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PREPARED FOR:

CITY OF LONG BEACH

PARKS, RECREATION, AND MARINE
205 NORTH MARINA DRIVE
LONG BEACH, CA 90803

PREPARED BY:

Tt

TETRA TECH, INC.
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PROJECT DIRECTORY

1

PROJECT SITE
CITY OF LONG BEACH

VICINITY MAP

4

DWG REF.

SHT #

TITLE

T-1

1

TITLE SHEET/VICINITY MAP

G-1

2

GENERAL NOTES (1)

G-2

3

GENERAL NOTES (2)

G-3

4

GENERAL NOTES (3)

SU-1

5

SURVEY PLAN

D-1

6

DEMOLITION PLAN

C-1

7

CIVIL PLAN

C-2

8

CIVIL DETAILS (1)

C-3

9

CIVIL DETAILS (2)

C-4

10

CIVIL DETAILS (3)

C-5

11

CIVIL DETAILS (4)

C-6

12

CIVIL DETAILS (5)

C-7

13

SIGNAGE SHEET

S-1

14

STRUCTURE LAYOUT

S-2

15

CONCRETE FLOATING DOCK PLAN

S-3

16

GANGWAY AND LANDING DETAILS

S-4

17

REPLACEMENT DETAILS (1)

S-5

18

REPLACEMENT DETAILS (2)

S-6

19

PILE AND PILE GUIDE DETAILS

P-1

20

PLUMBING PLAN

P-2

21

PLUMBING DETAILS (1)

P-3

22

PLUMBING DETAILS (2)

E-1

23

ELECTRICAL SYMBOLS AND ABBREVIATIONS

E-2

24

ELECTRICAL PLAN

E-3

25

UNIT POWER SUBSTATION DETAILS

E-4

26

ELECTRIC DETAILS (1)

E-5

27

ELECTRIC DETAILS (2)

E-6

28

SINGLE LINE DIAGRAM, CONDUIT, WIRE AND PANEL SCHEDULE

SHEET INDEX

2

2025 EDITION OF THE CALIFORNIA BUILDING CODE

2025 EDITION OF THE CALIFORNIA FIRE CODE

2025 EDITION OF THE CALIFORNIA ELECTRICAL CODE

2025 EDITION OF THE CALIFORNIA MECHANICAL CODE

2025 EDITION OF THE CALIFORNIA PLUMBING CODE

2025 EDITION OF THE CALIFORNIA GREEN BUILDING STANDARDS CODE

2025 EDITION OF THE CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS CODE

2024 SSPWC GREENBOOK

TITLE 18 OF THE LONG BEACH MUNICIPAL CODE

APPLICABLE CODES

5

1

CONSTRUCT SIDEWALK PER SHT C-4, DETAIL 6

2

DEWEED, POWER WASH, AND CLEAN EXISTING BERTH CURBS AND ASPHALT

3

CONSTRUCT 9'X250' FLOATING DOCK - SEE SHT S-2

4

CONSTRUCT 80' LONG GANGWAY - SEE SHT S-3 & S-4

5

CONSTRUCT BERTH 1 CURB RAMP - SEE SHT C-2 DTL 1.

6

CONSTRUCT BERTH 2 CURB RAMP - SEE SHT C-2 DTL 2.

7

CONSTRUCT GUARDRAIL - SEE SHT C-4, DTL 9.

8

CONSTRUCT 9'X3' LANDING DOCK - SEE SHT S-3, DTL. 3

9

STRIPE PARKING STALLS WHITE WITH A 4 INCH WIDTH PER CLB STD. 312 SHT. C-3, DTL. 5.

10

STRIPE ADA PARKING STALLS BLUE WITH 4 INCH WIDTH PER CLB STD. 312, SHT. C-3, DTL. 5.

11

STRIPE ADA SYMBOL BLUE PER CLB STD. 312, SHT. C-1, DTL. 5.

12

INSTALL ENTRANCE GATE - SEE C-5, DTL. 10.

13

CONSTRUCT HANDRAIL-SEE SHT C-4, DTL 7,8, SECTION B-B

14

INSTALL ADA SIGNS, STD.312, SHT. C-3, DTL.5

15

INSTALL TRASH RECEPTACLES PER CLB STANDARD PLAN XXX

16

REPAIR IRRIGATION

17

INSTALL 6" AC PAVEMENT OVER 6" 95% COMPACTED NATIVE BASE

18

INSTALL ROOT BARRIER SEE SPEC. XXX

19

INSTALL SECURITY FENCE SEE SHT C-6

20

INSTALL CONCRETE TOPPER SEE SHT C-2, DTL. 3

21

INSTALL TACTILE WARNING SURFACE SEE SPEC. 32 1726

22

INSTALL CURB/GUTTER PER CLB STANDARD PLAN 116

23

INSTALL MARINE SOLAR WARNING LIGHTS-RED-CONSTANT OPERATION, EXTRA LARGE SOLAR PANEL WITH 4400 mAh RECHARGEABLE BATTERY (4)

24

INSTALL LIGHT POLE AND FOUNDATION PER ELECTRICAL SHEETS

25

INSTALL LED LIGHTING PER ELECTRICAL SHEETS

26

INSTALL YACHT POWER SUBSTATION PER ELECTRICAL SHEETS

27

INSTALL ELECTRIC VEHICLE CHARGERS PER ELECTRICAL SHEETS

28

INSTALL SEWAGE PUMPOUT STATION PER ELECTRICAL AND PLUMBING SHEETS

29

INSTALL FIREWATER SYSTEM PER PLUMBING SHEETS

30

INSTALL RELOCATED WATER UTILITIES PER PLUMBING SHEETS

31

INSTALL POTABLE WATER SYSTEM PER PLUMBING SHEETS

32

INSTALL SEWER WATER SYSTEM PER PLUMBING SHEETS

33

INSTALL MARINE SIGNAGE PER SHEET C-7

CONSTRUCTION NOTES

3

SECTION

SECTION NO.

DETAIL

SHT. TAKEN FROM

SHT. SHOWN ON

DETAIL

SHT. TAKEN FROM

SHT. SHOWN ON

REFERENCE LEGEND

6

ADA

AMERICAN WITH DISABILITIES ACT

BFP

BACKFLOW PREVENTION DEVICE

CLB

CITY OF LONG BEACH

CLR

CLEAR

CONC

CONCRETE

CONT

CONTINUOUS

DIA

DIAMETER

DTL

DETAIL

DW

DOMESTIC WATER

(E)

EXISTING

EL

ELEVATION

EMBED

EMBEDMENT

FBD

FREEBOARD

FEC

FIRE EXTINGUISHER CABINET

FG

FINISHED GRADE

FHC

FIRE HOSE CONNECTION

FL

FLOW LINE

FS

FINISHED SURFACE

FW

FIRE WATER

GA

GALVANIZED

HDF

HOT DIPPED GALVANIZED

ICV

IRRIGATION CONTROL VALVE

IRCB

IRRIGATION CONTROL BOX

LF

LINEAR FEET

MAX

MAXIMUM

MIN

MINIMUM

MISC.

MISCELLANEOUS

MLLW

MEAN LOWER LOW WATER

(N)

NEW

N.T.S.

NOT TO SCALE

O.C.

ON CENTER

P.I.P.

PROTECT IN PLACE

PP

POWER PEDESTAL

R

RADIUS

S

PUMP OUT STATION

SEC

SECTION

SF

SQUARE FEET

SHT

SHEET

SPAC

SPACING

SS

SANITARY SEWER

SSPWC

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

STD

STANDARD

TC

TOP OF CURB

TYP

TYPICAL

UE

UNDERGROUND ELECTRIC

WV

WATER VALVE

SITE MAP/ STAGING AREA

7

SCALE: N.T.S.

CITY OF LONG BEACH

PARKS, RECREATION & MARINE

MARINE BUREAU

BERTH 1 AND 2 DOCK REPLACEMENT PROJECT

205 NORTH MARINA DRIVE, LONG BEACH, CA 90803

PROJECT DESCRIPTION

THE WORK TO BE PERFORMED INCLUDES:

- CONTRACTOR MOBILIZATION AND DEMOBILIZATION
- BEST MANAGEMENT PRACTICES
- TEMPORARY FENCING
- DEMOLISH
 - BERTH 1 WOOD DOCK (135' X 9')
 - BERTH 2 WOOD DOCK (115' X 9')
 - BERTH 1 AND 2 GANGWAY AND GANGWAY HINGES
 - UTILITIES INCLUDING WATER LINE, FIRE LINES, AND COMMUNICATION LINE
- FABRICATE AND INSTALL CONCRETE FLOATING DOCK (250' X 9')
- FABRICATE AND INSTALL CONCRETE LANDING FLOAT (9' X 3')
- FABRICATE AND INSTALL ALUMINUM GANGWAY (80' X 6')
- INSTALL CONCRETE GANGWAY ABUTMENT WITH GANGWAY HINGE
- INSTALL 3/4" COPPER POTABLE WATER LINE AND UTILITY RACK
- INSTALL SEWAGE PUMPOUT SYSTEM
- INSTALL FIREWATER SYSTEM PER SEPARATE FIREWATER SET
- INSTALL 4 POWER PEDESTALS
- INSTALL 1 YACHT POWER SUBSTATION
- INSTALL 2 LIGHT POLES AND LUMINARIES
- INSTALL LED LIGHTING
- INSTALL GUARDRAIL
- INSTALL SIDEWALKS WITH CURB AND HANDRAIL
- INSTALL CURB RAMP
- INSTALL PAVEMENT MARKINGS AND TACTILE WARNING SURFACES
- INSTALL TRASH ENCLOSURES
- RELOCATE WATER UTILITIES
- REPAIR IRRIGATION
- NAVIGATION LIGHTS
- CONCRETE REPAIR
- JOB-SITE CLEAN-UP
- ALL MISCELLANEOUS ITEMS REQUIRED FOR A COMPLETE AND THOROUGH INSTALLATION

STAGING AND DEMOLITION

1.

CONTRACTOR SHALL SCHEDULE AND COORDINATE CONSTRUCTION AND DEMOLITION/REMOVAL WITH THE CITY TO ALLOW FOR CONTINUED USE OF THE FACILITY.

2.

INSTALL 6' TEMPORARY SCREENED SECURITY FENCE AROUND CONTRACTOR STAGING AREA. CONTRACTOR IS RESPONSIBLE FOR SECURITY OF STAGING AREA. STAGING AREA AND PROJECT SITE TO BE RESTORED TO EXISTING OR BETTER CONDITION AFTER CONSTRUCTION.

DESIGN CRITERIA

THE FOLLOWING DESIGN PARAMETERS HAVE BEEN USED IN THE DESIGN OF THE STRUCTURAL SYSTEMS REPRESENTED IN THESE DRAWINGS.

A.

CODE OF RECORD:: 2022 CBC, AND DBW LAYOUT AND DESIGN GUIDELINES FOR MARINA BERTHING FACILITIES 2005

AUTHORITY HAVING JURISDICTION: CLB BUILDING & SAFETY

B.

BUILDING RISK CATEGORY: II

C.

DESIGN LOADS: THE LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE IN ACCORDANCE WITH THE "PLANS AND SPECIFICATIONS FOR THE CONSTRUCTION OF WATERFRONT STRUCTURES IN THE LONG BEACH MARINA AREA" AS FOLLOWS:

- HINGED GANGWAY = 100 PSF (LIVE LOAD)
- DOCK = 50 PSF (LIVE LOAD)
- ANYWHERE ON DOCK = 500 LB (POINT LOAD)

D.

WIND DESIGN PARAMETERS:

- BASIC WIND SPEED (V) MPH (3 SEC. GUST): 95 MPH
- EXPOSURE CATEGORY: D

D.

SEISMIC DESIGN PARAMETERS:

- SEISMIC SITE CLASS: D
- SEISMIC IMPORTANCE FACTOR: 1.0
- SEISMIC DESIGN CATEGORY: II

ASTM DESIGNATIONS, ICC REPORT REFERENCES, AND ALL STANDARDS AND REFERENCED DOCUMENTS SHALL REFER TO THE LATEST EDITIONS AND/OR AMENDMENTS AS ADOPTED BY THE CODE OF RECORD.

SUBMITTAL ITEMS

1.

CONSTRUCTION SCHEDULE

2.

SCHEDULE OF VALUES

3.

CONCRETE MIX DESIGN(S)

4.

EPOXY COATED REINFORCING STEEL

5.

DOCK AND GANGWAY DEMOLITION AND DISPOSAL PLAN

6.

CONCRETE FLOAT DELIVERY, LAUNCH AND INSTALLATION PLAN

7.

PLUMBING

8.

SANITARY SEWER SYSTEM INCLUDING KECO PUMPOUT

9.

ELECTRICAL SUBMITTAL

10.

POWER PEDESTAL

11.

YACHT POWER SUBSTATION

12.

LIGHTING

13.

EV CHARGERS

14.

SIGNAGE

15.

TRASH RECEPTACLES

SHOP DRAWINGS

CONTRACTOR TO SUBMIT SHOP DRAWINGS AND CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN TEH STATE OF CALIFORNIA FOR THE FOLLOWING:

1.

CONCRETE FLOAT

2.

GANGWAY

3.

GANGWAY HINGE

4.

GUARDRAIL SYSTEM

5.

PILE GUIDES

6.

CONCRETE FORMWORK, REINFORCING STEEL, AND ERECTION DRAWINGS

100% SUBMITTAL

7/30/2025

CITY OF LONG BEACH - PARKS, RECREATION, AND MARINE BUREAU

BERTH 1 AND 2 DOCK REPLACEMENT PROJECT

ALAMITOS BAY, LONG BEACH, CA 90803

TITLE SHEET/VICINITY MAP

DRAWING REF.

T-1

JOB NO.

NO. R--

SHEET

1

OF

28

DRAWING NO.

REVISIONS

NO.

DATE

SHEET

APPROVAL

DESIGNED BY:

ROB KRAMER

DRAWN BY:

CHRISTIAN HEBERT

PROGRAM MANAGER

PROJECT MANAGER

DESIGN CHECK BY:

RAFAEL HOLCOMBE

DRAFTING CHECK BY:

RAFAEL HOLCOMBE

PROJECT MANAGEMENT BUREAU MGR.

CITY ENGINEER

CITY TRAFFIC ENGINEER

AS-BUILT:

DATE

REF.

DATE

GRAPHIC SCALE

0

1

2

3

PAGE

FIELD BOOK

GENERAL NOTES

1.

DOCK STRUCTURE SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF LONG BEACH PLANS AND SPECIFICATIONS FOR CONSTRUCTION OF WATERFRONT STRUCTURES IN THE LONG BEACH MARINA AREA (NO. R-4858/REVISED 10/94), WITH EXCEPTIONS ALLOWED AS APPROVED BY THE ENGINEER.
2.

THE CONTRACTOR SHALL FURNISH ALL TOOLS, EQUIPMENT, MATERIALS, AND SUPPLIES AND SHALL PERFORM ALL LABOR, SUPERVISION, FABRICATION, ASSEMBLY, AND INSTALLATION HEREIN.
3.

THE CONTRACTOR SHALL PROVIDE BARRICADES, WARNING LIGHTS, AND NECESSARY SAFETY MEASURES TO ASSURE PUBLIC SAFETY DURING CONSTRUCTION.
4.

CONTRACTOR SHALL STRICTLY ENFORCE ALL APPLICABLE SAFETY LAWS (I.E. OSHA, CAL-OSHA) AND MAINTAIN SITE SAFETY.
5.

COPIES OF ALL PERMITS ARE AVAILABLE FROM THE CITY AND SHALL BE AVAILABLE FOR REFERENCE ON-SITE AT ALL TIMES.
6.

CONTRACTOR SHALL SUBMIT FOR APPROVAL PLANS FOR TEMPORARY FENCING AS REQUIRED. STAGING AREA SHALL BE CLEARED OF DEBRIS AND EQUIPMENT AND RESTORED TO THE ORIGINAL CONDITIONS UPON COMPLETION OF PROJECT.
7.

CONTRACTOR SHALL EXAMINE THE JOBSITE BEFORE PREPARING SHOP DRAWINGS TO VERIFY ALL PHYSICAL CONDITIONS, SURROUNDINGS, DIMENSIONS AND DISTANCES.
8.

THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT FROM DAMAGE ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING STRUCTURES AND UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES AND NOTIFY THE APPROPRIATE UTILITY COMPANIES AND UNDERGROUND SERVICE ALERT SUFFICIENTLY IN ADVANCE OF BEGINNING WORK. ANY UTILITIES EXPOSED OR DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
9.

THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN WORKING NEAR EXISTING GANGWAY ABUTMENT. THE EXISTING ABUTMENT SHALL BE PROTECTED-IN-PLACE. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE EXISTING ABUTMENT CAUSED BY OR DURING THE PERFORMANCE OF WORK AT NO ADDITIONAL COST TO CLB.
10.

THE CONTRACTOR SHALL COMPLY WITH ALL PERMITS FOR THE WORK. THE CONTRACTOR SHALL COMPLY WITH ALL STATE, COUNTY, AND CITY LAWS AND ORDINANCES RELATING TO SAFETY, CHARACTER OF WORK, EQUIPMENT AND LABOR PERSONNEL. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL CITY ORDINANCES, PROVISIONS OF ALL APPLICABLE LOCAL AND REGIONAL GUIDELINES AND STANDARDS.
11.

CONSTRUCTION SHALL CONFORM WITH THE 2022 EDITION OF THE CALIFORNIA BUILDING CODE, NFPA 303, UNIFORM MECHANICAL CODE, NATIONAL ELECTRICAL CODE, UNIFORM PLUMBING CODE, AMERICANS WITH DISABILITIES ACT (ADA); ALUMINUM ASSOCIATION'S "SPECIFICATIONS FOR ALUMINUM STRUCTURES", THE STATE OF CALIFORNIA DEPARTMENT OF BOATING AND WATERWAYS "LAYOUT & DESIGN GUIDELINES FOR MARINA FACILITIES" LATEST EDITION, 2024 EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC GREENBOOK) AND ALL LOCAL AND STATE CODES AND ORDINANCES WHERE APPLICABLE.
12.

THE CONTRACTOR SHALL MAINTAIN PUBLIC ACCESS TO ALL PROPERTY ADJACENT TO THE WORK THROUGHOUT THE PERIOD OF CONSTRUCTION.
13.

THE CONTRACTOR SHALL KEEP DEBRIS, CONCRETE RUBBLE, AND OTHER MATERIALS FROM FALLING INTO THE WATER. IF, IN THE OPINION OF CLB, THE CONTRACTOR IS NOT IN COMPLIANCE, CONTAINMENT BOOMS SHALL BE PROVIDED BY THE CONTRACTOR. NO CONSTRUCTION MATERIALS, EQUIPMENT, DEBRIS, OR WASTE SHALL BE PLACED OR STORED WHERE IT MAY BE SUBJECT TO WAVE, WIND, OR RAIN EROSION AND DISPERSION. NON-BUOYANT DEBRIS DISCHARGED INTO COASTAL WATERS SHALL BE RECOVERED BY DIVERS AS SOON AS POSSIBLE AFTER LOSS BUT NO LATER THAN THE END OF EACH DAY.
14.

STAGING AREA SHALL BE CLEARED OF DEBRIS AND EQUIPMENT UPON COMPLETION OF PROJECT. THE CONTRACTOR SHALL REMOVE AND DISPOSE, USING AN APPROVED LEGAL METHOD, ALL SURPLUS MATERIALS AND DEBRIS FROM THE SITE. THE SURPLUS MATERIALS BELONG TO THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN THE SITE IN A NEAT AND ORDERLY CONDITION AT ALL TIMES.
15.

THE CONTRACTOR ASSUMES SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE ADEQUATE LIABILITY INSURANCE TO DEFEND, INDEMNIFY AND HOLD HARMLESS CLB FROM ANY CLAIMS AND DAMAGES THAT MAY ARISE FROM THIS CONSTRUCTION.
16.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND DISTANCES AT THE SITE.
17.

THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING ALL REQUIRED INSPECTIONS. THE PRESENCE OR ABSENCE OF A CITY OR OTHER INSPECTOR WILL NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY FOR THE PROPER PERFORMANCE OF WORK.
18.

THE CONTRACTOR SHALL CONTACT THE CLB WATER DEPARTMENT (562) 570-2419 TO SCHEDULE INSPECTION OF BACK FLOW PREVENTOR AND SEWER PUMPOUT SYSTEM.
19.

DUE TO THE SCALE OF THE DRAWINGS IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, ETC. THE CONTRACTOR SHALL INVESTIGATE THE FINISHED CONDITIONS AND PLAN WORK ACCORDINGLY, FURNISHING SUCH FITTINGS, ETC., AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
20.

ALL MATERIALS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED. ANY AND ALL CONSTRUCTION MATERIAL SHALL BE REMOVED FROM THE SITE WITHIN 10 DAYS OF COMPLETION OF CONSTRUCTION.
21.

MACHINERY OR CONSTRUCTION MATERIALS NOT ESSENTIAL FOR PROJECT IMPROVEMENTS SHALL NOT BE ALLOWED IN THE INTERTIDAL ZONE AT ANY TIME.
22.

ANY CONFLICTS WITH THE DESIGN OR ANY CHANGES TO THE PLANS SHALL BE AUTHORIZED BY THE ENGINEER BEFORE CONTINUING WITH WORK IN THAT AREA.
23.

ANY OFF-SITE IMPROVEMENTS FOUND TO BE DAMAGED SHALL BE REPLACED TO THE SATISFACTION OF THE CITY ENGINEER.
24.

SHOP DRAWINGS MUST BE REVIEWED AND APPROVED BY THE ENGINEER OF RECORD AND CLB BUILDING DEPARTMENT PRIOR TO FABRICATION. CONTRACTOR SHALL OBTAIN THIS APPROVAL.

MATERIALS:

1.

STRUCTURAL CONCRETE: PILE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI AT 28 DAYS AND A MAXIMUM WATER TO CEMENT RATIO OF 0.40. CONCRETE MIX DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUBJECT TO REVIEW BY THE ENGINEER. COPIES OF THE LABORATORY MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW TWO WEEKS PRIOR TO COMMENCEMENT OF CASTING OPERATIONS.
2.

MISCELLANEOUS METAL: ALL MISCELLANEOUS STEEL ITEMS SHALL CONFORM TO ASTM A36; FABRICATE IN ACCORDANCE WITH AISC AND HDG AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. ALL SCREWS, BOLTS, NUTS, AND LOCK WASHERS SHALL CONFORM TO ASTM A307 AND BE HDG IN ACCORDANCE WITH A153 UNLESS OTHERWISE NOTED. FLAT WASHERS SHALL COMPLY WITH ANSI B27.2; AND BE HDG IN ACCORDANCE WITH ASTM A153.
3.

ALL LUMBER SHALL BE PRESSURE-TREATED PER APWA STANDARD C-2 (ACQ), MINIMUM RETENTION 0.6 LB/CF. ALL FIELD CUTS AND BORED HOLES TO RECEIVE A BRUSH OF CONCENTRATED PRESERVATIVE COATING.

4.

PILE CAPS SHALL BE CONICAL MOLDED FIBERGLASS REINFORCED PLASTIC, WITH A MINIMUM THICKNESS OF 1/8-INCH AND A WHITE GEL COAT FINISH, AS DISTRIBUTED BY HENDERSON OR APPROVED EQUAL. ATTACH TO THE GUIDE PILE WITH AN EPOXY ADHESIVE RECOMMENDED BY THE PILE CAP MANUFACTURER.
5.

CLEATS SHALL BE 18-INCH, HDG, CAST-GREY IRON 504H CLEATS, ITEM NO. 05-11N AS SUPPLIED BY HENDERSON AND FASTENED WITH THRU-BOLTS, NUTS, AND WASHERS OR APPROVED EQUAL.
6.

BUMPER STRIP SHALL BE 3000 HENDERSON HEAVY DUTY UTILITY FENDER ITEM NO. 03-05 INSTALLED WITH NO. 800S STAINLESS STEEL ATTACHMENT NAIL ITEM No. 08-320 AS SUPPLIED BY HENDERSON OR APPROVED EQUAL.
7.

GUIDE PILE RUB BLOCK SHALL CONSIST OF A MOUNTING BRACKET FABRICATED FROM A 1/4-INCH THICK STEEL PLATE ATTACHED TO A RUB BLOCK MADE OF UHMW PLASTIC. MOUNTING BRACKET SHALL BE HDG AFTER FABRICATION.
8.

STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS. STEEL MEMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 FOR SHAPES, PLATES, AND BARS, AND SHALL BE HDG IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123.
9.

TIMBER USES AND GRADES SHALL CONFORM TO THE APPLICABLE PROVISIONS OF SECTION 204, "LUMBER AND TREATMENT WITH PRESERVATIVES," OF THE STANDARD SPECIFICATIONS AND AS SPECIFIED HEREIN.
10.

ALL TIMBER SHALL BE PRESERVATIVE PRESSURE TREATED FOR SALT WATER USAGE IN ACCORDANCE WITH THE REQUIREMENTS OF THE THE LATEST EDITION OF THE AWPA AND THE AWPI.
11.

ALL BOLTS SHALL BE MILD STEEL A307 BOLTS, SIZE AS INDICATED ON THE DRAWINGS. CARRIAGE BOLTS SHALL BE USED WHERE LOCATED ON THE EXPOSED FACE OF THE STRUCTURE. HEX HEAD BOLTS WITH WASHERS MAY BE SUBSTITUTED FOR CARRIAGE BOLTS AT NON-EXPOSED LOCATIONS. FASTENERS, NUTS, BOLTS, AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A153.
12.

ALL MISCELLANEOUS STEEL PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND SHALL BE HDG IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123. DECKING SHALL BE FASTENED WITH COATED, SELF DRILLING, HIGH STRENGTH SCREWS. USE "FASTAP PLUS" DOCK SCREWS BY HENDERSON MARINE SUPPLY, INC. OR AN APPROVED EQUAL.
13.

PROVIDE A HIGH-MODULUS, HIGH STRENGTH EPOXY GROUT AS SHOWN ON THE DRAWINGS. PROVIDE SIKADUR 32, HI-MOD EPOXY GROUT BY SIKA CORPORATION OR AN APPROVED EQUAL.
14.

PROVIDE A SINGLE COAT OF A WATERBORNE ACRYLIC PRIMER AND TWO FINISH COATS OF A HIGH QUALITY, 100% ACRYLIC LATEX COATING TO ALL ACCESSIBLE SURFACES OF NEW TIMBER GUARDRAIL. PROVIDE MULTI-BOND 120 PRIMER AND CARBOLINE 3350 FINISH COAT BY CARBOLINE COMPANY, OR AN APPROVED EQUIVALENT. COLOR SHALL MATCH EXISTING TIMBER GUARDRAIL. PREPARE SURFACES AND APPLY COATINGS IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS.

FLOATING DOCK

1.

PRECAST CONCRETE FLOATING DOCKS SHALL CONSIST OF PRECAST CONCRETE FLOATING MODULES POST-TENSIONED TO FORM A SINGLE UNIT AS INDICATED. DOCK SHALL BE DESIGNED AND FABRICATED FOR THE LOADS INDICATED ON THE DRAWINGS AND AS DESCRIBED IN THE PROJECT SPECIFICATIONS. REFER TO THE PROJECT SPECIFICATIONS FOR A DETAILED DESCRIPTION OF THE MATERIAL, FABRICATION, AND INSTALLATION REQUIREMENTS.
2.

THE FLOAT DECK SURFACE SHALL BE BROOM FINISHED IN THE DIRECTION PERPENDICULAR TO THE NORMAL DIRECTION OF TRAVEL WITH A MEDIUM, SLIP-RESISTANT SURFACE. ALL TOP EDGES SHALL BE FINISHED UNIFORMLY TWO (2) INCHES BACK ONTO THE DECK WITH A FINISHING TOOL THAT WILL GIVE A BULL NOSED EDGE TO ½ INCH RADIUS.
3.

REINFORCING BARS PER ASTM A615 GRADE 60 - EPOXY COATED AFTER BENDING.
4.

REFER TO PROJECT SPECIFICATIONS SECTION 201, CONCRETE FLOATING DOCKS, FOR A DETAILED DESCRIPTION OF THE MATERIAL, FABRICATION, AND INSTALLATION REQUIREMENT.
5.

HARDWARE -

a.

ALL STAINLESS STEEL HARDWARE TO BE TYPE 316.

b.

ALL OTHER BOLTS TO BE PER ASTM A325.

c.

ALL NON-STAINLESS HARDWARE TO BE HDG.

FLOATING DOCK DESIGN LOADS

1.

DEAD LOADS SHALL CONSIST OF FLOATS, FRAMING, WALER SYSTEM, MISCELLANEOUS CONNECTION DEVICES, AND ALL OTHER PERMANENTLY ATTACHED EQUIPMENT, SUCH AS UTILITIES, FIRE PROTECTION EQUIPMENT, CLEATS, GANGWAY, RAMP, TRANSITION PLATE, ETC. CONTRACTOR SHALL EXERCISE CAUTION TO INSURE THAT ALL DEAD LOADS ARE ACCURATELY DETERMINED AND INCLUDED IN BUOYANCY CALCULATIONS. THESE LOADS SHALL INCLUDE APPROPRIATE SAFETY FACTORS AND ANY SPECIFIC MANUFACTURING CONSIDERATIONS THAT AFFECT THE FINAL FREEBOARD.
2.

LIVE LOADS SHALL CONSIST OF:

a.

UNIFORM VERTICAL LOAD (UVL) OF 50.0 POUNDS PER SQUARE FOOT OF DOCK SURFACE, INCLUDING THE AREA OF LANDINGS AND RAMPS, AND THE TRIBUTARY AREA OF A GANGWAY SUPPORTED BY THE DOCK.

b.

CONCENTRATED VERTICAL LOAD (CVL) OF 500 POUNDS APPLIED AT ANY LOCATION ON THE FLOATING DOCK.
3.

WIND, WAVE, CURRENT AND IMPACT LOAD ON A VESSEL/DOCK COMBINATION SHALL BE APPLIED AS PER CURRENT CITY PLANS AND SPECIFICATIONS FOR CONSTRUCTION OF WATERFRONT STRUCTURES IN LONG BEACH MARINA AREA (NO. R-4858/REVISED 10/94) AND OTHER APPLICABLE INDUSTRY STANDARDS.
4.

