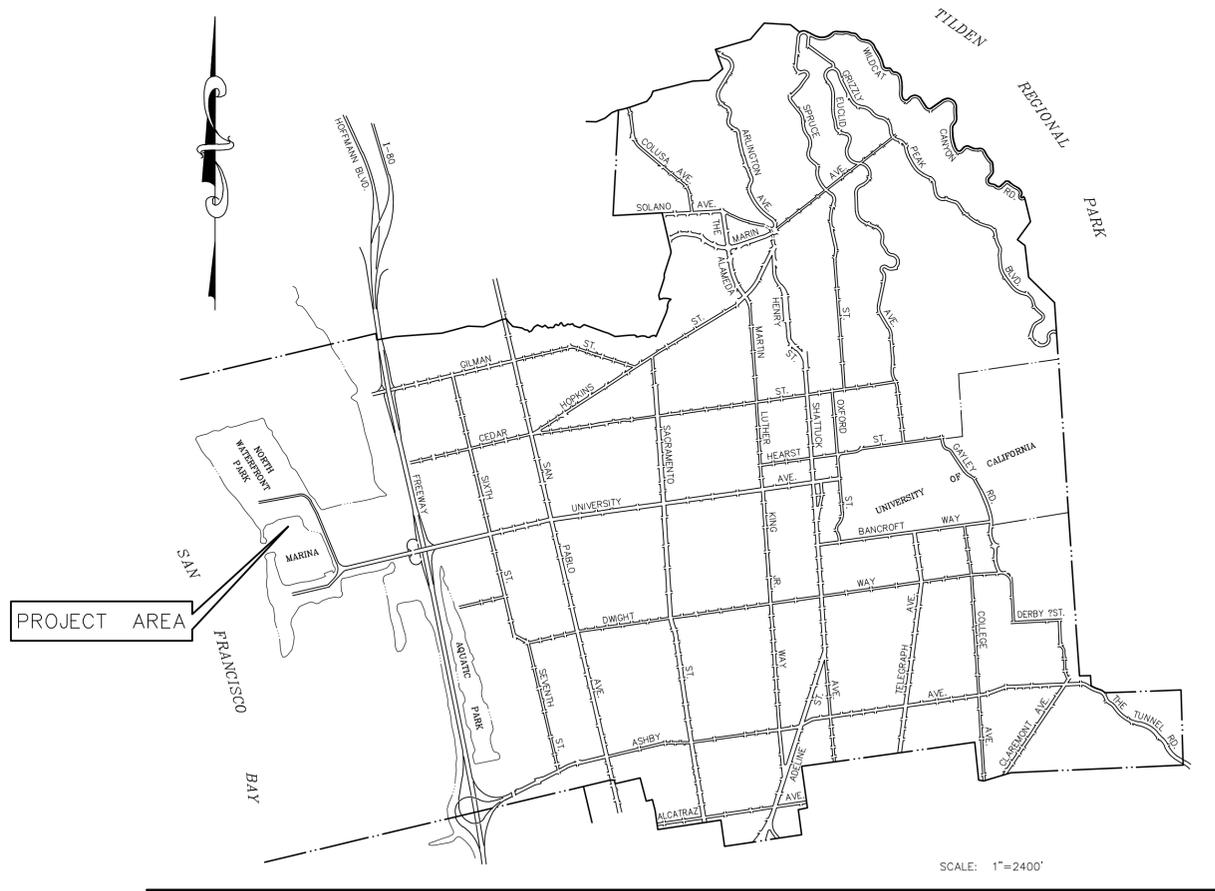




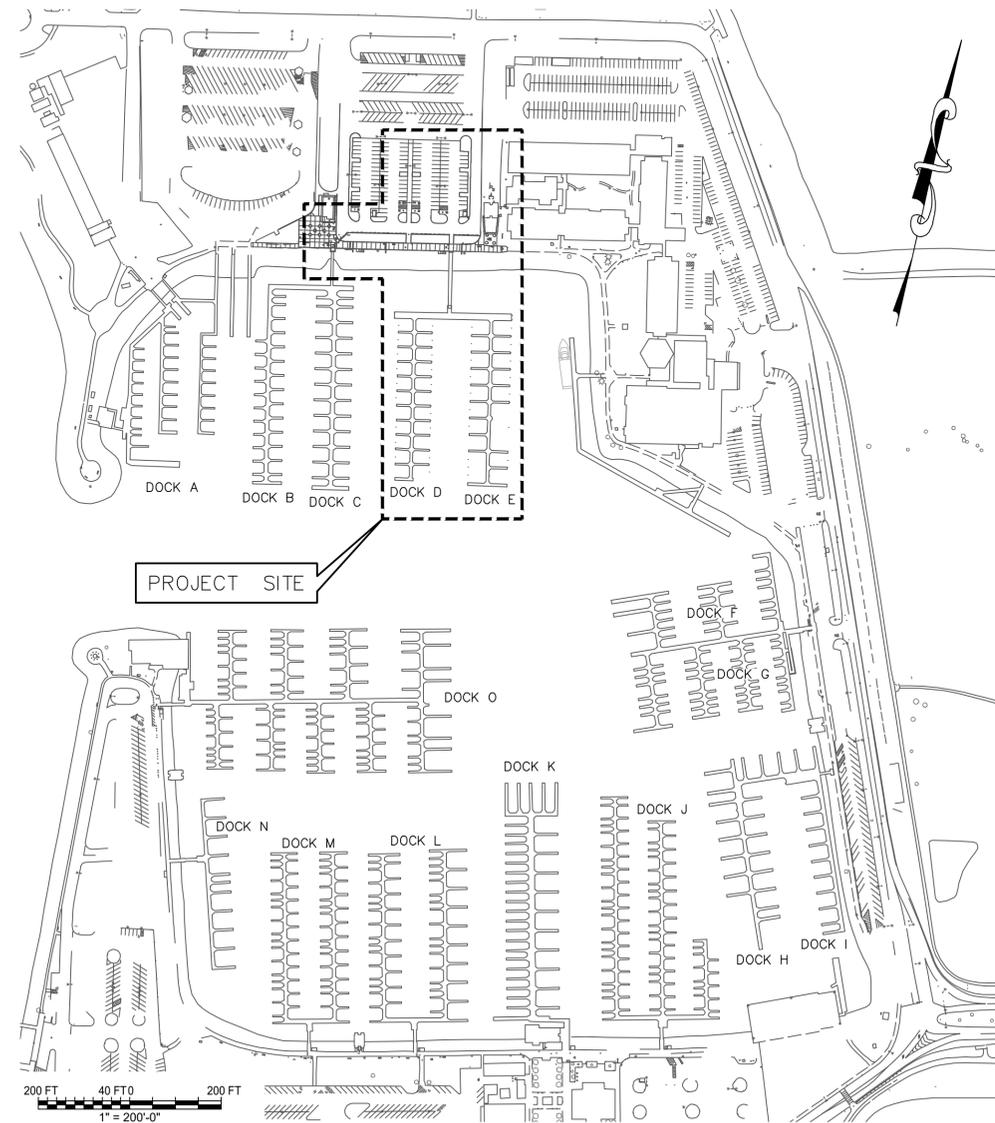
CITY OF BERKELEY  
ALAMEDA COUNTY, CALIFORNIA

# BERKELEY MARINA DOCK REPLACEMENT (D-E)

PROJECT PRWT122013  
SPECIFICATION # 24-11633-C



VICINITY MAP



PROJECT LOCATION MAP

ISSUED FOR BID  
SUBMITTAL

ADMINISTRATIVE NOTES

- A. CONTRACTOR TO SUBMIT THE FOLLOWING DEFERRED SUBMITTALS, ALONG WITH CITY PERMIT REQUIREMENTS, FOR REVIEW AND APPROVAL PRIOR TO ANY DEMOLITION AND OR CONSTRUCTION DURING PHASE 1 AND/OR PHASE 2:
  - a. GANGWAY DESIGN AND ACCESSORIES (TO BE STAMPED BY A CA REGISTERED ENGINEER).
  - b. FLOATING DOCK SYSTEM (TO BE STAMPED BY A CA REGISTERED ENGINEER).
  - c. SPECIAL INSPECTION FORM 170.
  - d. CONSTRUCTION WASTE MANAGEMENT PLAN FORM 172.
  - e. AMPERE INTERRUPTING CAPACITY (AIC) LETTER FROM PACIFIC GENERAL ELECTRIC (PG&E)



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ. <u>AS SHOWN</u>
SURVEY PARTY CHIEF _____	SURVEY PARTY CHIEF _____ DATE _____	SUPERVISING CIVIL ENGINEER _____	DRAWN: <u>NIF</u> VERT. _____
WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	CITY ENGINEER _____	CHECK: <u>SYEE</u> BOOK _____
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES			AS BUILT _____ DATE <u>6/3/22</u>



BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA

COVER PAGE

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
0		01-15-2023	ISSUED FOR BID SUBMITTAL	JMC

PLAN \_\_\_\_\_  
FILE \_\_\_\_\_  
G-001  
SHEET 1 OF 52





# SPECIAL INSPECTION REQUIREMENTS

- A. SPECIAL INSPECTIONS SHALL MEET THE REQUIREMENTS OF CBC SECTION 17.
- B. SPECIAL INSPECTORS SHALL:
  - a. BE UNDER THE SUPERVISION OF A REGISTERED CIVIL ENGINEER.
  - b. OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH APPROVED DRAWINGS.
  - c. FURNISH INSPECTION REPORTS TO THE ENGINEER. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION; THEN, IF NOT CORRECTED, TO THE ENGINEER AND CITY.
  - d. SUBMIT TO THE ENGINEER AND CITY A FINAL REPORT, SIGNED BY A REGISTERED CIVIL ENGINEER, STATING THAT THE WORK WAS IN CONFORMANCE WITH THE APPROVED DRAWINGS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE 2022 CBC.
- C. INSPECTION NOTES:
  - a. SPECIAL INSPECTORS MUST BE CERTIFIED BY THE CITY OR ICBO/ICC TO PERFORM THE TYPES OF INSPECTION SPECIFIED.
  - b. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INFORM THE SPECIAL INSPECTOR OR INSPECTION AGENCY AT LEAST ONE WORKING DAY BEFORE PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION. ALL WORK PERFORMED WITHOUT REQUIRED SPECIAL INSPECTION IS SUBJECT TO REMOVAL.

REQUIRED VERIFICATION AND INSPECTION OF SOILS & PIER FOUNDATIONS		
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	---	X
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	---	X

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION				
VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	REFERENCED STANDARD	CBC REFERENCE
INSPECTION OF REINFORCING STEEL, AND PLACEMENT	---	X	ACI 318: CH 20, 25.2, 25.3, 26.5, 26.6.2	1908.4, 1910A.2-1910A.3
VERIFY USE OF REQUIRED DESIGN MIX	---	X	ACI 318: Ch.19, 26.2-26.4	1904.1, 1904.2, 1908.2, 1908.3
AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	---	ASTM C 172 ASTM C 31 ACI 318: 26.5	1908.10, 1903A
INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	---	ACI 318: 26.5	1908.6, 1908.7, 1908.8
INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	---	X	ACI 318: 26.5	1904A
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	---	X	ACI 318: 26.11	---
INSPECTION OF PRESTRESSED CONCRETE: A. APPLICATION OF PRESTRESSING FORCES	X	---	ACI 318: 26.10	---

# CBC COMPLIANCE

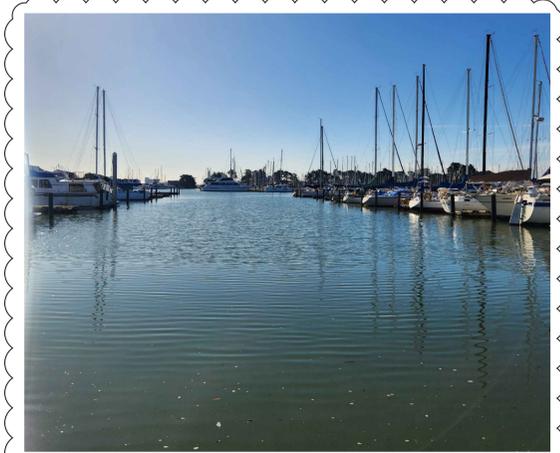
- A. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS OF THE 2022 CBC:
  - 1704.4 CONTRACTOR RESPONSIBILITY.
- B. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND-OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND- OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:
  - a. ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS;
  - b. ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL;
  - c. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF THAT REPORTING AND THE DISTRIBUTION OF THE REPORTS; AND
  - d. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

ISSUED FOR BID SUBMITTAL



PROJECT MANAGER: _____	DATE: _____	DEPICTION OF MONUMENTS: _____	DATE: _____	SUBMITTED: _____	DATE: _____	DESIGN: <u>JRVS</u>	HORIZ.: _____	 BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA BASIS OF DESIGN AND SPECIAL INSPECTION - 2 OF 2	PLAN _____
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES		WATERSHED REVIEW: _____		APPROVED: _____		CHECK: <u>SYEE</u>	VERT.: _____		FILE: _____
				CITY ENGINEER		AS BUILT	DATE: <u>6/3/22</u>	REVISION 0	G-004 SHEET 4 OF 52

- NOTES:**
- COORDINATE LAYDOWN AREA WITH CITY PROJECT MANAGER.
  - CONTRACTOR TO PROTECT IN PLACE ALL ELEMENTS NOT BEING DEMOLISHED.
  - ALL EQUIPMENT TO BE STORED AND ANCHORED WITHIN BOUNDARY LIMITS AND CONTRACTOR LAYDOWN AREA.



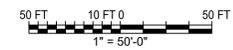
POSSIBLE BARGE MOORING SITE LOCATION BETWEEN DOCK D & E



POSSIBLE BARGE MOORING SITE LOCATION EAST OF DOCK E

SITE PLAN — PROJECT LIMITS AND CONTRACTOR LAYDOWN AREA  
SCALE: 1" = 50'-0"

ISSUED FOR BID SUBMITTAL



PROJECT MANAGER:	DATE:	DEPICTION OF MONUMENTS:	DATE:
SURVEY PARTY CHIEF:	DATE:	WATERSHED REVIEW:	DATE:

SUBMITTED:	DATE:	DESIGN:	JRVS	HORIZ.:	AS SHOWN
R.C.E.:	_____	DRAWN:	NIF	VERT.:	_____
EXP.:	_____	CHECK:	SYEE	BOOK:	_____
SUPERVISING CIVIL ENGINEER:	DATE:	AS BUILT:	_____	DATE:	6/3/22
APPROVED:	DATE:				
R.C.E.:	_____				
EXP.:	_____				
CITY ENGINEER:	DATE:				

DESIGN:	JRVS	HORIZ.:	AS SHOWN
DRAWN:	NIF	VERT.:	_____
CHECK:	SYEE	BOOK:	_____
AS BUILT:	_____	DATE:	6/3/22



BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
PROJECT LIMITS AND CONTRACTOR LAYDOWN AREA

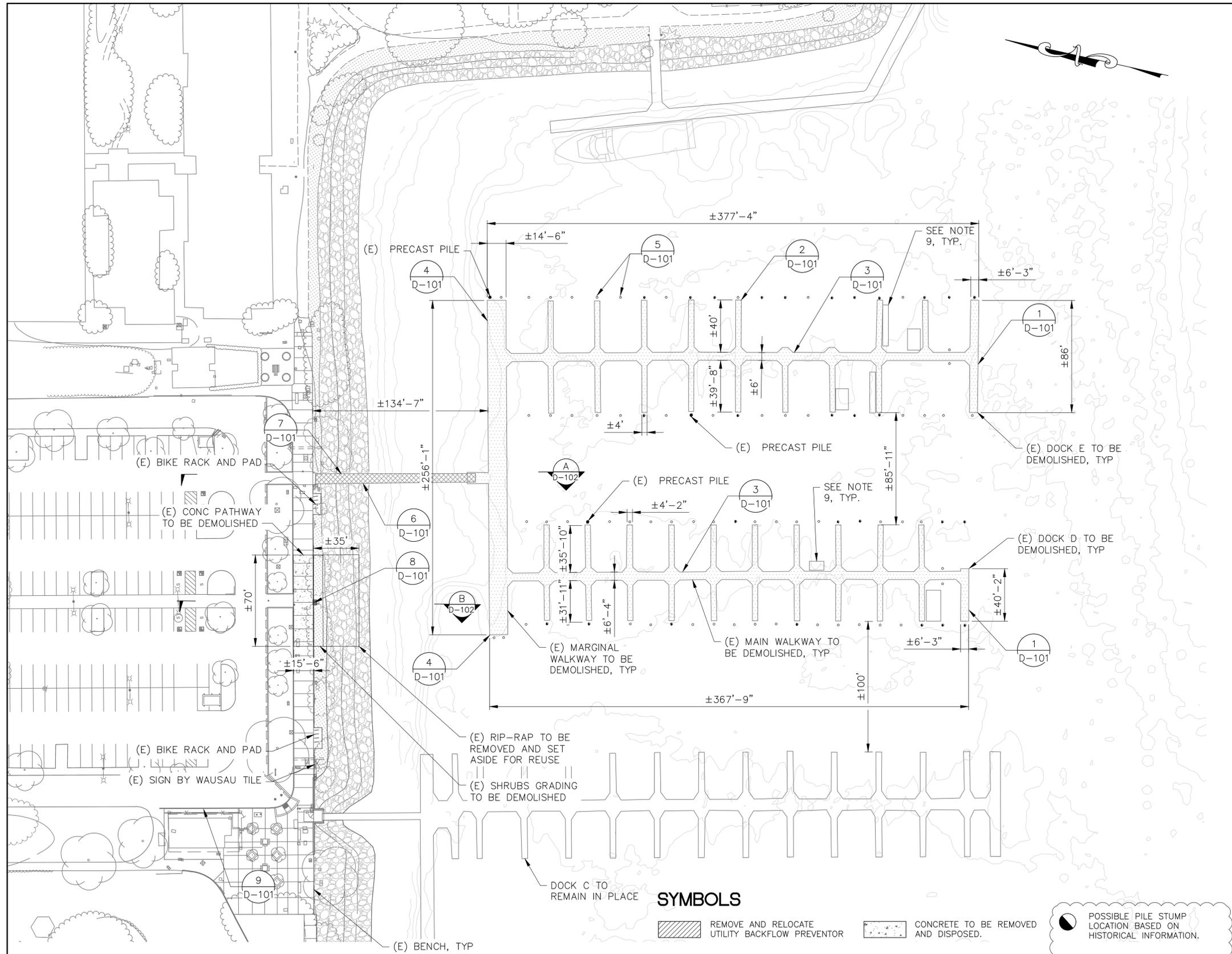
REVISION	MARK	DATE	DESCRIPTION	APPROVAL
1	0	02-21-2024	ISSUED FOR BID SUBMITTAL	JMC
2	1	01-15-2024	ISSUED FOR BID SUBMITTAL	JMC

**NOTES:**

1. CONTRACTOR TO COORDINATE WITH CITY REPRESENTATIVE PRIOR TO DEMOLITION OF UTILITIES AND CONTROLS. REUSE & RELOCATE IRRIGATION CONTROLLERS AS DIRECTED BY THE CITY. MAINTAIN OPERATION OF CONTROLS FOR LANDSCAPING DURING CONSTRUCTION.
2. CONTRACTOR TO INVESTIGATE AND REPORT TO CITY LOCATIONS AT DOUBLE AND END TIE BERTHS WHERE PILES ARE MISSING OR BROKEN BELOW WATER. REMOVE & DISPOSE OF PILE STUBS EXTENDING ABOVE THE MUDLINE.
3. SIDEWALK DEMOLITION SHALL TERMINATE AT EXISTING JOINTS. REPAIR ANY DAMAGE TO IMPROVEMENTS TO REMAIN AT NO ADDITIONAL COST.
4. SAWCUT PAVEMENT AT INTERFACE BETWEEN AREAS TO BE REMOVED & AREAS TO REMAIN.
5. CONTRACTOR TO VERIFY UTILITIES SERVED THROUGH EXISTING PANELS & BOXES. CONTINUE SERVICE TO UTILITIES OUTSIDE THE SCOPE OF THIS PROJECT, LEAVE ASSOCIATED BOXES IN PLACE UNLESS SERVICE IS TO BE RELOCATED. REMOVE & DISPOSE OF BOXES & PANELS THAT NO LONGER SERVE UTILITIES AFTER DEMOLITION OF DOCKS.
6. CONFIRM WATER VALVE LOCATIONS FOR DOCKS AND RELOCATE TO ADJOIN NEW GANGWAY LOCATIONS.
7. EXISTING CONDUITS TO BE ABANDONED IN PLACE SHALL BE FILLED WITH GROUT.
8. ALL PILES WITHIN THE BERTH AREAS NOTED TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY. PILES BROKEN DURING REMOVAL SHALL BE COMPLETELY REMOVED. STUBS ARE NOT ACCEPTABLE.
9. REMOVE ALL FLOATING DEBRIS BETWEEN DOCK D AND E FINGERS.

**LEGEND**

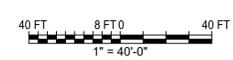
- 1  
D-101 REMOVE AND DISPOSE OF (E) END FLOATS PHASE 1 DEMOLITION
- 2  
D-101 REMOVE AND DISPOSE (E) TYPICAL FLOATS PHASE 1 DEMOLITION
- 3  
D-101 REMOVE AND DISPOSE (E) MAIN FLOATS PHASE 1 DEMOLITION
- 4  
D-101 REMOVE AND DISPOSE (E) MARGINAL FLOATS PHASE 1 DEMOLITION
- 5  
D-101 REMOVE AND DISPOSE (E) 16"Ø TIMBER PILES AND 3 (E) PRECAST PILES. PHASE 1 DEMOLITION
- 6  
D-101 REMOVE AND DISPOSE (E) GANGWAY AND GATE. PHASE 1 DEMOLITION
- 7  
D-101 REMOVE AND DISPOSE (E) TIMBER PIER. PHASE 1 DEMOLITION
- 8  
D-101 REMOVE AND RELOCATE (E) BACKFLOW PREVENTER. SEE P101 FOR ADDITIONAL INFORMATION. PHASE 2 DEMOLITION
- 9  
D-101 REMOVE AND RELOCATE (E) RESTROOM EAST SIDE GATE. SEE C-105 FOR ADDITIONAL INFORMATION. PHASE 2 DEMOLITION



**SYMBOLS**

- REMOVE AND RELOCATE UTILITY BACKFLOW PREVENTOR
- CONCRETE TO BE REMOVED AND DISPOSED.
- REMOVE AND DISPOSE (E) GANGWAY AND PIER.
- WOOD DOCKS TO BE REMOVED AND DISPOSED.
- AC TO BE PULVERIZED AND BLENDED INTO TOP 8".
- REMOVE AND STOCKPILE (E) ROCK, WHERE NEEDED, AND CLEAR AND GRUB.
- POSSIBLE PILE STUMP LOCATION BASED ON HISTORICAL INFORMATION.
- (E) TIMBER PILES.
- (E) PRECAST CONCRETE PILES.

**DEMOLITION PLAN** 1  
SCALE: 1" = 40'-0" D-100



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ.: <u>AS SHOWN</u>	 BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA DEMOLITION SHEET 1 OF 2
SURVEY PARTY CHIEF _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER _____ DATE _____	DRAWN: <u>NIF</u> VERT.: _____	
CITY ENGINEER _____ DATE _____		APPROVED: _____ DATE _____	CHECK: <u>SYEE</u> BOOK: _____	
			AS BUILT: _____ DATE: <u>6/3/22</u>	



**ISSUED FOR BID SUBMITTAL**

REVISION	MARK	DATE	DESCRIPTION
1	0	02-21-2024	ISSUED FOR BID SUBMITTAL
		01-15-2024	



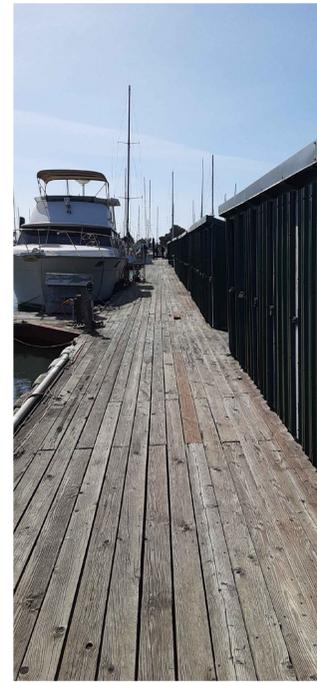
END FLOAT  
PHASE 1 DEMOLITION D-100 D-101



TYPICAL FINGER FLOAT  
PHASE 1 DEMOLITION D-100 D-101



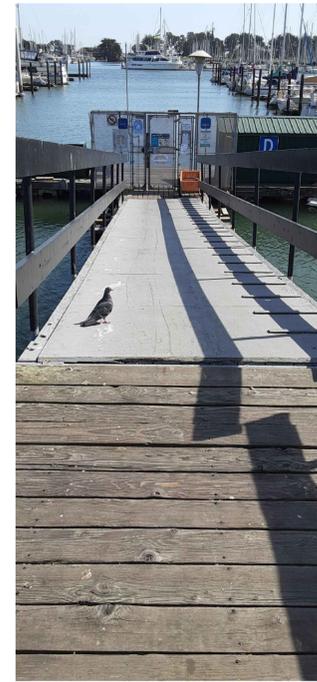
MAIN FLOAT  
PHASE 1 DEMOLITION D-100 D-101



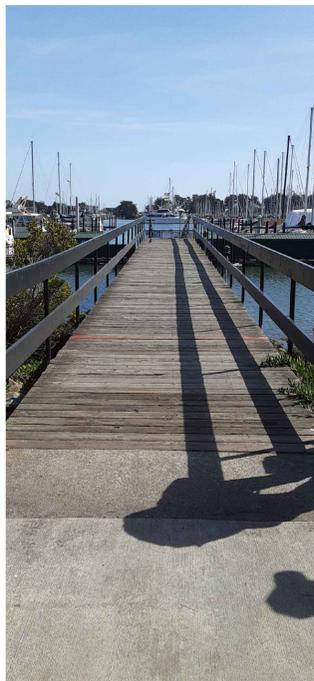
MARGINAL FLOAT  
PHASE 1 DEMOLITION D-100 D-101



PILES  
PHASE 1 DEMOLITION D-100 D-101



GANGWAY AND GATE  
PHASE 1 DEMOLITION D-100 D-101



TIMBER PIER  
PHASE 1 DEMOLITION D-100 D-101



BACKFLOW PREVENTER  
PHASE 2 DEMOLITION D-100 D-101



RESTROOM FENCE  
PHASE 2 DEMOLITION D-100 D-101

ISSUED FOR BID  
SUBMITTAL

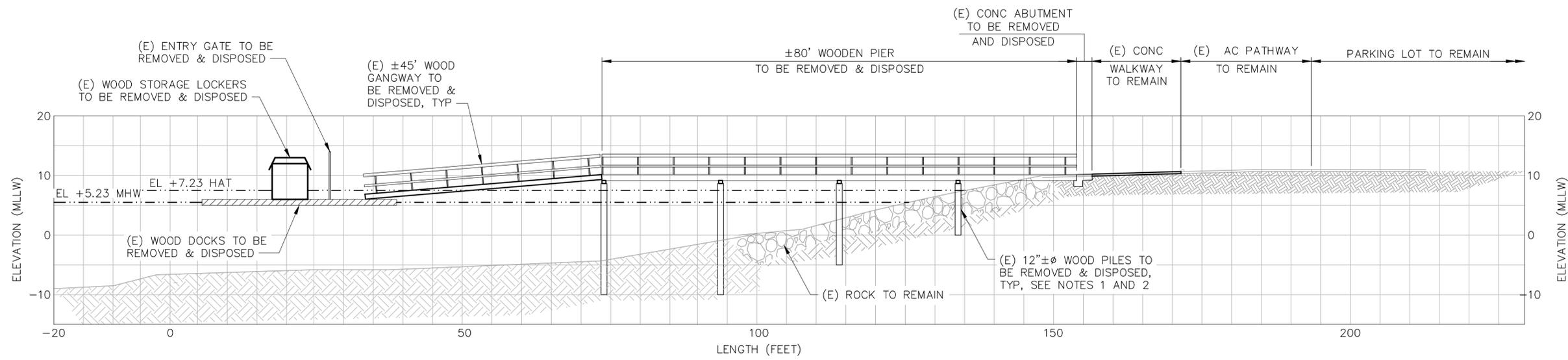


PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ: <u>NTS</u>
_____	SURVEY PARTY CHIEF: _____ DATE _____	_____ R.C.E. _____	DRAWN: <u>NIF</u> VERT: <u>NTS</u>
_____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ EXP. _____	CHECK: <u>SYEE</u> BOOK: _____
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	_____	APPROVED: _____ DATE _____	AS BUILT: _____ DATE: <u>6/3/22</u>
	_____	CITY ENGINEER: _____ EXP. _____	

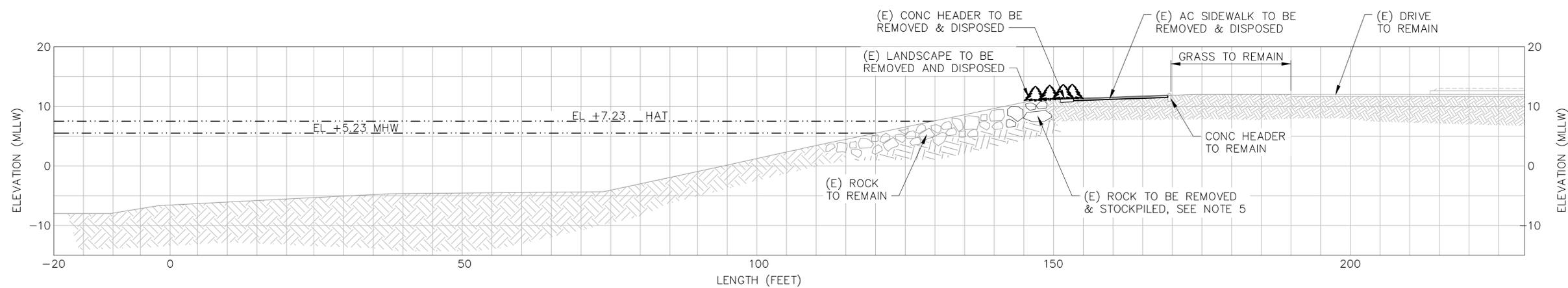


BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
DEMOLITION  
SHEET 2 OF 2

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
1	0	02-21-2024	ISSUED FOR BID SUBMITTAL	JMC
0		01-15-2024		JMC



PIER AND GANGWAY DEMOLITION SECTION A  
SCALE: 1" = 10'-0"



EXISTING SLOPE DEMOLITION SECTION B  
SCALE: 1" = 10'-0"

NOAA SAN FRANCISCO STATION 9414290

	MLLW
HIGHEST ASTRONOMICAL TIDE (H.A.T.)	7.23
MEAN HIGH HIGH WATER (MHHW)	5.84
MEAN HIGH WATER (MHW)	5.23
MEAN LOW LOW WATER (MLLW)	0.00
NORTH AMERICAN VERTICAL DATUM (NAVD 88)	-0.06
LOWEST OBSERVED TIDE (L.O.T.)	-2.28
DATUM = MLLW	

- NOTES:
- EXISTING PILE EMBEDMENT UNKNOWN.
  - IF PIER AND GANGWAY PILES ARE TO BE CUT-OFF, NOTIFY THE CITY OF THE LOCATION OF THE PILES TO BE CUT-OFF. CUT-OFF LEVEL TO BE A MINIMUM OF 2' BELOW PROPOSED SURFACE AND AUTHORIZED DREDGE DEPTH.
  - FILL VOID AT REMOVED PILES WITH 3/4" AB BELOW (E) ROCK REVETMENT AND WITH ROCK FROM STOCKPILE TO DEPTH OF (E) ROCK.
  - COORDINATE DISCONNECTION OF UTILITIES AS NEEDED PRIOR TO DEMOLITION.



PROJECT MANAGER: _____	DATE: _____	DEPICTION OF MONUMENTS: _____	DATE: _____	SUBMITTED: _____	DATE: _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>
		SURVEY PARTY CHIEF: _____		SUPERVISING CIVIL ENGINEER: _____		DRAWN: <u>NIF</u>	VERT.: _____
		WATERSHED REVIEW: _____	DATE: _____	APPROVED: _____	DATE: _____	CHECK: <u>SYEE</u>	BOOK: _____
				CITY ENGINEER: _____		AS BUILT: _____	DATE: <u>6/3/22</u>

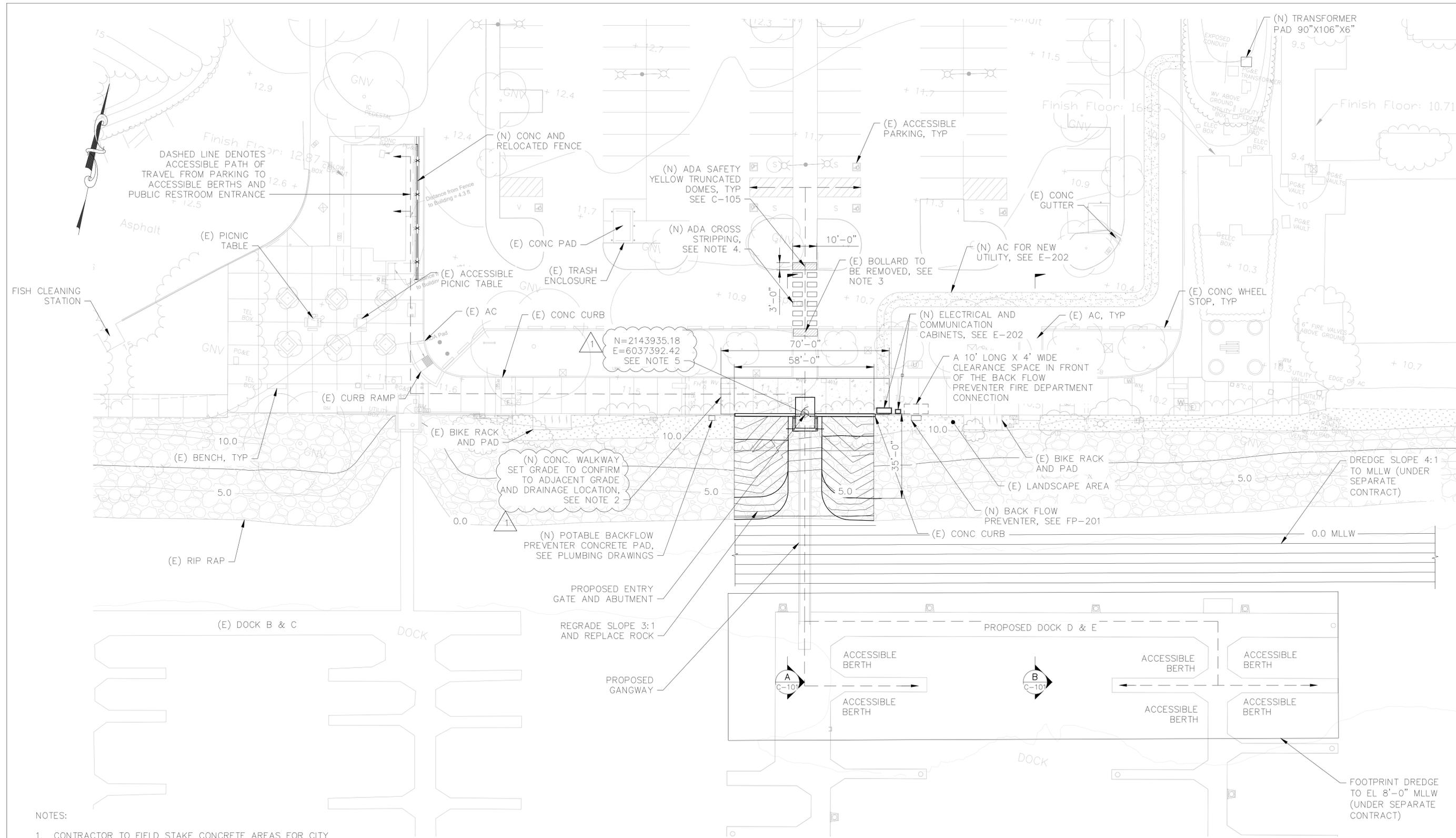
DATE: _____	DATE: _____	DATE: _____
EXP. _____	EXP. _____	EXP. _____



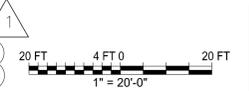
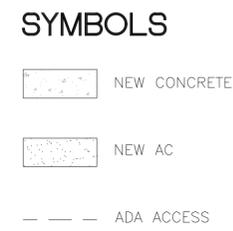
BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
DEMOLITION SECTIONS



NO.	DATE	DESCRIPTION	APPROVAL
0 <td>01-15-2024 <td>ISSUED FOR BID SUBMITTAL <td>AMC</td> </td></td>	01-15-2024 <td>ISSUED FOR BID SUBMITTAL <td>AMC</td> </td>	ISSUED FOR BID SUBMITTAL <td>AMC</td>	AMC



- NOTES:
- CONTRACTOR TO FIELD STAKE CONCRETE AREAS FOR CITY APPROVAL PRIOR TO PLACING CONCRETE. ADJUST AREAS AS NEEDED TO SATISFY CITY.
  - SLOPE PAVED AREAS BETWEEN 1% AND 2% TO DRAIN TO LANDSCAPE AREAS AS SHOWN. FIELD VERIFY APPROPRIATE SLOPES AND MODIFY AS NEEDED TO ENSURE PROPER DRAINAGE. OBTAIN CITY APPROVAL OF FIELD MODIFICATIONS.
  - EXISTING BOLLARD TO BE REMOVED AND REINSTALLED AFTER INSTALLATION OF NEW TRUNCATED DOMES.
  - STRIPPING SHALL FOLLOW THE CITY STANDARD DETAILS WHERE LINE WIDTH IS 2 FT WIDE AND GAP BETWEEN LINES IS 2FT.
  - CONFIRM WITH CITY PRIOR TO CONSTRUCTION. POINT TO BE AT CL OF EXISTING PATHWAY FROM PARKING LOT.



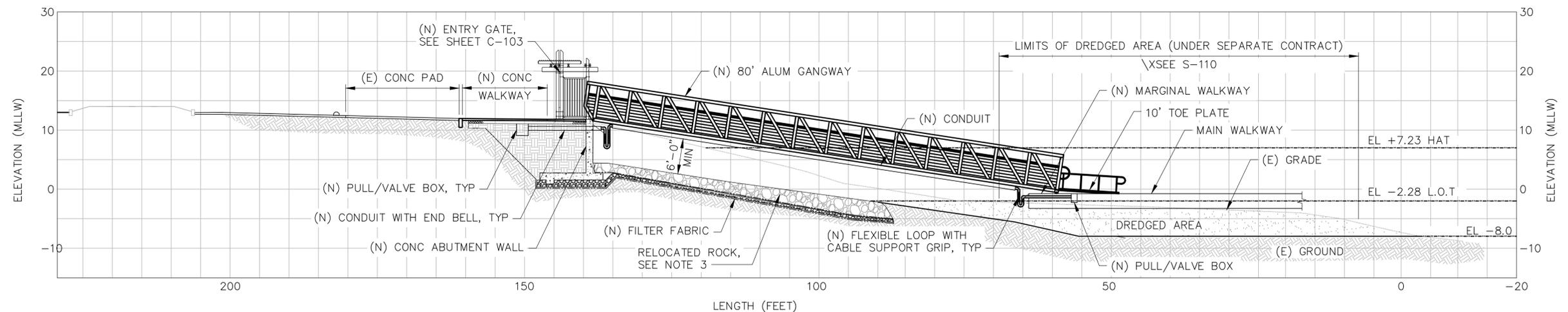
IMPROVEMENT PLAN 1  
SCALE: 1" = 20'-0"

PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____	HORIZ.: AS SHOWN			BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA <b>LANDSIDE IMPROVEMENT PLAN</b>
SURVEY PARTY CHIEF: _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	DRAWN: _____	VERT.: _____			
CITY ENGINEER: _____ DATE _____	APPROVED: _____ DATE _____	AS BUILT: _____ DATE _____	CHECK: _____	BOOK: _____			
			AS BUILT: _____	DATE: 6/3/22			

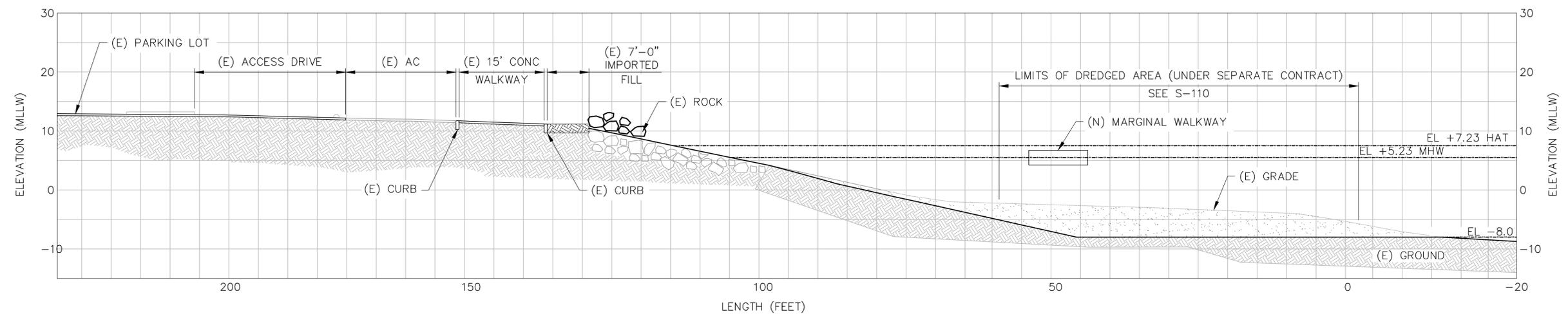


ISSUED FOR BID SUBMITTAL

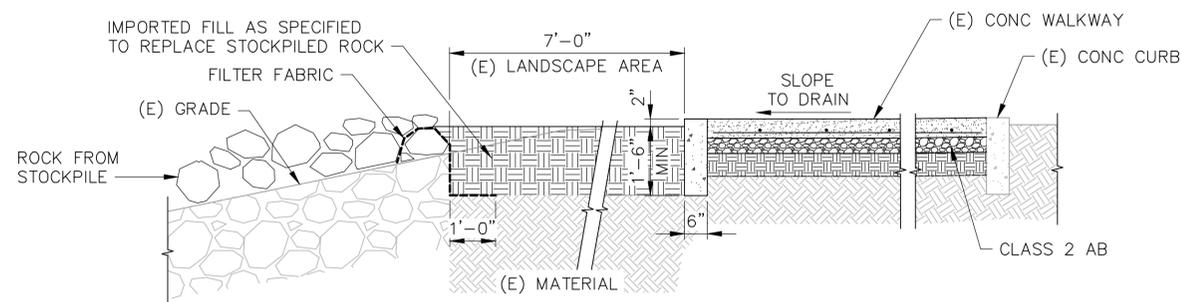
REVISION	MARK	DATE	DESCRIPTION	APPROVAL
1	0	02-21-2024	ISSUED FOR BID SUBMITTAL	JMC
		01-15-2024		JMC



**GANGWAY SECTION**  
SCALE: 1" = 10'-0"  
A  
C-100 C-101



**SLOPE SECTION**  
SCALE: 1" = 10'-0"  
B  
C-100 C-101



**DETAIL - CURB AND FILL**  
SCALE: 1/2" = 1'-0"  
1  
C-101

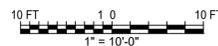
NOAA SAN FRANCISCO STATION 9414290

	MLLW
HIGHEST ASTRONOMICAL TIDE (H.A.T)	7.23
MEAN HIGH HIGH WATER (MHHW)	5.84
MEAN HIGH WATER (MHW)	5.23
MEAN LOW LOW WATER (MLLW)	0.00
NORTH AMERICAN VERTICAL DATUM (NAVD88)	-0.06
LOWEST OBSERVED TIDE (L.O.T.)	-2.28

DATUM = MLLW

- NOTES:
- CONTRACTOR TO FIELD STAKE CONCRETE AREAS FOR CITY APPROVAL PRIOR TO PLACING CONCRETE. ADJUST AREAS AS NEEDED TO SATISFY CITY.
  - SLOPE PAVED AREAS BETWEEN 1% AND 2% TO DRAIN TO LANDSCAPE AREAS AS SHOWN. FIELD VERIFY APPROPRIATE SLOPES AND MODIFY AS NEEDED TO ENSURE PROPER DRAINAGE. OBTAIN CITY APPROVAL OF FIELD MODIFICATIONS.
  - RELOCATE AND REGRADE ROCK BELOW GANGWAY TO ENSURE 2'-0" CLEAR AT EXTREME LOW WATER LEVEL. PLACE FILTER FABRIC PRIOR TO REPLACING ROCKS AND BENEATH ABUTMENT WALLS.

- NOTES:
- NEW FILL TO MATCH EXISTING FILL
  - KEY FILTER FABRIC INTO ROCK SO THAT IT IS NOT EXPOSED AND EXTEND 1'-0" BENEATH IMPORTED FILL.



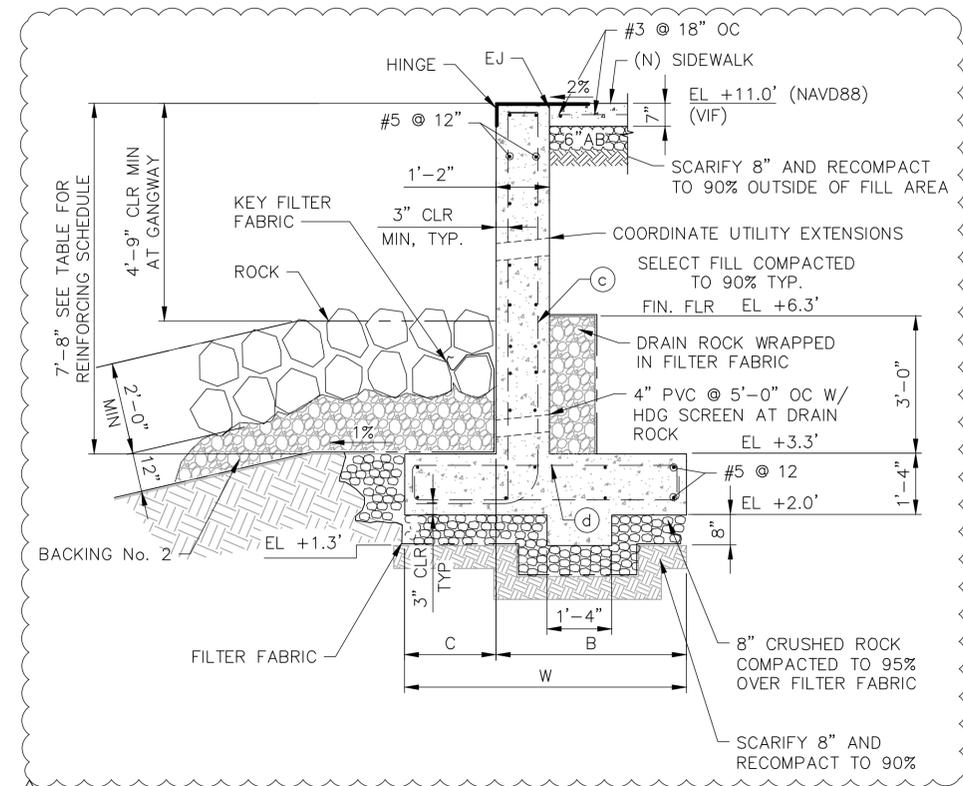
PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>			<b>BERKELEY MARINA DOCK REPLACEMENT (D-E)</b> CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
SURVEY PARTY CHIEF: _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: <u>NIF</u>	VERT.: _____				FILE _____
APPROVED: _____	CITY ENGINEER: _____	DATE: _____	CHECK: <u>SYEE</u>	BOOK: _____	REVISION: _____	DATE: <u>6/3/22</u>	AS BUILT: _____	SECTION _____



**ISSUED FOR BID SUBMITTAL**

APPROVAL	DATE	DESCRIPTION
AMC		
ISSUED FOR BID SUBMITTAL	01-15-2024	
REVISION	0	
MARK		
FILE		
SHEET	10	OF 52

PLOTTED BY: NOEL FORTIZ PLOT DATE: 1/10/2024 3:11:26 PM



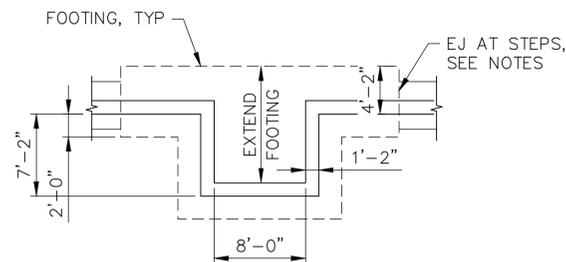
NOTES:

1. WALL HEIGHTS EXCEEDING 12' WILL REQUIRE APPROVED RE-DESIGN.
2. FIELD VERIFY WALL LOCATION TO ENSURE MINIMUM CLEARANCE BETWEEN ROCK AND BOTTOM OF GANGWAY.
3. PLACE FILTER FABRIC & CRUSHED ROCK BEDDING PRIOR ROCK. KEY FILTER FABRIC AT ALL EDGES.
4. TOP OF FOOTING TO BE FOUNDED 12" BELOW THE BOTTOM OF THE EXISTING ROCK.
5. COORDINATE LOCATION OF UTILITY CONDUITS THROUGH WALL & MAINTAIN 3" CONCRETE COVER AROUND CONDUITS.

