
ATTACHMENT A.
IMPROVEMENT PLAN SET


GENERAL IMPROVEMENT NOTES

1. A PERMIT SHALL BE OBTAINED FROM THE CITY OF ENCINITAS DEVELOPMENT SERVICES DEPARTMENT FOR ANY WORK WITHIN THE STREET RIGHT-OF-WAY.
2. THE STRUCTURAL SECTION SHALL BE IN ACCORDANCE WITH THE CITY OF ENCINITAS' PUBLIC ROAD STANDARDS. 'R' VALUE TESTS SHALL BE REQUIRED PRIOR TO CONSTRUCTION.
3. APPROVAL OF THESE IMPROVEMENT PLANS AS SHOWN DOES NOT CONSTITUTE APPROVAL OF ANY CONSTRUCTION OUTSIDE THE PROJECT BOUNDARY.
4. ALL UNDERGROUND UTILITIES WITHIN THE STREET RIGHT-OF-WAY SHALL BE CONSTRUCTED, CONNECTED AND TESTED PRIOR TO CONSTRUCTION OF BERM, CURB, CROSS-GUTTER, AND PAVING.
5. THE EXISTENCE AND LOCATION OF EXISTING UNDERGROUND FACILITIES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO OTHER EXISTING FACILITIES EXCEPT AS SHOWN ON THESE PLANS. HOWEVER, THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT ANY EXISTING FACILITY SHOWN HEREON AND ANY WHICH IS NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
6. THE LOCATION AND ELEVATION OF IMPROVEMENTS TO BE JOINED BY WORK PROPOSED HEREON SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO CONSTRUCTION OF NEW WORK. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND LOCATE ALL EXISTING UNDERGROUND FACILITIES PRIOR TO THE START OF ANY WORK. SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS, TO PLANS IF REVISIONS ARE NECESSARY BECAUSE OF ACTUAL LOCATION OF EXISTING FACILITIES.
7. THE CONTRACTOR SHALL REQUEST MARK-OUT OF EXISTING UNDERGROUND UTILITIES BY CALLING UNDERGROUND SERVICE ALERT AT 1-800-422-4133 AT LEAST THREE DAYS PRIOR TO ANY CONSTRUCTION.
8. a) THE CONTRACTOR SHALL NOTIFY THE SAN DIEGO GAS & ELECTRIC COMPANY PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE HIS WORK WITH COMPANY REPRESENTATIVES.
- NOTICE: ALL GAS SERVICES WITHIN THIS PROJECT ARE "UNDERGROUND INSTALLATIONS". FOR LOCATION OF ELECTRICAL CABLES AND GAS PIPING AND APPURTENANCES CONTACT THE SAN DIEGO GAS & ELECTRIC COMPANY. TELEPHONE: (800) 422-4133
- b) THE CONTRACTOR SHALL NOTIFY THE AT&T TELEPHONE COMPANY PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE WITH COMPANY REPRESENTATIVES. TELEPHONE: (858) 886-2863
- c) THE CONTRACTOR SHALL NOTIFY THE SAN DIEGUITO WATER DISTRICT PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE WITH COMPANY REPRESENTATIVES. NOTICE: FOR THE LOCATION OF WATER DISTRICT FACILITIES WITHIN THE PROJECT AREA. TELEPHONE: (760) 633-2709.
- d) THE CONTRACTOR SHALL NOTIFY COX CABLE TELEVISION COMPANY PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE WITH COMPANY REPRESENTATIVES. NOTICE: FOR LOCATION OF CABLES AND APPURTENANCES CONTACT COX CABLE TELEVISION COMPANY. TELEPHONE: (800) 422-4133
9. THE CONTRACTOR SHALL REQUEST FROM THE DEVELOPMENT SERVICES DEPARTMENT A PRE-CONSTRUCTION MEETING AND SHALL PROVIDE AT LEAST 48 HOURS OF NOTICE FOR SUCH A MEETING. PHONE: (760) 633-2770.
10. THE CONTRACTOR SHALL BE RESPONSIBLE THAT ANY MONUMENT OR BENCH MARK WHICH IS DISTURBED OR DESTROYED SHALL BE RE-ESTABLISHED AND REPLACE BY A REGISTERED CIVIL ENGINEER OR A LICENSED LAND SURVEYOR.
11. CONTRACTOR SHALL RELOCATE ALL INTERFERING TRAFFIC SIGNS AS DIRECTED BY THE CITY INSPECTOR.
12. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, THE SAN DIEGO STANDARD SPECIAL PROVISIONS TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (ADOPTED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE), THE SAN DIEGO REGIONAL STANDARD DRAWINGS, CALTRANS STANDARD PLANS AND STANDARD SPECIFICATIONS, AND THE SPECIAL PROVISIONS FOR THIS PROJECT.
13. IN CASE EMERGENCY WORK IS REQUIRED, CONTACT PUBLIC WORKS AT: (760) 633-2924, LINE OPEN 24 HOURS/DAY.
14. CONTRACTOR SHALL PROVIDE A 24 HOUR TELEPHONE NUMBER AND NAME OF PERSON RESPONSIBLE FOR EMERGENCY WORK.
15. CULTURAL RESOURCE MITIGATION MONITORING PROGRAM SHALL BE CONDUCTED TO PROVIDE FOR THE IDENTIFICATION, EVALUATION, TREATMENT, AND PROTECTION OF ANY CULTURAL RESOURCES THAT ARE AFFECTED BY OR MAY BE DISCOVERED DURING PROJECT CONSTRUCTION. THE MONITORING SHALL CONSIST OF THE FULL TIME PRESENCE OF A QUALIFIED ARCHAEOLOGIST AND A TRADITIONALLY AND CULTURALLY AFFILIATED (TCA) NATIVE AMERICAN MONITOR (SAN LUIS REY BAND OF MISSION INDIANS) WHO SHALL BE RETAINED TO MONITOR ALL GROUND-DISTURBING ACTIVITIES ASSOCIATED WITH PROJECT CONSTRUCTION, INCLUDING VEGETATION REMOVAL, CLEARING, GRADING, TRENCHING, EXCAVATION, OR OTHER ACTIVITIES THAT MAY DISTURB ORIGINAL (PRE-PROJECT) GROUND, INCLUDING THE PLACEMENT OF IMPORTED FILL MATERIALS AND RELATED ROADWAY IMPROVEMENTS (I.E. FOR ACCESS).

STATEMENT OF ENGINEER OF WORK

THE UNDERSIGNED ENGINEER AGREES THAT THE WORK PERFORMED BY THE ENGINEER SHALL COMPLY WITH THE GENERALLY ACCEPTED STANDARDS AND PRACTICES OF THE ENGINEER'S TRADE OR PROFESSION. THE ENGINEER FURTHER AGREES THAT THE WORK PERFORMED HEREIN SHALL BE IN ACCORDANCE WITH THE RULES AND REGULATIONS REQUIRED BY THE CITY OF ENCINITAS, TO THE EXTENT THAT THE ENGINEER CONTROLS SUCH PERFORMANCE. THE ENGINEER AGREES THAT ANY PLANCHECK OR REVIEW PERFORMED BY THE CITY OF ENCINITAS IN ITS CAPACITY AS A PUBLIC ENTITY FOR THE PLANS PREPARED BY THE ENGINEER IS NOT A DETERMINATION BY THE CITY OF ENCINITAS OF THE TECHNICAL SUFFICIENCY OR ADEQUACY OF THE PLANS OR DESIGN AND IT THEREFORE DOES NOT RELIEVE THE ENGINEER OF RESPONSIBILITY FOR THE PLANS OR DESIGN OF IMPROVEMENTS BASED THEREON. THE ENGINEER AGREES TO INDEMNIFY AND HOLD HARMLESS THE CITY OF ENCINITAS AND ITS OFFICERS, AGENTS, AND EMPLOYEES FROM PROPERTY DAMAGE OR BODILY INJURY ARISING SOLELY FROM THE NEGLIGENT ACTS, ERRORS, OR OMISSIONS OF THE ENGINEER AND HIS/HER AGENTS OR EMPLOYEES ACTING WITHIN THE COURSE AND SCOPE OF SUCH AGENCY AND EMPLOYMENT AND ARISING OUT OF THE WORK PERFORMED BY THE ENGINEER.

BY: JOANNE S TYLER, RCE 59286 DATE

Underground Service Alert	SAN DIEGUITO WATER DISTRICT	LEUCADIA WASTEWATER DISTRICT
	REVIEWED BY:	PUBLIC SEWER SYSTEM APPROVAL
CALL BEFORE YOU DIG CALL TOLL FREE 1-800-422-4133	C33692	APPROVED BY: LWD DISTRICT ENGINEER
TWO WORKING DAYS BEFORE YOU DIG	Dexter S. Wilson, PE	DATE
	Dexter Wilson Engineering, Inc.	6/30/2024
	FIRM	EXP. DATE

REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK
					THE BASIS OF ELEVATIONS FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) PER RECORD OF SURVEY 18416 (CITY OF ENCINITAS SURVEY CONTROL). BENCHMARK DESIGNATION: POINT NUMBER 1004/ENC-4
					ELEVATION: 67.639 (NAVD88)

PLANS FOR THE CONSTRUCTION OF
NORTH COAST HIGHWAY 101
LEUCADIA STREETSCAPE DRAINAGE
PROJECT NO. CD23A
IN THE
CITY OF ENCINITAS

STORM WATER POLLUTION PREVENTION NOTES

1. THE DAMAGE OR REMOVAL OF NON-INVASIVE VEGETATION (INCLUDING TREES, NATIVE VEGETATION, AND ROOT STRUCTURES) DURING CONSTRUCTION SHALL BE MINIMIZED. TO ACHIEVE WATER QUALITY BENEFITS SUCH AS TRANSPIRATION, VEGETATIVE INTERCEPTION, POLLUTANT UPTAKE, SHADING OF WATERWAYS, AND EROSION CONTROL.
2. SOIL COMPACTION DUE TO CONSTRUCTION ACTIVITIES SHALL BE MINIMIZED, TO RETAIN THE NATURAL STORM WATER INFILTRATION CAPACITY OF THE SOIL.
3. THE USE OF TEMPORARY EROSION AND SEDIMENT CONTROL PRODUCTS (SUCH AS FIBER ROLLS, EROSION CONTROL BLANKETS, MULCH CONTROL NETTING, AND SILT FENCES) THAT INCORPORATE PLASTIC NETTING (SUCH AS POLYPROPYLENE, NYLON, POLYETHYLENE, POLYESTER, OR OTHER SYNTHETIC FIBERS) SHALL BE AVOIDED TO MINIMIZE WILDLIFE ENTANGLEMENT AND PLASTIC DEBRIS POLLUTION.
4. STAGING AND STORAGE OF CONSTRUCTION EQUIPMENT AND MATERIALS SHALL OCCUR IN INLAND AREAS AT LEAST 50 FEET FROM COASTAL WATERS, DRAINAGE COURSES, AND STORM DRAIN INLETS, IF FEASIBLE. UPON SHOWING OF INFEASIBILITY, THE APPLICANT MAY SUBMIT A REQUEST FOR REVIEW AND WRITTEN APPROVAL TO THE EXECUTIVE DIRECTOR FOR STAGING AND STORAGE OF CONSTRUCTION EQUIPMENT AND MATERIALS CLOSER THAN 50 FEET FROM COASTAL WATER, DRAINAGE COURSES, AND STORM DRAIN INLETS. CONSTRUCTION IS PROHIBITED OUTSIDE OF THE DEFINED CONSTRUCTION, STAGING, AND STORAGE AREAS.

BASIS OF COORDINATES

THE COORDINATES AND BEARINGS SHOWN HEREON ARE BASED UPON THE CALIFORNIA COORDINATE SYSTEM OF 1983, (CCS83), ZONE 6, (CSRS EPOCH 2009.00). SAID COORDINATES AND BEARINGS ARE BASED LOCALLY UPON GLOBAL POSITIONING SYSTEM TIES TO THE FOLLOWING CONTINUOUS OPERATING REFERENCE STATIONS (CORS) AS PUBLISHED BY THE NATIONAL GEODETIC SURVEY (NGS). PUBLISHED POSITIONS FOR SAID STATIONS ARE BASED UPON THE NORTH AMERICAN DATUM OF 1983. (NAD83)

STATION	NORTHING (ft.)	EASTING (ft.)
P478	2030380.574	6310453.304
DSME	1958366.104	6255349.651

THE BASIS OF BEARINGS IS THE CALCULATED BEARING BETWEEN SAID CORS DSME & P478. I.E. N37°25'20"W

DISTANCES SHOWN HEREON ARE GROUND AND IN TERMS OF THE U.S. SURVEY FOOT. CONTROL POINT 100: GRID DISTANCE = GROUND DISTANCE X COMBINED SCALE FACTOR (0.99996699)

STATEMENT OF SOILS ENGINEER

I, _____ A REGISTERED CIVIL ENGINEER IN THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOIL MECHANICS, HEREBY CERTIFY THAT A SAMPLING AND STUDY OF THE SOIL CONDITIONS PREVALENT WITHIN THIS SITE WAS MADE BY ME OR UNDER MY DIRECTION ON _____ AND FOR AN UPDATE ON _____ ONE COMPLETE COPY OF THE SOILS REPORT COMPILED FROM THIS STUDY, WITH MY RECOMMENDATIONS, HAS BEEN SUBMITTED TO THE OFFICE OF THE CITY ENGINEER. FURTHERMORE, I HAVE REVIEWED THESE GRADING PLANS AND CERTIFY THAT THE RECOMMENDATIONS INCLUDED IN THE SOILS REPORT FOR THIS PROJECT HAVE BEEN INCORPORATED IN THE GRADING PLANS AND SPECIFICATIONS.

SIGNED: _____

RCE NO.: _____

EXP. DATE: _____

JOB #: _____

TETRA TECH
21700 COPLEY DRIVE SUITE 200
DIAMOND BAR, CALIFORNIA 91765
909-860-7777

SOURCE OF TOPOGRAPHY

TOPOGRAPHIC INFORMATION DEPICTED HEREON IS PER MOBILE LIDAR SCANNING PERFORMED BY MICHAEL BAKER INTERNATIONAL IN NOVEMBER OF 2013 AND SUPPLEMENTED WITH CONVENTIONAL TOTAL STATION SURVEY INFORMATION GATHERED BY MICHAEL BAKER INTERNATIONAL FROM MAY OF 2017 THROUGH JUNE OF 2019.

EARTHWORK QUANTITIES

- CUT: _____ CY
- FILL: _____ CY
- NET FILL FOR IMPORT: _____ CY
- REMEDIAL: _____ CY
- NOTES:
1. THESE QUANTITIES ARE FOR BONDING PURPOSES ONLY AND ASSUME NO SHRINKAGE. CONTRACTOR TO VERIFY TO HIS SATISFACTION.
2. CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL FROM CITY FOR HAUL ROUTES PRIOR TO HAULING DIRT OR CONSTRUCTION MATERIALS TO OR FROM THE SITE.
3. LIMITS OF REMEDIAL GRADING PER GEOTECHNICAL REPORT ENTITLED "GEOTECHNICAL ASSESSMENT REPORT HIGHWAY 101 STREETSCAPE PROJECT" DATED 6/14/19. TO BE VERIFIED IN FIELD BY GEOTECHNICAL ENGINEER.

SHEET INDEX

SHEET	DESCRIPTION
1	TITLE SHEET
2	INDEX MAP & DETAILS
3-4	GENERAL NOTES
5-13	STORM DRAIN & WATER PLAN
14-15	STORM DRAIN PROFILE
16-17	DOMESTIC WATER PROFILE
18-25	TRAFFIC CONTROL PLANS

MONUMENT PRESERVATION NOTE

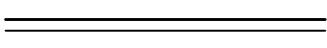
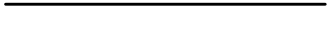

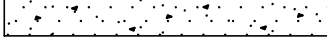
















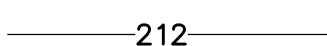

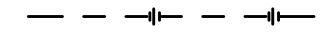
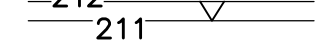
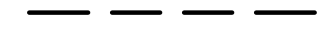




















THE SURVEY MONUMENTS SHOWN ON THE MONUMENT PRESERVATION SHEET ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY ALL SURVEY MONUMENTS WITHIN THE BOUNDS OF THE PROJECT. ALL SURVEY MONUMENTS SHALL BE PRESERVED OR RESET BY A LICENSED LAND SURVEYOR.

FOR SURVEY MONUMENTS IDENTIFIED TO BE DESTROYED/DAMAGED DURING CONSTRUCTION, A PRE-CONSTRUCTION RECORD OF SURVEY OR CORNER RECORD SHALL BE PREPARED TO DOCUMENT THESE POINTS AND A POST-CONSTRUCTION RECORD OF SURVEY OR CORNER RECORD SHALL BE PREPARED TO FACILITATE THEIR REPLACEMENT (AS REQUIRED BY THE PROFESSIONAL LAND SURVEYORS ACT - SECTION 8771 OF THE BUSINESS AND PROFESSIONS CODE OF THE STATE OF CALIFORNIA).

WORK TO BE DONE

- THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING DOCUMENTS:
- 2018 SAN DIEGO AREA REGIONAL STANDARD DRAWINGS
 - 2021 STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREEN BOOK")
 - STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARDS PLANS
 - STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATIONS
 - MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
 - STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL TO MUTCD

LEGEND

ITEM	STANDARD DWG	SYMBOL
6" CURB & GUTTER	SDRSD G-2	
8" MEDIAN CURB	SDRSD G-6	
EXISTING MEDIAN CURB		
CONCRETE SIDEWALK (NEUTRAL COLOR, REFER TO LANDSCAPE PLANS)	SDRSD G-7	
AC PAVEMENT OVER CLASS II AB (SEE GEOTECHNICAL REPORT FOR PAVEMENT OPTIONS)		
2" AC GRIND & OVERLAY		
CURB RAMP W/ TRUNCATED DOMES	SDRSD G-27,28-32	
EXISTING DRIVEWAY		
PROPOSED DRIVEWAY	SDRSD G-14	
6" PVC STORM DRAIN		
RCP STORM DRAIN		
24"x24" GRATE INLET	DETAIL ON SHEET 6	
STORM DRAIN CLEANOUT	DETAIL ON SHEET 6	
CURB INLET - TYPE A	SDRSD D-1	
CURB INLET - TYPE B	SDRSD D-2	
CURB INLET - TYPE C	SDRSD D-3A	
STORM DRAIN CLEANOUT - TYPE A	SDRSD D-9	
CATCH BASIN - TYPE F	SDRSD D-7	
CATCH BASIN - TYPE G	SDRSD D-8	
RELOCATED FIRE HYDRANT	WAS WF-01	
RELOCATED WATER METER	WAS WS-02	
PROPOSED RETAINING WALL	SDRSD C-04	
PROPOSED CONTOUR		
EXISTING CONTOUR		
DAYLIGHT LINE		
2: 1 PROPOSED SLOPE		
NCTD LIMIT LINE		
EXISTING PROPERTY LINE		
STREET CENTERLINE		
EXISTING RIGHT OF WAY LINE		
EXISTING CONCRETE		
EXISTING EDGE OF PAVEMENT		
EXISTING WALL		
EXISTING FENCE		
EXISTING WATER VALVE		
EXISTING FIRE HYDRANT		
EXISTING WATER METER		
EXISTING SEWER MANHOLE		
EXISTING SIGN		
EXISTING TREE TO REMAIN		
TREE PROTECTION ZONE - SEE NOTE 5 ON SHEET 5		
EXISTING TREE TO BE REMOVED		
EXISTING LIGHT		
PROPOSED STREET LIGHT POLE		
POTHOLE OR BORING		

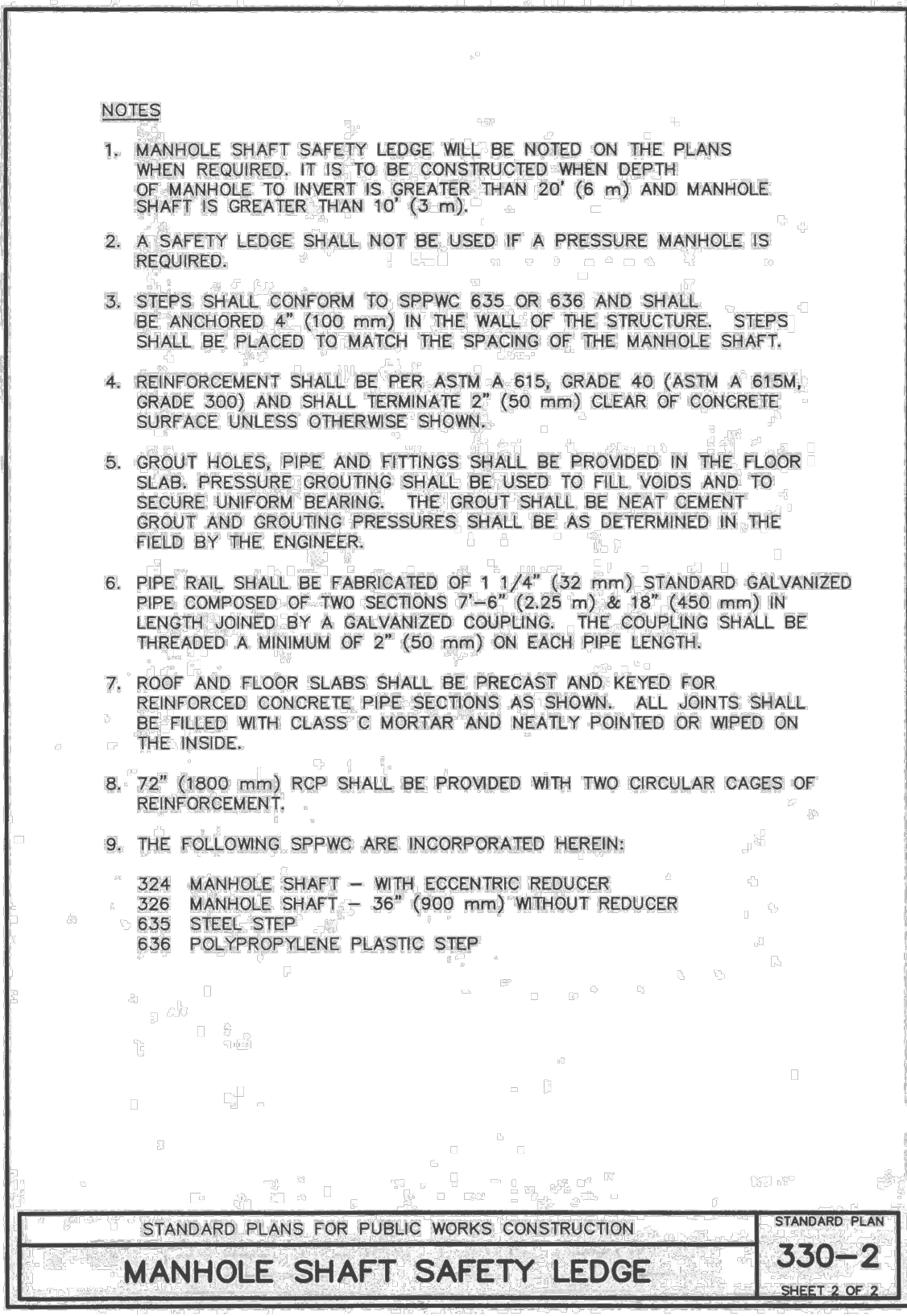
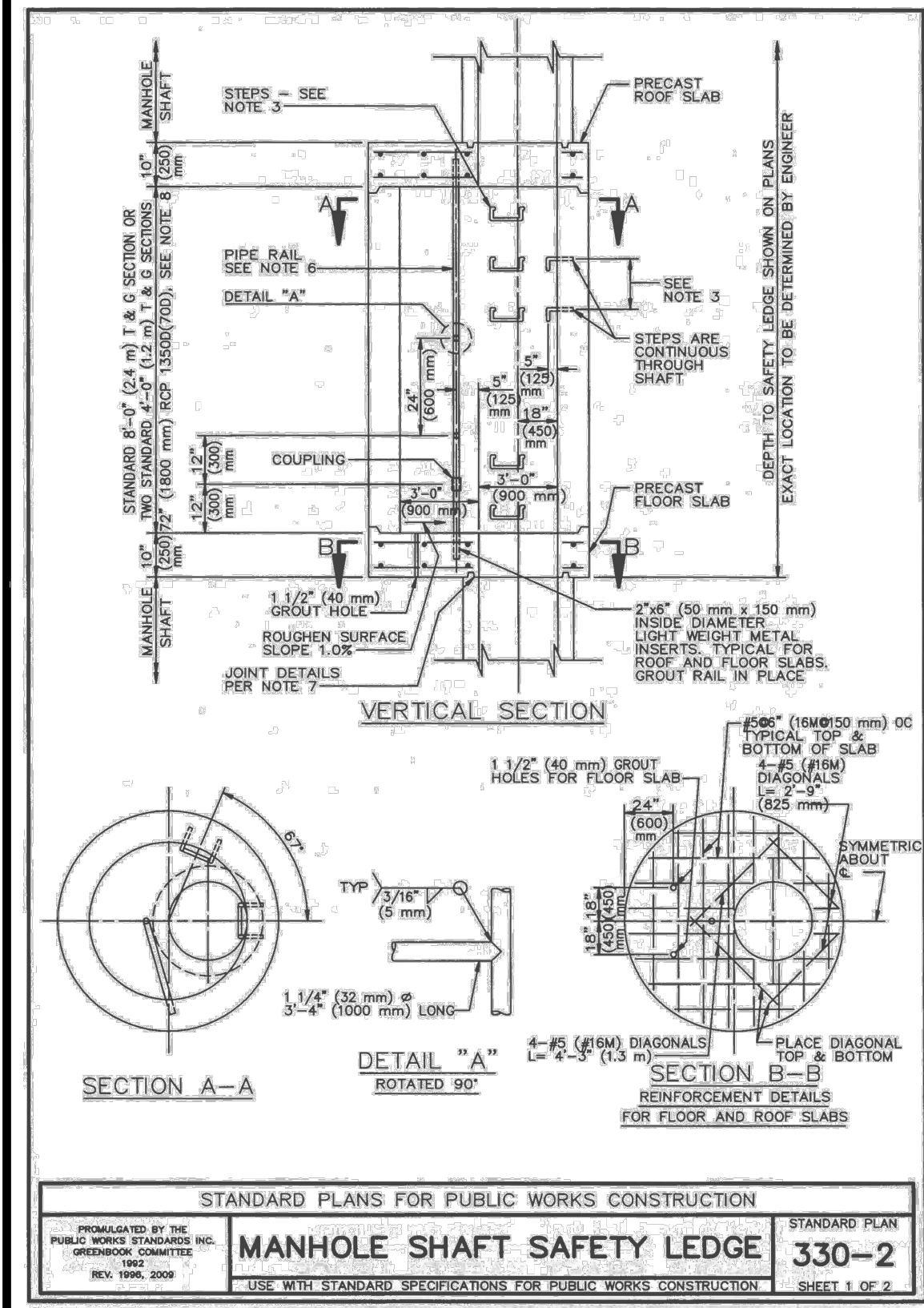
CAUTION!
CONTRACTOR TO VERIFY THE EXACT LOCATION OF EXISTING UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION.