FLOATING DOCK FREEBOARD SHALL BE 18" UNDER DEAD LOAD.
5.

EXPANDED POLYSTYRENE CORE (EPS): THE EPS FOAM DENSITY WEIGHT SHALL BE A MINIMUM OF 0.95 AND A MAXIMUM OF 1.25 POUNDS PER CUBIC FOOT. THE EPS FOAM SHALL CONFORM TO ASTM D1621. THE EPS FOAM SHALL HAVE A MAXIMUM ABSORPTION RATE OF 0.10 POUNDS PER CUBIC FOOT IN FORTY-EIGHT (48) HOURS.
6.

CURING, HANDLING, AND STORAGE.

a.

EXCEPT AS OTHERWISE APPROVED, FLOATS SHALL BE CURED FOR A MINIMUM OF THREE (3) DAYS BEFORE SHIPPING AND ASSEMBLY. FLOATS SHALL REACH A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI BEFORE REMOVAL FROM FORMS AND MOVEMENT WITHIN THE MANUFACTURING FACILITY FOR SUBSEQUENT CURING.

b.

THE CONTRACTOR SHALL SELECT THEIR OWN METHOD OF CURING AND BE RESPONSIBLE FOR THE RESULT, EXCEPT THAT ALL CURING SHALL BE UNDER COVER AND WITH COMPLETE PROTECTION FROM DIRECT SUNLIGHT, WIND, AND FREEZING UNTIL THE CONCRETE HAS REACHED 70% OF ITS STRENGTH.

c.

THE CONTRACTOR SHALL TAKE CARE IN ESTABLISHING HANDLING METHODS TO AVOID DAMAGE TO FLOATS DURING FORM REMOVAL, STORAGE, ASSEMBLY, AND INSTALLATION.

d.

STORAGE OF FLOATATION UNITS SHALL BE ON LEVEL SURFACES, AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE HOW HIGH TO STACK UNITS TO AVOID DAMAGE. CARE SHALL BE TAKEN TO AVOID DAMAGE CAUSED BY OVER-STACKING.
7.

COMBINED LOADING CASES FOR DESIGN:

CASE 1 - DEAD LOAD + UNIFORM VERTICAL LOAD

CASE 2 - DEAD LOAD + CONCENTRATED VERTICAL LOAD

CASE 3 - DEAD LOAD + WIND LOAD + CURRENT LOAD + WAVE LOAD + IMPACT LOAD

DESIGN LIVE LOADS

THE LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE IN ACCORDANCE WITH THE "PLANS AND SPECIFICATIONS NO. R-4563 FOR THE CONSTRUCTION OF WATERFRONT STRUCTURES IN THE LONG BEACH MARINA AREA" AS FOLLOWS:

FLOATING STRUCTURES	
FLOATING DOCK	= 50 PSF
GANGWAY LOAD TO FLOATING DOCK	= 100 PSF
FIXED STRUCTURES	
HINGED GANGWAY	= 100 PSF
FIXED PLATFORMS	= 100 PSF
FIXED RAMPS	= 100 PSF

LATERAL LOADS

THE WIND, WAVE, SEISMIC, AND IMPACT LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE IN ACCORDANCE WITH THE "LAYOUT AND DESIGN HANDBOOK FOR SMALL CRAFT BERTHING FACILITIES" BY THE CALIFORNIA DEPARTMENT OF BOATING & WATERWAYS 1990.

WIND FORCE	= 16 PSF ON BOAT & DOCK FACES
WAVE FORCE	= 23,377 LB (E/W DOCK) =3,367 LB (N/S DOCK)
IMPACT FORCE	= 1000 LB/FT

FLOATING DOCK SLOPES

1.

UNDER DEAD LOAD (DL) ONLY, AND DL+UNIFORM LIVE LOAD (ULL):

a.

MAXIMUM CROSS SLOPE 1/4-INCH PER FOOT, NOT TO EXCEED 1-INCH MAXIMUM

b.

MAXIMUM LONGITUDINAL SLOPE 1/8-INCH PER FOOT, NOT TO EXCEED 1-INCH IN 10 FEET
2.

UNDER DL+LIVE POINT LOAD (LPL):

a.

MAXIMUM CROSS SLOPE 1/2-INCH PER FOOT (4%), NOT TO EXCEED 2 INCHES MAXIMUM

b.

MAXIMUM LONGITUDINAL SLOPE 1/4-INCH PER FOOT, NOT TO EXCEED 2-INCHES IN 10 FEET
3.

ON ACCESSIBLE ROUTES, UNDER DL ONLY, DL+ULL, OR DL+LPL:

MAXIMUM CROSS SLOPE SHALL NOT EXCEED 1:50

GANGWAYS

1.

CONTRACTOR SHALL SUBMIT A COMPLETE DESIGN, INCLUDING SHOP DRAWINGS AND CALCULATIONS FOR APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED BY A STRUCTURAL OR CIVIL ENGINEER, REGISTERED IN THE STATE OF CALIFORNIA.
2.

CONTRACTOR SHALL FIELD VERIFY GANGWAY LOCATION AND CONFIRM GANGWAY LANDING DIMENSIONS BEFORE FABRICATION OF GANGWAY.
3.

GANGWAY SHALL BE DESIGNED TO SUSTAIN A 100 PSF UNIFORM LIVE LOAD (ULL) AND A 400 POUND POINT LOAD WITHIN L/240 DEFLECTION.
4.

FRAMING SHALL BE 6061-T6 ALUMINUM ALLOY CONFORMING TO ASTM B209, B221, AND B303.
5.

HANDRAIL SHALL BE 6061-T6 ALUMINUM PIPE AND TUBING ASTM B429.
6.

DIRECT CONTACT BETWEEN ALUMINUM AND DISSIMILAR METALS IS NOT PERMITTED.
7.

THE MOUNTING OF HANDRAILS SHALL BE SUCH THAT THE COMPLETED HANDRAIL AND SUPPORTING STRUCTURE ARE CAPABLE OF WITHSTANDING A LOAD OF AT LEAST 200 POUNDS APPLIED IN ANY DIRECTION AND AT ANY POINT ON THE RAIL, AND COMPLIES WITH TITLE 24 CRITERIA.
8.

TOP OF ALUMINUM DECKING SHALL BE RIBBED AND SANDBLASTED TO PROVIDE A COMMERCIAL NON-SKID SURFACE. ALL ALUMINUM RAILING (EXCEPT POSTS) TO RECEIVE A BRUSH FINISH. ALUMINUM BEAMS TO BE SANDBLASTED FOR A NON-GLARE FINISH.
9.

GANGWAY ROLLERS AND RAMP SUPPORTS SHALL BE DESIGNED SO THAT THE PRESSURE ON THE DECK DOES NOT EXCEED 80 PSF.
10.

GANGWAY LANDSIDE ATTACHMENT TO COMPLY WITH ADA GUIDELINES. CONTRACTOR TO PROVIDE SUBMITTAL SHOWING LANDSIDE-TO-GANGWAY TRANSITION.
11.

PREMANUFACTURED ALUMINUM GANGWAYS AND RAMPS SHALL BE DESIGNED TO SUPPORT THE DEAD WEIGHT OF GANGWAY OR RAMP PLUS A LIVE LOAD OF 100 POUNDS PER SQUARE FOOT DISTRIBUTED OVER THE ENTIRE GANGWAY OR RAMP SURFACE. THE MAXIMUM VERTICAL DEFLECTION OF THE GANGWAY OR RAMP, UNDER FULL LIVE LOAD, SHALL NOT EXCEED 1/120 OF THE GANGWAY OR RAMP SPAN.
12.

PREMANUFACTURED ALUMINUM GANGWAYS AND RAMPS SHALL BE FULLY DESIGNED AND ENGINEERED IN ACCORDANCE WITH THESE DRAWINGS AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODE REQUIREMENTS. PRIOR TO GANGWAY FABRICATION, SHOP DRAWINGS AND DESIGN CALCULATIONS, SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA, SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER-OF-RECORD AND BY THE CITY.

GEOTECHNICAL DESIGN

1.

GEOTECHNICAL REPORT "GEOTECHNICAL RECOMMENDATIONS, BERTHS 1 AND 2 GANGWAY ADDITION" DATED MAY 16, 2025, TETRA TECH PROJECT TET 24-270E HAS BEEN INCLUDED IN THE SPECIFICATION FOR THIS PROJECT. CONTRACTOR SHALL COMPLY WITH RECOMMENDATIONS CONTAINED IN THE REPORT.



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BERTH 1 AND 2 DOCK REPLACEMENT PROJECT
ALAMITOS BAY, LONG BEACH, CA 90803
GENERAL NOTES (1)

G-1

JOB NO.

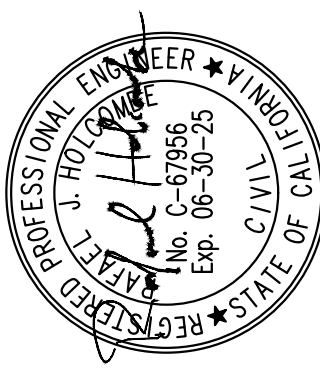
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OF 28

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MARINE BEST MANAGEMENT PRACTICES

- CONSTRUCTION RESPONSIBILITIES AND DEBRIS REMOVAL.
- A. NO DEMOLITION OR CONSTRUCTION MATERIALS, EQUIPMENT, DEBRIS, OR WASTE SHALL BE PLACED OR STORED WHERE IT MAY ENTER SENSITIVE HABITAT, RECEIVING WATERS OR A STORM DRAIN, OR BE SUBJECT TO WAVE, WIND, RAIN OR TIDAL EROSION AND DISPERSION;
- B. ANY AND ALL DEBRIS RESULTING FROM DEMOLITION OR CONSTRUCTION ACTIVITIES, AND ANY REMAINING CONSTRUCTION MATERIAL, SHALL BE REMOVED FROM THE PROJECT SITE WITHIN 24 HOURS OF COMPLETION OF THE PROJECT;
- C. DEMOLITION OR CONSTRUCTION DEBRIS AND SEDIMENT SHALL BE REMOVED FROM WORK AREAS EACH DAY THAT DEMOLITION OR CONSTRUCTION OCCURS TO PREVENT THE ACCUMULATION OF SEDIMENT AND OTHER DEBRIS THAT MAY BE DISCHARGED INTO COASTAL WATERS;
- D. MACHINERY OR CONSTRUCTION MATERIALS NOT ESSENTIAL FOR PROJECT IMPROVEMENTS WILL NOT BE ALLOWED AT ANY TIME IN THE INTERTIDAL ZONE;
- E. IF TURBID CONDITIONS ARE GENERATED DURING CONSTRUCTION A SILT CURTAIN WILL BE UTILIZED TO CONTROL TURBIDITY;
- F. FLOATING BOOMS WILL BE USED TO CONTAIN DEBRIS DISCHARGED INTO COASTAL WATERS AND ANY DEBRIS DISCHARGED WILL BE REMOVED AS SOON AS POSSIBLE BUT NO LATER THAN THE END OF EACH DAY;
- G. NON BUOYANT DEBRIS DISCHARGED INTO COASTAL WATERS WILL BE RECOVERED BY DIVERS AS SOON AS POSSIBLE AFTER LOSS;
- H. ALL TRASH AND DEBRIS SHALL BE DISPOSED IN THE PROPER TRASH AND RECYCLING RECEPTACLES AT THE END OF EVERY CONSTRUCTION DAY;
- I. THE APPLICANT SHALL PROVIDE ADEQUATE DISPOSAL FACILITIES FOR SOLID WASTE, INCLUDING EXCESS CONCRETE, PRODUCED DURING DEMOLITION OR CONSTRUCTION;
- J. DEBRIS SHALL BE DISPOSED OF AT A LEGAL DISPOSAL SITE OR RECYCLED AT A RECYCLING FACILITY. IF THE DISPOSAL SITE IS LOCATED IN THE COASTAL ZONE, A COASTAL DEVELOPMENT PERMIT OR AN AMENDMENT TO THIS PERMIT SHALL BE REQUIRED BEFORE DISPOSAL CAN TAKE PLACE UNLESS THE EXECUTIVE DIRECTOR DETERMINES THAT NO AMENDMENT OR NEW PERMIT IS LEGALLY REQUIRED;
- K. ALL STOCK PILES AND CONSTRUCTION MATERIALS SHALL BE COVERED, ENCLOSED ON ALL SIDES, SHALL BE LOCATED AS FAR AWAY AS POSSIBLE FROM DRAIN INLETS AND ANY WATERWAY, AND SHALL NOT BE STORED IN CONTACT WITH THE SOIL;
- L. MACHINERY AND EQUIPMENT SHALL BE MAINTAINED AND WASHED IN CONFINED AREAS SPECIFICALLY DESIGNED TO CONTROL RUNOFF. THINNERS OR SOLVENTS SHALL NOT BE DISCHARGED INTO SANITARY OR STORM SEWER SYSTEMS;
- M. THE DISCHARGE OF ANY HAZARDOUS MATERIALS INTO ANY RECEIVING WATERS SHALL BE PROHIBITED;
- N. SPILL PREVENTION AND CONTROL MEASURES SHALL BE IMPLEMENTED TO ENSURE THE PROPER HANDLING AND STORAGE OF PETROLEUM PRODUCTS AND OTHER CONSTRUCTION MATERIALS. MEASURES SHALL INCLUDE A DESIGNATED FUELING AND VEHICLE MAINTENANCE AREA WITH APPROPRIATE BERMS AND PROTECTION TO PREVENT ANY SPILLAGE OF GASOLINE OR RELATED PETROLEUM PRODUCTS OR CONTACT WITH RUNOFF. THE AREA SHALL BE LOCATED AS FAR AWAY FROM THE RECEIVING WATERS AND STORM DRAIN INLETS AS POSSIBLE;
- O. BEST MANAGEMENT PRACTICES (BMPs) AND GOOD HOUSEKEEPING PRACTICES (GHPS) DESIGNED TO PREVENT SPILLAGE AND/OR RUNOFF OF DEMOLITION OR CONSTRUCTION-RELATED MATERIALS, AND TO CONTAIN SEDIMENT OR CONTAMINANTS ASSOCIATED WITH DEMOLITION OR CONSTRUCTION ACTIVITY, SHALL BE IMPLEMENTED PRIOR TO THE ON-SET OF SUCH ACTIVITY; AND
- P. ALL BMPs SHALL BE MAINTAINED IN A FUNCTIONAL CONDITION THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITY.
2. BEST MANAGEMENT PRACTICES (BMP) PROGRAM. BY ACCEPTANCE OF THIS PERMIT, THE PERMITTEE AGREES THAT THE DOCKING AND LAUNCHING OF BOAT(S) AT THE PUBLIC LAUNCH RAMP SHALL BE MANAGED IN A MANNER THAT PROTECTS WATER QUALITY PURSUANT TO THE IMPLEMENTATION OF THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPs):
- A. BOAT CLEANING AND MAINTENANCE MEASURES:
- i. IN-WATER TOP-SIDE AND BOTTOM-SIDE BOAT CLEANING SHALL MINIMIZE THE DISCHARGE OF SOAPS, PAINTS, AND DEBRIS;
- ii. IN-THE-WATER HULL SCRAPING OR ANY PROCESS THAT OCCURS UNDER WATER THAT RESULTS IN THE REMOVAL OF PAINT FROM BOAT HULLS SHALL BE PROHIBITED. ONLY DETERGENTS AND CLEANING COMPONENTS THAT ARE DESIGNATED BY THE MANUFACTURER AS PHOSPHATE-FREE AND BIODEGRADABLE SHALL BE USED, AND THE AMOUNTS USED MINIMIZED; AND.
- B. SOLID AND LIQUID WASTE MANAGEMENT MEASURES:
- i. ALL TRASH, RECYCLABLES, AND HAZARDOUS WASTES OR POTENTIAL WATER CONTAMINANTS, INCLUDING OLD GASOLINE OR GASOLINE WITH WATER, ABSORBENT MATERIALS, OILY RAGS, LEAD ACID BATTERIES, ANTI-FREEZE, WASTE DIESEL, KEROSENE AND MINERAL SPIRITS SHALL NOT AT ANY TIME BE DISPOSED OF IN THE WATER OR GUTTER BUT, RATHER BE DISPOSED OF IN A MANNER CONSISTENT WITH STATE AND/OR FEDERAL REGULATIONS.
- C. PETROLEUM CONTROL MANAGEMENT MEASURES:
- i. BOATERS WILL PRACTICE PREVENTIVE ENGINE MAINTENANCE AND WILL USE OIL ABSORBENTS IN THE BILGE AND UNDER THE ENGINE TO PREVENT OIL AND FUEL DISCHARGES. OIL ABSORBENT MATERIALS SHALL BE EXAMINED AT LEAST ONCE A YEAR AND REPLACED AS NECESSARY. USED OIL ABSORBENTS ARE HAZARDOUS WASTE IN CALIFORNIA. USED OIL ABSORBENTS MUST THEREFORE BE DISPOSED IN ACCORDANCE WITH HAZARDOUS WASTE DISPOSAL REGULATIONS. THE BOATERS SHALL REGULARLY INSPECT AND MAINTAIN ENGINES, SEALS, GASKETS, LINES AND HOSES IN ORDER TO PREVENT OIL AND FUEL SPILLS. THE USE OF SOAPS THAT CAN BE DISCHARGED BY BILGE PUMPS IS PROHIBITED;
- ii. IF THE BILGE NEEDS MORE EXTENSIVE CLEANING (E.G., DUE TO SPILLS OF ENGINE FUELS, LUBRICANTS OR OTHER LIQUID MATERIALS), THE BOATERS WILL USE A BILGE PUMP-OUT FACILITY OR STEAM CLEANING SERVICES THAT RECOVER AND PROPERLY DISPOSE OR RECYCLE ALL CONTAMINATED LIQUIDS; AND
- iii. BILGE CLEANERS WHICH CONTAIN DETERGENTS OR EMULSIFIERS WILL NOT BE USED FOR BILGE CLEANING SINCE THEY MAY BE DISCHARGED TO SURFACE WATERS BY THE BILGE PUMPS.

HAZARDOUS WASTE BEST MANAGEMENT PRACTICES

1. ASBESTOS LINED PIPE REMOVAL.
- A. CONTRACTOR RESPONSIBLE FOR REMOVING ASBESTOS LINED PIPES IN COMPLIANCE OF STATE AND LOCAL GOVERNMENT REGULATIONS;

BERTH 1 AND 2 DOCK REPLACEMENT PROJECT					
ALAMITOS BAY, LONG BEACH, CA 90803					
GENERAL NOTES (2)					
		FIELD BOOK		PAGE	
G-2					
JOB NO.					
NO. R-					
SHEET					
3 OF 28					
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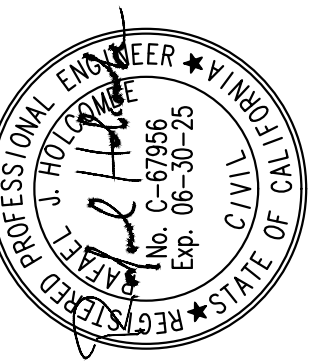
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**TO BE INCLUDED
UPON APPROVAL**



BOOK	PAGE	
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ALAMITCO	FIELD BOOK	PAGE
3-3		

OB NO.

10. R-

4 OF 28

DRAWING NO.



1 SURVEY PLAN
SU-1|SU-1|SCALE: 1"=20'

BASIS OF BEARING

THE BEARING AND COORDIANTES SHOWN HEREON ARE BASED UPON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 5 NAD83. BEARING ARE BASED LOCALLY UPON FIELD-OBSERVED BASELINE BETWEEN UNAVCO STATIONS PVR5 AND ELLY, SAID BEARING WAS MEASURED TO BE SOUTH 39°58'53" EAST.

BENCHMARK

THE ELEVATIONS SHOWN HEREON ARE BASED ON GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS, BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) AS DEFINED LOCALLY BY TIDAL BENCH MARK DESIGNATION "941 0660 TIDAL 8", LOCATED ON THE SOUTH WEST TIP OF THE EAST CHANNEL BOAT YARD AND AT THE END OF ADMIRAL HIGBY WAY, IN THE PORT OF LONG BEACH, HAVING A PUBLISHED ELEVATION 13.55 FEET.

LATITUDE: 33° 43.2' N

LONGITUDE: 118° 16.3' W

ELEVATION: 13.55 FEET

VERTICAL DATUM

NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)

CONVERSION TO MLLW

+2.8' MLLW = 0.00' NAVD88

HORIZONTAL DATUM

NORTH AMERICAN DATUM OF 1983 (NAD83) ZONE 5, STATE OF CALIFORNIA

TRACT INFORMATION

LIMITS OF PROJECT ARE WITHIN CITY OF LONG BEACH PROPERTY

NOTES

CONTRACTOR SHALL VERIFY CONTROL POINT COORDINATES TO ENSURE ACCURATE PLACE OF DOLPHIN PILE CLUSTER.

SURVEY WAS PERFORMED ON 06/11/2024.

CONTOURS ARE NOTE SHOWN FOR THE GROUND SURFACE BELOW THE DOCKS.

BERTH 1 AND 2 DOCK REPLACEMENT PROJECT ALAMITOS BAY, LONG BEACH, CA 90803 SURVEY PLAN					PAGE	
SU-1					FIELD BOOK	
JOB NO.						
NO. R-						
SHEET						
5 OF 28						
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DESIGNED BY:		REVISIONS		DESCRIPTION	
		No.	DATE	SHEET	APPROVAL
DRAWN BY:					
C.H.					
DESIGN CHECK BY:					
R.J.H.					
DRAFTING CHECK BY:					
R.J.H.		AS-BUILT:		REF.	

PROFESSIONAL ENGINEER
J. HOTCHKISS
No. C-67956
Exp. 06-30-25
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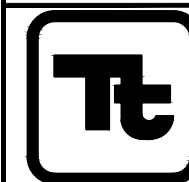
- ① CONSTRUCT SIDEWALK PER SHT C-4, DETAIL 6
- ② DEWEED, POWER WASH, AND CLEAN EXISTING BERTH CURBS AND ASPHALT
- ③ CONSTRUCT 9'X250' FLOATING DOCK - SEE SHT S-2
- ④ CONSTRUCT 80' LONG GANGWAY - SEE SHT S-3 & S-4
- ⑤ CONSTRUCT BERTH 1 CURB RAMP - SEE SHT C-2 DTL 1.
- ⑥ CONSTRUCT BERTH 2 CURB RAMP - SEE SHT C-2 DTL 2.
- ⑦ CONSTRUCT GUARDRAIL - SEE SHT C-4, DTL 9.
- ⑧ CONSTRUCT 9'X3' LANDING DOCK - SEE SHT S-3, DTL. 3
- ⑨ STRIPE PARKING STALLS WHITE WITH A 4 INCH WIDTH PER CLB STD. 312 SHT C-3, DTL. 5.
- ⑩ STRIPE ADA PARKING STALLS BLUE WITH 4 INCH WIDTH PER CLB STD. 312, S C-3, DTL. 5.
- ⑪ STRIPE ADA SYMBOL BLUE PER CLB STD. 312, SHT. C-1, DTL. 5.
- ⑫ INSTALL ENTRANCE GATE - SEE C-5, DTL. 10.

- 13 CONSTRUCT HANDRAIL-SEE SHT C-4, DTL 7,8, SECTION B-B
- 14 INSTALL ADA SIGNS, STD.312, SHT. C-3. DTL.5
- 15 INSTALL TRASH RECEPTACLES PER CLB STD PLAN XXX
- 16 REPAIR IRRIGATION
- 17 INSTALL 6" AC PAVEMENT OVER 6" 95% COMPACTED NATIVE BASE
- 18 INSTALL ROOT BARRIER SEE SPEC. XXX
- 19 INSTALL SECURITY GATE AND FENCE SEE SHT C-6
- 20 INSTALL CONCRETE TOPPER SEE SHT C-2, DTL. 3
- 21 INSTALL TACTILE WARNING SURFACE SEE SPEC. 32 1726
- 22 INSTALL CURB/GUTTER PER CLB STANDARD PLAN 116
- 23 INSTALL MARINE SOLAR WARNING LIGHTS-RED-CONSTANT OPERATION, EXTRA LARGE SOLAR PANEL WITH 4400 mAh RECHARGEABLE BATTERY (4)
- 24 INSTALL LIGHT POLE AND FOUNDATION PER ELECTRICAL SHEETS

- 25) INSTALL LED LIGHTING PER ELECTRICAL SHEETS
- 26) INSTALL YACHT POWER SUBSTATION PER ELECTRICAL SHEETS
- 27) INSTALL ELECTRIC VEHICLE CHARGERS PER ELECTRICAL SHEETS
- 28) INSTALL SEWAGE PUMPOUT STATION PER ELECTRICAL AND PLUMBING SHEETS
- 29) INSTALL FIREWATER SYSTEM PER PLUMBING SHEETS
- 30) INSTALL RELOCATED WATER UTILITIES PER PLUMBING SHEETS
- 31) INSTALL POTABLE WATER SYSTEM PER PLUMBING SHEETS
- 32) INSTALL SEWER WATER SYSTEM PER PLUMBING SHEETS
- 33) INSTALL MARINE SIGNAGE PER SHEET C-7



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BOOK	PAGE	CIVIL PLAN
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C-1

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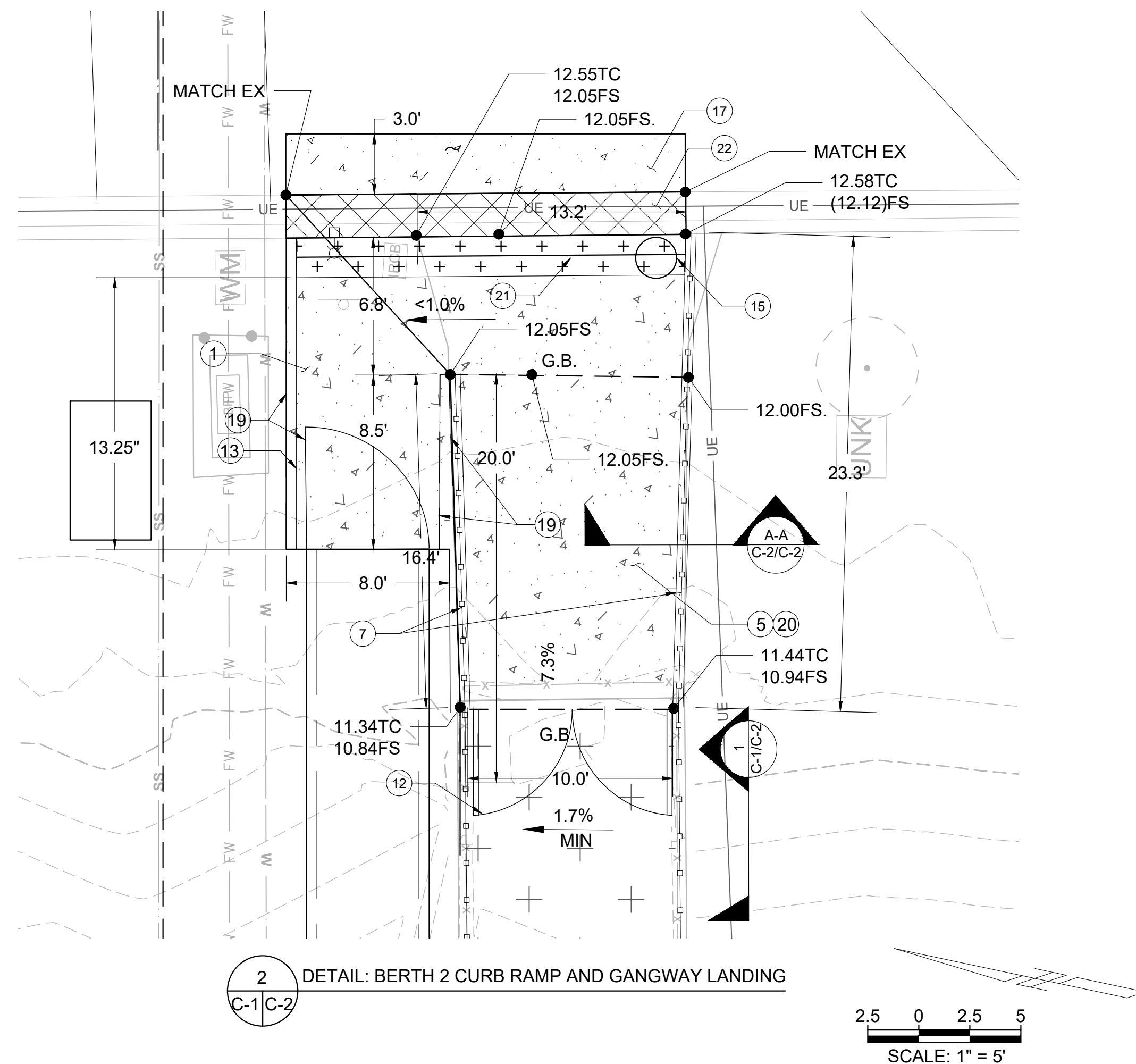
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| No. | DATE | SHEET | APPROVAL | |

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DRAWN BY:
C.H.

DESIGN CHECK
D.U.K.J.H.
DRAFTING CHECK

R.J.H.

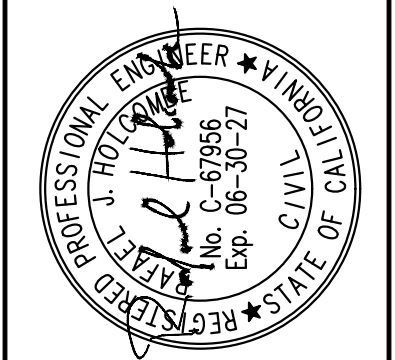
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R.J.H.

