

AURORA HARBOR REBUILD - PHASE III

CBJ CONTRACT NO. DH23-015

Volume 2 of 2

PLANS



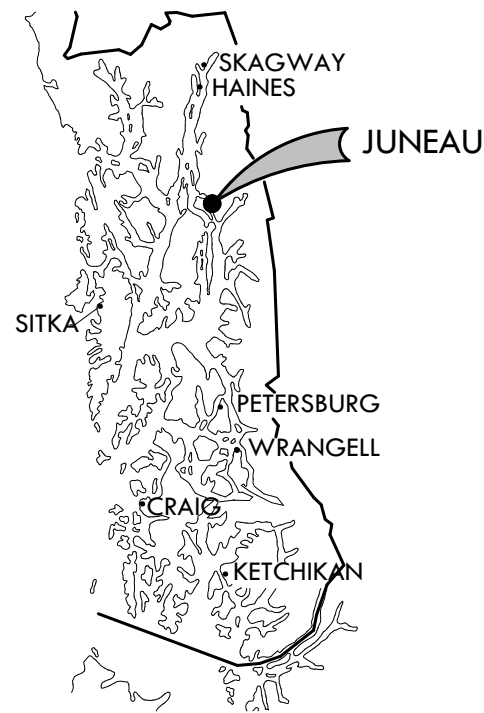
CONFORMED JUNE 1, 2023

FEBRUARY 2023

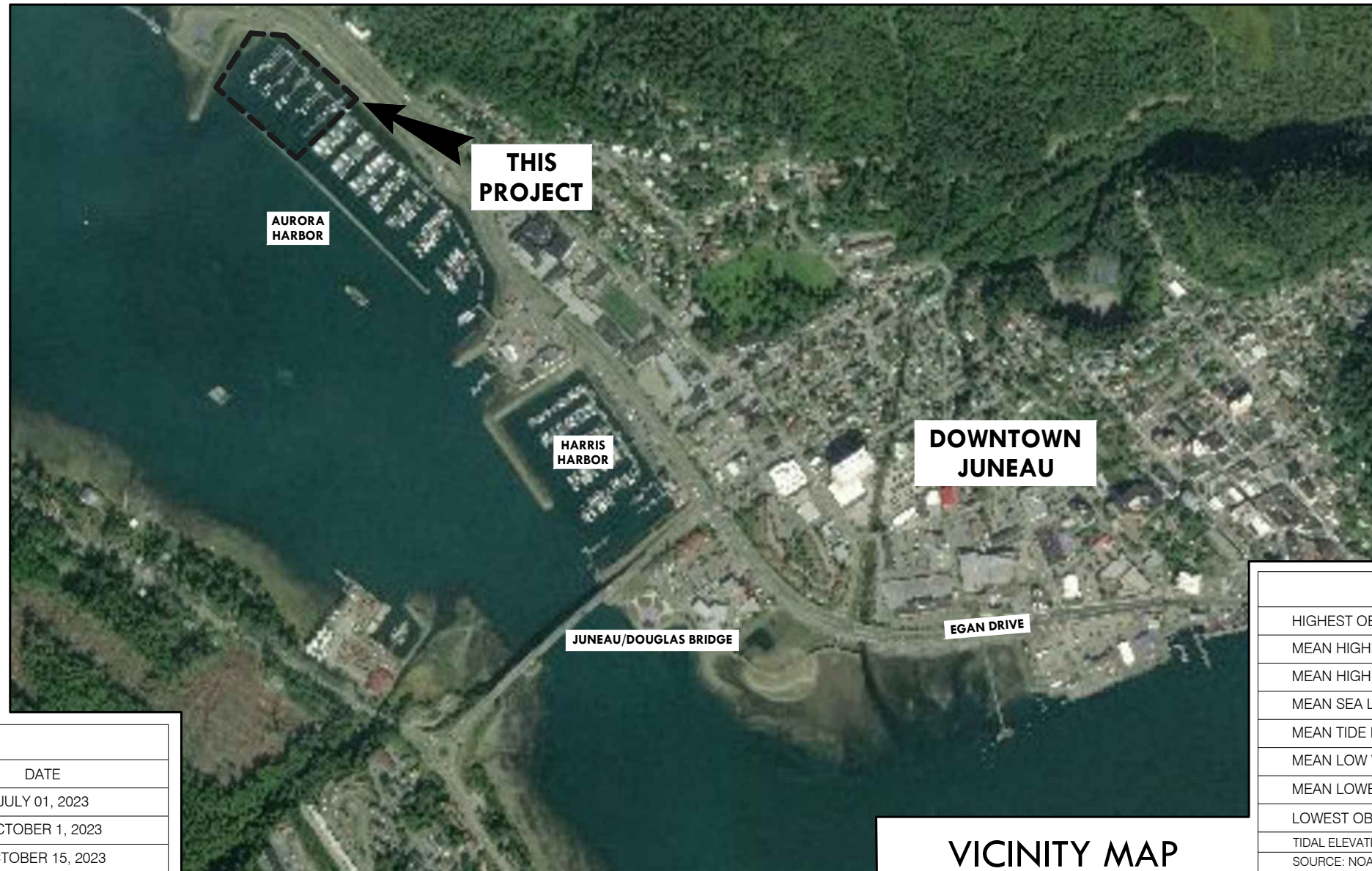
CITY AND BOROUGH OF JUNEAU, ALASKA

AURORA HARBOR REBUILD - PHASE III

CBJ CONTRACT - DH 23-015



SOUTHEAST ALASKA



VICINITY MAP

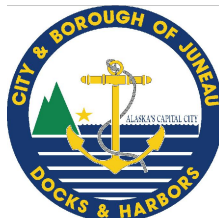


LOCATION MAP

PROJECT SCHEDULE	
MILESTONE	DATE
EARLIEST FIELD START	JULY 01, 2023
SUBSTANTIAL COMPLETION	OCTOBER 1, 2023
FINAL COMPLETION	OCTOBER 15, 2023

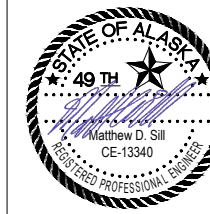
TIDAL DATA	ELEVATION
HIGHEST OBSERVED WATER LEVEL	+24.58 FT
MEAN HIGHER HIGH WATER (MHHW)	+16.30 FT
MEAN HIGH WATER (MHW)	+15.34 FT
MEAN SEA LEVEL (MSL)	+8.56 FT
MEAN TIDE LEVEL (MTL)	+8.47 FT
MEAN LOW WATER (MLW)	+1.6 FT
MEAN LOWER LOW WATER (MLLW)	0.0 FT
LOWEST OBSERVED WATER LEVEL	-6.12 FT
TIDAL ELEVATION SHOWN RELATIVE TO MLLW = 0.0 FEET	
SOURCE: NOAA/ NOS/CO-OPS STATION ID: 9452210 JUNEAU, ALASKA	

G1 - COVER SHEET



REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP

CITY AND BOROUGH OF JUNEAU
DOCKS & HARBORS
155 SOUTH SEWARD STREET
JUNEAU, ALASKA 99801
PHONE: 907-586-0292



**COVER SHEET, VICINITY MAP
AND TIDAL DATA**
AURORA HARBOR REBUILD - PHASE III

DESIGN:	MS	DATE:	FEBRUARY 21, 2023
CHECKED:	CU	CONTRACT NO.:	DH23-015
APPROVED:	CU	FILE NO.:	1541
		SHEET:	1 of 72

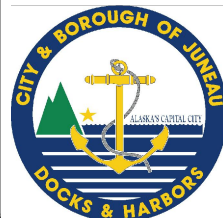
G1

GENERAL		
SHEET	DWG NO.	TITLE
1	G1	COVER SHEET, VICINITY MAP AND TIDAL DATA
2	G2	DRAWING INDEX
3	G3	EXISTING CONDITIONS DEMOLITION AND SALVAGE PLAN
4	G4	GENERAL SITE PLAN
REFURBISHED MATERIALS		
SHEET	DWG NO.	TITLE
5	R1	GANGWAY SALVAGE PLAN, ELEVATION AND DETAILS
6	R2	GANGWAY LANDING FLOAT SALVAGE PLAN ELEVATION AND DETAILS
MOORING FLOATS		
SHEET	DWG NO.	TITLE
7	F1	OVERALL FLOAT PLAN AND PILE LAYOUT
8	F2	FLOAT PILE SCHEDULE AND DETAILS
9	F3	ADDITIVE ALTERNATE D ANODE DETAILS
10	F4	HEADWALK DETAILED FLOAT PLAN
11	F5	MAINWALK DETAILED FLOAT PLAN
12	F6	TEE FLOAT DETAILED FLOAT PLAN
13	F7	FLOTATION SCHEDULE
14	F8	TYPICAL 10x43 MODULE PLAN & ELEVATION
15	F9	TYPICAL 10x54 MODULE PLAN & ELEVATION
16	F10	TYPICAL 10x63 MODULE PLAN & ELEVATION
17	F11	8x60 FINGER FLOAT PLAN & ELEVATION
18	F12	6x48 FINGER FLOAT PLAN & ELEVATION
19	F13	16x25 ELECTRICAL EQUIPMENT FLOAT
20	F14	TYPICAL 8' & 10' FLOAT SECTIONS
21	F15	TYPICAL 6' FLOAT SECTIONS & DETAILS
22	F16	END CONNECTION PLANS & ELEVATIONS
23	F17	END CONNECTION DETAILS
24	F18	10' & 8' PIANO HINGE PLANS
25	F19	6' PIANO HINGE PLAN & HINGE SECTIONS
26	F20	HINGE DETAILS
27	F21	DIAPHRAGM DETAILS
28	F22	MISC. FLOAT DETAILS
29	F23	MISC. FLOAT HARDWARE
30	F24	BULLRAIL DETAILS
31	F25	MISC. DETAILS
32	F26	FLOTATION TUB, BALLAST TANK AND BILLET DETAILS
33	F27	EXTERNAL PILE HOOP DETAILS
34	F28	INTERNAL PILE HOOP DETAILS
35	F29	SIGNAGE & APPURTENANCE SUPPORT DETAILS