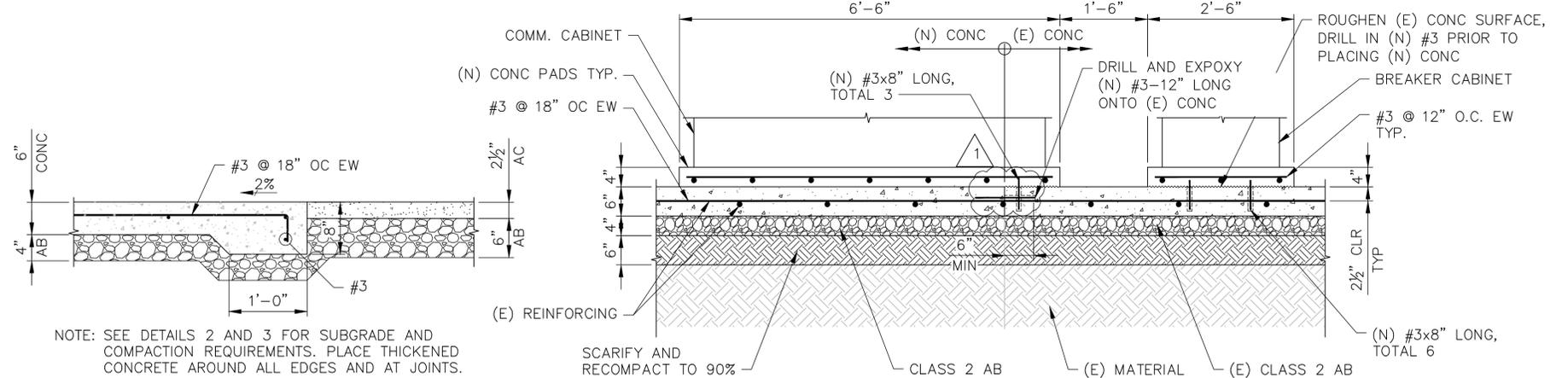
TABLE OF DIMENSIONS				
HEIGHT, H	6'	8'	10'	12'
W	6'-3"	6'-6"	7'-4"	8'-2"
C	2'-0"	2'-0"	2'-4"	2'-7"
B	4'-3"	4'-6"	5'-0"	5'-7"
© BARS	#5@9"	#6@10"	#7@9"	#7@8"
ⓐ BARS	#6@9"	#7@10"	#7@9"	#7@8"

DESIGN H MAY BE EXCEEDED BY 6" BEFORE GOING TO THE NEXT SIZE. SEE CALTRANS RETAINING WALL TYPE 1A FOR ADDITIONAL INFORMATION.

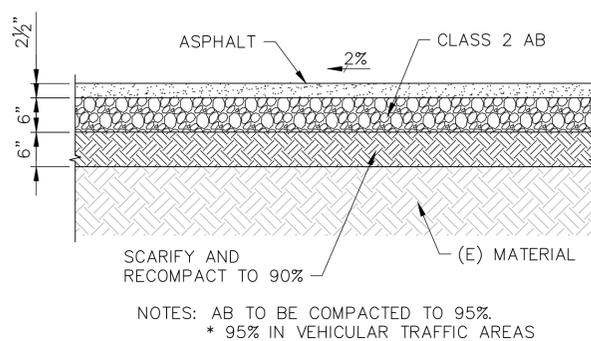
SECTION - ABUTMENT WALL  
SCALE: 1/2" = 1'-0"



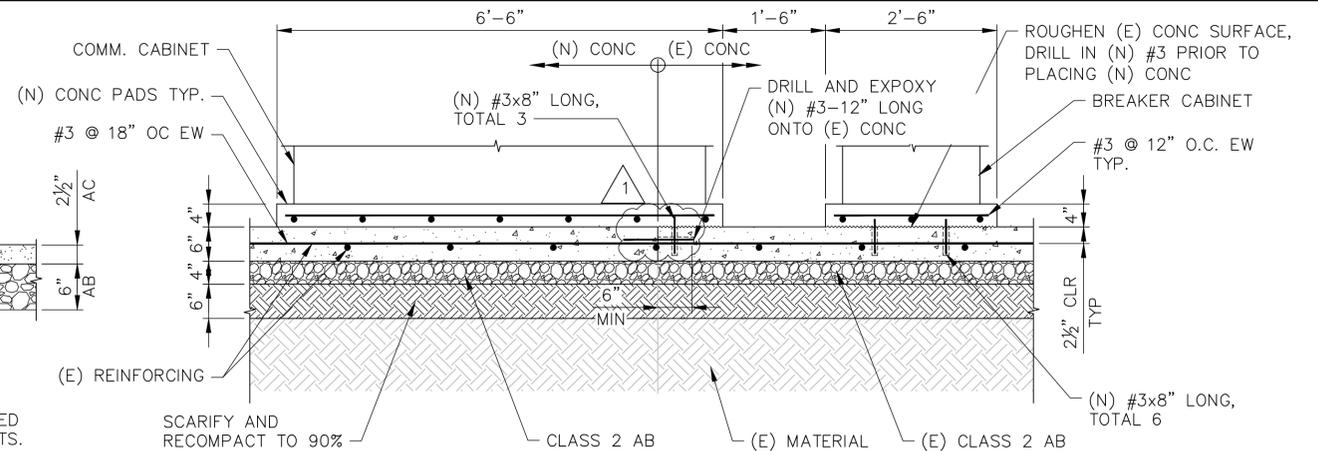
ABUTMENT WALL PLAN  
SCALE: 1/8" = 1'-0"



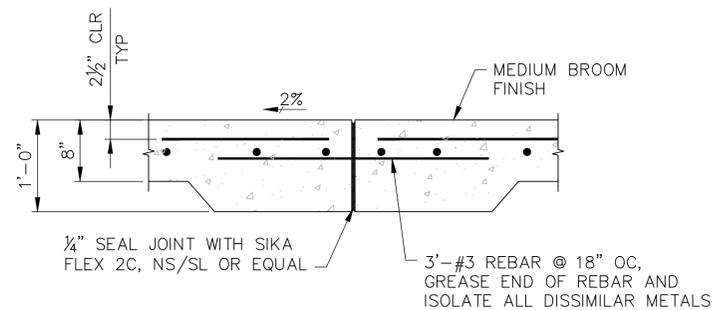
CONCRETE EDGE DETAIL  
SCALE: 1" = 1'-0"



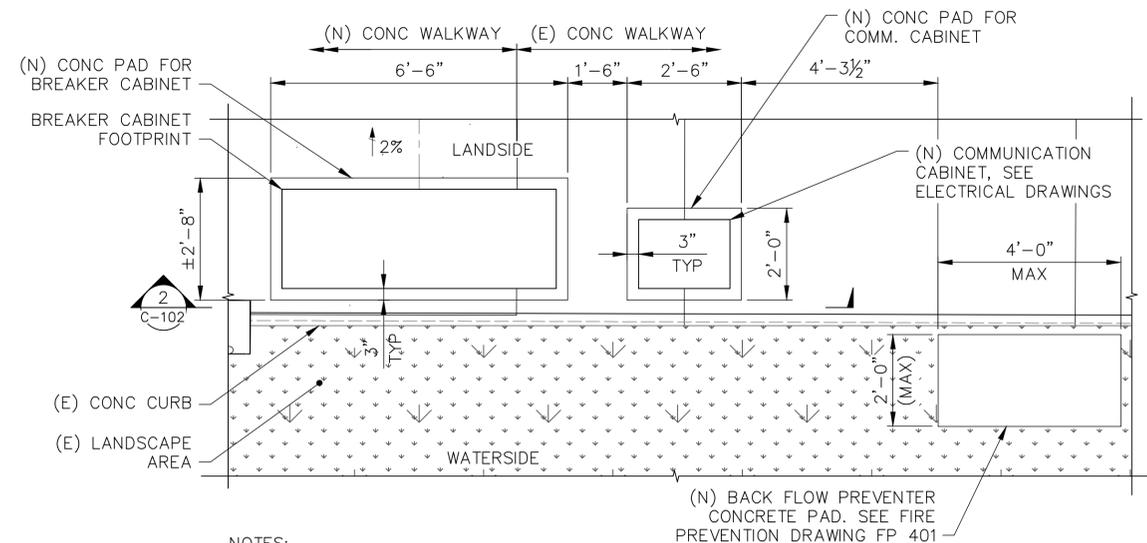
TYPICAL AC PAVEMENT  
SCALE: 3/4" = 1'-0"



TYPICAL CONCRETE PAVEMENT  
SCALE: 3/4" = 1'-0"



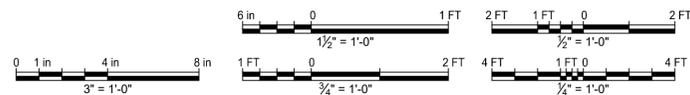
EXPANSION JOINT DETAIL  
SCALE: 1" = 1'-0"



NOTES:

1. FOR CONCRETE REINFORCEMENT DETAILS, SEE DETAIL 2.
2. THE 18"SQ CONCRETE PAD IS CENTERED UNDERNEARD THE 5" PIPE. SEE FP- 401 DETAIL 5.

UTILITY SLAB ON GRADE  
SCALE: 1/2" = 1'-0"



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____	HORIZ.: _____	
DATE _____	DATE _____	R.C.E. _____	DRAWN: _____	VERT.: _____	
DATE _____	DATE _____	EXP. _____	CHECK: _____	BOOK: _____	
DATE _____	DATE _____	EXP. _____	AS BUILT: _____	DATE: 8/XX/22	

FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES

BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
LANDSCAPE DETAILS

ISSUED FOR BID SUBMITTAL

REVISION: 1 0

MARK: \_\_\_\_\_

DESCRIPTION: \_\_\_\_\_

DATE: 02-21-2024  
01-15-2024

ADDITIONAL NO. 1  
ISSUED FOR BID SUBMITTAL

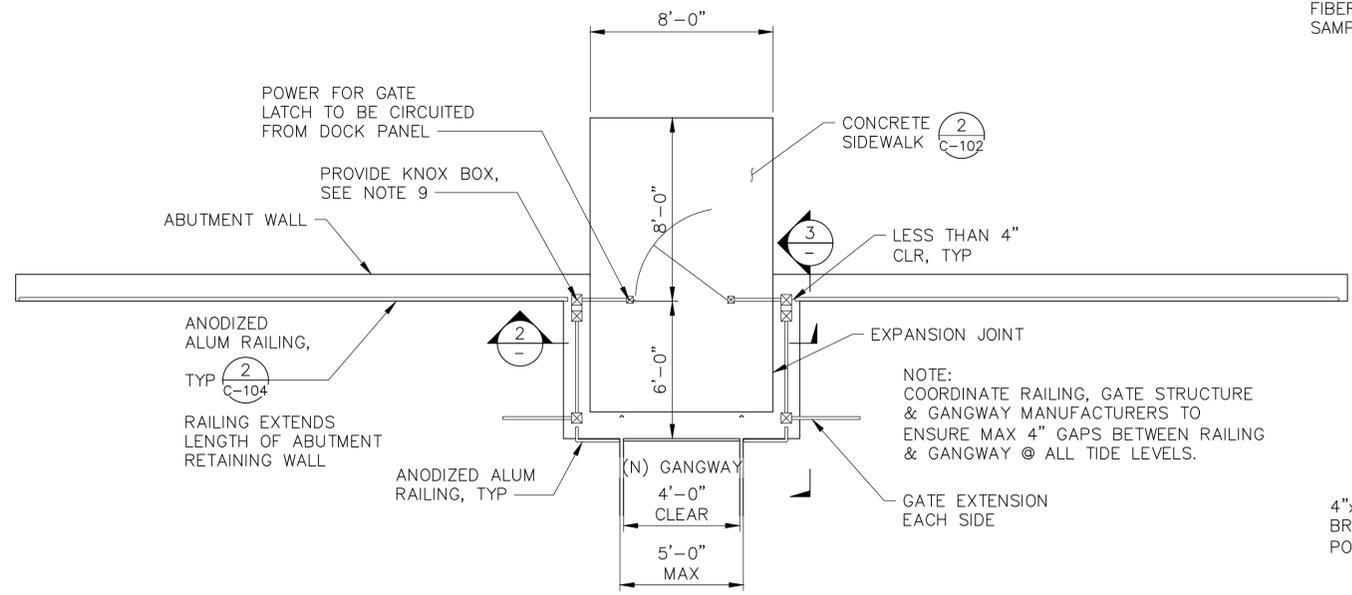
FILE: \_\_\_\_\_

SHEET 11 OF 52

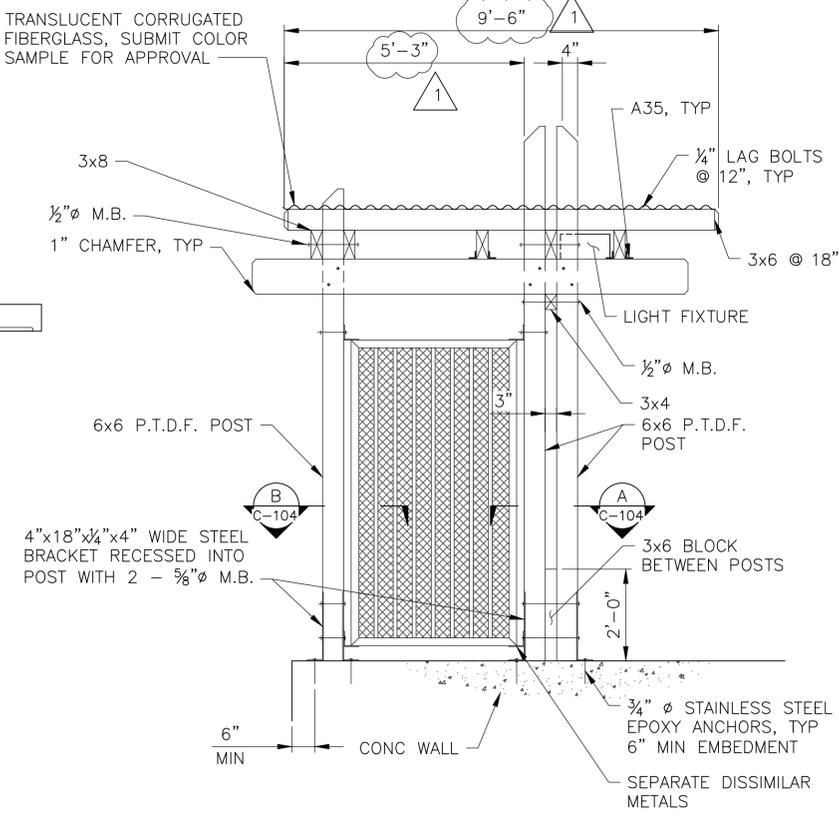
PLOTTED BY: JESSICA RIVAS PLOT DATE: 2/20/2024 11:30:31 PM

**GENERAL NOTES:**

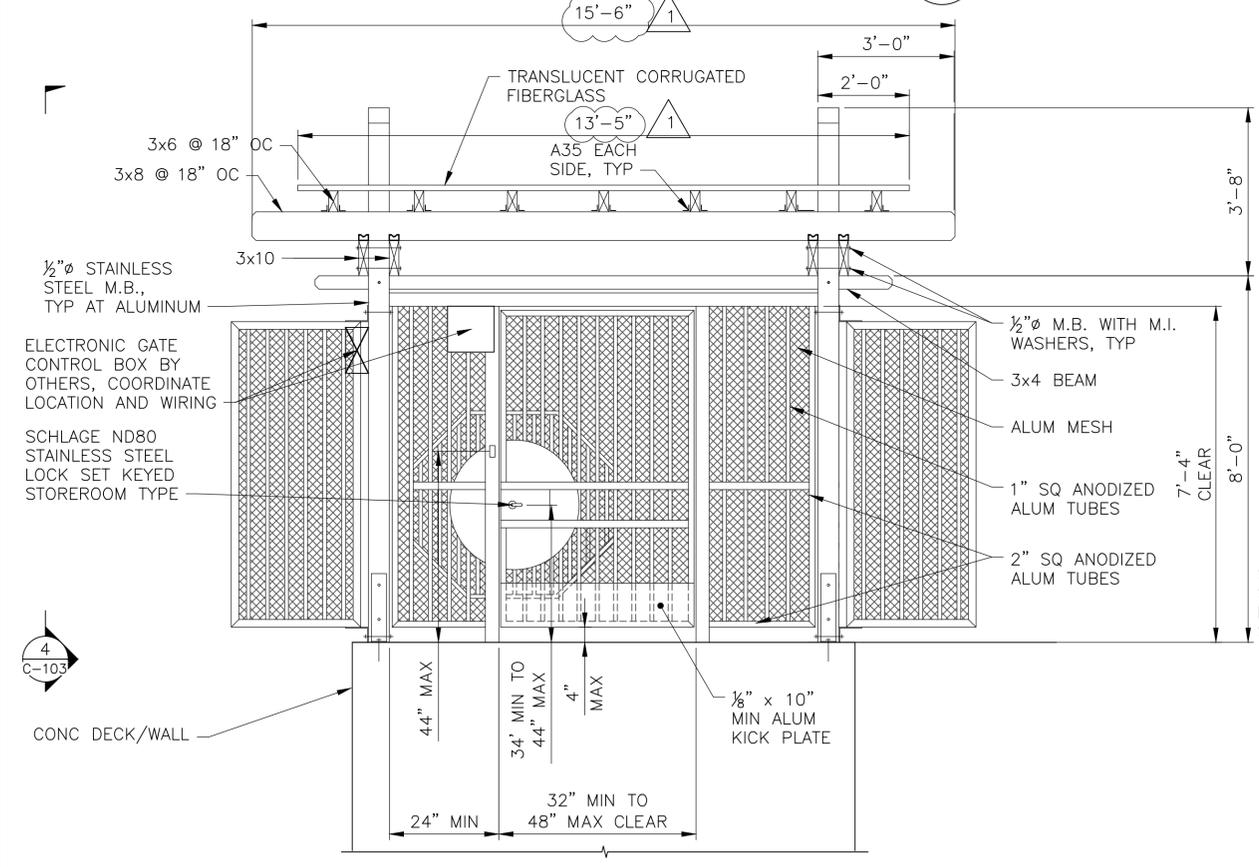
1. ALL STEEL BRACKETS AND FASTENERS TO BE HOT DIPPED GALVANIZED.
2. ALL BOLTS AND LAG SCREWS TO BE COUNTERSUNK & TO RECEIVE LOCK WASHERS.
3. ALL BOLTS, LAG SCREWS AND NAILS TO BE STAINLESS STEEL.
4. USE STAINLESS STEEL AT ALL EPOXY GROUTED ANCHORS AND AT ALUMINUM GATES AND DOORS, SEPARATE DISSIMILAR METALS
5. ELECTRONIC STRIKE AND GATE CONTROLS TO BE FURNISHED AND INSTALLED BY ALX TECHNOLOGY (510.535.2294) OR CITY APPROVED EQUAL. COORDINATE PROPER DESIGN AND LOCATION OF LOCK SET, CONDUITS, WIRING, CONTROLS, AND BOX PRIOR TO CONCRETE AND ENTRY STRUCTURE INSTALLATION.
6. ALL WOOD TO BE PRESSURE TREATED ACCORDING TO CITY STANDARDS.
7. SUBMIT RAILING & GATE LAYOUT & DETAIL FOR APPROVAL.
8. GATE STRUCTURE SIMILAR TO EXISTING GATE AT B-C DOCKS.
9. PROVIDE KNOX BOX WITH KNOCKOUT FIRE ACCESS STATION ON POST TO ALLOW EMERGENCY PERSONNEL IMMEDIATE ACCESS TO DOCK.
10. MINIMUM CLEAR DOOR WIDTH TO BE 48-INCHES. CLEAR OPENINGS OF DOORWAY WITH SWINGING DOOR SHALL BE MEASURED BETWEEN THE FACE OF THE DOOR AND THE STOP WITH THE DOOR OPEN 90 DEGREES. SWING DOORS AND GATE TO COMPLY WITH CBC 11B-404 TABLE 404.2.4.1.
11. DOOR AND GATE HARDWARE TO COMPLY WITH CBC 11B-4074.2.7.
12. GATE CLOSERS SHALL BE ADJUSTED SO THAT FROM AND OPEN POSITION OF 90-DEG., THE REQUIRED TIME TO MOVE THE GATE TO A OPEN POSITION OF 12-DEG. FROM THE LATCH IS 5-SEC MINIMUM. DOOR AND GATE SPRING HINGES SHALL BE ADJUSTED SO THAT FROM THE OPEN POSITION OF 70-DEG., THE GATE SHALL MOVE TO THE CLOSED POSITION IN 1.5 SECONDS MINIMUM.
13. THE FORCE FOR PUSHING/PULLING AN OPEN DOOR/GATE SHALL BE AS FOLLOWS: INTERIOR/EXTERIOR HINGED DOORS = 5 POUNDS



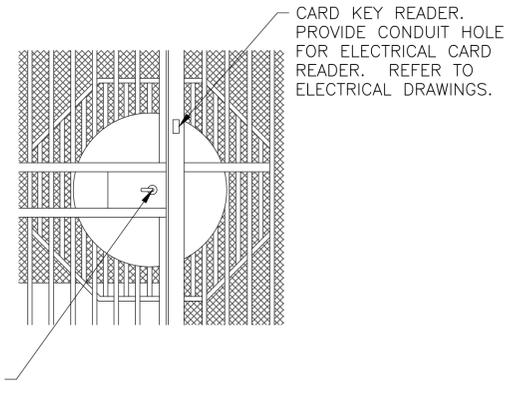
**GATE PLAN AT D & E DOCKS**  
SCALE: 1/4" = 1'-0"



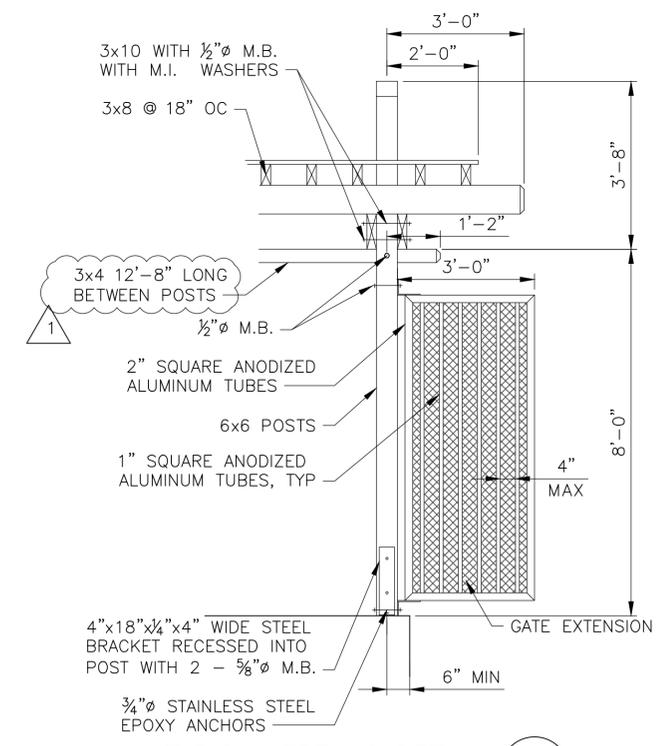
**TRELLIS DETAIL**  
SCALE: 1/2" = 1'-0"



**EXIT SIDE**  
SCALE: 1/2" = 1'-0"



**ENTRY SIDE**  
SCALE: 1" = 1'-0"



**TYPICAL TRELLIS DETAIL**  
SCALE: 1/2" = 1'-0"

**TRELLIS ELEVATION**  
SCALE: AS INDICATED

**ISSUED FOR BID SUBMITTAL**



- NOTES:**
1. COORDINATE WITH GATE CARD MANUFACTURER TO ALLOW FOR INSTALLATION OF GATE SYSTEM, FURNISHED & INSTALLED BY OTHERS.
  2. ALL WOOD MEMBERS OF TRELLIS TO BE PRESSURE TREATED ROUGH SAWN DOUGLAS FIR.

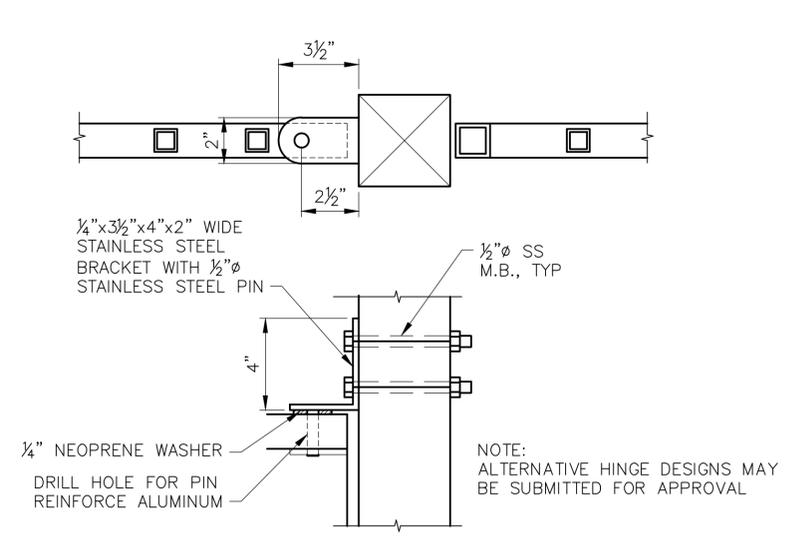
NOTE: FOR GATE EXTENSION, SEE DETAIL 4. RAILING NOT SHOWN FOR CLARITY.

PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>			<b>BERKELEY MARINA DOCK REPLACEMENT (D-E)</b> CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
SURVEY PARTY CHIEF: _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	DRAWN: <u>NIF</u>	VERT.: _____				FILE _____
APPROVED: _____ DATE _____	CITY ENGINEER: _____ DATE _____	AS BUILT: _____ DATE _____	CHECK: <u>SYEE</u>	BOOK: _____				REVISION _____

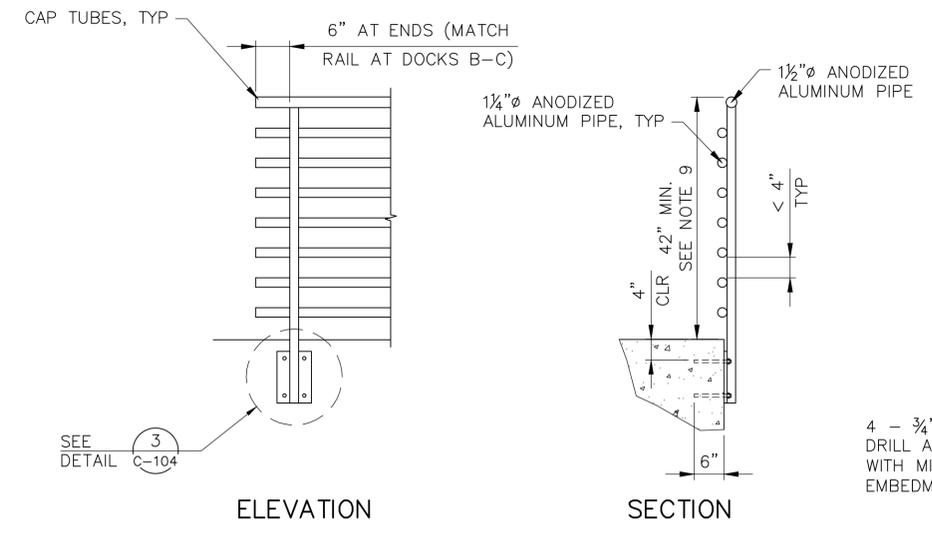
NO.	DATE	DESCRIPTION	APPROVAL
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0	01-15-2024		JMC

GENERAL NOTES:

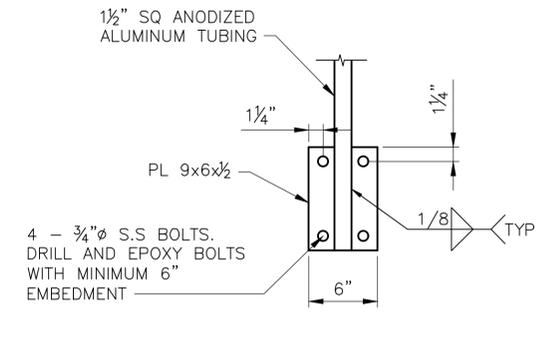
1. ALL STEEL BRACKETS AND FASTENERS TO BE HOT DIPPED GALVANIZED.
2. ALL BOLTS AND LAG SCREWS TO BE COUNTERSUNK & TO RECEIVE LOCK WASHERS.
3. ALL BOLTS, LAG SCREWS AND NAILS TO BE STAINLESS STEEL.
4. USE STAINLESS STEEL AT ALL EPOXY GROUTED ANCHORS AND AT ALUMINUM GATES AND DOORS, SEPARATE DISSIMILAR METALS
5. ELECTRONIC STRIKE AND GATE CONTROLS TO BE FURNISHED AND INSTALLED BY ALX TECHNOLOGY (510.535.2294). COORDINATE PROPER DESIGN AND LOCATION OF LOCK SET, CONDUITS, WIRING, CONTROLS, AND BOX PRIOR TO CONCRETE AND ENTRY STRUCTURE INSTALLATION.
6. ALL WOOD TO BE PRESSURE TREATED ACCORDING TO CITY STANDARDS.
7. SUBMIT RAILING & GATE LAYOUT & DETAIL FOR APPROVAL.
8. GATE STRUCTURE SIMILAR TO EXISTING GATE AT B-C DOCKS.
9. RAILS TO HAVE A MINIMUM OF 42" HIGH FROM TOP OF CONCRETE PER CBC 1015.2 AND 1015.3.



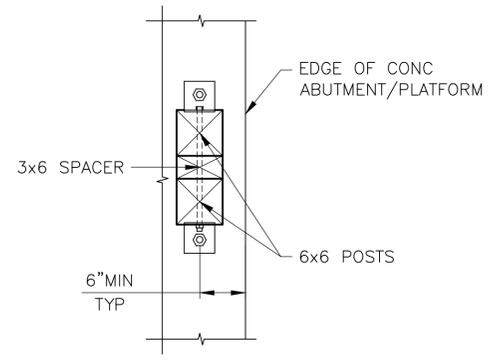
DOOR HINGE DETAIL 1  
SCALE: 3" = 1'-0" C-104



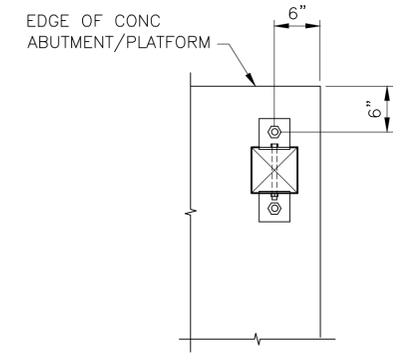
RAILING DETAIL 2  
SCALE: 3/4" = 1'-0" C-104



RAILING DETAIL 3  
SCALE: 1 1/2" = 1'-0" C-104



POST CONNECTION DETAIL A  
SCALE: 1" = 1'-0" C-104



POST CONNECTION DETAIL B  
SCALE: 1" = 1'-0" C-104

ISSUED FOR BID SUBMITTAL

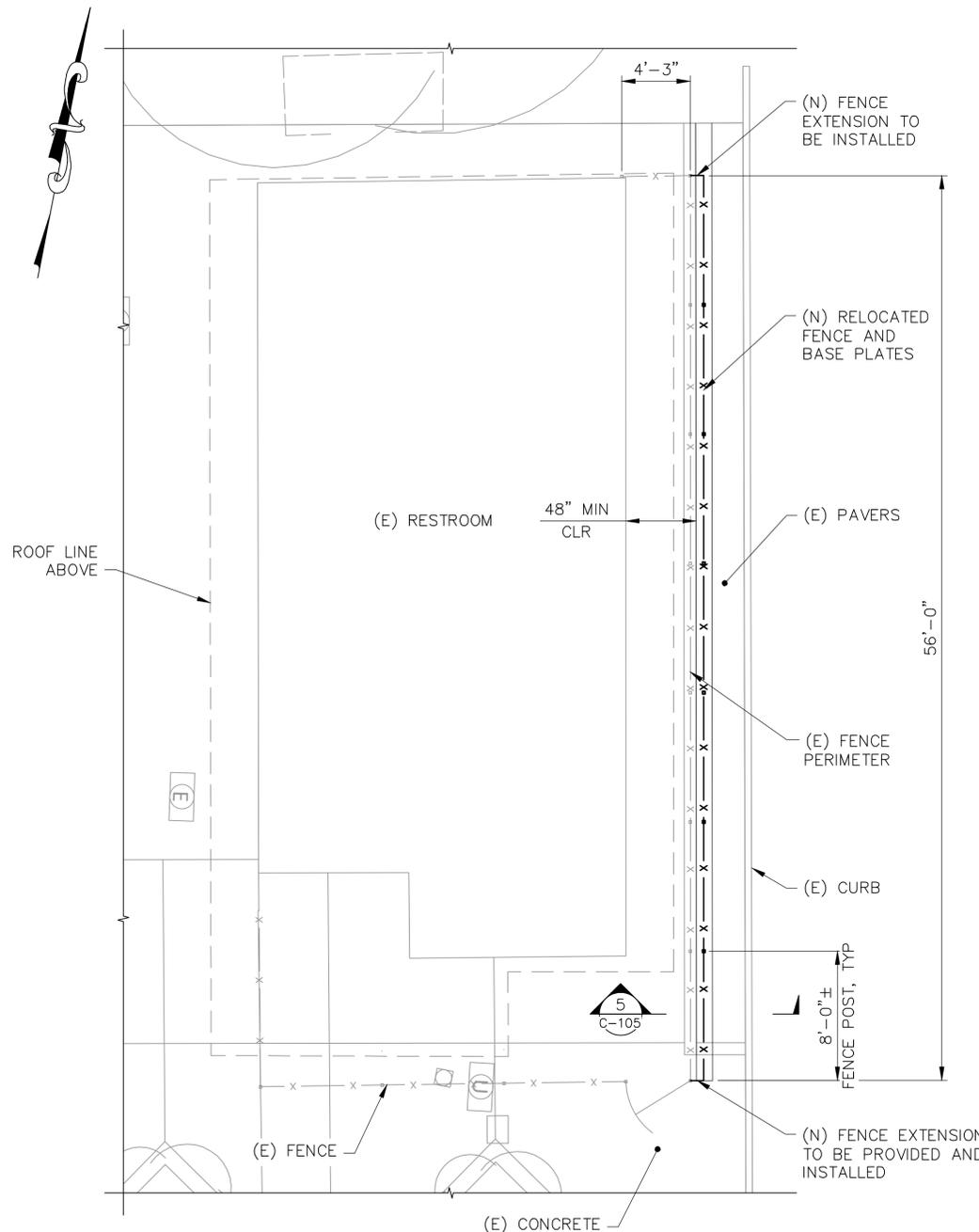


PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>			BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
SURVEY PARTY CHIEF _____	SUPERVISING CIVIL ENGINEER _____	APPROVED: _____ DATE _____	DRAWN: <u>NIF</u>	VERT.: _____				FILE _____
WATERSHED REVIEW: _____ DATE _____	CITY ENGINEER _____	AS BUILT _____	CHECK: <u>SYEE</u>	BOOK _____	DATE: <u>8/XX/22</u>		GATE DETAILS SHEET 2 OF 2	C-104 SHEET 13 OF 52

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
0		01-15-2024	ISSUED FOR BID SUBMITTAL	JMC

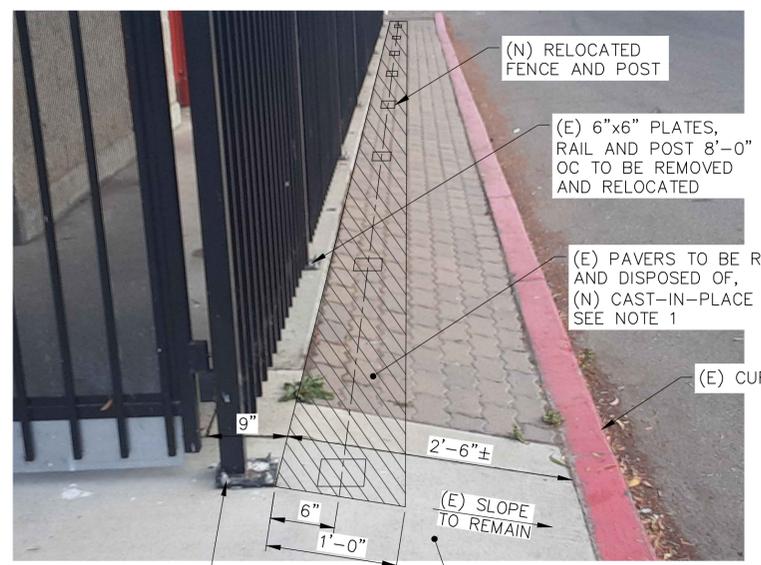
**GENERAL NOTES**

1. REMOVE AND DISPOSE OF SLOPED PAVERS AND CONCRETE AS NOTED.
2. LEVEL EXISTING SOIL PRIOR TO CONCRETE POUR.
3. NEW CAST-IN-PLACE CONCRETE TO BE FLUSHED WITH EXISTING ADA PATH WAY ON WEST END OF NEW FENCE.
4. EXISTING PAVERS TO FOLLOW EXISTING SLOPE GRADE.
5. ADA DOMES TO BE INSTALLED ON LEVEL SURFACE.
6. ANCHOR BOLTS FOR RELOCATED FENCE AND TRUNCATED DOME PADS TO BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
7. FOR SOUTH END PAD, PROVIDE OPENING TO ACCOMMODATE EXISTING BOLLARD AND SHIFT ANCHOR BOLT HOLE AS NEEDED.
8. POST INSTALL ANCHOR ROD PRIOR TO CASTING NEW BASE FOR RELOCATED BASE AND FENCE POST. ANCHOR RODS SHALL CONFORM TO ASTM F1554 GRADE, HOT DIPPED GALVANIZED WITH EPOXY BODING BY HILTI OR ENGINEER APPROVED EQUAL. POST INSTALL PER MANUFACTURES RECOMMENDATIONS.
9. ANCHOR BOLT TO BE ASTM A449 WITH NUT AND WASHER.

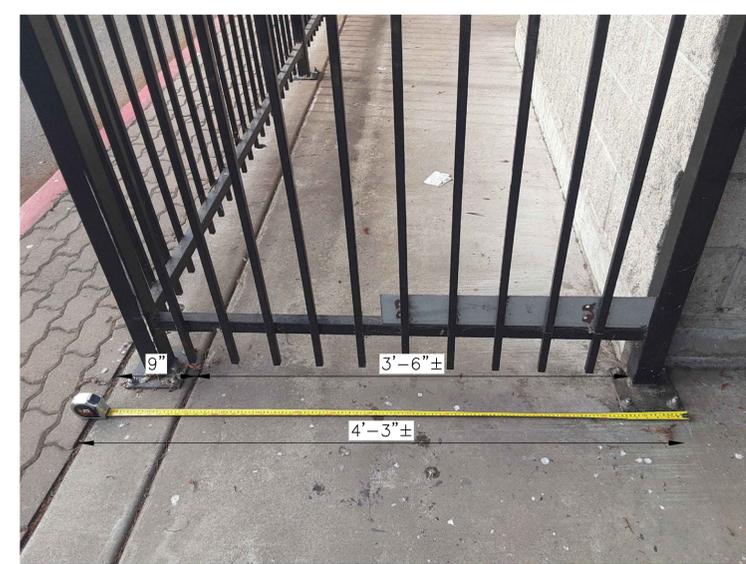


**EXISTING FENCE RELOCATION PLAN**  
SCALE: 3/16" = 1'-0"  
C-105

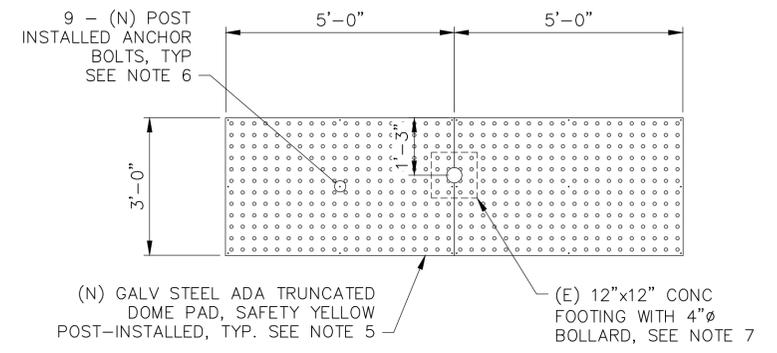
**LEGEND:**  
-x-x- (E) RESTROOM FENCE



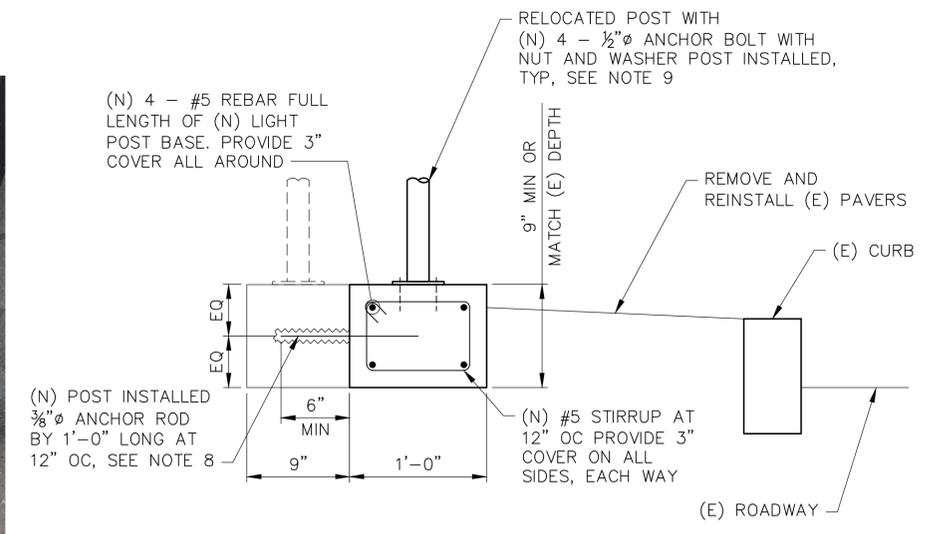
**EXISTING EAST END FENCE AND PATHWAY LOOKING WEST**  
SCALE: NTS  
C-105



**EXISTING NORTH END FENCE LOOKING WEST**  
SCALE: NTS  
C-105

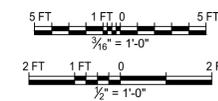


**ADA TRUNCATED DOMES**  
SCALE: 1/2" = 1'-0"  
C-105

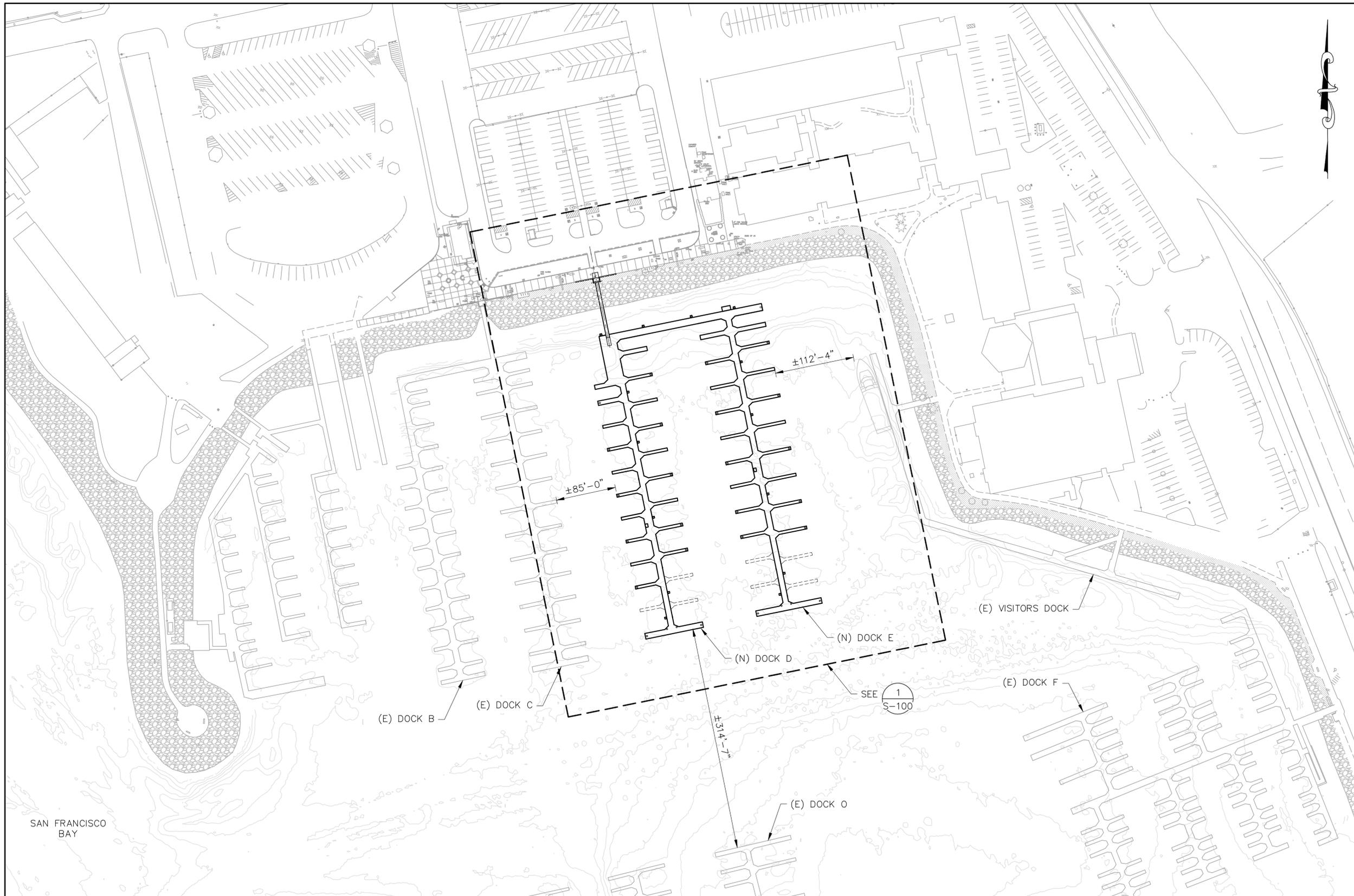


**RELOCATED POST DETAIL**  
SCALE: 1/2" = 1'-0"  
C-105

**ISSUED FOR BID SUBMITTAL**



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>			<b>BERKELEY MARINA DOCK REPLACEMENT (D-E)</b> CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
SURVEY PARTY CHIEF: _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	DRAWN: <u>NIF</u>	VERT.: _____				FILE _____
APPROVED: _____ DATE _____	CITY ENGINEER: _____	CHECK: <u>SYEE</u>	BOOK: _____	DATE: <u>8/XX/22</u>				REVISION: _____



**SITE PLAN**  
SCALE: 1" = 70'-0"  
1  
S-001

**ISSUED FOR BID  
SUBMITTAL**



PROJECT MANAGER:	DATE	DEPICTION OF MONUMENTS:	DATE
SURVEY PARTY CHIEF:		WATERSHED REVIEW:	DATE

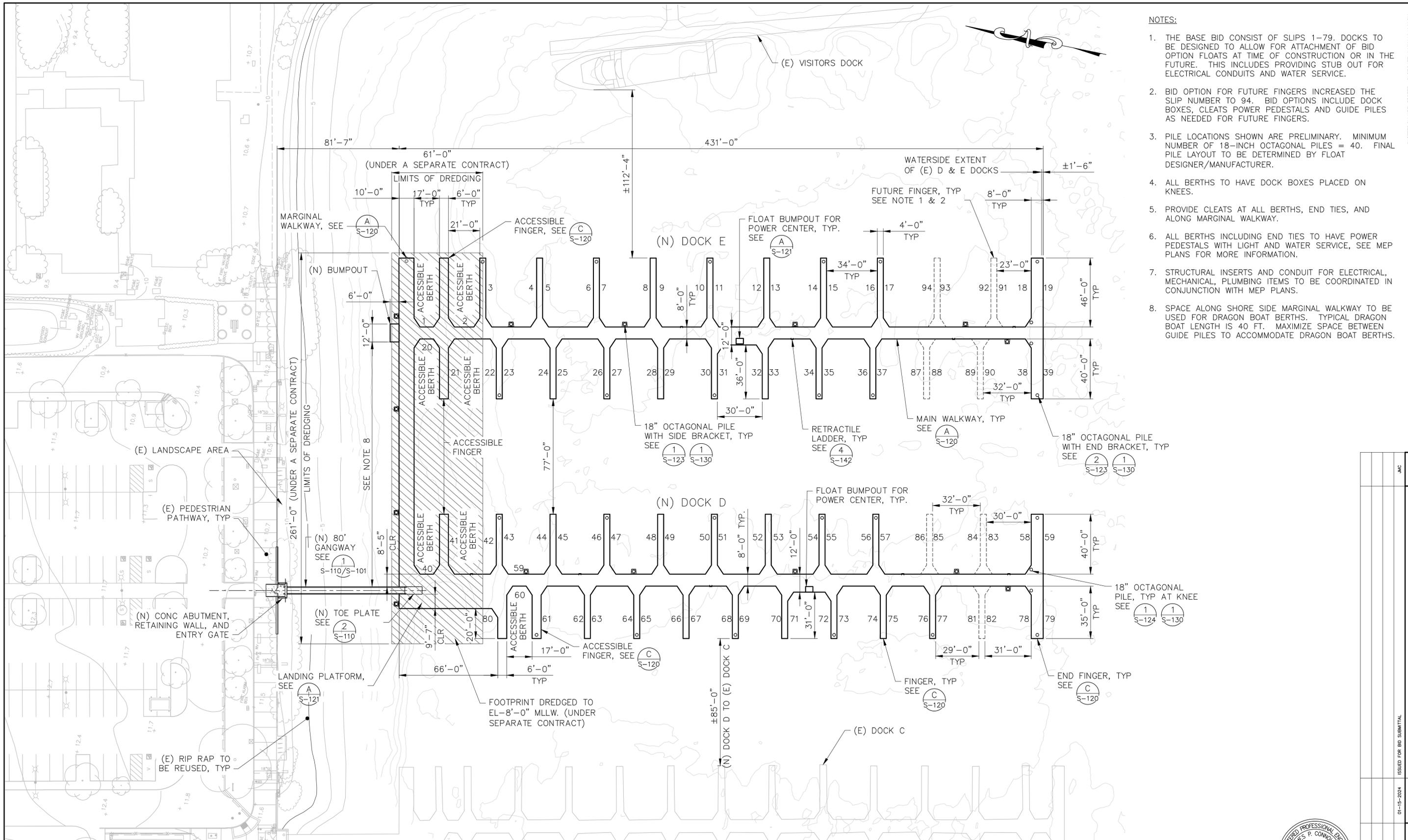
SUBMITTED:	DATE	DESIGN:	DATE
SUPERVISING CIVIL ENGINEER:	R.C.E. EXP.	DRAWN:	VERT.
APPROVED:	DATE	CHECK:	BOOK
CITY ENGINEER:	R.C.E. EXP.	AS BUILT:	DATE

DESIGN:	DATE	HORIZ.:	AS SHOWN
DRAWN:	DATE	VERT.:	
CHECK:	DATE	BOOK:	
AS BUILT:	DATE	DATE:	6/3/22



**BERKELEY MARINA DOCK REPLACEMENT (D-E)**  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
**SITE PLAN**

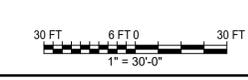
REVISION	MARK	DATE	DESCRIPTION	APPROVAL
0		01-15-2024	ISSUED FOR BID SUBMITTAL	JMC



- NOTES:**
1. THE BASE BID CONSIST OF SLIPS 1-79. DOCKS TO BE DESIGNED TO ALLOW FOR ATTACHMENT OF BID OPTION FLOATS AT TIME OF CONSTRUCTION OR IN THE FUTURE. THIS INCLUDES PROVIDING STUB OUT FOR ELECTRICAL CONDUITS AND WATER SERVICE.
  2. BID OPTION FOR FUTURE FINGERS INCREASED THE SLIP NUMBER TO 94. BID OPTIONS INCLUDE DOCK BOXES, CLEATS POWER PEDESTALS AND GUIDE PILES AS NEEDED FOR FUTURE FINGERS.
  3. PILE LOCATIONS SHOWN ARE PRELIMINARY. MINIMUM NUMBER OF 18-INCH OCTAGONAL PILES = 40. FINAL PILE LAYOUT TO BE DETERMINED BY FLOAT DESIGNER/MANUFACTURER.
  4. ALL BERTHS TO HAVE DOCK BOXES PLACED ON KNEES.
  5. PROVIDE CLEATS AT ALL BERTHS, END TIES, AND ALONG MARGINAL WALKWAY.
  6. ALL BERTHS INCLUDING END TIES TO HAVE POWER PEDESTALS WITH LIGHT AND WATER SERVICE, SEE MEP PLANS FOR MORE INFORMATION.
  7. STRUCTURAL INSERTS AND CONDUIT FOR ELECTRICAL, MECHANICAL, PLUMBING ITEMS TO BE COORDINATED IN CONJUNCTION WITH MEP PLANS.
  8. SPACE ALONG SHORE SIDE MARGINAL WALKWAY TO BE USED FOR DRAGON BOAT BERTHS. TYPICAL DRAGON BOAT LENGTH IS 40 FT. MAXIMIZE SPACE BETWEEN GUIDE PILES TO ACCOMMODATE DRAGON BOAT BERTHS.

