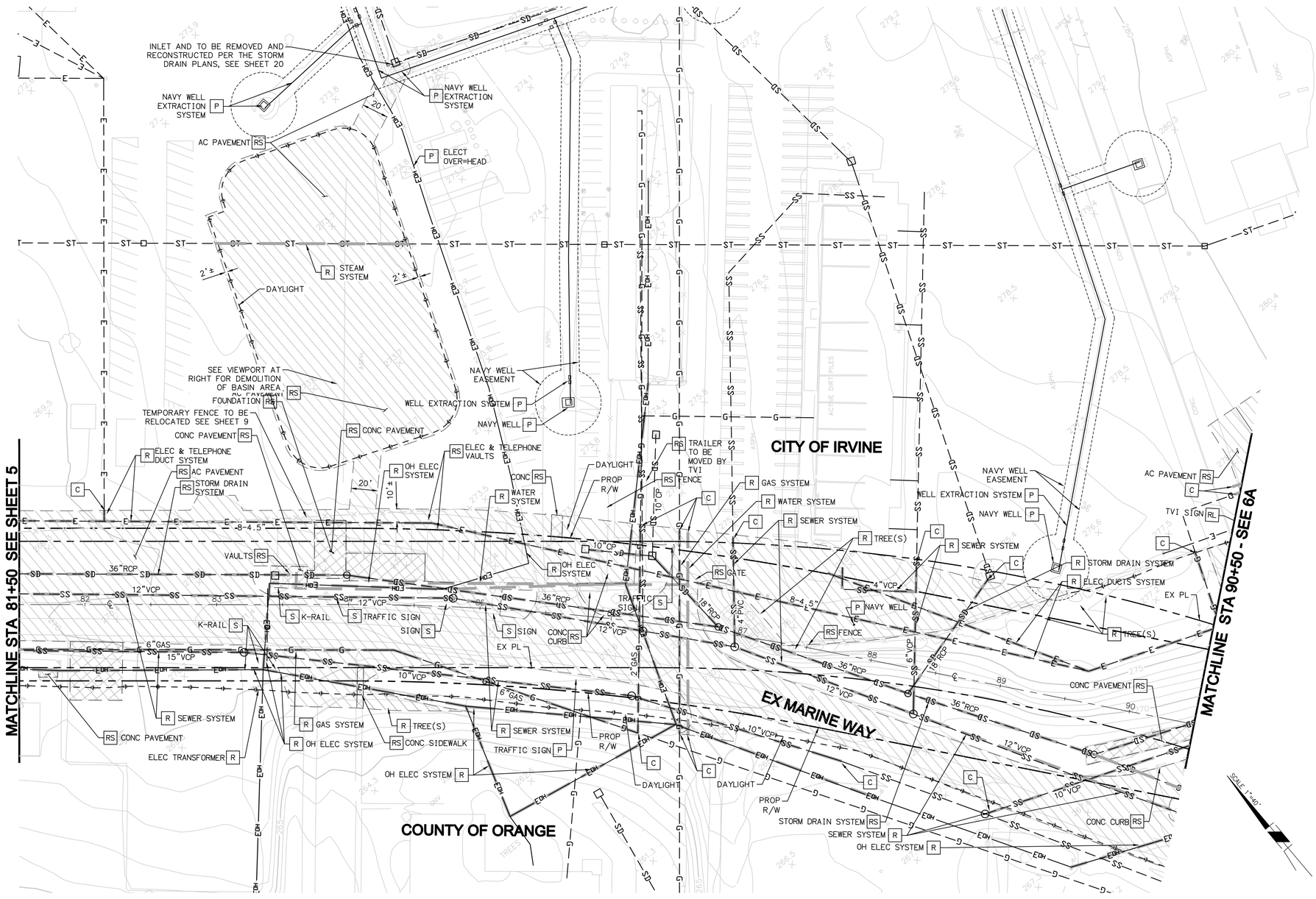

DEMOLITION NOTES

- C CAP PIPE END
- P PROTECT IN PLACE
- R REMOVE AND DISPOSE
- RL RELOCATE
- RS REMOVE AND SALVAGE
- S SALVAGE

SAWCUT AND REMOVE EX AC PAVEMENT

SAWCUT AND REMOVE EX CONC PAVEMENT

MARINE WAY STAGE 2

NOTE:

CONTRACTOR TO MAINTAIN/ALLOW OR PROVIDE ACCESS TO EXISTING PROPERTY OWNERS ALONG THE FRONTAGE ON MARINE WAY.

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

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DRAWN BY: SR	DATE 4/18
DESIGNED BY: JCL	DATE 4/18
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PLAN PREPARED BY:

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27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460

JEFFREY C. LANGDON R.C.E. 42429 DATE

SCALE: 1"=##'

PLAN CHECK NO. 00760917-EMC

PERMIT NO. 00766614-MCE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF MARINE WAY

DEMOLITION PLAN

FROM STA 81+30 TO STA 99+50

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PROJECT NO. 20.059

SHEET 6 OF 28

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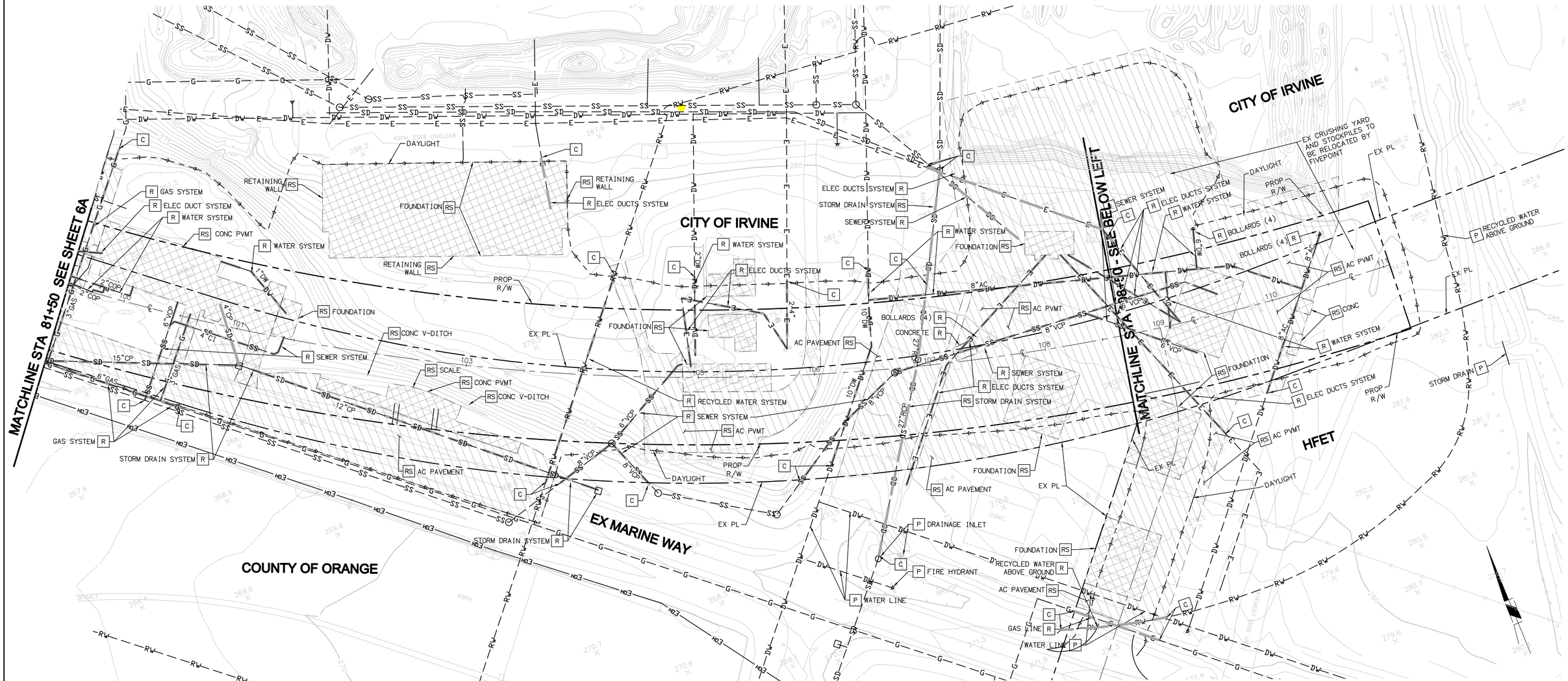
DEMOLITION NOTES

- C CAP PIPE END
- P PROTECT IN PLACE
- R REMOVE AND DISPOSE
- RL RELOCATE
- RS REMOVE AND SALVAGE
- S SALVAGE

SAWCUT AND REMOVE EX AC PAVEMENT

SAWCUT AND REMOVE EX CONC PAVEMENT



NOTE:
CONTRACTOR TO MAINTAIN/ALLOW OR PROVIDE ACCESS TO EXISTING PROPERTY OWNERS ALONG THE FRONTAGE ON MARINE WAY.

SCALE: 1"=##'

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REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

DRAWN BY: SR	DATE 4/18	
DESIGNED BY: JCL	DATE 4/18	
CHECKED BY: JCL	DATE 4/18	

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460

JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
DEMOLITION PLAN
FROM STA 99+50 TO 11+05.40

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 7 OF 28

MARINE WAY STAGE 2

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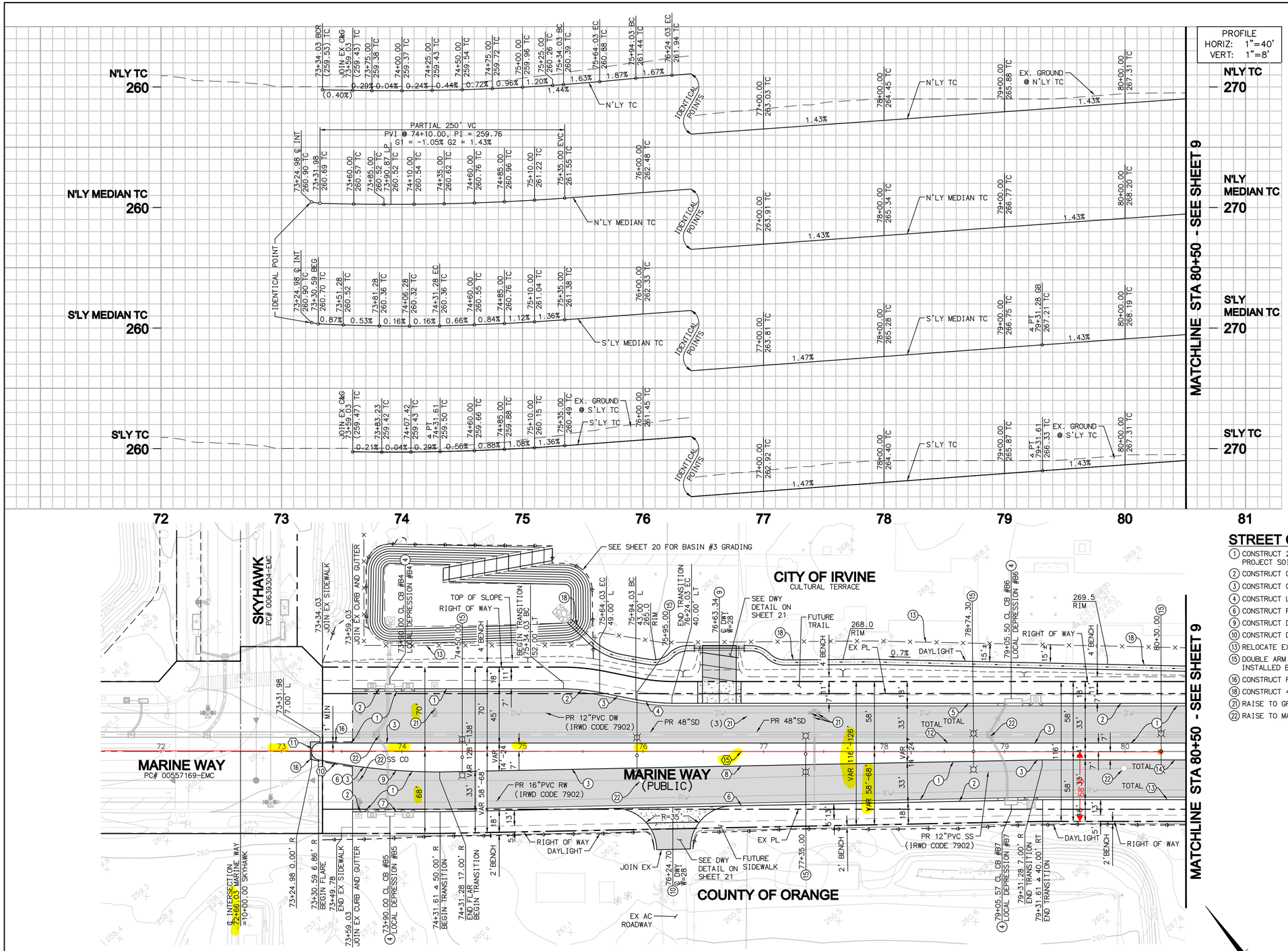
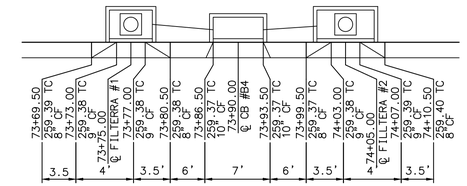


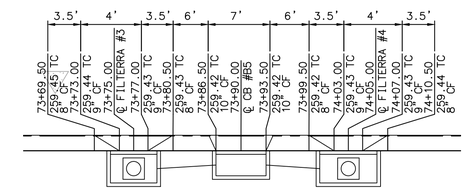
PROFILE
HORIZ: 1"=40'
VERT: 1"=8'

CENTERLINE PROFILE DATA

PVI STA	PVI ELEV	GRADE	VC LENGTH
71+10.00	262.40	-1.05%	
74+10.00	259.25	1.48%	250'
85+50.00	275.54	-1.00%	200'



LOCAL DEPRESSION #B4
SCALE: 1"=10'



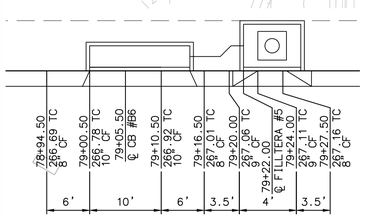
LOCAL DEPRESSION #B5
SCALE: 1"=10'

STREET CONSTRUCTION NOTES

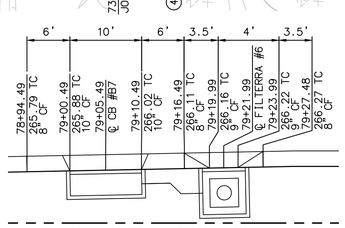
1. CONSTRUCT 2" ARHM OVER 4.5" AC OVER 19.5" CMB STRUCTURAL SECTION TO BE VERIFIED BY PROJECT SOILS ENGINEER DURING GRADING AND WITH APPROVAL OF THE CITY ENGINEER
2. CONSTRUCT CONCRETE CURB AND GUTTER PER CITY OF IRVINE STD. PLAN NO. 200, TYPE A-2
3. CONSTRUCT CONCRETE CURB PER CITY OF IRVINE STD. PLAN NO. 200, TYPE B-8
4. CONSTRUCT LOCAL DEPRESSION PER CITY OF IRVINE STD. PLAN NO. 303
6. CONSTRUCT PARABOLIC MEDIAN CURB FLARE PER CITY OF IRVINE STD. PLAN NO. 108
9. CONSTRUCT DRIVEWAY TYPE I PER CITY OF IRVINE STD. PLAN NO. 204 (WIDTH PER PLAN) X=4'
10. CONSTRUCT DRIVEWAY TYPE II PER CITY OF IRVINE STD. PLAN NO. 205 (WIDTH PER PLAN)
13. RELOCATE EXISTING TEMPORARY FENCE PER PLAN WITH GRAVEL BAGS ON LEG SUPPORTS
15. DOUBLE ARM STREET LIGHT PER CITY OF IRVINE STD. PLAN 215 AND DETAIL SHEET 2, TO BE INSTALLED BY SCE
16. CONSTRUCT FULL DEPTH AC TO PATCH PER CITY OF IRVINE STD. PLAN NO. 203 ALTERNATIVE A
18. CONSTRUCT 4' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3
21. RAISE TO GRADE EXISTING WATER VALVE CAN
22. RAISE TO MANHOLE TO GRADE

LINE/CURVE DATA TABLE

	NO.	BEARING/DELTA	RADIUS	LENGTH	TANGENT
	1	N49°51'20"W	--	175.00'	--
	2	10°04'07"	171.79'	30.19'	15.13'
	3	N38°32'44"W	--	30.59'	--
	4	10°04'07"	171.79'	30.19'	15.13'
TOTAL	5	N49°51'20"W	--	775.08'	--
	6	N51°00'05"W	--	500.10'	--
	7	N49°51'20"W	--	72.58'	--
	8	N51°00'05"W	--	500.10'	--
	9	08°09'54"	508.75'	72.50'	36.31'
	10	03°15'04"	508.75'	28.87'	14.44'
	11	168°32'30"	7.00'	20.59'	69.77'
TOTAL	12	N49°51'20"W	--	1067.13'	--
TOTAL	13	N49°51'20"W	--	467.50'	--
TOTAL	14	N49°51'20"W	--	467.83'	--
TOTAL	15	N49°51'20"W	--	1133.08'	--



LOCAL DEPRESSION #B6
SCALE: 1"=10'



LOCAL DEPRESSION #B7
SCALE: 1"=10'

SEE SHEET 13 FOR SD IMPROVEMENTS

SCALE: 1"=40'

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

DRAWN BY: SR DATE 4/18
DESIGNED BY: JCL DATE 4/18
CHECKED BY: JCL DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF MARINE WAY
STREET PLAN AND PROFILE
FROM STA 73+24.98 TO 80+50.00

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 8 OF 28

MARINE WAY STAGE 2

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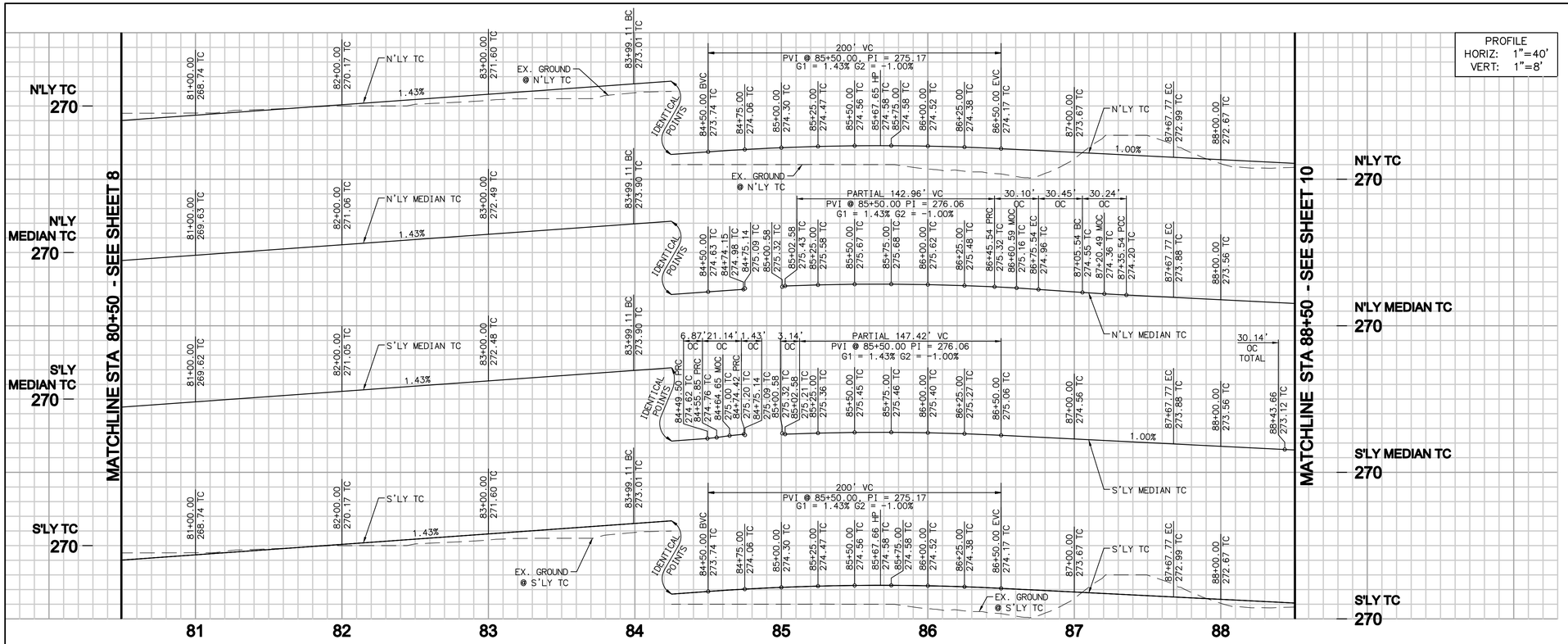
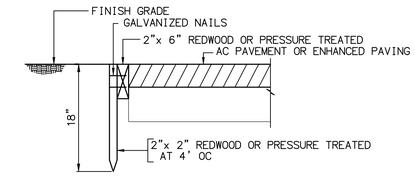


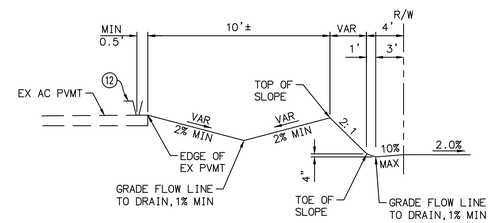
PROFILE
HORIZ: 1"=40'
VERT: 1"=8'

CENTERLINE PROFILE DATA

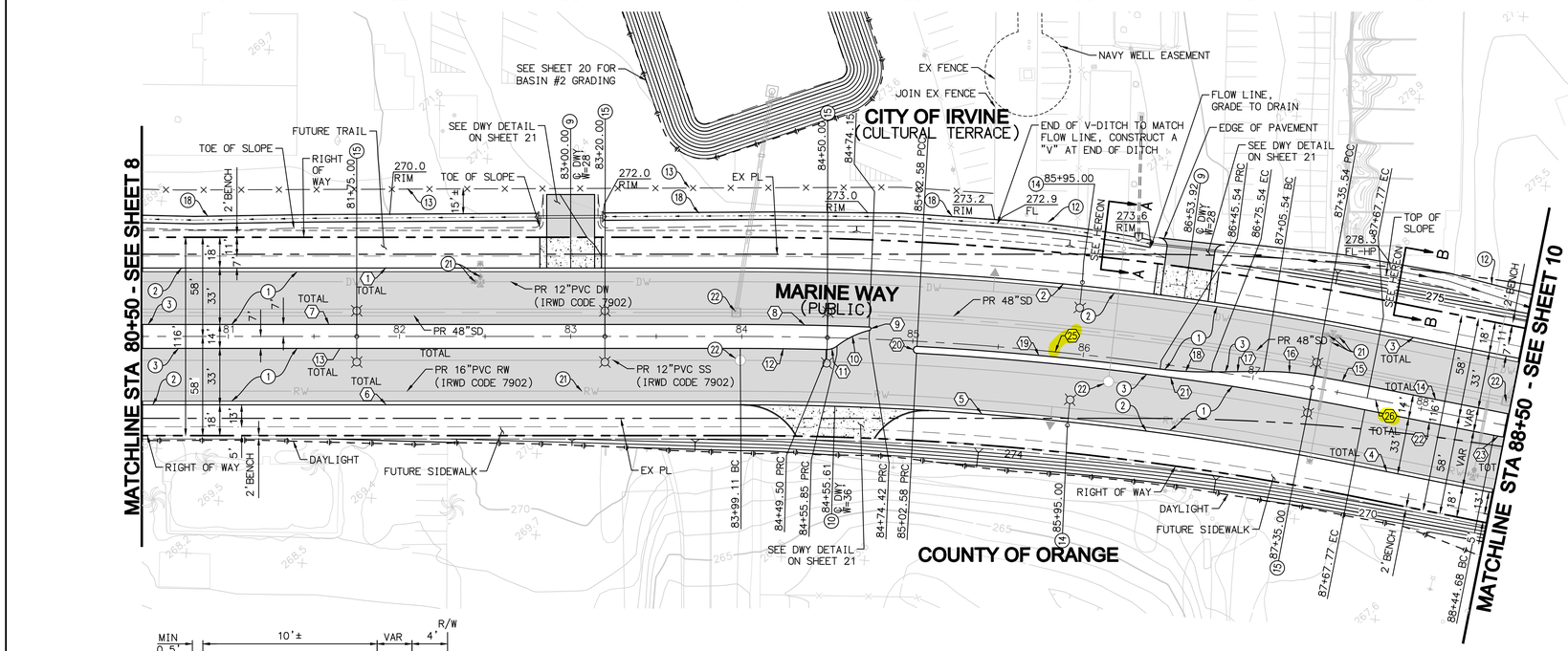
PVI STA	PVI ELEV	GRADE	VC LENGTH
74+10.00	259.25	1.48%	250'
85+50.00	275.54	-1.00%	200'
96+00.00	265.04	1.00%	200'

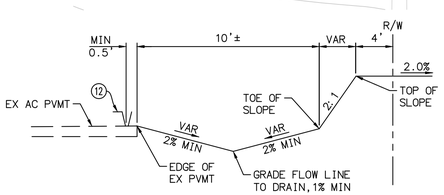


5 **WOOD HEADER DETAIL**
NOT TO SCALE



SECTION BB
NTS





SECTION AA
NTS

STREET CONSTRUCTION NOTES

1. CONSTRUCT 2" ARHM OVER 4.5" AC OVER 19.5" CMB STRUCTURAL SECTION TO BE VERIFIED BY PROJECT SOILS ENGINEER DURING GRADING AND WITH APPROVAL OF THE CITY ENGINEER
2. CONSTRUCT CONCRETE CURB AND GUTTER PER CITY OF IRVINE STD. PLAN NO. 200, TYPE A-2
3. CONSTRUCT CONCRETE CURB PER CITY OF IRVINE STD. PLAN NO. 200, TYPE B-8
9. CONSTRUCT DRIVEWAY TYPE I PER CITY OF IRVINE STD. PLAN NO. 204 (WIDTH PER PLAN) X=4'
10. CONSTRUCT DRIVEWAY TYPE II PER CITY OF IRVINE STD. PLAN NO. 205 (WIDTH PER PLAN)
12. CONSTRUCT 8" AC CURB D1-8 PER SPPWC STD. PLAN 120-2 (SEE SHEET 23)
13. RELOCATE EXISTING TEMPORARY FENCE PER PLAN WITH GRAVEL BAGS ON LEG SUPPORTS
14. SINGLE ARM STREET LIGHT PER CITY OF IRVINE STD. PLAN 215 AND DETAIL SHEET 2, TO BE INSTALLED BY SCE
15. DOUBLE ARM STREET LIGHT PER CITY OF IRVINE STD. PLAN 215 AND DETAIL SHEET 2, TO BE INSTALLED BY SCE
18. CONSTRUCT 4' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3
21. RAISE TO GRADE EXISTING WATER VALVE CAN
22. RAISE TO MANHOLE TO GRADE

LINE/CURVE DATA TABLE

	NO.	BEARING/DELTA	RADIUS	LENGTH	TANGENT
TOTAL	1	N49°51'20"W	--	775.08'	--
	2	11°14'08"	1920.00'	376.51'	188.86'
TOTAL	3	N38°37'12"W	--	540.70'	--
TOTAL	4	N38°37'12"W	--	540.70'	--
	5	11°14'08"	1840.00'	360.82'	180.99'
TOTAL	6	N49°51'20"W	--	467.50'	--
TOTAL	7	N49°51'20"W	--	1067.13'	--
	8	02°17'13"	1887.00'	75.32'	37.66'
	9	164°07'03"	1.00'	2.86'	7.17'
	10	24°13'25"	50.00'	21.14'	10.73'
	11	39°21'17"	10.00'	6.87'	3.58'
	12	01°32'08"	1873.00'	50.20'	25.10'
TOTAL	13	N49°51'20"W	--	467.83'	--
TOTAL	14	N38°37'12"W	--	359.55'	--
	15	00°58'56"	1887.00'	32.35'	16.17'
	16	10°26'38"	165.89'	30.24'	15.16'
	17	N50°25'32"W	--	30.45'	--
	18	08°38'36"	199.56'	30.10'	15.08'
	19	04°21'24"	1877.00'	142.72'	71.40'
	20	180°00'00"	2.00'	6.28'	--
TOTAL	21	08°04'55"	1873.00'	264.20'	132.32'
	22	N38°37'12"W	--	76.92'	--
TOTAL	23	09°28'25"	182.27'	30.14'	15.10'
TOTAL	24	N49°51'20"W	--	1306.11'	--
TOTAL	25	11°14'08"	1880.00'	368.66'	184.92'
TOTAL	26	N38°37'12"W	--	540.70'	--

40 20 0 40 80 120
SCALE: 1"=40'

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

		DATE
DRAWN BY:	SR	4/18
DESIGNED BY:	JCL	4/18
CHECKED BY:	JCL	4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
STREET PLAN AND PROFILE
FROM STA 80+50.00 TO 88+50.00
CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 9 OF 28

