

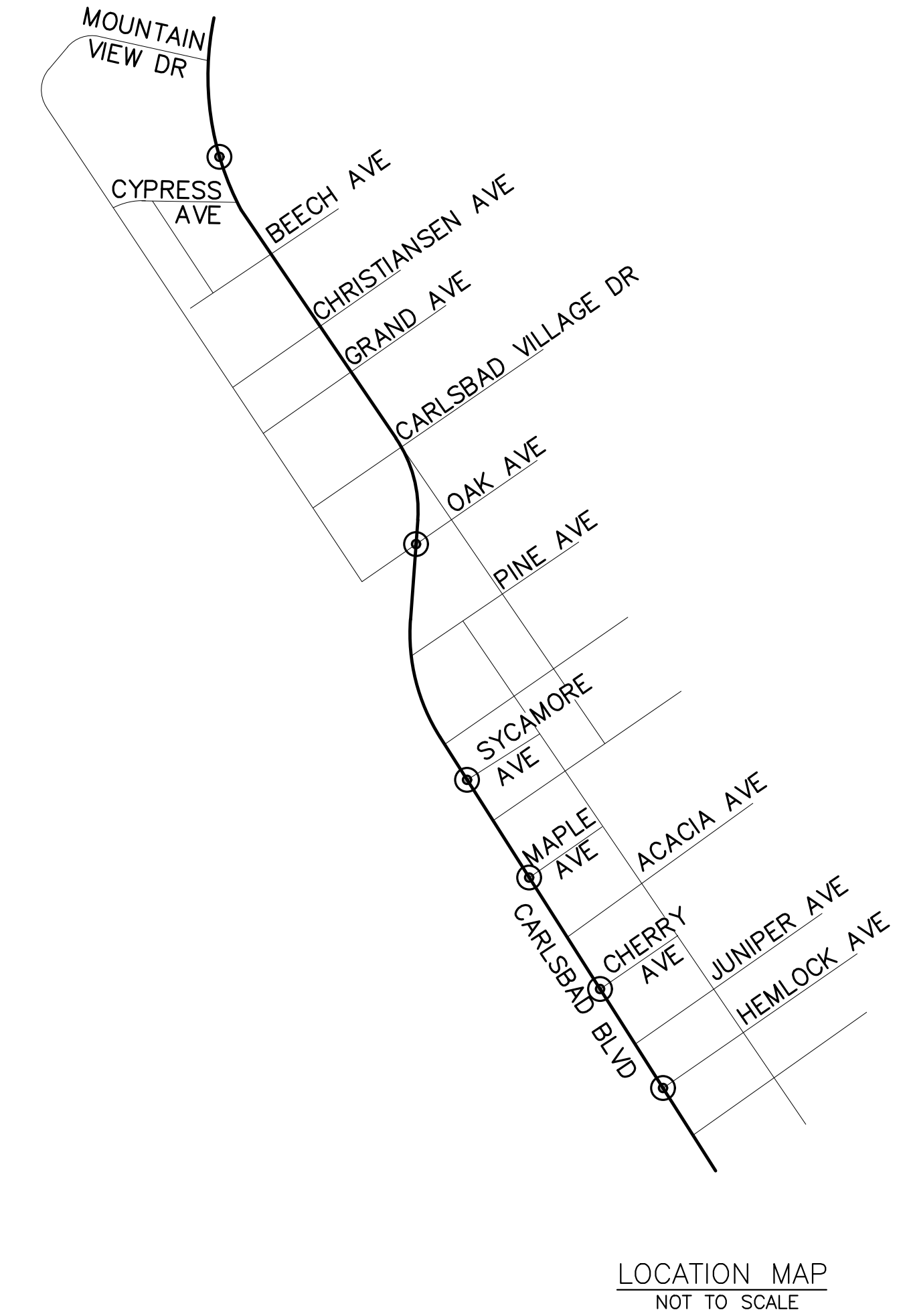
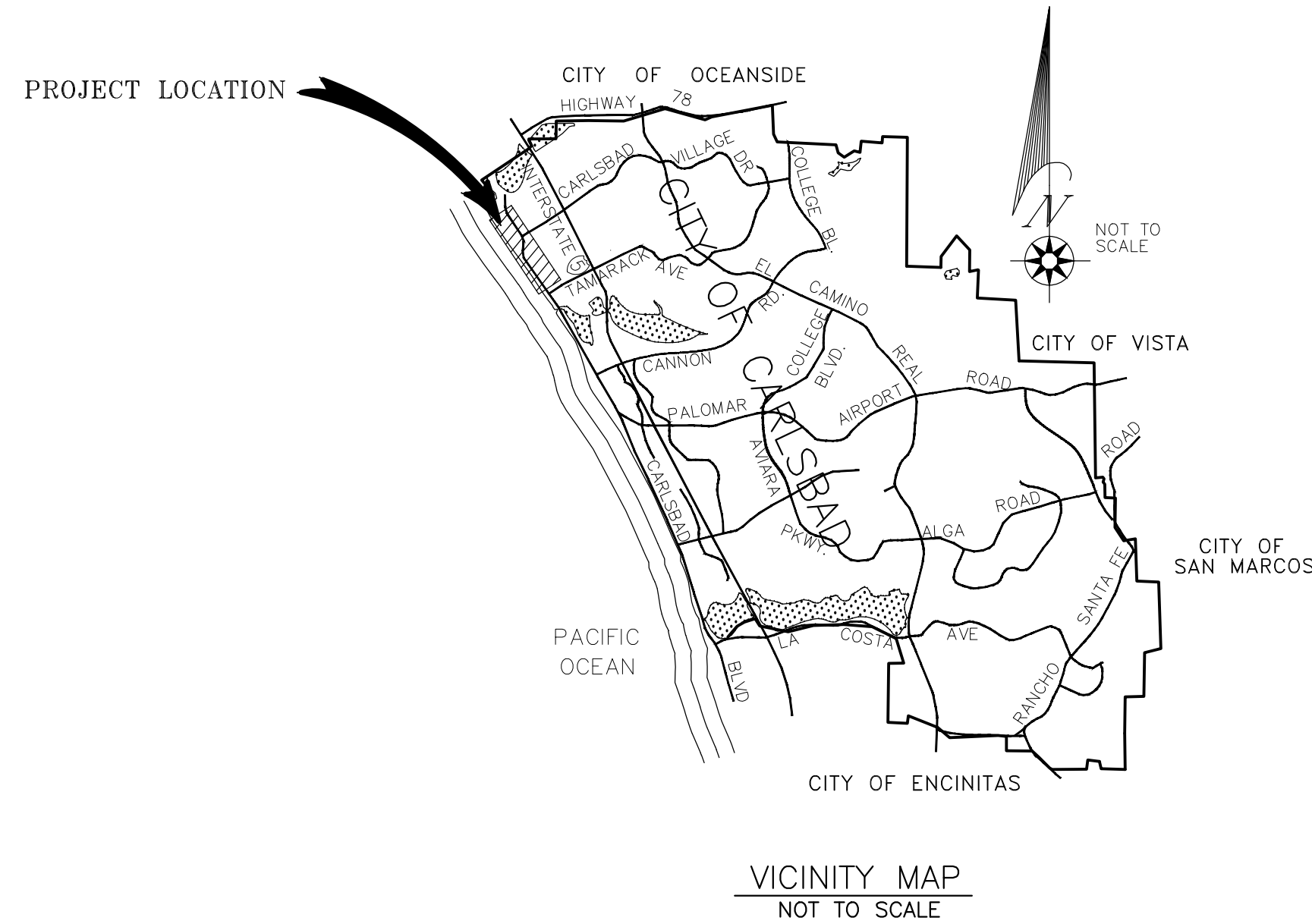
CONSTRUCTION PLANS FOR CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT PROJECT NO. 6097



CITY OF CARLSBAD
CARLSBAD, CALIFORNIA

CITY COUNCIL

MATT HALL - MAYOR
KEITH BLACKBURN - MAYOR PRO TEM
PRIYA BHAT-PATEL - COUNCIL MEMBER
TERESA ACOSTA - COUNCIL MEMBER
PEDER NORBY- COUNCIL MEMBER
SCOTT CHADWICK - CITY MANAGER



- STANDARDS**
THE IMPROVEMENT WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS, CURRENT AT THE TIME OF CONSTRUCTION, AS DIRECTED BY THE TRANSPORTATION DIRECTOR.
- CARLSBAD MUNICIPAL CODE
 - CITY OF CARLSBAD ENGINEERING STANDARDS
 - LATEST EDITION OF CALTRANS STANDARD PLANS
 - LATEST EDITION OF CALTRANS STANDARD SPECIFICATION
 - LATEST EDITION OF CALTRANS SPECIAL PROVISIONS
 - LATEST EDITION OF CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CAMUTCD)
 - PROJECT PLANS AND SPECIFICATIONS

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1	TITLE SHEET, VICINITY MAP, AND LOCATION MAP
2	NOTES AND DETAILS SHEET
3	CARLSBAD BLVD BETWEEN MOUNTAIN VIEW DR AND CYPRESS AVE – PLAN AND PROFILE
4	CARLSBAD BLVD BETWEEN MOUNTAIN VIEW DR AND CYPRESS AVE – LIGHTED CROSSWALK INSTALLATION
5	CARLSBAD BLVD AND OAK AVE – PLAN AND PROFILE
6	CARLSBAD BLVD AND OAK AVE – LIGHTED CROSSWALK INSTALLATION
7	CARLSBAD BLVD AND SYCAMORE AVE –PLAN AND PROFILE
8	CARLSBAD BLVD AND SYCAMORE AVE – LIGHTED CROSSWALK INSTALLATION
9	CARLSBAD BLVD AND MAPLE AVE – LIGHTED CROSSWALK INSTALLATION
10	CARLSBAD BLVD AND CHERRY AVE – PLAN AND PROFILE
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12	CARLSBAD BLVD AND HEMLOCK AVE – PLAN AND PROFILE
13	CARLSBAD BLVD AND HEMLOCK AVE – LIGHTED CROSSWALK INSTALLATION

BASIS OF BEARING
THE BASIS OF BEARINGS AND COORDINATES FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 6, EPOCH 1991.35 BASED UPON THE GRID BEARING BETWEEN GPS STATIONS CLSB 141 AND CLSB 130, AND IS DETERMINED BY GPS MEASUREMENTS TAKEN ON JULY 9, 2020, BOTH STATIONS HAVING A COORDINATE VALUE OF FIRST ORDER ACCURACY PER RECORD OF SURVEY 17271.

I.E. GPS STATION CLSB 141 TO CLSB 130: N 21° 19'17" W

STATION CLSB 141
FD 2.5" DISK IN STAMPED "CLSB-141 L.S. 6215" IN SOUTHEAST CORNER OF VAULT ADJACENT TO THE NORTHEAST CORNER OF THE NORTH BOUND COAST HIGHWAY 101 BRIDGE OVER AGUA HEDIONDA LAGOON, 0.1 MI. SOUTH OF TAMARACK AVE., 38' EAST OF THE EASTERLY EDGE OF PAVEMENT.
N: 1998491.112
E: 6226887.845
ELEV: 28.698
CGF: 0.999963560
CONVERGENCE: -0°36'03.751"

STATION CLSB 130
FD 2.5" DISK STAMPED "CLSB-130 L.S. 6215" IN SOUTHEAST CORNER OF DRAINAGE BOX INLET AT END OF CURB RETURN IN THE NORTHEAST CORNER OF GRAND AVE. & WASHINGTON ST. 52' WEST OF RAILROAD TRACKS & 40' NORTH OF THE CENTER OF GRAND AVE.
N: 2003724.503
E: 6224845.188

BASIS OF ELEVATION
THE BASIS OF ELEVATIONS FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND ARE BASED ON FD 2.5" DISK IN STAMPED "CLSB-141 L.S. 6215" IN SOUTHEAST CORNER OF VAULT ADJACENT TO THE NORTHEAST CORNER OF THE NORTH BOUND COAST HIGHWAY 101 BRIDGE OVER AGUA HEDIONDA LAGOON, 0.1 MI. SOUTH OF TAMARACK AVE., 38' EAST OF THE EASTERLY EDGE OF PAVEMENT>>, PER ROS 17271.

ELEVATION: 28.70, NAVD88 DATUM.

SOURCE OF TOPOGRAPHY
TOPOGRAPHY SHOWN ON THESE PLANS WAS GENERATED FROM FIELD INFORMATION GATHERED BY RICK ENGINEERING COMPANY.

PROJECT LOCATION
THIS PROJECT IS LOCATED WITHIN ASSESSORS PARCEL NUMBER(S) _____
THE CALIFORNIA COORDINATE INDEX OF THIS PROJECT IS: _____

BENCH MARK
DESCRIPTION: 2.5" DISK IN STAMPED "CLSB-141 L.S. 6215"
LOCATION: SOUTHEAST CORNER OF VAULT ADJACENT TO THE NORTHEAST CORNER OF THE NORTH BOUND COAST HIGHWAY 101 BRIDGE OVER AGUA HEDIONDA LAGOON
RECORDED: AS SHOWN ON RECORD OF SURVEY MAP No. 17271
ELEVATION: 28.70 DATUM: NAVD29

"DECLARATION OF RESPONSIBLE CHARGE"

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CARLSBAD DOES NOT RELIEVE ME AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

FIRM: RICK ENGINEERING COMPANY
ADDRESS: 5620 FRIARS RD.
CITY, ST.: SAN DIEGO, CA. 92110
TELEPHONE: (619) 291-0707
BY: MARK M. JUGAR DATE: _____
(NAME OF ENGINEER)
R.C.E. NO.: 66939
REGISTRATION EXPIRATION DATE: 9-30-22

ALL STANDARD DRAWINGS ARE SAN DIEGO REGIONAL STANDARD DRAWINGS (SDRSD) UNLESS NOTED OTHERWISE:
* CITY OF CARLSBAD STANDARD
** CARLSBAD MUNICIPAL WATER DISTRICT STANDARD DRAWING
*** SDRSD AS MODIFIED BY CITY OF CARLSBAD

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 1	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 13
CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT TITLE SHEET, VICINITY MAP, AND LOCATION MAP		
APPROVED: THOMAS FRANK		
TRANSPORTATION DIRECTOR PE 49070 EXP. 9/30/2022 DATE _____		
DWN BY: JP	PROJECT NO. 6097	DRAWING NO. 525-9
CHKD BY: AE/CP		
RVWD BY: MMJ		

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL



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5620 FRIARS ROAD
SAN DIEGO, CA 92110
619.291.0707
(FAX) 619.291.4165
rickengineering.com

J-19212

NOTE:
CONTRACTOR SHALL LOCATE ALL EXISTING UTILITY VALVE BOXES, MANHOLES, VAULTS, SEWER CLEANOUTS, STORM DRAIN GRATES, INLETS AND SURVEY MONUMENT BOXES AND PROTECT IN PLACE.

GENERAL NOTES

- THIS PLAN SUPERSEDES ALL OTHER PLANS PREVIOUSLY APPROVED BY THE CITY OF CARLSBAD REGARDING IMPROVEMENTS SHOWN ON THIS SET OF PLANS.
- APPROVAL OF THIS PLAN DOES NOT LESSEN OR WAIVE ANY PORTION OF THE CARLSBAD MUNICIPAL CODE, RESOLUTION OF CONDITIONAL APPROVAL, CITY STANDARDS OR OTHER ADDITIONAL DOCUMENTS LISTED HEREON AS THEY PERTAIN TO THIS PROJECT. THE ENGINEER IN RESPONSIBLE CHARGE SHALL REVISE THESE PLANS WHEN NON-CONFORMANCE IS DISCOVERED.
- A RIGHT-OF-WAY PERMIT FROM THE CITY ENGINEER WILL BE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT OF WAY. PRIOR TO PERMIT ISSUANCE, A CERTIFICATE OF INSURANCE MUST BE FILED NAMING THE CITY OF CARLSBAD AS AN ADDITIONAL INSURED ON THE PERMITTEE'S POLICY IN THE MINIMUM AMOUNT OF \$1,000,000.00 FOR EACH OCCURRENCE OF LIABILITY. THE INSURANCE COMPANY WRITING THE POLICY MUST HAVE A RATING OF "A-" OR BETTER AND A SIZE CATEGORY OF CLASS VII OR BETTER AS ESTABLISHED BY "BEST'S" KEY RATING GUIDE.
- NO WORK SHALL BE COMMENCED UNTIL ALL PERMITS HAVE BEEN OBTAINED FROM THE CITY AND OTHER APPROPRIATE AGENCIES.
- THE ORIGINAL DRAWING SHALL BE REVISED TO REFLECT AS-BUILT CONDITIONS BY THE ENGINEER-OF-WORK PRIOR TO FINAL ACCEPTANCE OF THE WORK BY THE CITY.
- ACCESS FOR FIRE AND OTHER EMERGENCY VEHICLES SHALL BE MAINTAINED TO THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
- ALL INSPECTION REQUESTS OTHER THAN FOR PRECONSTRUCTION MEETING WILL BE MADE BY CALLING THE ENGINEERING 24-HOUR INSPECTION REQUEST LINE AT (760)438-3891. INSPECTION REQUESTS MUST BE RECEIVED PRIOR TO 2:00 P.M. ON THE DAY BEFORE THE INSPECTION IS NEEDED. INSPECTIONS WILL BE MADE THE NEXT WORK DAY UNLESS YOU REQUEST OTHERWISE. REQUESTS MADE AFTER 2:00 P.M. WILL BE SCHEDULED FOR TWO FULL WORK DAYS LATER.
- THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
- THE CONTRACTOR SHALL CONFORM TO LABOR CODE SECTION 6705 BY SUBMITTING A DETAIL PLAN TO THE CITY ENGINEER AND/OR CONCERNED AGENCY SHOWING THE DESIGN OF SHORING, BRACING, SLOPE OR OTHER PROVISIONS TO BE MADE OF WORKER PROTECTION FROM THE HAZARD OF CAVING GROUND DURING THE EXCAVATION OF SUCH TRENCH OR TRENCHES OR DURING THE PIPE INSTALLATION THEREIN. THIS PLAN MUST BE PREPARED FOR ALL TRENCHES FIVE FEET (5') OR MORE IN DEPTH AND APPROVED BY THE CITY ENGINEER AND/OR CONCERNED AGENCY PRIOR TO EXCAVATION. 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 AT THE CONTRACTOR'S EXPENSE. A COPY OF THE OSHA EXCAVATION PERMIT MUST BE SUBMITTED TO THE INSPECTOR PRIOR TO EXCAVATION.
- IF ANY ARCHAEOLOGICAL RESOURCES ARE DISCOVERED WITHIN ANY WORK ZONE DURING CONSTRUCTION, OPERATIONS WILL CEASE IMMEDIATELY, AND THE PERMITTEE WILL NOTIFY THE CITY ENGINEER. OPERATIONS WILL NOT RESTART UNTIL THE PERMITTEE HAS RECEIVED WRITTEN AUTHORITY FROM THE CITY ENGINEER TO DO SO.
- ALL OPERATIONS CONDUCTED ON THE SITE OR ADJACENT THERETO, INCLUDING WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR OPERATION OF TRUCKS, EARTHMOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED GRADING EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 7:00 A.M. AND 6:00 P.M. EACH DAY, MONDAY THRU FRIDAY AND NO EARTHMOVING OR GRADING OPERATIONS SHALL BE CONDUCTED ON WEEKENDS OR HOLIDAYS. (A LIST OF CITY HOLIDAYS IS AVAILABLE AT THE ENGINEERING DEPARTMENT COUNTER.)
- ALL OFF-SITE HAUL ROUTES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CITY ENGINEER FOR APPROVAL TWO FULL WORKING DAYS PRIOR TO BEGINNING OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEBRIS OR DAMAGE OCCURRING ALONG THE HAUL ROUTE OR ADJACENT STREETS AS A RESULT OF THE GRADING OPERATION.
- THE EXISTENCE AND LOCATION OF UTILITY STRUCTURES AND FACILITIES SHOWN ON THE CONSTRUCTION PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. ATTENTION IS CALLED TO THE POSSIBLE EXISTENCE OF OTHER UTILITY FACILITIES OR STRUCTURES NOT SHOWN OR IN A LOCATION DIFFERENT FROM THAT SHOWN ON THE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN ON THE PLANS AND ANY OTHER EXISTING FACILITIES OR STRUCTURES NOT SHOWN.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING FACILITIES (ABOVEGROUND AND UNDERGROUND) WITHIN THE PROJECT SITE SUFFICIENTLY AHEAD OF THE CONSTRUCTION TO PERMIT THE REVISIONS OF THE CONSTRUCTION PLANS IF IT IS FOUND THAT THE ACTUAL LOCATIONS ARE IN CONFLICT WITH THE PROPOSED WORK.
- THE CONTRACTOR SHALL NOTIFY AFFECTED UTILITY COMPANIES (SEE BELOW) AT LEAST TWO FULL WORKING DAYS PRIOR TO STARTING CONSTRUCTION NEAR THEIR FACILITIES AND SHALL COORDINATE WORK WITH A COMPANY REPRESENTATIVE.

UNDERGROUND SERVICE ALERT (DIG ALERT) SDG&E	811 (800) 411-7343 (619) 237-2787
AT&T	(800) 227-2600
SPECTRUM CABLE	(619) 262-1122
COX COMMUNICATIONS	(760) 434-2980
CITY OF CARLSBAD (STREETS AND STORM DRAIN)	(760) 438-2722
*CITY OF CARLSBAD (SEWER, WATER & RECLAIMED WATER)	(760) 633-2650
*SAN DIEGUITO WATER DISTRICT	(760) 753-0155
*LEUCADIA WASTE WATER DISTRICT	(760) 744-0460
*VALLECITOS WATER DISTRICT	(760) 753-6466
*OLIVENHAIN WATER DISTRICT	(760) 726-1340 x1330
*BUENA SANITATION DISTRICT	
*AS APPROPRIATE	

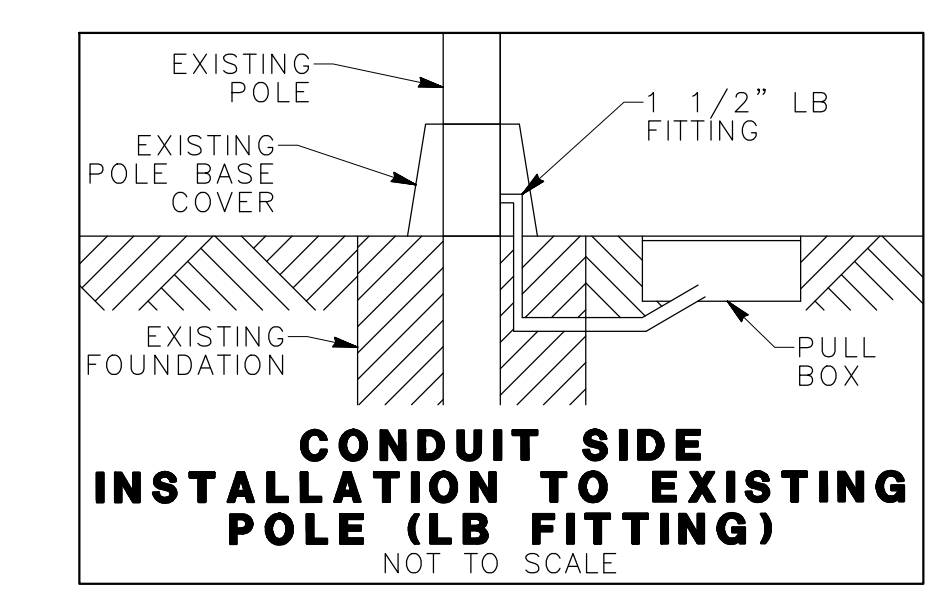
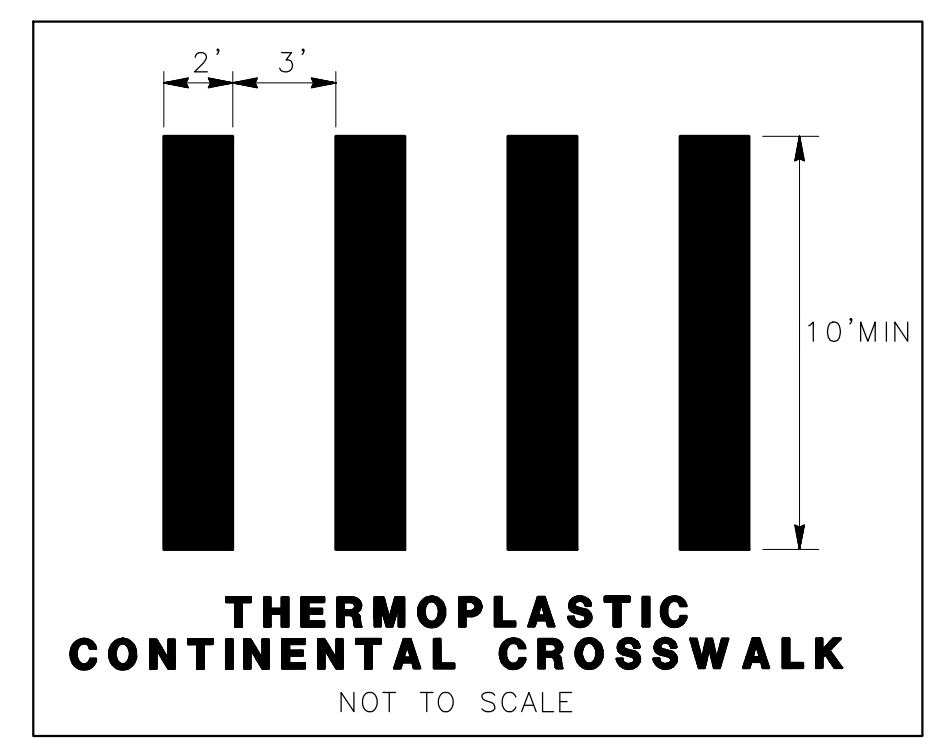
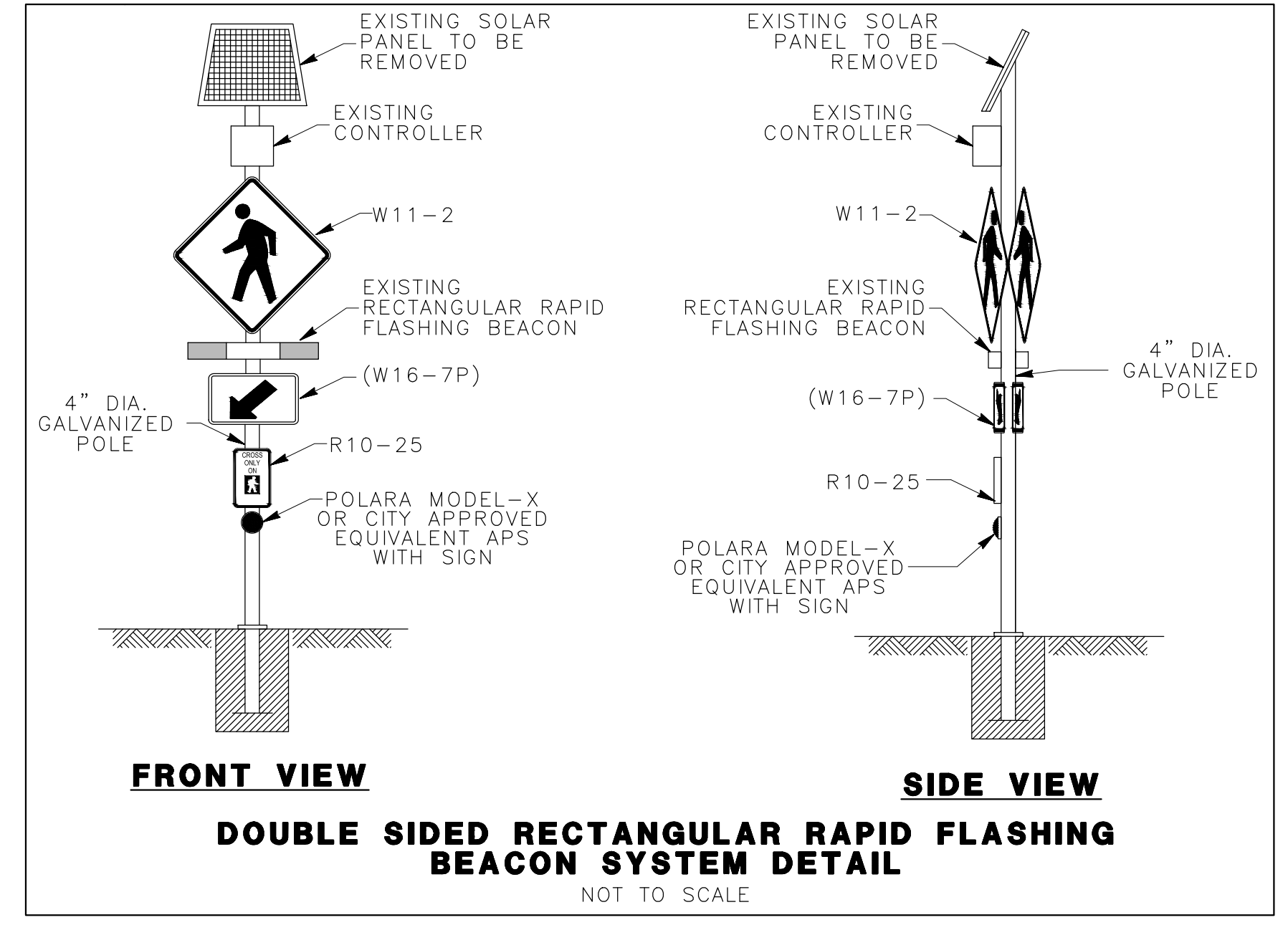
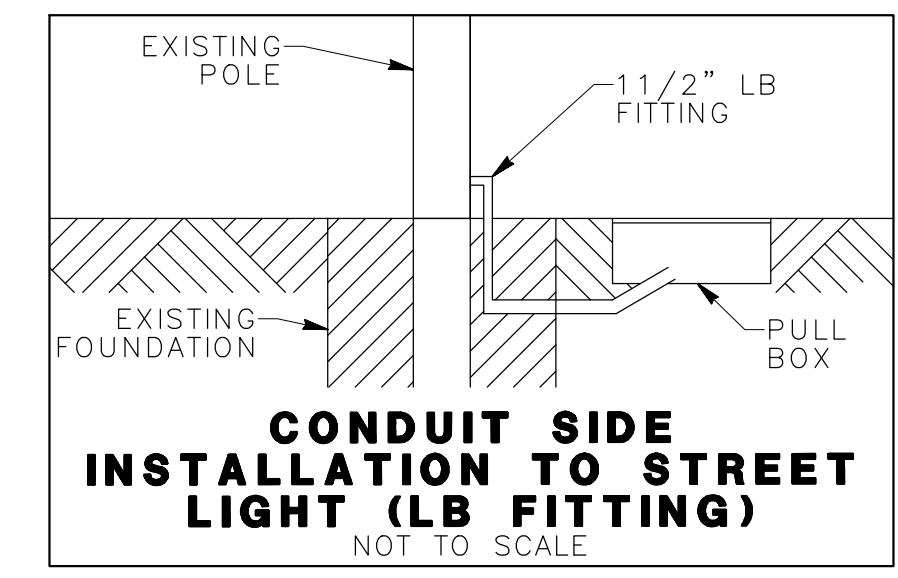
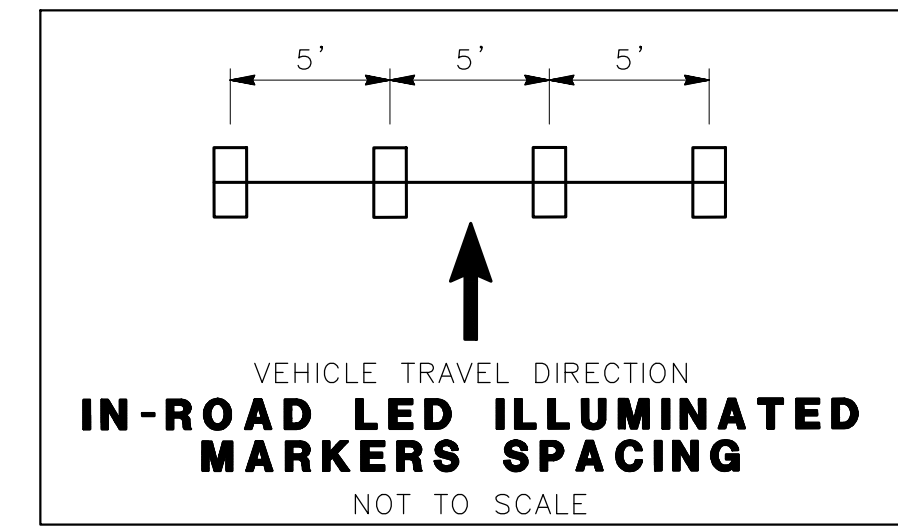
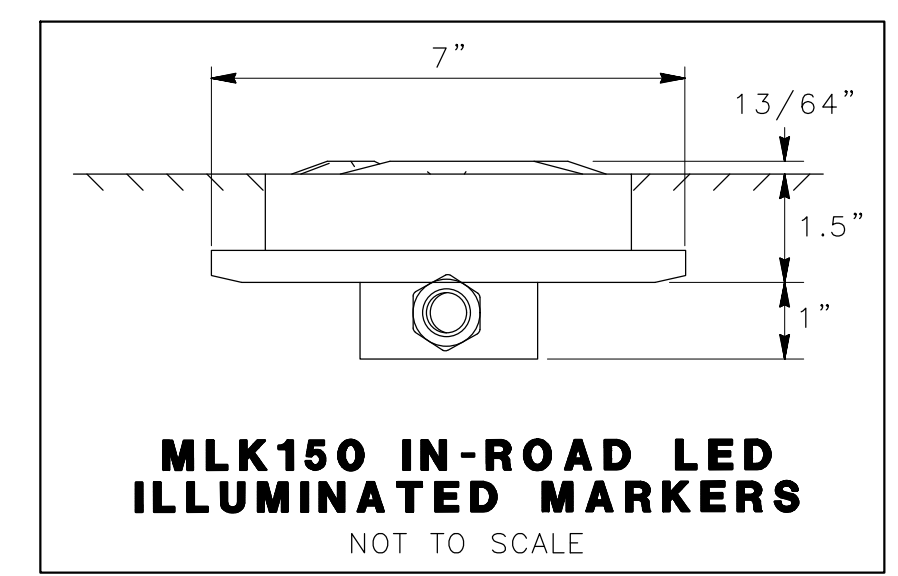
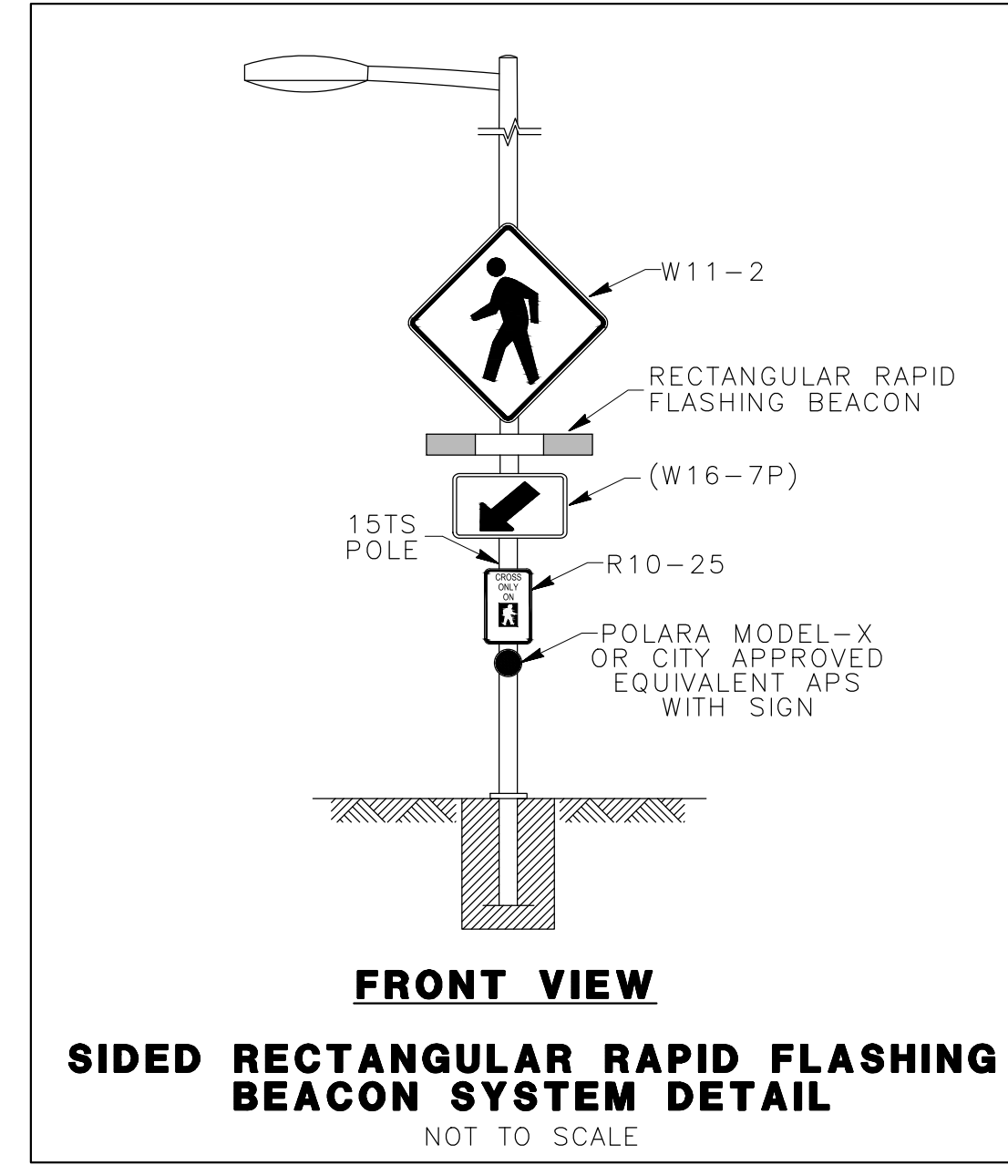
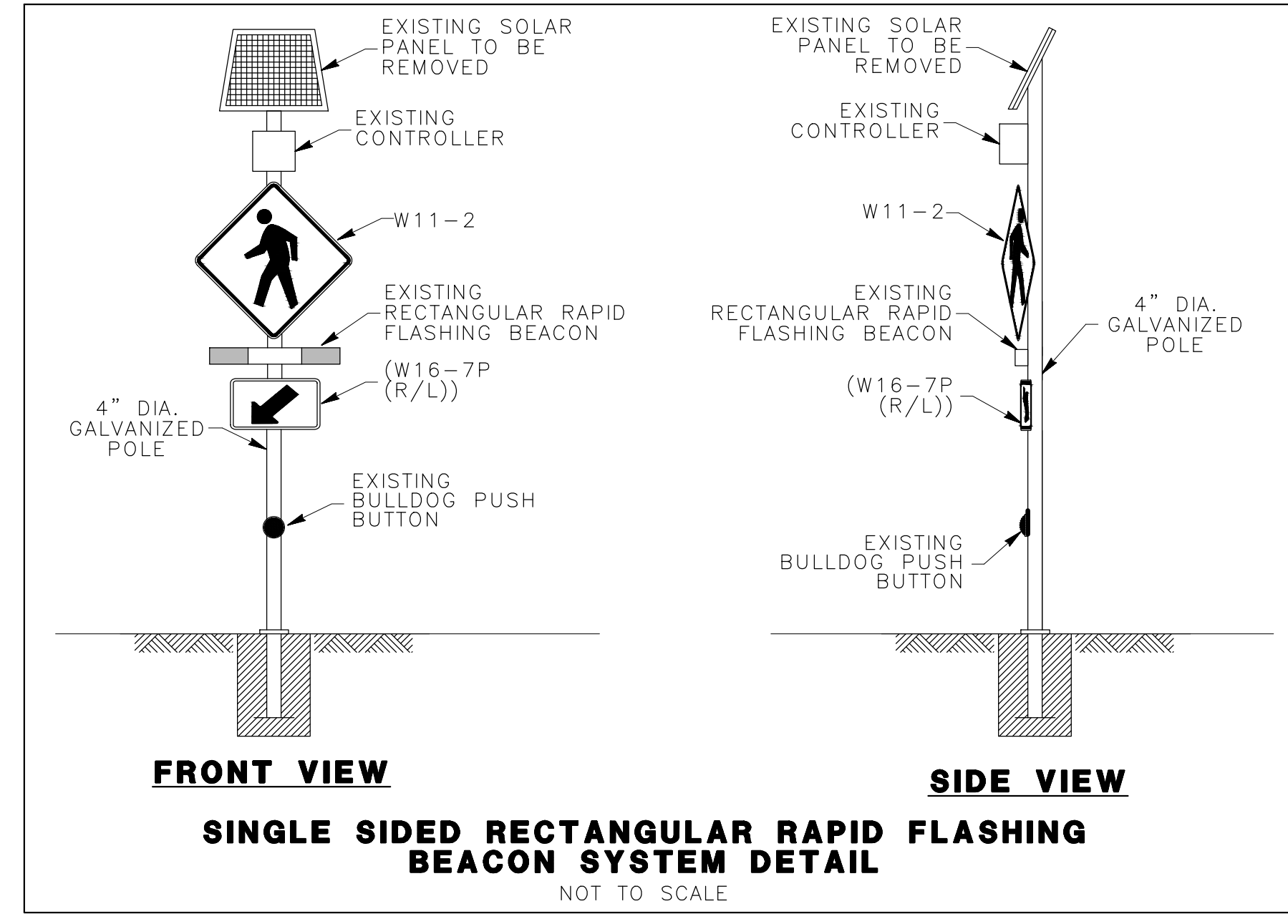
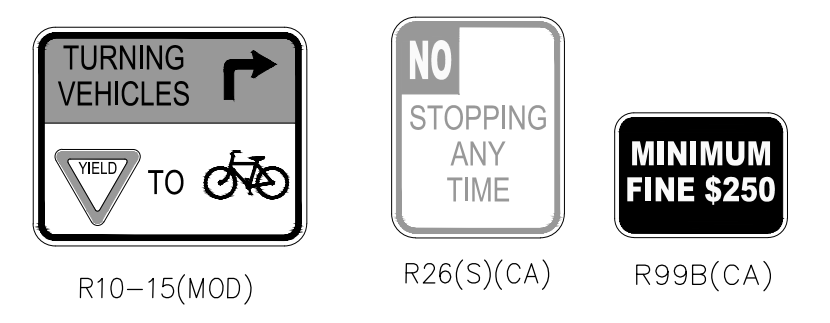
SIGNING AND STRIPING NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ALL SIGNING AND STRIPING.
- ALL SIGNING, STRIPING AND PAVEMENT MARKINGS SHALL CONFORM TO THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST VERSION), THE CALTRANS STANDARD PLANS AND SPECIFICATIONS (LATEST VERSION), THESE PLANS AND THE SPECIAL PROVISIONS.
- ALL SIGNING AND STRIPING IS SUBJECT TO THE APPROVAL OF THE TRANSPORTATION DIRECTOR OR HIS REPRESENTATIVE, PRIOR TO INSTALLATION.
- ANY DEVIATION FROM THESE SIGNING AND STRIPING PLANS SHALL BE APPROVED BY THE TRANSPORTATION DIRECTOR OR HIS REPRESENTATIVE PRIOR TO ANY CHANGE IN THE FIELD.
- ALL STRIPING SHALL BE REFLECTIVE PER CALTRANS SPECIFICATIONS. STRIPING SHALL BE REPAINTED TWO WEEKS AFTER INITIAL PAINTING.
- ALL PERMANENT SIGNAGE SHALL BE REFLECTIVE PER ASTM DESIGNATION D4956 AND SHALL USE TYPE IV PRISMATIC REFLECTIVE SHEETING (HIGH INTENSITY PRISMATIC OR EQUAL) UNLESS OTHERWISE SPECIFIED. R1-1 "STOP", R1-2 "YIELD", R2-1 "SPEED LIMIT" AND STREET NAME SIGNS SHALL USE TYPE IX PRISMATIC CUBE-CORNER REFLECTIVE SHEETING (DIAMOND GRADE VIP OR EQUAL).
- EXACT LOCATION OF STRIPING AND STOP LIMIT LINES SHALL BE APPROVED BY THE TRANSPORTATION DIRECTOR OR HIS REPRESENTATIVE PRIOR TO INSTALLATION.
- CONTRACTOR SHALL REMOVE ALL CONFLICTING PAINTED LINES, MARKINGS AND PAVEMENT LEGENDS BY GRINDING. DEBRIS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- ALL PAVEMENT LEGENDS SHALL BE THE LATEST VERSION OF THE CALTRANS STENCILS.
- LIMIT LINES AND CROSSWALKS SHALL BE FIELD LOCATED. CROSSWALKS SHALL BE HIGH VISIBILITY "CONTINENTAL" STYLE AND SHALL HAVE 10' INSIDE DIMENSION UNLESS OTHERWISE SPECIFIED. CONTINENTAL CROSSWALK MARKINGS SHALL BE PARALLEL TO THE DIRECTION OF VEHICULAR TRAVEL.
- ALL CROSSWALKS, LIMIT LINES, STOP BARS, PAVEMENT ARROWS AND PAVEMENT LEGENDS INCLUDING BIKE LANE LEGENDS AND ARROWS SHALL BE THERMOPLASTIC UNLESS OTHERWISE SPECIFIED. PREFORMED THERMOPLASTIC ARROWS AND LEGENDS SHALL NOT BE ACCEPTABLE.
- SIZE OF SIGNS SHALL BE BASED UPON THE RECOMMENDED SIGN SIZES FOUND IN THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES UNLESS OTHERWISE SPECIFIED.
- SIGN POSTS SHALL BE SQUARE PERFORATED STEEL TUBING WITH BREAKAWAY BASE PER SAN DIEGO REGIONAL STANDARD DRAWING M-45.
- WHEN A SIGN IS ATTACHED TO A POLE, IT SHALL BE MOUNTED USING A STANDARD CITY OF CARLSBAD APPROVED MOUNTING BRACKET WITH STRAPS.
- EXISTING SIGNS REMOVED BY THE CONTRACTOR SHALL BE DELIVERED BY THE CONTRACTOR TO THE CITY OF CARLSBAD PUBLIC WORKS YARD AT 405 OAK AVENUE.
- ALL SIGNS SHOWN ON THESE PLANS SHALL BE NEW SIGNS PROVIDED AND INSTALLED BY THE CONTRACTOR EXCEPT THOSE SIGNS SPECIFICALLY SHOWN AS EXISTING TO BE RELOCATED OR TO REMAIN.
- FIRE HYDRANT PAVEMENT MARKERS SHALL CONFORM TO THE CALIFORNIA MUTCD AND SAN DIEGO REGIONAL STANDARD DRAWING M-19.
- ALL NEW AND RELOCATED SIGNS SHALL BE CLEARLY VISIBLE, NOT BLOCKED BY ANY OBSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO TRIM OR REMOVE ANY VEGETATION BLOCKING THE NEW AND RELOCATED SIGNS.

LEGEND

PROPOSED SERVICE CABINET.....	■
PROPOSED CONDUIT.....	—
PROPOSED PULLBOX.....	□
PROPOSED POLE.....	⊥
PROPOSED STREET LIGHT.....	⊙
PROPOSED SIGN.....	⊞
EXISTING POLE.....	⊥
EXISTING TRANSFORMER.....	⊞
EXISTING PULLBOX.....	□
EXISTING UTILITY POLE.....	⊥
EXISTING SIGNS.....	⊞

PROPOSED SIGN LEGEND



ALL STANDARD DRAWINGS ARE SAN DIEGO REGIONAL STANDARD DRAWINGS (SDRSD) UNLESS NOTED OTHERWISE:
 * CITY OF CARLSBAD STANDARD
 ** CARLSBAD MUNICIPAL WATER DISTRICT STANDARD DRAWING
 *** SDRSD AS MODIFIED BY CITY OF CARLSBAD

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

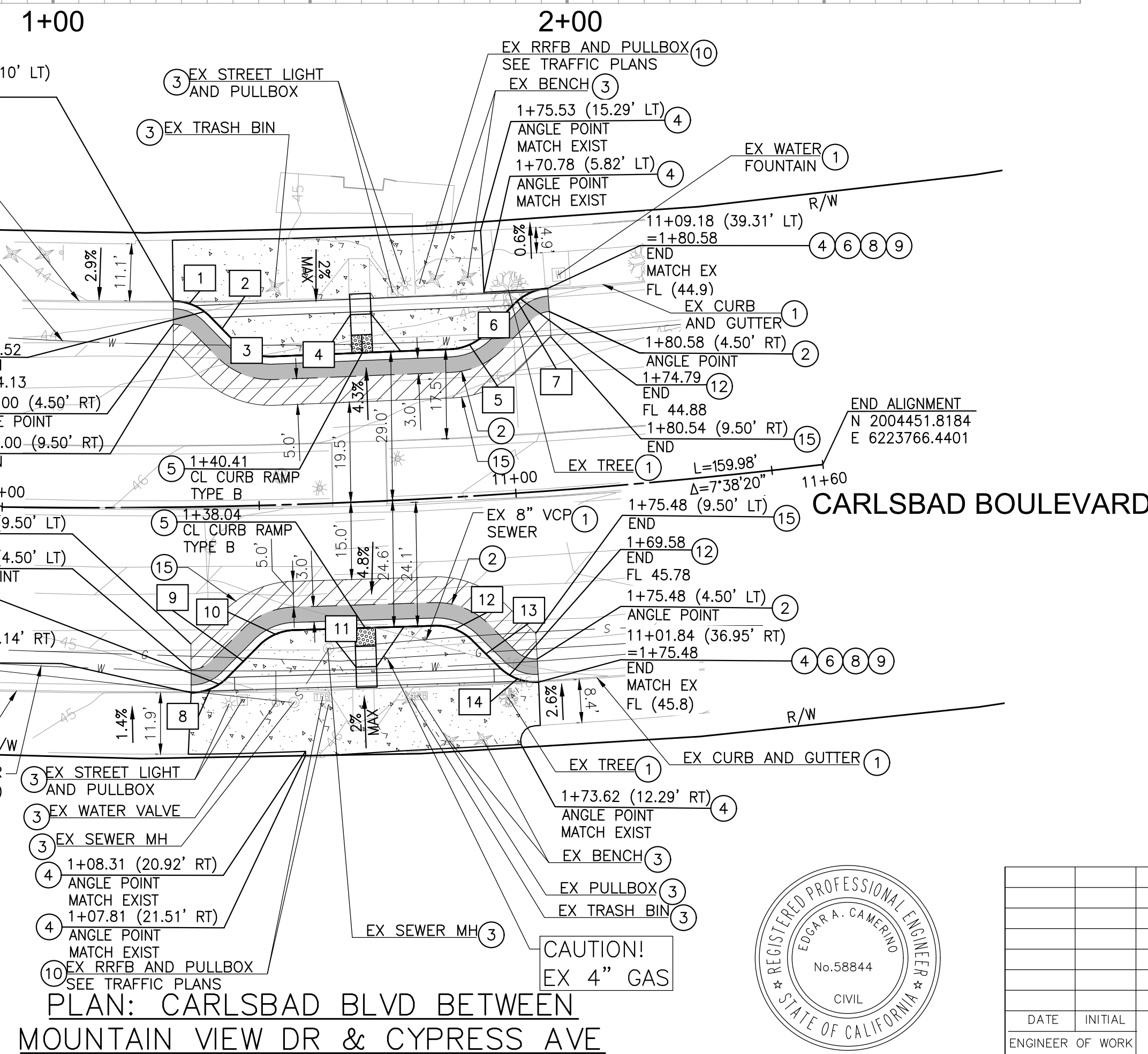
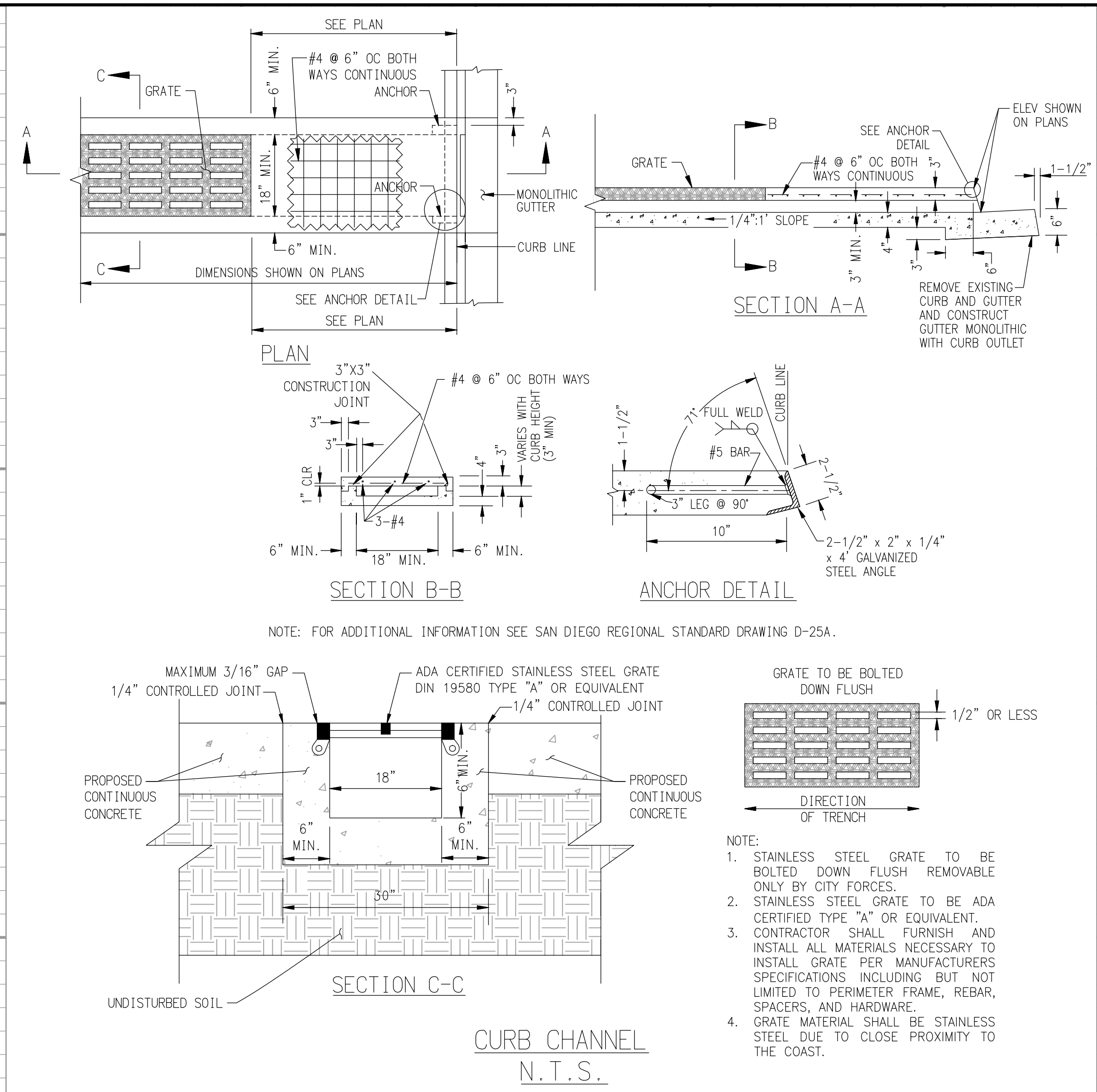
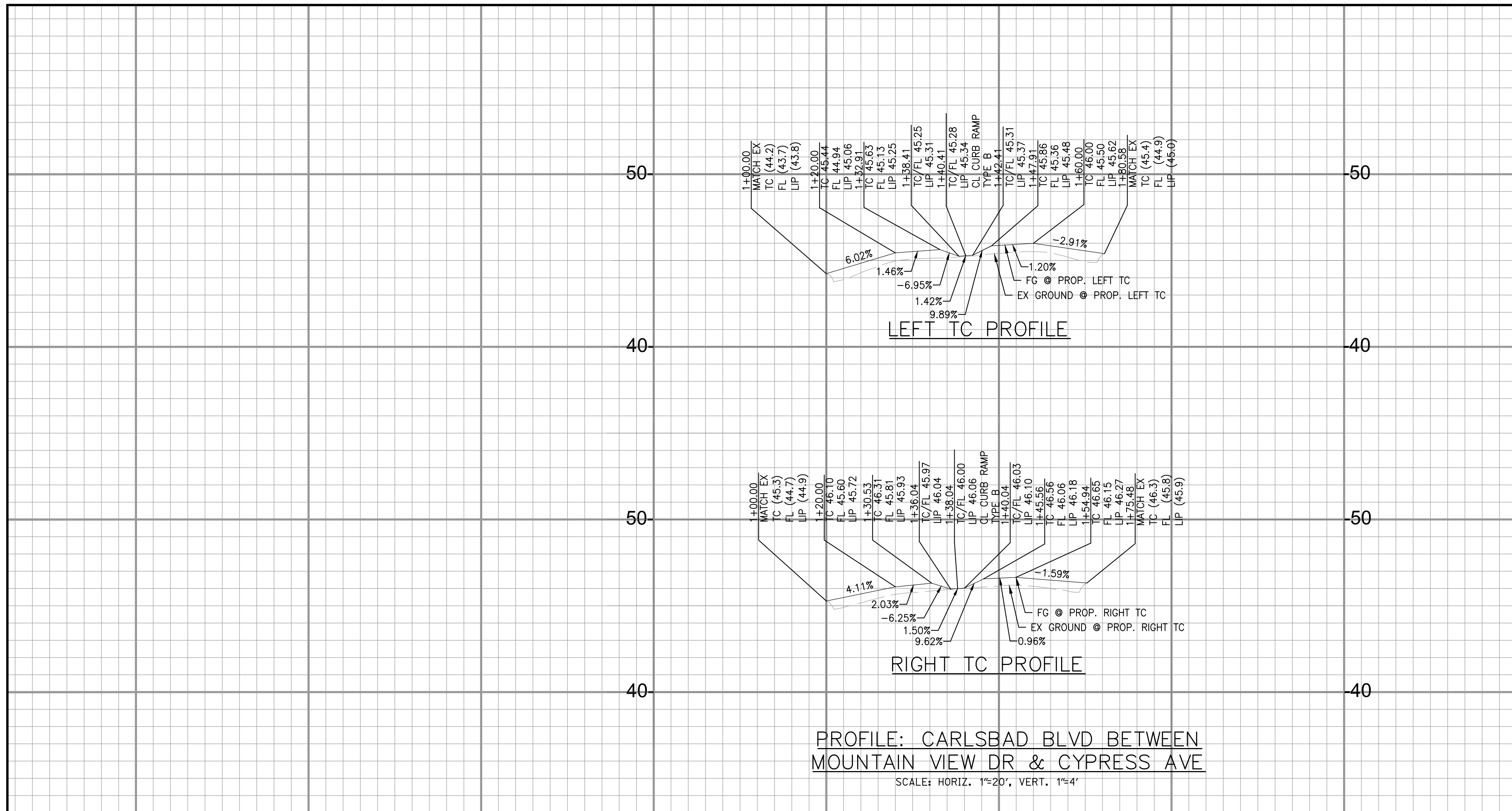
SHEET 2	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 13
CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT		
NOTES AND DETAILS		
APPROVED: THOMAS FRANK		
TRANSPORTATION DIRECTOR PE 49070 EXP. 9/30/2022 DATE _____		
DWN BY: JP	PROJECT NO. 6097	DRAWING NO. 525-9
CHKD BY: AE/CP		
RVWD BY: MMJ		



DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

RICK ENGINEERING COMPANY
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 SAN DIEGO, CA 92110
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 rickengineering.com

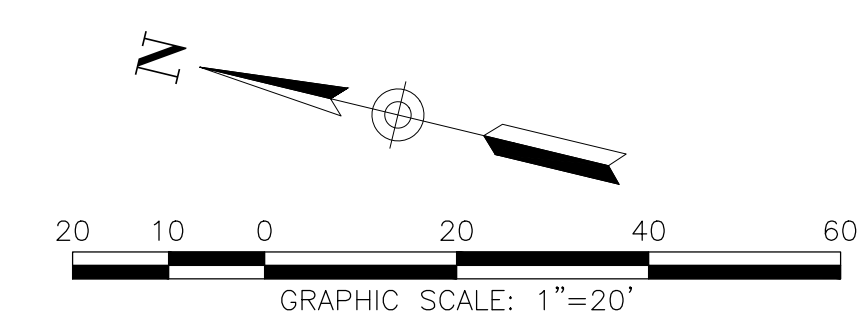
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CURB DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	Δ=45°22'46"	10.00'	7.92'	TYPE 'G' C&G
2	N31°55'20"E		6.74'	TYPE 'G' C&G
3	Δ=47°49'31"	10.00'	8.35'	TYPE 'G' C&G
4	N15°54'10"W		34.61'	TYPE 'G' C&G
5	Δ=43°29'31"	10.00'	7.59'	TYPE 'G' C&G
6	N59°23'41"W		8.07'	TYPE 'G' C&G
7	Δ=41°49'50"	10.00'	7.30'	TYPE 'G' C&G
8	Δ=44°57'36"	10.00'	7.85'	TYPE 'G' C&G
9	S58°49'20"E		8.79'	TYPE 'G' C&G
10	Δ=44°06'20"	10.00'	7.70'	TYPE 'G' C&G
11	S15°22'16"E		27.11'	TYPE 'G' C&G
12	Δ=47°12'12"	10.00'	8.24'	TYPE 'G' C&G
13	S31°10'40"W		7.39'	TYPE 'G' C&G
14	Δ=48°07'04"	10.00'	8.40'	TYPE 'G' C&G

- CONSTRUCTION NOTES:**
- PROTECT IN PLACE
 - SAWCUT
 - ADJUST TO GRADE
 - CONSTRUCT 4" SIDEWALK PER SDRSD G-07
 - CONSTRUCT TYPE 'B' CURB RAMP PER SDRSD G-27 TO BE FIELD FITTED TO MATCH EXISTING SITE CONDITIONS
 - CONSTRUCT 6" TYPE 'G' CURB & GUTTER PER SDRSD G-02
 - REMOVE EX CURB & GUTTER
 - REMOVE EX SIDEWALK
 - REMOVE & RELOCATE
 - CONSTRUCT CURB CHANNEL PER DETAIL ON SHEET 3
 - 1.5" AC GRIND AND OVERLAY