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BERTH 1 AND 2 DOCK REPLACEMENT PROJECT **ALAMITOS BAY, LONG BEACH, CA 90803** **CIVIL DETAILS (1)**

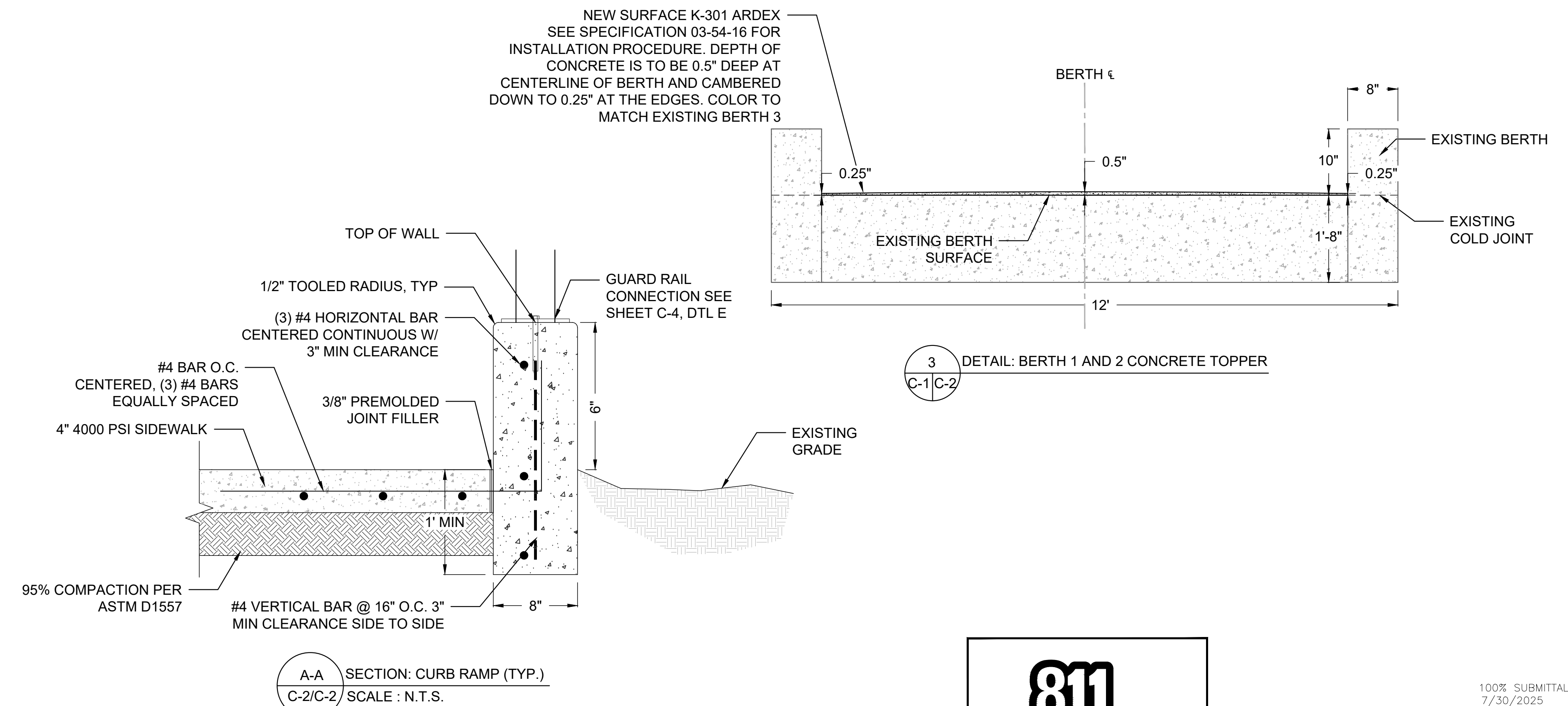
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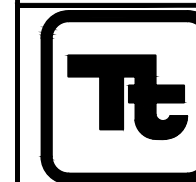
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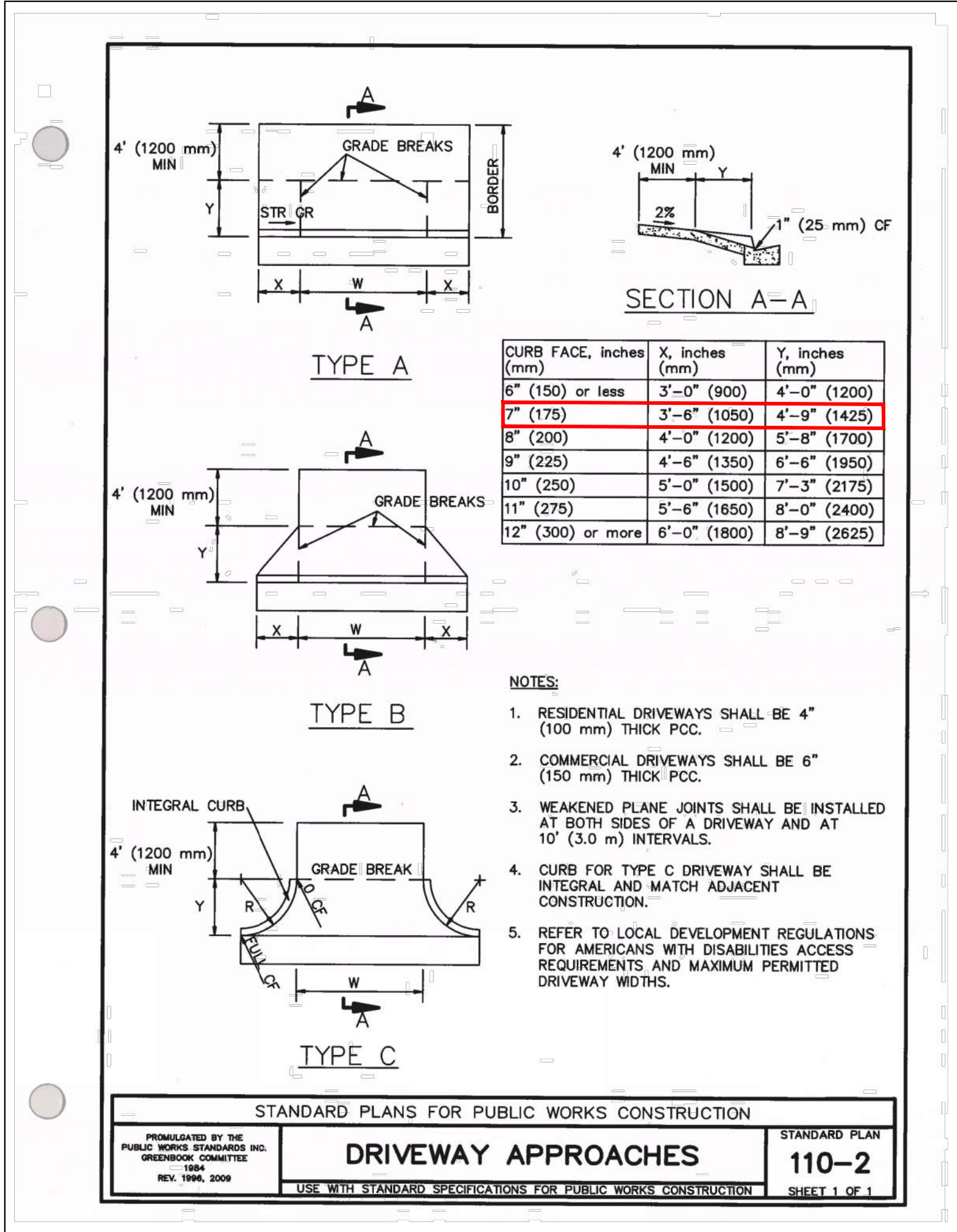
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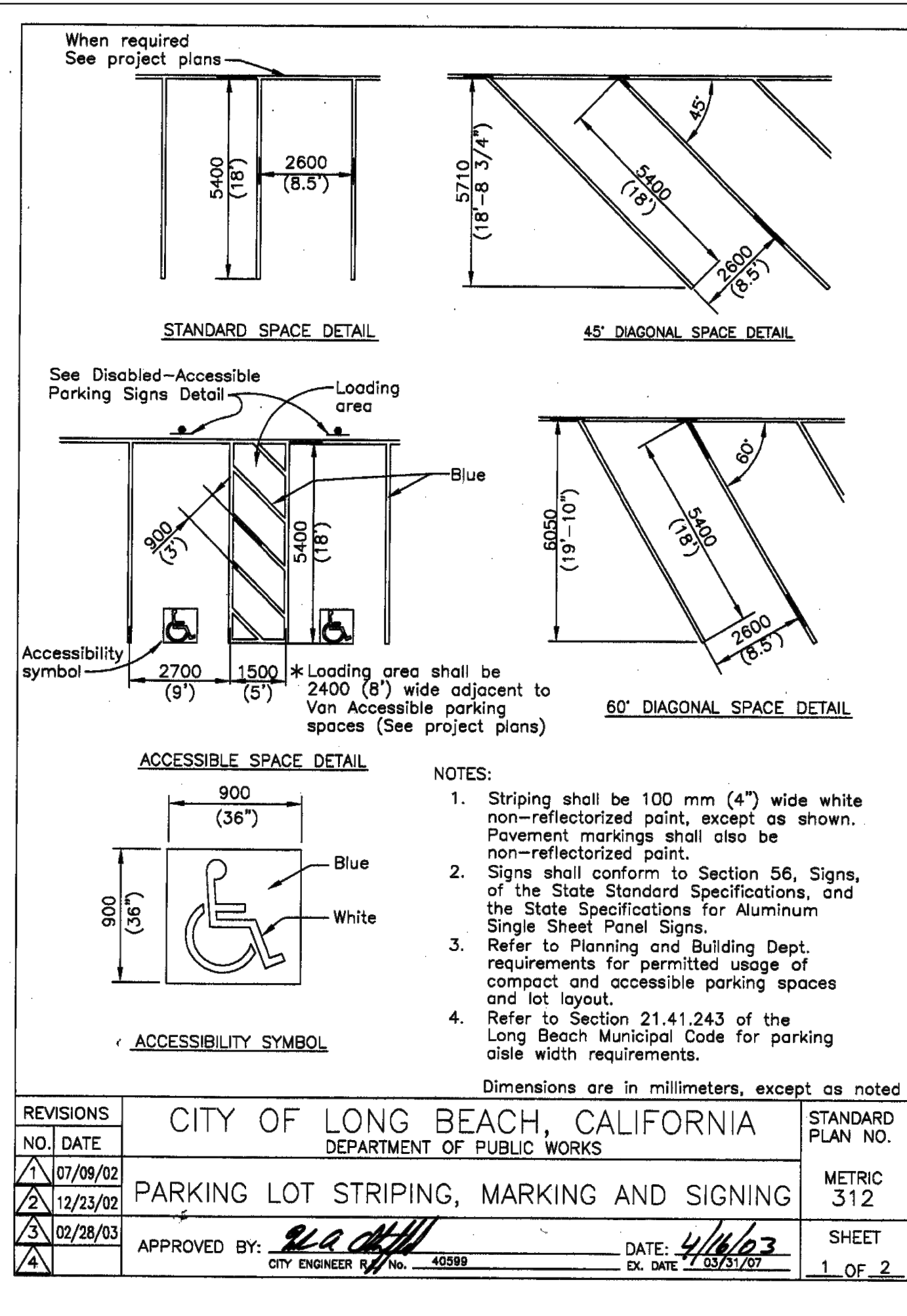
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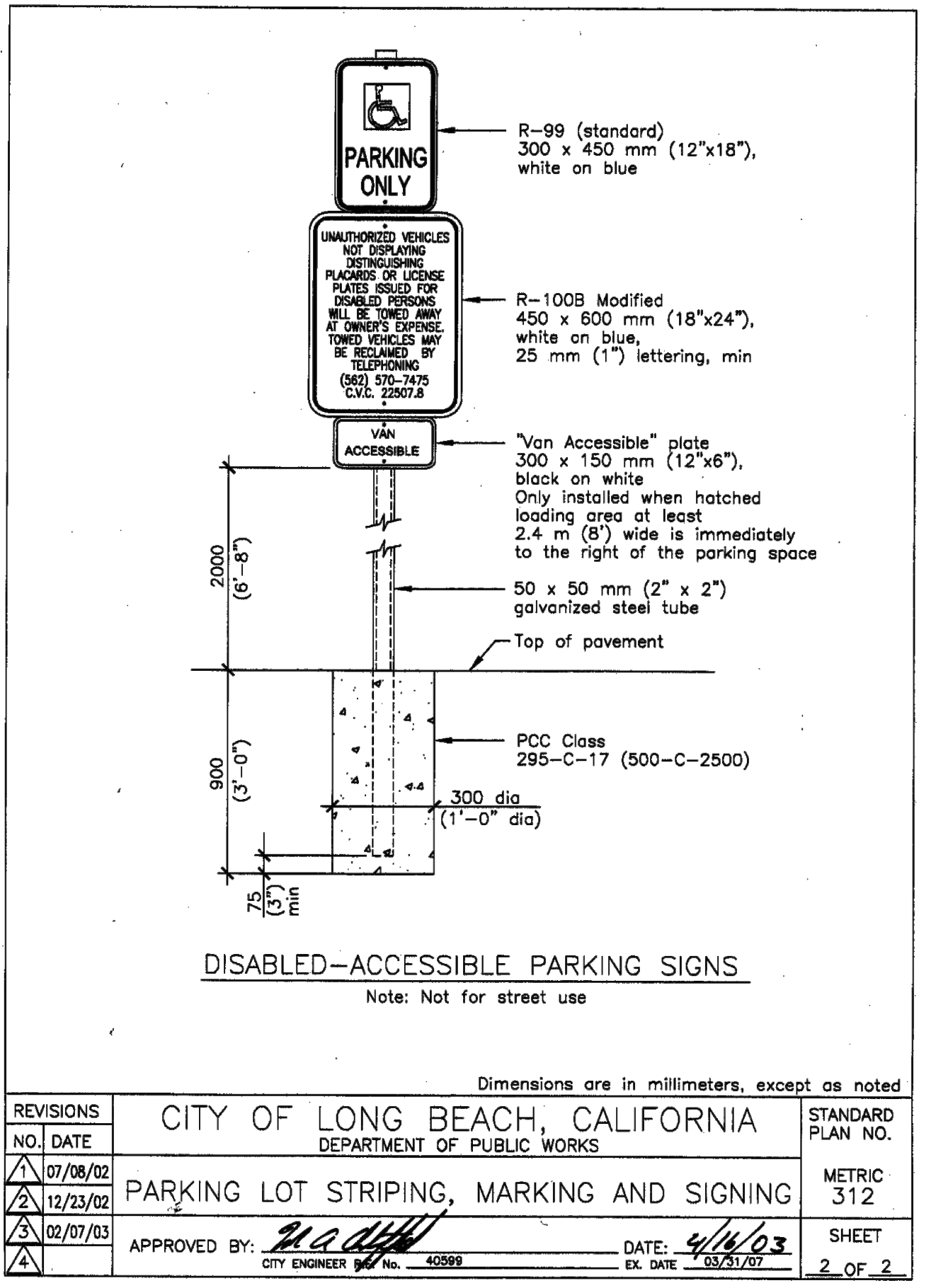
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4 DRIVEWAY DETAIL
C-1/C-3



5 STRIPING DETAIL
C-1/C-3

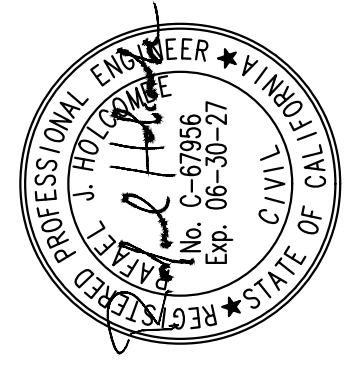


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CIVIL DETAILS (2)

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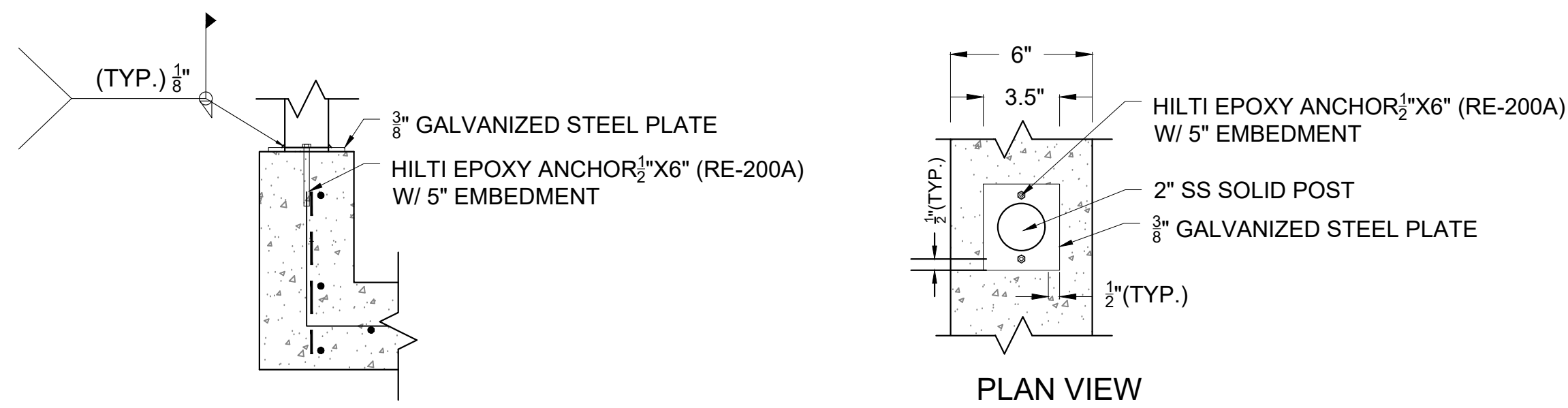
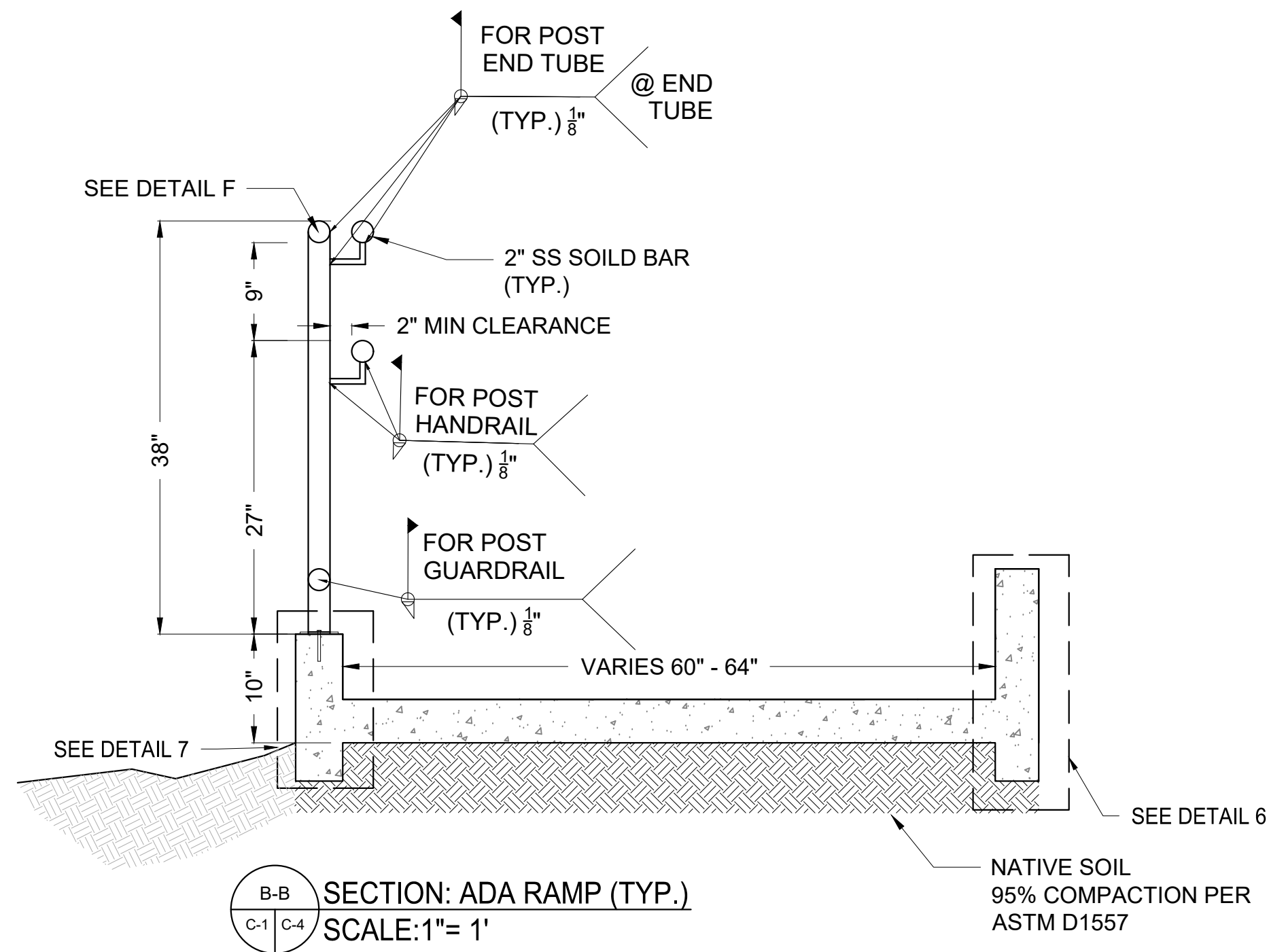
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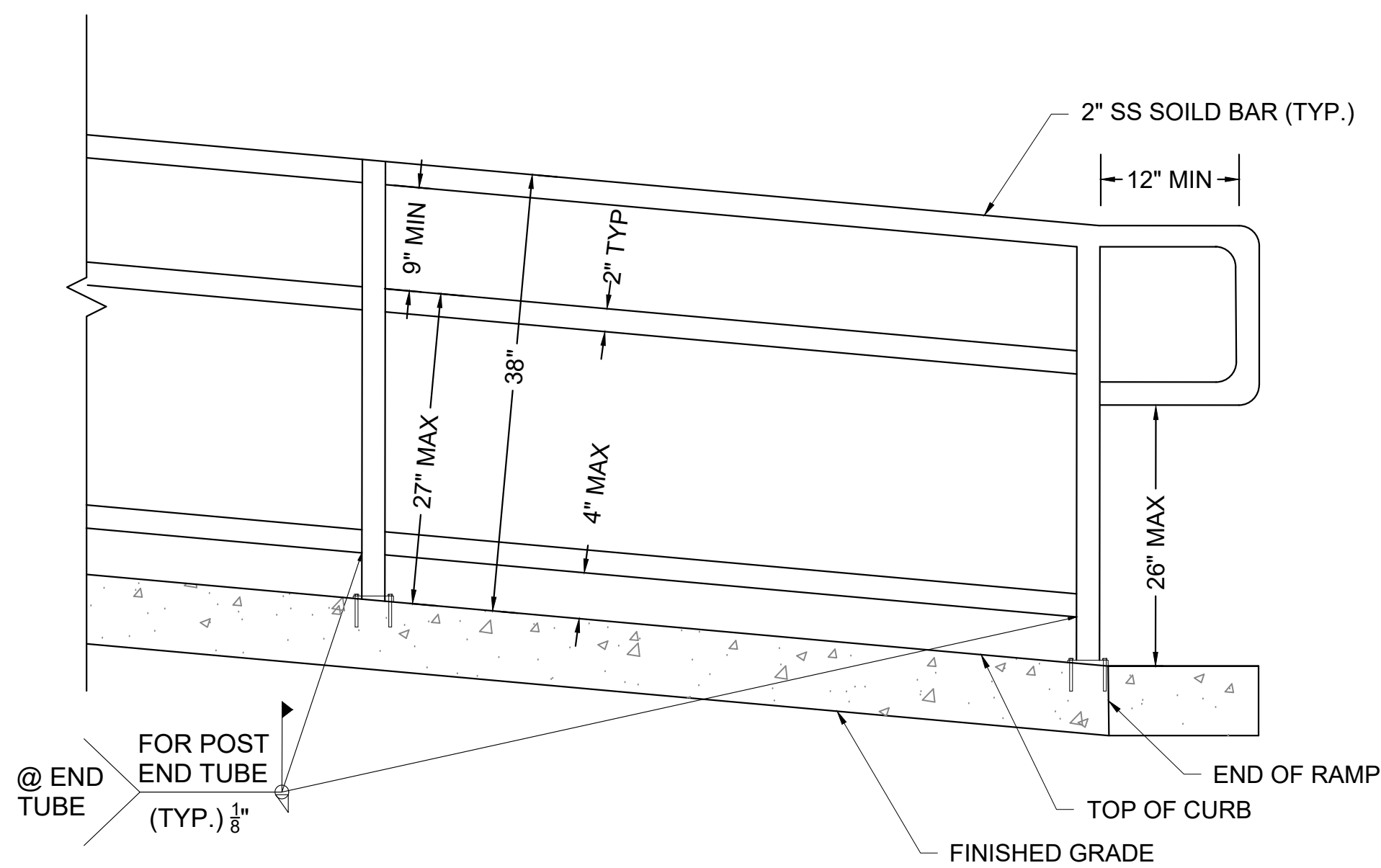
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SHEET 9 OF 28

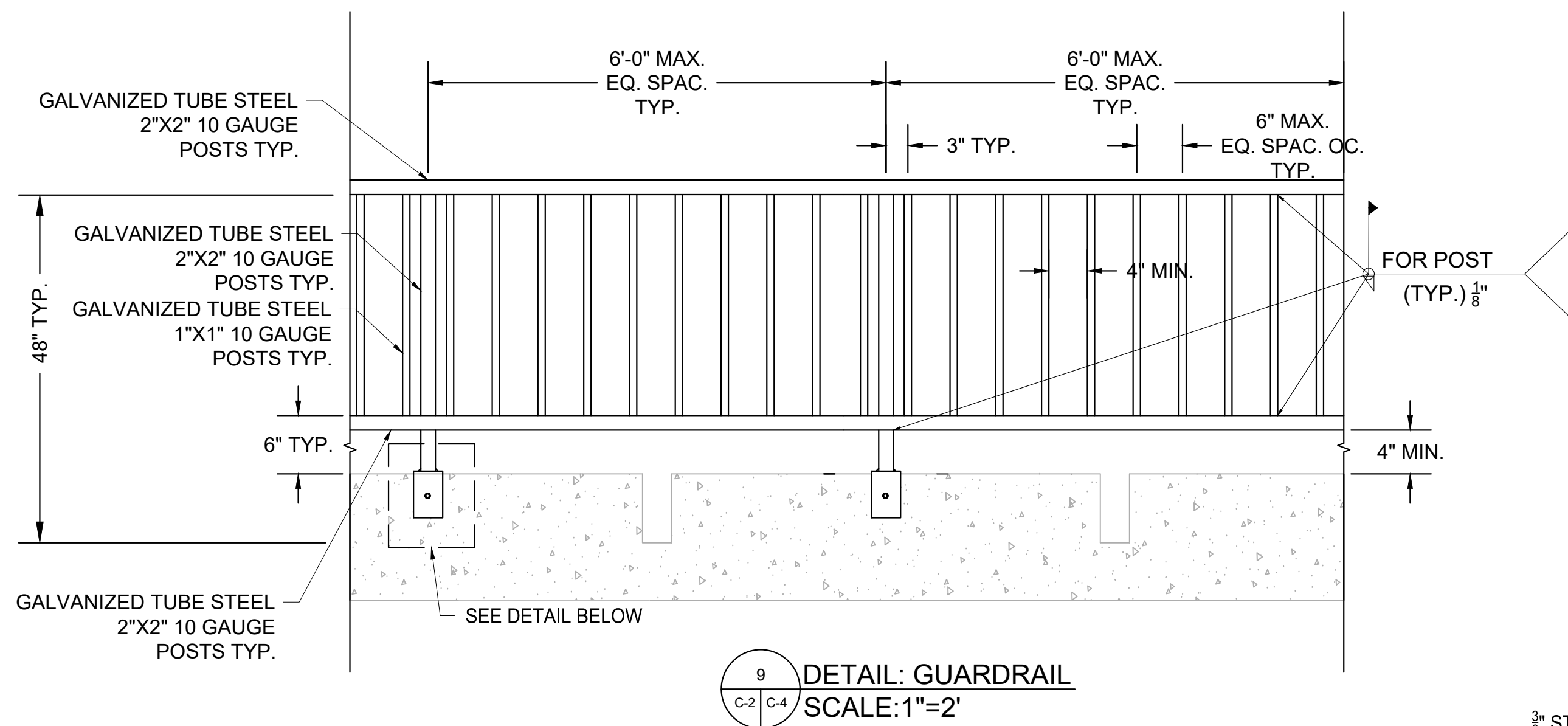
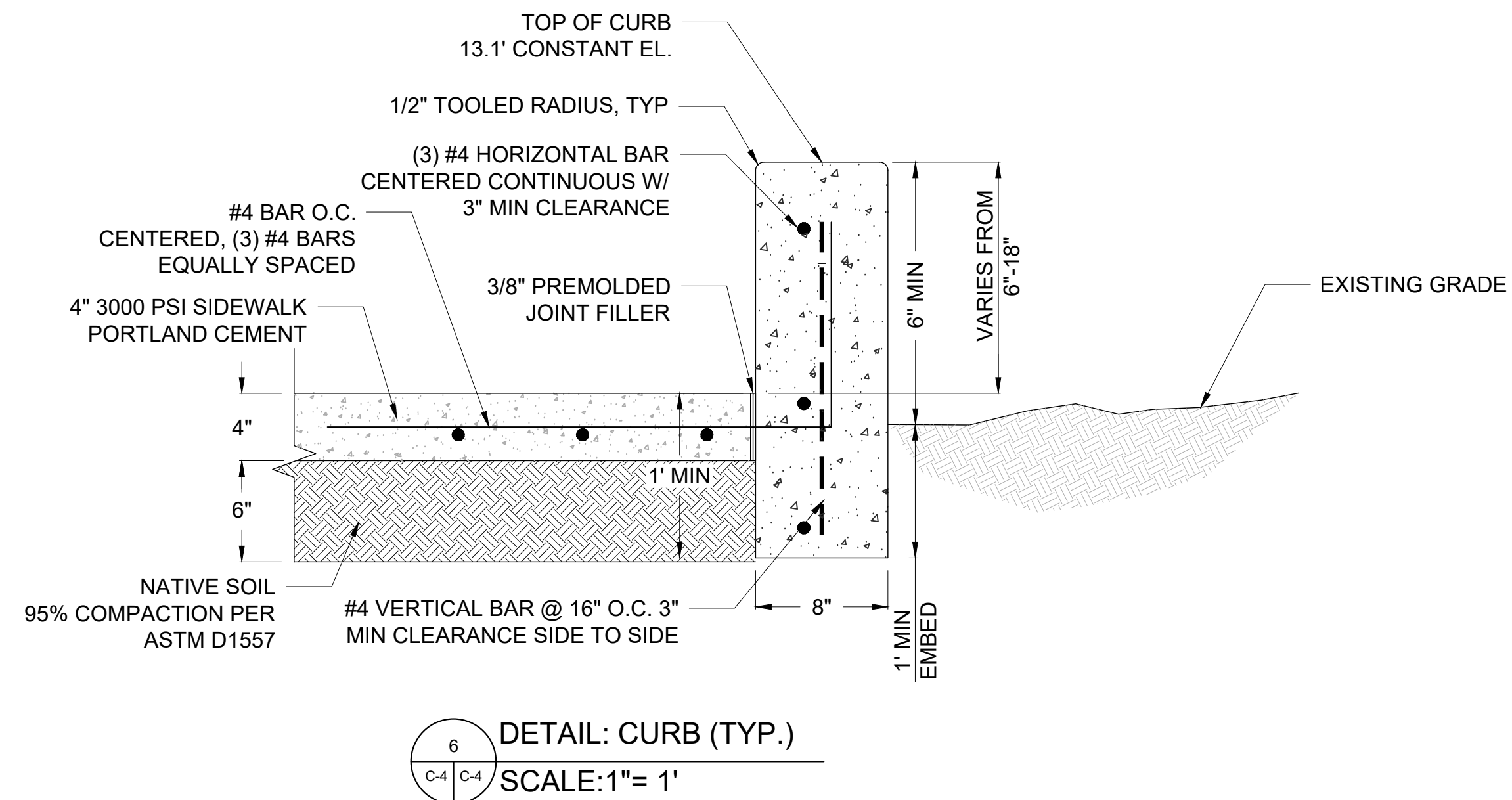
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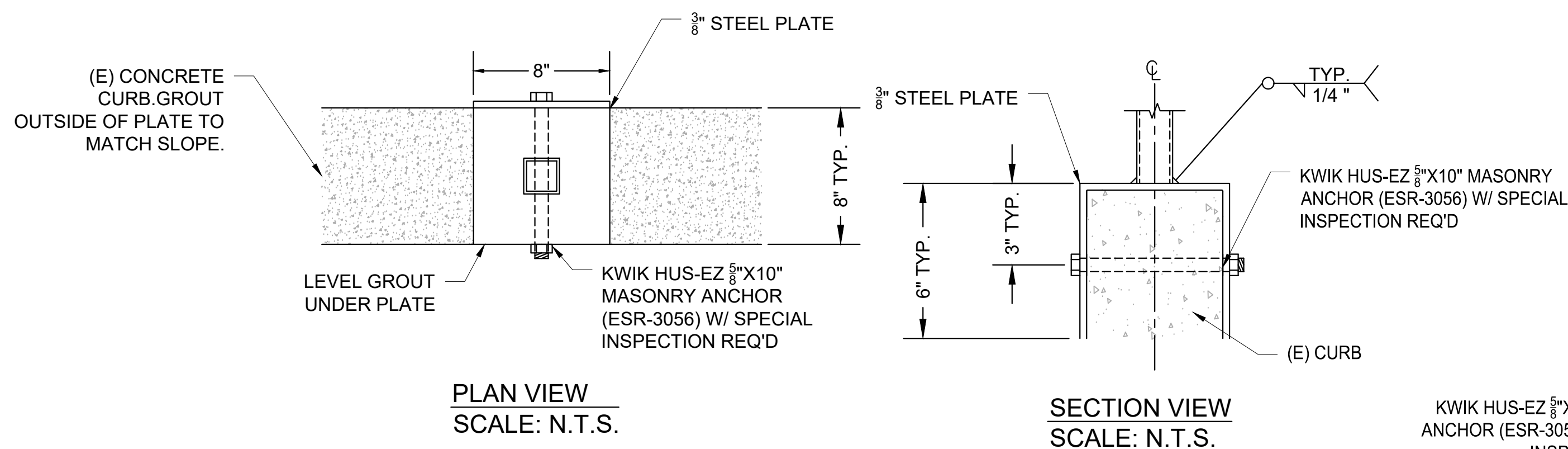
7
C-4 C-4
DETAIL: HANDRAIL CONNECTION (TYP.)
SCALE: 1"= 0.5'