MARINE WAY STAGE 2

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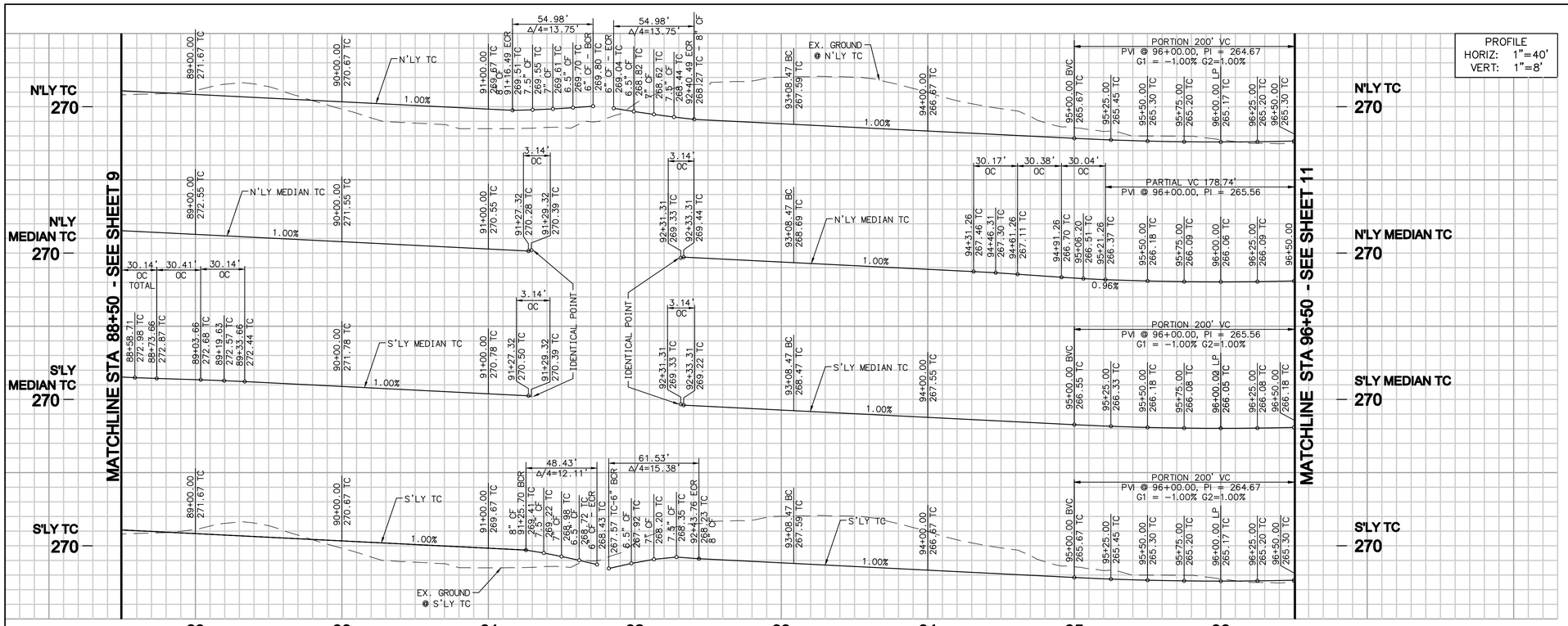
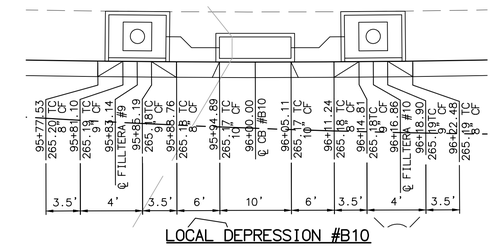


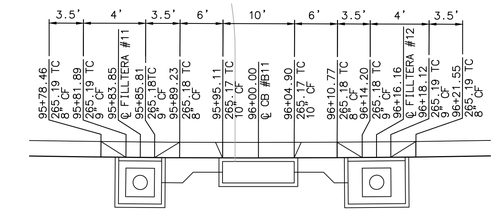
PROFILE
HORIZ: 1"=40'
VERT: 1"=8'

CENTERLINE PROFILE DATA

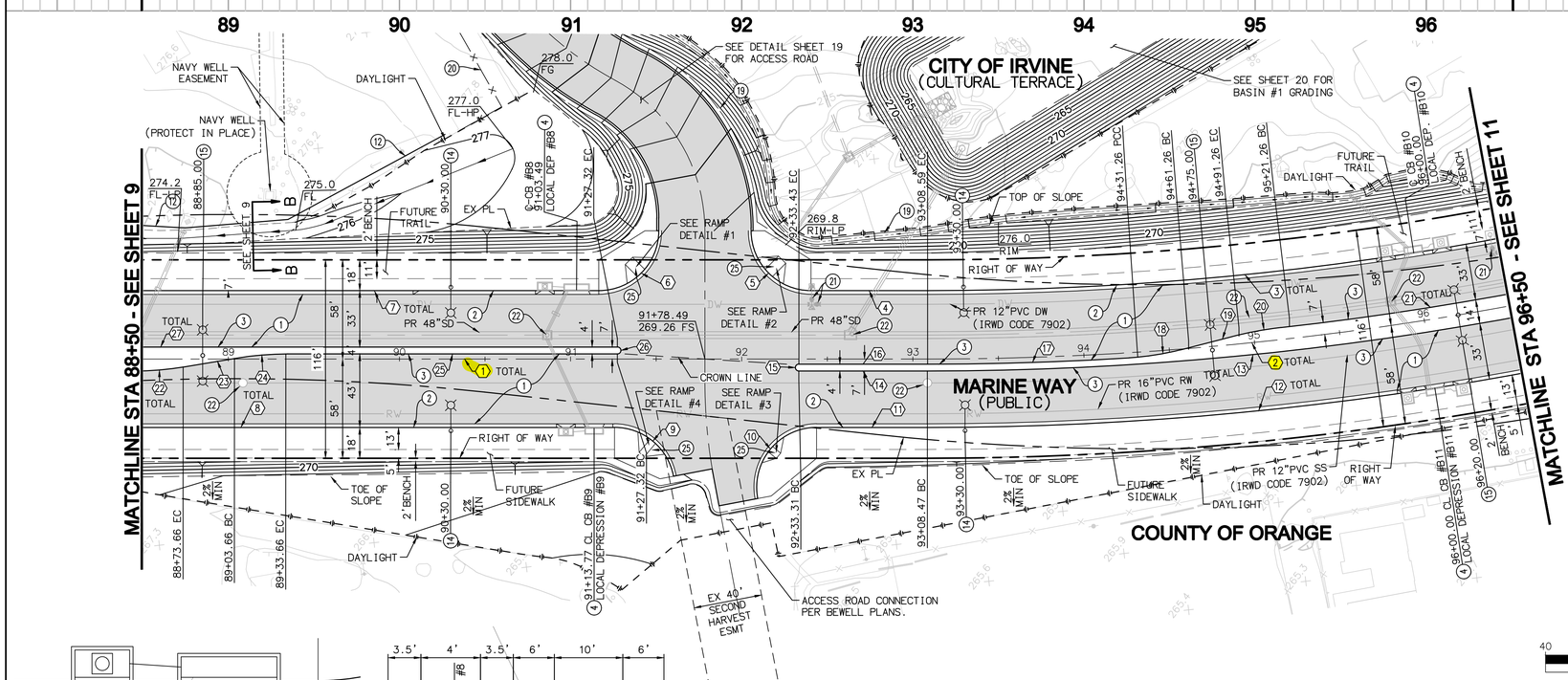
PVI STA	PVI ELEV	GRADE	VC LENGTH
85+50.00	275.54	-1.00%	200'
96+00.00	265.04	1.00%	200'
111+91.64	280.96		



LOCAL DEPRESSION #B10
SCALE: 1"=10'



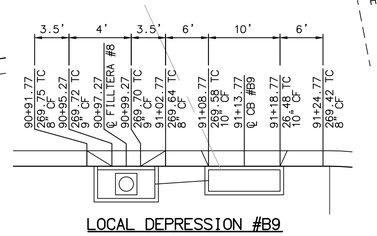
LOCAL DEPRESSION #B11
SCALE: 1"=10'



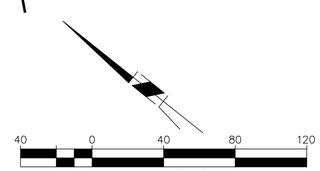
STREET CONSTRUCTION NOTES

1. CONSTRUCT 2" ARHM OVER 4.5" AC OVER 19.5" CMB STRUCTURAL SECTION TO BE VERIFIED BY PROJECT SOILS ENGINEER DURING GRADING AND WITH APPROVAL OF THE CITY ENGINEER
2. CONSTRUCT CONCRETE CURB AND GUTTER PER CITY OF IRVINE STD. PLAN NO. 200, TYPE A-2
3. CONSTRUCT CONCRETE CURB PER CITY OF IRVINE STD. PLAN NO. 200, TYPE B-8
4. CONSTRUCT LOCAL DEPRESSION PER CITY OF IRVINE STD. PLAN NO. 303
12. CONSTRUCT 8" AC CURB D1-8 PER SPPWC STD. PLAN 120-2 (SEE SHEET 23)
14. SINGLE ARM STREET LIGHT PER CITY OF IRVINE STD. PLAN 215 AND DETAIL SHEET 2, TO BE INSTALLED BY SCE
15. DOUBLE ARM STREET LIGHT PER CITY OF IRVINE STD. PLAN 215 AND DETAIL SHEET 2, TO BE INSTALLED BY SCE
19. CONSTRUCT 3' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3
20. INSTALL CHAIN LINK FENCE AND GATE PER SPPWC STD PLAN 600-3 (SEE SHEET 23)
21. RAISE TO GRADE EXISTING WATER VALVE CAN
22. RAISE TO MANHOLE TO GRADE
25. CONSTRUCT ACCESS RAMP PER CITY OF IRVINE STD PLAN 202 AND DETAIL SHEET 22

LOCAL DEPRESSION #B8
SCALE: 1"=10'



LOCAL DEPRESSION #B9
SCALE: 1"=10'



SCALE: 1"=40'

SEE SHEET 15 FOR SD IMPROVEMENTS

LINE/CURVE DATA TABLE

	NO.	BEARING/DELTA	RADIUS	LENGTH	TANGENT
TOTAL	1	N38°37'12"W	--	540.70'	--
TOTAL	2	11°34'28"	1880.00'	379.78'	190.54'
TOTAL	3	11°34'28"	1840.00'	371.70'	186.49'
	4	N38°37'12"W	--	67.98'	--
	5	90°00'00"	35.00'	54.98'	35.00'
	6	90°00'00"	35.00'	54.98'	35.00'
TOTAL	7	N38°37'12"W	--	348.72'	--
TOTAL	8	N38°37'12"W	--	357.93'	--
	9	79°16'51"	35.00'	48.43'	29.00'
	10	100°43'09"	35.00'	61.53'	42.25'
	11	N38°37'12"W	--	64.71'	--
TOTAL	12	11°34'28"	1920.00'	387.86'	194.59'
TOTAL	13	11°34'28"	1887.00'	381.20'	191.25'
	14	N38°37'12"W	--	75.16'	--
	15	180°00'00"	2.00'	6.28'	--
	16	N38°37'12"W	--	75.16'	--
	17	03°35'24"	1883.00'	117.98'	59.01'
	18	10°23'18"	166.41'	30.17'	15.13'
	19	N53°12'21"W	--	30.38'	--
	20	08°35'16"	200.42'	30.04'	15.05'
TOTAL	21	05°14'30"	1873.00'	171.35'	85.73'
TOTAL	22	09°28'25"	182.27'	30.14'	15.10'
	23	N48°04'57"W	--	30.41'	--
	24	09°28'41"	182.19'	30.14'	15.10'
	25	N38°37'12"W	--	192.64'	--
	26	180°00'00"	2.00'	6.28'	--
TOTAL	27	N38°37'12"W	--	359.55'	--

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
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1					

DRAWN BY: SR DATE 4/18
DESIGNED BY: JCL DATE 4/18
CHECKED BY: JCL DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460

JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
STREET PLAN AND PROFILE
FROM STA 88+50.00 TO 96+50.00

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 10 OF 28

MARINE WAY STAGE 2

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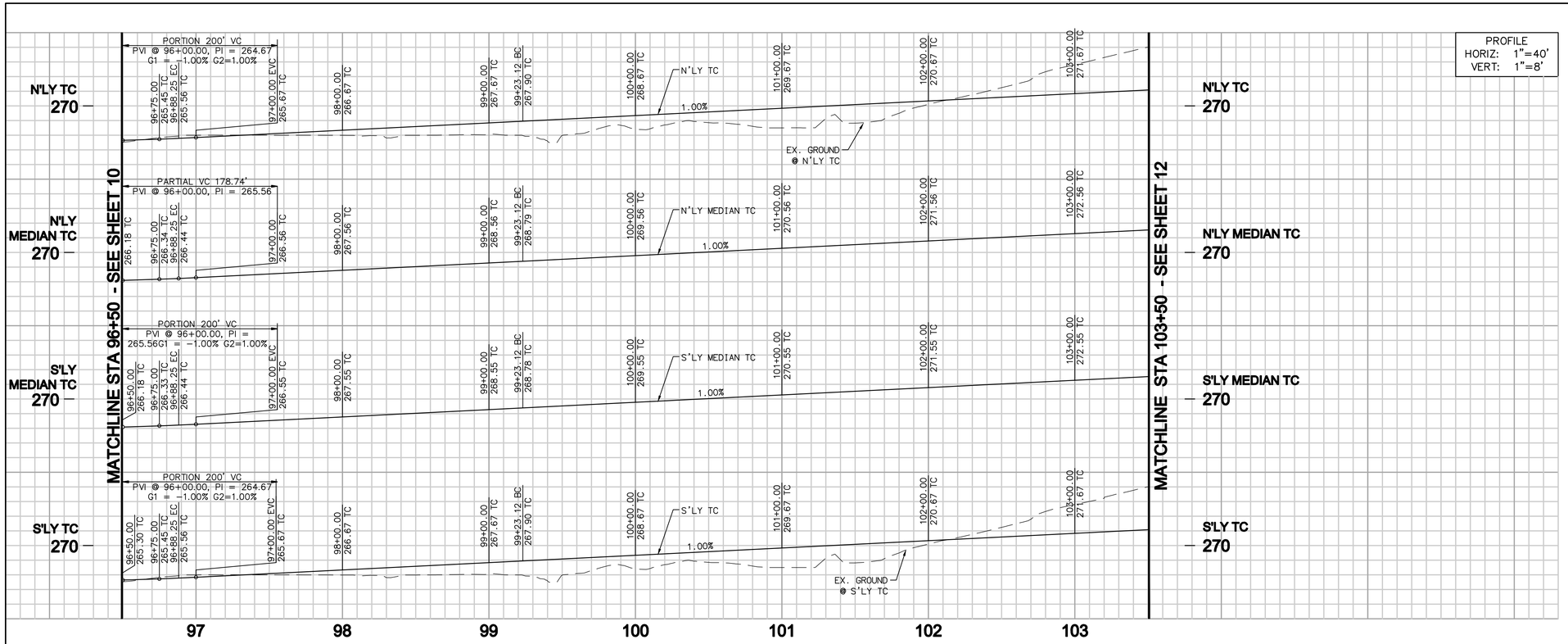
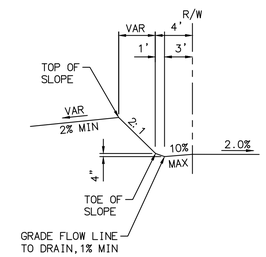


CENTERLINE PROFILE DATA

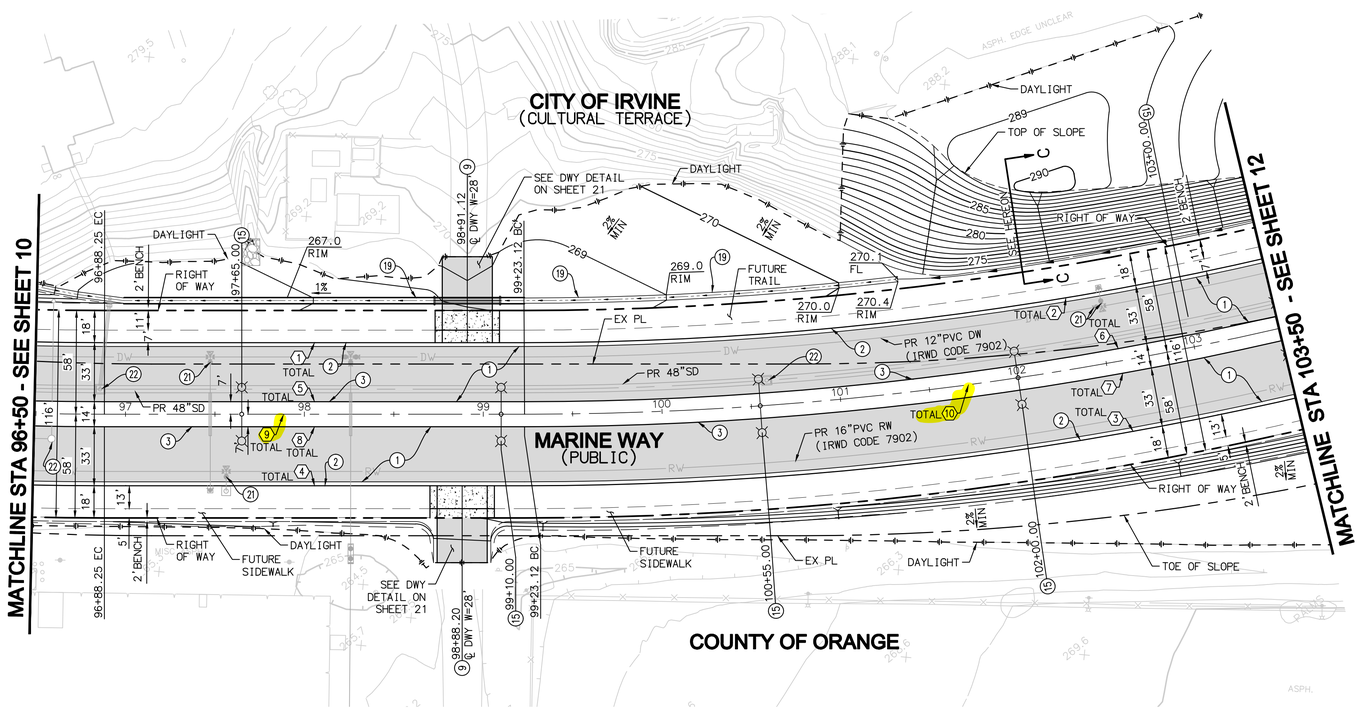
PVI STA	PVI ELEV	GRADE	VC LENGTH
96+00.00	265.04	1.00%	200'
111+91.64	280.96		



SECTION CC
NTS

STREET CONSTRUCTION NOTES

1. CONSTRUCT 2" ARHM OVER 4.5" AC OVER 19.5" CMB STRUCTURAL SECTION TO BE VERIFIED BY PROJECT SOILS ENGINEER DURING GRADING AND WITH APPROVAL OF THE CITY ENGINEER
2. CONSTRUCT CONCRETE CURB AND GUTTER PER CITY OF IRVINE STD. PLAN NO. 200, TYPE A-2
3. CONSTRUCT CONCRETE CURB PER CITY OF IRVINE STD. PLAN NO. 200, TYPE B-8
9. CONSTRUCT DRIVEWAY TYPE I PER CITY OF IRVINE STD. PLAN NO. 204 (WIDTH PER PLAN) X=4'
15. DOUBLE ARM STREET LIGHT PER CITY OF IRVINE STD. PLAN 215 AND DETAIL SHEET 2, TO BE INSTALLED BY SCE
19. CONSTRUCT 3' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3
21. RAISE TO GRADE EXISTING WATER VALVE CAN
22. RAISE TO MANHOLE TO GRADE



SEE SHEET 16 FOR SD IMPROVEMENTS

LINE/CURVE DATA TABLE

	NO.	BEARING/DELTA	RADIUS	LENGTH	TANGENT
TOTAL	1	N50°11'40"W	--	234.87'	--
TOTAL	2	36°01'54"	1840.00'	1157.12'	598.41'
TOTAL	3	36°01'54"	1920.00'	1207.43'	624.43'
TOTAL	4	N50°11'40"W	--	234.87'	--
TOTAL	5	N50°11'40"W	--	234.87'	--
TOTAL	6	36°01'54"	1873.00'	1177.88'	609.15'
TOTAL	7	36°01'54"	1887.00'	1186.68'	613.70'
TOTAL	8	N50°11'40"W	--	234.87'	--
TOTAL	9	N50°11'40"W		234.87'	
TOTAL	10	36°01'54"	1880.00'	1182.28'	611.42'

40 0 40 80 120
SCALE: 1"=40'

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

DRAWN BY: SR DATE 4/18
DESIGNED BY: JCL DATE 4/18
CHECKED BY: JCL DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF MARINE WAY
STREET PLAN AND PROFILE
FROM STA 96+50.00 TO 103+50.00

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 11 OF 28

MARINE WAY STAGE 2

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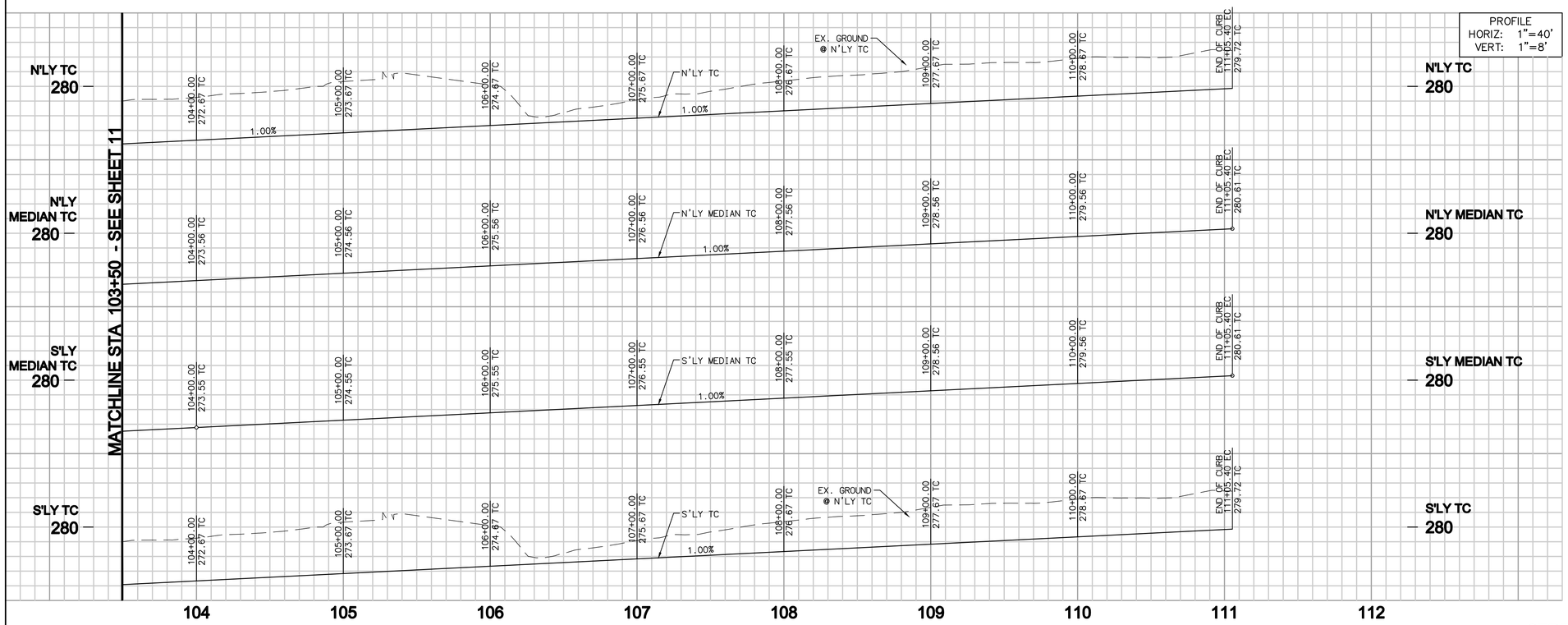
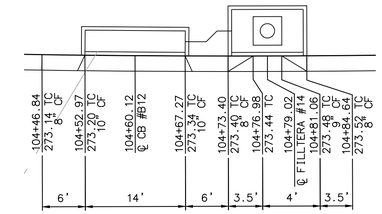


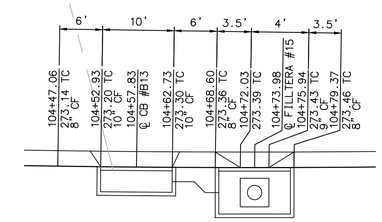
PROFILE
HORIZ: 1"=40'
VERT: 1"=8'

CENTERLINE PROFILE DATA

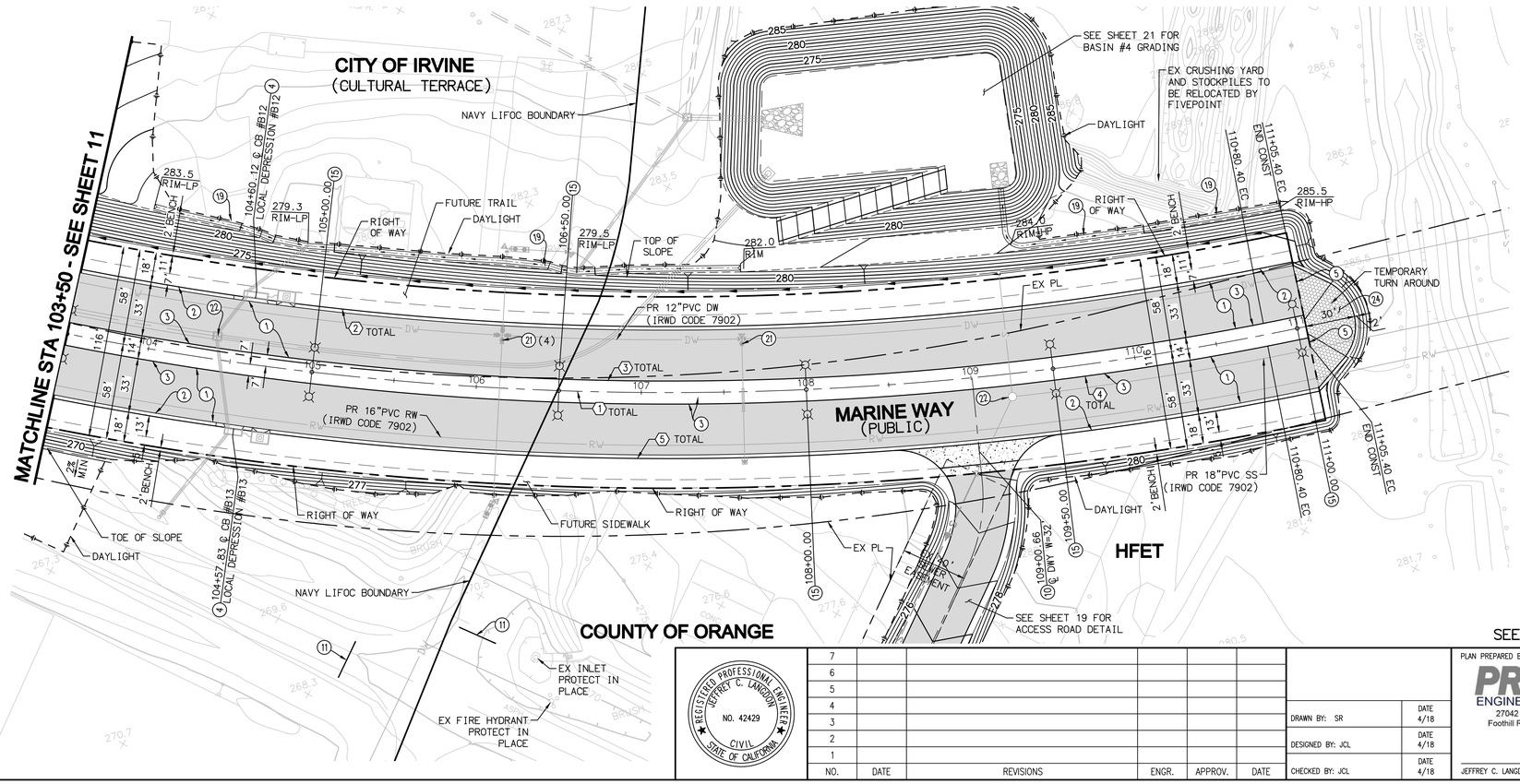
PVI STA	PVI ELEV	GRADE	VC LENGTH
96+00.00	265.04	1.00%	200'
114+00.00	283.04		



LOCAL DEPRESSION #B12
SCALE: 1"=10'



LOCAL DEPRESSION #B13
SCALE: 1"=10'



STREET CONSTRUCTION NOTES

1. CONSTRUCT 2" ARHM OVER 4.5" AC OVER 19.5" CMB STRUCTURAL SECTION TO BE VERIFIED BY PROJECT SOILS ENGINEER DURING GRADING AND WITH APPROVAL OF THE CITY ENGINEER
2. CONSTRUCT CONCRETE CURB AND GUTTER PER CITY OF IRVINE STD. PLAN NO. 200, TYPE A-2
3. CONSTRUCT CONCRETE CURB PER CITY OF IRVINE STD. PLAN NO. 200, TYPE B-8
4. CONSTRUCT LOCAL DEPRESSION PER CITY OF IRVINE STD. PLAN NO. 303
5. INSTALL WOOD HEADER PER DETAIL ON SHEET 9
10. CONSTRUCT DRIVEWAY TYPE II PER CITY OF IRVINE STD. PLAN NO. 205 (WIDTH PER PLAN)
11. CONSTRUCT DEAD END SIGNING PER CITY OF IRVINE STD. PLAN NO. 400 & 401
15. DOUBLE ARM STREET LIGHT PER CITY OF IRVINE STD. PLAN 215 AND DETAIL SHEET 2, TO BE INSTALLED BY SCE
19. CONSTRUCT 3' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3
21. RAISE TO GRADE EXISTING WATER VALVE CAN
22. RAISE TO MANHOLE TO GRADE
24. INSTALL 8" CMB OVER COMPATED NATIVE PER SOIL ENGINEER