Michael Baker
INTERNATIONAL

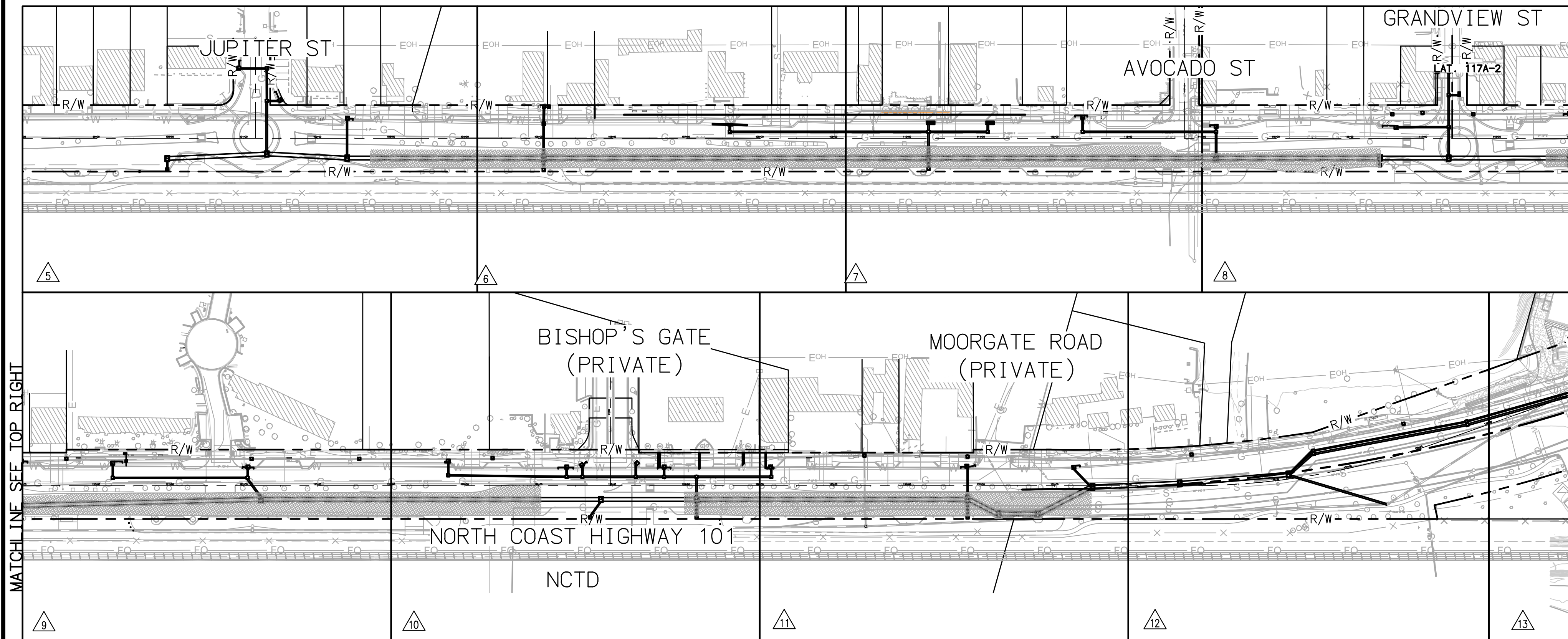
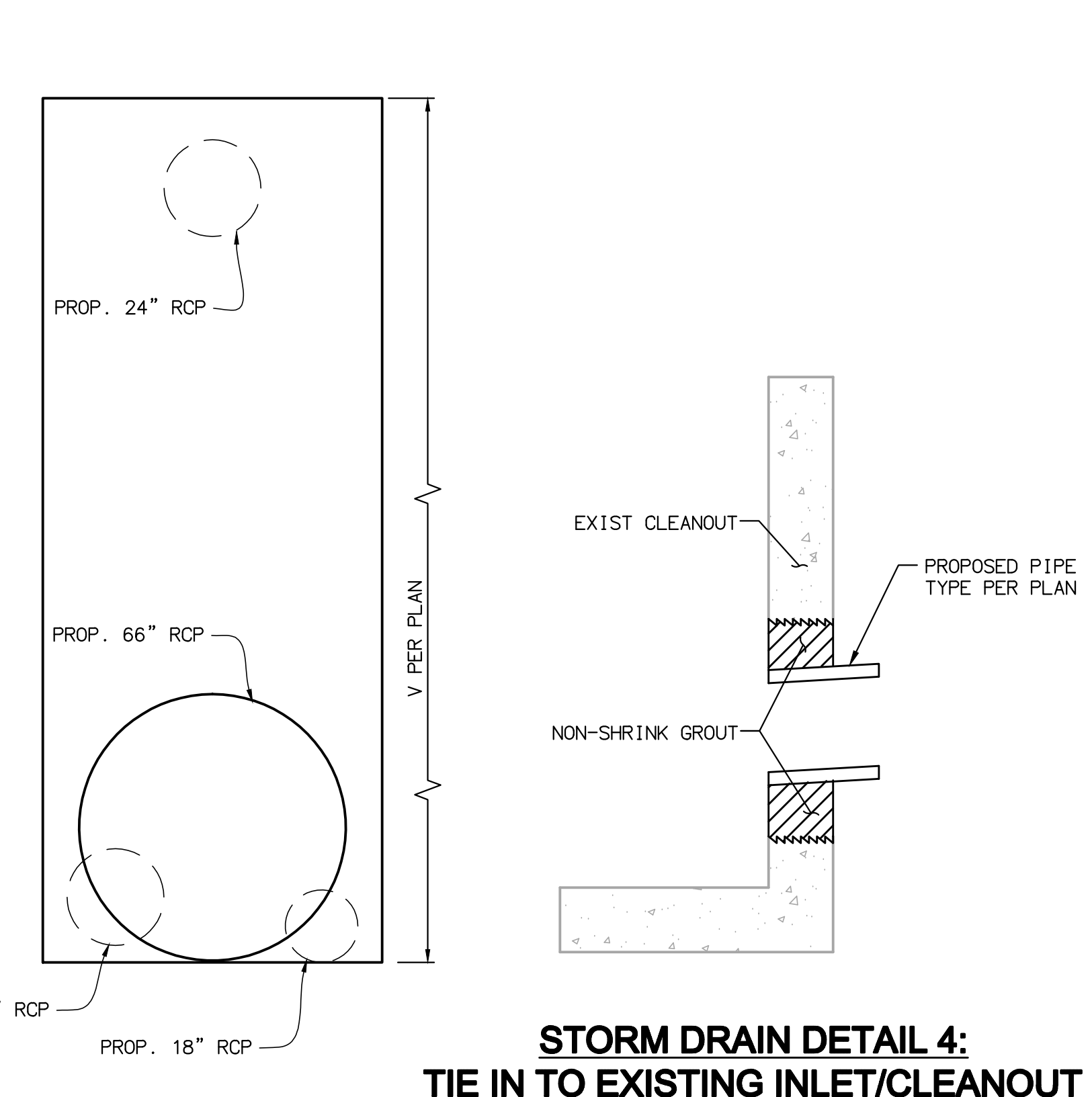
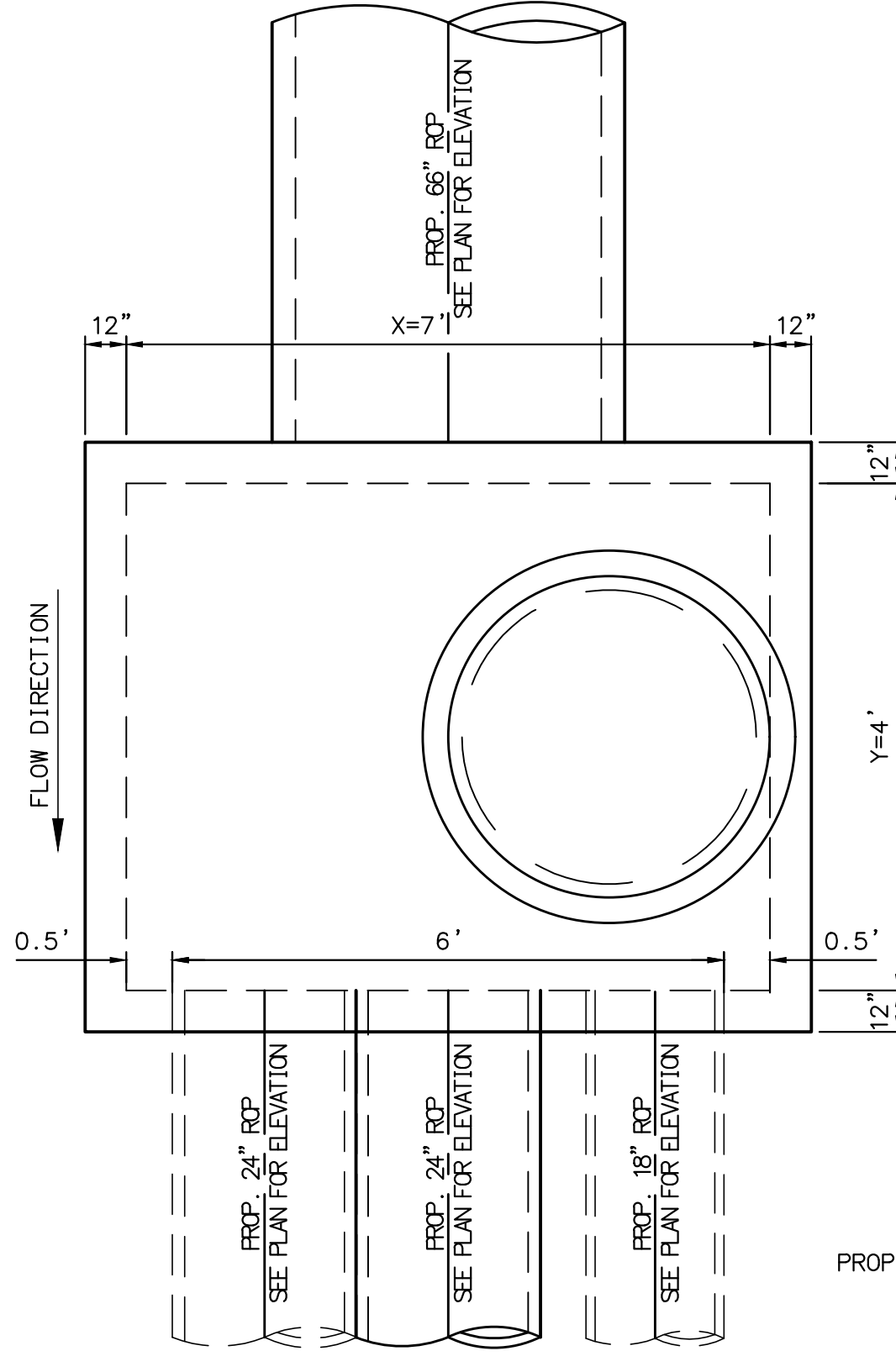
5050 Avenida Encinas
Suite 260
Carlsbad, CA 92008
Phone: (760) 476-9193
MBAKERINTL.COM



REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT	APPROVALS	CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
					THE BASIS OF ELEVATIONS FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) PER RECORD OF SURVEY 18416 (CITY OF ENCINITAS SURVEY CONTROL). BENCHMARK DESIGNATION: POINT NUMBER 1004/ENC-4	HORIZONTAL AS SHOWN		PLANS PREPARED UNDER SUPERVISION OF	TITLE SHEET FOR:	SI-144
					ELEVATION: 67.639 (NAVD88)	VERTICAL AS SHOWN		ENGINEER: JOANNE S. TYLER DATE: _____ R.C.E. NO. 59286	NORTH COAST HIGHWAY 101 LEUCADIA STREETSCAPE DRAINAGE	SHEET 1 OF 25
								RECOMMENDED BY: ABRAHAM BANDEGAN DATE: _____ APPROVED BY: JILL BANKSTON DATE: _____	CIP PROJECT NO. CD23A	



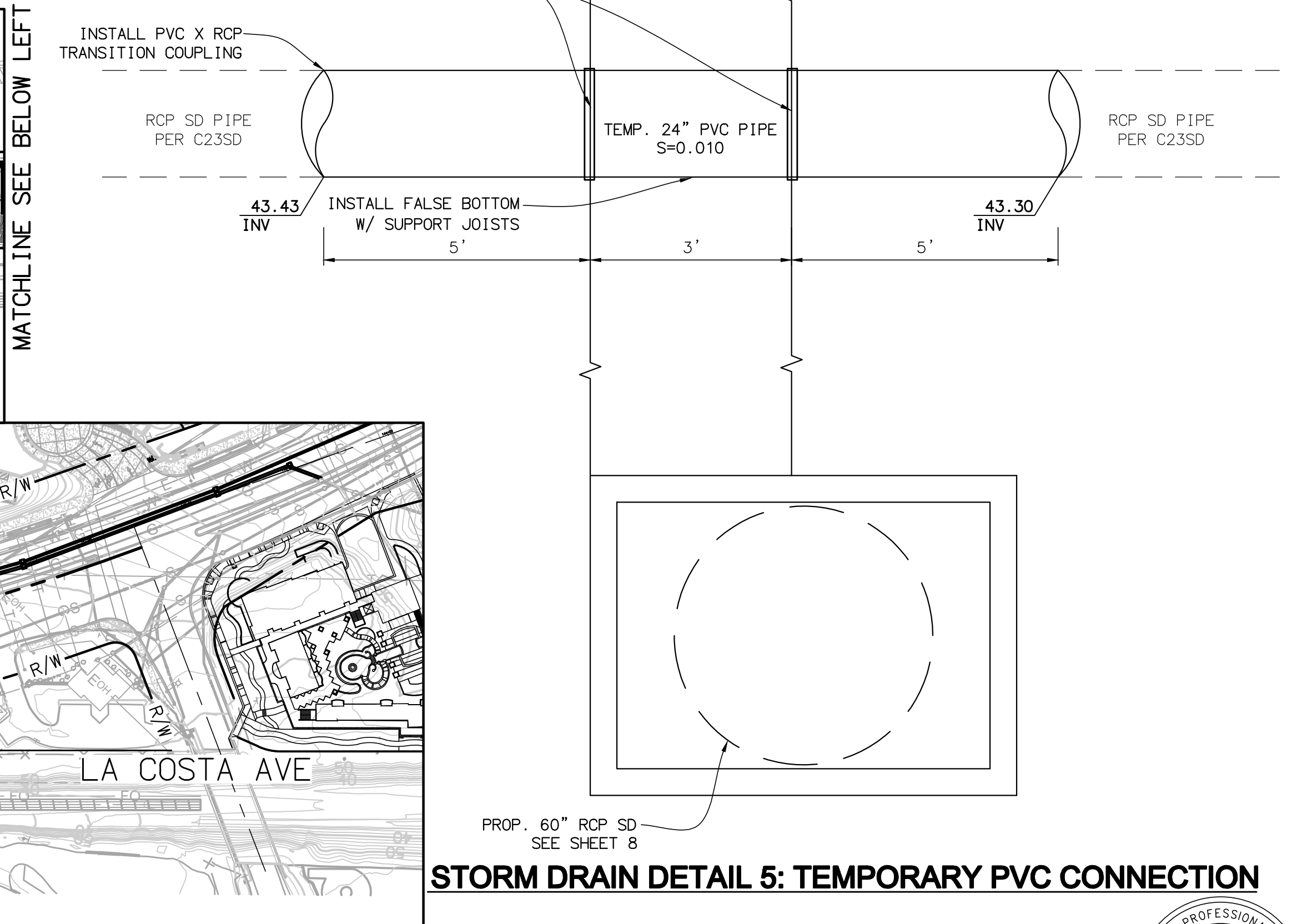
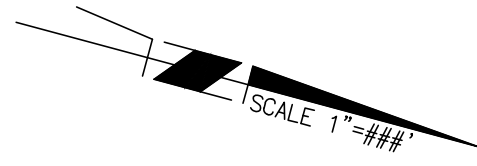
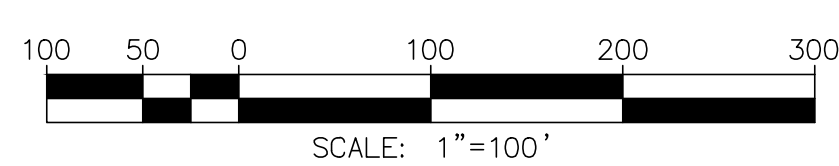
BOX SECTION REINFORCEMENT (HORIZONTAL AND FLOOR)			
MAXIMUM SPAN X OR Y	DEPTH V	THICKNESS T	HORIZONTAL AND FLOOR REINFORCEMENT SIZE AND SPACING
3'-0" TO 4'-0"	4'	6"	#4 @ 18"
4'-1" TO 7'-0"			#4 @ 12"
7'-1" TO 8'-0"			#4 @ 8"
3'-0" TO 4'-0"	4'-1" TO 8'	6"	#4 @ 18"
4'-1" TO 5'-0"			#4 @ 12"
5'-1" TO 6'-0"			#4 @ 8"
6'-1" TO 8'-0"	8'-1" TO 12'	6"	#4 @ 6"
3'-0" TO 4'-0"			#4 @ 15"
4'-1" TO 5'-0"			#4 @ 12"
5'-1" TO 6'-0"	12'-1" TO 16'	8"	#4 @ 8"
6'-1" TO 7'-0"			#4 @ 6"
7'-1" TO 8'-0"			#5 @ 8"
3'-0" TO 4'-0"	16'-1" TO 20'	8"	#4 @ 12"
4'-1" TO 5'-0"			#4 @ 12"
5'-1" TO 6'-0"			#4 @ 8"
6'-1" TO 7'-0"	20'-1" TO 24'	10"	#4 @ 8"
7'-1" TO 8'-0"			#5 @ 8"
3'-0" TO 4'-0"	24'-1" TO 32'	10"	#4 @ 12"
4'-1" TO 5'-0"			#4 @ 12"
5'-1" TO 6'-0"			#4 @ 8"
6'-1" TO 7'-0"	7'-1" TO 8'	12"	#5 @ 8"
7'-1" TO 8'			#5 @ 8"



INDEX MAP LEGEND

STORM DRAIN AND WATER PLAN SHEET NUMBER

INDEX MAP



REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT	APPROVALS	CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
					THE BASIS OF ELEVATIONS FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) PER RECORD OF SURVEY 18416 (CITY OF ENCINITAS SURVEY CONTROL). BENCHMARK DESIGNATION: POINT NUMBER 1004/ENC-4 ELEVATION: 67.639 (NAVD88)	HORIZONTAL AS SHOWN VERTICAL AS SHOWN	PLANS PREPARED UNDER SUPERVISION OF ENGINEER: JOANNE S. TYLER R.C.E. NO. 59286	RECOMMENDED BY: ABRAHAM BANDEGAN DATE: _____ APPROVED BY: JILL BANKSTON DATE: _____	INDEX MAP & DETAILS FOR: NORTH COAST HIGHWAY 101 LEUCADIA STREETSCAPE DRAINAGE CIP PROJECT NO. CD23A	SI-144 SHEET 2 OF 25



GENERAL STRIPING NOTES

1. ALL PAVEMENT MARKINGS (INCLUDING BUT NOT LIMITED TO LIMIT LINES, ARROWS, CROSSWALK LINES, PAVEMENT LETTERING AND ARTERIAL STRIPING INCLUDING CENTERLINE, LANE LINES AND EDGE LINES) SHALL CONFORM TO THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA MUTCD, 2014 EDITION), CALTRANS STANDARD PLANS AND SPECIFICATIONS, AND THESE PLANS.
2. THE CONTRACTOR SHALL RESTORE OR REPLACE ALL EXISTING IMPROVEMENTS DISTURBED DURING CONSTRUCTION INCLUDING, BUT NOT LIMITED TO STREET STRIPING, RAISED PAVEMENT MARKERS, LANDSCAPING, AND SIGNS
3. ALL ROADWAY STRIPING SHALL BE REFLECTIVE PER CALTRANS SPECIFICATIONS.
4. THINNER SHALL NOT BE MIXED WITH PAINT. PAINT SHALL DRY "TRACK FREE" IN NOT LESS THAN 30 MINUTES AND NOT MORE THAN 90 MINUTES.
5. ALL PAINTED PAVEMENT MARKINGS SHALL BE CLEAN AND SHARP AS TO DIMENSIONS. RAGGED ENDS OF SEGMENTS, FOGGINESS ALONG THE SIDES, OR OBJECTIONABLE ALONG THE UNPAINTED PORTIONS OF THE PAVEMENT MARKING SHALL NOT BE PERMITTED.
6. THE PAINTED PAVEMENT MARKINGS SHALL HAVE AN OPAQUE, WELL-PAINTED APPEARANCE WITH NO BLACK OR DISCOLORATIONS SHOWING THROUGH.
7. WORDS, SYMBOLS, AND TRAFFIC STRIPPING SHALL CONFORM TO THE APPLICABLE SHAPE, SIZE, AND COLORS AS OUTLINED IN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION TRAFFIC MANUAL.
8. FIRE HYDRANTS SHALL BE MARKED WITH A TYPE BB: TWO WAY BLUE REFLECTIVE (HIGH INTENSITY) RAISED PAVEMENT MARKER PLACED 6' FROM STREET/DRIVE AISLE CENTERLINE PERPENDICULAR TO THE HYDRANT.
9. ALL PAVEMENT LEGENDS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE.

GENERAL SIGNING NOTES

1. SIGNING SHALL CONFORM TO THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA MUTCD, 2014 EDITION), CALTRANS STANDARD PLANS AND SPECIFICATIONS, AND THESE PLANS.
2. THE CONTRACTOR SHALL RESTORE OR REPLACE ALL EXISTING IMPROVEMENTS DISTURBED DURING CONSTRUCTION INCLUDING, BUT NOT LIMITED TO STREET STRIPING, RAISED PAVEMENT MARKERS, LANDSCAPING, AND SIGNS.
3. SIGN STRUCTURES AND ROADSIDE SIGNS SHALL BE AS SPECIFIED IN SECTION 56 OF THE STATE STANDARD SPECIFICATIONS EXCEPT AS HEREIN MODIFIED.
4. STREET NAME SIGNS SHALL BE PER CA MUTCD SPECIFICATIONS.
5. ALL SIGNS SHALL BE REFLECTIVE PER CA MUTCD SPECIFICATIONS.
6. ALL REGULATORY AND WARNING SIGNS SHALL BE CONSTRUCTED TO THE STANDARD SIZE AND SPECIFICATIONS OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION.
7. SIGNS SHALL BE INSTALLED AS PER THESE SPECIFICATIONS AND FACING TRAFFIC IN THE LANE ADJACENT TO WHICH THE SIGN IS INSTALLED. ALL OTHER SIGNS SHALL BE INSTALLED AT AN ANGLE TOWARD THE TRAVELED WAY PER THE SIGN MANUFACTURER'S REFLECTIVE REQUIREMENTS.
8. SIGNS IN THE MEDIAN AREA SHALL BE PLACED MIDWAY BETWEEN CURBS. THESE SIGNS SHALL BE MOUNTED NO CLOSER THAN 12 INCHES FROM THE EDGE OF PAVEMENT, AND NO FURTHER THAN 6 FEET FROM, THE EDGE OF THE TRAVELED WAY WHICH THE SIGN FACES.
9. THE MINIMUM MOUNTING HEIGHT FOR ALL SIGNS LOCATED WITHIN A PEDESTRIAN PATH OF TRAVEL SHALL BE SEVEN FEET MEASURED FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE PAVEMENT.
10. THE MOUNTING HEIGHT OF ROUNDABOUT DIRECTIONAL ARROWS INSTALLED IN THE CENTER ISLAND SHALL BE 4 FEET, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE ELEVATION OF THE NEAR EDGE OF THE TRAVELED WAY.
11. SIGNS SHALL BE INSTALLED ON STREET LIGHT POLES WHERE APPLICABLE AS DIRECTED BY THE ENGINEER.

NCTD GENERAL NOTES

1. IN CASE OF EMERGENCIES AND FOR TRACK AND TRAIN SAFETY CALL NORTH COUNTY TRANSIT DISTRICT (NCTD) 24/7 OPERATIONS CONTROL CENTER AT (760) 966-6700.
2. NO WORK SHALL BE PERFORMED ON NCTD'S RIGHT-OF-WAY (ROW) OR PROPERTY WITHOUT A RIGHT-OF-ENTRY PERMIT. SEE NCTD'S WEBSITE AT [GONCTD.COM/WORKING-AROUND-THE-RAILS/#SUBMITTALS](#) FOR INFORMATION ON PROPERTY ACCESS REQUESTS.
3. ALL PERSONNEL ENTERING NCTD'S ROW OR PROPERTY SHALL COMPLY WITH ALL NCTD REQUIREMENTS. FAILURE TO COMPLY SHALL BE GROUNDS FOR TERMINATION OF WORK AND REVOCATION OF THE RIGHT-OF-ENTRY PERMIT.
4. PRIOR TO ENTERING onto the ROW AND AT THE CONTRACTOR'S EXPENSE, ALL PERSONNEL WORKING IN OR AROUND THE ROW, INCLUDING SUBCONTRACTORS AND THIRD PARTIES, SHALL COMPLETE NCTD'S ROADWAY WORKER PROTECTION (RWP) TRAINING COURSE. RWP TRAINING IS PROVIDED BY NCTD'S RAIL CONTRACTOR. SEE NCTD'S WEBSITE AT [GONCTD.COM/WORKING-AROUND-THE-RAILS/#RWP](#) FOR RATES, CLASS TIMES, SCHEDULING, AND CONTACT INFORMATION.
5. ALL PERSONS ENTERING THE RAILROAD ROW SHALL HAVE THE RWP STICKER AFFIXED TO THE RIGHT SIDE OF THEIR HARD HAT AND RWP BADGE IN THEIR POSSESSION.
6. THE CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS SET FORTH BY NCTD, THE RIGHT-OF-ENTRY PERMIT, PROJECT PLANS AND SPECIFICATIONS, AND THE JOB SITE NCTD RAILROAD FLAGMAN/EMPLOYEE-IN-CHARGE (EIC). FAILURE TO COMPLY MAY RESULT IN WORK STOPPAGE OR REMOVAL FROM NCTD PROPERTY.
7. ALL CONTRACTORS PERFORMING WORK ON THE ROW WHOSE DUTIES INCLUDE INSPECTION, CONSTRUCTION, MAINTENANCE OR REPAIR OF RAILROAD TRACK, BRIDGES, ROADWAY, SIGNAL AND COMMUNICATION SYSTEMS, ELECTRIC TRACTION SYSTEMS, ROADWAY FACILITIES OR ROADWAY MAINTENANCE MACHINERY ARE REQUIRED TO SUBMIT TO NCTD A FEDERAL RAILROAD ADMINISTRATION ACCEPTED 49 CFR PART 219 CONTROL OF DRUG AND ALCOHOL USE PLAN, PRIOR TO THE COMMENCEMENT OF ANY WORK.
8. NCTD RAILROAD ROADWAY WORKER FLAG PROTECTION (FLAGGING) IS REQUIRED ANY TIME WHEN WORKING IN THE RAILROAD ROW, OR WORKING ON NON-RAILROAD PROPERTY NEAR OR ADJACENT TO THE ROW WITH THE POTENTIAL TO IMPACT THE RAILROAD TRACKS, OPERATIONS OR INFRASTRUCTURE. A RAILROAD FLAGMAN MAY BE DEFINED AS FLAGMAN, EIC, ROADWAY WORKER IN CHARGE (RWIC), OR WATCHMAN/LOOKOUT/ FLAGGER (RAILROAD FLAGMAN). ONLY AN NCTD AUTHORIZED RAILROAD FLAGMAN, PROVIDED BY NCTD'S RAIL CONTRACTOR, IS PERMITTED TO PERFORM FLAGGING WITHIN THE RAILROAD ROW. THE RAILROAD FLAGMAN HAS SOLE RESPONSIBILITY TO PROTECT THE RAILROAD OPERATIONS AND INFRASTRUCTURE. AT ALL TIMES THE CONTRACTOR SHALL FOLLOW THE RAILROAD FLAGMAN'S DIRECTION.
9. THE CONTRACTOR IS RESPONSIBLE FOR REQUESTING FLAGGING SERVICES WITH ADEQUATE NOTICE TO MEET CONTRACTOR'S CONSTRUCTION SCHEDULE. SEE NCTD'S WEBSITE AT [GONCTD.COM/WORKING-AROUND-THE-RAILS/#ROWSS](#) FOR INFORMATION ON REQUESTING SERVICES.

NCTD GENERAL NOTES (CONTINUED)

10. THE CONTRACTOR MUST CONTACT DIG ALERT/ CALL BEFORE YOU DIG (811) BEFORE ANY EXCAVATIONS OR GRADE LEVEL PENETRATION CAN OCCUR.
11. NCTD UTILITIES WITHIN THE ROW ARE NOT PART OF DIG ALERT/CALL BEFORE YOU DIG (811). NCTD UTILITIES MUST BE MARKED OUT BY NCTD'S RAIL CONTRACTOR. THE CONTRACTOR MUST REQUEST NCTD UTILITY MARK OUT WITH ADEQUATE NOTICE TO MEET CONTRACTOR'S CONSTRUCTION SCHEDULE BEFORE ANY EXCAVATIONS OR ANY GRADE- LEVEL PENETRATION CAN OCCUR. SEE NCTD'S WEBSITE AT [GONCTD.COM/WORKING-AROUND-THE-RAILS/#ROWSS](#) FOR INFORMATION ON REQUESTING SERVICES.
12. THE CONTRACTOR SHALL PAY ALL COSTS ASSOCIATED WITH RWP TRAINING, FLAGGING, UTILITY MARK OUT, INSPECTIONS, AND REVIEWS, AS REQUIRED BY NCTD POLICY AND/OR THE RIGHT-OF-ENTRY PERMIT.
13. THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR EACH EQUIPMENT OPERATOR TO HAVE CONSTANT AND DIRECT RADIO COMMUNICATIONS WITH THEIR FOREMAN AND RAILROAD FLAGMAN.
14. THE CONTRACTOR SHALL HAVE THE PERMITTED STAMPED SET OF PLANS ON-SITE. WORK WILL BE TERMINATED BY NCTD SHOULD NO STAMPED PLANS BE ON-SITE.
15. ALL WORK ON OR ADJACENT TO THE SAN DIEGO TROLLEY SHALL ALSO ADHERE TO NCTD REQUIREMENTS.
16. THE CONTRACTOR SHALL CONTACT NCTD 72-HOURS IN ADVANCE FOR ANY INSPECTIONS REQUIRED IN THE PERMIT.
17. UPON PROJECT COMPLETION THE NCTD ROW SHALL BE LEFT IN AS GOOD IF NOT BETTER CONDITION AS PRIOR TO THE START OF THE PROJECT. THE CONTRACTOR SHALL RESTORE ALL DISTURBED OR DAMAGED AREA AND FACILITIES AS DIRECTED BY NCTD AT THE CONTRACTOR'S EXPENSE.
18. NCTD ROW AND PROPERTY SHALL NOT BE USED FOR STORAGE OR DISPOSAL OF SPOILS.