**NEW DOCK PLAN**  
 SCALE: 1" = 30'-0"  
 1  
 S-100

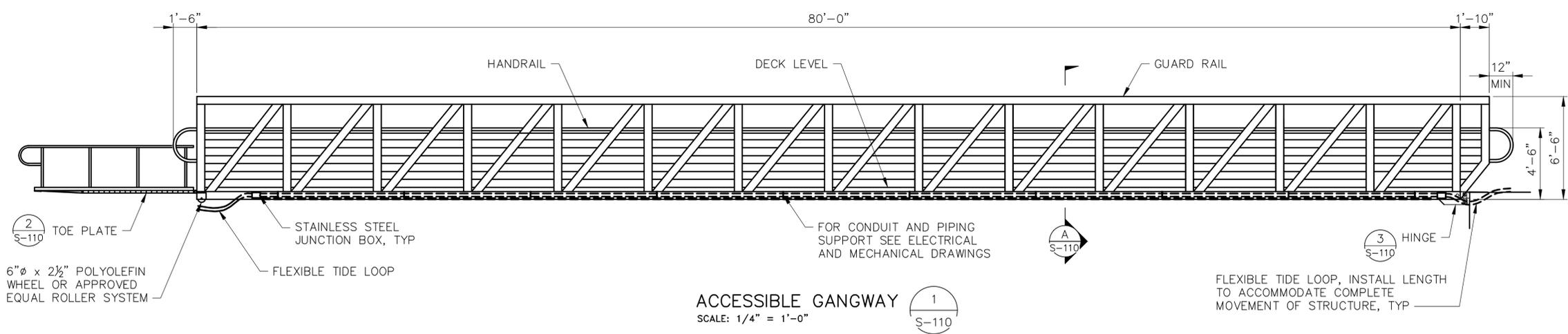
**ISSUED FOR BID SUBMITTAL**



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ. <u>AS SHOWN</u>	 <b>COWI</b> BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA <b>NEW DOCK PLAN</b>	PLAN _____
SURVEY PARTY CHIEF: _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	DRAWN: <u>NIF</u> VERT. _____		FILE _____
APPROVED: _____ DATE _____	CITY ENGINEER: _____ DATE _____	CHECK: <u>JMC</u> BOOK _____	DATE: <u>6/3/22</u>		REVISION _____
					MARK _____

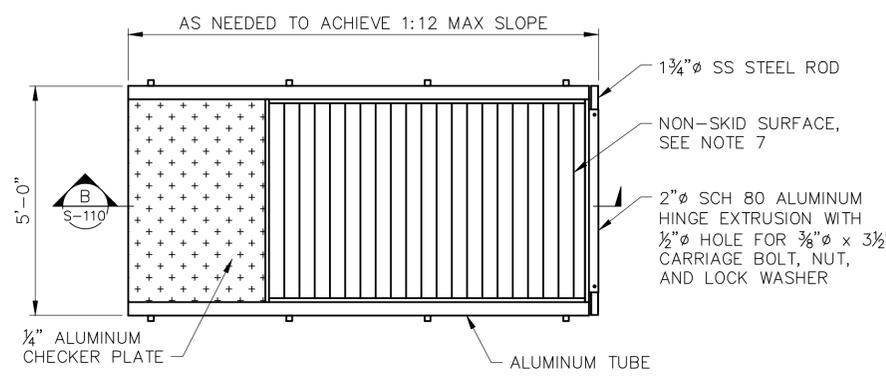
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 ISSUED FOR BID SUBMITTAL  
 01-15-2024  
 DATE  
 MARK  
 REVISION  
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 SHEET 16 OF 52

PLOTTED BY: NOEL FORTEZ - PLOT DATE: 1/10/2024 3:12:41 PM

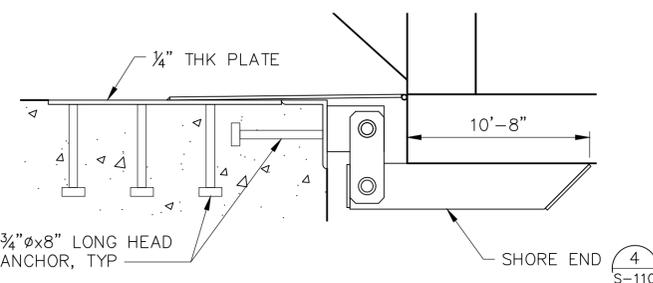


**ACCESSIBLE GANGWAY**  
SCALE: 1/4" = 1'-0"  
1 S-110

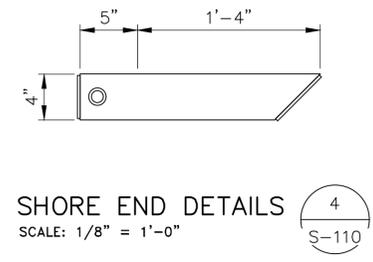
- GENERAL NOTES FOR ALL FABRICATIONS:**
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS PRIOR TO FABRICATION OF ALL COMPONENTS.
  2. ALL ALUMINUM MATERIALS SHALL RECEIVE A LIGHT SAND BLAST FINISH AFTER FABRICATION.
  3. ALL MATERIAL SIZES, SCHEDULES, AND DIMENSIONS SHOWN ON THESE PLANS ARE TO BE CONSIDERED MINIMUM REQUIRED. CALCULATIONS AND SHOP DRAWINGS MAY REQUIRE ADDITIONAL/LARGER/STRONGER MATERIALS.
  4. GANGWAY SHALL BE SIMILAR IN APPEARANCE AS B & C GANGWAY.
  5. ALTERNATIVE HINGE DETAIL MAY BE SUBMITTED FOR CONSIDERATION.
  6. SEE E-SHEETS FOR ADDITIONAL GANGWAY LIGHTING DETAILS.
  7. NON-SKID DECKING TO BE MICRO-MESH® MOLDED GRATING OR APPROVED EQUIVALENT.
  8. CHANGES IN GRADE BETWEEN 1/4" HIGH MINIMUM AND 1/2" HIGH MAXIMUM SHALL BE BEVELED WITH A SLOPE NOT GREATER THAN 1:2.



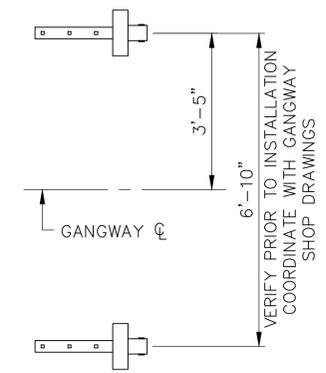
**TOE PLATE**  
SCALE: 1/2" = 1'-0"  
2 S-110



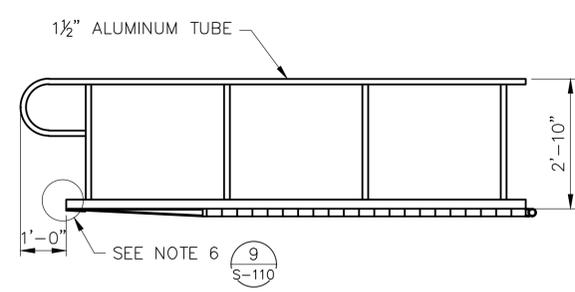
**HINGE DETAIL**  
SCALE: 3" = 1'-0"  
3 S-110



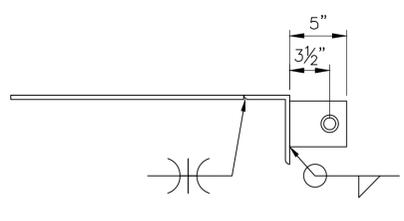
**SHORE END DETAILS**  
SCALE: 1/8" = 1'-0"  
4 S-110



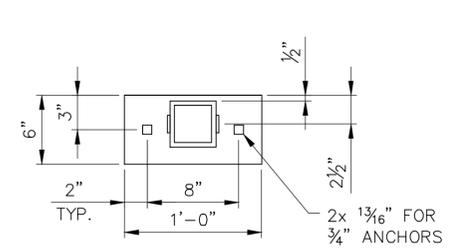
**SITE SHORE MOUNT LOCATIONS**  
SCALE: 1 1/2" = 1'-0"  
5 S-110



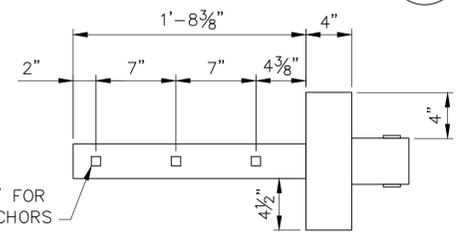
**TOE PLATE SECTION**  
SCALE: 1/2" = 1'-0"  
B S-110



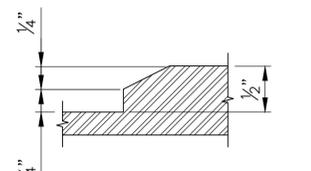
**SIDE ELEVATION VIEW**  
SCALE: 1/8" = 1'-0"  
6 S-110



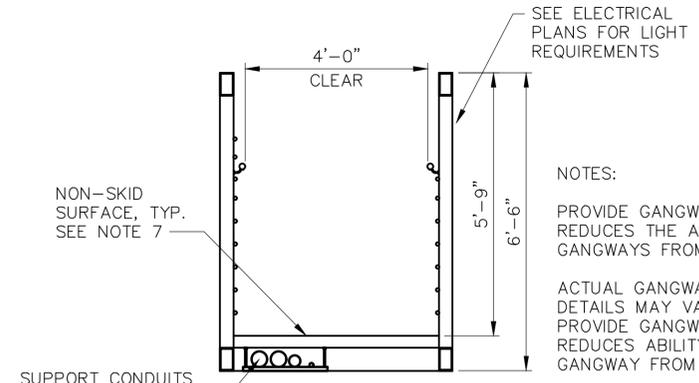
**END ELEVATION VIEW**  
SCALE: 1/8" = 1'-0"  
7 S-110



**PLAN VIEW**  
SCALE: 1/8" = 1'-0"  
8 S-110



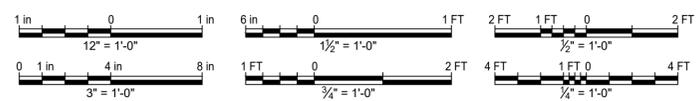
**KICK PLATE DETAIL**  
SCALE: 12" = 1'-0"  
9 S-110



**GANGWAY SECTION**  
SCALE: 1/2" = 1'-0"  
A S-110

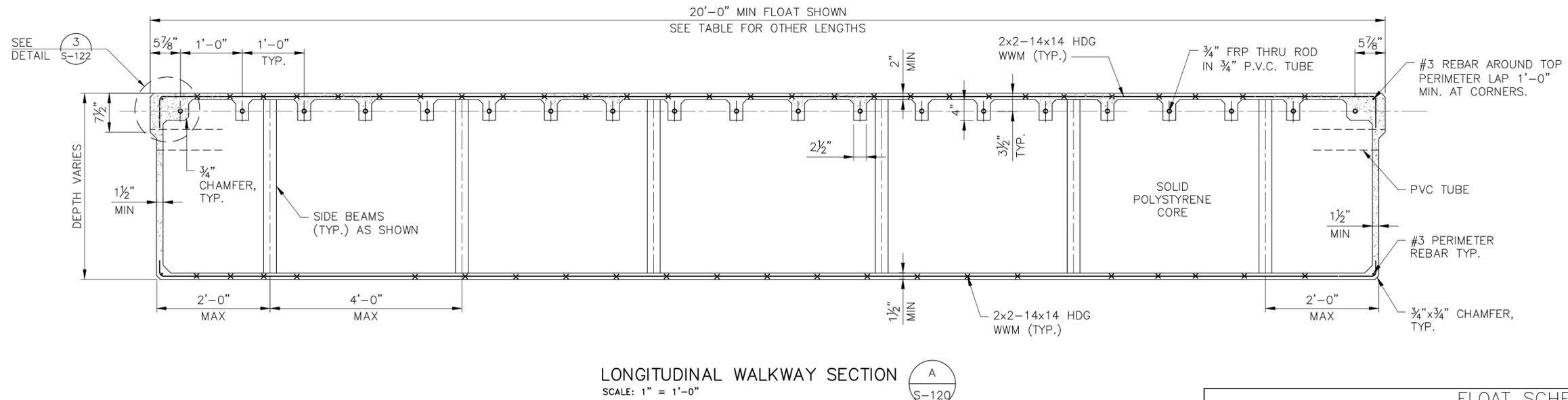
- NOTES:**
- PROVIDE GANGWAY DESIGNS THAT REDUCES THE ABILITY TO CLIMB THE GANGWAYS FROM THE SIDES.
  - ACTUAL GANGWAY AND UTILITY LINES DETAILS MAY VARY FROM SHOWN. PROVIDE GANGWAY DESIGN THAT REDUCES ABILITY TO CLIMB ONTO GANGWAY FROM SIDES

**ISSUED FOR BID SUBMITTAL**



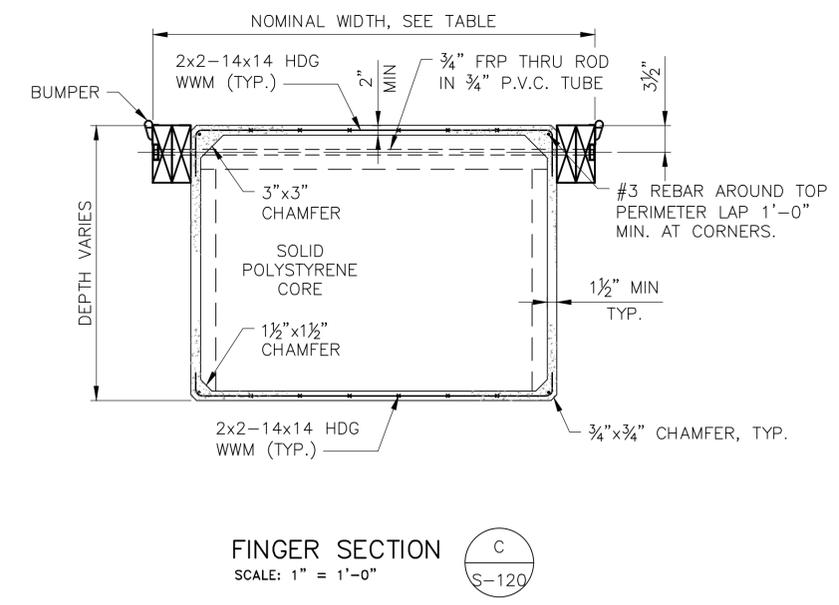
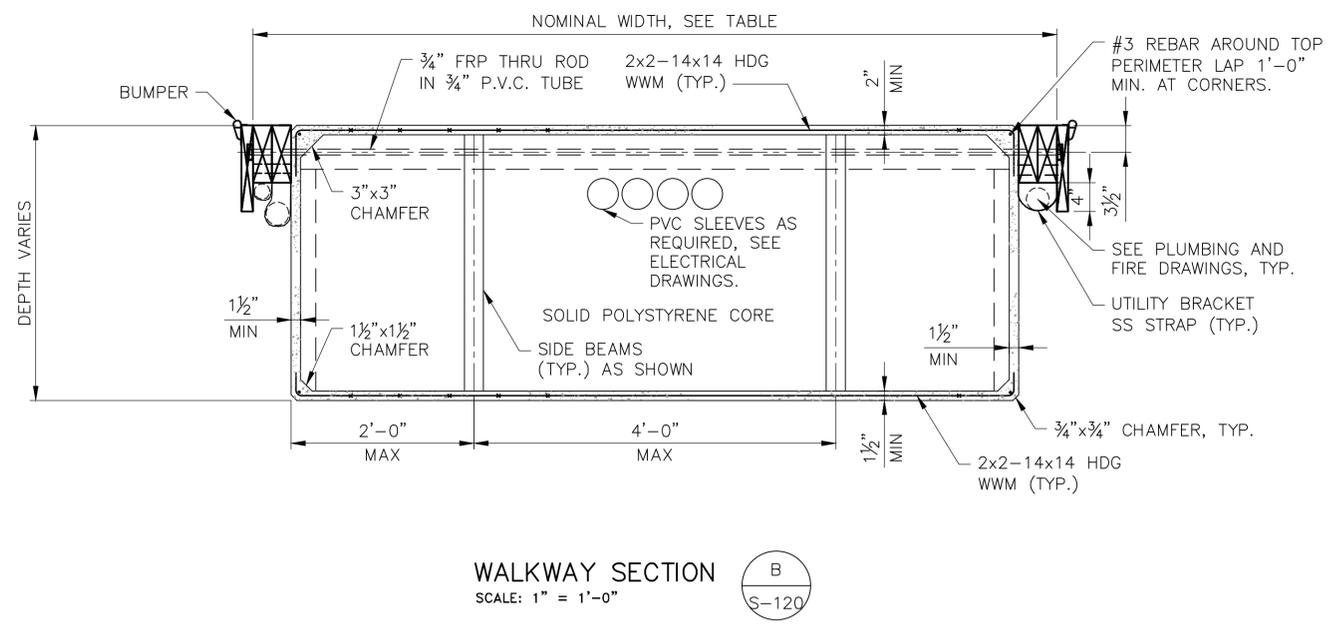
PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ: <u>AS SHOWN</u>	 <b>BERKELEY MARINA DOCK REPLACEMENT (D-E)</b> CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA <b>GANGWAY DETAILS</b>	PLAN _____
SURVEY PARTY CHIEF: _____	SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: <u>NIF</u> VERT: _____		FILE _____
WATERSHED REVIEW: _____	WATERSHED REVIEW: _____	APPROVED: _____	CHECK: <u>SYEE</u> BOOK: _____		REVISION _____
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	DATE: _____	CITY ENGINEER: _____	AS BUILT: _____ DATE: <u>6/3/22</u>		MARK _____

APPROVAL	JMC
DESCRIPTION	
DATE	01-15-2024
MARK	
REVISION	0
FILE	S-110
SHEET	18 OF 52

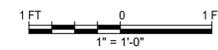


- NOTES:
- GENERAL CONCEPT DETAILS SHOWN.
  - CONTRACTOR TO SUBMIT SHOP DRAWING AND FLOATATION CALCULATIONS FOR RECTANGLE FLOATS. ALTERNATE TO RECTANGLE FLOAT MAY BE CONSIDERED AS AN ALTERNATE DESIGN WHICH IS TO BE SUBMITTED FOR APPROVAL.
  - SEE TECHNICAL SPECIFICATIONS AND BASIS OF DESIGN FOR STABLE FREEBOARD UNDER LIVE LOADING.
  - MINIMUM FLOAT LENGTH 20 FEET SHALL HAVE A MINIMUM OF 6 SIDE BEAMS.
  - SIDE BEAMS ARE TO BE PLACED ON ALL 4 SIDES OF FLOAT. LAYOUT TO BE SHOWN ON SHOP DRAWINGS AND IS SUBJECT TO ENGINEERS APPROVAL.
  - PROVIDE DOUBLE STAINLESS STEEL STRAP WITH WATER LINES ON SAME SIDE WHEN FIRE LINE IS PRESENT. OTHERWISE, USE ONLY SINGLE STRAPS POSITION 3" LINE TO ALLOW REMOVAL OF 2" LINE WITHOUT REMOVING 3".
  - WALERS AND RUB STRIPS TO BE COMPOSED OF TIMBER OR APPROVED EQUIVALENT MATERIAL.

FLOAT SCHEDULE					
FLOAT TYPE	FINGER	ACCESSIBLE FINGER	END FINGER	MARGINAL WALKWAY	MAIN WALKWAY
CONCRETE FLOAT LENGTH	20'-46'	20'-46'	VARIES	20'-0"	20'-0"
NOMINAL FINGER WIDTH	4'	6'	8'	10'	8'
MINIMUM CONCRETE FLOAT WIDTH	3'-7"	5'-7"	7'-2"	9'-2"	7'-2"
MINIMUM WALER SIZES	3"x6" IN 3"x6" OUT	3"x6" IN 3"x6" OUT	3"x8" IN 3"x8" OUT	3"x10" IN 3"x10" OUT	3"x10" IN 3"x10" OUT
WOODEN RUB STRIP	2"x8"	2"x10"	2"x10"	2"x12"	2"x12"

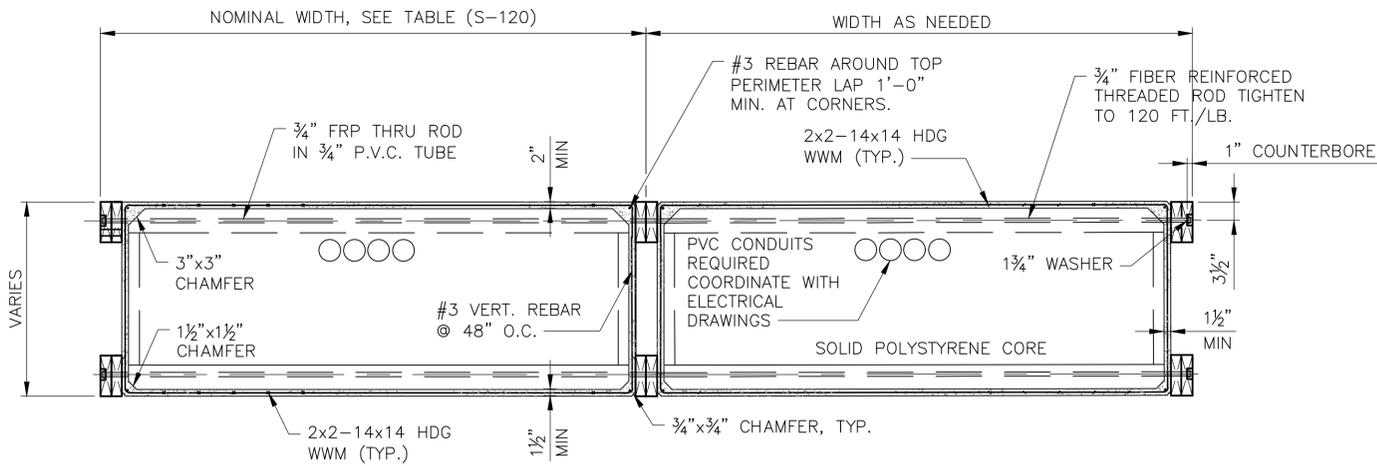


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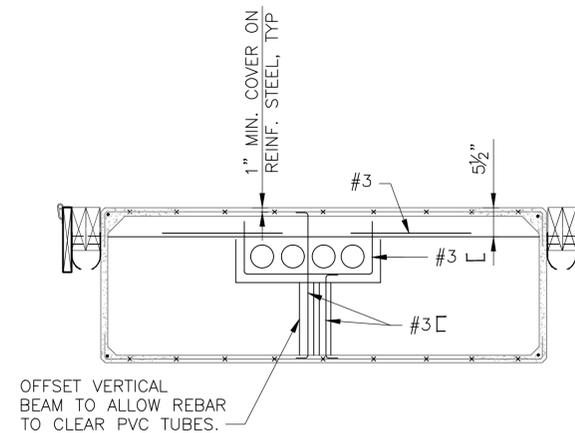


PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____ DATE _____	HORIZ.: _____ DATE _____	  	BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
SURVEY PARTY CHIEF: _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	DRAWN: _____ DATE _____	VERT.: _____ DATE _____		FILE _____	
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	CITY ENGINEER: _____ DATE _____	AS BUILT: _____ DATE _____	CHECK: _____ DATE _____	BOOK: _____ DATE _____		SHEET 19 OF 52	

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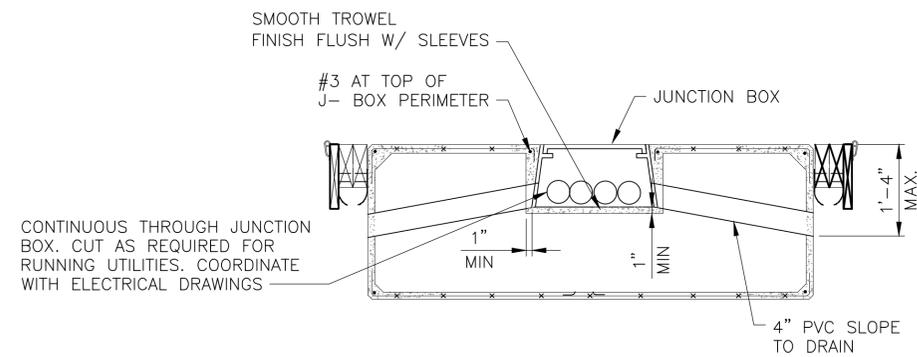


DOUBLE FLOAT SECTION A  
SCALE: 3/4" = 1'-0"



NOTE: SEE WALKWAY SECTION FOR ADDITIONAL INFORMATION

WALKWAY END SECTION B  
SCALE: 3/4" = 1'-0"



NOTE: STOP BEAMS AT EDGE OF JUNCTION BOX WHERE CONFLICT OCCURS, RODS TO CONTINUE THROUGH

SPLICE BOX SECTION C  
SCALE: 3/4" = 1'-0"

- NOTES:
1. GENERAL CONCEPT DETAILS SHOWN.
  2. CONTRACTOR TO SUBMIT SHOP DRAWING AND FLOATATION CALCULATIONS FOR RECTANGLE FLOATS. ALTERNATE TO RECTANGLE FLOAT MAY BE CONSIDERED AS AN ALTERNATE DESIGN WHICH IS TO BE SUBMITTED FOR APPROVAL.
  3. SEE TECHNICAL SPECIFICATIONS AND BASIS OF DESIGN FOR STABLE FREEBOARD UNDER LIVE LOADING.
  4. WALERS AND RUB STRIPS TO BE COMPOSED OF TIMBER OR APPROVED EQUIVALENT MATERIAL.

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CONTINUOUS THROUGH JUNCTION BOX. CUT AS REQUIRED FOR RUNNING UTILITIES. COORDINATE WITH ELECTRICAL DRAWINGS

SMOOTH TROWEL FINISH FLUSH W/ SLEEVES

#3 AT TOP OF J- BOX PERIMETER

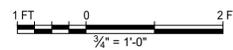
JUNCTION BOX

4" PVC SLOPE TO DRAIN

NOTE: STOP BEAMS AT EDGE OF JUNCTION BOX WHERE CONFLICT OCCURS, RODS TO CONTINUE THROUGH

SPLICE BOX SECTION C  
SCALE: 3/4" = 1'-0"

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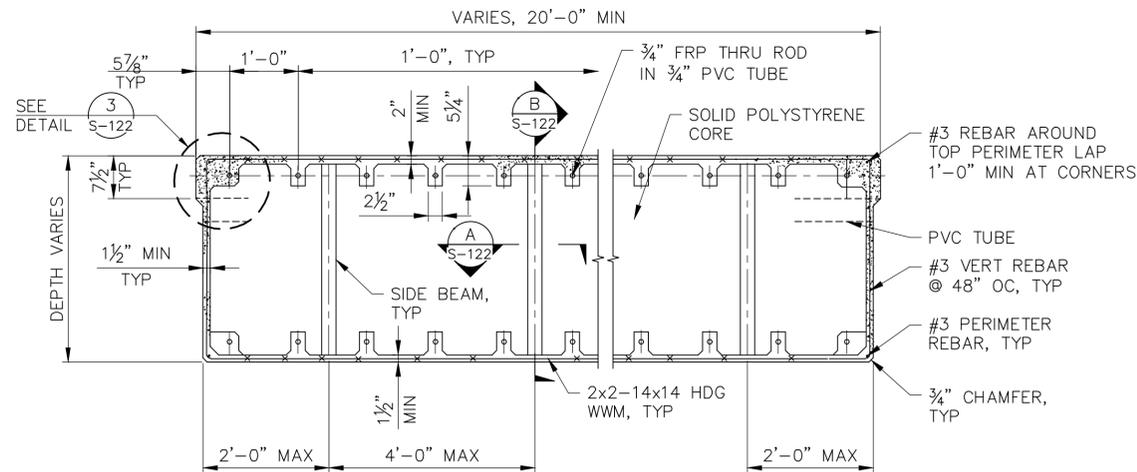
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SURVEY PARTY CHIEF: _____	DATE: _____	WATERSHED REVIEW: _____	DATE: _____	SUPERVISING CIVIL ENGINEER: _____	DATE: _____	DRAWN: <u>NIF</u>	VERT.: _____
CITY ENGINEER: _____	DATE: _____		DATE: _____	APPROVED: _____	DATE: _____	CHECK: <u>SYEE</u>	BOOK: _____
						AS BUILT: _____	DATE: <u>6/3/22</u>



BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
FLOAT DETAILS  
SHEET 2 OF 6

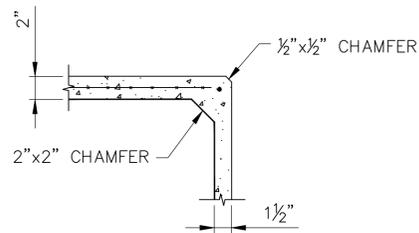
REVISION	MARK	DATE	DESCRIPTION	APPROVAL
0		01-15-2024	ISSUED FOR BID SUBMITTAL	JMC

PLAN \_\_\_\_\_  
FILE \_\_\_\_\_  
S-121  
SHEET 20 OF 52

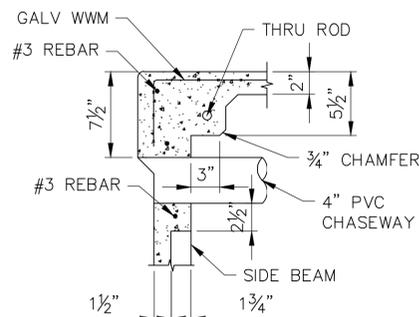


NOTE: INTERNAL CONCRETE SIDE BEAMS ARE TO BE PLACED ON ALL 4 SIDES OF FLOAT. LAYOUT TO BE SHOWN ON SHOP DRAWINGS AND IS SUBJECT TO ENGINEER'S APPROVAL.

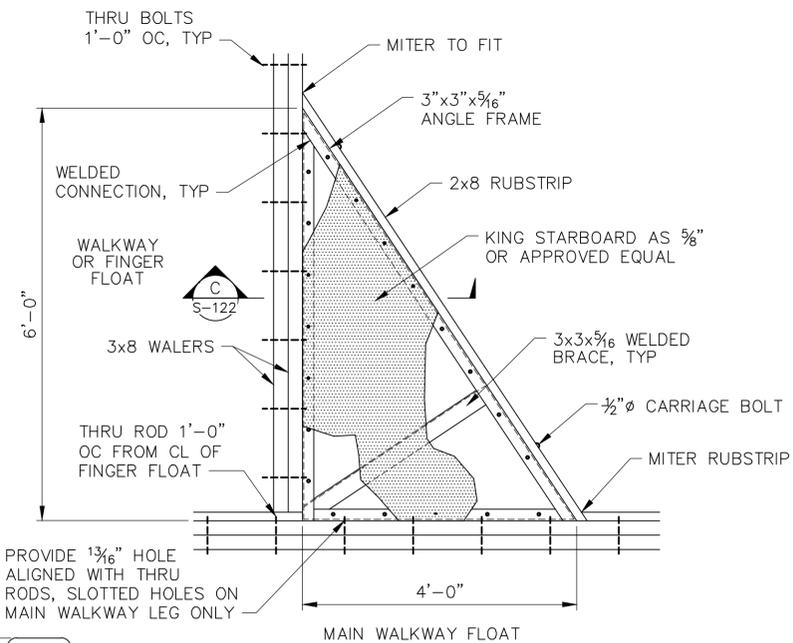
**FLOAT SECTION 1**  
SCALE: 3/4" = 1'-0"  
S-122



**DETAIL AT CORNERS 2**  
SCALE: 1 1/2" = 1'-0"  
S-122



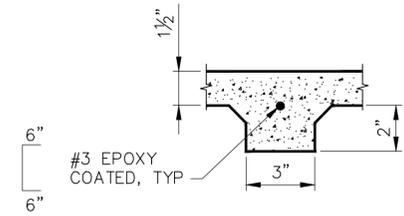
**DETAIL 3**  
SCALE: 1 1/2" = 1'-0"  
S-122



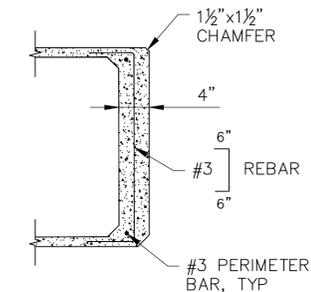
NOTES:  
1. ALL STEEL FRAMING TO BE HOT DIP GALVANIZED.  
2. REINFORCE KNEE WHERE NEEDED TO ACCOMMODATE SPECIFIED LOADS AT FLOATING HOME LOCATIONS.

**KNEE DETAIL 4**  
SCALE: 3/4" = 1'-0"  
S-122

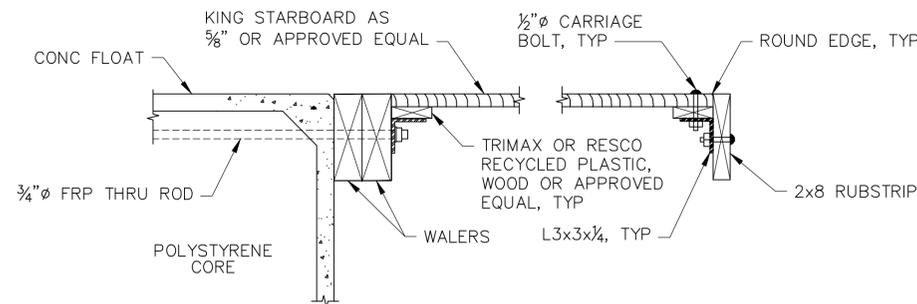
NOTE:  
1. WALERS AND RUB STRIPS TO BE COMPOSED OF TIMBER OR APPROVED EQUIVALENT MATERIAL.



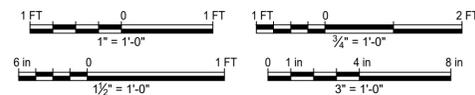
**SECTION A**  
SCALE: 3" = 1'-0"  
S-122



**FLOAT SECTION AT SIDE BEAM B**  
SCALE: 1" = 1'-0"  
S-122



**KNEE SECTION WITHOUT PILE C**  
SCALE: 1 1/2" = 1'-0"  
S-122



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>			<b>BERKELEY MARINA DOCK REPLACEMENT (D-E)</b> CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
SURVEY PARTY CHIEF: _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: <u>NIF</u>	VERT.: _____				FILE _____
CITY ENGINEER: _____	APPROVED: _____ DATE _____	CHECK: <u>SYEE</u>	BOOK _____	DATE: <u>8/XX/22</u>				AS BUILT _____

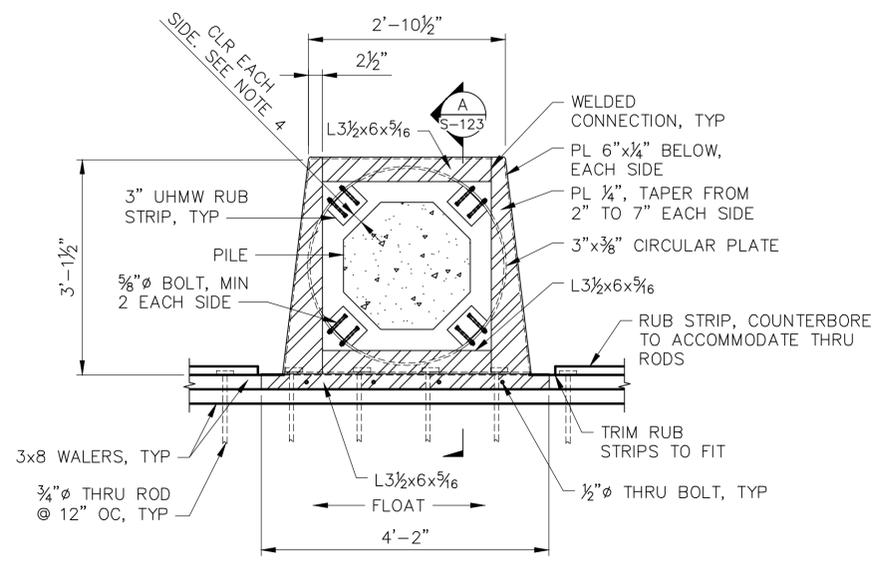


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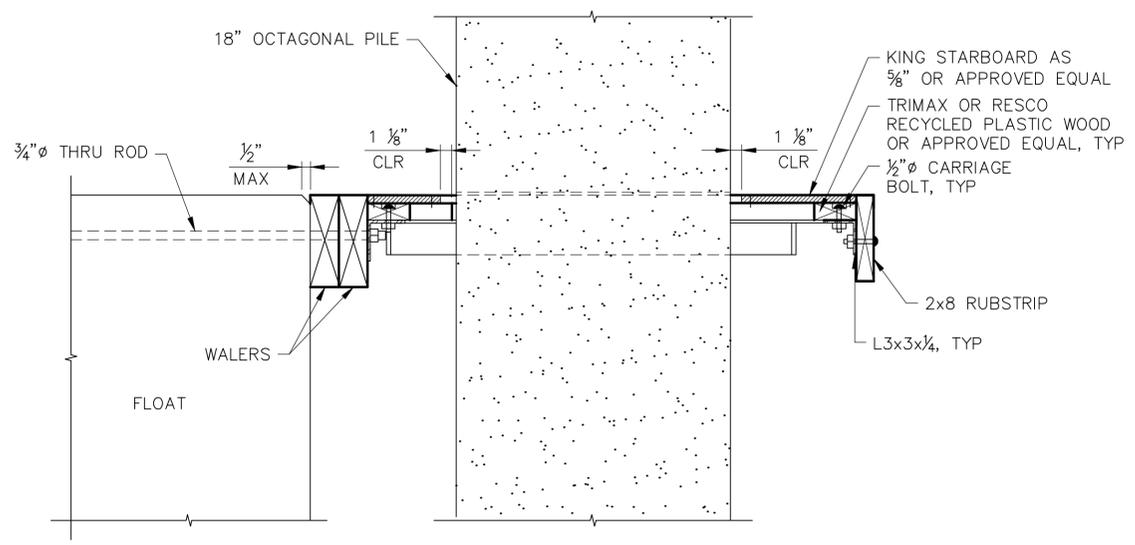
NOTES:

1. ALL WELDED STEEL BRACKETS ARE TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.
2. WALERS AND RUB STRIPS TO BE COMPOSED OF TIMBER OR APPROVED EQUIVALENT MATERIAL.
3. ALTERNATE DESIGN TO PILE COLLARS MAY BE CONSIDERED. SUBMIT ALTERNATE DESIGN FOR APPROVAL.
4. LATERAL CLEARANCE AT PILE RUB STRIPS IS 1/2-INCH MINIMUM AND 1-INCH MAXIMUM AT ALL WATER LEVELS

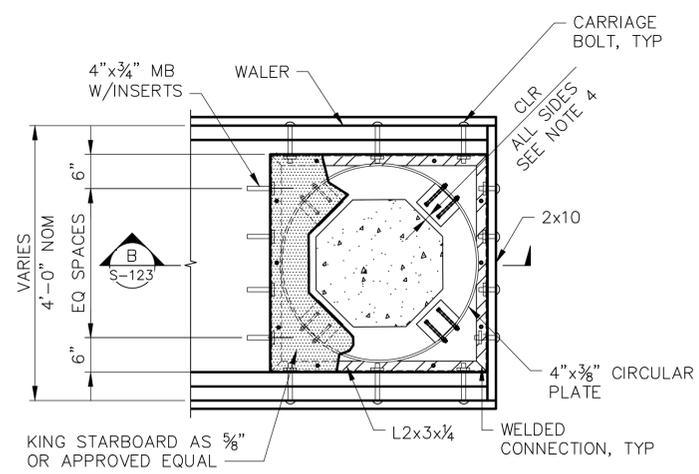
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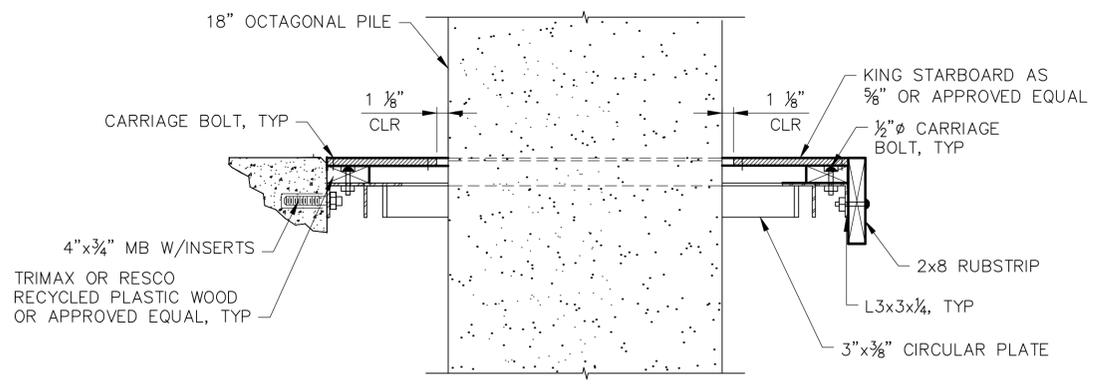
DETAIL - SIDE PILE BRACKET 1  
SCALE: 3/4" = 1'-0"



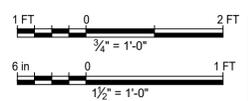
SECTION - SIDE PILE BRACKET A  
SCALE: 1 1/2" = 1'-0"



DETAIL - END PILE BRACKET 2  
SCALE: 3/4" = 1'-0"  
NOTE: SEE NOTE 3



SECTION - END PILE BRACKET B  
SCALE: 1 1/2" = 1'-0"



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ: <u>AS SHOWN</u>
SURVEY PARTY CHIEF: _____	SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	VERT: _____
WATERSHED REVIEW: _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	BOOK: _____
		CITY ENGINEER: _____	AS BUILT: _____ DATE: <u>8/XX/22</u>

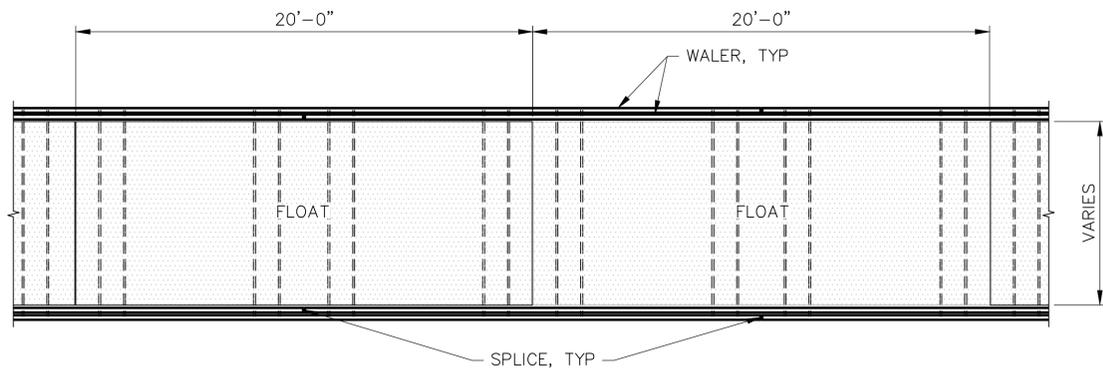
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BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
FLOAT DETAILS  
SHEET 4 OF 6

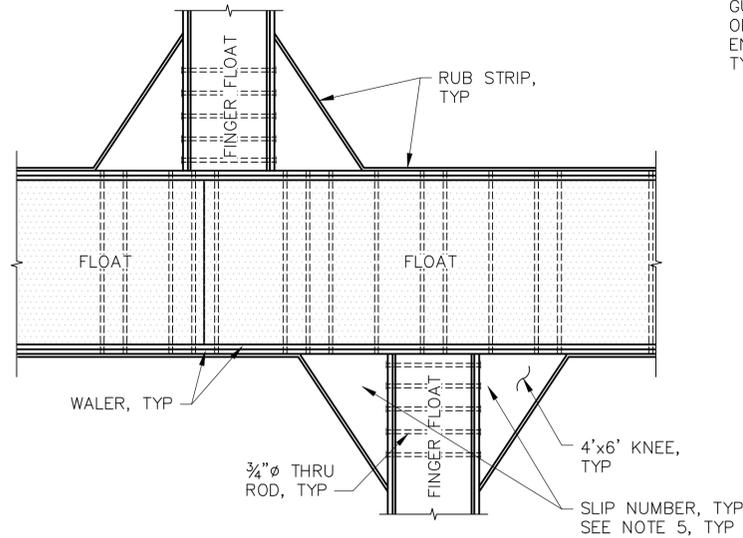
REVISION	MARK	DATE	DESCRIPTION	APPROVAL
0		01-15-2024	ISSUED FOR BID SUBMITTAL	JMC



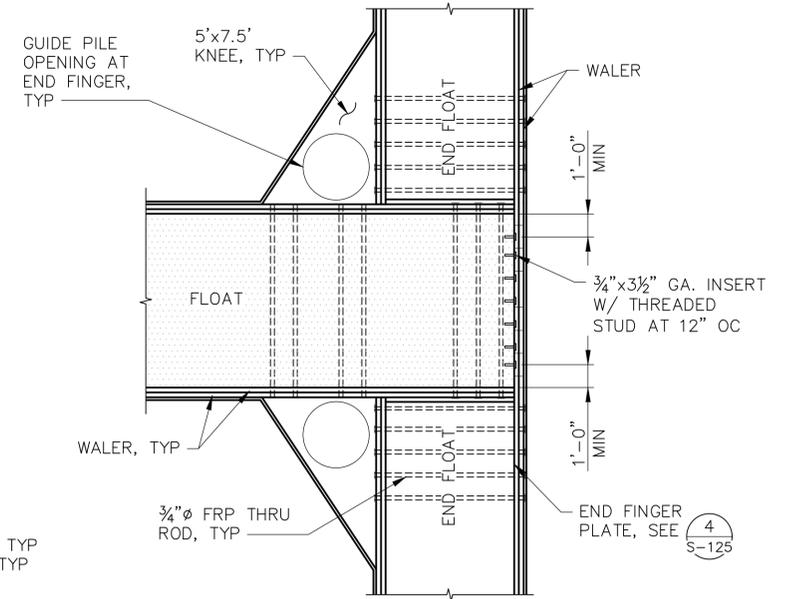


- NOTES:
1. WALER SPLICE AT 1/2 FLOAT LENGTH.
  2. NO TWO WALERS SPLICED AT SAME POINT.
  3. NO SPLICES AT FLOAT JOINTS.
  4. TWO THRU ROD MIN. EACH SIDE OF WALER SPLICE AND FLOAT JOINT.
  5. LABEL EACH SLIP PER DOCK.