UTILITY BUILDING		
SHEET	DWG NO.	TITLE
36	S1	UTILITY BUILDING PLANS AND ELEVATION
37	S2	UTILITY BUILDING DETAILS
38	S3	UTILITY BUILDING EQUIPMENT FLOOR PLAN
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SHEET	DWG NO.	TITLE
39	U1	WATER AND FIRE SCHEMATIC SITE PLAN
40	U2	WATER AND FIRE SYSTEMS ROUTING PLAN
41	U3	FLOAT MOUNTED UTILITY DETAILS
42	U4	FLOAT MOUNTED UTILITY DETAILS
43	U5	FLOAT MOUNTED UTILITY DETAILS
ELECTRICAL SUPPORT ASSEMBLIES		
SHEET	DWG NO.	TITLE
44	ES1	ELECTRICAL SUPPORT ASSEMBLIES
45	ES2	ELECTRICAL SUPPORT ASSEMBLY DETAILS
46	ES3	ELECTRICAL SUPPORT POST DETAILS
47	ES4	HEAT TRACE SUPPORT DETAILS

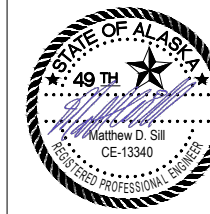
ELECTRICAL		
SHEET	DWG NO.	TITLE
48	E1	GENERAL NOTES, INDEX, AND LEGEND
49	E2	GENERAL SITE PLAN - POWER
50	E3	GENERAL SITE PLAN - LIGHTING
51	E4	GENERAL SITE PLAN - HEAT TRACE
52	E5	SINGLE LINE DIAGRAM - OVERALL
53	E6	SINGLE LINE DIAGRAM - PANEL H & GFPE BREAKER DETAIL
54	E7	GANGWAY ELEVATION
55	E8	GANGWAY TO APPROACH DOCK ELEVATION
56	E9	FLOAT TO GANGWAY ELEVATION
57	E10	GANGWAY LANDING FLOAT AND HEADWALK PLAN
58	E11	ELECTRICAL BUILDING FLOOR PLAN & CABLE ROUTING
59	E12	MAINWALK CABLE ROUTING
60	E13	PANEL SCHEDULES
61	E14	10' FLOAT SECTIONS
62	E15	POWERHEAD AND PEDESTAL DETAILS
63	E16	POST MOUNTED PEDESTAL SUPPORT BASE DETAILS
64	E17	POWERHEAD DETAILS
65	E18	PEDESTAL WIRING DIAGRAMS
66	E19	LUMINAIRE SCHEDULE
67	E20	LIGHTING DETAILS
68	E21	HEAT TRACE JUNCTION BOX DETAIL
69	E22	CABLE TRANSITION DETAIL FROM HEADWALK TO MAINWALK FLOAT
70	E23	GANGWAY SECTION ELECTRICAL
71	E24	APPROACH DOCK SECTION ELECTRICAL
72	E25	TRENCH AND GFPE BOX DETAILS

G2 - DRAWING INDEX



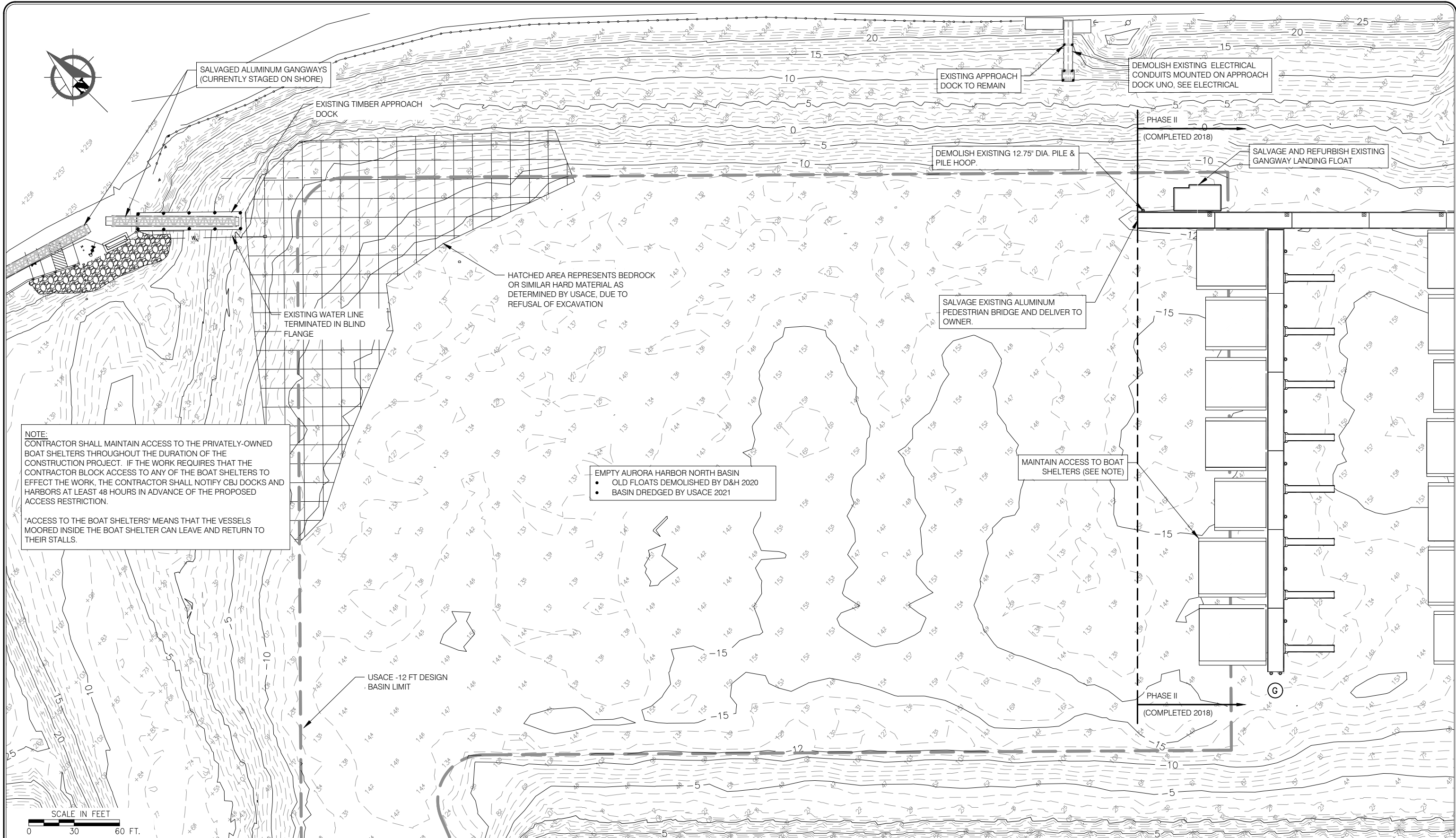
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DOCKS & HARBORS
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DRAWING INDEX			
AURORA HARBOR REBUILD - PHASE III			
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G2



NOTE:
 CONTRACTOR SHALL MAINTAIN ACCESS TO THE PRIVATELY-OWNED BOAT SHELTERS THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT. IF THE WORK REQUIRES THAT THE CONTRACTOR BLOCK ACCESS TO ANY OF THE BOAT SHELTERS TO EFFECT THE WORK, THE CONTRACTOR SHALL NOTIFY CBJ DOCKS AND HARBORS AT LEAST 48 HOURS IN ADVANCE OF THE PROPOSED ACCESS RESTRICTION.

'ACCESS TO THE BOAT SHELTERS' MEANS THAT THE VESSELS MOORED INSIDE THE BOAT SHELTER CAN LEAVE AND RETURN TO THEIR STALLS.

EMPTY AURORA HARBOR NORTH BASIN

- OLD FLOATS DEMOLISHED BY D&H 2020
- BASIN DREDGED BY USACE 2021

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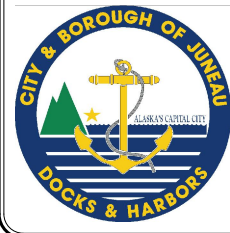