LINE/CURVE DATA TABLE

	NO.	BEARING/DELTA	RADIUS	LENGTH	TANGENT
TOTAL	1	36°01'54"	1880.00'	1182.28'	611.42'
TOTAL	2	36°01'54"	1840.00'	1157.12'	598.41'
TOTAL	3	36°01'54"	1873.00'	1177.88'	609.15'
TOTAL	4	36°01'54"	1887.00'	1186.68'	613.70'
TOTAL	5	36°01'54"	1920.00'	1207.43'	624.43'

SEE SHEET 17 FOR SD IMPROVEMENTS

40 0 40 80 120
SCALE: 1"=40'

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
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1					

DRAWN BY: SR DATE 4/18
DESIGNED BY: JCL DATE 4/18
CHECKED BY: JCL DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
STREET PLAN AND PROFILE
FROM STA 103+50.00 TO 111+50.00

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 12 OF 28

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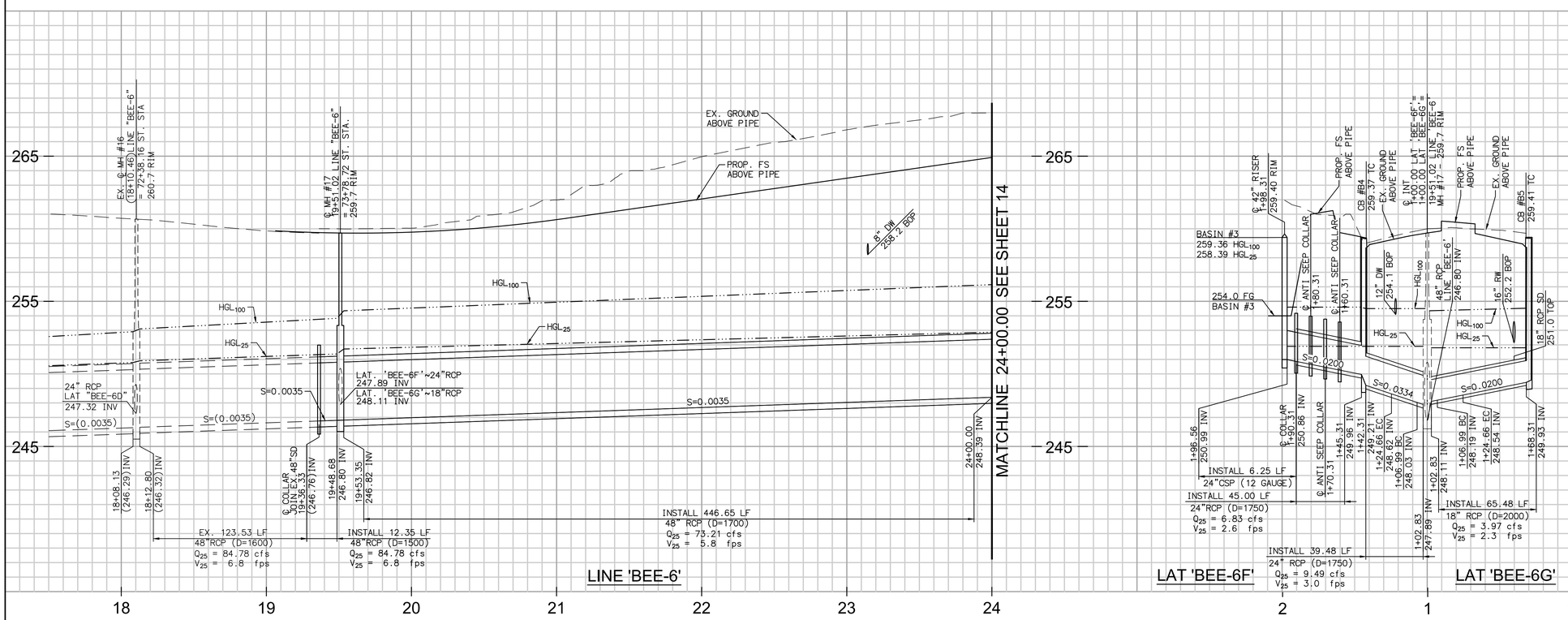
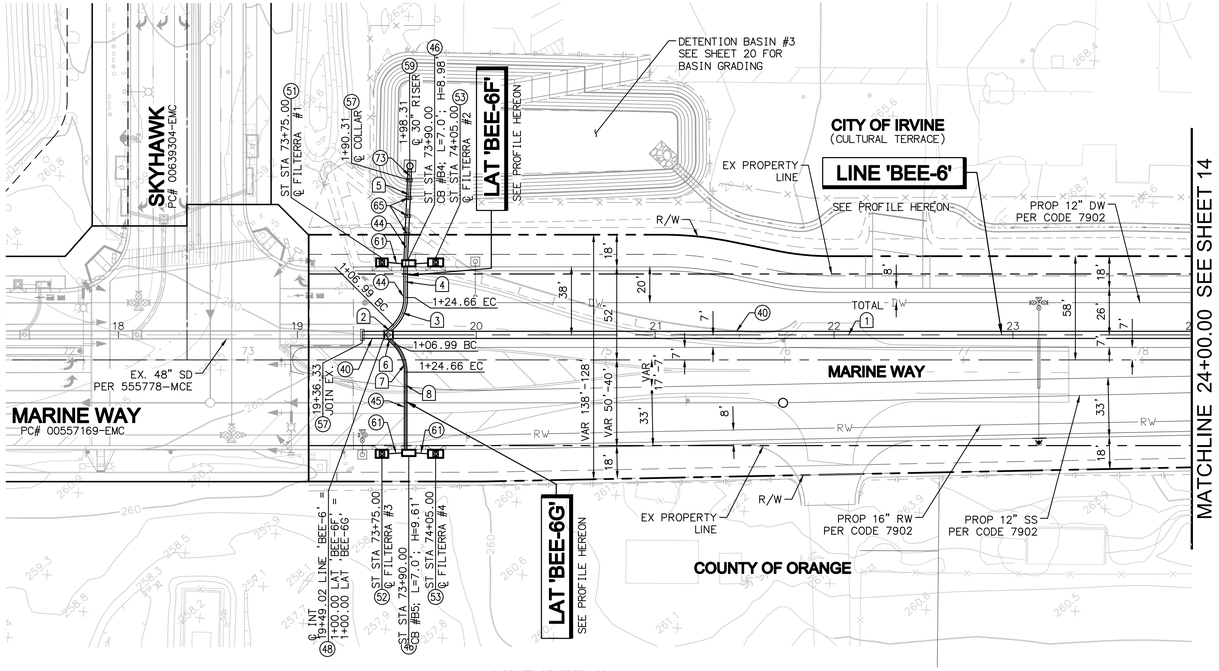
PROFILE
HORIZ: 1"=40'
VERT: 1"=4'



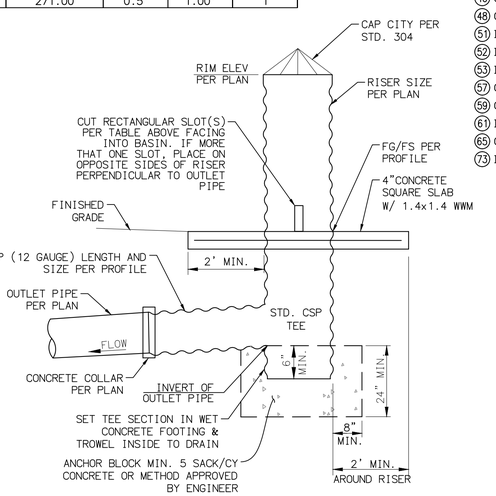


LINE 'BEE-6'

BASIN RISER SLOT TABLE				
BASIN	BOTTOM ELEV	WIDTH	HEIGHT	QUANTITY
1	261.00	0.5'	1.00'	2
2	262.50	0.5'	1.00'	1
3	254.00	0.5'	1.50'	1
4	271.00	0.5'	1.00'	1

STORM DRAIN CONSTRUCTION NOTES

(40) INSTALL 48" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(44) INSTALL 24" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(45) INSTALL 18" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(46) CONSTRUCT CATCH BASIN TYPE II PER CITY OF IRVINE STD. 301 (L & H PER PLAN)
(48) CONSTRUCT JUNCTION STRUCTURE NO. II PER CITY OF IRVINE STD. 307 and 307A
(51) INSTALL 6'L X 4'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3
(52) INSTALL 6.5'L X 4'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3
(53) INSTALL 8'L X 4'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3
(57) CONSTRUCT CONCRETE COLLAR PER CITY OF IRVINE STD. 310
(59) CONSTRUCT BASIN RISER PER DETAIL SHEET 13
(61) INSTALL 4" (SCH 40) PVC PIPE @ 2% MIN
(65) CONSTRUCT ANTI SEEP COLLAR PER OCPW STD PLAN 1333 (SAME AS SLOPE ANCHOR)
(73) INSTALL 24" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318



NOTE: FOR DETAILS NOT SHOWN SEE COI STD. PLAN 304

(59) BASIN RISER DETAIL
NOT TO SCALE

LINE/CURVE DATA TABLE					
	NO	BEARING/DELTA	RADIUS	LENGTH	TANGENT
TOTAL	1	N49°51'20"W	--	1035.08'	--
	2	N 85°08'40" E	--	6.99'	--
	3	45°00'00"	22.50'	17.67'	9.32'
	4	N 40°08'40" E	--	17.65'	--
	5	N 42°43'14" E	--	53.00'	--
	6	N 04°51'20" W	--	6.99'	--
	7	45°00'00"	22.50'	17.67'	9.32'
	8	N 40°08'40" E	--	43.65'	--

40 20 0 40 80 120
SCALE: 1"=40'

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

DRAWN BY: SR	DATE 4/18
DESIGNED BY: JCL	DATE 4/18
CHECKED BY: JCL	DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
STORM DRAIN PLAN AND PROFILE
LINE 'BEE-6' FROM STA 19+36.33 TO 24+00.00
LATERALS 'BEE-6F' & 'BEE-6G'

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 13 OF 28

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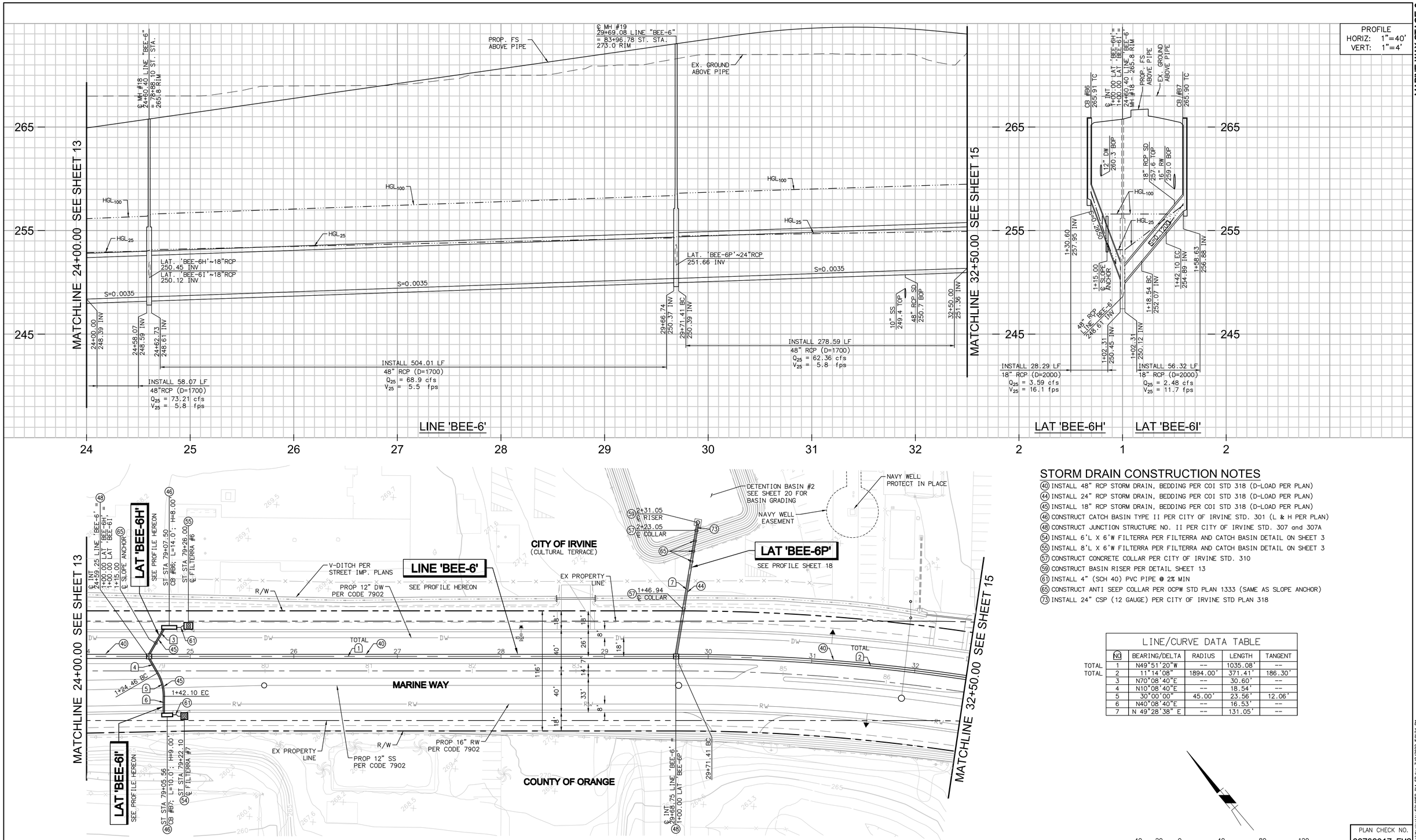

LINE 'BEE-6'

STORM DRAIN CONSTRUCTION NOTES

(40) INSTALL 48" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(44) INSTALL 24" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(45) INSTALL 18" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(46) CONSTRUCT CATCH BASIN TYPE II PER CITY OF IRVINE STD. 301 (L & H PER PLAN)
(48) CONSTRUCT JUNCTION STRUCTURE NO. II PER CITY OF IRVINE STD. 307 and 307A
(54) INSTALL 6'L X 6'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3
(55) INSTALL 8'L X 6'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3
(57) CONSTRUCT CONCRETE COLLAR PER CITY OF IRVINE STD. 310
(59) CONSTRUCT BASIN RISER PER DETAIL SHEET 13
(61) INSTALL 4" (SCH 40) PVC PIPE @ 2% MIN
(65) CONSTRUCT ANTI SEEP COLLAR PER OCPW STD PLAN 1333 (SAME AS SLOPE ANCHOR)
(73) INSTALL 24" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318

LINE/CURVE DATA TABLE

	NO.	BEARING/DELTA	RADIUS	LENGTH	TANGENT
TOTAL	1	N49°51'20"W	--	1035.08'	--
TOTAL	2	11°14'08"	1894.00'	371.41'	186.30'
	3	N70°08'40"E	--	30.60'	--
	4	N10°08'40"E	--	18.54'	--
	5	30°00'00"	45.00'	23.56'	12.06'
	6	N40°08'40"E	--	16.53'	--
	7	N 49°28'38" E	--	131.05'	--

SCALE: 1"=40'

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

DRAWN BY: SR DATE 4/18
DESIGNED BY: JCL DATE 4/18
CHECKED BY: JCL DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
STORM DRAIN PLAN AND PROFILE
LINE 'BEE-6' FROM STA 24+00.00 TO 32+50.00
LATERALS 'BEE-6H', BEE-6I' & 'BEE-6P'

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 14 OF 28

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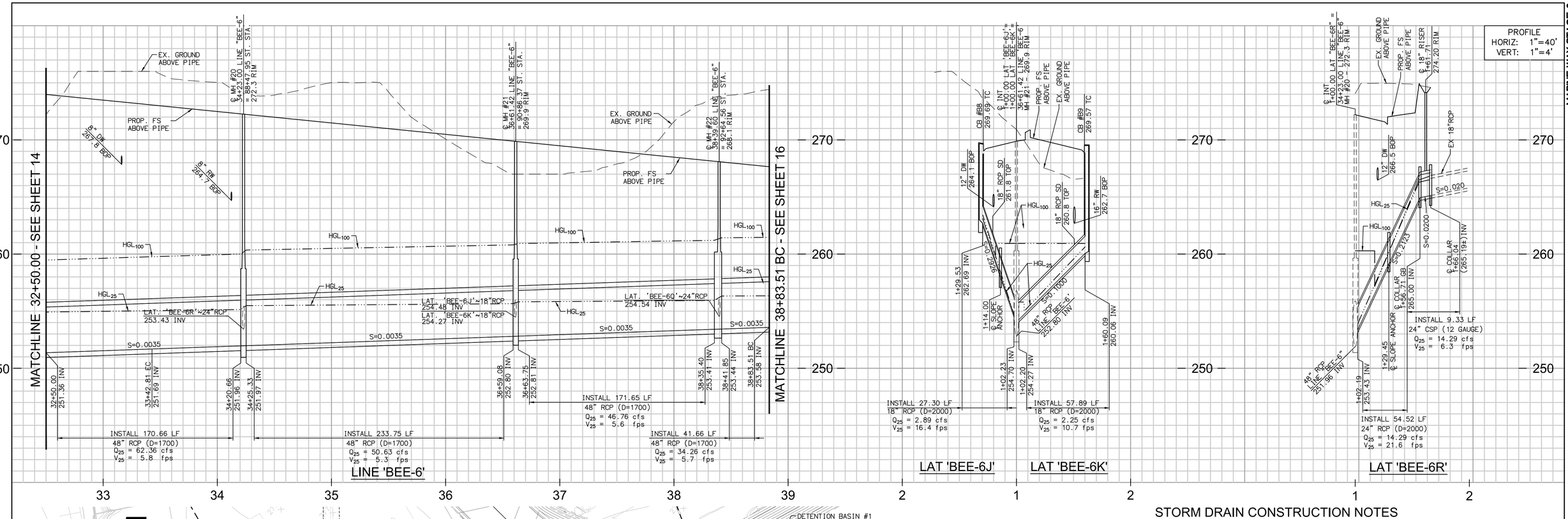

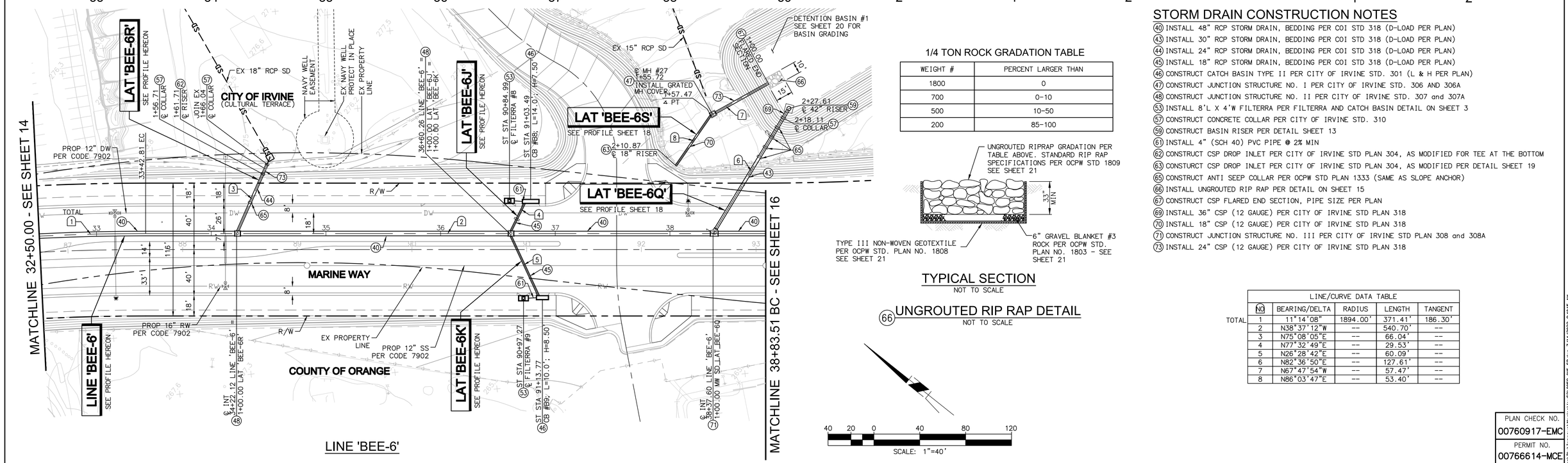

STORM DRAIN CONSTRUCTION NOTES

(40) INSTALL 48" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(43) INSTALL 30" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(44) INSTALL 24" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(45) INSTALL 18" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(46) CONSTRUCT CATCH BASIN TYPE II PER CITY OF IRVINE STD. 301 (L & H PER PLAN)
(47) CONSTRUCT JUNCTION STRUCTURE NO. I PER CITY OF IRVINE STD. 306 AND 306A
(48) CONSTRUCT JUNCTION STRUCTURE NO. II PER CITY OF IRVINE STD. 307 and 307A
(53) INSTALL 8'L X 4'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3
(57) CONSTRUCT CONCRETE COLLAR PER CITY OF IRVINE STD. 310
(59) CONSTRUCT BASIN RISER PER DETAIL SHEET 13
(61) INSTALL 4" (SCH 40) PVC PIPE @ 2% MIN
(62) CONSTRUCT CSP DROP INLET PER CITY OF IRVINE STD PLAN 304, AS MODIFIED FOR TEE AT THE BOTTOM
(63) CONSTURCT CSP DROP INLET PER CITY OF IRVINE STD PLAN 304, AS MODIFIED PER DETAIL SHEET 19
(65) CONSTRUCT ANTI SEEP COLLAR PER OCPW STD PLAN 1333 (SAME AS SLOPE ANCHOR)
(66) INSTALL UNGROUTED RIP RAP PER DETAIL ON SHEET 15
(67) CONSTRUCT CSP FLARED END SECTION, PIPE SIZE PER PLAN
(69) INSTALL 36" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318
(70) INSTALL 18" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318
(71) CONSTRUCT JUNCTION STRUCTURE NO. III PER CITY OF IRVINE STD PLAN 308 and 308A
(73) INSTALL 24" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318

1/4 TON ROCK GRADATION TABLE

WEIGHT #	PERCENT LARGER THAN
1800	0
700	0-10
500	10-50
200	85-100

TYPICAL SECTION
NOT TO SCALE

(66) UNGROUTED RIP RAP DETAIL
NOT TO SCALE

SCALE: 1"=40'

LINE/CURVE DATA TABLE					
	NO	BEARING/DELTA	RADIUS	LENGTH	TANGENT
TOTAL	1	11°14'08"	1894.00'	371.41'	186.30'
	2	N38°37'12"W	--	540.70'	--
	3	N75°08'05"E	--	66.04'	--
	4	N77°32'49"E	--	29.53'	--
	5	N26°28'42"E	--	60.09'	--
	6	N82°36'50"E	--	127.61'	--
	7	N67°47'54"W	--	57.47'	--
	8	N86°03'47"E	--	53.40'	--

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

DRAWN BY: SR	DATE 4/18
DESIGNED BY: JCL	DATE 4/18
CHECKED BY: JCL	DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
STORM DRAIN PLAN AND PROFILE
LINE 'BEE-6' FROM STA 32+50.00 TO 38+83.51 BC
LATERALS 'BEE-6J', 'BEE-6K', 'BEE-6R', 'BEE-6S' & 'BEE-6Q'

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 15 OF 28

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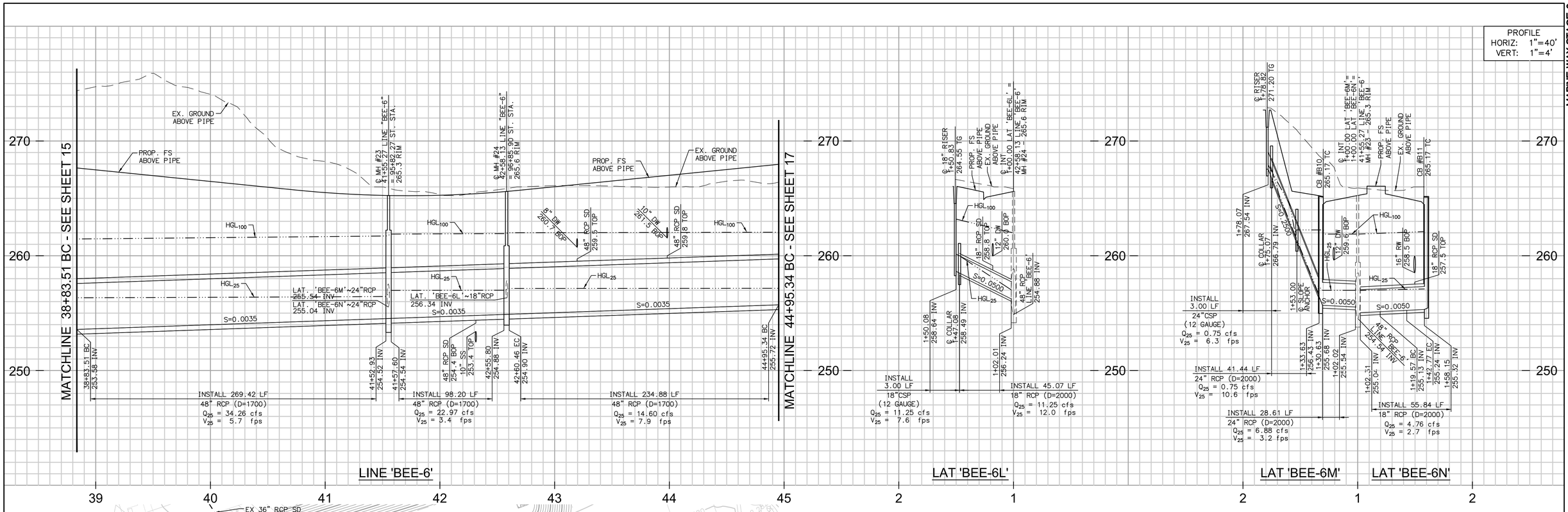
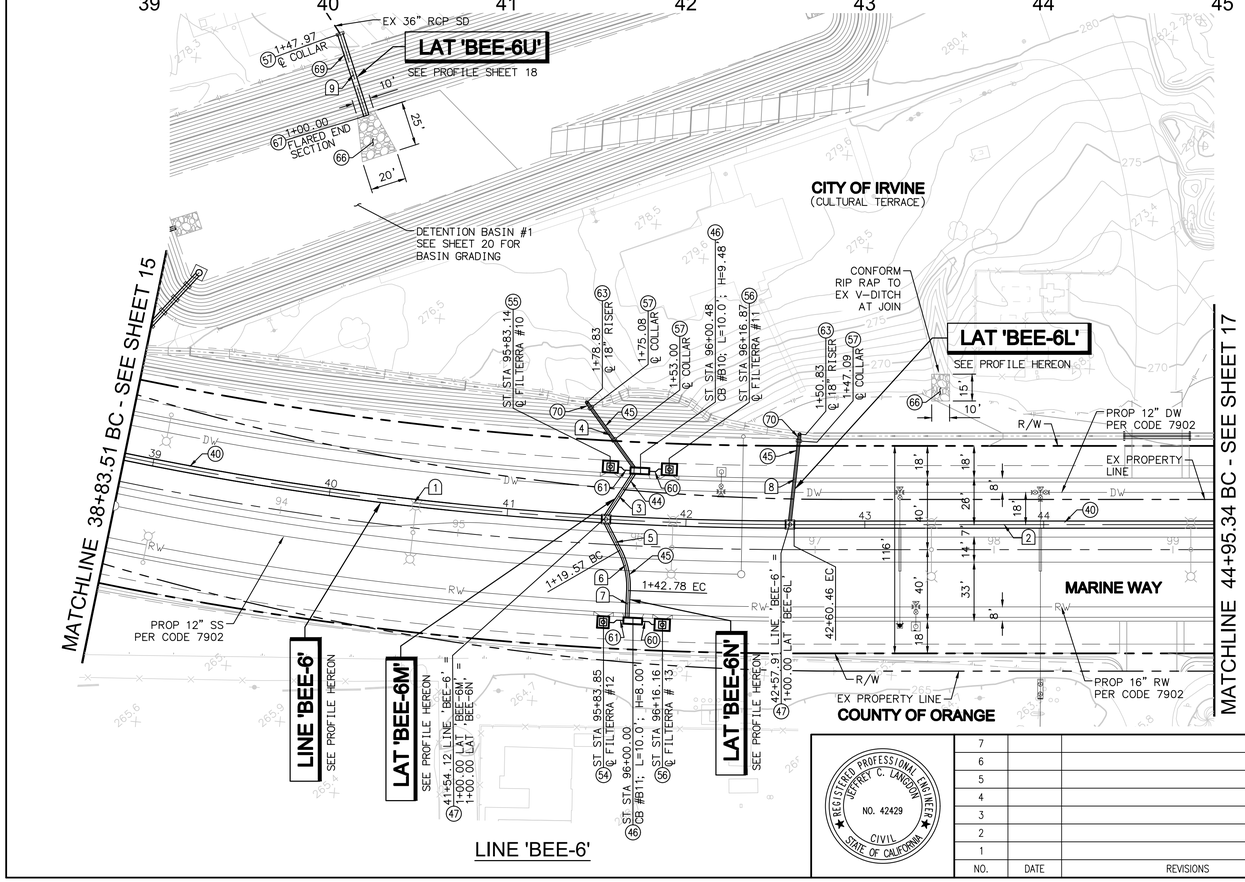