SDWD WATER NOTES

1. WATER MAINS, LATERALS, AND APPURTENANCES SHALL BE CONSTRUCTED ACCORDING TO THE STANDARD SPECIFICATIONS OF THE CURRENT WATER AGENCIES' STANDARDS COMMITTEE (WASC). THE CONTRACTOR SHALL AND HEREBY DOES GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR AFTER THE DATE OF ACCEPTANCE.
2. THE CONTRACTOR SHALL NOTIFY THE DISTRICT'S INSPECTION DEPARTMENT 48 HOURS IN ADVANCE OF BEGINNING WORK TO ARRANGE FOR INSPECTION OF PROJECT. THE CONTRACTOR SHALL GIVE 24 HOURS NOTICE ON CALLS FOR INSPECTION. PHONE: (760) 633-2709. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION WILL BE SUBJECT TO REJECTION AND REMOVAL.
3. THE CONTRACTOR WILL BE REQUIRED TO SCHEDULE A MANDATORY PRE-CONSTRUCTION CONFERENCE WITH THE SAN DIEGUITO WATER DISTRICT INSPECTOR PRIOR TO COMMENCEMENT OF WORK ON WATER IMPROVEMENTS. PHONE: (760) 633-2709
4. UNLESS OTHERWISE NOTED, ALL CONNECTIONS TO EXISTING MAINS WILL BE MADE BY THE CONTRACTOR, UNDER THE SUPERVISION OF SAN DIEGUITO WATER DISTRICT, AFTER PAYMENT OF THE ESTIMATED COST BY THE DEVELOPER.
5. WHERE ELEVATIONS AND GRADES ARE NOT SHOWN ON THE WATER MAIN PROFILE, TOP OF PIPE PROFILE IS 48 INCHES BELOW CENTERLINE FINISH GRADE OF STREET.
6. ALL SERVICES TO BE CONSTRUCTED CLEAR OF DRIVEWAYS.
7. CONTRACTOR TO FURNISH ONE INCH COPPER WATER SERVICE AND METER BOX FOR EACH RESIDENTIAL LOT.
8. CONTRACTORS SHALL ACQUIRE A TRENCHING PERMIT FROM THE CALIFORNIA DIVISION OF SAFETY FOR ALL TRENCH WORK.
9. INSTALL FIRE HYDRANTS 2.5 FEET FROM FACE OF CURB, IF NO SIDEWALK EXISTS, OR 7 FEET FROM FACE OF CURB WHERE SIDEWALK EXISTS OR WILL BE CONSTRUCTED.
10. PROVIDE AIR RELEASE ASSEMBLIES AT ALL HIGH POINTS IN WATER MAIN.
11. CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FROM THE CITY OF ENCINITAS FOR ANY EXCAVATION WITHIN EXISTING CITY RIGHTS-OF-WAY.
12. THE DISTRICT REQUIRES THAT COMPACTION TESTS BE TAKEN WHERE WATER LINES ARE INSTALLED WITHIN EXISTING COUNTY RIGHTS-OF-WAY, CITY OF ENCINITAS RIGHTS-OF-WAY, OR PRIVATE EASEMENTS, AND THE RESULTS APPROVED BY THE CITY OF ENCINITAS, BEFORE THE WATER LINES ARE ACCEPTED AND A COPY SENT TO THE SAN DIEGUITO WATER DISTRICT OFFICE.
13. PRIOR TO AWARDING WATER LINE CONTRACT, OWNER SHALL ADVISE PROSPECTIVE CONTRACTORS TO OBTAIN AND REVIEW CURRENT WATER AGENCIES' STANDARDS COMMITTEE (WASC) SPECIFICATIONS.
14. FILL AREAS MUST BE COMPACTED TO 90%, PRIOR TO PIPE INSTALLATION.
15. APPROVAL OF THIS PLAN BY SAN DIEGUITO WATER DISTRICT DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF, THE LOCATION OF, OR THE EXISTENCE OR NON-EXISTENCE OF, ANY UNDERGROUND UTILITY, PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT.
16. ALL EXISTING FACILITIES WHICH MAY AFFECT FINAL DESIGN, I.E., LINE CROSSINGS, LINE PARALLELING, OR PROPOSED CONNECTION SHALL BE FIELD VERIFIED. ALL EXISTING OR PROPOSED UTILITY CROSSINGS WITHIN 10 FEET OF PROPOSED WATER MAINS SHALL BE SHOWN ON IMPROVEMENT PLANS. ELECTRICAL AND SEWER TO CROSS UNDER WATER MAINS UNLESS GIVEN WRITTEN PERMISSION BY SAN DIEGUITO WATER DISTRICT.
17. WATER CONNECTIONS TO COMMERCIAL DEVELOPMENTS SHALL HAVE AN APPROVED BACKFLOW DEVICE INSTALLED TO THE DISTRICT'S SATISFACTION AND CURRENT WATER AGENCIES' STANDARDS COMMITTEE (WASC) STANDARDS. BACKFLOW DEVICES ARE TO BE INSTALLED DIRECTLY OUTSIDE CITY OR COUNTY RIGHT-OF-WAY OR OUTSIDE WATER DISTRICT EASEMENT. REPAIR, MAINTENANCE, AND ANNUAL TESTING OF BACKFLOW DEVICE ARE RESPONSIBILITY OF OWNER.
18. MINIMUM HORIZONTAL SEPARATION OF: 10 FEET REQUIRED BETWEEN FIRE HYDRANTS AND SAN DIEGO GAS AND ELECTRIC VAULTS.
19. UTILITIES TO MAINTAIN MINIMUM 5-FOOT SEPARATION WHEN PARALLELLING WATER SERVICES.
20. CONTRACTOR AND DEVELOPER ARE RESPONSIBLE TO RELOCATE ANY EXISTING WATER FACILITY (FIRE HYDRANT, METERS, VALVES, VALVE BOXES, ETC.) THAT ARE AFFECTED BY THEIR PROJECT.
21. CONTRACTOR TO SUPPLY DOCUMENTATION SHOWING THAT ANY ASBESTOS WATER PIPES REMOVED FROM THE GROUND WERE DISPOSED OF IN A MANNER ACCEPTABLE TO THE SAN DIEGO COUNTY WASTE DIVISION.
22. USE THE FOLLOWING VARIOUS COMBINATIONS OF PLAIN END PIPE LENGTHS WITH HIGH DEFLECTION COUPLINGS AND INTEGRAL BELL END PIPE FOR CURVED ALIGNMENTS IN BOTH HORIZONTAL AND VERTICAL DIRECTIONS. DO NOT BEND PIPE BETWEEN COUPLINGS. SAW CUT INTEGRAL BELL END OF STANDARD PIPE AND BEVEL END FOR USE WITH DEFLECTION COUPLINGS. USE 9.5-FOOT PLAIN END PIPE LENGTHS WITH DEFLECTION COUPLINGS FOR ALL RADI1 BETWEEN 140 FEET TO 270 FEET. USE 19-FOOT PIPE LENGTHS WITH DEFLECTION COUPLINGS FOR ALL RADI1 BETWEEN 270 FEET TO 560 FEET. USE AND INTEGRAL BELL END PIPE LENGTH JOINED TOGETHER WITH A 19-FOOT PLAIN END PIPE LENGTH TO FORM A CHORD. USE DEFLECTION COUPLINGS ON EACH END OF THE CHORD AND CONTINUE THIS COMBINATION THROUGH THE CURVED ALIGNMENT FOR ALL RADI1 BETWEEN 560 FEET TO 1,150 FEET. PIPE LENGTHS SHORTER THAN 9 FEET WILL NOT BE USED UNLESS SPECIFICALLY AUTHORIZED THE BY THE DISTRICT'S REPRESENTATIVE.
23. CALIFORNIA STATE LAW ASSEMBLY BILL AB-1953 IS REQUIRING THAT NO-LEAD BRASS BE USED IN THE CONSTRUCTION OR REPAIR OF ALL POTABLE WATER SYSTEM EFFECT JANUARY 1, 2010. IN COMPLIANCE WITH THIS LAW, THE DISTRICT SHALL REQUIRE ALL MATERIALS TO BE NO-LEAD BRASS PARTS.
24. ALL COPPER TUBING USED FOR AIR RELEASES, BLOW OFFS, AND SERVICES SHALL BE PROVIDED WITH CATHODIC PROTECTION IN ACCORDANCE WITH WC-17 OR WC-18.
25. WATER SERVICES TO BE ABANDONED THAT ARE CONNECTED TO PIPELINES THAT WILL REMAIN IN SERVICE SHALL BE DISCONNECTED AT THE CORPORATION STOP. SHALL HAVE THE CORPORATION STOP REMOVED AND SHALL HAVE A BRASS PLUG INSTALLED; OR BE ABANDONED AS DIRECTED BY THE SDWD INSPECTOR.

LWD GENERAL NOTES

1. LWD APPROVAL OF THESE PLANS DOES NOT RELIEVE THE APPLICANT, PRIVATE ENGINEER OF WORK, OR CONTRACTOR FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING OR AFTER CONSTRUCTION.
2. ALL DESIGN, MATERIALS, AND CONSTRUCTION WORK SHALL CONFORM TO THE LEUCADIA WASTEWATER DISTRICT LWD SEWER STANDARDS AND TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK) AND THE REGIONAL STANDARD DRAWINGS, MOST CURRENT EDITIONS. IN THE EVENT OF CONFLICT THE LWD SEWER STANDARDS GOVERN.
3. OSHA SAFETY ORDERS AND OSHA CONFINED SPACE ENTRY REQUIREMENTS SHALL BE FOLLOWED AT ALL TIMES WITHOUT EXCEPTION.
4. THE CONTRACTOR SHALL HAVE A COPY OF THE SEWER NOTES 2. & 3. DOCUMENTS ON THE JOB SITE AT ALL TIMES.
5. THE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR AFTER THE DATE OF FINAL ACCEPTANCE BY LWD AND SHALL REPAIR OR REPLACE ANY WORKTHAT MAY PROVE DEFECTIVE IN WORKMANSHIP AND/OR MATERIALS WITHIN THE ONE YEAR PERIOD WITHOUT EXPENSE WHATSOEVER TO LWD.
6. QUANTITIES SHOWN HEREON ARE FOR BOND ESTIMATE PURPOSES ONLY. NEITHER THE PRIVATE ENGINEER NOR LWD GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SEWER QUANTITIES.
7. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS REPRESENTING ALL MATERIALS AND SUPPLIES SATISFACTORY TO LWD. WORK SHALL NOT COMMENCE UNTIL SUCH MATERIALS ARE APPROVED BY LWD.
8. PRIOR TO BEGINNING SEWER WORK, THE LWD INSPECTOR SHALL BE FURNISHED A SET OF CUT SHEETS AND THE CONTRACTOR SHALL COMPLY WITH LWD STANDARD SPEC SURVEY REQUIREMENTS.
9. PRIOR TO START OF WORK, CONTRACTOR SHALL SECURE A LWD PERMIT FOR CONSTRUCTION. SUBMIT SHOP DRAWINGS FOR ALL MATERIALS FOR REVIEW & APPROVAL, SCHEDULE AND ATTEND A PRECONSTRUCTION MEETING PER APPENDIX V OF STD SPEC, PROVIDE 3-WEEK LOOK AHEAD SCHEDULE(S) FOR ALL SEWER WORK THRU-OUT PROJECT IN ADDITION TO 72 HOURS NOTICE OF NEED FOR EACH INSPECTION.
10. NO WORK SHALL BE COMMENCED UNTIL ALL RIGHT-OF-WAY AND OTHER REQUIRED PERMITS HAVE BEEN OBTAINED FROM THE JURISDICTIONAL CITY, COUNTY, AND/OR OTHER APPROPRIATE AGENCIES.
11. THE CONTRACTOR SHALL CONFORM TO LABOR CODE SECTION 6705 BY SUBMITTING A DETAIL PLAN TO THE DISTRICT ENGINEER SHOWING THE DESIGN OF SHORING, BRACING, SLOPING, OR OTHER PROVISIONS TO BE MADE FOR PROTECTION OF WORKERS FROM THE HAZARD OF CAVING GROUND DURING TRENCH EXCAVATION AND PIPE INSTALLATION THEREIN. THIS PLAN MUST BE PREPARED FOR ALL TRENCHES FIVE FEET OR MORE IN DEPTH. IF THE PLAN VARIES FROM THE SHORING SYSTEM STANDARDS ESTABLISHED BY THE CONSTRUCTION SAFETY ORDERS, TITLE 8, CALIFORNIA ADMINISTRATIVE CODE, THE PLAN SHALL BE PREPARED BY A REGISTERED ENGINEER. A COPY OF THE OSHA EXCAVATION PERMIT MUST BE SUBMITTED TO THE LWD INSPECTOR PRIOR TO EXCAVATION.
12. ALL SEWER FACILITIES SHALL BE INSTILLED IN DRY EXCAVATIONS AND TRENCHES. CONTRACTOR SHALL DEWATER AND MAINTAIN DEWATERING CONTINUOUSLY UNTIL THE WORK IS COMPLETED INCLUDING PLACEMENT AND COMPACTION OF BACKFILL MATERIALS IN A DRY STATE. ALL PIPE ZONE MATERIAL LOCATED IN WET OR AREAS SUSPECTED TO BE WET IN THE FUTURE SHALL BE ENCASED IN GEOTEXTILE MATERIAL. SUITABLE GEOTEXTILE MATERIAL SHALL BE SUBMITTED TO THE DISTRICT ENGINEER FOR REVIEW AND APPROVAL. CONTRACTOR SHALL OBTAIN DEWATERING PERMITS AS NECESSARY AND RETURN OF GROUNDWATER TO THE SEWER SHALL NOT BE ALLOWED.
13. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS WAS OBTAINED AVAILABLE RECORDS SEARCH BY THE PRIVATE ENGINEER. TO THE BEST OF THE PRIVATE ENGINEER'S KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. ATTENTION IS CALLED TO THE POSSIBLE EXISTENCE OF OTHER UTILITIES OR STRUCTURES NOT SHOWN, OR IN A DIFFERENT LOCATION FROM THAT SHOWN ON THE PLANS. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN ON THE PLANS AND OTHER EXISTING FACILITIES OR STRUCTURES NOT SHOWN.
14. APPROVAL OF THIS PLAN BY LWD DOES NOT CONSTITUTE A REPRESENTATION OF THE ACCURACY OF THE LOCATION OF, OR THE EXISTENCE OR NONEXISTENCE OF, ANY UNDERGROUND UTILITY, PIPE, OR STRUCTURE WITHIN THE LIMITS OF THE PROJECT.
15. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (800) 422-4133, AS REQUIRED BY STATE LAW. ALL UTILITY CROSSINGS SHALL BE POT HOLED PRIOR TO TRENCHING.
16. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS INCLUDING, BUT NOT LIMITED TO, TRENCH SAFETY AND CONFINED SPACE ENTRY.
17. SOILS REPORTS SHALL BE SUBMITTED TO LWD BY A QUALIFIED SOILS ENGINEER WHICH CERTIFIES THAT TRENCH BACKFILL WAS COMPACTED AS DIRECTED BY THE SOILS ENGINEER IN ACCORDANCE WITH ON SITE EARTHWORK SPECIFICATIONS AND THE LWD STANDARD SPEC.
18. SEWER ELEVATIONS SHOWN ARE INVERT ELEVATION (I.E.), INSIDE BOTTOM OF PIPE. SEWER LENGTHS SHOWN ARE FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
19. ALL REVISIONS TO DRAWINGS SHALL BE APPROVED BY THE LWD DISTRICT ENGINEER AS CONSTRUCTION CHANGES TO THE ORIGINAL MYLAR DWGS. WITH INITIALED APPROVAL ON THE MYLARS.
20. CONTRACTOR IS RESPONSIBLE FOR KEEPING COMPLETE RECORD OF CHANGES AND SHALL MAKE SUCH RECORD AVAILABLE TO THE PRIVATE ENGINEER. THE PRIVATE ENGINEER SHALL PROVIDE AS-BUILT DRAWINGS TO LWD FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
21. LENGTH OF OPEN TRENCH SHALL BE LIMITED TO 350 FEET, INCLUDING COLLECTORS AND LATERALS, UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT. TRENCH SHALL BE BACKFILLED OR PLATED AT THE CONCLUSION OF EACH DAY OF WORK.
22. THE CONTRACTOR SHALL PROTECT ALL SURVEY MONUMENTATION. IF ANY SURVEY MONUMENTS ARE DISTURBED OR DESTROYED, THE CONTRACTOR SHALL RETAIN A LICENSED SURVEYOR TO REESTABLISH AND RECORD THE MONUMENT CHANGE PER STATE LAW.
23. A MINIMUM OF 12-INCHES OF VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN THE SEWER PIPE AND ANY OTHER UTILITIES. EXIST. SEWER CROSSED WITHIN 3-FT VERTICAL ABOVE OR BELOW SHALL BE CCTV INSPECTED BOTH BEFORE AND AFTER THE CROSSING WORK IS COMPLETED FOR LWD REVIEW, APPROVAL, AND RETENTION OF DIGITAL VIDEO FILES. ANY DAMAGED LWD FACILITIES SHALL BE REPAIRED TO LWD SATISFACTION AT NO COST TO LWD INCLUDING ADDITIONAL CCTV INSPECTIONS.
24. SEPARATION OF SEWER / WATER AND SEWER / RECLAIMED WATER SHALL COMPLY WITH LWD STD DWG S-2 AND WITH ALL COUNTY AND STATE HEALTH DEPT REGULATIONS.
25. CONNECTIONS TO EXISTING SEWER PIPE OR MANHOLES SHALL ONLY BE DONE IN THE DIRECT PRESENCE OF THE LWD INSPECTOR. NEW SEWER SHALL NOT BE CONNECTED OR ALLOWED TO FLOW TO EXISTING SEWER UNTIL AFTER FINAL ACCEPTANCE OF ALL UPSTREAM WORK BY THE LWD INSPECTOR, OR AS APPROVED BY DISTRICT ENGINEER.
26. ALL SERVICE LATERALS SHALL BE LOCATED AT RIGHT ANGLES TO THE SEWER MAIN UNLESS OTHERWISE SHOWN AS APPROVED BY LWD ON THE PLANS.
27. A 2-INCH HIGH "S" SHALL BE INSCRIBED ON THE CURB FACE AT EACH LATERAL LOCATION BY THE CONTRACTOR.
28. ALL PIPE SHALL BE HANDLED AND INSTALLED SO AS TO PROTECT PIPE, JOINTS, LINING, AND COATING. THE PIPE SHALL BE CAREFULLY BEDDED TO PROVIDE CONTINUOUS BEARING AND PREVENT UNEVEN SETTLEMENT. PIPE SHALL BE PROTECTED AGAINST FLOTATION AT ALL TIMES. OPEN ENDS OF PIPE SHALL BE SEALED AT ALL TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.
29. PIPE JOINTS SHALL NOT BE DEFLECTED UNLESS SO DESIGNED AND SHALL THEN BE LIMITED TO LESS THAN ONE-HALF OF THE ANGLE RECOMMENDED BY THE PIPE MANUFACTURER.
30. SEWER PIPE ZONE AND TRENCH BACKFILL SHALL BE PER THE LWD SEWER STANDARDS. WATER JETTING SHALL NOT BE ALLOWED.
31. ALL LATERALS SHALL BE CONSTRUCTED CLEAR OF DRIVEWAYS.
32. JOB MIXING OF CONCRETE IS NOT ALLOWED WITHOUT EXCEPTION. CONCRETE TESTING BY LWD WILL BE AT CONTRACTOR EXPENSE.
33. MANHOLE BASES SHALL BE MONOLITHICALLY PLACED, FINISHED, AND COMPLETED AT TIME OF PLACEMENT. GPK PRODUCTS, INC. OR APPROVED EQUAL, MANHOLE ADAPTERS SHALL BE SET IN THE BASE FOR EACH PIPE CONNECTION. SETTING OF MH RINGS SHALL NOT BE ALLOWED FOR 48 HOURS AFTER CONCRETE PLACEMENT. PRECAST MANHOLE BASES ARE ACCEPTABLE FOR USE WITH DISTRICT APPROVAL.
34. 34. JOINTS BETWEEN MH BASE, SHAFTING, CONE SECTIONS, AND RING SHALL HAVE A 2" BY 2" BUTYL RUBBER GASKET PLACED WITHIN THE FULL CIRCUMFERENCE. GASKET SHALL BE OPS-210 BY PRESS-SEAL GASKET CORP., OR APPROVED EQUAL.

LWD GENERAL NOTES (CONT.)

35. ALL MANHOLES SHALL BE VACUUM TESTED 1) BEFORE BACKFILL, 2) AFTER BACKFILL, AND 3) SUBSEQUENT TO ANY SUSPECTED MOVEMENT OR DAMAGE AFTER BACKFILL.
36. ALL SEWERS AND LATERALS SHALL BE WAYNE BALLED OR JETTED, LOW PRESSURE AIR TESTED, AND TELEVIEWED AT THE APPLICANT / CONTRACTORS EXPENSE PRIOR TO CONSIDERATION FOR FINAL ACCEPTANCE BY LWD. AIR TEST SHALL BE DONE AFTER CONSTRUCTION OF ALL OTHER UTILITIES AND UTILITY LATERALS.
37. ALL SEWERS AND LATERALS SHALL BE IN PLACE AND SHALL HAVE FINAL APPROVAL BY THE LWD INSPECTOR PRIOR TO BACKFILL.
38. MANHOLES SHALL BE 4-FEET DIAMETER FOR PIPE UP TO 15-INCH DIAMETER PER LWD STD DWG S-3. MANHOLES SHALL BE 5-FEET DIAMETER FOR PIPE 18-INCHES AND LARGER OR 12-FEET OR GREATER DEPTH PER LWD STD DWG S-4.
39. ALL NEW MH SHAFTS AND PRECAST MH BASES SHALL BE LINED WITH AN INTEGRALLY LOCKING PVC (T-LOCK) PROTECTIVE LINING SYSTEM. ALL EXISTING MH'S WITH MODIFICATIONS AND NEW CAST-IN-PLACE MH BASES SHALL BE PROVIDED WITH EPOXY LINING SYSTEM. LINING SYSTEM TO MATCH EXISTING LINING. IF ANY: T-LOCK, EPOXY LINING SYSTEMS SHALL BE PER SECT 500-2 OF THE GREENBOOK. A MINIMUM OF FIFTEEN PERCENT (15%) OF MANHOLES AND NOT LESS THAN ONE (1) WITH EPOXY LINERS SHALL SUCCESSFULLY PASS PULL-TEST AND BE REPAIRED UNTIL PASSING.
40. MAXIMUM DEPTH OF SEWER FOR SDR 35 PVC PIPE IS 15'. C900 PIPE IS REQUIRED FOR DEPTH OF COVER OVER 15'.
41. FINAL APPROVAL OF PLANS BY DISTRICT ENGINEER IS VALID FOR A PERIOD OF TIME NOT TO EXCEED ONE YEAR FROM APPROVAL DATE TO START OF CONSTRUCTION. IF THE ONE YEAR TIME LIMIT IS EXPIRED PRIOR TO START OF CONSTRUCTION THE DEVELOPER SHALL RESUBMIT THE PLAN CHECK TO THE DISTRICT ENGINEER FOR AN UPDATED REVIEW AND APPROVAL. ANY CHANGES REQUIRED TO THE PLANS SHALL BE MADE AT THE DEVELOPERS EXPENSE AND APPROVED BY THE LWD DISTRICT ENGINEER PRIOR TO THE START OF CONSTRUCTION.
42. WHEN CONNECTION TO AN EXISTING MANHOLE IS NECESSARY AND SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL CONNECT TO EXISTING MANHOLE STRUCTURES AND CONSTRUCT THE NEW FLOW-THROUGH CHANNELS IN EACH MANHOLE BASE TO ACCOMMODATE THE NEW SEWER LINES AS REQUIRED. SMOOTH TRANSITIONS SHALL BE INSTALLED FROM THE INVERTS OF NEWLY INSTALLED PIPES TO THE EXISTING MANHOLE STRUCTURES. MANHOLES SHALL BE CORE DRILLED AND MANHOLE CONNECTION FITTINGS SHALL BE CONNECTED TO THE CORE DRILLED HOLE BY LINK-SEAL, OR APPROVED EQUAL. THE FIRST FLEXIBLE JOINT SHALL BE LOCATED WITHIN ONE-FOOT OF THE MANHOLE BASE. JACK HAMMERING SHALL NOT BE ALLOWED.
43. ALL NEW CONNECTIONS TO EXISTING SEWER SHALL BE MADE TO EXISTING WYES OR SHALL BE MADE BY INSTALLING NEW MANUFACTURED WYES. FOR INSTALLING NEW MANUFACTURED WYES, STANDARD BELL AND SPIGOT OR PLAIN END WYES AND PLAIN END PIPE SPOOLS MATCHING THE ADJACENT EXISTING PIPE MAY BE USED FOR INSERTING WYES INTO AN EXISTING SEWER. GASKETED PVC SADDLE WYES MAY BE USED FOR EXISTING SEWER MAINS 12-INCHES AND LARGER. ALL CONNECTIONS NOT MADE TO EXISTING WYES MUST BE IN ACCORDANCE WITH LWD STANDARD DRAWING S-32.
44. IF NECESSARY DURING THE LATERAL CONNECTION WORK, UPSTREAM FLOW IN THE EXISTING SEWER SHALL BE TEMPORARILY FLUGGED AND BY-PASSED. A BY-PASS PLAN IN ACCORDANCE WITH LWD STANDARD DRAWING S-32 MUST BE REVIEWED AND APPROVED BY THE LWD DISTRICT ENGINEER PRIOR TO INSTALLING THE TEMPORARY PLUG.
45. FOR CONNECTION OF PLAIN END TO PLAIN END PVC SEWER, REPAIR COUPLINGS SHALL BE MADE OF PVC MATERIAL MEETING THE SAME MATERIAL REQUIREMENTS AS THE PIPE BEING REPAIRED. PVC SEWER REPAIR COUPLINGS SHALL BE RUBBER GASKETED WITH NO CENTER STOP. PIPE ENDS SHALL BE THOROUGHLY CLEANED PRIOR TO INSTALLATION OF THE REPAIR COUPLING(S). THE REPAIR COUPLING SHALL BE SLIPPED ALL THE WAY ON TO ONE PLAIN END PIPE, THEN THE PIPE AND ADJOINING PIPES SHALL BE ALIGNED TOGETHER AND THE REPAIR COUPLING SLIPPED BACK INTO A POSITION EQUALLY SPACED BETWEEN THE TWO PLAIN END PIPES. PVC SEWER REPAIR COUPLINGS SHALL BE AS MANUFACTURED BY PW PIPE OR EQUAL APPROVED BY THE LWD DISTRICT ENGINEER.
46. PVC OR VITRIFIED CLAY PIPE (VCP) SEWER PIPE AND WYES MAY BE USED TO TIE-IN TO EXISTING VCP. FOR CONNECTION OR REPAIR OF PLAIN END VCP TO VCP OR VCP TO PVC A FERROU SERIES 5000 COUPLING OR APPROVED EQUAL SHALL BE USED.
47. FOR CONNECTION OF NEW LATERALS TO EXISTING PIPE GREATER THAN 8-INCH DIAMETER CONTRACTOR SHALL CUT IN A NEW WYE PER ABOVE OR MAY USE A SUITABLY SIZED SEWER SADDLE WYE PER STD. DWG. S-32.
48. CONTRACTOR SHALL BE AWARE THAT LWD FACILITIES PROVIDE WASTEWATER CONVEYANCE, TREATMENT, AND DISPOSAL TO THE PUBLIC 24 HOURS A DAY, 365 DAYS A YEAR. THEREFORE, LWD OR THEIR CONTRACTORS MAY NEED ACCESS TO FACILITIES FOR OPERATIONS, MAINTENANCE, OR EMERGENCY REPAIR AT ANY TIME. THE CONTRACTOR WILL ENSURE THAT ACCESS TO THE FACILITIES IS MAINTAINED AT ALL TIMES (DURING CONSTRUCTION AND AT THE END OF EACH CONSTRUCTION DAY) AND SHALL NOT HINDER AND WOULD BE EXPECTED TO ASSIST WITH ACCESS WHILE WORKING AROUND LWD FACILITIES.
49. CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT LWD FACILITIES AND STRUCTURES DURING CONSTRUCTION. SHOULD THE CONTRACTOR AT ANY TIME DAMAGE LWD OR PRIVATE SEWER LATERAL FACILITIES, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK, NOTIFY LWD, MINIMIZE AND CONTROL ANY SEWAGE SPILL, AND REPAIR DAMAGED FACILITIES TO THE SATISFACTION OF THE LWD ENGINEER AT NO COST TO LWD INCLUDING INSPECTION AND ANY BYPASSING REQUIRED. DAMAGE CAUSED TO SEWER FACILITIES SHALL BE REPAIRED IN ACCORDANCE WITH ALL APPLICABLE LWD STANDARD SPECIFICATIONS AND DRAWINGS. SUBMIT FOR LWD APPROVAL PRIOR TO REPAIR.
50. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PREVENTING SEWAGE SPILLS, CONTAINING ANY SEWAGE SPILLS, RECOVERY AND LEGAL DISPOSAL OF ANY SPILLED SEWAGE ARISING FROM ANY WORK ADJACENT TO LWD FACILITIES OR ALLOWING A SEWAGE SPILL OR FAILURE TO PREVENT A SEWAGE SPILL WHILE PERFORMING THE WORK. CONTRACTOR WILL BE RESPONSIBLE FOR ALL CLEAN-UP COSTS AND PENALTIES ASSESSED TO THE DISTRICT AS A RESULT OF A SEWAGE SPILL CAUSED BY THE CONTRACTOR.
51. CONTRACTOR SHALL NOTIFY LWD A WEEK IN ADVANCE OF PLANNED CONSTRUCTION ACTIVITIES IN THE AREA OF WORK POTENTIALLY AFFECTING LWD SEWER FACILITIES.
52. CONTRACTOR SHALL NOTIFY LWD 48 HOURS PRIOR TO EXCAVATION OF SEWER UNDER CROSSINGS, OVERCROSSINGS, OR PARALLEL INSTALLATIONS WHERE SEWER MAY BE EXPOSED.

REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT		APPROVALS	CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
					THE BASIS OF ELEVATIONS FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) PER RECORD OF SURVEY 18416 (CITY OF ENCINITAS SURVEY CONTROL). BENCHMARK DESIGNATION: POINT NUMBER 1004/ENC-4	HORIZONTAL AS SHOWN		PLANS PREPARED UNDER SUPERVISION OF	RECOMMENDED	GENERAL NOTES FOR:	
					ELEVATION: 67.639 (NAVD88)	VERTICAL AS SHOWN		ENGINEER: JOANNE S. TYLER	BY: ABRAHAM BANDEGAN	NORTH COAST HIGHWAY 101 LEUCADIA STREETSCAPE DRAINAGE	SI-144
								R.C.E. NO. 59286	DATE: DATE: JILL BANKSTON	CIP PROJECT NO. CD23A	SHEET 3 OF 25

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FIRE DEPARTMENT NOTES FOR UNDERGROUND PIPING FOR HYDRANTS & SPRINKLERS

1. INSTALLATION, INSPECTION, AND TESTING FOR ALL UNDERGROUND FIRE SPRINKLER SUPPLIES SHALL CONFORM TO NFPA 13 AND NFPA 24.
2. BACK FLOW PREVENTION DEVICE SHALL BE INSTALLED AS REQUIRED BY THE APPROPRIATE WATER AGENCY AND NFPA STANDARDS 13, 14 AND 24.
3. WHEN EXPOSED TO POSSIBLE VEHICULAR DAMAGE DUE TO PROXIMITY TO ALLEYS, DRIVEWAYS, ROADWAYS, OR PARKING AREAS, ABOVEGROUND BACK FLOW DEVICE ASSEMBLIES FOR FIRE SUPPRESSION SYSTEMS, SHALL BE SUITABLY PROTECTED.
- NOTE: GUARD POSTS ARE SUITABLE MEANS OF PREVENTING VEHICULAR DAMAGE TO THE ABOVE ASSEMBLIES GUARD POSTS SHALL BE INSTALLED AS REQUIRED BY FIRE DEPARTMENT OR APPROPRIATE WATER AGENCY.
4. THE CONTRACTOR SHALL ENSURE THAT THE APPLIANCES ARE NOT ENCRDACHING IN A CITY OR UTILITY COMPANY EASEMENT AREA UNLESS APPROVED.
5. PRIOR TO INSTALLATION, ALL REQUIRED PERMITS SHALL BE OBTAINED FROM THE BUILDING AND WATER AGENCY HAVING JURISDICTION.
6. PROVIDE LOCATION OF DETECTOR CHECK VALVES.
7. PRIVATE HYDRANTS, SPRINKLER CONTROL VALVES, DETECTOR CHECK ASSEMBLIES, POST INDICATING VALVES AND FIRE DEPARTMENT CONNECTIONS SHALL BE PAINTED OSHA RED. VERIFY WITH APPROPRIATE WATER AGENCY FOR BACKFLOW PAINTING REQUIREMENTS.
8. ALL CONTROL VALVES SHALL BE LOCKED IN THE OPEN POSITION. VALVES SHALL BE MONITORED. CONTROL VALVES SHALL BE PROVIDED WITH TAMPER SWITCHES THAT REPORT TO AN ALARM PANEL WHICH PROVIDES ALARM SERVICE FOR STRUCTURE THE WATER SUPPLY SERVICES.
9. ALL SPRINKLER SYSTEM CONTROL VALVES SHALL HAVE PERMANENT IDENTIFICATION SIGNS AND HYDRAULIC DATA PLATE.
10. INDICATE ON PLANS THE LOCATION OF ANY HYDRANTS TO BE INSTALLED.
11. INSPECTIONS REQUIRED:

- a. EXCAVATED TRENCH INSPECTION LEAVING ALL ELEVATION CHANGES FOR VALVES, PIPE, AND FITTING AREAS EXPOSED
- b. INSPECTION OF CONCRETE THRUST BLOCKS PRIOR AND POST OF THE POUR
- c. INSPECTION OF ALL MECHANICAL RESTRAINTS INSTALLED
- d. INSPECTION OF ALL CORROSION PROTECTION IN PLACE PRIOR TO COVERING PIPE AND FITTINGS
- e. A HYDROSTATIC TEST (200 PSI FOR TWO HOURS OR 50 PSI OVER MAXIMUM STATIC PRESSURE, WHICHEVER IS GREATER) SHALL BE WITNESSED BY AN EPD INSPECTOR. THE TRENCH SHALL BE BACK-FILLED BETWEEN THE JOINTS TO PREVENT MOVEMENT OF THE PIPE
- f. THE SYSTEM SHALL BE THOROUGHLY FLUSHED BEFORE CONNECTION IS MADE TO OVERHEAD PIPING. FLOW SHALL BE THROUGH A MINIMUM OF A 4" HOSE OR PIPE UNLESS OTHERWISE APPROVED BY THE FIRE DEPARTMENT INSPECTOR. A FIRE DEPARTMENT INSPECTOR SHALL WITNESS THE FLUSH.
- g. ALL OUTLETS SHALL BE REQUIRED TO BE FLUSHED. SUFFICIENT BURLAP SACKS AND BAILING WIRE SHALL BE AVAILABLE ON SITE FOR FLUSH TEST.
- h. FLUSH OF ALL UNDERGROUND PIPING SHALL BE FOR PERIOD OF FIVE (5) MINUTES OR UNTIL WATER IS CLEAR PRIOR TO CONNECTION TO FIRE SPRINKLER RISER. THE LINES SHALL BE FLUSHED PRIOR TO RISER HOOKUP. THE FOLLOWING FLUSH CONNECTIONS SHALL BE MADE:
- 4 INCH UNDERGROUND MAIN - ONE (1) 4" COUPLING & HOSE
- 6 INCH UNDERGROUND MAIN - ONE (1) 4" COUPLING & HOSE
- 8 INCH UNDERGROUND MAIN - ONE (1) 4" COUPLING & HOSE LINES
- LARGER THAN 8 INCH - CONTACT THE FIRE PREVENTION BUREAU FOR ADDITIONAL REQUIREMENTS

NOTE: THE FLUSHING OPERATION SHALL BE OF SUFFICIENT TIME TO ENSURE THOROUGH CLEANING. THOSE SYSTEMS GREATER THAN 4 INCHES IN DIAMETER SHALL REQUIRE THE USE OF A SINGLE LARGE DIAMETER HOSE. ALL FLUSHING SHALL BE COORDINATED WITH THE APPROPRIATE WATER AUTHORITY AND IN ACCORDANCE WITH THE APPROPRIATE "STORM WATER PROTECTION" REQUIREMENTS. THIS MAY INCLUDE DISPENSING ON SITE OR WATER COLLECTION.

12. SCHEDULE ALL INSPECTIONS AT A MINIMUM OF 24 HOURS IN ADVANCE. INSPECTIONS CANCELED AFTER 1 P.M. ON THE DAY BEFORE THE SCHEDULED DATE WILL BE SUBJECT TO A RE-INSPECTION FEE.
13. CALL THE FIRE DEPARTMENT PREVENTION INSPECTION LINE FOR SCHEDULING.
14. INDICATE LOCATIONS OF FDC, PIV GATE VALVES AND THRUST BLOCKS.
15. THE FDC SHALL BE LOCATED ADJACENT TO THE PIV ON THE SYSTEM SIDE OF THE SERVICE LINES. SEE PIV AND FDC DETAIL ON LAST PAGE OF THIS DOCUMENT.
16. ALL PIPING SHALL BE APPROVED FOR USE IN FIRE SERVICE SYSTEMS (AWWA C150, C900 MINIMUM). CLASS 200 PIPE SHALL BE USED WHERE THE PRESSURE MAY EXCEED 150 PSI.
17. INDICATE THE SIZE AND LOCATION OF ALL PIPING, INDICATING THE CLASS AND TYPE OF PIPE AND DEPTH TO BE BURIED.
18. THRUST BLOCKS, OR OTHER APPROVED METHOD OF THRUST RESTRAINT, SHALL BE PROVIDED WHEREVER PIPE CHANGES DIRECTION.
19. SUBMIT THRUST FORCE AND SOIL-BEARING CALCULATIONS IN ACCORDANCE WITH NFPA 24.
20. PROVIDE THE FOLLOWING INFORMATION OBTAINED FROM THE OWNER'S SOILS REPORT:
- a. LATERAL BEARING CAPACITY OF THE SOIL FORTY-EIGHT INCHES BELOW GRADE OR AT THE LEVEL ON THE SYSTEM PIPING UNLESS SPECIFIED ON THE APPROVED UNDERGROUND PLANS.
- a) CORROSIVE CHARACTERISTICS OF THE SOIL IN THE AREAS OF THE SYSTEM INSTALLATION.
- b) SETTLEMENT PROPERTIES OF THE SOIL IN THE AREAS OF THE SYSTEM INSTALLATION.
- c) SOURCE OF THIS INFORMATION.
21. ALL PORTIONS OF THE UNDERGROUND MAIN (INCLUDING THE FDC) SHALL BE CEMENT LINED DUCTILE IRON OR UL LISTED PLASTIC.
22. UNDERGROUND MAINS WITHIN FIVE (5) FEET OF BUILDING FOUNDATIONS SHALL BE CEMENT LINED DUCTILE IRON. AT NO TIME SHALL PIPES PASS UNDER FOOTINGS UNLESS APPROVED BY THE FIRE MARSHAL OR HIS REPRESENTATIVE. WHERE A RISER IS CLOSE TO BUILDING FOUNDATIONS, UNDERGROUND FITTINGS OF PROPER DESIGN AND TYPE SHALL BE USED TO AVOID PIPE JOINTS BEING LOCATED IN OR UNDER THE FOOTING. (SEE DIAGRAM UG-01)
23. UNDERGROUND MAINS SHALL NOT BE STEEL OR GALVANIZED STEEL PIPES.
24. ALL FERROUS PIPE AND FITTINGS SHALL BE PROTECTED AS PER THE APPROPRIATE WATER DISTRICT STANDARDS.
25. TRACER TAPE SHALL BE LAID SIX (6) INCHES ON TOP OF ALL SUPPLY LINES TO NOTE LOCATION AND DEPTH OF PIPE

FIRE DEPARTMENT NOTES FOR UNDERGROUND PIPING FOR HYDRANTS & SPRINKLERS (CONTINUED)

26. A 12" BED OF CLEAN FILL SAND IS RECOMMENDED TO BE PROVIDED BELOW AND ABOVE THE PIPE (TOTAL 48" OF COVER).
27. A MINIMUM OF 30" OF COVER, FROM FINISH GRADE TO THE TOP OF THE PIPE, SHALL BE PROVIDED. WHEN SURFACE LOADS ARE EXPECTED, A MINIMUM OF 36" COVER SHALL BE PROVIDED.
28. ALL TIE RODS, BOLTS, NUTS, ETC., UNDERGROUND SHALL BE 316 STAINLESS STEEL MATERIALS.
29. SET SCREW TYPE FLANGE ADAPTERS SHALL NOT BE USED.
30. 1"-3 1/4" PIPE REQUIRES A (2) INCH LARGER DIAMETER HOLE WHERE THE RISER PASSES THROUGH A WALL. 4" OR LARGER PIPE REQUIRES A (4) INCH LARGER DIAMETER HOLE UNLESS FLEXIBLE JOINTS ARE APPROVED BY THE AUTHORITY HAVING JURISDICTION.
31. IN ALL BUILDINGS REQUIRED TO HAVE STANDPIPES, THE FDC SHALL BE A COMBINATION FDC WHICH SUPPLIES THE FIRE SPRINKLERS AND STANDPIPES.
32. STANDPIPES SHALL BE PROVIDED WITH FIRE DEPARTMENT HOSE CONNECTIONS AT ACCESSIBLE LOCATIONS ADJACENT TO USABLE STAIRS AND THE STANDPIPE OUTLETS SHALL BE LOCATED ADJACENT TO SUCH USABLE STAIRS. SUCH STANDPIPE SYSTEMS SHALL BE EXTENDED AS CONSTRUCTION PROGRESSES TO WITHIN ONE FLOOR OF THE HIGHEST POINT OF CONSTRUCTION HAVING SECURED DECKING OR FLOORING.
33. THE FDC SHALL BE PROVIDED WITH CAPS, WHICH MUST BE IN PLACE IMMEDIATELY AFTER INSTALLATION.
34. THE FDC SHALL BE BRANDED ON TOP IN ACCORDANCE WITH NFPA 13. IN ADDITION, THE FDC SHALL BE PROVIDED WITH A PERMANENT SIGN, MADE OF DURABLE MATERIAL, INDICATING THE ADDRESS(S) OF THE SYSTEM AND TYPE OF SYSTEM IT SUPPLIES. SEE EXAMPLE BELOW: "THIS FDC SUPPLIES THE BUILDING RISER(S)/STANDPIPE(S) FOR NAME & ADDRESS OF BUILDING/COMPLEX"
- NOTE: MANUAL WET STANDPIPES SHALL BE DESIGNATED AS "PRIMED DRY STANDPIPE(S)".

35. ALL FDC(S) SHALL HAVE A MINIMUM OF TWO, 2-1/2" INLETS WITH FEMALE NATIONAL STANDARD HOSE THREADS; ALL INLETS SHALL BE EQUIPPED WITH INDIVIDUAL CHECK VALVES (E.G. CLAPPERS). THE FDC INLETS SHALL BE LOCATED AT A HEIGHT OF 30 TO 36" ABOVE FINISH GRADE.

36. TO DETERMINE THE NUMBER OF INLETS FOR THE FDC, IT SHALL BE ASSUMED THAT EACH 2-1/2" FDC INLET WILL ACCEPT 250 GPM. THE COMBINED HOSE REQUIREMENT (NFPA 13, TABLE 5-2.3) PLUS SPRINKLER DEMAND FOR A CALCULATED SYSTEM OR THE MAXIMUM ACCEPTABLE BASE OF RISER FLOW (NFPA 13, TABLE 5-2.2) FOR A PIPE SCHEDULE SYSTEM SHALL BE USED TO DETERMINE THE REQUIRED NUMBER OF FDC INLETS.

37. A TWO-SIDED "GREEN DOT" REFLECTIVE MARKER SHALL BE INSTALLED ON THE ROAD SURFACE 4" TO 6" FROM CENTER LINE ON THE FIRE DEPARTMENT CONNECTION (FDC) SIDE.

38. THE COLOR OF THE FDC AND PIV SHALL BE RED. EXCEPTIONS:
- d) ARCHITECTURALLY AESTHETIC INSTALLATIONS ARE NOT REQUIRED TO BE PAINTED, IF APPROVED BY THE FIRE DEPARTMENT.
- e) WHEN A FDC IS LOCATED ON THE BACKFLOW PREVENTER IT SHALL BE PAINTED "RED" WITH THE BACKFLOW PREVENTER PAINTED ACCORDING TO WATER UTILITY STANDARD. THE FDC OUTLETS SHALL BE FACING THE STREET OR AS OTHERWISE DIRECTED BY THE FIRE DEPARTMENT INSPECTOR.

39. THE PIV SHALL BE SUPERVISED WITH A SUPERVISORY SWITCH AND ALSO BE LOCKED. THE SPRINKLER COMPANY SHALL ARRANGE FOR INSTALLATION OF UNDERGROUND CONDUIT FOR TAMPER SWITCH WIRING TO BE BURIED WITH THE UNDERGROUND PIPING AND PROPERLY PROTECTED TO AVOID DAMAGE PRIOR TO THE INSTALLATION OF WIRING.

40. THE PIV(S) SHALL BE PROVIDED WITH A PERMANENT SIGN, MADE OF DURABLE MATERIAL, INDICATING THE ADDRESS (S) OF THE SYSTEM IT SUPPLIES (E.G., "THIS PIV SUPPLIES THE BUILDING RISER(S) & SITE HYDRANT(S) FOR NAME & ADDRESS OF BUILDING/COMPLEX"

41. ANY ONSITE HYDRANTS SHALL BE SUPPLIED BY A SEPARATE UNDERGROUND MAIN. FIRE HYDRANTS AND FIRE FLOWS: THE APPLICANT SHALL PROVIDE FIRE HYDRANTS OF A TYPE, NUMBER, AND LOCATION SATISFACTORY TO THE FIRE DEPARTMENT. A LETTER FROM THE WATER AGENCY SERVING THE AREA SHALL BE PROVIDED THAT STATES THE REQUIRED FIRE FLOW ARE AVAILABLE. FIRE HYDRANTS SHALL BE OF A BRONZE TYPE. ALL OUTLETS SHALL BE PROVIDED WITH NATIONAL STANDARD THREADS (NST).

42. FIRE HYDRANT SUPPLY PIPING SHALL BE A MINIMUM OF SIX INCHES IN DIAMETER. THE LOWEST OPERATING NUT SHALL BE A MINIMUM OF 18" ABOVE GRADE AND THE HYDRANT FLANGE HEIGHT SHALL BE A 4.5' - 7.5' ABOVE GRADE.

43. FIRE HYDRANTS SHALL BE A MINIMUM OF 40 FEET FROM ALL STRUCTURES AND 10 FEET AWAY FROM THE RETURN OF A DRIVEWAY.

44. HYDRANTS SHALL NOT BE INSTALLED WHERE WALLS OR OTHER OBSTRUCTIONS ARE LOCATED WITHIN FIVE (5) FEET OF THE PROPOSED HYDRANT LOCATION.

45. A KEYED GATE VALVE SHALL BE PROVIDED FOR EACH HYDRANT IN AN ACCESSIBLE LOCATION. THE SHUT-OFF VALVE FOR THE HYDRANT SHALL BE LOCATED AT LEAST 10 FEET AWAY FROM THE HYDRANT AND A MINIMUM OF 3 FEET CLEARANCE SHALL BE MAINTAINED AROUND THE HYDRANT AT ALL TIMES. VALVES SHALL NOT BE LOCATED IN PARKING STALLS.

46. ALL HYDRANTS, BOLLARDS/GUARD POSTS IF REQUIRED SHALL BE INSTALLED AND PAINTED OSHA SAFETY YELLOW UNLESS OTHERWISE SPECIFIED BY THE FIRE DEPARTMENT OR APPROPRIATE WATER AGENCY.

47. HORIZONTAL WET STANDPIPE HYDRANTS (ON-SITE "YARD OR WHARF" HYDRANTS) SHALL CONSIST OF TWO 2-1/2" INDICATING VALVES WITH FIXED HOSE OUTLETS EQUIPPED WITH CAPS OF FRANGIBLE METAL OR BRASS CHAINED IN PLACE. THE HYDRANT SHALL BE CAPABLE OF FOUR-HOUR DURATION WHILE SUPPLYING 500 GALLONS PER MINUTE WITH BOTH OUTLETS FLOWING. THE YARD HYDRANT OUTLETS SHALL BE LOCATED AT A HEIGHT OF 18 TO 24 INCHES ABOVEGROUND.

48. ANY PRIVATE FIRE HYDRANT LOCATED SUCH THAT AN ABOVE GROUND VALVE (E.G. BACKFLOW PREVENTER) CAN SHUT IT OFF SHALL BE PERMANENTLY MARKED "VALVE(S) LOCATED AT LOCATION CONTROL(S) THIS HYDRANT."

49. ON-SITE HYDRANTS SHALL BE LOCATED SO THAT THEY ARE WITHIN TWO FEET OF THE CURB AND SO THAT SUCTION LINES WILL REACH FROM THE HYDRANT TO THE FIRE ENGINE (4" PUMPER CONNECTION FACING THE STREET OR AS OTHERWISE DIRECTED BY THE FIRE DEPARTMENT'S INSPECTOR).

50. A TWO-SIDED "BLUE DOT" REFLECTIVE FIRE HYDRANT MARKER SHALL BE INSTALLED ON THE ROAD SURFACE 4" TO 6" FROM CENTER LINE ON HYDRANT SIDE. FOR PERMANENT BLUE REFLECTIVE STREET BUTTONS (REFER TO: CALTRANS STANDARD SPECIFICATIONS SECTION 85) SHALL BE LOCATED AT THE MIDSECTION OF THE ACCESS ROADS, DIRECTLY IN FRONT OF THE HYDRANT(S) BEING ADDED.

51. AS PER NFPA 13 & 24 A "CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING", SHALL BE COMPLETED, SIGNED AND DELIVERED TO THE FIRE PREVENTION BUREAU PRIOR TO CLEARANCE FOR THE OVERHEAD SPRINKLER CONNECTION.

SOCAL GAS TRANSMISSION GENERAL REQUIREMENTS

1. CONSIDERATION MUST BE GIVEN TO THE SAFETY OF OUR PIPELINE(S) DURING ALL PROJECT STAGES
2. SOCALGAS MUST HAVE CONTINUOUS AND UNINTERRUPTED ACCESS TO THE PIPELINE(S) AND EASEMENT(S). IN ADDITION, SOCALGAS CONDUCTS ROUTINE PATROLS AND SURVEYS OF THE PIPELINE(S); SOCALGAS NEEDS DRIVABLE ACCESS ALONG THE PIPELINE(S)/EASEMENT(S).
3. BURIED PIPELINES MUST HAVE A MINIMUM COVER OF 3 FEET AND A MAXIMUM COVER OF 7 FEET BELOW FINISHED GRADE. NO CHANGE OF GRADE WHATSOEVER, EVEN WITHIN THESE PARAMETERS, SHALL BE MADE WITHOUT PRIOR APPROVAL OF SOCALGAS.
4. PRIOR TO SOCALGAS APPROVING ENCROACHMENT ONTO ITS EASEMENT(S), SOCALGAS MUST BE FURNISHED WITH FINAL GRADING PLANS SHOWING THE DEPTH OF THE PIPELINE(S) BELOW THE EXISTING SURFACE AND THE DEPTH OF THE PIPELINE(S) BELOW THE PROPOSED FINISHED GRADE. THESE ELEVATIONS MUST MEET SOCALGAS' REQUIREMENTS FOR BURIED PIPELINES.
5. NO PERMANENT STRUCTURES, SUCH AS BUILDINGS, BLOCK WALLS, FOUNDATIONS, GATES, ETC., SHALL BE CONSTRUCTED WITHIN THE EASEMENT OR OVER THE PIPELINE(S).
6. THERE SHALL BE NO PLANTING OF TREES OR OTHER DEEP-ROOTED PLANTS WITHIN THE EASEMENT(S) OR OVER THE PIPELINE(S).
7. SUBSTRUCTURES SHALL CROSS PERPENDICULAR TO THE EASEMENT(S). SUBSTRUCTURE CROSSINGS MUST PROVIDE A MINIMUM OF 18-INCHES VERTICAL CLEARANCE FROM THE PIPELINE(S). ADDITIONAL SEPARATION IS REQUIRED FOR LEACH LINES, FUEL LINES, ETC.
8. PARALLEL ENCROACHMENTS WITHIN THE EASEMENT(S) ARE PROHIBITED. IN AREAS WHERE A PARALLEL SUBSTRUCTURE IS BEING CONSTRUCTED OUTSIDE OF THE EASEMENT(S), SOCALGAS REQUIRES FIVE FEET OF SEPARATION, WITH THREE FEET OF UNDISTURBED FILL, IN ORDER TO PROTECT THE INTEGRITY OF OUR FACILITIES AND ALLOW THE FACILITIES TO BE SAFELY ACCESSED DURING INSPECTION, MAINTENANCE, AND REPAIR. ADDITIONAL SEPARATION MAY BE NEEDED FOR LEACH LINES, FUEL LINES, HIGH VOLTAGE ELECTRIC, ETC.
9. ALL ENCROACHMENTS ONTO SOCALGAS' EASEMENT(S) MUST HAVE WRITTEN APPROVAL OF SOCALGAS PRIOR TO CONSTRUCTION OR ENCROACHING ONTO THE EASEMENT(S).
10. ALL WORK WITHIN THE SOCALGAS EASEMENT(S) AND/OR WITHIN 10 FEET OF THE PIPELINE(S) MUST BE WITNESSED BY A SOCALGAS REPRESENTATIVE, AND NO WORK WILL BE ALLOWED WITHOUT THE SOCALGAS REPRESENTATIVE ON SITE.
11. NO HEAVY EQUIPMENT SHALL CROSS THE PIPELINE(S) WITHOUT SOCALGAS' APPROVAL. ADDITIONAL PROTECTIVE MEASURES MAY BE REQUIRED WHERE HEAVY EQUIPMENT IS EXPECTED TO CROSS THE PIPELINE(S).
12. NO MECHANICAL EQUIPMENT SHALL OPERATE WITHIN THREE HORIZONTAL FEET OF THE PIPELINE(S), AND ANY CLOSER WORK MUST BE PERFORMED BY HAND.
13. NO MECHANICAL EQUIPMENT SHALL OPERATE WITHIN TWO VERTICAL FEET OF THE PIPELINE(S), AND ANY CLOSER WORK MUST BE PERFORMED BY HAND.
14. BURIED PIPELINE(S) SHALL NOT BE LEFT EXPOSED, AND EXPOSED PIPELINE(S) SHALL NOT BE BURIED, WITHOUT PRIOR INSPECTION AND APPROVAL BY SOCALGAS. IF THE PIPELINE(S) ARE EXPOSED DURING CONSTRUCTION (E.G. SUBSTRUCTURE CROSSINGS, ETC.), THE PIPELINE MUST BE BACKFILLED WITH SAND OR ZERO-SACK SLURRY ONLY.
15. NO VIBRATORY COMPACTION IS PERMITTED OVER THE PIPELINE(S). IN RARE CASES, VIBRATORY COMPACTION MAY BE APPROVED BY SOCALGAS' ENGINEERING DEPARTMENT FOLLOWING REVIEW OF DETAILED SITE CONDITIONS, PIPELINE DATA, AND EQUIPMENT SPECIFICATIONS.
16. ALL CONTRACTORS AND SUBCONTRACTORS MUST BE NOTIFIED OF THE PRESENCE OF THE PIPELINE(S).
17. CONTRACTORS AND SUBCONTRACTORS MUST CALL DIGALERT (811) AT LEAST 2 WORKING DAYS PRIOR TO CONSTRUCTION, GRADING, OR EXCAVATION.
18. ONCE APPROVED, ENCROACHMENTS WITHIN SOCALGAS' EASEMENT(S) SHALL BE DOCUMENTED IN AN EASEMENT AMENDMENT OR OTHER DOCUMENT, AS DEEMED APPROPRIATE BY SOCALGAS' LAND SERVICES DEPARTMENT.
19. POTHoles SHOULD BE MADE, AS NECESSARY, TO ESTABLISH THE HORIZONTAL AND VERTICAL ALIGNMENT OF THE PIPELINE(S) WITHIN THE PROJECT AREA. THIS INFORMATION SHOULD BE INDICATED ON THE PLANS, AS NEEDED. CAUTION: SOCALGAS PERSONNEL MUST BE PRESENT DURING POTHOLES OPERATIONS. ARRANGEMENTS FOR SOCALGAS PERSONNEL TO STAND BY DURING POTHOLES ACTIVITIES CAN BE MADE BY CALLING DIGALERT AT 811.
20. CONSIDERATION SHOULD BE GIVEN TO BUILDING SETBACKS FROM THE EASEMENT LINES. A MINIMUM 15-FOOT SETBACK IS RECOMMENDED WHENEVER POSSIBLE.
21. ALL POTENTIAL BUYERS OR TENANTS OF THE PROPERTY SHOULD BE MADE AWARE OF THE PRESENCE OF THE PIPELINE(S) AND EASEMENT RESTRICTIONS.

