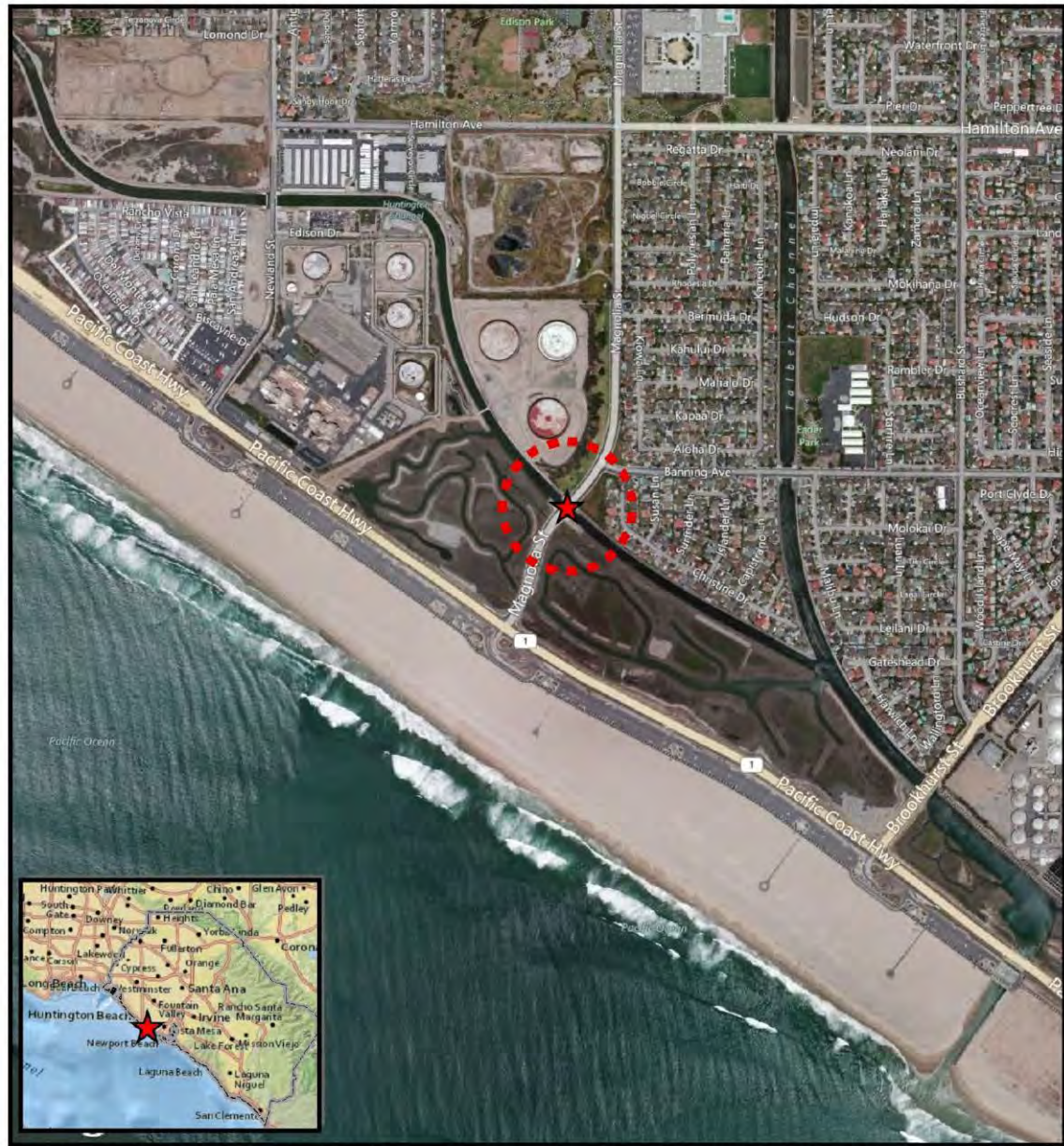


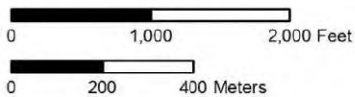
**Figure 1: Regional Map**




Service Layer Credits: Image courtesy of USGS © 2012 Microsoft Corporation Image courtesy of LAR-IAC © 2010 NAVTEQ © AND , National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC; UltraSystems Environmental Inc, 2012

July 23, 2012

Scale 1:12,000  
1 inch = 1,000 feet



#### Legend

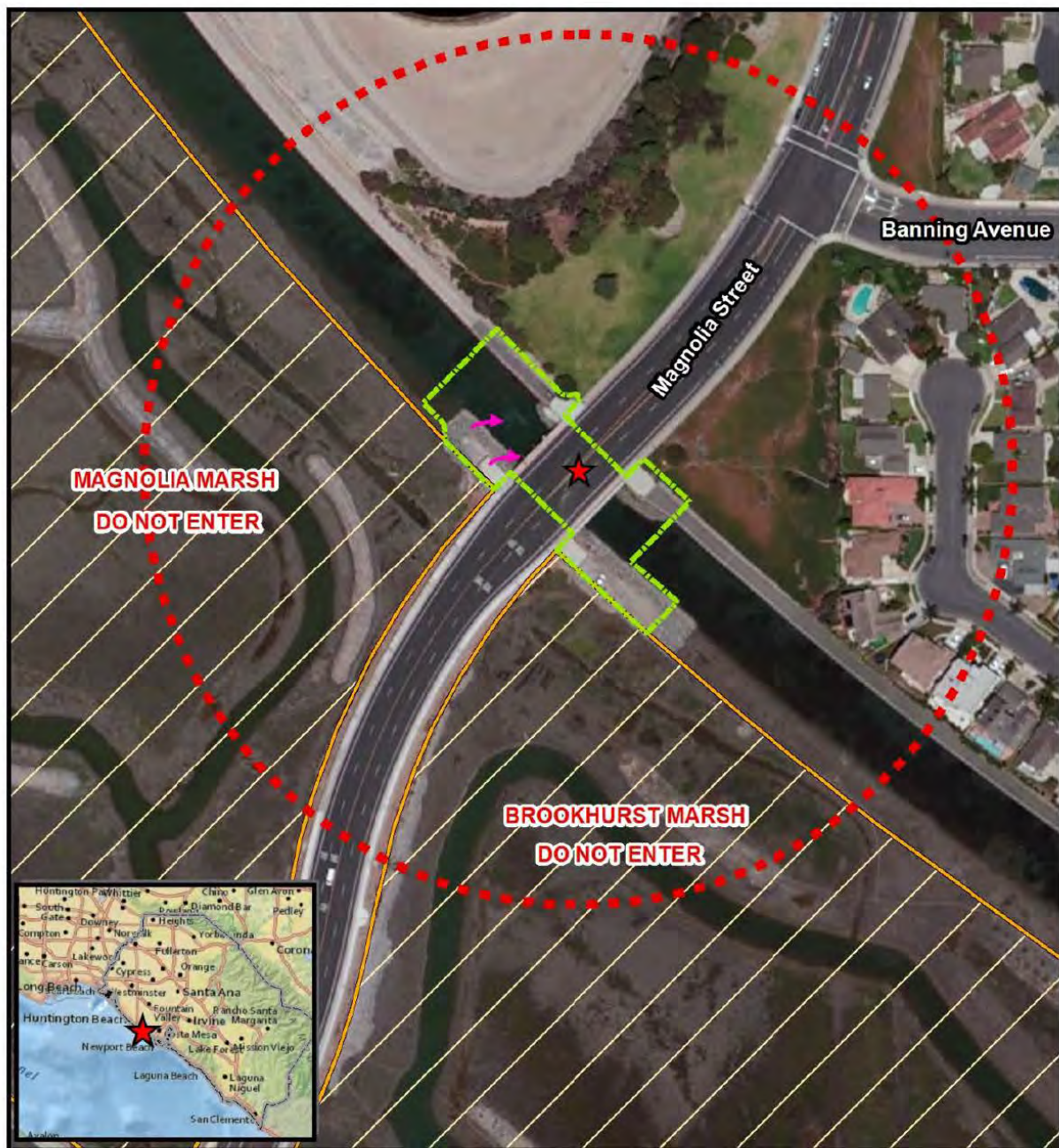
-  Magnolia Street Bridge
-  500 Foot Buffer
-  Orange County Boundary

Magnolia Street Bridge  
Preventive Maintenance

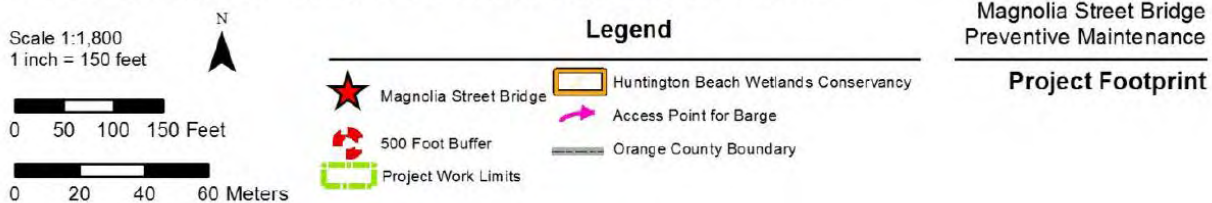
**Regional Map**

**Exhibit 1**  
Application No. 5-17-250  
Magnolia Street Bridge Repair Project  
Vicinity Map





Service Layer Credits: National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC, © 2013 Microsoft Corporation Image courtesy of LAR-IAC ; UltraSystems Environmental Inc., 2012 August 10, 2012



## Exhibit 2

### Application No. 5-17-250

### Magnaolia Street Bridge Repair

### Project Location

## ***Magnolia Street Bridge Preventive Maintenance Project***



Exhibit 3

Application No. 5-17-250

Magnolia Street Bridge Repair Project

Project Site



CITY OF HUNTINGTON BEACH  
DEPARTMENT OF PUBLIC WORKS  
MAGNOLIA STREET BRIDGE PREVENTIVE MAINTENANCE  
(OVER HUNTINGTON BEACH CHANNEL)

GENERAL NOTES:

- THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE BASED ON A SEARCH OF THE AVAILABLE RECORDS. UTILITY SURFACE FEATURES ARE BASED ON FIELD OBSERVATION. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ALL UTILITY LINES, SHOWN OR NOT SHOWN ON THESE PLANS.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST COMPLETE AND SUBMIT TO THE AGENCY THE UNDERGROUND SERVICE ALERT IDENTIFICATION FORM WHICH HAS BEEN PROVIDED IN THE PROJECT SPECIFICATIONS.
- ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AGENCY'S STANDARD PLANS, PROJECT PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS. THE CONTRACTOR SHALL KEEP A COPY OF THIS INFORMATION ON THE JOB SITE.
- A PRE-CONSTRUCTION MEETING SHALL BE HELD A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCING OF WORK.
- THE CONTRACTOR SHALL NOTIFY THE AGENCY'S CONSTRUCTION MANAGER, JOSEPH DALE, @ (714) 536-5430, A MINIMUM OF 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AND 48 HOURS IN ADVANCE FOR PROJECT INSPECTION. SURVEY STAKING SHALL BE PROVIDED BY THE CONTRACTOR.
- PROJECT STATIONING REFERS TO THE CENTERLINE OF STREET.
- STOCKPILING OF REMOVAL MATERIAL WILL NOT BE ALLOWED IN OR AROUND THE PROJECT SITE OR PUBLIC RIGHT OF WAY.
- DOORKNOB NOTIFICATION OF RESIDENTS AND BUSINESS OWNERS DIRECTLY AFFECTED BY CONSTRUCTION AND THE POSTING OF "NO PARKING" NOTIFICATION SIGNS SHALL OCCUR A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.
- PUBLIC AND/OR PRIVATE IMPROVEMENTS TO BE PROTECTED IN PLACE ARE NOT LIMITED TO THOSE SPECIFICALLY CALLED OUT ON THE PLANS. ALL EXISTING IMPROVEMENTS WHICH ARE NOT IDENTIFIED FOR REMOVAL AND/OR RECONSTRUCTION ON THE PLANS AND/OR SPECIFICATIONS SHALL BE PROTECTED IN PLACE AT THE CONTRACTOR'S EXPENSE PER SECTION 7-9 OF THE SPECIFICATIONS.
- PRIOR TO THE END OF EACH WORKING DAY, THE CONTRACTOR SHALL CONSTRUCT THE A.C. BASE COURSE SECTION REQUIRED WITHIN EACH AREA OF PAVEMENT EXCAVATED DURING THAT WORKING DAY. UNLESS OTHERWISE PERMITTED BY THE CITY ENGINEER, TRAVEL LANES SHALL BE OPEN TO TRAFFIC AT THE END OF EACH WORKING DAY PER SECTION 6-7.2 AND 7-10.3 OF THE SPECIFICATIONS.