- LEGEND:**
- 4" CONCRETE SIDEWALK
 - AC PAVEMENT (5" AC OVER 6" CLASS 2 AB)
 - AC GRIND AND OVERLAY
 - SAWCUT



"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 3 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 13

CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT
CARLSBAD BLVD BETWEEN MOUNTAIN VIEW DR AND CYPRESS AVE
 PLAN AND PROFILE

APPROVED: THOMAS FRANK

TRANSPORTATION DIRECTOR PE 49070 EXP. 9/30/2022 DATE _____

CHDK BY: HR PROJECT NO. 6097

RVWD BY: DN DATE _____ CITY APPROVAL _____

525-9

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

RICK ENGINEERING COMPANY
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 SAN DIEGO, CA 92110
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 rickengineering.com
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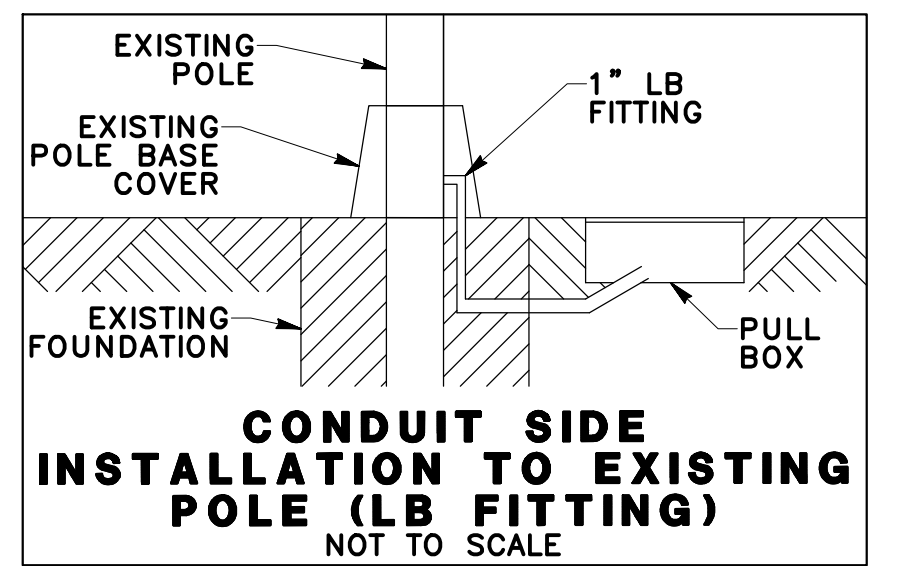
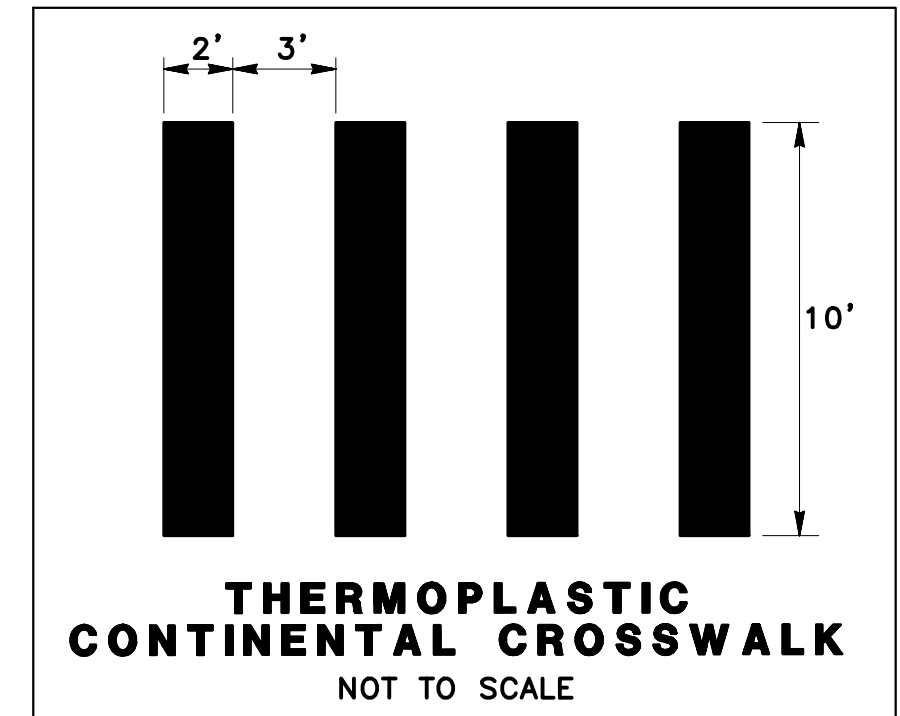
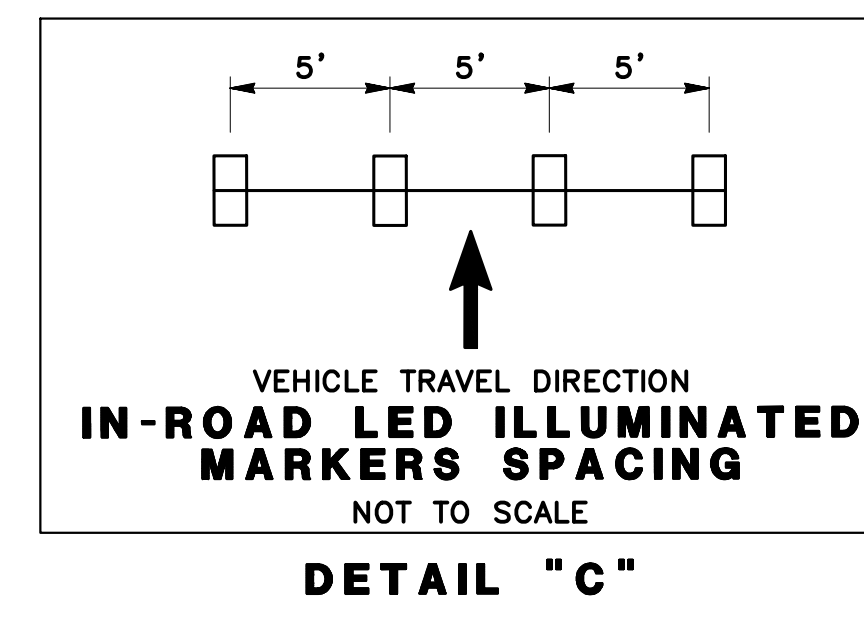
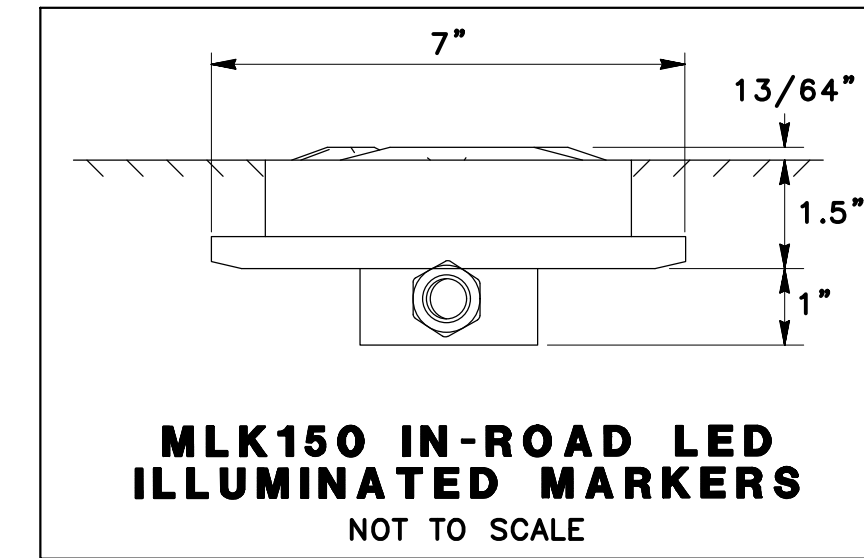
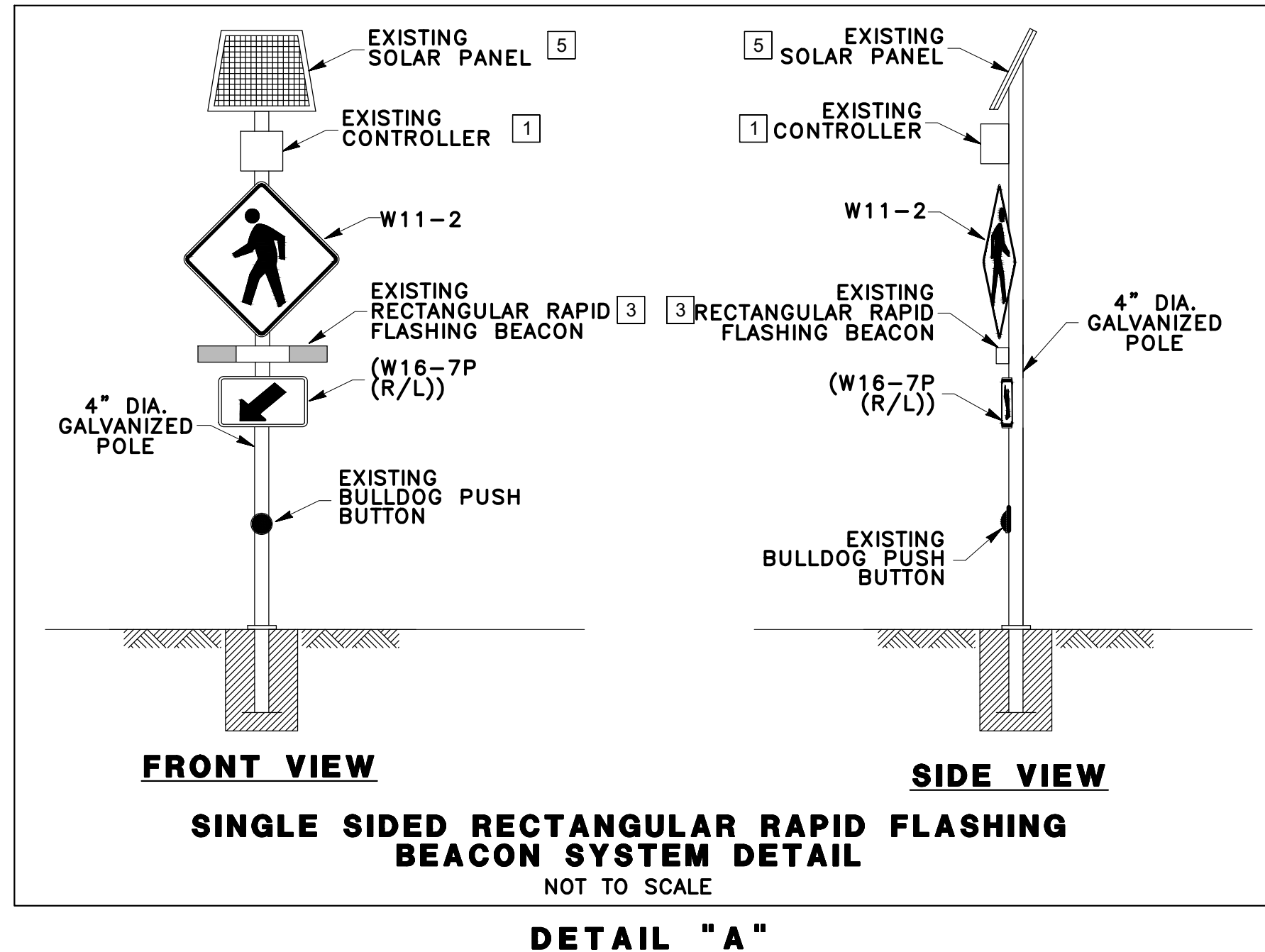


POLE & EQUIPMENT SCHEDULE						
LOCATION	POLE DATA		PPB	POLE LOCATION		SPECIAL REQUIREMENTS
	TYPE	HGT.		A	B	
A	DETAIL "A"	14'	S	EXISTING		1 5 19 RELOCATE TO LOCATION A'
A	DETAIL "A"	14'	S	STA: 10+58.86 27.2' RT		2 3 20 RELOCATE FROM LOCATION A
B	DETAIL "A"	14'	-	EXISTING		1 5 3
C	DETAIL "A"	14'	-	EXISTING		1 5 3
D	DETAIL "A"	14'	N	EXISTING		1 5 19 RELOCATE TO LOCATION D'
D	DETAIL "A"	14'	N	STA: 10+80.46 34.9' RT		3 20 RELOCATE FROM LOCATION D

CONDUCTOR SCHEDULE				
AWG SIZE OR CABLE TYPE	POLE	CONDUIT RUNS		
		1	2	3
18 AWG 4C	(A)	-	-	-
	(B)	1	-	-
	(C)	1	1	-
	(D)	1	1	1
TOTAL		3	2	1

18 AWG 3C	3	2	1
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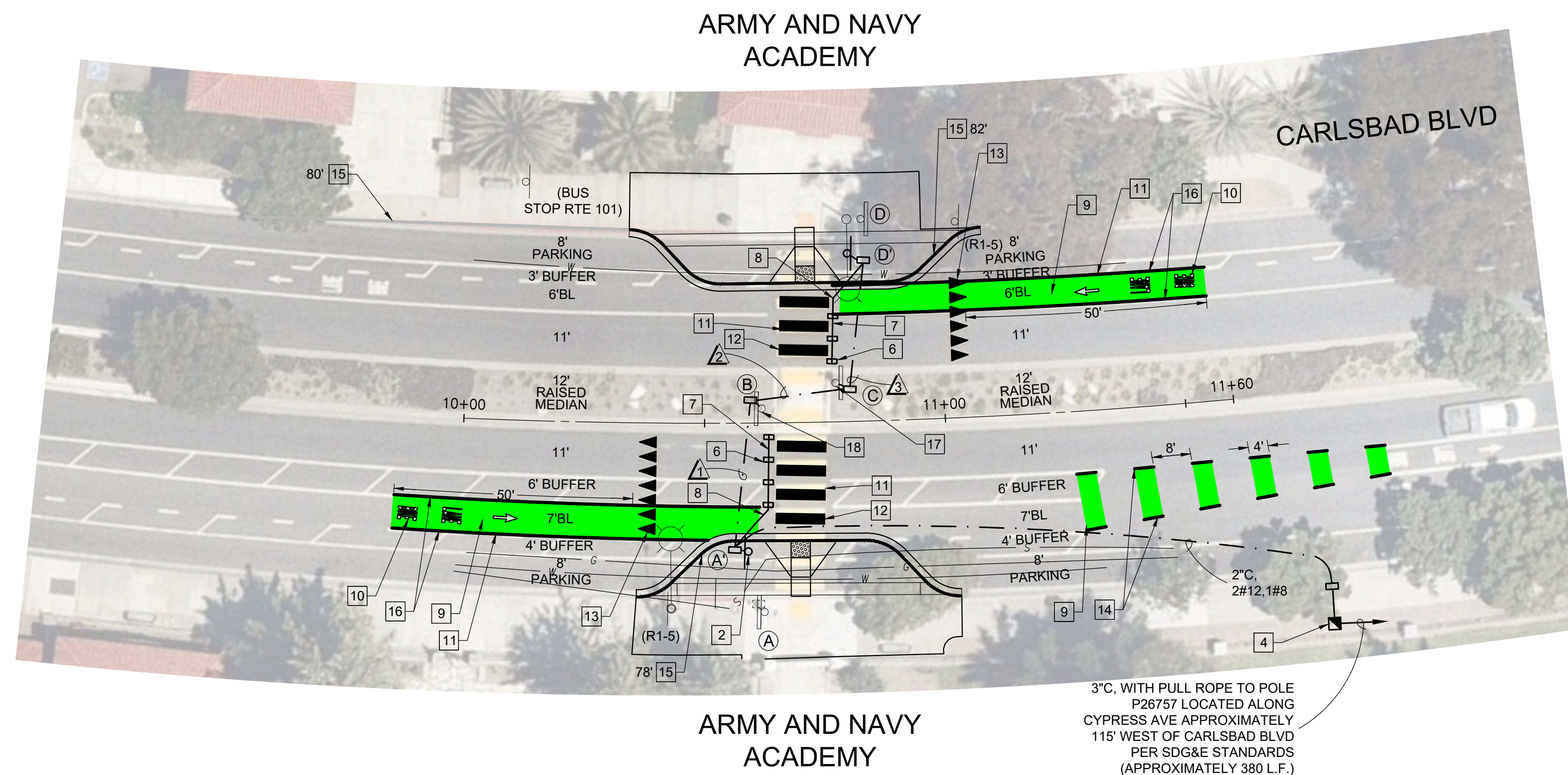
CONDUIT SIZE	2"	2"	2"
CONDUIT FILL	13.6%	9.1%	4.5%



CONSTRUCTION NOTES

REFER TO TITLE SHEET FOR TRAFFIC NOTES, SIGNING AND STRIPING NOTES.

- 1 CONTRACTOR TO REMOVE AND SALVAGE EXIST LANELIGHT MK4 CONTROLLER.
- 2 CONTRACTOR TO INSTALL LANELIGHT MK10 SYSTEM CONTROLLER WITH DRIVER EXTENSION OR CITY APPROVED EQUAL.
- 3 CONTRACTOR TO INSTALL UFL24-12 UNIVERSAL FLASHER OR CITY APPROVED EQUAL.
- 4 CONTRACTOR TO INSTALL TYPE III SIGNAL AND LIGHTING SERVICE CABINET PER SDG&E AND CALTRANS REQUIREMENTS. PROVIDE 15A-1P CIRCUIT BREAKER FOR RECTANGULAR RAPID FLASHING BEACON AND IN-ROADWAY WARNING LIGHTS.
- 5 CONTRACTOR TO REMOVE AND SALVAGE SOLAR PANEL WITH BATTERY BACKUP. CONTRACTOR TO CAP POLE AFTER REMOVING SOLAR PANEL.
- 6 CONTRACTOR TO INSTALL MLK150 IN-ROAD LED ILLUMINATED MARKERS PER MANUFACTURERS SPECIFICATIONS AS SHOWN ON DETAIL "B" AND "C" OR CITY APPROVED EQUAL. MARKERS SHALL NOT ENCROACH ONTO THE BIKE LANES.
- 7 CONTRACTOR TO PROVIDE A 3.5" DEEP TRENCH. INSTALL IN ROAD WARNING LIGHTS PER MANUFACTURERS SPECIFICATIONS. SEAL TRENCH PER MANUFACTURERS SPECIFICATIONS.
- 8 2" CONDUIT STUB-OUT.
- 9 CONTRACTOR TO INSTALL GREEN 2-COAT PAINT, GREEN TRAFFIC PAINT SHALL BE EF SERIES WB GRN FAST DRY 1952F 1/2, PRODUCE CODE 183, PRODUCT GREEN (34108) BY ENNISS FLINT OR APPROVED EQUAL PAINT TO MEET FEDERAL SPEC TT-P-1652F TYPE I & II.
- 10 CONTRACTOR TO INSTALL BIKE LANE AND ARROW PER CALTRANS STANDARD PLAN A24A AND A24D.
- 11 CONTRACTOR TO REMOVE CONFLICTING STRIPING.
- 12 CONTRACTOR TO INSTALL YELLOW THERMOPLASTIC CONTINENTAL CROSSWALK A24F, SEE DETAIL "D".
- 13 EXISTING YIELD PAVEMENT MARKING TO BE REFRESHED AND INSTALLED ON TOP OF GREEN BIKE LANE PAINT.
- 14 CONTRACTOR TO INSTALL BIKE LANE STRIPING DETAIL 39A PER CALTRANS STANDARD PLAN A20D.
- 15 CONTRACTOR TO PAINT RED CURB AS SHOWN ON PLANS.
- 16 CONTRACTOR TO INSTALL BIKE LANE STRIPING DETAIL 39 PER CALTRANS STANDARD PLAN A20D.
- 17 CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON EAST QUADRANT OF POLE PER DETAIL "E".
- 18 CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON WEST QUADRANT OF POLE PER DETAIL "E".
- 19 CONTRACTOR SHALL REMOVE A MINIMUM OF 3' OF FOUNDATION BELOW FINISHED GRADE.
- 20 CONTRACTOR SHALL VERIFY BASE PLATE AND ANCHOR BOLTS INFORMATION FOR EXISTING POLE. PROVIDE IN-KIND FOUNDATION AND ANCHOR BOLTS AT NEW LOCATION.



LEGEND

- EXISTING RRFB SYSTEM
- PROPOSED IN-ROAD LIGHT
- EXISTING STREET LIGHT
- PROPOSED CONDUIT
- PROPOSED TYPE III SERVICE
- PROPOSED PULLBOX
- EXISTING SIGN

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 4 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 13

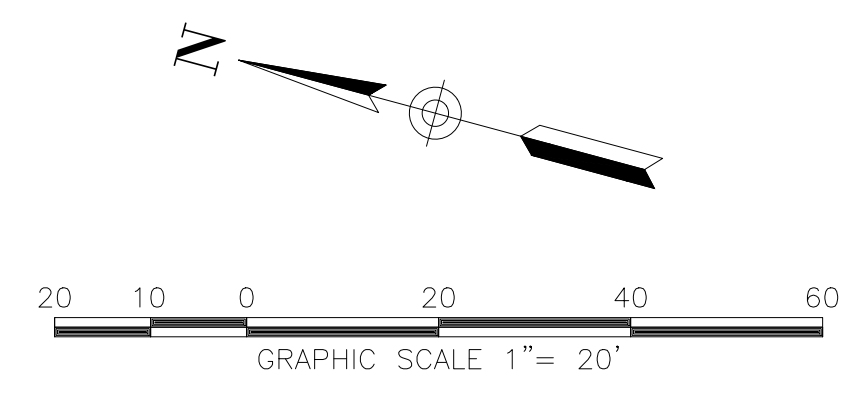
CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT
CARLSBAD BLVD BETWEEN MOUNTAIN VIEW DR AND CYPRESS AVE
 LIGHTED CROSSWALK INSTALLATION

APPROVED: THOMAS FRANK

TRANSPORTATION DIRECTOR PE 49070 EXP. 9/30/2022 DATE _____

DWN BY: JP PROJECT NO. 6097 DRAWING NO. 525-9
 CHKD BY: AE/CP
 RVWD BY: MMJ

CONTRACTOR SHALL PROVIDE SPECIFICATIONS OF MATERIALS FOR PROPOSED INSTALLATION AND RELOCATION OF POLES. PROPOSED MATERIALS SHALL BE SIMILAR TO THE EXISTING POLE MATERIAL (METALS) TO MINIMIZE RUSTING.

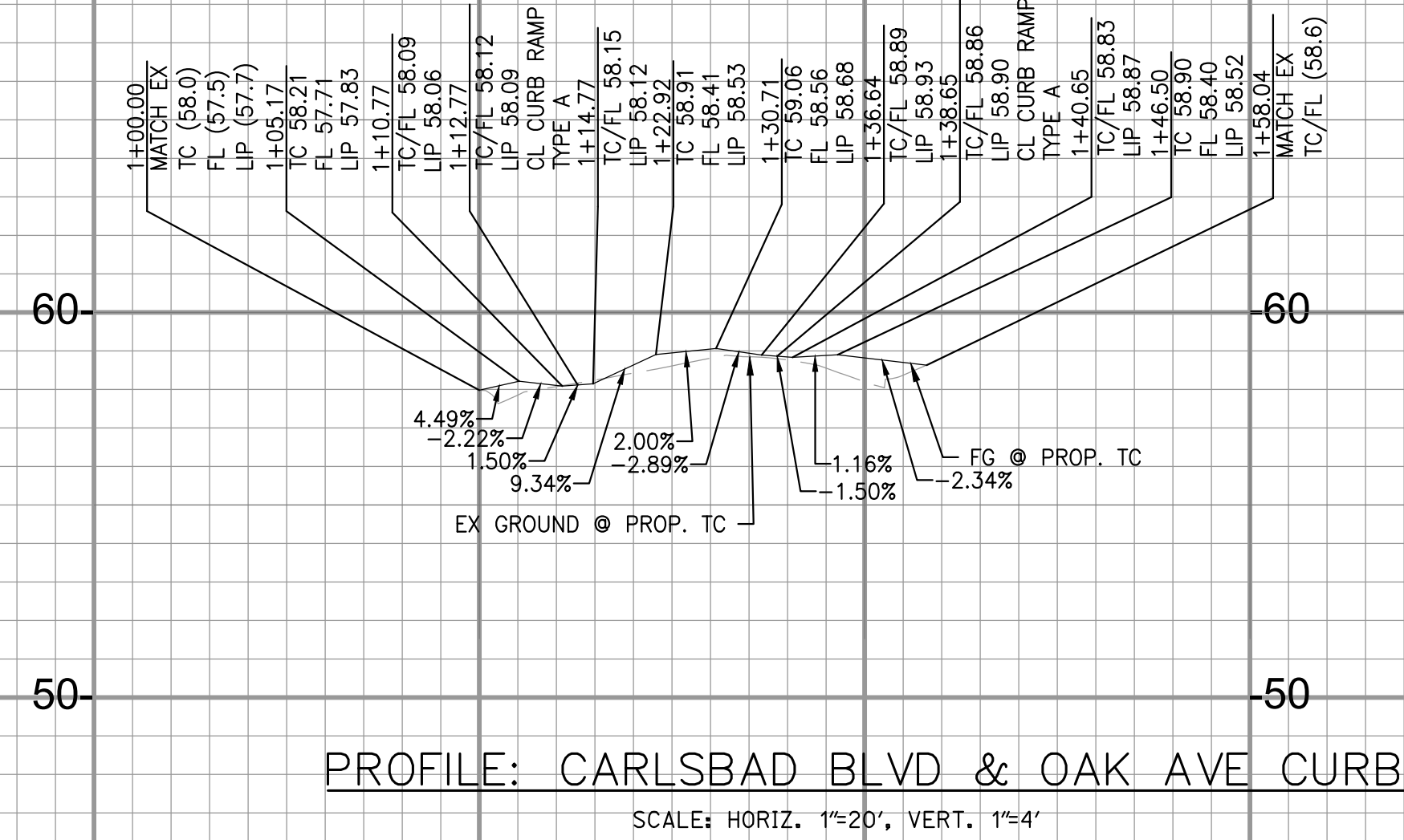


DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

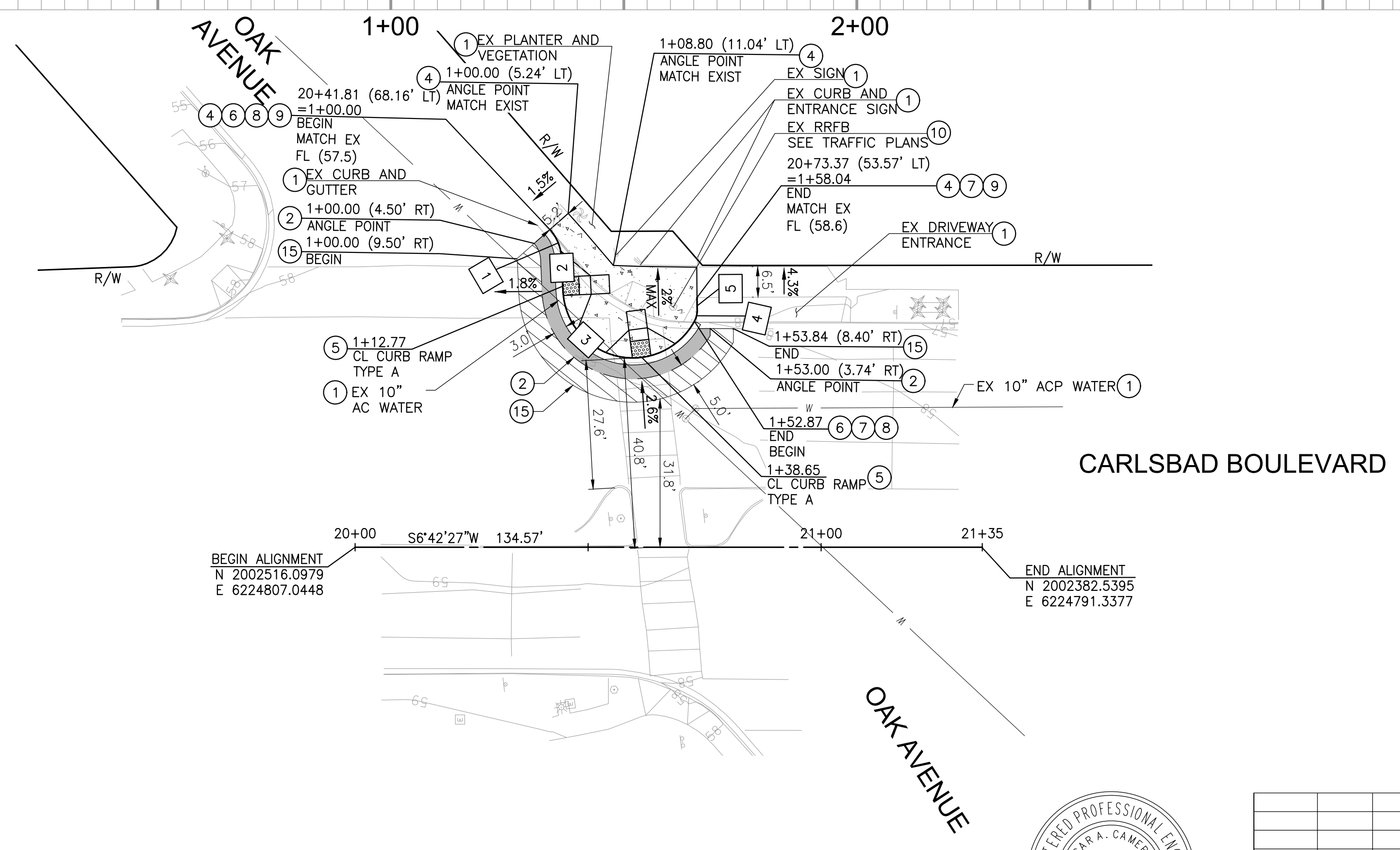
RICK ENGINEERING COMPANY
 5620 FRIARS ROAD
 SAN DIEGO, CA 92110
 619.291.0707
 (FAX) 619.291.4165
 rickengineering.com

J-19212

San Diego Riverside - Orange - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tucson



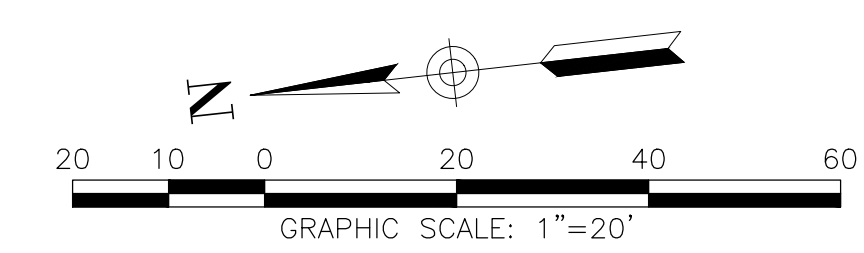
PROFILE: CARLSBAD BLVD & OAK AVE CURB
SCALE: HORIZ. 1"=20', VERT. 1"=4'



- CONSTRUCTION NOTES:**
- 1 PROTECT IN PLACE
 - 2 SAWCUT
 - 4 CONSTRUCT 4" SIDEWALK PER SDRSD G-07
 - 5 CONSTRUCT TYPE 'A' CURB RAMP PER SDRSD G-27 TO BE FIELD FITTED TO MATCH EXISTING SITE CONDITIONS
 - 6 CONSTRUCT 6" TYPE 'G' CURB & GUTTER PER SDRSD G-02
 - 7 CONSTRUCT 6" CURB PER SDRSD G-1
 - 8 REMOVE EX CURB & GUTTER
 - 9 REMOVE EX SIDEWALK
 - 10 REMOVE & RELOCATE
 - 15 1.5" AC GRIND AND OVERLAY
- LEGEND:**
- 4" CONCRETE SIDEWALK
 - AC PAVEMENT (5" AC OVER 6" CLASS 2 AB)
 - AC GRIND AND OVERLAY
 - SAWCUT

CURB DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	Δ=38°49'42"	10.00'	6.78'	TYPE 'G' C&G
2	S85°50'38"E		7.06'	TYPE 'G' C&G
3	Δ=149°07'34"	15.00'	39.04'	TYPE 'G' C&G
4	Δ=28°49'12"	5.00'	2.52'	6" CURB
5	N83°47'23"W		2.65'	6" CURB

PLAN: CARLSBAD BLVD & OAK AVE



"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 5	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 13
CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT CARLSBAD BLVD AND OAK AVE PLAN AND PROFILE		
APPROVED: THOMAS FRANK		
TRANSPORTATION DIRECTOR PE 49070 EXP. 9/30/2022 DATE _____		
DWN BY: <u>HR</u>	PROJECT NO. 6097	DRAWING NO. 525-9
CHKD BY: <u>DN</u>		
RVWD BY: <u>DN</u>		



DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

POLE & EQUIPMENT SCHEDULE								
LOCATION	POLE DATA			L.E.D. + LUMINAIRE	PPB QUAD	POLE LOCATION		SPECIAL REQUIREMENTS
	TYPE	HGT.	MASTARM LUM.			A	B	
(A)	DETAIL "A"	14'	-	-	S	EXISTING	1 2 3 5	
(B)	DETAIL "B"	14'	-	-	S	EXISTING	1 5 3	
(C)	DETAIL "A"	14'	-	-	N	EXISTING	1 5 18	RELOCATE TO LOCATION C'
(C')	DETAIL "A"	14'	-	-	N	STA: 20+65.6 48.9' LT	3 19	RELOCATE FROM LOCATION C
(D)	CONCRETE LIGHT STD	30'	8"	120 WATT	-	STA: 20+55.1 63.7' LT	17	

*SAFETY LIGHTING SHALL BE GE ERL2-0-16-C3-40-C-GRAY-L (15,400 LUMENS).

LEGEND	
EXISTING RRFB SYSTEM	
PROPOSED IN-ROAD LIGHT	
EXISTING STREET LIGHT	
PROPOSED CONDUIT	
PROPOSED TYPE III SERVICE	
PROPOSED PULLBOX	
EXISTING SIGN	

CONDUCTOR SCHEDULE			
AWG SIZE OR CABLE TYPE	POLE	CONDUIT RUNS	
		1	2
18 AWG 4C	(A)	-	-
	(B)	1	-
	(C)	1	1
TOTAL		2	1

LIGHTING	#8	#10		
			1	1
			2	2

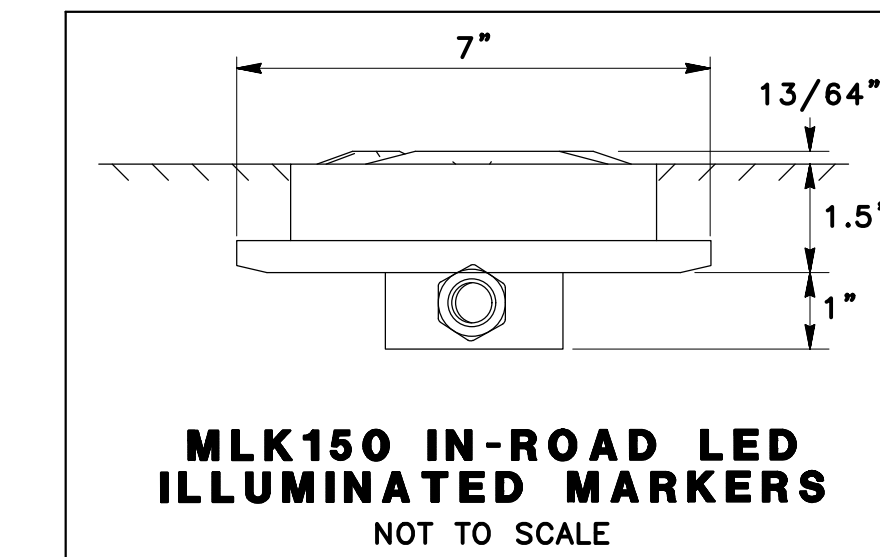
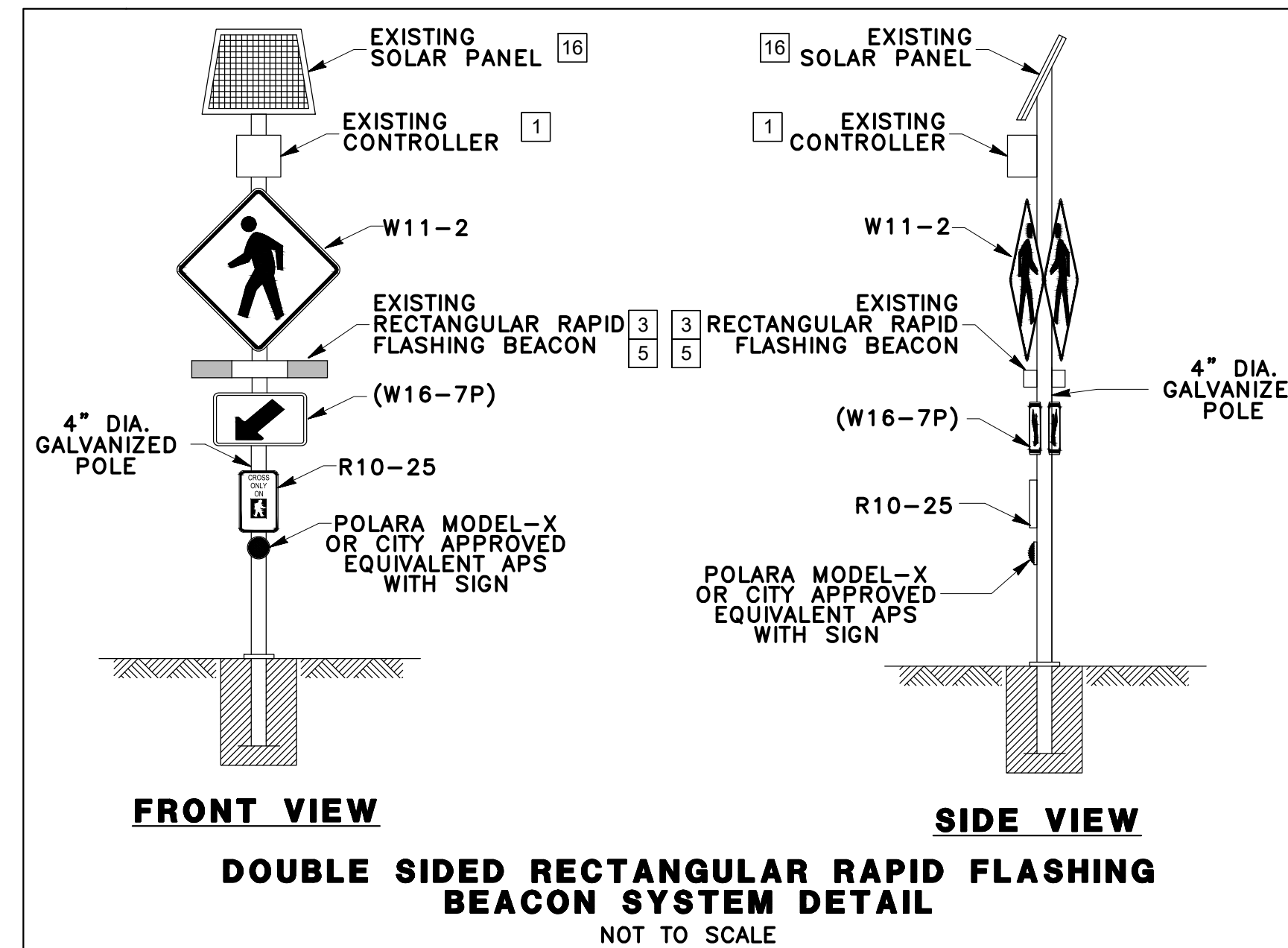
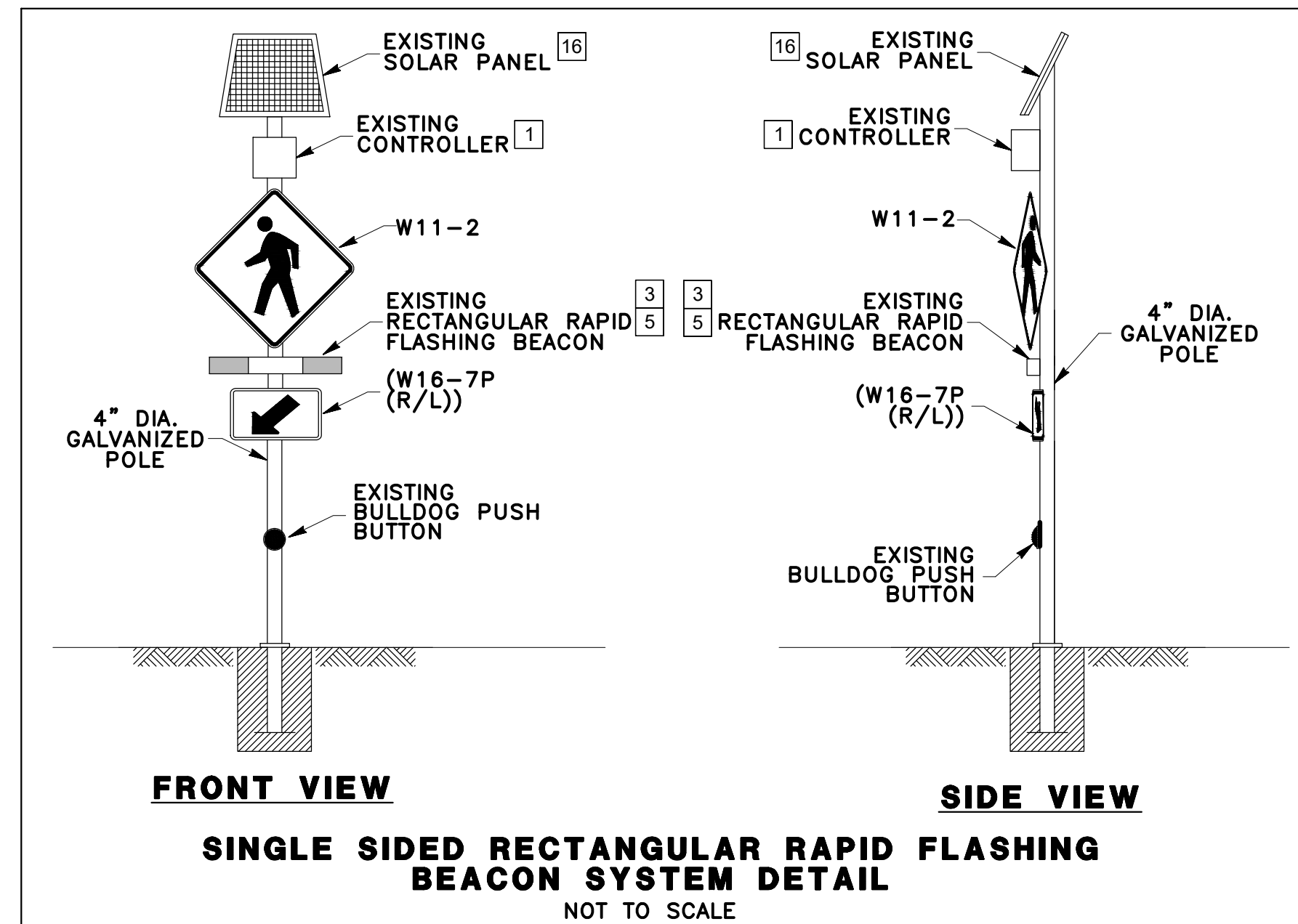
18 AWG 3C	2	1
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CONDUIT SIZE	2"	2"
CONDUIT FILL	13.0%	8.4%

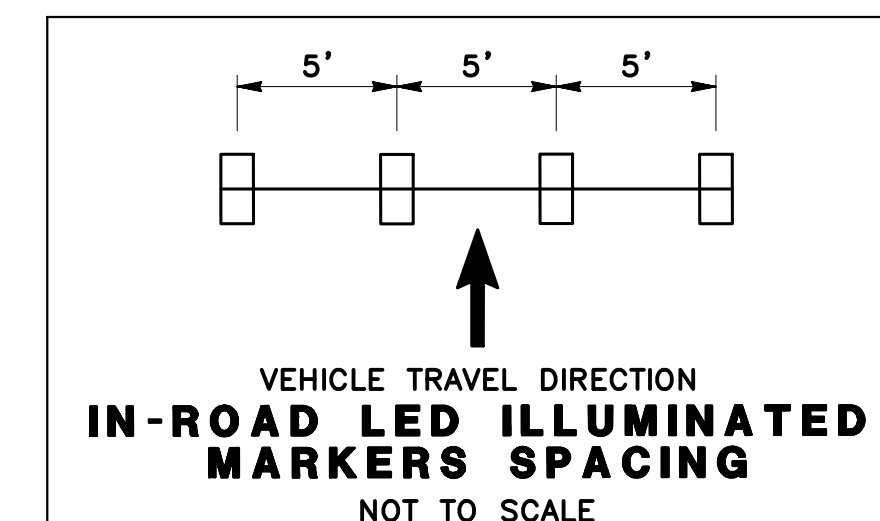
CONSTRUCTION NOTES

REFER TO TITLE SHEET FOR TRAFFIC NOTES, SIGNING AND STRIPING NOTES.

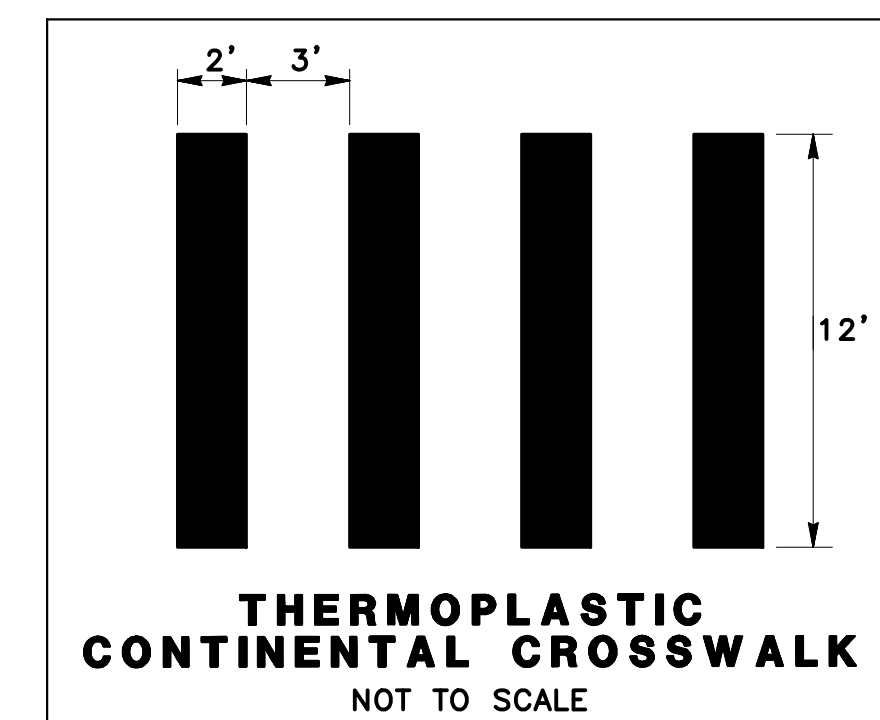
- CONTRACTOR TO REMOVE AND SALVAGE EXIST (101530) SOLAR CONTROL 55 WATT ASSEMBLY.
- CONTRACTOR TO INSTALL MK10 SYSTEM CONTROLLER OR CITY APPROVED EQUAL.
- CONTRACTOR TO INSTALL UFL24-12 UNIVERSAL FLASHER OR CITY APPROVED EQUAL.
- CONTRACTOR TO INSTALL TYPE III SIGNAL AND LIGHTING SERVICE CABINET PER SDG&E AND CALTRANS REQUIREMENTS. PROVIDE 15A-1P CIRCUIT BREAKER FOR RECTANGULAR RAPID FLASHING BEACON AND IN-ROADWAY WARNING LIGHTS.
- EXISTING RRFBL2 TO REMAIN.
- CONTRACTOR TO INSTALL MLK150 IN-ROAD LED ILLUMINATED MARKERS PER MANUFACTURERS SPECIFICATIONS AS SHOWN ON DETAIL "C" AND "D" OR CITY APPROVED EQUAL. MARKERS SHALL NOT ENCR OACH ONTO THE BIKE LANES.
- PROVIDE A 3.5" DEEP TRENCH. INSTALL IN ROAD WARNING LIGHTS PER MANUFACTURERS SPECIFICATIONS. SEAL TRENCH PER MANUFACTURERS SPECIFICATIONS.
- 2" CONDUIT STUB-OUT.
- CONTRACTOR TO INSTALL GREEN 2-COAT PAINT. GREEN TRAFFIC PAINT SHALL BE EF SERIES WB GRN FAST DRY 1952F 1/2, PRODUCE CODE 183, PRODUCT GREEN (34108) BY ENNISS FLINT OR APPROVED EQUAL PAINT TO MEET FEDERAL SPEC TT-P-1652F TYPE I & II.
- CONTRACTOR TO REMOVE CONFLICTING STRIPING.
- CONTRACTOR TO INSTALL WHITE THERMOPLASTIC CONTINENTAL CROSSWALK A24F, SEE DETAIL "E".
- CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON NORTH QUADRANT OF POLE PER DETAIL "F".
- CONTRACTOR TO INSTALL BIKE LANE STRIPING DETAIL 39A PER CALTRANS STANDARD PLAN A20D.
- CONTRACTOR TO PAINT RED CURB AS SHOWN.
- CONTRACTOR TO FURNISH AND INSTALL POST AND R10-15(MOD) SIGN.
- CONTRACTOR TO CAP POLE AFTER REMOVING SOLAR PANEL.
- CONTRACTOR SHALL PROVIDE 2" C AND SWEEP INTO EXISTING #3 PULLBOX AND SPLICE 2#10 AND #8 TO EXISTING STREET LIGHT CIRCUIT.
- CONTRACTOR SHALL REMOVE A MINIMUM OF 3' OF FOUNDATION BELOW FINISHED GRADE.
- CONTRACTOR SHALL VERIFY BASE PLATE AND ANCHOR BOLTS INFORMATION FOR EXISTING POLE. PROVIDE IN-KIND FOUNDATION AND ANCHOR BOLTS AT NEW LOCATION.



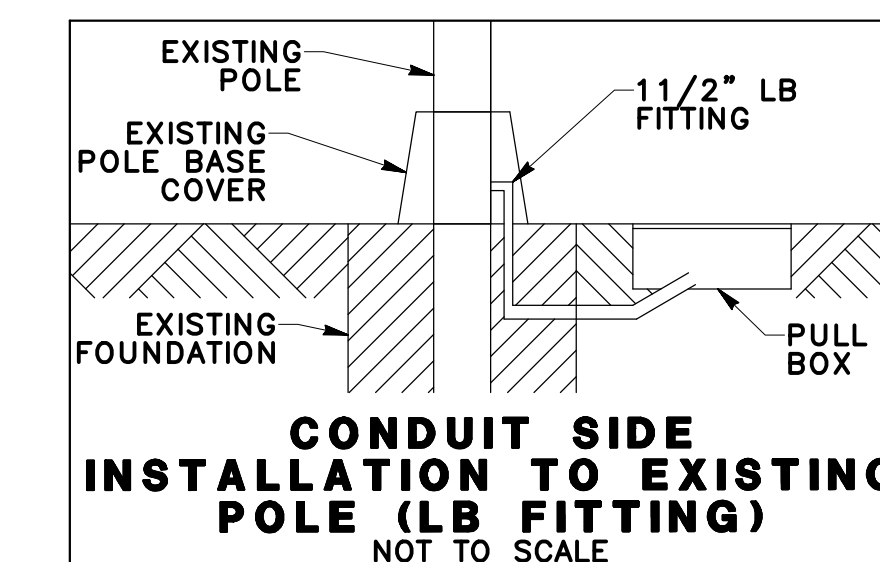
DETAIL "C"



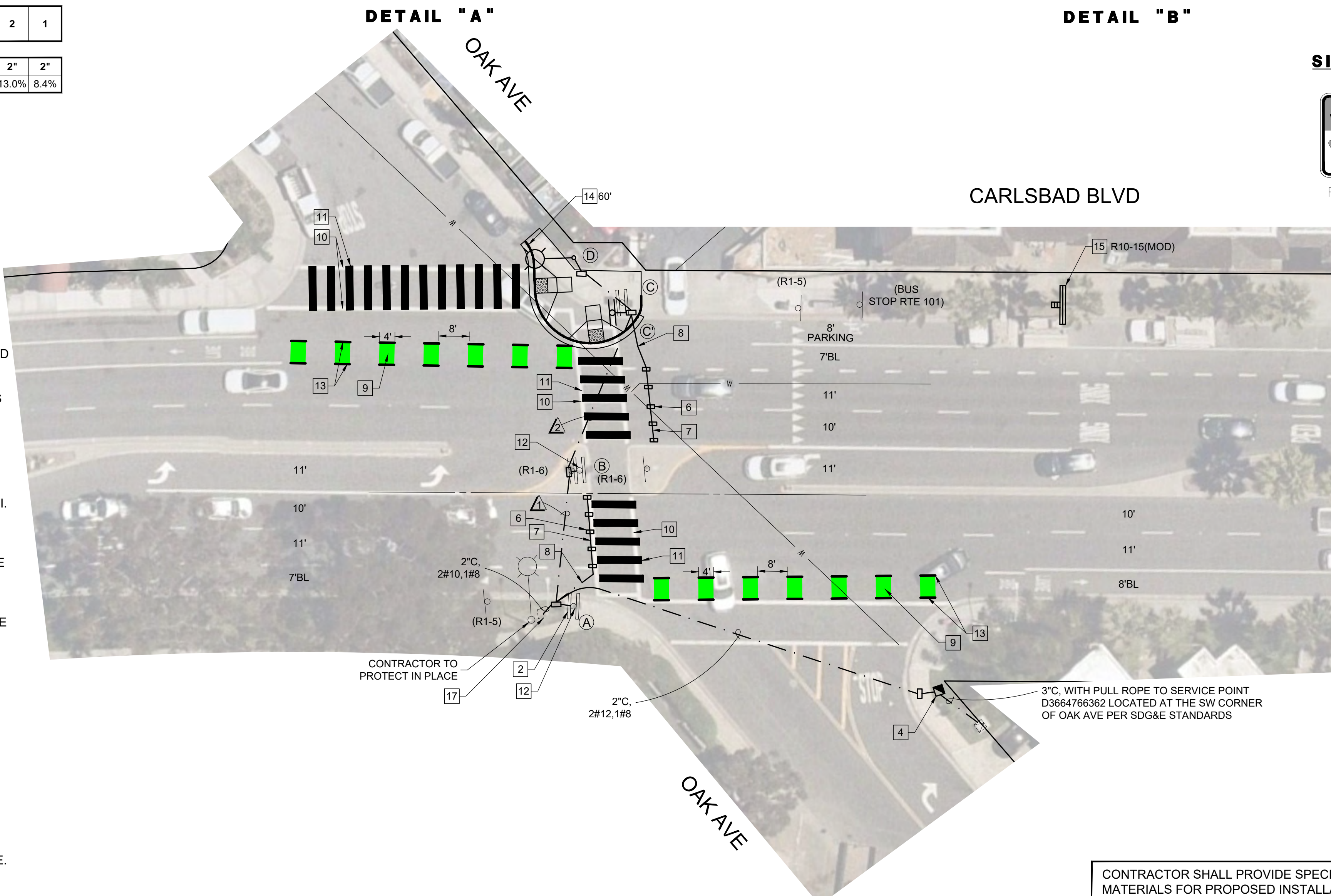
DETAIL "D"



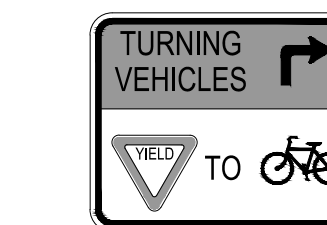
DETAIL "E"



DETAIL "F"



SIGNS THIS SHEET



R10-15(MOD)

CONTRACTOR SHALL PROVIDE SPECIFICATIONS OF MATERIALS FOR PROPOSED INSTALLATION AND RELOCATION OF POLES. PROPOSED MATERIALS SHALL BE SIMILAR TO THE EXISTING POLE MATERIAL (METALS) TO MINIMIZE RUSTING.

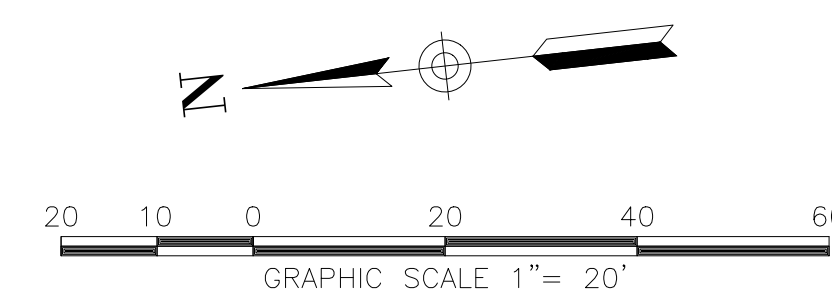
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P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

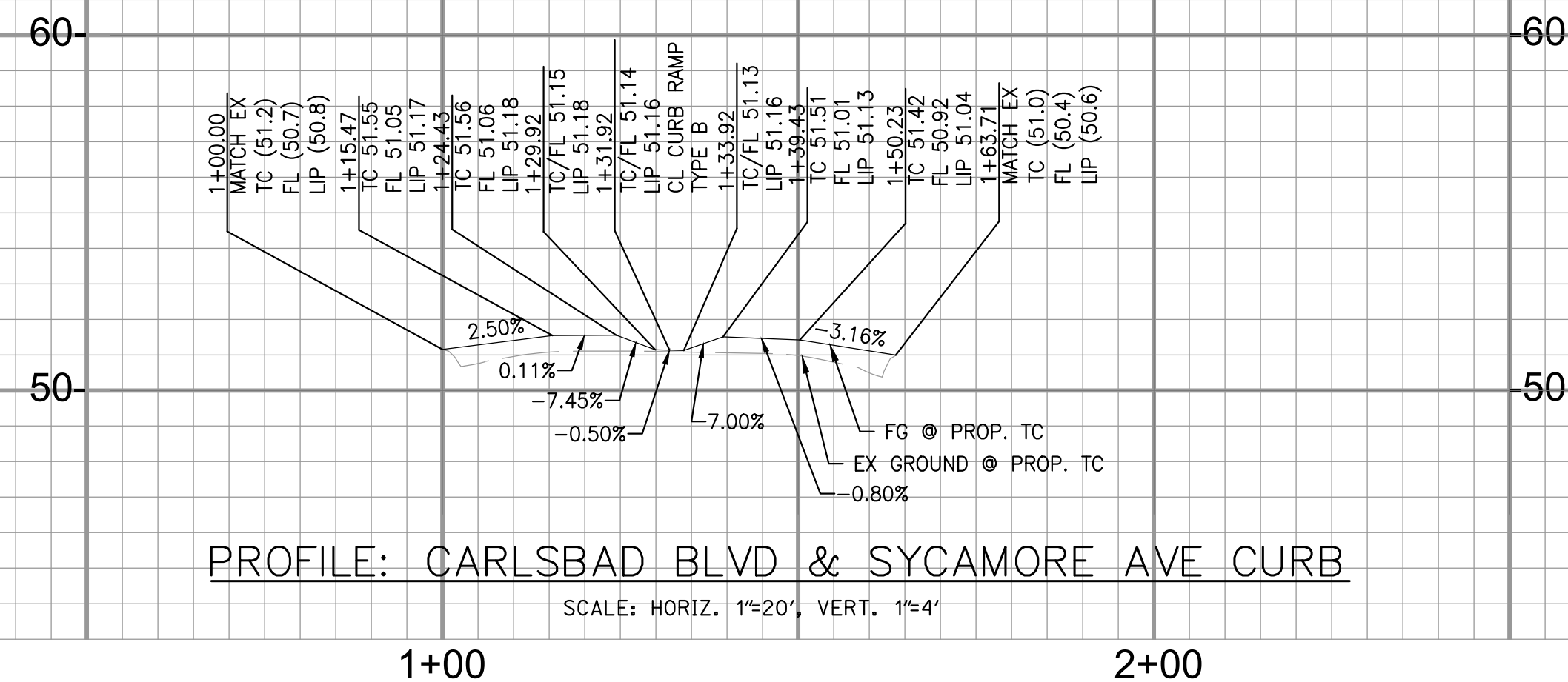
INSPECTOR _____ DATE _____

SHEET 6	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 13
CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT CARLSBAD BLVD AND OAK AVE LIGHTED CROSSWALK INSTALLATION		
APPROVED: THOMAS FRANK		
TRANSPORTATION DIRECTOR PE 49070	EXP. 9/30/2022	DATE _____
DWN BY: JP	PROJECT NO. 6097	DRAWING NO. 525-9
CHKD BY: AE/CP		
RVWD BY: MMJ		



DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619.291.0707
(FAX) 619.291.4165
rickengineering.com
San Diego Riverside - Orange - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tucson



PROFILE: CARLSBAD BLVD & SYCAMORE AVE CURB

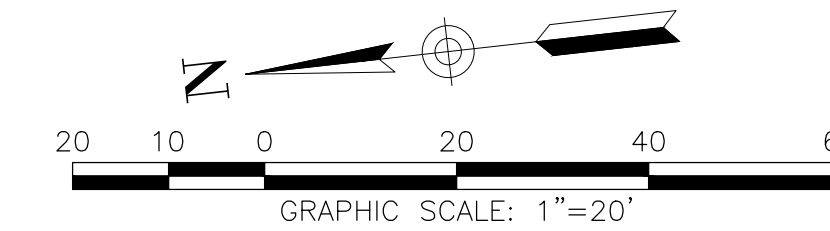
SCALE: HORIZ. 1"=20', VERT. 1"=4'

CONSTRUCTION NOTES:

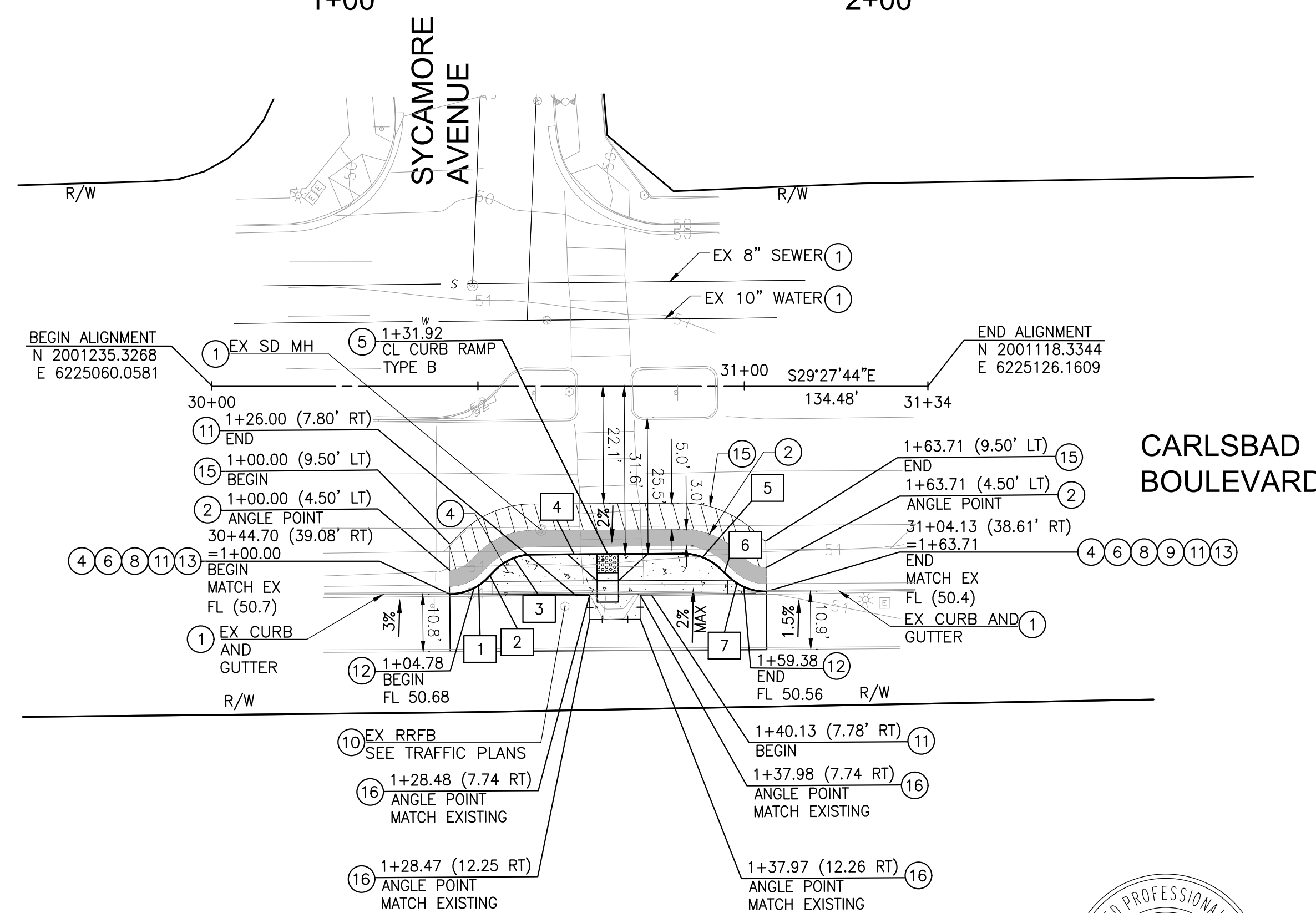
- 1 PROTECT IN PLACE
- 2 SAWCUT
- 4 CONSTRUCT 4" SIDEWALK PER SDRSD G-07
- 5 CONSTRUCT TYPE 'B' CURB RAMP PER SDRSD G-27 TO BE FIELD FITTED TO MATCH EXISTING SITE CONDITIONS
- 6 CONSTRUCT 6" TYPE 'G' CURB & GUTTER PER SDRSD G-02
- 8 REMOVE EX CURB & GUTTER
- 9 REMOVE EX SIDEWALK
- 10 REMOVE & RELOCATE
- 11 REMOVE & DISPOSE EX GUARDRAIL & BACKFILL WITH CONCRETE
- 12 CONSTRUCT CURB CHANNEL PER DETAIL ON SHEET 3
- 13 CONSTRUCT END ANCHOR ASSEMBLY (TYPE CA) PER CALTRANS RSP A7711
- 14 REMOVE & REINSTALL
- 15 1.5" AC GRIND AND OVERLAY
- 16 REMOVE EXISTING CURB RAMP & DOWEL PROPOSED SIDEWALK, #3 @ 5' (4 TOTAL) TO EXISTING SIDEWALK.