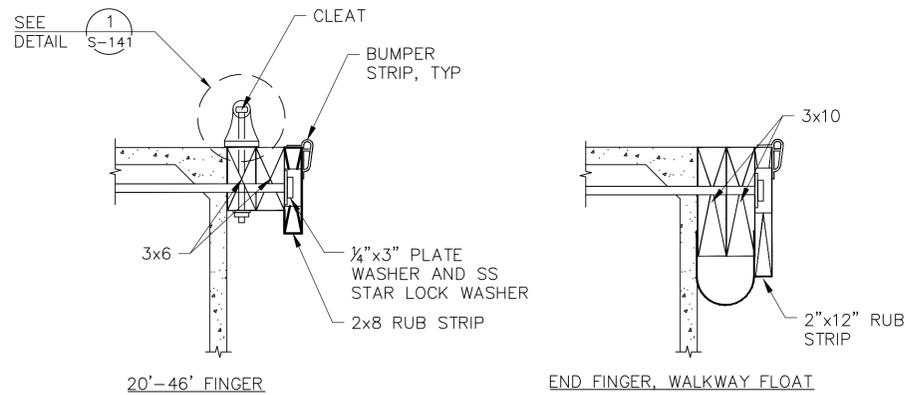
WALER SPLICE & THRU-ROD DETAIL 1  
SCALE: 1/4" = 1'-0" S-125



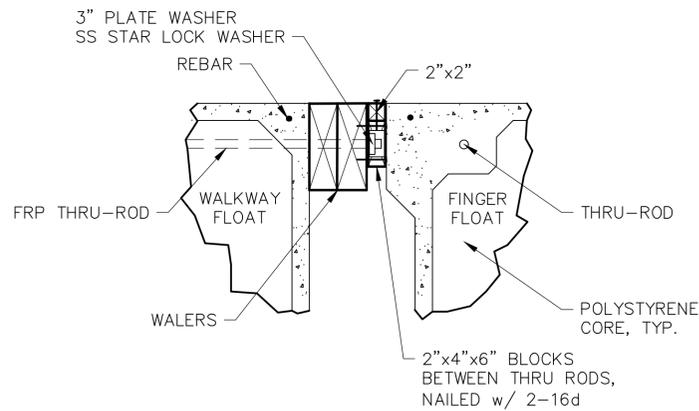
WALKWAY/FINGER CONNECTION 2  
SCALE: 1/4" = 1'-0" S-125



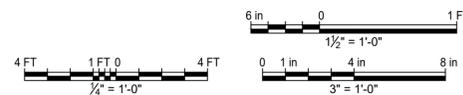
WALKWAY/END FINGER CONNECTION 3  
SCALE: 1/4" = 1'-0" S-125



WALER CONNECTION DETAIL 4  
SCALE: 1 1/2" = 1'-0" S-125



CONNECTION DETAIL 5  
SCALE: 3" = 1'-0" S-125

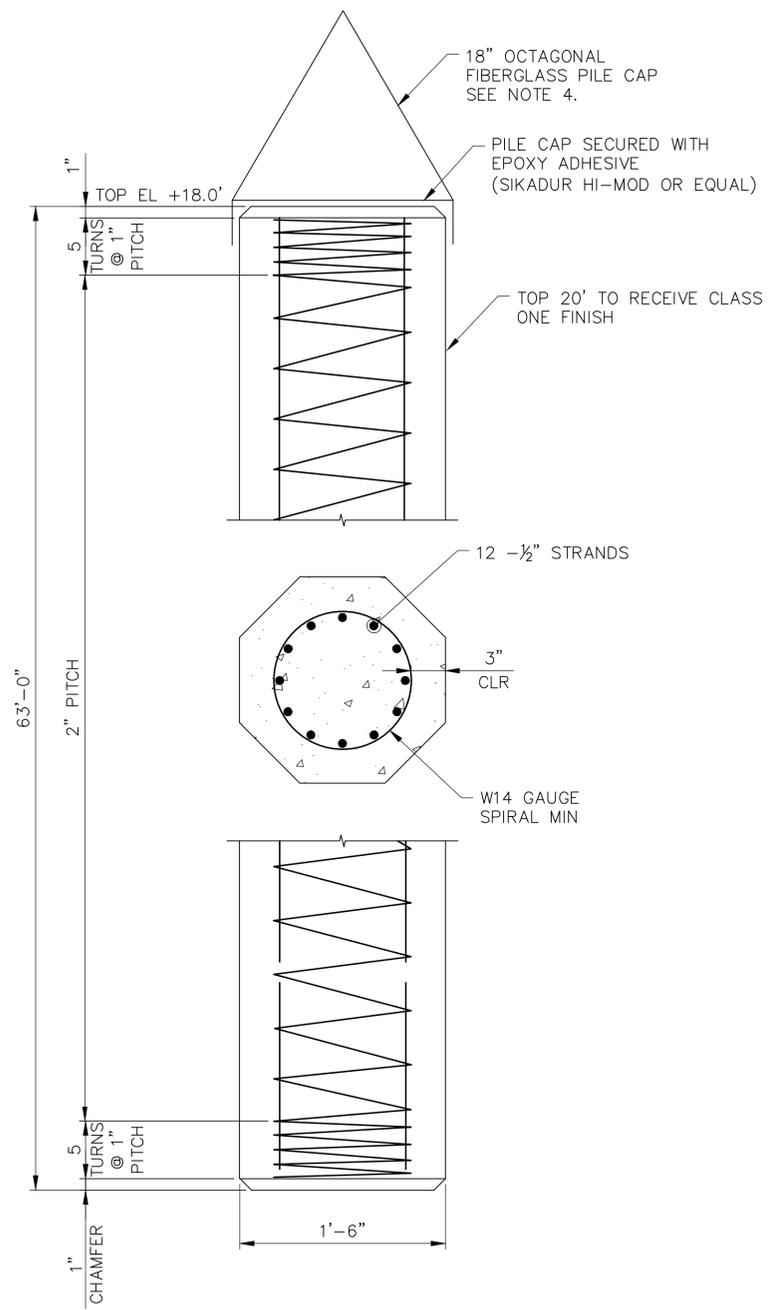


PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>			<b>BERKELEY MARINA DOCK REPLACEMENT (D-E)</b> CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
SURVEY PARTY CHIEF: _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	DRAWN: <u>NIF</u>	VERT.: _____				FILE _____
CITY ENGINEER: _____ DATE _____	APPROVED: _____ DATE _____	DESIGNER: _____ DATE _____	CHECK: <u>SYEE</u>	BOOK: _____				SHEET 24 OF 52



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REVISION	MARK	DATE	DESCRIPTION	APPROVAL
0		01-15-2024	ISSUED FOR BID SUBMITTAL	JMC



GUIDE PILE 18"  
 SCALE: 1 1/2" = 1'-0"



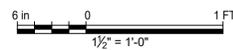
NOTES:

- CONTRACTOR TO SUBMIT PILE CALCULATIONS FOR FINAL DOCK LAYOUT AND SHOP DRAWINGS FOR REVIEW AND APPROVAL.
- SEE TECHNICAL SPECIFICATIONS AND BASIS OF DESIGN ON SHEET G-003 FOR ADDITIONAL INFORMATION.
- CONTRACTOR TO DETERMINE FINAL PILE LOCATIONS ON PLAN.
- PILE CAP SHALL BE HIGH GLOSS FIBERGLASS WITH A MINIMUM WALL THICKNESS OF 1/8 INCH. PROVIDE A LAYER OF GEL-COTE PROTECTION.
- PILE DETAILS  
 CONCRETE STRENGTH:  
 $f'_c = 6,500 \text{ PSI @ 28 DAYS}$   
 $f'_{ci} = 4,500 \text{ PSI @ TRANSFER}$   
 STEEL:  
 PRESTRESSING STEEL: ASTM A416 GRADE 270 (LOW RELAXATION STRAND)  
 MILD STEEL: ASTM A615 (DEFORMED)  
 MILD STEEL SPIRALS: ASTM A82  
 PRESTRESSING:  
 JACKING FORCE PER STANDS SHALL BE 70% OF ULTIMATE FINAL EFFECTIVE PRESTRESSING IN CONCRETE AFTER ALL LOSSES = 1055 PSI.  
 SPLICES:  
 LAPPED SPLICES IN SPIRAL REINFORCEMENT SHALL BE LAPPED AT LEAST 80 WIRE DIAMETERS. SPIRAL REINFORCEMENT AT SPLICE ENDS SHALL BE TERMINATED WITH A 135' HOOK WITH A 6-INCH TAIL HOOKED AROUND A LONGITUDINAL STRAND.

PLOTTED BY: NOEL FORTEZ PLOT DATE: 1/10/2024 3:12:55 PM

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0		01-15-2024	ISSUED FOR BID SUBMITTAL	JMC

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 SUBMITTAL



PROJECT MANAGER: \_\_\_\_\_ DATE \_\_\_\_\_  
 SURVEY PARTY CHIEF \_\_\_\_\_  
 WATERSHED REVIEW: \_\_\_\_\_ DATE \_\_\_\_\_

DEPICTION OF MONUMENTS: \_\_\_\_\_ DATE \_\_\_\_\_  
 SURVEY PARTY CHIEF \_\_\_\_\_  
 WATERSHED REVIEW: \_\_\_\_\_ DATE \_\_\_\_\_

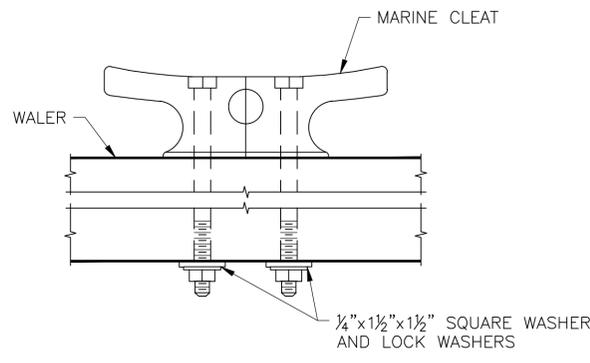
SUBMITTED: \_\_\_\_\_ DATE \_\_\_\_\_  
 R.C.E. \_\_\_\_\_  
 EXP. \_\_\_\_\_  
 SUPERVISING CIVIL ENGINEER \_\_\_\_\_  
 APPROVED: \_\_\_\_\_ DATE \_\_\_\_\_  
 R.C.E. \_\_\_\_\_  
 EXP. \_\_\_\_\_  
 CITY ENGINEER \_\_\_\_\_

DESIGN: JRVS  
 DRAWN: NIF  
 CHECK: SYEE  
 AS BUILT \_\_\_\_\_  
 HORIZ.: AS SHOWN  
 VERT. \_\_\_\_\_  
 BOOK \_\_\_\_\_  
 DATE: 6/3/22



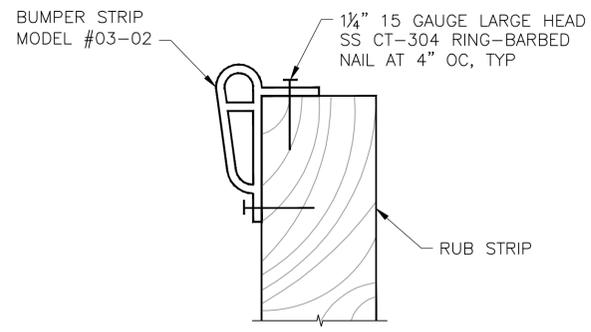
BERKELEY MARINA DOCK REPLACEMENT (D-E)  
 CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
 GUIDE PILE DETAILS

PLAN \_\_\_\_\_  
 FILE \_\_\_\_\_  
 S-130  
 SHEET 25 OF 52

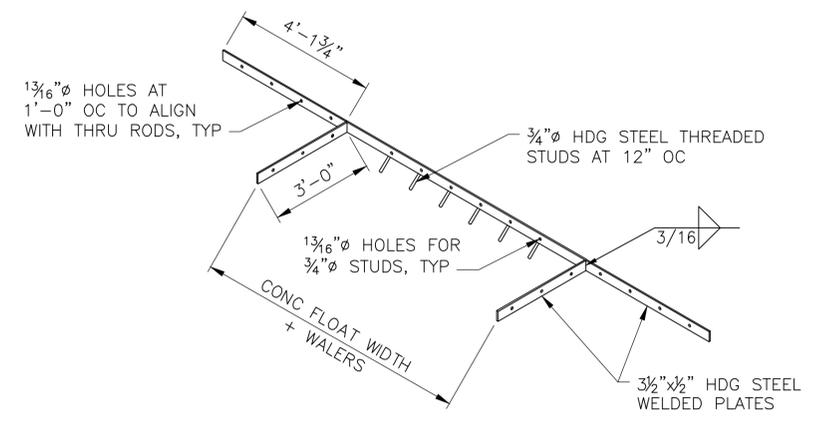
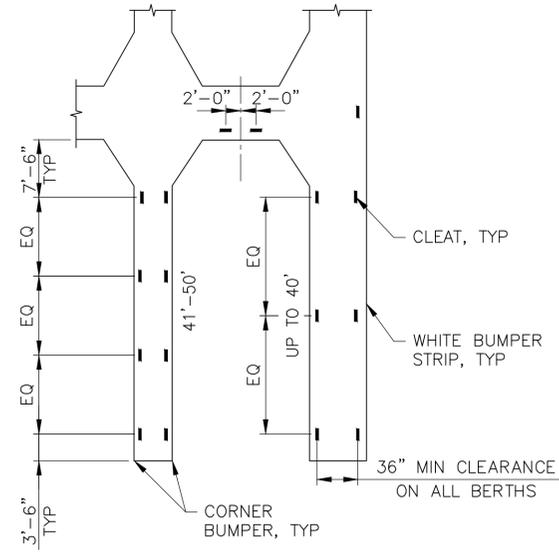


NOTE: FOR TABLE OF SIZE, LOCATION AND BOLT DIAMETER, SEE TABLE 1

**CLEAT DETAIL** (1)  
SCALE: 3" = 1'-0"  
S-141

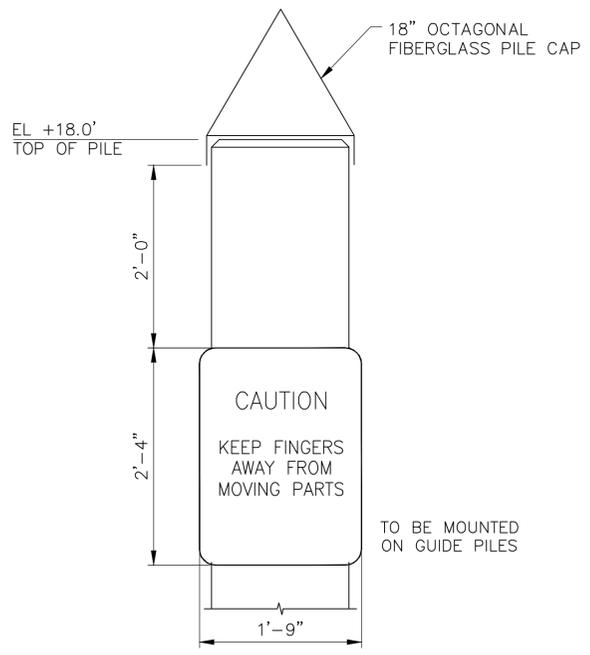


**BUMPER STRIP** (2)  
SCALE: 6" = 1'-0"  
S-141



NOTE: PROVIDE REINFORCED CONNECTIONS AT LOCATIONS AS NEEDED TO ACCOMMODATE SPECIFIED LOADS. HOT DIP GALVANIZE AFTER WELDING.

**END FINGER PLATE** (4)  
SCALE: 3/8" = 1'-0"  
S-141



NOTE: CAUTION SIGN TO BE FLUSHED AGAINST PILES ON ALL SIDES.

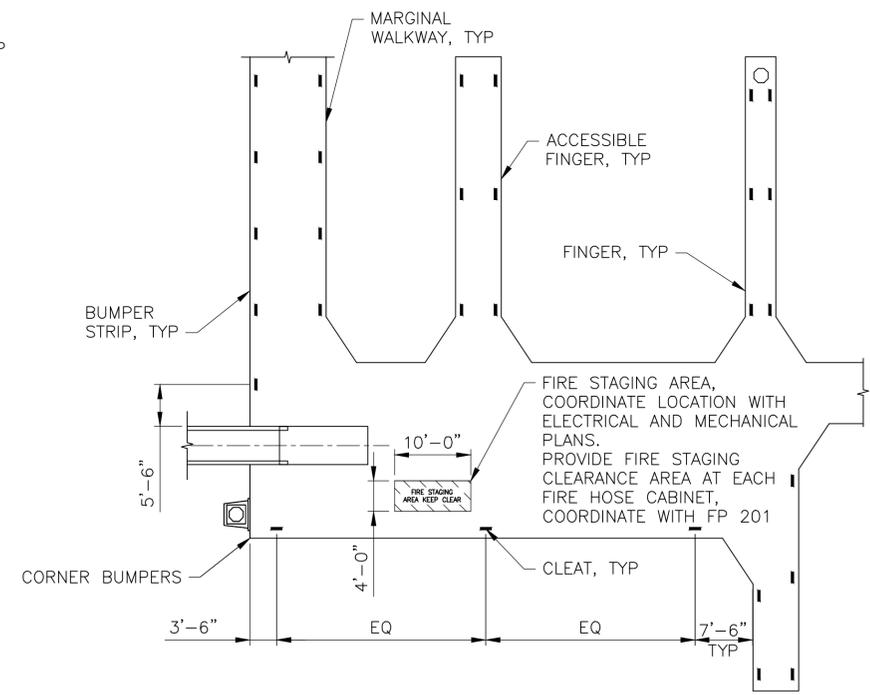
**WARNING SIGN** (6)  
SCALE: 1" = 1'-0"  
S-141



20955HM  
SIZE: 6" x 6"

NOTE: PROVIDE SYMBOL ON DOCK BOX AT ACCESSIBLE BERTHS.

**ACCESSIBLE SYMBOL** (5)  
SCALE: 3" = 1'-0"  
S-141

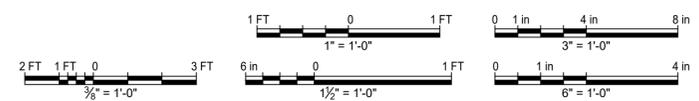


BERTH SIZE	CLEAT SIZE	CLEAT TYPE	BOLT SIZE	TOTAL PER SIDE
UP TO 40 FT	10"	HEAVY SHIP 504H	1/2"	3
41 FT - 60 FT	12"	HEAVY SHIP 504H	5/8"	4
MARGINAL WALKWAY	10"	HEAVY SHIP 504H	1/2"	MAX SPACING 10FT O.C

NOTE: PROVIDE REINFORCED MOORING ATTACHMENTS AT FLOATING HOME LOCATIONS AS NEEDED TO ACCOMMODATE SPECIFIED LOAD.

**CLEAT LAYOUT** (3)  
NOT TO SCALE  
S-141

ISSUED FOR BID SUBMITTAL



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>	
SURVEY PARTY CHIEF: _____	SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: <u>NIF</u>	VERT.: _____	
WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	CITY ENGINEER: _____	CHECK: <u>SYEE</u>	BOOK: _____	

FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES

DATE: 01-15-2024

REVISION: 0

MARK: \_\_\_\_\_

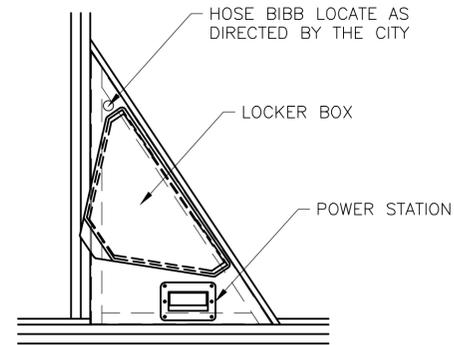
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APPROVAL: \_\_\_\_\_

PLAN: \_\_\_\_\_

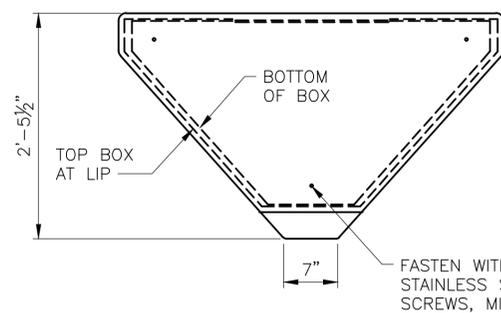
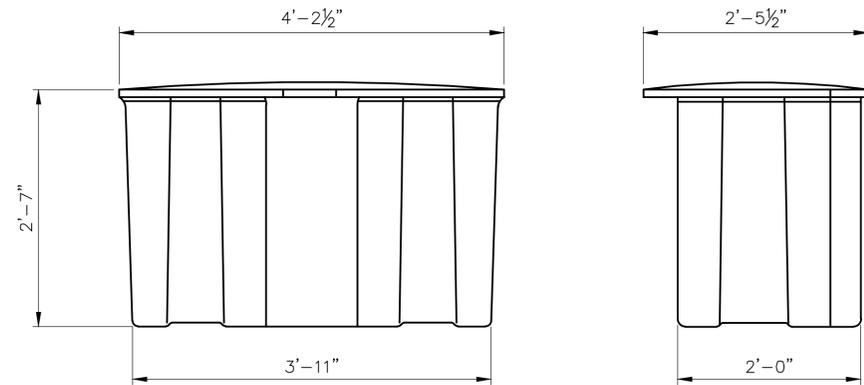
FILE: \_\_\_\_\_

SHEET 26 OF 52



4'x6' KNEE WITH LOCKER BOX

**KNEE LAYOUT PLAN**  
SCALE: 1/2" = 1'-0"  
1  
S-142

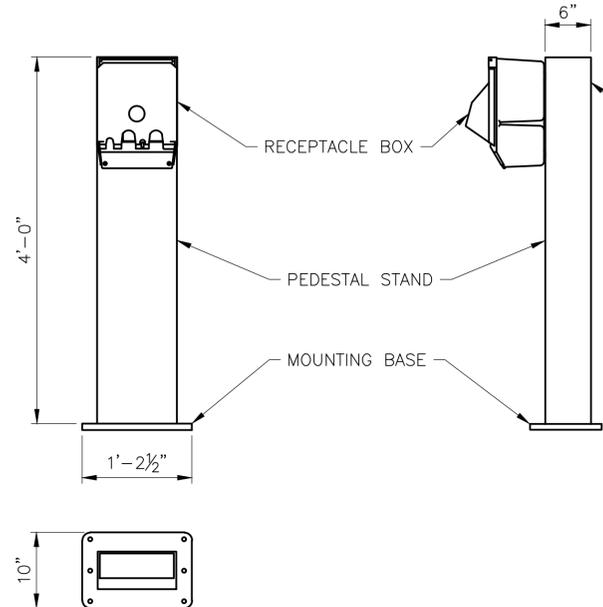
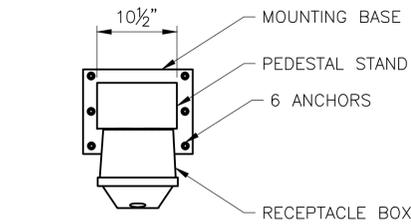


FIBERGLASS LOCKER BOX WITHOUT POWER CENTER (AS SPECIFIED)

#14 X 2" F.H. SS SCREW @ SS FENDER WASHER

NO DRAIN HOLES IN LOCKER BOXES

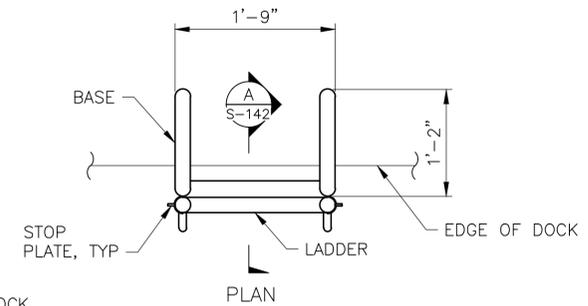
**LOCKER BOX**  
SCALE: 1" = 1'-0"  
2  
S-142



NOTE: NEWPORT TYPE POWER PEDESTAL: ALL LIGHTS AT PEDESTAL SHALL BE CONTROLLED BY PHOTOCELL AT POWER CENTER.

FOR ADDITIONAL INFORMATION, SEE E201 TO E402.

**NEWPORT TYPE PEDESTAL**  
SCALE: 1" = 1'-0"  
3  
S-142



STOP PLATE TO PREVENT LADDER FROM FALLING THRU BASE, TYP

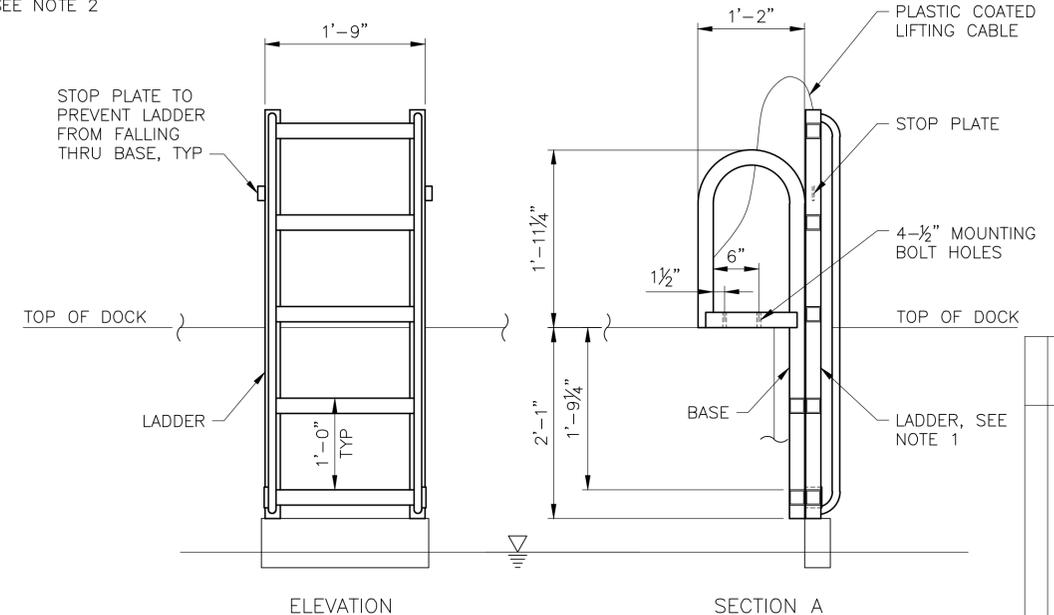
TOP OF DOCK

LADDER

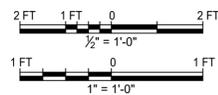
ELEVATION

**FLOAT FOOT STEP LADDER**  
SCALE: 1" = 1'-0"  
4  
S-142

- NOTE:
1. FLOAT FOOT STEP LADDER TO BE PROVIDED BY ATLANTIC ALUMINUM & MARINE PRODUCTS OR APPROVED EQUAL BY CITY PROJECT MANAGER.
  2. PROVIDE SLIP NUMBER ON PEDESTAL AND LOCKER BOX.



SECTION A



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ. <u>AS SHOWN</u>	 <b>BERKELEY MARINA DOCK REPLACEMENT (D-E)</b> CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA <b>ACCESSORY DETAILS</b> SHEET 2 OF 2	PLAN _____	
SURVEY PARTY CHIEF _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER _____	DRAWN: <u>NIF</u> VERT. _____		ISSUED FOR BID SUBMITTAL	FILE _____
APPROVED: _____	CITY ENGINEER _____	CHECK: <u>SYEE</u> AS BUILT _____	BOOK _____		DATE: <u>6/3/22</u>	REVISION _____
			DATE: _____		DATE: _____	MARK _____



ISSUED FOR BID SUBMITTAL

GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE (NEC), 2022 CALIFORNIA BUILDING CODE (CBC) AND CALIFORNIA ENERGY CODE (CEC) [CBC 107.2.1 & CEC 110.1].
- EXAMINE ALL DRAWINGS AND FIELD VERIFY (E) ELECTRICAL CONDITIONS INCLUDING VOLTAGES, EXISTING CIRCUITS, AND EXACT ROUTING OF ALL CONDUITS AND CONDITIONS IN AND AROUND CONDUIT RUNS.
- COORDINATE ALL WORK WITH OTHER TRADES TO AVOID INTERFERENCE INCLUDING OTHER ONGOING CONSTRUCTION.
- REPORT ANY DISCREPANCY TO ARCHITECT/ENGINEER PRIOR TO ANY WORK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND PROVIDE REPAIR OF ADJACENT EXISTING SURFACES, AREAS AND PROPERTY THAT MAY BE DAMAGED AS A RESULT OF NEW WORK.
- COORDINATE ALL SHUTDOWNS WITH THE OWNER REPRESENTATIVE AND PG&E SERVICES.
- THE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED TO DETERMINE EXACT LOCATION OF ELECTRICAL EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING CONDUITS, FITTINGS AND JUNCTION BOXES TO CONFORM WITH FIELD CONDITIONS.
- UNLESS OTHERWISE NOTED, USE 3/4" MINIMUM CONDUIT.
- UNLESS OTHERWISE NOTED, USE MINIMUM #12 AWG WIRE.
- CONTRACTOR SHALL TEST ALL ELECTRICAL EQUIPMENT PER LATEST VERSION OF NETA AND NETA CERTIFIED 3RD PARTY.
- KEEP JOBSITE IN AN ORDERLY CONDITION AND AT PROJECT COMPLETION, REMOVE ALL WASTE, AND LEAVE THE JOBSITE IN A CONDITION ACCEPTABLE TO THE CONSTRUCTION INSPECTOR.
- EQUIPMENT DIMENSIONS SHOWN ARE APPROXIMATE AND MAY VARY DEPENDING ON MANUFACTURER AND FINAL APPROVED SHOP DRAWINGS CONTRACTOR SHALL VERIFY NEW EQUIPMENT DIMENSIONS AND SIZES FOR PROPER INSTALLATION.
- PROVIDE PORTABLE GENERATOR POWER SERVING UNAFFECTED DOCKS AND RESTROOM AMID THE POWER SHUTDOWN BY PG&E SERVICE.
- ALL WIRE SPLICING ON THE DOCK AND UNDERNEATH THE GANGWAY SHALL BE SUBMERSIBLE TYPE.
- ALL SUPPORT HARDWARE SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.

ABBREVIATIONS

ABBREV.	DESCRIPTION	ABBREV.	DESCRIPTION
&	AND	JBOX	JUNCTION BOX
A, AMP	AMPERES	(N)	NEW
ABB'S	ABBREVIATIONS	N	NEUTRAL
AFF	ABOVE FINISHED FLOOR	NTS	NOT TO SCALE
AF	AMP FRAME	N/A	NOT APPLICABLE
AT	AMP TRIP		
C	CONDUIT	PC	POWER CENTER
CB	CIRCUIT BREAKER	PNL	PANELBOARD
CKT	CIRCUIT	PH, Ø	PHASE
DEMO	DEMOLISH	(R)	RELOCATE
DWG(S)	DRAWING(S)	RCPT	RECEPTACLE
(E)	EXISTING	RUM	REMOTE UTILITY METER (MARINESYNC OR APPROVED EQUAL)
EA	EACH	SS	STAINLESS STEEL
ELEC	ELECTRICAL	TELE	TELECOMMUNICATION
EMERG	EMERGENCY	(TYP)	TYPICAL
EQPT	EQUIPMENT	UON	UNLESS OTHERWISE NOTED
FIXTURE	FIXTURE	V	VOLT
FUT	FUTURE	W	WATT(S)
G/GND	GROUND	WP	WATERPROOF
GFI	GROUND FAULT INTERRUPTER		
GRS	GALVANIZED RIGID STEEL		

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	BOLLARD LIGHTING FIXTURE
	RAIL LIGHTING FIXTURE
	KEYNOTE NUMBER
	DISCONNECT SWITCH, 30A NEMA 3R UON
	STEP DOWN TRANSFORMER
	POWER CENTER SUBSTATION WITH INTEGRATED TRANSFORMER AND PANEL
	EQUIPMENT TO BE DEMOLISH
	CONTINUATION BREAK LINE
	RACEWAY EXPOSED
	RACEWAY (POWER) CONCEALED/UNDERGROUND ROUTING
	RACEWAY (COMM) CONCEALED/UNDERGROUND ROUTING
	NEWPORT POWER PEDESTAL WITH RUM AND PHONE CABLE TV & INTERNET RECEPTACLE CONFIGURATION AS DESCRIBED BELOW: (1) 30A(NEMA L5-30R) + (1) 50A(NEMA L5-50R)
	LIGHTHOUSE POWER PEDESTAL WITH RUM AND PHONE CABLE TV & INTERNET RECEPTACLE CONFIGURATION AS DESCRIBED BELOW: (1) 30A(NEMA L5-30R) + (1) 50A(NEMA L5-50R)
	FUTURE PEDESTAL
	GATE CONTROLLER/CARD READER
	LIGHT FIXTURE TAG (REFER TO LIGHT FIXTURE SCHEDULE) WATTAGE

ELECTRICAL LEGEND (CONTINUED)

SYMBOL	DESCRIPTION
	SWITCHBOARD
	RADIO BASE STATION FOR RUM
	PG&E METER
	GROUND FAULT TRIP PROTECTION
	BREAKER
	TRANSFORMER DELTA-WYE TYPE
	PHOTOCELL SENSOR

ELECTRICAL SCOPE OF WORK

PROVIDE THE DESIGN FOR THE RENOVATION OF THE ELECTRICAL INFRASTRUCTURE SERVING THE BERKELEY MARINA INCLUDING THE DEMOLITION AND NEW INSTALLATION OF EXISTING DOCK AND SLIPS AND THEIR ASSOCIATED ACCESS GATES. THIS INCLUDES THE UPGRADE OF THE SITE SHORE ELECTRICAL UTILITIES AND DOCK POWER DISTRIBUTIONS FOR CRAFT-TO-LAND POWER CONNECTIONS. ALSO, UPGRADES TO DOCK LIGHTING AND UPGRADES TO THE HARBOR MASTERS BUILDING WILL BE INCLUDED.

NO EXISTING PHONE LANDLINE IS AVAILABLE. HOWEVER, IN THE EVENT OF A FIRE OR ANY OTHER EMERGENCY NEEDING NOTIFICATION TO THE FIRE DEPARTMENT, ASIDE FROM CELLULAR PHONES, THE MARINA OFFICE CAN USE A VHF RADIO DURING BUSINESS HOURS. DURING NON-BUSINESS HOURS, THE SLIP OWNERS/TENANT SHOULD ALSO BE ABLE TO USE THEIR BOAT'S VHF RADIOS TO COMMUNICATE WITH THE COAST GUARD, WHO WOULD NOTIFY THE FIRE DEPARTMENT.

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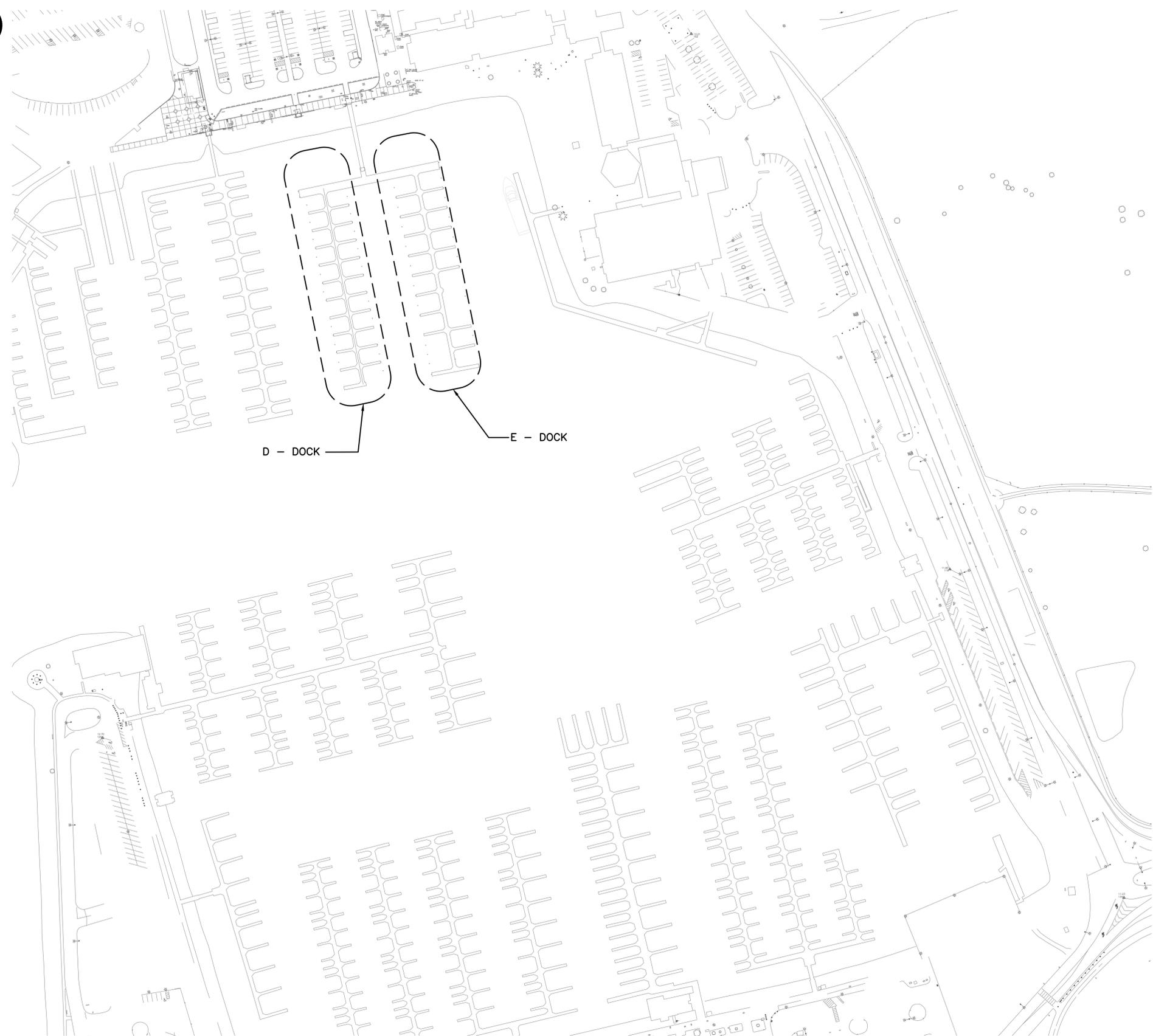
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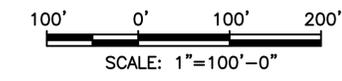
### SHEET NOTES

- REFER TO SHEET E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES.

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D - DOCK      E - DOCK



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**PROJECT SITE PLAN**  
SCALE: 1" = 100'-0"

PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JH</u>	HORIZ.: <u>1" = 100'-0"</u>
SURVEY PARTY CHIEF: _____	SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: <u>MT</u>	VERT.: _____
WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	CITY ENGINEER: _____	CHECK: <u>GC</u>	BOOK: _____
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES			AS BUILT: _____	DATE: _____

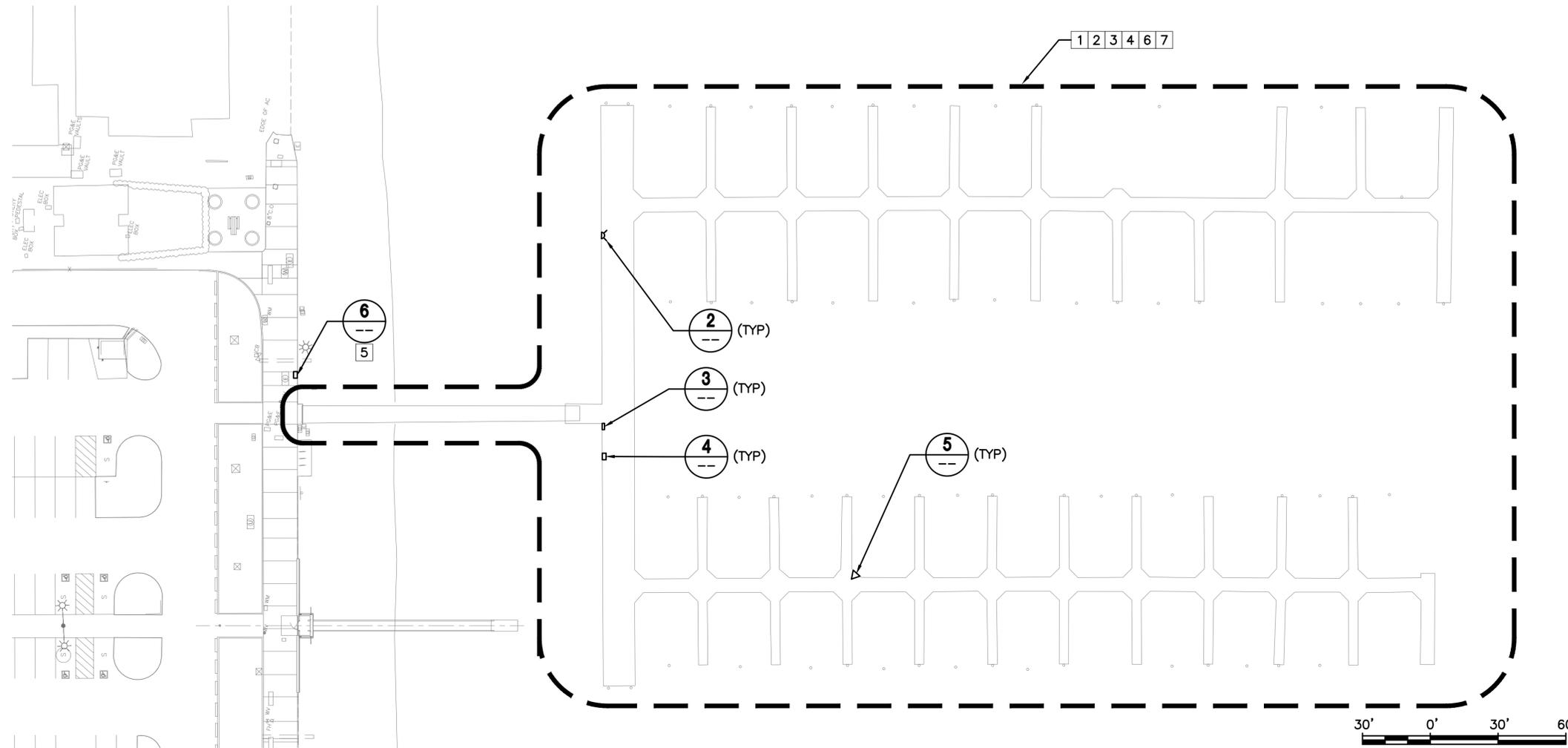


BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA

SITE PLAN  
DOCK "D & E"

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
0		01-15-2024	ISSUED FOR BID SUBMITTAL	GC

PLAN \_\_\_\_\_  
FILE \_\_\_\_\_  
E-002  
SHEET 29 OF 52



**SHEET NOTES**

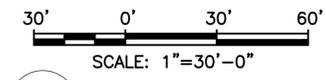
1. REFER TO SHEET E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL EQUIPMENT SHOWN ARE (E) UON.
3. MAINTAIN POWER CONTINUITY TO (E) LIGHTING AND OTHER LOADS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS AND DAMAGED SPACE DUE TO ANY WORK.