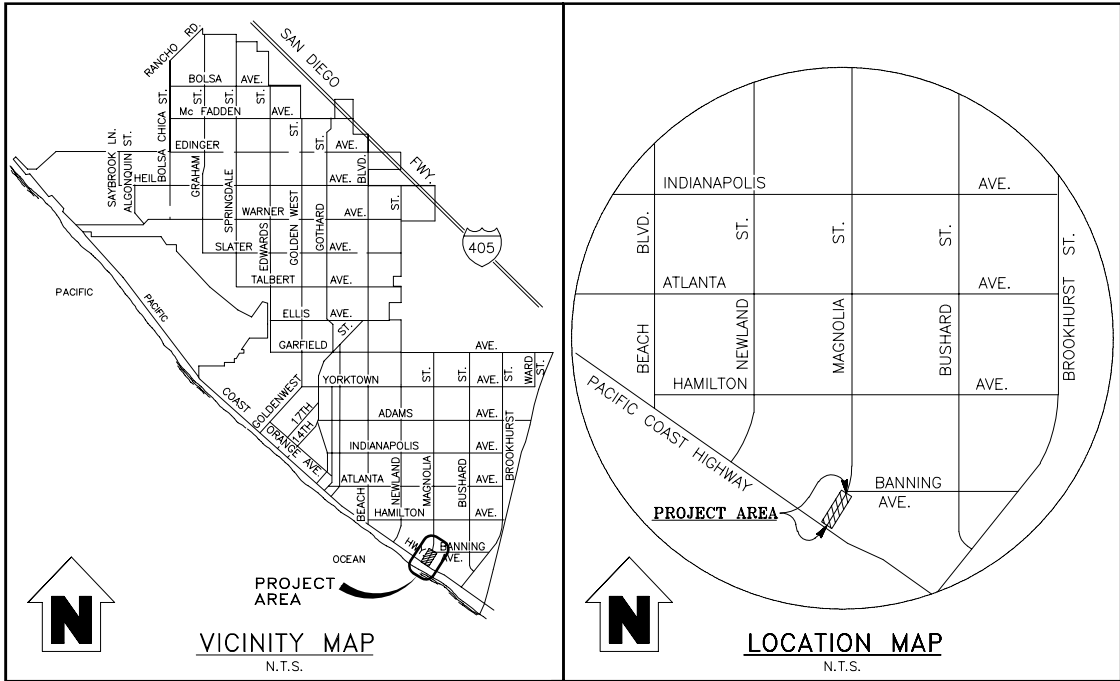
NPDES GENERAL NOTES:

- SEDIMENT FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE USING STRUCTURAL CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE.
- STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO ELIMINATE OR REDUCE SEDIMENT TRANSPORT FROM THE SITE TO THE STREETS, DRAINAGE FACILITIES OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING, OR WIND.
- APPROPRIATE BMPs FOR CONSTRUCTION-RELATED MATERIALS, WASTES, SPILLS OR RESIDUES SHALL BE IMPLEMENTED TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTIES BY WIND OR RUNOFF.
- RUNOFF FROM EQUIPMENT AND VEHICLE WASHING SHALL BE CONTAINED AT CONSTRUCTION SITES UNLESS TREATED TO REDUCE OR REMOVE SEDIMENT AND OTHER POLLUTANTS.
- ALL CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR PERSONNEL ARE TO BE MADE AWARE OF THE REQUIRED BEST MANAGEMENT PRACTICES AND GOOD HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS.
- AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED OF IN TRASH OR RECYCLE BINS.
- CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT A STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OTHER THAN STORMWATER (NON-STORMWATER DISCHARGES) ARE PROHIBITED, EXCEPT AS AUTHORIZED BY AN INDIVIDUAL NPDES PERMIT OR THE STATEWIDE GENERAL CONSTRUCTION STORMWATER PERMIT.
- POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, SOLVENTS, DETERGENTS, GLUES, LIME, PESTICIDES, HERBICIDES, FERTILIZERS, WOOD PRESERVATIVES, AND ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; CONCRETE AND RELATED CUTTING OR CURING RESIDUES; FLOATABLE WASTES; WASTES FROM ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING; WASTES FROM STREET CLEANING; AND SUPER-CHLORINATED POTABLE WATER FROM LINE FLUSHING AND TESTING.
- DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON-SITE PHYSICALLY SEPARATED FROM POTENTIAL STORMWATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
- DISCHARGING CONTAMINATED GROUNDWATER PRODUCED BY DEWATERING GROUNDWATER THAT HAS INFILTRATED INTO CONSTRUCTION SITES IS PROHIBITED. DISCHARGING OF NON-CONTAMINATED GROUNDWATER PRODUCED BY DEWATERING ACTIVITIES SHALL COMPLY WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT NO. CAG998001, ORDER R8-2009-0003, ISSUED BY THE SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD, AND AS SAID PERMIT MAY BE UPDATED DURING THE TERM OF CONSTRUCTION. ANY INDICATION OR EVIDENCE OF WATER QUALITY THAT DOES NOT MEET REQUIRED STANDARDS WILL BE REPORTED TO OC PUBLIC WORKS/WATER QUALITY COMPLIANCE.
- ANY SPILLAGE OF FUEL, OIL OR HAZARDOUS MATERIALS FROM CONSTRUCTION EQUIPMENT OR VEHICLES MUST BE IMMEDIATELY AND PROPERLY CLEANED UP AND REMOVED FROM THE OCFCO RIGHT-OF-WAY. FOR SPILLS OF SIGNIFICANT VOLUME, NOTIFICATIONS MUST BE IMMEDIATELY MADE TO OC PUBLIC WORKS / WATER QUALITY COMPLIANCE FOR ASSESSMENT OF APPROPRIATE CORRECTIVE ACTION. CONTAMINATED SOIL, SAND OR OTHER MATERIAL AND HAZARDOUS WASTES GENERATED FROM THE CLEANUP MUST BE DISPOSED OF BY APPROVED METHODS.
  - PERMITTEE ASSUMES FULL RESPONSIBILITY FOR COSTS TO INVESTIGATE EXTENT OF CONTAMINATION, CLEANUP, WASTE REMOVAL AND IMPLEMENTATION OF AN APPROVED REMEDIAL ACTION PLAN FOR THE RELEASE OF ANY WASTES OR HAZARDOUS MATERIALS THAT RESULT IN SOIL, SURFACE WATER AND GROUNDWATER CONTAMINATION. NOTIFICATIONS TO OC PUBLIC WORKS/WATER QUALITY COMPLIANCE FOR ANY ISSUES INCLUDING EMERGENCY OR AFTER-HOURS INCIDENTS SHOULD BE DIRECTED TO (877) 89-SPILL. IN ADDITION, EMERGENCY NOTIFICATIONS MAY ALSO BE MADE THROUGH THE ORANGE COUNTY SHERIFF'S COMMUNICATIONS CONTROL 1 BY DIALING 911.
- NOTICE: ALL CONTRACTORS AND CONSTRUCTION PERSONNEL SHALL MEET THE REGULATORY CONSTRUCTION REQUIREMENTS ON THE PROJECT SITE, AS SHOWN IN THE LATEST EDITION OF THE COUNTY STORMWATER PROGRAM "CONSTRUCTION RUNOFF GUIDANCE MANUAL

APPROVED:

TRAVIS K. HOPKINS, P.E.  
DIRECTOR OF PUBLIC WORKS

DATE



SHEET INDEX		
SHEET NO.	DRAWING NO.	DESCRIPTION
1	T1	TITLE SHEET
2	T2	SITE PLAN
3	TC1	TRAFFIC CONTROL PLAN
4	SS1	SIGNING AND STRIPING PLAN
5	S1	GENERAL PLAN
6	S2	GENERAL NOTES
7	S3	FOUNDATION PLAN
8	S4	SLOPE PROTECTION AND RETAINING WALL DETAILS
9	S5	TYPICAL SECTION
10	S6	TYPICAL SECTION DETAILS

COUNTY NOTES:

- ALL WORK IN THE ORANGE COUNTY FLOOD CONTROL DISTRICT (OCFCD) R/W SHALL CONFORM TO THE PERMIT STANDARD AND SPECIAL PROVISIONS, THE "GREENBOOK" STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 2012 EDITION AND THE ORANGE COUNTY PUBLIC WORKS (OCPW) STANDARD PLANS - APRIL 2013 EDITION UNLESS THERE IS AN APPROVED DETAIL OR STANDARD SHOWN ON THE PLANS.
- THE PERMITTEE/CONTRACTOR SHALL TELEPHONE OCPW/ ORANGE COUNTY INSPECTION AT (714) 245-4550 AT LEAST 48-HOURS PRIOR TO STARTING CONSTRUCTION WORK IN COUNTY R/W.
- IN OCFCO R/W, THE CONTRACTOR SHALL SUBMIT FOR OCFCO REVIEW AND APPROVAL ALL SUBMITTALS FOR BID ITEMS RELATED TO THE CHANNEL AND ITS APPURTENANCES PER SPECIAL PROVISIONS SECTION 2-5.3.
- IN OCFCO R/W, ON SLOPES/GROUND AREAS THAT HAVE BEEN REMOVED OR DESTROYED, CRUSHED AGGREGATE BASE (C.A.B.) PER THE "GREENBOOK" SECTION 200-2 SHALL BE PLACED AND COMPACTED TO 95%, 6" THICK.
- SEE SPECIAL PROVISIONS SECTION 7-5 FOR RESTRICTIONS WHEN WORKING WITHIN OCFCO R/W.
- EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED 3/4" EXCEPT FOR CHANNEL FACE ON WALLS TO BE CHAMFERED 1/2" PER OCPW STANDARD PLAN 1318.
- TEMPORARY CONSTRUCTION FENCING WILL BE REQUIRED WHERE EXISTING FENCING WAS REMOVED.
- ALL BACKFILL IN OCFCO R/W SHALL BE PER THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 2012 EDITION.
- ALL OCFCO R/W FENCING AND GATES REMOVED OR DESTROYED NEED TO BE REPLACED PER OCPW STANDARD PLAN 600-3 AND 600-3-OC.
- FILTER FABRIC MUST BE PLACED UNDER NEWLY PLACED RIP RAP PER OCPW STANDARD PLAN 1808 AND 1809. A TYPE II NONWOVEN FABRIC MUST BE USED (TYPE 180N).
- THE RIP RAP MUST BE PER OCPW STANDARD PLAN 1809 (WITH EDITS).
- ALL REINFORCING STEEL REBAR MUST BE GRADE 60 AND PER THE "GREENBOOK" SECTION 201-2. SPLICES AND CLEARANCES, ETC. SHALL CONFORM TO OCPW STANDARD PLAN 1803.
- IN OCFCO R/W, ANY CONCRETE REMOVALS THAT MAY BE NEEDED SHALL BE REMOVED TO THE LIMITS SPECIFIED BY THE ORANGE COUNTY CONSTRUCTION INSPECTOR.
- CONTRACTOR SHALL PROVIDE COUNTY ACCESS TO ALL OSFCD GATES AND DRIVEWAYS AS NEEDED.

BID ITEM

QUANTITY

1.	MOBILIZATION	1	LS
2.	PREPARE STORM WATER POLLUTION PREVENTION PLAN	1	LS
3.	WATER POLLUTION CONTROL	1	LS
4.	EMERGENCY EVACUATION	3	EA
5.	TRAFFIC CONTROL	1	LS
6.	INSTALL 4' HIGH ENVIRONMENTAL PROTECTION MESH FENCE	100	LF
7.	INSTALL STRIPING AND PAVEMENT MARKING	1	LS
8.	SLURRY SEAL (TYPE II)	164,400	SF
9.	REMOVE RETAINING WALL	1	LS
10.	REMOVE UNSOUND CONCRETE	280	CF
11.	REMOVE CONCRETE BARRIER	180	LF
12.	REMOVE CHAIN LINK RAILING	290	LF
13.	STRUCTURE EXCAVATION (RETAINING WALL)	2	CY
14.	STRUCTURE BACKFILL (RETAINING WALL)	2	CY
15.	STRUCTURAL CONCRETE (RETAINING WALL)	9	CY
16.	PORTLAND CEMENT CONCRETE (PATCH)	280	CF
17.	BAR REINFORCING STEEL (RETAINING WALL)	688	LB
18.	ROCK SLOPE PROTECTION (200 lb. CLASS)	320	TONS
19.	ROCK SLOPE PROTECTION FABRIC (TYPE II)	151	SY
20.	CONCRETE BARRIER (TYPE 26 MODIFIED)	180	LF
21.	CHAIN LINK FENCE	121	LF
22.	TUBULAR HAND RAILING	180	LF

NOTICE TO THE CONTRACTOR

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

Underground Service Alert



Call: 811

REVISIONS

REV.	DATE	BY	DESCRIPTION	APP'VD

REFERENCES


BIGGS CARDOSA  
ASSOCIATES INC  
STRUCTURAL ENGINEERS

500 So. Main St., Suite 400 Orange, California 92668 714-550-4665	BER	DRAWN BY: DM 5/12/17 DESIGNED BY: RBS 5/12/17 CHECKED BY: JAA 5/12/17
---	-----	---



CITY ENGINEER:

Thomas M. Herbel P.E. DATE  
R.C.E. NO.: C53300 EXP. DATE: 8/30/17

PREPARED UNDER THE SUPERVISION OF:

Michael A. Thomas PRINCIPAL S.E. DATE  
R.S.E. NO.: S4676 EXP. DATE: 9/30/18

APPROVED BY:

M. Todd Broussard PRINCIPAL C.E. DATE  
R.C.E. NO.: C57144 EXP. DATE: 12/31/17

UTILITIES	REVIEWED BY	DATE
TRANSPORTATION		
DEVELOPMENT		
STREET DESIGN		
MAINTENANCE		
RIGHT-OF-WAY		
PT + L		
CONSTRUCTION		



TITLE SHEET  
MAGNOLIA ST BRIDGE PREVENTIVE MAINTENANCE  
(OVER HUNTINGTON BEACH CHANNEL)  
STA. 29+90.85 TO STA.30+80.35

BASIS OF BEARINGS AND BENCHMARK:

HORIZONTAL CONTROL:

THE HORIZONTAL COORDINATES OF THIS SURVEY ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, 1983 NAD, (1991.35 OCS EPOCH ADJUSTMENT). ALL DISTANCES SHOWN HERE UPON ARE GROUND DISTANCES IN US SURVEY FEET.