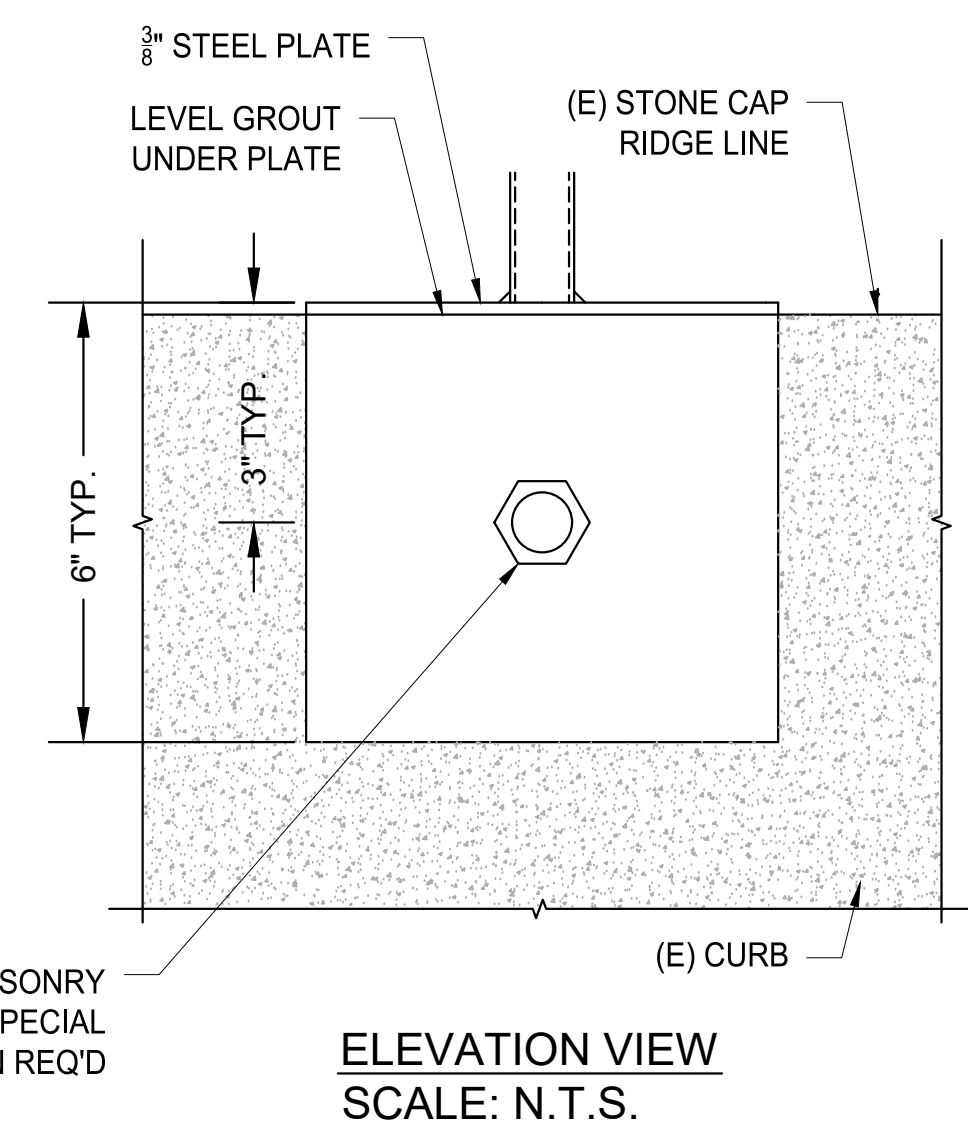
8
C-1 C-4
DETAIL: HANDRAIL
SCALE: 1"= 1'



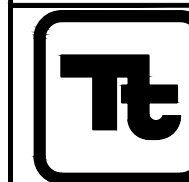
NOTE:
SEE TECHNICAL SPECIFICATION 32 31 19.23



18
C-4 C-4
DETAIL: TUBE STEEL ANCHOR
SCALE: N.T.S.



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C-4

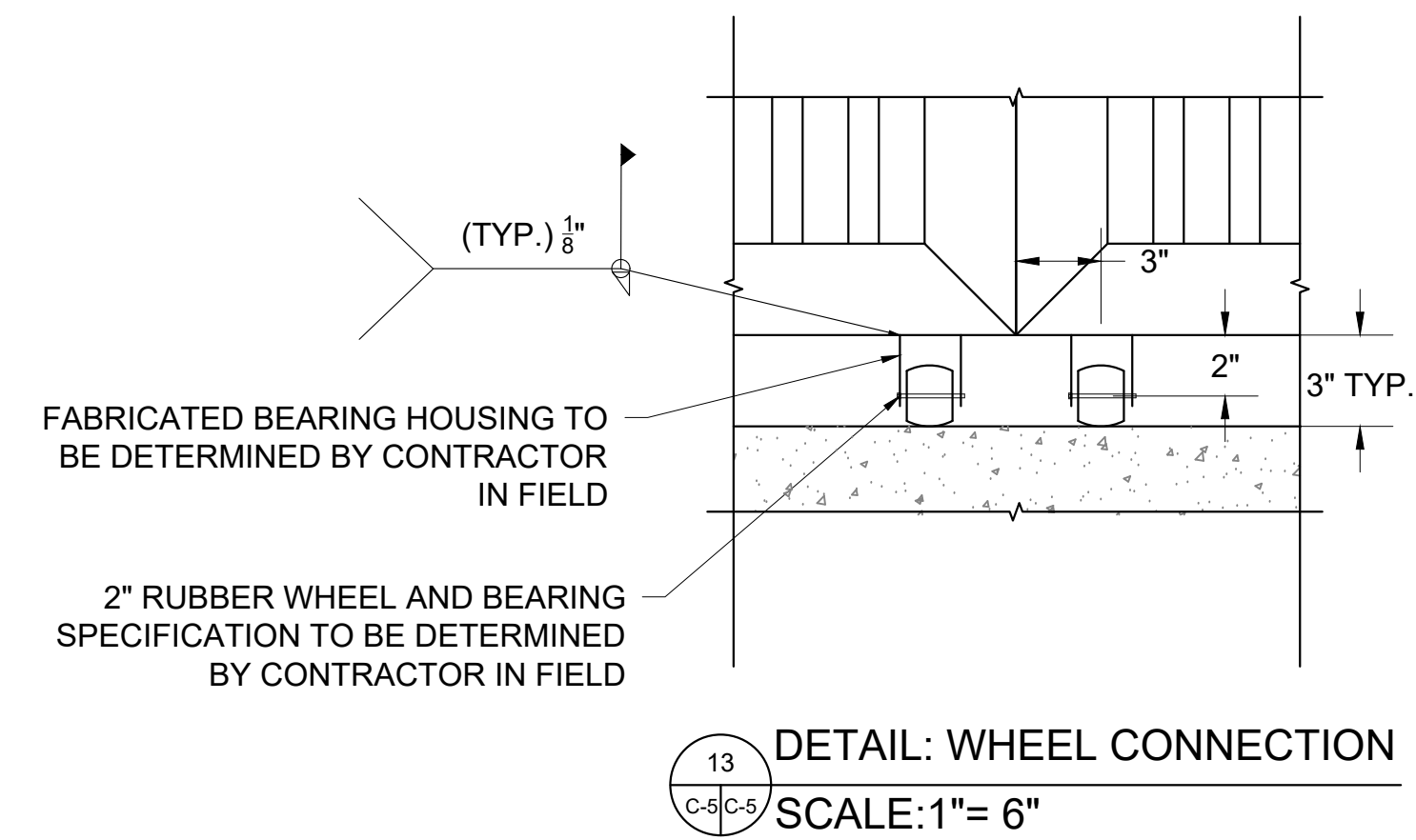
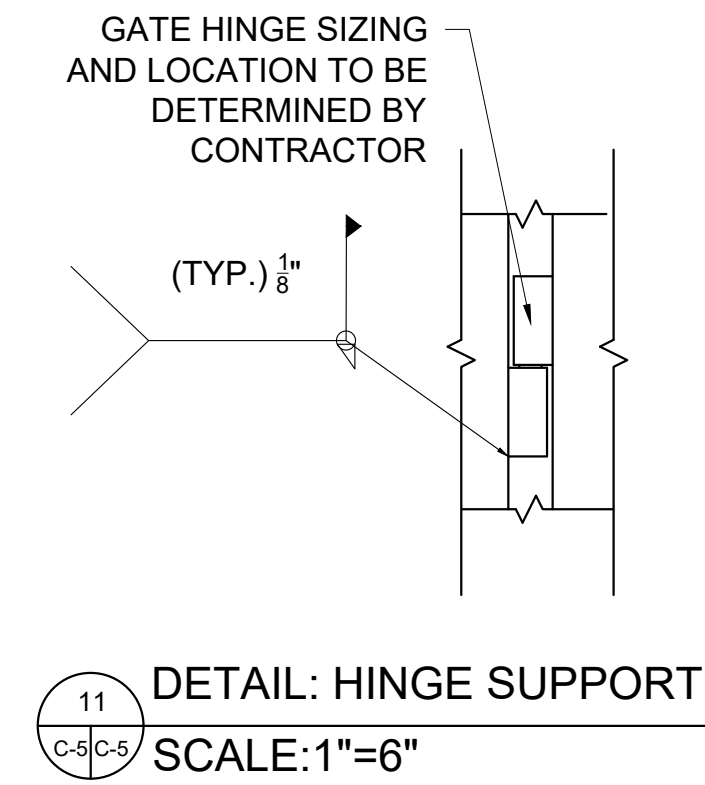
BERTH 1 AND 2 DOCK REPLACEMENT PROJECT
ALAMITOS BAY, LONG BEACH, CA 90803
CIVIL DETAILS (3)

DESIGNED BY:
DRAWN BY: C.H.
DESIGN CHECK BY: R.J.H.
DRAFTING CHECK BY: R.J.H.

REVISIONS
No. DATE DESCRIPTION
AS-BUILT:
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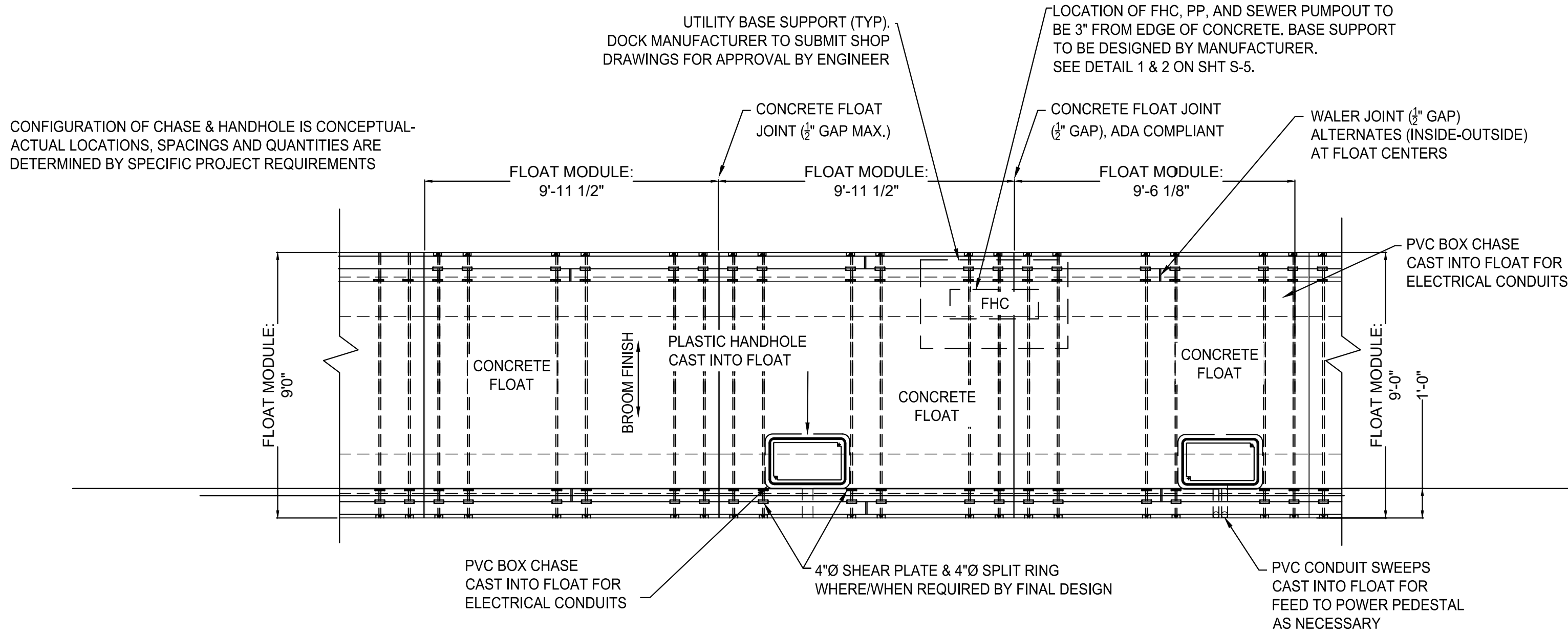
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BERTH 1 AND 2 DOCK REPLACEMENT PROJECT ALAMITOS BAY, LONG BEACH, CA 90803 CIVIL DETAILS (4)		FIELD BOOK		PAGE	
C-5		11		28	
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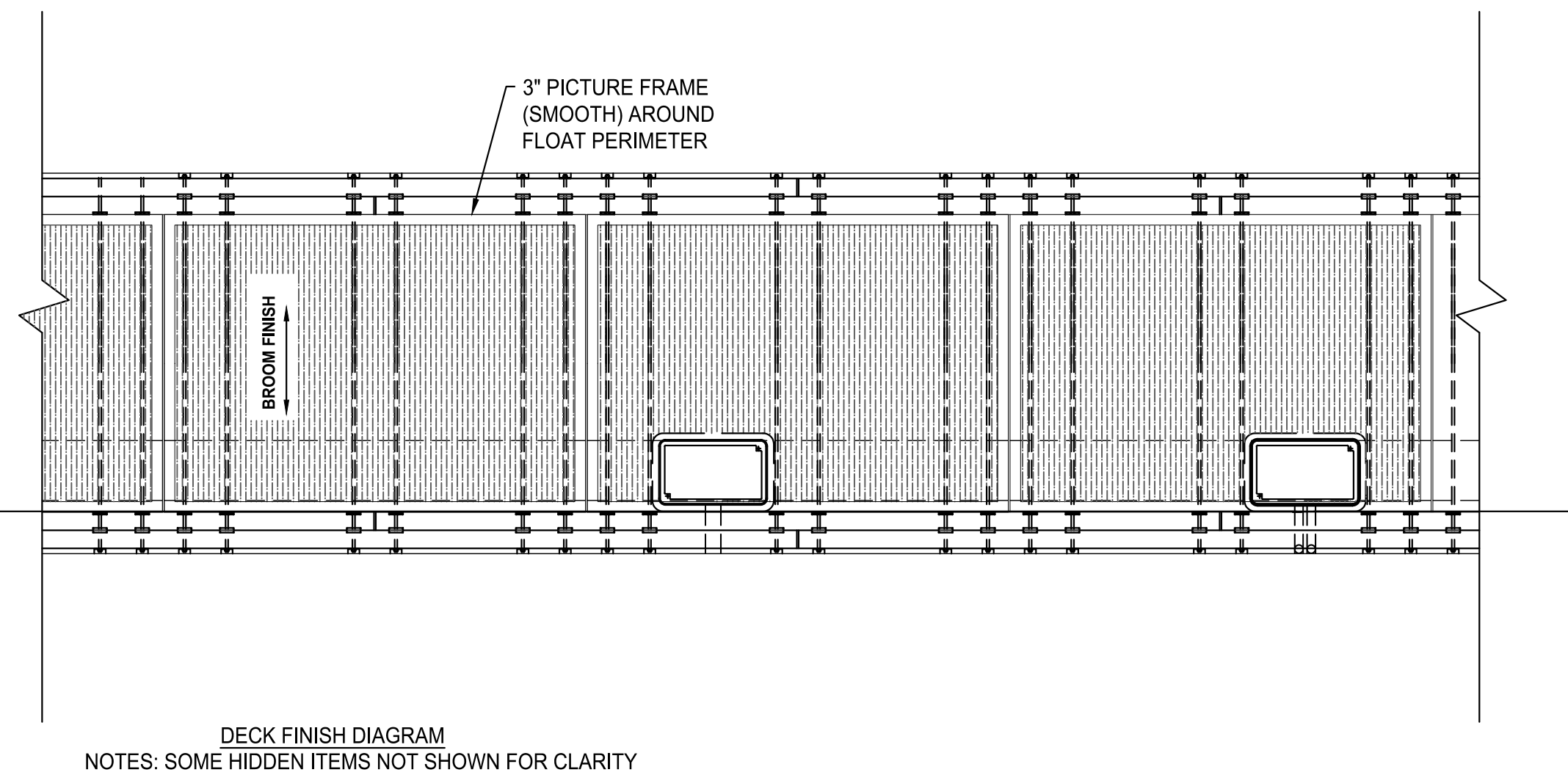


STANDARD THRU ROD LOCATION NOTES:

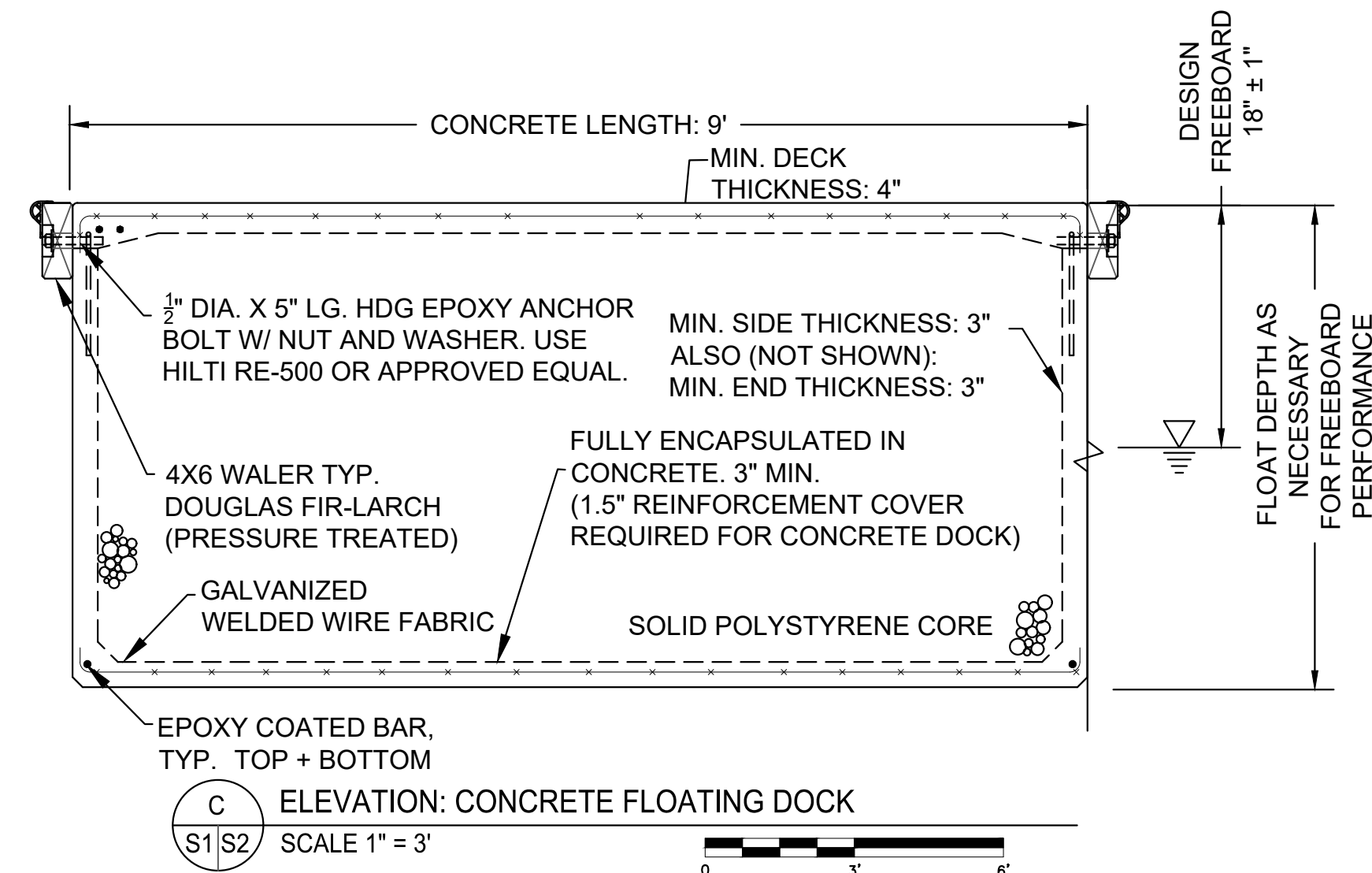
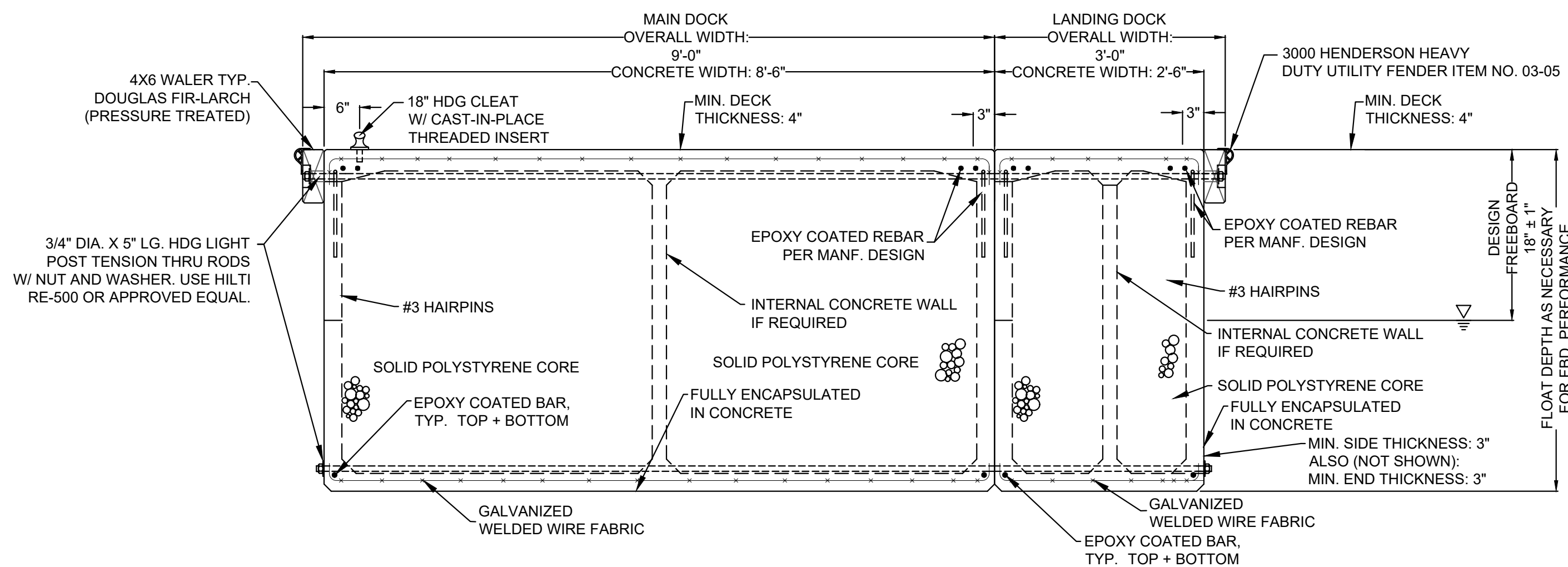
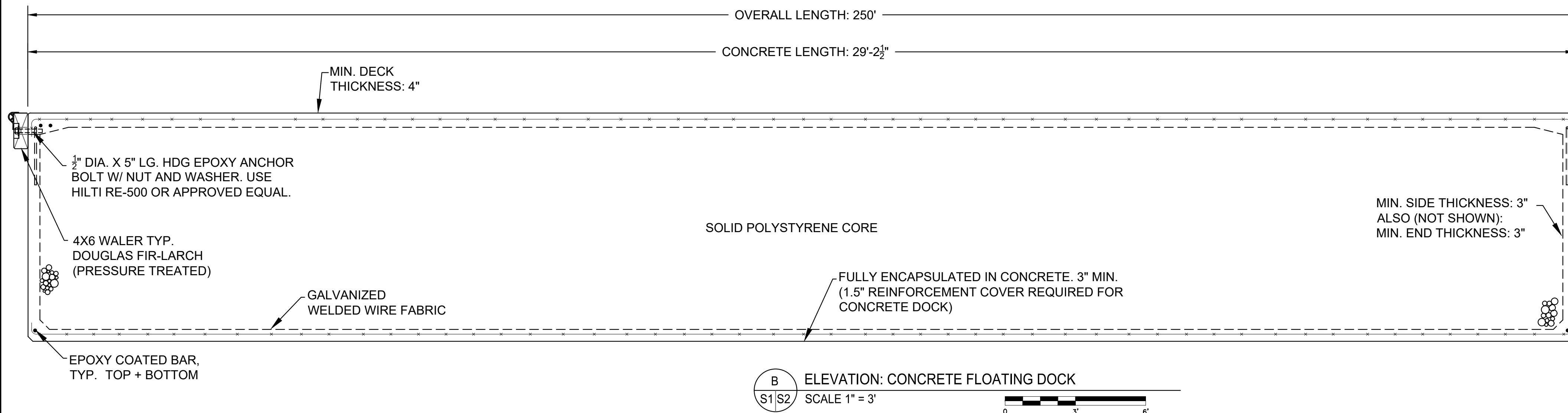
- AT STANDARD MAINWALK FLOATS, A THRU ROD (LENGTH TO MATCH OVERALL DOCK WIDTH) SHOULD BE INSTALLED AT A MINIMUM: ONE ON EITHER SIDE OF ALL FLOAT JOINTS AND WOOD WALER BREAKS, WITH ADDITIONAL RODS AS REQUIRED TO MAKE NECESSARY FINGER AND CONNECTING MAINWALK ATTACHMENTS.
- AT CONCRETE FLOAT THAT CONNECTS LANDING DOCK WITH DOCK
- ALL MINIMUM SPACINGS AND SIZINGS ARE DETERMINED BY FINAL DESIGN WITH CONSIDERATION FOR SITE CONDITIONS (WIND/WAVE CRITERIA).