**KEY NOTES**

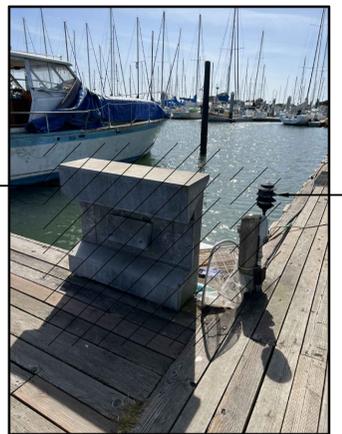
- 1 DEMOLISH ALL (E) PG&E METERS AND ASSOCIATED RACEWAYS AND CABLES.
- 2 DEMOLISH ALL (E) RECEPTACLE BOXES, ASSOCIATED RACEWAYS AND CABLES, AND THE SUPPORT PLATFORM.
- 3 DEMOLISH ALL (E) DOCK LIGHT FIXTURES AND ASSOCIATED RACEWAYS AND CABLES.
- 4 DEMOLISH ALL (E) POWER PEDESTALS, ASSOCIATED RECEPTACLES, AND PG&E METERS. DEMOLISH ALL ASSOCIATED RACEWAYS AND CABLES.
- 5 DEMOLISH (E) MAIN BREAKER AND ENCLOSURE. DEMOLISH ALL ASSOCIATED RACEWAYS AND CABLES.
- 6 REMOVE AND SALVAGE (E) WIFI ANTENNA.
- 7 DEMOLISH (E) AUTOMATIC GATE OPENER AND ASSOCIATED RACEWAYS AND CABLES.

**ELECTRICAL PLAN DEMOLITION WORK – DOCK "D&E"**

SCALE: 1" = 30'-0"



DEMOLITION PHOTO 1  
NTS



DEMOLITION PHOTO 2  
NTS



DEMOLITION PHOTO 3  
NTS



DEMOLITION PHOTO 4  
NTS



DEMOLITION PHOTO 5  
NTS



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PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____	HORIZ.: AS SHOWN		BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
_____	SURVEY PARTY CHIEF: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ EXP. _____	DRAWN: _____	VERT.: _____		ELECTRICAL PLAN DEMOLITION WORK DOCK "D & E"	FILE _____
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	CHECK: _____	BOOK: _____			E-003
	_____	CITY ENGINEER: _____ EXP. _____	AS BUILT: _____	DATE: _____			SHEET 30 OF 52

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APPROVAL

DESCRIPTION

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DATE

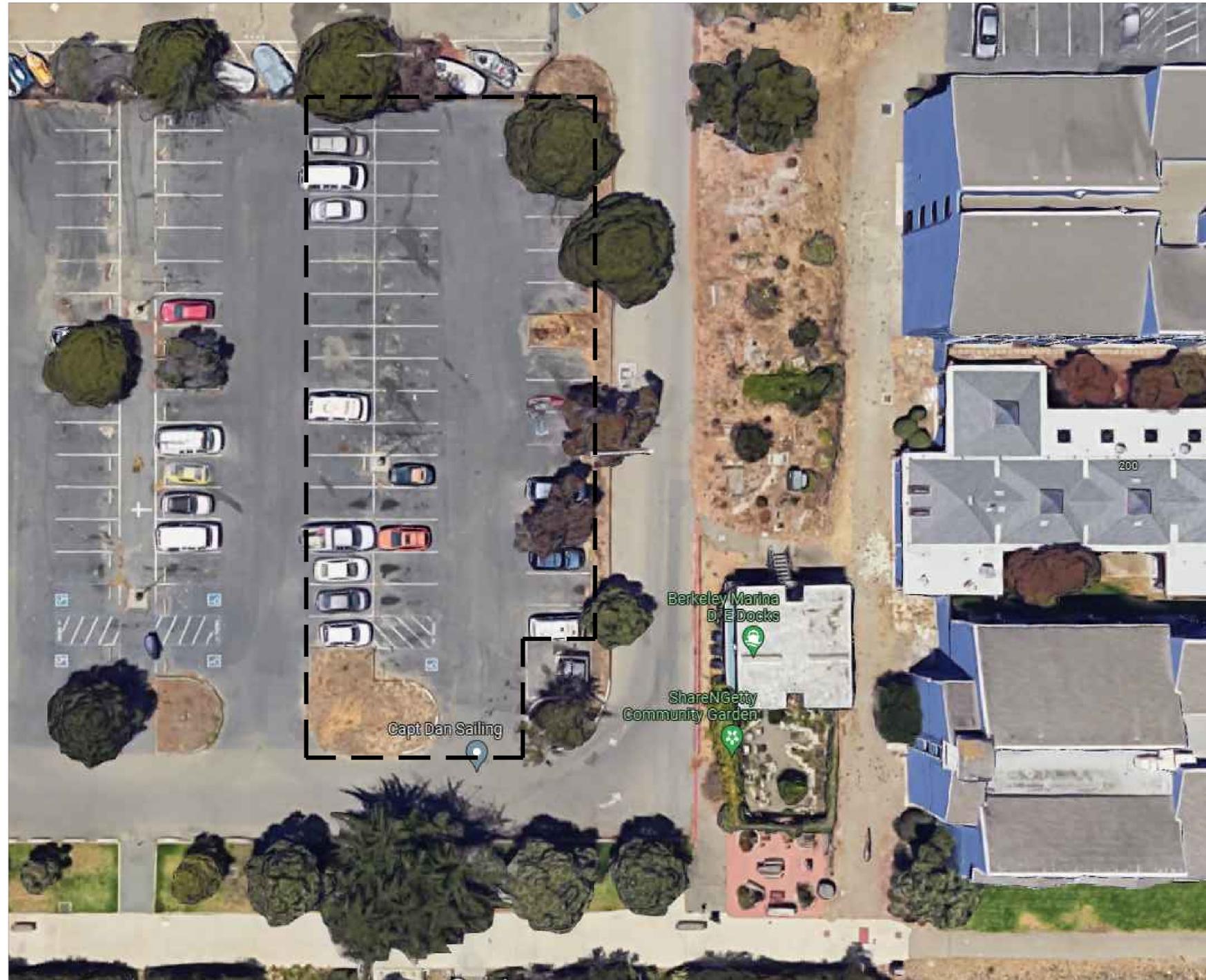
MARK

REVISION

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**SHEET NOTES**

- REFER TO SHEET E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES.



CONSTRUCTION STAGING AREA – DOCK "D & E" 1

SCALE: NTS

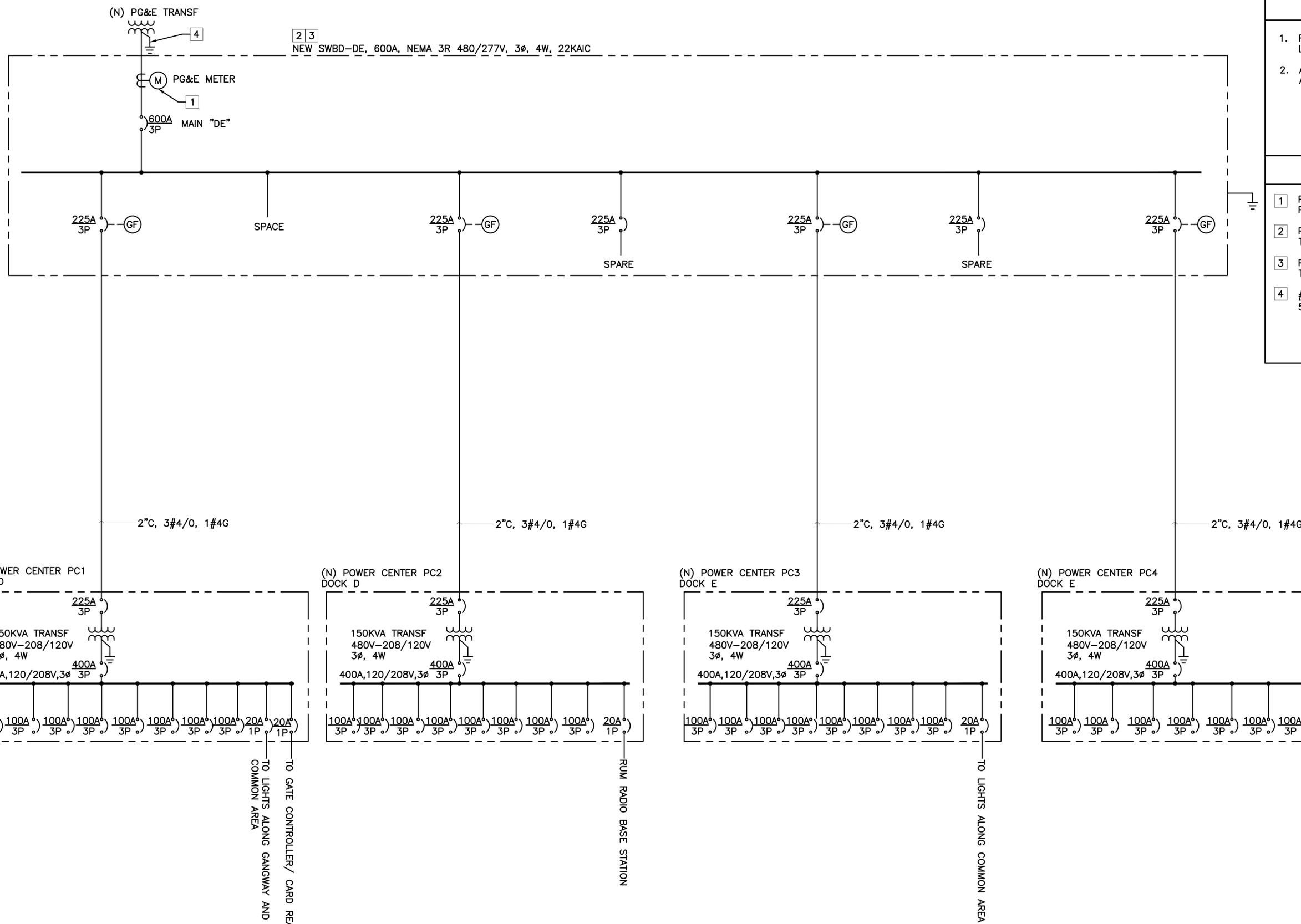
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FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES	SURVEY PARTY CHIEF _____ DATE _____	SUPERVISING CIVIL ENGINEER _____ DATE _____	DRAWN: <u>MT</u> _____	VERT.: _____				FILE _____
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					DESCRIPTION			01-15-2024
					DATE			
					APPROVAL			GC

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**SHEET NOTES**

1. REFER TO SHEET E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL EQUIPMENT SHALL BE MARINA CONDITION AND RATED FOR WET LOCATION.

**KEY NOTES**

- 1 PROVIDE METER SOCKET PER PG&E REQUIREMENT. PG&E SHALL PROVIDE METER.
- 2 PROVIDE CAUTION LABEL ON THE SURFACE OF THE SWITCHBOARD DOORS.
- 3 PROVIDE AIC LABEL AND SERVICE DATE ON THE METER SECTION OF THE SWITCHBOARD.
- 4 #2/0 BARE GROUND WIRE WITH 10' DEEP, 5/8" DIAMETER GROUND ROD.

**SINGLE LINE DIAGRAM - DOCK "D&E"**

SCALE: NTS

ISSUED FOR BID  
SUBMITTAL



PROJECT MANAGER: _____ DATE: _____	DEPICTION OF MONUMENTS: _____ DATE: _____	SUBMITTED: _____ DATE: _____	DESIGN: <u>JH</u> _____	HORIZ. <u>NTS</u> _____		BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
_____	SURVEY PARTY CHIEF _____	SUPERVISING CIVIL ENGINEER _____	DRAWN: <u>MT</u> _____	VERT. _____		NEW SINGLE LINE DIAGRAM DOCK "D & E"	FILE _____
<p>FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES</p>	WATERSHED REVIEW: _____ DATE: _____	APPROVED: _____ DATE: _____	CHECK: <u>GC</u> _____	BOOK _____		E-101	SHEET 32 OF 52

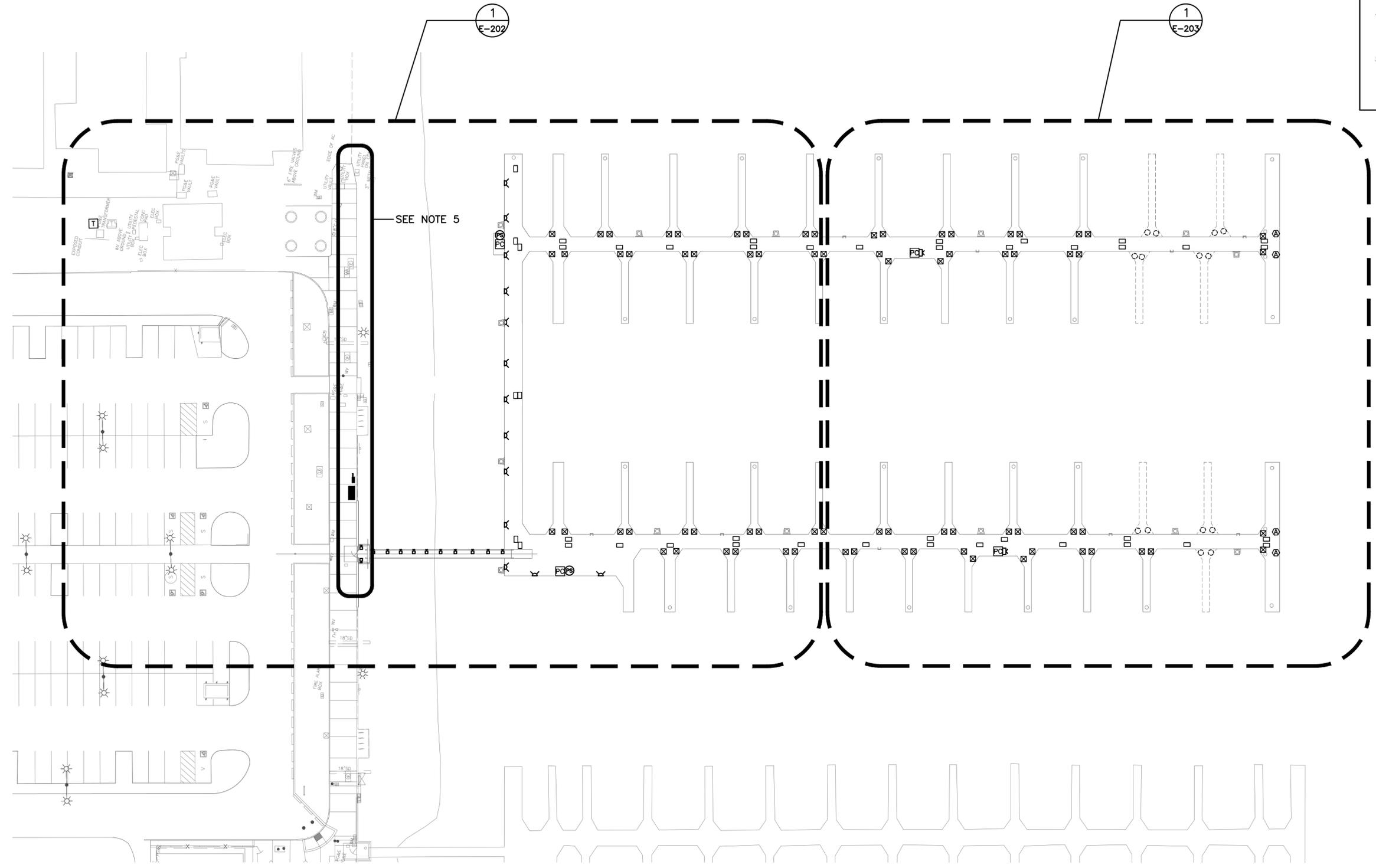
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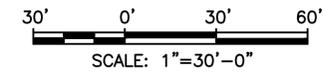
### SHEET NOTES

1. REFER TO SHEET E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL EQUIPMENT SHOWN ARE NEW, UON.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS AND DAMAGED SPACE DUE TO ANY WORK.
4. ALL (N) POWER CENTERS SHALL BE LOCATED WITHIN THE SPACE WITHOUT PROTRUDING INTO WALKWAY.
5. EXISTING UTILITY AND RELATE CONDUITS ALONG THE SHORE AND NEAR NEW WORK AREA NEED TO PROTECT IN PLACE.

PLOTTED BY: MNH/TRAN PLOT DATE: 1/16/2024 11:56:07 PM



**ELECTRICAL SITE PLAN – DOCK "D&E"**  
 SCALE: 1" = 30'-0"



ISSUED FOR BID  
 SUBMITTAL



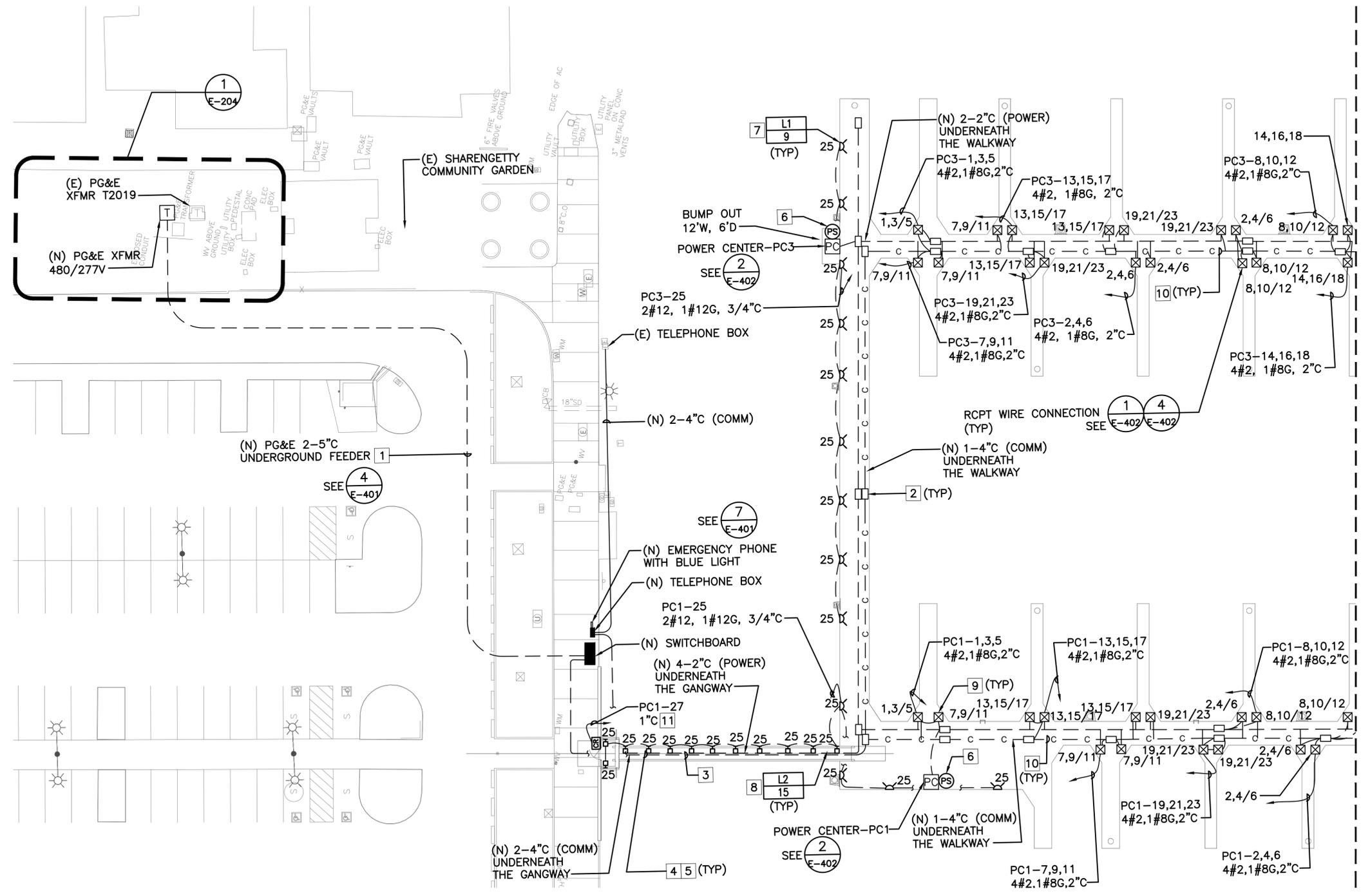
PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JH</u>	HORIZ.: <u>1" = 30'-0"</u>			BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA ELECTRICAL SITE PLAN DOCK "D & E"	PLAN _____
_____	SURVEY PARTY CHIEF _____ DATE _____	SUPERVISING CIVIL ENGINEER _____ EXP. _____	DRAWN: <u>MT</u>	VERT.: _____				FILE _____
 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	CHECK: <u>GC</u>	BOOK: _____	REVISION _____	MARK _____	DESCRIPTION _____	APPROVAL _____
		CITY ENGINEER _____ EXP. _____	AS BUILT _____	DATE _____	0		ISSUED FOR BID SUBMITTAL	GC



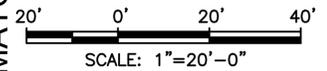
LIGHT FIXTURE SCHEDULE				
SYMBOL	TYPE	VOLTAGE	WATTAGE	DESCRIPTION AND MANUFACTURER
	L1	120V	9W LED	BOLLARD LIGHTING FIXTURE, 24 INCHES TALL. OUTDOOR RATING, DESIGNED TO WITHSTAND THE HARSH MARINE ENVIRONMENTS. EATON: MARINER LIGHTING BOLLARD 9W OR EQUAL.
	L2	120V	15W LED	RAIL LIGHTING FIXTURE. DESIGNED TO WITHSTAND IFADE AND ABRASION REISTANT, POLYESTER POWDERCOAT, CUSTOM COLOR FOR MARINE AND CORROSIVE FINISH. KIM LIGHTING: KFL2RGBW-11L-15-RGBW-HF-UNV-Y-LTG-JB1-CC OR EQUAL.

- ### SHEET NOTES
- REFER TO SHEET E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS AND DAMAGED SPACE DUE TO ANY WORK.
  - ALL EQUIPMENT SHOWN ARE NEW, UON.
  - MAINTAIN POWER CONTINUITY TO CIRCUITS AND LOADS UNAFFECTED AREAS.

- ### KEY NOTES
- COORDINATE WITH PG&E. PROVIDE NEW CONDUIT PER PG&E REQUIREMENT.
  - PROVIDE NEW STAINLESS STEEL PULL BOX.
  - RUN PVC SCHEDULE 80 UNDERNEATH THE GANGWAY WITH STAINLESS STEEL MOUNT HARDWARE.
  - PROVIDE NEW CONDUIT TO THE NEAREST (N) PULL BOX ALONG THE SIDE OF THE EDGE OF THE DOCK.
  - PROVIDE NEW WIRES WITH FLEX CONDUIT IN (N) RACEWAY.
  - PROVIDE NEW PHOTOCELL SENSOR TO CONTROL (N) DOCK LIGHTS. PROVIDE MOUNTING AND SUPPORT AS NEEDED.
  - PROVIDE (N) LED BOLLARD FIXTURE.
  - PROVIDE (N) RAIL LED LIGHT FIXTURE. PROVIDE MOUNTING AND SUPPORT AS NEEDED.
  - TYPE NEWPORT POWER PEDESTAL.
  - 1" FROM COMM PULL BOX TO EACH PEDESTAL.
  - COORDINATE THE LOCATION OF GATE CONTROLLER BOXES, CONDUITS & CORDS WITH ELECTRONIC GATE CONTROLLER SUPPLIER (ALX TECHNOLOGY). ENSURE THAT CONDUITS ARE CONCEALED & CORDS ARE EXTENDED THROUGH FRAMING OF ENTRY GATE.



MATCHLINE SEE SHEET E-203



PLAN 1  
SCALE: 1" = 20'-0"

PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____ DATE _____	HORIZ. 1" = 20'-0"
SURVEY PARTY CHIEF: _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	DRAWN: _____ DATE _____	VERT. _____
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	CITY ENGINEER: _____ DATE _____	APPROVED: _____ DATE _____	CHECK: _____ DATE _____	BOOK _____
			AS BUILT _____	DATE _____



ISSUED FOR BID  
SUBMITTAL

BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
PLAN - DOCK "D & E"  
SHEET 1 OF 2

PLAN \_\_\_\_\_  
FILE \_\_\_\_\_  
E-202  
SHEET 34 OF 52

PLOTTED BY: MNH/TRAN PLOT DATE: 1/16/2024 1:56:24 PM

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
0				

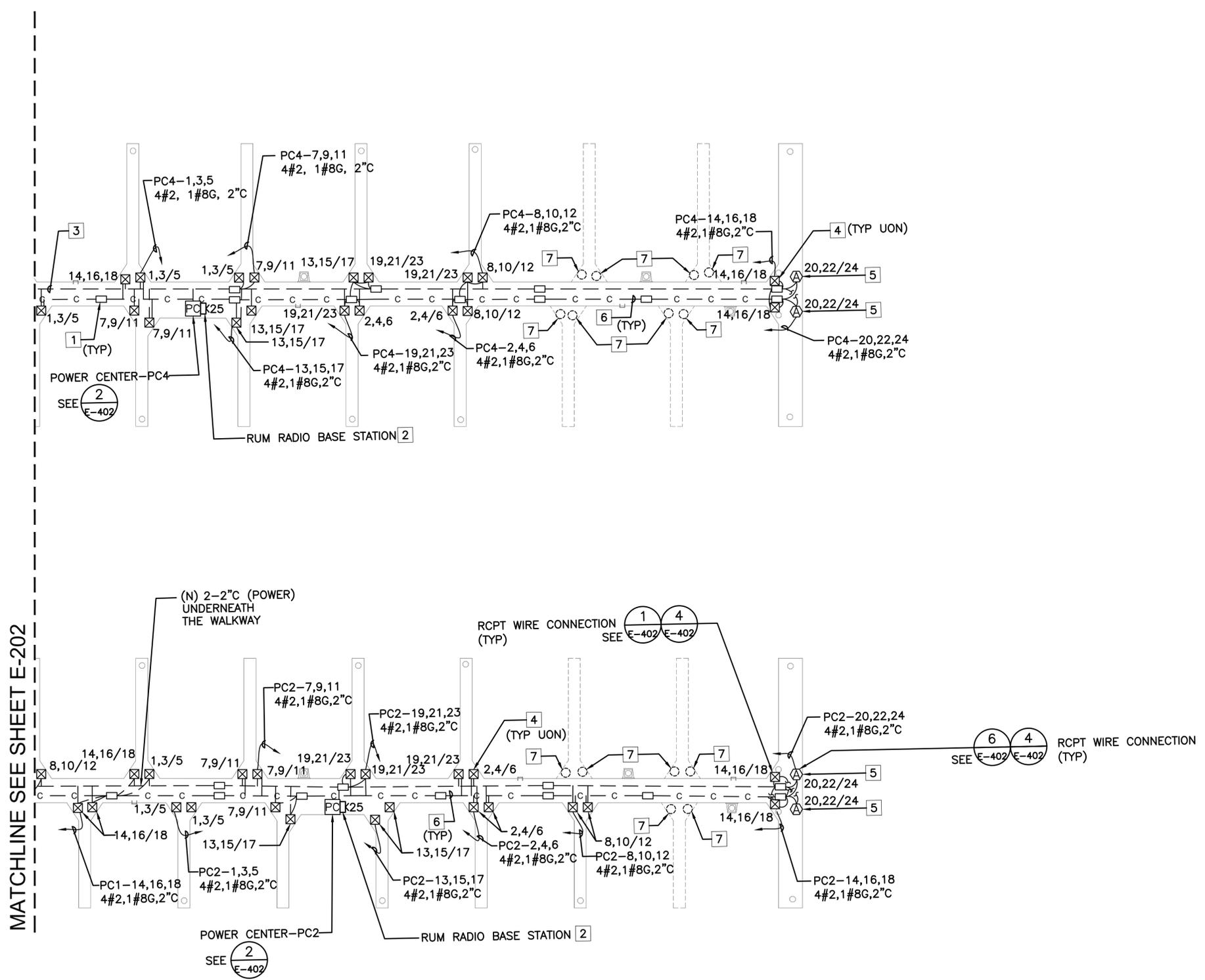


### SHEET NOTES

1. REFER TO SHEET E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS AND DAMAGED SPACE DUE TO ANY WORK.
3. ALL EQUIPMENT SHOWN ARE NEW, UON.
4. MAINTAIN POWER CONTINUITY TO CIRCUITS AND LOADS UNAFFECTED AREAS.

### KEY NOTES

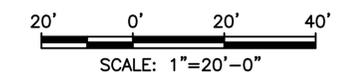
- 1 PROVIDE NEW STAINLESS STEEL PULL BOX.
- 2 PROVIDE STANDALONE POLE SUPPORT FOR RUM BASE STATION.
- 3 PROVIDE NEW WIRES WITH FLEX CONDUIT IN (N) RACEWAY.
- 4 TYPE NEWPORT POWER PEDESTAL.
- 5 TYPE LIGHTHOUSE POWER PEDESTAL.
- 6 1" FROM COMM PULL BOX TO EACH PEDESTAL.
- 7 PROVIDE POWER AND COMM CONDUIT STUB UPS FOR FUTURE PEDESTAL.



MATCHLINE SEE SHEET E-202

PLAN 2  
SCALE: 1" = 20'-0"

1  
E-203



ISSUED FOR BID  
SUBMITTAL



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____	HORIZ.: 1" = 20'-0"		BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
_____	SURVEY PARTY CHIEF: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	DRAWN: _____	VERT.: _____		FILE _____	
_____	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	CHECK: _____	BOOK: _____		E-203	
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	_____	CITY ENGINEER: _____ DATE _____	AS BUILT: _____	DATE: _____		SHEET 35 OF 52	

01-15-2024  
ISSUED FOR BID SUBMITTAL  
DATE

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REVISION

0  
MARK

0  
APPROVAL

(N) CONCRETE PAD  
90"W, 106"L, 6"H 1

(E) PG&E  
XFMR T2019

(E) SHARENGETTY  
COMMUNITY GARDEN

(N) PG&E XFMR 1 2  
480/277V



CONTINUE ON E-202

PLAN 1  
SCALE: NTS

1  
E-204

SHEET NOTES

1. REFER TO SHEET E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS AND DAMAGED SPACE DUE TO ANY WORK.
3. ALL EQUIPMENT SHOWN ARE NEW, UON.
4. MAINTAIN POWER CONTINUITY TO CIRCUITS AND LOADS UNAFFECTED AREAS.

KEY NOTES

- 1 COORDINATE WITH PG&E FOR (N) TRANSFORMER SERVICE AND UTILITY METER TO BE PROVIDED BY PG&E. PROVIDE GROUNDING PER PG&E REQUIREMENTS. PROVIDE PG&E APPROVED TRANSFORMER PAD PER PG&E GREENBOOK DETAILS AND LAYOUT.
- 2 (N) PG&E TRANSFORMER NEEDS 4' IN FRONT CLEARANCE. TREES AND BUSHES NEED TO BE CUT AND TRIMMED. COORDINATE WITH CITY OF BERKELEY BEFORE CUT TREE OR TRIM.
- 3 ELECTRICAL HANDHOLE TO BE REMAINED AND PROTECTED IN PLACE.
- 4 DATA BOX TO BE REMAINED AND PROTECTED IN PLACE.
- 5 WATER LINE TO BE REMAINED AND PROTECTED IN PLACE.

1 2



1 PHOTO 1  
SCALE: NTS

3



2 PHOTO 2  
SCALE: NTS

4

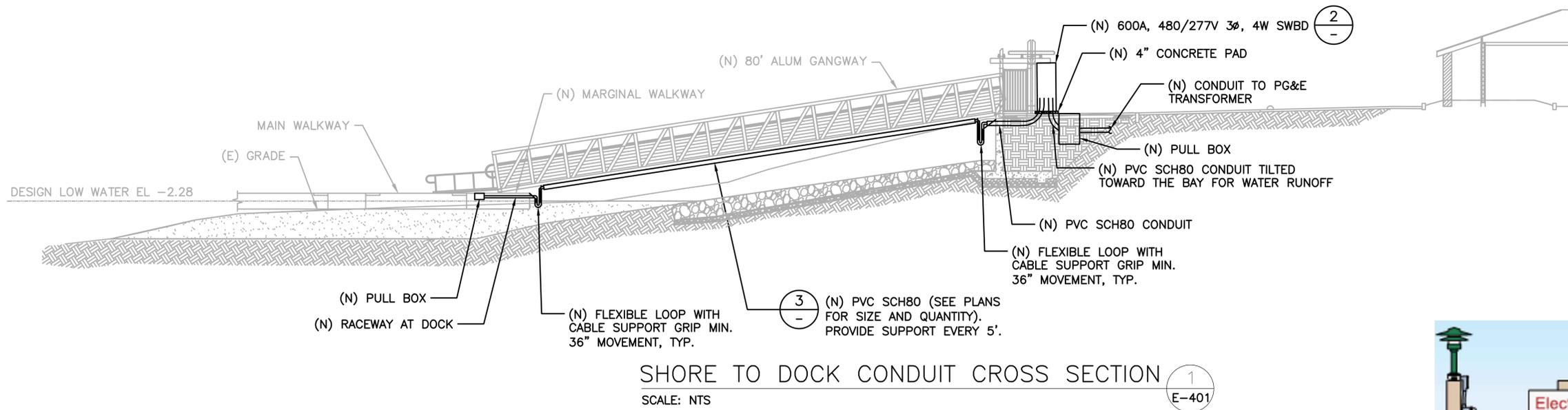


3 PHOTO 3  
SCALE: NTS

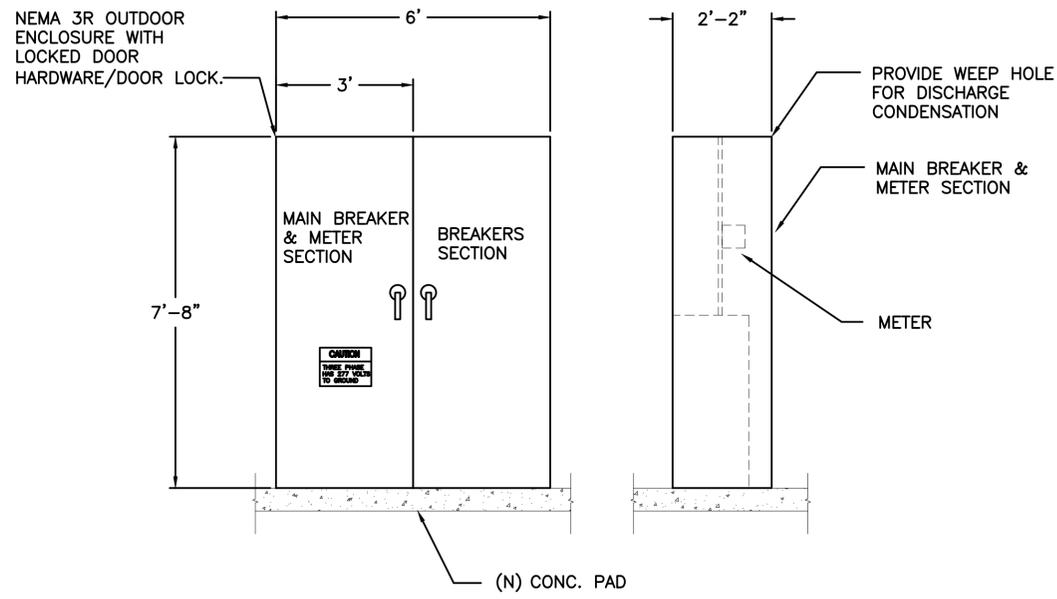
ISSUED FOR BID  
SUBMITTAL



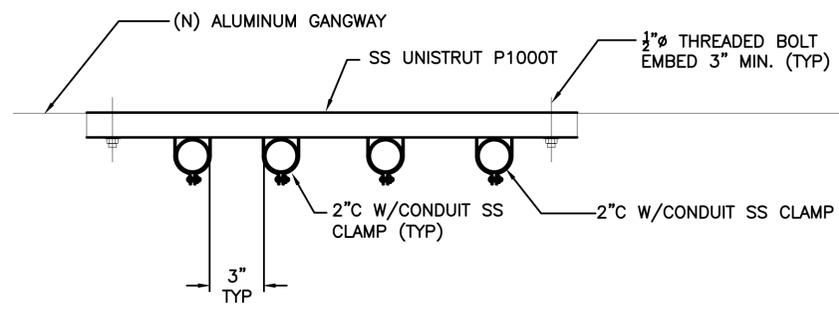
PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JH</u> _____	HORIZ.: <u>NTS</u> _____			BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA PLAN AND LANDSIDE PHOTOS	PLAN _____
_____	_____	_____	DRAWN: <u>MT</u> _____	VERT.: _____				FILE _____
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	SURVEY PARTY CHIEF: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	CHECK: <u>GC</u> _____	BOOK: _____	REVISION: _____	MARK _____	DESCRIPTION _____	APPROVAL _____
	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	AS BUILT _____	DATE _____	0			01-15-2024
		CITY ENGINEER: _____						ISSUED FOR BID SUBMITTAL
								DATE
								REVISION
								MARK
								DESCRIPTION
								APPROVAL



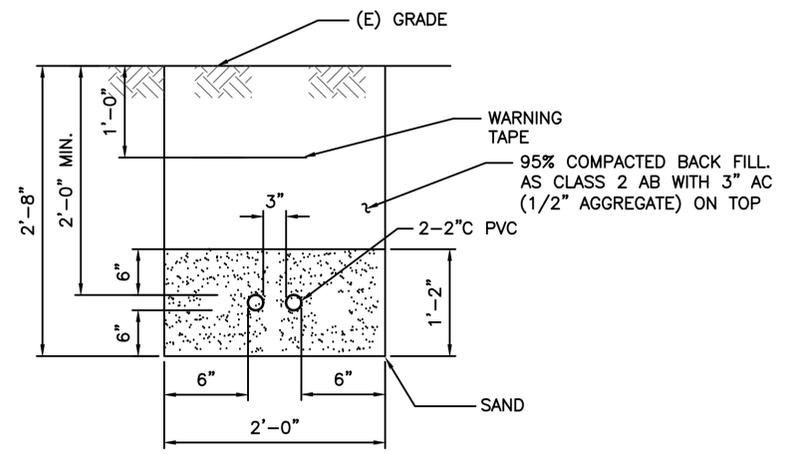
SHORE TO DOCK CONDUIT CROSS SECTION (1)  
SCALE: NTS E-401



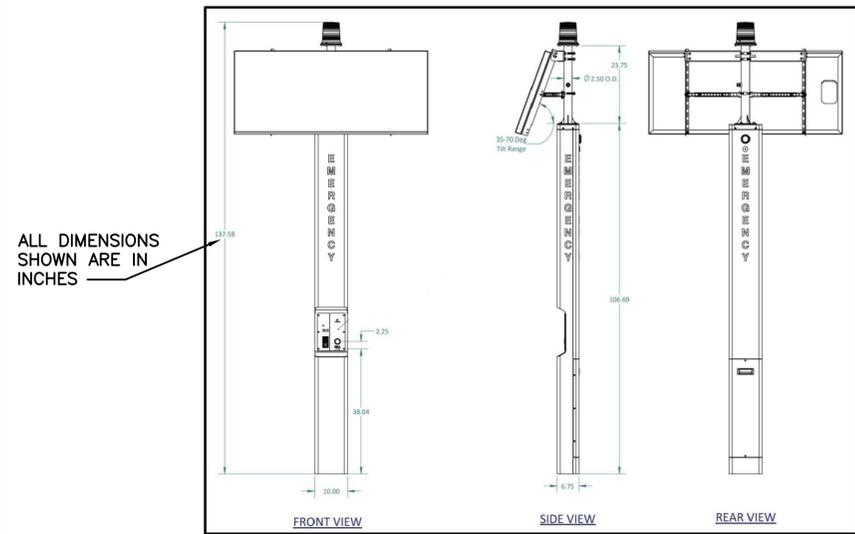
SWITCHBOARD DETAIL (2)  
SCALE: NTS E-401



CONDUIT SUPPORT DETAIL (3)  
SCALE: NTS E-401

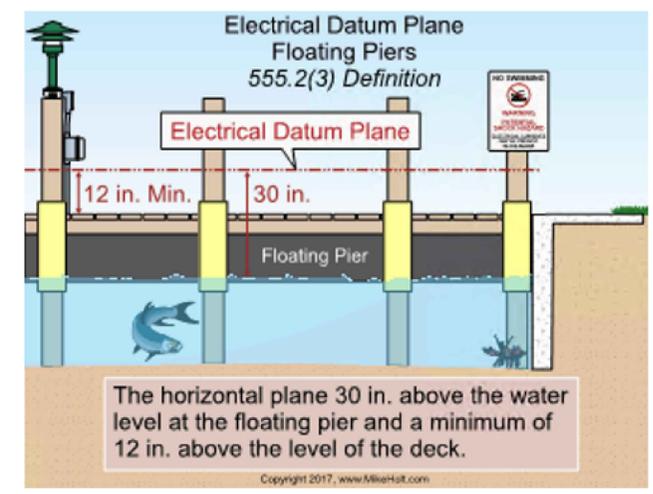


TRENCH DETAIL (4)  
SCALE: NTS E-401

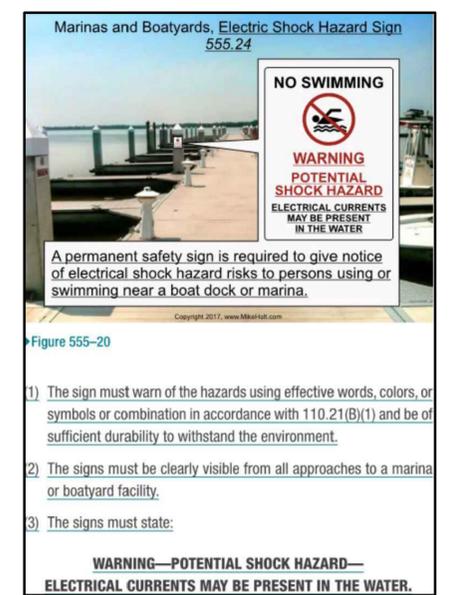


BLUE LIGHT PHONE TOWER DETAIL (7)  
SCALE: NTS E-401

- ### SHEET NOTES
- REFER TO SHEET E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES.
  - ALL GANGWAY UNISTRUT & SUPPORT SHALL BE STAINLESS STEEL AND ALL JUNCTION BOXES, FITTINGS, SCREWS, RIVETS OR BOLTS, NUTS SHALL BE 316 STAINLESS STEEL.
  - ALL FLEXIBLE CONDUIT SHALL BE PVC COATED, LIQUID-TIGHT STEEL CONDUIT AND ALL RIGID CONDUIT SHALL BE PVC SCH-80, UNLESS OTHERWISE NOTED.
  - PROVIDED GROUND WIRE #2/0 FROM SWITCHBOARD ENCLOSURE TO (E) GROUND LEG.