LEGEND:

- 4" CONCRETE SIDEWALK
- AC PAVEMENT (5" AC OVER 6" CLASS 2 AB)
- AC GRIND AND OVERLAY
- SAWCUT



CURB DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	Δ=44°48'12"	10.00'	7.82'	TYPE 'G' C&G
2	N74°47'31"W	2.10'	2.10'	TYPE 'G' C&G
3	Δ=45°00'00"	10.00'	7.85'	TYPE 'G' C&G
4	S29°47'31"E	28.22'	28.22'	TYPE 'G' C&G
5	Δ=43°06'10"	10.00'	7.52'	TYPE 'G' C&G
6	S13°18'40"W	2.65'	2.65'	TYPE 'G' C&G
7	Δ=43°16'27"	10.00'	7.55'	TYPE 'G' C&G



PLAN: CARLSBAD BLVD & SYCAMORE AVE



DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 7

CITY OF CARLSBAD
PUBLIC WORKS DEPARTMENT

SHEETS 13

CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT
CARLSBAD BLVD AND SYCAMORE AVE
PLAN AND PROFILE

APPROVED: THOMAS FRANK

TRANSPORTATION DIRECTOR PE 49070 EXP. 9/30/2022 DATE _____

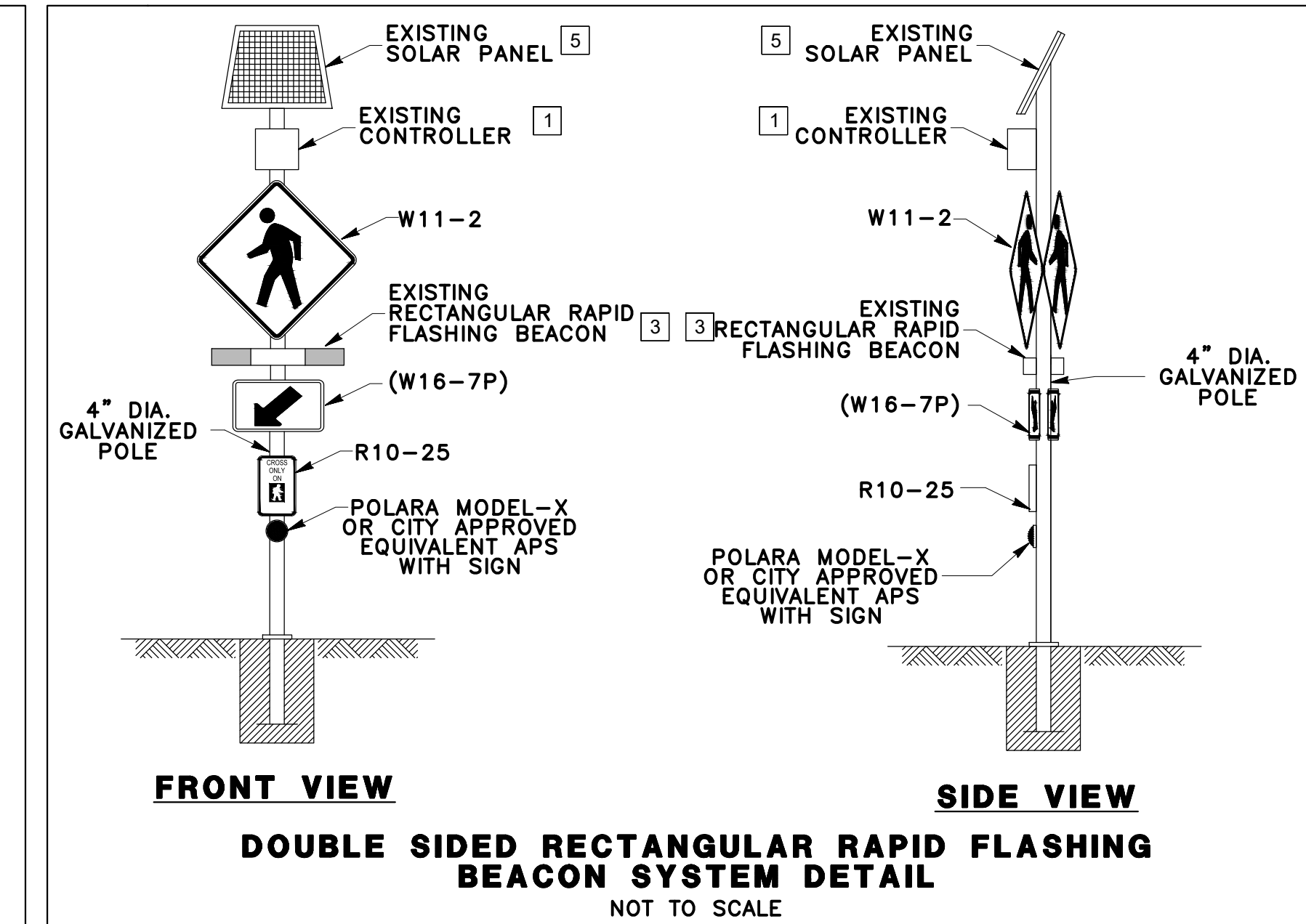
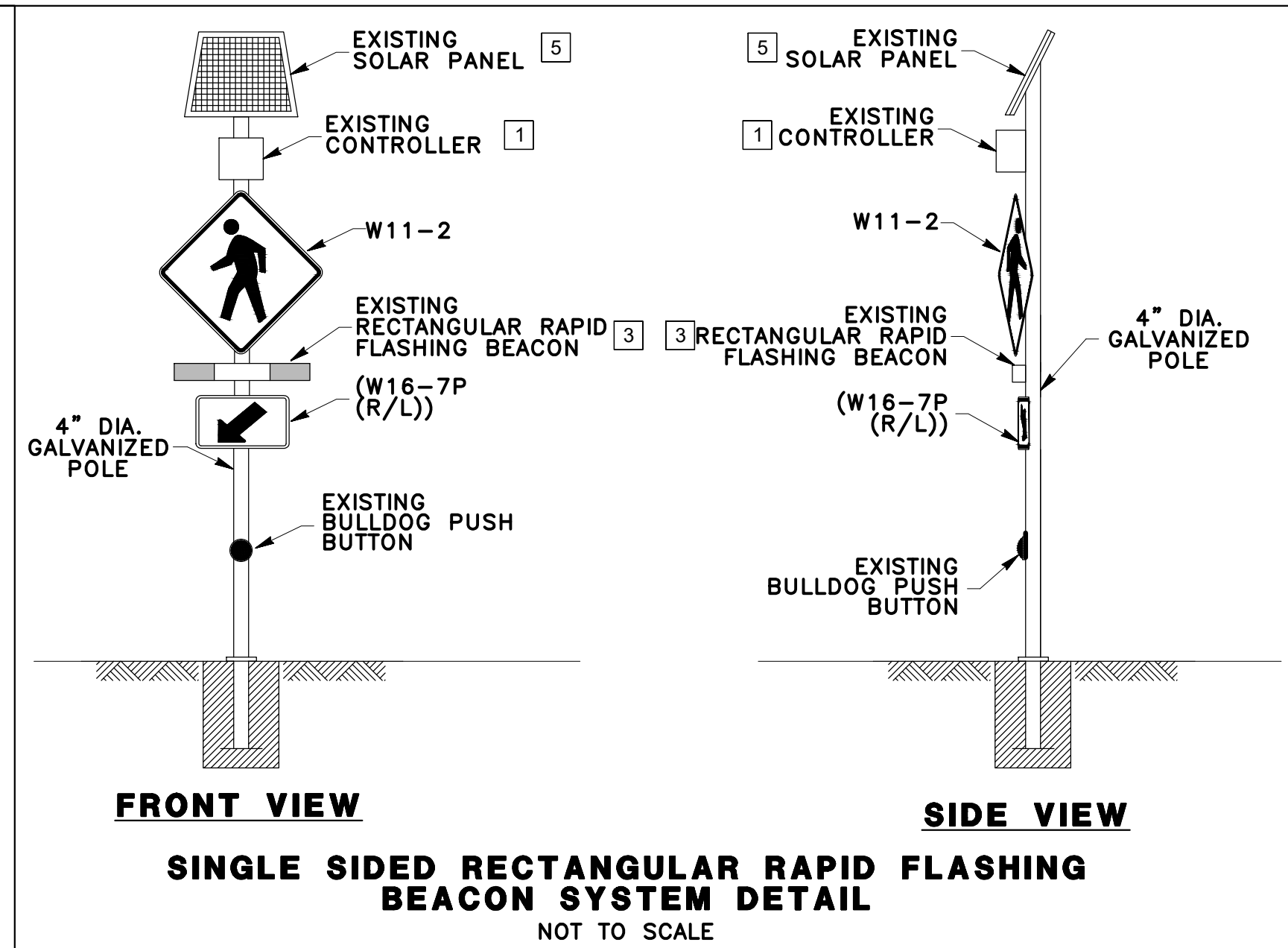
DWN BY: HR PROJECT NO. 6097 DRAWING NO. 525-9
CHKD BY: DN
RVWD BY: DN

POLE & EQUIPMENT SCHEDULE						
LOCATION	POLE DATA		PPB	POLE LOCATION		SPECIAL REQUIREMENTS
	TYPE	HGT.		A	B	
(A)	1-A	14'	S	EXISTING		1 5 21 RELOCATE TO LOCATION A'
(A)	1-A	14'	S	STA. 30+64.98 34.1' RT		3 22 RELOCATE FROM LOCATION A
(B)	DETAIL "B"	14'	S	EXISTING		1 3 5
(C)	DETAIL "A"	14'	N	EXISTING		1 2 3 5

CONDUCTOR SCHEDULE			
AWG SIZE OR CABLE TYPE	POLE	CONDUIT RUNS	
		1	2
18 AWG 4C	(A)	1	1
	(B)	-	-
	(C)	-	-
TOTAL		1	2

CONDUIT SIZE		2"	2"
CONDUIT FILL		4.5%	9.1%

- CONSTRUCTION NOTES (CONT.)**
- CONTRACTOR TO REMOVE AND SALVAGE RRFB CONTROLLER KIT 55/48.
 - CONTRACTOR TO INSTALL MK10 SYSTEM CONTROLLER WITH DRIVER EXTENSION OR CITY APPROVED EQUAL.
 - CONTRACTOR TO INSTALL UFL24-12 UNIVERSAL FLASHER OR CITY APPROVED EQUAL.
 - CONTRACTOR TO INSTALL TYPE III SIGNAL AND LIGHTING SERVICE CABINET PER SDG&E AND CALTRANS REQUIREMENTS. PROVIDE 15A-1P CIRCUIT BREAKER FOR RECTANGULAR RAPID FLASHING BEACON AND IN-ROADWAY WARNING LIGHTS.
 - CONTRACTOR TO REMOVE AND SALVAGE SOLAR PANEL WITH BATTERY BACKUP. CONTRACTOR TO CAP POLE AFTER REMOVING SOLAR PANEL.
 - CONTRACTOR TO INSTALL MLK150 IN-ROAD LED ILLUMINATED MARKERS PER MANUFACTURERS SPECIFICATIONS AS SHOWN ON DETAIL "C" AND "D" OR CITY APPROVED EQUAL. MARKERS SHALL NOT ENCRoACH ONTO THE BIKE LANES
 - CONTRACTOR TO PROVIDE A 3.5" DEEP TRENCH. INSTALL IN ROAD WARNING LIGHTS PER MANUFACTURERS SPECIFICATIONS. SEAL TRENCH PER MANUFACTURERS SPECIFICATIONS.
 - 2" CONDUIT STUB-OUT.
 - CONTRACTOR TO INSTALL GREEN 2-COAT PAINT, GREEN TRAFFIC PAINT SHALL BE EF SERIES WB GRN FAST DRY 1952F 1/2, PRODUCE CODE 183, PRODUCT GREEN (34108) BY ENNISI FLINT OR APPROVED EQUAL PAINT TO MEET FEDERAL SPEC TT-P-1652F TYPE I & II.
 - CONTRACTOR TO REMOVE CONFLICTING STRIPING.
 - CONTRACTOR TO INSTALL WHITE THERMOPLASTIC CONTINENTAL CROSSWALK PER CALTRANS STANDARD PLAN A24F, SEE DETAIL "E".
 - CONTRACTOR TO INSTALL BIKE LANE STRIPING DETAIL 39 PER CALTRANS STANDARD PLAN A20D.
 - EXISTING YIELD PAVEMENT MARKING TO BE REFRESHED AND INSTALLED ON TOP OF GREEN BIKE LANE PAINT.
 - CONTRACTOR TO INSTALL BIKE LANE STRIPING DETAIL 39A PER CALTRANS STANDARD PLAN A20D.
 - CONTRACTOR TO PAINT RED CURB AS SHOWN.
 - CONTRACTOR TO FURNISH AND INSTALL POST AND R26(S)(CA) SIGN.
 - CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON NORTH QUADRANT OF POLE PER DETAIL "F".
 - CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON SOUTH QUADRANT OF POLE PER DETAIL "F".
 - CONTRACTOR TO INSTALL DIAGONALS AT 45' SPACING.
 - CONTRACTOR SHALL REMOVE A MINIMUM OF 3' OF FOUNDATION BELOW FINISHED GRADE.
 - CONTRACTOR SHALL VERIFY BASE PLATE AND ANCHOR BOLTS INFORMATION FOR EXISTING POLE. PROVIDE IN-KIND FOUNDATION AND ANCHOR BOLTS AT NEW LOCATION.

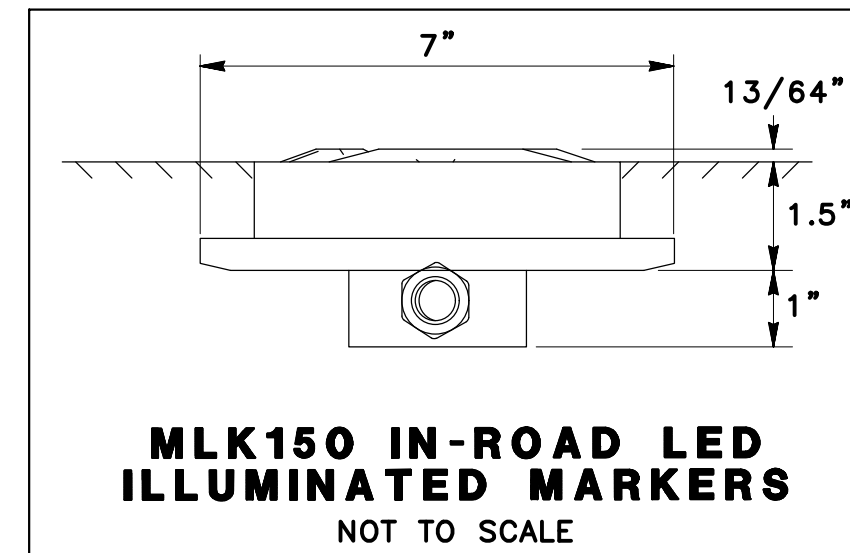


CONSTRUCTION NOTES
REFER TO TITLE SHEET FOR TRAFFIC NOTES, SIGNING AND STRIPING NOTES.

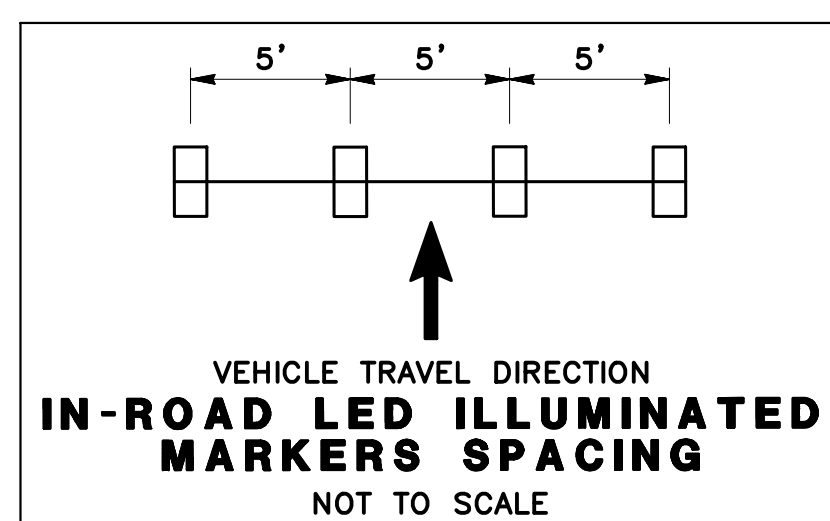
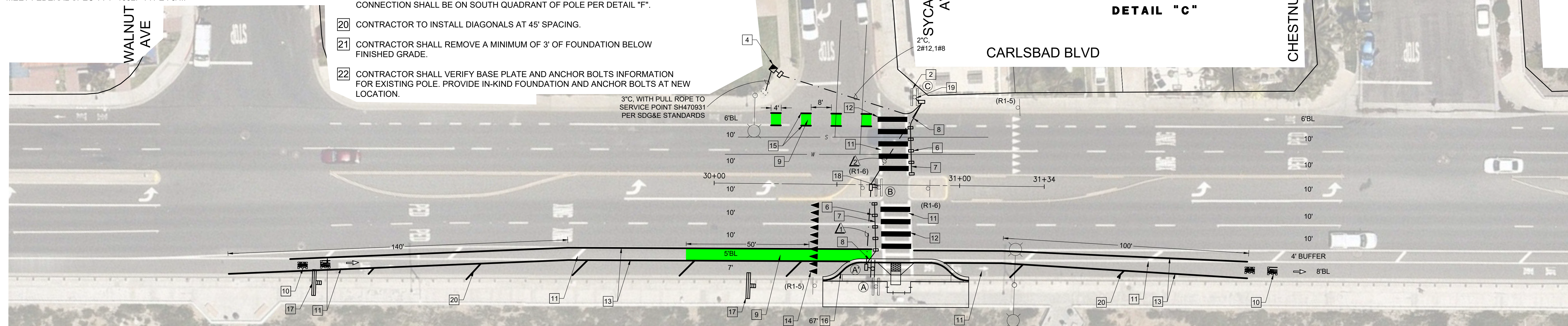
- CONTRACTOR TO REMOVE AND SALVAGE RRFB CONTROLLER KIT 55/48.
- CONTRACTOR TO INSTALL MK10 SYSTEM CONTROLLER WITH DRIVER EXTENSION OR CITY APPROVED EQUAL.
- CONTRACTOR TO INSTALL UFL24-12 UNIVERSAL FLASHER OR CITY APPROVED EQUAL.
- CONTRACTOR TO INSTALL TYPE III SIGNAL AND LIGHTING SERVICE CABINET PER SDG&E AND CALTRANS REQUIREMENTS. PROVIDE 15A-1P CIRCUIT BREAKER FOR RECTANGULAR RAPID FLASHING BEACON AND IN-ROADWAY WARNING LIGHTS.
- CONTRACTOR TO REMOVE AND SALVAGE SOLAR PANEL WITH BATTERY BACKUP. CONTRACTOR TO CAP POLE AFTER REMOVING SOLAR PANEL.
- CONTRACTOR TO INSTALL MLK150 IN-ROAD LED ILLUMINATED MARKERS PER MANUFACTURERS SPECIFICATIONS AS SHOWN ON DETAIL "C" AND "D" OR CITY APPROVED EQUAL. MARKERS SHALL NOT ENCRoACH ONTO THE BIKE LANES
- CONTRACTOR TO PROVIDE A 3.5" DEEP TRENCH. INSTALL IN ROAD WARNING LIGHTS PER MANUFACTURERS SPECIFICATIONS. SEAL TRENCH PER MANUFACTURERS SPECIFICATIONS.
- 2" CONDUIT STUB-OUT.
- CONTRACTOR TO INSTALL GREEN 2-COAT PAINT, GREEN TRAFFIC PAINT SHALL BE EF SERIES WB GRN FAST DRY 1952F 1/2, PRODUCE CODE 183, PRODUCT GREEN (34108) BY ENNISI FLINT OR APPROVED EQUAL PAINT TO MEET FEDERAL SPEC TT-P-1652F TYPE I & II.

DETAIL "A"

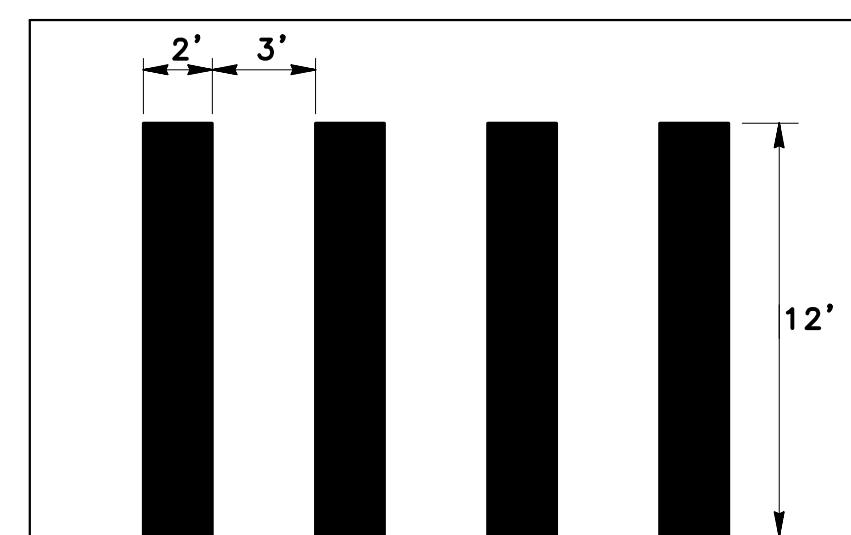
SIGNS THIS SHEET



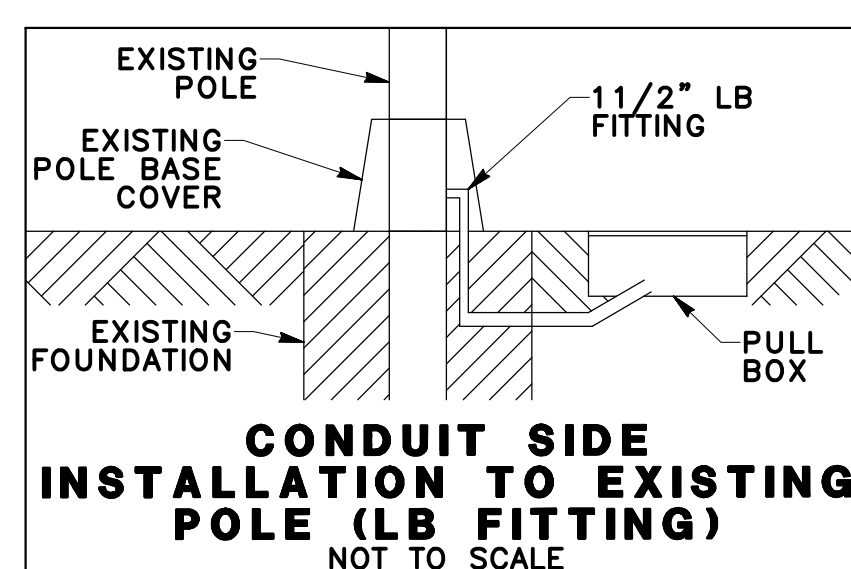
DETAIL "C"



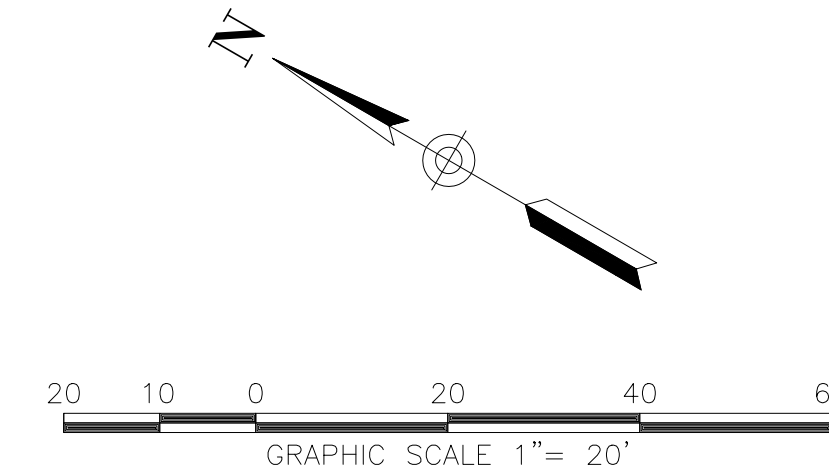
DETAIL "D"



DETAIL "E"



DETAIL "F"



CONTRACTOR SHALL PROVIDE SPECIFICATIONS OF MATERIALS FOR PROPOSED INSTALLATION AND RELOCATION OF POLES. PROPOSED MATERIALS SHALL BE SIMILAR TO THE EXISTING POLE MATERIAL (METALS) TO MINIMIZE RUSTING.

"AS BUILT"

P.E. _____	EXP. _____	DATE _____
REVIEWED BY: _____		
INSPECTOR _____	DATE _____	

SHEET 8	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 13
CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT CARLSBAD BLVD AND SYCAMORE AVE LIGHTED CROSSWALK INSTALLATION		
APPROVED: THOMAS FRANK		
TRANSPORTATION DIRECTOR PE 49070	EXP. 9/30/2022	DATE _____
DWN BY: JP	PROJECT NO. 6097	DRAWING NO. 525-9
CHKD BY: AE/CP		
RVWD BY: MMJ		

DATE	INITIAL	DATE	INITIAL	REVISION DESCRIPTION



RICK ENGINEERING COMPANY
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rickengineering.com
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POLE & EQUIPMENT SCHEDULE

LOCATION	POLE DATA			L.E.D. LUMINAIRE	PPB QUAD	POLE LOCATION		SPECIAL REQUIREMENTS
	TYPE	HGT.	MASTARM LUM.			A	B	
(A)	DETAIL "A"	14'	-	-	S	EXISTING		1 5 18 19
(A')	15TS	30'	15	120 WATT	S	STA: 40+63.1 33.7 RT		18
(B)	DETAIL "B"	14'	-	-	S	EXISTING		1 5
(C)	DETAIL "A"	14'	-	-	N	EXISTING		1 2 5

*SAFETY LIGHTING SHALL BE GE ERL2-0-16-C3-40-C-GRAY-L (15,400 LUMENS).

LEGEND

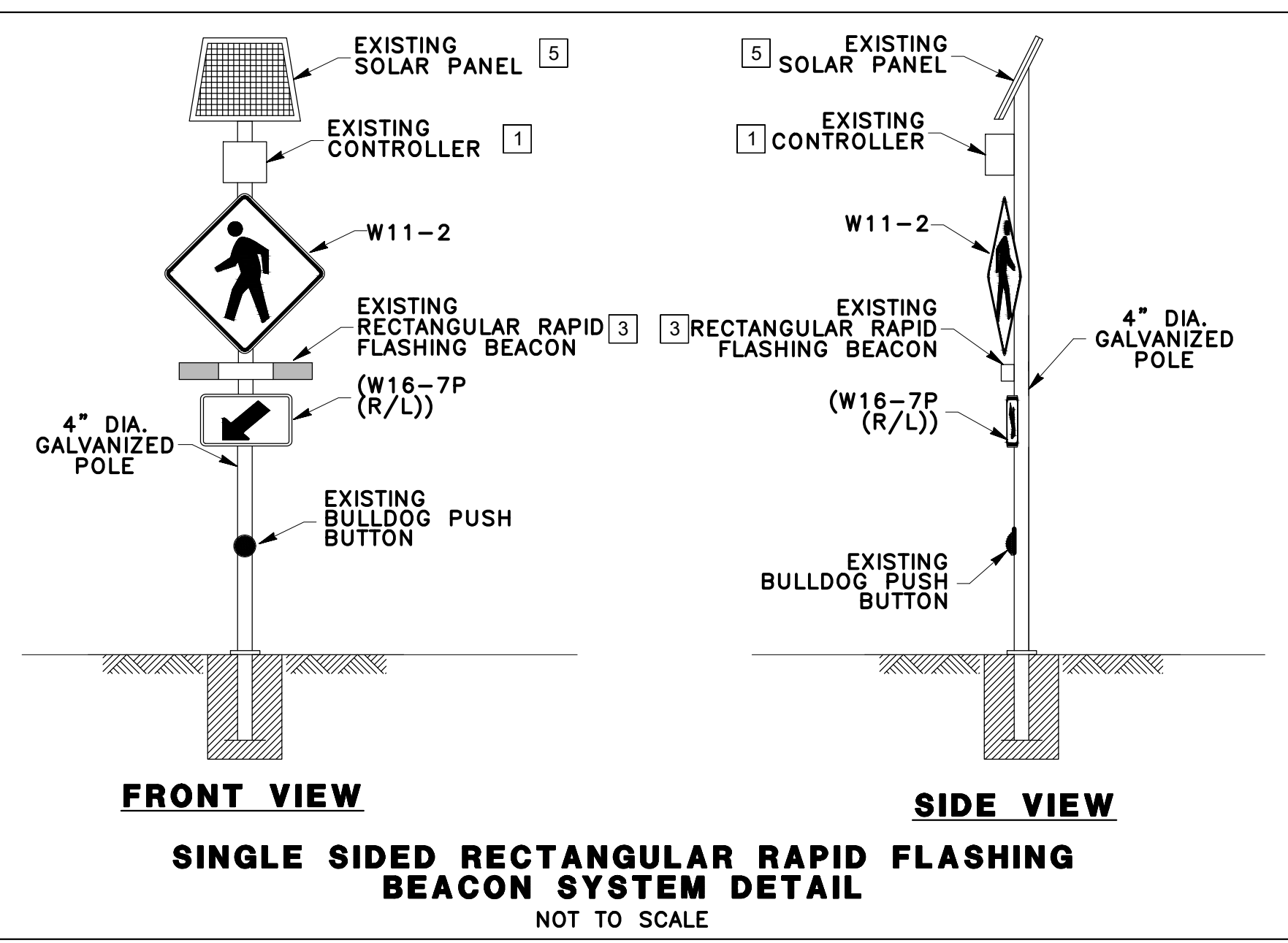
- EXISTING RRFB SYSTEM
- PROPOSED IN-ROAD LIGHT
- EXISTING STREET LIGHT
- PROPOSED CONDUIT
- PROPOSED TYPE III SERVICE
- PROPOSED PULLBOX
- EXISTING SIGN

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE	CONDUIT RUNS	
		1	2
18 AWG 4C	(A)	1	1
	(B)	-	1
	(C)	-	-
TOTAL		1	2

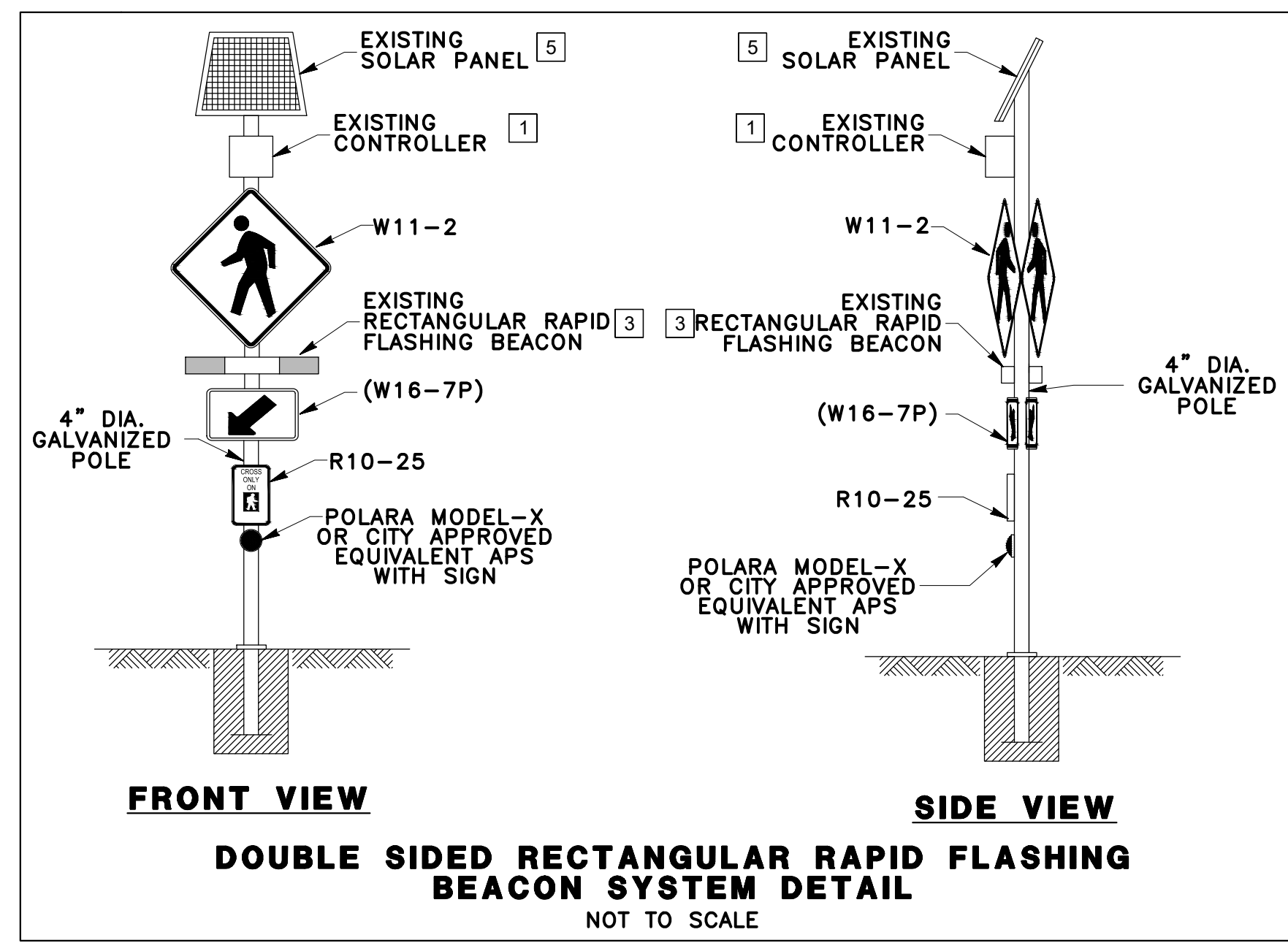
18 AWG 3C	1	2
-----------	---	---

CONDUIT SIZE	2"	2"
CONDUIT FILL	4.5%	9.1%



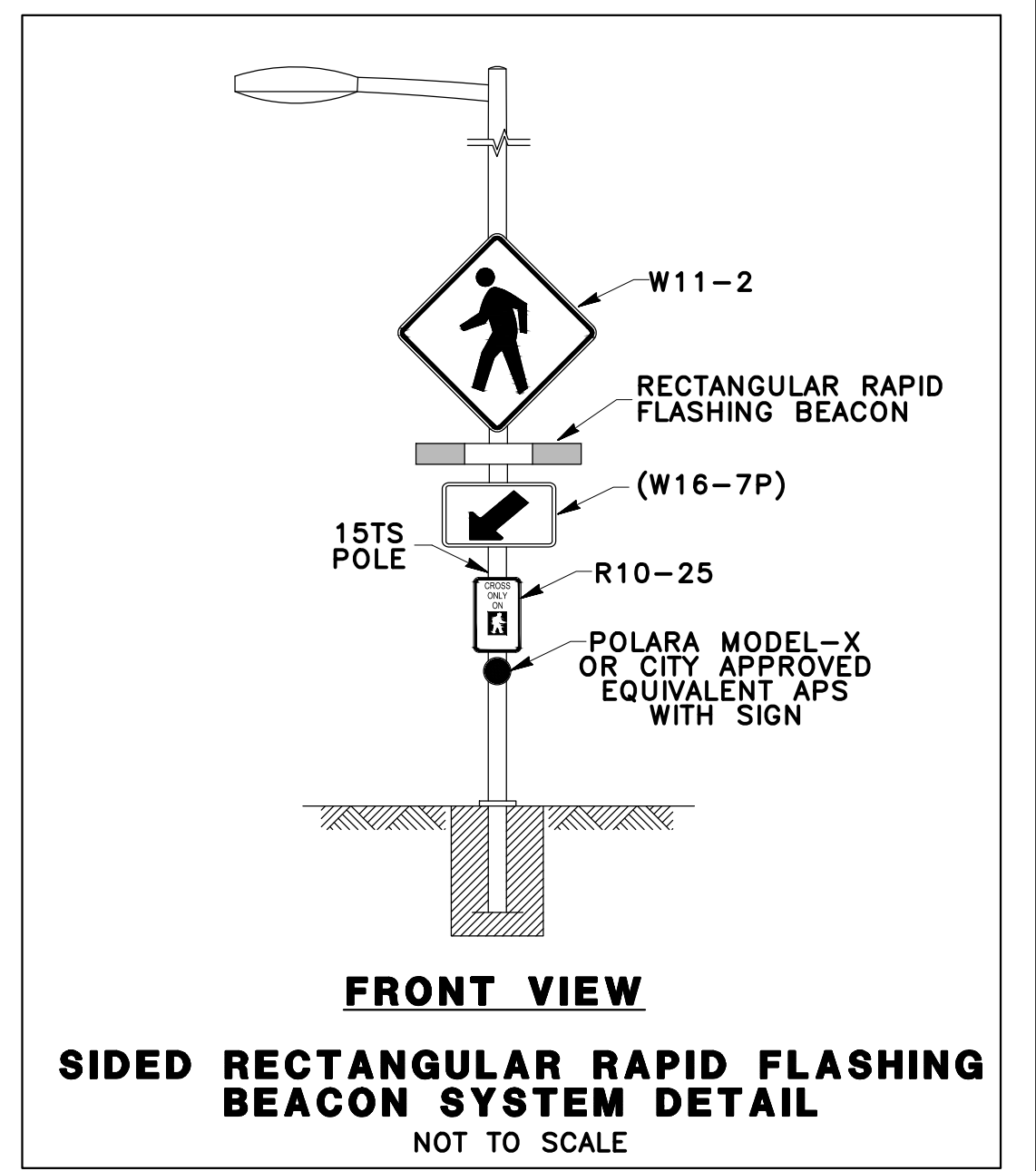
FRONT VIEW SIDE VIEW
SINGLE SIDED RECTANGULAR RAPID FLASHING BEACON SYSTEM DETAIL
NOT TO SCALE

DETAIL "A"



FRONT VIEW SIDE VIEW
DOUBLE SIDED RECTANGULAR RAPID FLASHING BEACON SYSTEM DETAIL
NOT TO SCALE

DETAIL "B"



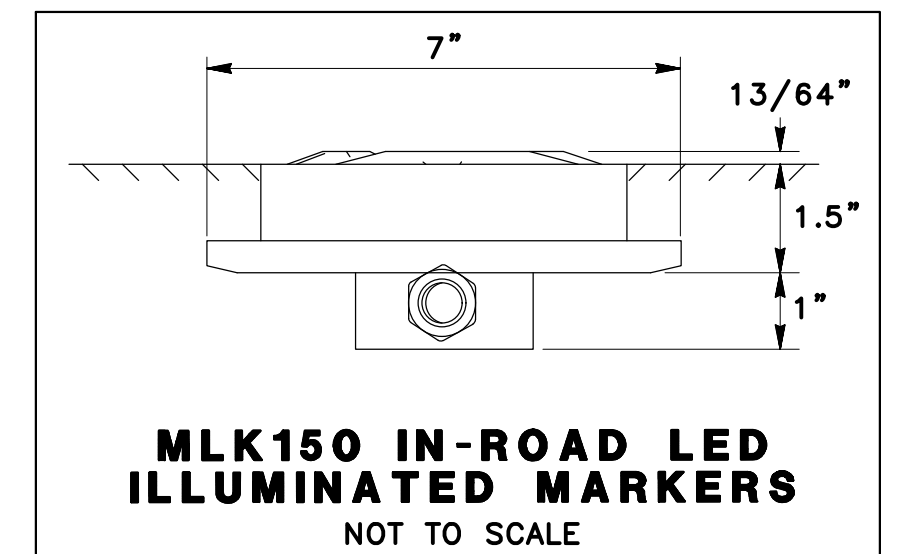
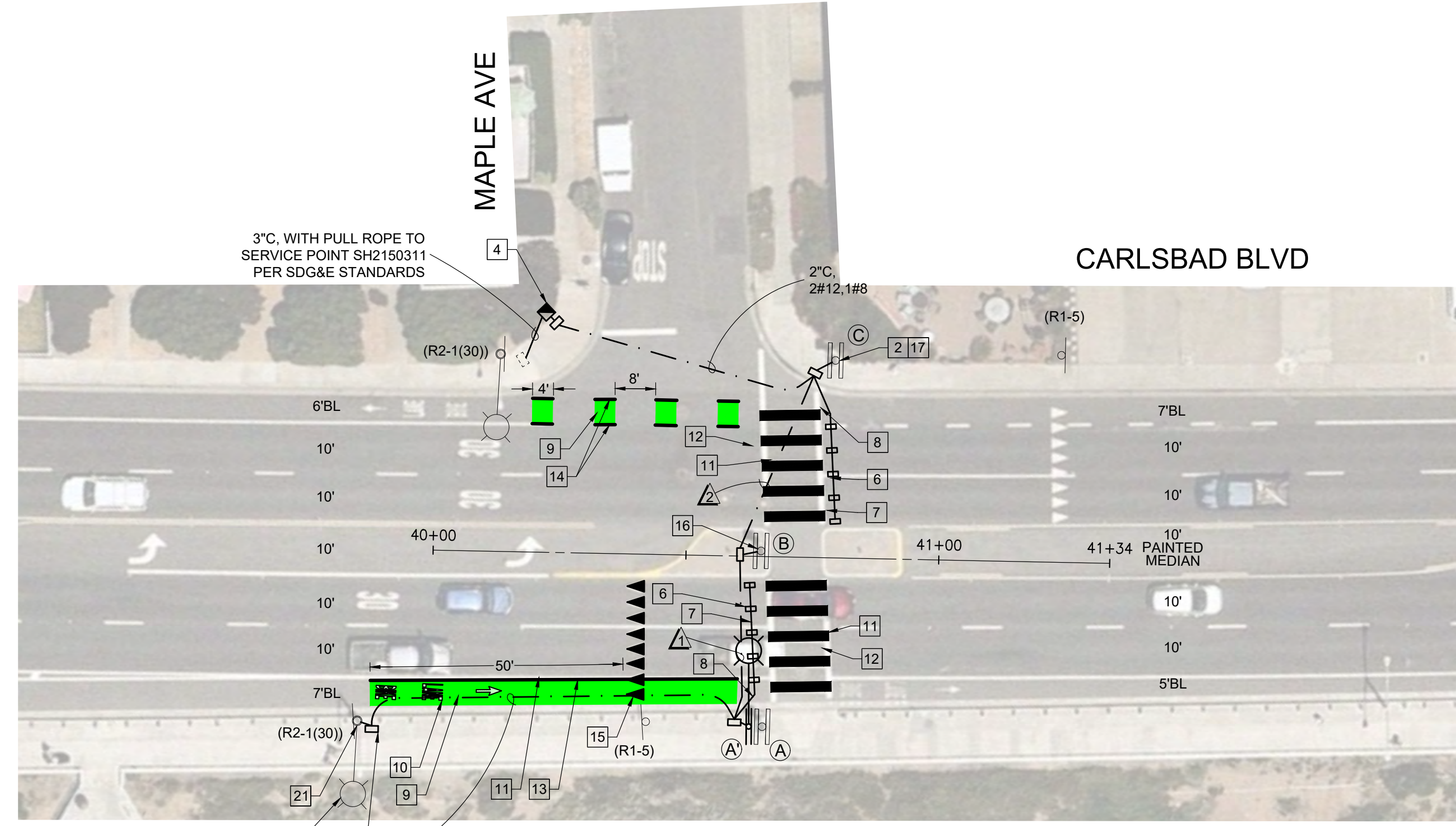
FRONT VIEW
SIDED RECTANGULAR RAPID FLASHING BEACON SYSTEM DETAIL
NOT TO SCALE

DETAIL "C"

CONSTRUCTION NOTES

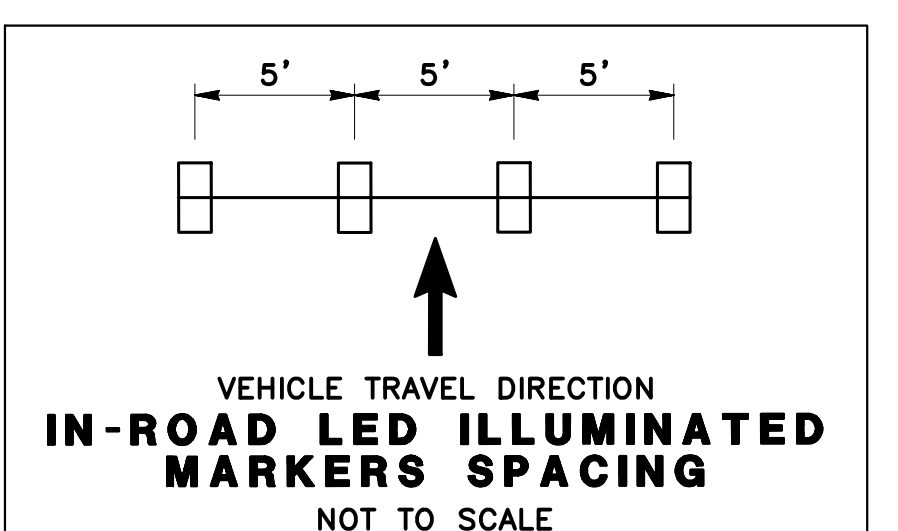
REFER TO TITLE SHEET FOR TRAFFIC NOTES, SIGNING AND STRIPING NOTES.

- 1 CONTRACTOR TO REMOVE AND SALVAGE RRFB CONTROLLER KIT 55/48.
- 2 CONTRACTOR TO INSTALL MK10 SYSTEM CONTROLLER WITH DRIVER EXTENSION OR CITY APPROVED EQUAL.
- 3 CONTRACTOR TO INSTALL UFL24-12 UNIVERSAL FLASHER OR CITY APPROVED EQUAL.
- 4 CONTRACTOR TO INSTALL TYPE III SIGNAL AND LIGHTING SERVICE CABINET PER SDG&E AND CALTRANS REQUIREMENTS. PROVIDE 30A-1P CIRCUIT BREAKER FOR RECTANGULAR RAPID FLASHING BEACON AND IN-ROADWAY WARNING LIGHTS.
- 5 CONTRACTOR TO REMOVE AND SALVAGE SOLAR PANEL WITH BATTERY BACKUP. CONTRACTOR TO CAP POLE AFTER REMOVING SOLAR PANEL.
- 6 CONTRACTOR TO INSTALL MLK150 IN-ROAD LED ILLUMINATED MARKERS PER MANUFACTURERS SPECIFICATIONS AS SHOWN ON DETAIL "D" AND "E" OR CITY APPROVED EQUAL. MARKERS SHALL NOT ENCRoACH ONTO THE BIKE LANES.
- 7 CONTRACTOR TO PROVIDE A 3.5" DEEP TRENCH. INSTALL IN ROAD WARNING LIGHTS PER MANUFACTURERS SPECIFICATIONS. SEAL TRENCH PER MANUFACTURERS SPECIFICATIONS.
- 8 2" CONDUIT STUB-OUT.
- 9 CONTRACTOR TO INSTALL GREEN 2-COAT PAINT, GREEN TRAFFIC PAINT SHALL BE EF SERIES WB GRN FAST DRY 1952F 1/2. PRODUCE CODE 183, PRODUCT GREEN (34108) BY ENNISS FLINT OR APPROVED EQUAL PAINT TO MEET FEDERAL SPEC TT-P-1652F TYPE I & II.
- 10 CONTRACTOR TO INSTALL BIKE LANE AND ARROW PER CALTRANS STANDARD PLAN A24A AND A24D.
- 11 CONTRACTOR TO REMOVE CONFLICTING STRIPING.
- 12 CONTRACTOR TO INSTALL WHITE THERMOPLASTIC CONTINENTAL CROSSWALK PER CALTRANS STANDARD PLAN A24F, SEE DETAIL "F".
- 13 CONTRACTOR TO INSTALL BIKE LANE STRIPING DETAIL 39 PER CALTRANS STANDARD PLAN A20D.
- 14 CONTRACTOR TO INSTALL BIKE LANE STRIPING DETAIL 39A PER CALTRANS STANDARD PLAN A20D.
- 15 EXISTING YIELD PAVEMENT MARKING TO BE REFRESHED AND INSTALLED ON TOP OF GREEN BIKE LANE PAINT.
- 16 CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON NORTH QUADRANT OF POLE PER DETAIL "G".
- 17 CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON NORTH QUADRANT OF POLE PER DETAIL "G".
- 18 CONTRACTOR TO RELOCATE EXIST PPB AND RRFB ON TO NEW POLE.
- 19 CONTRACTOR SHALL REMOVE A MINIMUM OF 3' OF FOUNDATION BELOW FINISHED GRADE.
- 20 CONTRACTOR SHALL FURNISH AND INSTALL A NEW #3 PULL BOX AND SPLICE 2#10 AND 1#8 TO EXISTING STREET LIGHT CIRCUIT.
- 21 CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON SOUTH QUADRANT OF POLE PER DETAIL "H".



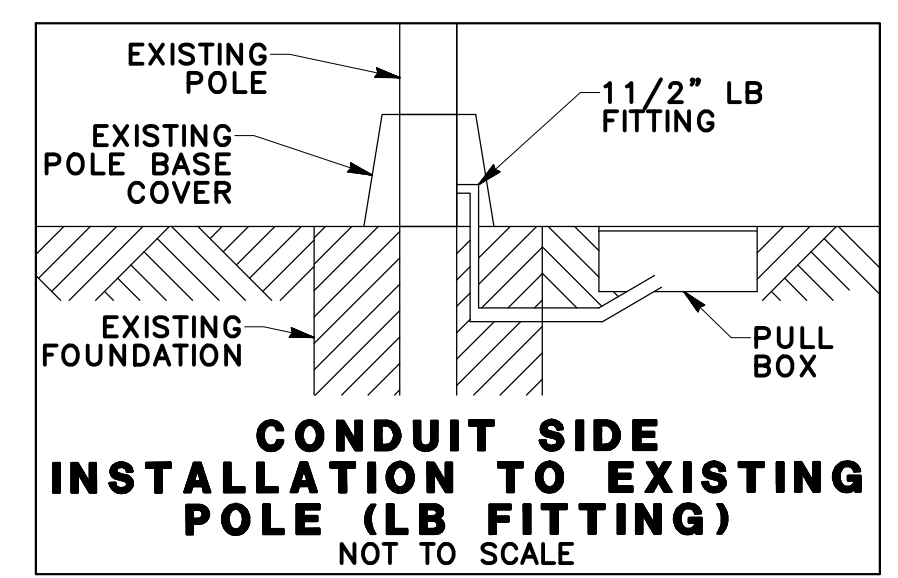
MLK150 IN-ROAD LED ILLUMINATED MARKERS
NOT TO SCALE

DETAIL "D"



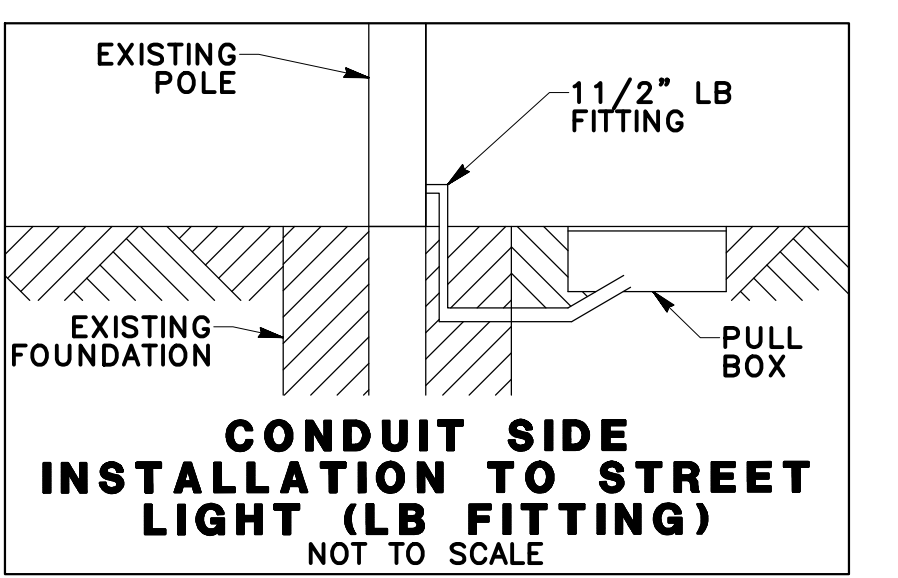
VEHICLE TRAVEL DIRECTION
IN-ROAD LED ILLUMINATED MARKERS SPACING
NOT TO SCALE

DETAIL "E"



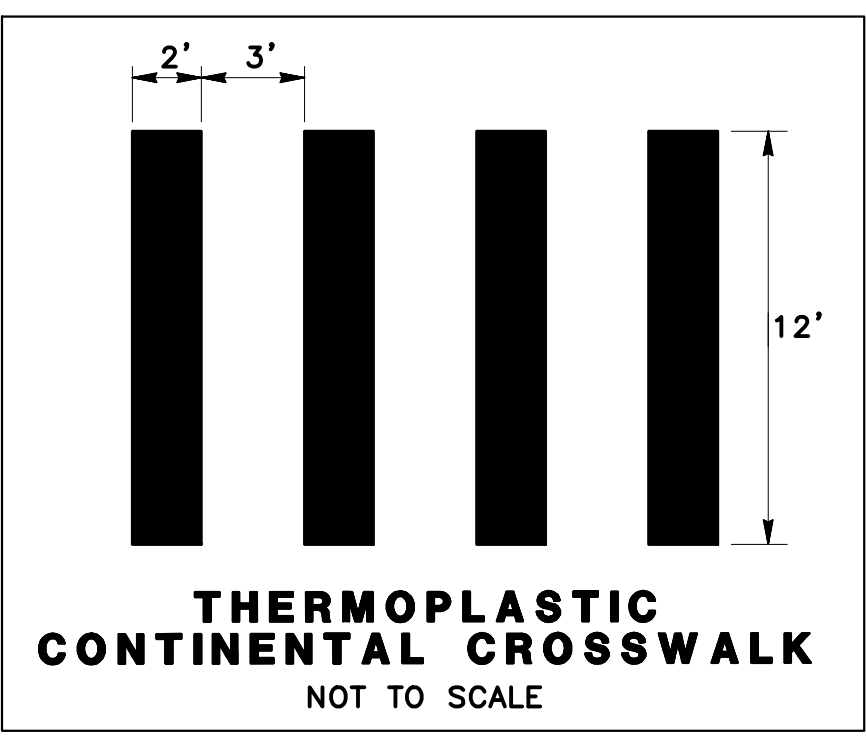
CONDUIT SIDE INSTALLATION TO EXISTING POLE (LB FITTING)
NOT TO SCALE

DETAIL "G"



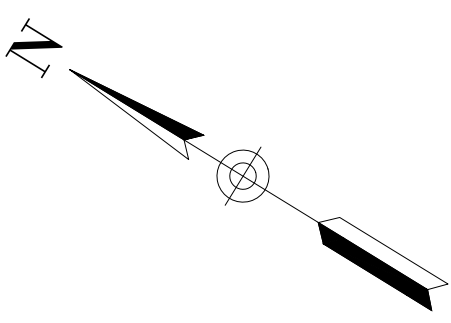
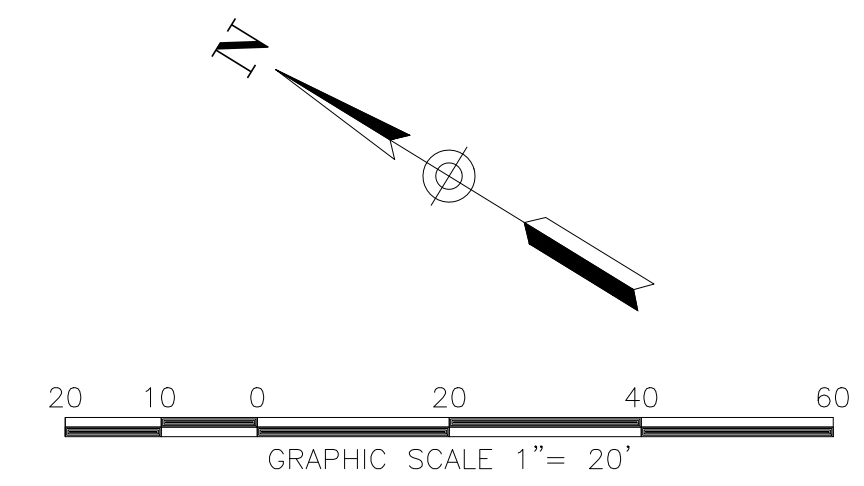
CONDUIT SIDE INSTALLATION TO STREET LIGHT (LB FITTING)
NOT TO SCALE

DETAIL "H"



THERMOPLASTIC CONTINENTAL CROSSWALK
NOT TO SCALE

DETAIL "F"



CONTRACTOR SHALL PROVIDE SPECIFICATIONS OF MATERIALS FOR PROPOSED INSTALLATION AND RELOCATION OF POLES. PROPOSED MATERIALS SHALL BE SIMILAR TO THE EXISTING POLE MATERIAL (METALS) TO MINIMIZE RUSTING.



DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 9 CITY OF CARLSBAD SHEETS 13
PUBLIC WORKS DEPARTMENT

CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT
CARLSBAD BLVD AND MAPLE AVE
LIGHTED CROSSWALK INSTALLATION

APPROVED: THOMAS FRANK

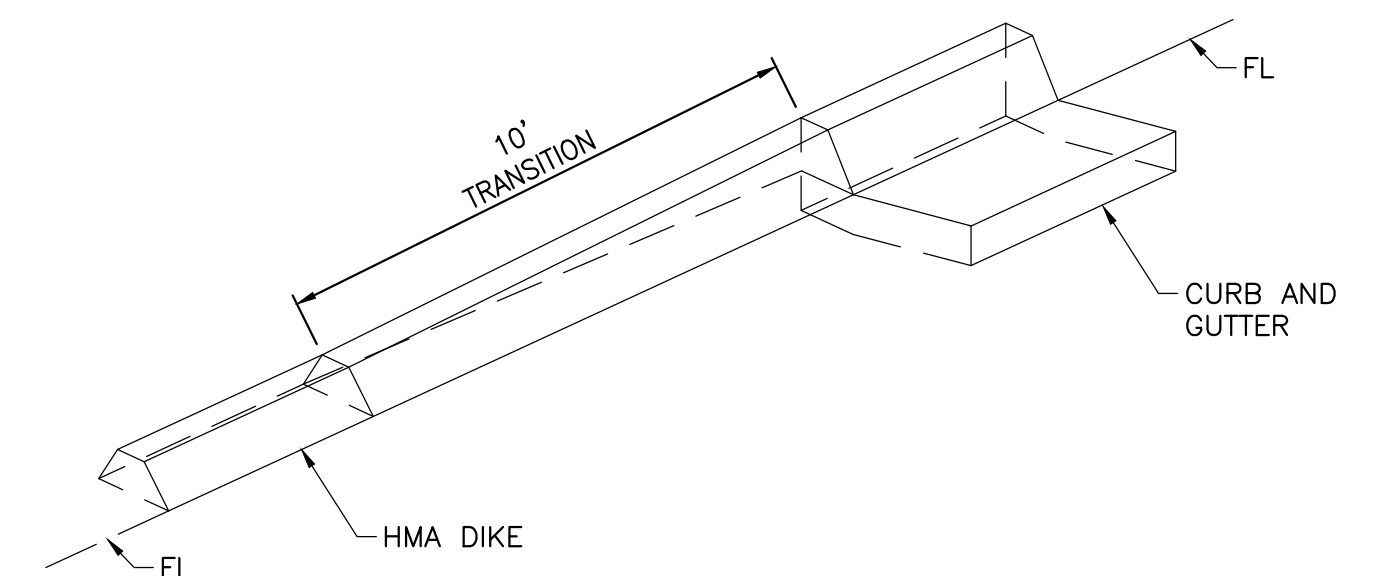
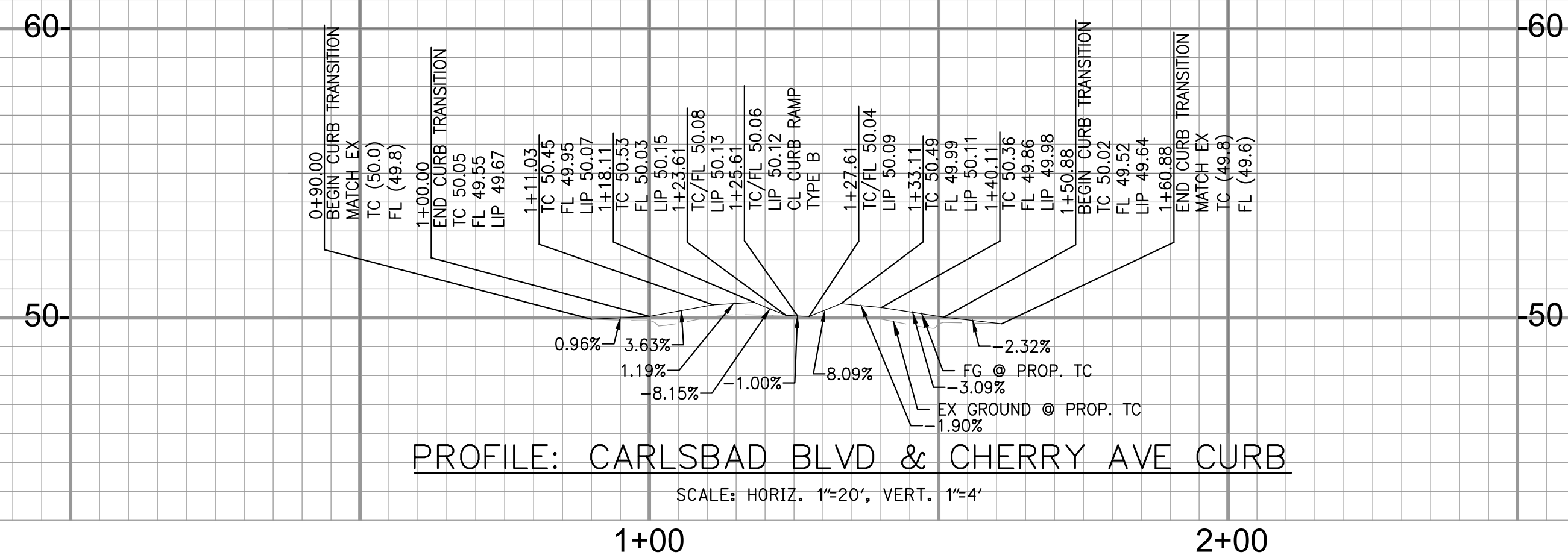
TRANSPORTATION DIRECTOR PE 49070 EXP. 9/30/2022 DATE _____

DWN BY: JP PROJECT NO. 6097 DRAWING NO. 525-9
CHKD BY: AE/CP
RVWD BY: MMJ

RICK ENGINEERING COMPANY
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SAN DIEGO, CA 92110
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rickengineering.com

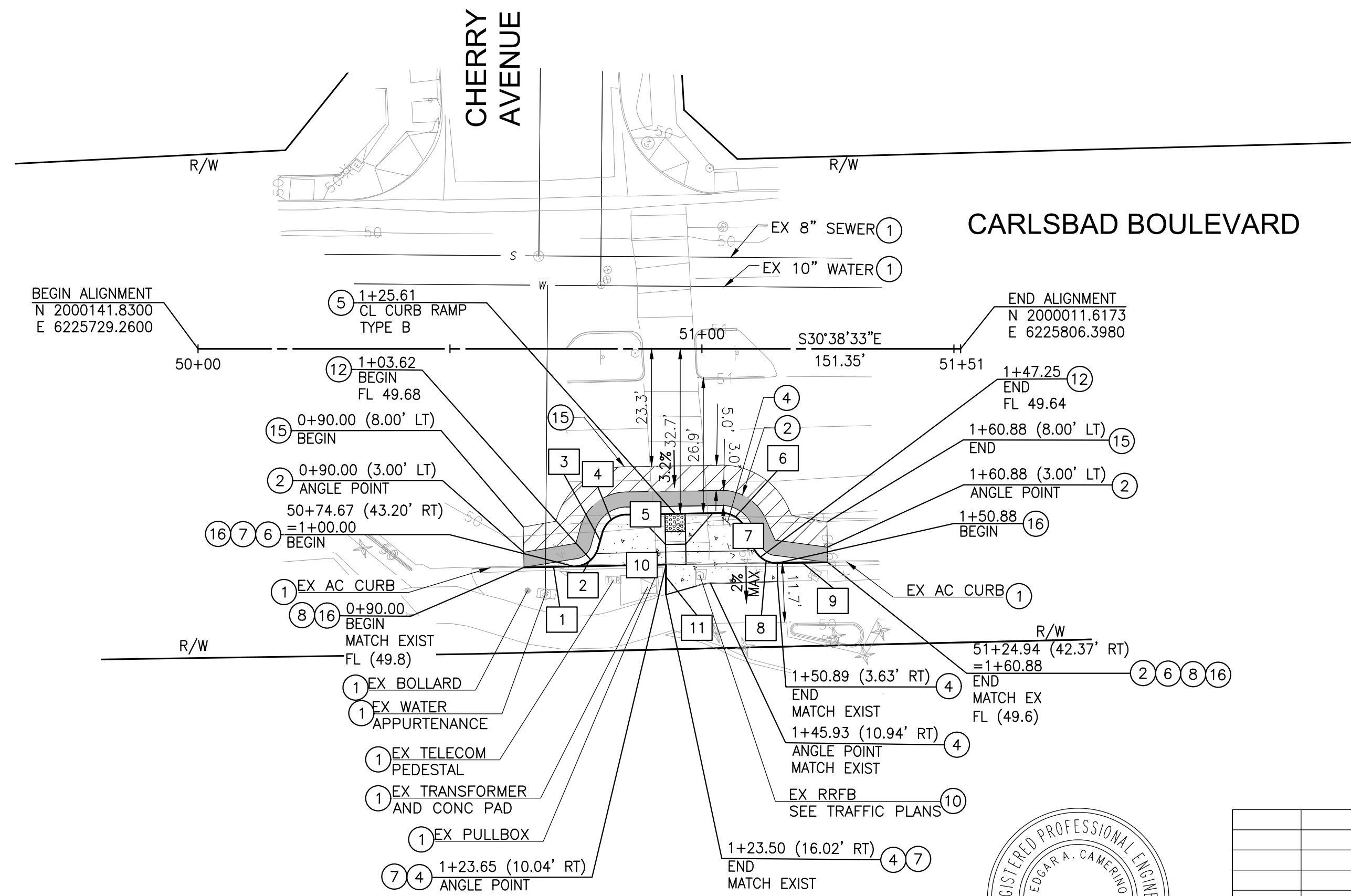
J-19212

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CURB TO DIKE TRANSITION
NOT TO SCALE

CURB DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N31°34'27\"W	10.00'	10.00'	CURB TRANSITION
2	Δ=73°04'41\"	5.00'	6.38'	TYPE 'G' C&G
3	N75°04'36\"E		3.12'	TYPE 'G' C&G
4	Δ=73°17'21\"	5.00'	6.40'	TYPE 'G' C&G
5	N31°38'03\"W		18.90'	TYPE 'G' C&G
6	Δ=67°00'54\"	5.00'	5.85'	TYPE 'G' C&G
7	N35°22'51\"E		4.40'	TYPE 'G' C&G
8	Δ=67°00'12\"	5.00'	5.85'	TYPE 'G' C&G
9	N31°36'06\"W		10.00'	CURB TRANSITION
10	N31°52'26\"W		18.21'	6\" CURB
11	N59°38'22\"E		5.97'	6\" CURB



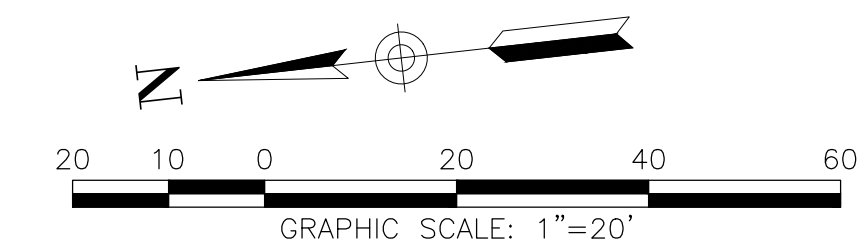
PLAN: CARLSBAD BLVD & CHERRY AVE

CONSTRUCTION NOTES:

- 1 PROTECT IN PLACE
- 2 SAWCUT
- 4 CONSTRUCT 4\"/>

LEGEND:

- 4\"/>
- AC PAVEMENT (5\"/>
- AC GRIND AND OVERLAY
- SAWCUT



"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 10	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 13
CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT		
CARLSBAD BLVD AND CHERRY AVE		
PLAN AND PROFILE		
APPROVED: THOMAS FRANK		
TRANSPORTATION DIRECTOR PE 49070	EXP. 9/30/2022	DATE
DWN BY: HR	PROJECT NO. 6097	DRAWING NO. 525-9
CHKD BY: DN		
RVWD BY: DN		

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL



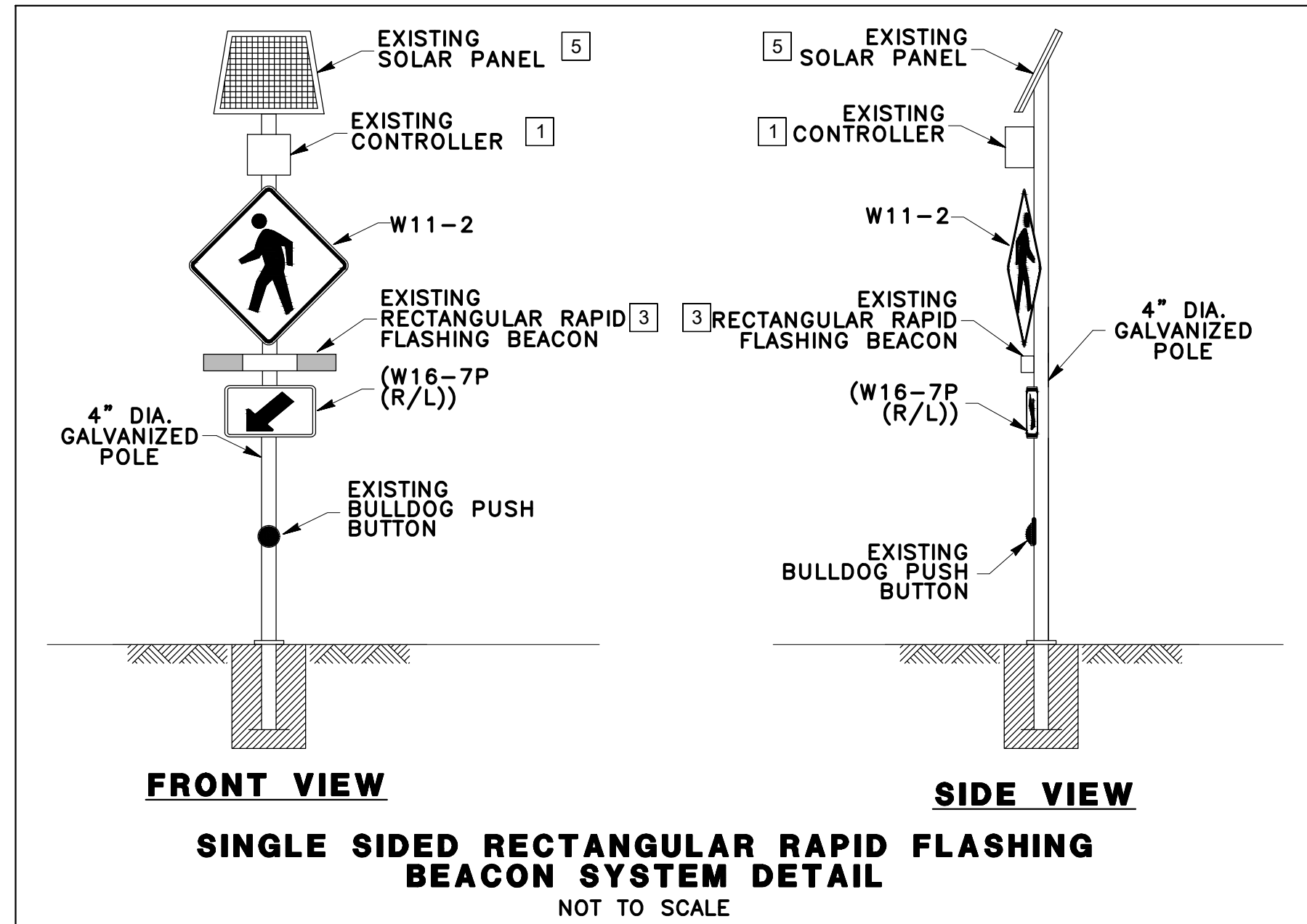
RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
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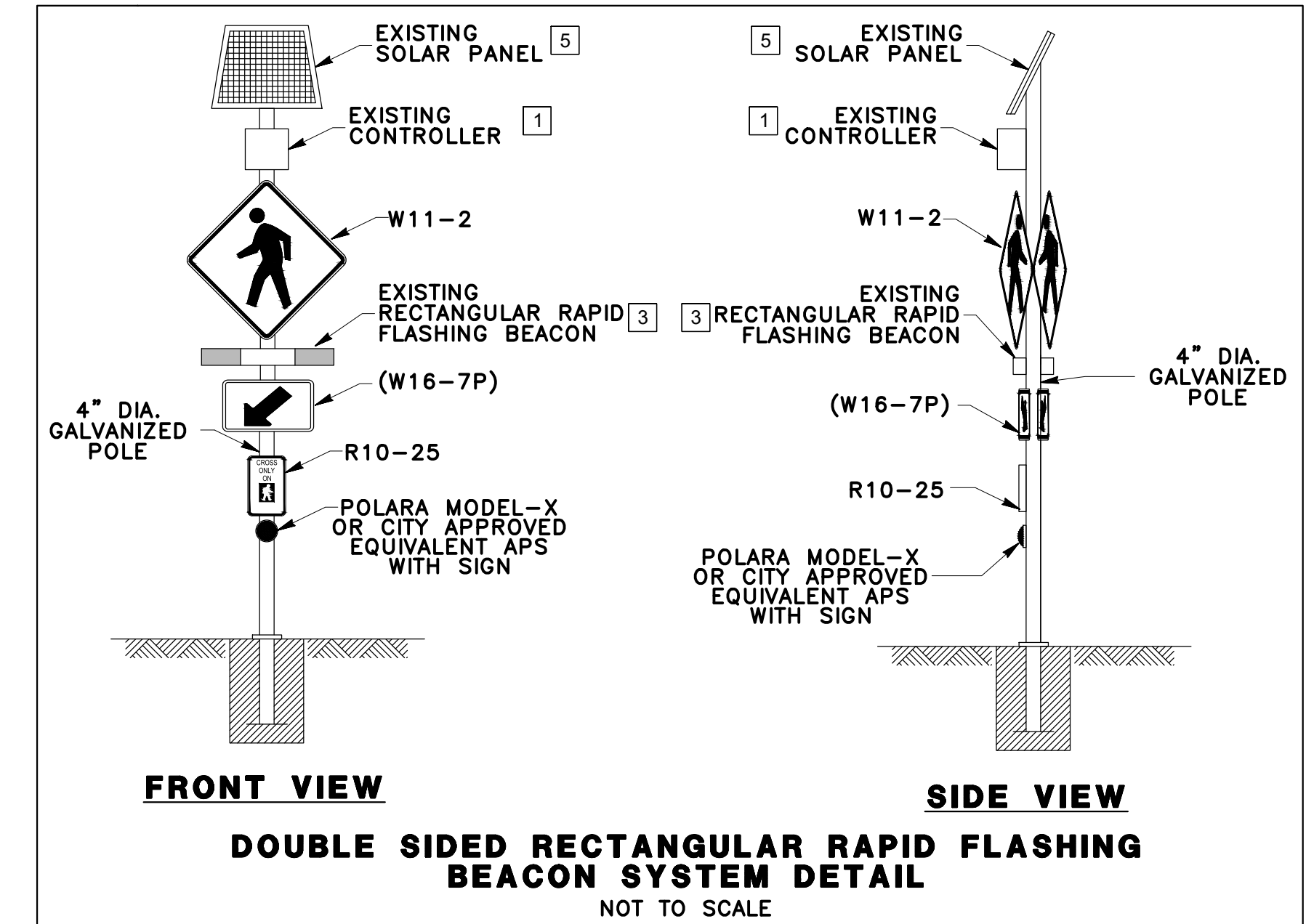
POLE & EQUIPMENT SCHEDULE						
LOCATION	POLE DATA		PPB	POLE LOCATION		SPECIAL REQUIREMENTS
	TYPE	HGT.		A	B	
(A)	DETAIL "A"	14'	S	EXISTING		RELOCATE TO LOCATION A'
(A)	DETAIL "A"	14'	N	STA: 51+01.2 38.3' RT		RELOCATE FROM LOCATION A
(B)	DETAIL "B"	14'	S	EXISTING		
(C)	DETAIL "A"	14'	N	EXISTING		

CONDUCTOR SCHEDULE			
AWG SIZE OR CABLE TYPE	POLE	CONDUIT RUNS	
		1	2
18 AWG 4C	(A)	1	1
	(B)	-	1
	(C)	-	-
TOTAL		1	2

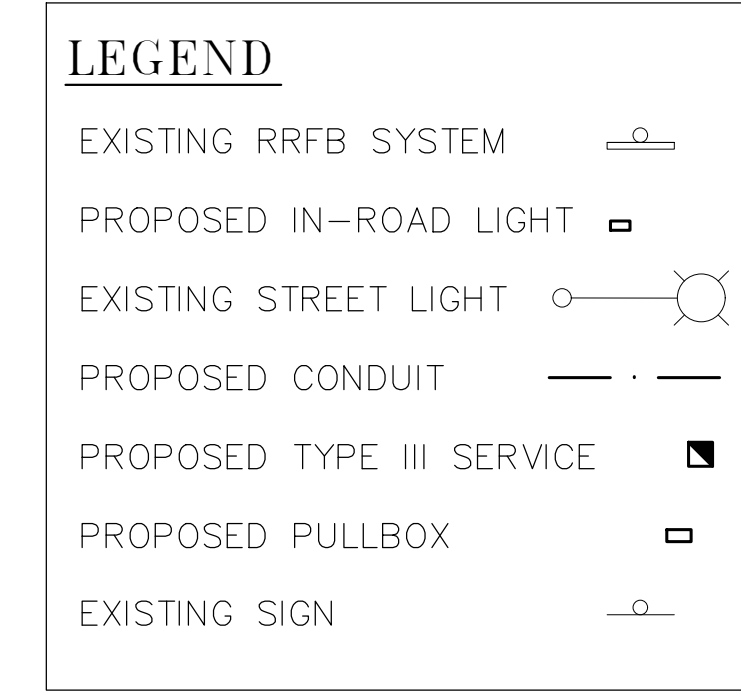
18 AWG 3C	1	2
CONDUIT SIZE	2"	2"
CONDUIT FILL	4.5%	9.1%



FRONT VIEW
SIDE VIEW
SINGLE SIDED RECTANGULAR RAPID FLASHING BEACON SYSTEM DETAIL
NOT TO SCALE
DETAIL "A"



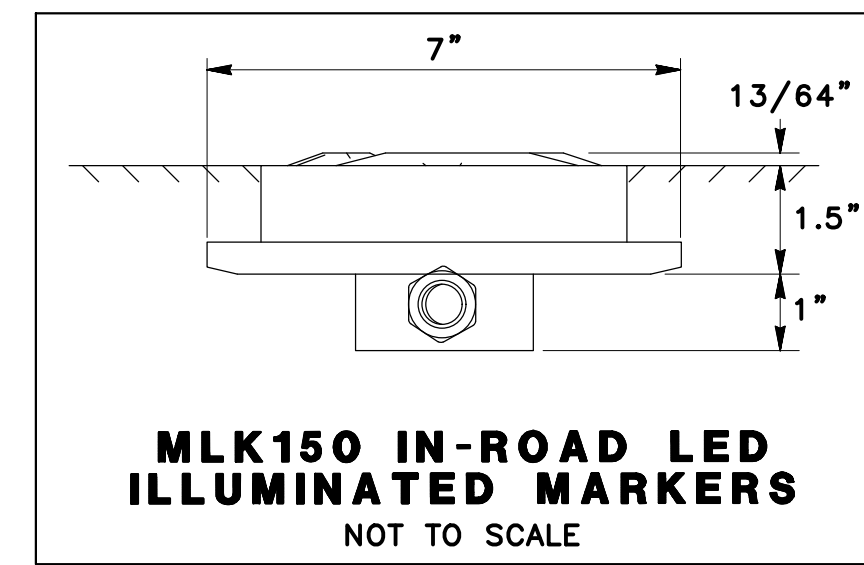
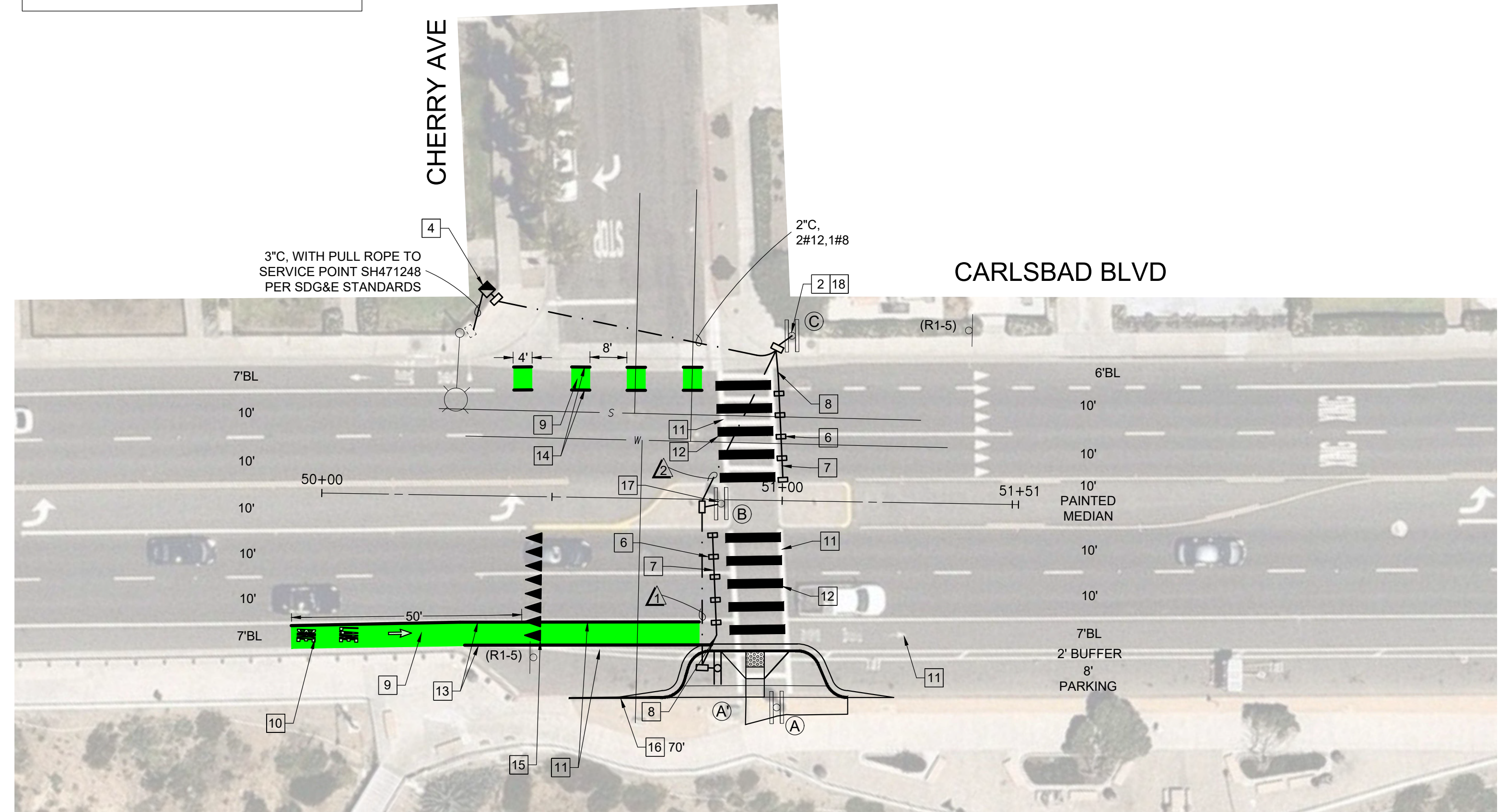
FRONT VIEW
SIDE VIEW
DOUBLE SIDED RECTANGULAR RAPID FLASHING BEACON SYSTEM DETAIL
NOT TO SCALE
DETAIL "B"



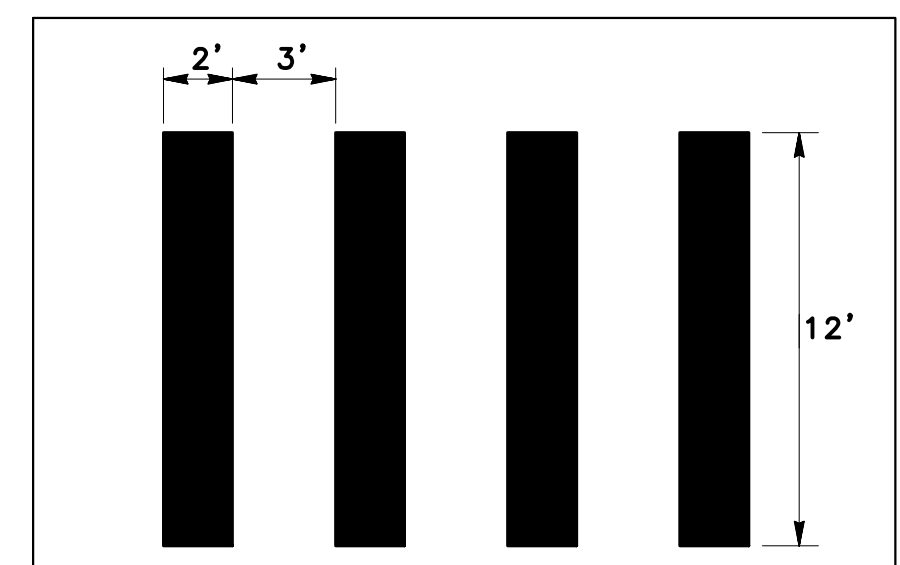
CONSTRUCTION NOTES

REFER TO TITLE SHEET FOR TRAFFIC NOTES, SIGNING AND STRIPING NOTES.

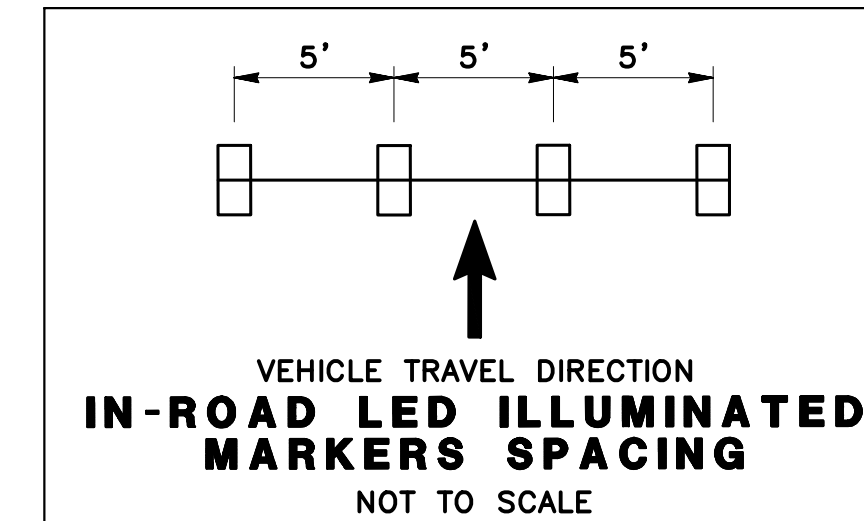
- CONTRACTOR TO REMOVE AND SALVAGE RRFB CONTROLLER KIT 55/48.
- CONTRACTOR TO INSTALL MK10 SYSTEM CONTROLLER WITH DRIVER EXTENSION OR CITY APPROVED EQUAL.
- CONTRACTOR TO INSTALL UFL24-12 UNIVERSAL FLASHER OR CITY APPROVED EQUAL.
- CONTRACTOR TO INSTALL TYPE III SIGNAL AND LIGHTING SERVICE CABINET PER SDG&E AND CALTRANS REQUIREMENTS. PROVIDE 30A-1P CIRCUIT BREAKER FOR RECTANGULAR RAPID FLASHING BEACON AND IN-ROADWAY WARNING LIGHTS.
- CONTRACTOR TO REMOVE AND SALVAGE SOLAR PANEL WITH BATTERY BACKUP. CONTRACTOR TO CAP POLE AFTER REMOVING SOLAR PANEL.
- CONTRACTOR TO INSTALL MLK150 IN-ROAD LED ILLUMINATED MARKERS PER MANUFACTURERS SPECIFICATIONS AS SHOWN ON DETAIL "C" AND "D" OR CITY APPROVED EQUAL. MARKERS SHALL NOT ENCR OACH ONTO THE BIKE LANES.
- CONTRACTOR TO PROVIDE A 3.5" DEEP TRENCH. INSTALL IN ROAD WARNING LIGHTS PER MANUFACTURERS SPECIFICATIONS. SEAL TRENCH PER MANUFACTURERS SPECIFICATIONS.
- 2" CONDUIT STUB-OUT.
- CONTRACTOR TO INSTALL GREEN 2-COAT PAINT, GREEN TRAFFIC PAINT SHALL BE EF SERIES WB GRN FAST DRY 1952F 1/2, PRODUCE CODE 183, PRODUCT GREEN (34108) BY ENNISS FLINT OR APPROVED EQUAL PAINT TO MEET FEDERAL SPEC TT-P-1652F TYPE I & II.
- CONTRACTOR TO INSTALL BIKE LANE AND ARROW PER CALTRANS STANDARD PLAN A24A AND A24D.
- CONTRACTOR TO REMOVE CONFLICTING STRIPING.
- CONTRACTOR TO INSTALL WHITE THERMOPLASTIC CONTINENTAL CROSSWALK PER CALTRANS STANDARD PLAN A24F, SEE DETAIL "E".
- CONTRACTOR TO INSTALL BIKE LANE STRIPING DETAIL 39 PER CALTRANS STANDARD PLAN A20D.
- CONTRACTOR TO INSTALL BIKE LANE STRIPING DETAIL 39A PER CALTRANS STANDARD PLAN A20D.
- EXISTING YIELD PAVEMENT MARKING TO BE REFRESHED AND INSTALLED ON TOP OF GREEN BIKE LANE PAINT.
- CONTRACTOR TO PAINT RED CURB AS SHOWN ON PLANS.
- CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON NORTH QUADRANT OF POLE PER DETAIL "F".
- CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON NORTH QUADRANT OF POLE PER DETAIL "F".
- CONTRACTOR SHALL REMOVE A MINIMUM OF 3' OF FOUNDATION BELOW FINISHED GRADE.
- CONTRACTOR SHALL VERIFY BASE PLATE AND ANCHOR BOLTS INFORMATION FOR EXISTING POLE. PROVIDE IN-KIND FOUNDATION AND ANCHOR BOLTS AT NEW LOCATION.



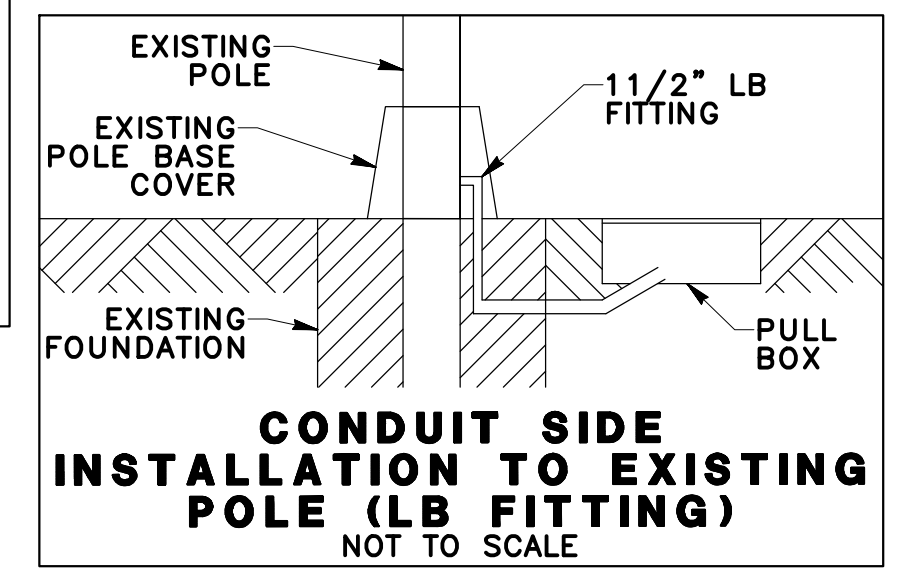
DETAIL "C"



DETAIL "E"



DETAIL "D"



DETAIL "F"

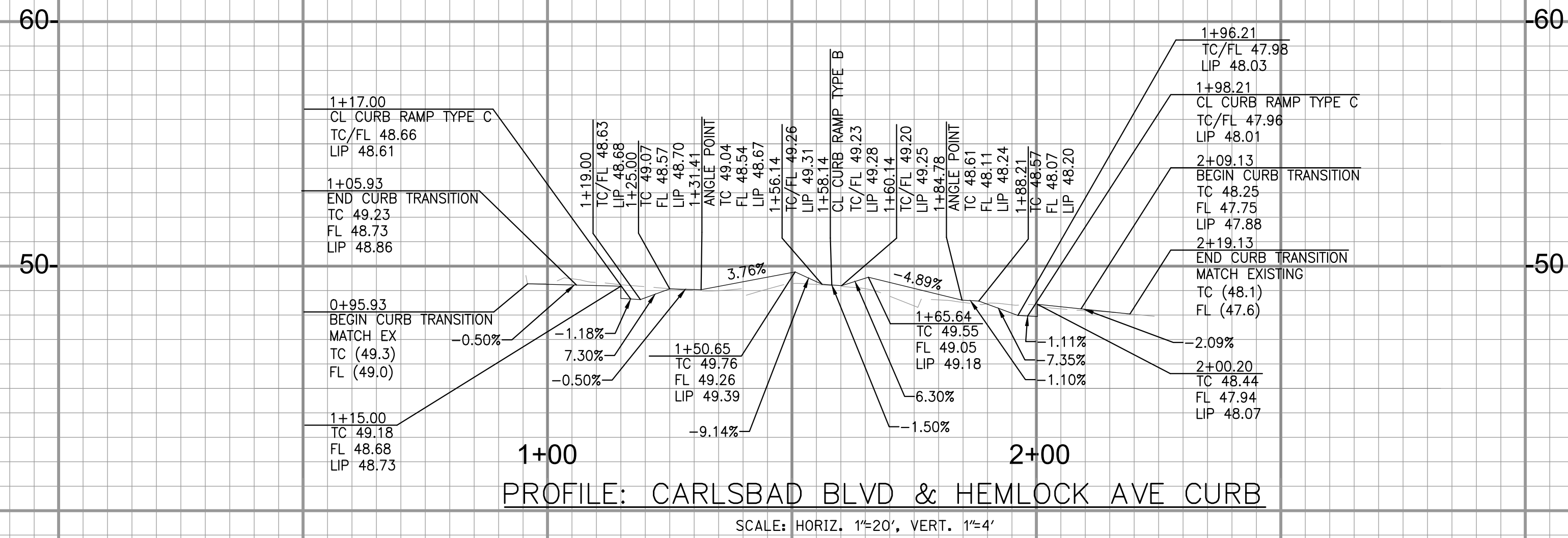
CONTRACTOR SHALL PROVIDE SPECIFICATIONS OF MATERIALS FOR PROPOSED INSTALLATION AND RELOCATION OF POLES. PROPOSED MATERIALS SHALL BE SIMILAR TO THE EXISTING POLE MATERIAL (METALS) TO MINIMIZE RUSTING.

"AS BUILT"
P.E. _____ EXP. _____ DATE _____
REVIEWED BY: _____
INSPECTOR _____ DATE _____

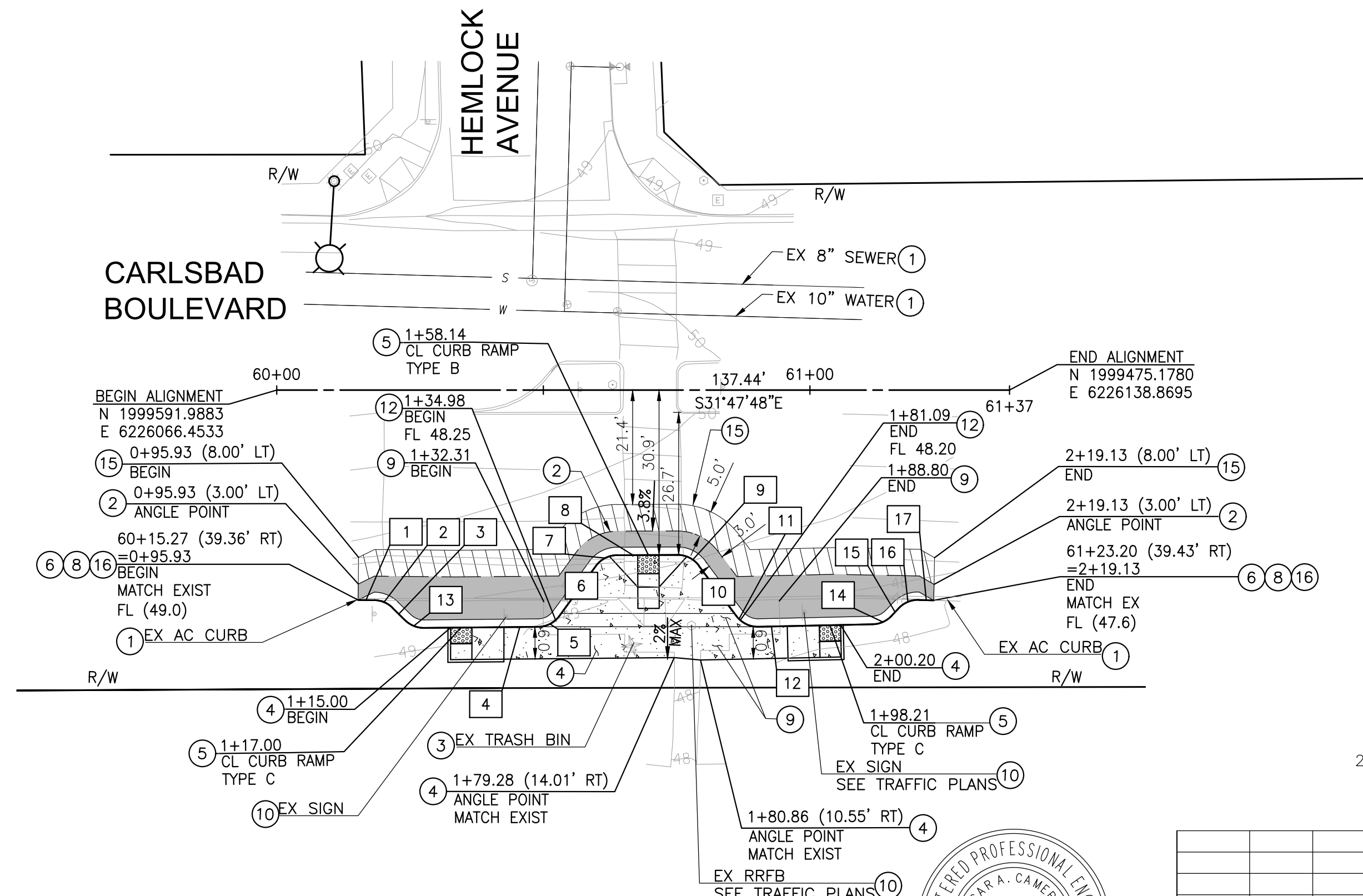
SHEET 11	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 13
CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT CARLSBAD BLVD AND CHERRY AVE LIGHTED CROSSWALK INSTALLATION		
APPROVED: THOMAS FRANK		
TRANSPORTATION DIRECTOR PE 49070 EXP. 9/30/2022 DATE _____		
DWN BY: JP	PROJECT NO. 6097	DRAWING NO. 525-9
CHKD BY: AE/CP		
RVWD BY: MMJ		



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CURB DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N31°11'36"W		2.99'	CURB TRANSITION
2	Δ=43°52'46"	5.00'	3.83'	CURB TRANSITION
3	N12°41'10"E		3.32'	CURB TRANSITION
4	N32°18'50"W		21.40'	TYPE 'G' C&G
5	Δ=53°19'15"	5.00'	4.65'	TYPE 'G' C&G
6	S85°38'05"E		11.57'	TYPE 'G' C&G
7	Δ=53°38'54"	5.00'	4.68'	TYPE 'G' C&G
8	S31°59'11"E		11.27'	TYPE 'G' C&G
9	Δ=53°23'32"	5.00'	4.66'	TYPE 'G' C&G
10	S21°24'20"W		11.80'	TYPE 'G' C&G
11	Δ=54°27'50"	5.00'	4.75'	TYPE 'G' C&G
12	S33°03'30"E		21.43'	TYPE 'G' C&G
13	Δ=45°00'00"	5.00'	3.93'	TYPE 'G' C&G
14	Δ=45°00'00"	5.00'	3.93'	TYPE 'G' C&G
15	S78°03'30"E		2.03'	CURB TRANSITION
16	Δ=47°52'22"	5.00'	4.18'	CURB TRANSITION
17	S30°11'07"E		2.78'	CURB TRANSITION

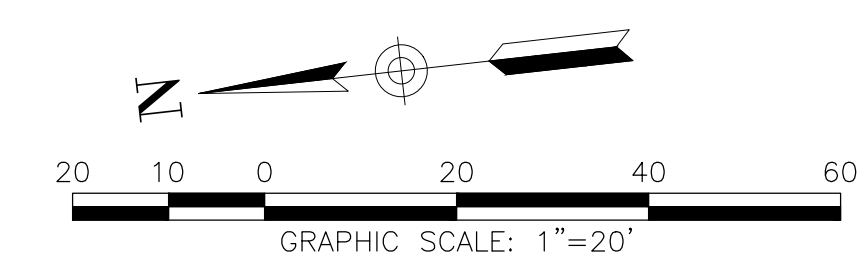


CONSTRUCTION NOTES:

- 1 PROTECT IN PLACE
- 2 SAWCUT
- 3 ADJUST TO GRADE
- 4 CONSTRUCT 4" SIDEWALK PER SDRSD G-07
- 5 CONSTRUCT TYPE 'B' CURB RAMP PER SDRSD G-27 AND TYPE 'C' CURB RAMP SDRSD G-29 TO BE FIELD FITTED TO MATCH EXISTING SITE CONDITIONS
- 6 CONSTRUCT 6" TYPE 'G' CURB & GUTTER PER SDRSD G-02
- 8 REMOVE EX CURB & GUTTER/AC CURB
- 9 REMOVE EX SIDEWALK
- 10 REMOVE & RELOCATE
- 12 CONSTRUCT CURB CHANNEL PER DETAIL ON SHEET 3
- 15 1.5" AC GRIND AND OVERLAY
- 16 CONSTRUCT CURB TO DIKE TRANSITION PER DETAIL ON SHEET 10

LEGEND:

- 4" CONCRETE SIDEWALK
- AC PAVEMENT (5" AC OVER 6" CLASS 2 AB)
- AC GRIND AND OVERLAY
- SAWCUT



"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 12 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 13

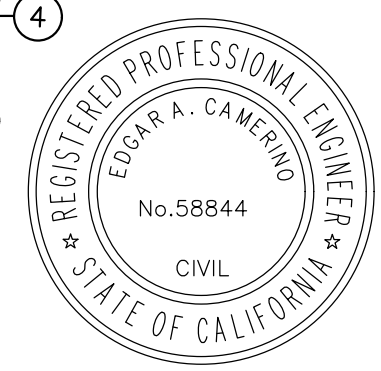
CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT
CARLSBAD BLVD AND HEMLOCK AVE
PLAN AND PROFILE

APPROVED: THOMAS FRANK

TRANSPORTATION DIRECTOR PE 49070 EXP. 9/30/2022 DATE _____

DWN BY: HR PROJECT NO. 6097 DRAWING NO. 525-9
CHKD BY: DN
RVWD BY: DN

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL



RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619.291.0707
(FAX) 619.291.4165
rickengineering.com
Riverside - Orange - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tucson

POLE & EQUIPMENT SCHEDULE						
LOCATION	POLE DATA		PPB	POLE LOCATION		SPECIAL REQUIREMENTS
	TYPE	HGT.		A	B	
(A)	DETAIL "A"	14'	N	EXISTING		RELOCATE TO LOCATION A'
(A)	DETAIL "A"	14'	S	STA: 60+61.9 35.7 RT		RELOCATE FROM LOCATION A
(B)	DETAIL "B"	14'	S	EXISTING		
(C)	DETAIL "A"	14'	N	EXISTING		

CONDUCTOR SCHEDULE			
AWG SIZE OR CABLE TYPE	POLE	CONDUIT RUNS	
		1	2
18 AWG 4C	(A)	1	1
	(B)	-	-
	(C)	-	-
TOTAL		1	2

18 AWG 3C		1	2
CONDUIT SIZE		2"	2"
CONDUIT FILL		4.5%	9.1%

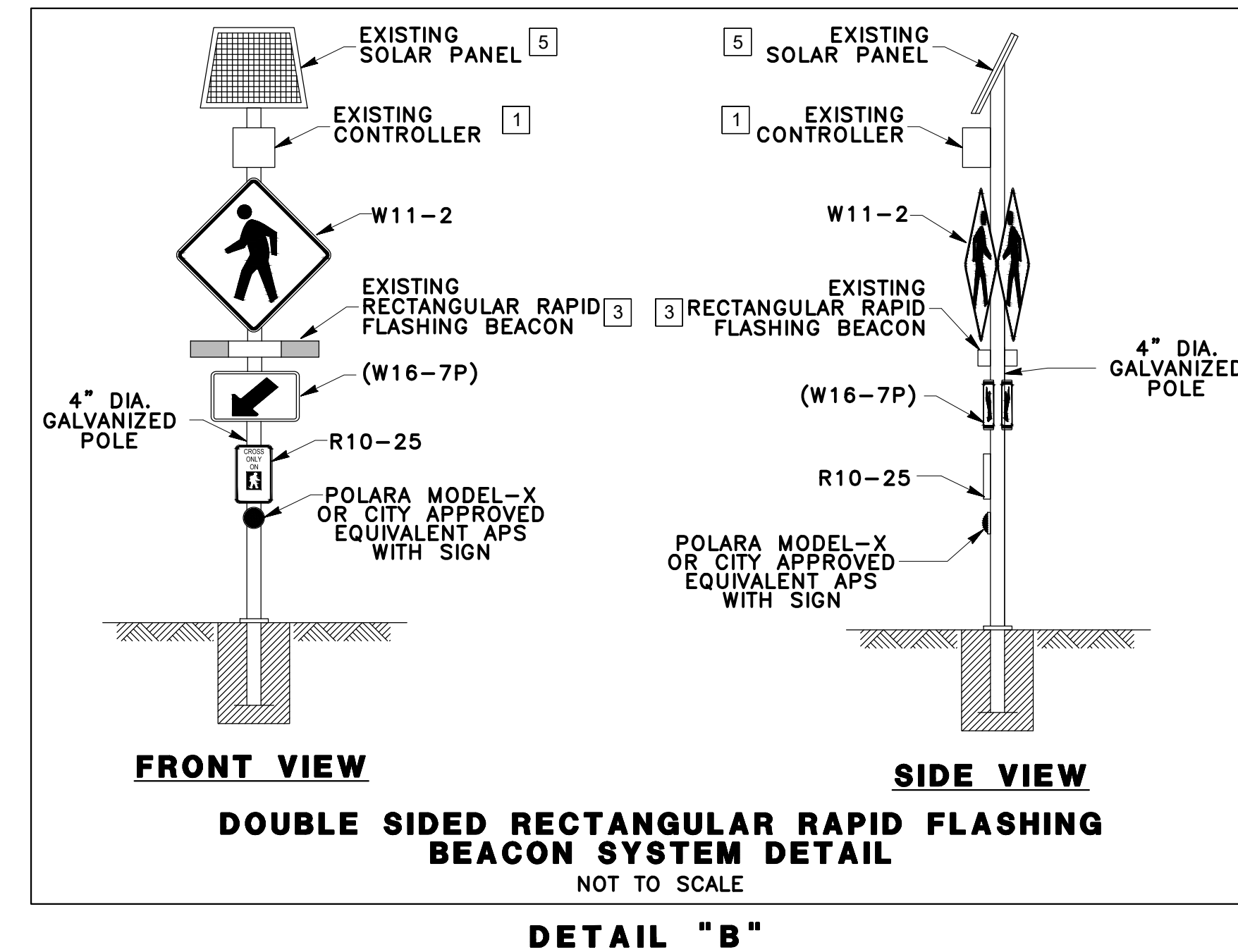
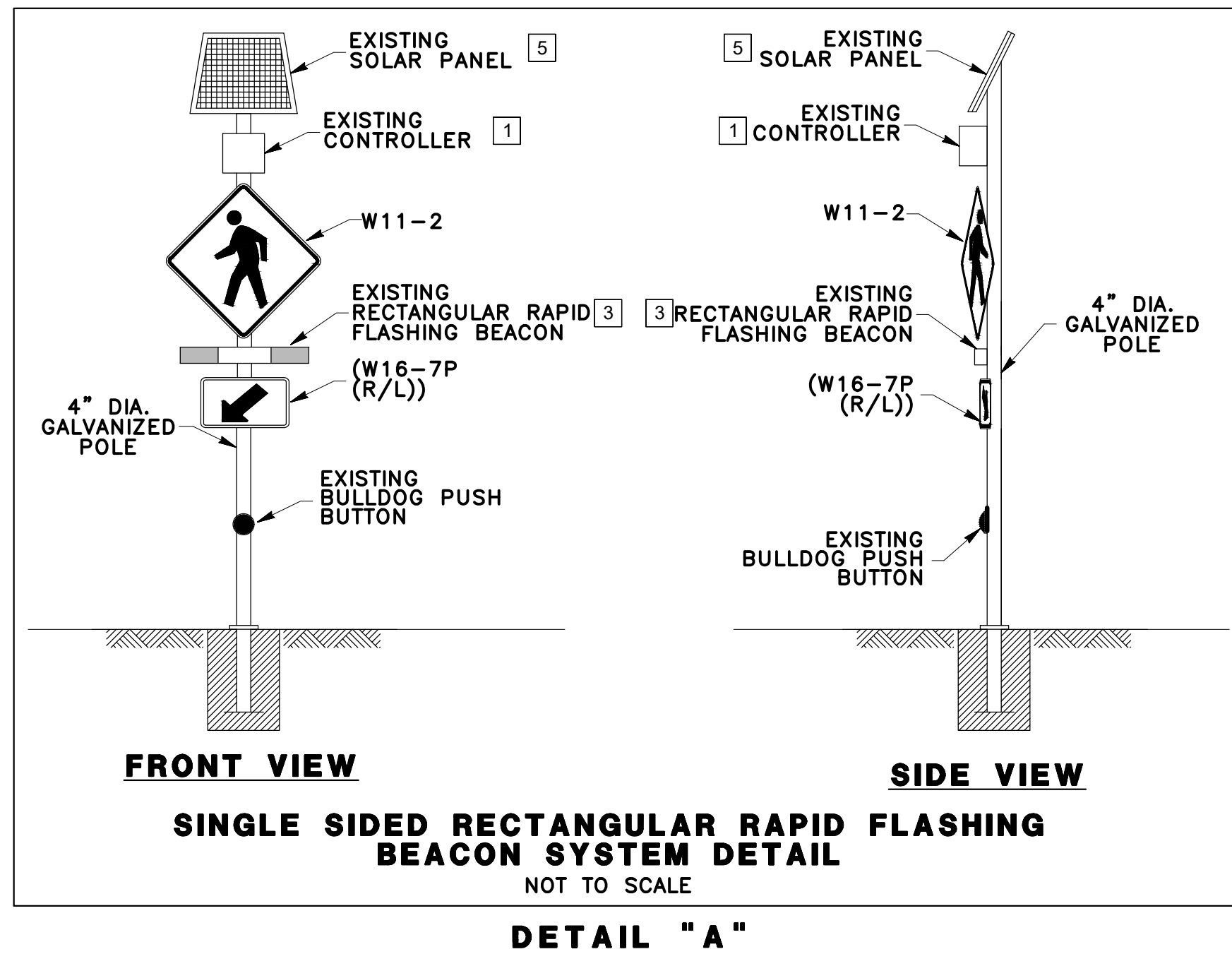
CONSTRUCTION NOTES

REFER TO TITLE SHEET FOR TRAFFIC NOTES, SIGNING AND STRIPING NOTES.

- CONTRACTOR TO REMOVE AND SALVAGE RRFB CONTROLLER KIT 55/48.
- CONTRACTOR TO INSTALL MK10 SYSTEM CONTROLLER WITH DRIVER EXTENSION OR CITY APPROVED EQUAL.
- CONTRACTOR TO INSTALL UFL24-12 UNIVERSAL FLASHER OR CITY APPROVED EQUAL.
- CONTRACTOR TO INSTALL TYPE III SIGNAL AND LIGHTING SERVICE CABINET PER SDG&E AND CALTRANS REQUIREMENTS. PROVIDE 15A-1P CIRCUIT BREAKER FOR RECTANGULAR RAPID FLASHING BEACON AND IN-ROADWAY WARNING LIGHTS.
- CONTRACTOR TO REMOVE AND SALVAGE SOLAR PANEL WITH BATTERY BACKUP. CONTRACTOR TO CAP POLE AFTER REMOVING SOLAR PANEL.
- CONTRACTOR TO INSTALL MLK150 IN-ROAD LED ILLUMINATED MARKERS PER MANUFACTURERS SPECIFICATIONS AS SHOWN ON DETAIL "C" AND "D" OR CITY APPROVED EQUAL. MARKERS SHALL NOT ENCRoACH ONTO THE BIKE LANES.
- CONTRACTOR TO PROVIDE A 3.5" DEEP TRENCH. INSTALL IN ROAD WARNING LIGHTS PER MANUFACTURERS SPECIFICATIONS. SEAL TRENCH PER MANUFACTURERS SPECIFICATIONS.
- 2" CONDUIT STUB-OUT.
- CONTRACTOR TO INSTALL GREEN 2-COAT PAINT, GREEN TRAFFIC PAINT SHALL BE EF SERIES WB GRN FAST DRY 1952F 1/2". PRODUCE CODE 183. PRODUCT GREEN (34108) BY ENNISS FLINT OR APPROVED EQUAL PAINT TO MEET FEDERAL SPEC TT-P-1652F TYPE I & II.
- CONTRACTOR TO INSTALL BIKE LANE AND ARROW PER CALTRANS STANDARD PLAN A24A AND A24D
- CONTRACTOR TO REMOVE CONFLICTING STRIPING.
- CONTRACTOR TO INSTALL WHITE THERMOPLASTIC CONTINENTAL CROSSWALK PER CALTRANS STANDARD PLAN A24F. SEE DETAIL "E".
- CONTRACTOR TO INSTALL BIKE LANE STRIPING DETAIL 39 PER CALTRANS STANDARD PLAN A20D.
- CONTRACTOR TO INSTALL ISA MARKING PER CALTRANS STANDARD PLAN A24C.
- EXISTING YIELD PAVEMENT MARKING TO BE REFRESHED AND INSTALLED ON TOP OF GREEN BIKE LANE PAINT.
- CONTRACTOR TO INSTALL BIKE LANE STRIPING DETAIL 39A PER CALTRANS STANDARD PLAN A20D.
- CONTRACTOR TO PAINT RED CURB AS SHOWN ON PLANS.
- CONTRACTOR TO PAINT BLUE CURB AS SHOWN ON PLANS.
- CONTRACTOR TO RELOCATE EXISTING R99(CA) SIGN AND INSTALL NEW R99B(CA) SIGN.
- CONTRACTOR TO INSTALL 4" BLUE STRIPING.
- CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON NORTH QUADRANT OF POLE PER DETAIL "F".
- CONTRACTOR TO FURNISH AND INSTALL CONDUIT ON EXISTING POLE VIA SIDE INSTALLATION (TYPE LB CONDUIT BODY). CONDUIT TO POLE CONNECTION SHALL BE DONE USING SIMILAR MATERIAL AS POLE TO PREVENT CORROSION. CONDUIT CONNECTION SHALL BE ON SOUTH QUADRANT OF POLE PER DETAIL "F".
- CONTRACTOR TO INSTALL "NO PARKING" PAVEMENT MARKING NO LESS THAN 12' HIGH.
- CONTRACTOR SHALL REMOVE A MINIMUM OF 3' OF FOUNDATION BELOW FINISHED GRADE.
- CONTRACTOR SHALL VERIFY BASE PLATE AND ANCHOR BOLTS INFORMATION FOR EXISTING POLE. PROVIDE IN-KIND FOUNDATION AND ANCHOR BOLTS AT NEW LOCATION.