TYP. MAINWALK ASSEMBLY
NOTES: SOME HIDDEN ITEMS NOT SHOWN FOR CLARITY

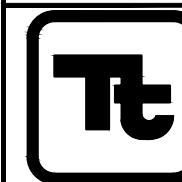
1 PLAN: CONCRETE FLOATING DOCK ASSEMBLY
SCALE 1"=4'



2 PLAN: CONCRETE FLOATING DOCK DECK FINISH DIAGRAM
SCALE 1"=4'



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BERTH 1 AND 2 DOCK REPLACEMENT PROJECT
ALAMITOS BAY, LONG BEACH, CA 90803
CONCRETE FLOATING DOCK PLAN

S-2

JOB NO.

NO. R-

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15 of 28

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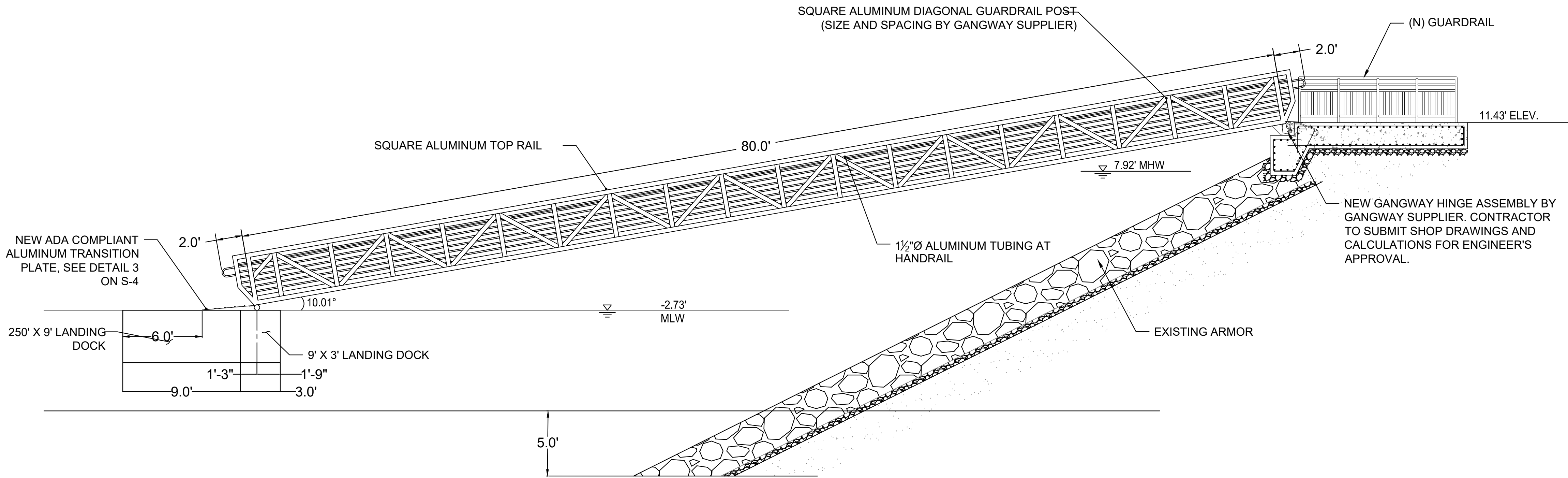
REVISIONS

DATE

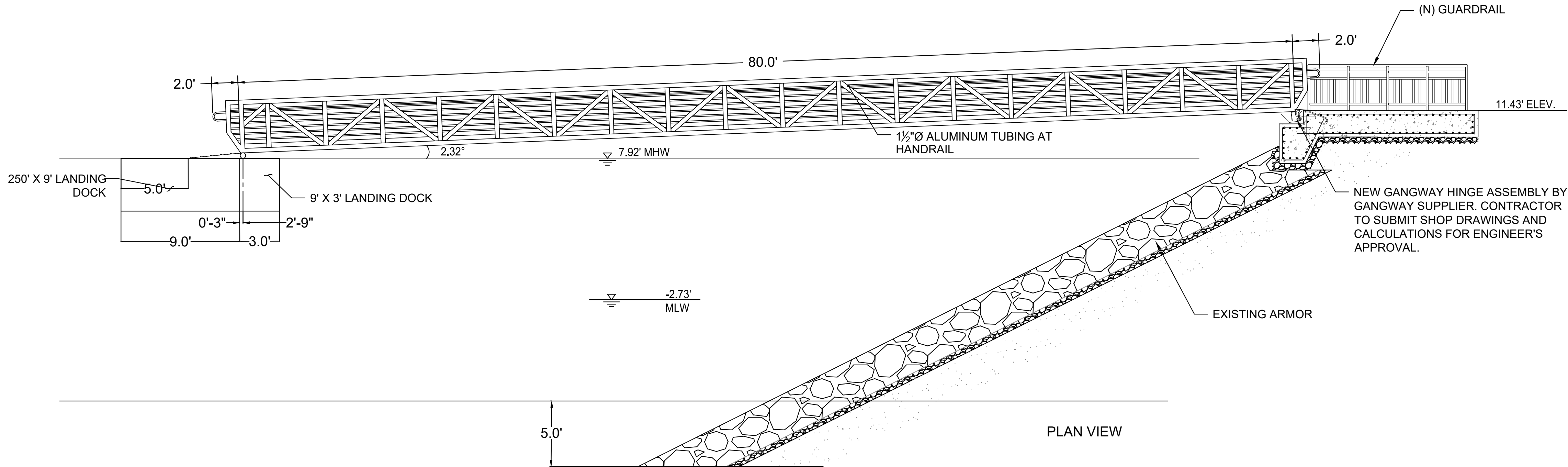
SHEET

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DESCRIPTION



A ELEVATION: ALUMINUM GANGWAY& LANDING AT -2.73 ELEV. EXTREME LOW TIDE
S1|S3 1" = 5'



B ELEVATION: ALUMINUM GANGWAY& LANDING AT 7.92 ELEV. EXTREME HIGH TIDE
S1|S3 1" = 5'

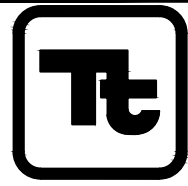
- NOTES FOR GANGWAY LANDING**
- 1 REMOVE THE EXISTING ARMOR ROCK, QUARRY RUN AND SANDY SOILS TO AN ELEVATION OF TWO FEET BELOW THE FINISHED SURFACE OF THE GANGWAY LANDING.
 - 2 REMOVE THE EXISTING ARMOR ROCK, QUARRY RUN AND SANDY SOILS FOR THE SHEAR KEY ON THE WATER SIDE OF THE GANGWAY LANDING TO AN ELEVATION OF FOUR FEET BELOW THE SURFACE OF THE GANGWAY LANDING.
 - 3 PLACE GEOTEXTILE AND 2" THICK LAYER OF GRAVEL ALONG EXPOSED SLOPE. CONSTRUCT GANGWAY LANDING WITH 5000 PSI CONCRETE. FINISH ELEVATION OF THE GANGWAY LANDING SHALL MATCH THE ADJACENT CONCRETE PATH ON TOP OF EXISTING GRADE. TRANSITION TO MEET ADA GUIDELINES. PROVIDE POSITIVE DRAINAGE.
 - 4 RESTORE FINISHED SLOPE. BACKFILL WITH SOIL, QUARRY RUN AND ARMOR STONE TO AN ELEVATION 2' ABOVE BOTTOM OF SHEAR KEY. RE-USE SOIL, QUARRY RUN AND ARMOR STONE PREVIOUSLY EXCAVATED.
 - 5 MOISTURE CONDITION AND RE-COMPACT SANDY SOIL AND QUARRY RUN EXPOSED AT THE BASE OF THE FOUNDATION EXCAVATION TO AT LEAST 95 PERCENT OF THE RESPECTIVE MAXIMUM DENSITIES, DETERMINED IN ACCORDANCE WITH ASTM D 1557.
 - 6 FULLY GROUT VOID SPACED BETWEEN ARMOR ROCK WITH 2500 PSI CONCRETE AS DIRECTED BY ENGINEER.
 - 7 PLACE EPOXY COATED #8 REBAR @ 6" O.C., E.W., T&B.
 - 8 1" CHAMFER ALL SIDES EXCEPT ADJACENT TO SIDEWALK.
 - 9 COORDINATE GUARDRAIL DESIGN AND POST CONNECTION WITH GANGWAY LANDING.

- NOTES**
- GANGWAY SHALL BE DESIGNED TO RESIST THE FOLLOWING LOADS:
1. 100 PSF DISTRIBUTED LIVE LOAD
 2. 300 LBS CONCENTRATED LIVE LOAD (NOT CONCURRENT WITH 100 PSF LL)
 3. 25 PLF ADDITIONAL DL LINE LOAD (FOR UTILITIES)

- LEGEND**
- ARMOR ROCK QUARRY RUN
 - SANDY SOIL
 - CONCRETE



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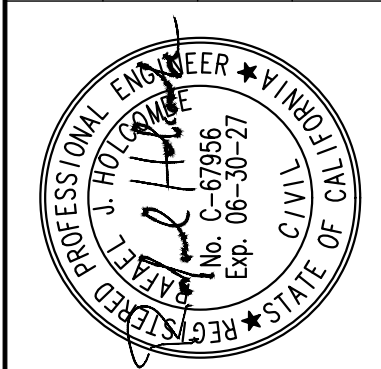
NO. R-
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16 OF 28
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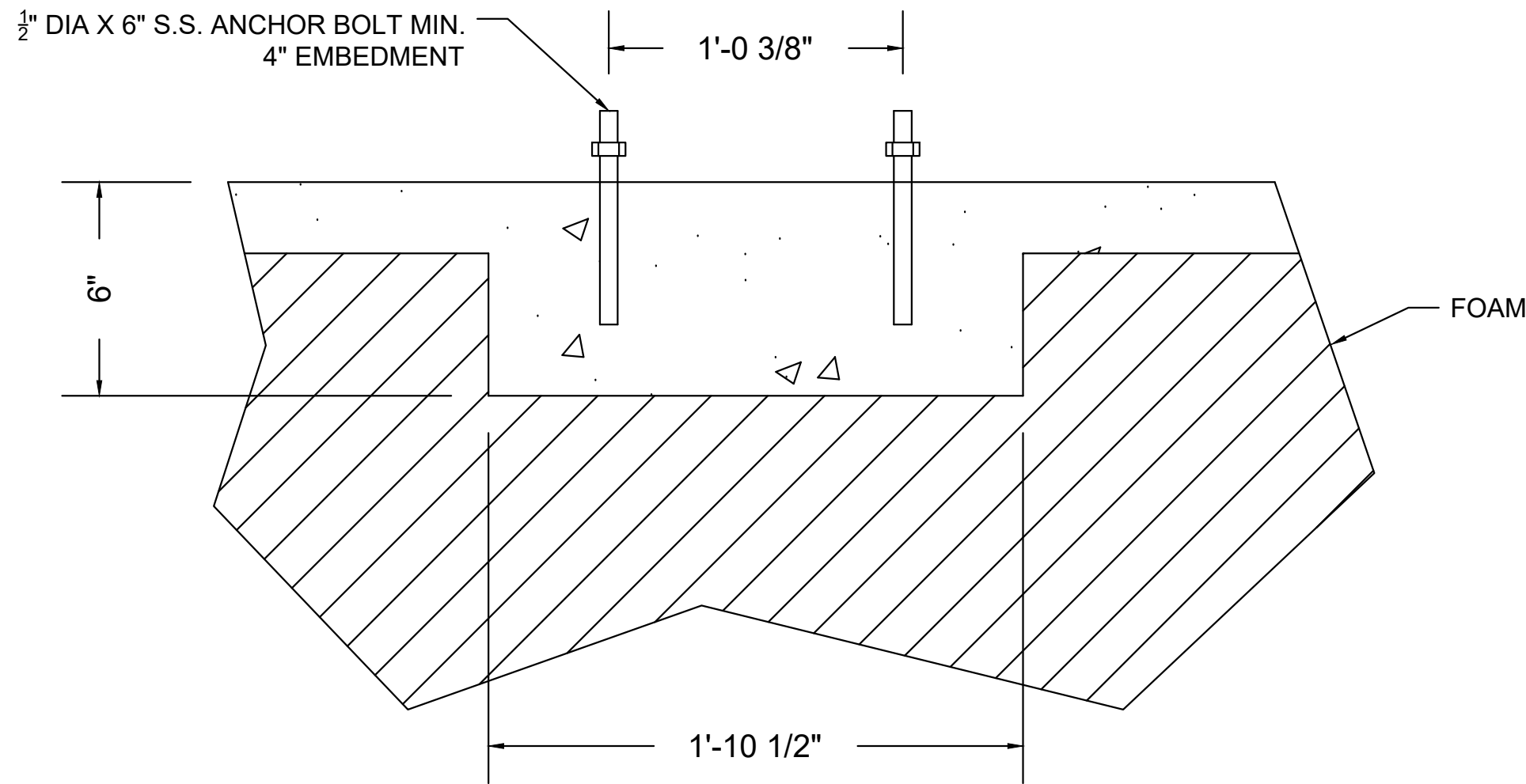
BERTH 1 AND 2 DOCK REPLACEMENT PROJECT
ALAMITOS BAY, LONG BEACH, CA 90803
GANGWAY AND LANDING DETAILS

S-3

JOB NO.
NO. R-
SHEET
16 OF 28
DRAWING NO.

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C.H.		C.H.		R.J.H.		R.J.H.	
DATE		DATE		DATE		DATE	
NO.		NO.		NO.		NO.	
REVISIONS		SHEET		APPROVAL		REF.	
DESCRIPTION		AS-BUILT:					

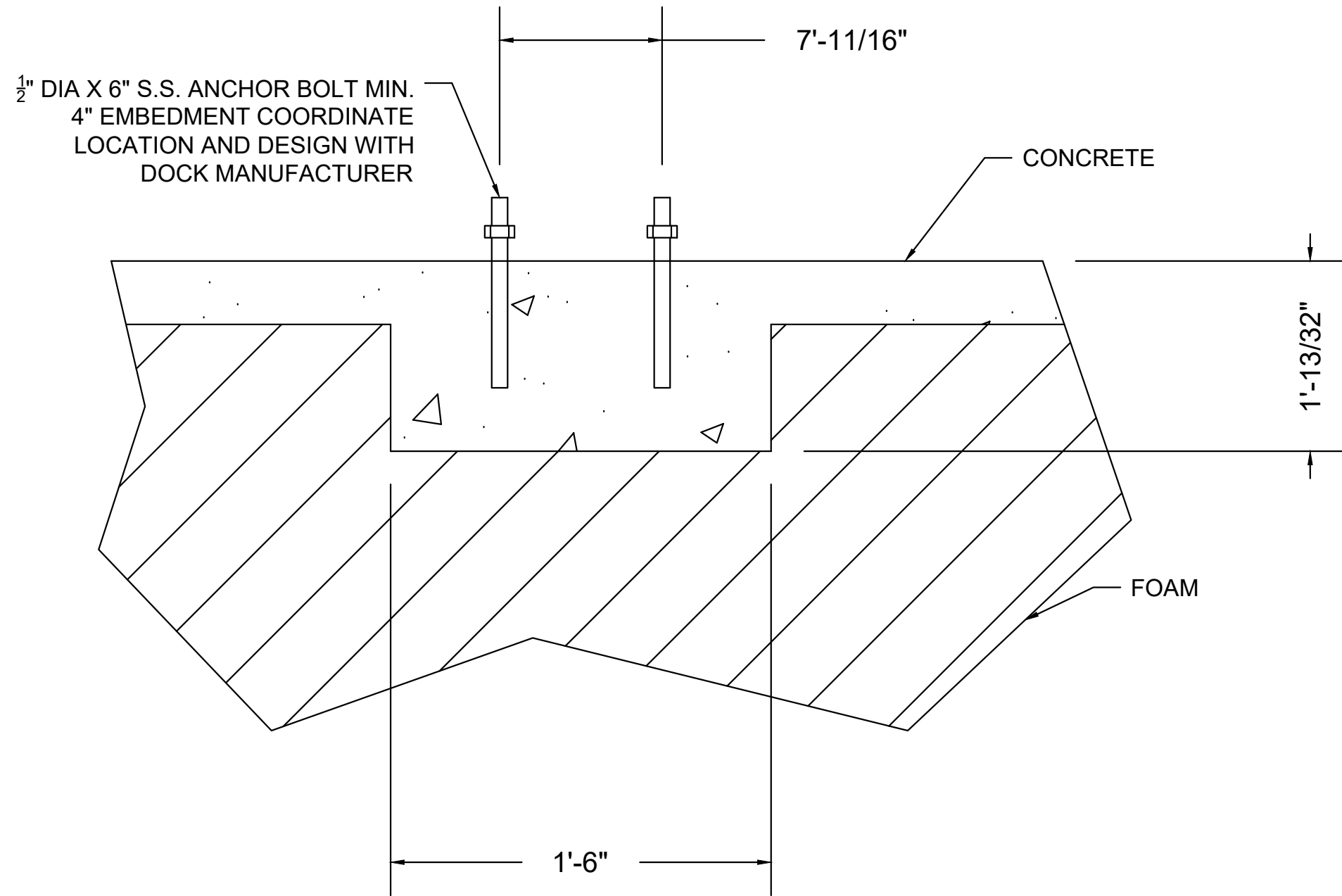




1
P1 S5
DETAIL: POWER PEDESTAL CONNECTION
SCALE: N.T.S.

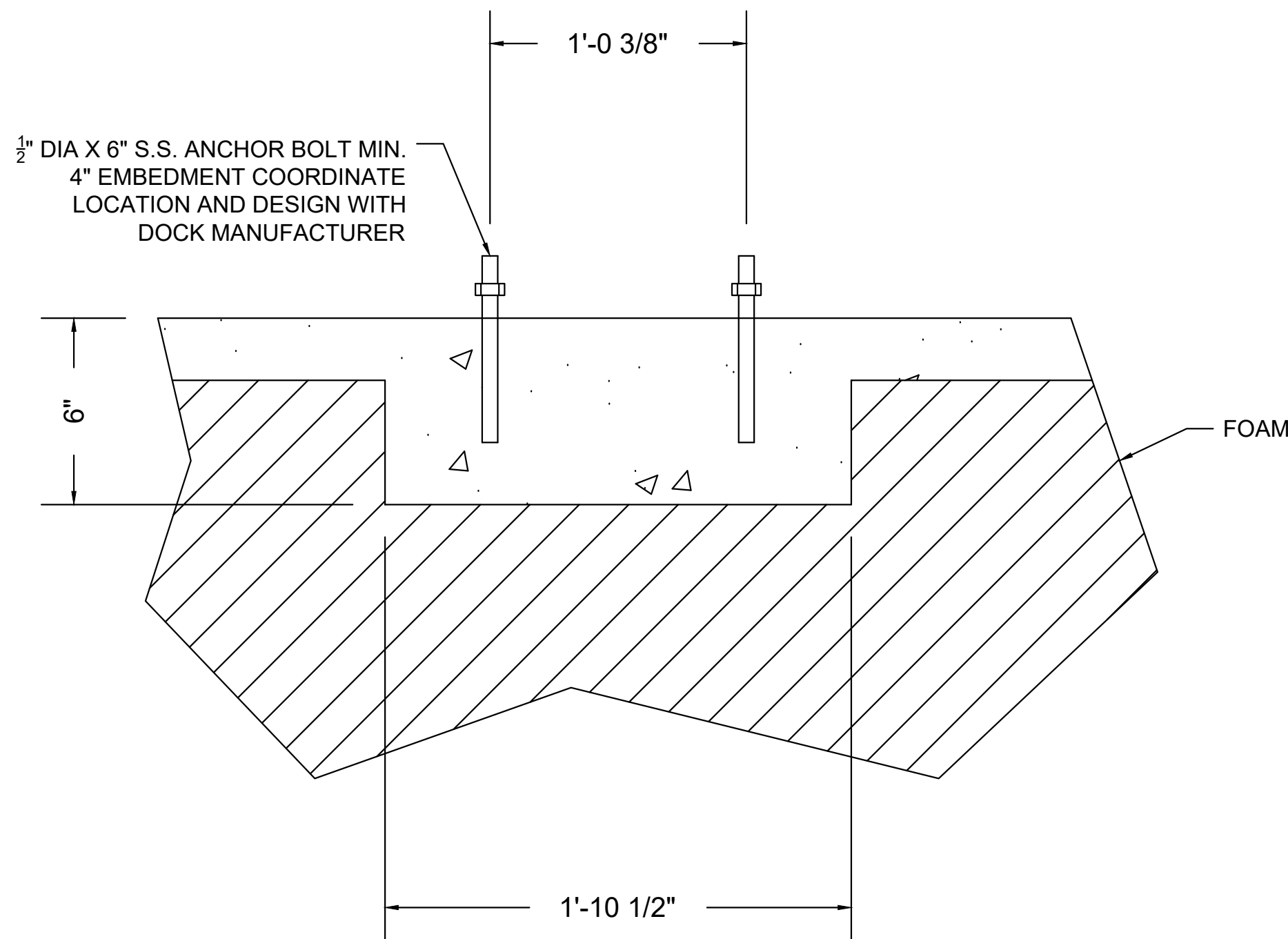
NOTES:

1. COORDINATE EXACT LOCATIONS OF ANCHOR BOLTS WITH DOCK MANUFACTURER.
2. BASE SUPPORT DETAIL FOR CONCRETE DOCK TO BE SUBMITTED BY DOCK MANUFACTURER FOR APPROVAL BY ENGINEER.
3. MANUFACTURER SHALL IDENTIFY BASE SUPPORT ON FLOATING DOCK TO AVOID CONFUSION DURING DOCK INSTALLATION.



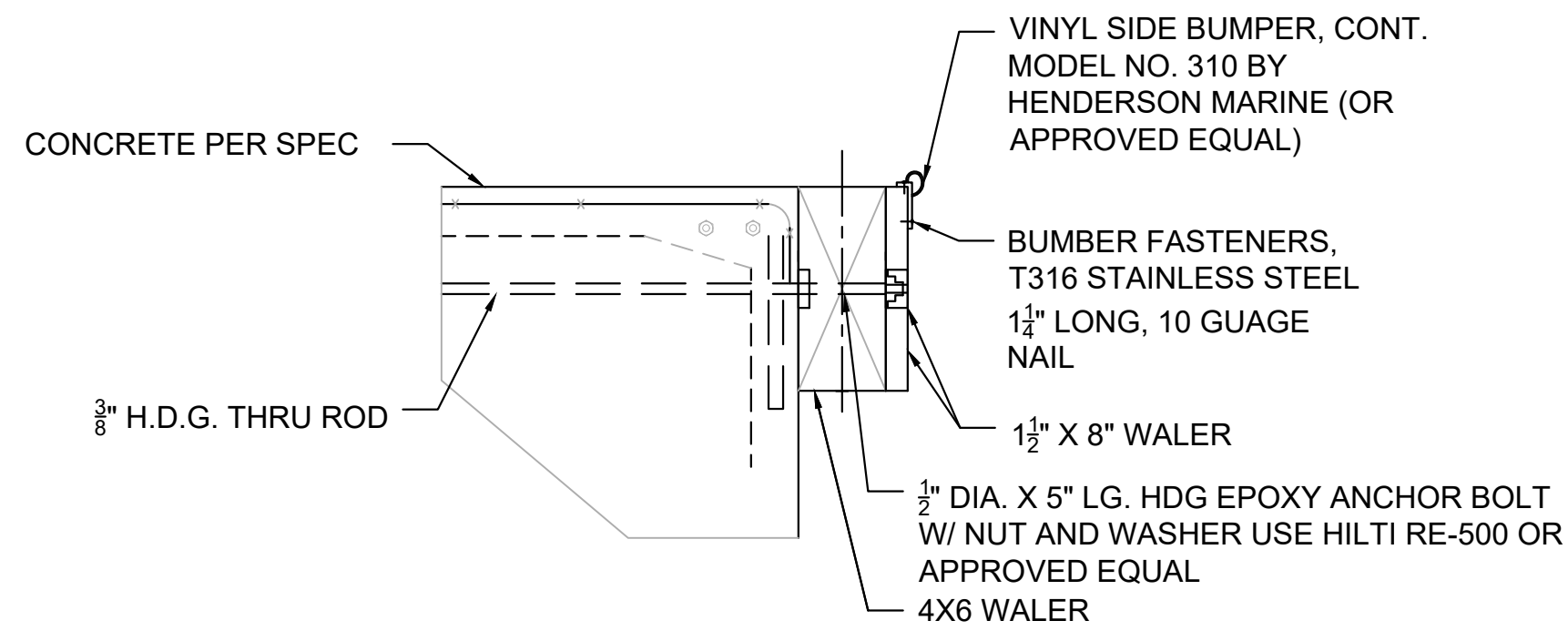
SEWER PUMPOUT CONNECTION

2
P1 S5
DETAIL: SEWER PUMPOUT & FIRE EXTINGUISHER CABINET CONNECTION
SCALE: N.T.S.



FIRE EXTINGUISHER CABINET CONNECTION

NOTE: CONTRACTOR SHALL
PROVIDE SHOP DRAWINGS AND
ENGINEERING CALCULATIONS TO
BE APPROVED BY THE ENGINEER.



3
S2 S5
DETAIL: WALER/BUMPER/CLEAT
SCALE N.T.S.

NOTES:

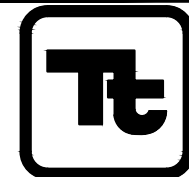
- INSTALL PILE GUIDES ON VERTICAL PILES
- VINYL SIDE BUMPER, CONT. MODEL NO. 310 BY HENDERSON MARINE (OR APPROVED EQUAL)
- BUMPER FASTENERS SHALL BE T316 SS AND COUNTER BORED.
- ALL LUMBER SHALL BE DOUGLAS FIR-LARCH TREATED IN ACCORDANCE WITH THE SPECIFICATIONS
- VINYL CORNER BUMPER, MODEL NO. 304 B HENDERSON MARINE (OR APPORVED EQUAL) (NOT SHOWN)
- INSTALL CLEATS AT 10' O.C. SPACING

NOTES:

1. COORDINATE EXACT LOCATIONS OF ANCHOR BOLTS WITH DOCK MANUFACTURER.
2. BASE SUPPORT DETAIL FOR CONCRETE DOCK TO BE SUBMITTED BY DOCK MANUFACTURER FOR APPROVAL BY ENGINEER.
3. MANUFACTURER SHALL IDENTIFY BASE SUPPORT ON FLOATING DOCK TO AVOID CONFUSION DURING DOCK INSTALLATION.



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ALAMITOS BAY, LONG BEACH, CA 90803
REPLACEMENT DETAILS (2)

S-5

JOB NO.