THE BEARING NORTH 88°18'34" WEST WAS HELD BETWEEN O.C.S. G.P.S. STATION 5005 R1 (N 2181969.573, E 6040594.963), THIS MONUMENT IS DESCRIBED ON CORNER RECORD 2005-0497 B, AS A SPIKE MARKED "SURVEY MARK" AND BRASS OCS TAG STAMPED "GPS 5005R1", SAID MONUMENT IS LOCATED AT THE CENTERLINE INTERSECTION OF BUSHARD STREET AND BANNING AVENUE, AND OCS GPS 5006R1 (N 218250.826, E 6037841.756) THIS MONUMENT IS DESCRIBED ON CORNER RECORD 2011-1507 B, AS A NAIL AND TAG STAMPED "LS 5411", IN CONCRETE, DOWN 1.0' IN STANDARD WELL MONUMENT, SAID MONUMENT IS LOCATED AT THE APPARENT CENTERLINE INTERSECION OF MAGNOLIA STREET AND BANNING AVENUE.

VERTICAL CONTROL:

HELD OCS BENCHMARK 1G-150-74, Elev = 13.553 FEET, NAVD 88 DATUM, 2005 LEVEL YEAR DESCRIBED IN OCS NOTES AS A 3 3/4" ALUMINUM DISK STAMPED 1G-150-74, IN THE TOP OF A CONCRETE ABUTMENT. MONUMENT IS LOCATED IN THE SOUTHEAST CORNER OF THE INTERSECTION OF MAGNOLIA STREET AND A FLOOD CONTROL CHANNEL, 45 FEET NORTHEASTERLY OF MAGNOLIA STREET AND 0.2 MILES NORTHEASTERLY ALONG MAGNOLIA STREET FROM ITS INTERSECTION WITH PACIFIC COAST HIGHWAY. MONUMENT IS SET LEVEL WITH THE SIDEWALK.

REFERENCES:

(R) = ALL BEARINGS AND DISTANCES SHOWN HEREON FOR PACIFIC COAST HIGHWAY AND MAGNOLIA STREET ARE RECORD PER RECORD OF SURVEY 99-1000, FILED IN BOOK 176, PAGES 10 THROUGH 19 OF R.S.B.

(R1) = ALL BEARINGS AND DISTANCES SHOWN HEREON FOR BANNING AVE ARE RECORD PER RECORD OF SURVEY 2005-1705, FILED IN BOOK 232, PAGES 1 THROUGH 10 OF R.S.B.

STATIONING CONTROL:

HELD 26+00 AT THE C INTERSECTION OF MAGNOLIA STREET AT BANNING AVE STATION INCREASING SOUTHERLY.

NOTES:

1. BRIDGE No. 55C-0388 (MAGNOLIA ST BRIDGE).  
BRIDGE OWNER: CITY OF HUNTINGTON BEACH

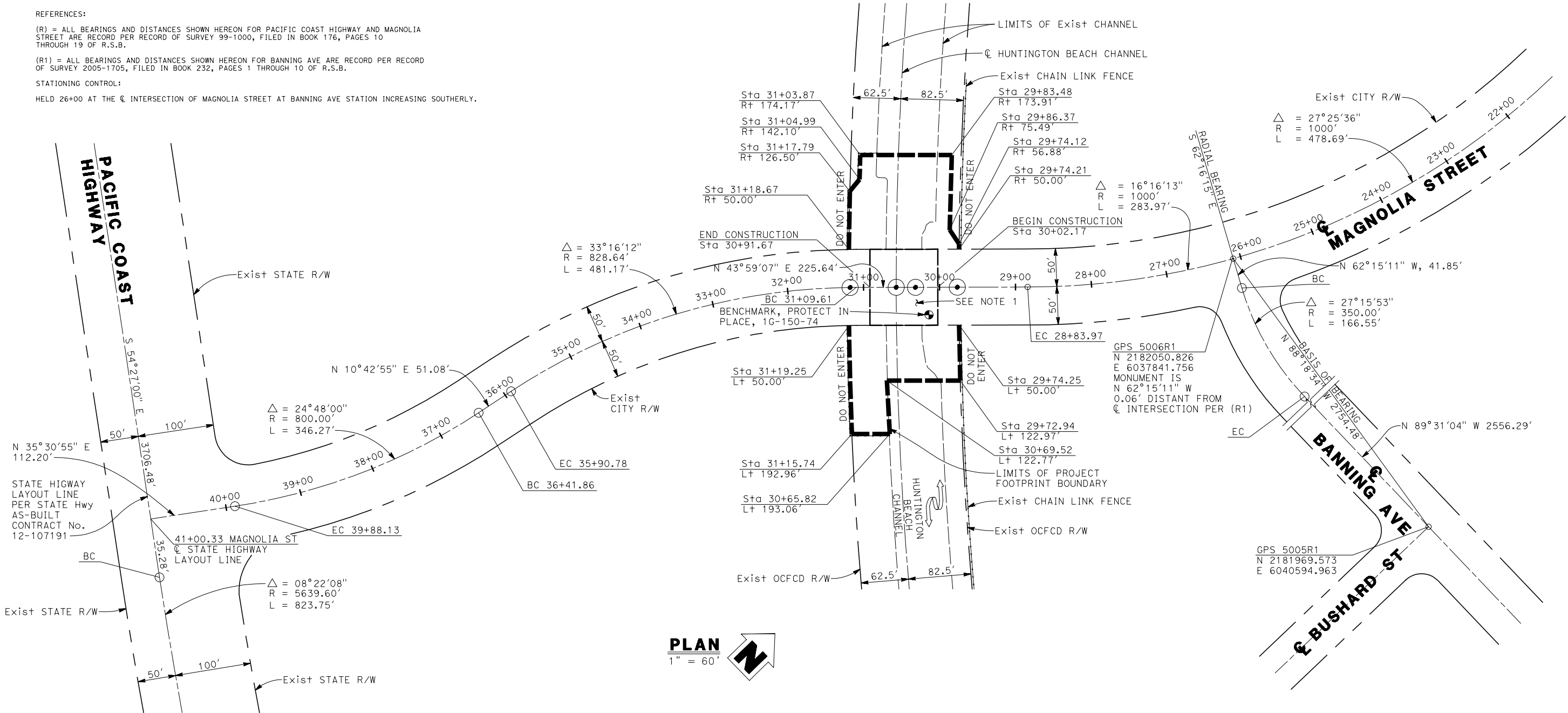
LEGEND:



Indicates limits of Contractor access area and project boundary



Prepare Pre-construction and Post-construction corner record. Ensure monument exists at current finished surface and is perpetuated with four (4) tie points at conclusion of project (see specifications for character of existing survey monuments)



PLAN  
1" = 60'



Underground Service Alert

Call: 811

TWO WORKING DAYS BEFORE YOU DIG

REVISIONS				
REV.	DATE	BY	DESCRIPTION	APP'D

REFERENCES			

**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS

500 So. Main St., Suite 400  
Orange, California 92668  
714-550-4665

**BCR**

DRAWN BY:	DM	5/12/17
DESIGNED BY:	RBS	5/12/17
CHECKED BY:	JAA	5/12/17

REGISTERED PROFESSIONAL ENGINEER  
MICHAEL A. THOMAS  
No. S4676  
Exp. 9/30/18  
STRUCTURAL  
STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:

Michael A. Thomas PRINCIPAL S.E. DATE 5/12/17  
R.S.E. NO.: S4676 EXP. DATE: 9/30/18

APPROVED BY:

M. Todd Broussard PRINCIPAL C.E. DATE  
R.C.E. NO.: C57144 EXP. DATE: 12/31/17

**CITY OF HUNTINGTON BEACH**  
DEPARTMENT OF PUBLIC WORKS

SITE PLAN

**MAGNOLIA ST BRIDGE PREVENTIVE MAINTENANCE**  
(OVER HUNTINGTON BEACH CHANNEL)

STA. 29+90.85 TO STA.30+80.35

SHEET NO.  
2  
OF  
10  
T2

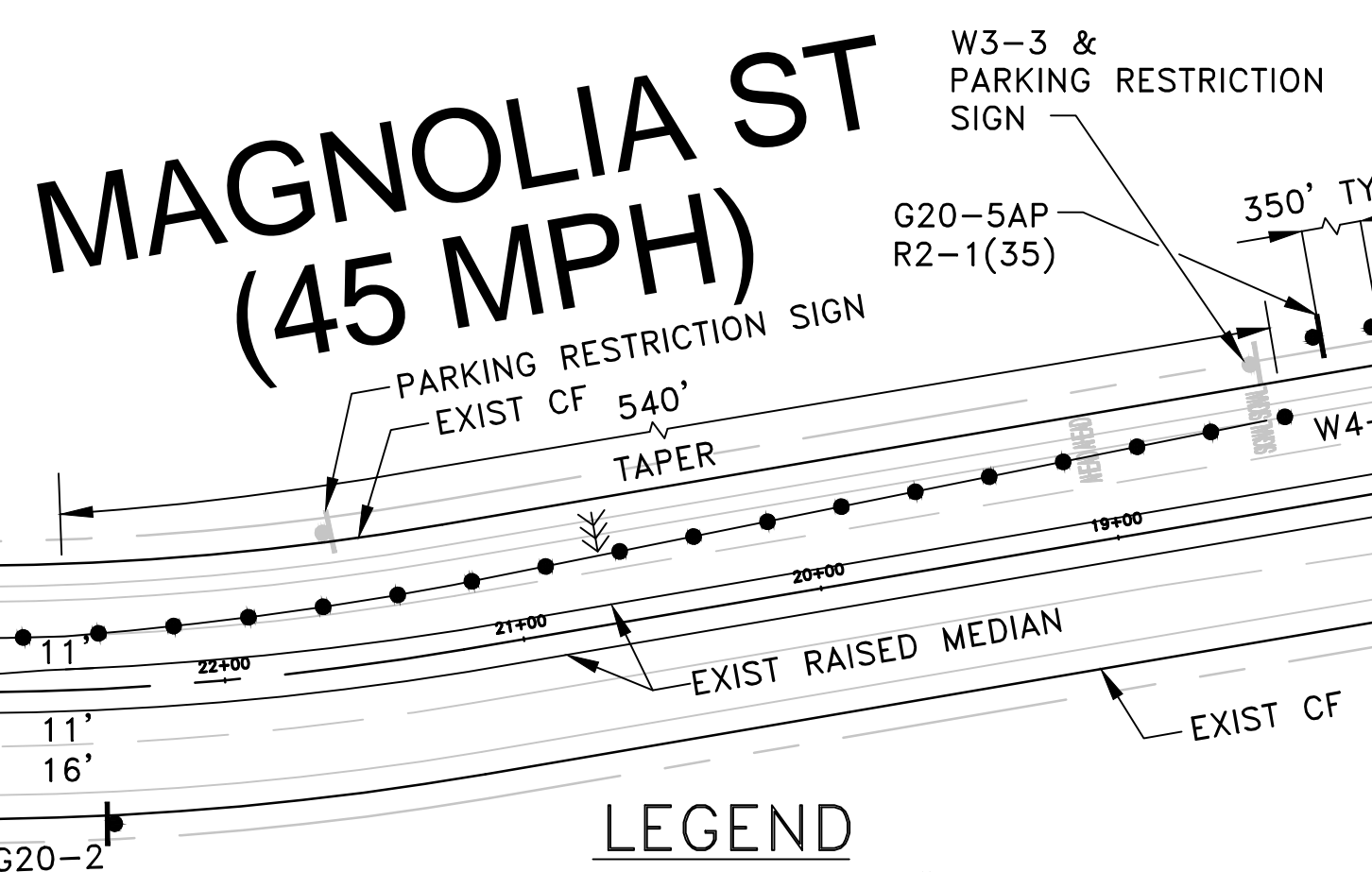
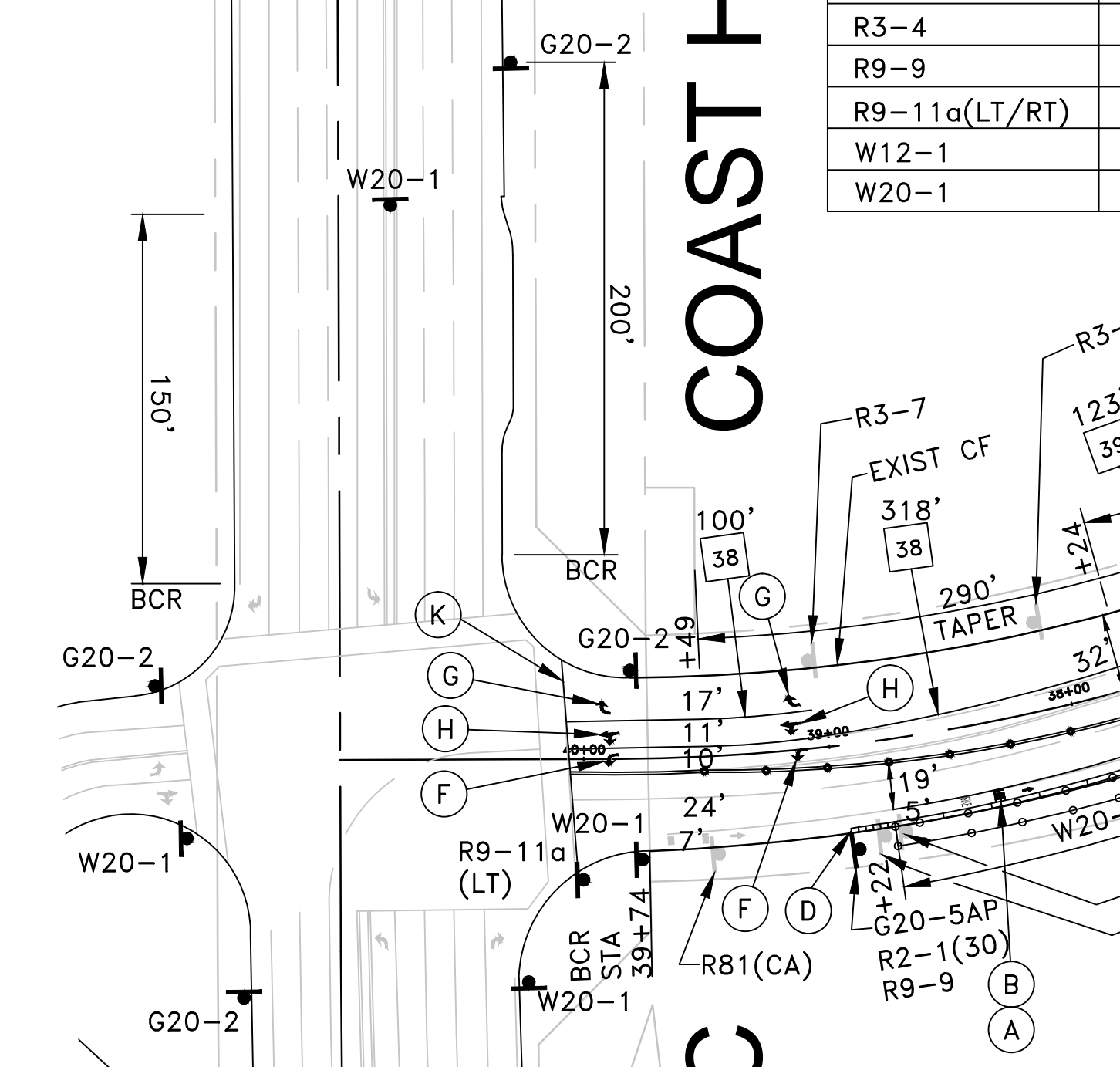
MAGNOLIA ST BRIDGE PREVENTIVE MAINTENANCE