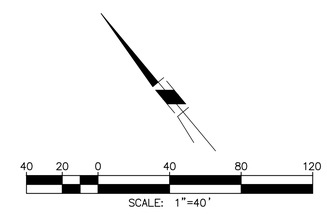


LINE/CURVE DATA TABLE

NO	BEARING/DELTA	RADIUS	LENGTH	TANGENT
1	11°34'28"	1866.00'	376.95'	189.12'
2	N 50°11'40" W	--	234.87'	--
3	N 72°55'01" E	--	30.63'	--
4	N 03°59'44" E	--	45.19'	--
5	N 12°56'41" E	--	19.57'	--
6	29°33'01"	45.00'	23.21'	11.87'
7	N 42°29'42" E	--	15.37'	--
8	N 46°10'04" E	--	50.83'	--
9	N 22°00'45" E	--	47.97'	--

STORM DRAIN CONSTRUCTION NOTES

(40) INSTALL 48" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(44) INSTALL 24" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(45) INSTALL 18" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(46) CONSTRUCT CATCH BASIN TYPE II PER CITY OF IRVINE STD. 301 (L & H PER PLAN)
(47) CONSTRUCT JUNCTION STRUCTURE NO. I PER CITY OF IRVINE STD. 306 AND 306A
(54) INSTALL 6'L X 6'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3
(55) INSTALL 8'L X 6'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3
(56) INSTALL 10'L X 6'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3
(57) CONSTRUCT CONCRETE COLLAR PER CITY OF IRVINE STD. 310
(60) INSTALL 6" (SCH 40) PVC PIPE @ 2% MIN
(61) INSTALL 4" (SCH 40) PVC PIPE @ 2% MIN
(63) CONSTURCT CSP DROP INLET PER CITY OF IRVINE STD PLAN 304, AS MODIFIED PER DETAIL SHEET 19
(66) INSTALL UNGROUTED RIP RAP PER DETAIL ON SHEET 15
(67) CONSTRUCT CSP FLARED END SECTION, PIPE SIZE PER PLAN
(69) INSTALL 36" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318
(70) INSTALL 18" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318



NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

DRAWN BY: SR DATE 4/18
DESIGNED BY: JCL DATE 4/18
CHECKED BY: JCL DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460

JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF MARINE WAY
STORM DRAIN PLAN AND PROFILE
LINE 'BEE-6' FROM STA 38+83.51 TO 44+95.34
LATERALS 'BEE-6L', 'BEE-6M' & 'BEE-6N'

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 16 OF 28

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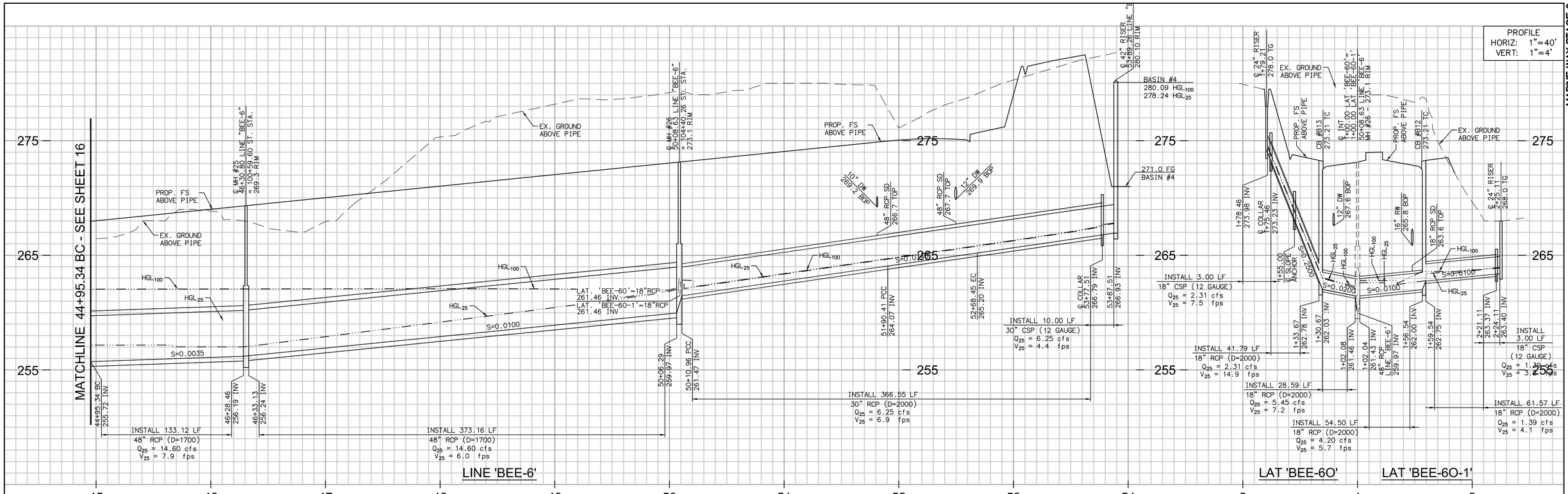

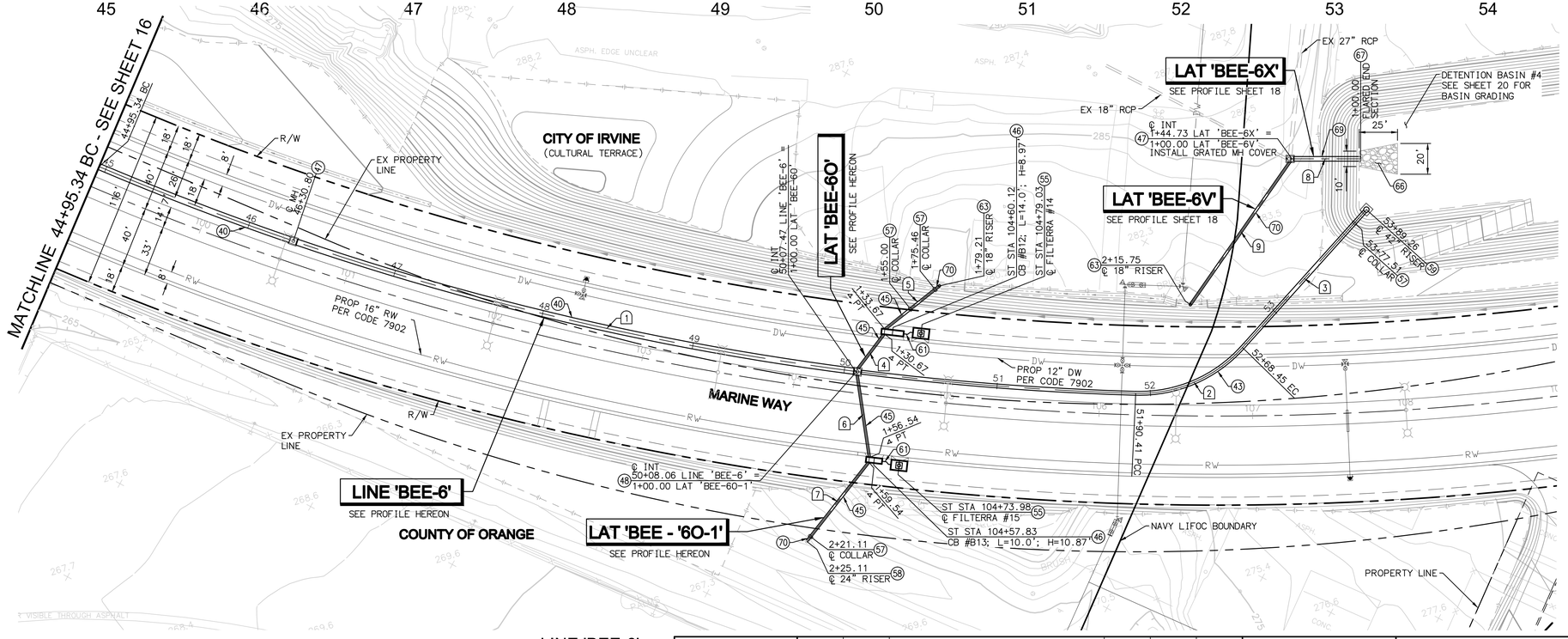

STORM DRAIN CONSTRUCTION NOTES

(40) INSTALL 48" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(43) INSTALL 30" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(45) INSTALL 18" RCP STORM DRAIN, BEDDING PER COI STD 318 (D-LOAD PER PLAN)
(46) CONSTRUCT CATCH BASIN TYPE II PER CITY OF IRVINE STD. 301 (L & H PER PLAN)
(47) CONSTRUCT JUNCTION STRUCTURE NO. I PER CITY OF IRVINE STD. 306 AND 306A
(48) CONSTRUCT JUNCTION STRUCTURE NO. II PER CITY OF IRVINE STD. 307 and 307A
(56) INSTALL 8'L X 6'W FILTERRA PER FILTERRA AND CATCH BASIN DETAIL ON SHEET 3
(57) CONSTRUCT CONCRETE COLLAR PER CITY OF IRVINE STD. 310
(58) CONSTRUCT CSP RISER PER CITY OF IRVINE STD PLAN 304
(59) CONSTRUCT BASIN RISER PER DETAIL SHEET 13
(61) INSTALL 4" (SCH 40) PVC PIPE @ 2% MIN
(63) CONSTURCT CSP DROP INLET PER CITY OF IRVINE STD PLAN 304, AS MODIFIED PER DETAIL SHEET 19
(66) INSTALL UNGROUTED RIP RAP PER DETAIL ON SHEET 15
(67) CONSTRUCT CSP FLARED END SECTION, PIPE SIZE PER PLAN
(69) INSTALL 36" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318
(70) INSTALL 18" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318

LINE/CURVE DATA TABLE

NO.	BEARING/DELTA	RADIUS	LENGTH	TANGENT
1	21°20'32"	1866.00'	695.07'	351.61'
2	49°41'04"	90.00'	78.04'	41.67'
3	N 58°46'44" E	--	120.81'	--
4	N 54°02'39" E	--	30.67'	--
5	N 68°19'24" E	--	45.54'	--
6	N 08°23'17" E	--	56.54'	--
7	N 54°52'38" E	--	65.58'	--
8	N 73°11'46" W	--	46.22'	--
9	N 51°41'22" E	--	115.75'	--

40 20 0 40 80 120
SCALE: 1"=40'

REGISTERED PROFESSIONAL ENGINEER
JEFFREY C. LANGDON
NO. 42429
CIVIL
STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

DRAWN BY: SR DATE 4/18
DESIGNED BY: JCL DATE 4/18
CHECKED BY: JCL DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
STORM DRAIN PLAN AND PROFILE
LINE 'BEE-6' FROM STA 44+95.34 TO 53+89.26
LATERALS 'BEE-6O', 'BEE-6O-1', 'BEE-6V' & 'BEE-6X'

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 17 OF 28

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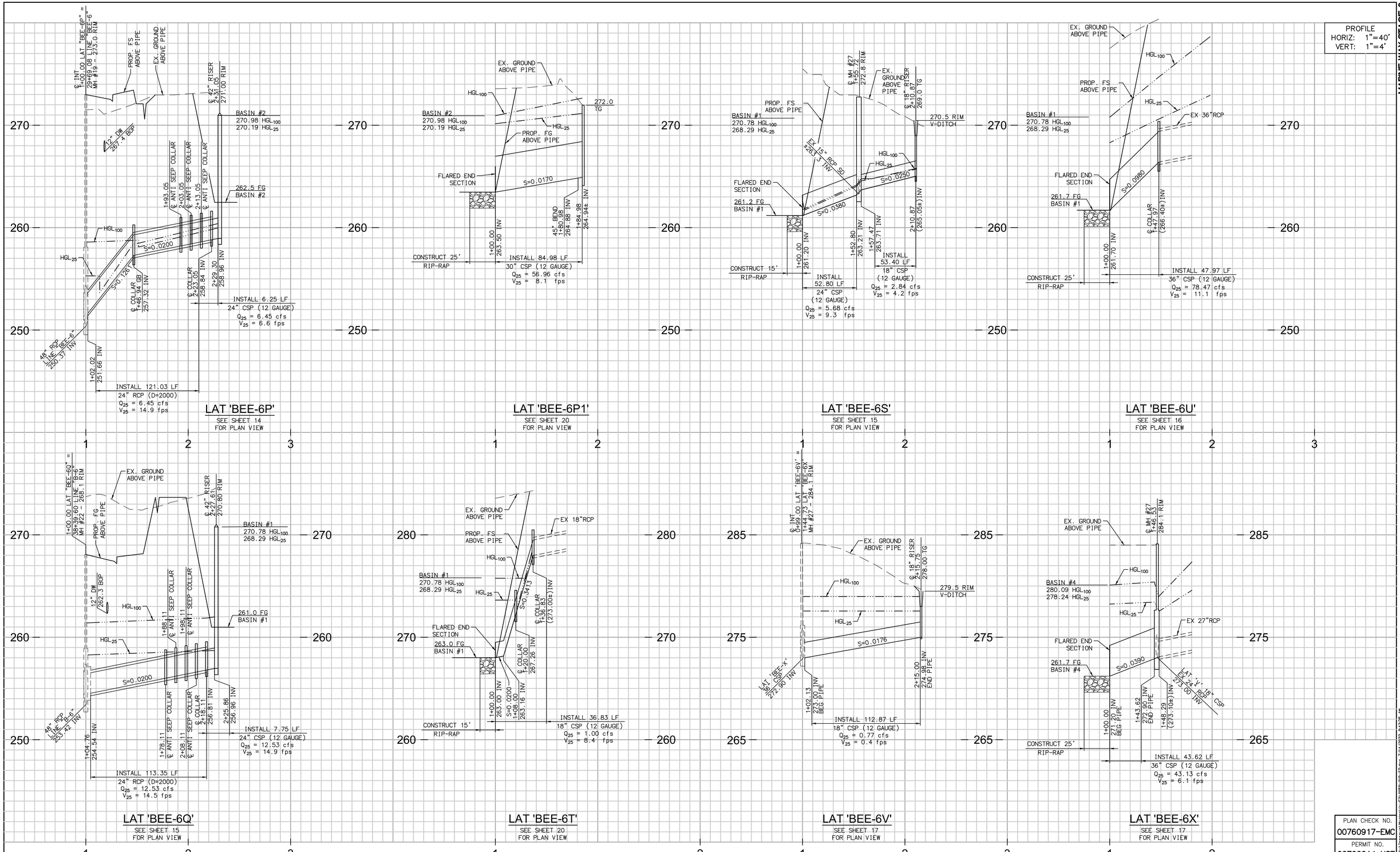

MARINE WAY STAGE 2

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

	DATE
DRAWN BY: SR	4/18
DESIGNED BY: JCL	4/18
CHECKED BY: JCL	4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460

JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
STORM DRAIN LATERALS PROFILE
LATERALS 'BEE-6P', 'BEE-6P1', 'BEE-6Q', 'BEE-6S', 'BEE-6T', 'BEE-6U', 'BEE-6V' & 'BEE-6X'

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 18 OF 28

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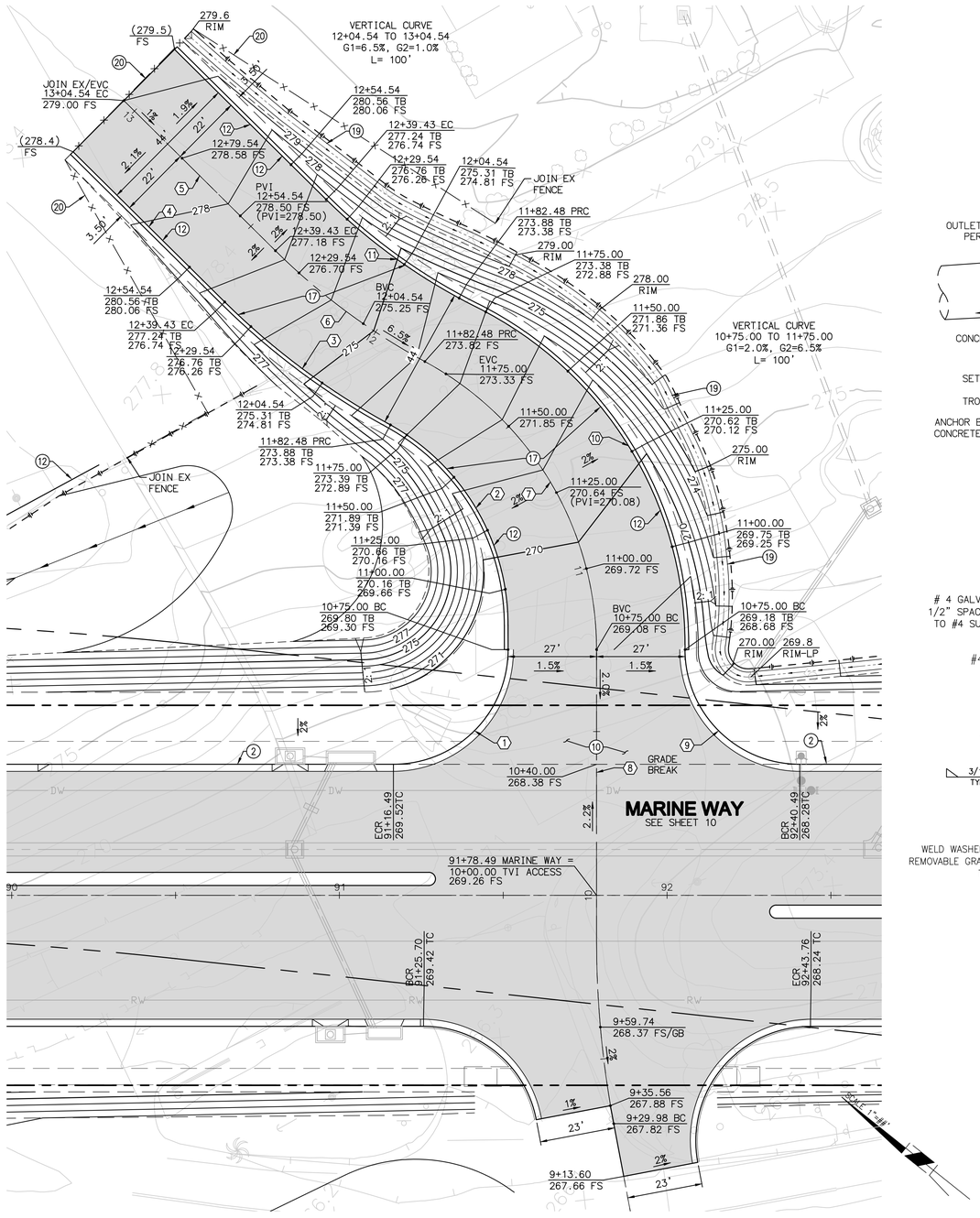
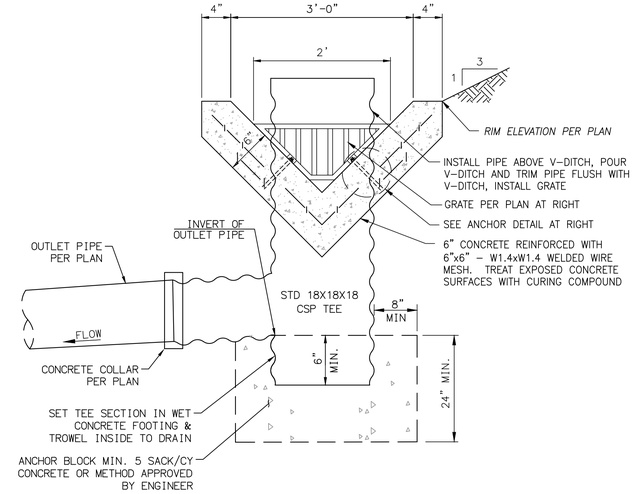


TVI & SECOND HARVEST ACCESS ROAD DETAIL

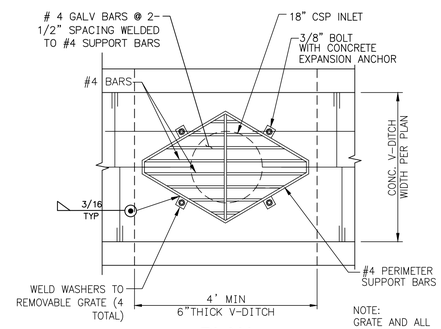
SCALE: 1"=20'



NOTE: FOR DETAILS NOT SHOWN SEE COI STD. PLAN 304

(63) CSP DROP INLET DETAIL

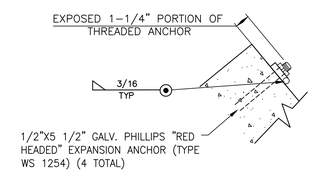
NTS



PLAN

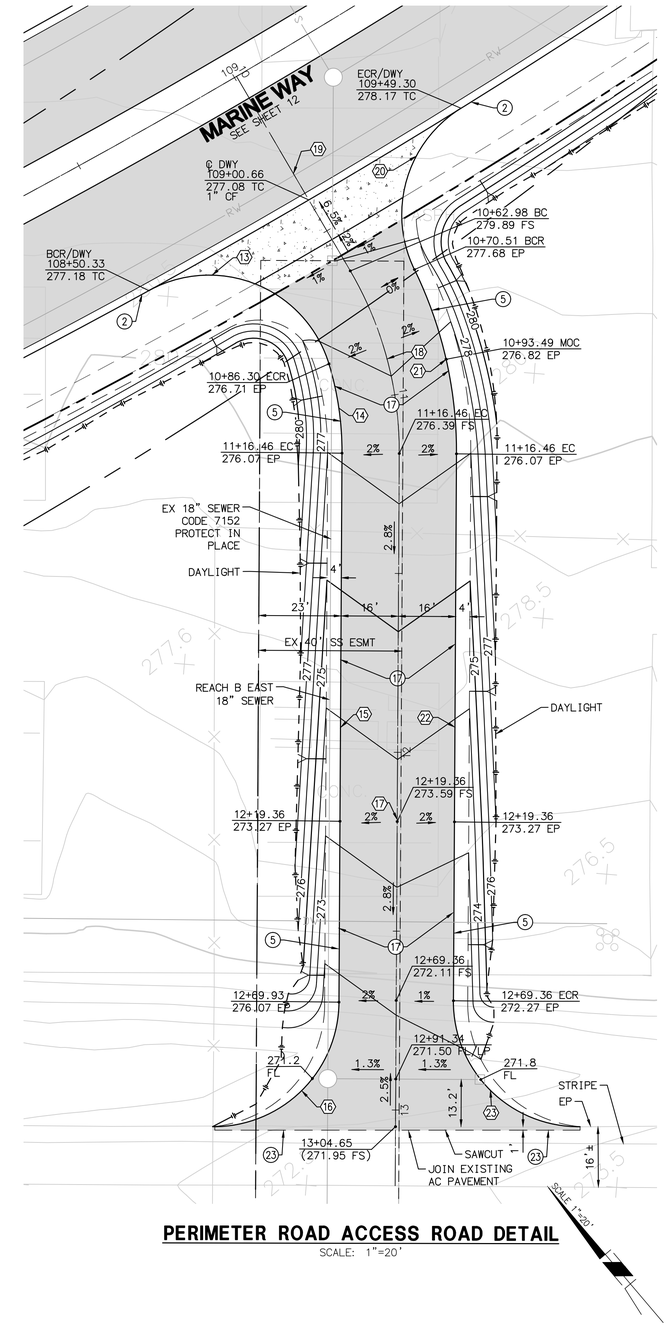
NTS

NOTE:
GRATE AND ALL HARDWARE SHALL BE HOT DIP GALVANIZED AFTER FABRICATION



ANCHOR DETAIL

NTS



PERIMETER ROAD ACCESS ROAD DETAIL

SCALE: 1"=20'

LINE/CURVE DATA TABLE				
NO	BEARING/DELTA	RADIUS	LENGTH	TANGENT
1	90°00'00"	35.00'	54.98'	35.00'
2	61°24'11"	70.00'	75.02'	41.57'
3	16°07'57"	222.00'	62.51'	31.46'
4	N06°06'34"E	--	65.12'	--
5	N06°06'34"E	--	65.12'	--
6	16°18'46"	200.00'	56.94'	28.67'
7	61°35'00"	100.00'	107.48'	59.59'
8	N51°22'48"E	--	75.00'	--
9	90°00'00"	35.00'	54.98'	35.00'
10	63°29'38"	115.00'	127.44'	71.16'
11	18°13'24"	178.00'	56.61'	28.55'
12	N06°06'34"E	--	65.12'	--
13	60°10'26"	35.00'	36.76'	20.28'
14	17°16'52"	84.00'	25.34'	12.76'
15	N40°39'34"E	--	153.47'	--
16	90°10'25"	35.00'	55.08'	35.11'
17	N40°39'34"E	--	204.72'	--
18	30°38'30"	100.00'	53.48'	27.40'
19	N10°01'04"E	--	62.98'	--
20	60°29'29"	35.00'	36.95'	20.41'
21	26°19'35"	116.00'	53.30'	27.13'
22	N40°39'34"E	--	152.90'	--
23	90°58'10"	35.00'	55.57'	35.60'

STREET CONSTRUCTION NOTES

(2) CONSTRUCT CONCRETE CURB AND GUTTER PER CITY OF IRVINE STD. PLAN NO. 200, TYPE A-2
(5) INSTALL WOOD HEADER PER DETAIL ON SHEET 9
(10) CONSTRUCT DRIVEWAY TYPE II PER CITY OF IRVINE STD. PLAN NO. 205 (WIDTH PER PLAN)
(12) CONSTRUCT 8" AC CURB D1-8 PER SPPWC STD. PLAN 120-2 (SEE SHEET 23)
(17) CONSTRUCT 4" AC OVER 8" CMB DRIVEWAY ON COMPACTED NATIVE PER SOILS ENGINEER
(19) CONSTRUCT 3' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3
(20) INSTALL CHAIN LINK FENCE AND GATE PER SPPWC STD PLAN 600-3 (SEE SHEET 23)
(23) SAWCUT AND REMOVE EXISTING 1' MINIMUM AC PAVEMENT

REGISTERED PROFESSIONAL ENGINEER
JEFFREY C. LANGDON
NO. 42429
CIVIL
STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

DRAWN BY: SR	DATE 4/18
DESIGNED BY: JCL	DATE 4/18
CHECKED BY: JCL	DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460

JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
DRIVEWAY DETAILS

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 19 OF 28

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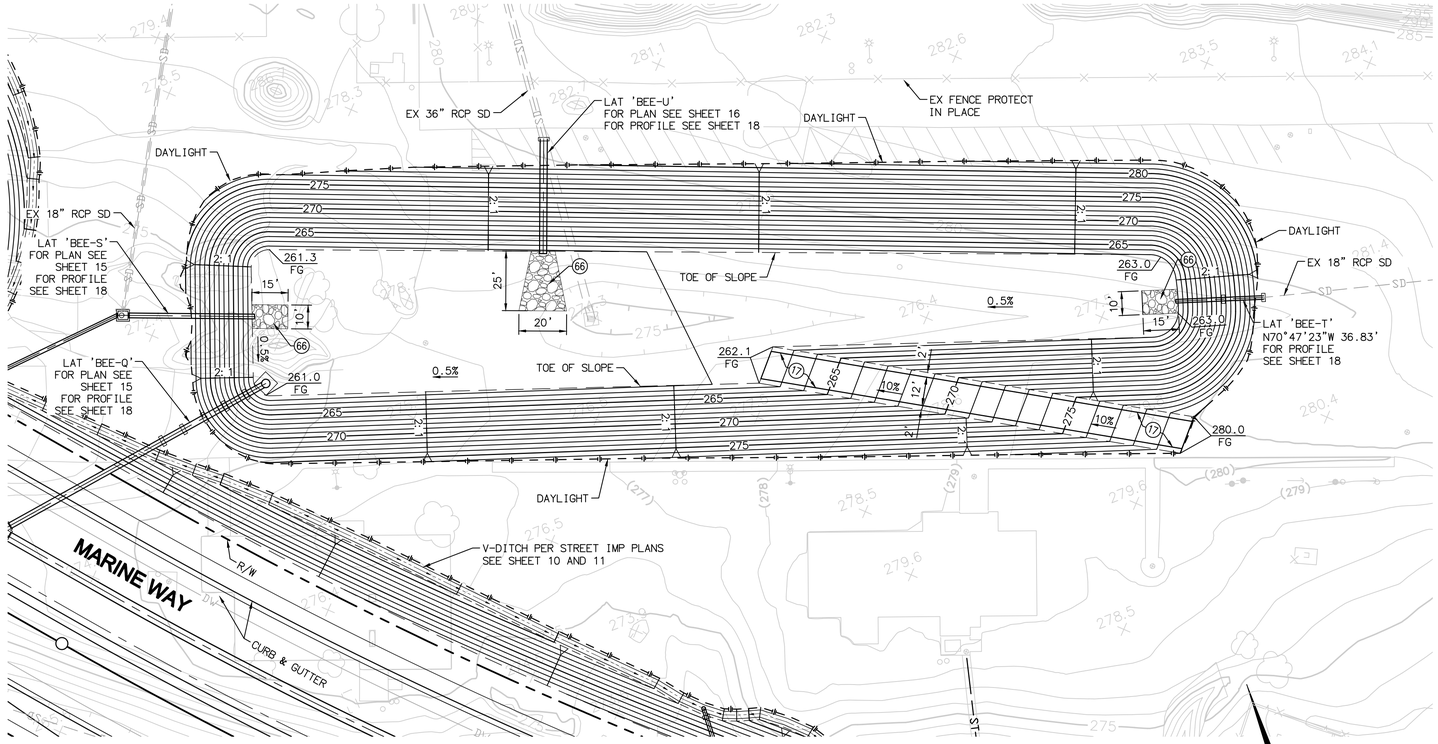
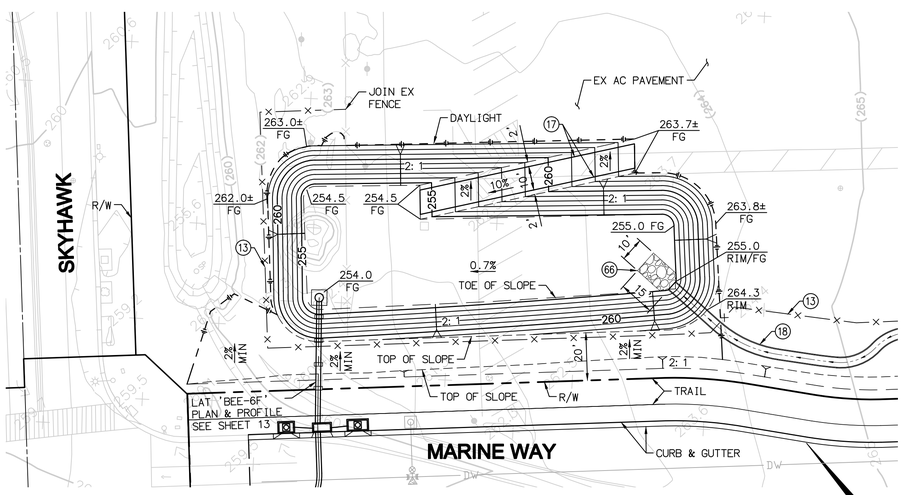