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18 OF 28

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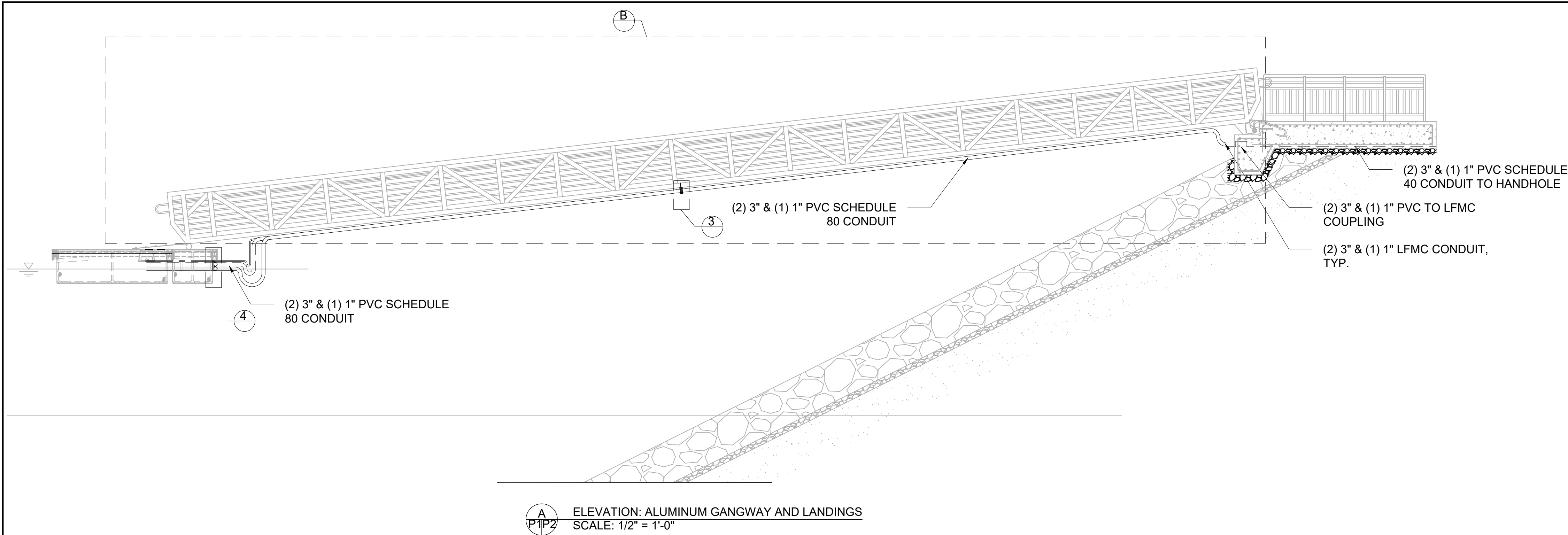
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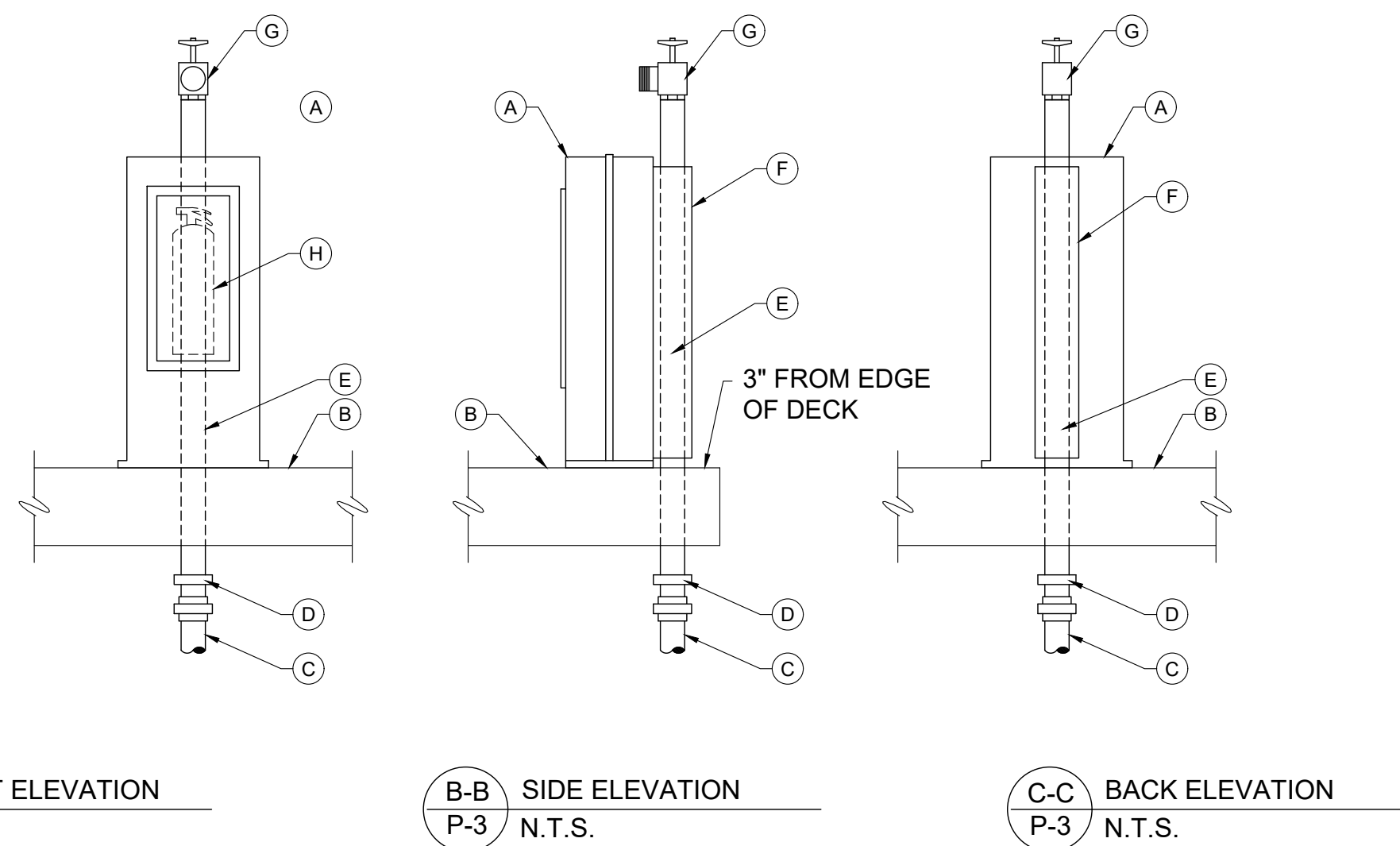
DESCRIPTION

REF.





MATERIAL SCHEDULE			
QTY	ITEM	DESCRIPTION	SPECIFICATION
2	①	4" DIA. WIRE REINFORCED NITRILE JACKET HOSE*	TITAN: SW-303, 4" LENGTH AS REQUIRED OR EQ.
4	②	4" DIA. ANSI 150# INT. EXPANDED SS 316 FLANGE CONNECTION*	ANCO: CIP400SS16 4" HOSE, AISI 316
2	③	5/8" DIA. BOLT KIT FOR 4" ANSI FLANGE, SS 316*	AISI 316
8	④	3" DIA. SEWER, 2" DIA. WATER NITRILE/NEOPRENE JACKET HOSE	TITAN: 22-107 HOSE LENGTH AS REQUIRED, OR EQUAL
8	⑤	3" DIA. SEWER, 2" DIA. WATER ANSI 150# INT. EXPAN. SS 316 FLANGE CONNECTION	ANCO: CIP200SS16 HOSE, AISI 316
8	⑥	58" DIA. BOLT KIT FOR 3" ANSI FLANGE, SS 316	AISI 316
1	⑦	3" DIA. SS PIPE SPOOL WITH (2) 3" ANSI SS SOLDER FLANGES, 90 DEGREE SS MxF SOLDER CUP ON ONE END*	ANCO : CIP400SS16, 4" HOSE, AISI 316
2	⑧	2" DIA. PVC SCH 40 PIPE SPOOL WITH (2) 2" PVC GLUE FLANGES, 90 DEGREE GLUE FITTING ON EACH END	ANSI 4 BOLT FLANGE, ANSI SCHEDULE 40
AR	⑨	10" X 2" X" UNISTRUT, 316 SS*	AISI GD 316
AR	⑩	UNISTRUT SS CLAMPS SIZING SHOWN IN DETAIL 3, 316 SS*	AISI GD 316
AR	⑪	3/8" DIA X 2-1/2" HX HD BOLT, NUT AND LOCK, 316 SS*	AISI GD 316
AR	⑫	2-1/2" DIA SEWER, 2" DIA WATER PVC, (2) SOCKET WELD FLANGE FITTINGS. (1) 90 DEGREE SOCKET WELD FITTING	(1) PVC PIPE: ASTM D 1785 SCHEDULE 40, COMPOUND PVC 1120 OR 1220, (2) SOCKET SOLVENT WELD FITTINGS. FITTIN ASTM D2466, (3) SOLVENT: ASTM D 2564



- NOTES:
- (A) FIRE EXTINGUISHER CABINET - FIBERGLASS RED

(B) WHALER

(C) 3" O.D. FIRE LINE*

(D) STAINLESS STEEL UNION*

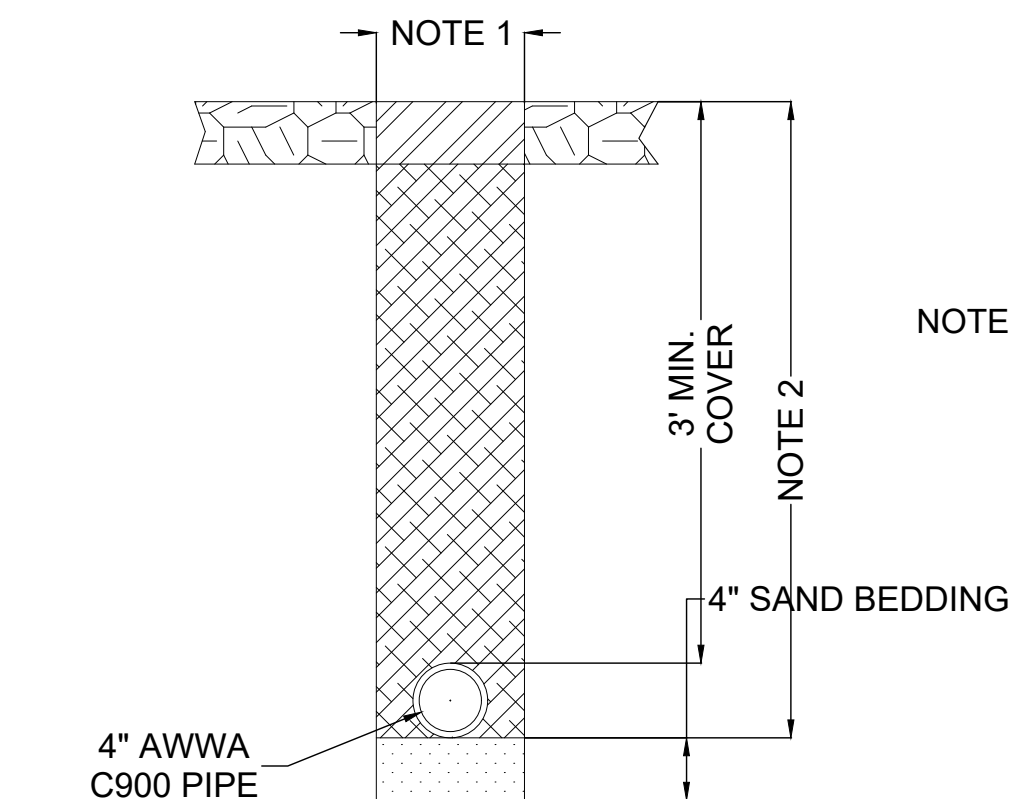
(E) STAINLESS STEEL 3" PIPE*

(F) STANDPIPE MOUNTING BRACKET

(G) HOSE VALVE, 3"

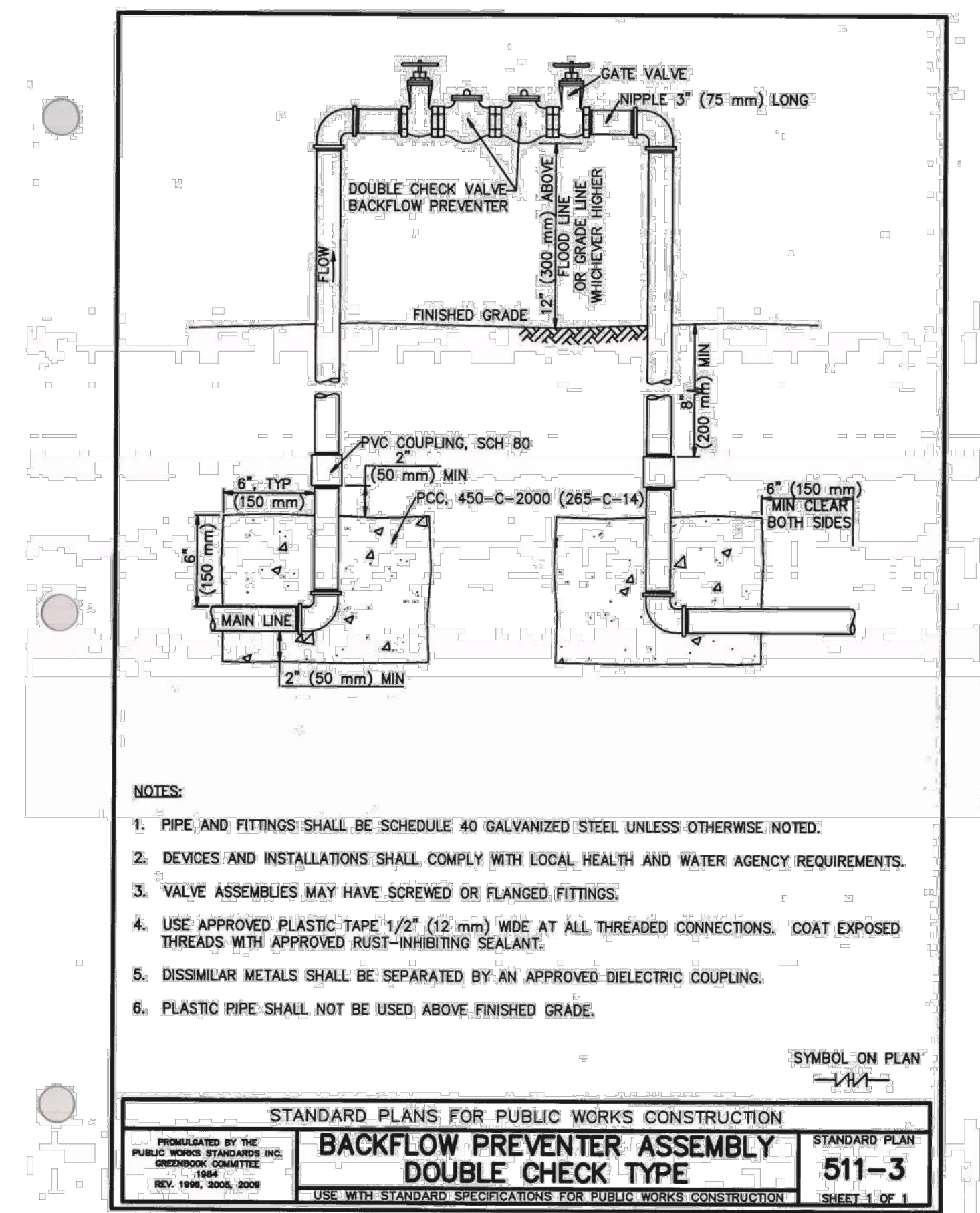
(H) FIRE EXTINGUISHER, 10#, CLASS A,B,C
MAKE: POTTER ROEMER
MODEL: 1995 FIRE EXTINGUISHER CABINET (RED)

①
P2P3
DETAIL: FIRE EXTINGUISHER CABINET
N.T.S.



- NOTES:
- CUT, TRENCH, BACKFILL AND RESTORE SURFACE TO MATCH EXISTING.
 - CLEAN NATIVE BACKFILL, COMPACTED TO TOP OF PIPE, ~90% COMPACTION STANDARD PROCTOR ASSHTO T-99. (MOISTURE DENSITY RELATIONS OF SOIL USING 5.5 # RAMMER AND 12" DROP).
 - PIPING INSTALLATION SHALL MEET CITY, CBC 2022 AND NFPA GUIDELINES. CONSULT CITY AND AVAILABLE RECORD DRAWINGS AND VERIFY THE AS BUILT CONDITIONS AT SITE TO AVOID INTERFERING WITH THE EXISTING UNDERGROUND UTILITY LINES AND STRUCTURES. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) PRIOR TO ANY EXCAVATION WORK.

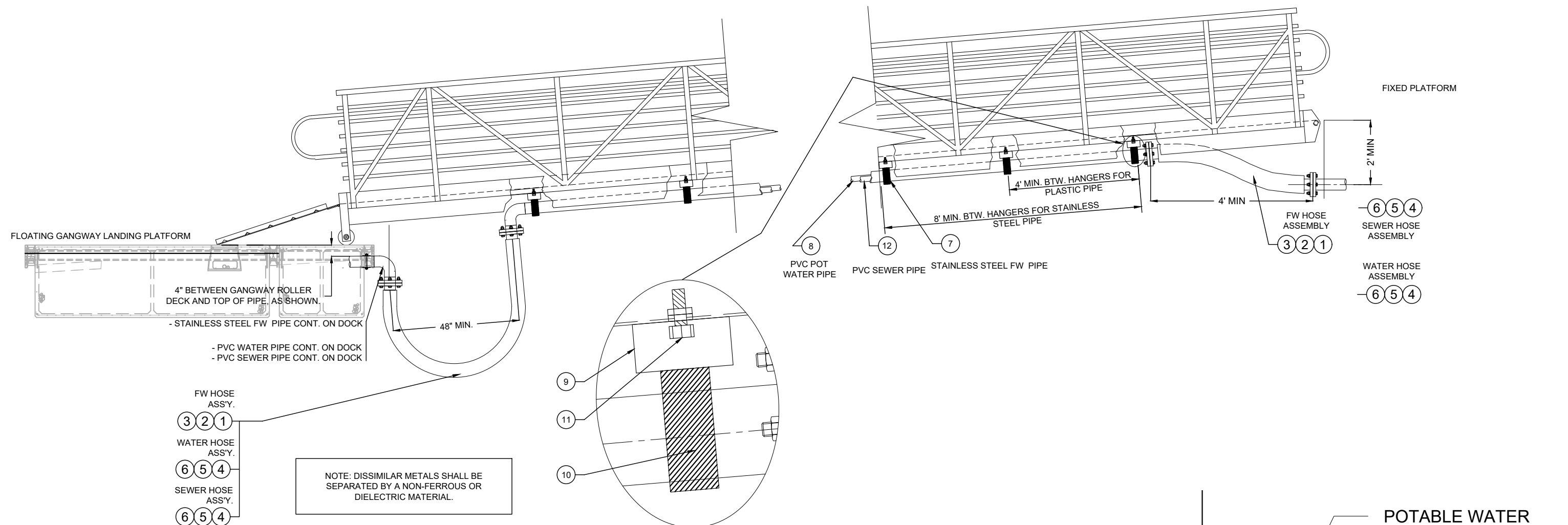
②
P2P3
DETAIL: TYPICAL UNDERGROUND PIPE BURIAL
N.T.S.



- NOTES:
- PIPE AND FITTINGS SHALL BE SCHEDULE 40 GALVANIZED STEEL UNLESS OTHERWISE NOTED.
 - DEVICES AND INSTALLATIONS SHALL COMPLY WITH LOCAL HEALTH AND WATER AGENCY REQUIREMENTS.
 - VALVE ASSEMBLIES MAY HAVE SCREWED OR FLANGED FITTINGS.
 - USE APPROVED PLASTIC TAPE 1/2" (12 mm) WIDE AT ALL THREADED CONNECTIONS. COAT EXPOSED THREADS WITH APPROVED RUST-INHIBITING SEALANT.
 - DISSIMILAR METALS SHALL BE SEPARATED BY AN APPROVED DIELECTRIC COUPLING.
 - PLASTIC PIPE SHALL NOT BE USED ABOVE FINISHED GRADE.

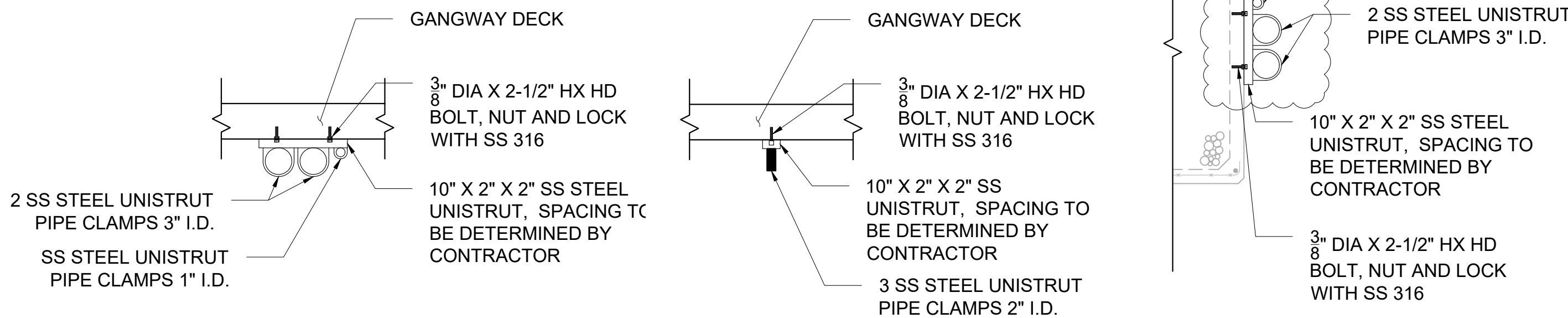
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
**BACKFLOW PREVENTER ASSEMBLY
DOUBLE CHECK TYPE**
511-3
SHEET 1 OF 1

⑤
P1P2
DETAIL: BFP
N.T.S.



NOTE: REFER TO MATERIALS LIST FOR ITEM NUMBERS

① ⑥ ⑦ ⑧
P2P3
ELEVATION: GANGWAY PIPING
SCALE: 1/2" = 1'-0"



③
P2P2
DETAIL: GANGWAY HANGING UTILITY
SCALE: 1"=1'

ELEVATION VIEW: GANGWAY HANGING UTILITY
SCALE: 1"=1'

④
P2P2
DETAIL: FLOATING DOCK UTILITY SUPPORT
SCALE: 1"=1'



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BERTH 1 AND 2 DOCK REPLACEMENT PROJECT
ALAMITOS BAY, LONG BEACH, CA 90803
PLUMBING DETAILS (1)

P-2

JOB NO.

NO. R-

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C.H.

R.J.H.

R.J.H.

R.J.H.

AS-BUILT:
REF.

REVISIONS
DATE
SHEET

APPROVAL

DESCRIPTION



SEE DWG P-1 FOR NUMBER PIPE CONNECTIONS
AT PIPE UTILITY RACK



- 1.5" X 1/2" SS ANCHORS (2).
COORDINATE PLACEMENT WITH
FLOAT MANUFACTURER.

NOTE:
CONNECT RACK TO WALER.
CONTRACTOR SHALL SUBMIT UTILITY LANDING
CONNECTION PLAN SHOWING RACK CONNECTION
DETAILS, FLEXIBLE HOSE CONNECTION DETAILS,
AND HARD PIPING DETAILS.

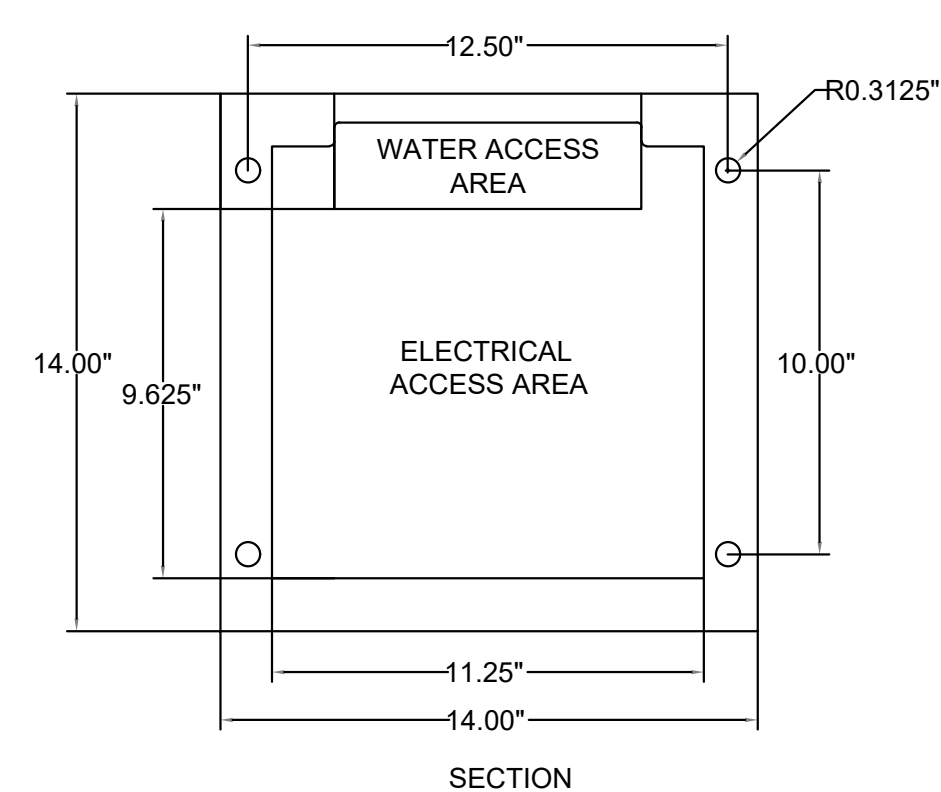


PIPE SUPPORT CHANNEL NOTES:

1. LOCATE PIPE SUPPORT ABOVE FREEBOARD
2. COORDINATE WITH PRECAST FLOAT MANUFACTURER ON DRILLING FOR ADHESIVE ANCHOR INSTALLATION



FIRE DEPARTMENT CONNECTION NOTES	
1.	FIRE DEPARTMENT CONNECTION SHOWN FOR REFERENCE ONLY. FIRE PROTECTION ELEMENTS DETAILED IN SEPARATE SET.

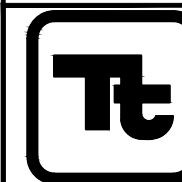


NOTES:

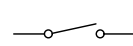
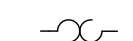
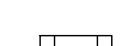
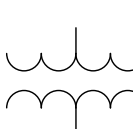
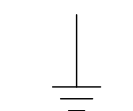
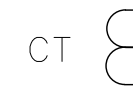
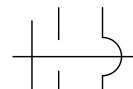
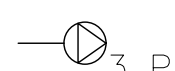
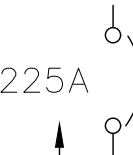
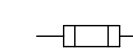
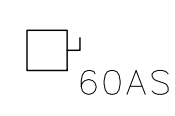
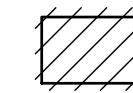
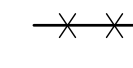
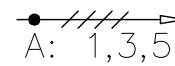
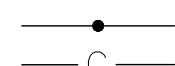
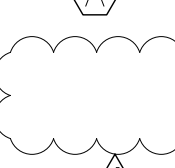
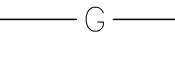
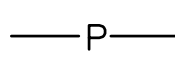
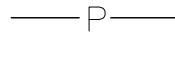
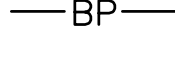
1. ATTACH CEILING LUG TO CONCRETE PIER W/FOUR 3/8" O S S THREADED ADHESIVE ANCHORS. 3-3/8" MIN EMBEDMENT DEPTH. INSTALL ADHESIVE ANCHOR PER MANUFACTURERS RECOMMENDATIONS.
2. ADHESIVE ANCHORS SHALL BE HILTI HY2000 OR APPROVED EQUAL.
3. CONTRACTOR SHALL COORDINATE W/CLB TO COORDINATE DEPUTY INSPECTION ON ADHESIVE ANCHORS.



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ELECTRICAL LEGEND				GENERAL NOTES		ABBREVIATIONS	
ELECTRICAL SYMBOLS FOR DIAGRAMS		ELECTRICAL SYMBOLS FOR PLANS		1. ELECTRICAL INSTALLATION SHALL COMPLY WITH THE LATEST ADOPTED NEC AND OTHER LOCAL CODES AND ORDINANCES. 2. ALL PRODUCTS AND MATERIALS SHALL BE NEW AND UL LISTED FOR THE INTENDED PURPOSE. 3. ALL ELECTRICAL SHALL BE PERFORMED IN A NEAT AND WORKMAN LIKE MANNER. 4. ALL CONDUIT SHALL BE 3/4" MINIMUM, PVC COATED RMC OR CONCRETE ENCASED PVC, UNLESS OTHERWISE NOTED. 5. SOUTHERN CALIFORNIA EDISON (SCE) NOTIFICATION - SCE IS REQUIRED TO BE ONSITE TO SUPERVISE INSTALLATION ON THE NEW WEATHERHEAD. CONTRACTOR TO NOTIFY SCE 72 HOURS PRIOR TO THE PLANNED INSTALLATION OF THE WEATHERHEAD AT (562) 489 - 8672. SCE PROJECT NUMBER 3860259.		A ADJ AF AFF AS AWG BLDG BLK BOT CAT CHAN CL CLG CMU CO COL CONC CONT CONTR DIA DIM DN DWG EA EGC EL ELEC EQUIP ETC EV EXH EXST EXT FIN FLR G GA GALV GC GEC HORIZ HGT HP HR IMC INT KV KVA MAX MCB MECH MFR MH MIN MISC MTD MV NEC N NIC OC OD OFCI PR PNL PH RECPT RM RMC SCL SPEC STD STRUC TEMP UNO V W W/ WO XFMR AMPERE ADJUSTABLE AMP FUSE ABOVE FINISH FLOOR AMP SWITCH AMERICAN WIRE GAUGE BUILDING BLACK BOTTOM CATEGORY CHANNEL CENTER LINE CEILING CONCRETE MASONRY UNIT CONDUIT ONLY COLUMN CONCRETE CONTINUOUS CONTRACTOR DIAMETER DIMENSION DOWN DRAWING EACH EQUIPMENT GROUNDING CONDUCTOR ELEVATION ELECTRIC EQUIPMENT ETCETERA ELECTRIC VEHICLE EXHAUST EXISTING EXTERIOR FINISH FLOOR GROUND GAGE GALVANIZED GENERAL CONTRACTOR GROUNDING ELECTRODE CONDCUTOR HORIZONTAL HEIGHT HORSEPOWER HOUR INTERMEDIATE METAL CONDUIT INTERIOR KILO-VOLT KILO-VOLT AMPERE MAXIMUM MAIN CIRCUIT BREAKER MECHANICAL MANUFACTURER MANHOLE MINIMUM, MINUTE MISCELLANEOUS MOUNTED MEDIUM VOLTAGE NATIONAL ELECTRICAL CODE NEUTRAL NOT IN CONTRACT ON CENTER OUTSIDE DIAMETER OWNER FURNISHED CONTRACTOR INSTALLED PAIR PANEL PHASE RECEPTACLE ROOM RIDIG METAL CONDUIT SEATTLE CITY LIGHT SPECIFICATION STANDARD STRUCTURAL TEMPORARY UNLESS NOTED OTHERWISE VOLT WIRE, WATT WITH WITHOUT TRANSFORMER	
ONE-LINE	DESCRIPTION	SYMBOL	DESCRIPTION				
	DISCONNECT SWITCH HEAVY DUTY HP RATED		EXISTING EQUIPMENT				
	OVERLOAD HEATER		NEW EQUIPMENT				
	FUSE WITH BLOWN FUSE INDICATION DEVICE. DRAW OUT TYPE DOOR MOUNTED BOLTED CONNECTIONS		OWNER FURNISHED CONTRACTOR INSTALLED EQUIPMENT				
	TRANSFORMER (SIZE AND RATING AS SHOWN ON DRAWING)		FUTURE PHASE EQUIPMENT				
	CONNECTION TO GROUND		FUTURE PHASE WIRING				
	CURRENT TRANSFORMER		DUPLEX RECEPTACLE GROUNDING TYPE, A-1:PANEL A, CIRCUIT #1				
	WIRES NOT CONNECTED		SPECIAL PURPOSE RECEPTACLE 3 PHASE USE AS NOTED ON PLAN, NUMBER INDICATES AMPERES				
	WIRES CONNECTED		DOUBLE DUPLEX (FOURPLEX) RECEPTACLE				
	CIRCUIT BREAKER (RATING AND NUMBER OF POLES AS INDICATED), MCP-MOTOR CIRCUIT PROTECTOR, THER MAG-THERMAL AND MAGNETIC TRIP		SINGLE POLE SWITCH, LOWER CASE LETTER IDENTIFIES SWITCH				
	CIRCUIT BREAKER RATING		THREE WAY SWITCH, LOWER CASE LETTER IDENTIFIES SWITCH				
	CARTRIDGE FUSE AND FUSE HOLDER		JUNCTION BOX				
	ELECTRICAL PANEL		FUSED DISCONNECT SWITCH, OR ENCLOSED CIRCUIT BREAKER DISCONNECT SWITCH, 60A SWITCH, 50A FUSE				
	MOTOR CONNECTION		NON-FUSED DISCONNECT SWITCH, 60A SWITCH				
	EXISTING EQUIPMENT TO BE REMOVED		480Y/277V PANEL				
	EXISTING CONDUIT AND WIRE TO BE REMOVED		208Y/120V PANEL				
	BURIED CONDUIT		CONDUIT BENT DOWN OR AWAY				
			CONDUIT BENT UP OR TOWARD				
			HOME RUN 4 CONDUCTORS, PANEL A, CIRCUITS 1, 3, 5 WITH GROUND				
			GROUND WIRE				
			ADJACENT TO SYMBOL INDICATES WEATHER PROOF				
			UTILITY METER				
			KEY NOTE				
			REVISION CLOUD				
			REVISION DELTA				
			GROUND GRID SYSTEM				
			GROUND ROD (PART OF GROUND GRID SYSTEM)				
			GROUND CONNECTION				
			POWER - EXISTING				
			OVERHEAD POWER - NEW				
			BURIED POWER - EXISTING				
			BURIED POWER - NEW				

DESIGNED BY: A.M.		DRAWN BY: C.H.		DESIGN CHECK BY: A.J.B.		DRAFTING CHECK BY: R.J.H.		REVISIONS		APPROVAL		REF.
								No.	DATE	SHEET		
BERTH 1 AND 2 DOCK REPLACEMENT PROJECT										PAGE		FIELD BOOK
ALAMITOS BAY, LONG BEACH, CA 90803												
ELECTRICAL SYMBOLS AND ABBREVIATIONS												
E - 1										JOB NO.		
										NO. R-		
										SHEET		
										23 OF 28		
										DRAWING NO.		