C.C. No. 1448

PORTABLE SIGN INDEX	
CODE	MESSAGE
C20(LT/RT)	LEFT/RIGHT LANE CLOSED AHEAD
C30(CA)	LANE CLOSED
G20-2	END ROAD WORK
G20-5AP	WORK ZONE
R2-1	SPEED LIMIT
R3-4	NO U-TURN
R9-9	SIDEWALK CLOSED
R9-11a(LT/RT)	SIDEWALK CLOSED CROSS HERE (LEFT/RIGHT)
W12-1	DOUBLE ARROW
W20-1	ROAD WORK AHEAD

COAST HWY  
PACIFIC

MAGNOLIA ST (40 MPH)



## LEGEND

- 36" HIGH SURFACE MOUNTED TUBULAR MARKER
- 6" HIGH CHAIN LINK FENCE
- IMPACT ATTENUATOR CRASH CUSHION SYSTEM
- TYPE III BARRICADE
- PORTABLE SIGNS
- K-RAIL
- FLASHING ARROW SIGN
- CONSTRUCTION AREA
- TEMPORARY WHITE MARKINGS
- TEMPORARY STRIPING
- CURB FACE
- EDGE OF PAVEMENT
- MAXIMUM
- TYPICAL

SCALE  
1"=60'  
12.5 0 25 50 75 100  
FEET

ESTIMATED DURATION OF THIS STAGE: 85 WORKING DAYS

## GENERAL NOTES TRAFFIC CONTROL:

- A. ALL TRAFFIC CONTROL WORK FOR CONSTRUCTION SHALL CONFORM TO THE PART 6 OF THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (2014 EDITION) (CAMUTCD).
- B. ALL NEW SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC DEVICES FOR STREETS AND HIGHWAYS (CAMUTCD), 2014 EDITION. ALL SIGN SIZES SHALL BE THE STANDARD SIZE SHOWN IN THEIR RESPECTIVE PUBLICATIONS UNLESS NOTED OTHERWISE ON THE PLAN. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL BE REFLECTORIZED. ALL TUBULAR PORTABLE DELINEATORS SHALL BE 36" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 6" HEIGHT. CONES SHALL BE 28" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 10" HEIGHT REFLECTIVE SURFACE.
- C. ALL NEW STRIPING, PAVEMENT MARKERS, PAVEMENT LEGENDS, ARROWS, MARKINGS AND CURB PAINTING SHALL CONFORM TO THE 2010 CALTRANS STANDARD SPECIFICATIONS SECTION 84, TRAFFIC STRIPES AND PAVEMENT MARKINGS, AND SECTION 85, PAVEMENT MARKERS, STANDARD PLANS A20A-D AND A24A-E. THE CURRENT CITY OF HUNTINGTON BEACH PUBLIC WORKS DEPARTMENT STANDARD PLANS, AND THESE PLANS. CONTRACTOR SHALL RESTORE ANY AND ALL STRIPING AND PAVEMENT MARKINGS DAMAGED OR REMOVED DURING CONSTRUCTION PER CITY OF HUNTINGTON BEACH REQUIREMENTS. CONTRACTOR MAY USE PREFABRICATED REMOVABLE DETOUR TAPE, PAVEMENT ARROWS, AND RAISED PAVEMENT MARKERS FOR SHORT-TERM USE AS DIRECTED BY THE ENGINEER.
- NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.
- THE ENGINEER SHALL BE DEFINED AS THE CITY OF HUNTINGTON BEACH TRAFFIC ENGINEER OR HIS REPRESENTATIVE OR THE STATE INSPECTOR WITHIN STATE R/W.
- THE ENGINEER AND STATE INSPECTOR WILL HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS TO THESE PLANS AND NOTES, AS HE DEEMS NECESSARY TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC AND PEDESTRIANS THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE AT NO ADDITIONAL COST TO THE AGENCY.
- CONSTRUCTION ACTIVITY IN THE ROADWAY WILL BE LIMITED TO THE HOURS BETWEEN 7:00 A.M. AND 4:00 P.M. ALL TRENCH EXCAVATIONS WITHIN THE ROADWAY SHALL BE COVERED WITH STEEL PLATES OR TEMPORARILY BACKFILLED AND SURFACED FROM 4:00 P.M. TO 7:00 A.M., UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER (STATE INSPECTOR WITHIN STATE R/W).
- FLASHING BEACONS AND WARNING LIGHTS SHALL BE USED AS DIRECTED BY THE ENGINEER; OR THE STATE INSPECTOR IN OR IN ADVANCE OF STATE R/W.
- ALL EXISTING TRAFFIC CONTROL SIGNS AND STREET SIGNS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. THE CONTRACTOR SHALL RESTORE OR REPLACE (AT THE DISCRETION OF THE ENGINEER) ANY STRIPING OR SIGNING DAMAGED DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS.
- WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED, SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC.
- ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES IF AT ALL POSSIBLE. ADDITIONAL CONES OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.
- 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE IMMEDIATE VICINITY OF A TRAFFIC SIGNAL CONTROLLED INTERSECTION, THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (800-422-4133). THIS PRIOR NOTICE WILL ALLOW THE LOCATION AND MARKING OF UNDERGROUND TRAFFIC SIGNAL CONDUIT AND TRAFFIC SIGNAL LOOP DETECTORS PRIOR TO CONSTRUCTION DAMAGES TO TRAFFIC SIGNAL CONDUIT, CONDUCTORS, LOOP DETECTORS, OR OTHER TRAFFIC SIGNAL EQUIPMENT SHALL BE REPAIRED WITHIN 24 HOURS AT THE CONTRACTOR'S EXPENSE, PER THE CITY OF HUNTINGTON BEACH STANDARD SPECIAL PROVISIONS FOR THE CONSTRUCTION OF TRAFFIC SIGNALS AND STREET LIGHTING, LATEST EDITION.
- SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR AT HIS EXPENSE. STREETS ALONG THE HAUL ROUTE SHALL BE SWEEPED OR WASHED DAILY, DURING EACH DAY OF HAULING OPERATIONS.
- UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL SANDBLAST ALL TEMPORARY STRIPING AND PAVEMENT MARKINGS. CONTRACTOR SHALL RESTORE EXISTING STRIPING, REMOVED DURING CONSTRUCTION, BACK TO ITS ORIGINAL OR BETTER CONDITION AS DIRECTED BY THE ENGINEER IN THE FIELD.
- ALL ADVANCE WARNING SIGNS INSTALLED SHALL REMAIN IN PLACE FOR THE DURATION OF THE CONSTRUCTION PHASE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD TO BE REMOVED OR RELOCATED.
- REMOVE ANY EXCESS AND/OR CONFLICTING EXISTING PAVEMENT MARKINGS AND STRIPING BY SANDBLASTING.
- THE CONTRACTOR SHALL COORDINATE BUS STOP RELOCATIONS AND CLOSURES WITH OCTA TRANSIT.
- THE CONTRACTOR SHALL COVER ALL CONFLICTING SIGNS.
- CONTRACTOR SHALL PROVIDE CITY AND COUNTY AGENCY VEHICULAR ACCESS TO FLOOD CONTROL CHANNEL AS NEEDED.
- THE CONTRACTOR SHALL REMOVE ALL EXISTING STRIPING WITHIN THE LIMITS OF THE PROJECT.
- IMPACT ATTENUATOR CRASH CUSHION SYSTEM SHALL BE DESIGNED TO ACCOMMODATE SPEED LIMIT.

## TEMPORARY STRIPING AND MARKINGS NOTES:

- ALL TEMPORARY STRIPINGS AND PAVEMENT MARKINGS SHALL BE PER CALTRANS STANDARD PLANS (LATEST EDITION).
- 39A INDICATES DETAIL NUMBER PER CALTRANS STD PLANS A20A TO A20D.
- A) INSTALL BIKE LANE ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
  - B) INSTALL "BIKE LANE" PAVEMENT MARKING PER CALTRANS STD PLANS A24D.
  - C) COVER EXISTING CONFLICTING SIGN.
  - D) INSTALL IMPACT ATTENUATOR CRASH CUSHION SYSTEM.
  - E) INSTALL 6' HIGH TEMPORARY CHAIN LINK FENCE.
  - F) INSTALL TYPE IV(L) ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
  - G) INSTALL TYPE IV(R) ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
  - H) INSTALL TYPE VII(L) 13' ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
  - I) INSTALL 4" WIDE WHITE SOLID LINE.
  - J) INSTALL 4" WIDE YELLOW DOUBLE YELLOW CENTERLINE PER CALTRANS STANDARD PLANS A20A, DETAIL 21.
  - K) INSTALL 12" WIDE WHITE CROSSWALK AND LIMIT LINE PER CALTRANS STANDARD PLANS A24E.
  - L) INSTALL TEMPORARY ASPHALT CONCRETE RAMPS WITH 7.5% MAXIMUM SLOPE.
  - M) INSTALL SURFACE MOUNTED DELINEATORS ON ALL TEMPORARY DOUBLE YELLOW LINES.