DETENTION BASIN #1

SCALE: 1"=30'

NOTE: SEE SHEET 6A FOR DEMOLITION
SEE SHEET 10 & 11 FOR STREET IMPROVEMENT
SEE SHEET 15 & 16 FOR STORM DRAIN IMPROVEMENT



DETENTION BASIN #3

SCALE: 1"=30'

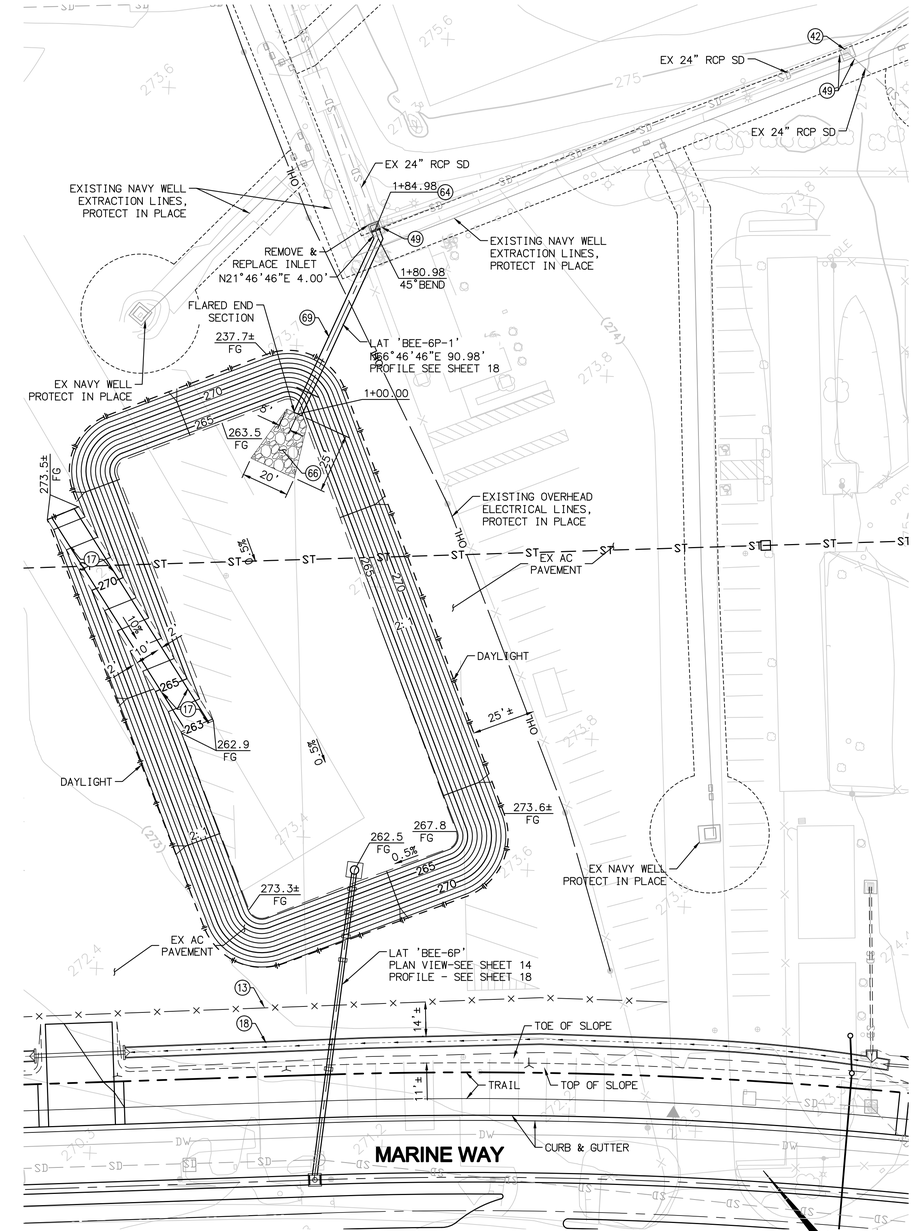
NOTE: SEE SHEET 5 FOR DEMOLITION
SEE SHEET 8 FOR STREET IMPROVEMENT
SEE SHEET 13 FOR STORM DRAIN IMPROVEMENT

STREET CONSTRUCTION NOTES

(13) RELOCATE EXISTING TEMPORARY FENCE PER PLAN WITH GRAVEL BAGS ON LEG SUPPORTS
(17) CONSTRUCT 4" AC OVER 8" CMB DRIVEWAY ON COMPACTED NATIVE PER SOILS ENGINEER
(18) CONSTRUCT 4' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3

STORM DRAIN CONSTRUCTION NOTES

(42) REMOVE GRATED INLET, FILL CATCH BAISIN WITH CMB, POUR 6" THICK TOP TO MATCH EX CONCRETE SWALE
(49) INSTALL BRICK AND MORTAR PLUG PER DETAIL SHEET 3
(64) CONSTRUCT GRATING CATCH BASIN PER SPPWC STD PALN 304-3 (SEE SHEET 22)
(66) INSTALL UNGROUTED RIP RAP PER DETAIL ON SHEET 15
(69) INSTALL 36" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318



DETENTION BASIN #2

SCALE: 1"=30'

NOTE: SEE SHEET 6 FOR DEMOLITION
SEE SHEET 9 FOR STREET IMPROVEMENT
SEE SHEET 14 FOR STORM DRAIN IMPROVEMENT

30 15 0 30 60 90
SCALE: 1"=30'

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

DRAWN BY: SR	DATE 4/18
DESIGNED BY: JCL	DATE 4/18
CHECKED BY: JCL	DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
BASIN DETAILS

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 20 OF 28

MARINE WAY STAGE 2

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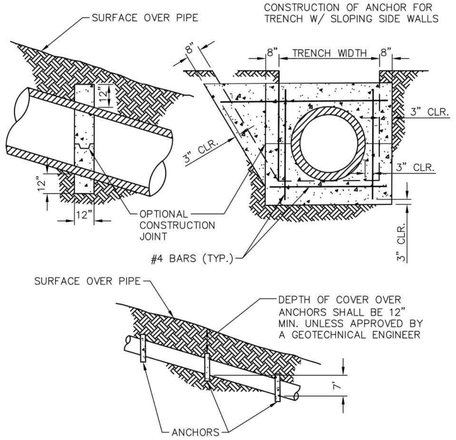


NOTES:

1. PIPE ANCHORS SHALL BE CONSTRUCTED AT 7 FEET VERTICAL INTERVAL ON ALL SLOPES OF 5:1 OR STEEPER.
2. ALL REINFORCING STEEL SHALL BE #4 BARS.
3. CONCRETE STRENGTH AND TYPE SHALL BE PER STD. PLAN 1803.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT
Approved Khalid Bazmi, County Engineer
Revision: August 2018
STD. PLAN 1333
CONCRETE PIPE SLOPE ANCHOR
SHT. 1 OF 1

THE COMPOSITION OF GRAVEL (DRAIN) MATERIAL SHALL CONFORM TO THE FOLLOWING GRADING REQUIREMENTS WHEN DETERMINED BY CALIFORNIA TEST METHOD 202:

SCREEN OR SIEVE SIZE	D1	D2	D3	D4	D5
3"		100	100	100	100
1 ½"	100	95–100	90–100	90–100	85–100
1"			65–100		5–60
¾"	90–100	50–100	50–90	20–60	0–30
⅜"	60–100	15–55	0–50	0–20	0–5
No. 4	5–50	0–25	0–10	0–5	
No. 8	0–10		0–5		
No. 16	0–5				
No. 200		0–3			
APPROXIMATE	(No. 4 ROCK)	(No. 3 & No. 4 1:1)	(No. 3 ROCK)	(No. 2 & No. 3 1:1)	(No. 2 ROCK)

THE APPROXIMATE COMPOSITIONS ARE GIVEN FOR INFORMATION PURPOSES ONLY; THE GRADING LIMITS SPECIFIED ABOVE SHALL CONTROL.

THE CONTRACTOR SHALL EXCAVATE TO THE SUBGRADE DIMENSIONS AND GRADES SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. WHERE POOR SOIL CONDITIONS ARE ENCOUNTERED DUE TO SOFT, SPONGY OR OTHER UNSTABLE MATERIAL OR BY GROUNDWATER, ALL SUCH UNSTABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH GRAVEL (DRAIN) MATERIAL, COMPACTED BACKFILL, AND CONTRACTOR SHALL PLACE A NON-WOVEN FILTER FABRIC TYPE II PER OCPW STANDARD PLAN 1808 BELOW THE GRAVEL (DRAIN) MATERIAL AS A SEPARATOR, AT THE DIRECTION OF THE ENGINEER.

ADD TO SECTION 303-1.3, "FORMS", THE FOLLOWING: TANGENT SECTIONS FOR FORMED WALL SURFACE SHALL RESULT IN CONCRETE SURFACE 1 FREE OF ANY UNEVENNESS GREATER THAN ¼ INCH WHEN CHECKED WITH A TEN FOOT STRAIGHTEDGE.

FORMS FOR COVERED CONDUIT OR OPEN CHANNEL CURVED SECTIONS SHALL BE CONSTRUCTED ALONG THE ARC OF THE CURVE. THE FINISHED SURFACE SHALL FOLLOW THE ARC OF THE CURVE.

IF PERMITTED BY THE ENGINEER, COVERED CONDUIT CURVED SECTIONS MAY USE CHORD PANEL. ENDS OF THE CHORD PANEL SHALL BE ON THE ARC OF THE CURVE.

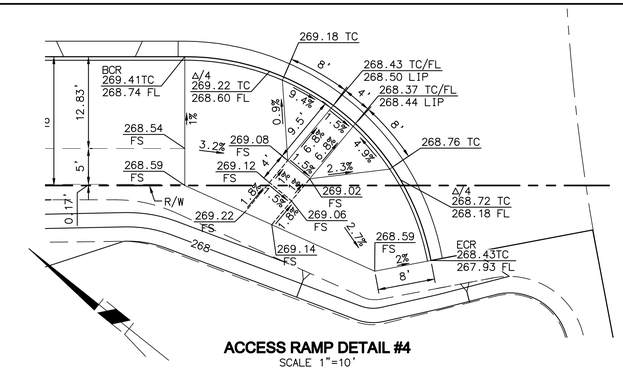
COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT
Approved Khalid Bazmi, County Engineer
Revision: August 2018
STD. PLAN 1803
SPECIAL PROVISION - PORTLAND CEMENT CONCRETE
SHT. 3 OF 9

TABLE OF MINIMUM TEST RESULTS

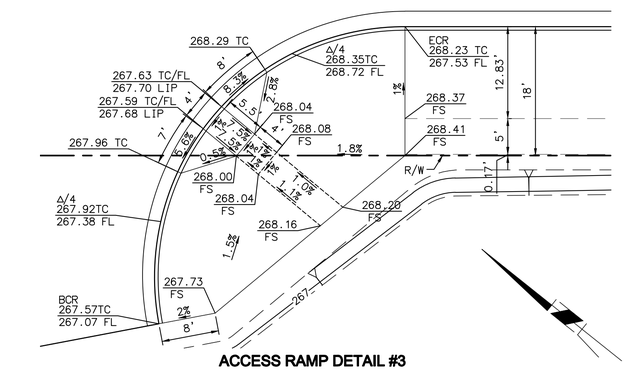
		NON-WOVEN			WOVEN			
TYPE		I	II	III	I	II	III	PAV'T. REINF.
PROPERTY	TEST REFERENCE							
GRAB STRENGTH, * lbs., Min.	ASTM D4632	90	180	280	90	200	270	90
ELONGATION, (at peak load) %, Min.	ASTM D4632	50	50	50	25	25	25	40 to 100
PUNCTURE STRENGTH, lbs., Min.	ASTM D3787	45	80	110	30	70	110	N/A
PERMITTIVITY, Sec-1, Min.	ASTM D4491	0.7	0.7	0.7	0.02	0.02	0.02	N/A
BURST STRENGTH, psi, Min.	ASTM D3786	180	320	400	200	400	500	N/A
ULTRAVIOLET RESISTANCE, % Str. Retained/ Weatherometer Hrs.	ASTM D4355	70/ /500	70/ /500	70/ /500	70/ /500	70/ /500	70/ /500	N/A
WEIGHT, oz/sq. yd.		N/A	N/A	N/A	N/A	N/A	N/A	3.5 to 5.0
FABRIC THICKNESS, mils		N/A	N/A	N/A	N/A	N/A	N/A	30 to 50

* MINIMUM ROLL AVERAGE IN THE WEAKEST PRINCIPAL DIRECTION.

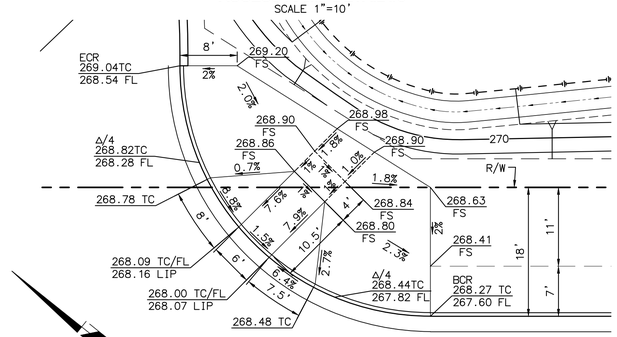
COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT
Approved Khalid Bazmi, County Engineer
Revision: August 2018
STD. PLAN 1808
SPECIAL PROVISIONS - GEOTEXTILES
SHT. 5 OF 5



ACCESS RAMP DETAIL #4
SCALE 1"=10'



ACCESS RAMP DETAIL #3
SCALE 1"=10'



ACCESS RAMP DETAIL #2
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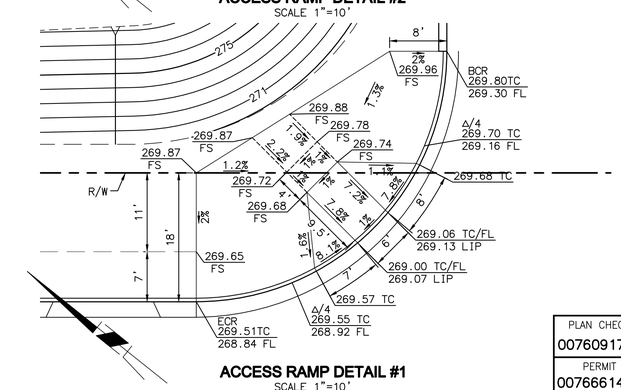

ACCESS RAMP DETAIL #1
SCALE 1"=10'

GENERAL:

STONEWORK SHALL CONFORM TO THESE SPECIAL PROVISIONS IN ADDITION TO THE PROVISIONS OF SECTION 200-1.6, "STONE FOR RIPRAP", OF THE GREENBOOK (EXCEPT AS MODIFIED HEREIN), AND SHALL COVER APPLICATIONS NOT EXCEEDING 200 TONS FOR OUTLETS, INLAND CHANNELS, AND EMERGENCY USE. FOR APPLICATIONS GREATER THAN 200 TONS, A FILTER DESIGN, FOUNDATION, GRADATION, AND SUPPORTING CALCULATIONS FOLLOWING THE PROCEDURES SPECIFIED IN THE EM 1110-2-1601 BY THE U.S. ARMY CORPS OF ENGINEERS, "HYDRAULIC DESIGN OF FLOOD CONTROL CHANNELS," CHAPTER 3 AND SUPPORTING SECTIONS/APPENDICES (LATEST EDITION) SHALL BE SUBMITTED TO THE ENGINEER SIGNED AND STAMPED BY A REGISTERED CIVIL ENGINEER CURRENTLY LICENSED TO PRACTICE IN THE STATE OF CALIFORNIA.

STONE SHALL BE ANGULAR AND THE GREATEST DIMENSION OF EACH PIECE SHALL NOT BE GREATER THAN THREE TIMES THE THICKNESS.

STONE SHALL BE SOUND, DURABLE, HARD, RESISTANT TO ABRASION, AND FREE FROM LAMINATIONS, WEAK CLEAVAGE PLANES, AND THE UNDESIRABLE EFFECTS OF WEATHERING. IT SHALL NOT DISINTEGRATE FROM THE ACTION OF AIR, WATER, OR FROM HANDLING AND PLACING. IT SHALL BE CLEAN AND FREE FROM DELETERIOUS IMPURITIES, SUCH AS ALKALI, SOIL, CLAY, REFUSE AND OTHER COATINGS.

VISUAL EVALUATION OF THE QUARRY, INCLUDING EXAMINATION OF PLANT SAMPLES AND DIAMOND DRILL CORE SAMPLES, SUITABLE TESTS AND SERVICE RECORDS MAY BE USED TO DETERMINE THE ACCEPTABILITY OF THE STONE.

STONE FOR RIPRAP SHALL BE QUARRY STONE OR ON-SITE MATERIAL WHICH HAS BEEN TESTED AND APPROVED TO THE SATISFACTION OF THE ENGINEER.

THE FOLLOWING QUALITY REQUIREMENTS AS DETERMINED BY LABORATORY TESTS SHALL APPLY, IN LIEU OF TABLE 200-1.6.2 OF THE GREENBOOK :

GRADATION:

WEIGHT (Lbs.)	PERCENT LIGHTER THAN
1800	100%
700	90 – 100
500	50 – 90
200	0 – 15

THE FOLLOWING QUALITY REQUIREMENTS SHALL APPLY, IN LIEU OF TABLE 200-1.6.3 OF THE GREENBOOK:

TEST	TEST METHOD	REQUIREMENT
APPARENT SPECIFIC	Calif. 206	2.62 Min.
GRAVITY ABSORPTION	Calif. 206	4.2% Max.
DURABILITY LOS	Calif. 229	52 Min.
ANGELES ABRASIONS	Calif. 211	45% max. LOSS AFTER 500 REVOLUTION, GRADING A

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT
Approved Khalid Bazmi, County Engineer
Revision: August 2018
STD. PLAN 1809
SPECIAL PROVISIONS - STONEWORK
SHT. 1 OF 3

THICKNESS OF THE STONEWORK LAYER, MEASURED PERPENDICULAR TO THE SLOPE SHALL BE AS FOLLOWS:

DRY, NON-TURBULENT FLOW LOCATIONS: 33"
DRY, TURBULENT FLOW LOCATIONS: 48"
UNDER WATER: 48"

SLOPE PREPARATION:

FOUNDATION PREPARATION: EXISTING STONE ADJACENT TO NEW PLACEMENT SHALL BE RESET AND KEYED A MINIMUM OF 10 FEET OR AS SPECIFIED ON THE PLANS, TO PROVIDE A FIRM INTERLOCKING OF NEW STONE AND EXISTING STONE.

FILTER FABRIC: A NON-WOVEN FILTER FABRIC TYPE II (BANK PROTECTION) OR TYPE III (SHORE PROTECTION FOR CHANNEL VELOCITIES ABOVE 10 FPS) PER OCPW STANDARD PLAN 1808 SHALL BE PLACED BETWEEN THE EXISTING OR GRADED SOIL LAYER AND THE GRAVEL BEDDING AND ROCK REVETMENT AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. FILTER FABRIC SHALL BE PLACED OVER THE SOIL LAYER AT THE LOCATIONS INDICATED ON THE DRAWINGS. FILTER FABRIC SHALL BE PLACED FROM A POINT BEYOND THE TOE OF THE ROCK BASE AND CONTINUE UP THE SLOPE TO THE TOP, WHERE IT SHALL BE ANCHORED AS INDICATED ON THE PLANS. AT THE TOE, SUFFICIENT FABRIC SHALL BE PROVIDED TO MAKE A 3-FOOT FOLD BACK OVER A LAYER OF STONES OF THE TYPE INDICATED. ROCK REVETMENT SHALL NOT BE DIRECTLY PLACED ON TOP OF THE FILTER FABRIC OR DROPPED ON THE GRAVEL BEDDING FROM A HEIGHT GREATER THAN THREE FEET.

GRAVEL BEDDING: PLACE A MINIMUM OF 6 INCH GRAVEL BASE MATERIAL OVER THE FILTER CLOTH AS INDICATED ON THE PLANS. GRAVEL SHALL BE PLACED SO THAT UNIFORM GRADATION IS MAINTAINED AND THE FILTER FABRIC IS NOT DAMAGED. GRADATION SHALL BE D3 OR NO. 3 ROCK AS SPECIFIED PER OCPW STANDARD PLAN 1803 UNLESS OTHERWISE SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

GRAVEL BASE MATERIAL AND SOIL SHALL BE WITHIN PLUS-OR-MINUS 0.1 FOOT OF PLAN GRADE MEASURED PERPENDICULAR TO THE SLOPE, INDICATED FOR EACH TYPE OF MATERIAL.

STONE PLACEMENT:

STONE NOT SUITABLE AS TO QUALITY AND/OR SIZE DISTRIBUTION FOR ANY CLASS REQUIRED TO COMPLETE THE WORK SHALL BE PROMPTLY REMOVED FROM THE CONSTRUCTION.

PLACE STONE OF THE SIZE INDICATED BY BUCKET OR INDIVIDUAL STONE TO THE DIMENSIONS AND LOCATIONS INDICATED ON THE DRAWINGS. STONE SHALL BE PLACED WITHIN 0.5 FEET OF PLAN GRADE, MEASURED PERPENDICULAR TO THE SLOPE.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT
Approved Khalid Bazmi, County Engineer
Revision: August 2018
STD. PLAN 1809
SPECIAL PROVISIONS - STONEWORK
SHT. 2 OF 3

STONE:

STONE SHALL BE CAREFULLY KEYED AND SET IN A TIGHT AND INTERLOCKING CONFIGURATION TO FORM A STABLE LAYER OF RIPRAP.

PLACEMENT SHALL START AT THE BOTTOM OF THE SLOPE AND WORK UPWARD. STONE SHALL NOT BE DUMPED FROM HEIGHTS GREATER THAN ONE STONE DIAMETER NOR PLACEMENT METHODS EMPLOYED THAT MAY CAUSE MISPLACEMENT OF STONE OR PUNCTURE OF FILTER FABRIC.

EACH LOAD OF STONE SHALL BE REASONABLY WELL GRADED FROM THE SMALLEST TO THE MAXIMUM SIZE SPECIFIED.

STONE FOR RIPRAP SHALL BE PLACED IN A MANNER WHICH WILL PRODUCE A REASONABLY WELL-GRADED MASS OF STONE WITH THE MINIMUM PRACTICABLE PERCENTAGE OF VOIDS. THE ENTIRE MASS OF STONE SHALL BE PLACED IN CONFORMANCE WITH THE LINES, GRADES, AND THICKNESS SHOWN ON THE PLANS. RIPRAP SHALL BE PLACED TO ITS FULL COURSE THICKNESS IN ONE OPERATION AND IN A MANNER TO AVOID DISPLACING THE UNDERLYING MATERIAL. PLACING OF RIPRAP IN LAYERS BY DUMPING INTO CHUTES OR BY SIMILAR METHODS LIKELY TO CAUSE SEGREGATION, WILL NOT BE PERMITTED. SELF-PROPELLED EQUIPMENT SHALL NOT BE USED ON EMBANKMENT SLOPES. IF VELOCITY EXCEEDS 12 FPS, DESIGN RIPRAP PER US ACE PUBLICATION NUMBER EM 1110-2-1601, CHAPTER 3.

WHEN SPECIAL PLACEMENT METHODS ARE REQUIRED THE CONTRACTOR IS TO ENSURE THAT THE STONE SHALL HAVE A MINIMUM THREE POINTS OF CONTACT WITH OTHER STONE.

GROUT:

IF GROUT IS SPECIFIED FOR FILLING THE INTERSTICES, IT SHALL BE A 610-E-2000G CONCRETE MIX.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT
Approved Khalid Bazmi, County Engineer
Revision: August 2018
STD. PLAN 1809
SPECIAL PROVISIONS - STONEWORK
SHT. 3 OF 3

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
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DRAWN BY: SR	DATE 4/18
DESIGNED BY: JCL	DATE 4/18
CHECKED BY: JCL	DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
STANDARD PLANS AND ACCESS RAMP DETAILS
FROM SKYHAWK TO 3800' EAST

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 22 OF 28

MARINE WAY STAGE 2

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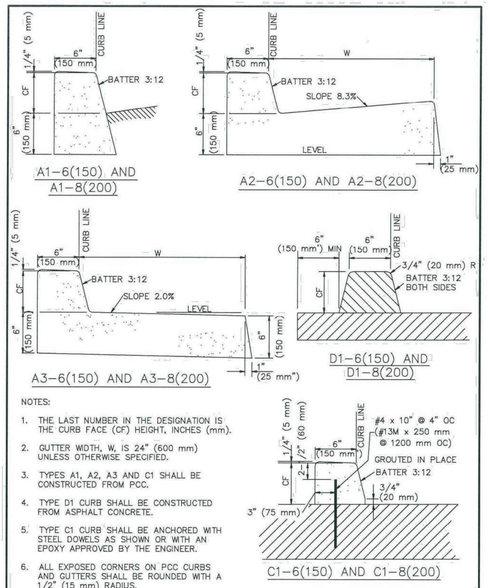


NOTES:

1. THE LAST NUMBER IN THE DESIGNATION IS THE CURB FACE (CF) HEIGHT, INCHES (mm).
2. GUTTER WIDTH, W, IS 24" (600 mm) UNLESS OTHERWISE SPECIFIED.
3. TYPES A1, A2, A3 AND C1 SHALL BE CONSTRUCTED FROM PCC.
4. TYPE D1 CURB SHALL BE CONSTRUCTED FROM ASPHALT CONCRETE.
5. TYPE C1 CURB SHALL BE ANCHORED WITH STEEL DOWELS AS SHOWN OR WITH AN EPOXY APPROVED BY THE ENGINEER.
6. ALL EXPOSED CORNERS ON PCC CURBS AND GUTTERS SHALL BE ROUNDED WITH A 1/2" (15 mm) RADIUS.