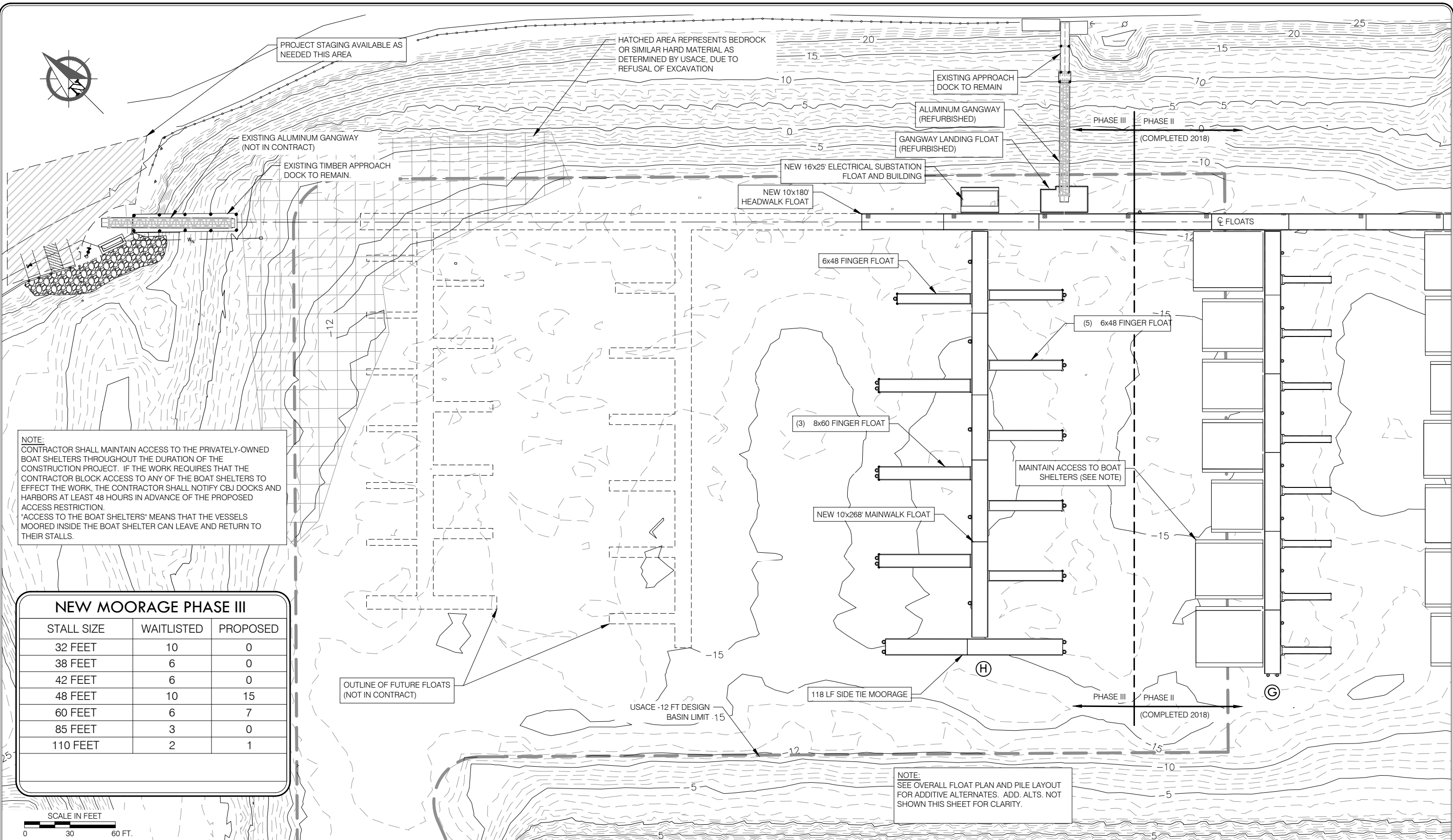
EXISTING CONDITIONS DEMOLITION AND SALVAGE PLAN
 AURORA HARBOR REBUILD - PHASE III

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G3

G3 - Existing Site Plan

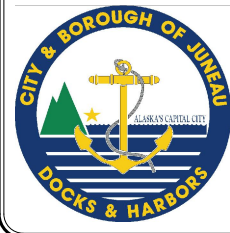




NOTE:
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 ACCESS TO THE BOAT SHELTERS MEANS THAT THE VESSELS MOORED INSIDE THE BOAT SHELTER CAN LEAVE AND RETURN TO THEIR STALLS.

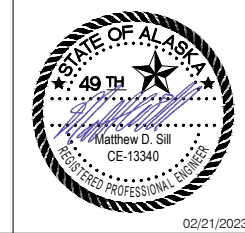
NEW MOORAGE PHASE III		
STALL SIZE	WAITLISTED	PROPOSED
32 FEET	10	0
38 FEET	6	0
42 FEET	6	0
48 FEET	10	15
60 FEET	6	7
85 FEET	3	0
110 FEET	2	1

NOTE:
 SEE OVERALL FLOAT PLAN AND PILE LAYOUT FOR ADDITIVE ALTERNATES. ADD. ALTS. NOT SHOWN THIS SHEET FOR CLARITY.



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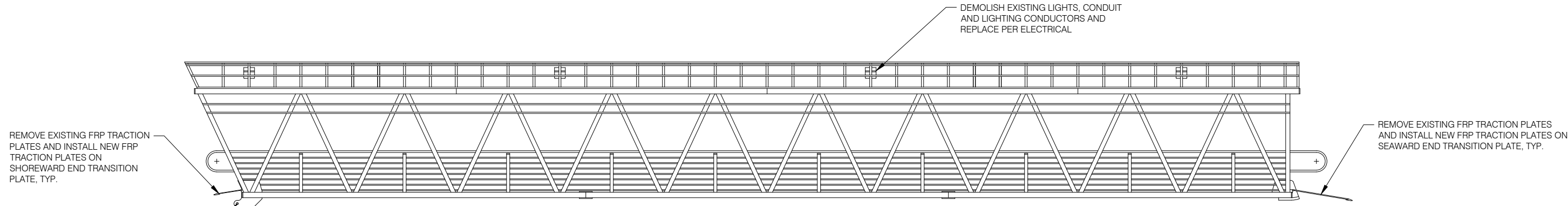
GENERAL SITE PLAN

AURORA HARBOR REBUILD - PHASE III

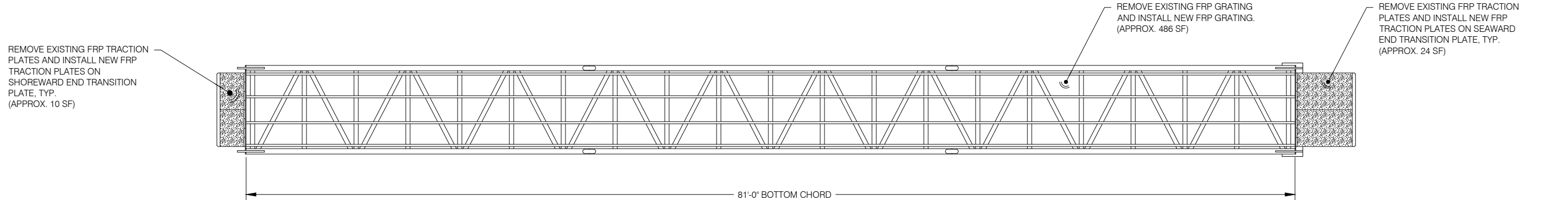
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G4

G4 - Site Plans



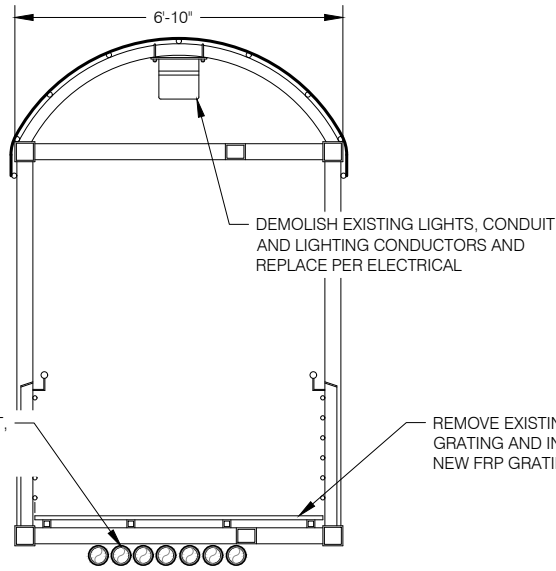
SALVAGED GANGWAY - ELEVATION



SALVAGED GANGWAY - PLAN



SALVAGED GANGWAY - NORTH VIEW



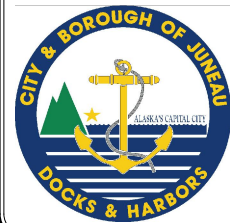
SALVAGED GANGWAY - SECTION



SALVAGED GANGWAY - SOUTH VIEW

- SALVAGE NOTES:**
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING THE SALVAGED GANGWAY FROM THE UPLANDS ADJACENT TO THE AURORA HARBOR BASIN.
 2. THE CONTRACTOR SHALL DEMOLISH THE EXISTING FRP GRATING WALKING SURFACE (APPROX. 6'-0" x 81'-0") AND REPLACE WITH FIBERGRATE SAFE-T-SPAN MODEL #14010. CONTRACTOR SHALL UTILIZE MANUFACTURER SUPPLIED 316 STAINLESS FASTENERS TO FASTEN THE GRATING TO THE GANGWAY.
 3. THE CONTRACTOR SHALL ADDITIONALLY DEMOLISH THE EXISTING FRP TRACTION PLATES ON BOTH END TRANSITION PLATES AND REPLACE WITH NEW FRP 1/4" TRACTION PLATE OVERLAY WITH INTEGRAL GRIT SURFACE. CONTRACTOR SHALL UTILIZE MANUFACTURER-SUPPLIED 316 STAINLESS FASTENERS TO FASTEN THE TRACTION PLATES TO THE END TRANSITIONS.
 4. THE CONTRACTOR SHALL DEMOLISH THE EXISTING LIGHTS AND LIGHTING CONDUCTORS MOUNTED ON THE GANGWAY AND REPLACE IN ACCORDANCE WITH THE LIGHTING SCHEDULE, SEE ELECTRICAL.
 5. THE CONTRACTOR SHALL FURNISH AND INSTALL REPLACEMENT GANGWAY HINGE BOLTS. HINGE BOLTS SHALL BE 1-1/2" Ø A235 BOLT WITH HDG WASHERS, NUT AND COTTER PIN. UHMW BUSHINGS SHALL PRESS FIT.