ELECTRICAL DATUM PLANE (5)  
SCALE: NTS E-401



WARNING SIGN DETAIL (6)  
SCALE: NTS E-401



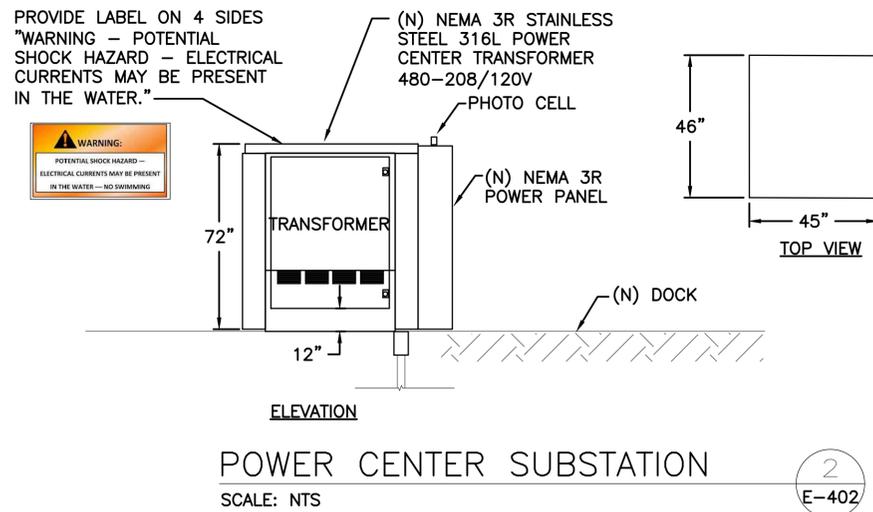
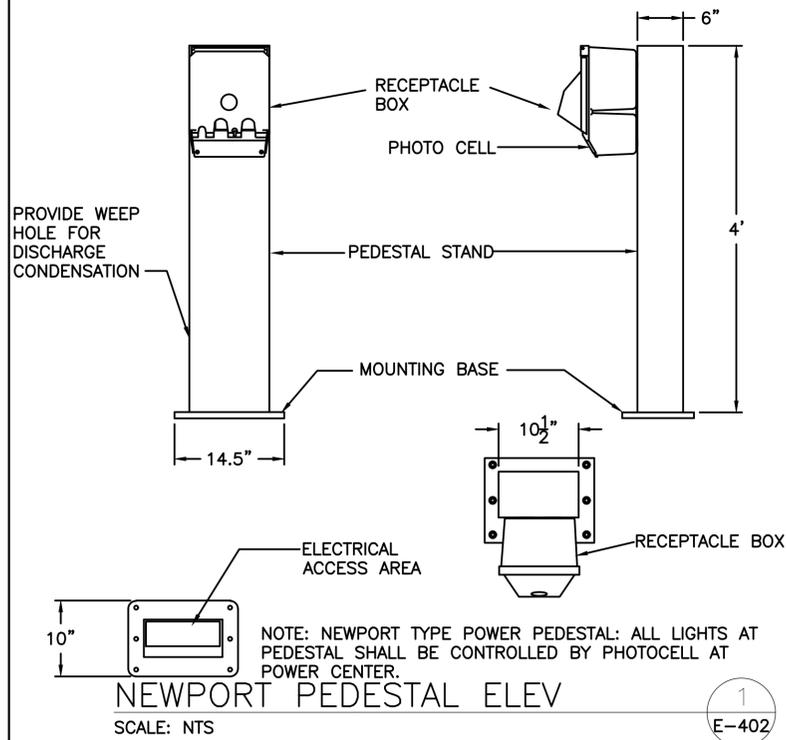
ISSUED FOR BID SUBMITTAL

PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____ DATE _____	HORIZ: _____ DATE _____	PLAN: _____
SURVEY PARTY CHIEF: _____	SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: _____	VERT: _____	FILE: _____
WATERSHED REVIEW: _____	WATERSHED REVIEW: _____	APPROVED: _____	CHECK: _____	BOOK: _____	E-401
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	DATE: _____	DATE: _____	AS BUILT: _____	DATE: _____	SHEET 37 OF 52

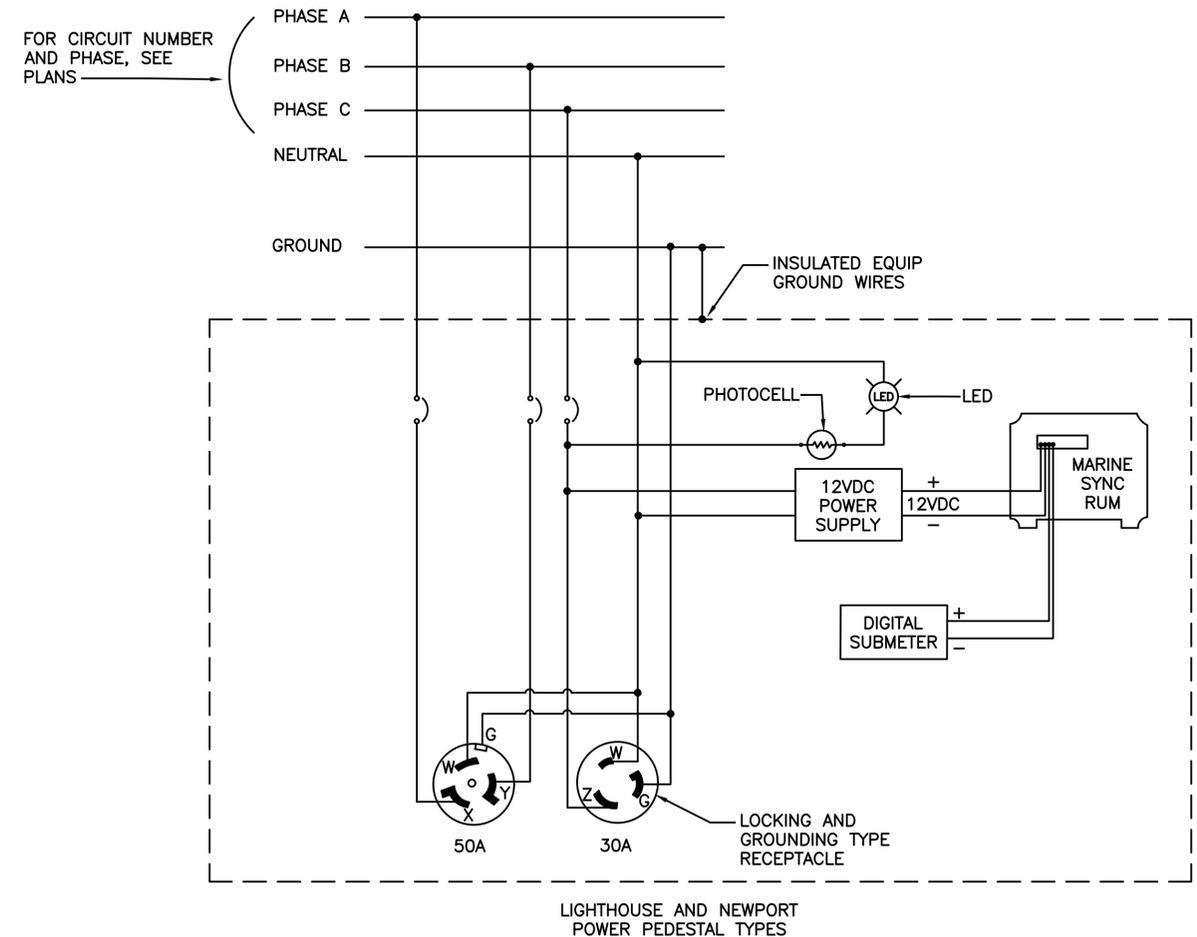
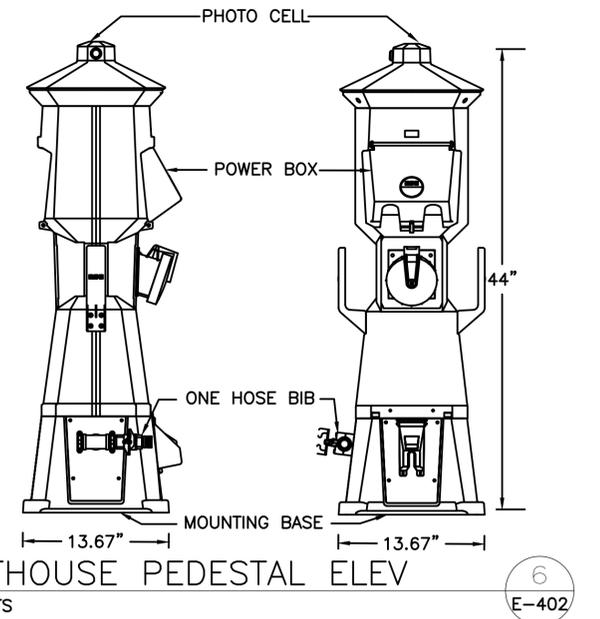
BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA

ELECTRICAL DETAILS  
SHEET 1 OF 2

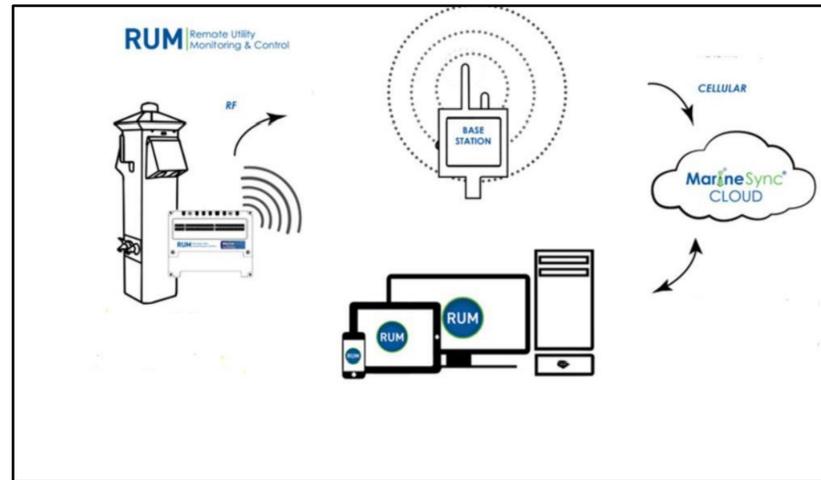
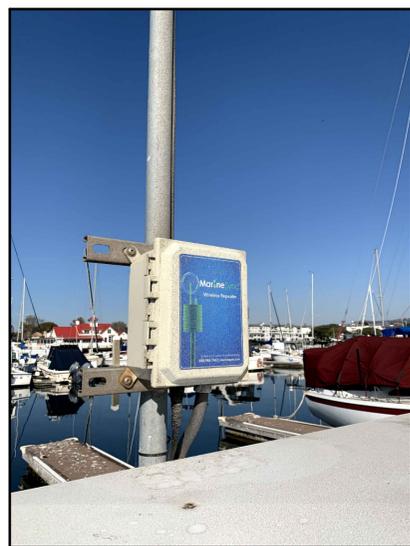
BERKELEY ENGINEERS  
PLANS RECREATION & WATERFRONT  
1847 CENTER ST., 5TH FL., BERKELEY, CALIFORNIA



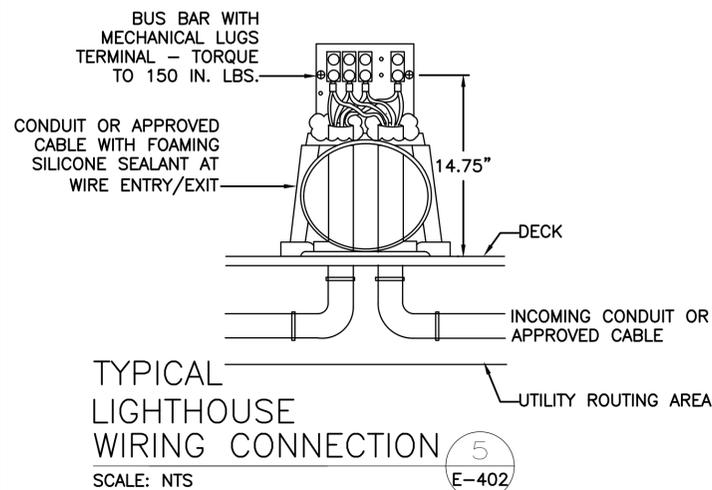
NOTE:  
1. DIMENSIONS ARE FOR REFERENCE ONLY.



**TYPICAL PEDESTAL WIRING CONNECTION**  
SCALE: NTS



**REMOTE UTILITY METERING COMMUNICATION DIAGRAM**  
SCALE: NTS



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____	HORIZ. _____		BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA ELECTRICAL DETAILS SHEET 2 OF 2	
_____	SURVEY PARTY CHIEF _____	SUPERVISING CIVIL ENGINEER _____	DRAWN: _____	VERT. _____			FILE _____
_____	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____	CHECK: _____	BOOK _____			E-402
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	_____	CITY ENGINEER _____	AS BUILT _____	DATE _____			SHEET 38 OF 52

PLOTTED BY: MNH/TRAN PLOT DATE: 1/15/2024 1:50:01 PM  
 01-15-2024 ISSUED FOR BID SUBMITTAL  
 DATE  
 REVISION  
 MARK  
 DESCRIPTION  
 APPROVAL  
 GC

PANEL: PC1		VOLTAGE: 208/120V, 3PH, 4W									
BUS: KAIC 22		LOCATION: DOCK D									
MAIN: 400A		MOUNTING: PAD MOUNTED									
LUGS: NEMA 3R		REMARKS:									
CKT	DESCRIPTION	CB	TYPE	LOAD	PH.	LOAD	TYPE	CB	DESCRIPTION	CKT	
1	FEEDER #PC1-1	100/3	R	9607	A	9607	R	100/3	FEEDER #PC1-5	2	
3			R	9607	B	9607	R			4	
5			R	9607	C	9607	R			6	
7	FEEDER #PC1-2	100/3	R	9607	A	9607	R	100/3	FEEDER #PC1-6	8	
9			R	9607	B	9607	R			10	
11			R	9607	C	9607	R			12	
13	FEEDER #PC1-3	100/3	R	9607	A	9607	R	100/3	FEEDER #PC1-7	14	
15			R	9607	B	9607	R			16	
17			R	9607	C	9607	R			18	
19	FEEDER #PC1-4	100/3	R	9607	A			100/3	SPARE	20	
21			R	9607	B					22	
23			R	9607	C					24	
25	GANGWAY & DOCK LIGHTING	20/1	L	117	A				SPACE	26	
27	GATE CONTROLLER/CARD READER	20/1	M	50	B				SPACE	28	
29	SPARE	20/1			C				SPACE	30	
31	SPACE				A				SPACE	32	
33	SPACE				B				SPACE	34	
35	SPACE				C				SPACE	36	

Type:	Connected	Demand	Ph.	
C	Computer	-	A	67366
H	HVAC	-	B	67299
K	Kitchen	-	C	67249
L	Lighting	117		146
M	Misc.	50		50
R	Recept.	201,747		105,874
	Total	201,914		106,070
			=	294 Amps

PANEL: PC2		VOLTAGE: 208/120V, 3PH, 4W									
BUS: KAIC 22		LOCATION: DOCK D									
MAIN: 400A		MOUNTING: PAD MOUNTED									
LUGS: NEMA 3R		REMARKS:									
CKT	DESCRIPTION	CB	TYPE	LOAD	PH.	LOAD	TYPE	CB	DESCRIPTION	CKT	
1	FEEDER #PC2-1	100/3	R	9607	A	9607	R	100/3	FEEDER #PC2-5	2	
3			R	9607	B	9607	R			4	
5			R	9607	C	9607	R			6	
7	FEEDER #PC2-2	100/3	R	9607	A	9607	R	100/3	FEEDER #PC2-6	8	
9			R	9607	B	9607	R			10	
11			R	9607	C	9607	R			12	
13	FEEDER #PC2-3	100/3	R	9607	A	9607	R	100/3	FEEDER #PC2-7	14	
15			R	9607	B	9607	R			16	
17			R	9607	C	9607	R			18	
19	FEEDER #PC2-4	100/3	R	9607	A	9607	R	100/3	FEEDER #PC2-8	20	
21			R	9607	B	9607	R			22	
23			R	9607	C	9607	R			24	
25	BASE STATION	20/1	R	200	A			20/1	SPARE	26	
27	SPARE	20/1			B			20/1	SPARE	28	
29	SPARE	20/1			C			20/1	SPARE	30	
31	SPACE				A				SPACE	32	
33	SPACE				B				SPACE	34	
35	SPACE				C				SPACE	36	

Type:	Connected	Demand	Ph.	
C	Computer	-	A	77056
H	HVAC	-	B	76856
K	Kitchen	-	C	76856
L	Lighting	-		-
M	Misc.	-		-
R	Recept.	230,768		120,384
	Total	230,768		120,384
			=	334 Amps

PANEL: PC3		VOLTAGE: 208/120V, 3PH, 4W									
BUS: KAIC 22		LOCATION: DOCK E									
MAIN: 400A		MOUNTING: PAD MOUNTED									
LUGS: NEMA 3R		REMARKS:									
CKT	DESCRIPTION	CB	TYPE	LOAD	PH.	LOAD	TYPE	CB	DESCRIPTION	CKT	
1	FEEDER #PC3-1	100/3	R	9607	A	9607	R	100/3	FEEDER #PC3-5	2	
3			R	9607	B	9607	R			4	
5			R	9607	C	9607	R			6	
7	FEEDER #PC3-2	100/3	R	9607	A	9607	R	100/3	FEEDER #PC3-6	8	
9			R	9607	B	9607	R			10	
11			R	9607	C	9607	R			12	
13	FEEDER #PC3-3	100/3	R	9607	A	9607	R	100/3	FEEDER #PC3-7	14	
15			R	9607	B	9607	R			16	
17			R	9607	C	9607	R			18	
19	FEEDER #PC3-4	100/3	R	9607	A			100/3	SPARE	20	
21			R	9607	B					22	
23			R	9607	C					24	
25	DOCK LIGHTING	20/1	L	108	A				SPACE	26	
27	SPARE	20/1			B				SPACE	28	
29	SPARE	20/1			C				SPACE	30	
31	SPACE				A				SPACE	32	
33	SPACE				B				SPACE	34	
35	SPACE				C				SPACE	36	

Type:	Connected	Demand	Ph.	
C	Computer	-	A	67357
H	HVAC	-	B	67249
K	Kitchen	-	C	67249
L	Lighting	108		135
M	Misc.	-		-
R	Recept.	201,747		105,874
	Total	201,855		106,009
			=	294 Amps

PANEL: PC4		VOLTAGE: 208/120V, 3PH, 4W									
BUS: KAIC 22		LOCATION: DOCK E									
MAIN: 400A		MOUNTING: PAD MOUNTED									
LUGS: NEMA 3R		REMARKS:									
CKT	DESCRIPTION	CB	TYPE	LOAD	PH.	LOAD	TYPE	CB	DESCRIPTION	CKT	
1	FEEDER #PC4-1	100/3	R	9607	A	9607	R	100/3	FEEDER #PC4-5	2	
3			R	9607	B	9607	R			4	
5			R	9607	C	9607	R			6	
7	FEEDER #PC4-2	100/3	R	9607	A	9607	R	100/3	FEEDER #PC4-6	8	
9			R	9607	B	9607	R			10	
11			R	9607	C	9607	R			12	
13	FEEDER #PC4-3	100/3	R	9607	A	9607	R	100/3	FEEDER #PC4-7	14	
15			R	9607	B	9607	R			16	
17			R	9607	C	9607	R			18	
19	FEEDER #PC4-4	100/3	R	9607	A	9607	R	100/3	FEEDER #PC4-8	20	
21			R	9607	B	9607	R			22	
23			R	9607	C	9607	R			24	
25	BASE STATION	20/1	R	200	A			20/1	SPARE	26	
27	SPARE	20/1			B			20/1	SPARE	28	
29	SPARE	20/1			C			20/1	SPARE	30	
31	SPACE				A				SPACE	32	
33	SPACE				B				SPACE	34	
35	SPACE				C				SPACE	36	

Type:	Connected	Demand	Ph.	
C	Computer	-	A	77056
H	HVAC	-	B	76856
K	Kitchen	-	C	76856
L	Lighting	-		-
M	Misc.	-		-
R	Recept.	230,768		120,384
	Total	230,768		120,384
			=	334 Amps

PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____	HORIZ. NO. SCALE: _____	 	BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
SURVEY PARTY CHIEF: _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: _____	VERT. _____		ELECTRICAL PANEL SCHEDULES	FILE _____
APPROVED: _____	CITY ENGINEER: _____	AS BUILT: _____	CHECK: _____	BOOK: _____		E-501	SHEET 39 OF 52



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 APPROVAL

PANEL PC1 DOCK D			RECEPTACLE LOADS					TOTAL RECEPT	TOTAL REC. CURRENT	LOAD FACTOR	METER FACTOR	CONDUIT SIZE	CONDUIT FILL ADJ.	EFFECTIVE CURRENT	BREAKER TRIP	BREAKER FRAME	BREAKER POLES	WIRE LENGTH	WIRE TYPE	RESSISTANCE	# OF CONDUCTOR	WIRE SIZE	GROUND SIZE	VOLTAGE DROP %
CIRCUIT ID	PHASE	VOLTAGE	20A GFI	30A 120V	50A 120V	50A 120/208V	100A 120/208V																	
1,3,5	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	130	THWN	0.1563	4	#2	#8	1.74%
7,9,11	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	150	THWN	0.1563	4	#2	#8	2.01%
13,15,17	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	170	THWN	0.1563	4	#2	#8	2.28%
2,4,6	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	220	THWN	0.1563	4	#2	#8	2.95%
8,10,12	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	230	THWN	0.1563	4	#2	#8	3.08%
14,16,18	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	250	THWN	0.1563	4	#2	#8	3.48%
20,22,24	3	120/208	0	2	0	2	0	4	80	100%	90%	2"	100%	72	100	225	3	60	THWN	0.1563	4	#2	#8	0.80%
19,21,23	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	150	THWN	0.1563	4	#2	#8	1.56%
PANEL	3	120/208	0	23	0	23	0	46	640	50%	90%	-	100%	288	400	400	3	Power Cntr						
FEEDER	3	480							276			2"	100%	124	225	225	3	130	THWN	0.49	3	#4/0	#4	1.42%

PANEL PC2 DOCK D			RECEPTACLE LOADS					TOTAL RECEPT	TOTAL REC. CURRENT	LOAD FACTOR	METER FACTOR	CONDUIT SIZE	CONDUIT FILL ADJ.	EFFECTIVE CURRENT	BREAKER TRIP	BREAKER FRAME	BREAKER POLES	WIRE LENGTH	WIRE TYPE	RESSISTANCE	# OF CONDUCTOR	WIRE SIZE	GROUND SIZE	VOLTAGE DROP %
CIRCUIT ID	PHASE	VOLTAGE	20A GFI	30A 120V	50A 120V	50A 120/208V	100A 120/208V																	
1,3,5	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	80	THWN	0.1563	4	#2	#8	1.07%
7,9,11	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	30	THWN	0.1563	4	#2	#8	0.40%
13,15,17	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	30	THWN	0.1563	4	#2	#8	0.40%
2,4,6	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	90	THWN	0.1563	4	#2	#8	1.21%
8,10,12	3	120/208	0	2	0	2	0	4	80	100%	90%	2"	100%	72	100	225	3	110	THWN	0.1563	4	#2	#8	1.47%
14,16,18	3	120/208	0	2	0	2	0	4	80	100%	90%	2"	100%	72	100	225	3	160	THWN	0.1563	4	#2	#8	2.14%
20,22,24	3	120/208	0	2	0	2	0	4	80	100%	90%	2"	100%	72	100	225	3	160	THWN	0.1563	4	#2	#8	2.14%
19,21,23	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	80	THWN	0.1563	4	#2	#8	1.07%
PANEL	3	120/208	0	21	0	21	0	42	640	50%	90%	-	100%	288	400	400	3	Power Cntr						
FEEDER	3	480							276			2"	100%	124	225	225	3	377	THWN	0.49	3	#4/0	#4	3.02%

PANEL PC3 DOCK E			RECEPTACLE LOADS					TOTAL RECEPT	TOTAL REC. CURRENT	LOAD FACTOR	METER FACTOR	CONDUIT SIZE	CONDUIT FILL ADJ.	EFFECTIVE CURRENT	BREAKER TRIP	BREAKER FRAME	BREAKER POLES	WIRE LENGTH	WIRE TYPE	RESSISTANCE	# OF CONDUCTOR	WIRE SIZE	GROUND SIZE	VOLTAGE DROP %
CIRCUIT ID	PHASE	VOLTAGE	20A GFI	30A 120V	50A 120V	50A 120/208V	100A 120/208V																	
1,3,5	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	100	THWN	0.1563	4	#2	#8	1.34%
7,9,11	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	120	THWN	0.1563	4	#2	#8	1.61%
13,15,17	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	140	THWN	0.1563	4	#2	#8	1.87%
2,4,6	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	220	THWN	0.1563	4	#2	#8	2.95%
8,10,12	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	230	THWN	0.1563	4	#2	#8	3.08%
14,16,18	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	260	THWN	0.1563	4	#2	#8	3.48%
20,22,24	3	120/208	0	2	0	2	0	4	80	100%	90%	2"	100%	72	100	225	3	60	THWN	0.1563	4	#2	#8	0.80%
19,21,23	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	160	THWN	0.1563	4	#2	#8	2.14%
PANEL	3	120/208	0	23	0	23	0	46	640	50%	90%	-	100%	288	400	400	3	Power Cntr						
FEEDER	3	480							276			2"	100%	124	225	225	3	275	THWN	0.49	3	#4/0	#4	2.20%

PANEL PC4 DOCK E			RECEPTACLE LOADS					TOTAL RECEPT	TOTAL REC. CURRENT	LOAD FACTOR	METER FACTOR	CONDUIT SIZE	CONDUIT FILL ADJ.	EFFECTIVE CURRENT	BREAKER TRIP	BREAKER FRAME	BREAKER POLES	WIRE LENGTH	WIRE TYPE	RESSISTANCE	# OF CONDUCTOR	WIRE SIZE	GROUND SIZE	VOLTAGE DROP %
CIRCUIT ID	PHASE	VOLTAGE	20A GFI	30A 120V	50A 120V	50A 120/208V	100A 120/208V																	
1,3,5	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	70	THWN	0.1563	4	#2	#8	0.94%
7,9,11	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	40	THWN	0.1563	4	#2	#8	0.54%
13,15,17	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	40	THWN	0.1563	4	#2	#8	0.54%
2,4,6	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	120	THWN	0.1563	4	#2	#8	1.61%
8,10,12	3	120/208	0	2	0	2	0	4	80	100%	90%	2"	100%	72	100	225	3	120	THWN	0.1563	4	#2	#8	1.61%
14,16,18	3	120/208	0	2	0	2	0	4	80	100%	90%	2"	100%	72	100	225	3	160	THWN	0.1563	4	#2	#8	2.14%
20,22,24	3	120/208	0	2	0	2	0	4	80	100%	90%	2"	100%	72	100	225	3	160	THWN	0.1563	4	#2	#8	2.14%
19,21,23	3	120/208	0	3	0	3	0	6	80	100%	90%	2"	100%	72	100	225	3	80	THWN	0.1563	4	#2	#8	1.07%
PANEL	3	120/208	0	21	0	21	0	42	640	50%	90%	-	100%	288	400	400	3	Power Cntr						
FEEDER	3	480							276			2"	100%	124	225	225	3	580	THWN	0.49	3	#4/0	#4	3.89%

PROJECT MANAGER: \_\_\_\_\_ DATE \_\_\_\_\_  
 DEPICTION OF MONUMENTS: \_\_\_\_\_ DATE \_\_\_\_\_  
 SURVEY PARTY CHIEF \_\_\_\_\_  
 WATERSHED REVIEW: \_\_\_\_\_ DATE \_\_\_\_\_

SUBMITTED: \_\_\_\_\_ DATE \_\_\_\_\_  
 R.C.E. \_\_\_\_\_  
 SUPERVISING CIVIL ENGINEER \_\_\_\_\_  
 EXP. \_\_\_\_\_  
 APPROVED: \_\_\_\_\_ DATE \_\_\_\_\_  
 R.C.E. \_\_\_\_\_  
 CITY ENGINEER \_\_\_\_\_  
 EXP. \_\_\_\_\_

DESIGN: \_\_\_\_\_  
 DRAWN: \_\_\_\_\_  
 CHECK: \_\_\_\_\_  
 AS BUILT: \_\_\_\_\_  
 HORIZ. NO. SCALE: \_\_\_\_\_  
 VERT. \_\_\_\_\_  
 BOOK: \_\_\_\_\_  
 DATE: \_\_\_\_\_



BERKELEY MARINA DOCK REPLACEMENT (D-E)  
 CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
 ELECTRICAL LOAD CALCULATIONS



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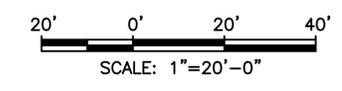
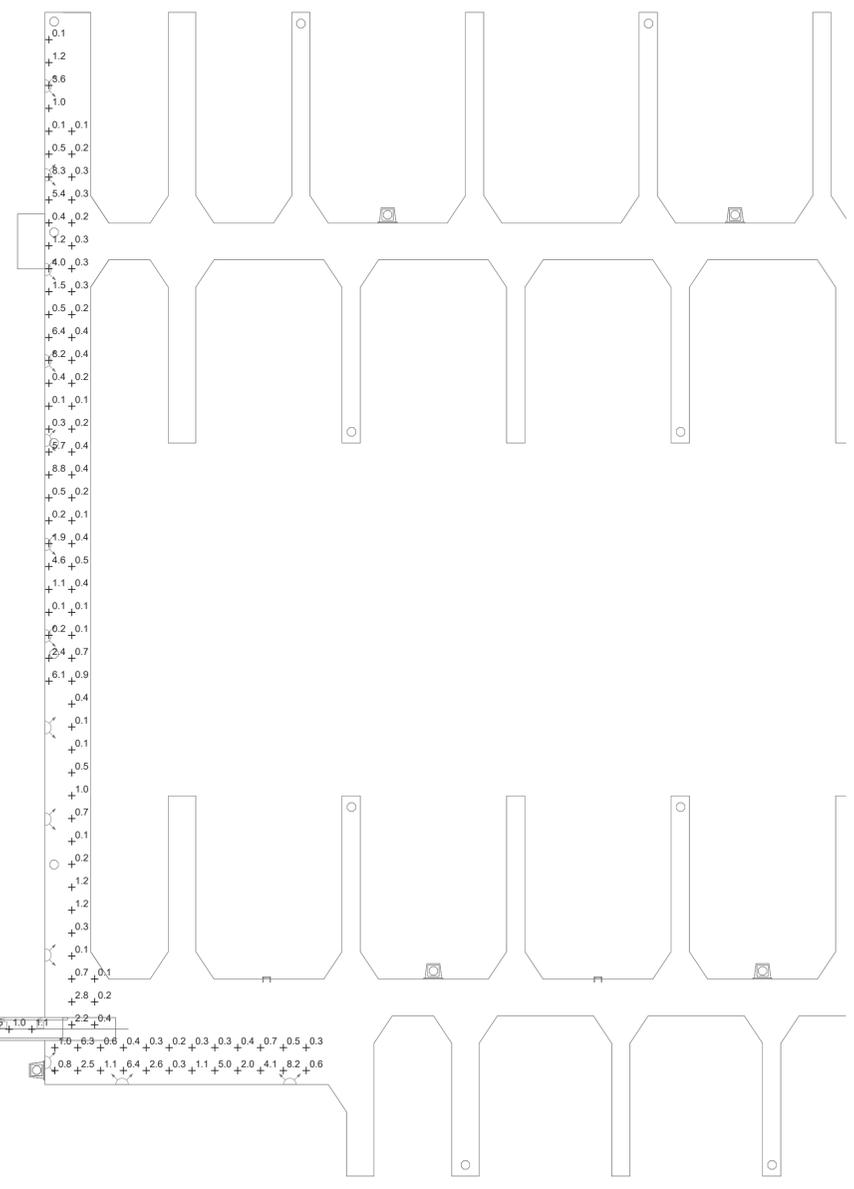
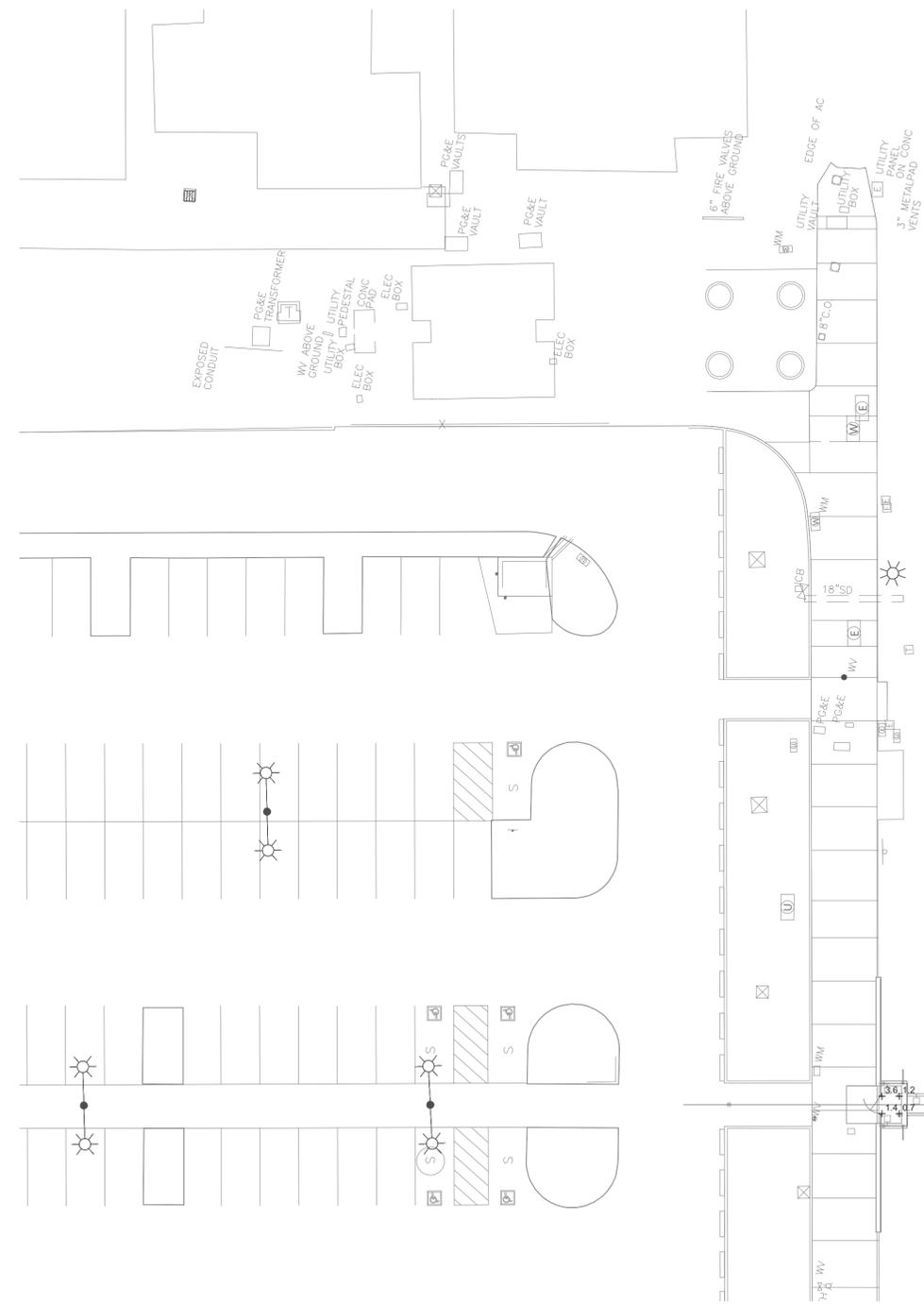
PLAN \_\_\_\_\_  
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 E-502  
 SHEET 40 OF 52



### SHEET NOTES

1. REFER TO SHEET E-001 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. REFER TO SHEET E-202 FOR LIGHT FIXTURE SCHEDULE AND LIGHT FIXTURE TYPES.
3. CALCULATION BASED ON LIGHT LOSS FACTOR OF 0.8.
4. IES FILES ARE BASED ON AVAILABLE MANUFACTURER DATA. ACTUAL INSTALLED LIGHT LEVELS MAY VARY.

PLOTTED BY: MINH TRAN PLOT DATE: 1/16/2024 1:56:40 PM



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PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	HORIZ. 1" = 20'-0"			BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA PHOTOMETRIC CALCULATION	PLAN _____
_____	SURVEY PARTY CHIEF _____ DATE _____	SUPERVISING CIVIL ENGINEER _____ DATE _____	VERT. _____				FILE _____
<p>FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES</p>	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	CHECK _____ BOOK _____	REVISION _____	MARK _____	DESCRIPTION _____	APPROVAL _____
		CITY ENGINEER _____ DATE _____	AS BUILT _____				0-15-2024 ISSUED FOR BID SUBMITTAL 0 REVISION

## FIRE PROTECTION LEGEND

SYMBOL	ABBREV	DESCRIPTION	ABBREV. /SYMBOL	DESCRIPTION	ABBREV	DESCRIPTION
		AREA OF WORK	APPROX	APPROXIMATE	THD	THREADED
			CL	CENTER LINE	TYP	TYPICAL
	CW	DOMESTIC WATER	CFC	CALIFORNIA FIRE CODE	UNO	UNLESS NOTED OTHERWISE
		DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY	CONC	CONCRETE	U/G	UNDERGROUND
		EXISTING EQUIPMENT OR PIPING TO REMAIN	CONN	CONNECT OR CONNECTION	UL	UNDERWRITER'S LABORATORY
		FIRE HYDRANT	CONT	CONTINUATION	W/	WITH
		FIRE DEPARTMENT CONNECTION	DEPT	DEPARTMENT		
	FW	FIRE WATER	DI	DUCTILE IRON		
		PIPE TEE UP	DIA/Ø	DIAMETER		
		PIPE TEE DOWN	DIM	DIMENSION		
		PIPE DOWN	DWG	DRAWING		
		PIPE UP	(E)	EXISTING		
	POC	POINT OF CONNECTION	EA	EACH		
	POD	POINT OF DISCONNECTION	FDC	FIRE DEPARTMENT CONNECTION		
		PRESSURE GAUGE	FLR	FLOOR		
		REMOVE EXISTING EQUIPMENT OR PIPING	FP	FIRE PROTECTION		
	GV	GATE/ISOLATION VALVE	FW	FIRE WATER		
	U	UNION	GA	GAUGE/ GAGE		
	RED	REDUCER	GALV	GALVANIZED		
	CH V	CHECK VALVE	GPM	GALLONS PER MINUTE		
		PIPE PENETRATION WITH SLEEVE	ID	INSIDE DIAMETER		
	W	FLOW SWITCH	M	METER		
		SECTION REFERENCE SYMBOL	MAX	MAXIMUM		
		SECTION IDENTIFICATION LETTER	MIN	MINIMUM		
		DRAWING NUMBER ON WHICH SECTION IS DRAWN	NC	NORMALLY CLOSED		
		DRAWING NUMBER(S) FROM WHICH SECTION IS TAKEN	NFPA	NATIONAL FIRE PROTECTION AGENCY		
		DETAIL IDENTIFICATION LETTER	NIC	NOT IN CONTRACT		
		SHEET NUMBER ON WHICH DETAIL IS DRAWN	NTS	NOT TO SCALE		
			OD	OUTSIDE DIAMETER		
			OS&Y	OUTSIDE SCREW & YOKE		
			PD	PRESSURE DROP		
			PSIG	POUNDS PER SQUARE INCH GAUGE QUANTITY		
			QTY	QUANTITY		
			SS	STAINLESS STEEL		
			STD	STANDARD		
			STL	STEEL		
			TEMP	TEMPERATURE		

## SITEWORK GENERAL NOTES

- FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS, INCLUDING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK AND COORDINATE WITH ALL OTHER TRADES. ALL DISCREPANCIES OR POTENTIAL PROBLEMS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER PRIOR TO INSTALLATION. THE BID SHALL CONTAIN UNIT PRICES OF ITEMS THAT MAY NEED TO BE REPLACED AND REINSTALLED.
- IN CASE OF DIFFERENCE BETWEEN CODES, SPECIFICATIONS, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, UTILITY COMPANY REGULATIONS, AND CONTRACT DOCUMENTS, THE MOST STRINGENT SHALL GOVERN. PROMPTLY NOTIFY THE OWNER IN WRITING OF ANY SUCH DIFFERENCE.
- MATERIALS AND EQUIPMENT FURNISHED AND INSTALLED SHALL BE NEW, FREE FROM DEFECTS AND SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY THE OWNER. SHOULD ANY PROBLEMS DEVELOP DURING THE PERIOD DUE TO FAULTY WORKMANSHIP OR MATERIAL AND LABOR IT SHALL BE CORRECTED WITHOUT COST TO THE OWNER.
- THE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED TO DETERMINE THE EXACT LOCATION OF THE PIPING.
- ALL PIPES AND FITTINGS UTILIZED IN WATER SUPPLY SYSTEMS SHALL ALSO CONFORM TO NSF 61 AS REQUIRED BY THE CALIFORNIA PLUMBING CODE.
- COORDINATE INSTALLATION OF PIPING AND ACCESSORIES WITH OTHER TRADES PRIOR TO INSTALLATION.
- PLANS ARE BASED ON ANTICIPATED EQUIPMENT SIZE AND CONFIGURATION. CONTRACTOR SHALL MODIFY ARRANGEMENT TO SUIT ACTUAL PURCHASED EQUIPMENT AS REQUIRED FOLLOWING THE CRITERIA ESTABLISHED BY THE PLAN. DEPARTURES FROM THE CONTRACT DRAWING RESULT FROM CHANGES IN EQUIPMENT SIZES AND CONFIGURATIONS, OR RE-ARRANGEMENTS TO ACCOMMODATE FIELD CONDITIONS, SHALL BE SUBMITTED IN DETAIL FOR THE ENGINEER'S APPROVAL.
- NOTIFY ENGINEER AND OWNER AT LEAST ONE (1) WEEK IN ADVANCE TO COORDINATE SHUTDOWN FOR RECONNECTION TO (E) AFFECTED UTILITIES.
- FIRE PROTECTION WATER PIPING AS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND SHALL BE FABRICATED AND INSTALLED ON ACTUAL FIELD MEASUREMENT. FIRE PROTECTION WATER PIPING SHALL BE INSTALLED PROPERLY TO AVOID OTHER UTILITIES IN THE AREA OF WORK.
- PROVIDE VALVE BOX AND COVER FOR ALL (N) VALVES INSTALLED UNDERGROUND. INSTALL VALVE BOXES AND COVERS PER MANUFACTURER'S RECOMMENDATION.
- PROVIDE THRUST BLOCKS AND RESTRAINTS FOR THE (N) FIRE WATER PIPING.
- TRACER WIRE SHALL BE RHW #10 AWG STRANDED. TRACER WIRE SHALL BE SECURELY FASTENED TO TOP OF NEW BURIED WATER LINES AND SHALL BE PLACED ALONG THE OUTSIDE OF VALVE BOX RISERS WITH ONE FOOT OF SLACK PLACE INSIDE OF VALVE BOX. WIRE SHALL TERMINATE IN EACH BOX IN THE DIRECTION OF THE VALVE CONTROLS.
- CONDUCTIVITY TEST FOR TRACER WIRE SHALL BE PERFORMED AFTER BACKFILL AND COMPACTION.
- FIREWATER ISOLATION VALVES SHALL BE ACCESSIBLE.
- THE UNDERGROUND PIPING SYSTEM INSTALLATION SHALL BE IN ACCORDANCE WITH LATEST NFPA 24 AND SHALL BE INSTALLED BY EXPERIENCED C16 CONTRACTOR OR CLASS A GENERAL CONTRACTOR.
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITY PIPELINES SHOWN ON THE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. APPROVAL OF THESE PLANS BY THE ENGINEER DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OR COMPLETENESS OF THE LOCATION OR THE EXISTENCE OF ANY UNDERGROUND UTILITIES WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR IS REQUIRED TO TAKE ALL DUE PRECAUTIONARY MEANS TO PROTECT THE UTILITIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE, PROTECT, AND MAINTAIN ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THE DRAWINGS.
- HYDROSTATIC TESTS OF ALL SYSTEMS SHALL BE CONDUCTED IN ACCORDANCE WITH THE SPECIFICATIONS AND NFPA 14 AND NFPA 24 REQUIREMENTS. THE ENTIRE INSTALLATION SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH NFPA 14 AND NFPA 24, AND APPROVED BY THE FIRE MARSHAL PRIOR TO FINAL ACCEPTANCE.
- REFER TO DOCKS B & C PLUMBING AND FIRE PROTECTION AS-BUILTS.

## FIRE PROTECTION GENERAL NOTES

- REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS OF CONSTRUCTION.
- WORK INCLUDES PROVISION OF COMPLETE FIRE PROTECTION FOR THE DOCKS. CONTRACTOR IS RESPONSIBLE FOR ALL WORK, INCLUDING SHOP DRAWINGS PREPARATION NECESSARY FOR COMPLETE OPERATING SYSTEM.
- DESIGN AND ALL INSTALLATION WORK OF FIRE PROTECTION SYSTEMS SHALL COMPLY AND BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2022 CALIFORNIA BUILDING CODE AND CALIFORNIA FIRE CODE, NFPA 10 (2021), NFPA 13 (2022), NFPA 14 (2019), NFPA 24 (2019), AND NFPA 303 FIRE PROTECTION STANDARDS FOR MARINAS AND BOATYARDS (2021).
- FIELD VERIFICATION OF SYSTEM DESIGN AND LAYOUT PRIOR TO FABRICATION.
- COMPLY WITH DIVISION 01 AND 21 SPECIFICATIONS FOR SUBMITTALS AND INSPECTION.
- FIRE HOSE AND PIPING SYSTEMS INCLUDING FITTINGS AND HANGERS SHALL BE PROTECTED FROM CORROSION IN ACCORDANCE WITH NFPA 303 FIRE PROTECTION STANDARD FOR MARINAS AND BOATYARDS, CURRENT EDITION.
- PROVIDE FIRE PROTECTION ENGINEER STAMPED FIRE SPRINKLER SHOP DRAWING PLAN(S) FOR FIRE MARSHAL'S APPROVAL.
- PROVIDE FIRE PROTECTION SYSTEM FOR THE AREAS AS INDICATED ON THE DRAWINGS.
- CONSTRUCTION SAFETY: ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF OSHA.
- ALL COST FOR INSPECTION, TEST SERVICES, BUILDING PERMITS, LICENSES AND CERTIFICATES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS.
- PROVIDE HANGERS AND SWAY BRACING AS REQUIRED PER THE LATEST EDITION OF NFPA 14, SPECIFICATION AND LOCAL CODES AND AMENDMENTS.
- ELEVATIONS OF PIPING AND POINT OF CONNECTIONS ABOVE AND BELOW GROUND SHALL BE FIELD VERIFIED PRIOR TO START OF INSTALLATION.
- COORDINATE THE LOCATION OF RISERS, PIPING AND OTHER FIRE WATER SYSTEM COMPONENTS WITH STRUCTURAL AND ELECTRICAL PORTIONS OF THE DOCKS.
- COORDINATE INSTALLATION OF ALL EQUIPMENT AND PIPING WITH OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF BACKFLOW PREVENTER AND FIRE HOSES PRIOR TO INSTALLATION.
- ALL PIPE PENETRATIONS TO BE SEALED WITH SEALANT.
- CONTRACTOR TO FIELD VERIFY SITE FOR FIRE PROTECTION SYSTEM.
- PIPE HANGERS SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF THE PIPE AND THE WEIGHT OF THE CONTENTS OF THE PIPE. REFER TO DETAILS ON DRAWINGS FOR ATTACHMENTS.
- CHANGES OF PIPE DIRECTION SHALL BE ACCOMPLISHED BY THE USE OF FITTINGS SUITABLE FOR SPRINKLER SYSTEMS AS DEFINED BY NFPA 13 AND THE SPECIFICATIONS.

## BACKFLOW PREVENTER

EQPM ID	LOCATION	AREA SERVE	TYPE	SIZE	SERVICE	REMARKS
				IN.		
RPBFP-1	OUTDOORS	REFER TO DRAWINGS	REDUCED PRESSURE PRINCIPLE/ZONE	4	FIRE HOSE FIRE WATER SUPPLY	SEE NOTES

### NOTES:

- AWWA C511, ASSE 1013 LISTED, DUCTILE IRON BODY, PROVIDE WITH TWO POSITIVE SEATING STAINLESS STEEL SEATED CHECK VALVES AND TWO WEDGE GATE OS&Y VALVES, MODULAR HYDRAULICALLY DEPENDENT DIFFERENTIAL RELIEF VALVE, AND BACKSIPHONAGE. PROVIDE WITH ANTICORROSION INHIBITOR PRIMER, MICROBRIAL INHIBITOR AND EPOXY-POLYESTER TOPCOAT. PROVIDE WITH OUTDOOR CORROSION RESISTANT COATED VANDAL PROOF CAGE ANCHORED TO CONCRETE PAD.

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SUBMITTAL



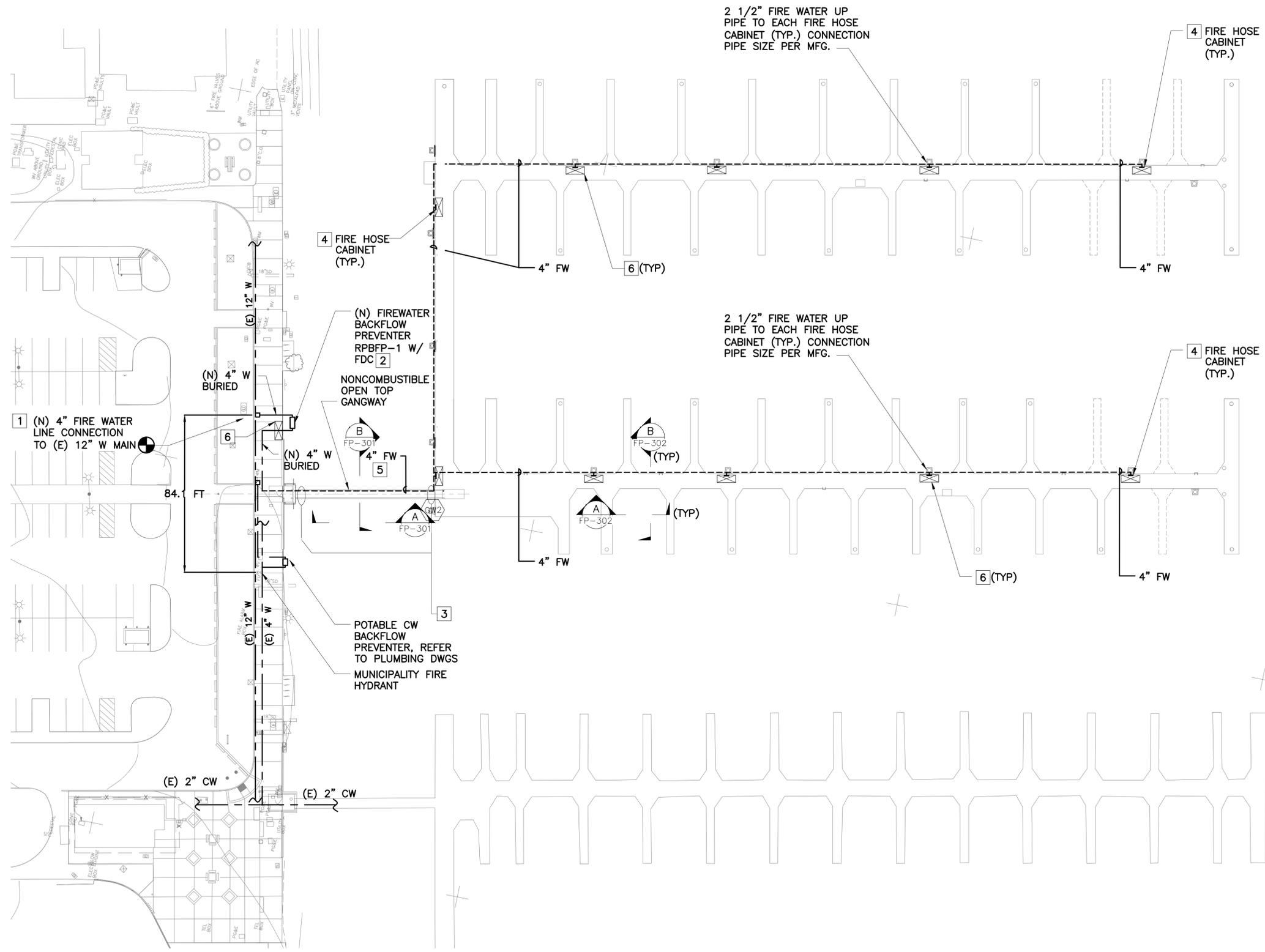
PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____ B.H. _____	HORIZ.: _____ AS SHOWN _____
SURVEY PARTY CHIEF: _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	DRAWN: _____ P.W. _____	VERT.: _____
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	APPROVED: _____ DATE _____	CITY ENGINEER: _____ DATE _____	CHECK: _____ P.M. _____	BOOK: _____
			AS BUILT: _____	DATE: _____



BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
FIRE PROTECTION GENERAL NOTES,  
LEGEND AND ABBREVIATIONS

PLAN \_\_\_\_\_  
FILE \_\_\_\_\_  
FP-001  
SHEET 42 OF 52

PLOTTED BY: BRYAN W. HAYES    PLOT DATE: 11/14/2024 10:11:51 AM  
 APPROVAL  
 DESCRIPTION  
 DATE  
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2 1/2" FIRE WATER UP PIPE TO EACH FIRE HOSE CABINET (TYP.) CONNECTION PIPE SIZE PER MFG.