LEGEND

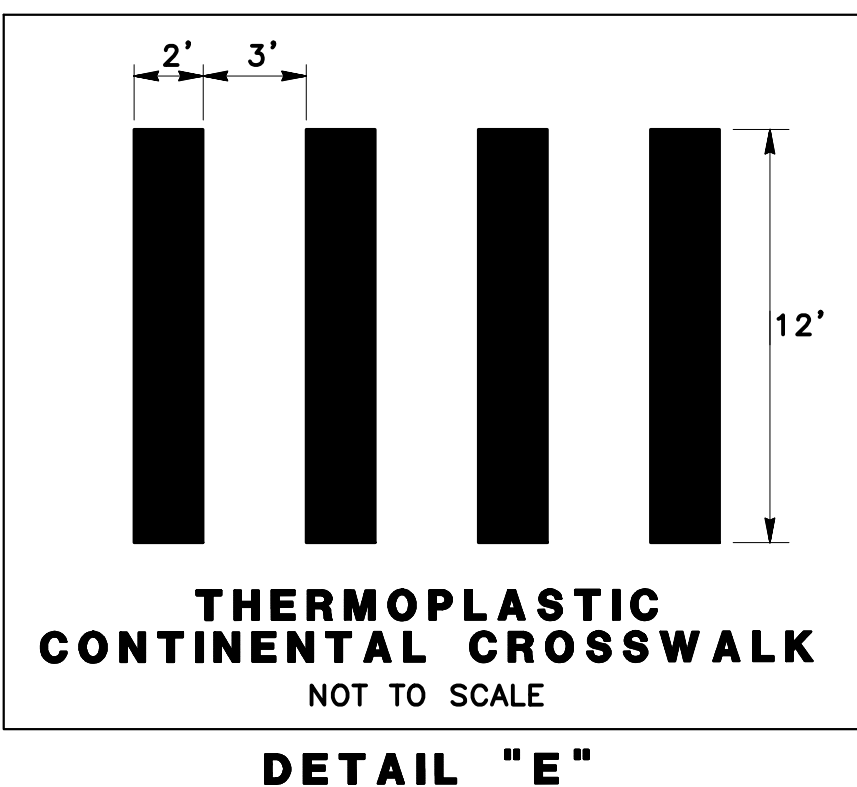
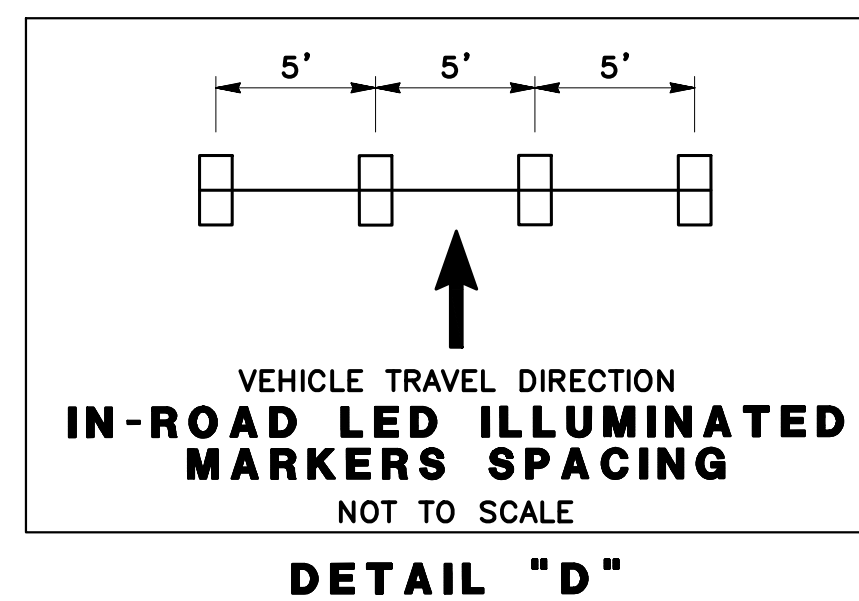
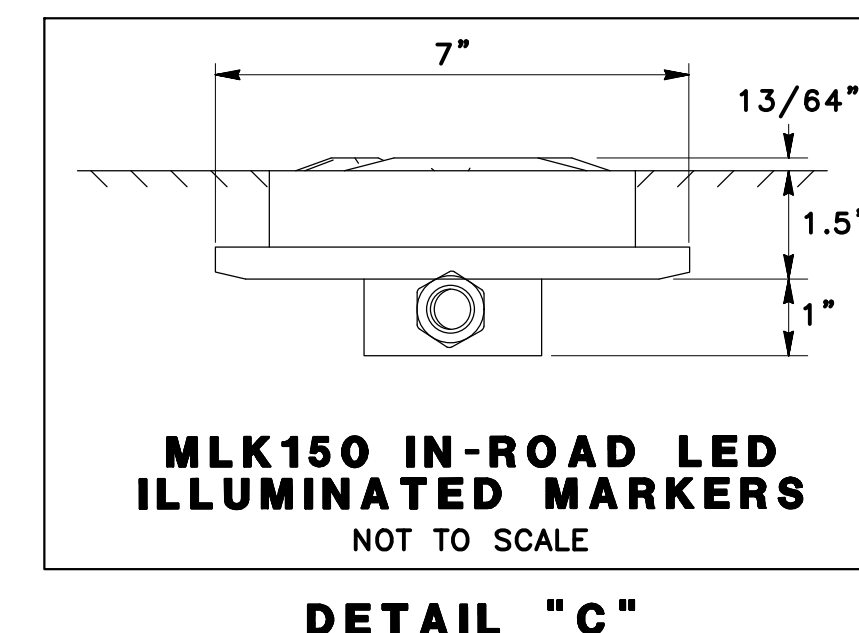
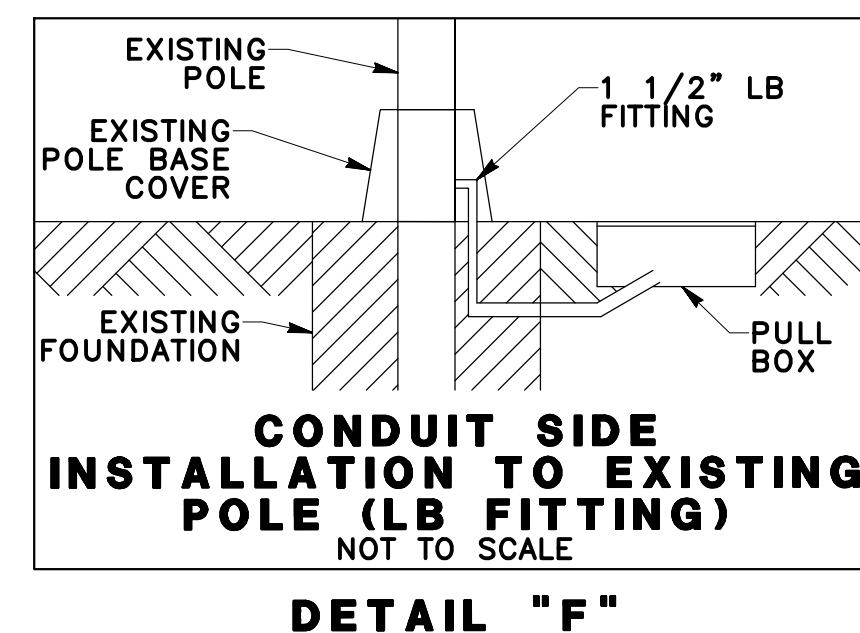
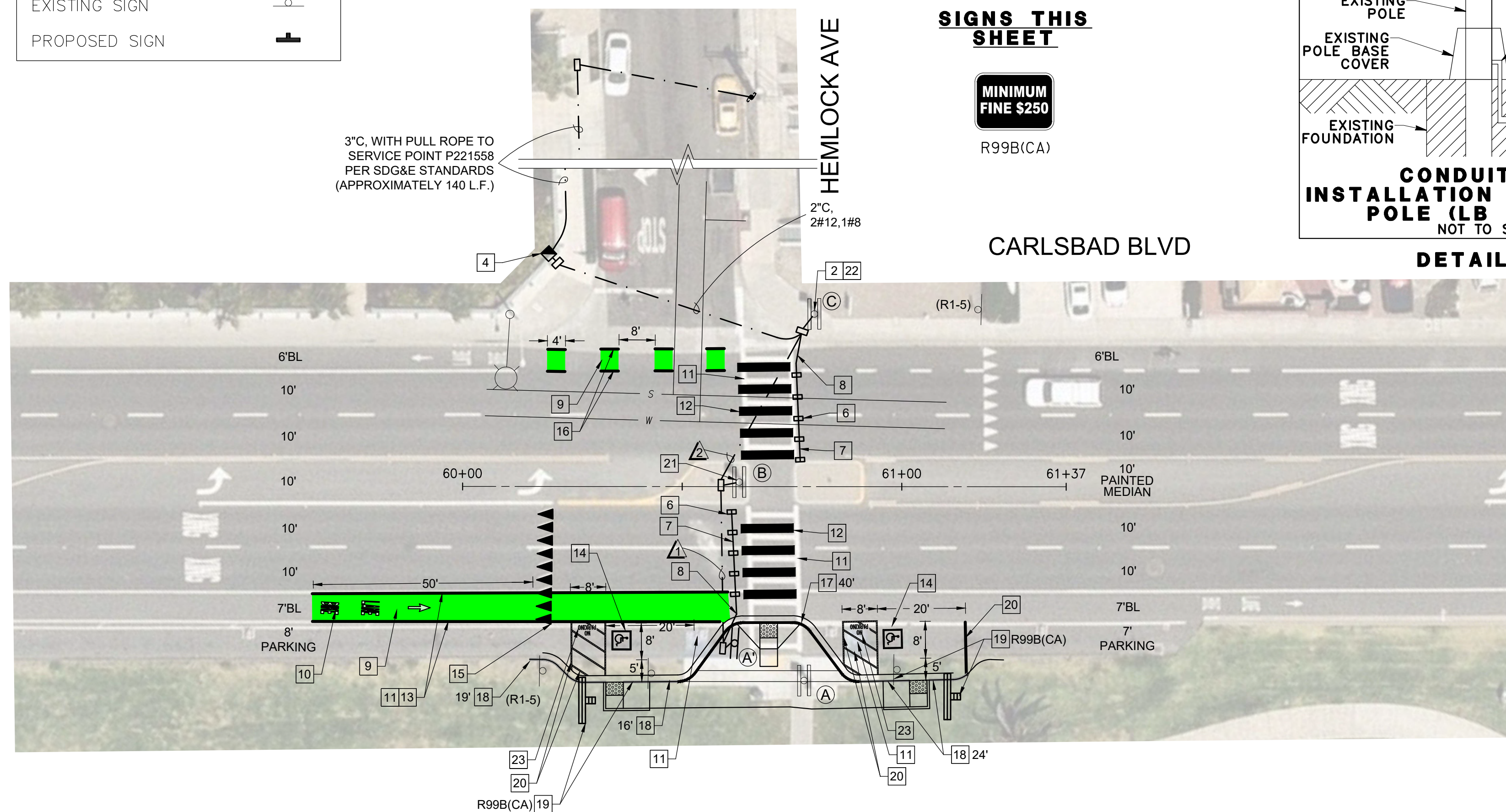
EXISTING RRFB SYSTEM	
PROPOSED IN-ROAD LIGHT	
EXISTING STREET LIGHT	
PROPOSED CONDUIT	
PROPOSED TYPE III SERVICE	
PROPOSED PULLBOX	
EXISTING SIGN	
PROPOSED SIGN	



SIGNS THIS SHEET



CARLSBAD BLVD



GRAPHIC SCALE 1" = 20'



CONTRACTOR SHALL PROVIDE SPECIFICATIONS OF MATERIALS FOR PROPOSED INSTALLATION AND RELOCATION OF POLES. PROPOSED MATERIALS SHALL BE SIMILAR TO THE EXISTING POLE MATERIAL (METALS) TO MINIMIZE RUSTING.

"AS BUILT"
P.E. _____ EXP. _____ DATE _____
REVIEWED BY: _____
INSPECTOR _____ DATE _____

SHEET	CITY OF CARLSBAD	SHEETS
13	PUBLIC WORKS DEPARTMENT	13
CARLSBAD BOULEVARD CROSSWALK IMPROVEMENT PROJECT		
CARLSBAD BLVD AND HEMLOCK AVE		
LIGHTED CROSSWALK INSTALLATION		
APPROVED: THOMAS FRANK		
TRANSPORTATION DIRECTOR PE 49070 EXP. 9/30/2022 DATE _____		
DWN BY: JP	PROJECT NO. 6097	DRAWING NO. 525-9
CHKD BY: AE/CP		
RVWD BY: MMJ		

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

**GENERAL PROVISIONS
FOR
CARLSBAD BOULEVARD CROSSWALK
IMPROVEMENT PROJECT
CONTRACT NO. PSA20-1147TRAN**

CITY OF CARLSBAD

**BIDDERS ARE ADVISED THAT THIS SECTION REPLACES PART 1,
GENERAL PROVISIONS, OF THE STANDARD SPECIFICATIONS FOR
PUBLIC WORKS CONSTRUCTION**

SECTION 1 -- TERMS, DEFINITIONS, ABBREVIATIONS, AND SYMBOLS

1-1 TERMS – Unless otherwise stated, the words *directed, required, permitted, ordered, instructed, designated, considered necessary, prescribed, approved, acceptable, satisfactory*, or words of like meaning, refer to actions, expressions, and prerogatives of the Engineer.

1-1.1 Reference to Drawings. Where words "shown", "indicated", "detailed", "noted", "scheduled", or words of similar import are used, it shall be understood that reference is made to the plans accompanying these provisions, unless stated otherwise.

1-1.2 Directions. Where words "directed", "designated", "selected", or words of similar import are used, it shall be understood that the direction, designation or selection of the Engineer is intended, unless stated otherwise. The word "required" and words of similar import shall be understood to mean "as required to properly complete the work as required and as approved by the Engineer," unless stated otherwise.

1-1.3 Equals and Approvals. Where the words "equal", "approved equal", "equivalent", and such words of similar import are used, it shall be understood such words are followed by the expression "in the opinion of the Engineer", unless otherwise stated. Where the words "approved", "approval", "acceptance", or words of similar import are used, it shall be understood that the approval, acceptance, or similar import of the Engineer is intended.

1-1.4 Perform. The word "perform" shall be understood to mean that the Contractor, at its expense, shall perform all operations, labor, tools and equipment, and further, including the furnishing and installing of materials that are indicated, specified or required to mean that the Contractor, at its expense, shall furnish and install the work, complete in place and ready to use, including furnishing of necessary labor, materials, tools, equipment, and transportation.



1-2 Definitions. The following words, or groups of words, shall be exclusively defined by the definitions assigned to them herein.

Addendum – Written or graphic instrument issued prior to the opening of Bids which clarifies, corrects, or changes the bidding or Contract Documents. The term Addendum shall include bulletins and all other types of written notices issued to potential bidders prior to opening of Bids.

Agency – The City of Carlsbad, California.

Agreement – See Contract.

Assessment Act Contract – A Contract financed by special assessments authorized under a State Act or procedural ordinance of a City or County.

Base – A layer of specified material of planned thickness placed immediately below the pavement or surfacing.

Bid – The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work.

Bidder – Any individual, firm, partnership, corporation, or combination thereof, submitting a Bid for the Work, acting directly or through a duly authorized representative.

Board – The officer or body constituting the awarding authority of the Agency, which is the City Council for the City of Carlsbad or the Board of Directors of Carlsbad Municipal Water District.

Bond – Bid, performance, and payment bond or other instrument of security.

City Council – the City Council of the City of Carlsbad.

City Manager – the City Manager of the City of Carlsbad or his/her approved representative.

Cash Contract – A Contract financed by means other than special assessments.

Change Order – A written order to the Contractor signed by the Agency directing an addition, deletion, or revision in the Work, or an adjustment in the Contract Price or the Contract time issued after the effective date of the Contract. A Change Order may or may not also be signed by the Contractor.

Code – The terms *Government Code*, *Labor Code*, etc., refer to codes of the State of California.

Construction Manager– the Project Inspector’s immediate supervisor and first level of appeal for informal dispute resolution.

Contract – The written agreement between the Agency and the Contractor covering the Work.



Contract Documents – Including but not limited to; the Contract, any Addendum (which pertain to the contract documents), Notice Inviting Bids, Instructions to Bidders; Bid (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Contract, the Bonds, the General Provisions, permits from other agencies, the Technical Specifications, the Supplemental Provisions, the Plans, Standard Plans, Standard Specifications, Reference Specifications, and all Modifications issued after the execution of the Contract.

Contractor – The individual, partnership, corporation, joint venture, or other legal entity having a Contract with the Agency to perform the Work. In the case of work being done under permit issued by the Agency, the permittee shall be constructed to be the Contractor. The term “prime contractor” shall mean Contractor.

Contract Price – The total amount of money for which the Contract is awarded.

Contract Unit Price – The amount stated in the Bid for a single unit of an item of work.

County Sealer – The Sealer of Weights and Measures of the county in which the Contract is let.

Days – Days shall mean consecutive calendar’s days unless otherwise specified.

Deputy City Engineer, Construction Management & Inspection – The Construction Manager’s immediate supervisor and second level of appeal for informal dispute resolution.

Dispute Board – Persons designated by the City Manager of the City of Carlsbad or Executive Manager of the Carlsbad Municipal Water District, to hear and advise the City Manager on claims submitted by the Contractor. The City Manager for the City of Carlsbad or the Executive Manager for the Carlsbad Municipal Water District is the last appeal level for informal dispute resolution.

Electrolier – Street light assembly complete, including foundation, standard, luminaire arm, luminaire, etc.

Engineer – The City Engineer of the City of Carlsbad or his/her approved representative. The Engineer is the third level of appeal for informal dispute resolution.

Geotextile – Synthetic fiber used in civil engineering applications, serving the primary functions of separation and filtration.

House Connection Sewer – A sewer, within a public street or right-of-way, proposed to connect any parcel, lot, or part of a lot with a mainline sewer.

House Sewer – A sewer, wholly within private property, proposed to connect any building to a house connection sewer.

Luminaire – The lamp housing including the optical and socket assemblies (and ballast if so specified).

Luminaire Arm – The structural member, bracket, or mast arm, which, mounted on the standard, supports the luminaire.

Minor Bid Item – A single contract item constituting less than 10 percent (10%) of the original Contract Price bid.



Modification – Includes Change Orders and Supplemental Agreements. A Modification may only be used after the effective date of the Contract.

Notice of Award – The written notice by the Agency to the successful Bidder stating that upon compliance by it with the required conditions, the Agency will execute the Contract.

Notice to Proceed – A written notice given by the Agency to the Contractor fixing the date on which the Contract time will start.

Own Organization - When used in Section 2-3.1 – Employees of the Contractor who are hired, directed, supervised and paid by the Contractor to accomplish the completion of the Work. Further, such employees have their employment taxes, State disability insurance payments, State and Federal income taxes paid and administered, as applicable, by the Contractor. When used in Section 2-3.1 "own organization" means construction equipment that the Contractor owns or leases and uses to accomplish the Work. Equipment that is owner operated or leased equipment with an operator is not part of the Contractor's Own Organization and will not be included for the purpose of compliance with Section 2-3.1.

Person – Any individual, firm, association, partnership, corporation, trust, joint venture, or other legal entity.

Plans – The drawings, profiles, cross sections, working drawings, and supplemental drawings, or reproductions thereof, approved by the Engineer, which show the location, character, dimensions, or details of the Work.

Private Contract – Work subject to Agency inspection, control, and approval, involving private funds, not administered by the Agency.

Project Inspector – The Engineer's designated representative for inspection, contract administration and first level for informal dispute resolution.

Proposal – See Bid.

Reference Specifications – Those bulletins, standards, rules, methods of analysis or test, codes, and specifications of other agencies, engineering societies, or industrial associations referred to in the Contract Documents. These refer to the latest edition, including amendments in effect and published at the time of advertising the project or issuing the permit, unless specifically referred to by edition, volume, or date.

Roadway – The portion of a street reserved for vehicular use.

Service Connection – Service connections are all or any portion of the conduit, cable, or duct, including meter, between a utility distribution line and an individual consumer.

Sewer – Any conduit intended for the reception and transfer of sewage and fluid industrial waste.

Specifications – General Provisions, Standard Specifications, Technical Specifications, Reference Specifications, Supplemental Provisions, and specifications in Supplemental Agreements between the Contractor and the Board.

Standard – The shaft or pole used to support street lighting luminaire, traffic signal heads, mast arms, etc.



Standard Plans – Details of standard structures, devices, or instructions referred to on the Plans or in Specifications by title or number.

Standard Specifications – The Standard Specifications for Public Works Construction (SSPWC), the “Greenbook”.

State – State of California.

Storm Drain – Any conduit and appurtenances intended for the reception and transfer of storm water.

Street – Any road, highway, parkway, freeway, alley, walk, or way.

Subbase – A layer of specified material of planned thickness between a base and the subgrade.

Subcontractor – An individual, firm, or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work.

Subgrade – For roadways, that portion of the roadbed on which pavement, surfacing, base, subbase, or a layer of other material is placed. For structures, the soil prepared to support a structure.

Supervision – Supervision, where used to indicate supervision by the Engineer, shall mean the performance of obligations, and the exercise of rights, specifically imposed upon and granted to the Agency in becoming a party to the Contract. Except as specifically stated herein, supervision by the Agency shall not mean active and direct superintendence of details of the Work.

Supplemental Agreement – A written amendment of the Contract Documents signed by both parties.

Supplemental Provisions – Additions and revisions to the Standard Specifications setting forth conditions and requirements peculiar to the work.

Surety – Any individual, firm, or corporation, bound with and for the Contractor for the acceptable performance, execution, and completion of the Work, and for the satisfaction of all obligations incurred.

Tonne – Also referred to as “metric ton”. Represents a unit of measure in the International System of Units equal to 1,000 kilograms.

Utility – Tracks, overhead or underground wires, pipeline, conduits, ducts, or structures, sewers, or storm drains owned, operated, or maintained in or across a public right of way or private easement.

Work – That which is proposed to be constructed or done under the Contract or permit, including the furnishing of all labor, materials, equipment, and services.



1-3 ABBREVIATIONS

1-3.1 General. The abbreviation herein, together with others in general use, are applicable to these Standard Specifications and to project Plans or other Contract Documents.

All abbreviations and symbols used on Plans for structural steel construction shall conform to those given by the “Manual of Steel Construction” published by the American Institute of Steel Construction, Inc.

1-3.2 Common Usage

Abbreviation

Word or Words

ABAN	Abandon	CONC	Concrete
ABAND	Abandoned	CONN	Connection
ABS	Acrylonitrile – butadiene – styrene	CONST	Construct, Construction
AC	Asphalt Concrete	COORD	Coordinate
ACP	Asbestos cement pipe	CSP	Corrugated steel pipe
ACWS	Asphalt concrete wearing surface	CSD	Carlsbad Standard Drawings
ALT	Alternate	CTB	Cement treated base
APTS	Apartment and Apartments	CV	Check valve
AMER STD	American Standard	CY	Cubic yard
AWG	American Wire Gage (nonferrous wire)	D	Load of pipe
BC	Beginning of curve	dB	Decibels
BCR	Beginning of curb return	DBL	Double
BDRY	Boundary	DF	Douglas fir
BF	Bottom of footing	DIA	Diameter
BLDG	Building and Buildings	DIP	Ductile iron pipe
BM	Bench mark	DL	Dead load
BVC	Beginning of vertical curve	DR	Dimension Ratio
B/W	Back of wall	DT	Drain Tile
C/C	Center to center	DWG	Drawing
CAB	Crushed aggregate base	DWY	Driveway
CAL/OSHA	California Occupational Safety and Health Administration	DWY APPR	Driveway approach
CalTrans	California Department of Transportation	E	Electric
CAP	Corrugated aluminum pipe	EA	Each
CB	Catch Basin	EC	End of curve
Cb	Curb	ECR	End of curb return
CBP	Catch Basin Connection Pipe	EF	Each face
CBR	California Bearing Ratio	EG	Edge of gutter
CCR	California Code of Regulations	EGL	Energy grade line
CCTV	Closed Circuit TV	EI	Elevation
CES	Carlsbad Engineering Standards	ELC	Electrolier lighting conduit
CF	Curb face	ELT	Extra long ton
CF	Cubic foot	ENGR	Engineer, Engineering
C&G	Curb and gutter	EP	Edge of pavement
CFR	Code of Federal Regulations	ESMT	Easement
CFS	Cubic Feet per Second	ETB	Emulsion-treated base
CIP	Cast iron pipe	EVC	End of vertical curb
CIPP	Cast-in place pipe	EWA	Encina Wastewater Authority
CL	Clearance, center line	EXC	Excavation
CLF	Chain link fence	EXP JT	Expansion joint
CMB	Crushed miscellaneous base	EXST	Existing
CMC	Cement mortar-coated	F	Fahrenheit
CML	Cement mortar-lined	F&C	Frame and cover
CMWD	Carlsbad Municipal Water District	F&I	Furnish and install
CO	Cleanout (Sewer)	FAB	Fabricate
COL	Column	FAS	Flashing arrow sign
COMM	Commercial	FD	Floor drain
		FDN	Foundation



SE..... Sand Equivalent
 SEC Section
 SF..... Square foot
 SFM..... Sewer Force Main
 SI..... International System of Units (Metric)
 SPEC..... Specifications
 SPPWC..... Standard Plans for Public Works Construction
 SSPWC..... Standard Specifications for Public Works Construction
 ST HWY..... State highway
 STA..... Station
 STD Standard
 STR..... Straight
 STR GR..... Straight grade
 STRUC..... Structural/Structure
 SW..... Sidewalk
 SWD Sidewalk drain
 SY..... Square yard
 T..... Telephone
 TAN Tangent
 TC..... Top of curb
 TEL..... Telephone
 TF..... Top of footing

TOPO Topography
 TR Tract
 TRANS Transition
 TS Traffic signal or transition structure
 TSC..... Traffic signal conduit
 TSS..... Traffic signal standard
 TW..... Top of wall
 TYP Typical
 UE..... Underground Electric
 USA..... Underground Service Alert
 VAR..... Varies, Variable
 VB Valve box
 VC Vertical curve
 VCP..... Vitrified clay pipe
 VERT..... Vertical
 VOL..... Volume
 VWD..... Vallecitos Water District
 W..... Water, Wider or Width, as applicable
 WATCH Work Area Traffic Control Handbook
 WI..... Wrought iron
 WM..... Water meter
 WPJ..... Weakened plane joint
 XCONN..... Cross connection
 XSEC..... Cross section

1-3.3 Institutions.

Abbreviation

Word or Words

AASHTO American Association of State Highway and Transportation Officials
 AISC..... American Institute of Steel Construction
 ANSI..... American National Standards Institute
 API American Petroleum Institute
 AREA American Railway Engineering Association
 ASTM American Society for Testing and Materials
 AWPA..... American Wood Preservers Association
 AWS American Welding Society
 AWWA..... American Water Works Association
 FHWA..... Federal Highway Administration
 GRI..... Geosynthetic Research Institute
 NEMA..... National Electrical Manufacturers Association
 NOAA..... National Oceanic and Atmospheric Administration (Dept. of Commerce)
 UL Underwriters' Laboratories Inc.
 USGS United States Geological Survey



1-4 UNITS OF MEASURE.

1-4.1 General. U.S. Standard Measures, also called U.S. Customary System, are the principal measurement system in these specifications. However, certain material specifications and test requirements contained herein use SI units specifically and conversions to U.S. Standard Measures may or may not have been included in these circumstances. When U.S. Standard Measures are not included in parenthesis, then the SI units shall control. S.I. units and U.S. Standard Measures in parenthesis may or may not be exactly equivalent.

Reference is also made to ASTM E 380 for definitions of various units of the SI system and a more extensive set of conversion factors.

1-4.2 Units of Measure and Their Abbreviations.

<u>U.S. Customary Unit</u> <u>(Abbreviations)</u>	(Equal To)	<u>SI Unit</u> <u>(Abbreviations)</u>
1 mil (=0.001 in).....		25.4 micrometer (μm)
1 inch (in).....		25.4 millimeter (mm)
1 inch (in).....		2.54 centimeter (cm)
1 foot (ft).....		0.3048 meter (m)
1 yard (yd).....		0.9144 meter (m)
1 mile (mi).....		1.6093 kilometer (km)
1 square foot (ft ²).....		0.0929 square meter (m ²)
1 square yard (yd ²).....		0.8361 square meter (m ²)
1 cubic foot (ft ³).....		0.0283 cubic meter (m ³)
1 cubic yard (yd ³).....		0.7646 cubic meter (m ³)
1 acre.....		0.4047 hectare (ha)
1 U.S. gallon (gal).....		3.7854 Liter (L)
1 fluid ounce (fl. oz.).....		29.5735 milliliter (mL)
1 pound mass (lb) (avoirdupois).....		0.4536 kilogram (kg)
1 ounce mass (oz).....		0.02835 kilogram (kg)
1 Ton (=2000 lb avoirdupois).....		0.9072 Tonne (= 907 kg)
1 Poise.....		0.1 pascal · second (Pa · s)
1 centistoke (cs).....		1 square millimeters per second (mm ² /s)
1 pound force (lbf).....		4.4482 Newton (N)
1 pounds per square inch (psi).....		6.8948 Kilopascal (kPa)
1 pound force per foot (lbf/ft).....		1.4594 Newton per meter (N/m)
1 foot-pound force (ft-lbf).....		1.3558 Joules (J)
1 foot-pound force per second ([ft-lbf]/s).....		1.3558 Watt (W)
1 part per million (ppm).....		1 milligram/liter (mg/L)

Temperature Units and Abbreviations

Degree Fahrenheit (°F): Degree Celsius (°C):
 $^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$ $^{\circ}\text{C} = (^{\circ}\text{F} - 32)/1.8$

SI Units (abbreviation) Commonly Used in Both Systems

1 Ampere (A)
 1 Volt (V)
 1 Candela (cd)
 1 Lumen (lm)
 1 second (s)



Common Metric Prefixes

kilo (k)	10 ³
centi (c)	10 ⁻²
milli (m)	10 ⁻³
micro (μ)	10 ⁻⁶
nano (n)	10 ⁻⁹
pico (p)	10 ⁻¹²

1-5 SYMBOLS

Δ	Delta, the central angle or angle between tangents
∠	Angle
%	Percent
'	Feet or minutes
"	Inches or seconds
1	Number
/	per or (between words)
°	Degree
PL	Property line
CL	Centerline
SL	Survey line or station line



SECTION 2 – SCOPE AND CONTROL OF WORK

2-1 AWARD AND EXECUTION OF CONTRACT. Award and execution of Contract will be as provided for in the Specifications, Instruction to Bidders, or Notice Inviting Bids.

2-2 ASSIGNMENT. No Contract or portion thereof may be assigned without consent of the Board, except that the Contractor may assign money due or which will accrue to it under the Contract. If given written notice, such assignment will be recognized by the Board to the extent permitted by law. Any assignment of money shall be subject to all proper withholdings in favor of the Agency and to all deductions provided for in the Contract. All money withheld, whether assigned or not, shall be subject to being used by the Agency for completion of the Work, should the Contractor be in default.

2-3 SUBCONTRACTS.

2-3.1 General. Each Bidder shall comply with the Chapter of the Public Contract Code including Sections 4100 through 4113. The following excerpts or summaries of some of the requirements of this Chapter are included below for information:

The Bidder shall set forth in the Bid, as provided in 4104:

“(a) The name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvements, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor’s total bid, or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime contractor’s total bid or ten thousand dollars (\$10,000), whichever is greater.”

“(b) The portion of the work which will be done by each such subcontractor under this act. The prime contractor shall list only one subcontractor for each such portion as is defined by the prime contractor in his bid.”

If the Contractor fails to specify a Subcontractor, or specifies more than one Subcontractor for the same portion of the work to be performed under the Contract (in excess of one-half of 1 percent of the Contractor’s total Bid), the Contractor shall be qualified to perform that portion itself, and shall perform that portion itself, except as otherwise provided in the Code.

As provided in Section 4107, no Contractor whose Bid is accepted shall substitute any person as Subcontractor in place of the Subcontractor listed in the original Bid, except for causes and by procedures established in Section 4107.5. This section provides procedures to correct a clerical error in the listing of a Subcontractor.



Section 4110 provides that a Contractor violating any of the provisions of the Chapter violates the Contract and the Board may exercise the option either to cancel the Contract or assess the Contractor a penalty in an amount of not more than 10 percent of the subcontract involved, after a public hearing.

Should the Contractor fail to adhere to the provisions requiring the Contractor to complete **50 percent** of the contract price with its own organization, the Agency may at its sole discretion elect to cancel the contract or deduct an amount equal to 10 percent of the value of the work performed in excess of **50 percent** of the contract price by other than the Contractor's own organization. The Board shall be the sole body for determination of a violation of these provisions. In any proceedings under this section, the prime contractor shall be entitled to a public hearing before the Board and shall be notified ten (10) days in advance of the time and location of said hearing. The determination of the City Council shall be final.

2-3.2 Additional Responsibility. The Contractor shall give personal attention to the fulfillment of the Contract and shall keep the Work under its control.

The Contractor shall perform, with its own organization, Contract work amounting to at least 50 percent of the Contract Price except that any designated "Specialty Items" may be performed by subcontract, and the amount of any such "Specialty Items" so performed may be deducted from the Contract Price before computing the amount required to be performed by the Contractor with its own organization. "Specialty Items" will be identified by the Agency in the Bid or Proposal. Where an entire item is subcontracted, the value of work subcontracted will be based on the Contract Unit Price. When a portion of an item is subcontracted, the value of work subcontracted will be based on the estimated percentage of the Contract Unit Price. This will be determined from information submitted by the Contractor, and subject to approval by the Engineer.

Before the work of any Subcontractor is started, the Contractor shall submit to the Engineer for approval a written statement showing the work to be subcontracted giving the name and business of each Subcontractor and description and value of each portion of the work to be so subcontracted.

2-3.3 Status of Subcontractors. Subcontractors shall be considered employees of the Contractor, and the Contractor shall be responsible for their work.

2-4 CONTRACT BONDS. Before execution of the Contract, the Bidder shall file surety bonds with the Agency to be approved by the Board in the amounts and for the purposes noted below. Bonds issued by a surety, who is authorized to issue bonds in California, and whose bonding limitation shown in said circular is sufficient to provide bonds in the amount required by the Contract shall be deemed to be approved unless specifically rejected by the Agency. Bonds from all other sureties shall be accompanied by all of the documents enumerated in Code of Civil Procedure 995.660 (a). The Bidder shall pay all bond premiums, costs, and incidentals.

Each bond shall incorporate, by reference, the Contract and be signed by both the Bidder and Surety and the signature of the authorized agent of the Surety shall be notarized.

The Contractor shall provide a faithful performance/warranty bond and payment bond (labor and materials bond) for this contract. The faithful performance/warranty bond shall be in a sum not less than one hundred percent of the total amount payable by the terms of this contract.



The Contractor shall provide bonds to secure payment of laborers and materials suppliers in a sum not less than one hundred percent of the total amount payable by the terms of this contract.

Both bonds shall extend in full force and effect and be retained by the Agency during this project until they are released according to the provisions of this section.

The faithful performance/warranty bond will be reduced to 25 percent of the original amount 30 days after recordation of the Notice of Completion and will remain in full force and effect for the one year warranty period and until all warranty repairs are completed to the satisfaction of the Engineer. The bonds to secure payment of laborers and materials suppliers shall be released six months plus 30 days after recordation of the Notice of Completion if all claims have been paid.

All bonds are to be placed with a surety insurance carrier admitted and authorized to transact the business of insurance in California and whose assets exceed their liabilities in an amount equal to or in excess of the amount of the bond. The bonds are to contain the following documents:

- 1) An original, or a certified copy, of the unrevoked appointment, power of attorney, by laws, or other instrument entitling or authorizing the person who executed the bond to do so.
- 2) A certified copy of the certificate of authority of the insurer issued by the insurance commissioner.

If the bid is accepted, the Agency may require a financial statement of the assets and liabilities of the insurer at the end of the quarter calendar year prior to 30 days next preceding the date of the execution of the bond. The financial statement shall be made by an officer's certificate as defined in Section 173 of the Corporations Code. In the case of a foreign insurer, the financial statement may be verified by the oath of the principal officer or manager residing within the United States.

Should any bond become insufficient, the Contractor shall renew the bond within 10 days after receiving notice from the Agency.

Should any Surety at any time be unsatisfactory to the Board, notice will be given the Contractor to that effect. No further payments shall be deemed due or will be made under the contract until a new Surety shall qualify and be accepted by the Board.

Changes in the Work or extensions of time, made pursuant to the Contract, shall in no way release the Contractor or Surety from its obligations. Notice of such changes or extensions shall be waived by the Surety.



2-5 PLANS AND SPECIFICATIONS.

2-5.1 General. The Contractor shall keep at the Work site a copy of the Plans and Specifications, to which the Engineer shall have access at all times.

The specifications for the work include the General Provisions, project technical specifications, Carlsbad Engineering Standards (CES), Standard Specifications for Public Works Construction, (SSPWC), Part 2 & 3, and the latest supplements thereto, current edition at the time of bid opening as published by the "Greenbook" Committee of Public Works Standards, Inc., hereinafter designated "SSPWC", as amended.

The construction plans consist of 1 set. The set is designated as City of Carlsbad Drawing No. 525-9 and consists of 13 sheets. The standard drawings used for this project are the latest edition of the San Diego Area Regional Standard Drawings, hereinafter designated SDRSD, as issued by the San Diego County Department of Public Works, together with the most recent editions of the City of Carlsbad Engineering Standards and Carlsbad Standard Drawings, as issued by the City of Carlsbad and the Carlsbad Municipal Water District, hereinafter designated as CES and CSD, respectively. Copies of some of the pertinent standard drawings are enclosed as an appendix to these General Provisions.

The Plans, Specifications, and other Contract Documents shall govern the Work. The Contract Documents are intended to be complementary and cooperative. Anything specified in the Specifications and not shown on the Plans, or shown on the Plans and not specified in the Specifications, shall be as though shown on or specified in both.

The Plans shall be supplemented by such working drawings and shop drawings as are necessary to adequately control the Work.

The Contractor shall ascertain the existence of any conditions affecting the cost of the Work through a reasonable examination of the Work site prior to submitting the Bid.

Existing improvements visible at the Work site, for which no specific disposition is made on the Plans, but which interfere with the completion of the Work, shall be removed and disposed of by the Contractor.

The Contractor shall, upon discovering any error or omission in the Plans or Specifications, immediately call it to the attention of the Engineer.

2-5.2 Precedence of Contract Documents.

If there is a conflict between Contract Documents, the document highest in precedence shall control. The precedence shall be the most recent edition of the following documents listed in order of highest to lowest precedence:

- 1) Permits from other agencies as may be required by law.
- 2) Change orders, whichever occurs last.
- 3) Contract addenda, whichever occurs last.
- 4) Contract
- 5) Carlsbad General Provisions, Technical Specifications, and Supplemental Provisions.
- 6) Plans.
- 7) Standards plans.
 - a) City of Carlsbad Standard Drawings.



- b) Carlsbad Municipal Water District Standard Drawings.
- c) City of Carlsbad modifications to the San Diego Area Regional Standard Drawings.
- d) San Diego Area Regional Standard Drawings.
- e) Traffic Signal Design Guidelines and Standards.
- f) State of California Department of Transportation Standard Plans.
- g) State of California Department of Transportation Standard Specifications.
- h) California Manual on Uniform Traffic Control Devices (CA MUTCD).
- 8) Standard Specifications for Public Works Construction, as amended.
- 9) Reference Specifications.
- 10) Manufacturer's Installation Recommendations



Detail drawings shall take precedence over general drawings.

Change Orders, Supplemental Agreements and approved revisions to Plans and Specifications will take precedence over items 2) through 9) above. Detailed plans and plan views shall have precedence over general plans.

2-5.2.1 Precedence of Contract Documents, add the following: Where CALTRANS specifications are used to modify the SSPWC or added to the SSPWC by any of the contract documents the CALTRANS specifications shall have precedence only in reference to the materials and construction materials referred to in the CALTRANS specifications. The Invitation to Bid, Contract for Public Works, Part 1 of these Supplemental Provisions and Part 1 of the SSPWC, in the order of precedence in Section 2-5.2 of the SSPWC, shall prevail over the CALTRANS specifications in all other matters.

2-5.3 Submittals.

2-5.3.1 General. Submittals shall be provided, at the Contractor's expense, as required in 2-5.3.2, 2-5.3.3 and 2-5.3.4, when required by the Plans or Special Provisions, or when requested by the Engineer.

Materials shall neither be furnished nor fabricated, nor shall any work for which submittals are required by performed, before the required submittals have been reviewed and accepted by the Engineer. Neither review nor acceptance of submittals by the Engineer shall relieve the Contractor from responsibility for errors, omissions, or deviations from the Contract Documents, unless such deviations were specifically called to the attention of the Engineer in the letter of transmittal. The Contractor shall be responsible for the correctness of the submittals.

The Contractor shall allow a minimum of 20 working days for review of submittals unless otherwise specified in the Special Provisions. Each submittal shall be accompanied by a letter of transmittal.

Each submittal shall be consecutively numbered. Resubmittals shall be labeled with the number of the original submittal followed by an ascending alphabetical designation (e.g. The label '4-C' would indicate the third instance that the fourth submittal had been given to the Engineer). Each sheet of each submittal shall be consecutively numbered. Each set of shop drawings and submittals shall be accompanied by a letter of transmittal on the Contractor's letterhead. The Letter of Transmittal shall contain the following:

- 1) Project title and Agency contract number.
- 2) Number of complete sets.
- 3) Contractor's certification statement.
- 4) Specification section number(s) pertaining to material submitted for review.
- 5) Submittal number (Submittal numbers shall be consecutive including subsequent submittals for the same materials.)
- 6) Description of the contents of the submittal.
- 7) Identification of deviations from the contract documents.



When submitted for the Engineer's review, Shop Drawings shall bear the Contractor's certification that the Contractor has reviewed, checked, and approved the Shop Drawings and that they are in conformance with the requirements of the Contract Documents. The Contractor shall subscribe to and shall place the following certification on all submittals:

"I hereby certify that the (equipment, material) shown and marked in this submittal is that proposed to be incorporated into this Project, is in compliance with the Contract Documents, can be installed in the allocated spaces, and is submitted for approval."

By: _____ Title: _____

Date: _____

Company Name: _____

2-5.3.2 Working Drawings. Working drawings are drawings showing details not shown on the Plans which are required to be designed by the Contractor. Working drawings shall be of a size and scale to clearly show all necessary details.

Six copies and one reproducible shall be submitted. If no revisions are required, three of the copies will be returned to the Contractor. If revisions are required, the Engineer will return one copy along with the reproducible for resubmission. Upon acceptance, the Engineer will return two of the copies to the Contractor and retain the remaining copies and the reproducible.

Working drawings are required in the following sections:

TABLE 2-5.3.2 (A)

Item	Section Number	Title	Subject
1	7-10.4.1	Safety Orders	Trench Shoring
2	207-2.5	Joints	Reinforced Concrete Pipe
3	207-8.4	Joints	Vitrified Clay Pipe
4	207-10.2.1	General	Fabricated Steel Pipe
5	300-3.2	Cofferdams	Structure Excavation & Backfill
6	303-1.6.1	General	Falsework
7	303-1.7.1	General	Placing Reinforcement
8	303-3.1	General	Prestressed Concrete Construction
9	304-1.1.1	Shop Drawings	Structural Steel
10	304-1.1.2	Falsework Plans	Structural Steel
11	304-2.1	General	Metal Hand Railings
12	306-2.1	General	Jacking Operations
13	306-3.1	General	Tunneling Operations
14	306-3.4	Tunnel Supports	Tunneling Operations
15	306-6	Remodeling Existing Sewer Facilities	Polyethylene Liner Installation
16	306-8	Microtunneling	Microtunneling Operations
17	307-4.3	Controller Cabinet Wiring Diagrams	Traffic Signal Construction

Working drawings listed above as Items 5, 6, 8, 9, 10, 12, 13, 14 and 16 shall be prepared by a Civil or Structural Engineer registered by the State of California.

2-5.3.3 Shop Drawings. Shop drawings are drawings showing details of manufactured or assembled products proposed to be incorporated into the Work. Shop drawings required shall be as specified in the Special Provisions.



2-5.3.4 Supporting Information. Supporting information is information required by the Specifications for the purposes of administration of the Contract, analysis for verification of conformance with the Specifications, the operation and maintenance of a manufactured product or system to be constructed as part of the Work, and other information as may be required by the Engineer. Six copies of the supporting information shall be submitted to the Engineer prior to the start of the Work unless otherwise specified in the Special Provisions or directed by the Engineer. Supporting information for systems shall be bound together and include all manufactured items for the system. If resubmittal is not required, three copies will be returned to the Contractor. Supporting information shall consist of the following and is required unless otherwise specified in the Special Provisions:

- 1) List of Subcontractors per 2-3.2.
- 2) List of Materials per 4-1.4.
- 3) Certifications per 4-1.5.
- 4) Construction Schedule per 6-1.
- 5) Confined Space Entry Program per 7-10.4.4.
- 6) Concrete mix designs per 201-1.1.
- 7) Asphalt concrete mix designs per 203-6.1.
- 8) Data, including, but not limited to, catalog sheets, manufacturer's brochures, technical bulletins, specifications, diagrams, product samples, and other information necessary to describe a system, product or item. This information is required for irrigation systems, street lighting systems, and traffic signals, and may also be required for any product, manufactured item, or system.

2-5.4 RECORD DRAWINGS. The Contractor shall provide and keep up-to-date a complete "as-built" record set of blue-line prints, which shall be corrected in red daily and show every change from the original drawings and specifications and the exact "as-built" locations, sizes and kinds of equipment, underground piping, valves, and all other work not visible at surface grade. Prints for this purpose may be obtained from the Agency at cost. This set of drawings shall be kept on the job and shall be used only as a record set and shall be delivered to the Engineer within ten (10) days of completion of the work. Payment for performing the work required by Section 2-5.4 shall be included in the various bid items and no additional payment will be made therefore.

2-6 WORK TO BE DONE. The Contractor shall perform all work necessary to complete the Contract in a satisfactory manner. Unless otherwise provided, the Contractor shall furnish all materials, equipment, tools, labor, and incidentals necessary to complete the Work.

2-7 SUBSURFACE DATA. All soil and test hole data, water table elevations, and soil analyses shown on the drawings or included in the Specifications apply only at the location of the test holes and to the depths indicated. Soil test reports for test holes which have been drilled are available for inspection at the office of the Engineer. Any additional subsurface exploration shall be done by Bidders or the Contractor at their own expense.

The indicated elevation of the water table is that which existed on the date when test hole data was determined. It is the Contractor's responsibility to determine and allow for the elevation of groundwater at the date of project construction. A difference in elevation between groundwater shown in soil boring logs and groundwater actually encountered during construction will not be considered as a basis for extra work.

2-8 RIGHT-OF-WAY. Rights-of-way, easements, or rights-of-entry for the Work will be provided by the Agency. Unless otherwise provided, the Contractor shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of additional work areas and facilities temporarily required. The Contractor shall indemnify and hold the Agency harmless from all claims for damages caused by such actions.



2-9 SURVEYING.

2-9.1 Permanent Survey Markers. The Contractor shall not cover or disturb permanent survey monuments or benchmarks without the consent of the Engineer. Where the Engineer concurs, in writing, with the Contractor that protecting an existing monument in place is impractical, the Contractor shall employ a licensed land surveyor or a registered civil engineer authorized to practice land surveying within the State of California, hereinafter Surveyor, to establish the location of the monument before it is disturbed. The Contractor shall have the monument replaced by the Surveyor no later than thirty (30) days after construction at the site of the replacement is completed. The Surveyor shall file corner record(s) as required by §§ 8772 and 8773, et seq. of the California Business and Professions Code.

When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey monument is located, the Contractor shall adjust the monument frame and cover to the new grade within 7 days of paving unless the Engineer shall approve otherwise. Monument frames and covers shall be protected during street sealing or painting projects or be cleaned to the satisfaction of the Engineer.

2-9.2 Survey Service. The Contractor shall hire and pay for the services of a Surveyor, hereinafter Surveyor to perform all work necessary for establishing control, construction staking, records research and all other surveying work necessary to construct the work, provide surveying services as required herein and provide surveying, drafting and other professional services required to satisfy the requirements of the Land Surveyors Act. Surveyor shall be resident on the site during all surveying operations and shall personally supervise and certify the surveying work.

2-9.2.1 Submittal of Surveying Data, All surveying data submittals shall conform to the requirements of Section 2-5.3.3, "Submittals", herein. The Contractor shall submit grade sheets to the Engineer before commencing work in the area affected by the grade sheets. The Contractor shall submit field notes for all surveying required herein to the Engineer within ten days of performing the survey. All surveying field notes, grade sheets and survey calculations shall be submitted in bound form on 215mm by 280 mm (8½" by 11") paper. The field notes, calculations and supporting data shall be clear and complete. Supporting data shall include all maps, affidavits, plats, field notes from earlier surveys and all other evidence used by the Surveyor to determine the location of the monuments set. The field notes and calculations will be labeled with name of the Surveyor, the party chief, the field crewmembers and the author of the field notes or calculations. They shall be annotated with the date of observation or calculation, be numbered with consecutive page numbers and shall be readable without resort to any electronic aid, computer program or documentation for any computer program. The field notes shall be prepared in conformance with the CALTRANS "Surveys Manual". The Contractor shall have a Record of Survey prepared by the Surveyor and file it in conformance with §§ 8700 - 8805 of the State of California Business and Professions Code when the Surveyor performs any surveying that such map is required under §§ 8762 of the State of California Business and Professions Code and whenever the Surveyor shall establish, set or construct any permanent survey monument. SDRS drawing M-10 type monuments, bolts, spikes, leaded tacks and nails (when set in concrete), iron pipes, reinforcing steel and all monuments and marks that are at, or accessory to, property corners and street centerlines are permanent survey monuments. The Record of Survey shall show all monuments set, control monuments used, the basis of bearings and all other data needed to determine the procedure of survey and the degree of accuracy attained by the field surveying including the unadjusted ratio of closure. The unadjusted ratio of closure shall not exceed 1 part in 40,000. The record of survey shall show the location and justification of location of all permanent monuments set and their relation to the street right-of-way. Record(s) of Survey(s) shall be submitted for the Engineer's review and approval before submittal to the County Surveyor and before submittal to the County Recorder.



2-9.2.2 Survey Requirements, Stakes shall be set at offsets approved by the Engineer at no greater intervals than specified in TABLE 2-9.2.2(A) as measured along the project stationing. Stakes shall be set to show the location and grade of future curbs adjacent to traffic signal locations where the curb is not being built as a part of this contract. Staking and marking shall be completed by the Surveyor and inspected and approved by the Engineer before the start of construction in the area marked. Centerline monument shall have the disk stamped with the date the monument was set and the registration number of the Surveyor. Habitat mitigation sites and other areas to be preserved that are shown on the plans shall be staked and flagged prior to the start of any other activities within the limits of the work. When curb and gutter does not exist and is not being installed as a part of the project the location of adjacent facilities being constructed as a part of the contract the Contractor shall place stakes defining the horizontal and vertical location of such adjacent utility vaults, poles or other facilities that are being installed as parts of, or adjunct to, the project either by the Contractor and/or those noted on the plans as to be installed by others.



TABLE 2-9.2.2(A)
Survey Requirements for Construction Staking

Feature Staked	Stake Description ②	Centerline or Parallel to Centerline Spacing ④, ⑥	Lateral Spacing ③, ⑥	Setting Tolerance (Within)
Street Centerline	SDRS M-10 Monument	≤1000', Street Intersections, Begin and end of curves, only when shown on the plans	on street centerline	0.02' Horizontal, also see Section 2-9.2.1 herein
Clearing	Lath in soil, painted line on PCC & AC surfaces	lath - Intervisible, ≤ 50' on tangents & ≤ 25' on curves, Painted line - continuous	at clearing line	1' Horizontal
Slope	RP + Marker Stake	Intervisible and ≤ 50'	Grade Breaks & ≤ 25'	0.1' Vertical & Horizontal
Fence	RP + Marker Stake	≤ 200' on tangents, ≤ 50' on curves when R ≥ 1000' & 25' on curves when R ≤ 1000'	N/A (constant offset)	0.1' Horizontal
Rough Grade Cuts or Fills ≥ 10 m (33')	RP + Marker Stake	≤ 50'	N/A	0.1' Vertical & Horizontal
Final Grade (includes top of: Basement soil, subbase and base)	RP + Marker Stake, Blue-top in grading area	≤ 50' on tangents & curves when R ≥ 1000' & ≤ 25' on curves when R ≤ 1000'	≤ 22'	³ / ₈ " Horizontal & ¹ / ₄ " Vertical
Asphalt Pavement Finish Course	RP, paint on previous course	≤ 25' or as per the intersection grid points shown on the plan whichever provides the denser information	edge of paving, paving pass width, crown line & grade breaks	³ / ₈ " Horizontal & ¹ / ₄ " Vertical
Drainage Structures, Pipes & similar Facilities①, ⑦	RP + Marker Stake	intervisible & ≤ 25', beginning and end, BC & EC of facilities, Grade breaks, Alignment breaks, Junctions, Inlets & similar facilities, Risers & similar facilities (except plumbing), Skewed cut-off lines	as appropriate	³ / ₈ " Horizontal & ¹ / ₄ " Vertical
Curb	RP + Marker Stake	≤ 25', BC & EC, at ¹ / ₄ Δ, ¹ / ₂ Δ & ³ / ₄ Δ on curb returns & at beginning & end	(constant offset)	³ / ₈ " Horizontal & ¹ / ₄ " Vertical
Traffic Signal ①		Vertical locations shall be based on the ultimate elevation of curb and sidewalk		
Signal Poles & Controller ①	RP + Marker Stake	at each pole & controller location	as appropriate	³ / ₈ " Horizontal & ¹ / ₄ " Vertical
Junction Box ①	RP + Marker Stake	at each junction box location	as appropriate	³ / ₈ " Horizontal & ¹ / ₄ " Vertical
Conduit ①	RP + Marker Stake	≤ 50' on tangents & curves when R ≥ 1000' & ≤ 25' on curves when R ≤ 1000' or where grade ≤ 0.30%	as appropriate	³ / ₈ " Horizontal & when depth cannot be measured from existing pavement ¹ / ₄ " Vertical
Minor Structure ①	RP + Marker Stake + Line Stake	for catch basins: at centerline of box, ends of box & wings & at each end of the local depression ⑤	as appropriate	³ / ₈ " Horizontal & ¹ / ₄ " Vertical (when vertical data needed)
Abutment Fill	RP + Marker Stake + Line Stake	≤ 50' & along end slopes & conic transitions	as appropriate	0.1' Vertical & Horizontal



Feature Staked	Stake Description ②	Centerline or Parallel to Centerline Spacing④, ⑥	Lateral Spacing ③, ⑥	Setting Tolerance (Within)
Wall ①	RP + Marker Stake + Line Point +Guard Stake	≤ 50' and at beginning & end of: each wall, BC & EC, layout line angle points, changes in footing dimensions &/or elevation & wall height	as appropriate	1/4" Horizontal & 1/4" Vertical
Major Structure ⑤				
Footings, Bents, Abutments & Wingwalls	RP + Marker Stake + Line Point +Guard Stake	10' to 33' as required by the Engineer, BC & EC, transition points & at beginning & end. Elevation points on footings at bottom of columns	as appropriate	3/8" Horizontal & 1/4" Vertical
Superstructures	RP	10' to 33' sufficient to use string lines, BC & EC, transition points & at beginning & end. Elevation points on footings at bottom of columns	as appropriate	3/8" Horizontal & 1/4" Vertical
Miscellaneous ⑤				
Contour Grading ①	RP + Marker Stake	≤ 50'	along contour line	0.1' Vertical & Horizontal
Utilities ①, ⑦	RP + Marker Stake	≤ 50' on tangents & curves when R ≥ 1000' & ≤ 25' on curves when R ≤ 1000' or where grade ≤ 0.30%	as appropriate	3/8" Horizontal & 1/4" Vertical
Channels, Dikes & Ditches ①	RP + Marker Stake	intervisible & ≤ 100', BC & EC of facilities, Grade breaks, Alignment breaks, Junctions, Inlets & similar facilities	as appropriate	0.1' Horizontal & 1/4" Vertical
Signs ①	RP + Marker Stake + Line Point +Guard Stake	At sign location	Line point	0.1' Vertical & Horizontal
Subsurface Drains ①	RP + Marker Stake	intervisible & ≤ 50', BC & EC of facilities, Grade breaks, Alignment breaks, Junctions, Inlets & similar facilities, Risers & similar facilities	as appropriate	0.1' Horizontal & 1/4" Vertical
Overside Drains ①	RP + Marker Stake	longitudinal location	At beginning & end	0.1' Horizontal & 1/4" Vertical
Markers ①	RP + Marker Stake	for asphalt street surfacing ≤ 50' on tangents & curves when R ≥ 1000' & ≤ 25' on curves when R ≤ 1000'.	At marker location(s)	1/4" Horizontal
Railings & Barriers ①	RP + Marker Stake	At beginning & end and ≤ 50' on tangents & curves when R ≥ 1000' & ≤ 25' on curves when R ≤ 1000'	at railing & barrier location(s)	3/8" Horizontal & Vertical
AC Dikes ①	RP + Marker Stake	At beginning & end	as appropriate	0.1' Horizontal & Vertical
Box Culverts		10' to 33' as required by the Engineer, BC & EC, transition points & at beginning & end. Elevation points on footings & at invert	as appropriate	3/8" Horizontal & 1/4" Vertical
Pavement Markers①	RP	200' on tangents, 50' on curves when R ≥ 1000' & 25' on curves when R ≤ 1000'. For PCC surfaced streets lane cold joints will suffice	at pavement marker location(s)	1/4" Horizontal

① Staking for feature may be omitted when adjacent marker stakes reference the offset and elevation of those features and the accuracy requirements of the RP meet the requirements for the feature

② Reference points shall be sufficiently durable and set securely enough to survive with accuracy intact throughout the installation & inspection of the features or adjacent facilities for which they provide control. RP means reference point for the purposes of this table

③ Perpendicular to centerline.

④ Some features are not necessarily parallel to centerline but are referenced thereto

⑤ Multi-plane surfaced features shall be staked so as to provide line & grade information for each plane of the feature

⑥ ≥ means greater than, or equal to, the number following the symbol. ≤ means less than, or equal to, the number following the symbol.

⑦ The cut datum for storm drainage & sanitary sewer pipes & similar structures shall be their invert. The cut datum for all other utilities shall be the top of their pipe or conduit.



All guard stakes, line stakes and lath shall be flagged. Unless otherwise approved by the Engineer flagging, paint and marking cards shall be the color specified in TABLE 2-9.2.2(B)

**TABLE 2-9.2.2(B)
Survey Stake Color Code for Construction Staking**

Type of Stake	Description	Color*
Horizontal Control	Coordinated control points, control lines, control reference points, centerline, alignments, etc.	White/Red
Vertical Control	Bench marks	White/Orange
Clearing	Limits of clearing	Yellow/Black
Grading	Slope, intermediate slope, abutment fill, rough grade, contour grading, final grade, etc.	Yellow
Structure	Bridges, sound and retaining walls, box culverts, etc.	White
Drainage, Sewer, Curb	Pipe culverts, junction boxes, drop inlets, headwalls, sewer lines, storm drains, slope protection, curbs, gutters, etc.	Blue
Right-of-Way	Fences, R/ W lines, easements, property monuments, etc.	White/Yellow
Miscellaneous	Signs, railings, barriers, lighting, etc.	Orange

* Flagging and marking cards, if used.

2-9.2.3 Payment for Survey, Payment for work performed to satisfy the requirements of Sections 2-9.1 through 2-9.2.2 shall be included in the actual bid items requiring the survey work and no additional payment will be made. Extension of unit prices for extra work shall include full compensation for attendant survey work and no additional payment will be made. Payment for the replacement of disturbed monuments and the filing of records of survey and/or corner records, including filing fees, shall be incidental to the work necessitating the disturbance of said monuments and no additional payment will be made.

2-9.3 Private Engineers. Surveying by private engineers on the Work shall conform to the quality and practice required by the Engineer.

2-9.4 Line and Grade. All work shall conform to the lines, elevations, and grades shown on the Plans.

Three consecutive points set on the same slope shall be used together so that any variation from a straight grade can be detected. Any such variation shall be reported to the Engineer. In the absence of such report, the Contractor shall be responsible for any error in the grade of the finished work.

Grades for underground conduits will be set at the surface of the ground. The Contractor shall transfer them to the bottom of the trench.

2-10 AUTHORITY OF BOARD AND ENGINEER. The Board has the final authority in all matters affecting the Work. Within the scope of the Contract, the Engineer has the authority to enforce compliance with the Plans and Specifications. The Contractor shall promptly comply with instructions from the Engineer or an authorized representative.

The decision of the Engineer is final and binding on all questions relating to: quantities; acceptability of material, equipment, or work; execution, progress or sequence of work; and interpretation of the Plans, Specifications, or other drawings. This shall be precedent to any payment under the Contract, unless otherwise ordered by the Board.



2-10.1 Availability of Records, The Contractor shall, at no charge to the Agency, provide copies of all records in the Contractor's or subcontractor's possession pertaining to the work that the Engineer may request.

2-10.2 Audit And Inspection, Contractor agrees to maintain and/or make available, to the Engineer, within San Diego County, accurate books and accounting records relative to all its activities and to contractually require all subcontractors to this Contract to do the same. The Engineer shall have the right to monitor, assess, and evaluate Contractor's and its subcontractors performance pursuant to this Agreement, said monitoring, assessments, and evaluations to include, but not be limited to, audits, inspection of premises, reports, contracts, subcontracts and interviews of Contractor's staff and the staff of all subcontractors to this contract. At any time during normal business hours and as often as the Engineer may deem necessary, upon reasonable advance notice, Contractor shall make available to the Engineer for examination, all of its, and all subcontractors to this contract, records with respect to all matters covered by this Contract and will permit the Engineer to audit, examine, copy and make excerpts or transcripts from such data and records, and to make audits of all invoices, materials, payrolls, records of personnel, and other data relating to all matters covered by this Contract. However, any such activities shall be carried out in a manner so as to not unreasonably interfere with Contractor's ongoing business operations. Contractor and all subcontractors to this contract shall maintain such data and records for as long as may be required by applicable laws and regulations.

2-11 INSPECTION. The Work is subject to inspection and approval by the Engineer. The Contractor shall notify the Engineer before noon of the working day before inspection is required. Work shall be done only in the presence of the Engineer, unless otherwise authorized. Any work done without proper inspection will be subject to rejection. The Engineer and any authorized representatives shall at all times have access to the Work during its construction at shops and yards as well as the project site. The Contractor shall provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with these specifications. Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all conditions of the Contract.



SECTION 3 – CHANGES IN WORK

3-1 CHANGES REQUESTED BY THE CONTRACTOR.

3-1.1 General. Changes in the Plans and Specifications, requested in writing by the Contractor, which do not materially affect the Work and which are not detrimental to the Work or to the interests of the Agency, may be granted by the Engineer. Nothing herein shall be construed as granting a right to the Contractor to demand acceptance of such changes.

3-1.2 Payment for Changes Requested by the Contractor. If such changes are granted, they shall be made at a reduction in cost or no additional cost to the Agency.

3-2 CHANGES INITIATED BY THE AGENCY.

3-2.1 General. The Agency may change the Plans, Specifications, character of the work, or quantity of work provided the total arithmetic dollar value of all such changes, both additive and deductive, does not exceed 25 percent of the Contract Price. Should it become necessary to exceed this limitation, the change shall be by written Supplemental Agreement between the Contractor and Agency, unless both parties agree to proceed with the change by Change Order.

Change Orders shall be in writing and state the dollar value of the change or established method of payment, any adjustment in contract time of completion, and when negotiated prices are involved, shall provide for the Contractor's signature indicating acceptance.

3-2.2 Payment.

3-2.2.1 Contract Unit Prices. If a change is ordered in an item of work covered by a Contract Unit Price, and such change does not involve substantial change in character of the work from that shown on the Plans or specified in the Specifications, then an adjustment in payment will be made. This adjustment will be based upon the increase or decrease in quantity and the Contract Unit Price.

If the actual quantity of an item of work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications varies from the Bid quantity by 50 percent or less, payment will be made at the Contract Unit Price. If the actual quantity of said item of work varies from the Bid quantity by more than 50 percent, payment will be made per Section 3-2.2.2 or 3-2.2.3 as appropriate.