R1 R2 - SALVAGED MATERIALS



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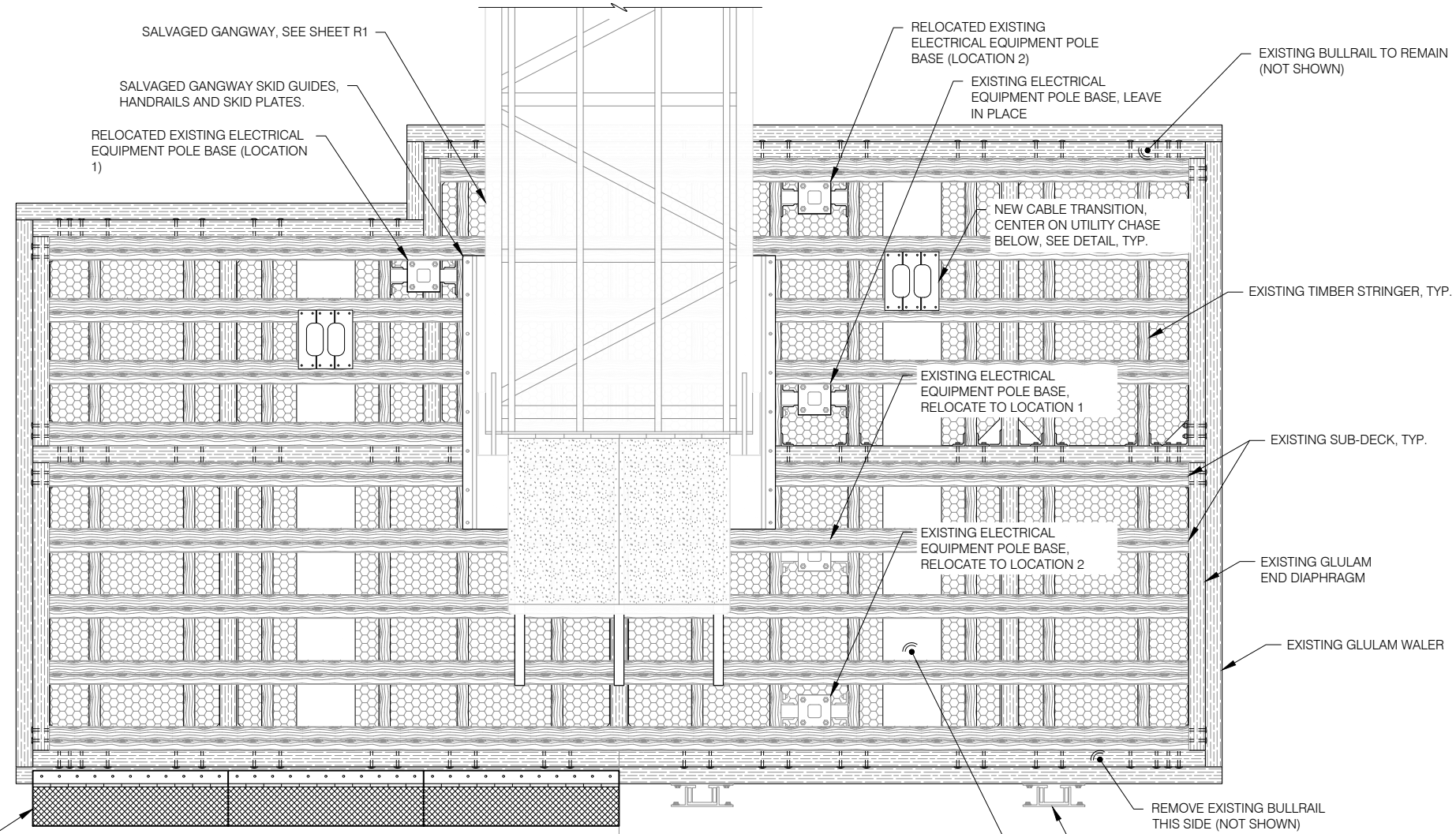
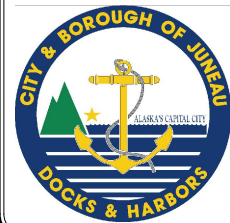


GANGWAY SALVAGE PLAN, ELEVATION AND DETAILS
 AURORA HARBOR REBUILD - PHASE III

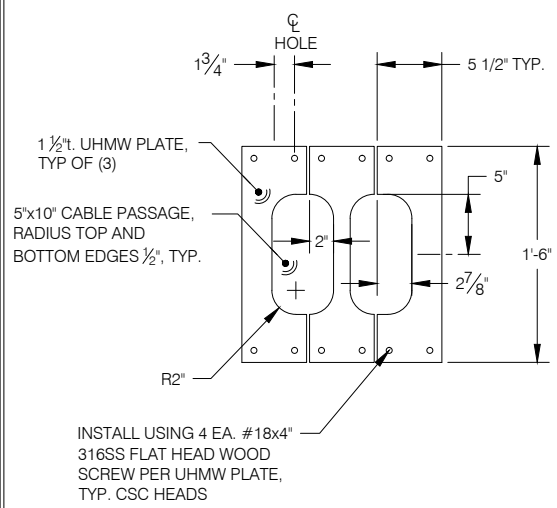
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R1

R1 R2 - SALVAGED MATERIALS

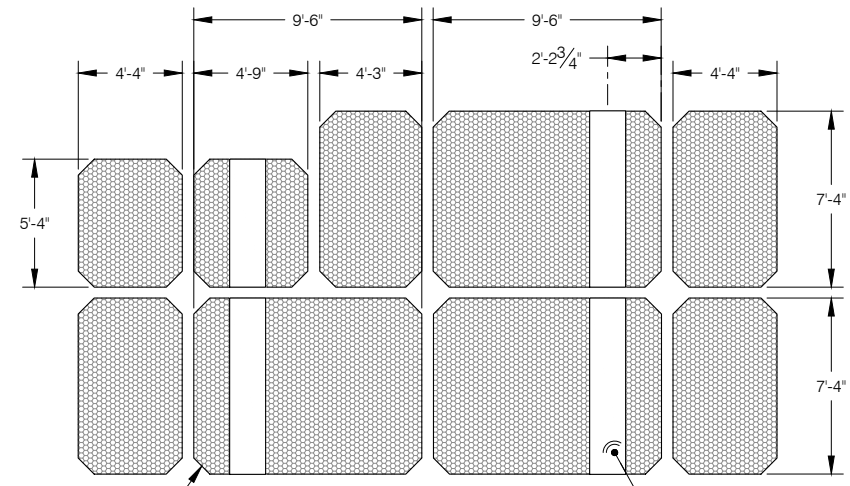


- SALVAGE AND REFURBISH NOTES:**
- THE GANGWAY LANDING FLOAT IS CURRENTLY IN THE WATER WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL REMOVE THE FLOAT FROM THE WATER, AND TRANSPORT THE FLOAT TO A LOCATION SUITABLE FOR REFURBISHING THE FLOAT AS DESCRIBED BELOW:
1. THE EXISTING DECKING SHALL BE REMOVED, ALONG WITH ALL OF THE COATED FLOTATION BILLETS, AND FLOTATION BILLET BLOCKING.
 2. NEW, COATED FLOTATION BILLETS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. SIZES INDICATED SHALL BE FIELD VERIFIED PRIOR TO FABRICATION. ALL FLOTATION BILLETS INSTALLED IN THE GANGWAY LANDING FLOAT SHALL BE 2'-5" DEEP.
 3. REMOVE BULLRAIL FROM LONG SIDE OF GANGWAY LANDING FLOAT AND INSTALL NEW TRANSITION RAMPS AND HINGES AS SHOWN.
 4. NEW HINGES SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS DETAILED.
 5. EXISTING GANGWAY SKID PLATE GUIDES, HANDRAILS AND SKID PLATES SHALL BE SALVAGED AND REINSTALLED ON THE FLOAT.
 6. REMOVE AND REINSTALL EXISTING UHMW RUBSTRIP AS NEEDED TO REFURBISH FLOAT (NOT SHOWN).
 7. INSTALL NEW 2x6 DECKING FULL WIDTH OF FLOAT.
- AFTER THE REFURBISHMENT IS COMPLETE, THE CONTRACTOR SHALL RETURN THE FLOAT TO THE PROJECT SITE AND INSTALL AS SHOWN.



CABLE TRANSITION DETAIL
(MAKE TWO CABLE TRANSITIONS, INSTALL AS SHOWN)

ALUMINUM TRANSITION PLATE, THREE OF SIX SHOWN FOR CLARITY, TYP



NEW FOAM BILLET PLAN

CHAMFER BILLET CORNERS 8x8 TO CLEAR CONNECTION HARDWARE, TYP.

FABRICATE BILLETS WITH 4" DEEP x 18" WIDE UTILITY CHASE CUT IN TOP OF FOAM PRIOR TO COATING, 4 EA.

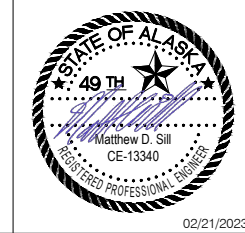
REFURBISHED GANGWAY LANDING FLOAT - PLAN

- NOTE:**
- FIELD INSTALL NEW HINGES AFTER VERIFYING INSTALLED POSITION OF GANGWAY LANDING FLOAT AND CHECKING FOR BOLT CONFLICTS WITH ADJACENT FLOAT.
- NOTE:**
- SEE SPECIFICATIONS FOR EPS FOAM DENSITY AND COATING REQUIREMENTS.

REFURBISHED GANGWAY LANDING FLOAT - SECTION

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**GANGWAY LANDING FLOAT SALVAGE PLAN
ELEVATION AND DETAILS**
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R2



[ADDITIVE ALT. A]
10x54' HEADWALK FLOAT

NEW 16x25' ELECTRICAL
SUBSTATION FLOAT

REFURBISHED GANGWAY
REFURBISHED GANGWAY
LANDING FLOAT

EXISTING HEADWALK FLOAT

A

C

B

EXISTING HEADWALK FLOAT

NOTE:
MOORING FLOAT PILES ASSOCIATED WITH
FLOATS THAT ARE INDICATED AS ADDITIVE
ALTERNATES ARE INCLUDED IN THE
ADDITIVE ALTERNATE. SEE PILE PLAN.