4 FIRE HOSE CABINET (TYP.)

4 FIRE HOSE CABINET (TYP.)

2 1/2" FIRE WATER UP PIPE TO EACH FIRE HOSE CABINET (TYP.) CONNECTION PIPE SIZE PER MFG.

4 FIRE HOSE CABINET (TYP.)

1 (N) 4" FIRE WATER LINE CONNECTION TO (E) 12" W MAIN

(N) FIREWATER BACKFLOW PREVENTER RPBFP-1 W/ FDC 2

NONCOMBUSTIBLE OPEN TOP GANGWAY

(N) 4" W BURIED

(N) 4" W BURIED

POTABLE CW BACKFLOW PREVENTER, REFER TO PLUMBING DWGS MUNICIPALITY FIRE HYDRANT

(E) 2" CW

(E) 2" CW

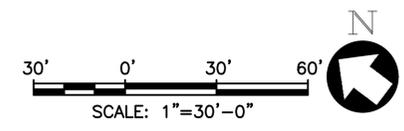
**FIRE PROTECTION PLAN NEW WORK - DOCK 'D&E'**  
SCALE: 1" = 30'-0"

**SHEET NOTES:**

- SEE SHEET FP-001 FOR FIRE PROTECTION PROTECTION GENERAL NOTES, ABBREVIATIONS AND LEGEND.
- COORDINATE WITH EAST BAY MUNICIPAL UTILITY DISTRICT (EBMUD) FOR INSTALLATION AND PROPER CONNECTION TO NEW DEDICATED FIRE LINE BACKFLOW PREVENTER AND TO 12-INCH WATER MAIN.
- PROTECT IN PLACE (E) UTILITIES.
- ALL GANGWAY AND DOCKS FIRE WATER LINES SHALL BE HDPE PIPE.
- PROVIDE THRUST BLOCKS ON (N) UNDERGROUND FIRE WATER PIPE.
- EBMUD WILL BE RESPONSIBLE FOR FURNISHING AND INSTALLING PIPE CONNECTION AT INDICATED POC LOCATION. PRIOR TO WORK, CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH CITY OF BERKELEY AND EBUD FOR LOCATION OF BACKFLOW PREVENTER.
- STANDPIPE SHALL BE CLASS I WITH A HOSE LAY DISTANCE NOT TO EXCEED 150 FEET. STANDPIPE SYSTEM SHALL COMPLY WITH NFPA 14.
- FIRE PROTECTION CONTRACTOR SHALL SUBMIT LICENSED ENGINEER STAMPED SHOP DRAWINGS FOR REVIEW.

**KEY NOTES:**

- CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING LANDSIDE WATERLINE. CONNECT (N) 4-INCH FIRE WATER LINE TO (E) MAIN WATER LINE BELOW GROUND.
- PROVIDE (N) FIRE WATER DOUBLE CHECK BACKFLOW PREVENTER W/ 2-1/2" FIRE DEPARTMENT CONNECTION AND 5" STORZ TYPE CONNECTOR W/ STRAINER. LOCATE NEW BACKFLOW PREVENTER W/ (N) CONCRETE SUPPORT PAD PER STRUCTURAL DWGS. INSTALL W/ MIN. 3 FT CLEARANCE IN AROUND FDC.
- PROVIDE FLEXIBLE HOSE ON FIRE WATER LINE WHERE GANGWAY JOINTS SHORE AND DOCKS. PROVIDE STAINLESS STEEL KELLUM GRIPS AT ALL FLEXIBLE CONNECTIONS AT GANGWAY.
- PROVIDE (N) FIRE HOSE CABINETS ON DOCKS. CONNECT (N) FIRE WATER STANDPIPE TO FIRE HOSE CABINET. HOSE CONNECTIONS SHALL BE PROVIDED EVERY MAXIMUM 150 FEET. ONE MODERATE-HAZARD PORTABLE FIRE EXTINGUISHER SHALL BE PROVIDED AT EACH CABINET HOSE VALVE.
- PROVIDE (N) FIRE WATER PIPE UNDER GANGWAY TIGHT TO UNDERSIDE.
- MINIMUM CLEAR SPACE 4 FEET WIDE BY 10 FEET LONG AREA FOR STAGING OF EMERGENCY EQUIPMENT AT EACH HOSE CONNECTION. PROVIDE SIGN READING "FIRE EQUIPMENT STAGING AREA - KEEP CLEAR". REFER TO STRUCTURAL DWGS.



ISSUED FOR BID SUBMITTAL



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____ B.H. _____	HORIZ.: _____ AS SHOWN _____		BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA FIRE PROTECTION PLAN NEW WORK DOCK "D & E"	PLAN _____
DATE _____	DATE _____	DATE _____	DRAWN: _____ P.W. _____	VERT.: _____			FILE _____
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	CHECK: _____ P.M. _____	BOOK: _____	REVISION: _____	MARK _____	0
		CITY ENGINEER	AS BUILT _____	DATE _____			FP-201 SHEET 43 OF 52

PLOTTED BY: BRYAN W. HAVES PLOT DATE: 11-02-2024 10:38:47 AM

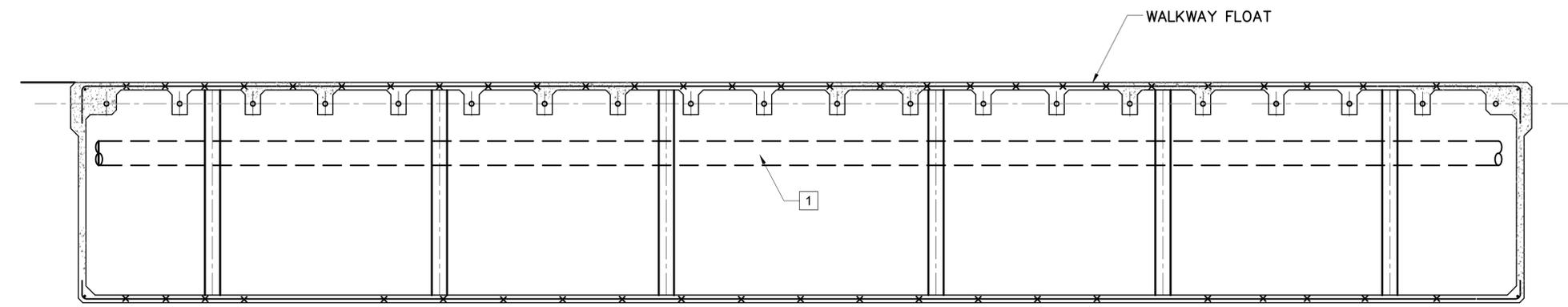


**SHEET NOTES:**

1. SEE SHEET FP001 FOR FIRE PROTECTION GENERAL NOTES, ABBREVIATIONS AND LEGEND.
2. REFER TO STRUCTURAL DRAWINGS FOR DOCK STRUCTURES.
3. PROVIDE 316 SS HANGERS, PIPE CLAMPS AND BRACING FOR PIPING IN ACCORDANCE WITH CPC, CBC AND NFPA. ANCHORS AND BOLTING SHALL BE 316 SS.

**KEY NOTES:**

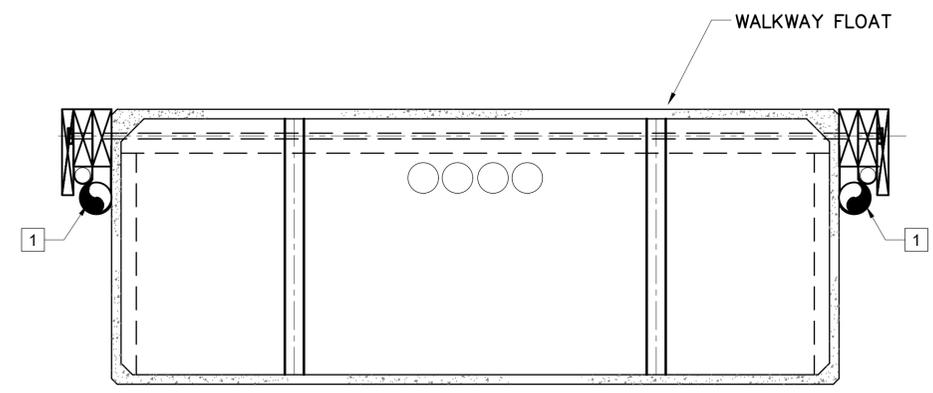
1. 4"Ø FIREWATER PIPELINE ALONG UNDERSIDE OF WALKWAY W/ 316 SS PIPE STRAP SUPPORT ANCHORED TO WALKER AND DOCK. INSTALL PIPE ABOVE HIGH WATER LEVEL.



**WALKWAY SECTION**

SCALE: 1" = 1'-0"

**A**  
FP-302



**WALKWAY SECTION**

SCALE: 1" = 1'-0"

**B**  
FP-302

ISSUED FOR BID  
SUBMITTAL



PROJECT MANAGER: _____ DATE: _____	DEPICTION OF MONUMENTS: _____ DATE: _____	SUBMITTED: _____ DATE: _____	DESIGN: _____ B.H. _____
_____	SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: _____ P.W. _____
_____	WATERSHED REVIEW: _____ DATE: _____	APPROVED: _____ DATE: _____	CHECK: _____ P.M. _____
_____	_____	CITY ENGINEER: _____	AS BUILT: _____ DATE: _____

FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES

BERKELEY RECREATION & WATERFRONT  
1847 CENTER ST., 5TH FL., BERKELEY, CA 94704

**YEI**  
ENGINEERS

BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA

**FIRE PROTECTION**  
SECTIONS - SHEET 2 OF 2

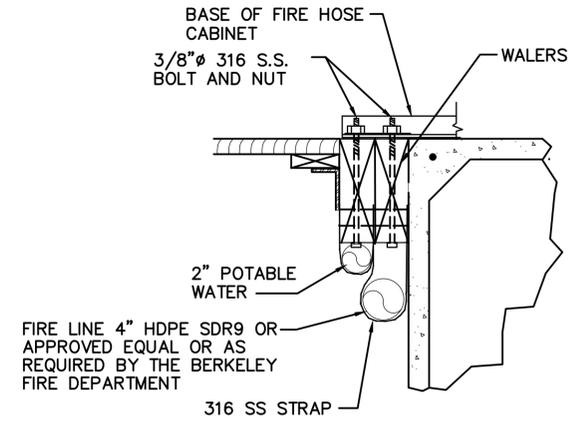
PLAN: \_\_\_\_\_

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FP-302

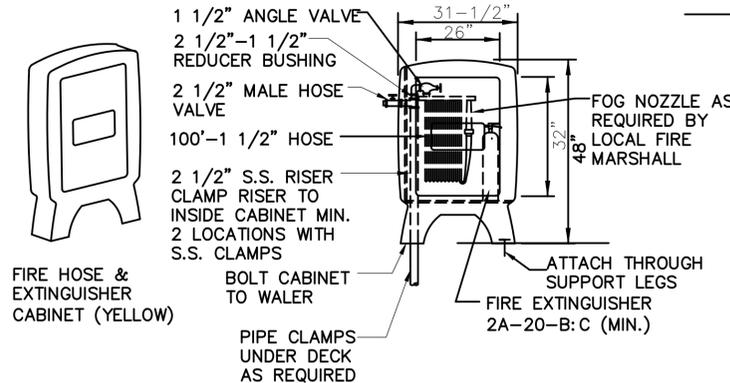
SHEET 45 OF 52

NO.	DATE	DESCRIPTION	APPROVAL
0	01-15-2024	ISSUED FOR BID SUBMITTAL	PM



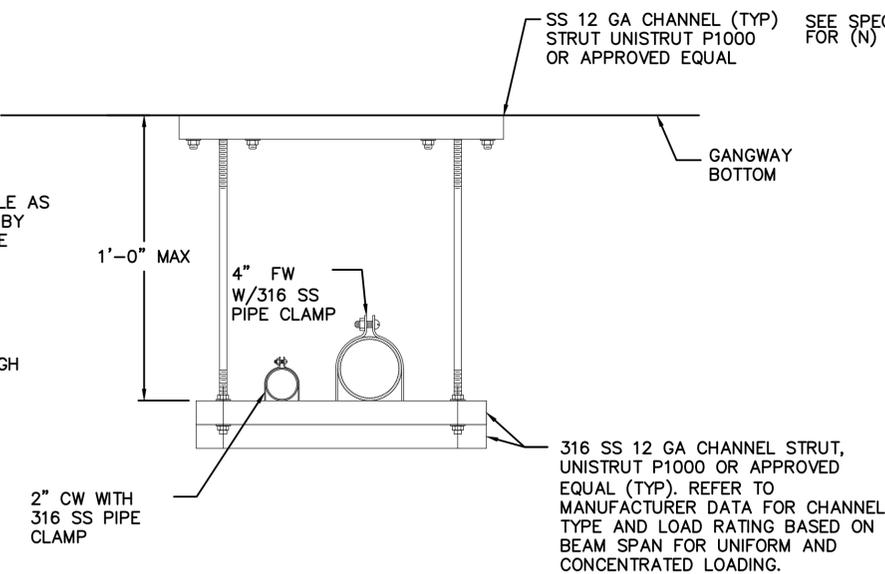
**FIRE CABINET SUPPORT DETAIL**

SCALE: NTS



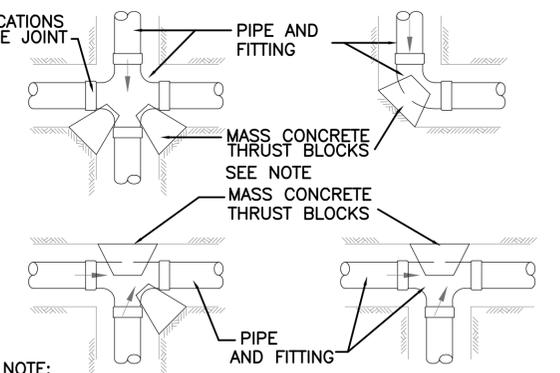
**FIRE HOSE CABINET DETAIL**

SCALE: NTS



**GANGWAY PIPE SUPPORT DETAIL**

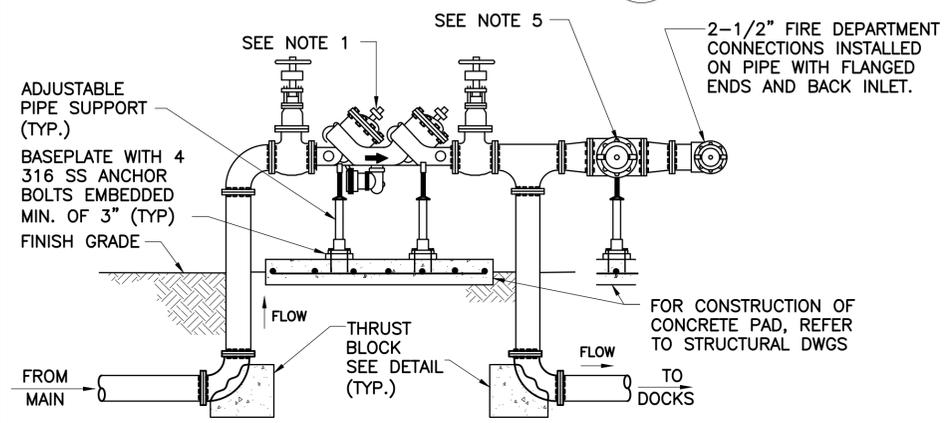
SCALE: NTS



NOTE: CONCRETE THRUST BLOCKS SHALL BE POURED AT ALL ELBOW, TEES, AND AT CAPPED OR PLUGGED ENDS OF LINE. CAST AGAINST UNDISTURBED SOIL OR FILL COMPACTED TO AT LEAST 90% STANDARD PROCTER DENSITY.

PIPE SIZE	BEARING AREA* OF THRUST BLOCKS			
	90° ELL.-SF	45° ELL.-SF	TEES-SF	PLUG/CAP-SF
4	2	1.5	2	1.5
6	6	3	4	4
8	8	5	7	7
10	8	8	8	8

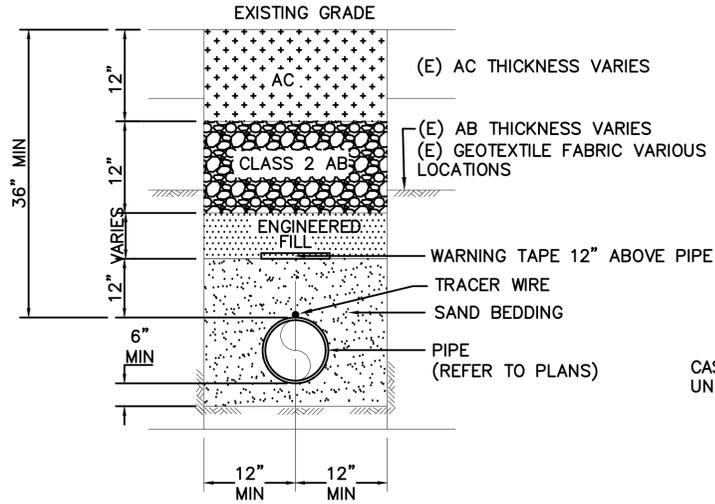
\* FOR PIPE LINE PRESSURES OF 150 PSI IN 1500 PSF BEARING CAPACITY



**FIRE WATER BACKFLOW PREVENTER ASSEMBLY**

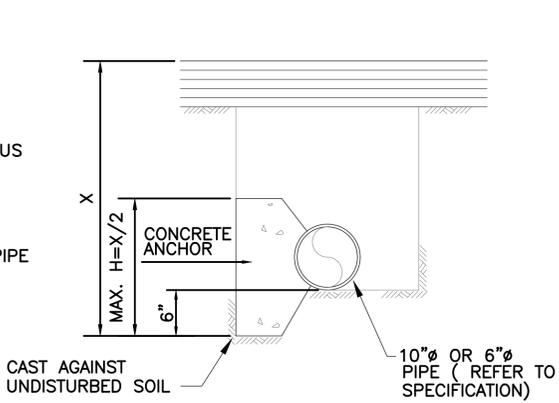
SCALE: NTS

- NOTES:
1. REDUCE PRESSURE BACKFLOW PREVENTER WITH OS&Y VALVES (WITH LOCK AND CHAIN) FOR FIRE PROTECTION SERVICE.
  2. BACKFLOW PREVENTER INSTALLATION SHALL CONFORM TO LATEST NFPA 24 REQUIREMENTS.
  3. SUPPLY PIPING SHALL BE FOR MINIMUM RATE OF 300 GPM.
  4. FINAL LOCATION OF THE BACKFLOW PREVENTER SHALL BE COORDINATED WITH AND DETERMINED BY THE CITY OF BERKELEY AND EBMUD. CONTRACTOR SHALL INSTALL THE BACKFLOW PREVENTER ASSEMBLY AS DIRECTED BY THE CITY IN THE FIELD.
  5. 5" STORZ CONNECTION INSTALLED ON PIPE WITH FLANGED ENDS AND BACK INLET. PROVIDE W/ DI Y-STRAINER W/ FLOW DIRECTION TOWARD FDC AND ADJUSTABLE SUPPORT



**TYPICAL FIREWATER TRENCH DETAIL**

SCALE: NTS

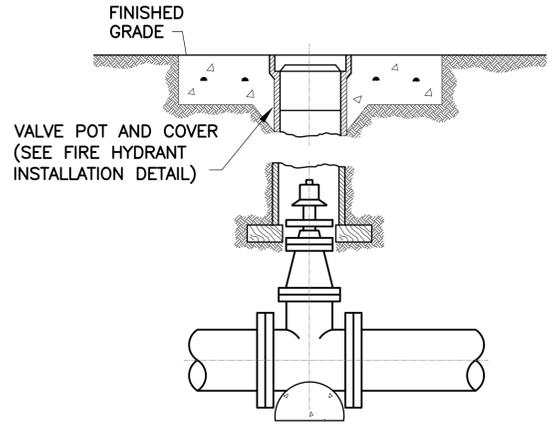


**TYPICAL ANCHOR BLOCK FOR PIPE**

SCALE: NTS

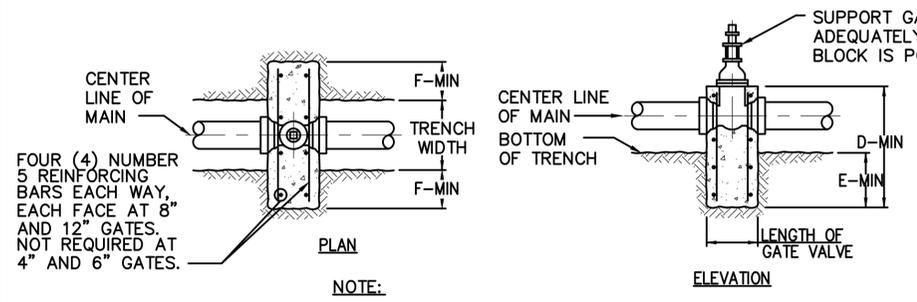
**THRUST BLOCK LOCATION DETAIL**

SCALE: NTS



**TYPICAL VALVE DETAIL**

SCALE: NTS



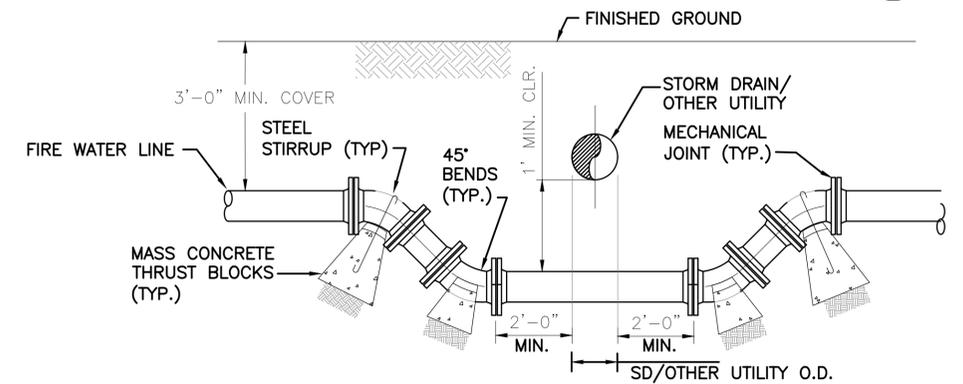
**THRUST BLOCK AT GATE VALVES**

SCALE: NTS

SIZE (IN)	"D" (IN)	"E" (IN)	"F" (IN)
4	12	4	6
6	18	8	6
8	24	12	6
12	36	18	12

**THRUST BLOCK AT GATE VALVES**

SCALE: NTS



**TYPICAL FIRE WATER LINE CROSSING STORMDRAIN/OTHER UTILITIES DETAIL**

SCALE: NTS

ISSUED FOR BID SUBMITTAL



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____ HORIZ. AS SHOWN		BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA FIRE PROTECTION DETAILS	PLAN _____
DATE _____	SURVEY PARTY CHIEF: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	VERT. _____			FILE _____
DATE _____	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	BOOK _____			REVISION _____
DATE _____	DATE _____	CITY ENGINEER: _____ DATE _____	AS BUILT _____			DATE _____

PLOTTED BY: BRYAN W. HAYES PLOT DATE: 11-14-2024 10:15:32 AM  
 01-15-2024 ISSUED FOR BID SUBMITTAL DATE MARK REVISION 0

## PLUMBING LEGEND

SYMBOL	ABBR.	DESCRIPTION
	(E)	EXISTING PIPE
	(N)	NEW PIPE
	CW	DOMESTIC COLD WATER PIPE
	D	DRAIN PIPE
		SLOPE
		ELBOW DOWN
		ELBOW UP
		ELBOW DOWN
		ELBOW UP
		TEE DOWN
		TEE UP
	RED	REDUCER
	POC	POINT OF CONNECTION
	POD	POINT OF DEMOLITION
	BV	BALL VALVE - FULL PORT
	HB	HOSE BIB
		VALVE
	PRV	PRESSURE REDUCING VALVE
	M	METER
	WHA	WATER HAMMER ARRESTER
	GAL	GALLON
	GPH	GALLON PER HOUR
	IN	INCH
	DIA	DIAMETER
	FT	FEET
	MSS SP-58	PIPE HANGERS AND SUPPORTS - MATERIALS, DESIGN AND MANUFACTURE
	MSS SP-69	PIPE HANGERS AND SUPPORTS - SELECTION AND APPLICATION
	BG	BELOW GROUND
		SECTION REFERENCE SYMBOL
		SECTION IDENTIFICATION LETTER
		DRAWING NUMBER ON WHICH SECTION IS DRAWN
		DRAWING NUMBER(S) FROM WHICH SECTION IS TAKEN
		DETAIL IDENTIFICATION LETTER
		SHEET NUMBER ON WHICH DETAIL IS DRAWN

## GENERAL PLUMBING NOTES

1. EXAMINE ALL DRAWINGS & FIELD VERIFY ELECTRICAL AND PLUMBING CONDITIONS PRIOR TO WORK & REPORT ANY DISCREPANCIES IN WRITING TO CONSTRUCTION MANAGER AS NOTED. VERIFY AT PROJECT SITE EXACT SIZE, LOCATION, INVERT ELEVATION, AND CLEARANCE OF ALL EXISTING SERVICES BEING EXTENDED, RELOCATED, OR REMOVED.
2. THE DRAWINGS ARE DIAGRAMMATIC & SHALL NOT BE SCALED TO DETERMINE EXACT LOCATION OF PLUMBING & EQUIPMENT.
3. ADVISE THE ENGINEER IN WRITING IN THE EVENT A CONFLICT OCCURS BETWEEN THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND ACTUAL FIELD CONDITIONS. THE CONTRACTOR SHALL BEAR ALL COSTS FOR RELOCATION OF EQUIPMENT PIPING, ETC., FROM FAILURE TO PROPERLY COORDINATE INSTALLATIONS AND ADVISE OF THE CONFLICT IN WRITING PRIOR TO INSTALLATION.
4. CONTRACTOR IS TO MAINTAIN RECORDED "AS-BUILT" INFORMATION ON ALL EXISTING SERVICES UNCOVERED DURING CONSTRUCTION AND ALL NEW SERVICES BEING INSTALLED. "AS-BUILT" INFORMATION SHALL BE CLEARLY MARKED IN COLORED PENCIL ON A BLUE PRINT OF CONTRACT DRAWING. RECORDED INFORMATION SHALL INCLUDE ROUTING AND INVERT ELEVATIONS. AT THE COMPLETION OF THE CONTRACT, THE CONTRACTOR SHALL TURN RECORDED "AS-BUILT" INFORMATION OVER TO THE ENGINEER.
5. PLANS ARE BASED ON ANTICIPATED PIPING AND EQUIPMENT SIZE AND CONFIGURATION. CONTRACTOR SHALL MODIFY ARRANGEMENT TO SUIT ACTUAL PURCHASED PIPING AND EQUIPMENT AS REQUIRED FOLLOWING THE CRITERIA ESTABLISHED BY THE PLANS AND SPECIFICATIONS. DEPARTURES FROM THE CONTRACT DRAWINGS AND SPECIFICATIONS RESULT FROM CHANGES IN EQUIPMENT SIZES AND CONFIGURATIONS, OR RE-ARRANGEMENTS TO ACCOMMODATE FIELD CONDITIONS, SHALL BE SUBMITTED IN DETAIL FOR THE ENGINEER'S APPROVAL.
6. SECURELY FASTEN ALL PIPING TO THE STRUCTURE CONSTRUCTION BY MEANS OF HANGERS, SUPPORTS, GUIDES, ANCHORS, AND SWAY BRACES TO MAINTAIN PIPE ALIGNMENT, TO PREVENT SAGGING, AND TO PREVENT NOISE AND EXCESSIVE STRAIN ON PIPING DUE TO MOVEMENT UNDER OPERATING CONDITIONS. ALL PLUMBING EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA: THE TOTAL DESIGN LATERAL SEISMIC FORCE SHALL BE DETERMINED FROM CBC 1613A. FORCES SHALL BE APPLIED IN THE HORIZONTAL DIRECTIONS THAT WILL RESULT IN THE MOST CRITICAL LOADING FOR DESIGN. WHERE ANCHORAGE DETAILS AND LOCATIONS ARE NOT SPECIFICALLY SHOWN ON THE PLANS, THE FIELD INSTALLATION SHALL BE SUBJECT TO REVIEW AND APPROVAL OF THE ENGINEER OF RECORD. SUPPORTS FOR ALL PIPING SHALL BE IN ACCORDANCE WITH LATEST SMACNA GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PIPING SYSTEMS AND MSS SP-58 AND SP-69.
7. ALL PIPES AND FITTINGS UTILIZED IN WATER SUPPLY SYSTEMS SHALL ALSO CONFORM TO NSF 61 AS REQUIRED BY THE LATEST CALIFORNIA PLUMBING CODE.
8. COORDINATE INSTALLATION OF ALL EQUIPMENT, PIPING AND ACCESSORIES WITH OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF CONTROL DEVICES AND VALVE BOXES PRIOR TO INSTALLATION.
9. ARRANGE ALL PIPING WITHIN STRUCTURES NEATLY ALONG WALLS AND/OR IN NEAT, HORIZONTAL GROUPS AND MAINTAIN REQUIRED SLOPES.
10. PROVIDE A SUPPORT CLAMP OR HANGER NOT MORE THAN 12-INCHES FROM THE POINT OF CHANGE OF DIRECTION OF A PIPE RUN IN BOTH HORIZONTAL AND VERTICAL PLANE.
11. PIPE HANGERS SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF THE PIPE AND THE WEIGHT OF THE CONTENTS OF THE PIPE. PROVIDE ADEQUATE SUPPORT FOR ALL PARTS OF THE PIPING SYSTEM. PIPE HANGERS SPACING AND ROD SIZES SHALL BE IN ACCORDANCE WITH CALIFORNIA PLUMBING CODE 31.3. REFER TO DETAILS ON DRAWINGS FOR HANGERS AND ATTACHMENTS.
10. CONNECTION BETWEEN DISSIMILAR MATERIAL PIPES SHALL BE MADE WITH DIELETRIC ISOLATING UNIONS, OR GASKETED FLANGES WITH ISOLATED THROUGH BOLTS.
11. PERFORM ALL INLET AND DISCHARGE PIPING DESIGN TO PROVIDE SMOOTH FLOW WITH UNIFORM VELOCITY OVER THE ENTIRE AREA OF PIPING.
12. CONTRACTOR SHALL PROTECT THE PIPING TO PREVENT ENTRY OF DIRT AND ANY OTHER FOREIGN MATERIAL DURING THE INSTALLATION.
13. UNIONS SHALL BE PROVIDED FOR EACH SCREW-TYPE VALVE AND EQUIPMENT CONNECTION.
14. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST CALIFORNIA BUILDING CODE AND CALIFORNIA PLUMBING CODE.
15. REFER TO DOCKS B & C PLUMBING AND FIRE PROTECTION AS-BUILTS.

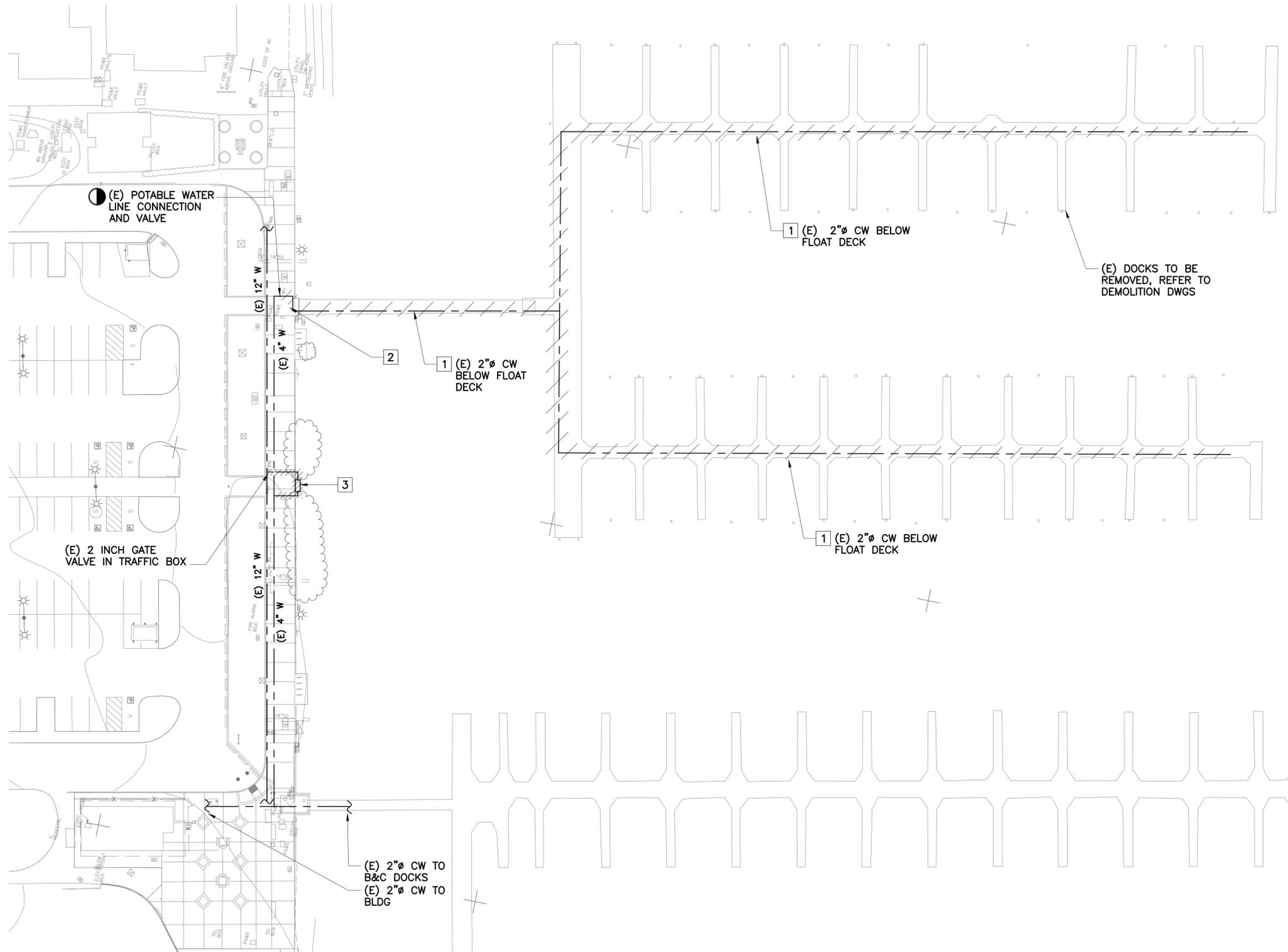
### BACKFLOW PREVENTER

EQPM ID	LOCATION	AREA SERVE	TYPE	MINIMUM SIZE	SERVICE	REMARKS
				IN.		
BFP-1	OUTDOORS	REFER TO DRAWINGS	REDUCED PRESSURE ZONE	2	DOMESTIC COLD WATER	SEE NOTES BELOW

- NOTES:**
1. AWWA C511, BRONZE BODY, STAINLESS STEEL FASTENERS, LEAD FREE. PROVIDE WITH TWO POSITIVE SEATING CHECK VALVES, HYDRAULICALLY DEPENDENT DIFFERENTIAL RELIEF VALVE, AND BACKSIPHONAGE. PROVIDE WITH OUTDOOR CORROSION RESISTANT COATED VANDAL PROOF CAGE ANCHORED TO CONCRETE PAD. PROVIDE IN ACCORDANCE WITH CITY OF BERKELEY PUBLIC WORKS STANDARDS.
  2. MINIMUM BACKFLOW PREVENTER SIZE SHALL BE AT LEAST EQUAL TO SIZE OF EXISTING BACKFLOW PREVENTER BEING REPLACED AND SIZE INDICATED.

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**SHEET NOTES:**

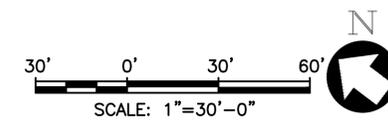
1. SEE SHEET P-001 FOR PLUMBING PROTECTION GENERAL NOTES, ABBREVIATIONS AND LEGEND.
2. CONTRACTOR SHALL VISIT THE SITE TO FULLY ASSESS THE EXTENT OF NEW WORK PRIOR TO BIDDING.
3. COORDINATE ALL WORK AND SHUTDOWNS WITH OWNER.

**KEY NOTES:**

- 1 DEMOLISH ALL (E) DOCK POTABLE WATER PIPING, HOSE BIBS, FITTINGS, PIPE SUPPORTS AND APPURTENANCES.
- 2 DEMOLISH (E) POTABLE WATER UNDERGROUND TO (E) WATER VALVE AND CAP AT DOWNSTREAM SIDE OF WATER VALVE. FILL TRENCH AND RESURFACE TO MATCH ADJACENT SURFACING.
- 3 DEMOLISH (E) BACKFLOW PREVENTER ASSEMBLY AND RECONNECT PIPING FOR CONTINUATION OF THE WATER SERVICE AT NEW BACKFLOW PREVENTER LOCATION. REFER TO CIVIL DWGS FOR REPAIR OF THE DISTURBED SURFACE.

**PLUMBING PLAN DEMOLITION WORK - DOCK 'D&E'**

SCALE: 1" = 30'-0"



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PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____ B.H. _____	HORIZ.: _____ AS SHOWN _____		BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA PLUMBING PLAN DEMOLITION WORK DOCK "D & E"	PLAN _____
_____	SURVEY PARTY CHIEF _____	SUPERVISING CIVIL ENGINEER _____	DRAWN: _____ P.W. _____	VERT.: _____			FILE _____
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	CHECK: _____ P.M. _____	BOOK _____		P-101 SHEET 48 OF 52	
	_____	CITY ENGINEER _____	AS BUILT _____	DATE _____			REVISION _____

PLOTTED BY: BRYAN W. HAYES PLOT DATE: 11/14/2024 10:12:23 AM

APPROVAL

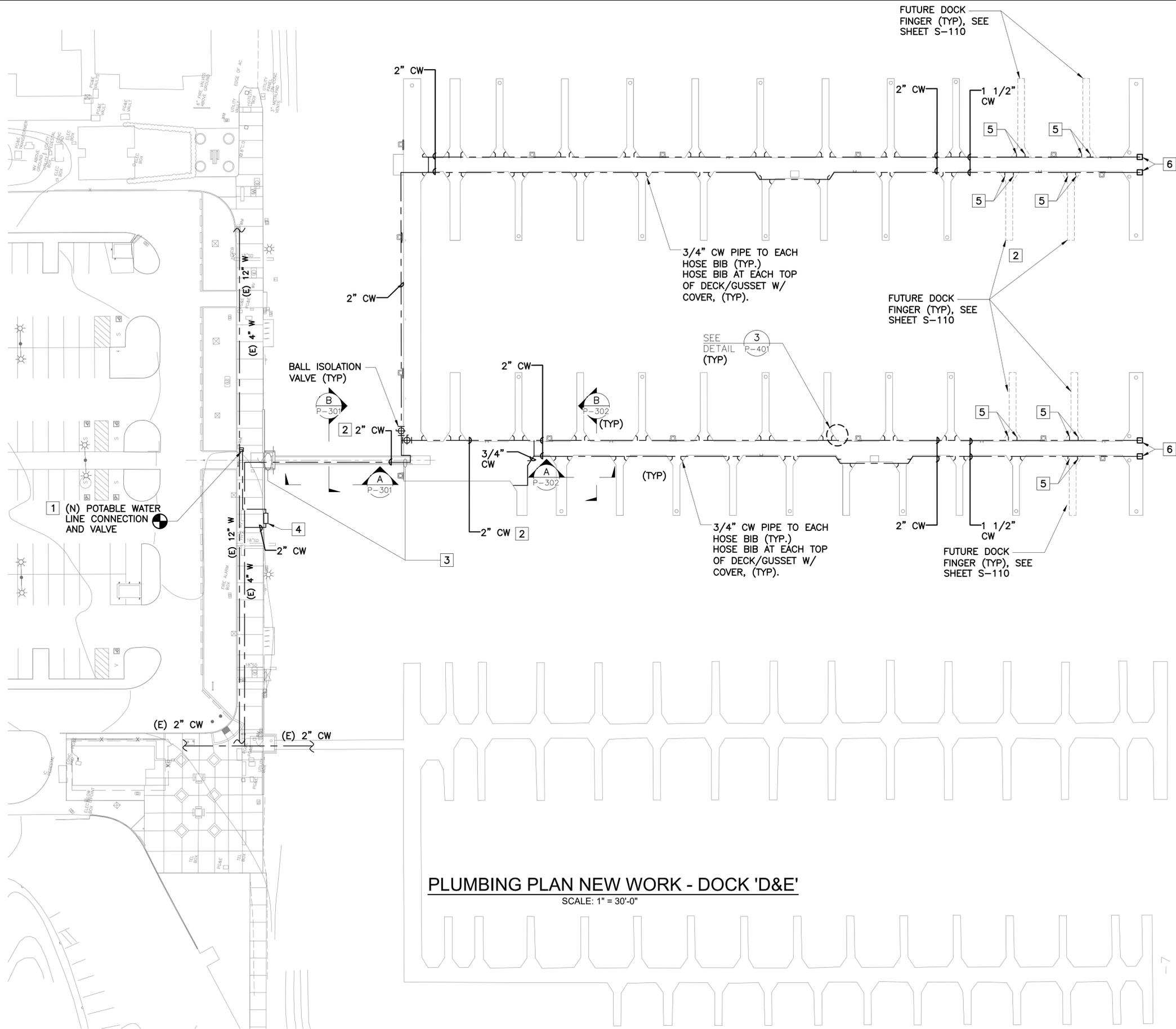
DESCRIPTION

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DATE

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REVISION



- SHEET NOTES:**
- SEE SHEET P-001 FOR PLUMBING PROTECTION GENERAL NOTES, ABBREVIATIONS AND LEGEND.
  - CONTRACTOR SHALL VISIT THE SITE TO FULLY ASSESS THE EXTENT OF NEW WORK PRIOR TO BIDDING.
  - PROTECT IN PLACE (E) UTILITIES.
  - COORDINATE ALL WORK AND SHUTDOWNS WITH OWNER.
  - REFER TO STRUCTURAL DRAWINGS FOR DOCK STRUCTURES.
  - PROVIDE 316 SS HANGERS, PIPE CLAMPS AND BRACING FOR PIPING IN ACCORDANCE WITH CPC AND CBC. ANCHORS AND BOLTING SHALL BE 316 SS.
  - (N) POTABLE WATER LINES SHALL BE SCHEDULE 80 PVC.

- KEY NOTES:**
- CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING LANDSIDE WATERLINE AND PROVIDE NEW POTABLE WATER ISOLATION VALVE IN SIDEWALK NEAR NEW GANGWAY.
  - MAIN LINE WATER LINE SHALL BE GLUED. ABOVEGROUND WATER LINES TO HOSE BIBS SHALL BE THREADED NIPPLES AND FITTINGS. ALL OTHER LATERAL CONNECTIONS SHALL BE GLUED.
  - PROVIDE (N) FLEX CONNECTOR ON WATER PIPE UNDER GANGWAY, AT INTERSECTION OF GANGWAY AND DOCK.
  - PROVIDE (N) REDUCED PRINCIPLE BACKFLOW PREVENTER ASSEMBLY BFP-1 INCLUDING PAINTED CAGE WITH LOCK FOR SECURING THE EQUIPMENT. CONNECT PIPING TO THE UNDERGROUND PIPING. PROVIDE CONCRETE PAD TO SECURE THE CAGE, REFER TO STRUCTURAL DWGS.
  - PROVIDE TEES W/ WATERTIGHT SCREWED 3/4" PLUGS FOR FUTURE CONNECTIONS FOR FUTURE HOSE BIBS.
  - 3/4" CW TO UNDER POWER/CW SERVICE PEDESTAL AND CONNECT TO PEDESTAL CW CONNECTOR.

**PLUMBING PLAN NEW WORK - DOCK 'D&E'**  
SCALE: 1" = 30'-0"

N  
  
 30' 0' 30' 60'  
 SCALE: 1"=30'-0"  
 ISSUED FOR BID SUBMITTAL



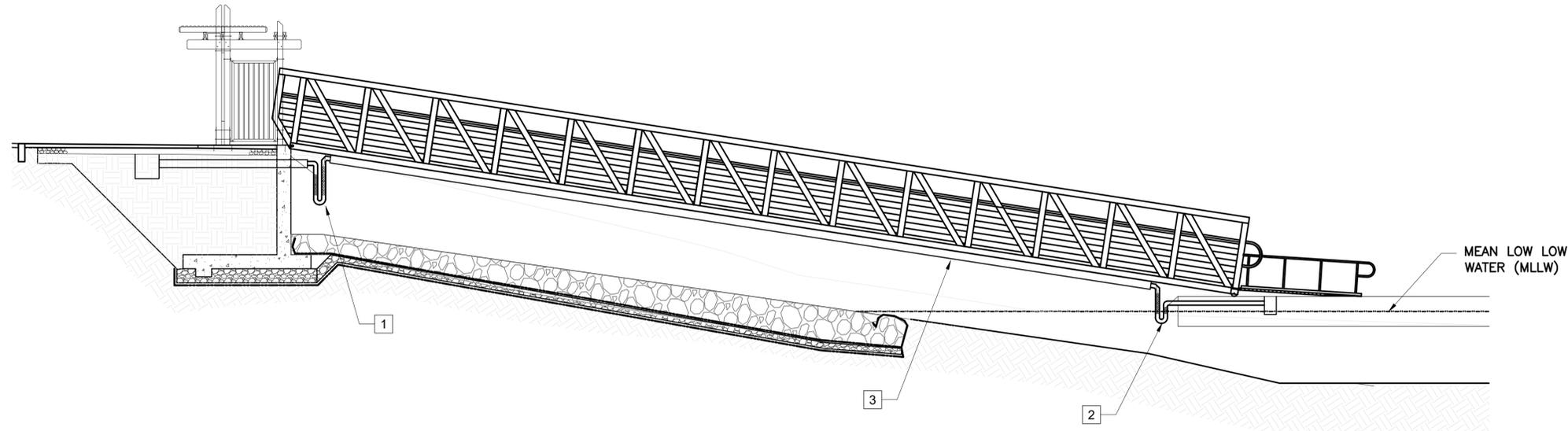
PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: _____ B.H. _____	HORIZ.: _____ AS SHOWN _____
_____	SURVEY PARTY CHIEF: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ EXP. _____	DRAWN: _____ P.W. _____	VERT.: _____
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	CHECK: _____ P.M. _____	BOOK: _____
		CITY ENGINEER: _____ EXP. _____	AS BUILT: _____	DATE: _____



BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
PLUMBING PLAN NEW WORK  
DOCK "D & E"

PLAN \_\_\_\_\_ FILE \_\_\_\_\_  
P-201  
SHEET 49 OF 52

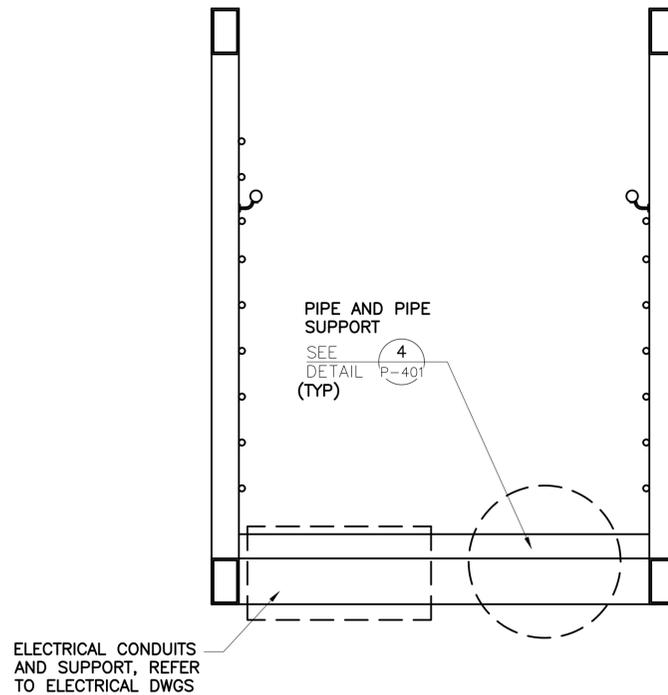
PLOTTED BY: BRYAN W. HAYES PLOT DATE: 11/14/2024 10:15:52 AM  
 ISSUED FOR BID SUBMITTAL 01-15-2024 DATE  
 REVISION MARK DESCRIPTION APPROVAL PM



**GANGWAY SECTION**

SCALE: 1" = 2'-0"

A  
P-301



**GANGWAY SECTION**

SCALE: 1" = 1'-0"

B  
P-301

**SHEET NOTES:**

1. SEE SHEET P-001 FOR PLUMBING PROTECTION GENERAL NOTES, ABBREVIATIONS AND LEGEND.
2. REFER TO STRUCTURAL DRAWINGS FOR DOCK STRUCTURES.
3. PROVIDE 316 SS HANGERS, PIPE CLAMPS AND BRACING FOR PIPING IN ACCORDANCE WITH CPC AND CBC. ANCHORS AND BOLTING SHALL BE 316 SS.