GEOTECHNICAL NOTES

1. GEOTECHNICAL ENGINEER OF RECORD: TETRA TECH/BAS/GEOSCIENCE, 21700 COPLEY DRIVE #200, DIAMOND BAR, CA 91765. TEL=909-860-7777
2. THE GEOTECHNICAL ENGINEER OF RECORD OR ITS REPRESENTATIVE SHALL PROVIDE SUFFICIENT INSPECTIONS DURING THE PREPARATION OF THE NATURAL GROUND AND THE PLACEMENT AND COMPACTION OF FILL MATERIALS TO CERTIFY THE WORK IS BEING PERFORMED IN ACCORDANCE WITH THE APPROVED GRADING PLANS.
3. THE GROUND SURFACE SHALL BE PREPARED TO RECEIVE FILL BY REMOVING VEGETATION, TOPSOIL, NON-ENGINEERED FILL AND OTHER UNSUITABLE MATERIALS, AND BY SCARIFYING THE GROUND FOR A DEPTH OF 6 INCHES TO PROVIDE A GOOD BOND WITH THE FILL MATERIAL.
4. NATIVE SOILS ARE SUITABLE AS BACKFILL MATERIALS. ANY IMPORT SOILS SHALL BE ACCEPTED BY THE GEOTECHNICAL ENGINEER OR ITS REPRESENTATIVE PRIOR TO IMPORT TO THE SITE. GENERALLY HIGH PLASTICITY SOILS AND ORGANIC-RICH SOILS AS CLASSIFIED IN ACCORDANCE WITH ASTM D2487 AND D2488 SHOULD BE AVOIDED. AS GENERAL GUIDELINE SUITABLE MATERIALS WILL HAVE AN EXPANSION INDEX LESS THAN 50 AND A SAND EQUIVALENT GREATER THAN 20.
5. SUBGRADE AND FILL MATERIALS SHALL BE MOISTURE-CONDITIONED TO AT LEAST 110 PERCENT OF OPTIMUM MOISTURE CONTENT AND COMPACTED IN LIFTS NOT EXCEEDING 8 INCHES IN LOOSE UNCOMPACTED THICKNESS. ALL FILL MATERIALS SHALL BE COMPACTED TO AT LEAST 90 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 MODIFIED PROCTOR.
6. WHEREVER AN UNUSUAL OR UNSATISFACTORY CONDITION IS CREATED IN ANY AREA, WHETHER CUTTING OR FILLING, THE WORK SHALL NOT PROCEED IN THAT AREA UNTIL THE CONDITION HAS BEEN SUBMITTED TO THE GEOTECHNICAL ENGINEER FOR EVALUATION AND CONSEQUENTLY THE MITIGATION MEASURES RECOMMENDED BY THE GEOTECHNICAL ENGINEER WERE IMPLEMENTED.
7. SUBGRADE AND FILL WITHIN 1 FOOT UNDER PAVEMENT SURFACE OR HARDSCAPE SHALL BE COMPACTED TO 95 PERCENT RELATIVE COMPACTION.

PROTECTION OF EXISTING PLANT MATERIAL

1. PRIOR TO CLEARING AND GRUBBING, THE CONTRACTOR SHALL VERIFY WITH THE OWNER'S REPRESENTATIVE THOSE PLANTS THAT ARE TO REMAIN. CONTRACTOR SHALL DOCUMENT WITH PHOTOGRAPHS THE CONDITION OF PLANT MATERIAL PRIOR TO ANY CONSTRUCTION.
2. EXISTING PLANTS WHICH ARE TO REMAIN IN THE PROJECT SHALL BE TAGGED AND IDENTIFIED BY THE CONTRACTOR PRIOR TO START OF WORK. CONTRACTOR SHALL PROVIDE MAINTENANCE FOR EXISTING MATERIAL DURING CONSTRUCTION.
3. DAMAGE TO A PLANT THAT RESULTS IN DEATH OR PERMANENT DISFIGURATION SHALL RESULT IN THE COMPLETE REMOVAL OF THE PLANT, INCLUDING ROOTS FROM THE SITE BY THE CONTRACTOR. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL REPLACE THE PLANT WITH ONE OF EQUAL VALUE AS ESTABLISHED BY THE LANDSCAPE ARCHITECT OR REIMBURSE THE OWNER THE COST OF SAID REPLACEMENT IF A REPLACEMENT CANNOT BE OBTAINED. THE LANDSCAPE ARCHITECT OR CITY ARBORIST SHALL BE THE SOLE JUDGE OF THE REPLACEMENT OF THE PLANT.
4. ALL EXISTING PLANT MATERIAL THAT IS TO REMAIN SHALL BE PROTECTED AT ALL TIMES FROM DAMAGE BY MEN AND EQUIPMENT. ALL DAMAGE BY THE CONTRACTOR TO EXISTING PLANTS SHALL BE REPAIRED AT THEIR EXPENSE TO AT LEAST THE EXISTING CONDITION PRIOR TO CONSTRUCTION. IF PRE-CONSTRUCTION PHOTOGRAPHIC DOCUMENTATION IS NOT AVAILABLE, RECORD DRAWINGS SHALL DICTATE THE SITE CONDITION PRIOR TO THE START OF CONSTRUCTION.
5. A TREE PROTECTIONS ZONE (TPZ) SHALL BE ESTABLISHED FOR EXISTING TREES TO REMAIN. THE TPZ SHALL EXTEND ONE (1) FOOT FROM THE TRUNK FOR EACH INCH OF TRUNK DIAMETER BUT SHALL NOT ENCRDACH ONTO PRIVATE PROPERTY. STUDY ORANGE SNOW FENCING SHALL BE INSTALLED AROUND THE TPZ OF EACH TREE THAT IS TO REMAIN. NO DIGGING, TRENCHING, OR OTHER SOIL DISTURBANCE SHALL BE ALLOWED WITHIN THE FENCED AREA. NO STORAGE OF MATERIAL SHALL BE ALLOWED WITHIN THE FENCED AREA.
6. THE CONTRACTOR SHALL ENSURE THAT NO FOREIGN MATERIAL AND/OR LIQUID, SUCH AS PAINT, CONCRETE, CEMENT, TURPENTINE, ACID OR THE LIKE, BE DEPOSIT OR ALLOWED TO BE DEPOSITED ON ANY SOIL WITHIN THE FENCED TREE AREA OR WITHIN SIX (6) FEET OF A SHRUB OR VINE. SHOULD ANY SUCH POISONING OF THE SOIL OCCUR, THE CONTRACTOR SHALL REMOVE SAID SOIL AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND REPLACE IT WITH ACCEPTABLE SOIL AT NO EXPENSE TO THE OWNER.
7. WHERE IT IS NECESSARY TO EXCAVATE IN CLOSE PROXIMITY TO EXISTING PLANT MATERIAL, ALL POSSIBLE CAUTION SHALL BE EXERCISED TO AVOID INJURY TO ROOTS AND TRUNK. EXCAVATION CLOSE TO TREES SHALL BE BY HAND. TUNNELING UNDER ROOTS TWO (2) INCHES AND LARGER IN DIAMETER, CUTTING OF ROOTS, TWO (2) INCHES AND LARGER SHALL BE ONLY ON THE APPROVAL OF THE CITY ARBORIST. PAINT OUT ROOTS WITHIN 24 HOURS OF INITIAL DAMAGE WITH APPROVED PRUNING PAINT. WHEN THIS IS NOT POSSIBLE, KEEP THE SIDE OF EXCAVATION ADJACENT TO TREE SHADED WITH MOIST BURLAP OR CANVAS.
8. ALL TREES TO BE PROTECTED IN PLACE SHALL FOLLOW TREE PROTECTION GUIDELINES OUTLINED IN SECTION 2.20.2 OF THE CITY OF ENCINITAS URBAN FOREST MANAGEMENT PROGRAM ADMINISTRATIVE MANUAL PROCEDURES.

REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT	APPROVALS	CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
					THE BASIS OF ELEVATIONS FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) PER RECORD OF SURVEY 18416 (CITY OF ENCINITAS SURVEY CONTROL). BENCHMARK DESIGNATION: POINT NUMBER 1004/ENC-4	HORIZONTAL AS SHOWN		RECOMMENDED	GENERAL NOTES FOR:	SI-144
					ELEVATION: 67.639 (NAVD88)	VERTICAL AS SHOWN	PLANS PREPARED UNDER SUPERVISION OF	APPROVED	NORTH COAST HIGHWAY 101 LEUCADIA STREETSCAPE DRAINAGE	SHEET 4 OF 25
							ENGINEER: JOANNE S. TYLER R.C.E. NO. 59286	BY: ABRAHAM BANDEGAN DATE:	BY: JILL BANKSTON DATE:	CIP PROJECT NO. CD23A

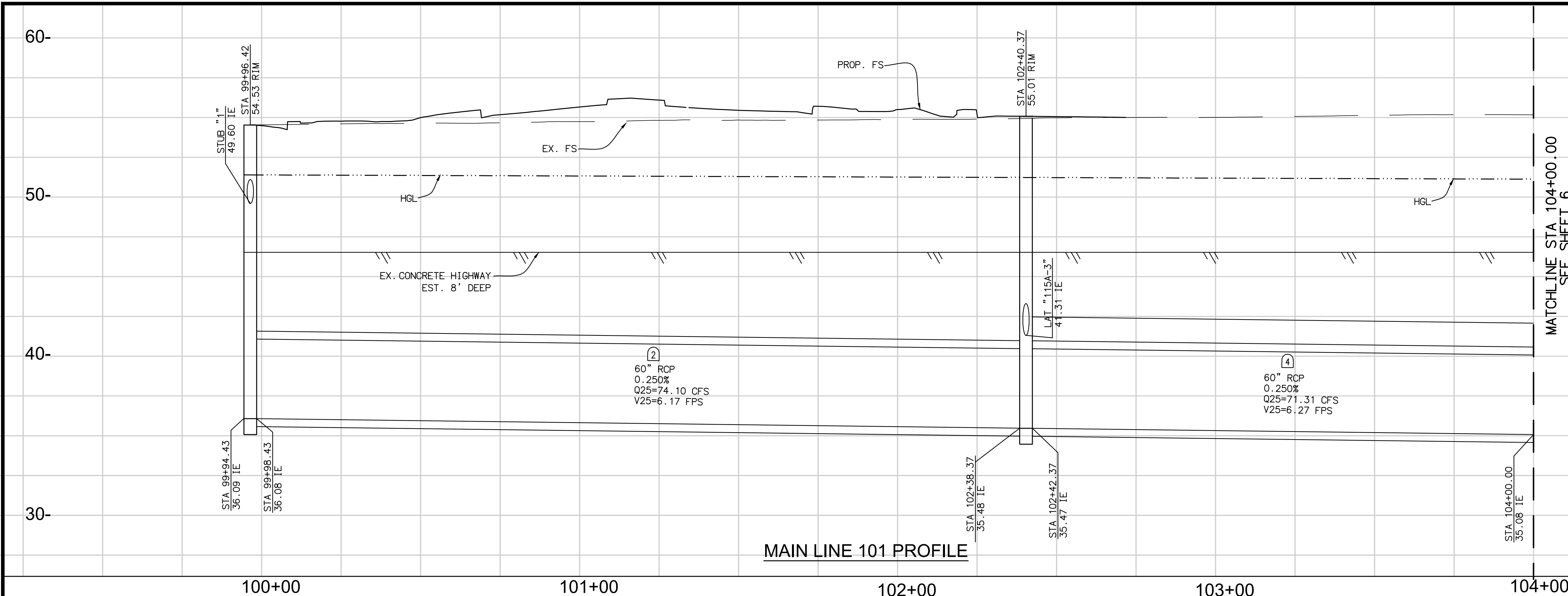
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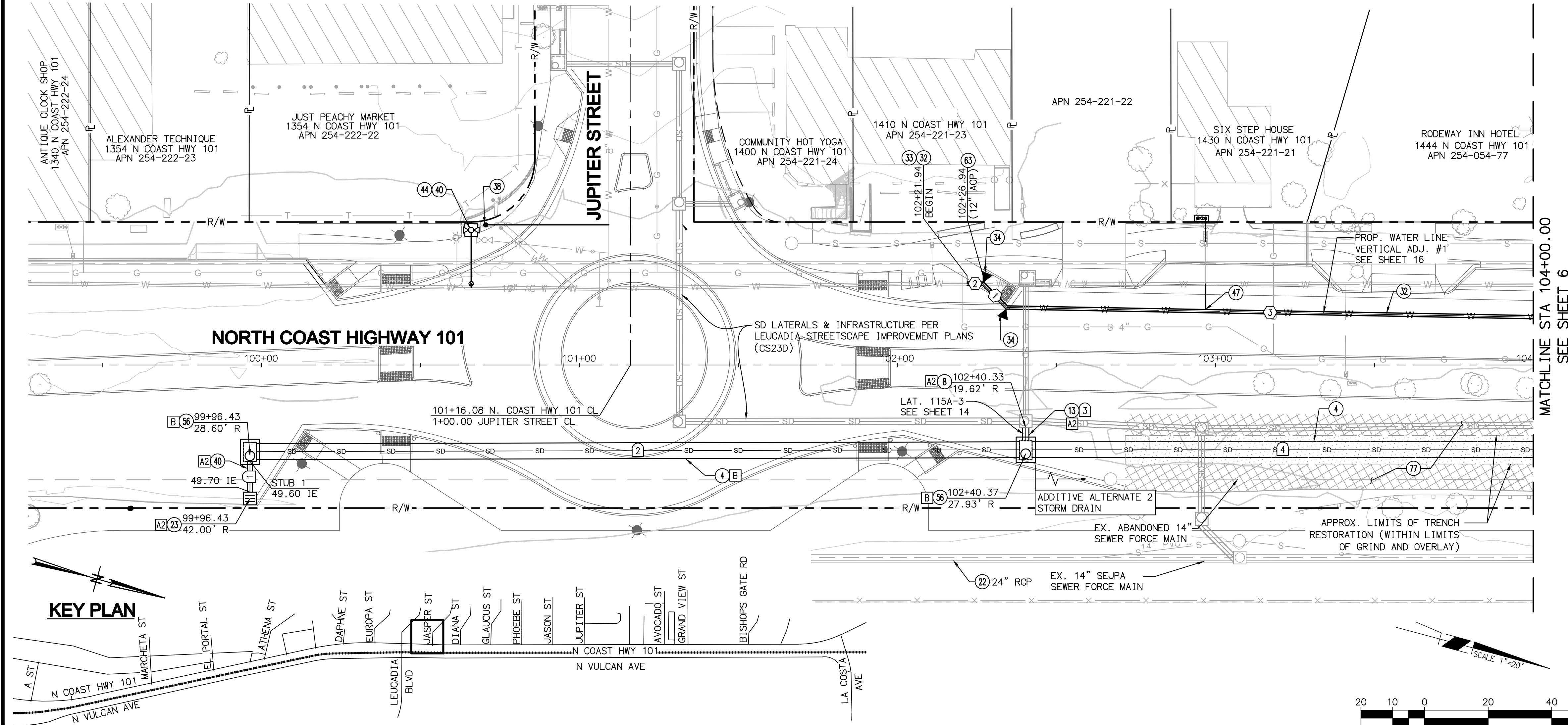


NORTH COAST HIGHWAY 101

SCALE: HORIZ. 1" = 20'
VERT. 1" = 4'



MAIN LINE 101 PROFILE



STORM DRAIN & WATER NOTES

- 4 INSTALL 60" RCP
- 8 CONNECT TO EXISTING CLEANOUT
- 13 INSTALL 24" RCP
- 22 EXISTING STORM DRAIN PER DRAWING 013-D1
- 23 INSTALL TYPE G CATCH BASIN PER SDRSD D-08
- 32 INSTALL 12" C900 CLASS 305 (DR14) PVC WITH PIPE BEDDING PER WAS WP-02
- 33 INSTALL 5' MIN LENGTH PVC W/ PVC X ACP TRANSITION COUPLING
- 34 INSTALL 45 DEG BEND DI MJ WITH CONCRETE THRUST BLOCK (BEARING AREA=48.4 SF) PER WAS WT-01
- 38 INSTALL 2" BLOW OFF PER WAS WB-01, WC-17
- 40 INSTALL A 4'X4' CONCRETE SPLASH PAD UNDER FH. PROVIDE 3' CLEAR FROM HYDRANT AND LANDSCAPING AREA PER WAS WF-04.
- 44 INSTALL NEW FIRE HYDRANT (TWO 4" AND TWO 2-1/2" NST OUTLETS) PER WAS WF-01 & WF-04. FLANGE ELEVATION = 55.26
- 47 RECONNECT EXISTING WATER SERVICE PER WAS WS-07
- 56 INSTALL TYPE A6 STORM DRAIN CLEANOUT PER SDRSD D-09
- 63 CUT & INSTALL TEMPORARY END CAP ON EXISTING DW ACP PIPE, SIZE PER PLAN
- 77 1.5" GRIND & AC OVERLAY

BID LEGEND

- B BASE BID
- A2 ADDITIVE ALTERNATE 2

STORM DRAIN DATA TABLE

NO	BEARING/DELTA	RADIUS	LENGTH	NOTE
1	N 74°56'41" E	--	9.65'	18" RCP 750-D
2	N 15°11'38" W	--	239.95'	MAIN LINE 101 60" RCP 1300-D
3	N 74°56'41" E	--	4.00'	LAT. 115A-3 24" RCP 1200-D
4	N 15°03'19" W	--	157.53'	MAIN LINE 101 60" RCP 1300-D

NOTE: ALL STORM DRAIN RCP TO HAVE WATERTIGHT JOINTS.

WATER DATA TABLE

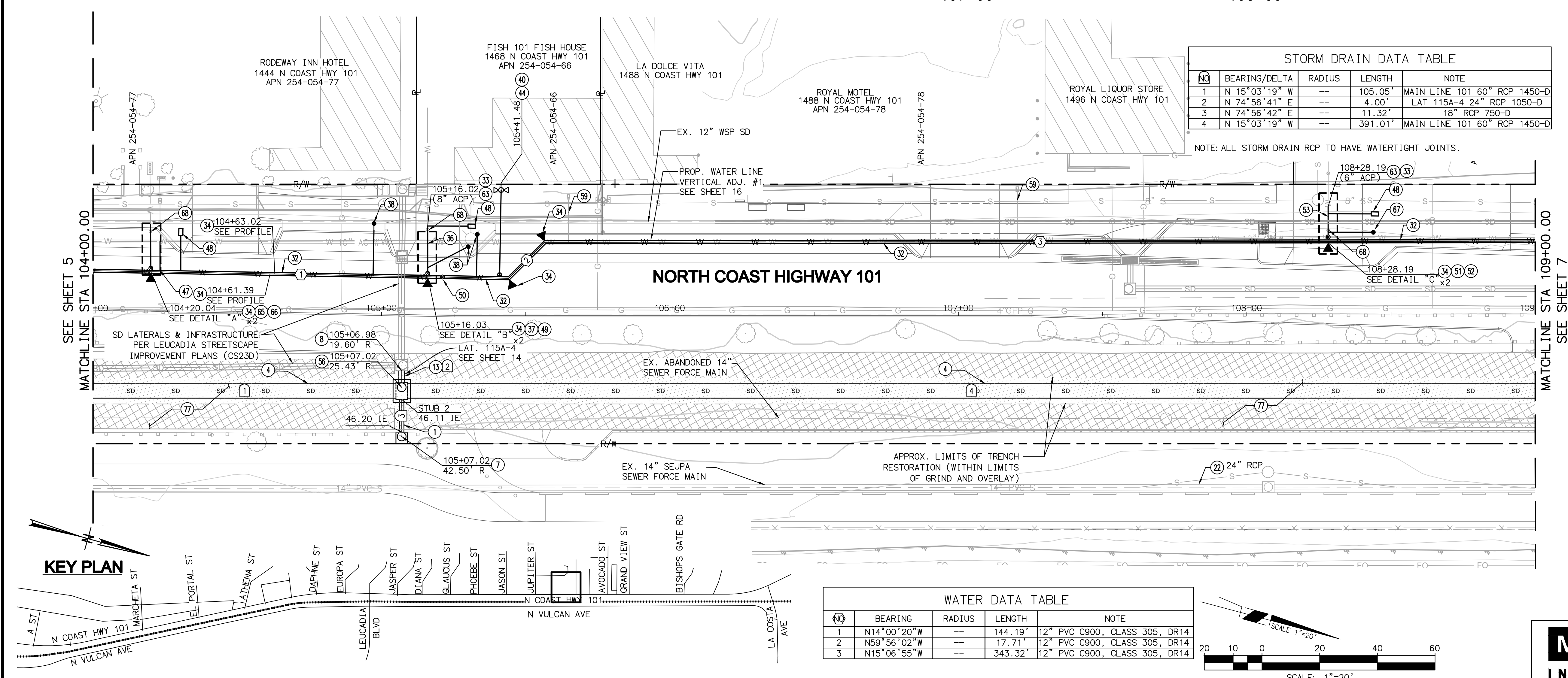
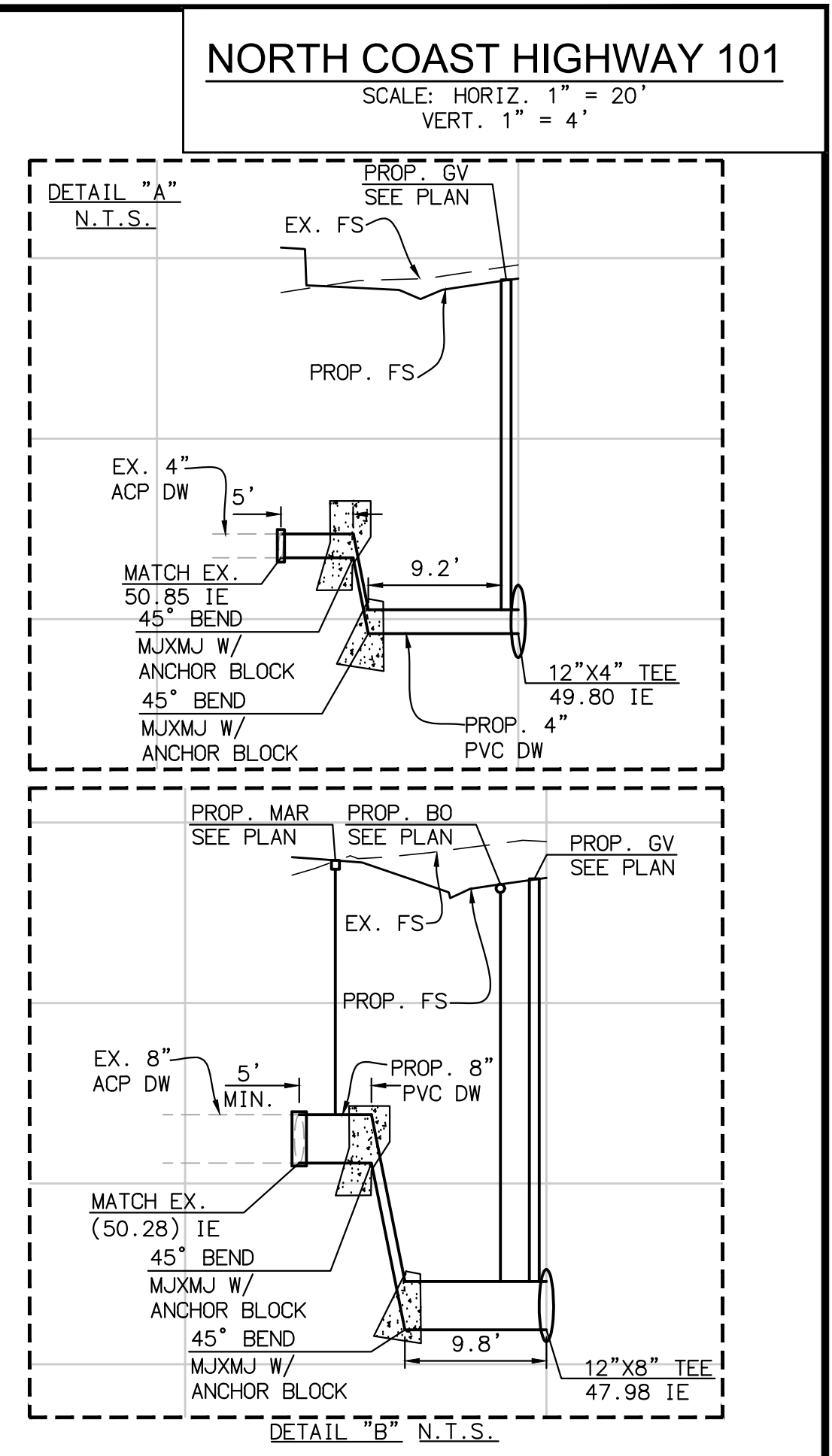
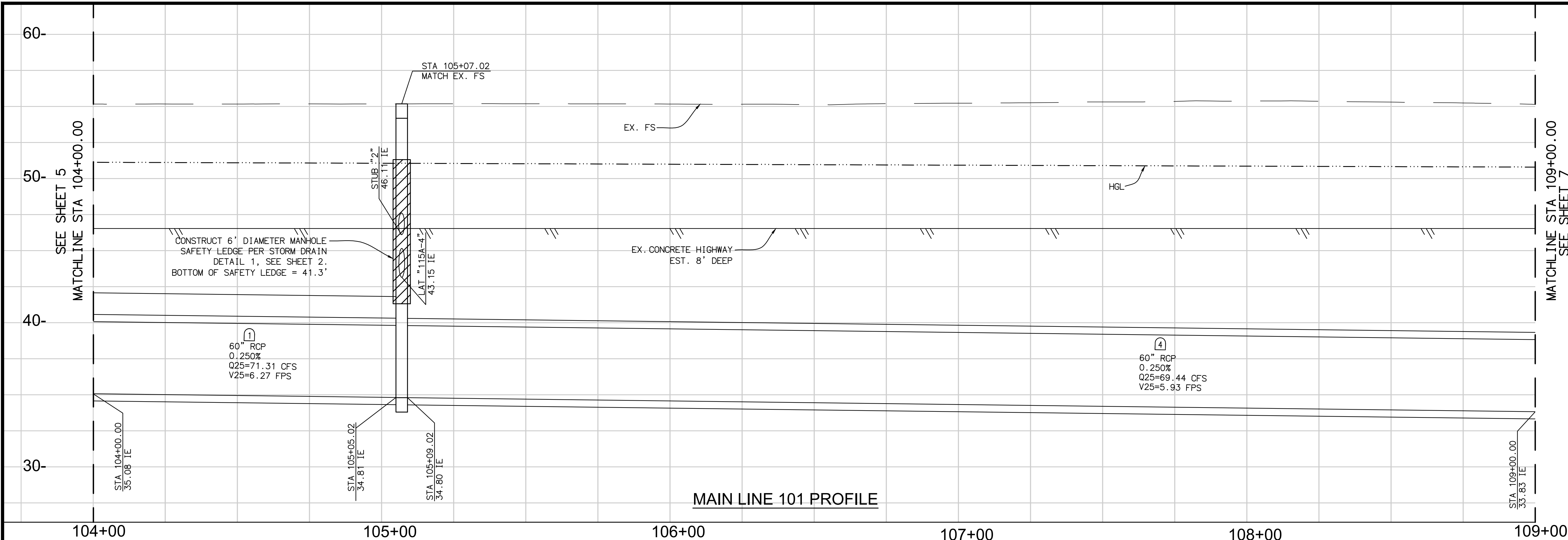
NO	BEARING	RADIUS	LENGTH	NOTE
1	N30°03'58"E	--	10.59'	12" PVC C900, CLASS 305, DR14
2	N14°56'02"W	--	5.00'	12" PVC C900, CLASS 305, DR14
3	N14°00'20"W	--	165.60'	12" PVC C900, CLASS 305, DR14

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REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT	APPROVALS		CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
					THE BASIS OF ELEVATIONS FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) PER RECORD OF SURVEY 18416 (CITY OF ENCINITAS SURVEY CONTROL). BENCHMARK DESIGNATION: POINT NUMBER 1004/ENC-4 ELEVATION: 67.639 (NAVD88)	HORIZONTAL AS SHOWN	PLANS PREPARED UNDER SUPERVISION OF ENGINEER: JOANNE S. TYLER DATE: _____ R.C.E. NO. 59286	RECOMMENDED	APPROVED	STORM DRAIN & WATER PLAN FOR: NORTH COAST HIGHWAY 101 LEUCADIA STREETSCAPE DRAINAGE CIP PROJECT NO. CD23A	SI-144
				VERTICAL AS SHOWN		BY: ABRAHAM BANDEGAN BY: JILL BANKSTON DATE: _____ DATE: _____					



STORM DRAIN DATA TABLE				
NO	BEARING/DELTA	RADIUS	LENGTH	NOTE
1	N 15°03'19" W	--	105.05'	MAIN LINE 101 60" RCP 1450-D
2	N 74°56'41" E	--	4.00'	LAT 115A-4 24" RCP 1050-D
3	N 74°56'42" E	--	11.32'	18" RCP 750-D
4	N 15°03'19" W	--	391.01'	MAIN LINE 101 60" RCP 1450-D