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NO. R-
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ELECTRICAL CONSTRUCTION NOTES

- 1

DEMOLISH EXISTING STREET LIGHT
- 2

EXISTING ELECTRICAL DISTRIBUTION TO REMAIN IN PLACE
- 3

PROVIDE NEMA 4X STAINLESS STEEL MAIN DISCONNECT SWITCH. INSTALL IT ON 1-5/8" CHANNEL STRUT
- 4

PROVIDE PANELBOARDS IN NEMA 4X STAINLESS STEEL ENCLOSURE AND SUPPORT THEM USING CHANNEL SUPPORT SYSTEM. SEE SHEET E-6 FOR SINGLE LINE DIAGRAM AND PANEL SCHEDULE.
- 5

PROVIDE POLE LIGHT PER LIGHTING FIXTURE SCHEDULE. SEE SHEET E-5, DTL. 4 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING DETAILS.
- 6

PROVIDE LED ROPE LIGHTING ON EACH SIDE OF THE GANGWAY. HANG LIGHTING FROM THE LOWER STRUCTURAL MEMBER, SAME BRIGHTNESS AS PER LIGHT STANDARDS.
- 7

PROVIDE AND INSTALL A 100A GTX SUPPER YACHT UNIT POWER SUBSTATION. MARINA ELECTRICAL EQUIPMENT. INC OR APPROVED EQUAL
- 8

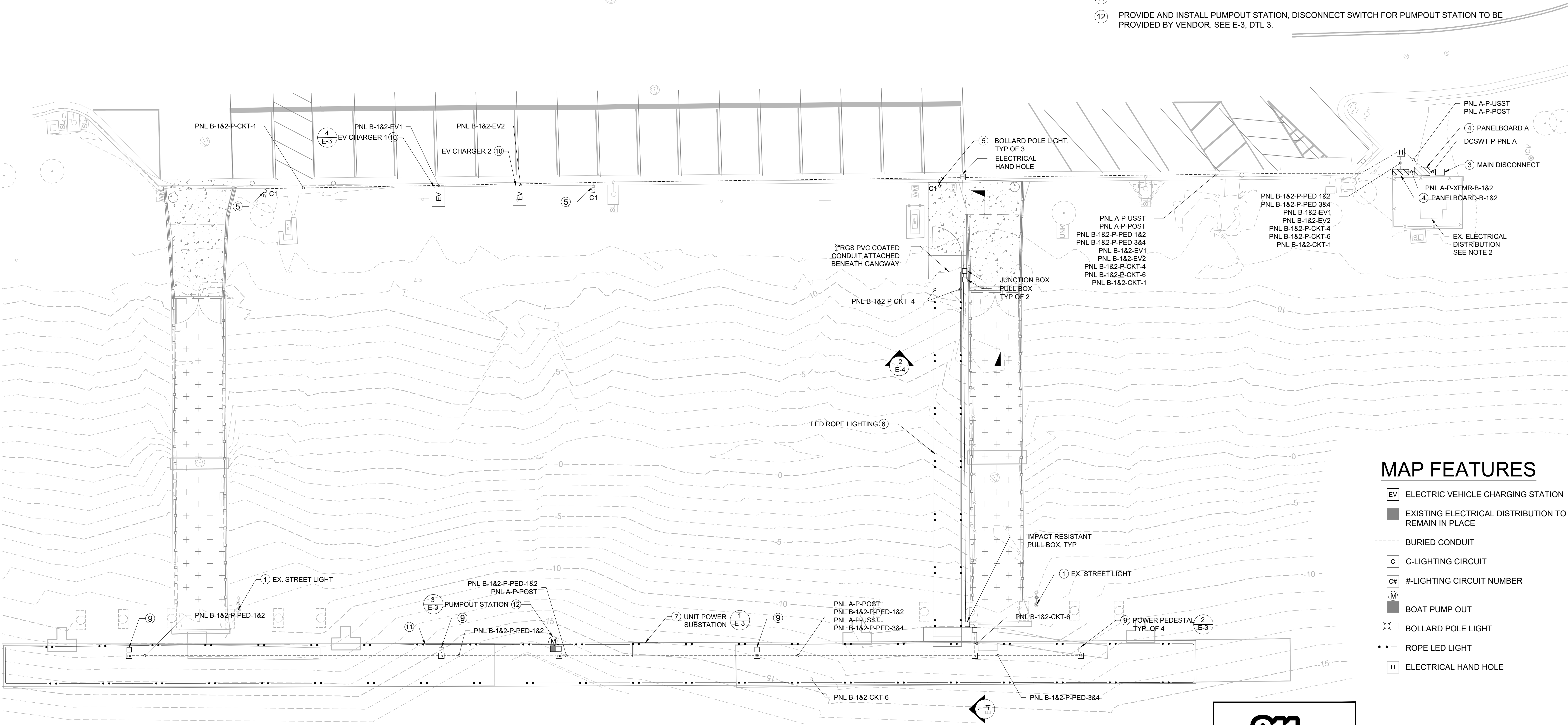
SEE CONDUIT AND WIRE SCHEDULE ON SHEET E-6 FOR CONDUIT AND CONDUCTOR SIZES.
- 9

PROVIDE AND INSTALL POWER PEDESTAL. SEE SHT E-3, DTL 2.
- 10

PROVIDE AND INSTALL EV CHARGERS (2). SEE SHT E-3, DTL 4.
- 11

PROVIDE LED ROPE LIGHTING ON EACH SIDE OF THE DOCK.
- 12

PROVIDE AND INSTALL PUMPOUT STATION, DISCONNECT SWITCH FOR PUMPOUT STATION TO BE PROVIDED BY VENDOR. SEE E-3, DTL 3.



PLAN VIEW - ELECTRICAL

MAP FEATURES

- EV

ELECTRIC VEHICLE CHARGING STATION
- EXISTING ELECTRICAL DISTRIBUTION TO REMAIN IN PLACE
- BURIED CONDUIT
- C

C-LIGHTING CIRCUIT
- C#

#-LIGHTING CIRCUIT NUMBER
- M

BOAT PUMP OUT
- BOLLARD POLE LIGHT
- ROPE LED LIGHT
- H

ELECTRICAL HAND HOLE

811

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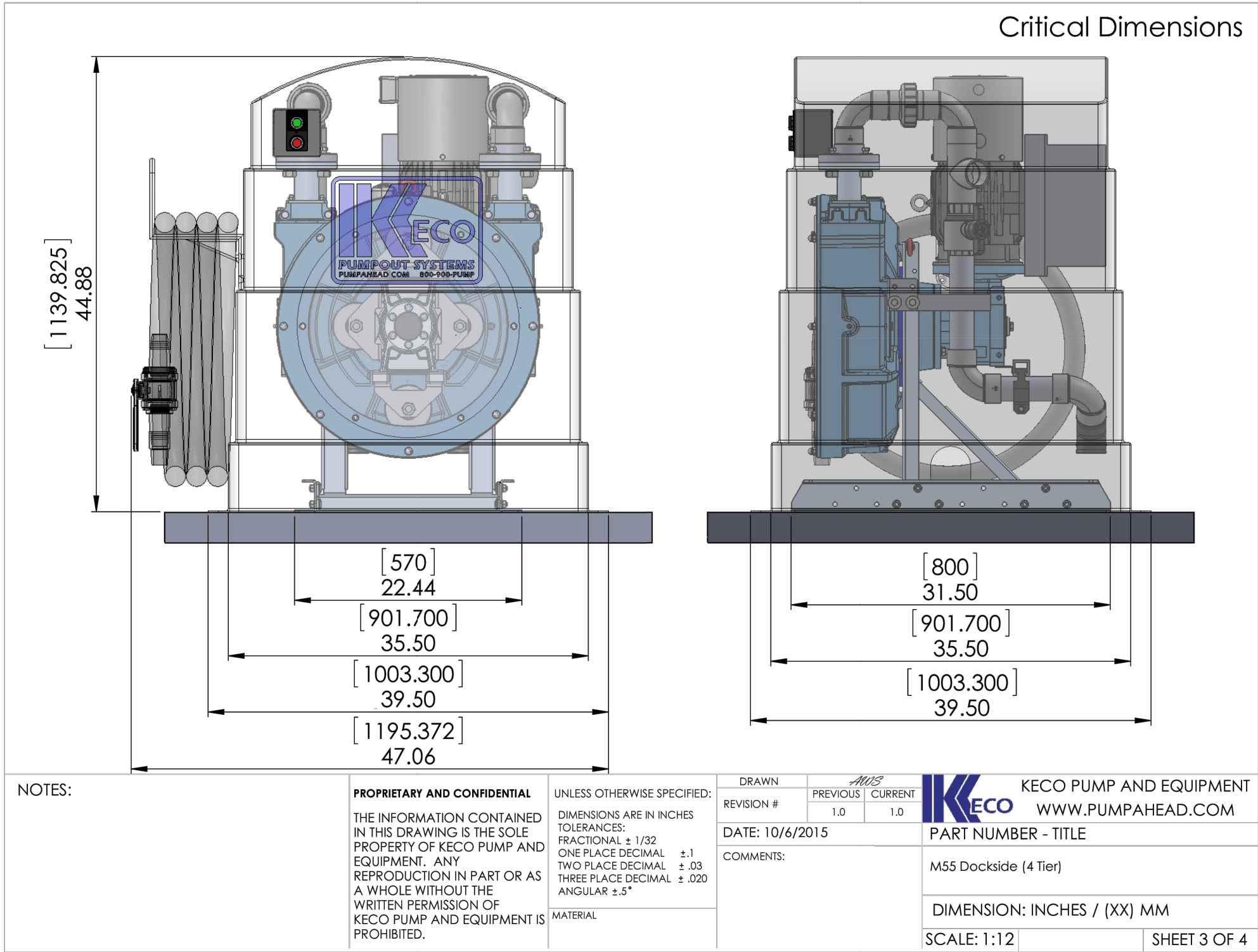


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BERTH 1 AND 2 DOCK REPLACEMENT PROJECT
ALAMITOS BAY, LONG BEACH, CA 90803
ELECTRIC PLAN

JOB NO.	E-2
NO. R-	
SHEET	24 OF 28
DRAWING NO.	

DESIGNED BY:		DRAWN BY:		DESIGN CHECK BY:		DRAFTING CHECK BY:	
A.M.		C.H.		A.J.B.		R.J.H.	
APPROVAL		SHEET		REF.		AS-BUILT:	
DESCRIPTION		DATE		NO.		REVISIONS	

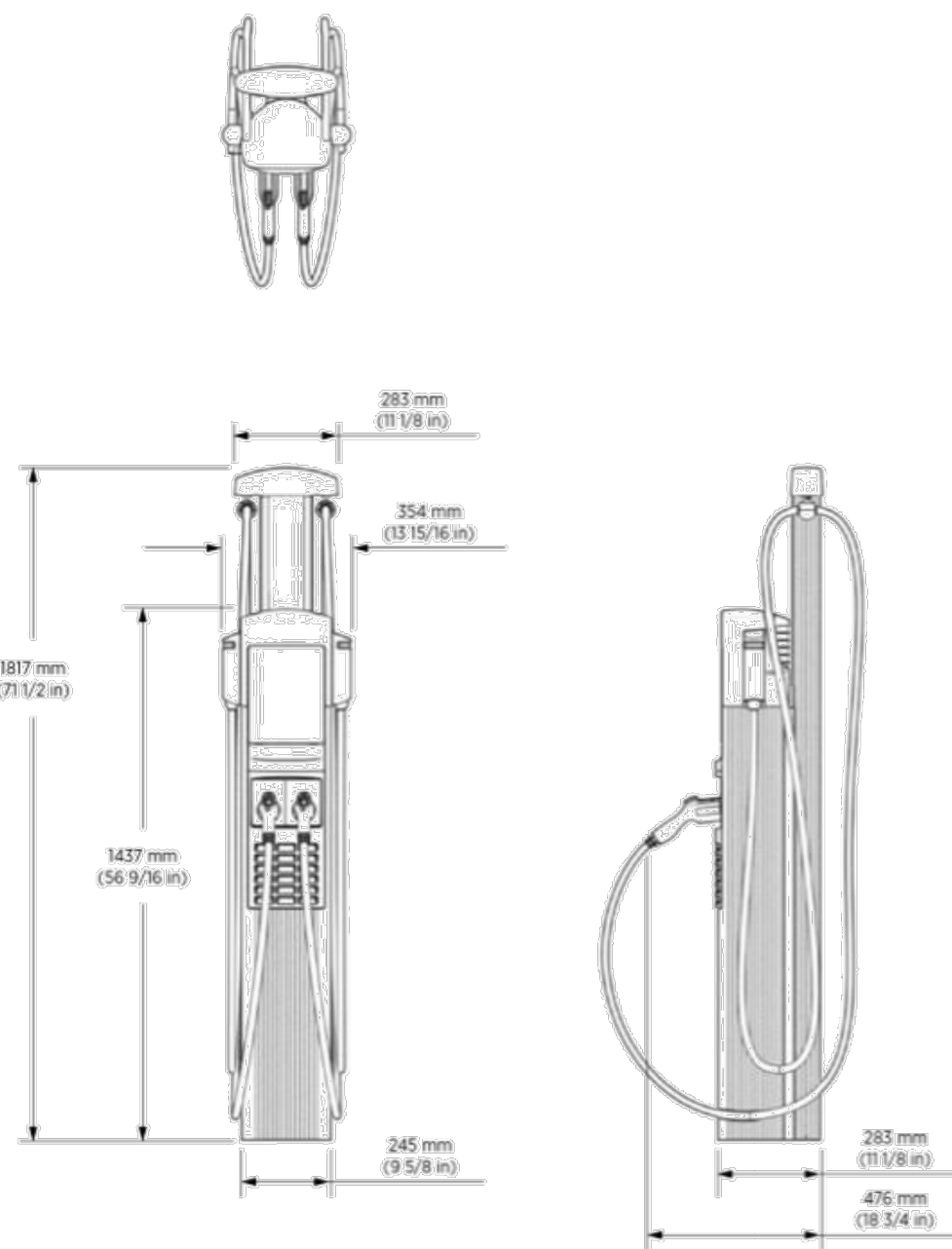


3 PUMPOUT STATION DETAILS
E-2 E-3 SCALE N.T.S.

- NOTES:
1. KECO MODEL NUMBER #M55 - 5 HP, OR APPROVED EQUAL
 2. VOLUME: 55 GPM
 3. DRY SUCTION LIFT - 29 FT

Architectural Drawings and Dimensions

Pedestal Mount



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6

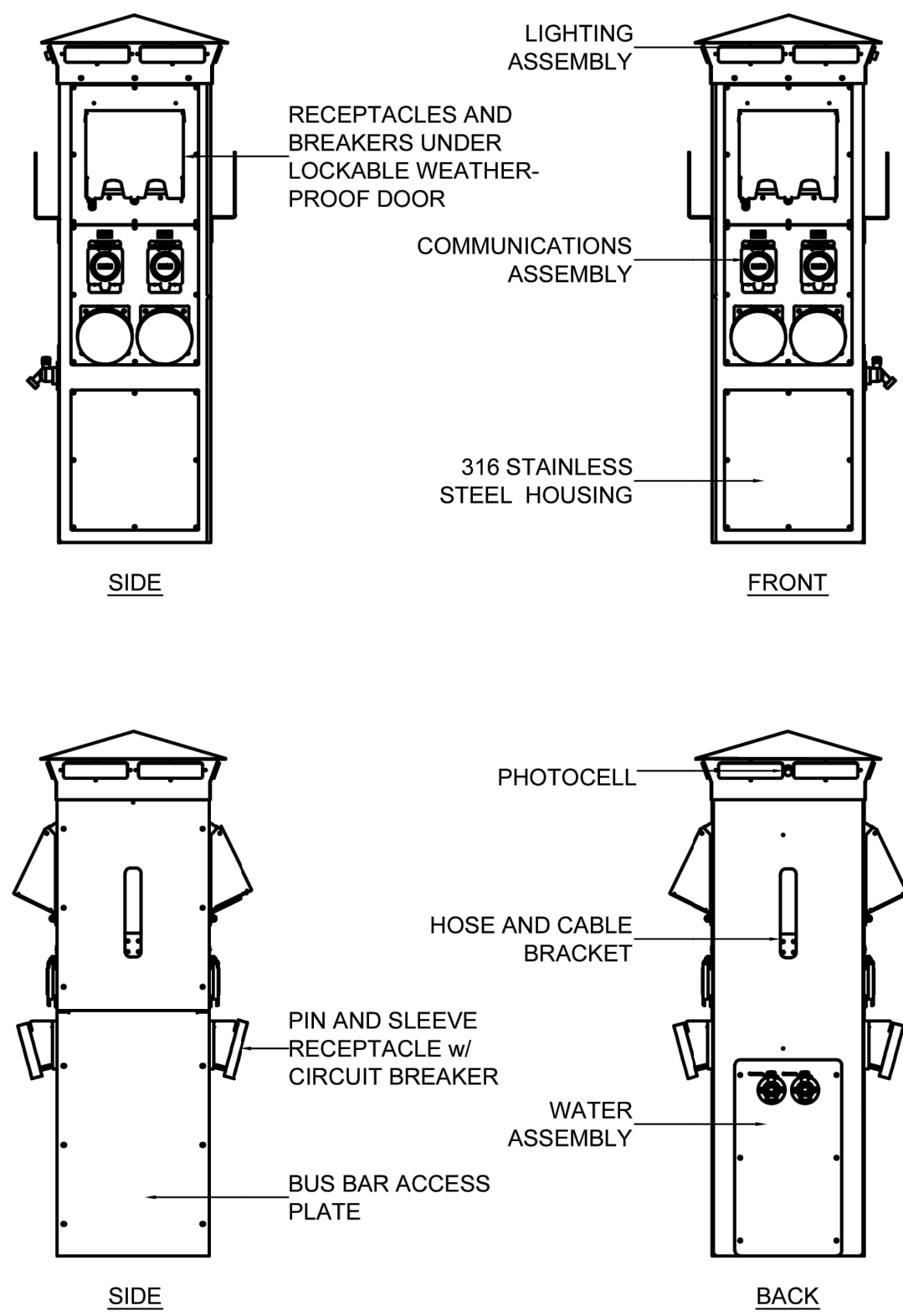
4 EV CHARGER DETAILS
E-2 E-3 SCALE N.T.S.

- NOTES:
1. CHARGE POINT MODE CT4000 OR APPROVED EQUAL
 2. PEDESTAL MOUNT
 3. CONNECTOR/PORT TYPE: SAE J1772
 4. ELECTRICAL OUTPUT: UP TO 7.2kW (30A) PER PORT
 5. CONNECTIVITY: CELLULAR 4G LTE

Admiral-SS Power Pedestal - Specifications

Marina Power and Lighting Equipment

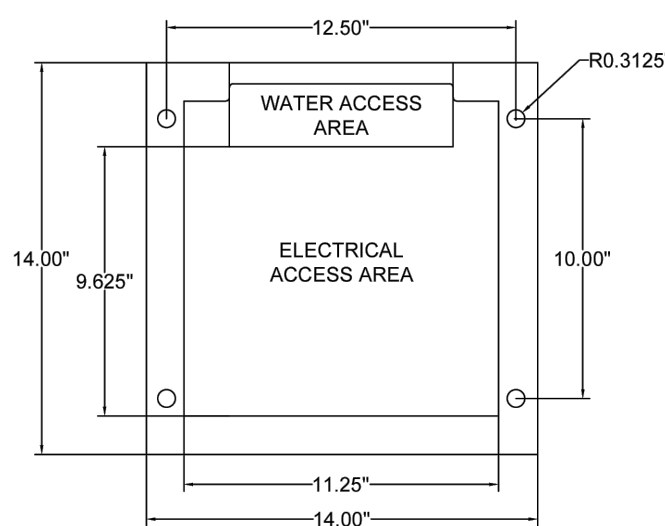
Product Features



www.marinaapower.com

1-800-723-8009

Admiral-SS - Product Specifications

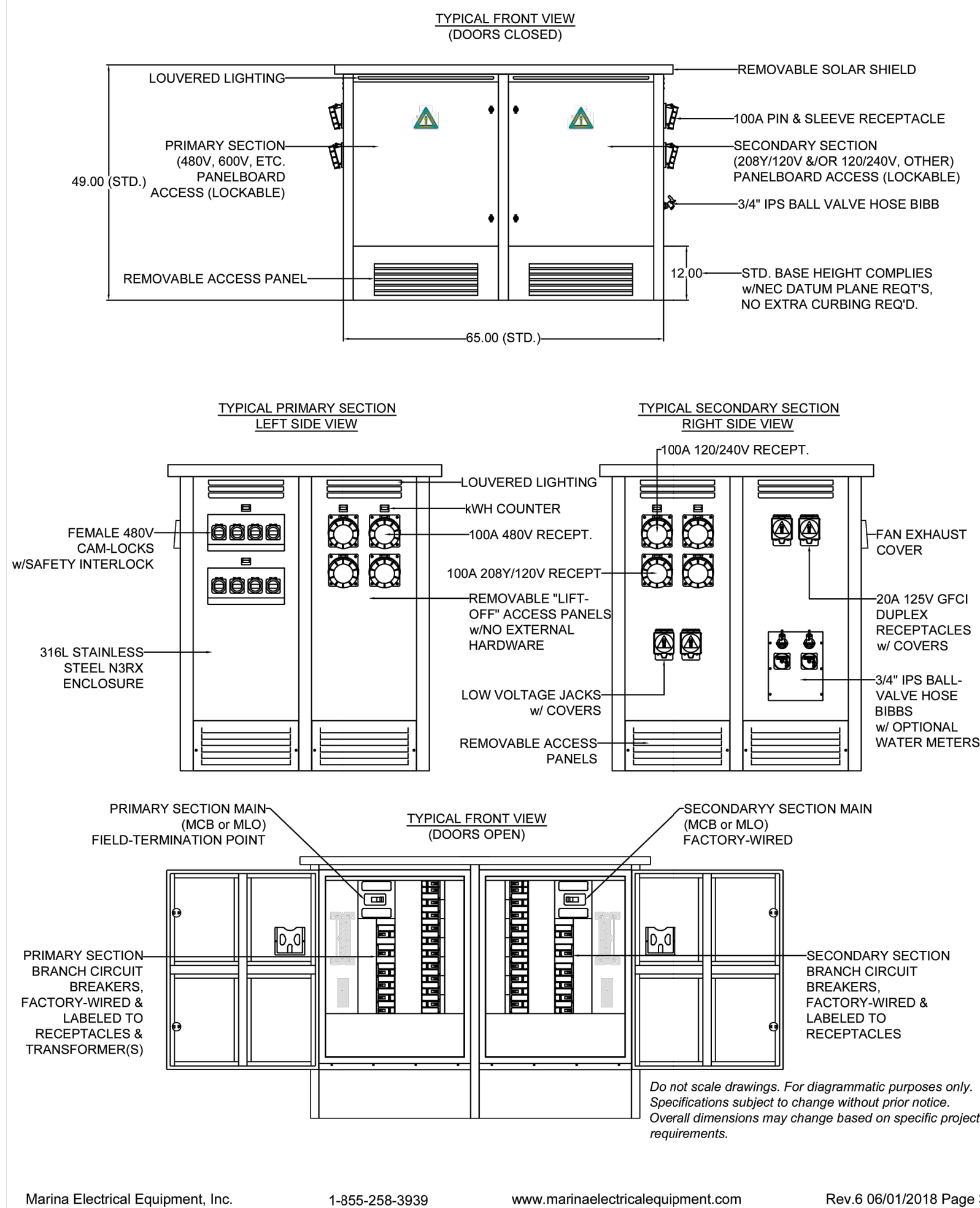


BASE DIMENSIONS-SINGLE FEED

2 POWER PEDESTAL DETAILS
E-2 E-3 SCALE N.T.S.

- NOTES:
1. DUAL 50 A RECEPTACLES W/ BREAKERS OR DISCONNECT SWITCH
 2. (2) 120 V DUPLEX RECEPTACLES
 3. HOSE BIB
 4. LIGHTING ASSEMBLY WITH PHOTOCELL

General Specifications - GTX™ Super Yacht Unit Substation



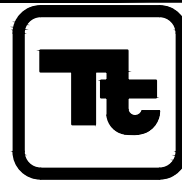
1 UNIT POWER SUBSTATION DETAILS
E-2 E-3 SCALE N.T.S.

SPECIAL NOTES

ELECTRICAL DATUM PLANE WILL BE 30 INCHES ABOVE THE WATER LEVEL. ELECTRICAL EQUIPMENT SUCH AS POWER PEDESTAL, POWER SUBSTATION, RECEPTACLES, AND SIMILAR ITEMS SHALL BE INSTALLED AT LEAST 12 INCHES ABOVE THE DECK OF THE FLOATING DOCK, BUT NOT BELOW THE ELECTRICAL DATUM PLANE SPECIFIED ON SHEET E-4.



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JOB NO.

NO. R-

SHEET

25 of 28

DRAWING NO.

BERTH 1 AND 2 DOCK REPLACEMENT PROJECT
ALAMITOS BAY, LONG BEACH, CA 90803
UNIT POWER SUBSTATION DETAILS

E-3

JOB NO.

NO. R-

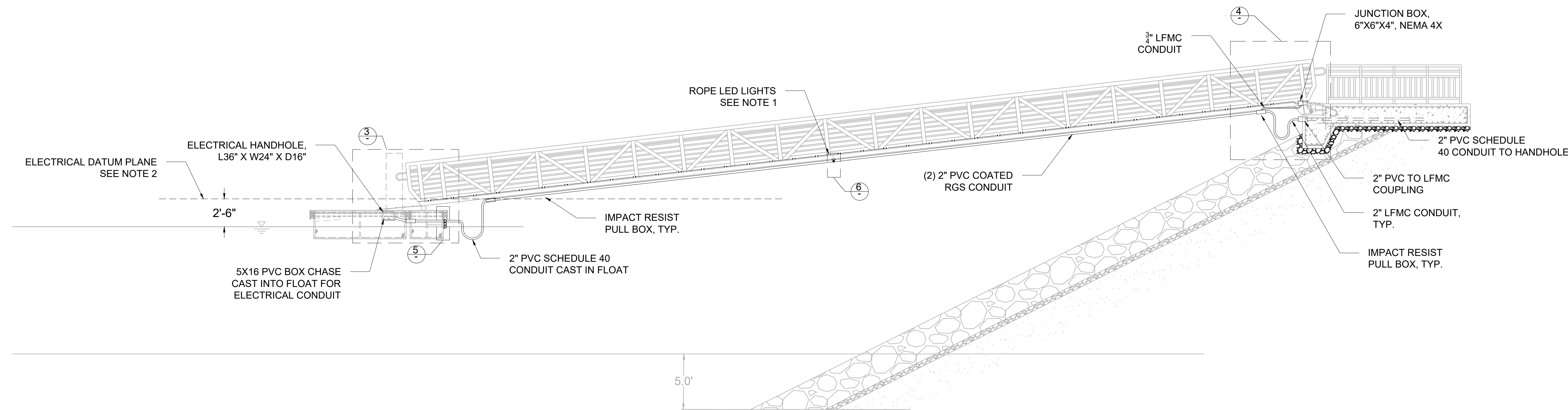
SHEET

25 of 28

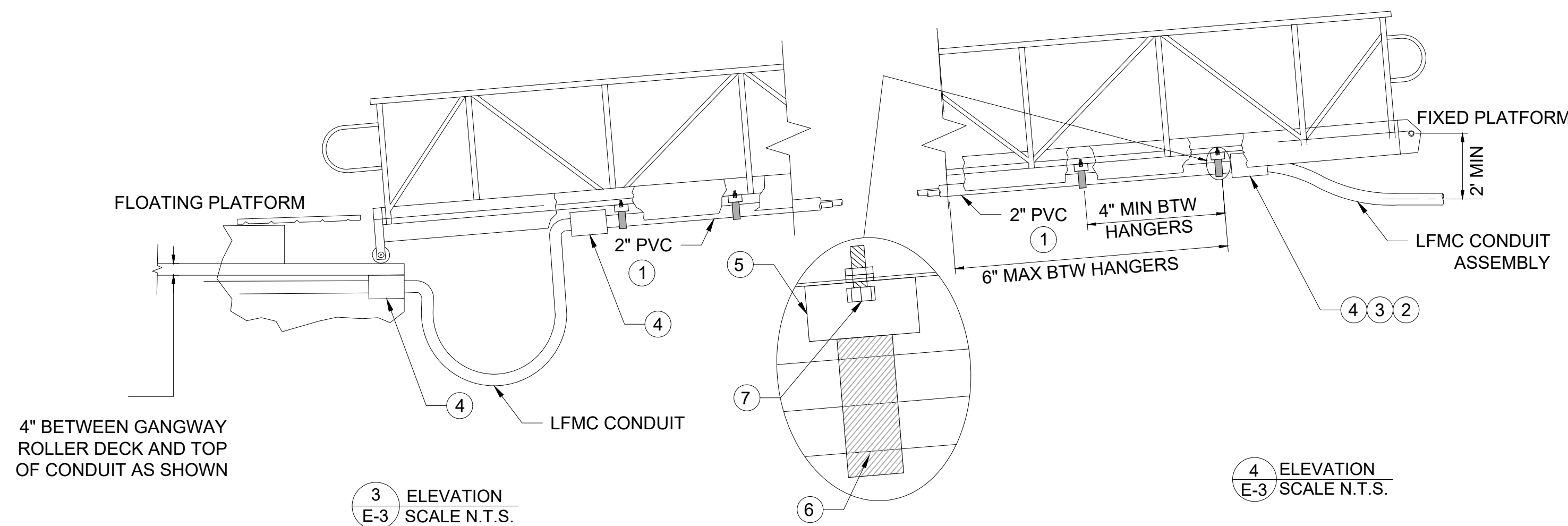
DRAWING NO.