**KEY NOTES:**

- 1 PROVIDE FLEX LOOP CONNECTOR ON 2" CW BELOW GANGWAY AT INTERSECTION BETWEEN GANGWAY AND SHORE STRUCTURE
- 2 PROVIDE (N) FLEX LOOP CONNECTOR ON WATER PIPE UNDER GANGWAY, AT INTERSECTION OF GANGWAY AND DOCK.
- 3 2"Ø POTABLE CW PIPELINE ALONG UNDERSIDE OF GANGWAY.

PLOTTED BY: BRYAN W. HAYES PLOT DATE: 11/14/2024 10:11:57 AM

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
0		01-15-2024	ISSUED FOR BID SUBMITTAL	PM

ISSUED FOR BID SUBMITTAL



PROJECT MANAGER: _____ DATE: _____	DEPICTION OF MONUMENTS: _____ DATE: _____	SUBMITTED: _____ DATE: _____	DESIGN: _____ B.H. _____
_____	SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: _____ P.W. _____
_____	WATERSHED REVIEW: _____ DATE: _____	APPROVED: _____ DATE: _____	CHECK: _____ P.M. _____
_____	_____	CITY ENGINEER: _____	AS BUILT: _____ DATE: _____



BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
PLUMBING SECTIONS - SHEET 1 OF 2

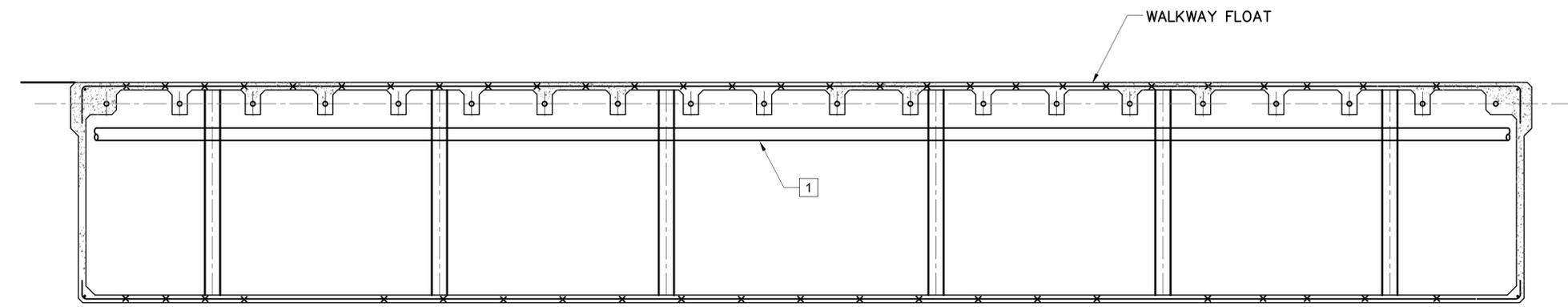
PLAN \_\_\_\_\_  
FILE \_\_\_\_\_  
P-301  
SHEET 50 OF 52

**SHEET NOTES:**

1. SEE SHEET P001 FOR PLUMBING GENERAL NOTES, ABBREVIATIONS AND LEGEND.
2. REFER TO STRUCTURAL DRAWINGS FOR DOCK STRUCTURES.
3. PROVIDE 316 SS HANGERS, PIPE CLAMPS AND BRACING FOR PIPING IN ACCORDANCE WITH CPC AND CBC. ANCHORS AND BOLTING SHALL BE 316 SS.

**KEY NOTES:**

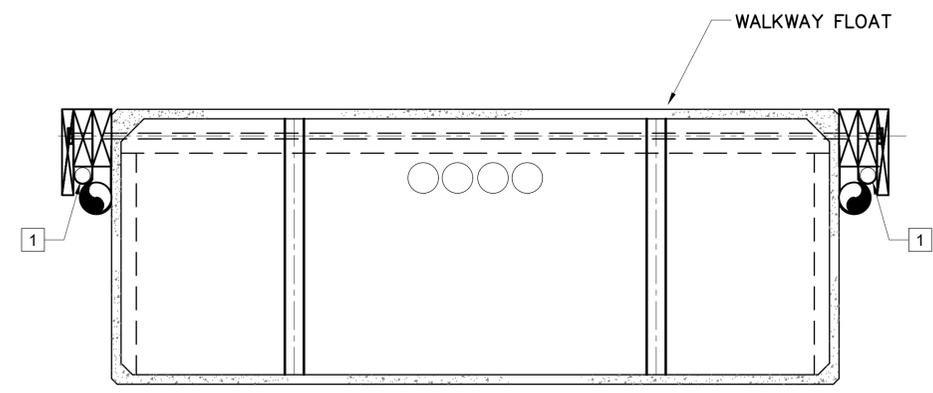
1. 2"Ø POTABLE CW PIPELINE ALONG UNDERSIDE OF WALKWAY WALER. ANCHOR PIPE TO BOTTOM OF WALER.



**WALKWAY SECTION**

SCALE: 1" = 1'-0"

**A**  
P-401



**WALKWAY SECTION**

SCALE: 1" = 1'-0"

**B**  
P-401

ISSUED FOR BID  
SUBMITTAL



PROJECT MANAGER: _____ DATE: _____	DEPICTION OF MONUMENTS: _____ DATE: _____	SUBMITTED: _____ DATE: _____	DESIGN: _____ B.H. _____
_____	SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: _____ P.W. _____
_____	WATERSHED REVIEW: _____ DATE: _____	APPROVED: _____ DATE: _____	CHECK: _____ P.M. _____
_____	_____	CITY ENGINEER: _____	AS BUILT: _____ DATE: _____

0 1 2 3

FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES

DATE: 03-24-2023

BERKELEY MARINA DOCK REPLACEMENT (D-E)  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA

PLUMBING  
SECTIONS - SHEET 2 OF 2

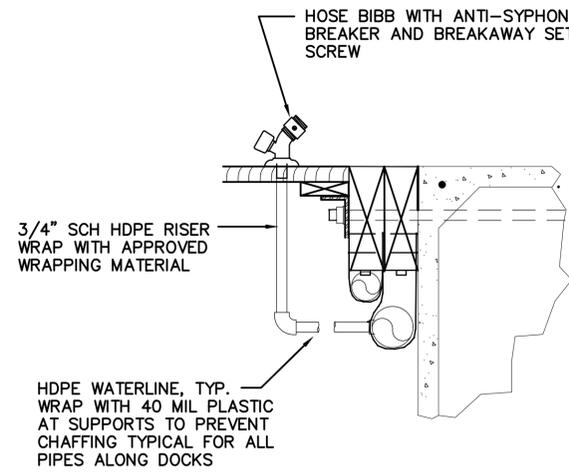
PLAN: \_\_\_\_\_

FILE: \_\_\_\_\_

P-302

SHEET 51 OF 52

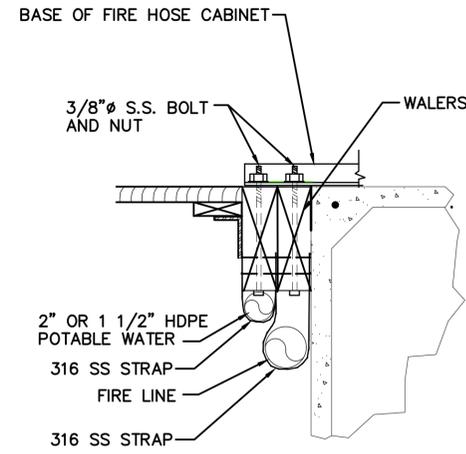
NO.	DATE	DESCRIPTION	APPROVAL
0	01-15-2024	ISSUED FOR BID SUBMITTAL	PM



**HOSE BIB DETAIL**

SCALE: NTS

1  
P-401

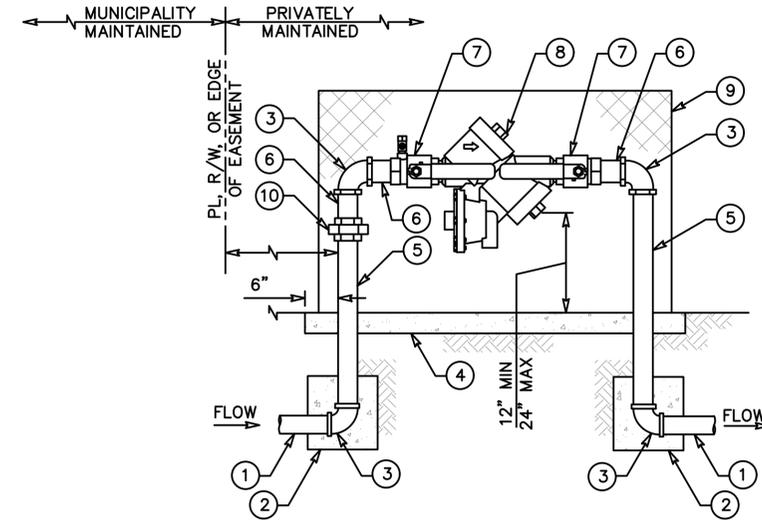


**WALKWAY PIPE SUPPORT DETAIL**

SCALE: NTS

2  
P-401

NOTE:  
WRAP HDPE WATERLINE WITH 40 MIL PLASTIC AT SUPPORTS TO PREVENT CHAFFING, TYPICAL FOR ALL PIPES ALONG DOCKS



NOTES:

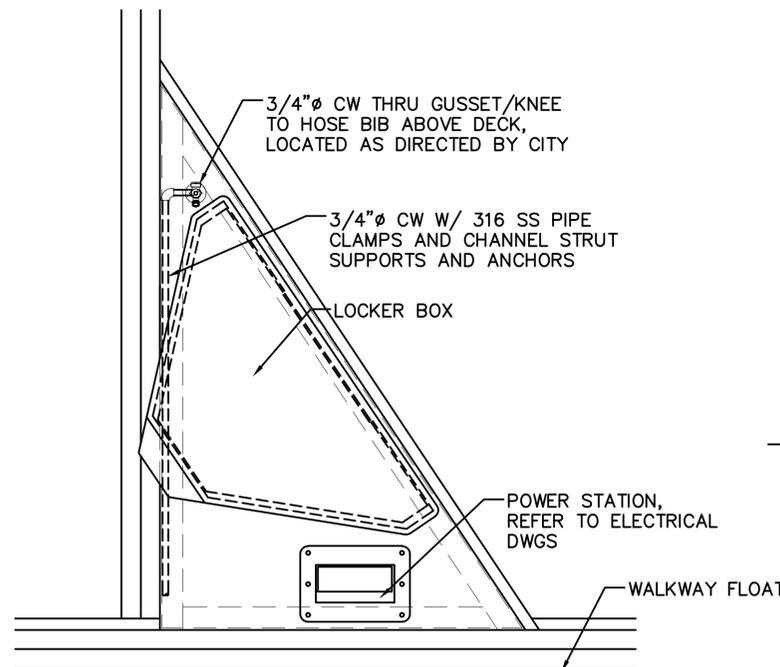
- 1) INSTALL WARNING/IDENTIFICATION TAPE
- 2) LOCATE BACKFLOW PREVENTION DEVICE IN SUCH A MANNER THAT WILL ALLOW THE DEVICE TO BE READILY ACCESSIBLE FOR INSPECTION AND REPAIR.
- 3) ALL ABOVE GROUND PIPING, UNIONS, ELBOWS AND NIPPLES AT BACKFLOW PREVENTION DEVICE SHALL BE SOLDERED OR THREADED COPPER.

ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
1	SCH. HDPE PIPE	6	3" LONG NIPPLE
2	CONCRETE THRUST BLOCK	7	BALL VALVE SHUT-OFF
3	90° ELL	8	REDUCED PRESSURE BACKFLOW PREVENTER
4	CONCRETE SLAB, REFER TO STRUCTURAL DWGS	9	ENCLOSURE
5	COPPER PIPE	10	UNION

**REDUCED PRESSURE BACKFLOW PREVENTER DEVICE**

SCALE: NTS

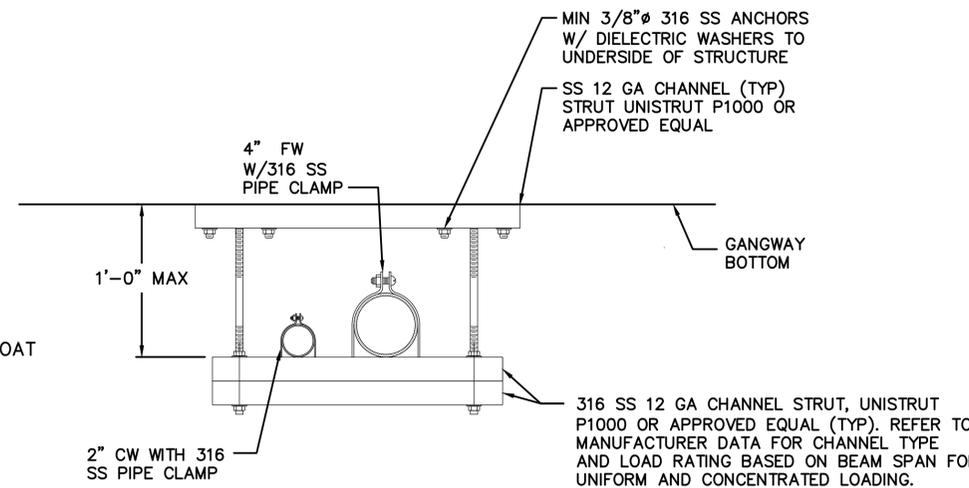
5  
P-401



**HOSE BIB DETAIL**

SCALE: NTS

3  
P-401



**GANGWAY PIPE SUPPORT DETAIL**

SCALE: NTS

4  
P-401

ISSUED FOR BID  
SUBMITTAL



# BERKELEY MARINA

## DOCKS D&E REPLACEMENT

### TOPOGRAPHIC SURVEY

Overview



not to scale

**GENERAL NOTES:**

1. AERIAL LIDAR AND TOPOGRAPHIC SURVEY DATA COLLECTED ON APRIL 29, 2022
2. HORIZONTAL DATUM/PROJECTION: NAD83 (2011) (EPOCH 2010.00), SPCS CALIFORNIA ZONE 03 - U.S. SURVEY FEET
3. HORIZONTAL CONTROL: ETRAC ARS "WESTAR" 2,109,870.50' N, 6,017,642.66' E
4. VERTICAL DATUM: NAVD88, U.S. SURVEY FEET
5. VERTICAL CONTROL: ETRAC ARS "WESTAR", ELEVATION 44.14'
6. THIS SURVEY REPRESENTS GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
7. TOPOGRAPHIC DATA WERE COLLECTED USING A RIEGL MINIVUX-1 UAV LIDAR SENSOR.
8. PLANIMETRIC FEATURES DERIVED USING PHOTOGRAMMETRIC SURVEY METHODS.

**SHEET INDEX:**

- SHEET 1 - PROJECT INFORMATION
- SHEET 2 - ELEVATION CONTOURS
- SHEET 3 - SITE FEATURES

LEGEND			
— 10 —	MAJOR CONTOUR (5 FT)		TELECOMMUNICATIONS DEVICE
— — — —	MINOR CONTOUR (1 FT)		TREE
— — — —	BUILDING FOOTPRINT		CATCH BASIN
- - - - -	BUILDING OVERHANG		SIGN (SINGLE POLE)
— — — —	EDGE OF PAVEMENT		LIGHT POLE
- x - x -	FENCE		IRRIGATION VALVE
— — — —	EDGE OF CURB		WATER HANDHOLE
	WATER VAULT		FIRE HYDRANT
	UNMARKED VAULT		FIRE VALVE
	ELECTRIC VAULT		GUARD POST
	ELECTRIC DEVICE		
	STREET LIGHT BOX		



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415.462.0421  
eTracInc.com

SURVEY DATE: APRIL 29, 2022  
DRAWN BY: GWG  
REVISION #  
FILE NAME: COWI\_2022\_Berkeley Marina\_22x34.dwg

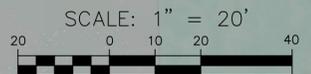
PLOT DATE: May 13, 2022  
CHECKED BY: KAW

BERKELEY MARINA  
DOCKS D&E REPLACEMENT  
TOPOGRAPHIC SURVEY  
PROJECT INFORMATION

Reference Number:

S1

REFERENCE FILE



IF SHEET IS LESS THAN 22"x34"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY



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415.462.0421  
eTracInc.com

SURVEY DATE:  
APRIL 29, 2022

PLOT DATE:  
May 13, 2022

DRAWN BY: GWG

CHECKED BY: KAW

REVISION #

FILE NAME:  
COWI\_2022\_Berkeley Marina\_22x34.dwg

**BERKELEY MARINA  
DOCKS D&E REPLACEMENT  
TOPOGRAPHIC SURVEY  
ELEVATION CONTOURS**

Reference  
Number:

**S2**

REFERENCE FILE



SCALE: 1" = 20'  
0 10 20 40  
IF SHEET IS LESS THAN 22"x34"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY



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SURVEY DATE: APRIL 29, 2022	PLOT DATE: May 13, 2022
DRAWN BY: GWG	CHECKED BY: KAW
REVISION #	
FILE NAME: COWI_2022_Berkeley Marina_22x34.dwg	

**BERKELEY MARINA  
DOCKS D&E REPLACEMENT  
TOPOGRAPHIC SURVEY**

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**SITE FEATURES**

Reference  
Number:  
**S3**

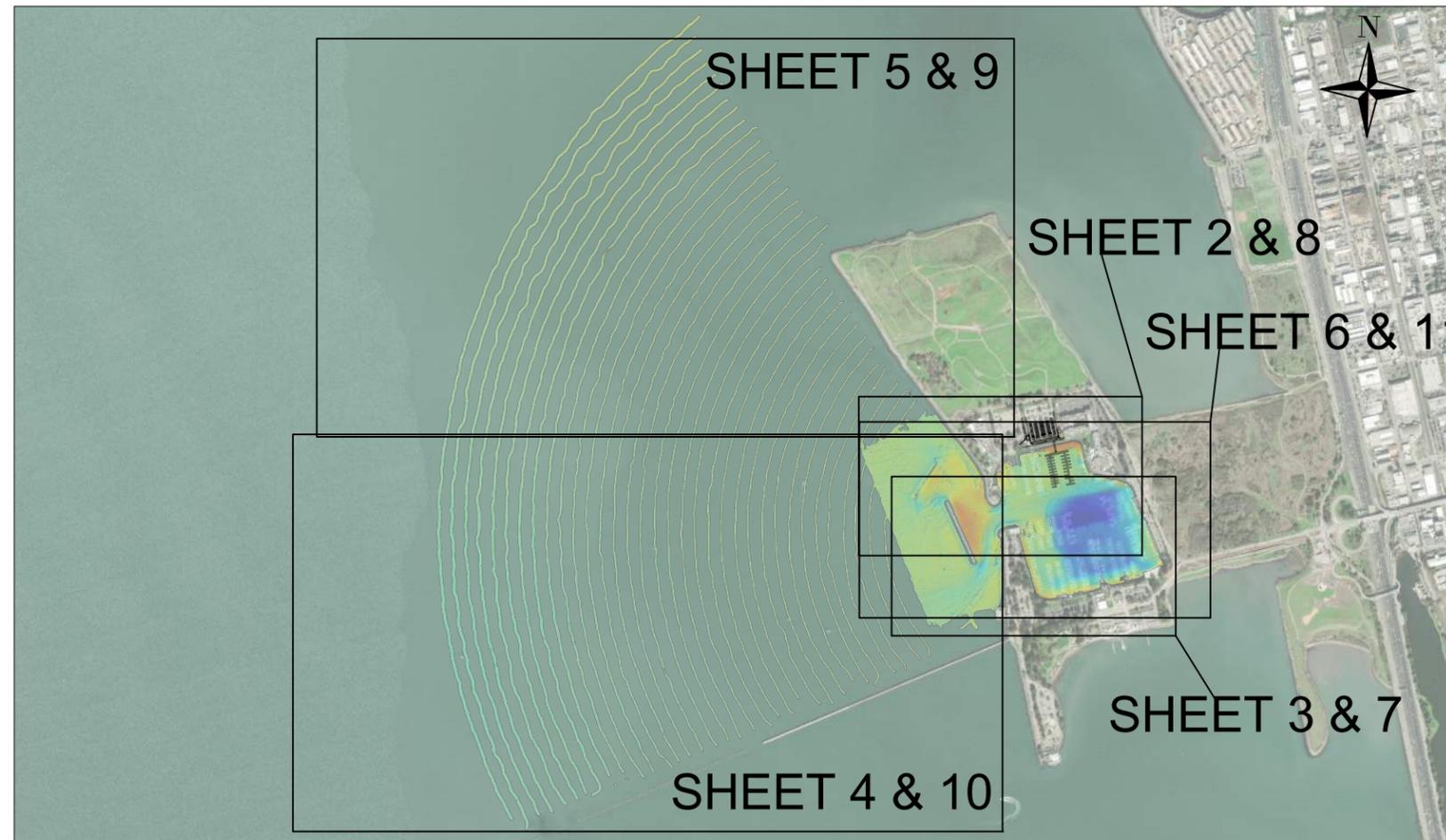
REFERENCE FILE

# BERKELEY MARINA

## COWI

### HYDROGRAPHIC SURVEY

Overview



not to scale

#### SHEET INDEX:

- SHEET 1 - PROJECT INFORMATION
- SHEET 2 - SOUNDINGS
- SHEET 3 - SOUNDINGS
- SHEET 4 - SOUNDINGS
- SHEET 5 - SOUNDINGS
- SHEET 6 - SOUNDINGS
- SHEET 7 - COLORED DEM
- SHEET 8 - COLORED DEM
- SHEET 9 - COLORED DEM
- SHEET 10 - COLORED DEM
- SHEET 11 - COLORED DEM

#### GENERAL NOTES:

1. SURVEY DATA COLLECTED ON SEPTEMBER 12TH-15TH, 2022
2. HORIZONTAL DATUM/PROJECTION: NAD83 (2011), SPCS CALIFORNIA ZONE 03 - U.S. SURVEY FEET
3. HORIZONTAL CONTROL: ETRAC ACTUAL REFERENCE STATION: WESTAR, N 37° 46' 27.45 W 122° 22' 56.66"
4. VERTICAL DATUM: MLLW, U.S. SURVEY FEET
5. VERTICAL CONTROL: NOAA TIDE BENCH MARK PID HT2935, ELEVATION 11.05'
6. CONVERSION BETWEEN NAVD88 AND MLLW BASED ON NOAA TIDE BENCH MARK PID HT2935 YACHT 1947 SHIFT OF +0.13'
7. THIS SURVEY REPRESENTS GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
8. POSITIONING AND MOTION DATA WAS COLLECTED USING AN APPLANIX POS MV V5.
9. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2022 AND 2024 OPERATING AT 200 KHZ.



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SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 29, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

BERKELEY MARINA  
 HYDROGRAPHIC SURVEY

PROJECT INFORMATION

Reference  
 Number:

S1

REFERENCE FILE



SCALE: 1" = 200'  
0 50 100 150

IF SHEET IS LESS THAN 11"x17"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY

SURVEY  
STAMPS/SIGNATURES

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SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 28, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

**BERKELEY MARINA  
HYDROGRAPHIC SURVEY**

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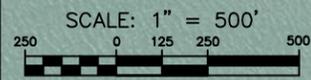
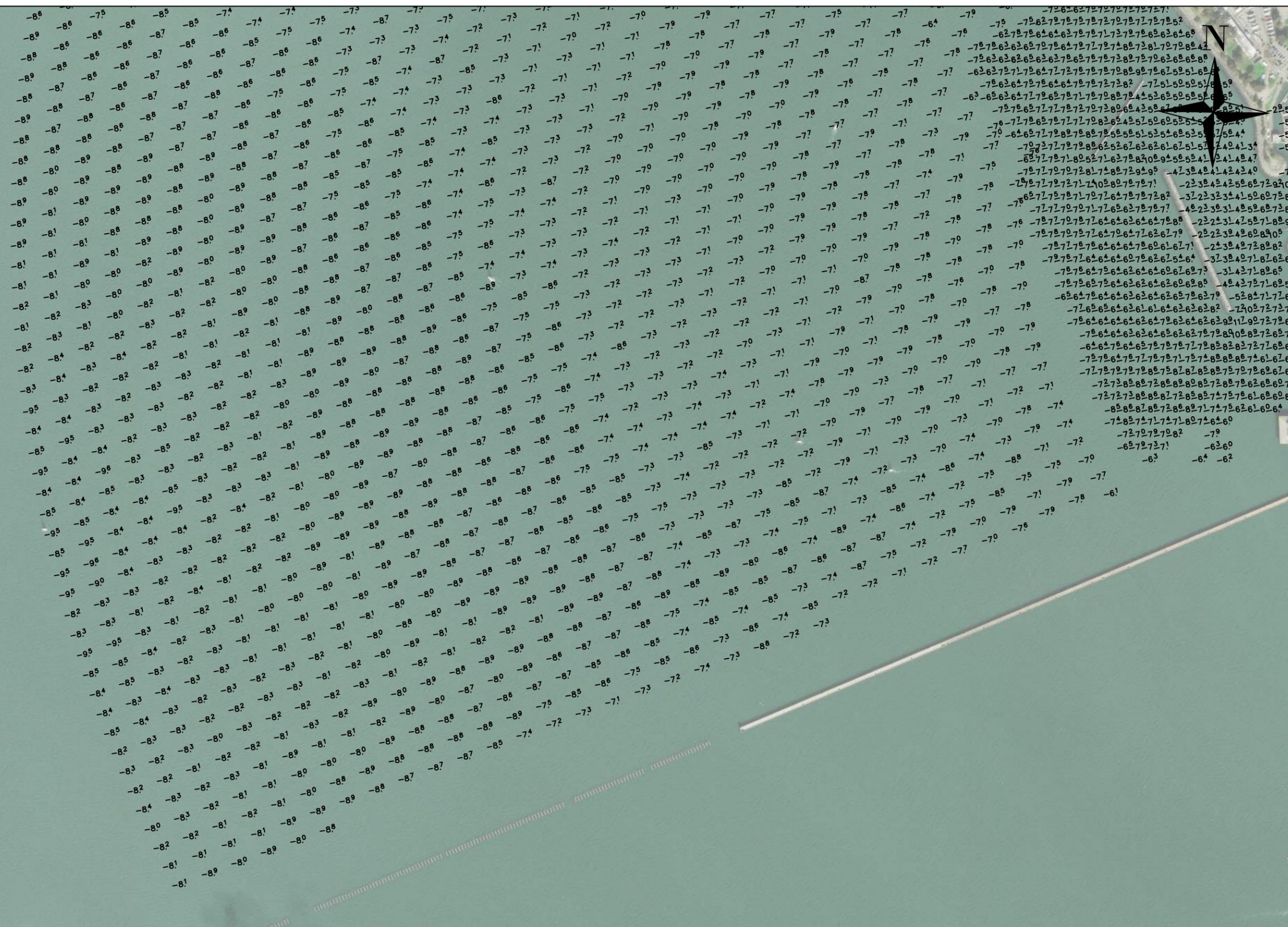
SOUNDINGS

Reference  
Number:

**S2**



REFERENCE FILE



IF SHEET IS LESS THAN 11"x17"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY

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REVISION #	
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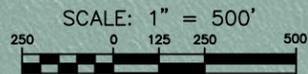
**BERKELEY MARINA  
HYDROGRAPHIC SURVEY**

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**SOUNDINGS**

Reference  
Number:  
**S4**

REFERENCE FILE



IF SHEET IS LESS THAN 11"x17"  
IT IS A REDUCED PRINT,  
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SURVEY DATE:  
SEPTEMBER 12-15, 2022

PLOT DATE:  
SEPTEMBER 28, 2022

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CHECKED BY: DP

REVISION #

FILE NAME:  
COWI\_20220913\_14\_15\_BerkeleyMarina.dwg

**BERKELEY MARINA  
HYDROGRAPHIC SURVEY**

**SOUNDINGS**

Reference  
Number:

**S5**

REFERENCE FILE



SCALE: 1" = 250'  
125 0 82.5 125 250  
IF SHEET IS LESS THAN 11"x17"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY

SURVEY  
STAMPS/SIGNATURES

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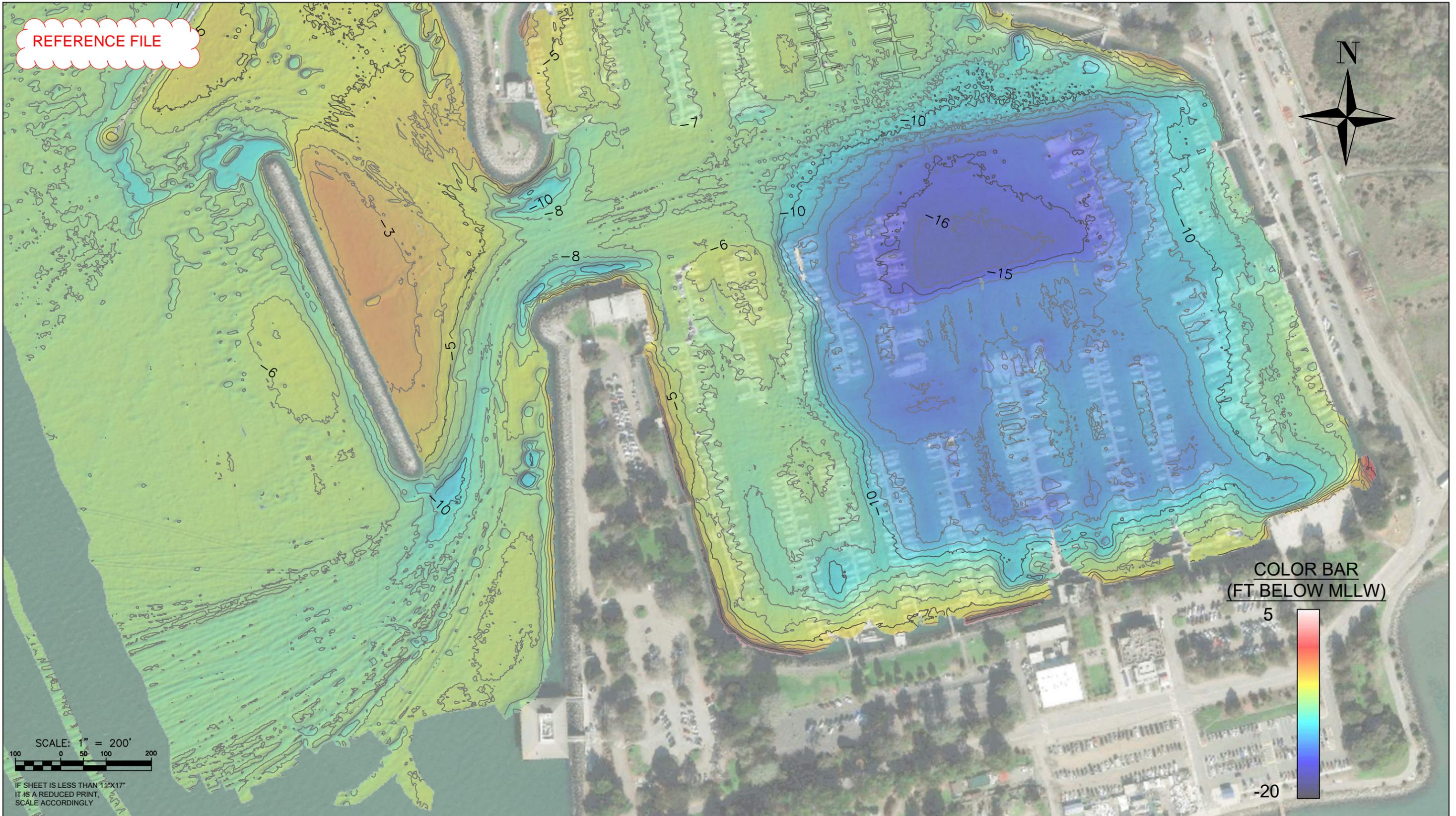
BERKELEY MARINA  
HYDROGRAPHIC SURVEY

---

SOUNDINGS

Reference  
Number:  
**S6**

REFERENCE FILE



COLOR BAR  
(FT BELOW MLLW)



SCALE: 1" = 200'



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PLOT DATE:  
SEPTEMBER 28, 2022

DESIGNED BY: SR

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REVISION #

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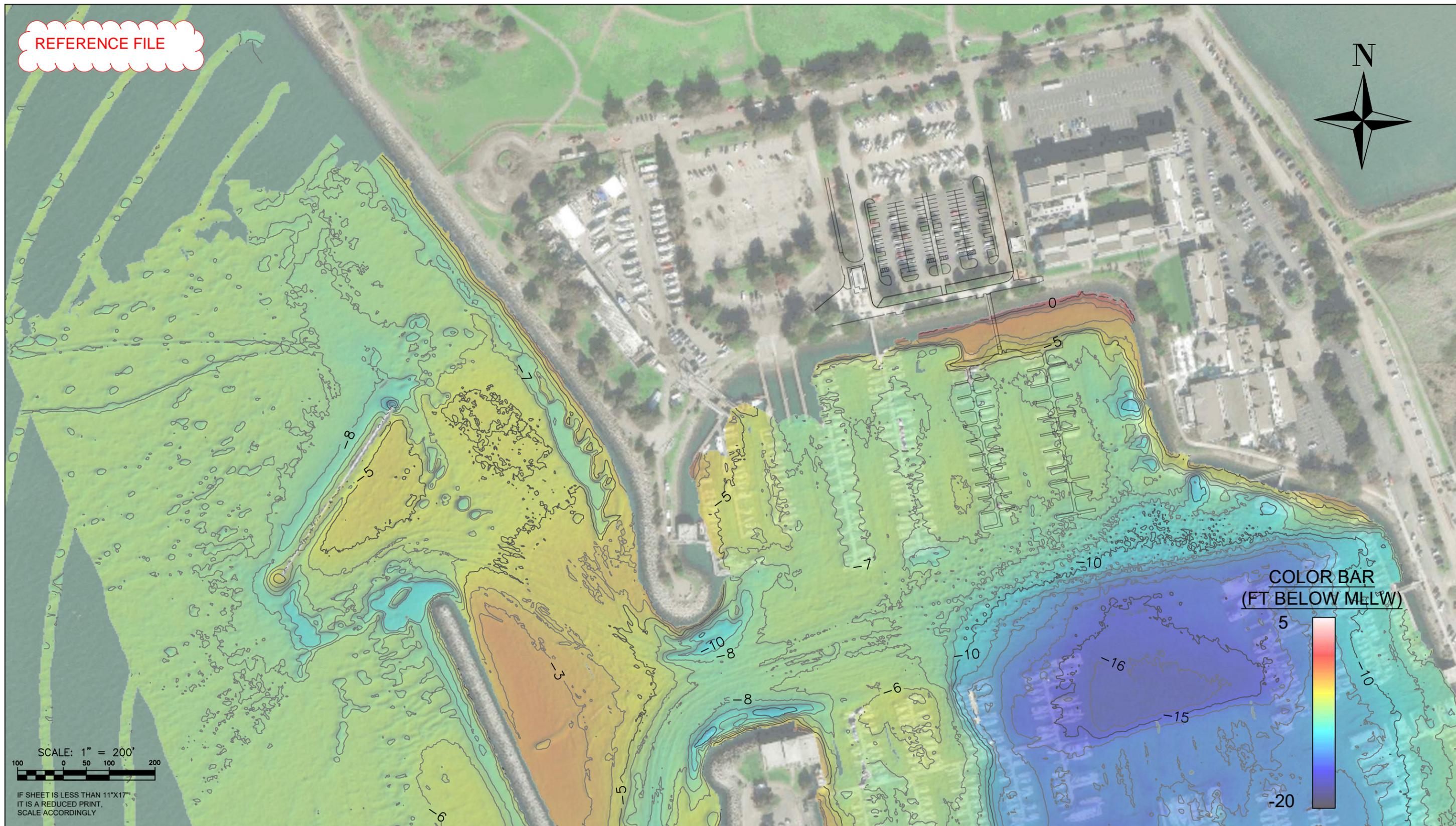
**BERKELEY MARINA  
HYDROGRAPHIC SURVEY**

COLORED DEM

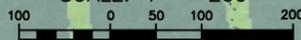
Reference  
Number:

**S7**

REFERENCE FILE



SCALE: 1" = 200'



IF SHEET IS LESS THAN 11"x17"  
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SCALE ACCORDINGLY

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PLOT DATE:  
SEPTEMBER 28, 2022

DESIGNED BY: SR

CHECKED BY: DP

REVISION #

FILE NAME:  
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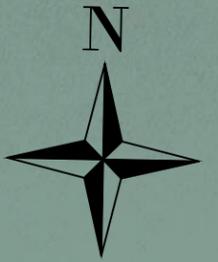
**BERKELEY MARINA  
HYDROGRAPHIC SURVEY**

COLORED DEM

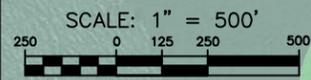
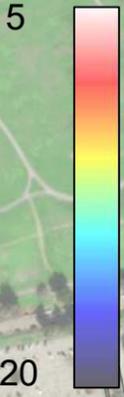
Reference  
Number:

**S8**

REFERENCE FILE



COLOR BAR  
(FT BELOW MLLW)



IF SHEET IS LESS THAN 11"x17"  
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DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

BERKELEY MARINA  
HYDROGRAPHIC SURVEY

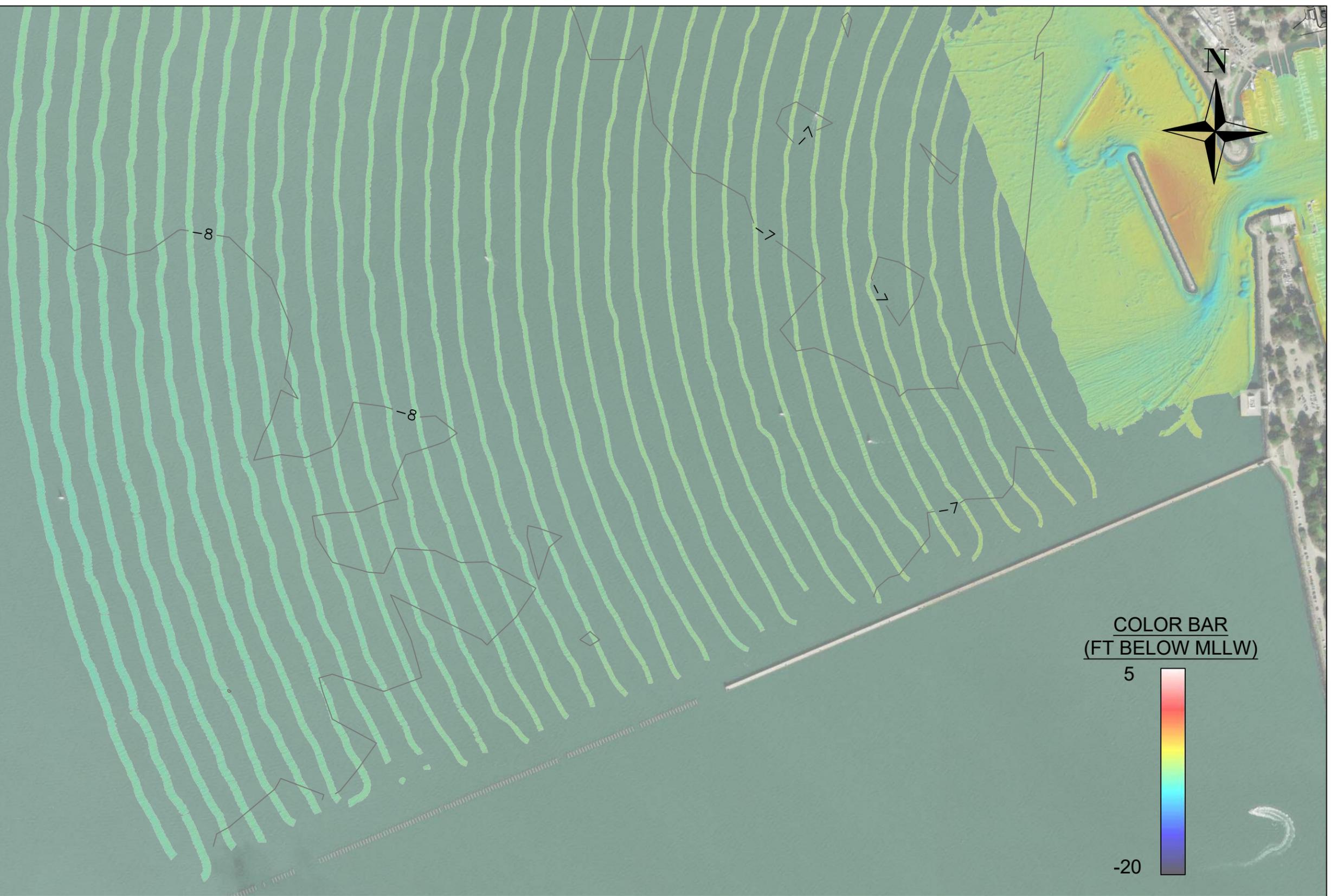
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COLORED DEM

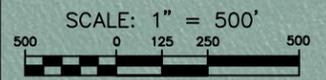
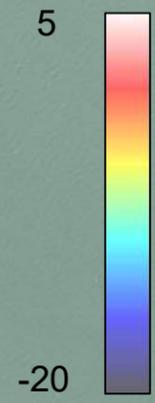
Reference  
Number:

**S9**

REFERENCE FILE



COLOR BAR  
(FT BELOW MLLW)



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SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 28, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

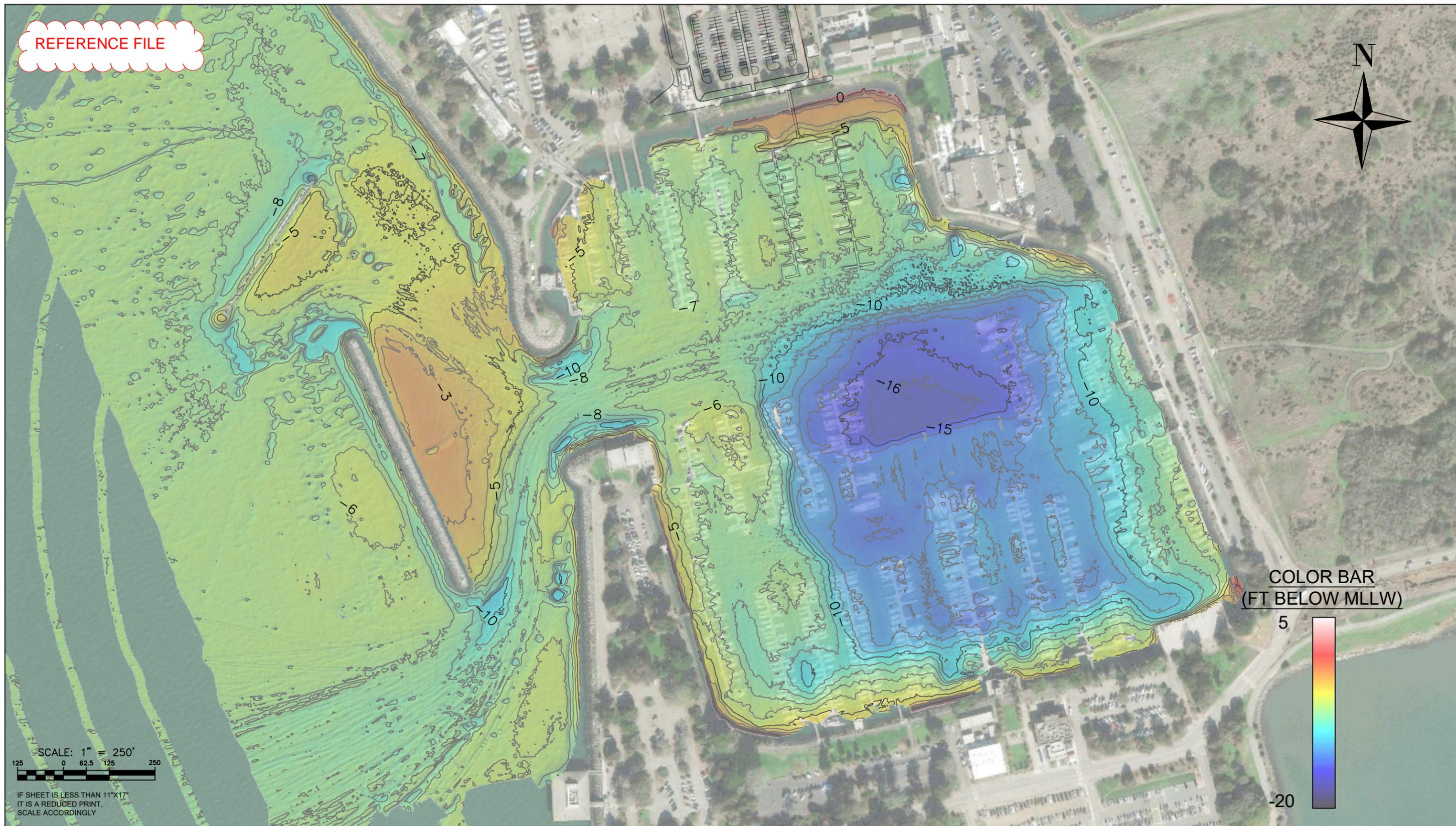
**BERKELEY MARINA  
HYDROGRAPHIC SURVEY**

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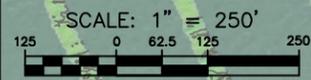
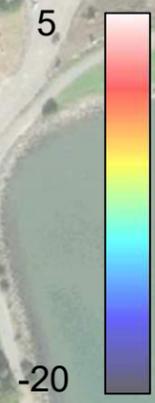
COLORED DEM

Reference  
Number:  
**S10**

REFERENCE FILE



COLOR BAR  
(FT BELOW MLLW)



IF SHEET IS LESS THAN 11"x17"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY

**COWI**

COWI  
555 12TH STREET  
SUITE 1700  
OAKLAND, CA 94607  
510.839.8972  
COWI.COM

**eTrac**

eTrac Inc.  
637 LINDARO STREET  
SUITE 100  
SAN RAFAEL, CA 94901  
415.462.0421  
eTracInc.com

SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 29, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

**BERKELEY MARINA  
HYDROGRAPHIC SURVEY**

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COLORED DEM

Reference  
Number:

**S11**