Underground Service Alert

Call: 811

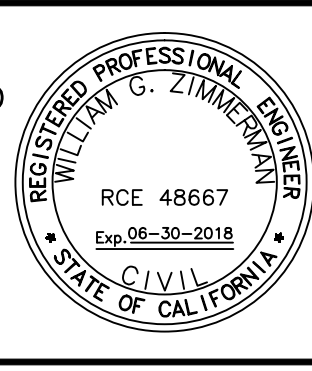
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS				
REV.	DATE	BY	DESCRIPTION	APP'VD

REFERENCES				

W.G. ZIMMERMAN ENGINEERING, INC.  
17011 BEACH BOULEVARD, SUITE 1240  
HUNTINGTON BEACH, CA 92647  
TEL: (714) 799 1700  
FAX: (714) 333 4712

DRAWN BY:	CC	01/27/2017
DESIGNED BY:	RB	01/27/2017
CHECKED BY:	RB	01/27/2017



PREPARED UNDER THE SUPERVISION OF:

William G. Zimmerman 01/27/2017  
WILLIAM G. ZIMMERMAN, P.E. DATE  
R.C.E. NO.: C48667 EXP. DATE: 06/30/2018

APPROVED BY:

TRANSPORTATION ENGINEERING DATE



TRAFFIC CONTROL PLAN

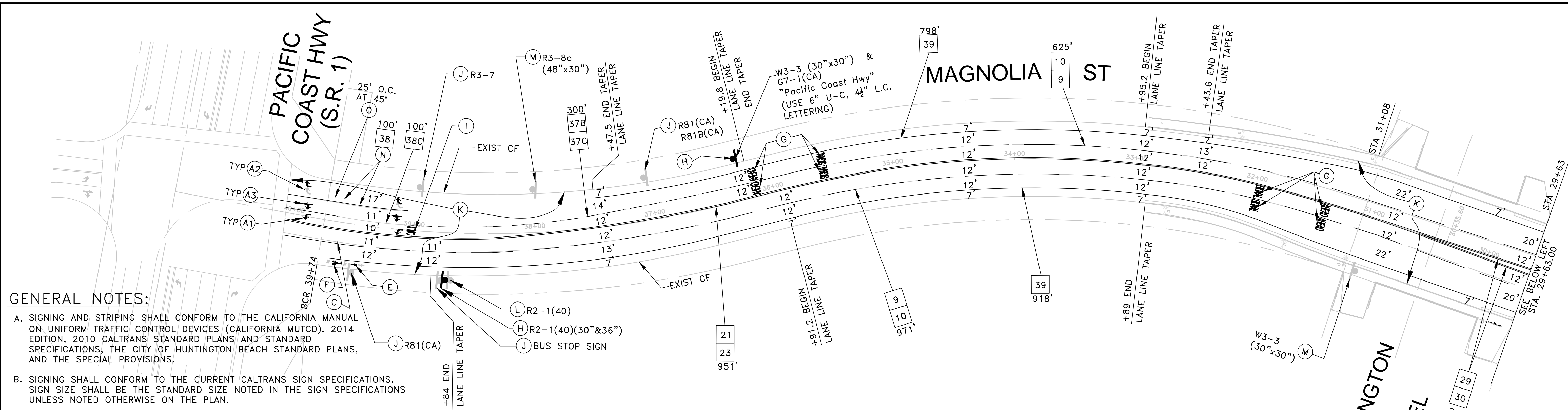
**MAGNOLIA ST BRIDGE PREVENTIVE MAINTENANCE**

(OVER HUNTINGTON BEACH CHANNEL)

STA. 29+90.85 TO STA. 30+80.35

SHEET NO.  
3  
OF  
10  
TC1





### GENERAL NOTES:

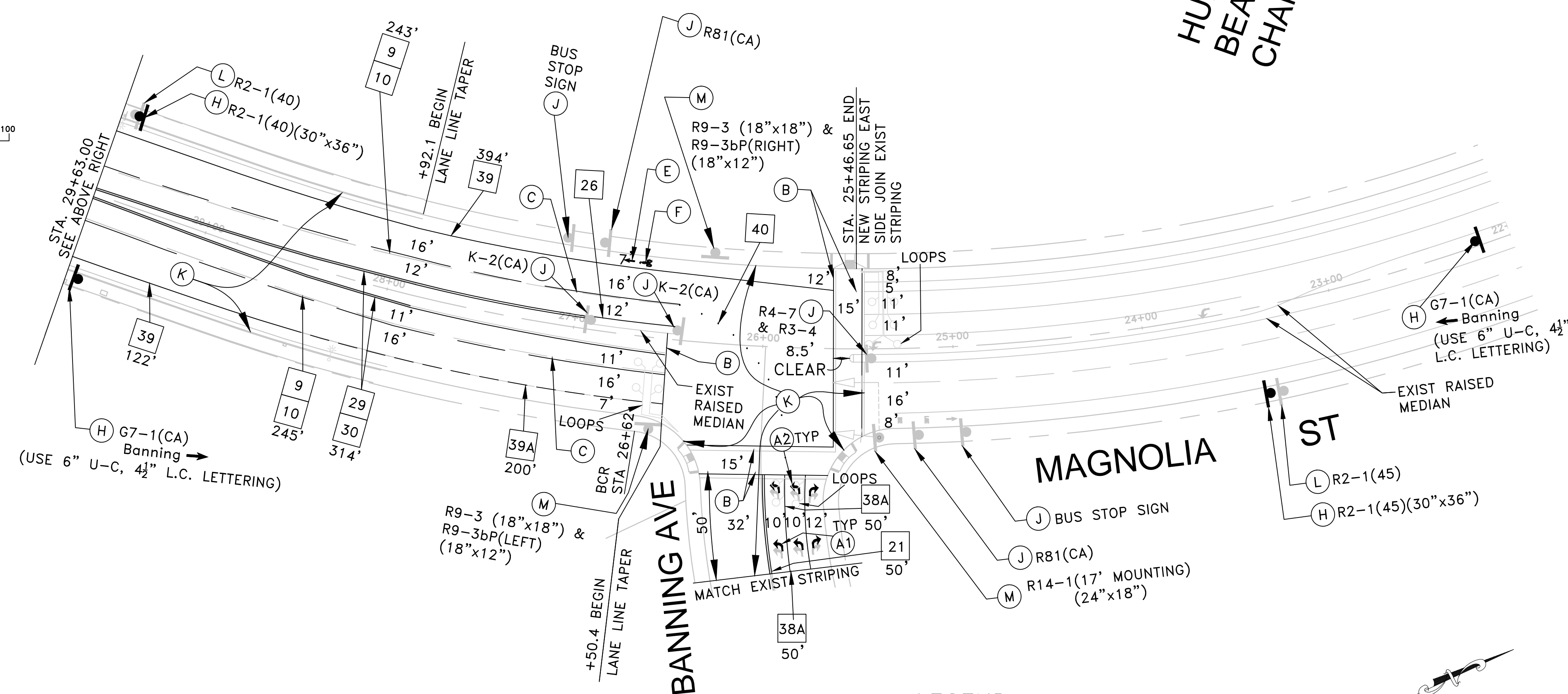
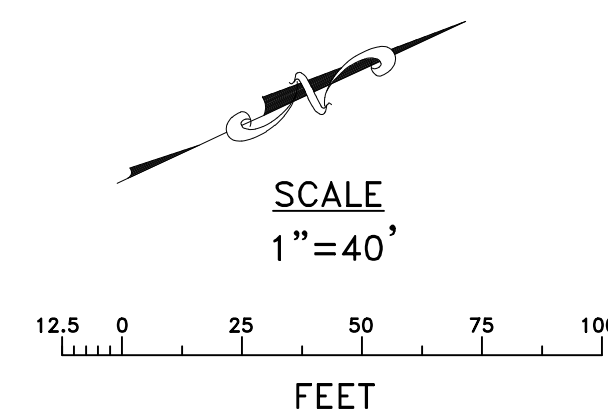
- SIGNING AND STRIPING SHALL CONFORM TO THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA MUTCD). 2014 EDITION, 2010 CALTRANS STANDARD PLANS AND STANDARD SPECIFICATIONS, THE CITY OF HUNTINGTON BEACH STANDARD PLANS, AND THE SPECIAL PROVISIONS.
- SIGNING SHALL CONFORM TO THE CURRENT CALTRANS SIGN SPECIFICATIONS. SIGN SIZE SHALL BE THE STANDARD SIZE NOTED IN THE SIGN SPECIFICATIONS UNLESS NOTED OTHERWISE ON THE PLAN.
- SIGNING SHALL BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED ON PLAN.
- STRIPING DETAILS SHALL BE COMBINED AS NOTED.
- SANDBLAST CONFLICTING EXISTING STRIPING. REMOVE RAISED-PAVEMENT MARKERS WHERE NECESSARY.
- INSTALL TWO-WAY BLUE RETROREFLECTIVE RAISED PAVEMENT MARKER AT FIRE HYDRANT LOCATIONS PER FIGURE 3B-102 OF THE 2014 CALIFORNIA MUTCD.
- ALL SIGNS SHALL BE INSTALLED PER CITY STANDARD PLAN 401 AND HAVE 3M 1160 GRAFFITI OVERLAY FILM.
- SIGN LAYOUTS SHALL BE SUBMITTED TO THE CITY FOR ALL G7, G8 AND STREET NAME SIGNS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND INSTALLATION.

### SIGNING AND STRIPING NOTES:

ALL STRIPINGS AND PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AND PER CALTRANS STANDARD PLANS (LATEST EDITION).

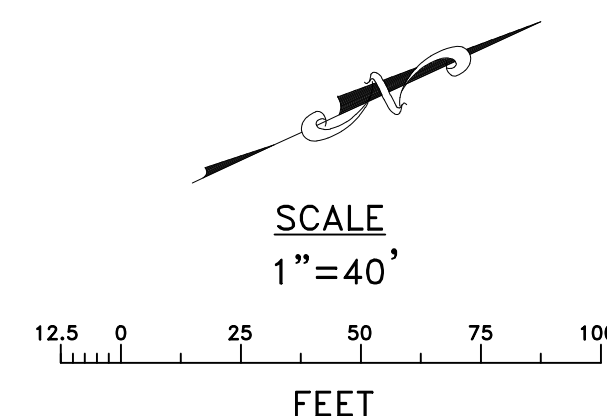
39A INDICATES DETAIL NUMBER PER CALTRANS STD PLANS A20A TO A20D.

- INSTALL TYPE IV (L) ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
- INSTALL TYPE IV (R) ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
- INSTALL TYPE VII (L) ARROW PAVEMENT MARKING PER CALTRANS STD PLANS A24A.
- INSTALL 15" WIDE CROSSWALK AND LIMIT LINE PER CALTRANS STD PLANS A24E.
- INSTALL 4" WIDE 50' LONG WHITE SOLID LINE WITH TYPE G REFLECTIVE MARKERS AT BOTH ENDS AND TYPE A NON-REFLECTIVE MARKERS EVERY 4 FEET ON CENTER FOR FULL LENGTH OF STRIPE PER CALTRANS STD PLAN A20A.
- NOT USED.
- INSTALL BIKE LANE ARROW PAVEMENT MARKING PER CALTRANS STD PLAN A24A.
- INSTALL BIKE LANE SYMBOL WITH PERSON PAVEMENT MARKING PER CALTRANS STD PLAN A24C.
- INSTALL "SIGNAL AHEAD" PAVEMENT MARKING PER CALTRANS STD PLANS A24D.
- INSTALL SIGN ON POST.
- INSTALL "ONLY" PAVEMENT MARKING PER CALTRANS STD PLANS A24D.
- PROTECT IN PLACE.
- PRIOR TO STRIPING A SLURRY SEAL (TYPE II) SHALL BE APPLIED TO THE EXISTING PAVEMENT SURFACE FROM THE CROSSWALK LIMIT LINE AT PACIFIC COAST HWY TO STATION 22+00.00 NORTH OF BANNING AVENUE ON THE WESTERLY SIDE AND TO STA 25+46.65 ON THE EASTERLY SIDE AND ALSO ON BANNING AVENUE FROM MAGNOLIA STREET TO 50' EASTERLY FROM THE CROSSWALK LIMIT LINE. ALL EXISTING STRIPING WITHIN SLURRY SEAL LIMITS SHALL BE REMOVED BY SANDBLASTING PRIOR TO THE APPLICATION OF THE SLURRY SEAL.
- REMOVE EXISTING SIGN(S) AND POST (IF NECESSARY) AS INDICATED.
- REMOVE EXISTING SIGN AND REPLACE IT WITH NEW HIGH INTENSITY SIGN PER CITY STD PLAN 401.