If a change is ordered in an item of work covered by a Contract Unit Price, and such change does involve a substantial change in the character of the work from that shown on the Plans or specified in the Specifications, an adjustment in payment will be made per Section 3-2.4.

3-2.2.2 Increases of More Than 50 Percent. Should the actual quantity of an item of work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications, exceed the Bid quantity by more than 50 percent, payment for the quantity in excess of 150 percent of the Bid quantity will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the Contractor and the Agency, or at the option of the Engineer, on the basis of Extra Work per Section 3-3. The Extra Work per Section 3-3, basis of payment, shall not include fixed costs. Fixed costs shall be deemed to have been recovered by the Contractor through payment for 150 percent of the Bid quantity at the Contract Unit Price.



3-2.2.3 Decreases of More Than 50 Percent. Should the actual quantity of an item of work covered by a Contract Unit Price, and constructed in conformance with the Plans and Specifications, be less than 50 percent of the Bid quantity, an adjustment in payment will not be made unless so requested in writing by the Contractor. If the Contractor so requests, payment will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the Contractor and the Agency, or at the option of the Engineer, on the basis of Extra Work per Section 3-3; however, in no case will payment be less than would be made for the actual quantity at the Contract Unit Price nor more than would be made for 50 percent of the Bid quantity at the Contract Unit Price.

3-2.3 Stipulated Unit Prices. Stipulated Unit Prices are unit prices established by the Agency in the Contract Documents as distinguished from Contract Unit Prices submitted by the Contractor. Stipulated Unit Prices may be used for the adjustment of Contract changes when so specified in the Special Provisions.

3-2.4 Agreed Prices. Agreed Prices are prices for new or unforeseen work, or adjustments in Contract Unit Prices per Section 3-2.2, established by mutual agreement between the Contractor and the Agency. If mutual agreement cannot be reached, the Engineer may direct the Contractor to proceed on the basis of Extra Work in accordance per Section 3-3, except as otherwise specified in Sections 3-2.2.2 and 3-2.2.3.

3.2.4.1 Schedule of Values. Prior to construction, Contractor shall provide a schedule of values for all lump sum bid items that shall be used for the purpose of progress payments. The prices shall be valid for the purpose of change orders to the project.

3.2.5 Eliminated Items. Should any Bid item be eliminated in its entirety, payment will be made to the Contractor for its actual costs incurred in connection with the eliminated item prior to notification in writing from the Engineer so stating its elimination. If material conforming to the Plans and Specifications is ordered by the Contractor for use in the eliminated item prior to the date of notification of elimination by the Engineer, and if the order for that material cannot be canceled, payment will be made to the Contractor for the actual cost of the material. In this case, the material shall become the property of the Agency. Payment will be made to the Contractor for its actual costs for any further handling. If the material is returnable, the material shall be returned and payment will be made to the Contractor for the actual cost of charges made by the supplier for returning the material and for handling by the Contractor. Actual costs, as used herein, shall be computed on the basis of Extra Work per Section 3-3.

3-3 EXTRA WORK.

3-3.1 General. New or unforeseen work will be classified as “extra work” when the Engineer determines that it is not covered by Contract Unit Prices or stipulated unit prices.

3-3.2 Payment.

3-3.2.1 General. When the price for the extra work cannot be agreed upon, the Agency will pay for the extra work based on the accumulation of costs as provided herein.

3-3.2.2 Basis for Establishing Costs.

(a) **Labor.** The costs of labor will be the actual cost for wages of workers performing the extra work at the time the extra work is done, plus employer payments of payroll taxes, workers



compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs, resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements.

The use of a labor classification which would increase the extra work cost will not be permitted unless the Contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental. The labor cost for foremen shall be proportioned to all of their assigned work and only that applicable to extra work will be paid.

Nondirect labor costs, including superintendence, shall be considered part of the markup of Section 3-3.2.3 (a).

(b) **Materials.** The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available and delivered to the job site in the quantities involved, plus sales tax, freight, and delivery.

The Agency reserves the right to approve materials and sources of supply, or to supply materials to the Contractor if necessary for the progress of the Work. No markup shall be applied to any material provided by the Agency.

(c) **Tool and Equipment Rental.** No payment will be made for the use of tools which have a replacement value of \$200 or less.

Regardless of ownership, the rates and right-of-way delay factors to be used in determining rental and delay costs shall be the edition of the, "Labor Surcharge and Equipment Rental Rates" published by CALTRANS, current at the time of the actual use of the tool or equipment. The right-of-way delay factors therein shall be used as multipliers of the rental rates for determining the value of costs for delay to the Contractor and subcontractors, if any. The labor surcharge rates published therein are not a part of this contract.

The rental rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Necessary loading and transportation costs for equipment used on the extra work shall be included.

If equipment is used intermittently and, when not in use, could be returned to its rental source at less expense to the Agency than holding it at the Work site, it shall be returned, unless the Contractor elects to keep it at the Work site, at no expense to the Agency.

All equipment shall be acceptable to the Engineer, in good working condition, and suitable for the purpose for which it is to be used. Manufacturer's ratings and approved modifications shall be used to classify equipment and it shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

The reported rental time for equipment already at the Work site shall be the duration of its use on the extra work. This time begins when equipment is first put into actual operation on the extra work, plus the time required to move it from its previous site and back, or to a closer site.

(d) **Other Items.** The Agency may authorize other items which may be required on the extra work, including labor, services, material, and equipment. These items must be different in their



nature from those required for the Work, and be of a type not ordinarily available from the Contractor or Subcontractors.

Invoices covering all such items in detail shall be submitted with the request for payment.

(e) **Invoices.** Vendors' invoices for material, equipment rental and other expenditures shall be submitted with the request for payment. If the request for payment is not substantiated by invoices or other documentation, the Agency may establish the cost of the item involved at the lowest price which was current at the time of the report.

3-3.2.3 Markup.

(a) **Work by Contractor.** The following percentages shall be added to the Contractor's costs and shall constitute the markup for all overhead and profits:

- 1) Labor 20
- 2) Materials 15
- 3) Equipment Rental 15
- 4) Other Items and Expenditures .. 15

To the sum of the costs and markups provided for in this section, 1 percent shall be added as compensation for bonding.

(b) **Work by Subcontractor.** When all or any part of the extra work is performed by a Subcontractor, the markup established in Section 3-3.2.3(a) shall be applied to the Subcontractor's actual cost of such work. A markup of 10 percent on the first \$5,000 of the subcontracted portion of the extra work and a markup of 5 percent on work added in excess of \$5,000 of the subcontracted portion of the extra work may be added by the Contractor.

3-3.3 Daily Reports by Contractor. When the price for the extra work cannot be agreed upon, the Contractor shall submit a daily report to the Engineer on forms approved by the Agency. Included are applicable delivery tickets, listing all labor, materials, and equipment involved for that day, and other services and expenditures when authorized. Payment for extra work will not be made until such time that the Contractor submits completed daily reports and all supporting documents to the Engineer. Failure to submit the daily report by the close of the next working day may waive any rights for that day. An attempt shall be made to reconcile the report daily, and it shall be signed by the Engineer and the Contractor. In the event of disagreement, pertinent notes shall be entered by each party to explain points which cannot be resolved immediately. Each party shall retain a signed copy of the report. Reports by Subcontractors or others shall be submitted through the Contractor.



The report shall:

1. Show names of workers, classifications, and hours worked.
2. Describe and list quantities of materials used.
3. Show type of equipment, size, identification number, and hours of operation, including loading and transportation, if applicable.
4. Describe other services and expenditures in such detail as the Agency may require.

3-4 CHANGED CONDITIONS. The Contractor shall promptly notify the Engineer of the following Work site conditions (hereinafter called changed conditions), in writing, upon their discovery and before they are disturbed:

1. Subsurface or latent physical conditions differing materially from those represented in the Contract;
2. Unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character being performed; and
3. Material differing from that represented in the Contract which the Contractor believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

The Engineer will promptly investigate conditions which appear to be changed conditions. If the Engineer determines that conditions are changed conditions and they will materially affect performance time, the Contractor, upon submitting a written request, will be granted an extension of time subject to the provisions of 6-6.

If the Engineer determines that the conditions do not justify an adjustment in compensation, the Contractor will be notified in writing. This notice will also advise the Contractor of its obligation to notify the Engineer in writing if the Contractor disagrees.

The Contractor's failure to give notice of changed conditions promptly upon their discovery and before they are disturbed shall constitute a waiver of all claims in connection therewith.

The Contractor shall not be entitled to the payment of any additional compensation for any act, or failure to act, by the Engineer, including failure or refusal to issue a change order, or for the happening of any event, thing, occurrence, or other cause, unless the Contractor shall have first given the Engineer due written notice of potential claim as hereinafter specified. Compliance with this section shall not be required as a prerequisite to notice provisions in Section 6-7.3 Contract Time Accounting, nor to any claim that is based on differences in measurement or errors of computation as to contract quantities. The written notice of potential claim for changed conditions shall be submitted by the Contractor to the Engineer upon their discovery and prior to the time that the Contractor performs the work giving rise to the potential claim. The Contractor's failure to give written notice of potential claim for changed conditions to the agency upon their discovery and before they are disturbed shall constitute a waiver of all claims in connection therewith.



The Contractor shall provide the City with a written document containing a description of the particular circumstances giving rise to the potential claim, the reasons for which the Contractor believes additional compensation may be due and nature of any and all costs involved within 20 working days of the date of service of the written notice of potential claim for changed conditions. Verbal notifications are disallowed.

The potential claim shall include the following certification relative to the California False Claims Act, Government Code Sections 12650-12655.

“The undersigned certifies that the above statements are made in full cognizance of the California False Claims Act, Government Code Sections 12650-12655. The undersigned further understands and agrees that this potential claim, unless resolved, must be restated as a claim in response to the City’s proposed final estimate in order for it to be further considered.”

By: _____ Title: _____

Date: _____

Company Name: _____

The Contractor’s estimate of costs may be updated when actual costs are known. The Contractor shall submit substantiation of its actual costs to the Engineer within 20 working days after the affected work is completed. Failure to do so shall be sufficient cause for denial of any claim subsequently filed on the basis of said notice of potential claim.

It is the intention of this section that differences between the parties arising under and by virtue of the contract be brought to the attention of the Engineer at the earliest possible time in order that such matters be settled, if possible, or other appropriate action promptly taken.

3-5 DISPUTED WORK. The Contractor shall give the agency written notice of potential claim prior to commencing any disputed work. Failure to give said notice shall constitute a waiver of all claims in connection therewith. If the contractor and the agency are unable to reach agreement on disputed work, the Agency may direct the contractor to proceed with the work.

Prior to proceeding with dispute resolution pursuant to Public Contract Code provisions specified hereinafter, the contractor shall attempt to resolve all disputes informally through the following dispute resolution chain of command:

1. Project Inspector
2. Construction Manager
3. Deputy City Engineer, Construction Management & Inspection
4. City Engineer
5. City Manager



The Contractor shall submit a complete report within 20 working days after completion of the disputed work stating its position on the claim, the contractual basis for the claim, along with all documentation supporting the costs and all other evidentiary materials. At each level of claim or appeal of claim the City will, within 10 working days of receipt of said claim or appeal of claim, review the Contractor's report and respond with a position, request additional information or request that the Contractor meet and present its report. When additional information or a meeting is requested the City will provide its position within 10 working days of receipt of said additional information or Contractor's presentation of its report. The Contractor may appeal each level's position up to the City Manager after which the Contractor may proceed under the provisions of the Public Contract Code.

The authority within the dispute resolution chain of command is limited to recommending a resolution to a claim to the City Manager. Actual approval of the claim is subject to the change order provisions in the contract.

All claims by the -Contractor shall be resolved in accordance with Public Contract Code section 9204, which is set forth below:

9204. (a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3) (A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.



(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d) (1) (A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2) (A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or



board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

(f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

(g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2020, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2020, deletes or extends that date.

In addition, all claims by Contractor for \$375,000 or less shall be resolved in accordance with the procedures in the Public Contract Code, Division 2, Part 3, Chapter 1, Article 1.5



(commencing with Section 20104) which is set forth below

ARTICLE 1.5 RESOLUTION OF CONSTRUCTION CLAIMS

20104. (a)(1) This article applies to all public works claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a contractor and a local agency.

(2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.

(b)(1) "Public work" has the same meaning as in Sections 3100 and 3106 of the Civil Code, except that "public work" does not include any work or improvement contracted for by the state or the Regents of the University of California.

(2) "Claim" means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.

(c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.

(d) This article applies only to contracts entered into on or after January 1, 1991.

20104.2. For any claim subject to this article, the following requirements apply:

(a) The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.

(b)(1) For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.



(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

(c)(1) For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.

(d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

(f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

20104.4. The following procedures are established for all civil actions filed to resolve claims subject to this article:

(a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

(b)(1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil procedure) shall apply to any proceeding brought under the subdivision consistent with the rules pertaining to judicial arbitration.



(2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

(3) In addition to Chapter 2.5 (commencing with Section 1141.10) Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

(c) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

20104.6. (a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.

(b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

Although not to be construed as proceeding under extra work provisions, the Contractor shall keep and furnish records of disputed work in accordance with Section 3-3.



SECTION 4 – CONTROL OF MATERIALS

4-1 MATERIALS AND WORKMANSHIP.

4-1.1. General. All materials, parts, and equipment furnished by the Contractor in the Work shall be new, high grade, and free from defects. Quality of work shall be in accordance with the generally accepted standards. Material and work quality shall be subject to the Engineer's approval.

Materials and work quality not conforming to the requirements of the Specifications shall be considered defective and will be subject to rejection. Defective work or material, whether in place or not, shall be removed immediately from the site by the Contractor, at its expense, when so directed by the Engineer.

If the Contractor fails to replace any defective or damaged work or material after reasonable notice, the Engineer may cause such work or materials to be replaced. The replacement expense will be deducted from the amount to be paid to the Contractor.

Used or secondhand materials, parts, and equipment may be used only if permitted by the Specifications.

4-1.2 Protection of Work and Materials. The Contractor shall provide and maintain storage facilities and employ such measures as will preserve the specified quality and fitness of materials to be used in the Work. Stored materials shall be reasonably accessible for inspection. The Contractor shall also adequately protect new and existing work and all items of equipment for the duration of the Contract.

The Contractor shall not, without the Agency's consent, assign, sell, mortgage, hypothecate, or remove equipment or materials which have been installed or delivered and which may be necessary for the completion of the Contract.

4-1.3 Inspection Requirements.

4-1.3.1 General. Unless otherwise specified, inspection is required at the source for such typical materials and fabricated items as bituminous paving mixtures, structural concrete, metal fabrication, metal casting, welding, concrete pipe manufacture, protective coating application, and similar shop or plant operations.

Steel pipe in sizes less than 18 inches and vitrified clay and cast iron pipe in all sizes are acceptable upon certification as to compliance with the Specifications, subject to sampling and testing by the Agency. Standard items of equipment such as electric motors, conveyors, elevators, plumbing fixtures, etc., are subject to inspection at the job site only. Special items of equipment such as designed electrical panel boards, large pumps, sewage plant equipment, etc., are subject to inspection at the source, normally only for performance testing. The Specifications may require inspection at the source for other items not typical of those listed in this section.

The Contractor shall provide the Engineer free and safe access to any and all parts of work at any time. Such free and safe access shall include means of safe access and egress, ventilation, lighting, shoring, dewatering and all elements pertaining to the safety of persons as contained in



the State of California, California Code of Regulations, Title 8, Industrial Relations, Chapter 4, Division of Industrial Safety, Subchapter 4, Construction Safety Orders and such other safety regulations as may apply. Contractor shall furnish Engineer with such information as may be necessary to keep the Engineer fully informed regarding progress and manner of work and character of materials. Inspection or testing of the whole or any portion of the work or materials incorporated in the work shall not relieve Contractor from any obligation to fulfill this Contract.

4-1.3.2 Inspection of Materials Not Locally Produced. When the Contractor intends to purchase materials, fabricated products, or equipment from sources located more than 50 miles outside the geographical limits of the Agency, an inspector or accredited testing laboratory (approved by the Engineer), shall be engaged by the Contractor at its expense, to inspect the materials, equipment or process. This approval shall be obtained before producing any material or equipment. The inspector or representative of the testing laboratory shall judge the materials by the requirements of the Plans and Specifications. The Contractor shall forward reports required by the Engineer. No material or equipment shall be shipped nor shall any processing, fabrication or treatment of such materials be done without proper inspection by the approved agent. Approval by said agent shall not relieve the Contractor of responsibility for complying with the Contract requirements.

4-1.3.3 Inspection by the Agency. The Agency will provide all inspection and testing laboratory services within 50 miles of the geographical limits of the Agency. For private contracts, all costs of inspection at the source, including salaries and mileage costs, shall be paid by the permittee.

4-1.4 Test of Material. Before incorporation in the Work, the Contractor shall submit samples of materials, as the Engineer may require, at no cost to the Agency. The Contractor, at its expense, shall deliver the materials for testing to the place and at the time designated by the Engineer. Unless otherwise provided, all initial testing will be performed under the direction of the Engineer, and at no expense to the Contractor. If the Contractor is to provide and pay for testing, it will be stated in the Specifications. For private contracts, the testing expense shall be borne by the permittee.

The Contractor shall notify the Engineer in writing, at least 15 days in advance, of its intention to use materials for which tests are specified, to allow sufficient time to perform the tests. The notice shall name the proposed supplier and source of material.

If the notice of intent to use is sent before the materials are available for testing or inspection, or is sent so far in advance that the materials on hand at the time will not last but will be replaced by a new lot prior to use on the Work, it will be the Contractor's responsibility to renotify the Engineer when samples which are representative may be obtained.

Except as specified in these Provisions, the Agency will bear the cost of testing of locally produced materials and/or on-site workmanship where the results of such tests meet or exceed the requirements indicated in the Standard Specifications, Technical Specification, and any Supplemental Provisions. The cost of all other tests shall be borne by the Contractor.

At the option of the Engineer, the source of supply of each of the materials shall be approved by the Engineer before the delivery is started. All materials proposed for use may be inspected or tested at any time during their preparation and use. If, after incorporating such materials into the Work, it is found that sources of supply that have been approved do not furnish a uniform product, or if the product from any source proves unacceptable at any time, the Contractor shall



furnish approved material from other approved sources. If any product proves unacceptable after improper storage, handling or for any other reason it shall be rejected, not incorporated into the work and shall be removed from the project site all at the Contractor's expense.

Compaction tests may be made by the Engineer and all costs for tests that meet or exceed the requirements of the specifications shall be borne by the Agency. Said tests may be made at any place along the work as deemed necessary by the Engineer. The costs of any retests made necessary by noncompliance with the specifications shall be borne by the Contractor.

4-1.5 Certification. The Engineer may waive materials testing requirements of the Specifications and accept the manufacturer's written certification that the materials to be supplied meet those requirements. Material test data may be required as part of the certification.

4-1.6 Trade Names or Equals. The Contractor may supply any of the materials specified or offer an equivalent. The Engineer shall determine whether the material offered is equivalent to that specified. Adequate time shall be allowed for the Engineer to make this determination.

Whenever any particular material, process, or equipment is indicated by patent, proprietary or brand name, or by name of manufacturer, such wording is used for the purpose of facilitating its description and shall be deemed to be followed by the words **or equal**. A listing of materials is not intended to be comprehensive, or in order of preference. The Contractor may offer any material, process, or equipment considered to be equivalent to that indicated. The substantiation of offers shall be submitted as provided in the contract documents.

The Contractor shall, at its expense, furnish data concerning items offered by it as equivalent to those specified. The Contractor shall have the material tested as required by the Engineer to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the item will fulfill its intended function.

Test methods shall be subject to the approval of the Engineer. Test results shall be reported promptly to the Engineer, who will evaluate the results and determine if the substitute item is equivalent. The Engineer's findings shall be final. Installation and use of a substitute item shall not be made until approved by the Engineer.

If a substitute offered by the Contractor is not found to be equal to the specified material, the Contractor shall furnish and install the specified material.

The specified Contract completion time shall not be affected by any circumstance developing from the provisions of this section.

The Contractor is responsible for the satisfactory performance of substituted items. If, in the sole opinion of the Engineer, the substitution is determined to be unsatisfactory in performance, appearance, durability, compatibility with associated items, availability of repair parts and suitability of application the Contractor shall remove the substituted item and replace it with the originally specified item at no cost to the Agency.

4-1.7 Weighing and Metering Equipment. All scales and metering equipment used for proportioning materials shall be inspected for accuracy and certified within the past 12 months by the State of California Bureau of Weights and Measures, by the County Director or Sealer of Weights and Measures, or by a scale mechanic registered with or licensed by the County.



The accuracy of the work of a scale service agency, except as stated herein, shall meet the standards of the California Business and Professions Code and the California Code of Regulations pertaining to weighing devices. A certificate of compliance shall be presented, prior to operation, to the Engineer for approval and shall be renewed whenever required by the Engineer at no cost to the Agency.

All scales shall be arranged so they may be read easily from the operator's platform or area. They shall indicate the true net weight without the application of any factor. The figures of the scales shall be clearly legible. Scales shall be accurate to within 1 percent when tested with the plant shut down. Weighing equipment shall be so insulated against vibration or moving of other operating equipment in the plant area that the error in weighing with the entire plant running will not exceed 2 percent for any setting nor 1.5 percent for any batch.

4-1.8 Calibration of Testing Equipment. Testing equipment, such as, but not limited to pressure gages, metering devices, hydraulic systems, force (load) measuring instruments, and strain-measuring devices shall be calibrated by a testing agency acceptable to the Engineer at intervals not to exceed 12 months and following repairs, modification, or relocation of the equipment. Calibration certificates shall be provided when requested by the Engineer.

4-1.9 Construction Materials Dispute Resolution (Soils, Rock Materials, Concrete, Mortar and Related Materials, Masonry Materials, Bituminous Materials, Rock Products, and Modified Asphalts). In the interest of safety and public value, whenever credible evidence arises to contradict the test values of materials, the Agency and the Contractor will initiate an immediate and cooperative investigation. Test values of materials are results of the materials' tests, as defined by these Specifications or by the special provisions, required to accept the Work. Credible evidence is process observations or test values gathered using industry accepted practices. A contradiction exists whenever test values or process observations of the same or similar materials are diverse enough such that the work acceptance or performance becomes suspect. The investigation shall allow access to all test results, procedures, and facilities relevant to the disputed work and consider all available information and, when necessary, gather new and additional information in an attempt to determine the validity, the cause, and if necessary, the remedy to the contradiction. If the cooperative investigation reaches any resolution mechanism acceptable to both the Agency and the Contractor, the contradiction shall be considered resolved and the cooperative investigation concluded. Whenever the cooperative investigation is unable to reach resolution, the investigation may then either conclude without resolution or continue by written notification of one party to the other requesting the implementation of a resolution process by committee. The continuance of the investigation shall be contingent upon recipient's agreement and acknowledged in writing within 3 calendar days after receiving a request. Without acknowledgement, the investigation shall conclude without resolution. The committee shall consist of three State of California Registered Civil Engineers. Within 7 calendar days after the written request notification, the Agency and the Contractor will each select one engineer. Within 14 calendar days of the written request notification, the two selected engineers will select a third engineer. The goal in selection of the third member is to complement the professional experience of the first two engineers. Should the two engineers fail to select the third engineer, the Agency and the Contractor shall each propose 2 engineers to be the third member within 21 calendar days after the written request notification. The first two engineers previously selected shall then select one of the four proposed engineers in a blind draw. The committee shall be a continuance of the cooperative investigation and will re-consider all available information and if necessary gather new and additional information to determine the validity, the cause, and if necessary, the remedy to the contradiction. The committee will focus upon the performance adequacy of the material(s) using standard engineering principles and practices and to ensure public value, the committee may provide engineering recommendations as necessary. Unless otherwise agreed, the committee will have 30 calendar days from its formation to complete their review and submit their findings. The final resolution of the committee shall be by majority opinion, in writing, stamped and



signed. Should the final resolution not be unanimous, the dissenter may attach a written, stamped, and signed minority opinion. Once started, the resolution process by committee shall continue to full conclusion unless:

1. Within 7 days of the formation of the committee, the Agency and the Contractor reach an acceptable resolution mechanism; or
2. Within 14 days of the formation of the committee, the initiating party withdraws its written notification and agrees to bear all investigative related costs thus far incurred; or
3. At any point by the mutual agreement of the Agency and the Contractor. Unless otherwise agreed, the Contractor shall bear and maintain a record for all the investigative costs until resolution. Should the investigation discover assignable causes for the contradiction, the assignable party, the Agency or the Contractor, shall bear all costs associated with the investigation. Should assignable causes for the contradiction extended to both parties, the investigation will assign costs cooperatively with each party or when necessary, equally. Should the investigation substantiate a contradiction without assignable cause, the investigation will assign costs cooperatively with each party or when necessary, equally. Should the investigation be unable to substantiate a contradiction, the initiator of the investigation shall bear all investigative costs. All claim notification requirements of the contract pertaining to the contradiction shall be suspended until the investigation is concluded.

4-2 MATERIALS TRANSPORTATION, HANDLING AND STORAGE.

The Contractor shall order, purchase, transport, coordinate delivery, accept delivery, confirm the quantity and quality received, prepare storage area(s), store, handle, protect, move, relocate, remove and dispose excess of all materials used to accomplish the Work. Materials shall be delivered to the site of the work only during working hours, as defined in Section 6-7.2, and shall be accompanied by bills of lading that shall clearly state for each delivery: the name of the Contractor as consignee, the project name and number, address of delivery and name of consignor and a description of the material(s) shipped. Prior to storage of any materials which have been shipped to or by the Contractor to any location within the Agency's boundaries the Contractor shall provide the Engineer a copy of lease agreements for each property where such materials are stored. The lease agreement shall clearly state the term of the lease, the description of materials allowed to be stored and shall provide for the removal of the materials and restoration of the storage site within the time allowed for the Work. All such storage shall conform to all laws and ordinances that may pertain to the materials stored and to preparation of the storage site and the location of the site on which the materials are stored. Loss, damage or deterioration of all stored materials shall be the Contractor's responsibility. Conformance to the requirements of this section, both within and outside the limits of work are a part of the Work. The Engineer shall have the right to verify the suitability of materials and their proper storage at any time during the Work.

SECTION 5 – UTILITIES

5-1 LOCATION. The Agency and affected utility companies have, by a search of known records, endeavored to locate and indicate on the Plans, all utilities which exist within the limits of the work. However, the accuracy and/or completeness of the nature, size and/or location of utilities indicated on the Plans is not guaranteed.

Where underground main distribution conduits such as water, gas, sewer, electric power, telephone, or cable television are shown on the Plans, the Contractor shall assume that every property parcel will be served by a service connection for each type of utility.



As provided in Section 4216 of the California Government Code, at least 2 working days prior to commencing any excavation, the Contractor shall contact the regional notification center (Underground Service Alert of Southern California) and obtain an inquiry identification number.

The California Department of Transportation is not required by Section 4216 to become a member of the regional notification center. The Contractor shall contact it for location of its subsurface installations.

The Contractor shall determine the location and depth of all utilities, including service connections, which have been marked by the respective owners and which may affect or be affected by its operations. If no pay item is provided in the Contract for this work, full compensation for such work shall be considered as included in the prices bid for other items of work.

5-2 PROTECTION. The Contractor shall not interrupt the service function or disturb the support of any utility without authority from the owner or order from the Agency. All valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.

Where protection is required to ensure support of utilities located as shown on the Plans or in accordance with Section 5-1, the Contractor shall, unless otherwise provided, furnish and place the necessary protection at its expense.

Upon learning of the existence and location of any utility omitted from or shown incorrectly on the Plans, the Contractor shall immediately notify the Engineer in writing. When authorized by the Engineer, support or protection of the utility will be paid for as provided in Section 3-2.2.3 or 3-3.

The Contractor shall immediately notify the Engineer and the utility owner if any utility is disturbed or damaged. The Contractor shall bear the costs of repair or replacement of any utility damaged if located as noted in Section 5-1.

When placing concrete around or contiguous to any non-metallic utility installation, the Contractor shall at its expense:

1. Furnish and install a 2 inch cushion of expansion joint material or other similar resilient material; or
2. Provide a sleeve or other opening which will result in a 2 inch minimum-clear annular space between the concrete and the utility; or
3. Provide other acceptable means to prevent embedment in or bonding to the concrete.

Where concrete is used for backfill or for structures which would result in embedment, or partial embedment, of a metallic utility installation; or where the coating, bedding or other cathodic protection system is exposed or damaged by the Contractor's operations, the Contractor shall notify the Engineer and arrange to secure the advice of the affected utility owner regarding the procedures required to maintain or restore the integrity of the system.

5-5 DELAYS. The Contractor shall notify the Engineer of its construction schedule insofar as it affects the protection, removal, or relocation of utilities. Said notification shall be included as a part of the construction schedule required in Section 6-1. The Contractor shall notify the



Engineer in writing of any subsequent changes in the construction schedule which will affect the time available for protection, removal, or relocation of utilities.

The Contractor will not be entitled to damages or additional payment for delays attributable to utility relocations or alterations if correctly located, noted, and completed in accordance with Section 5-1.

The Contractor may be given an extension of time for unforeseen delays attributable to unreasonably protracted interference by utilities in performing work correctly shown on the Plans.

The Agency will assume responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities within the area affected by the Work if such utilities are not identified in the Contract Documents. The Contractor will not be assessed liquidated damages for any delay caused by failure of Agency to provide for the timely removal, relocation, or protection of such existing facilities.

If the Contractor sustains loss due to delays attributable to interferences, relocations, or alterations not covered by Section 5-1, which could not have been avoided by the judicious handling of forces, equipment, or plant, there shall be paid to the Contractor such amount as the Engineer may find to be fair and reasonable compensation for such part of the Contractor's actual loss as was unavoidable and the Contractor may be granted an extension of time.

5-6 COOPERATION. When necessary, the Contractor shall so conduct its operations as to permit access to the Work site and provide time for utility work to be accomplished during the progress of the Work.



SECTION 6 – PROSECUTION, PROGRESS, AND ACCEPTANCE OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK. Except as otherwise provided herein and unless otherwise prohibited by permits from other agencies as may be required by law the Contractor shall begin work within 7 calendar days after receipt of the "Notice to Proceed".

6-1.1 Pre-Construction Meeting. After, or upon, notification of contract award, the Engineer will set the time and location for the Preconstruction Meeting. Attendance of the Contractor's management personnel responsible for the management, administration, and execution of the project is mandatory for the meeting to be convened. Failure of the Contractor to have the Contractor's responsible project personnel attend the Preconstruction Meeting will be grounds for default by Contractor per Section 6-4. No separate payment will be made for the Contractor's attendance at the meeting. The notice to proceed will only be issued on or after the completion of the preconstruction meeting.

6-1.1.1 Baseline Construction Schedule Submittal. The Contractor shall submit the Baseline Construction Schedule per the submittal requirements of Section 2-5.3. The submittal of the Baseline Construction Schedule shall include each item and element of Sections 6-1.2 through 6-1.2.9 and shall be on hard (paper) copy and electronic media conforming to Section 6-1.3.3 Electronic Media.

6-1.2 Preparation and Review of the Baseline Construction Schedule. The Contractor shall prepare the Baseline Construction Schedule as a Critical Path Method (CPM) Schedule in the precedence diagram method (activity-on-node) format. The Baseline Construction Schedule shall depict a workable plan showing the sequence, duration, and interdependence of all activities required to represent the complete performance of all project work as well as periods where work is precluded. The Baseline Construction Schedule shall begin with the projected date of issuance of the notice to proceed and conclude with the date of final completion per the contract duration. The Baseline Construction Schedule shall include detail of all project phasing, staging, and sequencing, including all milestones necessary to define beginning and ending of each phase or stage.

6-1.2.1 Time-Scaled Network Diagram. As a part of the Baseline Construction Schedule the Contractor shall prepare and submit to the Engineer a complete time-scaled network diagram showing all of the activities, logic relationships, and milestones comprising the schedule.

6-1.2.2 Tabular Listing. As a part of the Baseline Construction Schedule the Contractor shall prepare and submit to the Engineer a tabular listing of all of the activities, showing for each activity the identification number, the description, the duration, the early start, the early finish, the late start, the late finish, the total float, and all predecessor and successor activities for the activity described.

6-1.2.3 Bar Chart. As a part of the Baseline Construction Schedule the Contractor shall prepare and submit to the Engineer a chart showing individual tasks and their durations arranged with the tasks on the vertical axis and duration on the horizontal axis. The bar chart shall use differing texture patterns or distinctive line types to show the critical path.

6-1.2.4 Schedule Software. The Contractor shall use commercially available software equal to the Windows 2000 compatible "Suretrak" program by Primavera or "Project" program by



Microsoft Corporation to prepare the Baseline Construction Schedule and all updates thereto. The Contractor shall submit to the Agency a CD-ROM data disk with all network information contained thereon, in a format readable by a Microsoft Windows 2000 system. The Agency will use a "Suretrak", "Project" or equal software program for review of the Contractor's schedule. Should the Contractor elect to use a scheduling program other than the "Suretrak" program by Primavera or "Project" program by Microsoft Corporation the Contractor shall provide the Engineer three copies of the substituted program that are fully licensed to the Agency and 32 class hours of on-site training by the program publisher for up to eight Agency staff members. The classes shall be presented on Mondays through Thursdays, inclusive, between the hours of 8:00 a.m. and 5:00 p.m. The on-site training shall be held at 1635 Faraday Avenue, Carlsbad, California. The dates and times of the on-site training shall be submitted to the Engineer for approval five working days before the start of the on-site training. The on-site training shall be completed prior to the submittal of the first Baseline Construction Schedule.

6-1.2.5 Schedule Activities. Except for submittal activities, activity durations shall not be shorter than 1 working day nor longer than 15 working days, unless specifically and individually allowed by the Engineer. The Baseline Construction Schedule shall include between 100 and 500 activities, including submittals, interfaces between utility companies and other agencies, project milestones and equipment and material deliveries. The number of activities will be sufficient, in the judgment of the Engineer, to communicate the Contractor's plan for project execution, to accurately describe the project work, and to allow monitoring and evaluation of progress and of time impacts. Each activity's description shall accurately define the work planned for the activity and each activity shall have recognizable beginning and end points.

6-1.2.6 Float. Float or slack time within the schedule is available without charge or compensation to whatever party or contingency first exhausts it.

6-1.2.7 Restraints to Activities. Any submittals, utility interfaces, or any furnishing of Agency supplied materials, equipment, or services, which may impact any activity's construction shall be shown as a restraint to those activities. Time periods to accommodate the review and correction of submittals shall be included in the schedule.

6-1.2.8 Late Completion. A Baseline Construction Schedule showing a project duration longer than the specified contract duration will not be acceptable and will be grounds for determination of default by Contractor, per Section 6-4.



6-1.2.9 Early Completion. The Baseline Construction Schedule will show the Contractor's plan to support and maintain the project for the entire contractual time span of the project. Should the Contractor propose a project duration shorter than contract duration, a complete Baseline Construction Schedule must be submitted, reflecting the shorter duration, in complete accordance with all schedule requirements of Section 6-1. The Engineer may choose to accept the Contractor's proposal of a project duration shorter than the duration specified; provided the Agency is satisfied the shortened Baseline Construction Schedule is reasonable and the Agency and all other entities, public and private, which interface with the project are able to support the provisions of the shortened Baseline Construction Schedule. The Agency's acceptance of a shortened duration project will be confirmed through the execution of a contract change order revising the project duration and implementing all contractual requirements including liquidated damages in accordance with the revised duration.

6-1.2.10 Engineer's Review. The Construction Schedule is subject to the review of the Engineer. The Engineer's determination that the Baseline Construction Schedule proposed by the Contractor complies with the requirements of these supplemental provisions shall be a condition precedent to issuance of the Notice to Proceed by the Engineer. If the Engineer determines that the Construction Schedule does not meet the requirements of these specifications the Contractor shall correct the Construction Schedule to meet these specifications and resubmit it to the Engineer. Failure of the Contractor to obtain the Engineer's determination that the initial Construction Schedule proposed by the Contractor complies with the requirements of these supplemental provisions within thirty (30) working days after the date of the preconstruction meeting shall be grounds for termination of the contract per Section 6-4. Days used by the Engineer to review the initial Construction Schedule will not be included in the 30 working days.

The Engineer will review and return to the Contractor, with any comments, the Baseline Construction Schedule within 15 working days of submittal. The Baseline Construction Schedule will be returned marked as per Sections 6-1.2.10.1 through 6-1.2.10.3.

6-1.2.10.1 "Accepted." The Contractor may proceed with the project work upon issuance of the Notice to Proceed, and will receive payment for the schedule in accordance with Section 6-1.8.1.

6-1.2.10.2 "Accepted with Comments." The Contractor may proceed with the project work upon issuance of the Notice to Proceed. The Contractor must resubmit the schedule incorporating the comments prior to receipt of payment per Section 6-1.8.1.

6-1.2.10.3 "Not Accepted." The Contractor must resubmit the schedule incorporating the corrections and changes of the comments prior to receipt of payment per Section 6-1.8.1. The Notice to Proceed will not be issued by the Engineer if the changes of the comments are not submitted as required hereinbefore and marked "Accepted" or "Accepted with Comments" by the Engineer. The Contractor, at the sole option of the Engineer, may be considered as having defaulted the contract under the provisions of Section 6-4 DEFAULT BY CONTRACTOR if the changes of the comments are not submitted as required hereinbefore and marked "Accepted" by the Engineer.



6-1.3 Preparation of Schedule Updates and Revisions. The Contractor shall meet with the Engineer during the last week of each month to agree upon each activity's schedule status and shall submit monthly updates of the Baseline Construction Schedule confirming the agreements no later than the fifth working day of the following month. The monthly update will be submitted on hard (paper) copy and electronic media conforming to Section 6-1.3.3 Electronic Media per the submittal requirements of Section 2-5.3 and will include each item and element of Sections 6-1.2 through 6-1.2.9 and 6-1.3.1 through 6-1.3.7.

6-1.3.1 Actual Activity Dates. The actual dates each activity was started and/or completed during the month. After first reporting an actual date, the Contractor shall not change that actual date in later updates without specific notification to the Engineer with the update.

6-1.3.2 Activity Percent Complete. For each activity underway at the end of the month, the Contractor shall report the percentage determined by the Engineer as complete for the activity.

6-1.3.3 Electronic Media. The schedule data disk shall be a CD-ROM, labeled with the project name and number, the Contractor's name and the date of preparation of the schedule data disk. The schedule data disk shall be readable by the software specified in Section 6-1.2.4 "Schedule Software" and shall be free of file locking, encryption or any other protocol that would impede full access of all data stored on it.

6-1.3.4 List of Changes. A list of all changes made to the activities or to the interconnecting logic, with an explanation for each change.

6-1.3.5 Change Orders. Each monthly update will include the addition of the network revisions reflecting the change orders approved in the previous month. The network revisions will be as agreed upon during the review and acceptance of the Contractor's change orders.

6-1.3.6 Bar Chart. Each monthly update will include a chart showing individual tasks and their durations arranged with the tasks on the vertical axis and duration on the horizontal axis. The bar chart shall use differing texture patterns or distinctive line types to show the critical path.

6-1.4 Engineer's Review of Updated Construction Schedule. The Engineer will review and return the Updated Construction Schedule to the Contractor, with any comments, within 5 working days of submittal. The Updated Construction Schedule will be returned marked as per Sections 6-1.4.1 through 6-1.4.3. Any Updated Construction Schedule marked "Accepted with Comments" or "Not Accepted" by the Engineer will be returned to the Contractor for correction. Upon resubmittal the Engineer will review and return the resubmitted Updated Construction Schedule to the Contractor, with any comments, within 5 working days. Failure of the Contractor to submit a monthly updated construction schedule will invoke the same consequences as the Engineer returning a monthly updated construction schedule marked "Not Accepted".

6-1.4.1 "Accepted." The Contractor may proceed with the project work, and will receive payment for the schedule in accordance with Section 6-1.8.2.

6-1.4.2 "Accepted with Comments." The Contractor may proceed with the project work. The Contractor must resubmit the Updated Construction Schedule to the Engineer incorporating the corrections and changes noted in the Engineer's comments prior to receipt of payment per Section 6-1.8.2.



6-1.4.3 “Not Accepted.” The Contractor must resubmit the Updated Construction Schedule to the Engineer incorporating the corrections and changes noted in the Engineer’s comments prior to receipt of payment per Section 6-1.8.2. The Contractor, at the sole option of the Engineer, may be considered as having defaulted the contract under the provisions of Section 6-4 DEFAULT BY CONTRACTOR if the changes of the comments are not submitted and marked “Accepted” by the Engineer before the last day of the month in which the Updated Construction Schedule is due. If the Contractor fails to submit the corrected Updated Construction Schedule as required herein the Contractor may elect to proceed with the project at its own risk. Should the Contractor elect not to proceed with the project, any resulting delay, impact, or disruption to the project will be the Contractor’s responsibility.

6-1.5 Late Completion or Milestone Dates. Should the Schedule Update indicate a completion or contractually required milestone date later than the properly adjusted contract or milestone duration, the Agency may withhold Liquidated Damages for the number of days late. Should a subsequent “Accepted” Schedule Update remove all or a portion of the delay, all or the allocated portion of the previously held Liquidated Damages shall be released in the monthly payment to the Contractor immediately following the “Accepted” schedule.

6-1.6 Interim Revisions. Should the actual or projected progress of the work become substantially different from that depicted in the Project Schedule, independently of and prior to the next monthly update, the Contractor will submit a revised Baseline Construction Schedule, with a list and explanation of each change made to the schedule. The Revised Construction Schedule will be submitted per the submittal requirements of Section 2-5.3 and per the schedule review and acceptance requirements of Section 6-1, including but not limited to the acceptance and payment provisions. As used in this section “substantially different” means a time variance greater than 5 percent of the number of days of duration for the project.

6-1.7 Final Schedule Update. The Contractor shall prepare and submit a final schedule update when one hundred percent of the construction work is completed. The Contractor’s Final Schedule Update must accurately represent the actual dates for all activities. The final schedule update shall be prepared and reviewed per Sections 6-1.3 Preparation of Schedule Updates and Revisions and 6-1. 4 Engineer’s Review of Updated Construction Schedule. Acceptance of the final schedule update is required for completion of the project and release of any and all funds retained per Section 9-3.2.

6-1.8 Measurement and Payment of Construction Schedule. The Contractor’s preparation, revision and maintenance of the Construction Schedule are incidental to the work and no separate payment will be made therefore.

6-2 PROSECUTION OF WORK.

To minimize public inconvenience and possible hazard and to restore street and other work areas to their original condition and state of usefulness as soon as practicable, the Contractor shall diligently prosecute the Work to completion. If the Engineer determines that the Contractor is failing to prosecute the Work to the proper extent, the Contractor shall, upon orders from the Engineer, immediately take steps to remedy the situation. All costs of prosecuting the Work as described herein shall be included in the Contractor’s Bid. Should the Contractor fail to take the necessary steps to fully accomplish said purposes, after orders of the Engineer, the Engineer may suspend the work in whole or part, until the Contractor takes said steps.

As soon as possible under the provisions of the Specifications, the Contractor shall backfill all excavations and restore to usefulness all improvements existing prior to the start of the Work.



If Work is suspended through no fault of the Agency, all expenses and losses incurred by the Contractor during such suspensions shall be borne by the Contractor. If the Contractor fails to properly provide for public safety, traffic, and protection of the Work during periods of suspension, the Agency may elect to do so, and deduct the cost thereof from monies due the Contractor. Such actions will not relieve the Contractor from liability.

6-2.1 Order of Work. The work to be done shall consist of furnishing all labor, equipment and materials, and performing all operations necessary to complete the Project Work as shown on the Project Plans and as specified in the Specifications. The work includes installation of lighted (6 locations) crosswalks and curb improvements (5 locations) at existing pedestrian crossings along Carlsbad Boulevard.



6-2.3 Project Meetings. The Engineer will establish the time and location of weekly Project Meetings. The Contractor's Representative shall attend each Project Meeting. The Project Representative shall be the individual determined under Section 7-6, "The Contractor's Representative". No separate payment for attendance of the Contractor, the Contractor's Representative or any other employee or subcontractor or subcontractor's employee at these meetings will be made.

6-3 SUSPENSION OF WORK.

6-3.1 General. The Work may be suspended in whole or in part when determined by the Engineer that the suspension is necessary in the interest of the Agency. The Contractor shall comply immediately with any written order of the Engineer. Such suspension shall be without liability to the Contractor on the part of the Agency except as otherwise specified in Section 6-6.3.

6-3.2 Archaeological and Paleontological Discoveries. If discovery is made of items of archaeological or paleontological interest, the Contractor shall immediately cease excavation in the area of discovery and shall not continue until ordered by the Engineer. When resumed, excavation operations within the area of discovery shall be as directed by the Engineer.

Discoveries which may be encountered may include, but not be limited to, dwelling sites, stone implements or other artifacts, animal bones, human bones, and fossils.

The Contractor shall be entitled to an extension of time and compensation in accordance with the provisions of Section 6-6.



6-4 DEFAULT BY CONTRACTOR. If the Contractor fails to begin delivery of material and equipment, to commence the Work within the time specified, to maintain the rate of delivery of material, to execute the Work in the manner and at such locations as specified, or fails to maintain the Work schedule which will insure the Agency's interest, or, if the Contractor is not carrying out the intent of the Contract, the Agency may serve written notice upon the Contractor and the Surety on its Faithful Performance Bond demanding satisfactory compliance with the Contract.

The Contract may be canceled by the Board without liability for damage, when in the Board's opinion the Contractor is not complying in good faith, has become insolvent, or has assigned or subcontracted any part of the Work without the Board's consent. In the event of such cancellation, the Contractor will be paid the actual amount due based on Contract Unit Prices or lump sums bid and the quantity of the Work completed at the time of cancellation, less damages caused to the Agency by acts of the Contractor. The Contractor, in having tendered a Bid, shall be deemed to have waived any and all claims for damages because of cancellation of Contract for any such reason. If the Agency declares the Contract canceled for any of the above reasons, written notice to that effect shall be served upon the Surety. The Surety shall, within five (5) days, assume control and perform the Work as successor to the Contractor.

If the Surety assumes any part of the Work, it shall take the Contractor's place in all respects for that part, and shall be paid by the Agency for all work performed by it in accordance with the Contract. If the Surety assumes the entire Contract, all money due the Contractor at the time of its default shall be payable to the Surety as the Work progresses, subject to the terms of the Contract.

If the Surety does not assume control and perform the Work within 5 days after receiving notice of cancellation, or fails to continue to comply, the Agency may exclude the Surety from the premises. The Agency may then take possession of all material and equipment and complete the Work by Agency forces, by letting the unfinished Work to another Contractor, or by a combination of such methods. In any event, the cost of completing the Work shall be charged against the Contractor and its Surety and may be deducted from any money due or becoming due from the Agency. If the sums due under the Contract are insufficient for completion, the Contractor or Surety shall pay to the Agency within 5 days after the completion, all costs in excess of the sums due.

The provisions of this section shall be in addition to all other rights and remedies available to the Agency under law.

6-5 TERMINATION OF CONTRACT. The Board may terminate the Contract at its own discretion or when conditions encountered during the Work make it impossible or impracticable to proceed, or when the Agency is prevented from proceeding with the Contract by act of God, by law, or by official action of a public authority.



6-6 DELAYS AND EXTENSIONS OF TIME.

6-6.1 General. If delays are caused by unforeseen events beyond the control of the Contractor, such delays will entitle the Contractor to an extension of time as provided herein, but the Contractor will not be entitled to damages or additional payment due to such delays, except as provided in 6-6.3. Such unforeseen events may include: war, government regulations, labor disputes, strikes, fires, floods, adverse weather or elements necessitating cessation of work, inability to obtain materials, labor or equipment, required extra work, or other specific events as may be further described in the Specifications.

No extension of time will be granted for a delay caused by the Contractor's inability to obtain materials unless the Contractor furnishes to the Engineer documentary proof. The proof must be provided in a timely manner in accordance with the sequence of the Contractor's operations and the approved construction schedule.

If delays beyond the Contractor's control are caused by events other than those mentioned above, the Engineer may deem an extension of time to be in the best interests of the Agency. The Contractor will not be entitled to damages or additional payment due to such delays, except as provided in Section 6-6.3.

If delays beyond the Contractor's control are caused solely by action or inaction by the Agency, such delays will entitle the Contractor to an extension of time as provided in Section 6-6.2.

6-6.2 Extensions of Time. Extensions of time, when granted, will be based upon the effect of delays to the Work. They will not be granted for noncontrolling delays to minor portions of the Work unless it can be shown that such delays did or will delay the progress of the Work.

6-6.3 Payment for Delays to Contractor. The Contractor will be compensated for damages incurred due to delays for which the Agency is responsible. Such actual costs will be determined by the Engineer. The Agency will not be liable for damages which the Contractor could have avoided by any reasonable means, such as judicious handling of forces, equipment, or plant. The determination of what damages the Contractor could have avoided will be made by the Engineer.

6-6.4 Written Notice and Report. The Contractor shall provide written notice to the Engineer within two hours of the beginning of any period that the Contractor has placed any workers or equipment on standby for any reason that the Contractor has determined to be caused by the Agency or by any organization that the Agency may otherwise be obligated by. The Contractor shall provide continuing daily written notice to the Engineer, each working day, throughout the duration of such period of delay. The initial and continuing written notices shall include the classification of each workman and supervisor and the make and model of each piece of equipment placed on standby, the cumulative duration of the standby, the Contractor's opinion of the cause of the delay and a cogent explanation of why the Contractor could not avoid the delay by reasonable means. Should the Contractor fail to provide the notice(s) required by this section the Contractor agrees that no delay has occurred and that it will not submit any claim(s) therefore.



6-7.1 General. The Contractor shall complete the Work within the time set forth in the Contract. The Contractor shall complete each portion of the Work within such time as set forth in the Contract for such portion. The time of completion of the Contract shall be expressed in The Contractor shall diligently prosecute the work to completion within 90 working days after the starting date specified in the Notice to Proceed.

6-7.2 Working Day. A working day is any day within the period between the start of the Contract time as defined in Section 6-1 and the date provided for completion, or upon field acceptance by the Engineer for all work provided for in the Contract, whichever occurs first, other than:

1. Saturday,
2. Sunday,
3. any day designated as a holiday by the Agency,
4. any other day designated as a holiday in a Master Labor Agreement entered into by the Contractor or on behalf of the Contractor as an eligible member of a contractor association,
5. any day the Contractor is prevented from working at the beginning of the workday for cause as defined in Section 6-6.1,
6. any day the Contractor is prevented from working during the first 5 hours with at least 60 percent of the normal work force for cause as defined in Section 6-6.1.

Unless otherwise approved in writing by the Engineer, the hours of work shall be between the hours of 8:30 a.m. and 3:30 p.m. on Mondays through Fridays, excluding Agency holidays. The Contractor shall obtain the written approval of the Engineer if the Contractor desires to work outside said hours or at any time during weekends and/or holidays. This written permission must be obtained at least 48 hours prior to such work. The Engineer may approve work outside the hours and/or days stated herein when, in his/her sole opinion, such work conducted by the Contractor is beneficial to the best interests of the Agency. The Contractor shall pay the inspection costs of such work.

The Contractor shall incorporate the dates, areas and types of work prohibited in this section in the Construction Schedule required by Section 6.1. No additional payment, adjustment of bid prices or adjustment of contract time of completion will be allowed as a consequence of the prohibition of work being performed within the dates, areas and/or types of work prohibited in this section.



6-7.3 Contract Time Accounting. The Engineer will make a daily determination of each working day to be charged against the Contract time. These determinations will be discussed and the Contractor will be furnished a periodic statement showing allowable number of working days of Contract time, as adjusted, at the beginning of the reporting period. The statement will also indicate the number of working days charged during the reporting period and the number of working days of Contract time remaining. If the Contractor does not agree with the statement, it shall file a written protest within 15 days after receipt, setting forth the facts of the protest. Otherwise, the statement will be deemed to have been accepted.

6-8 COMPLETION, ACCEPTANCE, AND WARRANTY. The Work will be inspected by the Engineer for acceptance upon receipt of the Contractor's written assertion that the Work has been completed.

The Engineer will not accept the Work or any portion of the Work before all of the Work is completed and all outstanding deficiencies that may exist are corrected by the Contractor and the Engineer is satisfied that all the materials and workmanship, and all other features of the Work, meet the requirements of all of the specifications for the Work. Use, temporary, interim or permanent, of all, or portions of, the Work does not constitute acceptance of the Work. If, in the Engineer's judgment, the Work has been completed and is ready for acceptance the Engineer will so certify to the Board. Upon such certification by the Engineer the Board may accept the completed Work. Upon the Board's acceptance of the Work the Engineer will cause a "Notice of Completion" to be filed in the office of the San Diego County Recorder. The date of recordation shall be the date of completion of the Work.

All work shall be warranted for one (1) year after recordation of the "Notice of Completion" and any faulty work or materials discovered during the warranty period shall be repaired or replaced by the Contractor, at its expense. Twenty-five percent of the faithful performance bond shall be retained as a warranty bond for the one year warranty period. The Contractor shall replace or repair any such defective work in a manner satisfactory to the Engineer, after notice to do so from the Engineer, and within the time specified in the notice. If the Contractor fails to make such replacement or repairs within the time specified in the notice, the Agency may perform this work and the Contractor's sureties shall be liable for the cost thereof.



6-9 LIQUIDATED DAMAGES. Failure of the Contractor to complete the Work within the time allowed will result in damages being sustained by the Agency. For each consecutive calendar day in excess of the time specified for completion of Work, as adjusted in accordance with Section 6-6, the Contractor shall pay the Agency, or have withheld monies due it, the sum of fifteen hundred dollars per (\$1,500.00) per day. Such sum is liquidated damages and shall not be construed as a penalty, and may be deducted from payments due the Contractor if such delay occurs.

Execution of the Contract shall constitute agreement by the Agency and Contractor that \$1,500.00 per day is the minimum value of costs and actual damages caused by the Contractor to complete the Work within the allotted time. Any progress payments made after the specified completion date shall not constitute a waiver of this paragraph or of any damages.

6-10 USE OF IMPROVEMENT DURING CONSTRUCTION. The Agency reserves the right to take over and utilize all or part of any completed facility or appurtenance. The Contractor will be notified in writing in advance of such action. Such action by the Agency will relieve the Contractor of responsibility for injury or damage to said completed portions of the improvement resulting from use by public traffic or from the action of the elements or from any other cause, except Contractor operations or negligence. The Contractor will not be required to reclean such portions of the improvement before field acceptance, except for cleanup made necessary by its operations. Nothing in this section shall be construed as relieving the Contractor from full responsibility for correcting defective work or materials.

In the event the Agency exercises its right to place into service and utilize all or part of any completed facility or appurtenance, the Agency will assume the responsibility and liability for injury to persons or property resulting from the utilization of the facility or appurtenance so placed into service, except for any such injury to persons or property caused by any willful or negligent act or omission by the Contractor, Subcontractor, their officers, employees, or agents.



SECTION 7 – RESPONSIBILITIES OF THE CONTRACTOR

7-1 CONTRACTOR’S EQUIPMENT AND FACILITIES. The Contractor shall furnish and maintain in good condition all equipment and facilities as required for the proper execution and inspection of the Work. Such equipment and facilities shall meet all requirements of applicable ordinances and laws.

7-2 LABOR.

7-2.1 General. Only competent workers shall be employed on the Work. Any person employed who is found to be incompetent, intemperate, troublesome, disorderly, or otherwise objectionable, or who fails or refuses to perform work properly and acceptably, shall be immediately removed from the Work by the Contractor and not be reemployed on the Work.

7-2.2 Laws. The Contractor, its agents, and employees shall be bound by and comply with applicable provisions of the Labor Code and Federal, State, and local laws related to labor.

The Contractor shall strictly adhere to the provisions of the Labor Code regarding minimum wages; the 8-hour day and 40-hour week; overtime; Saturday, Sunday, and holiday work; and nondiscrimination because of race, color, national origin, sex, or religion. The Contractor shall forfeit to the Agency the penalties prescribed in the Labor Code for violations.

In accordance with the Labor Code, the Board has on file and will publish a schedule of prevailing wage rates for the types of work to be done under the Contract. The Contractor shall not pay less than these rates.

Each worker shall be paid subsistence and travel as required by the collective bargaining agreement on file with the State of California Department of Industrial Relations.

The Contractor’s attention is directed to Section 1776 of the Labor Code which imposes responsibility upon the Contractor for the maintenance, certification, and availability for inspection of such records for all persons employed by the Contractor or Subcontractor in connection with the project. The Contractor shall agree through the Contract to comply with this Section and the remaining provisions of the Labor Code.

7-3 LIABILITY INSURANCE. Insurance shall be required as specified in section 10 of the Public Works Contract.

The cost of this insurance shall be included in the Contractor’s Bid.

7-4 WORKERS’ COMPENSATION INSURANCE. Before execution of the Contract by the Board, the Contractor shall file with the Engineer the following signed certification:

“I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.”



The Contractor shall also comply with Section 3800 of the Labor Code by securing, paying for, and maintaining in full force and effect for the duration of the contract, complete Workers' Compensation Insurance, and shall furnish a Certificate of Insurance to the Engineer before execution of the Contract. The Agency, its officers, or employees, will not be responsible for any claims in law or equity occasioned by failure of the Contractor to comply with this paragraph.

All compensation insurance policies shall bear an endorsement or shall have attached a rider whereby it is provided that, in the event of expiration or proposed cancellation of such policies for any reason whatsoever, the Agency shall be notified by registered mail not less than 30 days before expiration or cancellation is effective.

All insurance is to be placed with insurers that are admitted and authorized to conduct business in the state of California and are listed in the official publication of the Department of Insurance of the State of California. Policies issued by the State Compensation Fund meet the requirement for workers' compensation insurance.

7-5 PERMITS. Except as specified herein the Contractor will obtain, at no cost to the Contractor all City of Carlsbad encroachment, right-of-way, grading and building permits necessary to perform work for this contract on Agency property, streets, or other rights-of-way. Contractor shall not begin work until all permits incidental to the work are obtained. The Contractor shall obtain and pay for all permits for the disposal of all materials removed from the project. The cost of said permit(s) shall be included in the price bid for the appropriate bid item and no additional compensation will be allowed therefore. The Contractor shall obtain and pay for all costs incurred for permits necessitated by its operations such as, but not limited to, those permits required for night work, overload, blasting, and demolition. For private contracts, the Contractor shall obtain all permits incidental to the Work or made necessary by its operations, and pay all costs incurred by the permit requirements.

The Contractor shall pay all business taxes or license fees that are required for the work.

7-6 THE CONTRACTOR'S REPRESENTATIVE. Before starting work, the Contractor shall designate in writing a representative who shall have complete authority to act for it. An alternative representative may be designated as well. The representative or alternate shall be present at the Work site whenever work is in progress or whenever actions of the elements necessitate its presence to take measures necessary to protect the Work, persons, or property. Any order or communication given to this representative shall be deemed delivered to the Contractor. A joint venture shall designate only one representative and alternate. In the absence of the Contractor or its representative, instructions or directions may be given by the Engineer to the superintendent or person in charge of the specific work to which the order applies. Such order shall be complied with promptly and referred to the Contractor or its representative.

In order to communicate with the Agency, the Contractor's representative, superintendent, or person in charge of specific work shall be able to speak, read, and write the English language.

7-7 COOPERATION AND COLLATERAL WORK. The Contractor shall be responsible for ascertaining the nature and extent of any simultaneous, collateral, and essential work by others. The Agency, its workers and contractors and others, shall have the right to operate within or adjacent to the Work site during the performance of such work.

The Agency, the Contractor, and each of such workers, contractors and others, shall coordinate their operations and cooperate to minimize interference.



The Contractor shall include in its Bid all costs involved as a result of coordinating its work with others. The Contractor will not be entitled to additional compensation from the Agency for damages resulting from such simultaneous, collateral, and essential work. If necessary to avoid or minimize such damage or delay, the Contractor shall redeploy its work force to other parts of the Work.

Should the Contractor be delayed by the Agency, and such delay could not have been reasonably foreseen or prevented by the Contractor, the Engineer will determine the extent of the delay, the effect on the project, and any extension of time.

7-7.1 Coordination. The Contractor shall coordinate and cooperate with all the utility companies during the relocation or construction of their lines. The Contractor may be granted a time extension if, in the opinion of the Engineer, a delay is caused by the utility company. No additional compensation will be made to the Contractor for any such delay.

7-8 PROJECT SITE MAINTENANCE.

7-8.1 Cleanup and Dust Control. Throughout all phases of construction, including suspension of work, and until the final acceptance, the Contractor shall keep the site clean and free from rubbish and debris. The Contractor shall also abate dust nuisance by cleaning, sweeping and sprinkling with water, or other means as necessary. The use of water resulting in mud on public streets will not be permitted as a substitute for sweeping or other methods.

When required by the Plans or Specifications, the Contractor shall furnish and operate a self-loading motor sweeper with spray nozzles at least once each working day for the purpose of keeping paved areas acceptably clean wherever construction, including restoration, is incomplete.

Materials and equipment shall be removed from the site as soon as they are no longer necessary. Before the final inspection, the site shall be cleared of equipment, unused materials, and rubbish so as to present a satisfactory clean and neat appearance. All cleanup costs shall be included in the Contractor's Bid.

Care shall be taken to prevent spillage on haul routes. Any such spillage shall be removed immediately and the area cleaned.

Excess excavation material from catch basins or similar structures shall be removed from the site immediately. Sufficient material may remain for use as backfill if permitted by the Specifications. Forms and form lumber shall be removed from the site as soon as practicable after stripping.

Failure of the Contractor to comply with the Engineer's cleanup orders may result in an order to suspend work until the condition is corrected. No additional compensation will be allowed as a result of such suspension.

Cleanup and dust control required herein shall also be executed on weekends and other non-working days when needed to preserve the health safety or welfare of the public. The Contractor shall conduct effective cleanup and dust control throughout the duration of the Contract. The Engineer may require increased levels of cleanup and dust control that, in his/her sole discretion, are necessary to preserve the health, safety and welfare of the public.