6x48 FINGER FLOAT

F1

90°

H2

INTERNAL MOORING PILE, TYP.

NEW 10x126' HEADWALK FLOAT
(BASE BID)

M2

[ADDITIVE ALT. B]
6x48' FINGER FLOAT

F10

(3) 8x60 FINGER FLOAT

F2

[ADDITIVE ALT. B]
6x48' FINGER FLOAT

F11

F3

M3

[ADDITIVE ALT. B]
6x48' FINGER FLOAT

F12

NEW 10x268' MAINWALK FLOAT

F4

[ADDITIVE ALT. B]
6x48' FINGER FLOAT

F13

F5

M4

[ADDITIVE ALT. B]
6x48' FINGER FLOAT

F14

F6

M5

[ADDITIVE ALT. C]
10x118' TEE FLOAT

F7

[ADDITIVE ALT. B]
6x48' FINGER FLOAT

F15

F8

90°

MAINWALK H

PRIVATELY-OWNED
BOAT SHELTERS
TO REMAIN, TYP.

F9

D

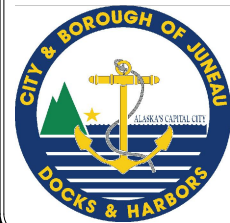
F16

FLOAT LAYOUT TABLE

POINT NO.	POINT DESCRIPTION
A	CENTERLINE EXISTING APPROACH DOCK
B	CENTERLINE EXISTING FLOAT MODULE
C	INTERSECTION OF HEADWALK AND CENTERLINE MAINWALK H
D	CENTERLINE OF MAINWALK H

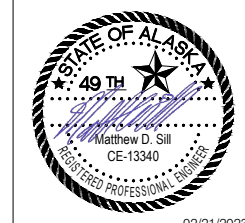
FLOAT DESIGN CRITERIA

- DEAD LOAD:**
- WEIGHT OF ALL MATERIALS OF CONSTRUCTION
- LIVE LOAD:**
- 35 PSF UNIFORM
 - 400 LB WHEEL LOAD
- SNOW LOAD:**
- GROUND SNOW LOAD = 50 PSF UNIFORM
- WIND LOAD:**
- 105 MPH 3 SECOND GUST - CBJ STRUCTURAL DESIGN CRITERIA
- FREEBOARD:**
- UNLOADED (DEAD LOAD ONLY) FREEBOARD = 22" MINIMUM
 - LOADED (DEAD LOAD + LIVE LOAD) FREEBOARD = 6" MINIMUM
- MOORAGE CRITERIA:**
- FINGER FLOATS: DESIGN VESSEL LENGTH NOT TO EXCEED 105% OF THE LENGTH OF THE FINGER FLOAT.



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OVERALL FLOAT PLAN AND PILE LAYOUT

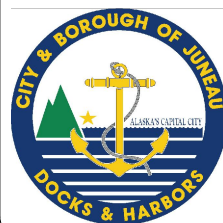
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F1

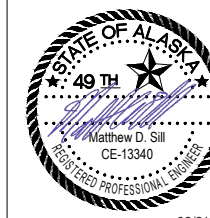
F1 - Overall Float Plan and Pile Layout

02/21/2023



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FLOAT PILE SCHEDULE AND DETAILS

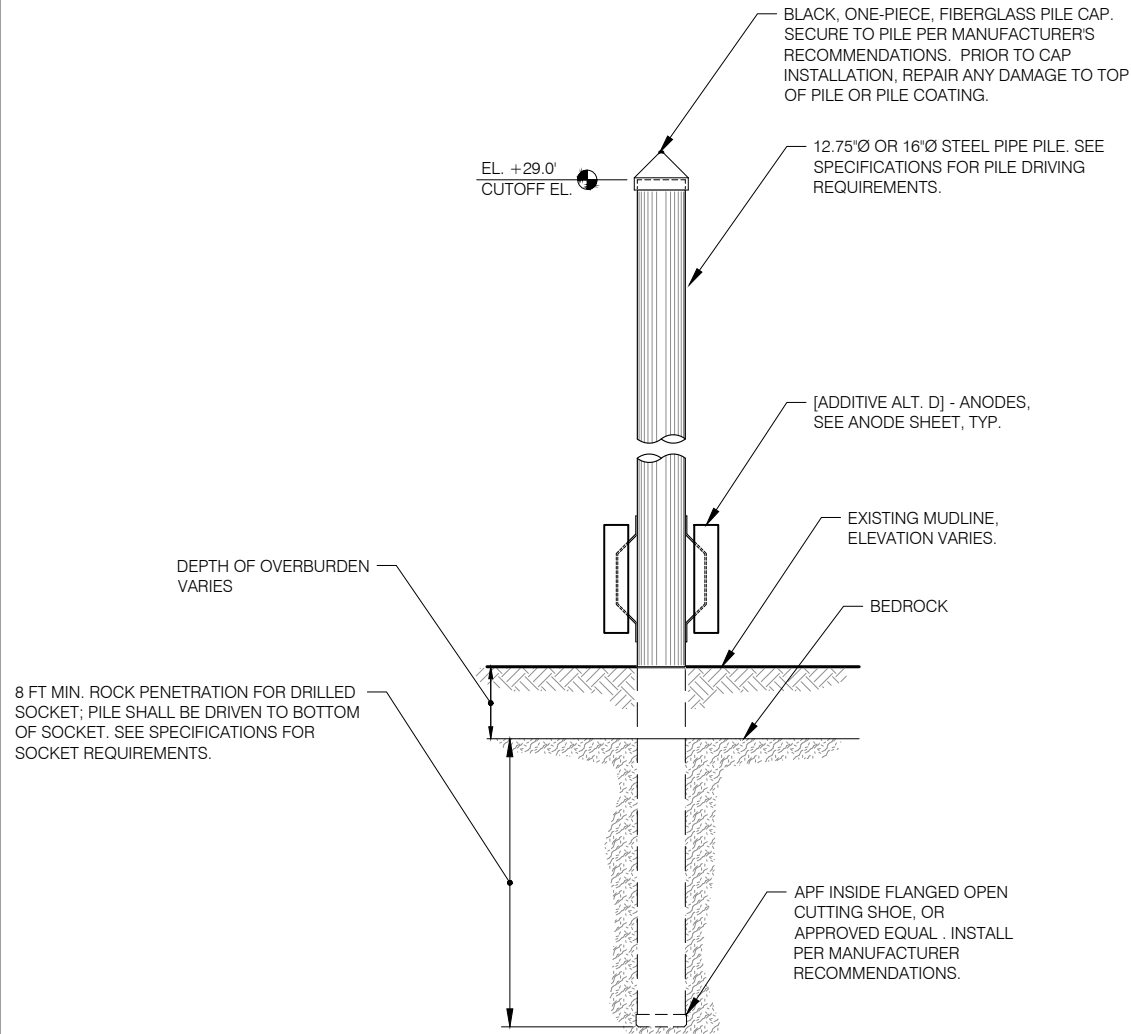
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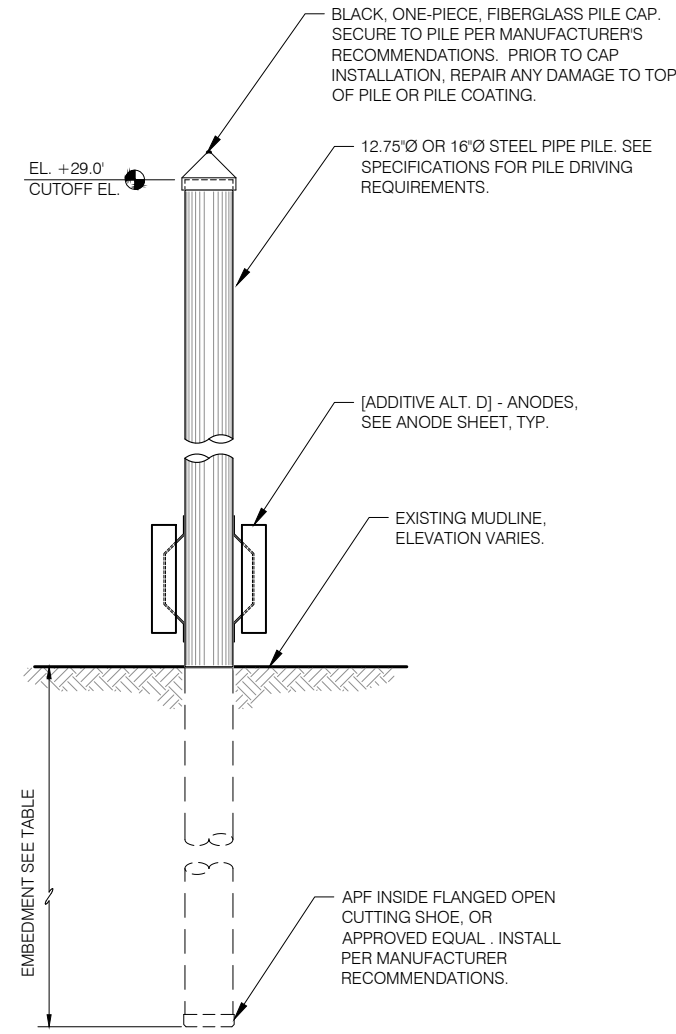
F2