### LEGEND

- RIGHT-OF-WAY
- CENTERLINE
- CF CURB FACE
- EP EDGE OF PAVEMENT
- EXIST EXISTING
- R/W RIGHT-OF-WAY
- SW SIDEWALK
- TYP TYPICAL



Underground Service Alert



Call: 811

TWO WORKING DAYS BEFORE YOU DIG

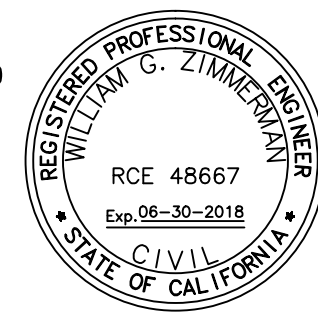
### REVISIONS

REV.	DATE	BY	DESCRIPTION	APP'D

### REFERENCES

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17011 BEACH BOULEVARD, SUITE 1240  
HUNTINGTON BEACH, CA 92647  
TEL: (714) 799 1700  
FAX: (714) 333 4712

DRAWN BY:	MB	01/27/2017
DESIGNED BY:	RB	01/27/2017
CHECKED BY:	BZ	01/27/2017

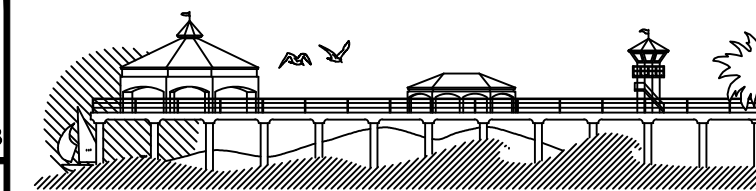


PREPARED UNDER THE SUPERVISION OF:

William G. Zimmerman 01/27/2017  
WILLIAM G. ZIMMERMAN, P.E. DATE  
R.C.E. NO.: C48667 EXP. DATE: 06/30/2018

APPROVED BY:

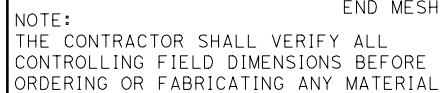
TRANSPORTATION ENGINEERING DATE  
R.C.E. NO.: EXP. DATE:








CITY OF HUNTINGTON BEACH  
DEPARTMENT OF PUBLIC WORKS

SIGNING AND STRIPING PLAN  
**MAGNOLIA ST BRIDGE PREVENTIVE MAINTENANCE**  
(OVER HUNTINGTON BEACH CHANNEL)  
FROM PACIFIC COAST HIGHWAY TO  
364' N/O BANNING AVENUE

SHEET NO.  
4  
OF  
10  
SS1



- NOTES:
- (A) Paint 'BRIDGE No. 55C-0388'
  - (B) N/A
  - (C) Remove Chain Link Fence
  - (D) Construct Chain Link Fence
  - (E) Remove Concrete Barrier
  - (F) Concrete Barrier Type 26 (Mod)
  - (G) Remove and patch unsound concrete
  - (H) Remove Concrete Retaining Wall
  - (I) Construct Concrete Retaining Wall
  - (J) Install Rock Slope Protection
  - (K) Existing 2" Dia and 2-4" Dia telephone conduit, protect in place
  - (L) Existing 12" Dia steel waterline, protect in place
  - (M) Tubular Hand Railing
  - (N) Existing SCE street light conduit, protect in place
  - (O) 4' High environmental protection mesh fence

- LEGEND:
- |   |  |
|---|--|
|  | Indicates portion of existing bridge to be removed   |
| ---   | Indicates existing structure                         |
| —   | Indicates new construction                           |
|  | Indicates direction of travel                        |
|  | Indicates existing Rock Slope Protection             |
|  | Indicates new Rock Slope Protection                  |
|  | Indicates unsound concrete to be removed and patched |

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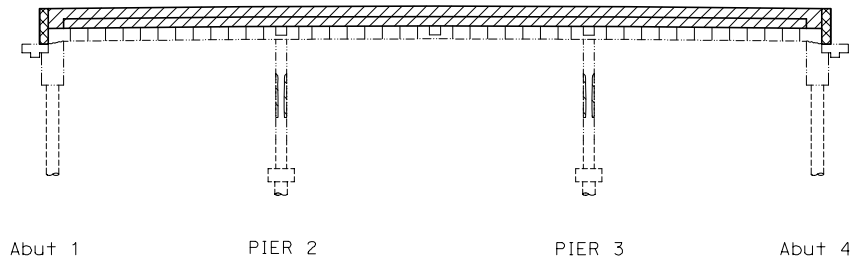
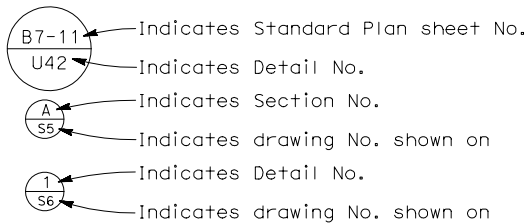
GENERAL NOTES  
LOAD & RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition and Caltrans Amendments, preface dated Dec. 2008; except that geotechnical design of deep foundations is designed using Bridge Design Specifications ('96 AASHTO with Revisions by Caltrans)

CONCRETE:  $f_y = 60 \text{ ksi}$   
 $f'_c = \text{see "CONCRETE STRENGTH AND TYPE LIMITS"}$

CALTRANS 2010 STANDARD PLANS

A10A ABBREVIATIONS (SHEET 1 OF 2)  
A10B ABBREVIATIONS (SHEET 2 OF 2)  
A10C LINES AND SYMBOLS (SHEET 1 OF 3)  
A10D LINES AND SYMBOLS (SHEET 2 OF 3)  
A10E LINES AND SYMBOLS (SHEET 3 OF 3)  
A62A EXCAVATION AND BACKFILL MISCELLANEOUS DETAILS  
B11-51 TUBULAR HAND RAILING  
B11-54 CONCRETE BARRIER TYPE 26



- Concrete Barrier, Type 26 (Mod) ( $f'_c = 3600 \text{ psi}$  at 28 days)
- Portland Cement Concrete (Patch) ( $f'_c = 3600 \text{ psi}$  at 28 days)
- Existing Concrete
- Structure Concrete, Retaining Wall ( $f'_c = 3600 \text{ psi}$  at 28 days)


CONCRETE STRENGTH AND TYPE LIMITS

1" = 10'

NOTE:  
PER GREENBOOK SECTION 201-4.1, A CLEAR CURING COMPOUND WILL BE APPLIED TO ALL NEW CONCRETE SURFACES.

NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

Underground Service Alert




Call: 811

TWO WORKING DAYS BEFORE YOU DIG


REVISIONS					REFERENCES	
REV.	DATE	BY	DESCRIPTION	APP'VD		

**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS  
500 So. Main St., Suite 400  
Orange, California 92668  
714-550-4665



REGISTERED PROFESSIONAL ENGINEER  
MICHAEL A. THOMAS  
No. S4676  
Exp. 9/30/18  
STRUCTURAL  
STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:  
Michael A. Thomas PRINCIPAL S.E. DATE 5/12/17  
R.S.E. NO.: S4676 EXP. DATE: 9/30/18  
APPROVED BY:  
M. Todd Broussard PRINCIPAL C.E. DATE  
R.C.E. NO.: C57144 EXP. DATE: 12/31/17



CITY OF HUNTINGTON BEACH  
DEPARTMENT OF PUBLIC WORKS

GENERAL NOTES  
**MAGNOLIA ST BRIDGE PREVENTIVE MAINTENANCE**  
(OVER HUNTINGTON BEACH CHANNEL)  
STA. 29+90.85 TO STA.30+80.35

SHEET NO.  
6  
OF  
10  
S2

(2010211C1\_S2)2010211

NOTES:

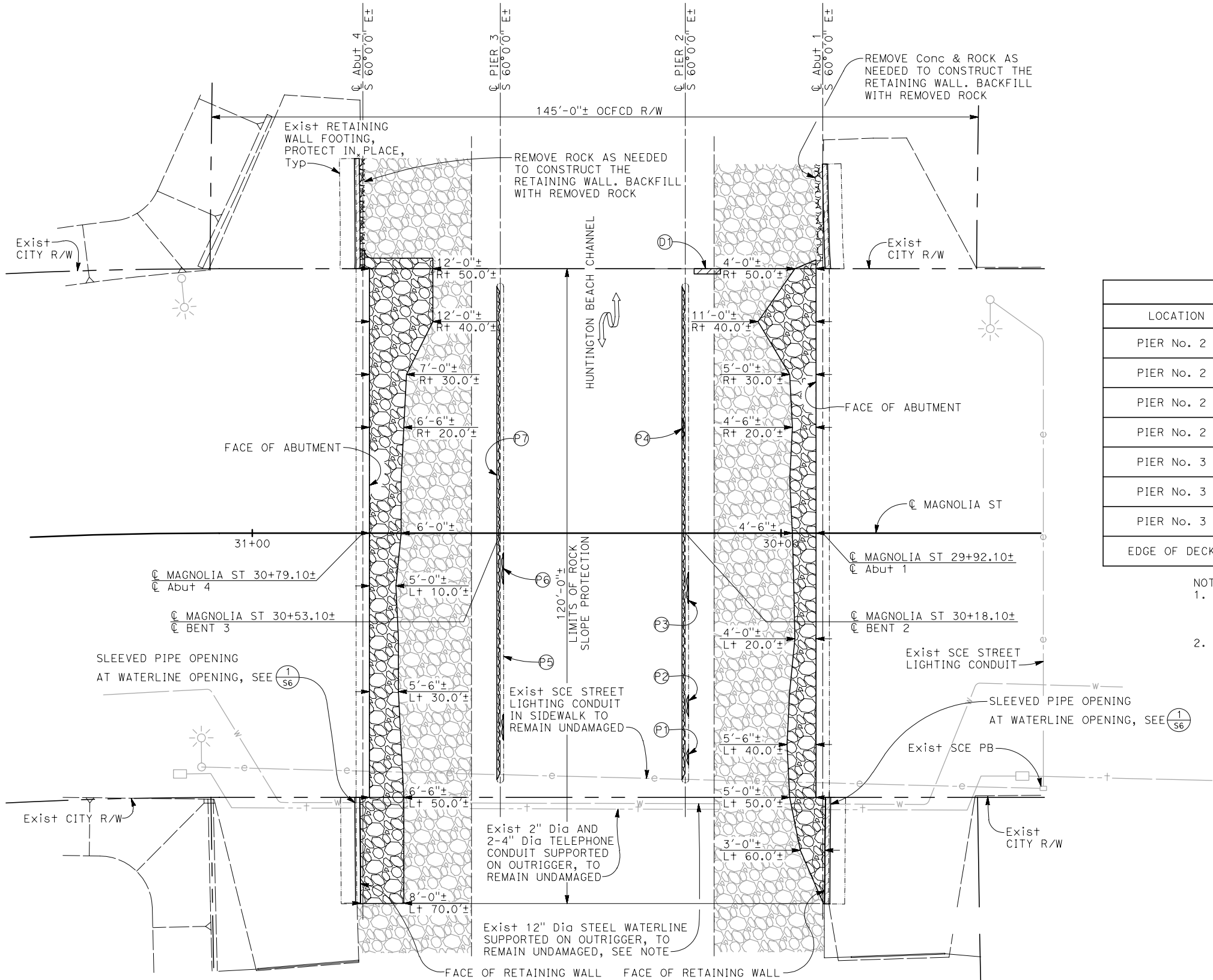
- ① Indicates unsound concrete at pier (P) or at edge of deck (D), see "Remove and Patch Schedule"
- Indicates existing structure
- Indicates new structure
- ▨ Indicates existing Rock Slope Protection
- ▨ Indicates new Rock Slope Protection
- ▨ Indicates portion of existing retaining wall to be removed
- ▨ Indicates unsound concrete to be removed and patched

REMOVE AND PATCH SCHEDULE

LOCATION		
PIER No. 2	①	2'-0" x 2'-0" x 0'-4" DEEP CRACKED/SPALLED CONCRETE
PIER No. 2	②	4'-0" x 4'-0" x 0'-4" DEEP CRACKED/SPALLED CONCRETE
PIER No. 2	③	6'-0" x 4'-0" x 0'-4" DEEP CRACKED/SPALLED CONCRETE
PIER No. 2	④	FULL LENGTH x 4'-0" x 0'-4" DEEP CRACKED/SPALLED CONCRETE
PIER No. 3	⑤	4'-0" x 4'-0" x 0'-4" DEEP CRACKED/SPALLED CONCRETE
PIER No. 3	⑥	6'-0" x 4'-0" x 0'-4" DEEP CRACKED/SPALLED CONCRETE
PIER No. 3	⑦	FULL LENGTH x 4'-0" x 0'-4" DEEP CRACKED/SPALLED CONCRETE
EDGE OF DECK	⑩	5'-0"x2'-0"x0'-4" DEEP CRACKED/SPALLED CONCRETE

NOTES:

- Depth shown is an estimated depth to remove unsound concrete. Actual depth may be more or less depending upon existing concrete soundness and reinforcement condition.
- In OCFCD R/W, any concrete removal that may be needed shall be removed to the limits specified by the Orange County Construction Inspector.



FOUNDATION PLAN

1" = 10'

NOTE:  
PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO REQUEST FOR THE EXISTING 12" Dia STEEL WATERLINE TO BE ISOLATED BY CLOSING WATER VALVES ON BOTH SIDES OF THE BRIDGE.

NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

Underground Service Alert



Call: 811

TWO WORKING DAYS BEFORE YOU DIG

REVISIONS				
REV.	DATE	BY	DESCRIPTION	APP/VD

REFERENCES

**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS

500 So. Main St., Suite 400  
Orange, California 92668  
714-550-4665

DRAWN BY: DM 5/12/17  
DESIGNED BY: RBS 5/12/17  
CHECKED BY: JAA 5/12/17

**BER**



PREPARED UNDER THE SUPERVISION OF:

Michael A. Thomas PRINCIPAL S.E. DATE 5/12/17  
R.S.E. NO.: S4676 EXP. DATE: 9/30/18

APPROVED BY:

M. Todd Broussard PRINCIPAL C.E. DATE 5/12/17  
R.C.E. NO.: S57144 EXP. DATE: 12/31/17

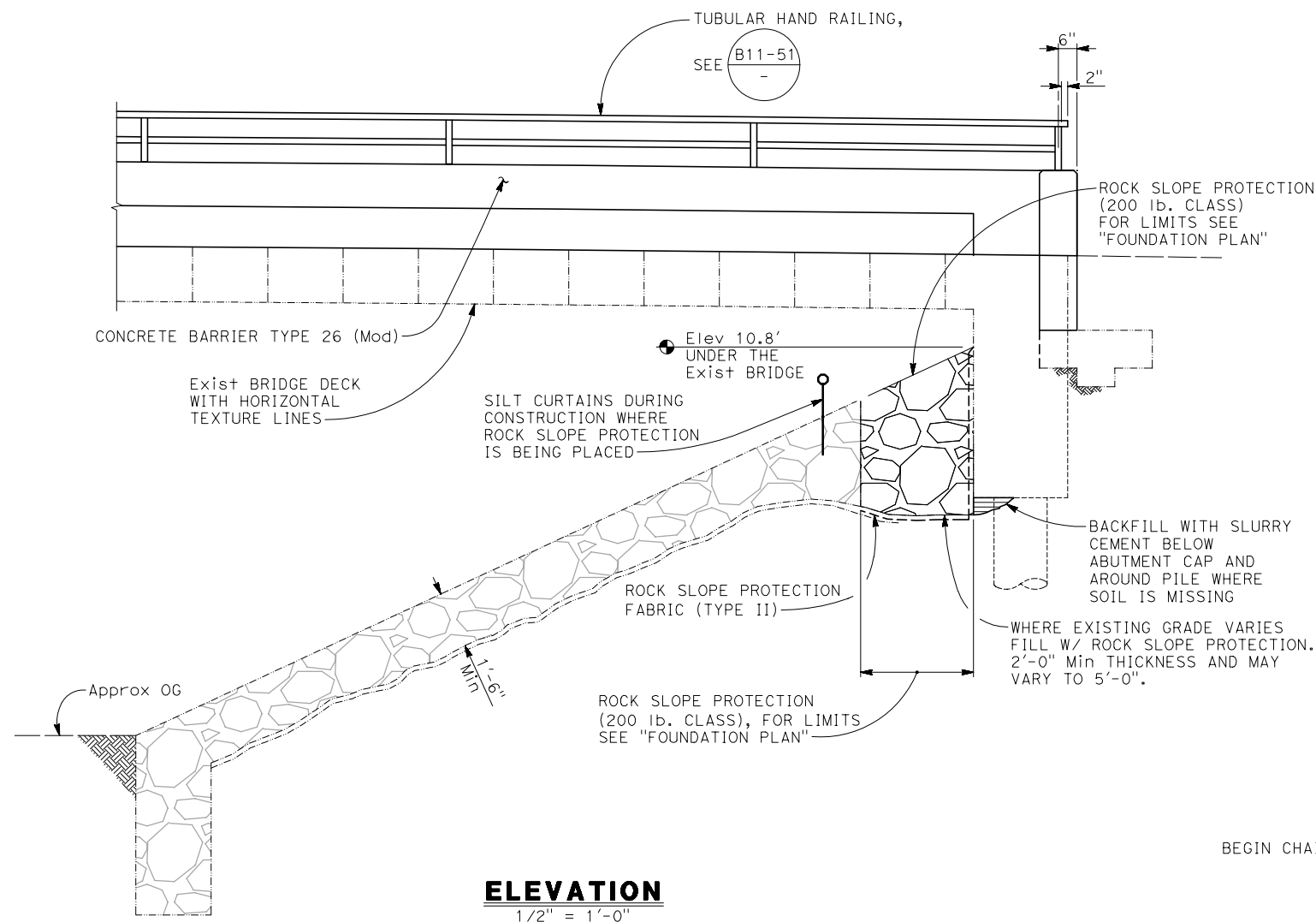


**CITY OF HUNTINGTON BEACH**  
DEPARTMENT OF PUBLIC WORKS

FOUNDATION PLAN  
**MAGNOLIA ST BRIDGE PREVENTIVE MAINTENANCE**  
(OVER HUNTINGTON BEACH CHANNEL)  
STA. 29+90.85 TO STA.30+80.35

SHEET NO.  
7  
OF  
10  
S3

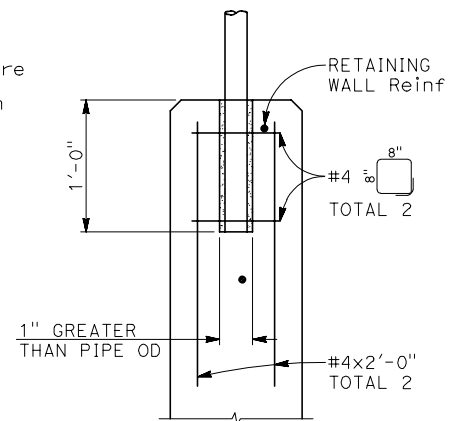




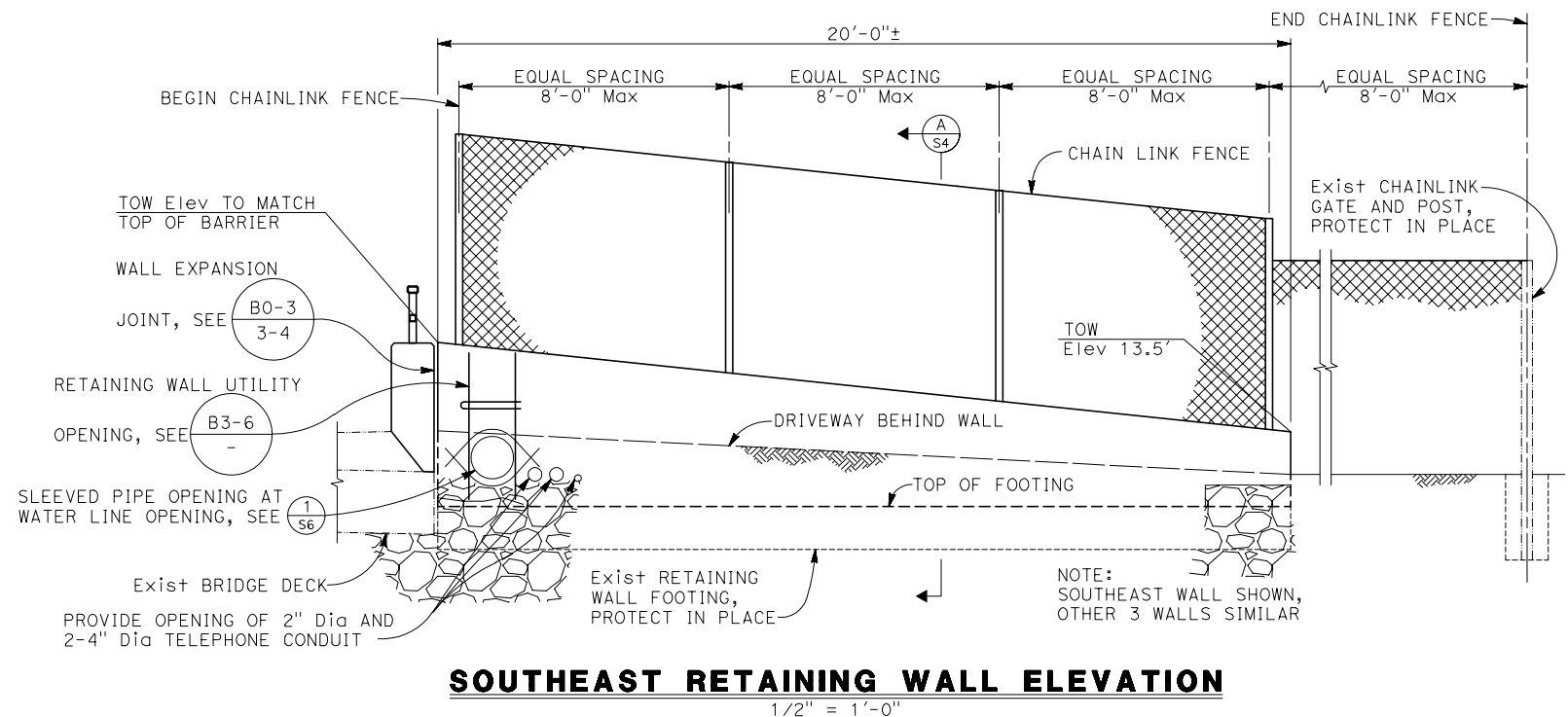
**ELEVATION**  
1/2" = 1'-0"

- ROCK SLOPE PROTECTION NOTE:**  
The work for replacing rock slope protection shall include, but not be limited to, the following:
- Contractor shall submit a work plan for replacing the rock slope protection.
  - Install silt curtains.
  - Remove existing debris and rock in the rock slope protection limits, see "FOUNDATION PLAN".
  - Place backfill below abutment cap and around piles where soil is missing.
  - Place rock slope protection fabric in the rock slope protection limits.
  - Place rock slope protection.

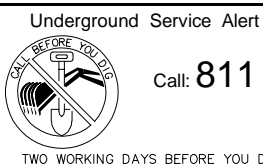
- LEGEND:**
- Indicates existing structure
  - Indicates new construction
  - ▨ Indicates soil backfill



**DETAIL**  
1 1/2" = 1'-0"



**SOUTHEAST RETAINING WALL ELEVATION**  
1/2" = 1'-0"

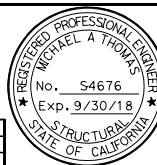


REVISIONS				
REV.	DATE	BY	DESCRIPTION	APP'VD

**REFERENCES**

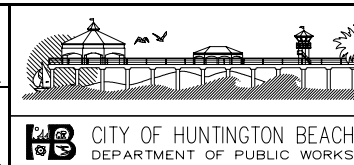
**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS  
500 So. Main St., Suite 400  
Orange, California 92668  
714-550-4665

**DESIGNED BY:** DM 5/12/17  
**CHECKED BY:** JAA 5/12/17



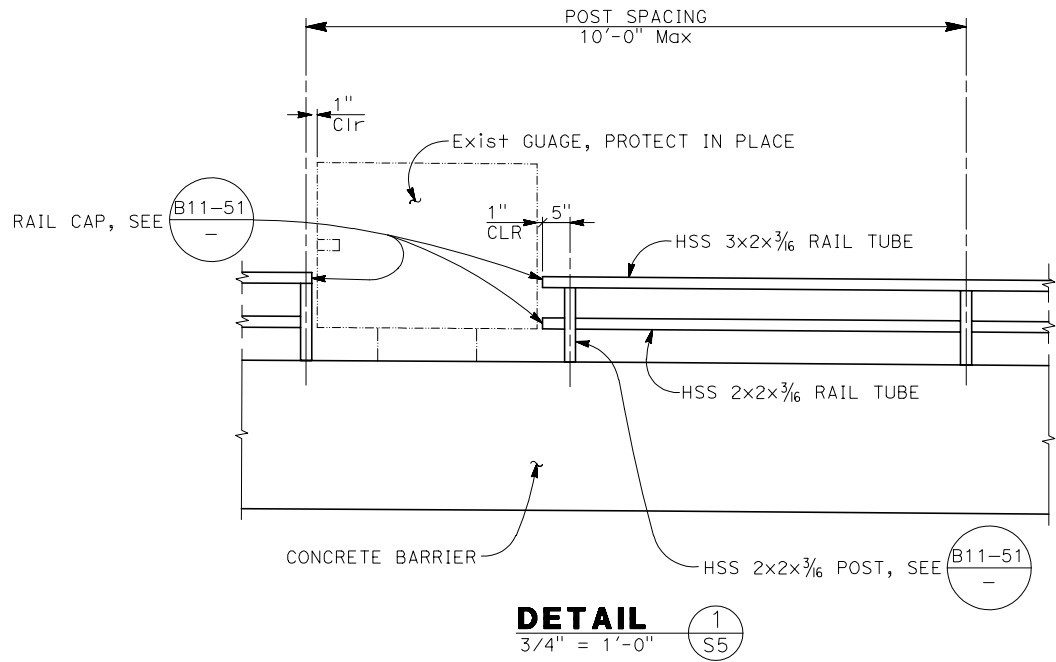
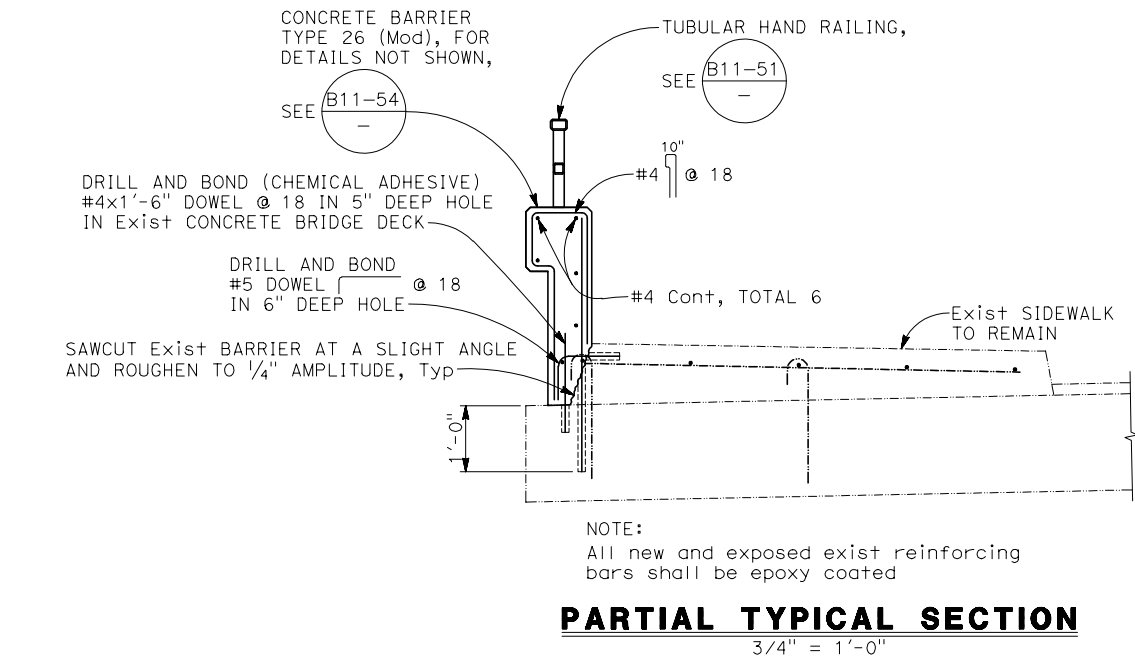
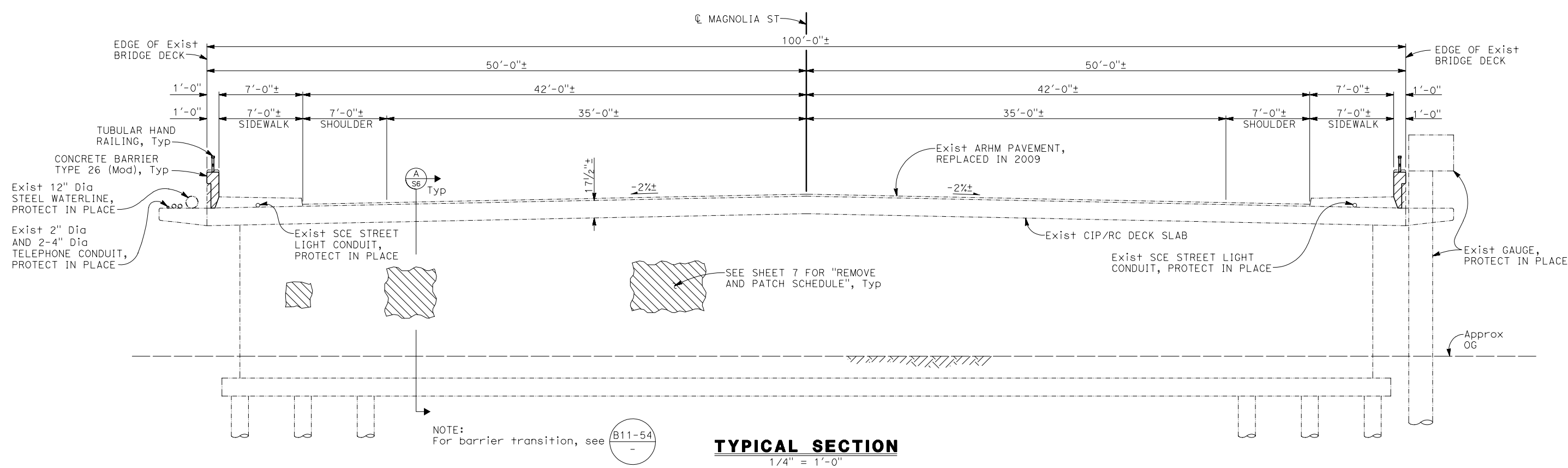
**PREPARED UNDER THE SUPERVISION OF:**  
Michael A. Thomas PRINCIPAL S.E. DATE 5/12/17  
R.S.E. NO.: S4676 EXP. DATE: 9/30/18