WATER DATA TABLE				
NO	BEARING	RADIUS	LENGTH	NOTE
1	N14°00'20"W	--	144.19'	12" PVC C900, CLASS 305, DR14
2	N59°56'02"W	--	17.71'	12" PVC C900, CLASS 305, DR14
3	N15°06'55"W	--	343.32'	12" PVC C900, CLASS 305, DR14

- STORM DRAIN & WATER NOTES**
- INSTALL 18" RCP
 - INSTALL 60" RCP
 - INSTALL TYPE A4 STORM DRAIN CLEANOUT PER SDRSD D-09
 - CONNECT TO EXISTING CLEANOUT
 - INSTALL 24" RCP
 - EXISTING STORM DRAIN PER DRAWING 013-D1
 - INSTALL 12" C900 CLASS 305 (DR14) PVC WITH PIPE BEDDING PER WAS WP-02
 - INSTALL 5' MIN LENGTH PVC W/ PVC X ACP TRANSITION COUPLING
 - INSTALL 45 DEG BEND DI MJ WITH CONCRETE THRUST BLOCK (BEARING AREA=48.4 SF) PER WAS WT-01
 - INSTALL 8" C900 CLASS 305 (DR14) PVC WITH PIPE BEDDING PER WAS WP-02
 - INSTALL 12" X 8" DI TEE W/ THRUST BLOCK (BEARING AREA=34.2 SF)
 - INSTALL 2" BLOW OFF PER WAS WB-01, WC-17
 - INSTALL A 4'X4' CONCRETE SPLASH PAD UNDER FH. PROVIDE 3' CLEAR FROM HYDRANT AND LANDSCAPING AREA PER WAS WF-04.
 - INSTALL NEW FIRE HYDRANT (TWO 4" AND TWO 2-1/2" NST OUTLETS) PER WAS WF-01 & WF-04. FLANGE ELEVATION = 55.04
 - RECONNECT EXISTING WATER SERVICE PER WAS WS-07
 - INSTALL 2" MANUAL AIR RELEASE VALVE IN 12" CAN PER WAS WA-07, WC-17
 - INSTALL 8" GATE VALVE PER WAS WV-02
 - INSTALL 12" GATE VALVE PER WAS WV-02
 - INSTALL 12" X 6" DI TEE W/ THRUST BLOCK (BEARING AREA=34.2 SF)
 - INSTALL 6" GATE VALVE PER WAS WV-02
 - INSTALL 6" C900 CLASS 305 (DR14) PVC WITH PIPE BEDDING PER WAS WP-02
 - INSTALL TYPE A6 STORM DRAIN CLEANOUT PER SDRSD D-09
 - UPGRADE EXISTING 1" WATER METER SERVICE TO COPPER PER WAS WS-01, WS-07, WC-17.
 - CUT & INSTALL TEMPORARY END CAP ON EXISTING DW ACP PIPE, SIZE PER PLAN
 - INSTALL 12" X 4" DI TEE W/ THRUST BLOCK (BEARING AREA=34.2 SF)
 - INSTALL 4" GATE VALVE PER WAS WV-01
 - INSTALL 2" BLOW OFF IN 12" CAN PER WAS WB-06, WC-17
 - REMOVE & SALVAGE EX. WATER VALVE
 - 1.5" GRIND & AC OVERLAY

REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT	APPROVALS	CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.	
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NORTH COAST HIGHWAY 101

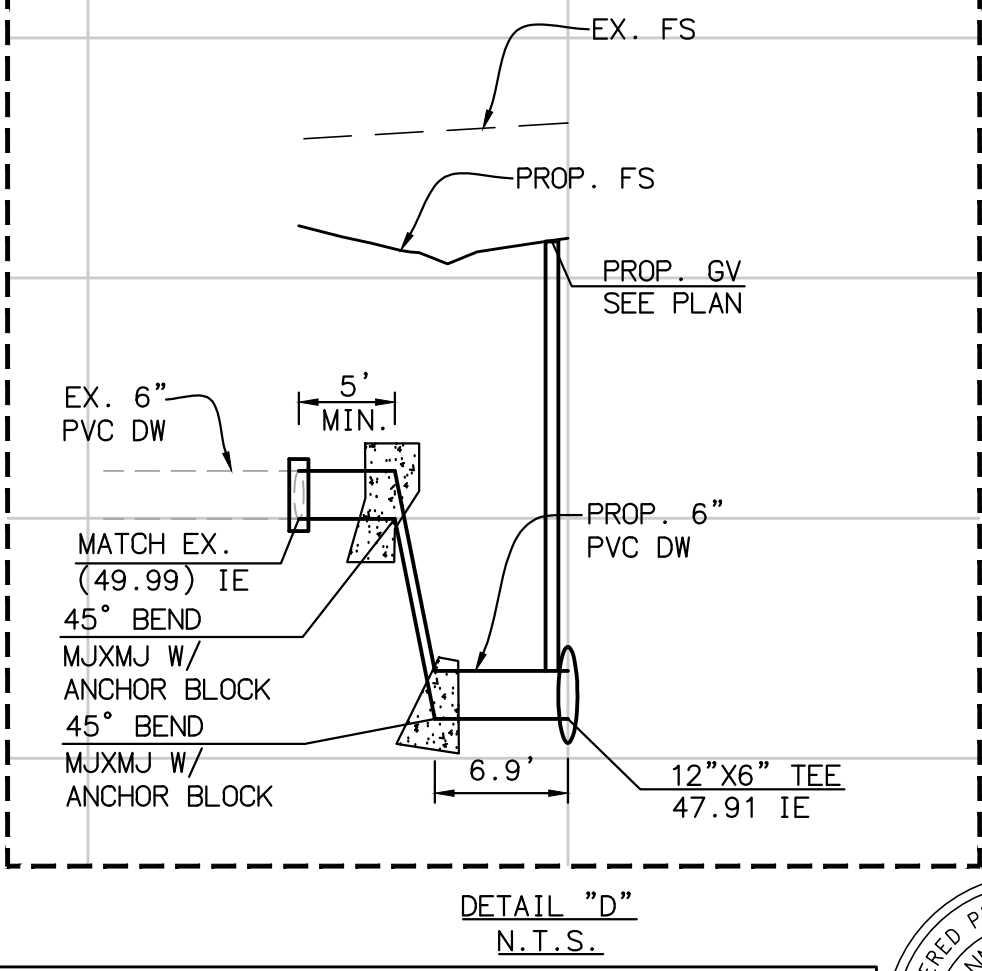
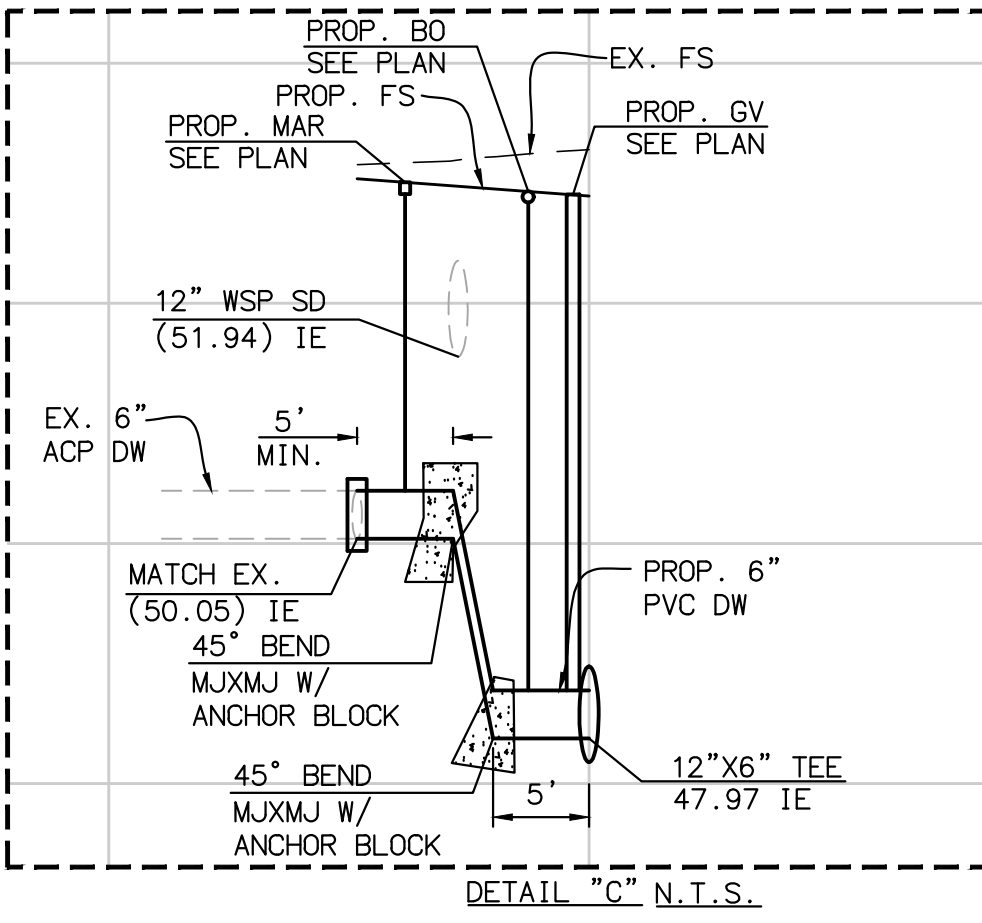
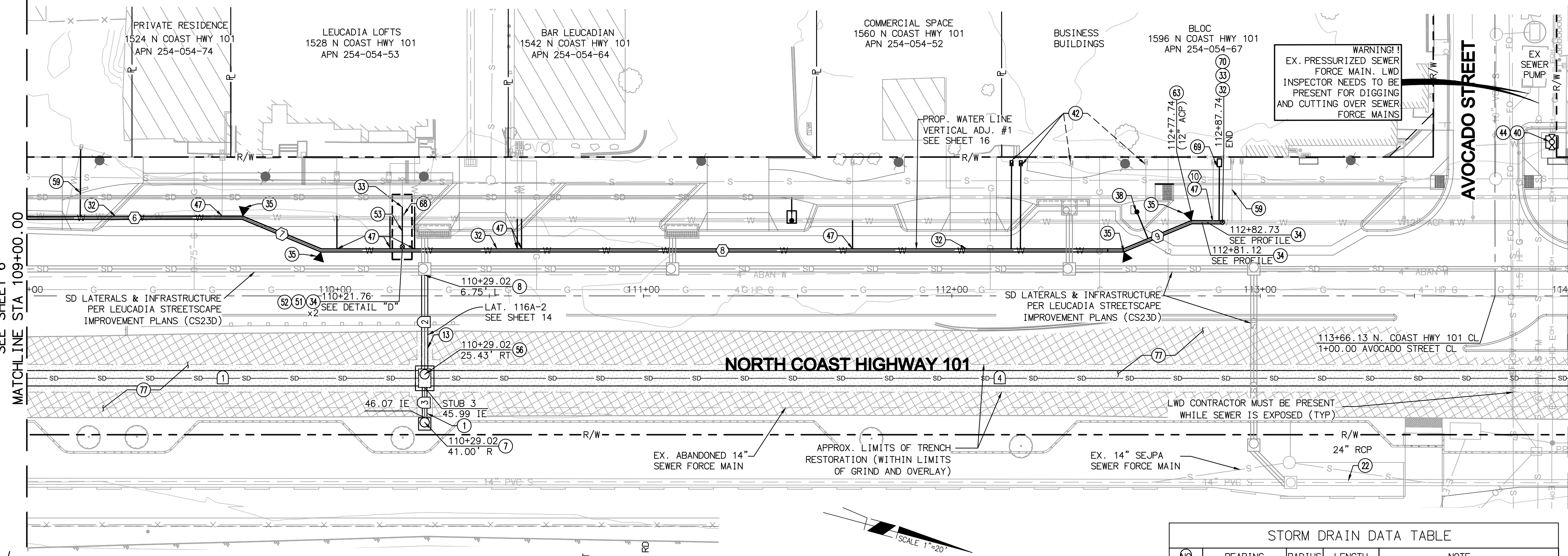
SCALE: HORIZ. 1" = 20'
VERT. 1" = 4'

STORM DRAIN & WATER NOTES

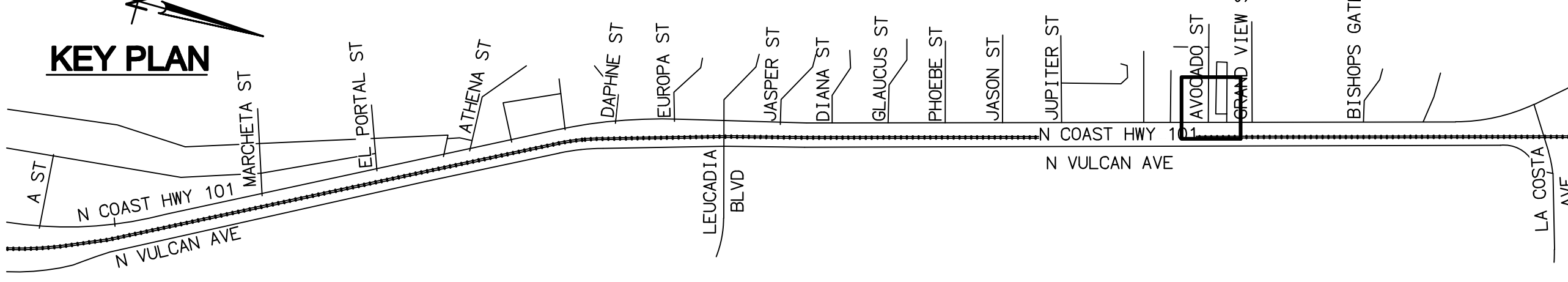
1. INSTALL 18" RCP
7. INSTALL TYPE A4 STORM DRAIN CLEANOUT PER SDRSD D-09
8. CONNECT TO EXISTING CLEANOUT
15. INSTALL 24" RCP
32. INSTALL 12" C900 CLASS 305 (DR14) PVC WITH PIPE BEDDING PER WAS WP-02
33. INSTALL 5' MIN LENGTH PVC W/ PVC X ACP TRANSITION COUPLING
34. INSTALL 45 DEG BEND DI MJ WITH CONCRETE THRUST BLOCK (BEARING AREA=48.4 SF) PER WAS WT-01
35. INSTALL 22.5 DEG BEND DI MJ WITH CONCRETE THRUST BLOCK (BEARING AREA=13.3 SF) PER WAS WT-01
38. INSTALL 2" BLOW OFF PER WAS WB-01, WC-17
42. INSTALL A 4'X4' CONCRETE SPLASH PAD UNDER FH. PROVIDE 3' CLEAR FROM HYDRANT AND LANDSCAPING AREA PER WAS WF-04.
42. RELOCATE WATER METER AND ESTABLISH NEW CONNECTION TO WATER MAIN PER WAS WS-01 OR WS-02. CONTRACTOR TO RE-ESTABLISH CONNECTION TO EX. CUSTOMER PLUMBING OR BACKFLOW PREVENTER
44. INSTALL NEW FIRE HYDRANT (TWO 4" AND TWO 2-1/2" NST OUTLETS) PER WAS WF-01 & WF-04. FLANGE ELEVATION = 55.21
47. RECONNECT EXISTING WATER SERVICE PER WAS WS-07
51. INSTALL 12" X 6" DI TEE W/ THRUST BLOCK (BEARING AREA=34.2 SF)
52. INSTALL 6" GATE VALVE PER WAS WV-02
53. INSTALL 6" C900 CLASS 305 (DR14) PVC WITH PIPE BEDDING PER WAS WP-02
56. INSTALL TYPE A6 STORM DRAIN CLEANOUT PER SDRSD D-09
59. UPGRADE EXISTING 1" WATER METER SERVICE TO COPPER PER WAS WS-01, WS-07, WC-17.
63. CUT & INSTALL TEMPORARY END CAP ON EXISTING DW ACP PIPE, SIZE PER PLAN
68. REMOVE & SALVAGE EX. WATER VALVE
69. INSTALL 2" MANUAL AIR RELEASE VALVE PER WAS WA-01, WC-17
70. INSTALL 12" INSERTION VALVE, HYDRASTOP INSTA-VALVE OR APPROVED EQUAL
77. 1.5" GRIND & AC OVERLAY

MAIN LINE 101 PROFILE

109+00 110+00 111+00 112+00 113+00 114+00



KEY PLAN



WATER DATA TABLE

NO	BEARING/Delta	RADIUS	LENGTH	NOTE
6	N 15°06'55" W	---	69.92'	12" PVC C900, CLASS 305, DR14
7	N 07°26'41" E	---	27.65'	12" PVC C900, CLASS 305, DR14
8	N 15°03'19" W	---	260.10'	12" PVC C900, CLASS 305, DR14
9	N 37°33'19" W	---	23.90'	12" PVC C900, CLASS 305, DR14
10	N 14°48'21" W	---	5.00'	12" PVC C900, CLASS 305, DR14

STORM DRAIN DATA TABLE

NO	BEARING	RADIUS	LENGTH	NOTE
1	N15°03'19"W	---	126.99'	MAIN LINE 101: 60" RCP 1450-D
2	N74°56'41"E	---	30.43'	LAT 116A-2 24" RCP 1100-D
3	N74°56'41"E	---	9.82'	18" RCP 750-D
4	N15°03'19"W	---	369.01'	MAIN LINE 101: 60" RCP 1450-D

NOTE: ALL STORM DRAIN RCP TO HAVE WATERTIGHT JOINTS.

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REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT	APPROVALS	CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
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NORTH COAST HIGHWAY 101

SCALE: HORIZ. 1" = 20'
VERT. 1" = 4'

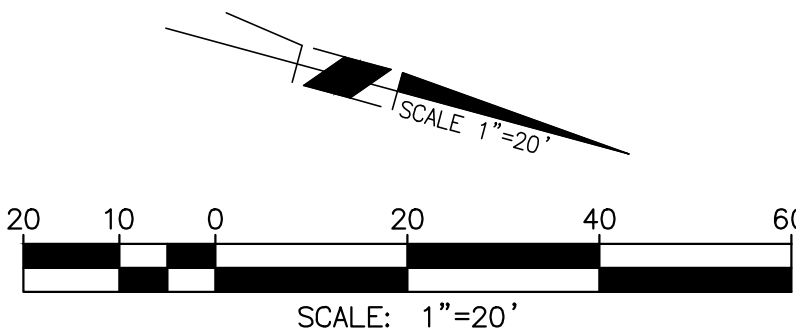
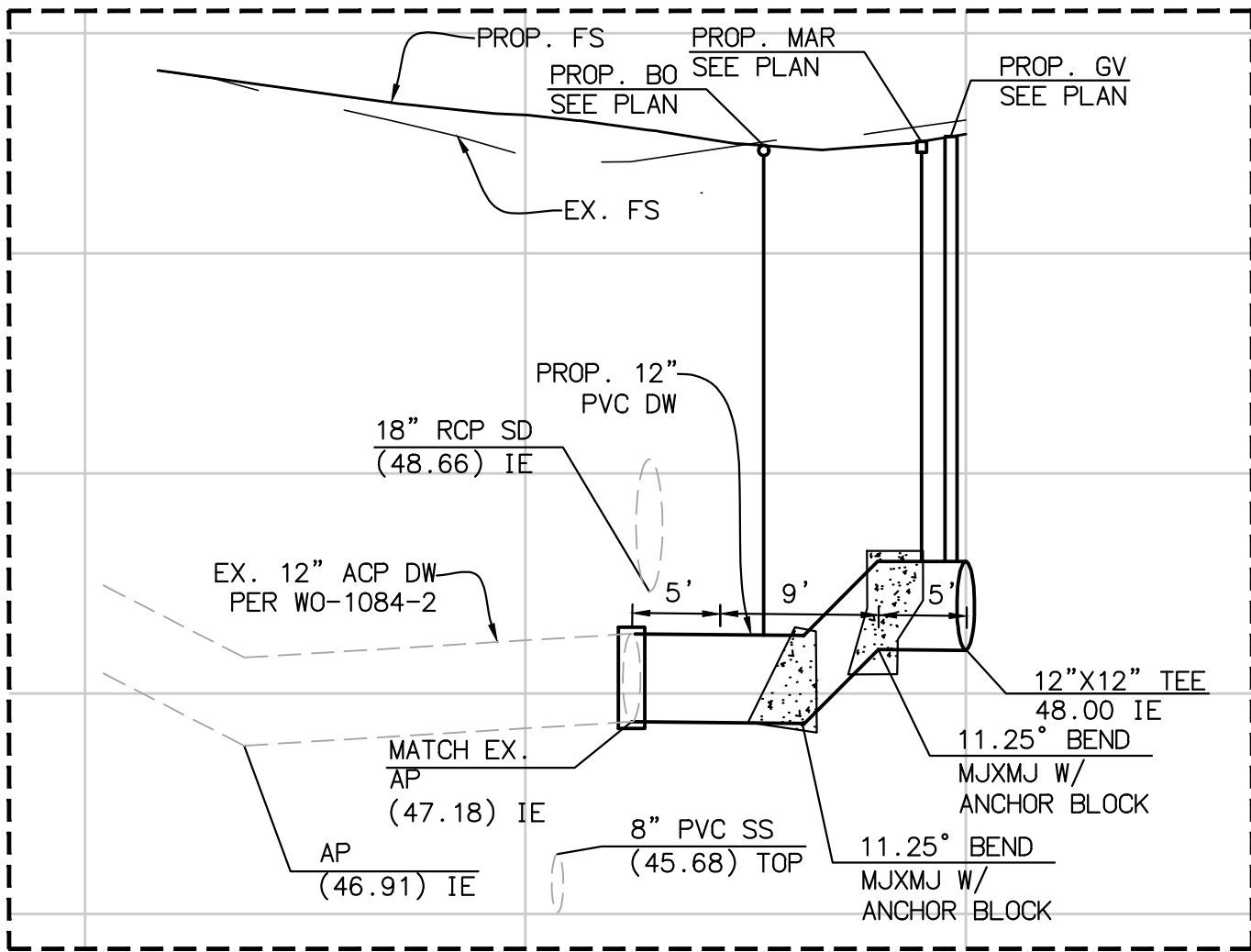
STORM DRAIN & WATER NOTES

- ④ INSTALL 60" RCP
⑧ CONNECT TO EXISTING CLEANOUT
⑬ INSTALL 24" RCP
⑳ EXISTING STORM DRAIN PER DRAWING 013-D1
㉓ INSTALL 12" C900 CLASS 305 (DR14) PVC WITH PIPE BEDDING PER WAS WP-02
㉔ INSTALL 5' MIN LENGTH PVC W/ PVC X ACP TRANSITION COUPLING
㉕ INSTALL 45 DEG BEND DI MJ WITH CONCRETE THRUST BLOCK (BEARING AREA=48.4 SF) PER WAS WT-01
㉖ INSTALL 22.5 DEG BEND DI MJ WITH CONCRETE THRUST BLOCK (BEARING AREA=13.3 SF) PER WAS WT-01
㉗ INSTALL 2" BLOW OFF PER WAS WB-01, WC-17
㉘ RELOCATE WATER METER AND ESTABLISH NEW CONNECTION TO WATER MAIN PER WAS WS-01 OR WS-02, CONTRACTOR TO RE-ESTABLISH CONNECTION TO EX. CUSTOMER PLUMBING OR BACKFLOW PREVENTER
㉙ INSTALL 2-INCH COPPER WATER LATERAL WITH 1-INCH METER PER WAS WS-02, WC-17. PRESSURE BACKFLOW PREVENTION DEVICE TO BE INSTALLED PER WAS WR-01
㉚ INSTALL 12" GATE VALVE PER WAS WV-02
㉛ INSTALL 12"x12" DI TEE W/ THRUST BLOCK (BEARING AREA=34.2 SF)
㉜ REMOVE & SALVAGE EX. WATER VALVE
㉝ INSTALL 2" MANUAL AIR RELEASE VALVE PER WAS WA-01, WC-17
㉞ INSTALL 11.25 DEG BEND DI MJ WITH CONCRETE THRUST BLOCK (BEARING AREA=6.7 SF) PER WAS WT-01
㉟ INSTALL MODIFIED TYPE A6 STORM DRAIN CLEANOUT PER SDRSD D-09 & STORM DRAIN DETAIL 2 ON SHEET 2
㊱ 1.5" GRIND & AC OVERLAY

STORM DRAIN DATA TABLE

NO	BEARING	RADIUS	LENGTH	NOTE
1	N16°30'39"W	--	271.54'	MAIN LINE 101: 60" RCP 1550-D
2	N15°03'19"W	--	124.53'	MAIN LINE 101: 60" RCP 1550-D
3	N38°22'03"E	--	30.38'	LAT 118A 24" RCP 1100-D

NOTE: ALL STORM DRAIN RCP TO HAVE WATERTIGHT JOINTS.

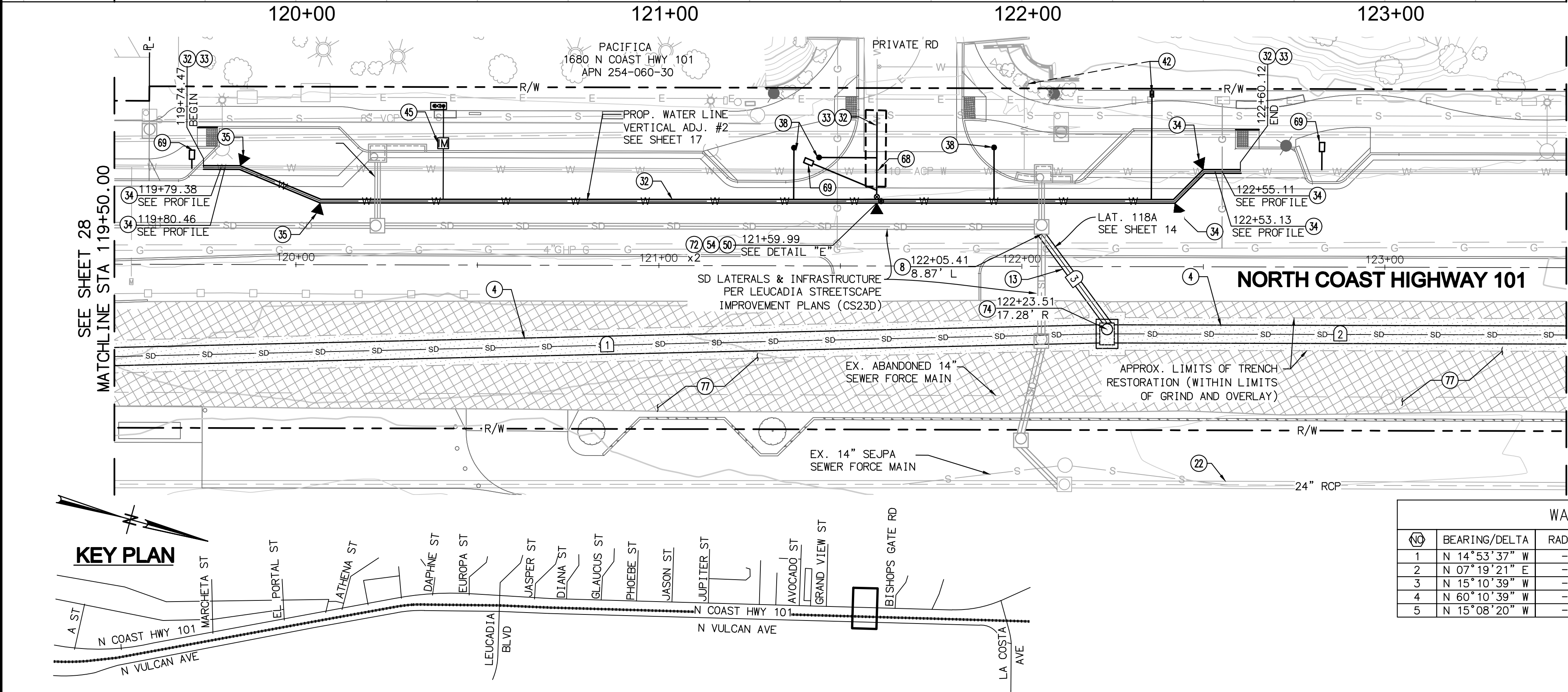
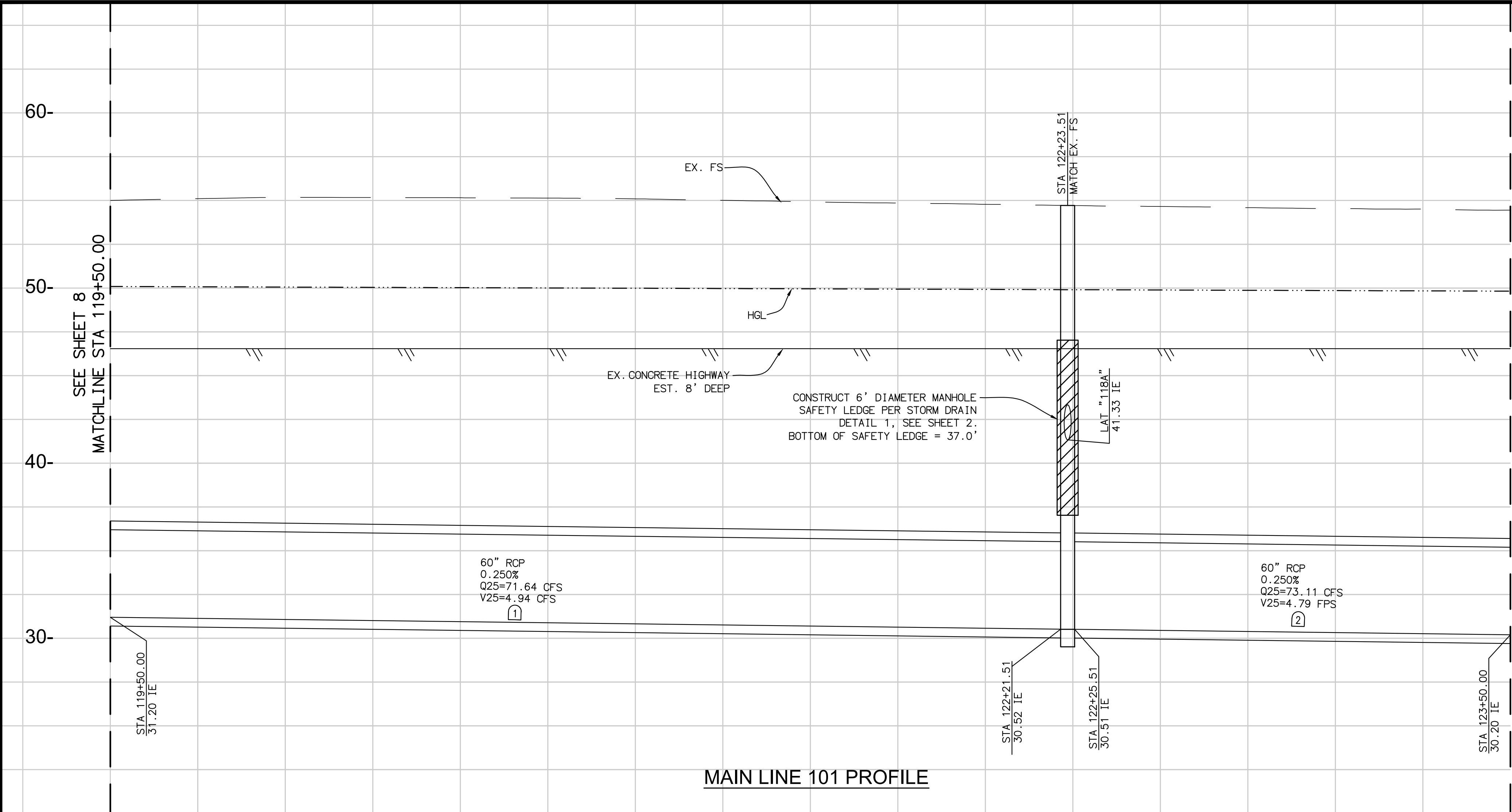


WATER DATA TABLE

NO	BEARING/Delta	RADIUS	LENGTH	NOTE
1	N 14°53'37" W	--	203.71'	12" PVC C900, CLASS 305, DR14
2	N 07°19'21" E	--	21.58'	12" PVC C900, CLASS 305, DR14
3	N 15°10'39" W	--	15.42'	12" PVC C900, CLASS 305, DR14
4	N 60°10'39" W	--	11.64'	12" PVC C900, CLASS 305, DR14
5	N 15°08'20" W	--	43.61'	12" PVC C900, CLASS 305, DR14

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REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT	APPROVALS	CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
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NORTH COAST HIGHWAY 101

SCALE: HORIZ. 1" = 20'
VERT. 1" = 4'

STORM DRAIN DATA TABLE

NO	BEARING	RADIUS	LENGTH	NOTE
1	N 15°16'55" W	---	332.46'	MAIN LINE 101: 60" RCP 1700-D
2	N 15°16'55" W	---	125.82'	MAIN LINE 101: 60" RCP 1700-D
3	N 15°16'55" W	---	33.71'	MAIN LINE 101: 60" RCP 1750-D
4	N 64°59'59" W	---	22.20'	18" RCP 750-D
5	N 74°56'41" E	---	25.77'	LAT 119A-1 24" RCP 1100-D
6	N 74°56'41" E	---	17.52'	18" RCP 750-D

NOTE: ALL STORM DRAIN RCP TO HAVE WATERTIGHT JOINTS.