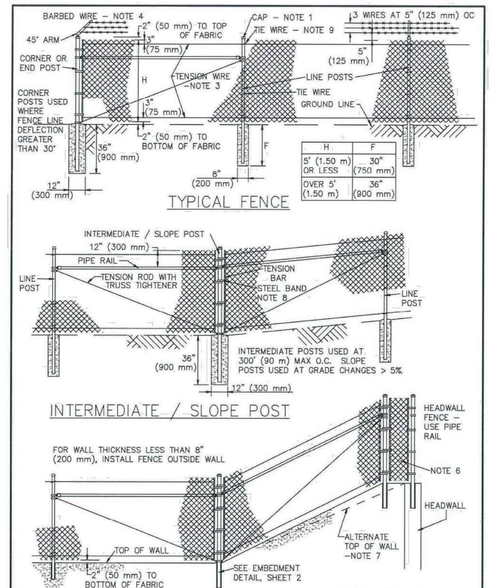
STANDARD PLAN FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1994 REV. 1996, 2009

CURB AND GUTTER – BARRIER

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN 120–2 SHEET 1 OF 1



H	F
5' (1.50 m) OR LESS	30" (750 mm)
OVER 5' (1.50 m)	36" (900 mm)

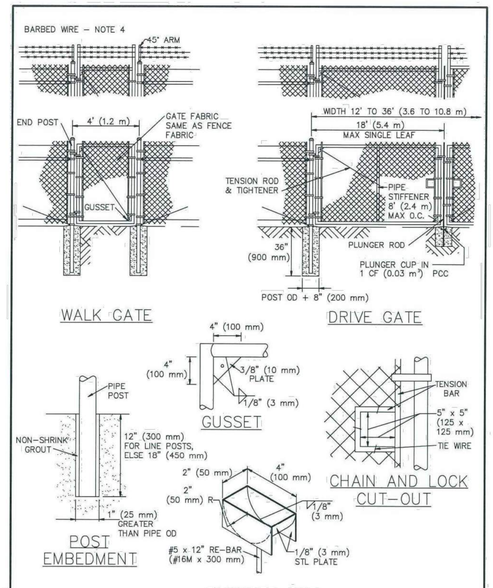
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1994 REV. 1996, 2005

CHAIN LINK FENCE AND GATES

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN 600–3 SHEET 1 OF 3



STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

CHAIN LINK FENCE AND GATES

STANDARD PLAN 600–3 SHEET 2 OF 3

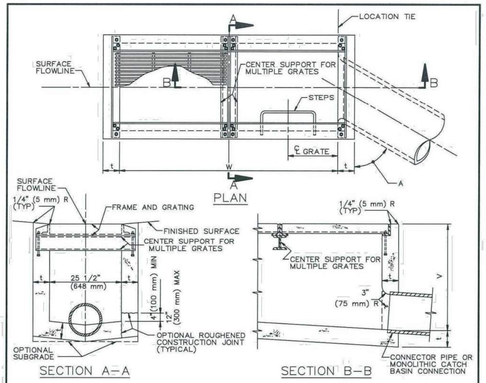
NOTES:

1. SECURE DRIVE–FIT GALVANIZED CAP TO POST WITH 1/4" (6 mm) ROUND–HEAD RIVET.
2. H DENOTES FABRIC WIDTH AND NOMINAL FENCE HEIGHT. H = 5' (1.5 m) UNLESS OTHERWISE NOTED.
3. IF FENCE WITH TOP RAIL IS SPECIFIED, DELETE STEEL TENSION WIRE AT TOP, AND PIPE RAILS AT INTERMEDIATE, SLOPE, END AND CORNER POSTS. EXTEND TENSION ROD TO TOP RAIL.
4. BARBED WIRE SHALL BE USED ONLY WHEN SPECIFIED.
5. POST SPACING IS MAXIMUM 10' (3.0 m).
6. FILL CLEAR OPENINGS GREATER THAN 3" (75 mm) WITH FABRIC. FOR OPENINGS LESS THAN 18" (450 mm), TIE FABRIC TO POSTS.
7. USE ONE POST FOR COMBINED SLOPE AND CORNER POST IF TOP OF CHANNEL WALL IS CONSTRUCTED AS SHOWN FOR "ALTERNATE".
8. STEEL BANDS AT TENSION BARS SHALL BE 1/8" x 1" (3 x 25 mm), MINIMUM, SPACED AT MAXIMUM 16" (400 mm).
9. SECURE TENSION WIRES TO EACH LINE POST WITH TIE WIRES.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

CHAIN LINK FENCE AND GATES

STANDARD PLAN 600–3 SHEET 3 OF 3



STRUCTURAL DATA

WALL AND SLAB DIMENSIONS AND REINFORCEMENT REQUIREMENTS

NO. OF GRATES	MAX V	t	REINFORCEMENT FOR WALLS AND SLABS
1–2	4' (1.2 m)	6" (150 mm)	NOT REQUIRED
1–2	8' (2.4 m)	8" (200 mm)	
1–2	10' (3.0 m)	10" (250 mm)	
1–2	12' (3.5 m)	10" (250 mm)	REQUIRED
3–4	4' (1.2 m)	6" (150 mm)	NOT REQUIRED
3–4	7' (2.0 m)	8" (200 mm)	
3–4	8' (2.4 m)	8" (200 mm)	REQUIRED
3–4	12' (3.5 m)	10" (250 mm)	
5–6	4' (1.2 m)	6" (150 mm)	NOT REQUIRED
5–6	6' (1.8 m)	8" (200 mm)	
5–6	8' (2.4 m)	8" (200 mm)	
5–6	12' (3.5 m)	10" (250 mm)	REQUIRED
> 6	4' (1.2 m)	8" (150 mm)	
> 6	8' (2.4 m)	8" (200 mm)	
> 6	12' (3.5 m)	10" (250 mm)	

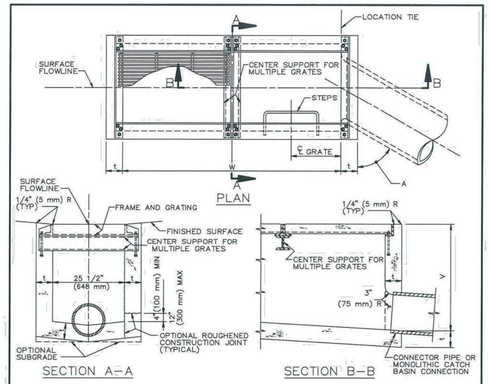
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE PUBLIC WORKS STANDARDS, INC., GREENBOOK COMMITTEE 1994 REV. 1992, 1996, 2009

GRATING CATCH BASIN–ALLEY (LONGITUDINAL)

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN 304–3 SHEET 1 OF 2



STRUCTURAL DATA

WALL AND SLAB DIMENSIONS AND REINFORCEMENT REQUIREMENTS

NO. OF GRATES	MAX V	t	REINFORCEMENT FOR WALLS AND SLABS
1–2	4' (1.2 m)	6" (150 mm)	NOT REQUIRED
1–2	8' (2.4 m)	8" (200 mm)	
1–2	10' (3.0 m)	10" (250 mm)	
1–2	12' (3.5 m)	10" (250 mm)	REQUIRED
3–4	4' (1.2 m)	6" (150 mm)	NOT REQUIRED
3–4	7' (2.0 m)	8" (200 mm)	
3–4	8' (2.4 m)	8" (200 mm)	REQUIRED
3–4	12' (3.5 m)	10" (250 mm)	
5–6	4' (1.2 m)	6" (150 mm)	NOT REQUIRED
5–6	6' (1.8 m)	8" (200 mm)	
5–6	8' (2.4 m)	8" (200 mm)	
5–6	12' (3.5 m)	10" (250 mm)	REQUIRED
> 6	4' (1.2 m)	8" (150 mm)	
> 6	8' (2.4 m)	8" (200 mm)	
> 6	12' (3.5 m)	10" (250 mm)	

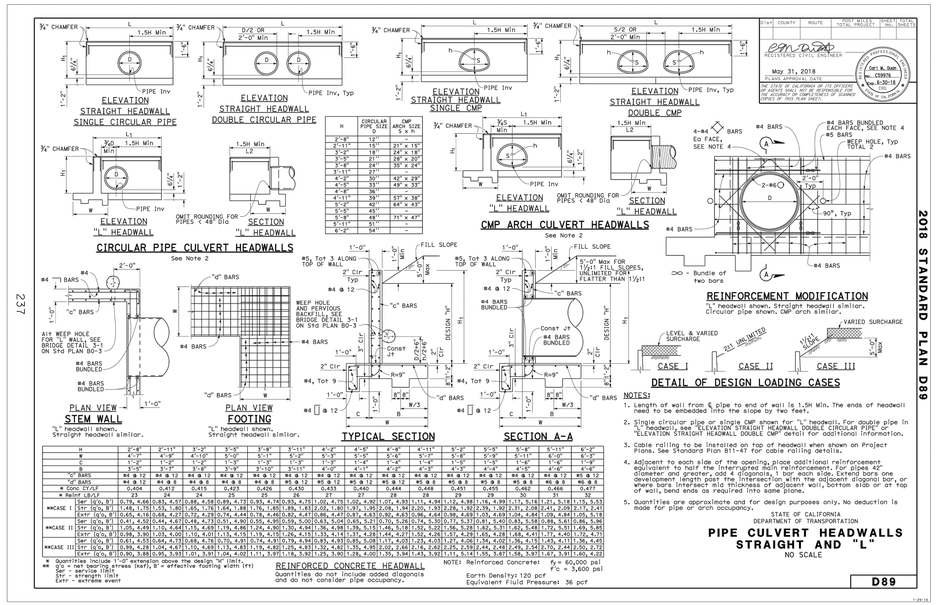
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE PUBLIC WORKS STANDARDS, INC., GREENBOOK COMMITTEE 1994 REV. 1992, 1996, 2009

GRATING CATCH BASIN–ALLEY (LONGITUDINAL)

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN 304–3 SHEET 1 OF 2



H	2'–6"	2'–11"	3'–2"	3'–5"	3'–8"	3'–11"	4'–2"	4'–5"	4'–8"	4'–11"	5'–2"	5'–5"	5'–8"	5'–11"	6'–2"
W	4'–7"	4'–8"	4'–10"	5'–0"	5'–1"	5'–2"	5'–3"	5'–5"	5'–6"	5'–7"	5'–8"	5'–9"	5'–11"	6'–0"	6'–3"
C	1'–2"	1'–2"	1'–2"	1'–3"	1'–3"	1'–3"	1'–3"	1'–4"	1'–4"	1'–4"	1'–5"	1'–5"	1'–6"	1'–6"	1'–9"
B	3'–3"	3'–3"	3'–4"	3'–9"	3'–10"	3'–11"	4'–2"	4'–3"	4'–4"	4'–5"	4'–6"	4'–7"	4'–8"	4'–9"	4'–11"
"D" BARS	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12
"C" BARS	#4 @ 12	#4 @ 8	#4 @ 8	#4 @ 8	#4 @ 8	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 8	#5 @ 8	#5 @ 8	#5 @ 8	#5 @ 8	#5 @ 8
* Conc CY/LF	0.404	0.412	0.415	0.423	0.426	0.430	0.433	0.440	0.444	0.448	0.451	0.455	0.462	0.466	0.477
* Reinf LB/LF	23	24	24	25	25	26	27	27	28	28	29	29	30	31	32
CASE I	Sep (Q,D,B)	0.79, 4.66	0.83, 4.57	0.88, 4.59	0.89, 4.73	0.93, 4.74	0.93, 4.75	1.02, 4.92	1.02, 4.93	1.11, 4.94	1.12, 4.88	1.16, 4.99	1.17, 5.14	1.21, 5.18	1.15, 5.53
	Str (Q,D,B)	1.49, 1.75	1.53, 1.80	1.65, 1.78	1.78	1.89, 1.76	1.85, 1.85	1.83, 2.00	1.80, 1.97	1.95, 2.08	1.92, 2.06	1.94, 2.20	1.93, 2.17	2.08, 2.41	2.09, 2.17	2.41
	Extr (Q,D,B)	0.65, 4.16	0.68, 4.27	0.72, 4.29	0.76, 4.44	0.79, 4.46	0.82, 4.47	0.86, 4.64	0.89, 4.67	0.93, 4.68	0.96, 4.64	0.99, 4.81	1.03, 4.69	1.04, 4.84	1.09, 4.84	1.09, 5.18
CASE II	Sep (Q,D,B)	1.01, 4.66	1.06, 4.57	1.12, 4.59	1.14, 4.73	1.19, 4.74	1.19, 4.75	1.30, 4.92	1.30, 4.93	1.42, 4.94	1.43, 4.88	1.48, 4.99	1.49, 5.14	1.55, 5.18	1.46, 5.53	1.53
	Str (Q,D,B)	1.90, 1.75	1.95, 1.80	2.11, 1.78	2.28	2.41, 1.76	2.36, 1.85	2.34, 2.00	2.30, 1.97	2.49, 2.08	2.45, 2.06	2.48, 2.20	2.46, 2.17	2.66, 2.41	2.67, 2.17	3.08
	Extr (Q,D,B)	0.83, 4.16	0.87, 4.27	0.92, 4.29	0.97, 4.44	1.01, 4.46	1.05, 4.47	1.10, 4.64	1.14, 4.67	1.19, 4.68	1.22, 4.64	1.26, 4.81	1.31, 4.69	1.33, 4.84	1.39, 4.84	1.39, 5.18
CASE III	Sep (Q,D,B)	0.79, 4.66	0.83, 4.57	0.88, 4.59	0.89, 4.73	0.93, 4.74	0.93, 4.75	1.02, 4.92	1.02, 4.93	1.11, 4.94	1.12, 4.88	1.16, 4.99	1.17, 5.14	1.21, 5.18	1.15, 5.53	1.19
	Str (Q,D,B)	1.49, 1.75	1.53, 1.80	1.65, 1.78	1.78	1.89, 1.76	1.85, 1.85	1.83, 2.00	1.80, 1.97	1.95, 2.08	1.92, 2.06	1.94, 2.20	1.93, 2.17	2.08, 2.41	2.09, 2.17	2.41
	Extr (Q,D,B)	0.65, 4.16	0.68, 4.27	0.72, 4.29	0.76, 4.44	0.79, 4.46	0.82, 4.47	0.86, 4.64	0.89, 4.67	0.93, 4.68	0.96, 4.64	0.99, 4.81	1.03, 4.69	1.04, 4.84	1.09, 4.84	1.09, 5.18
CASE I	Sep (Q,D,B)	1.01, 4.66	1.06, 4.57	1.12, 4.59	1.14, 4.73	1.19, 4.74	1.19, 4.75	1.30, 4.92	1.30, 4.93	1.42, 4.94	1.43, 4.88	1.48, 4.99	1.49, 5.14	1.55, 5.18	1.46, 5.53	1.53
	Str (Q,D,B)	1.90, 1.75	1.95, 1.80	2.11, 1.78	2.28	2.41, 1.76	2.36, 1.85	2.34, 2.00	2.30, 1.97	2.49, 2.08	2.45, 2.06	2.48, 2.20	2.46, 2.17	2.66, 2.41	2.67, 2.17	3.08
	Extr (Q,D,B)	0.83, 4.16	0.87, 4.27	0.92, 4.29	0.97, 4.44	1.01, 4.46	1.05, 4.47	1.10, 4.64	1.14, 4.67	1.19, 4.68	1.22, 4.64	1.26, 4.81	1.31, 4.69	1.33, 4.84	1.39, 4.84	1.39, 5.18
CASE II	Sep (Q,D,B)	0.79, 4.66	0.83, 4.57	0.88, 4.59	0.89, 4.73	0.93, 4.74	0.93, 4.75	1.02, 4.92	1.02, 4.93	1.11, 4.94	1.12, 4.88	1.16, 4.99	1.17, 5.14	1.21, 5.18	1.15, 5.53	1.19
	Str (Q,D,B)	1.49, 1.75	1.53, 1.80	1.65, 1.78	1.78	1.89, 1.76	1.85, 1.85	1.83, 2.00	1.80, 1.97	1.95, 2.08	1.92, 2.06	1.94, 2.20	1.93, 2.17	2.08, 2.41	2.09, 2.17	2.41
	Extr (Q,D,B)	0.65, 4.16	0.68, 4.27	0.72, 4.29	0.76, 4.44	0.79, 4.46	0.82, 4.47	0.86, 4.64	0.89, 4.67	0.93, 4.68	0.96, 4.64	0.99, 4.81	1.03, 4.69	1.04, 4.84	1.09, 4.84	1.09, 5.18
CASE III	Sep (Q,D,B)	0.99, 4.28	1.04, 4.37	1.10, 4.49	1.13, 4.83	1.19, 4.82	1.25, 4.83	1.35, 4.92	1.35, 4.95	1.50, 5.02	1.46, 5.28	1.52, 5.25	1.59, 5.44	2.48, 2.49	2.54, 2.30	2.44, 2.50	2.72
	Str (Q,D,B)	1.10, 0.90	3.88, 0.95	3.93, 1.01	3.97, 1.04	3.81, 1.04	4.00, 1.11	3.93, 1.18	3.88, 1.25	3.90, 1.28	4.00, 1.35	3.98, 1.45	3.92, 1.51	3.14, 1.50	3.87, 1.58	3.87, 1.67	3.91, 1.65	4.22
	Extr (Q,D,B)	0.90, 3.88	0.95, 3.93	1.01, 3.97	1.04, 4.00	1.11, 3.93	1.18, 3.88	1.25, 3.90	1.28, 4.00	1.35, 3.98	1.45, 3.92	1.51, 3.14	1.50, 3.87	1.58, 3.87	1.67, 3.91	1.65, 4.22	

* Quantities include 1'–0" extension above the design "H" limit.
** qa = net bearing stress (ksf), B = effective footing width (ft)
SP = service limit
Str = strength limit
Extr = extreme event

REINFORCED CONCRETE HEADWALL
Quantities do not include added diagonals and do not consider pipe occupancy.

NOTE: Reinforced Concrete: fy = 60,000 psi
f'c = 3,600 psi
Earth Density: 120 pcf
Equivalent Fluid Pressure: 36 pcf

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PIPE CULVERT HEADWALLS STRAIGHT AND "L"

NO SCALE

D89

2018 STANDARD PLAN D89

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

DRAWN BY: SR — DATE 4/18
DESIGNED BY: JCL — DATE 4/18
CHECKED BY: JCL — DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460

JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF MARINE WAY
STANDARD PLANS
FROM SKYHAWK TO 3800' EAST

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917–EMC
PERMIT NO. 00766614–MCE
PROJECT NO. 20.059
SHEET 23 OF 28

MARINE WAY STAGE 2

237

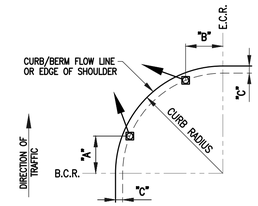
H:\plans\U008417\CADD\DNB Specialists\Div\Improve\MarineWay\SI\0059-02C-STD-PLANS.dwg 7/14/2022 11:05:57 AM

POLE AND EQUIPMENT SCHEDULE Δ

CALTRANS SPEC TDR	CONDITION	POLE	STANDARDS TYPE	STANDARDS HEIGHT	STANDARDS SIGNAL M.A.	STANDARDS LUMIN. M.A.	VEH. SIGNAL MTG. MAST ARM	VEH. SIGNAL MTG. POLE	PED. SIG. MTG.	P.P.B. ø	P.P.B. QUAD	B.P.B. ø	B.P.B. QUAD	POLE LOC. A	POLE LOC. B	POLE LOC. C	LED (Lumens) 22,000	LED TYPE A IISNS (DOUBLE FACE)	COMMENTS
2010	(E)	A	29-5-100	30'	50'	15'	2-MAS	SV-2-T	–	–	–	–	–	SEE PLAN	SEE PLAN	2.5'	87W	"Skyhawk"	F=27'
2010	(E)	B	26-4-100	30'	45'	15'*	2-MAS	SV-2-T	SP-1-CS	4	2	–	–	SEE PLAN	SEE PLAN	10'	87W	"Marine Way"	F=15'
2010	(E)	C	PPB POST	3'-10"	–	–	–	–	–	–	–	2	1	SEE PLAN	SEE PLAN	2.5'	–	–	–
2010	(E)	D	29-5-100	30'	50'	15'	2-MAS	SV-1-T	SP-1-CS	4	2	–	–	–	10'	2.5'	87W	"Skyhawk"	F=12'
2010	(E)	E	1-A	10'	–	–	–	TV-1-T	SP-1-CS	6	3	4	2	10'	–	2.5'	–	–	–
2010	(E)	F	15TS	30'	–	15'	–	–	–	6	3	–	–	–	11'	2.5'	87W	–	–
2010	(E)	G	1-A	10'	–	–	–	TV-2-T	SP-1-CS	–	–	6	3	10'	–	2.5'	–	–	–

Δ = EXACT POLE LOCATIONS DETERMINED BY FIELD ENGINEER; POTHOLE POLE FOUNDATIONS PRIOR TO ORDERING POLES (N)=NEW (E)=EXISTING (RL)=RELOCATE (RS)=REMOVE AND SALVAGE

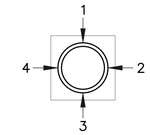
* = LUMINAIRE MAST ARM ROTATED 90° FROM SIGNAL MAST ARM AS SHOWN ON PLAN



NOTE: FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER

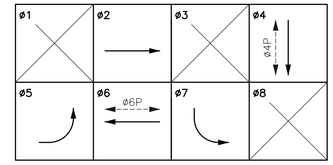
(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



QUADRANT DETAIL
PEDESTRIAN/EQUESTRIAN PUSH BUTTON LOCATION (TOP VIEW)

PHASE DIAGRAM



NOTE: TRAFFIC SIGNAL CONTROLLER TO RUN PHASES 4 AND 7 SIMULTANEOUSLY

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE	CIRCUIT	CONDUIT RUN NUMBER (E) 1	(E) 2	(E) 3	(E) 4	(E) 5	(E) 6	(E) 7
12CSC	A	ø2,ø5/–/ø7	/	/	/	/	/	/	/
	B	ø4,ø7,ø4P/ø4PPB/ø2	1/1	1/1	/	/	/	/	1/1
	C	–/ø2BPB/–	/	/	/	/	/	/	1/1
3CSC	D	ø6,ø6P/ø4PPB/–	/	/	1/1	1/1	1/1	1/1	1/1
	E	ø4,ø4P/ø6PPB,ø4BPB/–	/	/	/	1/2	1/2	1/2	1/2
	F	–/ø6PPB/–	/	/	/	/	1/1	1/1	1/1
5CSC	G	ø5,ø6,ø6P/ø6BPB/–	/	/	/	/	/	1/1	1/1
	TOTAL		1/1	1/1	1/1	1/3	2/4	3/5	5/7
#14		I.I.S.N.S.	2	2	2	2	2	2	4
#10		SIGNAL COMMON	1	1	1	1	1	1	2
		LUMINAIRES	2	2	2	2	2	2	4
		TOTAL	3	3	3	3	3	3	6
DLC (TYPE "B")		ø2	2	2	–	–	–	–	2
		ø4	–	–	–	2	–	2	2
		ø6	–	–	–	–	–	2	2
		TOTAL	2	2	–	2	–	4	6
EVP CABLE			1	2	1	1	1	1	3
VIDEO DETECTION CABLE			1	2	1	1	1	1	3
CAT 5E CABLE (AXIS IP CCTV)			–	2	–	–	–	–	1
CONDUIT SIZE			4"	4"	4"	4"	4"	4"	2-4"
% FILL			–	–	–	–	–	–	–

(E)=EXISTING; (N)=NEW ☐ = DENOTES NEW CABLE

NOTE: CONTRACTOR TO MOP, BLOW, AND BRUSH EXISTING CONDUITS PRIOR TO INSTALLATION OF NEW CABLE

GENERAL TRAFFIC SIGNAL NOTES:

1. ALL WORK, MATERIAL, AND EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND STANDARD SPECIFICATIONS DATED MAY 2010, THE SPECIAL PROVISIONS FOR THIS PROJECT, AND THE CITY OF IRVINE'S LATEST STANDARDS AND DESIGN MANUAL SECTION 104 DATED AUGUST 2013 (INCLUDING LATEST ADDENDUMS) FOR THE INSTALLATION AND MODIFICATION OF TRAFFIC SIGNAL SYSTEMS.
2. UTILITIES SHOWN ON THESE PLANS ARE CORRECT AND ACCURATE TO THE EXTENT OF AVAILABLE RECORDS AND KNOWLEDGE. THE CONTRACTOR, HOWEVER, IS REQUIRED TO VERIFY THE EXACT LOCATION LOCATION OF UNDERGROUND FACILITIES PRIOR TO DOING WORK THAT MAY DAMAGE SUCH FACILITIES OR INTERFERE WITH THEIR SERVICES. THE CONTRACTOR SHALL EXERCISE EXTREME CARE TO AVOID DAMAGING EXISTING UTILITIES.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND NOTIFY ALL UTILITY COMPANIES A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL PHASES OF CONSTRUCTION WITH THE VARIOUS UTILITY COMPANIES INVOLVED. ALSO NOTIFY CITY OF IRVINE INSPECTIONS 48 HOURS PRIOR TO CONSTRUCTION AT 949-724-6505.
4. ALL TRAFFIC SIGNAL EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED.
5. ALL NEW CONDUITS BETWEEN PULL BOXES SHALL BE 2.5" UNLESS OTHERWISE SPECIFIED. ALL CONDUITS CROSSING THE INTERSECTION SHALL BE 4" MINIMUM.
6. THE CONTRACTOR MAY PLACE CONDUIT BY JACKING OR BORING.
7. ALL NEW PULL BOXES SHALL BE NO. 6 UNLESS OTHERWISE SPECIFIED. ALL INTERCONNECT/COMMUNICATION PULL BOXES SHALL BE NO. 6 WITH 45 DEGREE ELBOWS AT FAR ENDS OF THE PULL BOX. ALL NO. 6 PULL BOX COVERS SHALL BE FIBERLITE. ALL PULL BOX LIDS SHALL READ "TRAFFIC SIGNAL".
8. THE CONTRACTOR SHALL GROUT ALL NEW PULL BOXES AND INCLUDE A 1" DRAIN.
9. ALL NEW VEHICLE INDICATIONS SHALL BE 12" RED, YELLOW, AND GREEN L.E.D. WITH METAL HOUSING AND BACK PLATES (SEE PROVISIONS FOR APPROVED MODELS).
10. NEW PEDESTRIAN INDICATIONS SHALL BE L.E.D. MODULE TYPE WITH AUDIBLE COUNTDOWN TIMER FUNCTION (SEE SPECIAL PROVISIONS FOR APPROVED MODELS).
11. THE ENGINEER SHALL APPROVE THE EXACT LOCATION OF ALL PULL BOXES, CONDUITS, LOOP DETECTORS, CONTROLLER AND POLES IN THE FIELD.
12. NEW LOOPS SHALL BE 6' DIA. TYPE E. LOOPS SHALL HAVE 4 TURNS.
13. ALL TRAFFIC LOOPS, SIGNING, PAVEMENT MARKERS AND STRIPING SHALL BE COMPLETED PRIOR TO TURN ON.
14. THE CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
15. ALL WIRING AND EQUIPMENT SHALL BE MARKED (TAGGED) WITHIN THE CONTROLLER CABINET FOR PHASE IDENTIFICATION.
16. UNGROUNDED SIGNAL LIGHT CONDUCTORS SHALL NOT BE SPLICED.

VIDEO DETECTION ZONE LEGEND:

PROPOSED VEHICLE VIDEO DETECTION ZONE

EXISTING VEHICLE VIDEO DETECTION ZONE

PROPOSED BICYCLE VIDEO DETECTION ZONE

EXISTING BICYCLE VIDEO DETECTION ZONE

CALTRANS NOTES:

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.

CB INSTALL CONDUIT INTO EXISTING PULL BOX.

RC EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR.

CONSTRUCTION NOTES:

1. EXISTING EIGHT PHASE, IRVINE SINGLE ATMS 332L BEIGE CABINET, 2070 CONTROLLER WITH 2070-1C MODULE WITH ECONOLITE ASC/3 SOFTWARE (LATEST VERSION) TO REMAIN. CONTRACTOR SHALL MODIFY THE CONTROLLER TO ACCOMMODATE THE INTENDED OPERATION AS NECESSARY PER PLAN.
2. EXISTING 3" (OR 4" OR AS INDICATED ON PLAN) CONDUIT, SIGNAL INTERCONNECT CABLES (SIC), AND #6 PULLBOXES TO CONTROLLER CABINET AT INTERSECTION AND DISTANCE AS SPECIFIED TO REMAIN. SIGNAL INTERCONNECT CABLES (SIC) INCLUDE A 60 FIBER HYBRID CABLE (24 MULTIMODE AND 36 SINGLEMODE) WITH A 12-FIBER SINGLEMODE CABLE AND A NO. 10 SOLID GREEN TRACE WIRE.
3. FURNISH AND INSTALL FIBER OPTIC CABLE AND 3" (OR 4" IF SPECIFIED) CONDUIT, AND #6 PULLBOXES TO THE NEXT CONTROLLER CABINET DISTANCE/LOCATION AS INDICATED. CABLE SHALL BE INSTALLED AND TESTED AS DEFINED IN SECTION 104-TRAFFIC SIGNALS (FEBRUARY 2016) OF THE CITY OF IRVINE DESIGN MANUAL.
4. ADJUST VIDEO DETECTION ZONES PER NEW LANE ALIGNMENT.
5. FURNISH AND INSTALL ADVANCED TYPE 'E' LOOP DETECTOR PER CALTRANS STANDARD PLAN ES-8B. INSTALL WITH FOUR TURNS.

EVP EXISTING GTT 711 OPTICOM DETECTOR TO REMAIN.

VID EXISTING ITERIS VANTAGE EDGE 2 VIDEO DETECTION SYSTEM TO REMAIN.