Cleanup and dust control shall be considered incidental to the items of work that they are associated with and no additional payment will be made therefore.

7-8.2 Air Pollution Control. The Contractor shall not discharge smoke, dust, or any other air contaminants into the atmosphere in such quantity as will violate the regulations of any legally constituted authority.

7-8.3 Vermin Control. At the time of acceptance, structures entirely constructed under the Contract shall be free of rodents, insects, vermin, and pests. Necessary extermination work shall be arranged and paid for by the Contractor as part of the Work within the Contract time, and shall be performed by a licensed exterminator in accordance with requirements of governing authorities. The Contractor shall be liable for injury to persons or property and responsible for the elimination of offensive odors resulting from extermination operations.

7-8.4 Sanitation. The Contractor shall provide and maintain enclosed toilets for the use of employees engaged in the Work. These accommodations shall be maintained in a neat and sanitary condition. They shall also comply with all applicable laws, ordinances, and regulations pertaining to public health and sanitation of dwellings and camps.

Wastewater shall not be interrupted. Should the Contractor disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches or be covered by backfill.

7-8.5 Temporary Light, Power, and Water. The Contractor shall furnish, install, maintain, and remove all temporary light, power, and water at its own expense. These include piping, wiring, lamps, and other equipment necessary for the Work. The Contractor shall not draw water from any fire hydrant (except to extinguish a fire), without obtaining permission from the water agency concerned. The Contractor shall obtain a construction meter for water used for the construction, plant establishment, maintenance, cleanup, testing and all other work requiring water related to this contract. The Contractor shall contact the appropriate water agency for requirements. The Contractor shall pay all costs of temporary light, power and water including hookup, service, meter and any, and all, other charges, deposits and/or fees therefore. Said costs shall be considered incidental to the items of work that they are associated with and no additional payment will be made therefore.

7-8.6 Water Pollution Control. The Contractor shall exercise every reasonable precaution to protect channels, storm drains, and bodies of water from pollution. It shall conduct and schedule operations so as to minimize or avoid muddying and silting of said channels, drains, and waters. Water pollution control work shall consist of constructing those facilities which may be required to provide prevention, control, and abatement of water pollution.

The Contractor shall comply with the California State Water Resources Control Board (SWRCB) Order Number 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit Number CAS000002, Waste Discharge Requirements (WDR's) for Discharges of Stormwater Runoff associated with Construction Activity (General Permit) and subsequent adopted modifications and with all requirements of the Storm Water Pollution Prevention and Monitoring Plans for this project in accordance with these regulations.

7-8.7 Drainage Control. The Contractor shall maintain drainage within and through the work areas. Earth dams will not be permitted in paved areas. Temporary dams of sandbags, asphaltic concrete, or other acceptable material will be permitted when necessary. Such dams shall be removed from the site as soon as their use is no longer necessary.



7-8.8 Noise Control. All internal combustion engines used in the construction shall be equipped with mufflers in good repair when in use on the project with special attention to the City Noise Control Ordinance, Carlsbad Municipal Code Chapter 8.48.

7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS. The Contractor shall be responsible for the protection of public and private property adjacent to the Work and shall exercise due caution to avoid damage to such property.

The Contractor shall repair or replace all existing improvements within the right-of-way which are not designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, signs, utility installations, pavement, structures, etc.) which are damaged or removed as a result of its operations. When a portion of a sprinkler system within the right-of-way must be removed, the remaining lines shall be capped. Repairs and replacements shall be at least equal to existing improvements and shall match them in finish and dimension.

Maintenance of street and traffic signal systems that are damaged, temporarily removed or relocated shall be done in conformance with 307-1.5.

Trees, lawns, and shrubbery that are not to be removed shall be protected from damage or injury. If damaged or removed due to Contractor's operations, they shall be restored or replaced in as nearly the original condition and location as is reasonably possible. Lawns shall be reseeded and covered with suitable mulch.

The Contractor shall give reasonable notice to occupants or owners of adjacent property to permit them to salvage or relocate plants, trees, fences, sprinklers, and other improvements, within the right-of-way which are designated for removal and would be destroyed because of the Work.

All costs to the Contractor for protecting, removing, and restoring existing improvements shall be included in the Bid.

7-10 PUBLIC CONVENIENCE AND SAFETY.

7-10.1 Traffic and Access. The Contractor's operations shall cause no unnecessary inconvenience. The access rights of the public shall be considered at all times. Unless otherwise authorized, traffic shall be permitted to pass through the Work, or an approved detour shall be provided.

Safe and adequate pedestrian and vehicular access shall be provided and maintained to: fire hydrants; commercial and industrial establishments; churches, schools and parking lots; service stations and motels; hospitals; police and fire stations; and establishments of similar nature. Access to these facilities shall be continuous and unobstructed unless otherwise approved by the Engineer.

Safe and adequate pedestrian zones and public transportation stops, as well as pedestrian crossings of the Work at intervals not exceeding 90 m (300 feet), shall be maintained unless otherwise approved by the Engineer.

Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time. If backfill has been completed to the extent that safe access may be provided, and the street is opened to



local traffic, the Contractor shall immediately clear the street and driveways and provide and maintain access.

The Contractor shall cooperate with the various parties involved in the delivery of mail and the collection and removal of trash and garbage to maintain existing schedules for these services.

Grading operations, roadway excavation and fill construction shall be conducted by the Contractor in a manner to provide a reasonably satisfactory surface for traffic. When rough grading is completed, the roadbed surface shall be brought to a smooth, even condition satisfactory for traffic.

Unless otherwise authorized, work shall be performed in only one-half the roadway at one time. One half shall be kept open and unobstructed until the opposite side is ready for use. If one-half a street only is being improved, the other half shall be conditioned and maintained as a detour.

The Contractor shall schedule the work so as to prevent damage by all traffic, including but not limited to mail delivery. The Contractor shall not schedule work so as to conflict with trash pickup. The trash hauling schedule can be obtained by calling the City's contracted waste disposal company, Coast Waste Management at 929-9417.

During overlay operations, the Contractors schedule for overlay application shall be designated to provide residents and business owners whose streets are to be overlaid sufficient paved parking within an 800 foot distance from their homes or businesses.

Seventy-two hours prior to the start of any construction in the public right-of-way that affects vehicular traffic and/or parking or pedestrian routes, the Contractor shall give written notification of the impending disruption. For a full street closure, all residences and/or businesses on the affected street or alley shall be notified. For partial street closures, or curb, sidewalk and driveway repairs, the residences and/or businesses directly affected by the work shall be notified.

The notification shall be hand delivered and shall state the date and time the work will begin and its anticipated duration. The notification shall list two telephone numbers that may be called to obtain additional information. One number shall be the Contractor's permanent office or field office and the other number shall be a 24-hour number answered by someone who is knowledgeable about the project. At least one of the phone numbers shall be in the (760) area code. An answering machine shall not be connected to either number. The notification shall also give a brief description of the work and simple instructions to the home or business owner on what they need to do to facilitate the construction. The Contractor shall submit the contents of the notification to the Engineer for approval. Notices shall not be distributed until approved by the Engineer.

For residences, the notification shall be pre-cut in a manner that enables it to be affixed to a doorknob without adhesives. It shall be a minimum size of 3-1/2 inches by 8-1/2 inches and shall be brightly colored with contrasting printing. The material shall be equivalent in strength and durability to 65 lb. card stock. The printing on the notice shall be no smaller than 12 point. An example of such notice is provided in Appendix "A".

In addition to the notifications, the contractor shall post no parking signs 72 hours in advance of the work being performed. The no parking signs shall state the date and time of parking restriction for a duration not to exceed the time necessary to complete the work at that location. Failure of the contractor to meet the posted date requires re-posting the no parking signs 72



hours in advance of the rescheduled work. If the work is delayed or rescheduled the no parking signs shall be removed and re-posted 72 hours in advance of the rescheduled work.

The preparation, materials, printing and distribution of the notifications shall be included in the contract price bid for traffic control and the Contractor will not be entitled to any additional compensation for printing and distributing these notices.

The contractor shall replace all street markings and striping damaged by construction activities.

The Contractor shall include in its Bid all costs for the above requirements.

7-10.2 Storage of Equipment and Materials in Public Streets. Construction materials shall not be stored in streets, roads, or highways for more than 5 days after unloading. All materials or equipment not installed or used in construction within 5 days after unloading shall be stored elsewhere by the Contractor at its expense unless authorized additional storage time.

Construction equipment shall not be stored at the Work site before its actual use on the Work nor for more than 5 days after it is no longer needed. Time necessary for repair or assembly of equipment may be authorized by the Engineer.

Excavated material, except that which is to be used as backfill in the adjacent trench, shall not be stored in public streets unless otherwise permitted. After placing backfill, all excess material shall be removed immediately from the site.

7-10.3 Street Closures, Detours, Barricades. The Contractor shall comply with all applicable State, County, and City requirements for closure of streets. The Contractor shall provide barriers, guards, lights, signs, temporary bridges, flagpersons, and watchpersons. The Contractor shall be responsible for compliance with additional public safety requirements which may arise. The Contractor shall furnish and install signs and warning devices and promptly remove them upon completion of the Work.

After obtaining the Engineers approval and at least 5 working days before closing, detouring, partially closing or reopening any street, alley or other public thoroughfare the Contractor shall notify the following:

- | | |
|----------------------------------------------------------------|----------------|
| 1) The Engineer..... | (760) 602-2720 |
| 2) Carlsbad Fire Department Dispatch | (760) 931-2197 |
| 3) Carlsbad Police Department Dispatch | (760) 931-2197 |
| 4) Carlsbad Traffic Signals Maintenance (extension 2937) | (760) 438-2980 |
| 5) Carlsbad Traffic Signals Operations | (760) 602-2752 |
| 6) North County Transit District..... | (760) 967-2828 |
| 7) Waste Management | (760) 929-9400 |

The Contractor shall comply with their requirements. The Contractor shall obtain the Engineer's written approval prior to deviating from the requirements of 2) through, and including, 7) above. The Contractor shall obtain the written approval no less than five working days prior to placing any traffic control that affects bus stops.

The Contractor shall secure approval, in advance, from authorities concerned for the use of any bridges proposed by it for public use. Temporary bridges shall be clearly posted as to load limit, with signs and posting conforming to current requirements covering "signs" as set forth in the Traffic Manual published by the California Department of Transportation. This manual shall also apply to the street closures, barricades, detours, lights, and other safety devices required.



All costs involved shall be included in the Bid.

Traffic controls shall be in accordance with the plans, The California Manual on Uniform Traffic Control Devices (FHWA MUTCD 2009 Revision 6, as amended for use in California) and these provisions. If any component in the traffic control system is damaged, displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair said component to its original condition or replace said component and shall restore the component to its original location. In the event that the Contractor fails to install and/or maintain barricades or such other traffic signs, markings, delineation or devices as may be required herein, the Engineer may, at his/her sole option, install the traffic signs, markings, delineation or devices and charge the Contractor twenty dollars (\$25.00) per day per traffic sign or device, or the actual cost of providing such traffic control facility, whichever is the greater.

7-10.3.1 Construction Area Signs and Control Devices. All construction traffic signs and control devices shall be maintained throughout the duration of work in good order and according to the approved traffic control plan. All construction area signs shall conform to the provisions of Section 206-7.2 et seq. All temporary reflective pavement markers shall conform to the provisions of Section 214-5.1 et seq. All temporary reflective channelizers shall conform to the provisions of Section 214-5.2 et seq. All paint for temporary traffic striping, pavement marking, and curb marking shall conform to the provisions of Section 210-1.6 et seq. except that all temporary paint shall be rapid dry water borne conforming to Section 210-1.6 for materials and Section 310-5 et seq. For workmanship. Warning and advisory signs, lights and devices installed or placed to provide traffic control, direction and/or warning shall be furnished, installed and maintained by the Contractor. Warning and advisory signs, lights and devices shall be promptly removed by the Contractor when no longer required. Warning and advisory signs that remain in place overnight shall be stationary mounted signs. Stationary signs that warn of non-existent conditions shall be removed from the traveled way and from the view of motorists in the traveled way or shielded from the view of the traveling public during such periods that their message does not pertain to existing conditions. Care shall be used in performing excavation for signs in order to protect underground facilities. All excavation required to install stationary construction area signs shall be performed by hand methods without the use of power equipment. Warning and advisory signs that are used only during working hours may be portable signs. Portable signs shall be removed from the traveled way and shielded from the view of the traveling public during non-working hours. During the hours of darkness, as defined in Division 1, Section 280, of the California Vehicle Code, portable signs shall be illuminated or, at the option of the Contractor, shall be in conformance with the provisions in Section 206-7.2 et seq. If illuminated traffic cones rather than post-type delineators are used during the hours of darkness, they shall be affixed or covered with reflective cone sleeves as specified in CALTRANS "Standard Specifications", except the sleeves shall be 7" long. Personal vehicles of the Contractor's employees shall not be parked within the traveled way, including any Section closed to public traffic. Whenever the Contractor's vehicles or equipment are parked on the shoulder within 6' of a traffic lane, the shoulder area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at not less than 25' intervals to a point not less than 25' past the last vehicle or piece of equipment. A minimum of nine (9) cones or portable delineators shall be used for the taper. A W20-1 (Road Work Ahead) or C24 (Shoulder Work Ahead) sign shall be mounted, as required herein, on a signpost or telescoping flag tree with flags. The signpost or flag tree shall be placed where directed by the Engineer.

7-10.3.2 Maintaining Traffic. The Contractor's personnel shall not work closer than 1.8 m (6'), nor operate equipment within 0.6 m (2') from any traffic lane occupied by traffic. [The 2'](#) shall be measured from the closest approach of any part of the equipment as it is operated and/or maneuvered in performing the work. This requirement may be waived when the Engineer has given written authorization to the reduction in clearance that is specific to the time, duration and location of such waiver, when such reduction is shown on the traffic control plans



included in these contract documents, when such reduction is shown on the traffic control plans prepared by the Contractor and approved by the Engineer or for the work of installing, maintaining and removing traffic control devices. As a condition of such waiver the Engineer may require the Contractor to detour traffic, adjust the width of, or realign the adjacent traffic lane, close the adjacent traffic lane or provide barriers.

During the entire construction, a minimum of one paved traffic lane, not less than 12'wide, shall be open for use by public traffic in each direction of travel.

7-10.3.3 Traffic Control System for Lane Closure. A traffic control system consists of closing traffic lanes or pedestrian walkways in accordance with the details shown on the plans, California Manual on Uniform Traffic Control Devices (FHWA MUTCD Latest Version, as amended for use in California) and provisions under "Maintaining Traffic" elsewhere in these Provisions. The provisions in this section will not relieve the Contractor from its responsibility to provide such additional devices or take such measures as may be necessary to maintain public safety.

When lanes are closed for only the duration of work periods, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way, shall be removed from the traveled way and shoulder at the end work period. If the Contractor so elects, said components may be stored at selected central locations, approved by the Engineer, within the limits of the right-of-way.

7-10.3.4 Traffic Control for Permanent and Temporary Traffic Striping. During traffic stripe operations, traffic shall be controlled with lane closures, as provided for under "Traffic Control System for Lane Closure" of these Supplemental Provisions or by use of an alternative traffic control plan proposed by the Contractor and approved by the Engineer. The Contractor shall not start traffic striping operations using an alternative plan until the Contractor has submitted its plan to the Engineer and has received the Engineer's written approval of said plan.

7-10.3.5 Temporary Pavement Delineation. Temporary pavement delineation shall be furnished, placed, maintained and removed in accordance with the minimum standards specified in the California Manual on Uniform Traffic Control Devices (FHWA MUTCD 2009 Latest Version, as amended for use in California) published by CALTRANS. Whenever the work causes obliteration of pavement delineation, temporary or permanent pavement delineation shall be in place prior to opening the traveled way to public traffic. Lane line or centerline pavement delineation shall be provided at all times for traveled ways open to public traffic. All work necessary, including any required lines or marks, to establish the alignment of temporary pavement delineation shall be performed by the Contractor. When temporary pavement delineation is removed, all lines and marks used to establish the alignment of the temporary pavement delineation shall be removed by grinding.

Surfaces to receive temporary pavement delineation shall be dry and free of dirt and loose material. Temporary pavement delineation shall not be applied over existing pavement delineation or other temporary pavement delineation. Temporary pavement delineation shall be maintained until superseded or replaced with permanent pavement delineation.

Temporary pavement delineation shall be removed when, as determined by the Engineer, the temporary pavement delineation conflicts with the permanent pavement delineation or with a new traffic pattern for the area and is no longer required for the direction of public traffic. When temporary pavement delineation is required to be removed, all lines and marks used to establish the alignment of the temporary pavement delineation shall be removed.



7-10.3.6 Preparation of New, or Modifications and Additions to Existing, Traffic Control Plan Sheets. If no traffic control plans (TCP) or Traffic Control Staging plans (TCP) are included in the project plans, or if the Contractor elects to modify TCP included in the project plans, the Contractor shall have such new or modified TCP prepared and submitted as a part of the Work for any and all construction activities that are located within the traveled way. The Contractor shall have TCP prepared and submitted as a part of the Work for any construction activities that are a part of this project that are not included in the project plans. The Contractor must submit the TCP for the Engineer's review in conformance with the requirements of Section 2-5.3, et seq. and obtain the Engineer's approval of the TCP prior to implementing them. The minimum 20-day review period specified in Section 2-5.3.1 for shop drawings and submittals shall pertain to each submittal of TCP, new, modified or added to, for the Engineer's review. New or revised TCP submittals shall include all TCP needed for the entire duration of the Work. Each phase of the TCP shall be shown in sufficient scale and detail to show the lane widths, transition lengths, curve radii, stationing of features affecting the traffic control plan and the methodology proposed to transition to the subsequent TCP phase. When the vertical alignment of the traveled surface differs from the finished pavement elevation vertical curves must also be shown. Such modifications, supplements and/or new design of TCP shall meet the requirements of the Engineer and the California Manual on Uniform Traffic Control Devices 2014 Edition Revision 6 (FHWA MUTCD Latest Version, as amended for use in California) as published by CALTRANS. Such modification, addition, supplement, and/or new design of TCP shall be prepared by a registered professional engineer appropriately registered in the State of California. The Engineer shall be the sole judge of the suitability and quality of any such modifications, supplements, and/or new designs to TCP. The Engineer may approve any such modifications, supplements, and/or new designs to the TCP when, in the Engineer's sole opinion, such modifications, supplements, and/or new designs to the TCP prepared by the registered professional engineer retained by the Contractor will be beneficial to the best interests of the Agency. Such modification, addition, supplement, and/or new design shall not be implemented and no work shall be commenced that is contingent on such approval until the changed TCP are approved by the Engineer. The preparation of such modification, addition, supplement, and/or new designs of TCP shall not presuppose their approval or obligate the Agency in any fashion. Submittal and review requirements for such modifications, supplements, and/or new designs to TCP shall conform to the requirements of Section 2-5.3 Shop Drawings and Submittals.

7-10.3.7 Payment

The Contractor shall provide traffic control at the contract lump sum price bid. The contract lump sum price paid for "traffic control" shall include full compensation for furnishing all labor (including flagging costs), materials (including signs), tools, equipment and incidentals, and for doing all the work involved in preparation, reproduction and changing of traffic control plans, placing, applying traffic stripes and pavement markers with bituminous adhesive, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of the traffic control system as shown on the plans and approved additions and modifications, as specified in these supplemental provisions, and as directed by the Engineer. All expenses and time to prepare and review modifications, additions, supplements and/or new TCP designs shall be included in the lump sum bid for traffic control and no additional payment will be made therefore. Flagging costs will be paid for as a part of the Lump Sum Amount for "Traffic Control." The cost of labor and material for portable concrete barriers will be paid for at the unit price bid. When there is no bid item the cost of labor and material for portable concrete barriers they will be paid as an incidental to the work being performed and no additional payment will be made therefore. Progress payments for "Traffic Control" will be based on the percentage of the improvement work completed.



7-10.4 Safety.

7-10.4.1 Safety Orders. The Contractor shall have at the Work site, copies or suitable extracts of: Construction Safety Orders, Tunnel Safety Orders and General Industry Safety Orders issued by the State Division of Industrial Safety. The Contractor shall comply with provisions of these and all other applicable laws, ordinances, and regulations.

Before excavating any trench 5 feet or more in depth, the Contractor shall submit a detailed plan to the Agency showing the design of shoring, bracing, sloping, or other provisions to be made for the workers' protection from the hazard of caving ground during the excavation of such trench. If the plan varies from the shoring system standards, the plan shall be prepared by a registered Civil Engineer. No excavation shall start until the Engineer has accepted the plan and the Contractor has obtained a permit from the State Division of Industrial Safety. A copy of the permit shall be submitted to the Engineer.

Payment for performing all work necessary to provide safety measures shall be included in the prices bid for other items of work except where separate bid items for excavation safety are provided, or required by law.

7-10.4.2 Use of Explosives. Explosives may be used only when authorized in writing by the Engineer, or as otherwise stated in the Specifications. Explosives shall be handled, used, and stored in accordance with all applicable regulations.

The Engineer's approval of the use of explosives shall not relieve the Contractor from liability for claims caused by blasting operations.

7-10.4.3 Special Hazardous Substances and Processes. Materials that contain hazardous substances or mixtures may be required on the Work. A Material Safety Data Sheet as described in Section 5194 of the California Code of Regulations shall be requested by the Contractor from the manufacturer of any hazardous products used.

Material usage shall be accomplished with strict adherence to California Division of Industrial Safety requirements and all manufacturer warnings and application instructions listed on the Material Safety Data Sheet and on the product container label.

The Contractor shall notify the Engineer if a specified product cannot be used under safe conditions.

7-10.4.4 Confined Spaces.

(a) Confined Space Entry Program. The Contractor shall be responsible for implementing, administering and maintaining a confined space entry program (CSEP) in accordance with Sections 5156, 5157 and 5158, Title 8, CCR.

Prior to starting the Work, the Contractor shall prepare and submit its comprehensive CSEP to the Engineer. The CSEP shall address all potential physical and environmental hazards and contain procedures for safe entry into confined spaces, including, but not limited to the following:

1. Training of personnel
2. Purging and cleaning the space of materials and residue



3. Potential isolation and control of energy and material inflow
4. Controlled access to the space
5. Atmospheric testing of the space
6. Ventilation of the space
7. Special hazards consideration
8. Personal protective equipment
9. Rescue plan provisions

The Contractor's submittal shall include the names of its personnel, including subcontractor personnel, assigned to the project who will have CSEP responsibilities, their CSEP training, and their specific assignment and responsibility in carrying out the CSEP.

(b) **Permit-Required Confined Spaces.** Entry into permit-required confined spaces as defined in Section 5157, Title 8, CCR may be required as a part of the Work. All manholes, tanks, vaults, pipelines, excavations, or other enclosed or partially enclosed spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. The Contractor shall implement a permit space program prior to performing any work in a permit-required confined space. A copy of the permit shall be available at all times for review by Contractor and Agency personnel at the Work site.

(c) **Payment.** Payment for implementing, administering, and providing all equipment and personnel to perform the CSEP shall be included in the bid items for which the CSEP is required.

7-10.4.5 Safety and Protection of Workers and Public. The Contractor shall take all necessary precautions for the safety of employees on the work and shall comply with all applicable provisions of Federal, State and Municipal safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the work is being performed. The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the work, all necessary safeguards for the protection of workers and public, and shall use danger signs warning against hazards created by such features of construction as protruding nails, hoists, well holes, and falling materials.

7-11 PATENT FEES OR ROYALTIES. The Contractor shall absorb in its Bid the patent fees or royalties on any patented article or process furnished or used in the Work. The Contractor shall indemnify and hold the Agency harmless from any legal action that may be brought for infringement of patents.

7-12 ADVERTISING. The names, addresses and specialties of Contractors, Subcontractors, architects, or engineers may be displayed on removable signs. The size and location shall be subject to the Engineer's approval.

Commercial advertising matter shall not be attached to or painted on the surfaces of buildings, fences, canopies, or barricades.

7-13 LAWS TO BE OBSERVED. The Contractor shall keep fully informed of State and National laws and County and Municipal ordinances and regulations which in any manner affect those employed in the Work or the materials used in the Work or in any way affect the conduct of the Work. The Contractor shall at all times observe and comply with such laws, ordinances, and regulations. Municipal ordinances that affect this work include Chapter 11.06. Excavation and Grading. If this notice specifies locations or possible materials, such as borrow pits or



gravel beds, for use in the proposed construction project which would be subject to Section 1601 or Section 1603 of the Fish and Game Code, the conditions established pursuant to Section 1601 et seq. of the Fish and Game Code shall become conditions of the contract.

7-14 ANTITRUST CLAIMS. Section 7103.5 of the Public Contract Code provides:

“In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec 15) or Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or subcontract. The assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment of the parties.”



SECTION 8 – FACILITIES FOR AGENCY PERSONNEL

8-1 **GENERAL.** No facilities provided for agency personnel shall be required.



SECTION 9 – MEASUREMENT AND PAYMENT

9-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK.

9-1.1 General. Unless otherwise specified, quantities of work shall be determined from measurements or dimensions in horizontal planes. However, linear quantities of pipe, piling, fencing and timber shall be considered as being the true length measured along longitudinal axis.

Unless otherwise provided in Specifications, volumetric quantities shall be the product of the mean area of vertical or horizontal sections and the intervening horizontal or vertical dimension. The planimeter shall be considered an instrument of precision adapted to measurement of all areas.

9-1.2 Methods of Measurement. Materials and items of work which are to be paid for on basis of measurement shall be measured in accordance with methods stipulated in the particular sections involved.

9-1.3 Certified Weights. When payment is to be made on the basis of weight, the weighing shall be done on certified platform scales or, when approved by the Engineer, on a completely automated weighing and recording system. The Contractor shall furnish the Engineer with duplicate licensed weighmaster's certificates showing actual net weights. The Agency will accept the certificates as evidence of weights delivered.

9-1.4 Units of Measurement. The system of measure for this contract shall be the U.S. Standard Measures.

9-2 LUMP SUM WORK. Items for which quantities are indicated "Lump Sum", "L.S.", or "Job", shall be paid for at the price indicated in the Bid. Such payment shall be full compensation for the items of work and all work appurtenant thereto.

When required by the Specifications or requested by the Engineer, the Contractor shall submit to the Engineer within 15 days after award of Contract, a detailed schedule in triplicate, to be used only as a basis for determining progress payments on a lump sum contract or designated lump sum bid item. This schedule shall equal the lump sum bid and shall be in such form and sufficiently detailed as to satisfy the Engineer that it correctly represents a reasonable apportionment of the lump sum.

9-3 PAYMENT

9-3.1 General. The quantities listed in the Bid schedule will not govern final payment. Payment to the Contractor will be made only for actual quantities of Contract items constructed in accordance with the Plans and Specifications. Upon completion of construction, if the actual quantities show either an increase or decrease from the quantities given in the Bid schedule, the Contract Unit Prices will prevail subject to the provisions of Section 3-2.2.1.

The unit and lump sum prices to be paid shall be full compensation for the items of work and all appurtenant work, including furnishing all materials, labor, equipment, tools, and incidentals.

Payment will not be made for materials wasted or disposed of in a manner not called for under the Contract. This includes rejected material not unloaded from vehicles, material rejected after



it has been placed, and material placed outside of the Plan lines. No compensation will be allowed for disposing of rejected or excess material.

Payment for work performed or materials furnished under an Assessment Act Contract will be made as provided in particular proceedings or legislative act under which such contract was awarded.

Whenever any portion of the Work is performed by the Agency at the Contractor's request, the cost thereof shall be charged against the Contractor, and may be deducted from any amount due or becoming due from the Agency.

Whenever immediate action is required to prevent injury, death, or property damage, and precautions which are the Contractor's responsibility have not been taken and are not reasonably expected to be taken, the Agency may, after reasonable attempt to notify the Contractor, cause such precautions to be taken and shall charge the cost thereof against the Contractor, or may deduct such cost from any amount due or becoming due from the Agency. Agency action or inaction under such circumstances shall not be construed as relieving the Contractor or its Surety from liability.

Payment shall not relieve the Contractor from its obligations under the Contract; nor shall such payment be construed to be acceptance of any of the Work. Payment shall not be construed as the transfer of ownership of any equipment or materials to the Agency. Responsibility of ownership shall remain with the Contractor who shall be obligated to store any fully or partially completed work or structure for which payment has been made; or replace any materials or equipment required to be provided under the Contract which may be damaged, lost, stolen or otherwise degraded in any way prior to acceptance of the Work, except as provided in Section 6-10.

Guarantee periods shall not be affected by any payment but shall commence on the date of recordation of the "Notice of Completion."

If, within the time fixed by law, a properly executed notice to stop payment is filed with the Agency, due to the Contractor's failure to pay for labor or materials used in the Work, all money due for such labor or materials will be withheld from payment to the Contractor in accordance with applicable laws.

At the expiration of 35 days from the date of acceptance of the Work by the Board, or as prescribed by law, the amount deducted from the final estimate and retained by the Agency will be paid to the Contractor except such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be authorized by the Contract to be further retained.

9-3.2 Partial and Final Payment. The Engineer will, after award of Contract, establish a closure date for the purpose of making monthly progress payments. The Contractor may request in writing that such monthly closure date be changed. The Engineer may approve such request when it is compatible with the Agency's payment procedure.

Each month, the Engineer will make an approximate measurement of the work performed to the closure date as basis for making monthly progress payments. The estimated value will be based on contract unit prices, completed change order work and as provided for in Section 9-2 of these General Provisions. Progress payments shall be made no later than thirty (30) calendar days after the closure date. Five (5) working days following the closure date, the



Engineer shall complete the detailed progress pay estimate and submit it to the Contractor for the Contractor's information. Should the Contractor assert that additional payment is due, the Contractor shall within ten (10) days of receipt of the progress estimate, submit a supplemental payment request to the Engineer with adequate justification supporting the amount of supplemental payment request. Upon receipt of the supplemental payment request, the Engineer shall, as soon as practicable after receipt, determine whether the supplemental payment request is a proper payment request. If the Engineer determines that the supplemental payment request is not proper, then the request shall be returned to the Contractor as soon as practicable, but not later than seven (7) days after receipt. The returned request shall be accompanied by a document setting forth in writing the reasons why the supplemental payment request was not proper. In conformance with Public Contract Code Section 20104.50, the City shall make payments within thirty (30) days after receipt of an undisputed and properly submitted supplemental payment request from the Contractor. If payment of the undisputed supplemental payment request is not made within thirty (30) days after receipt by the Engineer, then the City shall pay interest to the Contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.

From each progress estimate, 10 percent will be deducted and retained by the Agency, and the remainder less the amount of all previous payments will be paid. After 50 percent of the Work has been completed and if progress on the Work is satisfactory, the deduction to be made from remaining progress estimates and from the final estimate may be limited to \$500 or 10 percent of the first half of total Contract amount, whichever is greater.

No progress payment made to the Contractor or its sureties will constitute a waiver of the liquidated damages under 6-9.

As provided in Section 22300 of the California Public Contract Code, the Contractor may substitute securities for any monies withheld by the Agency to ensure performance under the Contract.

After final inspection, the Engineer will make a Final Payment Estimate and process a corresponding payment. This estimate will be in writing and shall be for the total amount owed the Contractor as determined by the Engineer and shall be itemized by the contract bid item and change order item with quantities and payment amounts and shall show all deductions made or to be made for prior payments and amounts to be deducted under provisions of the contract. All prior estimates and progress payments shall be subject to correction in the Final Payment Estimate.

The Contractor shall have 30 calendar days from receipt of the Final Payment Estimate to make written statement disputing any bid item or change order item quantity or payment amount. The Contractor shall provide all documentation at the time of submitting the statement supporting its position. Should the Contractor fail to submit the statement and supporting documentation within the time specified, the Contractor acknowledges that full and final payment has been made for all contract bid items and change order items.

If the Contractor submits a written statement with documentation in the aforementioned time, the Engineer will review the disputed item within 30 calendar days and make any appropriate adjustments on the Final Payment. Remaining disputed quantities or amounts not approved by the Engineer will be subject to resolution as specified in Section 3-5, Disputed Work.

The written statement filed by the Contractor shall be in sufficient detail to enable the Engineer



to ascertain the basis and amount of said disputed items. The Engineer will consider the merits of the Contractor's claims. It will be the responsibility of the Contractor to furnish within a reasonable time such further information and details as may be required by the Engineer to determine the facts or contentions involved in its claims. Failure to submit such information and details will be sufficient cause for denying payment for the disputed items.

9-3.2.1 Payment for Claims. Except for those final payment items disputed in the written statement required in Section 9-3.2 all claims of any dollar amount shall be submitted in a written statement by the Contractor no later than the date of receipt of the final payment estimate. Those final payment items disputed in the written statement required in Section 9-3.2 shall be submitted no later than 30 days after receipt of the Final Payment estimate. No claim will be considered that was not included in this written statement, nor will any claim be allowed for which written notice or protest is required under any provision of this contract including Sections 3-4 Changed Conditions, 3-5 Disputed Work, 6-6.3 Payment for Delays to Contractor, 6-6.4 Written Notice and Report, or 6-7.3 Contract Time Accounting, unless the Contractor has complied with notice or protest requirements.

The claims filed by the Contractor shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of said claims. The Engineer will consider and determine the Contractor's claims and it will be the responsibility of the Contractor to furnish within a reasonable time such further information and details as may be required by the Engineer to determine the facts or contentions involved in its claims. Failure to submit such information and details will be sufficient cause for denying the claims.

Payment for claims shall be processed within 30 calendar days of their resolution for those claims approved by the Engineer. The Contractor shall proceed with informal dispute resolution under Section 3-5, Disputed Work, for those claims remaining in dispute.

9-3.3 Delivered Materials. When provided for in the Specifications, and subject to the limitation and conditions therein, the cost of materials and equipment delivered but not incorporated into the Work will be included in the progress estimate.

9-3.3.1 Delivered Materials. The cost of materials and equipment delivered but not incorporated into the work will not be included in the progress estimate.

9-3.4 Mobilization. When a bid item is included in the Proposal form for mobilization and subject to the conditions and limitations in the Specifications, the costs of work in advance of construction operations and not directly attributable to any specific bid item will be included in the progress estimate. When no such bid item is provided, payment for such costs will be considered to be included in the other items of work.

9-3.4.1 Mobilization and Preparatory Work. Payment for mobilization and preparatory Work will be included in the various items of work and no other payment will be made.

9-4 BID ITEMS. Payment for each Bid Item shall be made at the quantity and type as listed in the Contractor's Proposal. All work shown or mentioned on the plans, in the Contract Documents, General Provisions, or Technical Provisions/Specifications shall be considered as included in the Bid Items. Contractor must protect existing utilities, improvements, landscaping, irrigation systems, and vegetation in place. If damaged during the work, Contractor is responsible to repair or replace any utilities, improvements, landscaping, irrigation systems, and vegetation at his expense.



Remove and Dispose of Existing Pavement (Bid Item No. 1) SF

The contract unit price paid for this bid item shall constitute full compensation for the removal and disposal of the existing pavement and for furnishing all labor, materials, equipment, tools and incidentals and for performing all the work complete and accepted in place, as shown on the drawings and as specified in the contract documents. No additional payment will be made thereof.

Remove and Dispose of Existing Curb and Gutter (Bid Item No. 2) LF

The contract unit price paid for this bid item shall constitute full compensation for the removal and disposal of the existing curb and gutter and for furnishing all labor, materials, equipment, tools and incidentals and for performing all the work complete and accepted in place, as shown on the drawings and as specified in the contract documents. No additional payment will be made thereof.

Remove and Dispose of Existing Sidewalk (Bid Item No. 3) SF

The contract unit price paid for this bid item shall constitute full compensation for the removal and disposal of the existing sidewalk and for furnishing all labor, materials, equipment, tools and incidentals and for performing all the work complete and accepted in place, as shown on the drawings and as specified in the contract documents. No additional payment will be made thereof.

Remove and Dispose of Existing AC Curb (Bid Item No. 4) LF

The contract unit price paid for this bid item shall constitute full compensation for the removal and disposal of the existing AC Curb and for furnishing all labor, materials, equipment, tools and incidentals and for performing all the work complete and accepted in place, as shown on the drawings and as specified in the contract documents. No additional payment will be made thereof.

Remove and Reinstall Existing Bench (Bid Item No. 5) EA

The contract unit price paid for this bid item shall constitute full compensation for the removal and reinstallation of the existing bench and for furnishing all labor, materials, equipment, tools and incidentals and for performing all the work complete and accepted in place, as shown on the drawings and as specified in the contract documents. No additional payment will be made thereof.

Remove and Reinstall Existing Trash Bin (Bid Item No. 6) EA

The contract unit price paid for this bid item shall constitute full compensation for the removal and reinstallation of the existing trash bin and for furnishing all labor, materials, equipment, tools and incidentals and for performing all the work complete and accepted in place, as shown on the drawings and as specified in the contract documents. No additional payment will be made thereof.

Remove and Dispose of Existing Guardrail (Bid Item No. 7) LF

The contract unit price paid for this bid item shall constitute full compensation for the removal and disposal of the existing guardrail and for furnishing all labor, materials, equipment, tools and incidentals and for performing all the work complete and accepted in place, as shown on the drawings and as specified in the contract documents. No additional payment will be made thereof.



Remove and Reinstall Existing Pedestrian Railing (Bid Item No. 8) LF

The contract unit price paid for this bid item shall constitute full compensation for the removal and reinstallation of the existing pedestrian railing and for furnishing all labor, materials, equipment, tools and incidentals and for performing all the work complete and accepted in place, as shown on the drawings and as specified in the contract documents. No additional payment will be made thereof.

Adjust to Grade Existing Street Light (Bid Item No. 9) EA

The contract unit price paid for this bid item shall constitute full compensation for adjusting each existing street light to grade in accordance with Greenbook Section 403-5, preparation of subgrade, and all other necessary items to complete the Work as shown on the drawings and as specified in the contract documents. No additional payment will be made thereof.

Adjust to Grade Existing Sewer Manhole (Bid Item No. 10) EA

The contract unit price paid for this bid item shall constitute full compensation for adjusting each existing sewer manhole to grade in accordance with Greenbook Section 403-5, the plans and contract documents. This includes preparation of subgrade, removal and replacement of DG and other improvements, and all other necessary items to complete the Work as shown on the drawings and as specified in the contract documents. No additional payment will be made thereof.

Grind and Overlay (Bid Item No. 11) SF

The contract unit price paid for this bid item shall constitute full compensation to complete grinding and overlay work as shown on the plans and specified in the contract documents. In the event that the concrete in excess of the total milled in a particular street segment is encountered, payment shall be made at the Bid unit price. Prior to paving over the milled areas, the contractor shall notify the engineer that the incidental amount has been exceeded.

Asphalt Concrete (Bid Item No. 12) Ton

The contract unit price paid for this bid item shall constitute full compensation to furnish and install Asphalt Concrete in accordance with Greenbook Section 302-5, the plans and contract documents. This includes, but is not limited to, surveying, preparation of subgrade, use of tack coat if required, and sawcutting.

Asphalt Concrete – Grind and Overlay (Bid Item No. 13) Ton

The contract unit price paid for this bid item shall constitute full compensation to furnish and install Asphalt Concrete – Grind and Overlay in accordance with Greenbook Section 302-5, the plans and contract documents. This includes, but is not limited to, surveying, preparation of subgrade, use of tack coat if required, and sawcutting.

Class 2 Aggregate Base (Bid Item No. 14) CY

The contract unit price paid for this bid item shall constitute full compensation to furnish and install Class 2 Aggregate Base in accordance with Greenbook Section 301-2.4, the plans and contract documents.

Construct 6” Type G Curb and Gutter per SDRSD G-2 (Bid Item No. 15) LF

The contract unit price paid for this bid item shall constitute full compensation to furnish and install 6-in PCC Curb and Gutter per San Diego Regional Standard Drawing G-2 in accordance with the plans and contract documents. This includes, but is not limited to, surveying, transitions, excavation, forming, base material, compaction, sawcutting, and removing and replacing pavement adjacent to curb and gutter.



Construct 6” Concrete Curb per SDRSD G-1 (Bid Item No. 16) LF

The contract unit price paid for this bid item shall constitute full compensation to furnish and install 6-in PCC Curb per San Diego Regional Standard Drawing G-1 in accordance with the plans and contract documents. This includes, but is not limited to, surveying, transitions, excavation, forming, base material, compaction, sawcutting, and removing and replacing pavement adjacent to curb.

Construct Type A Curb Ramp per SDRSD G-27 (Bid Item No. 17) EA

The contract unit price paid for this bid item shall constitute full compensation to furnish and install a Type A Curb Ramp per San Diego Regional Standard Drawing G-27 in accordance with the plans and contract documents. This includes, but is not limited to, surveying, transitions, excavation, forming, base material, compaction, sawcutting, and removing and replacing pavement adjacent to the curb ramp.

Construct Type B Curb Ramp per SDRSD G-27 (Bid Item No. 18) EA

The contract unit price paid for this bid item shall constitute full compensation to furnish and install a Type B Curb Ramp per San Diego Regional Standard Drawing G-27 in accordance with the plans and contract documents. This includes, but is not limited to, surveying, transitions, excavation, forming, base material, compaction, sawcutting, and removing and replacing pavement adjacent to the curb ramp.

Construct Type C Curb Ramp per SDRSD G-27 (Bid Item No. 19) EA

The contract unit price paid for this bid item shall constitute full compensation to furnish and install a Type C Curb Ramp per San Diego Regional Standard Drawing G-27 in accordance with the plans and contract documents. This includes, but is not limited to, surveying, transitions, excavation, forming, base material, compaction, sawcutting, and removing and replacing pavement adjacent to the curb ramp.

Construct Sidewalk per SDRSD G-07 (Bid Item No. 20) SF

The contract unit price paid for this bid item shall constitute full compensation to furnish and install 4-in PCC Sidewalk per San Diego Regional Standard Drawing G-07 in accordance with the plans and contract documents. This includes, but is not limited to, surveying, transitions, excavation, forming, base material, compaction, sawcutting, doweling into existing sidewalk and removing and replacing pavement adjacent to curb and gutter.

Construct Curb Channel (Bid Item No. 21) LF

The contract unit price paid for this bid item shall constitute full compensation to furnish and install a curb channel per the detail on the plans in accordance with the plans and contract documents. This includes, but is not limited to, surveying, connections, forming, backfill, base material, compaction, sawcutting, and removing and replacing pavement adjacent to curb channel.

Construct End Anchor Assembly Type CA Per RSP A77T1 (Bid Item No. 22) EA

The contract unit price paid for this bid item shall constitute full compensation to furnish and install an End Anchor Assembly Type CA per the Caltrans Revised Standard Plan A77T1 on the plans in accordance with the plans and contract documents. This includes all labor, materials, equipment, tools, and incidentals and for performing all the work complete and accepted in place, as shown on the drawings and as specified in the contract documents. No additional payment will be made thereof.



Remove and Dispose of Existing Solar Panels and ~~Provide-Furnish~~ and Install Pole Cap (Bid Item No. 23) LS

The contract unit price paid for this bid item shall constitute full compensation for the removal and disposal of the existing solar panels and to ~~provide-furnish~~ and install a pole cap. No additional payment will be made thereof.

Rectangular Rapid Flashing Beacon (RRFB) System (Bid Item No. 24) Lump-Sum

The contract unit price paid for this bid item shall constitute full compensation for providing a fully operational Rectangular Rapid Flashing Beacon (RRFB) system in accordance with the plans and manufacturer specifications. The Rectangular Rapid Flashing Beacon (RRFB) system shall have the following components: MK10 Controller (~~or approved equal~~) for RRFB and beacons systems without radio (RF), for use with lead acid battery, MK10 for Lanelight XW Systems- LaneLight Driver (~~or approved equal~~), 24" X 16" X 8" Aluminum Cabinet, 12V - AC power supply- no louvers or non waterproof vents, Lanelight XW (~~or approved equal~~), 10 Uni Directional Lights w/ complete installation material for conduit in asphalt, includes conduit for IRWLS only, less tees, and Drivers for each Light Bar. No additional payment will be made thereof.

Provide and Install Type III Service Cabinet (Bid Item No. 25) ~~Each~~EA

The contract unit price paid for this bid item shall constitute full compensation to furnish and Service cabinet in accordance with Caltrans 2018 Standard Specs Section 86-1.02P(2) the plans and contract documents.

Provide and Install 2" Conduit (Bid Item No. 26) ~~Linear-Fee~~

The contract unit price paid for this bid item shall constitute full compensation to furnish and conduit in accordance with Greenbook Section 700-3.5 the plans and contract documents. This includes, but is not limited to, surveying, locating utilities, connections, trenching, trench plates, backfill, compaction, resurfacing, AC paving, aggregate base, crushed rock, compacted fill, pavement markings and striping.

Provide and Install #5 Traffic Pullbox (Bid Item No. 27) EA

The contract unit price paid for this bid item shall constitute full compensation to furnish and install #5 Traffic Pullbox in accordance with Greenbook Section 700-3.7 the plans and contract documents. This includes, but is not limited to, surveying, locating utilities, connections, trenching, trench plates, backfill, compaction, resurfacing, AC paving, aggregate base, crushed rock, compacted fill, pavement markings and striping.

Remove ~~Detail-Striping~~ (Paint) (Bid Item No. 28) LF

The contract unit price paid for this bid item shall constitute full compensation to remove ~~detail striping~~ (paint) in accordance with Greenbook Section 214-5. the plans and contract documents.

Remove Pavement Markings (Thermoplastic) (Bid Item No. 29) SQFT

The contract unit price paid for this bid item shall constitute full compensation to remove pavement markings (Thermoplastic) in accordance with Greenbook Section 214-5. the plans and contract documents.

Install ~~Pavement Markings~~ (Thermoplastic) ~~Paint~~ (Bid Item No. 30) SQFT

The contract unit price paid for this bid item shall constitute full compensation to furnish and install ~~pavement markings~~ (Thermoplastic) ~~paint~~ in accordance with Greenbook Section 214-5. the plans and contract documents.



Install ~~2-2~~-Coat Paint (Bid Item No. 31) LF

The contract unit price paid for this bid item shall constitute full compensation to furnish and install 2-coat paint in accordance with Greenbook Section 214-4, the plans and contract documents.

Provide and Install #8 Conductor (Bid Item No. 32) LF

The contract unit price paid for this bid item shall constitute full compensation to furnish and install #8 conductor in accordance with Greenbook Section 700-5.3, the plans and contract documents.

Provide and Install #10 Conductor (Bid Item No. 33) LF

The contract unit price paid for this bid item shall constitute full compensation to furnish and install #10 conductor in accordance with Greenbook Section 700-5.3, the plans and contract documents.

Provide and Install #12 Conductor (Bid Item No. 34) LF

The contract unit price paid for this bid item shall constitute full compensation to furnish and install #12 conductor in accordance with Greenbook Section 700-5.3, the plans and contract documents.

Furnish and Install Red Curb Paint (Bid Item No. 35) LF

The contract unit price paid for this bid item shall constitute full compensation to furnish and install ~~Red-red~~ curb paint in accordance with Greenbook Section 214-4, the plans and contract documents.

Furnish and Install Blue Curb Paint (Bid Item No. 36) LF

The contract unit price paid for this bid item shall constitute full compensation to furnish and install blue curb paint in accordance with Greenbook Section 214-4, the plans and contract documents.

Relocate Existing Traffic Pole and Install New Foundation (Bid Item No. 37) EA

The contract unit price paid for this bid item shall constitute full compensation to relocate existing pole and ~~provide~~install new foundation in accordance with Caltrans 2018 Standard Specs Section 56-3 the plans and contract documents. This includes, but is not limited to, surveying, locating utilities, connections, trenching, trench plates, backfill, compaction, resurfacing, AC paving, aggregate base, crushed rock, and compacted fill.

Remove 3' of Existing Foundation (Bid Item No. 38) EA

The contract unit price paid for this bid item shall constitute full compensation to relocate existing pole and provide new foundation in accordance with Caltrans 2018 Standard Specs Section 56-3 the plans and contract documents. This includes, but is not limited to, surveying, locating utilities, connections, trenching, trench plates, backfill, compaction, resurfacing, AC paving, aggregate base, crushed rock, and compacted fill.

Remove and Salvage Existing Pole (Bid Item No. 39) EA

The contract unit price paid for this bid item shall constitute full compensation to removal and salvage of existing pole in accordance with Caltrans 2018 Standard Specs Section 56-3 the plans and contract documents. This includes, but is not limited to, surveying, locating utilities, connections, trenching, trench plates, backfill, compaction, resurfacing, AC paving, aggregate base, crushed rock, and compacted fill.



Furnish and Install Green Paint (Bid Item No. 40) SQFT

The contract unit price paid for this bid item shall constitute full compensation to furnish and install Green paint in accordance with Greenbook Section 214-4 the plans and contract documents.

Provide-Furnish and Install New Sign (Bid Item No. 41) EA

The contract unit price paid for this bid item shall constitute full compensation to furnish and install new sign in accordance with Caltrans 2018 Standard Specs Section 82-2 and 82-3 the plans and contract documents.

Provide-Furnish and Install Roadway Sign and Post (Bid Item No. 42) EA

The contract unit price paid for this bid item shall constitute full compensation to furnish and install Roadway Sign and Post in accordance with Caltrans 2018 Standard Specs Section 82-2 and 82-3 the plans and contract documents.

Relocate Existing Sign (Bid Item No. 43) EA

The contract unit price paid for this bid item shall constitute full compensation to relocate existing sign in accordance with Caltrans 2018 Standard Specs Section 82-2 and 82-3, the plans and contract documents.

Provide-Furnish and Install 15TS Pole-Standard (Bid Item No. 44) EA

The contract unit price paid for this bid item shall constitute full compensation to furnish and install 15TS standard in accordance with Caltrans 2018 Standard Specs Section 56-3 the plans and contract documents. This includes, but is not limited to, surveying, locating utilities, connections, trenching, trench plates, backfill, compaction, resurfacing, AC paving, aggregate base, crushed rock, and compacted fill.

Provide-Furnish and Install Concrete Light Standard (Bid Item No. 45) EA

The contract unit price paid for this bid item shall constitute full compensation to furnish and install Concrete light standard in accordance City of Carlsbad requirements. This includes, but is not limited to, surveying, locating utilities, connections, trenching, trench plates, backfill, compaction, resurfacing, AC paving, aggregate base, crushed rock, and compacted fill.

Provide-Furnish and Install Type LB Fitting (Bid Item No. 46) EA

The contract unit price paid for this bid item shall constitute full compensation to furnish and install Type LB fitting in accordance with the City of Carlsbad directionrequirements.



SUPPLEMENTAL PROVISIONS TO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION PART 2, CONSTRUCTION MATERIALS

SECTION 200 - ROCK MATERIALS

200-2 UNTREATED BASE MATERIALS

200-2.1 General. Add the following: Aggregate base shall be Class 2 Aggregate Base per Caltrans Standard Specification, July 1999, Section 26: Aggregate Bases, Subsection 26-1.02A Class 2 Aggregate Base and as specified herein.

Add the following section:

200-2.7 Class 2 Aggregate Base. Aggregate for Class 2 aggregate base shall be free from organic matter and other deleterious substances, and shall be of such nature that it can be compacted readily under watering and rolling to form a firm, stable base. Aggregate may include material processed from reclaimed asphalt concrete, portland cement concrete, lean concrete base, cement treated base or a combination of any of these materials.

Aggregate shall conform to the grading and quality requirements shown in the following tables. At the option of the Contractor, the grading for either the 1 1/2-inch maximum or 3/4 inch maximum shall be used, except that once a grading is selected it shall not be changed without the Engineer's written approval.

AGGREGATE GRADING REQUIREMENTS

<i>Sieve Sizes</i>	<i>Percentage Passing</i>	
	<i>1 1/2" Maximum</i>	<i>3/4" Maximum</i>
	<i>Operating Range</i>	<i>Operating Range</i>
2"	100	—
1 1/2"	90-100	—
1"	—	100
3/4"	50-85	90-100
No. 4	25-45	35-60
No. 30	10-25	10-30
No. 200	2-9	2-9

QUALITY REQUIREMENTS

<i>Tests</i>	<i>Operating Range</i>
Resistance (R-value)	78 Min.
Sand Equivalent	25 Min.
Durability Index	35 Min.

The aggregate shall not be treated with lime, cement or other chemical material before the Durability Index test is performed.

If the results of either or both the aggregate grading and Sand Equivalent tests do not meet the requirements specified for "Operating Range" but meet the "Contract Compliance" requirements, placement of the aggregate base may be continued for the remainder of that day. However, another day's work may not be started until tests, or other information, indicate to the satisfaction of the Engineer that the next material to be used in the work will comply with the requirements specified for "Operating Range."



If the results of either or both the aggregate grading and Sand Equivalent tests do not meet the requirements specified for "Contract Compliance," the aggregate base which is represented by these tests shall be removed. However, if requested by the Contractor and approved by the Engineer, the aggregate base may remain in place and the Contractor shall pay to the City \$2.25 per cubic yard for such aggregate base left in place. The City may deduct this amount from any moneys due, or that may become due, the Contractor under the contract. If both the aggregate grading and Sand Equivalent do not conform to the "Contract Compliance" requirements, only one adjustment shall apply.

No single aggregate grading or Sand Equivalent test shall represent more than 500 cubic yards or one day's production, whichever is smaller.



SECTION 201 - CONCRETE, MORTAR, AND RELATED MATERIALS

201-1 PORTLAND CEMENT CONCRETE

TABLE 201-1.1.2(A) Modify as follows:

**TABLE 201-1.1.2(A) ⁽³⁾
PORTLAND CEMENT CONCRETE**

Type of Construction	Concrete Class	Maximum Slump mm (Inches)
All Concrete Used Within the Right-of-Way	330-C-23 (560-C-3250) ⁽¹⁾	⁽²⁾
Trench Backfill Slurry	115-E-3 (190-E-400)	200 (8")
Street Light Foundations and Survey Monuments	330-C-23 (560-C-3250)	100 (4")
Traffic Signal Foundations	350-C-27 (590-C-3750)	100 (4")
Concreted-Rock Erosion Protection	310-C-17 (520-C-2500P)	per Table 300-11.3.1

(1) Except that concrete required to be of higher strength by Table 201-1.1.2(A) SSPWC shall be as per Table 201-1.1.2(A) SSPWC.

(2) As per Table 201-1.1.2(A) SSPWC.

(3) Portions of Table 201-1.1.2(A) of the Standard Specifications for Public Works Construction not shown herein as changed are not affected by this table.

201-3 EXPANSION JOINT FILLER AND JOINT SEALANTS

201-3.4 Type "A" Sealant (Two-Part Polyurethane Sealant). Add the following:

All finished concrete surfaces shall have a ½" continuous expansion joint at locations indicated on the plans and notes and shall be located either parallel to perpendicular to the curb line. When not otherwise indicated, all expansion joints located adjacent to colored concrete shall be sealant Type "A" and colored to match the color of the concrete surface.

Contractor shall provide joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates.

Contractor shall submit product data from the manufacturer of each joint sealant product required, including instructions for joint preparation and joint sealer application. Contractor shall also submit samples for initial selection purposes in form of manufacturer's standard bead samples, consisting of strips of actual products showing full range of colors available, for each product exposed to view. Samples shall be submitted to Engineer. Submit complete schedule of type (and location where type is to be used) of each sealant.

Contractor shall engage an experienced installer who has completed joint sealant applications similar in material, design and extent to that indicated for Project that have resulted in construction with a record of successful in-service performance.



Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

Provide color selections made by Engineer from manufacturer’s full range of standard colors for products of type indicated. Sealant color parallel to curbline shall match color of Paving Treatment Type “A” as specified in Section 201-1.2.4(a) of these Special Provisions.

Joint sealants shall be multi-component polyurethane sealant. Except as otherwise indicated, provide manufacturer’s standard, non-modified, 2-or-more-part, polyurethane-based, elastomeric sealant; complying with either ASTM-C-920-87, Type M, Grade P, Class 25, or FS TT-S 0227E Class A, non-sag, Type II.

Acceptable Products: “Sonneborn NP11”; Sonneborn Building Products Division; “Scofield Lithoseal Trafficalk 3-G”, L.M. Scofield Company; or equivalent, as approved by the Engineer.

Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

Plastic foam joint fillers shall be preformed, compressible, resilient, nonstaining, nonwaxing, nonextruding strips of flexible plastic foam either open-cell polyurethane foam or closed-cell polyethylene foam, subject to approval of sealant manufacturer, for cold-applied sealants only. Polystyrene foam is not acceptable.

201-3.7 Type “D” Joint Sealant. Add the following: Hot-melt rubberized asphalt shall be in solid form at room temperature and fluid at an application temperature of 190°C (375°F) to 205°C (400°F). Fumes from the material shall be non-toxic. Sealant shall be suitable for use in both asphalt concrete and portland cement concrete. Performance characteristics of the cured hot-melt rubberized asphalt shall be as per Table 201-3.7(A).

**TABLE 201-3.7(A)
CURED HOT-MELT RUBBERIZED ASPHALT**

Property	Measuring Standard (ASTM Designation)	Results	Conditions
Cone Penetration	ASTM D 3407, Sec. 5	3.5 mm, max.	25°C, 150 g, 5 s
Flow, 60°C	ASTM D 3407, Sec. 6	5 mm, max.	
Resilience	,ASTM D 3407, Sec. 8	25%, min.	25°C
Softening Point,	ASTM D 36	82 °C, min.	
Ductility,	ASTM D 113	300 mm, min.	25°C, 50 mm/min
Flash Point, COC, °C	ASTM D 92	288 °C, min.	
Viscosity, Brookfield Thermosel,	ASTM D 4402	2.5-3.5 Pa·s	No. 27 Spindle, 20 rpm, 190°C,



SECTION 203 - BITUMINOUS MATERIALS

203-6 ASPHALT CONCRETE.

ADD the following:

203-6.2.1 Acceptance. Wet Mix or Core sampled asphalt concrete will be considered in conformance with the mix design when the Asphalt Binder content is within +/-0.5% of the design mix and the gradation conforms to the grading as shown in Table 203-6.4.3 (A). Deviations in gradation may be considered in conformance with the mix design provided the stability of the completed mix complies with the requirements for Stabilometer Value per Table 203-6.4.3 (A)

Plant inspected asphalt concrete will be considered in conformance with the mix design when visually inspected and the combined gradation of the Bin samples show conformance to the grading as shown in Table 203-6.4.3 (A).

203-6.4 Asphalt Concrete Mixtures. Add the following: Conventional Asphalt concrete shall be class C2-PG64-10-RAP for surface course, and B-PG64-10-RAP for base course. Asphalt concrete shall be class D2-PG70-10 for dikes and class E-PG70-10 ditches.

203-6.4.3 Composition and Grading. Add the following: Evaluation of asphalt concrete shall be determined from samples of asphalt concrete taken after completion of all processing (Wet Mix) or by core sample analysis of the in-place asphalt concrete or by direct central plant inspection that confirms the production of a particular mix design and verifies using samples of aggregate taken before the addition of asphalt and mineral filler (Bin). All samples shall be taken in accordance with Calif. Test 125.

When Wet Mix or Core samples of asphalt concrete are to be used for evaluation, sufficient size samples shall be taken to ensure representative and adequate quantity of material for:

1. Asphalt Content and Gradation of Extraction using Calif. Test 382 or ASTM 2172, and Calif. Test 202.
2. Stability using:
 - a. Hveem stability Value using Calif. Tests 304 and 366 shall be the average of three individual Values
or
 - b. Marshall Stability¹ in accordance with the Asphalt Institute's MS-2 fabricated and tested for traffic volume and shall be the average of three specimens.

¹Only use Marshall Stability when the deviation between individual Hveem Stabilometer Values are greater than +/-5.

When using core sample analysis, the samples must be properly prepared to safeguard against influx of outside contaminants and so that the cut surfaces do not influence the test results.



SECTION 206 - MISCELLANEOUS METAL ITEMS

Add the following section:

206-7 TRAFFIC SIGNS.

206-7.1 Roadside Signs. This work shall consist of furnishing and installing roadside signs in accordance with details shown on the plans, the California Sign Specifications and these special provisions. Permanent and temporary signs shall be free from blemishes that may affect the serviceability and detract from the general sign color and appearance when viewing during daytime and nighttime from a distance of 25 feet. The face of each finished sign shall be uniform, flat, smooth, and free of defects, scratches, wrinkles, gel, hard spots, streaks, extrusion marks, and air bubbles. The front, back and edges of the sign panels shall be free of router chatter marks, burns, sharp edges, loose rivets, delaminated skins, excessive adhesive overspray, and aluminum marks. Contractor shall provide specifications of materials for proposed installation and relocation of poles. Proposed materials shall be similar to the existing pole material (metals) to minimize rusting.

206-7.1.2 Sign Identification. The following notation shall be placed on the lower right side of the back of each sign where the notation shall not be blocked by the sign post or frame:

- A. **PROPERTY OF THE CITY OF CARLSBAD,**
- B. Name of the sign manufacturer,
- C. Month and year of fabrication,
- D. Type of retroreflective sheeting, and
- E. Manufacturer's identification and lot number of retroreflective sheeting.

The above notation shall be applied directly to the aluminum sign panels in 1/4-inch upper case letters and numerals by die-stamp and applied by similar method to the fiberglass reinforced plastic signs. Painting, screening, or engraving of the notation will not be allowed. The notation shall be applied without damaging the finish of the sign.

206-7.1.3 Drawings. Standard signs shall be as per the most recently approved California Sign Specifications. The date of approval shall be the date most closely preceding the date of manufacture of the sign(s) or the date of the "Notice to Proceed" of this contract, whichever is most recent.

206-7.1.4 Reflective Sheeting. All advisory signs, warning signs and all regulatory signs shall be fabricated with Type IV prismatic sheeting (High Intensity Prismatic or equivalent) or Type IX prismatic cube lens sheeting (Diamond Grade VIP or equivalent) in accordance to ASTM Designation D4956 and conforming to the requirements of these special provisions.

206-7.1.5 Sign Panel. Sign panels shall be fabricated from sheet aluminum in accordance with ASTM Designation B209. Sheet aluminum shall be pretreated in accordance to ASTM Designation B449. The surface of sheet aluminum shall be cleaned, deoxidized, and coated with a light and tightly adherent chromate conversion coating free of powdery residue. The conversion coating shall be Class 2 with a mass between 10 milligrams per square foot. Following the cleaning and coating process, the sheet aluminum shall be protected from exposure to grease, oils, dust, and contaminants. Sheet aluminum shall be free of buckles, warps, dents, cockles, burrs, and defects resulting from fabrication.