PILE SCHEDULE				
PILE #	LOCATION	MIN. PILE LENGTH	PILE SIZE	BID INFORMATION
1	H1	70 FT	12.75"Ø x 0.50" th.	BASE BID
2	H2	70 FT	12.75"Ø x 0.50" th.	BASE BID
3	H3	70 FT	12.75"Ø x 0.50" th.	BASE BID
4	H4	70 FT	12.75"Ø x 0.50" th.	ADDITIVE ALTERNATE A
5	M1	80 FT	16"Ø x 0.50" th.	BASE BID
6	M2	80 FT	16"Ø x 0.50" th.	BASE BID
7	M3	80 FT	16"Ø x 0.50" th.	BASE BID
8	M4	80 FT	16"Ø x 0.50" th.	BASE BID
9	M5	80 FT	16"Ø x 0.50" th.	BASE BID
10	F1	80 FT	16"Ø x 0.50" th.	BASE BID
11	F2	80 FT	16"Ø x 0.50" th.	BASE BID
12	F3	80 FT	16"Ø x 0.50" th.	BASE BID
13	F4	80 FT	16"Ø x 0.50" th.	BASE BID
14	F5	80 FT	16"Ø x 0.50" th.	BASE BID
15	F6	80 FT	16"Ø x 0.50" th.	BASE BID
16	F7	80 FT	16"Ø x 0.50" th.	BASE BID
17	F8	80 FT	16"Ø x 0.50" th.	ADDITIVE ALTERNATE C
18	F9	80 FT	16"Ø x 0.50" th.	ADDITIVE ALTERNATE C
19	F10	80 FT	16"Ø x 0.50" th.	ADDITIVE ALTERNATE B
20	F11	80 FT	16"Ø x 0.50" th.	ADDITIVE ALTERNATE B
21	F12	80 FT	16"Ø x 0.50" th.	ADDITIVE ALTERNATE B
22	F13	80 FT	16"Ø x 0.50" th.	ADDITIVE ALTERNATE B
23	F14	80 FT	16"Ø x 0.50" th.	ADDITIVE ALTERNATE B
24	F15	80 FT	16"Ø x 0.50" th.	ADDITIVE ALTERNATE C
25	F16	80 FT	16"Ø x 0.50" th.	ADDITIVE ALTERNATE C

NOTE:
 SEE "OVERALL FLOAT PLAN AND PILE LAYOUT" FOR LOCATION OF PILES WITHIN FLOAT SYSTEM.

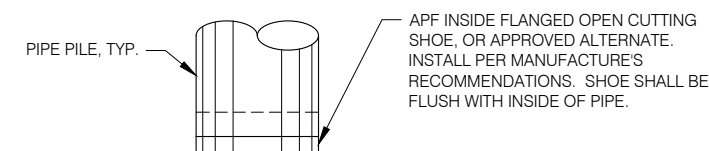


SOCKETED FLOAT MOORING PILE
 (BEDROCK CONDITIONS, SOCKET PILES PER CONTINGENT BID ITEM AS DIRECTED BY ENGINEER)

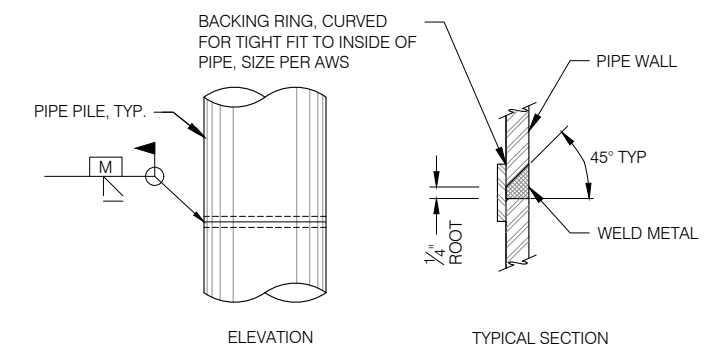


TYPICAL FLOAT MOORING PILE
 (TYPICAL SOIL CONDITIONS)

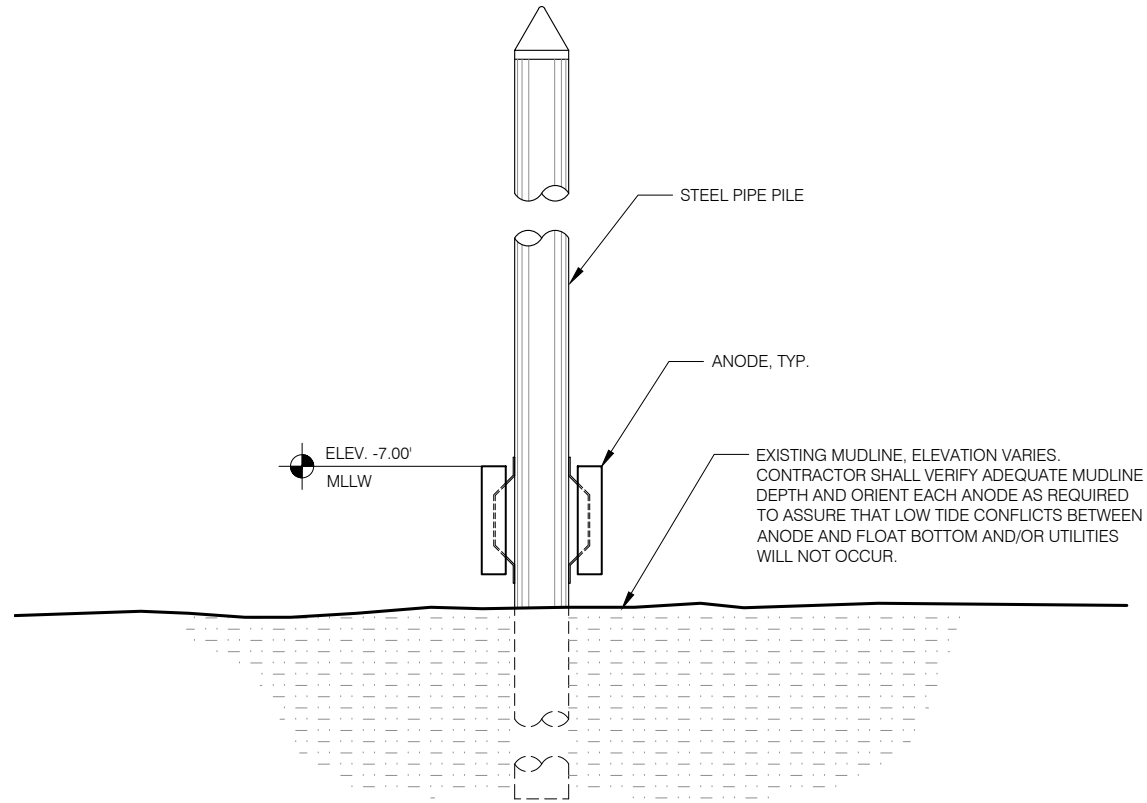
REQUIRED EMBEDMENT		
PILE SIZE	SOFTER SOIL	DENSE TIL
12 ³ / ₄ "Ø	20'	15'
16"Ø	25'	20'



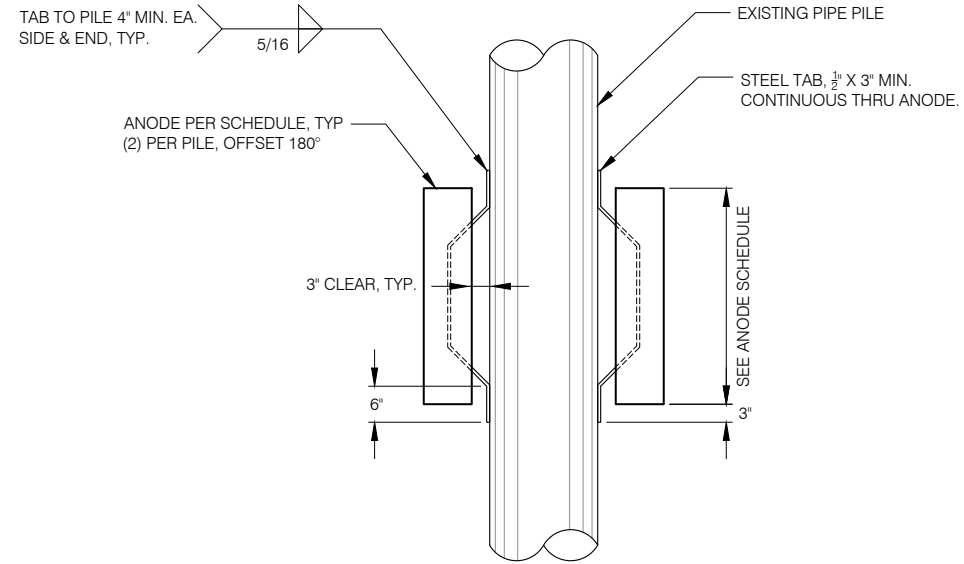
PILE SHOE DETAIL



TYPICAL SPLICE DETAIL
 TYPICAL FOR ALL SHOP & FIELD PIPE PILE SPLICES. CONTRACTOR MAY SUBMIT ALTERNATIVE PILE SPLICE DETAIL FOR ENGINEER APPROVAL.

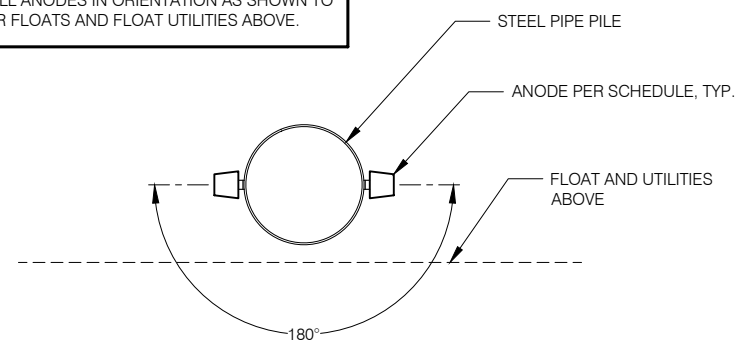


PILE ANODE INSTALLATION



ANODE DETAIL

NOTE:
INSTALL ANODES IN ORIENTATION AS SHOWN TO CLEAR FLOATS AND FLOAT UTILITIES ABOVE.