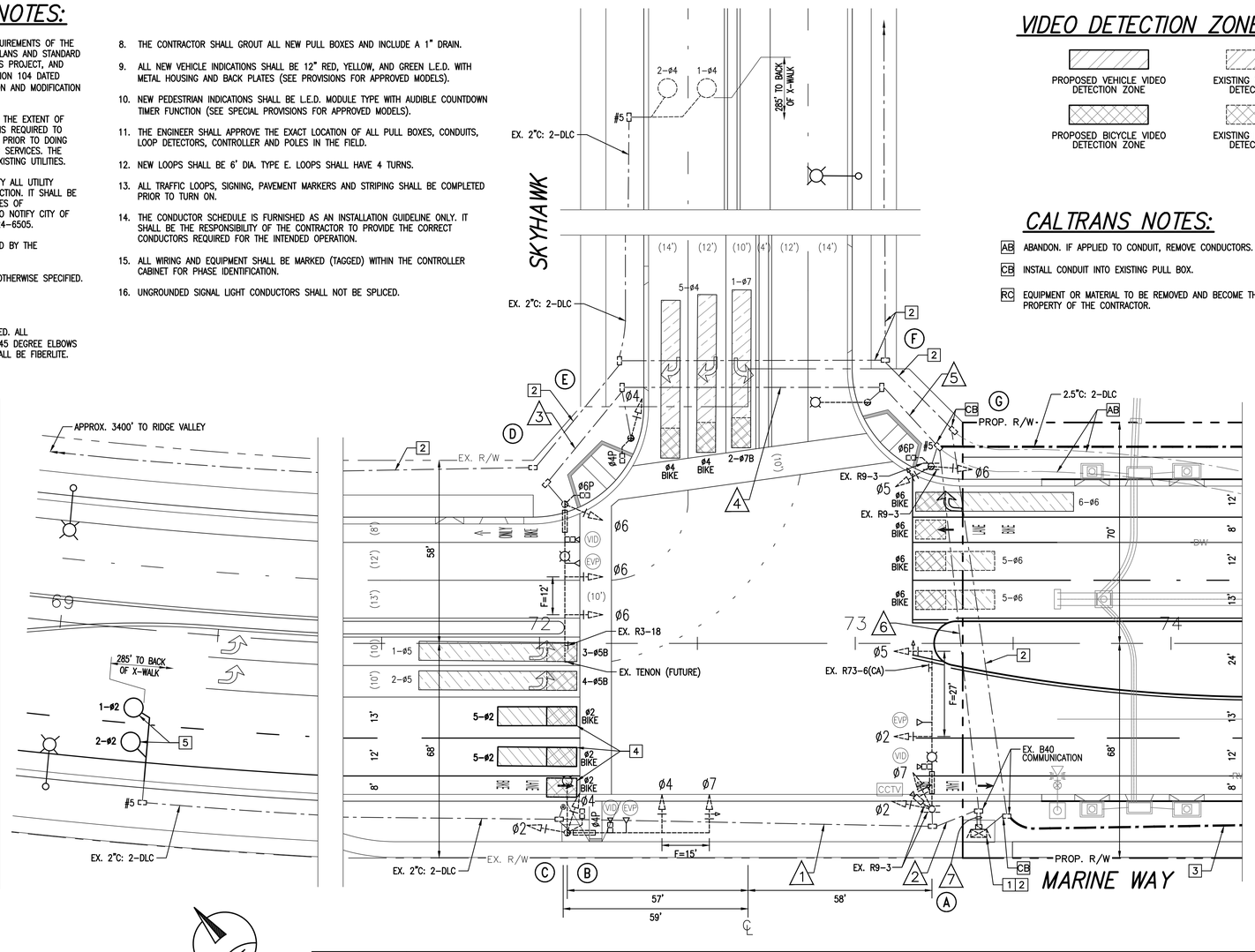
CCTV EXISTING IP-CCTV CAMERA TO REMAIN

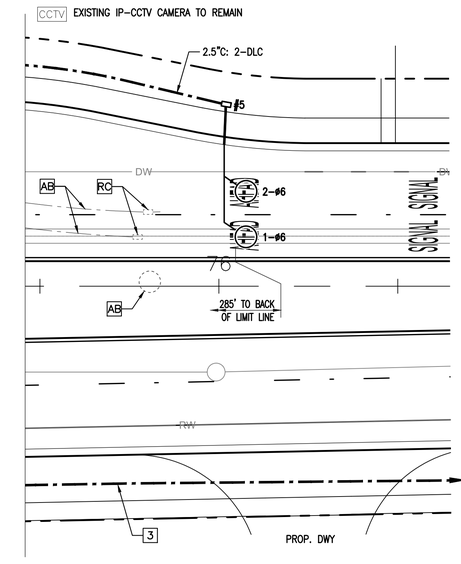
SENSOR SCHEDULE:

SLOT	POSITION	CHANNEL	SLOT	POSITION	CHANNEL
I1	U	5-ø2	J1	U	1-ø2
	L	6-ø2		L	FUT
I2	U	1-ø5	J2	U	FUT
	L	2-ø5		L	FUT
I3	U	FUT	J3	U	1-ø4
	L	◆5-ø4		L	2-ø4
I4	U	1-ø7	J4	U	FUT
	L	FUT		L	SP
I5	U	5-ø6	J5	U	1-ø6
	L	◆6-ø6		L	2-ø6
I6	U	FUT	J6	U	FUT
	L	FUT		L	FUT
I7	U	FUT	J7	U	FUT
	L	FUT		L	FUT
I8	U	FUT	J8	U	FUT
	L	FUT		L	SP
I9	U	VD COM	J9	U	SP
	L			L	SP
I10	U	VD COM	J10	U	FREE
	L			L	DL
I11	U	ø2 BIKE	J11	U	EVA-ø2
	L	ø4 BIKE		L	EVA-ø6
I12	U	ø6 BIKE	J12	U	EVA-ø4
	L	FUT		L	FUT
I13	U	FUT	J13	U	MAN ADV
	L	ø4 PED		L	MAN EN
I14	U	ø6 PED	J14	U	FLASH SEN
	L	FUT		L	STOP TIME

◆ SENSOR CHANNELS DESIGNATED FOR RIGHT TURN DELAY FUNCTIONALITY IN 2070L CONTROLLER

**** ø7 TO JUMP TO ø4





SIGN LEGEND:

NOTE: DETAILS FOR REFERENCE AND NOT DRAWN TO SCALE

R3-18 36"X36"

R9-3a 18"X18"

R73-6(CA) 36"X36"

SCALE: 1" = 20'

Know what's below. Call before you dig.

NO.	DATE	REVISIONS	TJW ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

		DATE
DRAWN BY:	KM	5/16/2022
DESIGNED BY:	KM	5/16/2022
CHECKED BY:	JS	6/7/2022

SEAL: REGISTERED PROFESSIONAL ENGINEER THOMAS JOSEPH WHEAT No. 69467 Exp. 6/30/24 CIVIL STATE OF CALIFORNIA

TJW ENGINEERING, INC.
Traffic Engineering & Transportation Planning Consultants
9841 Irvine Center Dr., Suite 200, Irvine, CA 92618
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www.tjwengineering.com

FOR PLANCHECK ONLY

THOMAS JOSEPH WHEAT R.C.E. No. 69467 Exp. 6/30/24

TRAFFIC SIGNAL MODIFICATION PLAN

MARINE WAY at SKYHAWK

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. –

PERMIT NO. –

PROJECT NO.

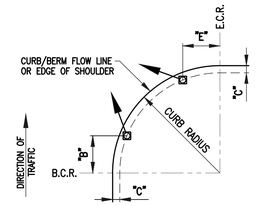
SHEET 24 OF 28

POLE AND EQUIPMENT SCHEDULE Δ

CALTRANS SPEC YEAR	POLE	STANDARDS TYPE	STANDARDS HEIGHT	STANDARDS SIGNAL M.A.	STANDARDS LUMIN. M.A.	VEH. SIGNAL MTG. MAST ARM	VEH. SIGNAL MTG. POLE	PED. SIG. MTG.	P.P.B. ø	P.P.B. QUAD	B.P.B. ø	B.P.B. QUAD	POLE LOC. B	POLE LOC. E	POLE LOC. C	LED (Lumens) 22,000	LED TYPE A IISNS (DOUBLE FACE)	COMMENTS
2018	A	26-4-100	30'	45'	15'	2-MAS	SV-1-T	SP-1-CS	–	–	–	–	–	7.5'	3'	87W	"T.B.D."	F=16'
2018	B	15TS	30'	–	15'	–	SV-2-T	–	2	3	–	–	27'	–	3'	87W	–	–
2018	C	19-4-100	30'	25'	15'	MAS	SV-1-T	–	2	3	–	–	–	19'	3'	87W	"Marine Way"	–
2018	D	15TS	30'	–	15'	–	SV-2-T	SP-1-CS	–	–	2	1	8'	–	3'	87W	–	–
2018	E	26-4-100	30'	40'	15'	2-MAS	SV-1-T	SP-1-CS	6	1	–	–	–	12'	5.5'	87W	"T.B.D."	F=17'
2018	F	15TS	30'	–	15'	–	SV-2-T	–	–	–	–	–	18'	–	3'	87W	–	–
2018	G	19-4-100	30'	25'	15'	MAS	SV-1-T	–	–	–	–	–	–	18'	3'	87W	"Marine Way"	–
2018	H	15TS	30'	–	15'	–	SV-2-T	SP-1-CS	6	1	6	3	11.5'	–	3'	87W	–	–

NOTE: ALL EQUIPMENT SHALL BE NEW

Δ = EXACT POLE LOCATIONS DETERMINED BY FIELD ENGINEER; POTHOLE POLE FOUNDATIONS PRIOR TO ORDERING POLES

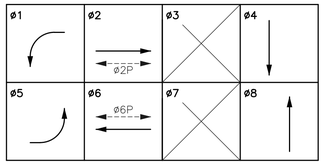


NOTE: FOR "E", "B" AND "C" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER

(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS

PROPOSED PHASE DIAGRAM



CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE	CIRCUIT	CONDUIT RUN NUMBER (N) 1	(N) 2	(N) 3	(N) 4	(N) 5	(N) 6	(N) 7	(N) 8	(N) 9
12CSC	A	ø2,ø5,ø2P/–/–	/	/	/	/	/	/	/	/	/
	B	ø4,ø8/ø2PPB/–	/	/	1/1	/	/	/	1/1	1/1	1/1
	C	ø4/ø2PPB/–	/	/	1/1	/	/	/	/	1/1	1/1
3CSC	D	ø1,ø2,ø2P/ø2BPB/–	1/1	1/1	/	/	/	/	/	1/1	1/1
	E	ø1,ø6,ø6P/ø6PPB/–	/	/	/	1/1	1/1	1/1	1/1	1/1	1/1
	F	ø4,ø8/–/–	/	/	/	/	/	/	1/1	/	/
	G	ø8/–/–	/	/	/	/	/	/	/	1/1	/
5CSC	H	ø5,ø6,ø6P/ø6PPB,ø6BPB/–	/	/	/	/	/	/	2/2	2/2	2/2
		TOTAL	1/1	2/2	3/3	1/1	1/1	2/1	4/3	6/6	6/6
#14		I.I.S.N.S.	–	2	2	2	2	2	2	4	4
#10		SIGNAL COMMON	1	1	1	1	1	1	1	2	2
		LUMINAIRES	2	2	2	2	2	2	2	4	4
		TOTAL	3	3	3	3	3	3	3	3	6
DLC (TYPE "B")		ø2	2	2	2	–	–	–	–	2	2
		ø6	–	–	–	–	–	–	2	2	2
		TOTAL	2	2	2	–	–	–	2	4	4
EVP CABLE			–	1	1	1	1	1	1	3	3
VIDEO DETECTION CABLE			–	1	1	1	1	1	1	3	3
CAT 5E CABLE (AXIS IP CCTV)			–	–	1	1	1	1	1	2	2
CONDUIT SIZE			4"	4"	4"	4"	4"	4"	4"	2-4"	2-4"
% FILL			–	–	–	–	–	–	–	–	–

NOTE: ALL EQUIPMENT SHALL BE NEW

CONSTRUCTION NOTES:

1. FURNISH AND INSTALL EIGHT PHASE, IRVINE SINGLE ATMS 332L BEIGE CABINET, 2070 CONTROLLER WITH 2070-1C MODULE WITH ECONOLITE ASC/3 SOFTWARE (LATEST VERSION), AND ALL ASSOCIATED EQUIPMENT AS SPECIFIED IN SECTION 104-TRAFFIC SIGNALS (FEBRUARY 2016) OF THE CITY OF IRVINE DESIGN MANUAL. CONSTRUCT CONCRETE PAD AROUND CONTROLLER PER SECTION 104-TRAFFIC SIGNALS (ATTACHMENT 8).
2. FURNISH AND INSTALL SIGN OF TYPE INDICATED ON POLE STANDARD PER CALTRANS STD. PLAN RS4
3. FURNISH AND INSTALL NEW AXIS IP CCTV CAMERA AND MOUNTING ASSEMBLY PER CITY OF IRVINE SECTION 104.
4. FURNISH AND INSTALL FIBER OPTIC CABLE AND 3" (OR 4" IF SPECIFIED) CONDUIT, AND #6 PULLBOXES TO THE NEXT CONTROLLER CABINET DISTANCE/LOCATION AS INDICATED. CABLE SHALL BE INSTALLED AND TESTED AS DEFINED IN SECTION 104-TRAFFIC SIGNALS (FEBRUARY 2016) OF THE CITY OF IRVINE DESIGN MANUAL.
5. FURNISH AND INSTALL MAST ARM MOUNTED SIGN AS INDICATED ON PLANS. SEE CALTRANS STANDARD PLAN ES-7N FOR MOUNTING DETAIL.
6. FURNISH AND INSTALL ADVANCED TYPE 'E' LOOP DETECTOR PER CALTRANS STANDARD PLAN ES-8B. INSTALL WITH FOUR TURNS.

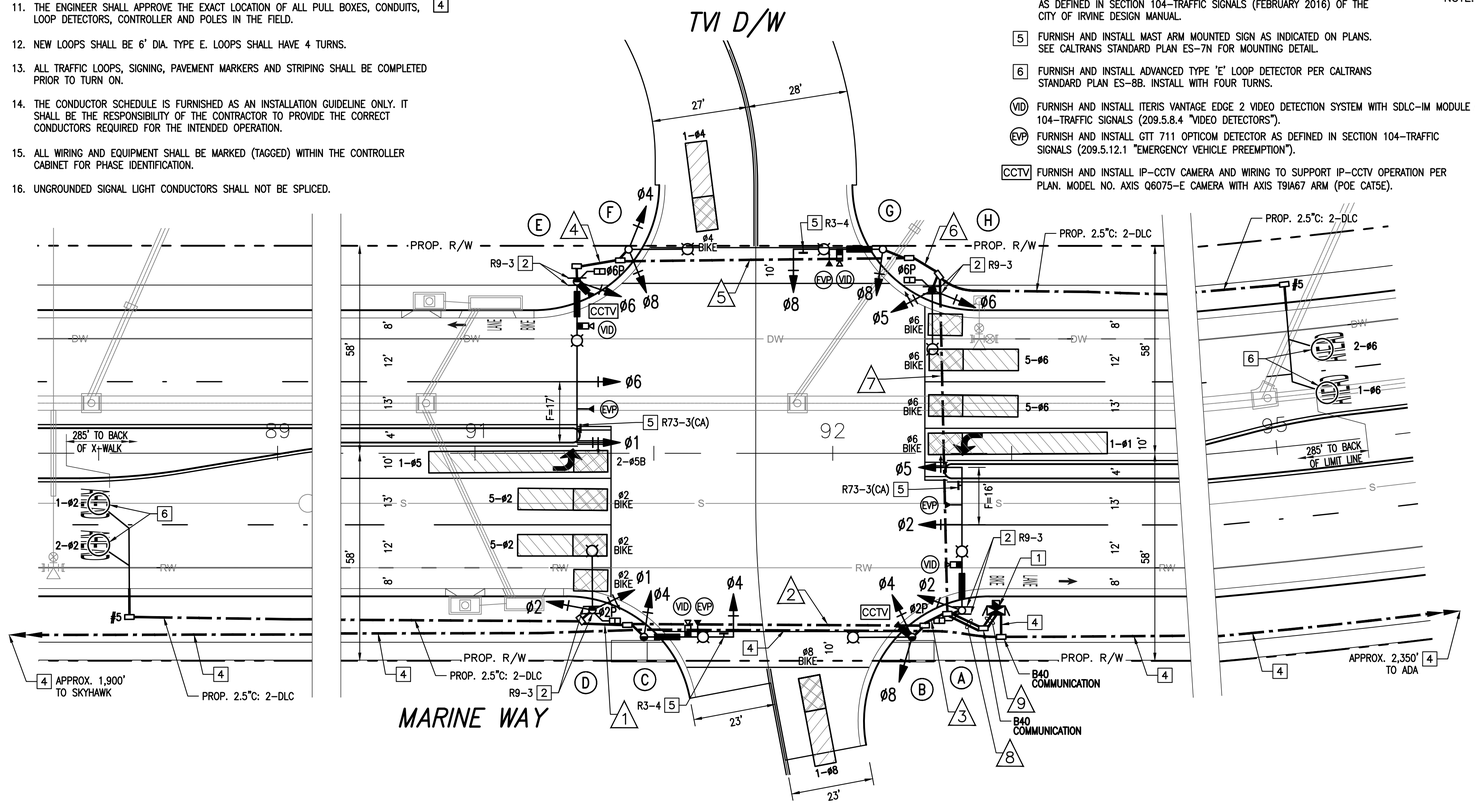
(VID) FURNISH AND INSTALL ITERIS VANTAGE EDGE 2 VIDEO DETECTION SYSTEM WITH SDLC-IM MODULE AS DEFINED IN SECTION 104-TRAFFIC SIGNALS (209.5.8.4 "VIDEO DETECTORS").

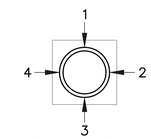
(EVP) FURNISH AND INSTALL GTT 711 OPTICOM DETECTOR AS DEFINED IN SECTION 104-TRAFFIC SIGNALS (209.5.12.1 "EMERGENCY VEHICLE PREEMPTION").

CCTV FURNISH AND INSTALL IP-CCTV CAMERA AND WIRING TO SUPPORT IP-CCTV OPERATION PER PLAN. MODEL NO. AXIS Q6075-E CAMERA WITH AXIS T91A67 ARM (POE CAT5E).

GENERAL TRAFFIC SIGNAL NOTES:

1. ALL WORK, MATERIAL, AND EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND STANDARD SPECIFICATIONS DATED MAY 2010, THE SPECIAL PROVISIONS FOR THIS PROJECT, AND THE CITY OF IRVINE'S LATEST STANDARDS AND DESIGN MANUAL SECTION 104 DATED AUGUST 2013 (INCLUDING LATEST ADDENDUMS) FOR THE INSTALLATION AND MODIFICATION OF TRAFFIC SIGNAL SYSTEMS.
2. UTILITIES SHOWN ON THESE PLANS ARE CORRECT AND ACCURATE TO THE EXTENT OF AVAILABLE RECORDS AND KNOWLEDGE. THE CONTRACTOR, HOWEVER, IS REQUIRED TO VERIFY THE EXACT LOCATION LOCATION OF UNDERGROUND FACILITIES PRIOR TO DOING WORK THAT MAY DAMAGE SUCH FACILITIES OR INTERFERE WITH THEIR SERVICES. THE CONTRACTOR SHALL EXERCISE EXTREME CARE TO AVOID DAMAGING EXISTING UTILITIES.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND NOTIFY ALL UTILITY COMPANIES A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL PHASES OF CONSTRUCTION WITH THE VARIOUS UTILITY COMPANIES INVOLVED. ALSO NOTIFY CITY OF IRVINE INSPECTIONS 48 HOURS PRIOR TO CONSTRUCTION AT 949-724-6505.
4. ALL TRAFFIC SIGNAL EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED.
5. ALL NEW CONDUITS BETWEEN PULL BOXES SHALL BE 2.5" UNLESS OTHERWISE SPECIFIED. ALL CONDUITS CROSSING THE INTERSECTION SHALL BE 4" MINIMUM.
6. THE CONTRACTOR MAY PLACE CONDUIT BY JACKING OR BORING.
7. ALL NEW PULL BOXES SHALL BE NO. 6 UNLESS OTHERWISE SPECIFIED. ALL INTERCONNECT/COMMUNICATION PULL BOXES SHALL BE NO. 6 WITH 45 DEGREE ELBOWS AT FAR ENDS OF THE PULL BOX. ALL NO. 6 PULL BOX COVERS SHALL BE FIBERLITE. ALL PULL BOX LIDS SHALL READ "TRAFFIC SIGNAL".
8. THE CONTRACTOR SHALL GROUT ALL NEW PULL BOXES AND INCLUDE A 1" DRAIN.
9. ALL NEW VEHICLE INDICATIONS SHALL BE 12" RED, YELLOW, AND GREEN L.E.D. WITH METAL HOUSING AND BACK PLATES (SEE PROVISIONS FOR APPROVED MODELS).
10. NEW PEDESTRIAN INDICATIONS SHALL BE L.E.D. MODULE TYPE WITH AUDIBLE COUNTDOWN TIMER FUNCTION (SEE SPECIAL PROVISIONS FOR APPROVED MODELS).
11. THE ENGINEER SHALL APPROVE THE EXACT LOCATION OF ALL PULL BOXES, CONDUITS, [4] LOOP DETECTORS, CONTROLLER AND POLES IN THE FIELD.
12. NEW LOOPS SHALL BE 6' DIA. TYPE E. LOOPS SHALL HAVE 4 TURNS.
13. ALL TRAFFIC LOOPS, SIGNING, PAVEMENT MARKERS AND STRIPING SHALL BE COMPLETED PRIOR TO TURN ON.
14. THE CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
15. ALL WIRING AND EQUIPMENT SHALL BE MARKED (TAGGED) WITHIN THE CONTROLLER CABINET FOR PHASE IDENTIFICATION.
16. UNGROUNDED SIGNAL LIGHT CONDUCTORS SHALL NOT BE SPLICED.





QUADRANT DETAIL
PEDESTRIAN/EQUESTRIAN PUSH BUTTON LOCATION (TOP VIEW)

VIDEO DETECTION ZONE LEGEND:

PROPOSED VEHICLE VIDEO DETECTION ZONE

PROPOSED BICYCLE VIDEO DETECTION ZONE

SIGN LEGEND:

NOTE: DETAILS FOR REFERENCE AND NOT DRAWN TO SCALE

R9-3a 18"X18" | R73-3(CA) 36"X36" | R3-4 36"X36"

PROPOSED SENSOR SCHEDULE

SLOT	POSITION	CHANNEL	SLOT	POSITION	CHANNEL	SLOT	POSITION	CHANNEL
I1	U	◆9-ø2	J1	U	1-ø2	BIU 3		5-ø2
	L	FUT		L	2-ø2			6-ø2
I2	U	1-ø5	J2	U	3-ø2			7-ø2
	L	2-ø5		L	4-ø2			8-ø2
I3	U	FUT	J3	U	1-ø4			–
	L	◆9-ø4		L	2-ø4			5-ø4
I4	U	1-ø7	J4	U	3-ø4			6-ø4
	L	2-ø7		L	FUT			7-ø4
I5	U	◆9-ø6	J5	U	1-ø6			8-ø4
	L	FUT		L	2-ø6			–
I6	U	1-ø1	J6	U	3-ø6			5-ø6
	L	2-ø1		L	4-ø6			6-ø6
I7	U	FUT	J7	U	1-ø8			7-ø6
	L	◆9-ø8		L	2-ø8			8-ø6
I8	U	1-ø3	J8	U	3-ø8			–
	L	2-ø3		L	FUT			5-ø8
I9	U	VD COM	J9	U	SDLC-IM			6-ø8
	L			L				7-ø8
I10	U	VD COM	J10	U	SDLC-IM			8-ø8
	L			L				–
I11	U	ø2 BIKE	J11	U	EVA-ø2	BIU 4		ø1 BIKE
	L	ø4 BIKE		L	EVB-ø6			ø2 BIKE
I12	U	ø6 BIKE	J12	U	EVC-ø4			ø3 BIKE
	L	ø8 BIKE		L	EVD-ø8			ø4 BIKE
I13	U	ø2 PED	J13	U	MAN ADV			ø5 BIKE
	L	ø4 PED		L	MAN EN			ø6 BIKE
I14	U	ø6 PED	J14	U	FLASH SEN			ø7 BIKE
	L	ø8 PED		L	STOP TIME			ø8 BIKE

◆ SENSOR CHANNELS DESIGNATED FOR RIGHT TURN DELAY FUNCTIONALITY IN CONTROLLER

SCALE: 1" = 20'

NO.	DATE	REVISIONS	TJW ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

DRAWN BY: KM DATE –
DESIGNED BY: KM DATE –
CHECKED BY: DATE –

SEAL: REGISTERED PROFESSIONAL ENGINEER THOMAS JOSEPH WHEAT No. 69467 Exp. 6/30/24 CIVIL STATE OF CALIFORNIA

TJW ENGINEERING, INC.
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FOR PLANCHECK ONLY
THOMAS JOSEPH WHEAT R.C.E. No. 69467 Exp. 6/30/24

TRAFFIC SIGNAL PLAN
MARINE WAY at SECOND HARVEST PROP. D/W

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

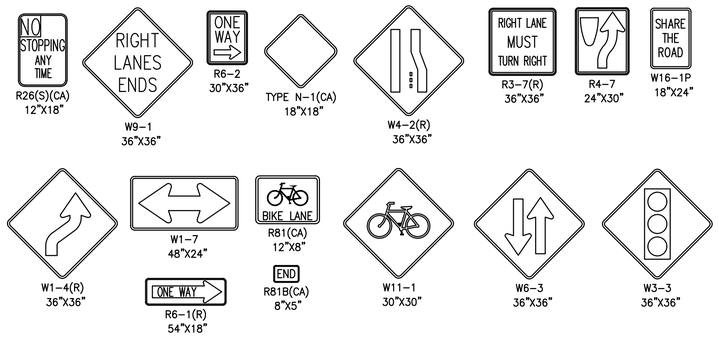
PLAN CHECK NO. –
PERMIT NO. –
PROJECT NO.
SHEET 25 OF 28

811 Know what's below. Call before you dig.

SIGNING AND STRIPING GENERAL NOTES:

1. SIGNING AND STRIPING SHALL CONFORM TO PART 2 SIGNS AND PART 3 MARKINGS OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD) AND ANY ADDENDUMS THERE TO OR LATEST EDITION, THESE PLANS AND SPECIAL PROVISIONS.
2. DETAIL 9 LANE LINE STRIPING PATTERN IN PART 3 MARKINGS SHALL BE USED ON ALL MULTILANE STREETS REGARDLESS OF STREET DESIGN SPEED.
3. PAVEMENT LEGENDS SHALL MATCH THE CITY STENCILS OR EQUIVALENT,
4. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE REFLECTORIZED AND APPLIED IN TWO COATS. A MINIMUM OF SEVEN DAYS SHALL BE PROVIDED BETWEEN FIRST AND SECOND COATS.
5. ALL CONFLICTING STRIPINGS, PAVEMENT MARKINGS, AND CURB PAINT SHALL BE REMOVED BY WET SANDBLASTING OR OTHER APPROVED METHOD PRIOR TO INSTALLATION OF NEW STRIPING. ALL CONFLICTING RAISED PAVEMENT MARKERS SHALL BE REMOVED.
6. PAVEMENT THAT IS DAMAGED DUE TO REMOVAL OF MARKERS OR STRIPING SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY INSPECTOR.
7. THE CONTRACTOR SHALL CONTACT THE CITY OF IRVINE INSPECTION SERVICES FOR INSPECTION 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION.
8. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING WORK. IF CONDITIONS EXIST WHICH ARE CONTRARY TO THOSE SHOWN ON THESE PLANS, THE CITY OF IRVINE INSPECTION SERVICES SHALL BE NOTIFIED BEFORE PROCEEDING WITH WORK.
9. ALL WORK SHALL CONFORM TO THE PLANS AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER.
10. ALL TRAFFIC CONTROL WORK FOR CONSTRUCTION SHALL CONFORM TO PART 6 – TEMPORARY TRAFFIC CONTROL OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD) AND ANY ADDENDUMS THERE TO OR LATEST EDITION AND ALL O.S.H.A. REQUIREMENTS.
11. THE CONTRACTOR SHALL HAVE ALL TRAFFIC CONTROL CONSTRUCTION SIGNS, DELINEATORS, ETC., PROPERLY INSTALLED PRIOR TO COMMENCING CONSTRUCTION.
12. THE CONTRACTOR SHALL MAINTAIN ALL TRAFFIC CONTROL SIGNS, DELINEATORS, ETC., TO ENSURE PROPER FLOW AND SAFETY OF TRAFFIC WHILE WORKING IN THE STREET.
13. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED IN THE FIELD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL TRAFFIC CONTROL DEVICES REQUIRED BY THE CITY INSPECTOR/ REPRESENTATIVE TO ASSURE PUBLIC SAFETY AT ALL TIMES.
14. THE CONTRACTOR SHALL UTILIZE A FLAGMAN DURING CONSTRUCTION WORK AS DEEMED NECESSARY BY THE CITY INSPECTOR.
15. ARROW BOARDS SHALL BE USED ON ANY LANE CLOSURE ON ARTERIAL STREETS.
16. STRIPING SHALL BE CAT TRACKED AND APPROVED BY THE CITY INSPECTOR PRIOR TO FINAL INSTALLATION.
17. CROSSWALK SHALL CONFORM TO THE CITY OF IRVINE STANDARD PLAN NO. 203.
18. ALL SIGN FACE REFLECTIVE SHEETING SHALL BE HIGH INTENSITY GRADE WITH PROTECTIVE OVERLAY FILM.
19. ALL SIGN POSTS SHALL BE 2"x2" PERFORATED SQUARE TUBE INSTALLED WITH ACCOMPANYING SLEEVE PER THE CITY OF IRVINE REQUIREMENTS. CITY OF IRVINE SPECIAL SIGN R26EB SIGN SHALL BE INSTALLED ON "U" CHANNEL POST OR ON STREET LIGHT POLE.
20. ADVANCED STREET NAME SIGNS AND STREET NAME SIGNS SHALL BE SILVER LETTERS WITH "IRVINE BROWN" BACKGROUND.
21. BLUE RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED ADJACENT TO ALL EXISTING FIRE HYDRANTS IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD).