NOTES

1. PROVIDE LED ROPE LIGHTING ON EACH SIDE OF THE GANGWAY. HANG LIGHTING FROM THE UPPER STRUCTURAL MEMBER. SAME BRIGHTNESS AS PER LIGHT STANDARDS
2. NEW ELECTRICAL SERVICES SHALL BE INSTALLED ON THE DECK AT MINIMUM OF 12" ABOVE THE ELECTRICAL DATUM PLANE.



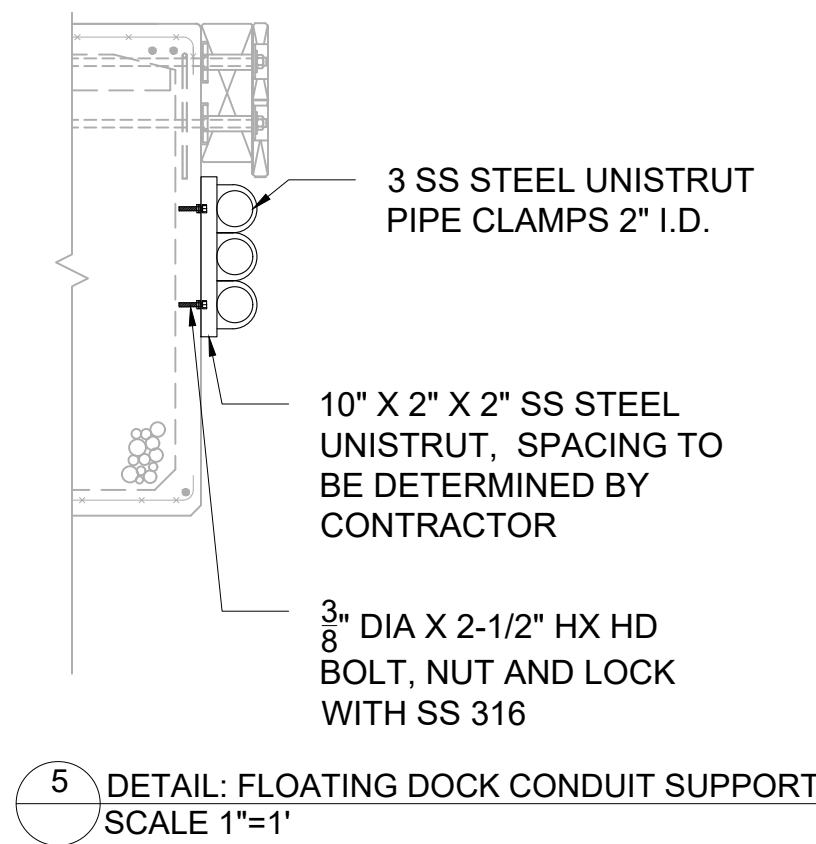
1 ELEVATION: ALUMINUM GANGWAY& LANDING
E-2 SCALE 1"=5'



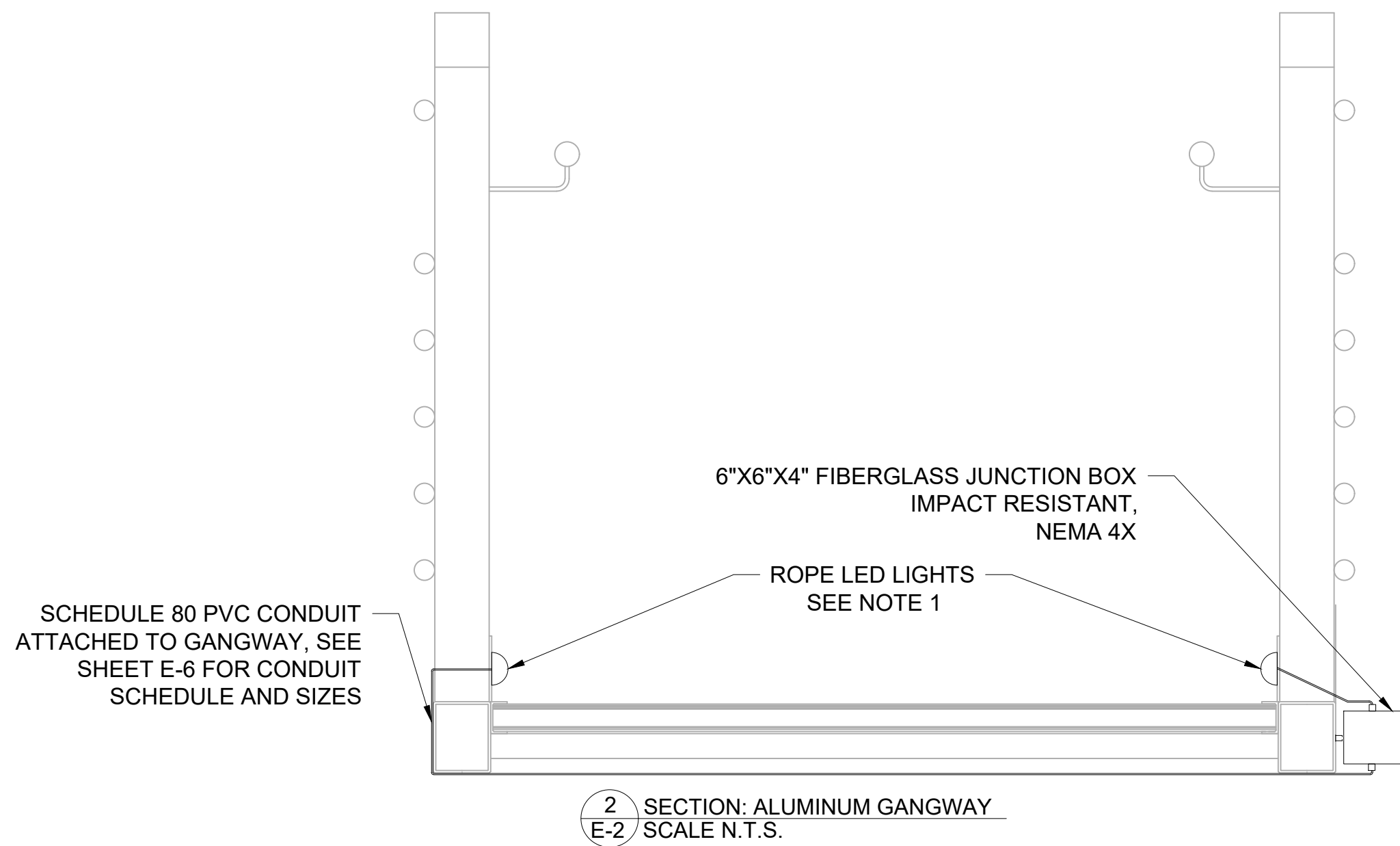
3 ELEVATION
E-3 SCALE N.T.S.

4 ELEVATION
E-3 SCALE N.T.S.

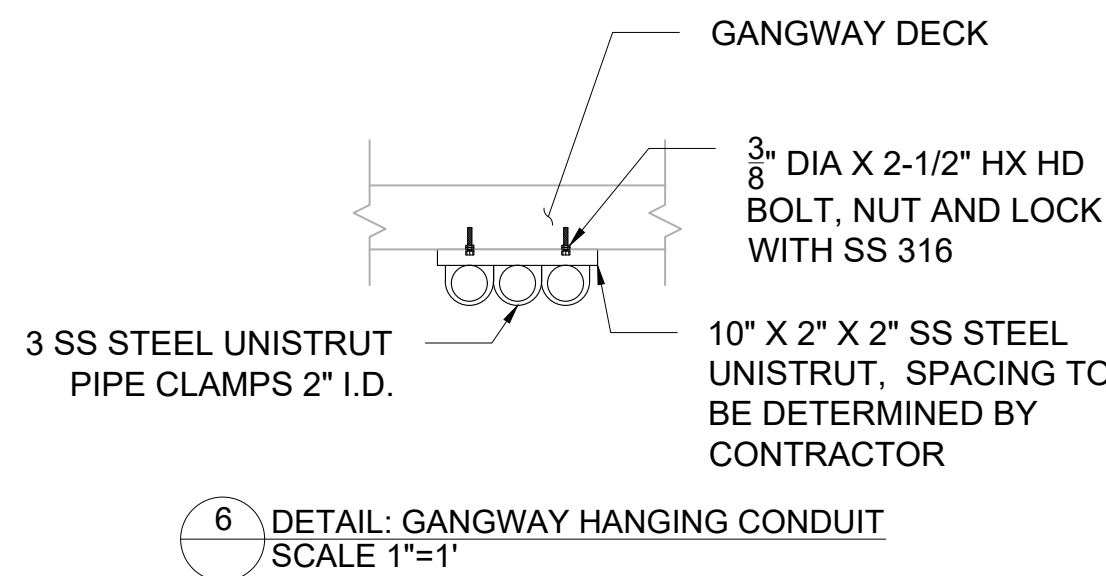
- NOTES:
- DISSIMILAR METALS SHALL BE SEPARATED BY A NON FERROUS OR DIELECTRIC MATERIAL



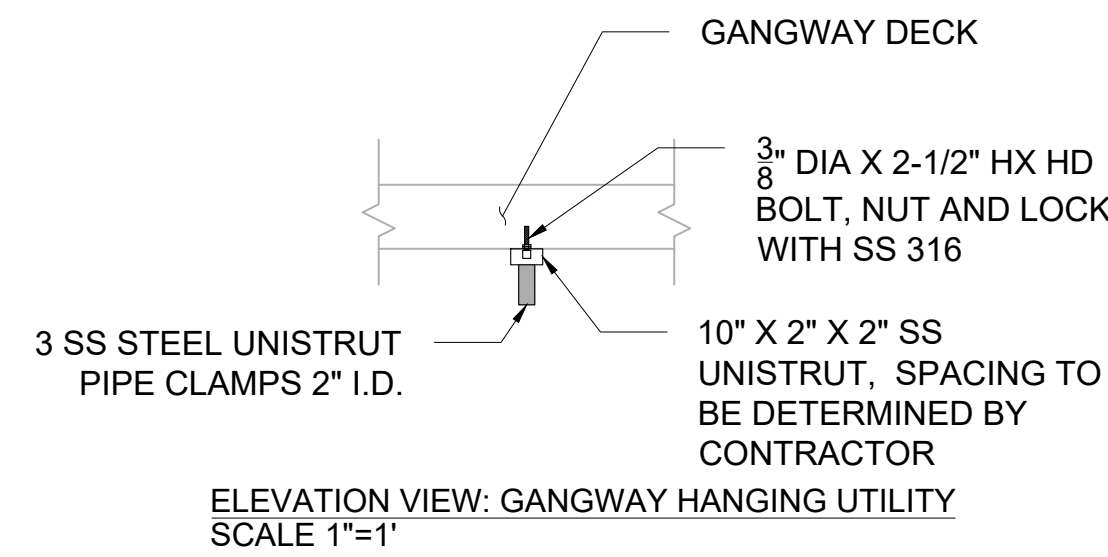
5 DETAIL: FLOATING DOCK CONDUIT SUPPORT
SCALE 1"=1'



2 SECTION: ALUMINUM GANGWAY
E-2 SCALE N.T.S.



6 DETAIL: GANGWAY HANGING CONDUIT
SCALE 1"=1'



ELEVATION VIEW: GANGWAY HANGING UTILITY
SCALE 1"=1'

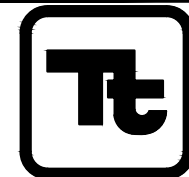
MATERIAL SCHEDULE			
QTY	ITEM	DESCRIPTION	SPECIFICATION
	1	2" PVC SCHEDULE 80 CONDUIT	TO CONFORM WITH NEC ARTICLE 352
	2	1" LIQUID TIGHT FLEXIBLE METAL CONDUIT	TO CONFORM WITH NEC ARTICLE 350
AR	3	WATER TIGHT CONNECTION	
AR	4	IMPACT RESISTANT PULL BOX	
AR	5	10" X 2" X 2" UNISTRUT, 316 SS	AISI GD 316
AR	6	UNISTRUT SS CLAMPS SIZING SHOWN IN DETAIL 6, 316 SS	AISI GD 316
AR	7	3/8" DIA X 2-1/2" HX HD BOLT, NUT AND LOCK WITH SS 316	AISI GD 316

BERTH 1 AND 2 DOCK REPLACEMENT PROJECT
ALAMITOS BAY, LONG BEACH, CA 90803
ELECTRIC DETAILS (1)

E-4	JOB NO.
	NO. R-
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	DRAWING NO.



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3 BOLLARD POLE LIGHT CONDUIT CONNECTION DETAIL
E-2 SCALE: N.T.S.



NOTES

- 1) PROVIDE THE LTG CONTACTOR BOX WITH BUILT-IN PHOTOCELL CONTROL, NEMA 4X TYPE. MOUNT THE BOX ADJACENT TO THE PNL B 1&2. SEE SCHEMATIC ON THIS SHEET.
- 2) PROVIDE GROUNDING RODS, 3/4" DIA, 10' L, COPPER CLAD STEEL. PROVIDE ADDITIONAL UNTIL SECURE UNDER 25-OHM.

EQUIPMENT NAME: Panelboard A													
LOCATION: Alamitos Bay Long Beach, CA													
FED FROM: Existing Distribution													
VOLTAGE: 480													
PHASE: 3													
HZ: 60													
ULWC1 Main Breaker: 250 AMPS													
Location	Service	Load	Units	Power Factor	Efficiency	Connected Load			Demand	Operating Load			Remarks
						Amps	KVA	KW		Amps	KVA	KW	
	Pump out station	5	HP	0.85	0.95	7.6	6.1	5.1	1.0	7.6	6.1	5.1	
	Unit Substation	75	KVA	0.85	0.95	90.2	75.0	63.8	1.0	90.2	75.0	63.8	
	45KVA XFMR	45	KVA	0.85	0.95	93.8	45.0	38.3	1.0	93.8	45.0	38.3	FEEDS 240/120V PANELBOARD B-1&2
	Subtotal:					191.6	159.3	135.4	1.00	191.6	159.3	135.4	
	25% Largest Motor					1.9				1.9			
	Total:					193.5	160.8	136.7		193.5	160.8	136.7	
	NEC 430.63 Calcs												
	highest OCPD:	125											
	sum of all other motors:	7.6											
	sum of other non-motor loads:	93.8											
	total:	226											
	OCPD size:	250											

LOAD SCHEDULE - PANELBOARD A
SCALE: N.T.S.

PANEL NO:	PNL- B-1&2				VOLTS: 120/240				65kAIC			
LOCATION:	SITE GENERAL 240/120V POWER				AMPS: 200				MCB			
SERVING:	XFMR-B-1&2				CONDUIT: 2" RMC							
FED FROM:					WIRE: #4/0-PH, #4/0 N							
CKT NO.	LOAD TYPE	LOAD DESCRIPTION	KW	BKR SIZE	BKR POLE	PH	BKR POLE	BKR SIZE	KW	LOAD DESCRIPTION	LOAD TYPE	CKT NO.
1	L	LIGHTING CIRCUIT (3 LIGHTS)	0.26	15	2	A	1	20	-	SPARE		2
3		SPARE	-	-	-	B	1	15	0.16	ROPE LED LIGHTS GANG	L	4
5	G	POWER PEDESTAL -1&2	6.00	70	2	A	1	15	0.32	ROPE LED LIGHTS	L	6
7	G		6.00			B	1	15	-	PHOTO CELL	L	8
9	G	POWER PEDESTAL -3&4	6.00	70	2	A	1	20	-	SPARE		10
11	G		6.00			B			4.00	EV CHARGER 1	G	12
13		SPARE	-	-	1	A	2	45	4.00			14
15		SPARE	-	-	1	B			4.00	EV CHARGER 2	G	16
17		SPARE	-	-	1	A	2	45	4.00			18
* ACTUAL LOAD UNKNOWN, LOAD ESTIMATED AT 85% BREAKER RATING												
KVA PHASE A:			12.26						8.32	20.58	TOTAL PHASE A	
KVA PHASE B:			12.00							20.16	TOTAL PHASE B	
TOTAL KVA:			24.26						16.48	40.74	KVA	
TOTAL CONNECTED LOAD:										169.74	AMPS	

LIGHTING AND POWER SCHEDULE - PNL B-1&2

SCALE: N.T.S.

CONDUIT AND WIRE SCHEDULE - POWER						
CABLE ID	ORIGIN	DESTINATION	CONDUCTORS	CONDUIT	VOLTAGE	REMARKS
UTL-P-DCSWT	EXISTING UTILITY POWER	MAIN DISCONNECT SWITCH	3C#4/0, 1C#6 AWG GND	2" RMC	480 VAC	
DCSWT-P-PNL A	MAIN DISCONNECT SWITCH	PANEL A	3C#4/0, 1C#6 AWG GND	2" RMC	480 VAC	
PNL A-P-XFMR-B-1&2	PANEL A	XFMR-B-1&2	2C#1, 1C#6 AWG GND	1-1/4" RMC	480 VAC	
XFMRB-P-PNL B-1&2	XFMR-B-1&2	LIGHTING AND POWER PANEL-PNL B-1&2	2C#4/0 AWG, 1C#4 AWG GND	2" RMC	240/120 VAC	
PNL A-P-USST	PANEL A	UNIT POWER SUBSTATION	4C#1, 1C#6 AWG GND	1-1/2" PVC	480 VAC	
PNL A-P-POST	PANEL A	PUMPOUT STATION	2C#12, 1C#12 AWG GND	3/4" PVC	480 VAC	DOCK
PNL B-1&2-P-PED 1&2	LIGHTING AND POWER PANEL-PNL B-1&2	POWER PEDESTALS 1 AND 2	2C#2, 1C#4 AWG GND	1-1/4" PVC	240/120 VAC	DOCK
PNL B-1&2-P-PED 3&4	LIGHTING AND POWER PANEL-PNL B-1&2	POWER PEDESTALS 3 AND 4	2C#2, 1C#4 AWG GND	1-1/4" PVC	240/120 VAC	DOCK
PNL B-1&2-P-CKT-1	LIGHTING AND POWER PANEL-PNL B-1&2	3 BOLLARD LIGHT FIXTURES	2C#12, 1C#12 AWG GND	3/4" PVC	120 VAC	WALKWAY LIGHTS
PNL B-1&2-P-CKT-4	LIGHTING AND POWER PANEL-PNL B-1&2	JUNCTION BOX AT GANGWAY	2C#12, 1C#12 AWG GND	3/4" PVC	120 VAC	ROPE LED LIGHTS
PNL B-1&2-P-CKT-6	LIGHTING AND POWER PANEL-PNL B-1&2	JUNCTION BOX AT DOCK	2C#12, 1C#12 AWG GND	3/4" PVC	120 VAC	DOCK ROPE LED LIGHTS
PNL B-1&2-EV1	LIGHTING AND POWER PANEL-PNL B-1&2	EV CHARGER 1	2C#10, 1C#12 AWG GND	3/4" PVC	240 VAC	
PNL B-1&2-EV2	LIGHTING AND POWER PANEL-PNL B-1&2	EV CHARGER 2	2C#10, 1C#12 AWG GND	3/4" PVC	240 VAC	

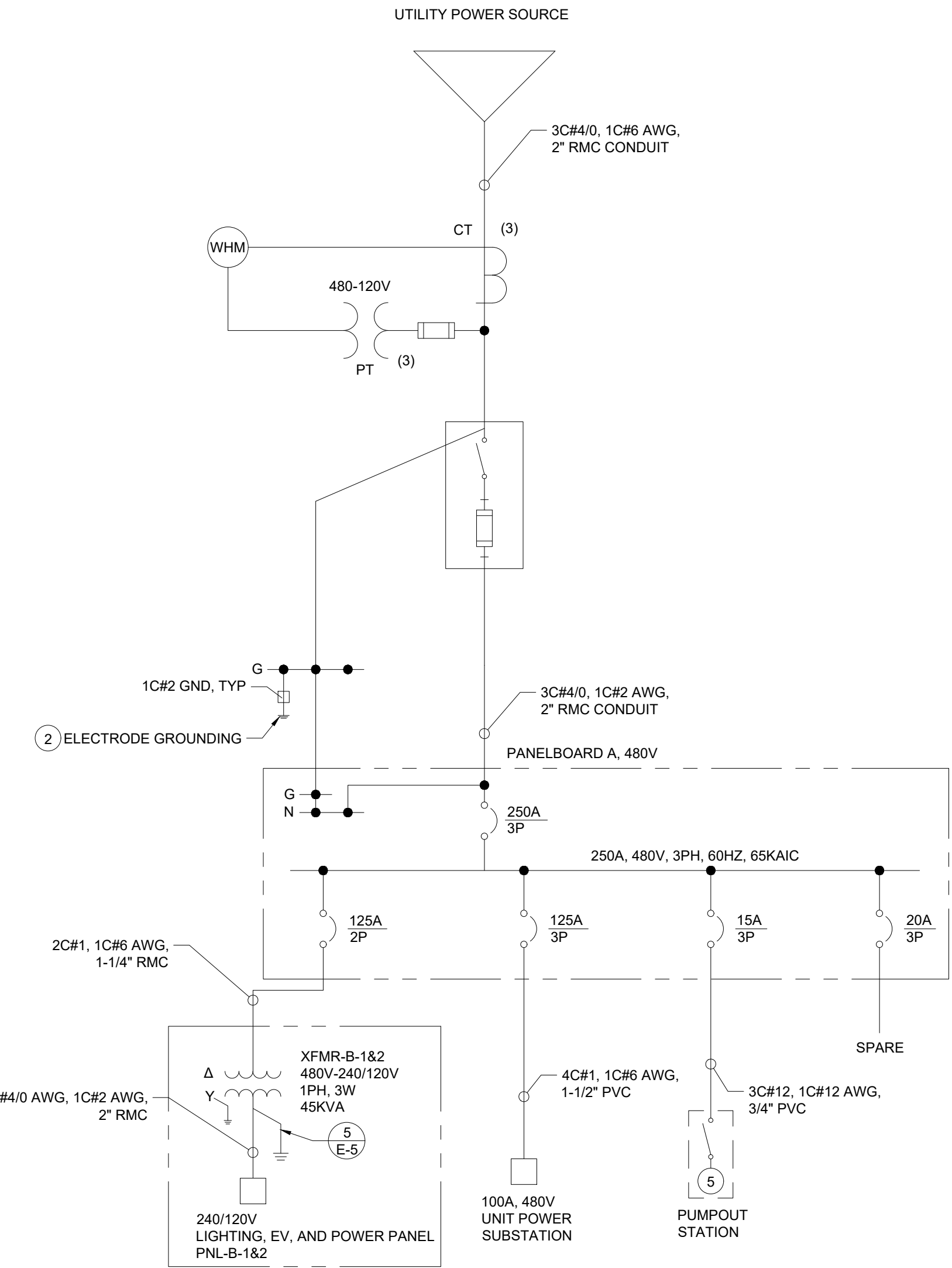
CONDUIT AND WIRE SCHEDULE - POWER

SCALE: N.T.S.

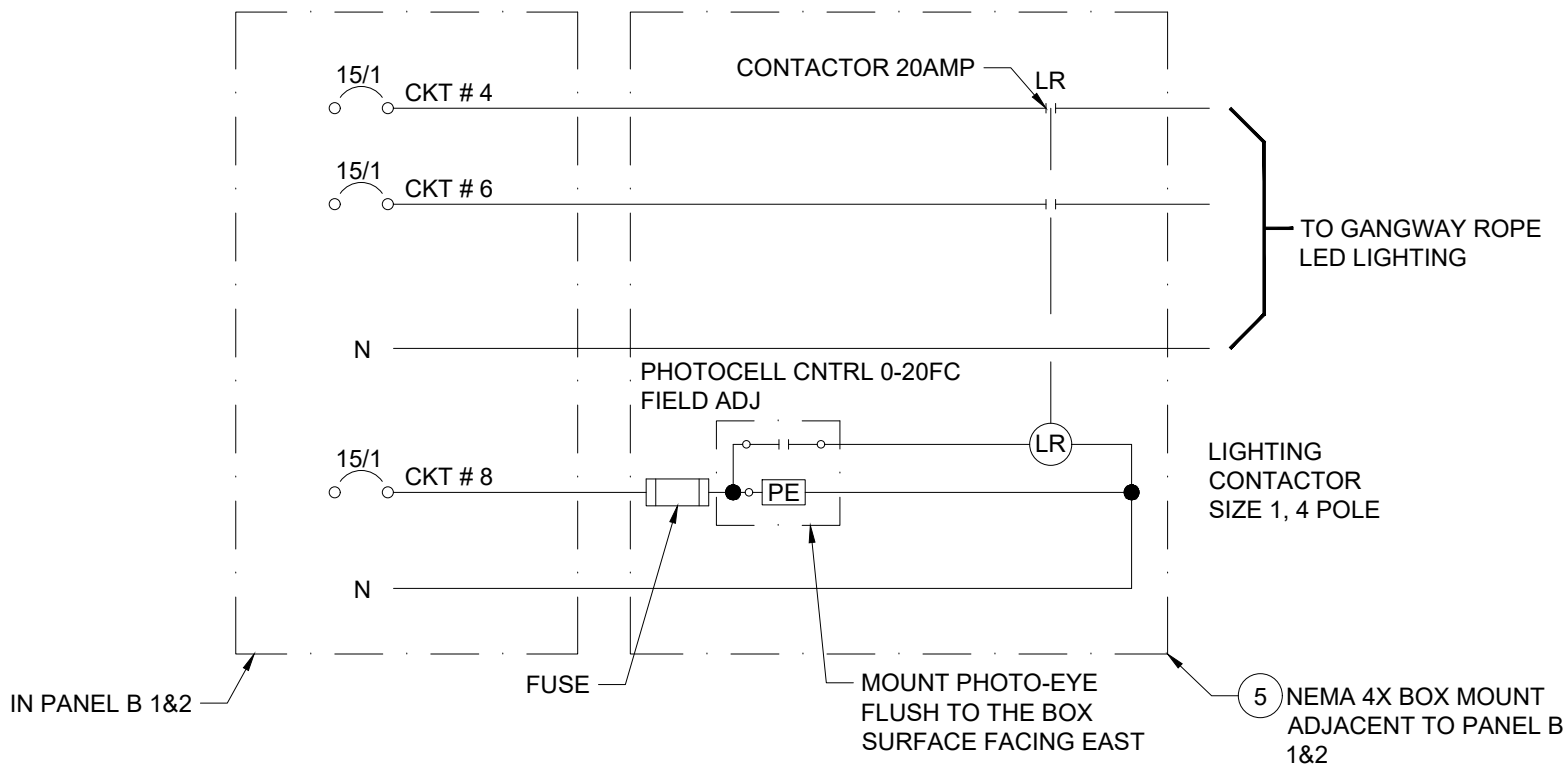
PANEL	PANEL "A"	UNIT POWER SUBSTATION	PANEL-B-1&2
VOLTAGE	480	480	240
PHASE	3	3	1
START SCC	42,000	40,176	1,768
FEEDER LENGTH (FT)	5	270	2
FEEDER SET PARALLEL	1	1	1
WIRE SIZE	4/0	1	4/0
WIRE CONSTANT	16,673	7,493	16,673
CALCULATION			
PHASE CONSTANT	2	2	1
F	0	5	-
M	1	0	1
AFC AT PANEL	40,176	6,461	3,003
PANEL AIC	65,000	22,000	10,000

FAULT CURRENT CALCULATIONS
SCALE: N.T.S.

XFMR	XFMR-B-1&2
PRI VOLT	480
SEC VOLT	240
PHASE	1
XFMR KVA	45
XFMR %Z	6
PRIMARY SCC	40,176
CALCULATION	
PHASE CONSTANT	1
F	26
M	0
AFC AT XFMR SEC	3,008



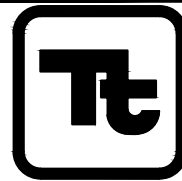
SINGLE LINE DIAGRAM
SCALE: N.T.S.



GANGWAY ROPE LED LIGHT CONTROL DIAGRAM
SCALE: N.T.S.



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