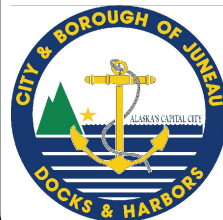


ANODE RADIAL LAYOUT PLAN

ANODE INSTALLATION SCHEDULE - [ADD ALT. D]					
FLOAT	PILE DIAMETER	TYPE	DIMENSIONS	NOMINAL WEIGHT	QUANTITY REQ'D
HEADWALK	12.75"Ø	A	8"x8"x36"	230	8
HEADWALK	16"Ø	A	8"x8"x36"	230	10
HEADWALK	16"Ø	A	8"x8"x36"	230	32
TOTAL:					50

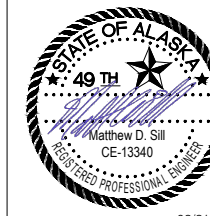
PILE ANODE SCHEDULE

F3--ANODE ADD ALT D



REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP

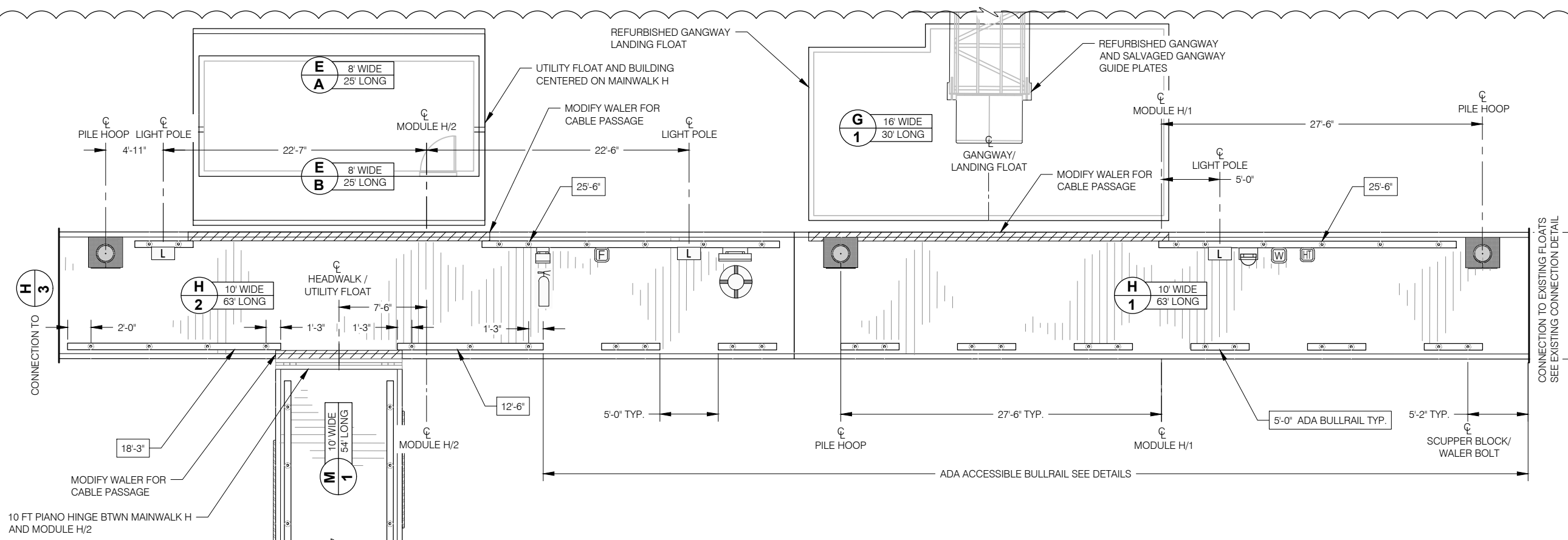
CITY AND BOROUGH OF JUNEAU
DOCKS & HARBORS
 155 SOUTH SEWARD STREET
 JUNEAU, ALASKA 99801
 PHONE: 907-586-0292



ADDITIVE ALTERNATE D
ANODE DETAILS
 AURORA HARBOR REBUILD - PHASE III

DESIGN:	MS	DATE:	FEBRUARY 21, 2023
CHECKED:	CU	CONTRACT NO.:	DH23-015
APPROVED:	CU	FILE NO.	1541
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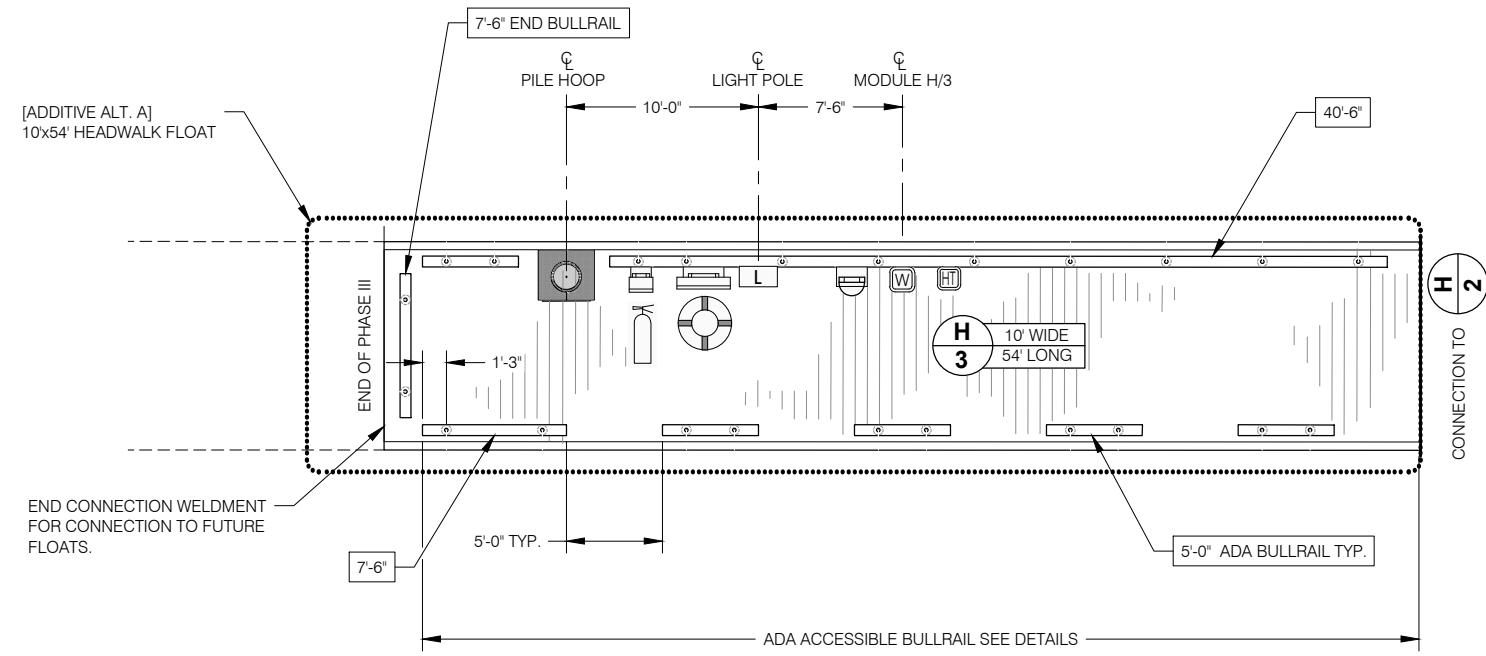


BULLRAIL NOTE:
SEE BULLRAIL STANDARD DETAILS FOR SCUPPER BLOCK LOCATION, TYP. BULLRAIL END OVERHANG 1'-6" UNLESS NOTED OTHERWISE. TYPICAL BULLRAILS ARE 5'-0" LONG.

SEE NEXT SHEET FOR M1 DETAILED FLOAT NOTES.

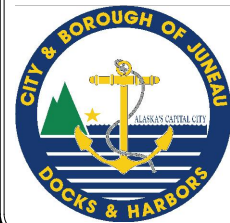
NOTE:
PORTIONS OF DECKING MAY NEED TO BE INSTALLED AFTER ELECTRICAL CABLES AND/OR PEDESTALS. FABRICATOR SHALL COORDINATE W/ GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR AS REQUIRED.

- LEGEND:**
- [E] = ELECTRICAL PEDESTAL W/ POWERHEADS
 - [F] = FIRE HOSE CONNECTION
 - [W] = WATER PEDESTAL
 - [HT] = HEAT TRACE
 - [HM] = HOSE MOUNT
 - [LR] = LIFE RING CABINET & LIFE RING
 - [FE] = FIRE EXTINGUISHER CABINET & EXTINGUISHER
 - [BL] = BULLRAIL LENGTH



NOTE:
HOSE MOUNT, LIFE RING AND FIRE EXTINGUISHER CABINET LOCATIONS SHOWN ARE APPROXIMATE. FIELD LOCATE PER OWNER/ENGINEER DIRECTION.