SIGN LEGEND:



SIGNING AND STRIPING CONSTRUCTION NOTES:

E	EXISTING SIGN TO REMAIN.
FH	INSTALL BLUE REFLECTIVE FIRE HYDRANT PAVEMENT MARKER PER CA MUTCD AND CALTRANS STANDARDS.
IS	INSTALL SIGN AND POST.
RL	RELOCATE EXISTING SIGN.
RS	REMOVE AND SALVAGE EXISTING SIGN AND POST.
PM	INSTALL THERMOPLASTIC PAVEMENT MARKING AS SHOWN PER CA–MUTCD STANDARDS.
TX	INSTALL THERMOPLASTIC 12" SOLID WHITE LIMIT LINE OR CROSSWALK PER CA–MUTCD STANDARDS.
XX	REMOVE CONFLICTING STRIPING OR MARKINGS BY WET SANDBLASTING PROCESS.
T6	INSTALL THERMOPLASTIC 6" SOLID WHITE LANE LINE STRIPE.
9	INSTALL THERMOPLASTIC 6" WHITE LANE LINE SKIP STRIPE PER CALTRANS STD. PLAN A20A – DETAIL 9.
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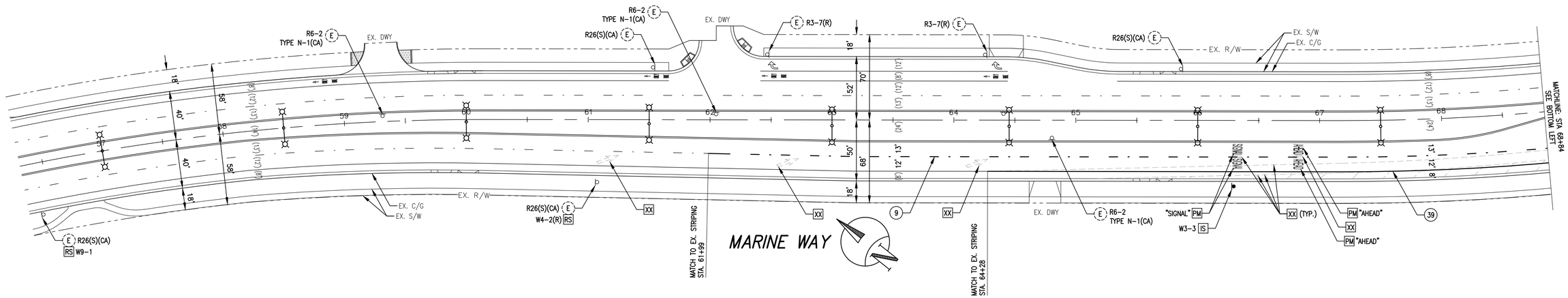
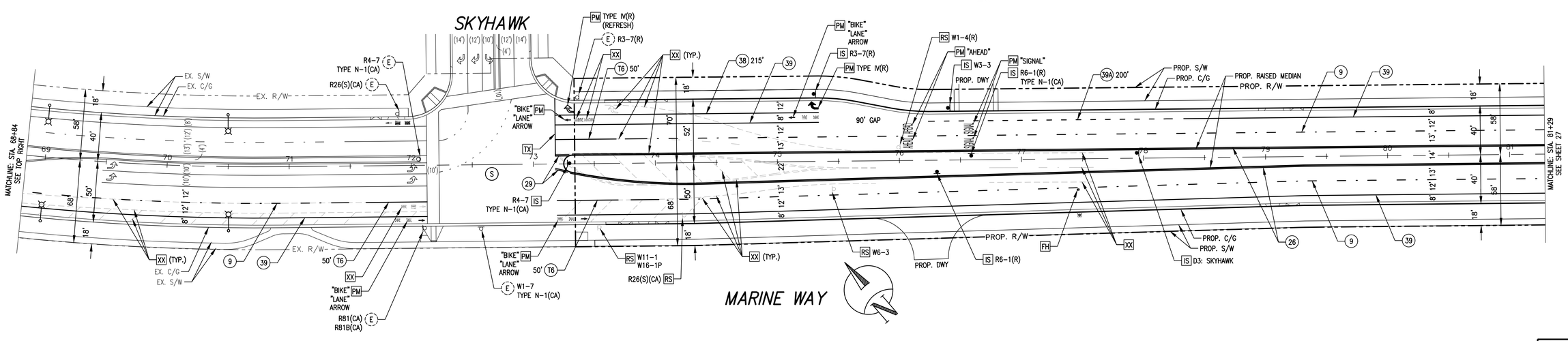
39A	INSTALL THERMOPLASTIC 6" WHITE BIKE LANE INTERSECTION STRIPE PER CALTRANS STD. PLAN A20D – DETAIL 39A.
S	SIGNALIZED INTERSECTION





Know what's below. Call before you dig.

SCALE: 1" = 40'

20 0 20 40 60

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
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4					
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2					
1			TJW		

DRAWN BY: KM DATE –
DESIGNED BY: KM DATE –
CHECKED BY: DATE –

SEAL: REGISTERED PROFESSIONAL ENGINEER THOMAS JOSEPH WHEAT No. 69467 Exp. 6/30/24 CIVIL STATE OF CALIFORNIA

TJW ENGINEERING, INC.
Traffic Engineering & Transportation Planning Consultants
9841 Irvine Center Dr., Suite 200, Irvine, CA 92618
t: (949) 878-3509 f: (949) 878-3593
www.tjwengineering.com

FOR PLANCHECK ONLY
THOMAS JOSEPH WHEAT R.C.E. No. 69467 Exp. 6/30/24

SIGNING AND STRIPING PLAN
MARINE WAY
from STA. 56+50 to STA. 81+29

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. –
PERMIT NO. –
PROJECT NO.
SHEET 26 OF 28

SIGNING AND STRIPING GENERAL NOTES:

1. SIGNING AND STRIPING SHALL CONFORM TO PART 2 SIGNS AND PART 3 MARKINGS OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD) AND ANY ADDENDUMS THERE TO OR LATEST EDITION, THESE PLANS AND SPECIAL PROVISIONS.
2. DETAIL 9 LANE LINE STRIPING PATTERN IN PART 3 MARKINGS SHALL BE USED ON ALL MULTILANE STREETS REGARDLESS OF STREET DESIGN SPEED.
3. PAVEMENT LEGENDS SHALL MATCH THE CITY STENCILS OR EQUIVALENT,
4. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE REFLECTORIZED AND APPLIED IN TWO COATS. A MINIMUM OF SEVEN DAYS SHALL BE PROVIDED BETWEEN FIRST AND SECOND COATS.
5. ALL CONFLICTING STRIPINGS, PAVEMENT MARKINGS, AND CURB PAINT SHALL BE REMOVED BY WET SANDBLASTING OR OTHER APPROVED METHOD PRIOR TO INSTALLATION OF NEW STRIPING. ALL CONFLICTING RAISED PAVEMENT MARKERS SHALL BE REMOVED.
6. PAVEMENT THAT IS DAMAGED DUE TO REMOVAL OF MARKERS OR STRIPING SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY INSPECTOR.
7. THE CONTRACTOR SHALL CONTACT THE CITY OF IRVINE INSPECTION SERVICES FOR INSPECTION 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION.
8. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING WORK. IF CONDITIONS EXIST WHICH ARE CONTRARY TO THOSE SHOWN ON THESE PLANS, THE CITY OF IRVINE INSPECTION SERVICES SHALL BE NOTIFIED BEFORE PROCEEDING WITH WORK.
9. ALL WORK SHALL CONFORM TO THE PLANS AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER.
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11. THE CONTRACTOR SHALL HAVE ALL TRAFFIC CONTROL CONSTRUCTION SIGNS, DELINEATORS, ETC., PROPERLY INSTALLED PRIOR TO COMMENCING CONSTRUCTION.
12. THE CONTRACTOR SHALL MAINTAIN ALL TRAFFIC CONTROL SIGNS, DELINEATORS, ETC., TO ENSURE PROPER FLOW AND SAFETY OF TRAFFIC WHILE WORKING IN THE STREET.
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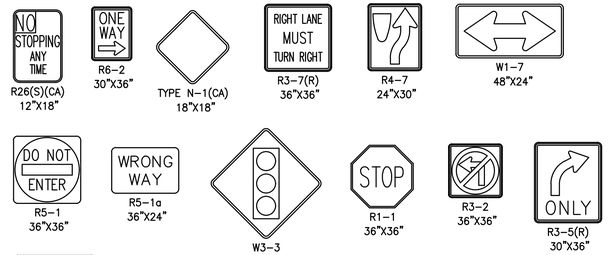
16. STRIPING SHALL BE CAT TRACKED AND APPROVED BY THE CITY INSPECTOR PRIOR TO FINAL INSTALLATION.
17. CROSSWALK SHALL CONFORM TO THE CITY OF IRVINE STANDARD PLAN NO. 203.
18. ALL SIGN FACE REFLECTIVE SHEETING SHALL BE HIGH INTENSITY GRADE WITH PROTECTIVE OVERLAY FILM.
19. ALL SIGN POSTS SHALL BE 2"x2" PERFORATED SQUARE TUBE INSTALLED WITH ACCOMPANYING SLEEVE PER THE CITY OF IRVINE REQUIREMENTS. CITY OF IRVINE SPECIAL SIGN R26EB SIGN SHALL BE INSTALLED ON "U" CHANNEL POST OR ON STREET LIGHT POLE.
20. ADVANCED STREET NAME SIGNS AND STREET NAME SIGNS SHALL BE SILVER LETTERS WITH "IRVINE BROWN" BACKGROUND.
21. BLUE RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED ADJACENT TO ALL EXISTING FIRE HYDRANTS IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD).

SIGN LEGEND:



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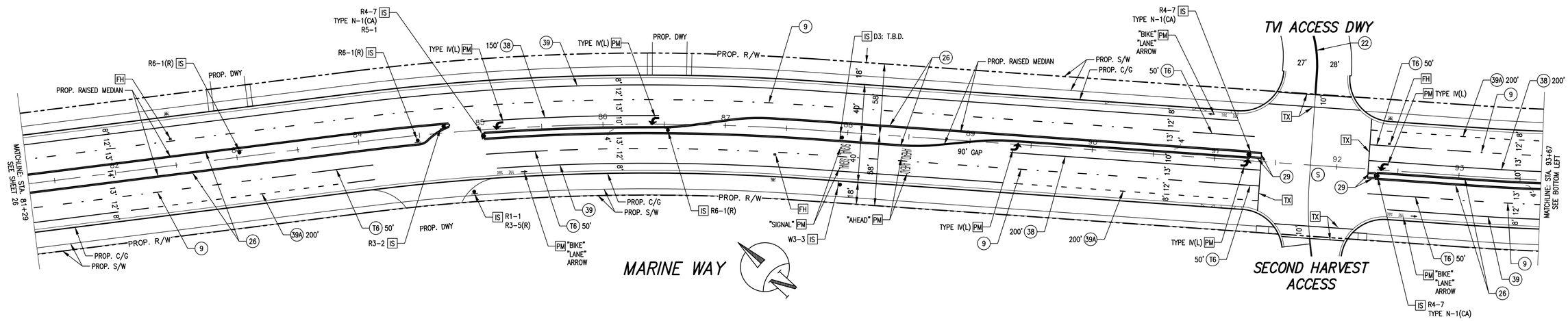
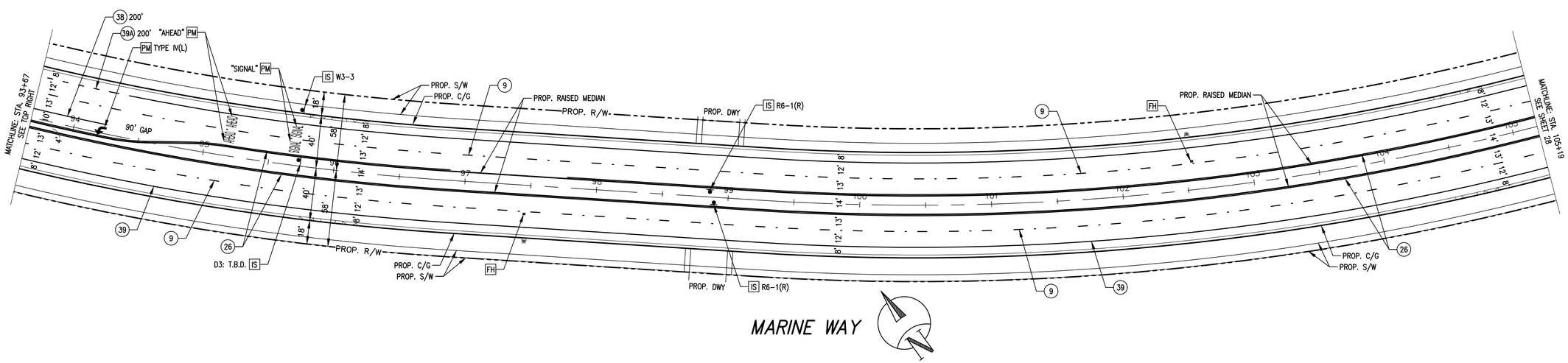
(S) SIGNALIZED INTERSECTION





Know what's below. Call before you dig.

SCALE: 1" = 40'

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6					
5					
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2					
1					

DRAWN BY: KM DATE –
DESIGNED BY: KM DATE –
CHECKED BY: DATE –

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FOR PLANCHECK ONLY
THOMAS JOSEPH WHEAT R.C.E. No. 69467 Exp. 6/30/24

SIGNING AND STRIPING PLAN
MARINE WAY
from STA. 81+29 to STA. 105+19

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. –
PERMIT NO. –
PROJECT NO.
SHEET 27 OF 28

SIGNING AND STRIPING GENERAL NOTES:

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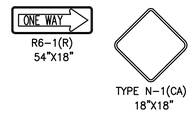

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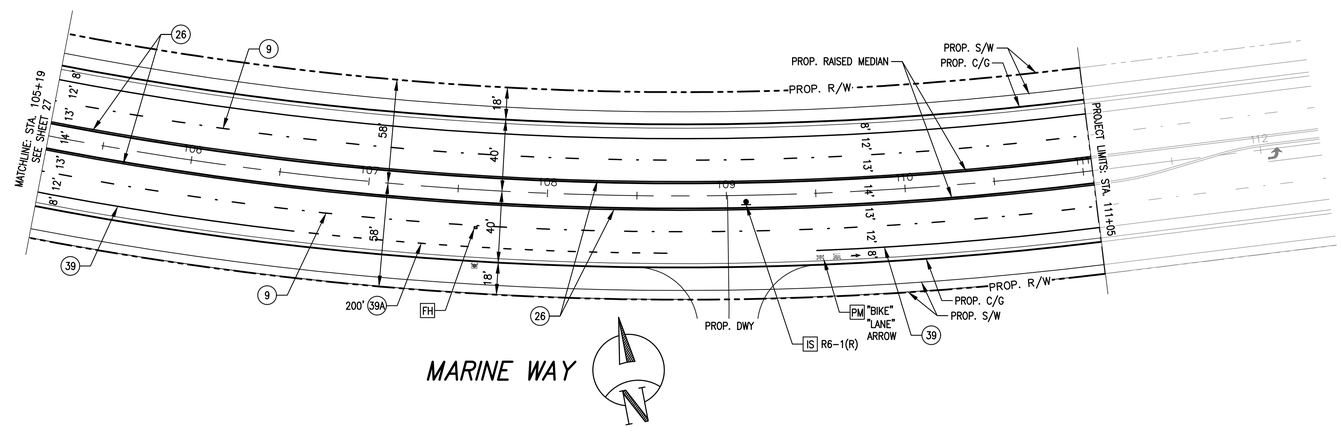

SCALE: 1" = 40'

20 0 20 40 60

Know what's below. Call before you dig.

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
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6					
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4					
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1			TJW		

DRAWN BY: KM DATE –
DESIGNED BY: KM DATE –
CHECKED BY: DATE –

SEAL: REGISTERED PROFESSIONAL ENGINEER THOMAS JOSEPH WHEAT No. 69467 Exp. 6/30/24 CIVIL STATE OF CALIFORNIA

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FOR PLANCHECK ONLY
THOMAS JOSEPH WHEAT R.C.E. No. 69467 Exp. 6/30/24

SIGNING AND STRIPING PLAN
MARINE WAY
from STA. 105+19 to STA. 111+05

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

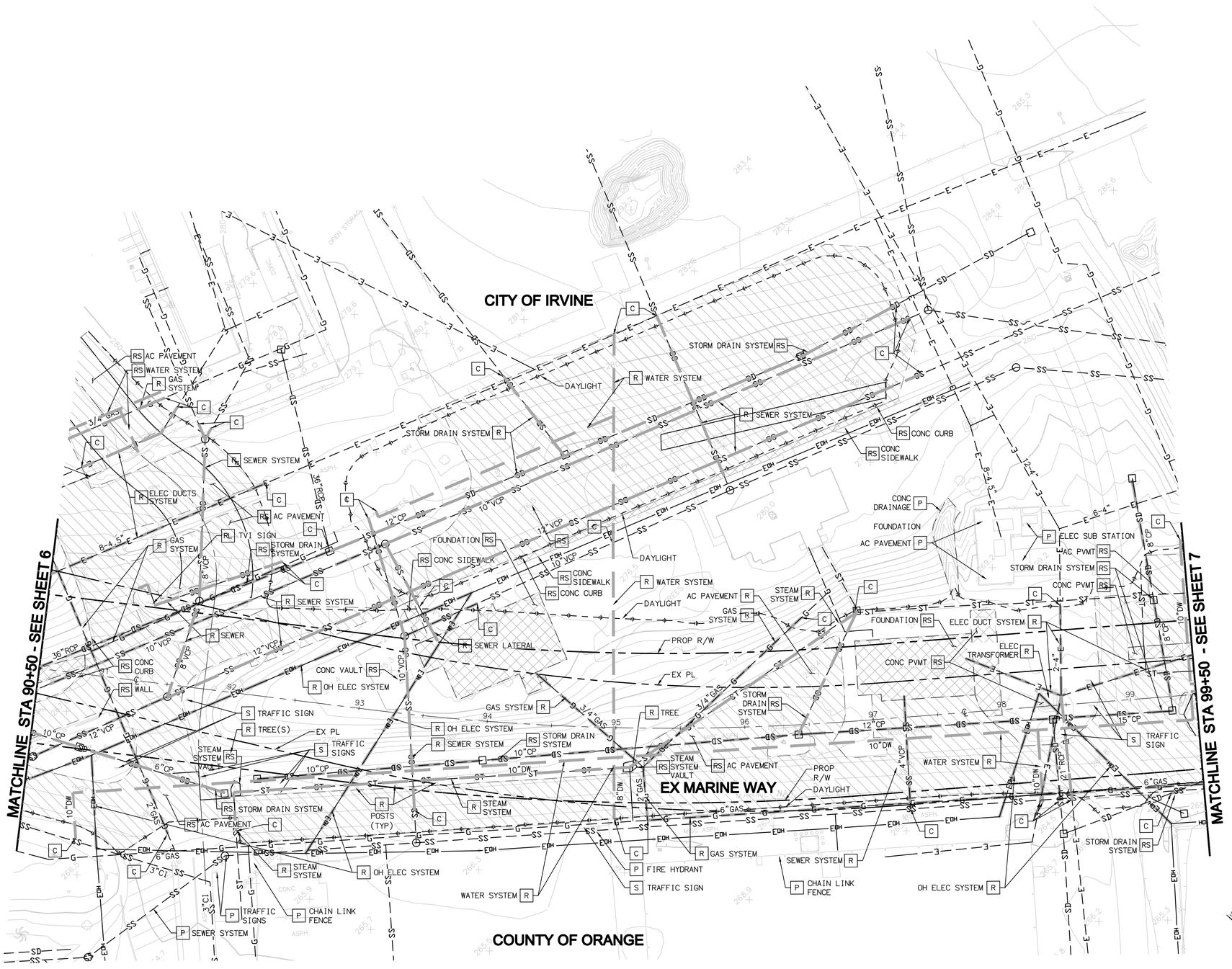
PLAN CHECK NO. –
PERMIT NO. –
PROJECT NO.
SHEET 28 OF 28

DEMOLITION NOTES

- C CAP PIPE END
- P PROTECT IN PLACE
- R REMOVE AND DISPOSE
- RL RELOCATE
- RS REMOVE AND SALVAGE
- S SALVAGE

SAWCUT AND REMOVE EX AC PAVEMENT

SAWCUT AND REMOVE EX CONC PAVEMENT



40 20 0 40 80 120

SCALE: 1"=40'

NOTE:
CONTRACTOR TO MAINTAIN/ALLOW OR PROVIDE ACCESS TO EXISTING PROPERTY OWNERS ALONG THE FRONTAGE ON MARINE WAY.

REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
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DRAWN BY: SR	DATE 4/18
DESIGNED BY: JCL	DATE 4/18
CHECKED BY: JCL	DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460

JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
DEMOLITION PLAN
FROM STA 81+30 TO STA 99+50

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 6A OF 28

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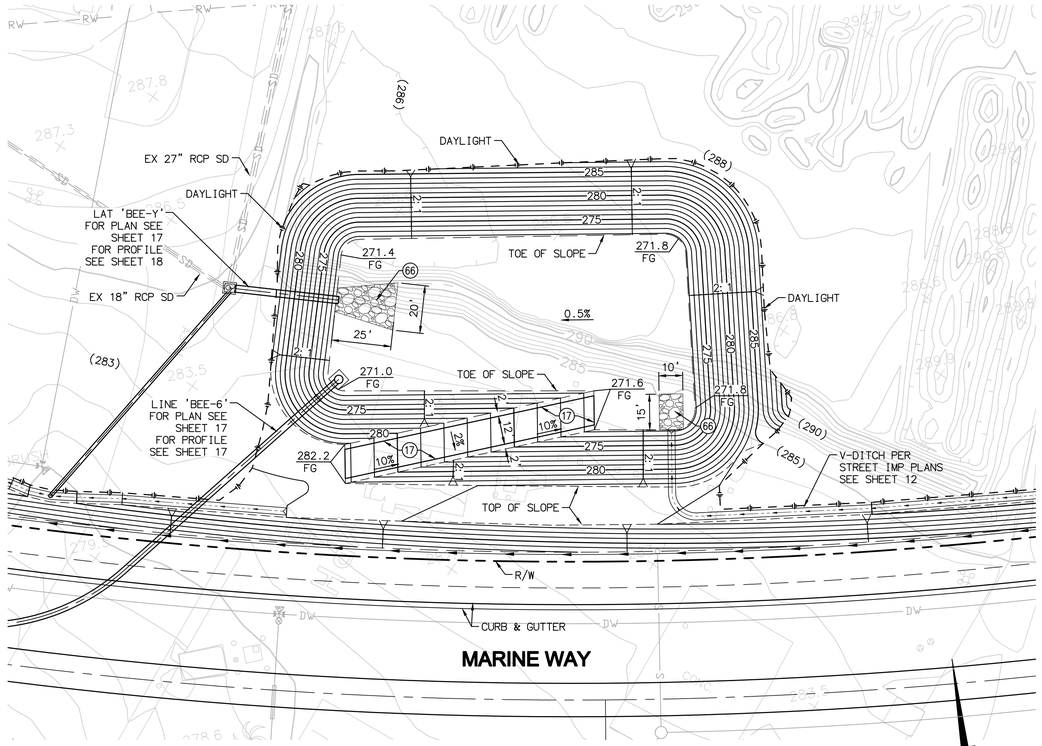
STREET CONSTRUCTION NOTES

(5) INSTALL WOOD HEADER PER DETAIL ON SHEET 9
(9) CONSTRUCT DRIVEWAY TYPE I PER CITY OF IRVINE STD. PLAN NO. 204 (WIDTH PER PLAN) X=4'
(10) CONSTRUCT DRIVEWAY TYPE II PER CITY OF IRVINE STD. PLAN NO. 205 (WIDTH PER PLAN)
(12) CONSTRUCT 8" AC CURB D1-8 PER SPPWC STD. PLAN 120-2 (SEE SHEET 23)
(17) CONSTRUCT 4" AC OVER 8" CMB DRIVEWAY ON COMPACTED NATIVE PER SOILS ENGINEER
(18) CONSTRUCT 4' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3
(19) CONSTRUCT 3' WIDE CONCRETE V-DITCH PER DETAIL ON SHEET 3

STORM DRAIN CONSTRUCTION NOTES

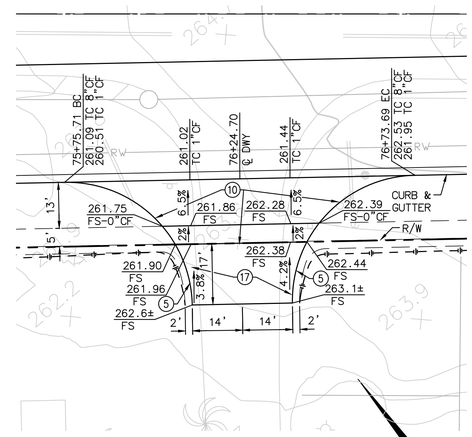
(50) CONSTRUCT HEADWALL PER CALTRANS STD D89 (SEE SHEET 23)
(66) INSTALL UNGROUTED RIP RAP PER DETAIL ON SHEET 15
(70) INSTALL 18" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318
(72) INSTALL 12" CSP (12 GAUGE) PER CITY OF IRVINE STD PLAN 318



DETENTION BASIN #4

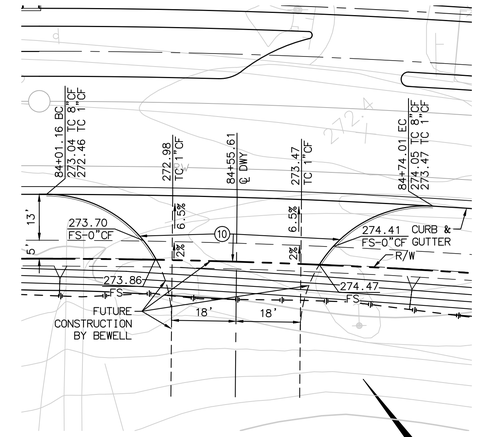
SCALE: 1"=30'

NOTE: SEE SHEET 7 FOR DEMOLITION
SEE SHEET 12 FOR STREET IMPROVEMENT
SEE SHEET 17 FOR STORM DRAIN IMPROVEMENT



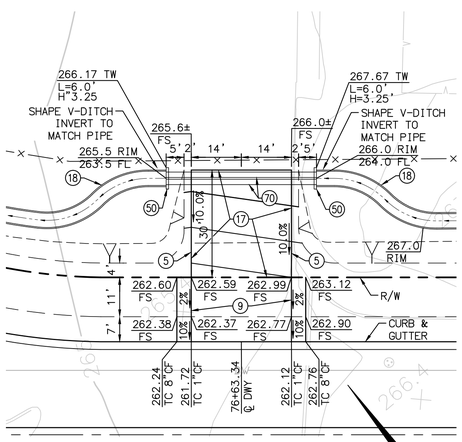
DRIVEWAY DETAIL STA 76+24.70

SCALE: 1"=20'



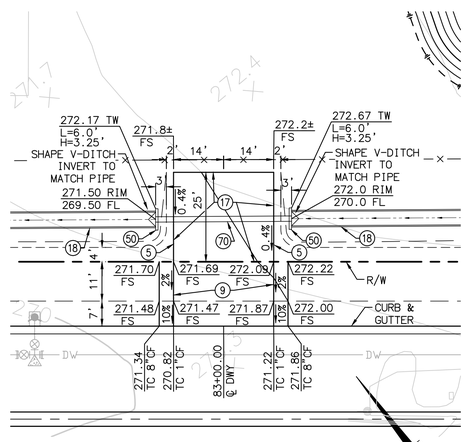
DRIVEWAY DETAIL STA 84+55.61

SCALE: 1"=20'



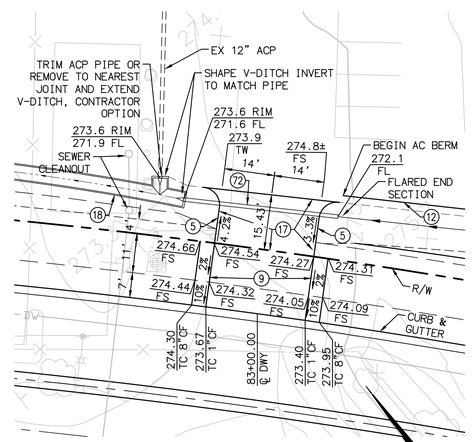
DRIVEWAY DETAIL STA 76+63.34

SCALE: 1"=20'



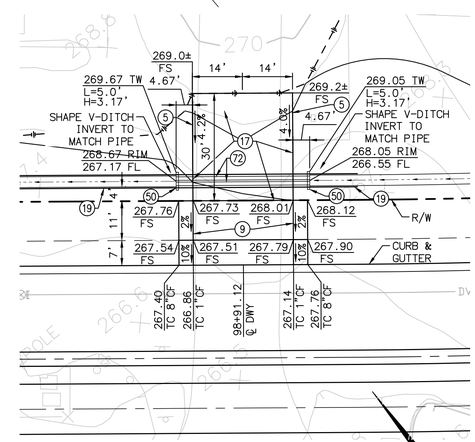
DRIVEWAY DETAIL STA 83+00.00

SCALE: 1"=20'



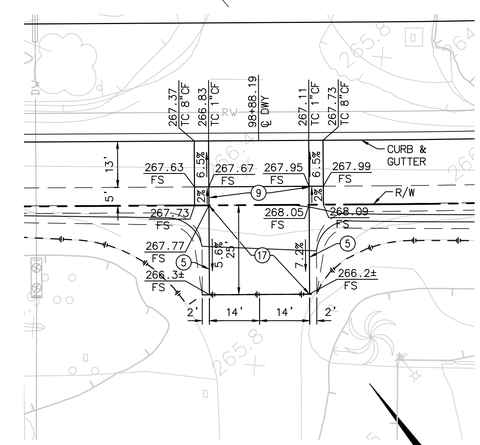
DRIVEWAY DETAIL STA 86+53.92

SCALE: 1"=20'



DRIVEWAY DETAIL STA 98+91.12

SCALE: 1"=20'



DRIVEWAY DETAIL STA 98+88.19

SCALE: 1"=20'

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
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REGISTERED PROFESSIONAL ENGINEER JEFFREY C. LANGDON NO. 42429 CIVIL STATE OF CALIFORNIA

DRAWN BY: SR DATE 4/18
DESIGNED BY: JCL DATE 4/18
CHECKED BY: JCL DATE 4/18

PLAN PREPARED BY:
PROACTIVE ENGINEERING CONSULTANTS
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610 (949) 716-7460
JEFFREY C. LANGDON R.C.E. 42429 DATE

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF
MARINE WAY
BASIN AND DRIVEWAY DETAILS

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00760917-EMC
PERMIT NO. 00766614-MCE
PROJECT NO. 20.059
SHEET 21 OF 28

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