**APPROVED BY:**  
M. Todd Broussard PRINCIPAL C.E. DATE  
R.C.E. NO.: C57144 EXP. DATE: 12/31/17



**SLOPE PROTECTION AND RETAINING WALL DETAILS**  
**MAGNOLIA ST BRIDGE PREVENTIVE MAINTENANCE**  
(OVER HUNTINGTON BEACH CHANNEL)  
STA. 29+90.85 TO STA.30+80.35

SHEET NO.  
8  
OF  
10  
S4



- LEGEND:
- Indicates portion of existing bridge to be removed
  - Indicates existing structure
  - Indicates new construction
  - Indicates unsound concrete to be removed and patched

Underground Service Alert

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TWO WORKING DAYS BEFORE YOU DIG

REVISIONS				
REV.	DATE	BY	DESCRIPTION	APP'VD

REFERENCES	

**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS

500 So. Main St., Suite 400  
Orange, California 92668  
714-550-4665

**BCA**

DRAWN BY: DM 5/12/17  
DESIGNED BY: RBS 5/12/17  
CHECKED BY: JAA 5/12/17

REGISTERED PROFESSIONAL ENGINEER  
MICHAEL A. THOMAS  
No. S4676  
Exp. 9/30/18  
STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:

Michael A. Thomas PRINCIPAL S.E. DATE 5/12/17  
R.S.E. NO.: S4676 EXP. DATE: 9/30/18

APPROVED BY:

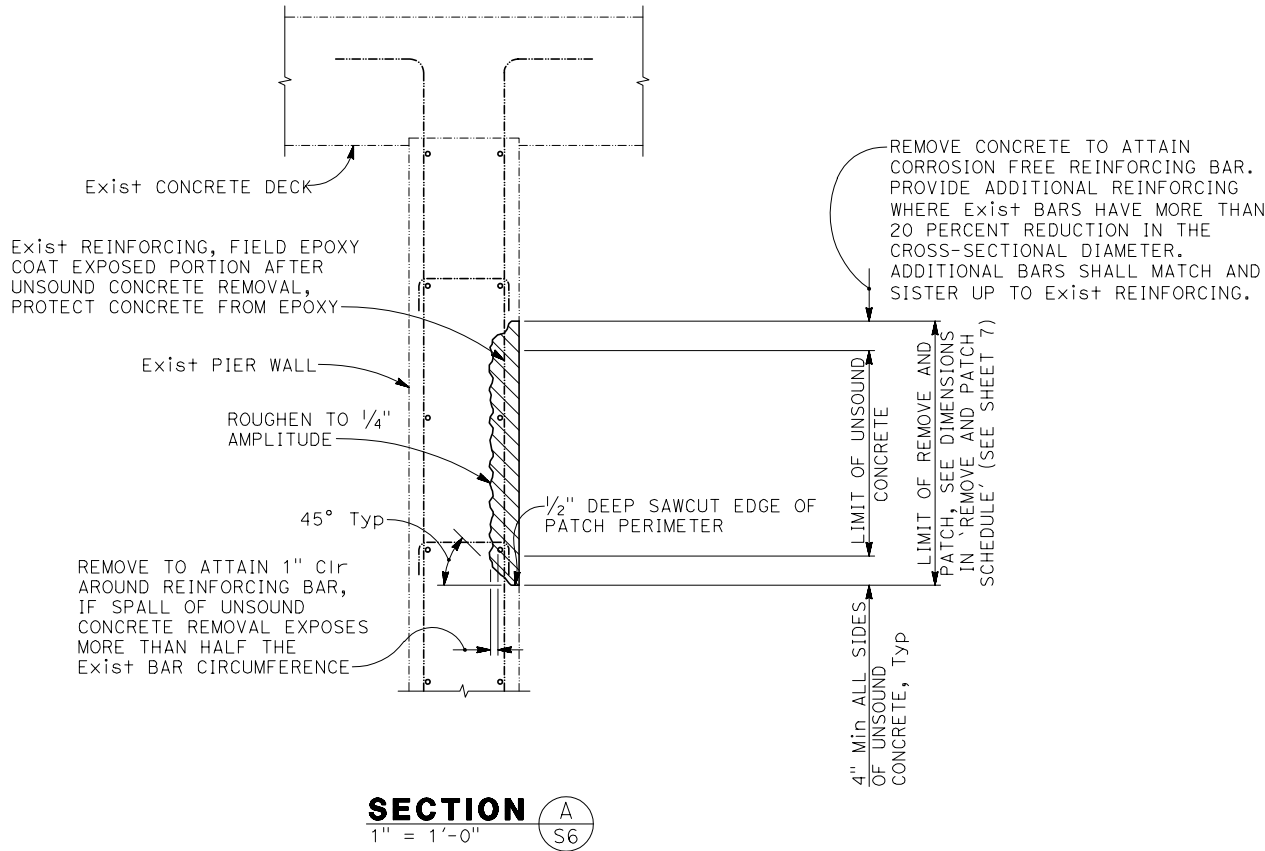
M. Todd Broussard PRINCIPAL C.E. DATE 5/12/17  
R.C.E. NO.: C57144 EXP. DATE: 12/31/17

**CITY OF HUNTINGTON BEACH**  
DEPARTMENT OF PUBLIC WORKS

TYPICAL SECTION  
**MAGNOLIA ST BRIDGE PREVENTIVE MAINTENANCE**  
(OVER HUNTINGTON BEACH CHANNEL)  
STA. 29+90.85 TO STA.30+80.35

SHEET NO.  
9  
OF  
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S5

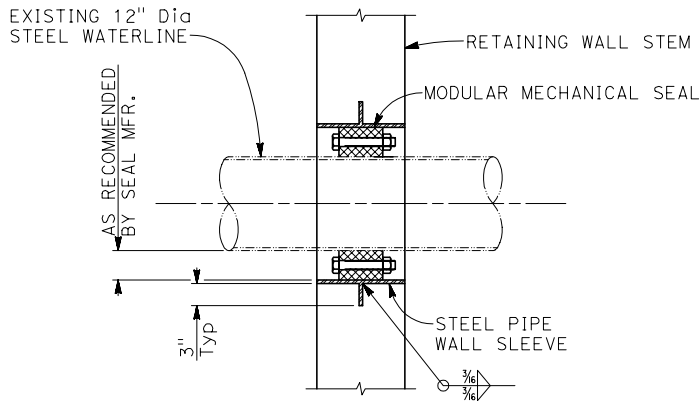




- RAILING NOTES:
1. Post shall be normal to railing.
  2. Rail tubes shall be shop bent or fabricated to fit horizontal curve when radius is less than 950'.
  3. Tube splices shall be located in the tubes spanning deck or wall wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly
  4. For details and reinforcement not shown see Standard Plan B11-54.



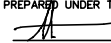
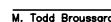

- UN SOUND CONCRETE NOTES:
- The work for remove and patch unsound concrete shall include, but not be limited to, the following:
- Contractor shall submit a work plan for remove and patch unsound concrete.
  - Construct working platform with removable protective cover.
  - Remove unsound concrete to the limits given in the project documents and to the engineers satisfaction.
  - Blast clean reinforcing.
  - Measure corroded reinforcing to determine if more than a 20% reduction in cross-section has taken place.
  - Apply Portland Cement Concrete Patch.

- LEGEND:
- Indicates unsound concrete to be removed and patched
  - Indicates existing structure
  - Indicates new construction



- NOTES:
1. SEAL BOLT HEAD SHOULD BE PLACED ON ACCESSIBLE SIDE OF WALL
  2. WALL THICKNESS OF 12" OR LESS = 1 SEAL, WALL THICKNESS THICKER THAN 12" = 2 SEALS
  3. STEEL PIPE WALL SLEEVE WILL NEED TO BE CUT INTO 2 PIECES, PLACED AROUND THE EXISTING WATERLINE AND WELDED TOGETHER BEFORE PLACING CONCRETE
  4. THE AREA AROUND THE WATERLINE SHALL BE WRAPPED WITH 2 LAYERS OF 25 MIL TAPE PER AWWA 214, BEFORE INSTALLATION OF MODULAR MECHANICAL SEAL

NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

<div>Underground Service Alert</div> <div><div>Call: 811</div></div> <div>TWO WORKING DAYS BEFORE YOU DIG</div>	<div>REVISIONS</div> <table><tr><th>REV.</th><th>DATE</th><th>BY</th><th>DESCRIPTION</th><th>APP'VD</th></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>					REV.	DATE	BY	DESCRIPTION	APP'VD																										<div>REFERENCES</div> <div><div><b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS</div><div>500 So. Main St., Suite 400 Orange, California 92668 714-550-4665</div><div></div><div><table><tr><td>DRAWN BY:</td><td>DM</td><td>5/12/17</td></tr><tr><td>DESIGNED BY:</td><td>RBS</td><td>5/12/17</td></tr><tr><td>CHECKED BY:</td><td>JAA</td><td>5/12/17</td></tr></table></div></div> <div><div>REGISTERED PROFESSIONAL ENGINEER MICHAEL A. THOMAS No. S4676 Exp. 9/30/18</div><div>PREPARED UNDER THE SUPERVISION OF:  Michael A. Thomas PRINCIPAL S.E. DATE 5/12/17 R.S.E. NO.: S4676 EXP. DATE: 9/30/18 APPROVED BY:  M. Todd Broussard PRINCIPAL C.E. DATE 12/31/17 R.C.E. NO.: C57144 EXP. DATE: 12/31/17</div></div> <div><div><div>CITY OF HUNTINGTON BEACH DEPARTMENT OF PUBLIC WORKS</div></div></div>					DRAWN BY:	DM	5/12/17	DESIGNED BY:	RBS	5/12/17	CHECKED BY:	JAA	5/12/17	<div>TYPICAL SECTION DETAILS</div> <div><b>MAGNOLIA ST BRIDGE PREVENTIVE MAINTENANCE</b></div> <div>(OVER HUNTINGTON BEACH CHANNEL)</div> <div>STA. 29+90.85 TO STA.30+80.35</div>					<div>SHEET NO.</div> <div>10</div> <div>OF</div> <div>10</div> <div>S6</div>	
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