STORM DRAIN & WATER NOTES

- INSTALL 60" RCP
- INSTALL TYPE A4 STORM DRAIN CLEANOUT PER SDRSD D-09
- EXISTING STORM DRAIN PER DRAWING 013-DI
- INSTALL 12" C900 CLASS 305 (DR14) PVC WITH PIPE BEDDING PER WAS WP-02
- INSTALL 5' MIN LENGTH PVC W/ PVC X ACP TRANSITION COUPLING
- INSTALL 45 DEG BEND DI MJ WITH CONCRETE THRUST BLOCK (BEARING AREA=48.4 SF) PER WAS WT-01
- INSTALL 22.5 DEG BEND DI MJ WITH CONCRETE THRUST BLOCK (BEARING AREA=13.3 SF) PER WAS WT-01
- INSTALL 2" BLOW OFF PER WAS WB-01, WC-17
- INSTALL A 4'X4' CONCRETE SPLASH PAD UNDER FH. PROVIDE 3' CLEAR FROM HYDRANT AND LANDSCAPING AREA PER WAS WF-04.
- INSTALL NEW FIRE HYDRANT (TWO 4" AND TWO 2-1/2" NST) 55.98 OUTLETS) PER WAS WF-01 & WF-04. FLANGE ELEVATION = ____
- INSTALL 12" GATE VALVE PER WAS WV-02
- UPGRADE EXISTING 2" WATER METER SERVICE TO COPPER PER WAS WS-02, WS-07, WC-17.
- INSTALL 2" MANUAL AIR RELEASE VALVE PER WAS WA-01, WC-17
- INSTALL 12" INSERTION VALVE, HYDRASTOP INSTA-VALVE OR APPROVED EQUAL
- INSTALL MODIFIED TYPE A6 STORM DRAIN CLEANOUT PER SDRSD D-09 & STORM DRAIN DETAIL 2 ON SHEET 2
- 1.5" GRIND & AC OVERLAY

MAIN LINE 101 PROFILE

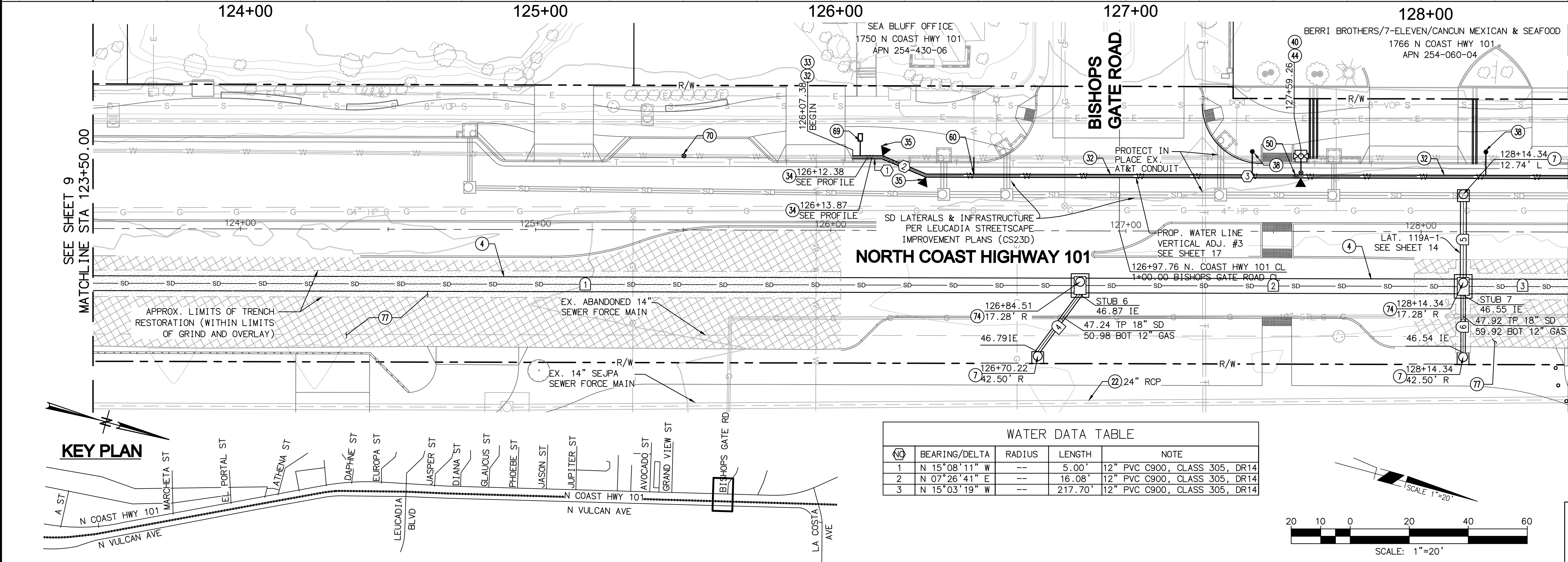
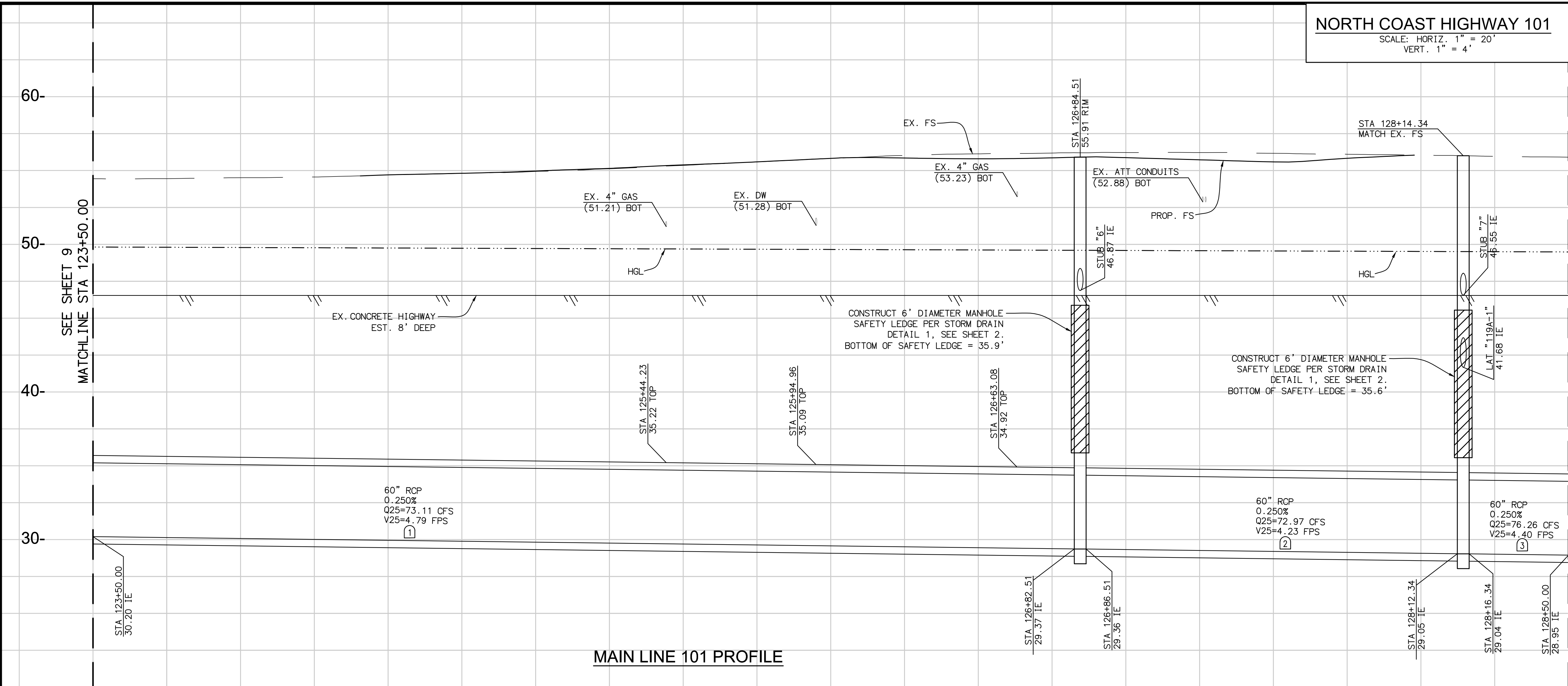
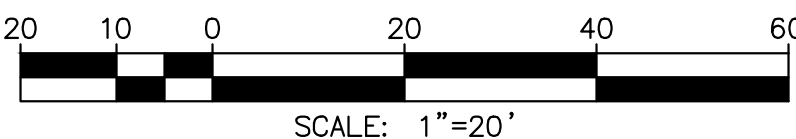
NORTH COAST HIGHWAY 101

WATER DATA TABLE

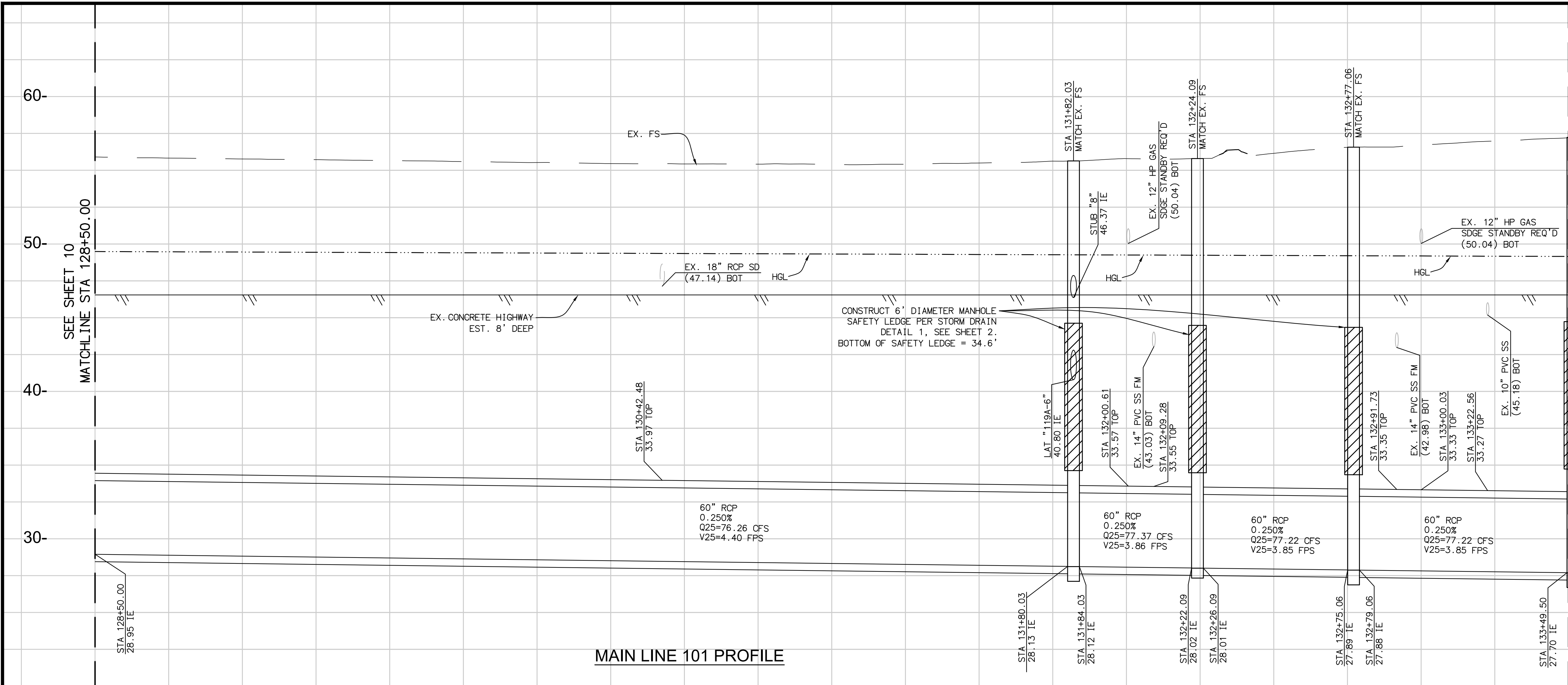
NO	BEARING/Delta	RADIUS	LENGTH	NOTE
1	N 15°08'11" W	---	5.00'	12" PVC C900, CLASS 305, DR14
2	N 07°26'41" E	---	16.08'	12" PVC C900, CLASS 305, DR14
3	N 15°03'19" W	---	217.70'	12" PVC C900, CLASS 305, DR14

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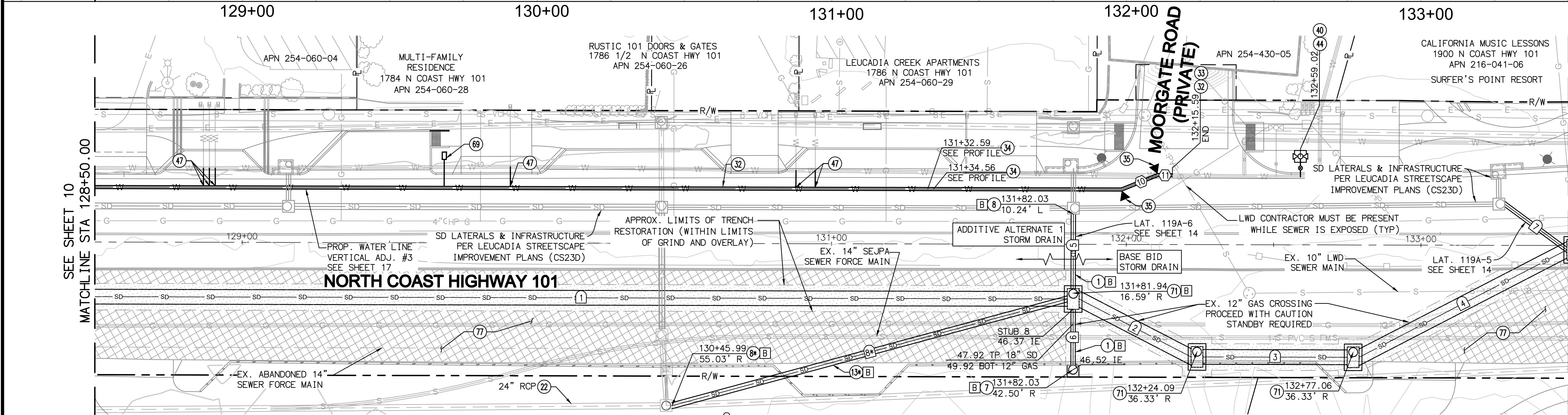
5050 Avenida Encinas
Suite 260
Carlsbad, CA 92008
Phone: (760) 476-9193
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REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT		APPROVALS		CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
					THE BASIS OF ELEVATIONS FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) PER RECORD OF SURVEY 18416 (CITY OF ENCINITAS SURVEY CONTROL). BENCHMARK DESIGNATION: POINT NUMBER 1004/ENC-4 ELEVATION: 67.639 (NAVD88)	HORIZONTAL <u>AS SHOWN</u>		PLANS PREPARED UNDER SUPERVISION OF ENGINEER: <u>JOANNE S. TYLER</u> DATE: <u> </u> R.C.E. NO. <u>59286</u>	RECOMMENDED	APPROVED	STORM DRAIN & WATER PLAN FOR: NORTH COAST HIGHWAY 101 LEUCADIA STREETSCAPE DRAINAGE CIP PROJECT NO. CD23A	SI-144 SHEET 10 OF 25
				VERTICAL <u>AS SHOWN</u>			BY: <u>ABRAHAM BANDEGAN</u>		BY: <u>JILL BANKSTON</u>			
							DATE: <u> </u>		DATE: <u> </u>			



MAIN LINE 101 PROFILE



NORTH COAST HIGHWAY 101

KEY PLAN

*NOTE
INTERIM CONNECTION #1 TO BE INSTALLED ONLY
IF ADDITIVE ALTERNATE 1 IS NOT SELECTED
SEE SHEET 15 FOR PROFILE

BID LEGEND

[B] BASE BID

STORM DRAIN DATA TABLE

NO	BEARING	RADIUS	LENGTH	NOTE
1	N15°03'19"W	---	329.98'	MAIN LINE 101: 60" RCP 1750-D
2	N12°08'27"E	---	42.79'	MAIN LINE 101: 60" RCP 1750-D
3	N15°03'19"W	---	48.97'	MAIN LINE 101: 60" RCP 1800-D
4	N42°30'38"W	---	79.37'	MAIN LINE 101: 60" RCP 1850-D
5	N74°56'41"E	---	25.27'	LAT 119A-6 18" RCP 1150-D
6	N74°56'46"E	---	18.98'	18" RCP 750-D
7	N21°13'25"E	---	26.18'	LAT 119A-5 18" RCP 1100-D
8*	N 30°17'23" W	---	138.92'	24" RCP 750-D (INTERIM CONNECTION #1)

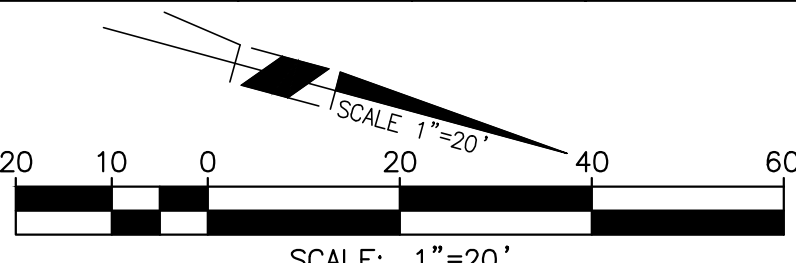
NOTE: ALL STORM DRAIN RCP TO HAVE WATERTIGHT JOINTS.

STORM DRAIN & WATER NOTES

- INSTALL 18" RCP
- INSTALL TYPE A4 STORM DRAIN CLEANOUT PER SDRSD D-09
- CONNECT TO EXISTING CLEANOUT
- INSTALL 24" RCP
- EXISTING STORM DRAIN PER DRAWING 013-D1
- INSTALL 12" C900 CLASS 305 (DR14) PVC WITH PIPE BEDDING PER WAS WP-02
- INSTALL 5' MIN LENGTH PVC W/ PVC X ACP TRANSITION COUPLING
- INSTALL 45 DEG BEND DI MJ WITH CONCRETE THRUST BLOCK (BEARING AREA=48.4 SF) PER WAS WT-01
- INSTALL 22.5 DEG BEND DI MJ WITH CONCRETE THRUST BLOCK (BEARING AREA=13.3 SF) PER WAS WT-01
- INSTALL NEW FIRE HYDRANT (TWO 4" AND TWO 2-1/2" NST OUTLETS) PER WAS WF-01 & WF-04. FLANGE ELEVATION =
- RECONNECT EXISTING WATER SERVICE PER WAS WS-07
- INSTALL 2" MANUAL AIR RELEASE VALVE PER WAS WA-01, WC-17
- INSTALL MODIFIED TYPE A7 STORM DRAIN CLEANOUT PER SDRSD D-09 & STORM DRAIN DETAIL 2 ON SHEET 2
- 1.5" GRIND & AC OVERLAY

WATER DATA TABLE

NO	BEARING/Delta	RADIUS	LENGTH	NOTE
4	N 15°03'19" W	---	75.07'	12" PVC C900, CLASS 305, DR14
5	N 37°57'16" W	---	17.68'	12" PVC C900, CLASS 305, DR14
6	N 15°27'16" W	---	22.42'	12" PVC C900, CLASS 305, DR14
7	N 14°26'48" W	---	5.00'	12" PVC C900, CLASS 305, DR14
8	N 08°03'12" E	---	12.10'	12" PVC C900, CLASS 305, DR14
9	N 14°26'48" W	---	26.83'	12" PVC C900, CLASS 305, DR14
10	N 36°56'48" W	---	12.10'	12" PVC C900, CLASS 305, DR14
11	N 14°26'48" W	---	5.00'	12" PVC C900, CLASS 305, DR14



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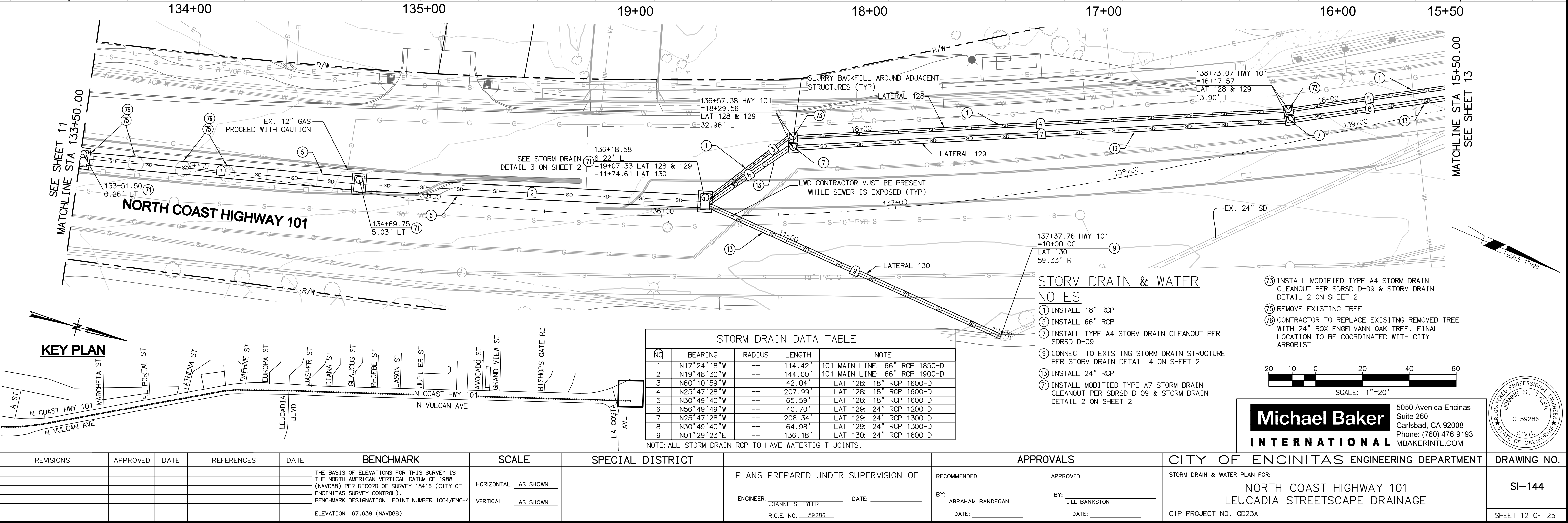
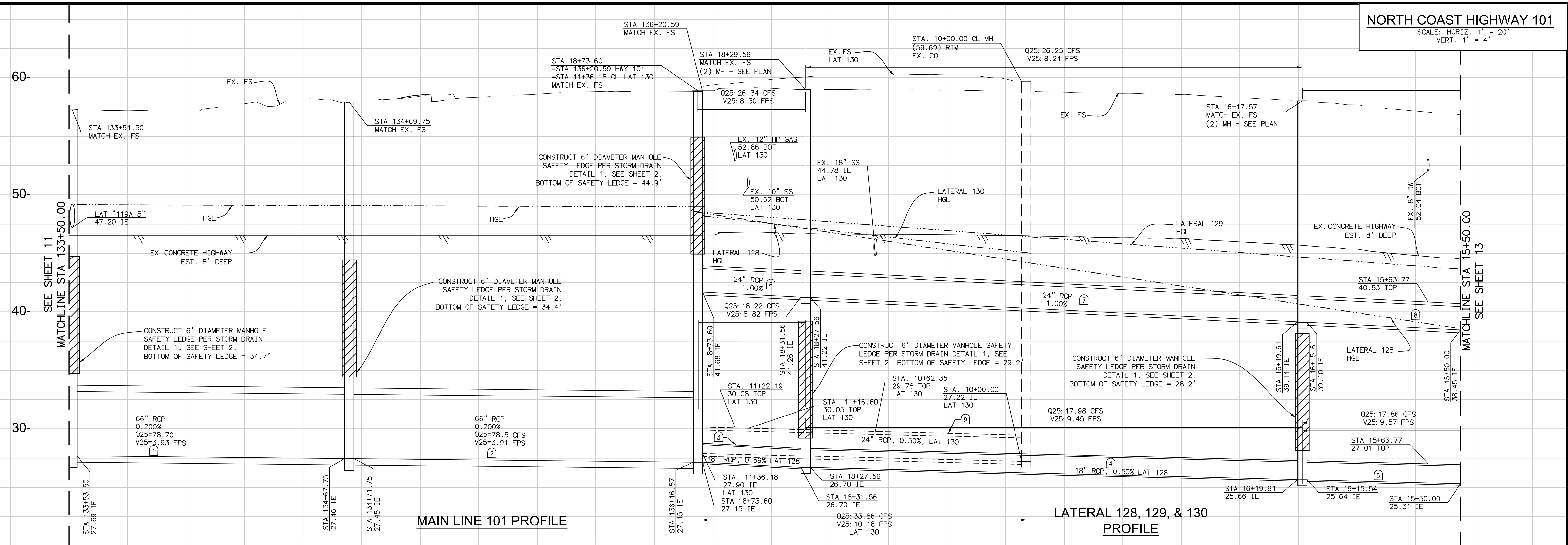
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REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT	APPROVALS	CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
					THE BASIS OF ELEVATIONS FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) PER RECORD OF SURVEY 18416 (CITY OF ENCINITAS SURVEY CONTROL). BENCHMARK DESIGNATION: POINT NUMBER 1004/ENC-4 ELEVATION: 67.639 (NAVD88)	HORIZONTAL AS SHOWN VERTICAL AS SHOWN		PLANS PREPARED UNDER SUPERVISION OF ENGINEER: JOANNE S. TYLER R.C.E. NO. 59286	STORM DRAIN & WATER PLAN FOR: NORTH COAST HIGHWAY 101 LEUCADIA STREETSCAPE DRAINAGE CIP PROJECT NO. CD23A	SI-144 SHEET 11 OF 25