206-7.1.6 Mounting Traffic Signs. Traffic signs shall be installed on 10-gage or 12-gage cold-rolled steel perforated tubing posts as shown on San Diego Regional Standard drawing M-45 or,



when the sign area exceeds the maximum area allowed for on that drawing, on multiple 10-gage or 12-gage cold-rolled steel perforated tubing posts. The number of posts shall be determined by the parameters in SDRS drawing M-45 or as approved by the Engineer. Traffic signs will be provided with back braces and mounting blocks as approved by the Engineer consisting of 10-gage or 12-gage cold-rolled steel perforated tubing when multiple posts are used.

206-7.1.6 Traffic Sign Posts. Posts shall be constructed of 10-gage or 12-gage cold-rolled steel perforated tubing posts as shown on San Diego Regional Standard drawing M-45.

206-7.2 Temporary Traffic Signs. Temporary traffic signs shall consist of all signs used for the direction, warning, and regulation of vehicle (including bicycle) and pedestrian traffic during the Contractor's performance of the Work. Temporary traffic signs include both stationary and portable signs.

206-7.2.1 General. This work shall consist of furnishing and installing temporary signs in accordance with details shown on the plans, the California Sign Specifications and these special provisions. Permanent and temporary signs shall be free from blemishes that may affect the serviceability and detract from the general sign color and appearance when viewing during daytime and nighttime from a distance of 25 feet. The face of each finished sign shall be uniform, flat, smooth, and free of defects, scratches, wrinkles, gel, hard spots, streaks, extrusion marks, and air bubbles. The front, back and edges of the sign panels shall be free of router chatter marks, burns, sharp edges, loose rivets, delaminated skins, excessive adhesive overspray, and aluminum marks.

206-7.2.2 Drawings. Standard signs shall be as per the most recently approved California Sign Specifications. The date of approval shall be the date most closely preceding the date of manufacture of the sign(s) or the date of the "Notice to Proceed" of this contract, whichever is most recent.

206-7.2.3 Reflective Sheeting. All advisory signs, warning signs and all regulatory signs shall be fabricated with Type IV prismatic sheeting (High Intensity Prismatic or equivalent) or Type IX prismatic cube lens sheeting (Diamond Grade VIP or equivalent) in accordance to ASTM Designation D4956 and conforming to the requirements of these special provisions.

206-7.2.4 Sign Panel. Sign panels shall be fabricated from sheet aluminum in accordance with ASTM Designation B209. Sheet aluminum shall be pretreated in accordance to ASTM Designation B449. The surface of sheet aluminum shall be cleaned, deoxidized, and coated with a light and tightly adherent chromate conversion coating free of powdery residue. The conversion coating shall be Class 2 with a mass between 10 milligrams per square foot. Following the cleaning and coating process, the sheet aluminum shall be protected from exposure to grease, oils, dust, and contaminants. Sheet aluminum shall be free of buckles, warps, dents, cockles, burrs, and defects resulting from fabrication.

206-7.2.5 Stationary Mounted Temporary Traffic Signs. Stationary mounted temporary traffic signs shall be installed on 10-gage and 12-gage cold-rolled steel perforated tubing posts in the same manner shown on the State of California, Department of Transportation Standard Plans RS1, RS2, RS3 and RS4 for installation of roadside signs, except as follows:

- a) Wood posts shall not be used.
- b) Back braces and blocks for sign panels will not be required.
- c) The height to the bottom of the sign panel above the edge of traveled way shall be at least 2.1 m (7').
- d) Unless otherwise shown on the plans traffic sign posts shall conform in materials and installation to SDRS drawing M-45 and shall have one post provided for each 0.48 m²



(5 ft²) of sign area, or the signs may be installed on existing lighting standards when approved by the Engineer.

- e) Sign panels mounted on temporary traffic sign posts shall conform to the requirements of these special provisions.

206-7.2.6 Temporary Traffic Sign Posts. Posts shall be 10-gage or 12-gage cold-rolled steel perforated tubing used for the support and stabilization of stationary mounted temporary signs. Post size and number of posts shall be as shown on the plans, except that when stationary mounted signs are installed and the type of sign installation is not shown on the plans, post size and the number of posts will be determined by the Engineer. Sign panels for stationary mounted signs shall consist of reflective sheeting applied to a sign substrate.

206-7.2.7 Portable Temporary Traffic Signs. Each portable temporary traffic sign shall consist of a base, standard or framework and a sign panel. The units shall be capable of being delivered to the site of use and placed in immediate operation. Sign panels for portable signs shall conform to the requirements of these special provisions, or shall be cotton drill fabric, flexible industrial nylon fabric, or other approved fabric. Fabric signs shall not be used during the hours of darkness. Size, color, and legend requirements for portable signs shall be as described for stationary mounted sign panels in section 206-7.2 of these special provisions. The height to the bottom of the sign panel above the edge of traveled way shall be at least 0.3-m (12"). All parts of the sign standard or framework shall be finished with 2 applications of orange enamel which will match the color of the sign panel background. Testing of paint will not be required.

Add the following section:

206-8 LIGHT GAGE STEEL TUBING AND CONNECTORS.

Add the following section:

206-8.1 General. This Section pertains to 10-gage and 12-gage cold-rolled steel perforated tubing used for the support and stabilization of signs. All shapes shall have a galvanized finish and shall be cold-roll-formed steel conforming to ASTM Designation A-446, Grade A. Galvanizing shall conform to ASTM A-525, Designation G-90. Galvanizing shall be performed after all forming and punching operations have been completed. Cold-rolled steel perforated tubing shall be perforated on all four faces with 11mm (7/16") holes on 25 mm (1") centers.

Add the following section:

206-8.2 Tolerances. Wall thickness tolerance shall not exceed +0.28 mm, -0.13 mm (+0.011", -0.005"). Convexity and concavity measured in the center of the flat side shall not exceed a tolerance of +0.25 mm (+0.010") applied to the specific size determined at the corner. Straightness tolerance variation shall not exceed 1.6 mm in 1 m (1/16 " in 3'). Tolerance for corner radius is 4.0mm (5/32"), plus or minus 0.40 mm (1/64"). Weld flash on corner-welded square tubing shall permit 3.60 mm (9/64") radius gage to be placed in the corner. Using 10-gage or 12-gage square tube, consecutive size tubes shall telescope freely for 3.1m (10'). Tolerance on hole size is plus or minus 0.40 mm (1/64") on a size. Tolerance on hole spacing is plus or minus 3.2 mm in 6.1 m (1/8" in 20'). In addition, for the following specific sizes of light gage steel tubing, dimensional tolerances shall not exceed those listed in tables 206-8.2 (A) and 206-8.2(B).



**TABLE 206-8.2(A)
LIGHT GAGE STEEL TUBING SIZE TOLERANCE**

Nominal Outside Dimensions		Outside Tolerance for All Sides at Corners	
mm	(inches)	mm	(inches)
25 x 25	(1 x 1)	0.13	0.005
32 x 32	(1 ^{1/4} x 1 ^{1/4})	0.15	0.006
38 x 38	(1 ^{1/2} x 1 ^{1/2})	0.15	0.006
44 x 44	(1 ^{3/4} x 1 ^{3/4})	0.20	0.008
51 x 51	(2 x 2)	0.20	0.008
56 x 56	(2 ^{3/16} x 2 ^{3/16})	0.25	0.010
57 x 57	(2 ^{1/4} x 2 ^{1/4})	0.25	0.010
64 x 64	(2 ^{1/2} x 2 ^{1/2})	0.25	0.010
51 x 76	(2 x 3)	0.25	0.010

**TABLE 206-8.2(B)
LIGHT GAGE STEEL TUBING SQUARENESS OF SIDES AND TWIST**

Nominal Outside Dimension mm	Outside Dimension (Inches)	Squareness ⁽¹⁾		Twist Permissible in 900 mm (3") mm ⁽²⁾ (Inches) ⁽²⁾	
		mm	(Inches)	mm ⁽²⁾	(Inches) ⁽²⁾
25 x 25	(1 x 1)	0.15	0.006	1.3	0.050
32 x 32	(1- ^{1/4} x 1- ^{1/4})	0.18	0.007	1.3	0.050
38 x 38	(1- ^{1/2} x 1- ^{1/2})	0.20	0.009	1.3	0.050
44 x 44	(1- ^{3/4} x 1- ^{3/4})	0.25	0.010	1.6	0.062
51 x 51	(2 x 2)	0.30	0.012	1.6	0.062
56 x 56	(2- ^{3/16} x 2- ^{3/16})	0.36	0.014	1.6	0.062
57 x 57	(2- ^{1/4} x 2- ^{1/4})	0.36	1.014	1.6	0.062
64 x 64	(2- ^{1/2} x 2- ^{1/2})	0.38	0.015	1.9	0.075
51 x 76	(2 x 3)	0.46	0.018	1.9	0.075

- (1) Tubing may have its sides failing to be 90 degrees to each other by the tolerance listed.
(2) Twist is measured by holding down the edge of one end of a square tube on a surface plate with the bottom side of the tube parallel to the surface plate, and noting the height that either corner on the opposite end of the bottom side is above the surface plate.

Add the following section:

206-8.3 Fasteners. Fasteners used to assemble cold-rolled steel perforated tubing shall be steel "pull-through" electrogalvanized rivets with 9.5 mm (3/8") diameter shank, 22 mm (7/8") diameter head, and a grip range of from 5 mm (0.200") to 0.90 mm (0.356"). The fasteners shall conform to ASTM B-633, Type III.

Add the following section:

206-9.5 Relocation. All metal to metal connections shall be same material to reduce corrosion.

SECTION 209 - ELECTRICAL COMPONENTS

209 ELECTRICAL COMPONENTS. Modify as follows: Section 86, "Signals, Lighting and Electrical Systems", of the Caltrans Standard Specifications replaces Section 209, "Electrical Components", and Section 307, "Street Lighting and Traffic Signals", of the SSPWC, in all matters pertaining to the specifications for measurement, payment, warranty, materials and methods of construction of street lighting and traffic signals. Section 86 of the Caltrans



Standard Specifications is unmodified excepted as specified herein. For electrical components provided and installed in systems NOT including street lighting and traffic signals, Section 209 SSPWC is unmodified except as specified in sections other than Section 209, herein.

SECTION 86 - SIGNALS, LIGHTING AND TRAFFIC ELECTRICAL SYSTEMS

86-2 MATERIALS AND INSTALLATION

Replace Section 86-2.02 with the following:

86-2.02 Removing and Replacing Improvements. In addition to the requirements of sections 7-9, "Protection and Restoration of Existing Improvements" and 306-1.5, "Trench Resurfacing", improvements such as sidewalks, curbs, gutters, portland cement concrete and asphalt concrete pavement, underlying material, lawns and plants, and any other improvements removed, broken or damaged by the Contractor's operations, shall be replaced or reconstructed with the same kind of material as found on the work or with materials of equal quality. The new work shall be left in a serviceable condition.

Whenever a part of a square or slab of existing concrete sidewalk, curb, gutter, or driveway is broken or damaged, the entire square, section or slab shall be removed and the concrete reconstructed as above specified. The outline of all areas to be removed in portland cement concrete sidewalks and driveways and in pavements shall be cut to a minimum depth of 0.17 foot (2") with an abrasive type saw prior to removing the sidewalk, driveways and pavement material. Cuts shall be neat and true along score lines, with no shatter outside the removal area.

Replace Section 86-2.05B with the following:

86-2.05B Use. Exposed conduit installed on a painted structure shall be painted the same color as the structure. Unless otherwise indicated, the minimum metric trade size of conduit shall be:

- 1) From an electrolier to the adjacent pull box shall be Size 41 (1½" dia).
- 2) From a pedestrian push button post to the adjacent pull box shall be Size 27 (1" dia).
- 3) From a signal standard to the adjacent pull box shall be Size 53 (2" dia).
- 4) From a controller cabinet to the adjacent pull box shall be Size 78 (3" dia).
- 5) For detector runs shall be Size 78 (3" dia).
- 6) Not otherwise specified shall be Size 78 (3" dia).

Add the following:

86-2.08 Conductors. Signal cable shall be used for all new traffic signal installations. Individual conductors shall not be used.

Add the following:

86-2.09B Installation. All conductors shall be pulled directly from the spool into the conduit and shall not be dragged on the ground as to cause damage to the conductors.

86-3 CONTROLLER ASSEMBLIES

Add the following:

86-3.04A Cabinet Construction. Controller cabinet shall be small-24" X 16" X 8" aluminum cabinet, 12V- AC power supply- no louvers or non waterproof vents, with powder coating per enclosure.



Add the following:

86-4.09 Flashing Beacons. Reflective sheeting for W3-3 SIGNAL AHEAD signs, mounted on flashing beacons, shall be Type XI prismatic cube-corner reflective sheeting (Diamond Grade VIP or equal).

Add the following section:

86-5.02 Controller. The controller cabinet must be a MK10 (24" X 16" X 8") controller (or approved equal) for Rectangular Rapid Flashing Beacon (RRFB) and beacons systems without radio (RF), for use with lead acid battery. All RRFB connect to the MK10 controller RRFB terminals, preceding the Lanelight driver.

Add the following section:

86-5.03 Rectangular Rapid Flashing Beacon and Illuminated In-Road Markers System. The Rectangular Rapid Flashing Beacon (RRFB) system shall have the following components: MK10 Controller (or approved equal) for RRFB and beacons systems without radio (RF), for use with lead acid battery, MK10 for Lanelight XW Systems- LaneLight Driver (or approved equal), 24" X 16" X 8" Aluminum Cabinet, 12V - AC power supply- no louvers or non waterproof vents, Lanelight XW, 10 Uni Directional Lights w/ complete installation material for conduit in asphalt, includes conduit for IRWLS only, less tees, and Drivers for each Light Bar. No additional payment will be made thereof.

MK10 (24" X 16" X 8") controller cabinet shall be for RRFB and beacons systems and illuminated in road markers.

86-6 LIGHTING

Replace Section 86-6.01 with the following:

86-6.01 Luminaires for Street Lighting. Luminaires for street lighting shall be cobra type GE model ERL2-0-16-C3-40-D-GRAY-L or approved equal.

Replace Section 86-6.02 with the following:

86-6.02 Luminaires for Safety Lighting. Luminaires for street lighting shall be cobra type GE model ERL2-0-16-C3-40-D-GRAY-L or approved equal.
or approved equal.

SECTION 210 - PAINT AND PROTECTIVE COATINGS

210-1 PAINT.

210-1.5 Paint Systems. Add the following to Table 210-1.5(A)

TABLE 210-1.5 (A)

Surface to be Painted	Pre-Treatment / Surface Preparation	Primer	Finish Coats
Temporary Railing type (K)	Abrasive Blast Cleaning to a Roughened, Textured Appearance	None	Two coats white Acrylic Emulsion Paint ⁽¹⁾

(1) acrylic emulsion paint designed for use on exterior masonry. This paint shall comply in all respects to Federal Specification TT-P-19 (latest revision), Paint, Acrylic Emulsion, Exterior. This paint may be tinted by using "universal" or "all purpose" concentrates.

210-1.6 Paint for Traffic Striping, Pavement Marking, and Curb Marking. Modify as follows: Paint for traffic lane lines, turn pocket lines, edge lines, channelizing lines, bike lane



lines, chevrons, and curbs shall be rapid dry water borne conforming to CALTRANS Specification No. PTWB-01. Paint for pavement legends, pavement symbols, pavement arrows, cross walks, parking stall markings and stop bars shall be alkyd thermoplastic conforming to CALTRANS Specification No. 8010-19A. Green traffic paint shall be EF Series WB GRN Fast Dry 1952f 1/2 , Produce code 183. Product color green (34108) by EnnisFlint or approved equal paint to meet Federal Spec TT-P-1952F Type I & II. Contractor shall provide color sample for approval prior to installation. Glass beads shall be applied to the surface of the rapid dry water borne paint and the molten thermoplastic material and shall conform to the requirements of CALTRANS Specification No. 8010-004 (Type II). CALTRANS Specifications for water borne paint, thermoplastic material and glass beads may be obtained from the CALTRANS Transportation Laboratory, P.O. Box 19128, Sacramento, CA 95819, telephone number (916) 227-7000.

210-3 GALVANIZING.

Add the following section:

210-3.6 Galvanizing for Traffic Signal Facilities. The requirements of this section shall pertain only to the preparation and galvanizing of traffic signal facilities. Galvanizing of products fabricated from rolled, pressed and forged steel shapes, plates, bars and strip 3.2 mm (1/8") thick or thicker, shall conform to the specifications of ASTM Designation: A 123, except that complete seal welding of tightly contacting surfaces of these products prior to galvanizing is required only where seal welding is shown on the plans or specified in these special provisions. Except for pre-galvanized standard pipe, galvanizing of material 3.2 mm (1/8") thick or thicker shall be performed after fabrication into the largest practical sections.

At the option of the Contractor, material thinner than 3.2 mm (1/8") shall be galvanized either before fabrication in conformance with the requirements of ASTM Designation: A 525M, Coating Designation Z600, or after fabrication in conformance with the requirements of ASTM Designation: A 123, except that the weight of zinc coating shall average not less than 365 g per square meter (1.2 oz. per ft²) of actual surface area with no individual specimen having a coating weight of less than 305 g per square meter (1.0 oz. per ft²).

Galvanizing of standard pipe shall conform to the requirements of ASTM Designation: A 53. Galvanizing will not be required for stainless steel, monel metal and similar corrosion resistant parts.

Fabrication shall include all operations such as shearing, cutting, punching, forming, drilling, milling, bending, welding and riveting. All welded areas shall be thoroughly cleaned prior to galvanizing to remove all slab or other material that would interfere with the adherence of the zinc. When it is necessary to straighten any sections after galvanizing, the work shall be performed without damage to the zinc coating.

Galvanizing of iron and steel hardware and nuts and bolts, when specified or shown on the plans, shall conform to the specifications of ASTM Designation: A 153, except whenever threaded studs, bolts, nuts, and washers are specified to conform to ASTM Designation: A 307, A 325, A 325M, A 449, A 563, A 563M, or F 436 and zinc coating is required, they shall be hot-dip zinc coated or mechanically zinc coated in accordance with the requirements of the ASTM Designations. Unless otherwise specified, galvanizing shall be performed after fabrication. Components of bolted assemblies shall be galvanized separately before assembly. Tapping of nuts or other internally threaded parts to be used with zinc coated bolts, anchor bars or studs shall be done after galvanizing and shall conform to the requirements for thread dimensions and



overtapping allowances in ASTM Designation: A 563 or A 563M. When specified, painting of zinc coated surfaces shall be in accordance with the procedures in Section 210.1 "Paint". Galvanized surfaces that are abraded or damaged at any time after the application of the zinc coating shall be repaired by thoroughly wire brushing the damaged areas and removing all loose and cracked coating, after which the cleaned areas shall be painted with two applications of unthinned zinc-rich primer (organic vehicle type) conforming to the provisions in Section 210-3.5, "Repair of Damaged Zinc Coating." Aerosol cans shall not be used.

SECTION 213 - ENGINEERING FABRICS

213-2 GEOTEXTILES.

213-2.1 General. Add the following: Geotextile types shall be used for the applications listed in Table 213-2.1(A)

**Table 213-2.1(A)
GEOTEXTILE APPLICATIONS**

Application of Geotextile	Type Designation
Separation of Soil and Street Structural Section	90WS
Separation of Soil and Subsurface Aggregate Drain	180N
Reinforcement of Street Structural Section	200WS
Remediation and Separation of Soil	270WS
Reinforcement of Soil	270WS
Drainage at the Interface of Soil Structures	N/A
Drainage at the Interface of Soil and Structures	N/A
Rock Slope Protection Fabric for Rock Sizes Below 225 kg (1/4 Ton)	180N
Rock Slope Protection Fabric for Rock Sizes Including and Above 225 kg (1/4 Ton)	250N
Plant Protection Covering	90N
Erosion Control Fence with 14 AWG - 150 mm x 150 mm (6"x6") Wire and 3 m (10') Post Spacing	90WS
Erosion Control Fence with 1.8 m (6') Post Spacing and No Wire Fencing	200WS

Add the following section:

213-3 EROSION CONTROL SPECIALTIES.

Add the following section:

213-3 Gravel bags. Gravel bags for the use of temporary erosion control shall be burlap type, filled with no less than 23kg (50 lbs) of 19 mm (3/4") crushed rock and securely tied closed. Plastic bags are not acceptable.

SECTION 214 PAVEMENT MARKERS

214-5 REFLECTIVE PAVEMENT MARKERS

Add the following section:

214-5.1 Temporary Reflective Pavement Markers. Temporary pavement markers shown on the plans and required in the specifications shall be one of the types shown in Table 214-5.1(A), or equal thereto.



**TABLE 214-5.1(A)
TEMPORARY REFLECTIVE PAVEMENT MARKERS**

Type	Manufacturer of Distributor
TOM- Temporary Overlay Markers	Davidson Traffic Control Products, 3110 70 th Avenue East, Tacoma, WA 98424, (877) 335-4638

Add the following section:

14-5.2 Permanent Reflective Channelizer. Reflective Channelizer shall be new surface-mounted type and shall be furnished, placed, and maintained at the locations shown on the plans. Reflective channelizer posts shall be orange in color. Reflective channelizers shall have affixed white reflective sheeting as specified in the special provisions. The reflective sheeting shall be 75 mm x 300 mm in size. The reflective sheeting shall be visible at 300 m at night under illumination of legal high beam headlights, by persons with vision of or corrected to 20/20. Reflective channelizer shall be one of the types shown in Table 214-5.2(A), or equal thereto.

**TABLE 214-5.2(A)
REFLECTIVE CHANNELIZER**

Type	Manufacturer of Distributor
Safe-Hit SH336SMA	Safe-Hit, A Division of Energy Absorption Systems, Inc. 35 East Wacker Drive, Suite 1100 Chicago, IL 60602 (800) 537-8958
Carsonite "Super Duck" SDR3036	Carsonite Composites, LLC 605 Bob Gifford Boulevard Early Branch, SC 29916 (800) 648-7916
Repo "The Replaceable Post"	Western Highway Products 10680 Fern Avenue Stanton, CA 90680 (800) 854-3360

The Contractor shall provide the Engineer with a Certificate of Compliance in accordance with the provisions of Section 2-5.3.3 "Submittals". Said certificate shall certify that the permanent reflective channelizers comply with the plans and specifications and conform to the prequalified design and material requirements approved by the engineer and were manufactured in accordance with the approved quality control program.



**SUPPLEMENTAL PROVISIONS
TO
STANDARD SPECIFICATIONS FOR PUBLIC WORKS
CONSTRUCTION
PART 3, CONSTRUCTION METHODS**

SECTION 300 - EARTHWORK

300-1 CLEARING AND GRUBBING.

300-1.1 General. add the following to the third paragraph: During surface clearing operations, the Contractor shall not cover or bury any plant growth or other objectionable materials. If the Contractor cannot successfully separate the plant growth from the surface soil and advertently or inadvertently mixes organic or other objectionable materials with the soil, the soil so contaminated shall be removed from the site by the Contractor. All costs, if any, associated with removing the soil mixed with organic or other objectionable materials and importing soil to replace said contaminated soil shall be borne by the Contractor and no additional payment therefore shall be made to the Contractor

300-1.3 Removal and Disposal of Materials. add the following: Also included in clearing and grubbing shall be removal and disposal of existing street poles and lights, metal guard rail, fences, asphalt concrete and aggregate base, concrete curb and gutter, concrete sidewalk, existing gate, existing headwalls, rip-rap, traffic signs, and other existing features which interfere with the work. Whether or not such items are shown on the plans they shall be removed as a part of clearing and grubbing. Existing underground pipes and conduits that are shown on the plans and designated to be removed shall be removed by the Contractor as a part of clearing and grubbing.

300-1.4 Payment. modify as follows: Payment for clearing and grubbing shall be made at the contract lump sum price for clearing and grubbing within the project limits and at stockpile locations and no other payments will be made. Unless otherwise noted on plans, the Contractor shall remove all existing abandoned pipelines and conduits of any type, or use, and pipelines and conduits of any type, or use, that are abandoned during the course of the work and shall replace said pipelines and conduits with properly compacted soils. Payment for removal and disposal of abandoned utilities shall be included in the lump-sum bid for Clearing and Grubbing, and no additional payment will be made.

300-13 STORM WATER POLLUTION PREVENTION PLAN

Add the following section:

300-13.1 Storm Water Pollution Prevention Plan. As part of the storm water pollution prevention work, the Contractor shall prepare and submit Storm Water Pollution Prevention Plan, hereafter referred to as the "SWPPP,". The SWPPP shall conform to the requirements of the "Greenbook" Standard Specifications for Public Works Construction, the requirements in the California Storm Water Quality Association, Stormwater Best Management Practice Handbook, Construction ("Handbook"), the requirements of the Permit, the requirements in the plans and these supplemental provisions.



300-13.1.1 SWPPP Document

Within 15 calendar days after the execution of the contract, the Contractor shall submit 3 copies of the SWPPP to the Engineer, in accordance with Section 2-5.3.3 of these Special Provisions. Contractor will be provided the digital format for SWPPP to complete required sections. If revisions are required, as determined by the Engineer, the Contractor shall revise and resubmit the SWPPP within 15 days of receipt of the Engineer's comments and shall allow 5 days for the Engineer to review the revisions. Upon the Engineer's acceptance of the SWPPP, 3 additional copies of the SWPPP, incorporating the required changes, shall be submitted to the Engineer. In order to allow construction activities to proceed, the Engineer may conditionally approve the SWPPP while minor revisions are being completed.

The objectives of the SWPPP shall be to identify pollution sources that may adversely affect the quality of storm water discharges associated with the project and to identify, construct, implement and maintain storm water pollution prevention measures, hereafter referred to as control measures, to reduce to the extent feasible pollutants in storm water discharges from the construction site both during and after construction is completed under this contract.

The SWPPP shall incorporate control measures in the following categories:

1. Soil stabilization practices;
2. Sediment control practices;
3. Wind erosion control practices; and
4. Non-storm water management and waste management and disposal control practices.

Specific objectives and minimum requirements for each category of control measures are contained in the Handbook.

The Contractor shall designate a Water Pollution Control Manager who will have the responsibilities outlined in the SWPPP.



The SWPPP shall include, but not be limited to, the following items as described in the SWPPP:

1. Source Identification;
2. Erosion and Sediment Controls;
3. Non-Storm Water Management;
4. Waste Management and Disposal;
5. Maintenance, Inspection and Repair;
6. Training;
7. List of Contractors and Subcontractors;
8. Post-Construction Storm Water Management;
9. Preparer;
10. Copy of the local permit;
11. BMP Consideration Checklist;
12. SWPPP Checklist;
13. Schedule of Values; and
14. Storm Water Pollution Prevention Drawings.

The Contractor shall amend the SWPPP, graphically and in narrative form, whenever there is a change in construction activities or operations which may affect the discharge of significant quantities of pollutants to surface waters, ground waters, municipal storm drain systems, or when deemed necessary by the Engineer. The SWPPP shall also be amended if it is in violation of any condition of the Permit, or has not effectively achieved the objective of reducing pollutants in storm water discharges. Amendments shall show additional control measures or revised operations, including those in areas not shown in the initially accepted SWPPP, which are required on the project to control water pollution effectively. Amendments to the SWPPP shall be submitted for review and acceptance by the Engineer in the same manner specified for the initially accepted SWPPP. Accepted amendments shall be dated and logged in the SWPPP. Upon acceptance of the amendment, the Contractor shall implement the additional control measures or revised operations.

The Contractor shall keep a copy of the accepted SWPPP and accepted amendments at the project site. The SWPPP shall be made available upon request of a representative of the Regional Water Quality Control Board, State Water Resources Control Board, U.S. Environmental Protection Agency or local storm water management agency. Requests by the public shall be directed to the Engineer.

By June 15 of each year, the Contractor shall submit an annual certification to the Engineer stating compliance with the requirements governing the Permit. If the project is in non-compliance at any time, the Contractor shall make a written report to the Engineer within 15 days of identification of non-compliance.

Add the following section:

300-13-1.2 Availability of SWPPP template. A site-specific draft document intended for use as a template for the required SWPPP document will be made available for use at the Contractor's option, at no cost to the Contractor. The document is available for review in Appendix B. The Contractor shall review the template and modify it as necessary to reflect the Contractor's operations.



Add the following section:

300-13.1.3 Payment. Preparation, implementation and management of SWPPP shall be considered incidental to the items of work and no additional payment will be made therefore.

Add the following section:

300-13.1.4 SWPPP Implementation. Upon acceptance of the SWPPP, the Contractor shall be responsible throughout the duration of the project for installing, constructing, inspecting and maintaining the control measures included in the SWPPP and any amendments thereto and for removing and disposing of temporary control measures. Unless otherwise directed by the Engineer or specified in these supplemental provisions, the Contractor's responsibility for SWPPP implementation shall continue throughout any temporary suspension of work ordered in accordance with Section 6-3, "Suspension of Work". Requirements for installation, construction, inspection, maintenance, removal and disposal of control measures are specified in the "Handbook" and these supplemental provisions.

Soil stabilization practices and sediment control measures, including minimum requirements, shall be provided throughout the winter season, defined as between October 1 and April 30.

Implementation of soil stabilization practices and sediment control measures for soil-disturbed areas of the project site shall be completed, except as provided for below, no later than 20 days prior to the beginning of the winter season or upon start of applicable construction activities for projects which begin either during or within 20 days of the winter season.

The Contractor shall implement, year-round and throughout the duration of the project, control measures included in the SWPPP for sediment tracking, wind erosion, non-storm water management and waste management and disposal.

The Engineer may order the suspension of construction operations, at the Contractor's cost, which create water pollution if the Contractor fails to conform to the requirements of this section as determined by the Engineer.

Add the following section:

300-13.1.5 Maintenance. To ensure the proper implementation and functioning of control measures, the Contractor shall regularly inspect and maintain the construction site for the control measures identified in the SWPPP. The Contractor shall identify corrective actions and time frames to address any damaged measures or reinitiate any measures that have been discontinued.

The construction site inspection checklist provided in the "Handbook" shall be used to ensure that the necessary measures are being properly implemented, and to ensure that the control measures are functioning adequately. The Contractor shall submit one copy of each site inspection record to the Engineer, within two days of the inspection.



During the winter season, inspections of the construction site shall be conducted by the Contractor to identify deficient measures, as follows:

1. When the five-day rain probability forecast exceeds forty percent (40%).
2. After any precipitation which causes runoff capable of carrying sediment from the construction site;
3. At 24 hour intervals during extended precipitation events; and
4. Routinely, at a minimum of once every week.

If the Contractor or the Engineer identifies a deficiency in the deployment or functioning of an identified control measure, the deficiency shall be corrected by the Contractor immediately, or by a later date and time if requested by the Contractor and accepted by the Engineer in writing, but not later than the onset of subsequent precipitation events. The correction of deficiencies shall be at no additional cost to the City.

SECTION 301 - TREATED SOIL, SUBGRADE PREPARATION AND PLACEMENT OF BASE MATERIALS

301-1 SUBGRADE PREPARATION.

301-1.2 Preparation of Subgrade. Modify the second and third paragraphs as follows: Change each instance reading “150mm (6 inches)” to “300 mm (12)”.

301-1.3 Relative Compaction. Delete the first paragraph and substitute the following: The Contractor shall compact the upper 300 mm (12”) of subgrade beneath areas to be paved, have base or subbase material placed on them, or curb, gutter, curb and gutter, alley pavement, driveway or sidewalk constructed over them to no less than 95 percent maximum dry density as determined by ASTM test D-1557-91.

301-1.7 Payment. Modify the first paragraph as follows: Payment for subgrade preparation shall be included in the contract bid price for which the subgrade is prepared and shall include all labor, materials; including water, operations and equipment to scarify, adjust moisture, compact or recompact the subgrade, both in cut areas and in fill areas, and no further compensation will be allowed.

SECTION 302 - ROADWAY SURFACING

Add the following: The Contractor shall be responsible for tree trimming along the curb line as noted in Section 300-1 Clearing and Grubbing – so as to provide a clear travel way during the construction of the roadway resurfacing.

The Contractor shall treat all vegetation within the limits of the paved area to be surfaced with a post emergent herbicide. Herbicide shall be applied at least 2 (two) working days prior to surfacing the street. Allowance for the two day period shall be shown in the schedule required per section 6-1.

Payment for pavement surfacing shall include tree trimming and post emergent herbicide treatment of the areas to be surfaced and no extra payment will be made therefore.



Public Convenience and Traffic Control. The Contractor shall schedule the work so as to prevent damage by all traffic. The Contractor shall not schedule work so as to conflict with trash pickup. The trash hauling schedule can be obtained by calling Coast Waste Management at (760) 929-9400. At least two weeks prior to work, Contractor shall send, by first class mail, notification letters to all property addresses within 500' of the work. Obtaining the appropriate addresses shall be the contractor's responsibility. Letters shall be as shown in bold type as follows, with the appropriate information specific to the work inserted at the locations indicated in the brackets and italicized.



(Name of Contractor)
(Address of Contractor)
(Contractor's License Number)

(Date)

As a part of the City of Carlsbad's ongoing program to maintain its streets, your street will be (insert type of resurfacing), beginning in two or three weeks. This process requires that your street be closed for (X hours) starting at 7:00 a.m. and continuing until the Contractor removes the traffic control devices. You will be notified 72 hours in advance of the day your street will be closed by a brightly colored 3 ½" x 8 ½" card attached to your doorknob. You will also notice temporary no parking signs on your street with a specific no parking date written on it.

A successful street maintenance program depends on your cooperation. Please do not drive, walk, play, skate or allow pets on the street until it is opened by the Contractor. Furthermore, please do not wash your car or turn on any sprinklers while you are waiting. If you don't plan to leave your home before 7:00 a.m. on the day your street will be surfaced, and you need to use your vehicle later in the day, please park your car on an adjacent street in your neighborhood that is not signed as a no parking zone. When walking to and from your car, remember not to walk on the newly surfaced street or you may have black residue on the bottom of your shoes. The residue may damage some surfaces, may mark surfaces that you track it on, and may be very difficult to remove.

(Name of Contractor) is the Contractor that will be performing the resurfacing work for the City and you may call them at (24 hour per day attended telephone number in the 760 area code) for any questions you may have about the project. On the day your street is surfaced mail delivery may be delayed until the next day. You will not know the exact date your street will be closed until you receive the 3 ½" x 8 ½" card. If you have a moving company scheduled to come to your house within the next two weeks, please call and inform the Contractor of the date. If you have any concerns which are not addressed by the Contractor, please call the City's Engineering Inspection Department at 602-2780. They will assist you in resolving the concerns.

The City of Carlsbad has some of the finest streets in the county due to the concern and cooperation of citizens like you. Your cooperation is greatly appreciated."



During operations, the Contractor's schedule for resurfacing shall be designed to provide residents and business owners sufficient paved parking within an 800 foot distance from their homes or businesses.

Seventy two hours prior to the start of any construction in the public right-of-way that affects vehicular traffic and/or parking or pedestrian routes, the Contractor shall give written notification of the impending disruption. For a full street closure, all residences and/or businesses on the affected street or alley shall be notified. For partial street closures, or curb, sidewalk and driveway repairs, the residences and/or businesses directly affected by the work shall be notified.

The Contractor shall deliver the notification which shall state the date and time the work will begin and its anticipated duration. The notification shall list two telephone numbers that may be called to obtain additional information. One number shall be the Contractor's permanent office or field office and the other number shall be a 24 hour number answered by a representative of the Contractor who is knowledgeable about the project. At least one of the phone numbers shall be in the (760) area code. An answering machine shall not be connected to either number. The notification shall also give a brief description of the work and simple instructions to the home or business owner on what they need to do to facilitate the construction. The Contractor shall submit the contents of the notification to the Engineer for approval. Notices shall not be distributed until approved by the Engineer.

For door hangers, the notification shall be pre-cut in a manner that enables it to be affixed to a doorknob without adhesives. It shall be a minimum size of 3-1/2 inches by 8-1/2 inches and shall be brightly colored with contrasting printing. The material shall be equivalent in strength and durability to 65 lb. card stock. The printing on the notice shall be no smaller than 12 point. The precut notices shall be as shown on the example provided in Appendix "A", with the day of the week circled and appropriate information specific to the work inserted at the locations indicated in the italicized font.

The preparation, materials, printing and distribution of the notifications shall be included in the contract price bid for Traffic Control and the Contractor will not be entitled to any additional compensation for printing and distributing these notices.

302-5 ASPHALT CONCRETE PAVEMENT.

Add the following:

302-5.2 Pavement Transitions. The Contractor shall ramp the approaches and termini to all structures and vertical joints in the cold-milled area which are transverse to through traffic with temporary asphalt concrete pavement as specified in section 306-1.5.1. Ramps shall be constructed the same day as cold milling and removed the same day as permanent paving. Ramp dimensions and compaction shall be as approved by the Engineer.



SECTION 303 CONCRETE AND MASONRY CONSTRUCTION.

303-1 CONCRETE STRUCTURES

303-5.10 Curb Ramp Construction

303-5.10 Installation. The curb ramp work will conform to the requirements of Section 303-5 of the Green Book as modified herein. The work will consist of the following:

- a) The Contractor shall be solely responsible for means and methods for laying out and verifying all proposed curb ramps' and appurtenances' grades, including all associated sidewalks, curbs, and gutter plates, in accordance with the standard drawings and as indicated in the construction documents. The final grades for all constructed curb ramps and appurtenances shall not exceed maximum grades indicated in the standard drawings and the construction documents. There shall be no construction tolerances allowed. Any curb ramps or appurtenances constructed in excess of maximum grades as indicated in the aforementioned documents shall be removed and replaced at the Contractor's sole expense. Removal or AC pavement disposal of existing concrete including curb and gutter or portion of spandrel as occurs, and sidewalk necessary to construct the ramp shall be made as straight edges and by the full depth saw cutting only. Removal limits shall be agreed to in writing prior to the saw cutting operation for each ramp location.
- b) The pedestrian ramps locations and types are shown on the plans. Details for saw cutting existing cross gutter spandrels and replacement of existing AC pavement are shown on the plans.

303-5.10.2 Payment. Payment for construction of curb ramps will be made at the contract unit price per each, and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in providing and constructing the curb ramps including removal of and construction of curb, curb and gutter, cross gutter spandrel, alley apron, AC pavement and sidewalk, removal of existing ramps and sidewalk associated with ramp construction, and construction of curb, gutter and sidewalks in place, as necessary to achieve ADA compliant grades (regardless of replacement limits shown on plans), construction staking of curb ramps, removal and reconstruction of adjacent improvements including but not limited to private hardscape improvements and landscaping/irrigation improvements, repainting of new curb to match painting of existing curb, if any, prior to ramp construction, and joining work to tie proposed ramp into the adjacent existing PCC (doweling, epoxy, etc.) as shown on plans, complete in place as specified in the special provisions and as directed by the Engineer. The payment for curb ramps shall include the detectable warning strip. Payment for construction of curb ramps shall include full compensation for furnishing all labor, materials, tools, equipment, including but not limited to; saw cutting, removal & disposal of materials, compaction, adjacent asphalt paving and all related incidentals required to complete the work in place.

Add the following section:

303-9 Trench Drain/ Curb Channel Construction

303-9.1 General. Trench Drain/ Curb channel work will conform to Section 303-5 of the Green Book and shall be constructed as shown in the plans. The trench drain shall be graded to



achieve positive drainage and ensure no water collects within the trench drain area. Steel grating shall be ADA compliant and installed in accordance with manufacturer's recommendation and City Engineer's approval.

303-9.2 Payment. Payment for Trench Drain/Curb Channel construction in accordance with these specifications shall be at the contract unit price for Curb Channel and Metal Grate in the bid schedule. Payment shall include all labor, equipment, and material costs and no additional compensation will be made therefore.



SECTION 306 - UNDERGROUND CONDUIT CONSTRUCTION

306-1 OPEN TRENCH OPERATIONS

Add the following section:

306-1.1.7 Steel Plate Bridging - With a Non-Skid Surface. This section covers the use of steel plate bridging. The Contractor shall not employ the use or use steel plate bridging or trench plate that does not meet the requirements of this section both in application and circumstance of use.

Add the following section:

306-1.1.7.1 Requirements for Use. Alternate construction methods that avoid the use of steel plate bridging shall be used by the Contractor unless otherwise approved by the Engineer. It is recognized that to accommodate excavation work, steel plate bridging may be necessary. All conditions for use of steel plate bridging set forth in the following requirements must be fulfilled as conditions of approval of the use of steel plate bridging. Consideration of steel plate bridging in the review process will take into account the following factors:

1. Traffic volume and composition.
2. Duration of use of the steel plate bridging.
3. Size of the proposed excavation.
4. Weather conditions.

The following formula shall be used to score the permitted use of steel plate bridging:

$$PS = \left[\frac{ADT + EWL}{1000} + DAYS + 10 \times WEEKEND + 5 \times NIGHTS + 20 \times WEATHER + \frac{SPEED (kmh)}{8} + SLOPE \times 100 \right] \times LANES$$

$$PS = \left[\frac{ADT + EWL}{1000} + DAYS + 10 \times WEEKEND + 5 \times NIGHTS + 20 \times WEATHER + \frac{SPEED (mph)}{5} + SLOPE \times 100 \right] \times LANES$$

where:

- PS = plate score.
- ADT = average daily traffic as defined in the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) 2003 Edition as amended by the MUTCD 2003 California Supplement.
- EWL = equivalent wheel loads as defined in the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) 2003 Edition as amended by the MUTCD 2003 California Supplement.
- DAYS = total number of 24 hour periods during which the plates will be utilized at the site being considered.
- WEEKEND = total number of Saturdays, Sundays and holidays that the plates will be utilized at the site being considered.
- NIGHTS = total number of overnight periods that the plates will be in place, exclusive of Saturday, Sunday and holiday nights.
- WEATHER = total number of 24-hour periods that the plates will be utilized at the site being considered when the possibility of rain exceeds 40 percent.
- SPEED = the design speed in kilometers per hour or miles per hour, as applicable in the formulae above, of the street where the plates are to be installed. This number shall not be reduced for construction zone speed reductions.
- SLOPE = the quotient of the vertical differential divided by the horizontal distance. The vertical and horizontal dimensions shall be measured at the locations spanning distance of 15 m (50') up and downstream of the position of the proposed steel



LANES = plate bridging.
= the number of lanes where plates will be used.

When the computed value of the plate score exceeds 50, steel plate bridging shall not be used unless, and at the sole discretion of the Engineer, the Engineer determines that no alternative method of construction is possible in lieu of using steel plate bridging or that other overriding considerations make the use of steel plate bridging acceptable. Alternatives considered to bridging shall include, but not be limited to, detouring traffic, construction detour routes, tunneling, boring and other methods of trenchless construction. Unless specifically noted in the provisions of the Engineer's approval, the use of steel plate bridging at each location so approved shall not exceed four (4) consecutive working days in any given week.

Add the following section:

306-1.1.7.2 Additional Requirements. In all cases when the depth of the trench exceeds the width of the steel plate bridging resting on each side of the pavement adjacent to the trench, safety regulations require or the Engineer determines that shoring is necessary to protect the health or safety of workers or the public the Contractor shall install shoring conforming to Section 7-10.4.1 of the Standard Specifications. The trench shoring shall be designed and installed to support the steel plate bridging and traffic loads. All approvals for design, substitution of materials or methods shall be submitted by the Contractor in accordance with all provisions of section 2-5.3 Shop Drawings and Submittals. The Contractor shall backfill and resurface excavations in accordance with section 306-1.5.

Add the following section:

306-1.1.7.3 Installation. When backfilling operations of an excavation in the traveled way, whether transverse or longitudinal cannot be properly completed within a work day, steel plate bridging with a non-skid surface and shoring may be required to preserve unobstructed traffic flow. In such cases, the following conditions shall apply:

- a) Steel plate bridging when the plate score exceeds 50 is not allowed except when, at the sole discretion of the Engineer, it is approved as specified hereinbefore.
- b) Steel plates used for bridging must extend a minimum of 610 mm (2') beyond the edges of the trench.
- c) Steel plate bridging shall be installed to operate with minimum noise.

When the use of steel plate bridging and shoring is approved by the Engineer, the Contractor shall install using either Method (1) or (2) depending on the design speed of the portion of street where the steel plate bridging is proposed for use.

Method 1 [For speeds more than 70 Km/hr (45 MPH)]: The pavement shall be cold planed to a depth equal to the thickness of the plate and to a width and length equal to the dimensions of the plate. The cold milling shall produce a flat surface that the plate shall rest on with no horizontal or vertical movement. Horizontal gaps between the unmilled pavement and the plate shall not exceed 25 mm (1") and shall be filled with elastomeric sealant material which may, at the contractor's option, be mixed with no more than 50%, by volume, of Type I aggregate conforming to the requirements of tables 203-5.2(B) and 203-5.3(A).

Method 2 [For speeds 70 Km/hr (45 MPH) or less]: Approach plate(s) and ending plate (if longitudinal placement) shall be attached to the roadway and shall be secured against displacement by using two adjustable cleats that are no less than 50 mm (2") shorter than the width of the trench bolted to the underside of each plate and located within 150 mm (6") of the beginning and end of the trench for plates at the beginning and end of the trench, a minimum of two 300 mm long by 19 mm diameter (12" x 3/4") steel bolts placed through the plate and driven into holes drilled 300 mm (12") into the pavement section, or other devices approved by the



Engineer. Subsequent plates shall be butted to each other. Fine graded asphalt concrete shall be compacted to form ramps, maximum slope 8.5% with a minimum 300 mm (12") taper to cover all edges of the steel plates. When steel plates are removed, the dowel holes in the pavement section shall be completely filled with elastomeric sealant material. At the Contractor's option, the methods required for Method 1 may be used. If the Contractor so elects, all requirements of Method 1 shall be used. The Contractor shall maintain the steel plates, shoring, and asphalt concrete ramps and maintain and restore the street surface during and after their use.

Add the following section:

306-1.1.7.4 Materials. The minimal thickness of steel plate bridging shall be as shown in Table 306-1.1.7.4(A)

**TABLE 306-1.1.7.4(A)
REQUIRED PLATE THICKNESS FOR A GIVEN TRENCH WIDTH**

Maximum Trench Width ⁽¹⁾	Minimum Plate Thickness
0.3 m (10")	13 mm (1/2")
0.6 m (23")	19 mm (3/4")
0.8 m (31")	22 mm (7/8")
1.0 m (41")	25 mm (1")
1.6 m (63")	32 mm (1 1/4")

(1) For spans greater than 1.6 m (5'), a structural design shall be prepared by a registered civil engineer and submitted to the Engineer for review and approval in accordance with section 2-5.3.

Steel plate bridging shall be steel plate designed to support the HS20-44 truck loading per CALTRANS Bridge Design Specifications Manual. The Contractor shall maintain a non-skid surface on the steel plate with no less than a coefficient of friction of 0.35 as determined by California Test Method 342. If a different test method is used, the Contractor may utilize standard test plates with known coefficients of friction available from the CALTRANS District 11 Materials Engineer to correlate skid resistance results to California Test Method 342. In addition to all other required construction signing, the Contractor shall install Rough Road (W33) sign with black lettering on an orange background in advance of steel plate bridging.

Add the following section:

306-1.1.7.5 Measurement and Payment. Steel plate bridge materials including, but not limited to: steel plates, anchoring devices, cold milling, elastomeric sealant material, asphalt ramping and padding, signage, placing, installation, removal, relocation, preparation and processing of shop drawings and submittals to support the use of steel plate bridging and all other materials, labor, supervision, overhead of any type or description will be paid for as an incidental to the work that the bridging is installed to facilitate. No separate payment for steel plate bridging will be made. No extension to contract time will be allowed for, or because of, the use of steel plate bridging.

306-1.2.1 Bedding. All installation of, and bedding for recycled water, or potable water mains shall conform to Carlsbad Municipal Water District Rules and Regulations for the Construction of (Potable or Reclaimed) Water Mains, latest edition.

306.1.2.2 Pipe Laying. add the following: The Contractor shall place electrical conduit per SDG&E plans, Construction Order No. xxx, Project No. xxx.

306-1.2.4 Field Jointing of Reinforced Concrete Pipe. add the following: The Contractor shall provide Gasket-type joints for reinforced concrete pipe (watertight joints) where indicated on plans.



306-1.3.1 General. add the following: The Contractor shall install detectable underground utility marking tape 230 mm x75 mm (9" x 3") above each or, in the case of bundled underground conduit of the same type, the upper underground conduit being installed by the open trench method. The type and color of detectable underground utility marking tape shall conform to the requirements of section 207-25 et seq.

306-1.3.4 Compaction Requirements. delete Section 306-1.3.4 and replace with the following: The Contractor shall densify trench backfill to a minimum of 90 percent relative compaction except that in the top 300 mm (12") of the street right-of-way, compaction shall be 95 percent.

306-1.5 Trench Resurfacing.

306-1.5.1 Temporary Resurfacing. Delete the fourth and fifth paragraphs and substitute the following: Temporary bituminous resurfacing materials which are placed by the Contractor are for its convenience and shall be at no cost to the Agency. Temporary bituminous resurfacing materials shall be used in lieu of permanent resurfacing only when approved by the Engineer. When temporary bituminous resurfacing materials are used in lieu of permanent resurfacing it shall be removed and replaced with permanent resurfacing within 7 days of placement. No additional payment will be made for temporary bituminous resurfacing materials. The price bid for the associated conduit or structure shall include full compensation for furnishing, placing, maintaining, removing, and disposing of such temporary resurfacing materials.

306-1.5.2 Permanent Resurfacing. Add the following: Except as provided in section 306-1.5.1, "Temporary Resurfacing," the Contractor shall perform permanent trench resurfacing within 24 hours after the completion of backfill and densification of backfill and aggregate base materials.

306-1.6 Basis of Payment for Open Trench Installation. add the following: Payment for utilities undergrounding which includes the utility trench for SDG&E and conduit for SDG&E's electric conversion shall be made on the basis of contract lump sum price for utilities undergrounding and no other payments will be made. . The Contractor will furnish and install 6.4 mm (¼") nylon pull ropes in all conduit.

306-5 ABANDONMENT OF CONDUITS AND STRUCTURES. Add the following: Unless otherwise noted on plans, the Contractor shall remove all existing abandoned pipelines and conduits of any type, or use, and pipelines and conduits of any type, or use, that are abandoned during the course of the work and shall replace said pipelines and conduits with properly compacted soils. Payment for removal and disposal of abandoned utilities shall be included in the lump-sum bid for Clearing and Grubbing, and no additional payment will be made.

SECTION 307 - STREET LIGHTING AND TRAFFIC SIGNALS

307 STREET LIGHTING AND TRAFFIC SIGNALS. Modify as follows: Section 86, "Signals, Lighting and Electrical Systems", of the Caltrans Standard Specifications replaces Section 209, "Electrical Components", and Section 307, "Street Lighting and Traffic Signals", of the SSPWC, in all matters pertaining to the specifications for measurement, payment, warranty, materials and methods of construction of street lighting and traffic signals.



307-1 GENERAL

307-2

Street lighting shall conform to the most current version of the Caltrans Standard Specifications and Standard Plans, and the City of Carlsbad Standard Special Provisions for Construction. City of Carlsbad street lighting design standards apply to both private and public streets and is intended for all new development and re-development projects within the City of Carlsbad.

307-2 LUMINAIRES

- a. Luminaires shall be LED and cobra head style. In areas with decorative street lighting (e.g. the Mission Bell style along El Camino Real), a decorative fixture with the same lighting characteristics as defined in this section and Table B shall be used. The designer shall obtain approval from the City of Carlsbad on the decorative fixture to be used.
- b. Luminaires shall be Type III Distribution as defined by the Illuminating Engineering Society of North America (IESNA).
- c. Luminaires shall be full-cutoff so that light is not projected above the horizontal plane of the fixture. External shields or reflectors are not allowed.
- d. Luminaires on non-local residential streets shall have a maximum Correlated Color Temperature (CCT) of 4000K.
- e. Luminaires on local residential streets shall have a maximum CCT of 3000K.
- f. Luminaires shall have an ANSI C136.41 compliant NEMA 7 pin receptacle for use with photo controls and smart lighting applications.

307-3 STREET LIGHT STANDARD

- 1) Street light poles shall be round, pre-stressed concrete utilizing an anchor base. The surface treatment shall be exposed concrete aggregate with a graffiti-resistant coating.
- 2) Street light foundations shall be in accordance with San Diego Regional Standard Drawing (SDRSD) E-1 and E-2 for standard concrete poles with no additional mounted appurtenances. If equipment or additional appurtenances are to be mounted, the street light pole foundation shall be specifically designed by a civil engineer.
- 3) Street light poles in arterial or commercial areas shall have a height of 26 feet.
- 4) Street light poles in residential areas shall have a height of 24 feet.
- 5) Mast arms shall be aluminum or galvanized steel with a length of 8 feet.
- 6) Luminaire mounting height shall be between 1.5' and 2.5' from the top of pole



SECTION 310 - PAINTING

310-5 PAINTING VARIOUS SURFACES.

310-5.6 Painting Traffic Striping, Pavement Markings and Curb Markings. Modify the fifth paragraph as follows: The Contractor shall furnish all equipment, materials, labor, and supervision necessary for painting traffic lanes, directional arrows, guidelines, curbs, parking lines, crosswalks, and other designated markings in accordance with the Plans, or for approved temporary detours essential for safe control of traffic through and around the construction site. The Contractor shall remove by wet grinding all existing or temporary traffic markings and lines that may confuse the public. When temporary detour striping or markings are no longer required, they shall be removed prior to painting the new traffic stripes or markings.

310-5.6.3 Equipment. Delete the ninth paragraph and substitute the following: The Contractor shall provide a wet grinding machine with sufficient capacity to completely remove all existing or temporary traffic striping or markings that conflict with the striping plan, or are contrary to the Traffic Manual, or that may be confusing to the public. The surface produced by grinding the existing or temporary traffic striping or markings on pavement shall not exceed variations from a uniform plane more than 3 mm ($1/8$ ") in 3 m (10') when measured parallel to the centerline of the street or more than 6 mm ($1/4$ ") in 3 m (10') when measured perpendicular to the centerline of the street. The use of any equipment that leaves ridges, indentations or other objectionable marks in the pavement shall be discontinued, and equipment capable of providing acceptable surface shall be furnished by the Contractor. This equipment shall meet all requirements of the air pollution control district having jurisdiction.

310-5.6.6 Preparation of Existing Surfaces. Modify the first paragraph as follows: The Contractor shall remove all existing markings and striping, either permanent or temporary, which are to be abandoned, obliterated or that conflict with the plans by wet grinding methods. Removal of striping by high velocity water jet may be permitted when there is neither potential of the water and detritus from the high velocity water jetting to damage vehicles or private property nor to flow from the street into any storm drain or water course and when approved by the Engineer. The Contractor shall vacuum all water and detritus resulting from high velocity water jet striping removal from the pavement immediately after the water jetting and shall not allow such materials to flow in the gutter, enter the storm drain system or to leave the pavement surface. Surface variation limitations for high velocity water jet striping removal shall be the same as for grinding. The Contractor shall not use dry or wet sandblasting in any areas. Alternate methods of paint removal require prior approval of the Engineer. Obliteration of traffic striping with black paint, light emulsion oil or any other masking method other than a minimum 30mm (0.10') thick asphalt concrete overlay is not permitted.

310-5.6.7 Layout, Alignment, and Spotting. Modify the first paragraph as follows: The Contractor shall establish the necessary control points for all required pavement striping and markings by surveying methods. No layout of traffic striping shall be performed by the Contractor before establishment of the necessary control points. The Contractor shall establish all traffic striping between these points by string line or other method to provide striping that will vary less than 80mm per 100m ($1/2$ inch in 50 feet) from the specified alignment. The Contractor shall obliterate, straight stripes deviating more than 80mm per 100mm ($1/2$ inch in 50 feet) by wet grinding, and then correcting the markings. The Contractor shall lay out (cat track) immediately behind installation of surface course asphalt and as the work progresses.

310-5.6.8 Application of Paint. Modify the second paragraph as follows: The Contractor shall apply the first coat of paint immediately upon approval of striping layout by the Engineer. The Contractor shall paint the ends of each median nose yellow.



Add the following to the eighth paragraph: The Contractor shall apply temporary traffic stripes in one coat. Temporary traffic stripes shall be maintained by the Contractor so that the stripes are clearly visible both day and night.

310-5.6.10 Measurement and Payment. Modify the first paragraph as follows: Final and temporary traffic striping, curb markings and pavement markings as shown on the plans and required by the specifications shall be included in the lump-sum price bid for temporary and final traffic striping, and no additional compensation will be allowed therefore. Reapplication of temporary stripes and markings shall be repainted at the Contractor's expense, and no additional compensation will be allowed therefore. The lump sum prices bid and shall include all labor, tools, equipment, materials, and incidentals for doing all work in installing the final and temporary traffic striping.



Add the following Section:
310-7 PERMANENT SIGNING

Add the following Section:
310-7.1 General. Add the following section: The Contractor shall provide and install all permanent traffic control signs at locations shown on plans and as specified herein.

Add the following section:
310-7.2 Measurement And Payment. Permanent signing and appurtenances thereto shown on the plans or required in the specifications are a part of the lump-sum item for permanent signing and payment therefore shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in supplying and installing permanent signing and appurtenances, complete in place, as shown on the plans, as specified in the Standard Specification and these special provisions, and as directed by the Engineer.

SECTION 312 - PAVEMENT MARKER PLACEMENT AND REMOVAL

312-1 PLACEMENT. Add the following to the third paragraph:
4) When being installed on asphalt concrete pavement sooner than 14 days after placement of the asphalt concrete pavement course on which the pavement markers are to be placed.

Add the following section:
312-1.1 Reflective Channelizer Placement and Removal. The Contractor shall place and remove reflective channelizers the same as for pavement marker placement and removal. The Contractor shall place the channelizers uniformly, straight on tangent alignment and on a true arc on curved alignment to the same tolerances of position as for application of paint in section 310-5.6.8. The Contractor shall perform all layout work necessary to place the channelizers to the proper alignment. If the channelizers are displaced or fail to remain in an upright position, from any cause, the channelizers shall immediately be replaced or restored to their original location, by the Contractor. When reflective channelizers are removed the pavement surface shall be restored to the same color and surface finish as the adjacent pavement.

SUPPLEMENTAL PROVISIONS TO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

PART 6, MODIFIED ASPHALTS, PAVEMENTS AND PROCESSES

600-3 Rubberized Emulsion - Aggregate Slurry

600-3.2 Materials add the following: Aggregate for Rubberized Emulsion - Aggregate Slurry shall be Type I Slurry Aggregate.

600-3.4 Application of REAS add to the first paragraphs: No slurry shall be applied until the



provisions of subsection 212-1.2.6, Herbicide Application, Section 302-11 Asphalt Concrete Pavement Crack Filling and Sealing, Section 312-3 Pavement Marker Removal have all been satisfied.

The Contractor shall remove all existing markings, legends and striping, either permanent or temporary in those areas to be slurried. Removal of striping by high velocity water jet may be permitted when there is neither potential of the water and detritus from the high velocity water jetting to damage vehicles or private property nor to flow from the street into any storm drain or water course and when approved by the Engineer. The Contractor shall vacuum all water and detritus resulting from high velocity water jet striping removal from the pavement immediately after the water jetting and shall not allow such materials to flow in the gutter, enter the storm drain system or to leave the pavement surface. Surface variation limitations for high velocity water jet striping removal shall be the same as for grinding. The Contractor shall not use dry or wet sandblasting in any areas.

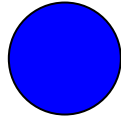
All cracks and areas between existing curb and gutter and edge of pavement that contain weeds or plant growth of any kind shall be treated with herbicides. Herbicides shall be applied at least 2(two) working days prior to sealing of street. Allowance for the two day period shall be shown in the schedule required per section 6-1. Contractor shall remove any visible plant growth prior to placement of Herbicide.

Full compensation for removal of striping and herbicide application shall include but not be limited to: furnishing all labor, tools, equipment, and materials necessary for doing the work and shall be considered as included in the contract unit price bid for Rubberized Emulsion Aggregate Slurry and no additional compensation will be allowed therefore.

600-3.6 Public Convenience and Traffic Control modify the first line with the following: Public Convenience and traffic control shall conform to 302-4.4.4. There shall be no stockpiling of material allowed on City right-of-way.



APPENDIX "A"



**CITY OF CARLSBAD
ROAD WORK**

ABC CONTRACTORS
OFFICE # (760)XXX-XXXX
FIELD # (760)XXX-XXXX

Dear resident:

As a part of the City of Carlsbad's ongoing program to maintain its streets, your street will be resurfaced with asphalt concrete over the existing roadway surface. This construction will require the closing of your street to through traffic for one day. Your street, from XYZ St. to DEF Ave. will be closed to through traffic and resurfaced on:

MON. TUE. WED. THU. FRI.
DATE: XX/XX/XX

from 7:00A.M. to 5:00 P.M.

If you don't plan to leave your home by 7:00 A.M. on the above date please park your car on an adjacent street in your neighborhood that will not be resurfaced. Streets scheduled for resurfacing can be determined by calling either the Contractor or the City of Carlsbad's Project Inspector. When walking to and from your car, remember not to walk on the newly overlaid street or you will have black residue on the bottom of your shoes. Please do not drive, walk on, walk pets, play, or skate on the newly overlaid asphalt. Also, please refrain from watering your lawns, washing cars, etc., approximately 6-8 hours after the asphalt is laid as running water will cause damage to the new surface.

ABC is the Contractor that will be performing the resurfacing work for the city and you may call them at the above phone number if you have any questions regarding the project. Resurfacing of your street will not occur on the day your trash is collected. Mail delivery may be delayed if the postman cannot reach the mailbox that day. If you have a moving company scheduled for that day please call and inform the Contractor of the date. If you have any concerns which cannot be addressed by the Contractor, you may call the City's Project Inspector @ (xxx) xxx-xxxx.

Thank you for your cooperation as we work to make a better City of Carlsbad.