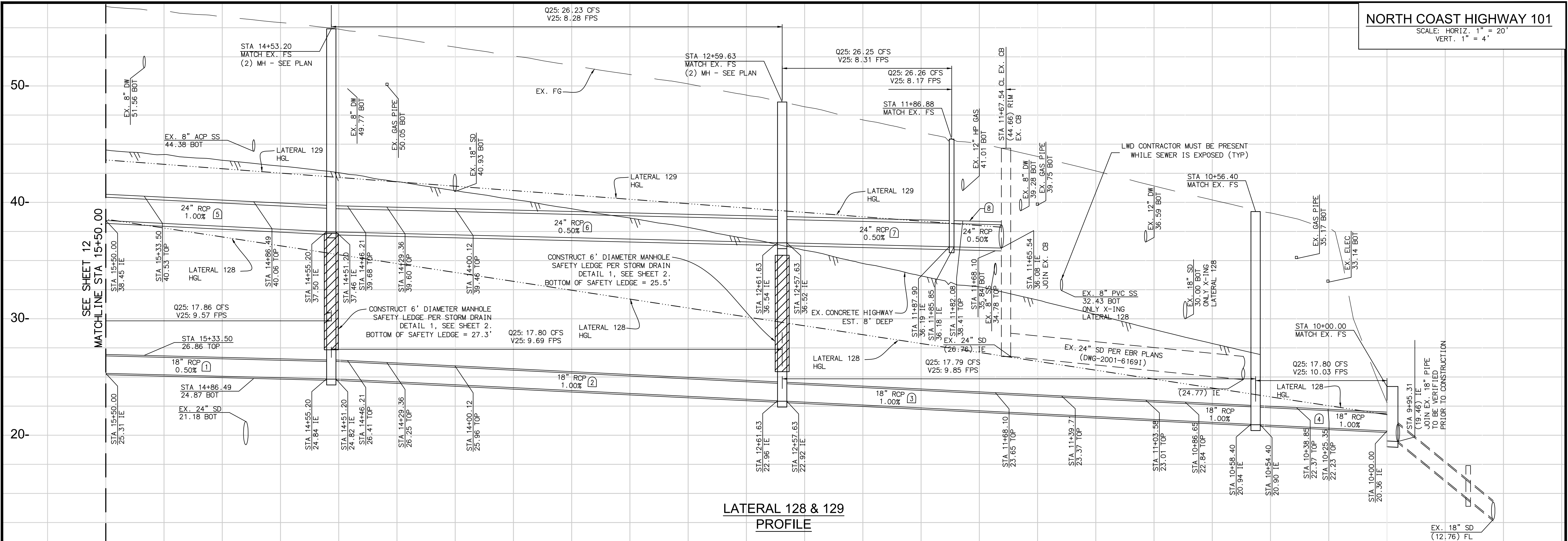
NORTH COAST HIGHWAY 101

SCALE: HORIZ. 1" = 20'
VERT. 1" = 4'

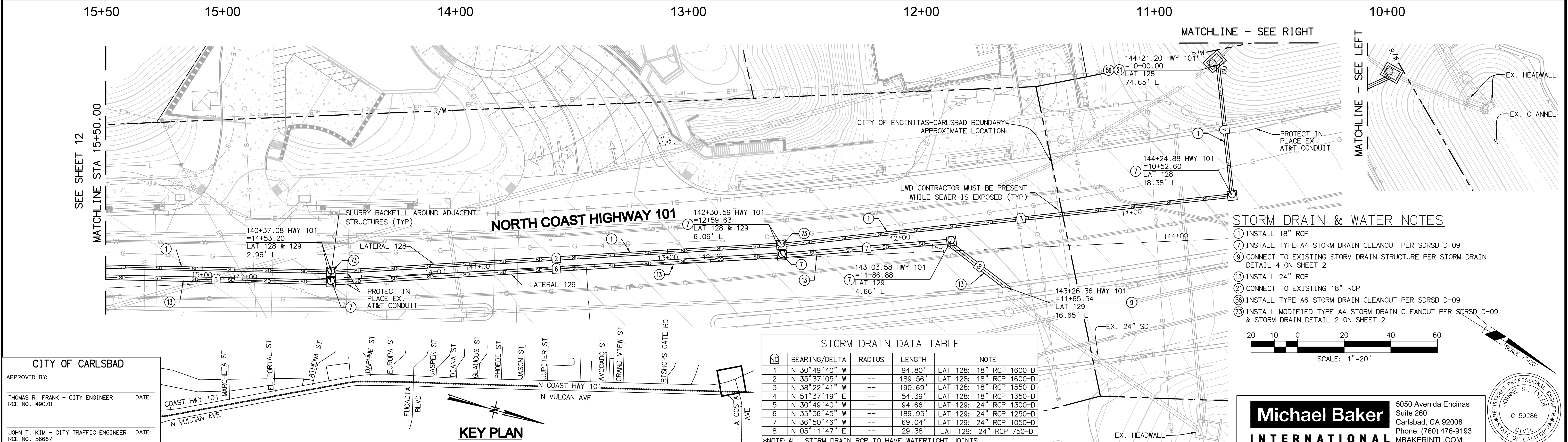


NORTH COAST HIGHWAY 101

SCALE: HORIZ. 1" = 20'
VERT. 1" = 4'



LATERAL 128 & 129
PROFILE



NORTH COAST HIGHWAY 101

STORM DRAIN & WATER NOTES

- 1) INSTALL 18" RCP
- 7) INSTALL TYPE A4 STORM DRAIN CLEANOUT PER SDRSD D-09
- 9) CONNECT TO EXISTING STORM DRAIN STRUCTURE PER STORM DRAIN DETAIL 4 ON SHEET 2
- 13) INSTALL 24" RCP
- 21) CONNECT TO EXISTING 18" RCP
- 56) INSTALL TYPE A6 STORM DRAIN CLEANOUT PER SDRSD D-09
- 73) INSTALL MODIFIED TYPE A4 STORM DRAIN CLEANOUT PER SDRSD D-09 & STORM DRAIN DETAIL 2 ON SHEET 2

STORM DRAIN DATA TABLE					
NO	BEARING/DELTA	RADIUS	LENGTH	NOTE	
1	N 30°49'40" W	---	94.80'	LAT 128: 18" RCP 1600-D	
2	N 35°37'05" W	---	189.56'	LAT 128: 18" RCP 1600-D	
3	N 38°22'41" W	---	190.69'	LAT 128: 18" RCP 1550-D	
4	N 51°37'19" E	---	54.39'	LAT 128: 18" RCP 1350-D	
5	N 30°49'40" W	---	94.66'	LAT 129: 24" RCP 1300-D	
6	N 35°36'45" W	---	189.95'	LAT 129: 24" RCP 1250-D	
7	N 36°50'46" W	---	69.04'	LAT 129: 24" RCP 1050-D	
8	N 05°11'47" E	---	29.38'	LAT 129: 24" RCP 750-D	

*NOTE: ALL STORM DRAIN RCP TO HAVE WATERTIGHT JOINTS.

CITY OF CARLSBAD
APPROVED BY:
THOMAS R. FRANK - CITY ENGINEER DATE:
ROE NO. 49070
JOHN T. KIM - CITY TRAFFIC ENGINEER DATE:
ROE NO. 56667

KEY PLAN

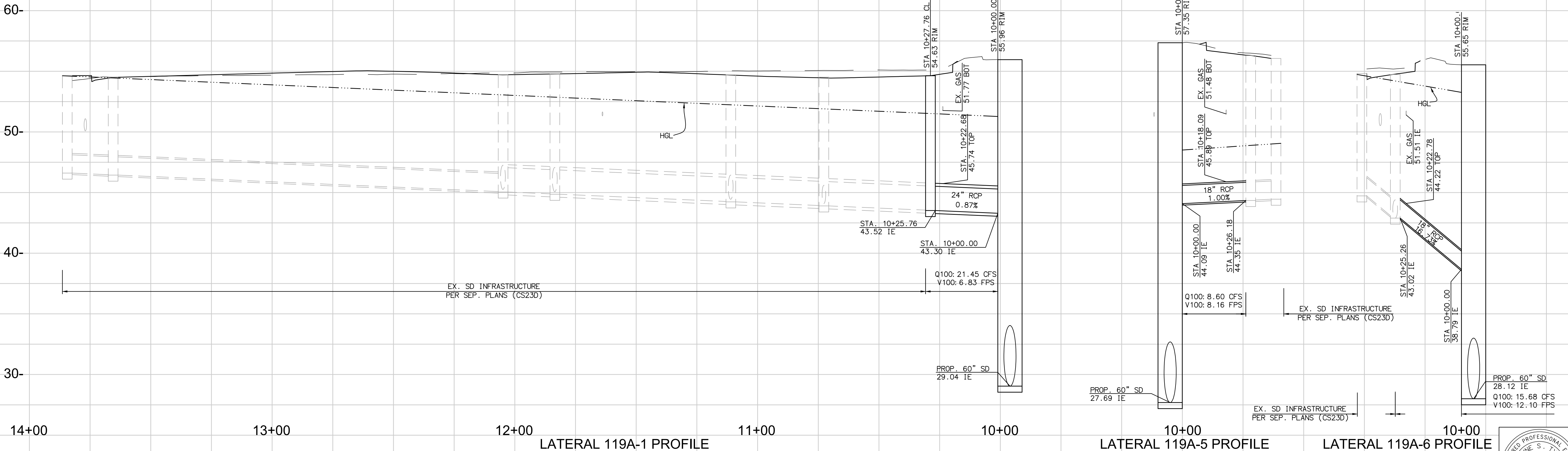
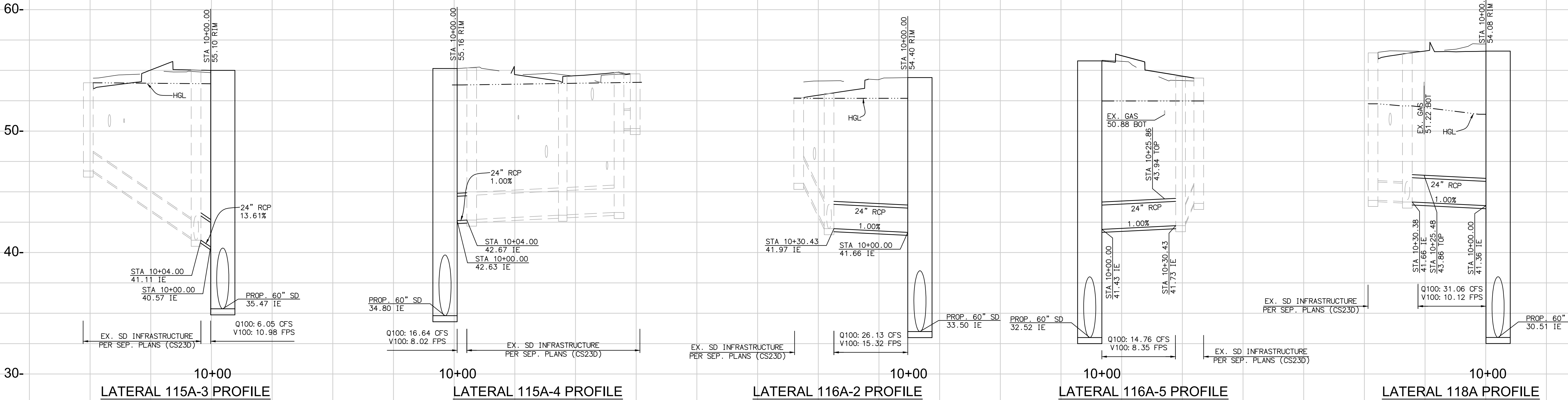
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REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT		APPROVALS		CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
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						VERTICAL AS SHOWN			BY: ABRAHAM BANDEGAN DATE: _____	BY: JILL BANKSTON DATE: _____		

NORTH COAST HIGHWAY 101

SCALE: HORIZ. 1" = 20'
VERT. 1" = 4'



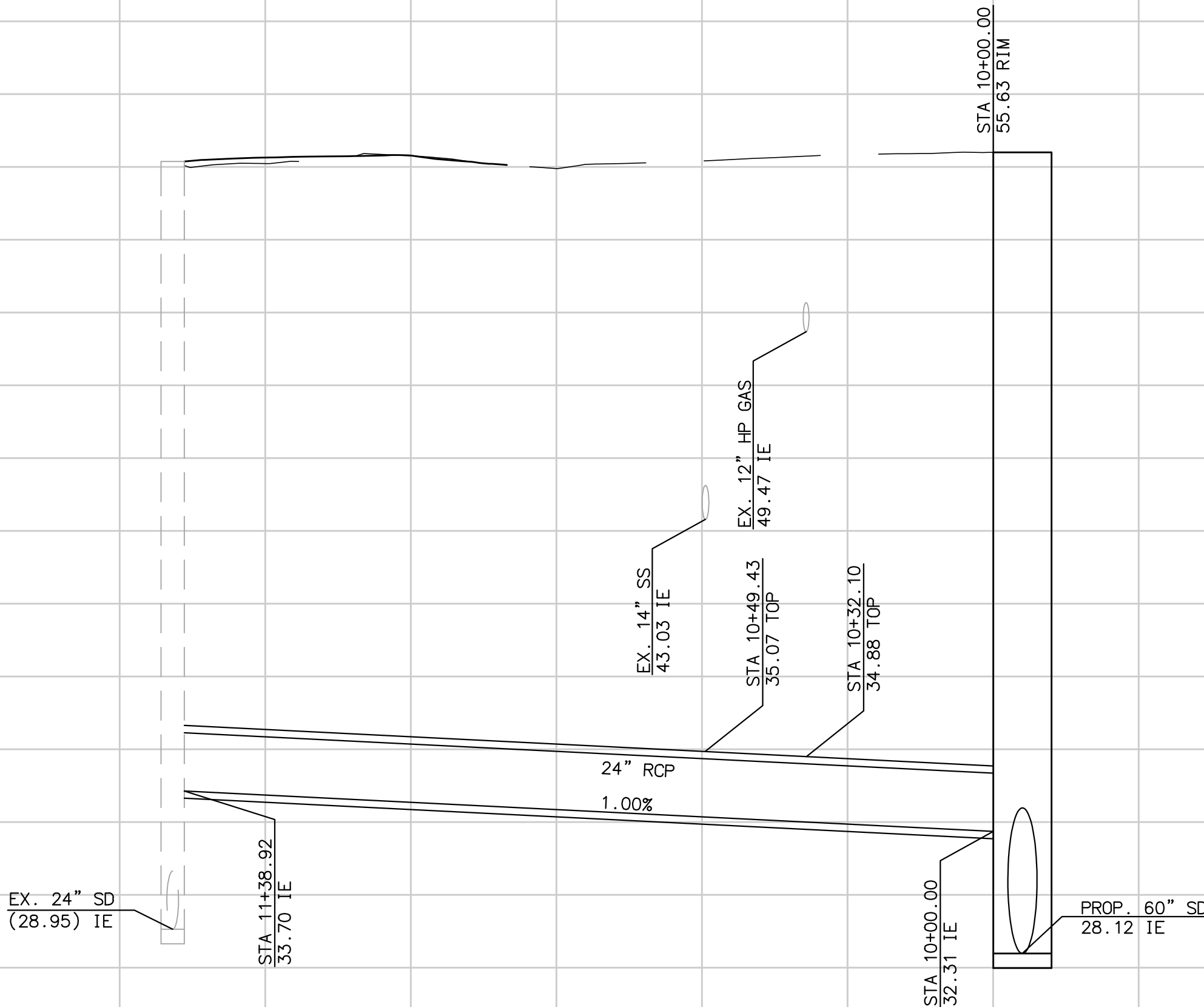
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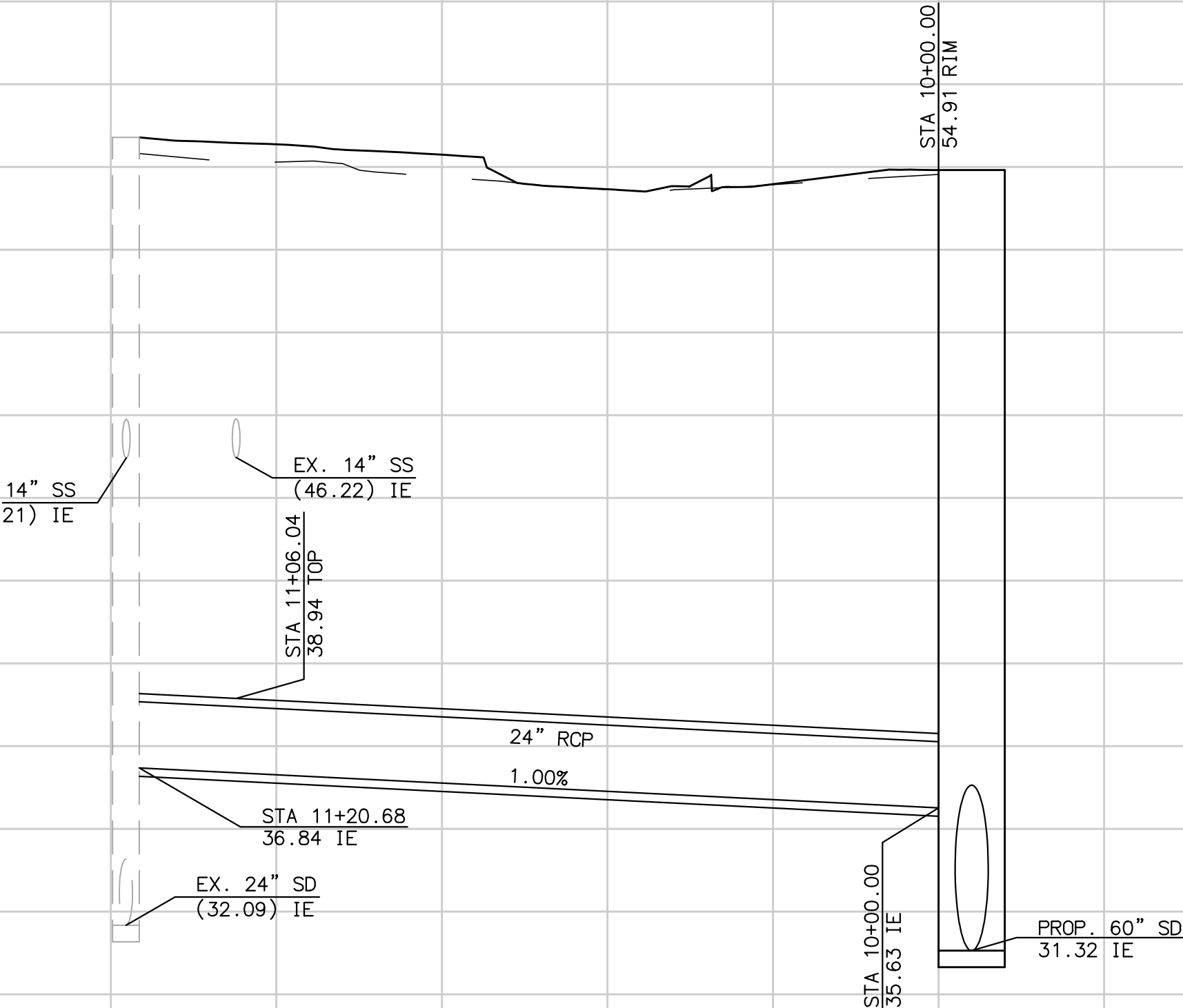
REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT	APPROVALS	CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
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								RECOMMENDED BY: ABRAHAM BANDEGAN DATE: _____ APPROVED BY: JILL BANKSTON DATE: _____		

H:\DATA\137350_NORTH COAST HWY 101\CADD\LAND\DLV\IMPROVE\SEGMENT C\SD ADD ALT\137350-14-SD-SEG-C-SD ADD ALT.DWG ANDREVEJAR 4/3/23 2:40 pm

70-
60-
50-
40-
30-
20-
10-



11+00 10+00
INTERIM CONNECTION #1
SEE SHEET 11

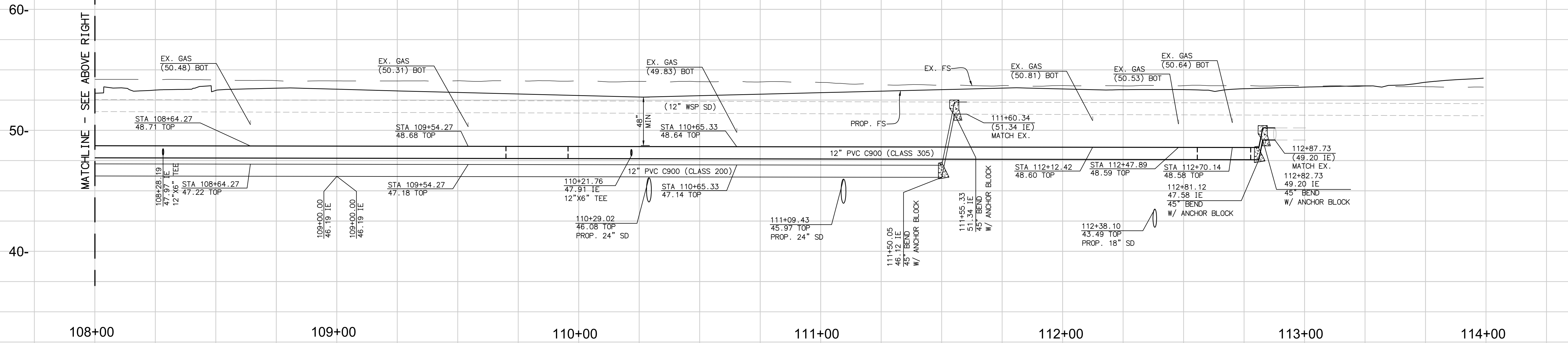
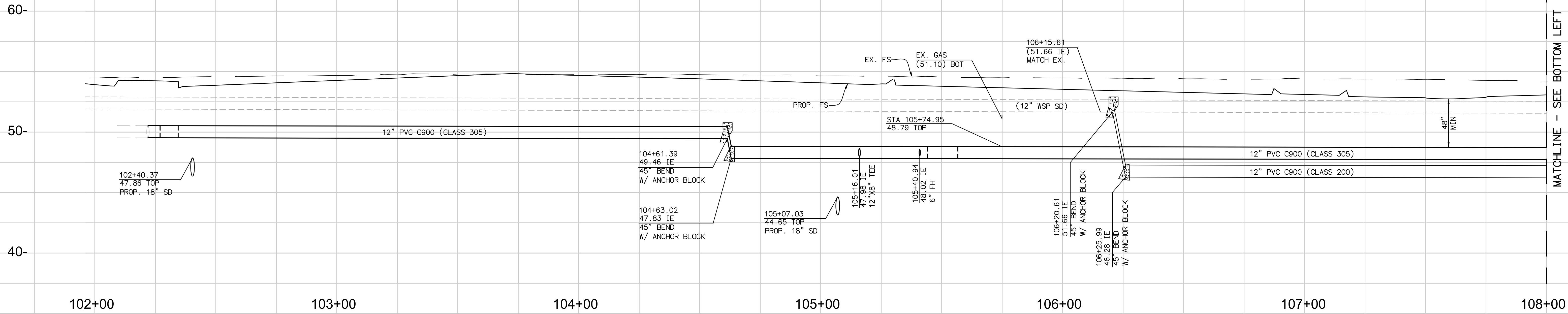


11+00 10+00
INTERIM CONNECTION #2
SEE SHEET 8

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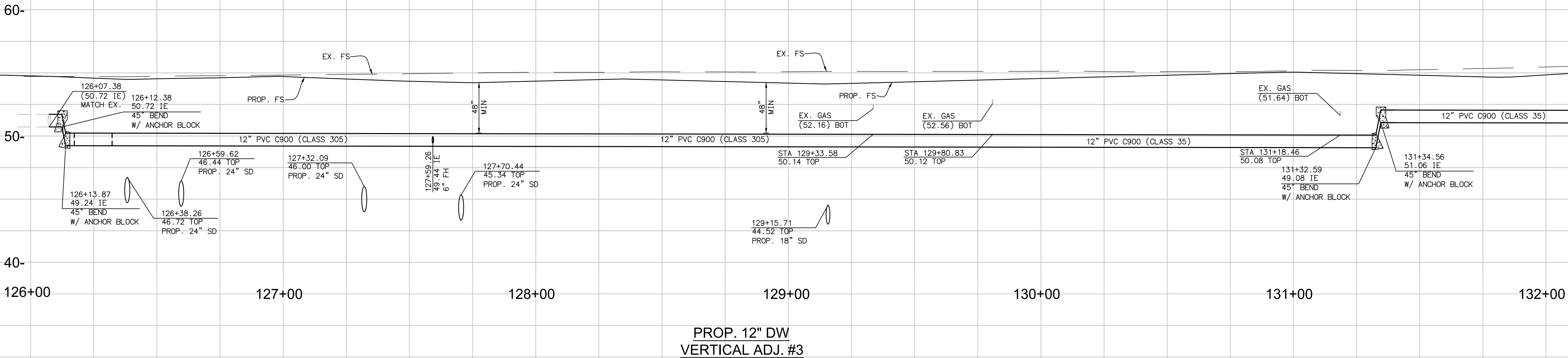
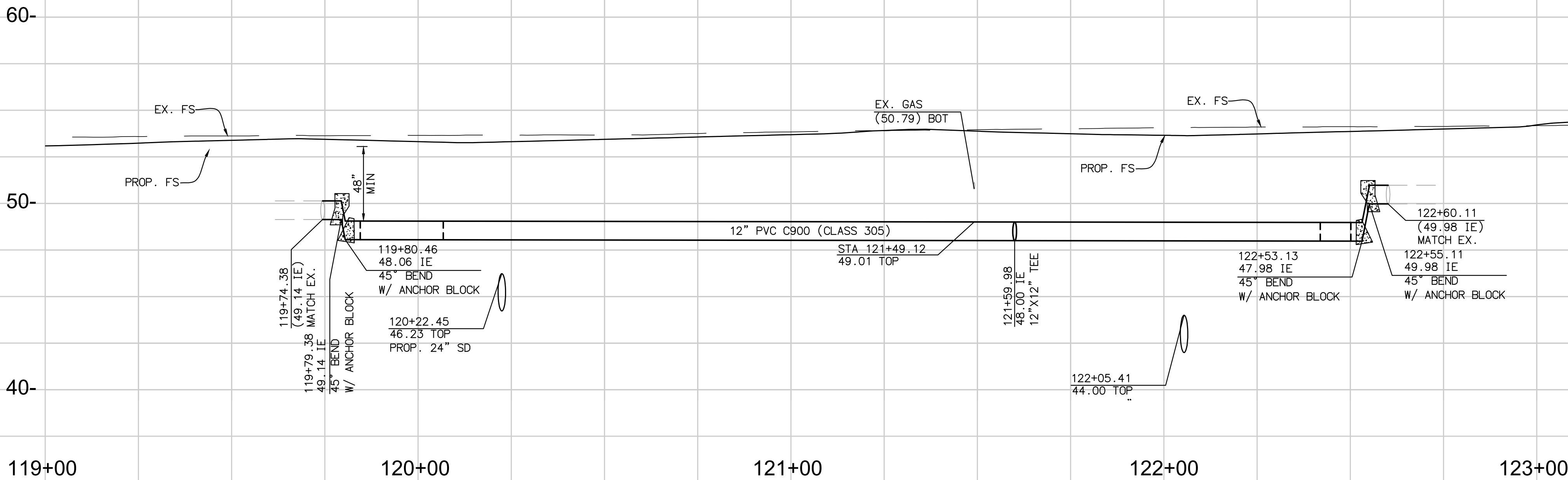


REVISIONS	APPROVED	DATE	REFERENCES	DATE	BENCHMARK	SCALE	SPECIAL DISTRICT	APPROVALS	CITY OF ENCINITAS ENGINEERING DEPARTMENT	DRAWING NO.
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									DOMESTIC WATER PROFILE FOR:	SI-144
										SHEET 16 OF 25

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NORTH COAST HIGHWAY 101

SCALE: HORIZ. 1" = 20'
VERT. 1" = 4'



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				VERTICAL AS SHOWN			BY: ABRAHAM BANDEGAN		BY: JILL BANKSTON			
							DATE: _____		DATE: _____			

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