F4 F5 F6 - Detailed Float Plan



REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP
ADD. 1	03/02/2023	RE-ISSUE ENTIRE SHEET	MDS	CU	CU

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155 SOUTH SEWARD STREET
JUNEAU, ALASKA 99801
PHONE: 907-586-0292

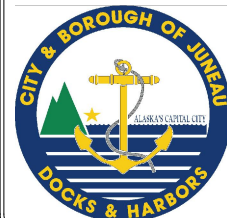


HEADWALK DETAILED FLOAT PLAN

AURORA HARBOR REBUILD - PHASE III

DESIGN:	MS	DATE:	FEBRUARY 21, 2023
CHECKED:	CU	CONTRACT NO.:	DH23-015
APPROVED:	CU	FILE NO.	1541
		SHEET:	10 of 72

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REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP
ADD. 1	03/02/2023	RE-ISSUE ENTIRE SHEET	MDS	CU	CU

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 JUNEAU, ALASKA 99801
 PHONE: 907-586-0292

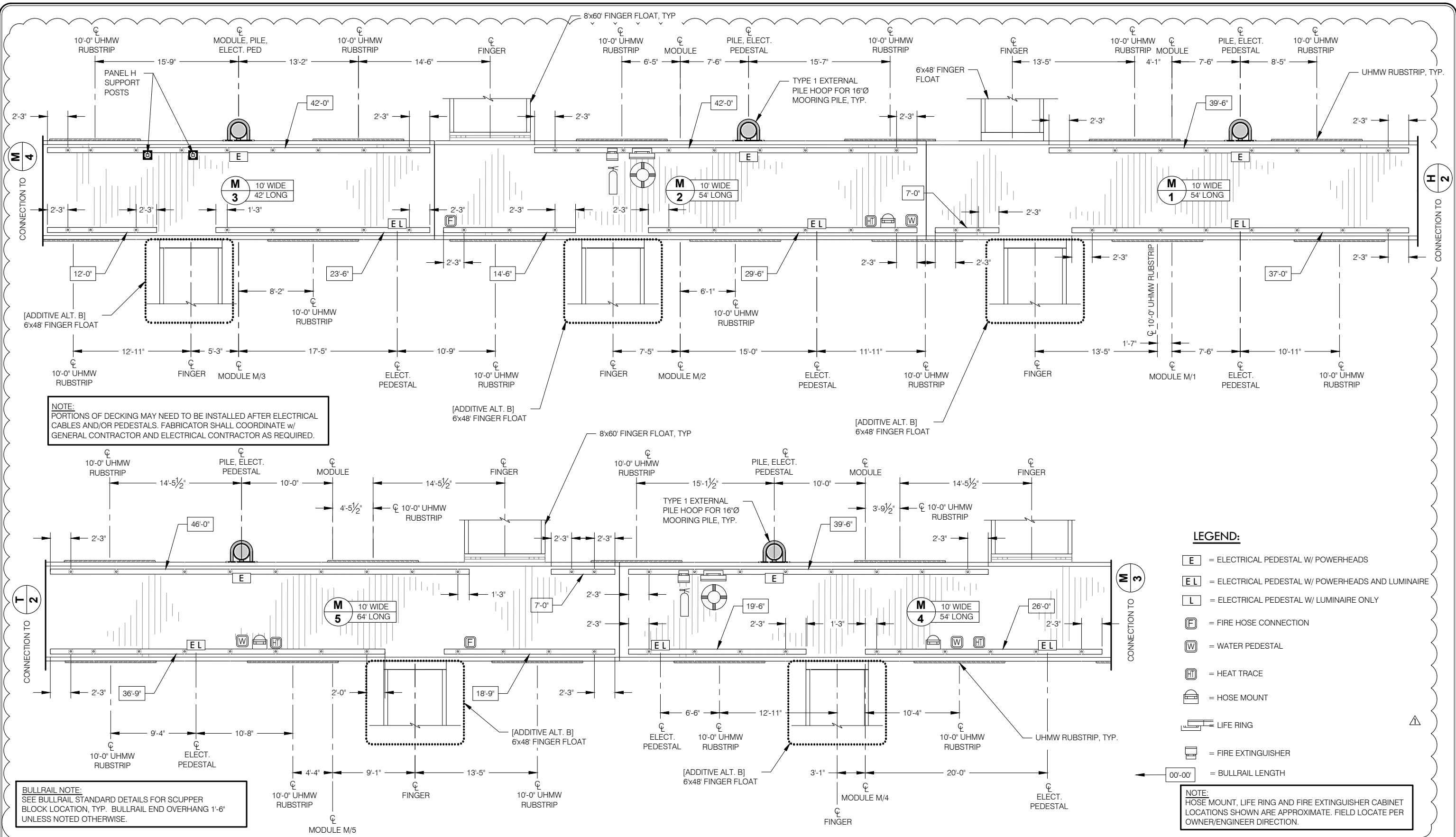


MAINWALK DETAILED FLOAT PLAN

AURORA HARBOR REBUILD - PHASE III

DESIGN:	MS	DATE:	FEBRUARY 21, 2023
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APPROVED:	CU	FILE NO.	1541
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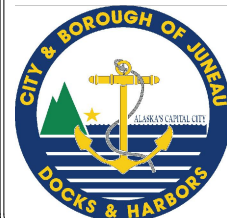


NOTE:
 PORTIONS OF DECKING MAY NEED TO BE INSTALLED AFTER ELECTRICAL CABLES AND/OR PEDESTALS. FABRICATOR SHALL COORDINATE w/ GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR AS REQUIRED.

BULLRAIL NOTE:
 SEE BULLRAIL STANDARD DETAILS FOR SCUPPER BLOCK LOCATION, TYP. BULLRAIL END OVERHANG 1'-6" UNLESS NOTED OTHERWISE.

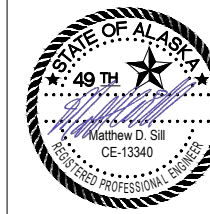
- LEGEND:**
- E** = ELECTRICAL PEDESTAL W/ POWERHEADS
 - EL** = ELECTRICAL PEDESTAL W/ POWERHEADS AND LUMINAIRE
 - L** = ELECTRICAL PEDESTAL W/ LUMINAIRE ONLY
 - F** = FIRE HOSE CONNECTION
 - W** = WATER PEDESTAL
 - HT** = HEAT TRACE
 - HM** = HOSE MOUNT
 - LR** = LIFE RING
 - FE** = FIRE EXTINGUISHER
 - 00'-00"** = BULLRAIL LENGTH

NOTE:
 HOSE MOUNT, LIFE RING AND FIRE EXTINGUISHER CABINET LOCATIONS SHOWN ARE APPROXIMATE. FIELD LOCATE PER OWNER/ENGINEER DIRECTION.



REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP
ADD. 1	03/02/2023	RE-ISSUE ENTIRE SHEET	MDS	CU	CU

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 JUNEAU, ALASKA 99801
 PHONE: 907-586-0292

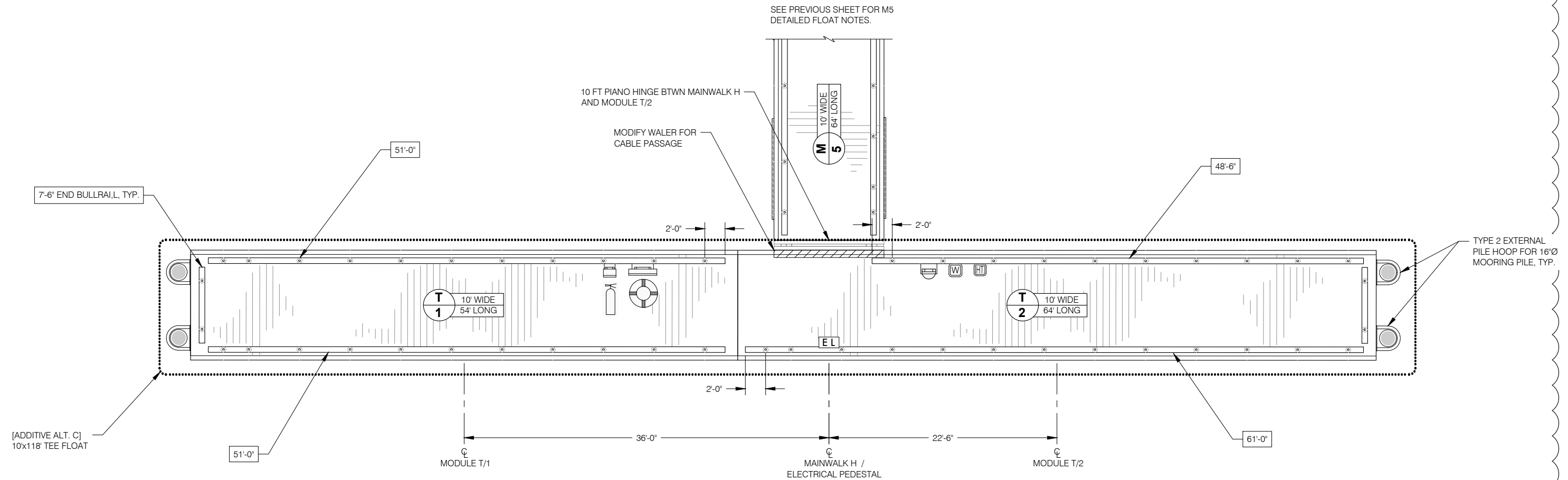


TEE FLOAT DETAILED FLOAT PLAN

AURORA HARBOR REBUILD - PHASE III

DESIGN:	MS	DATE:	FEBRUARY 21, 2023
CHECKED:	CU	CONTRACT NO.:	DH23-015
APPROVED:	CU	FILE NO.	1541
		SHEET:	12 of 72

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LEGEND:

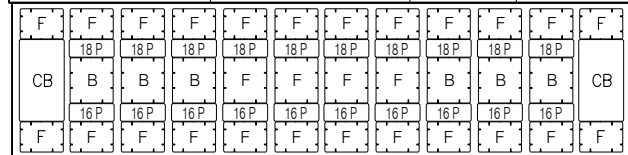
- E** = ELECTRICAL PEDESTAL W/ POWERHEADS
- EL** = ELECTRICAL PEDESTAL W/ POWERHEADS AND LUMINAIRE
- L** = ELECTRICAL PEDESTAL W/ LUMINAIRE ONLY
- W** = WATER PEDESTAL
- HT** = HEAT TRACE
- HM** = HOSE MOUNT
- LR** = LIFE RING CABINET & LIFE RING
- FE** = FIRE EXTINGUISHER CABINET & EXTINGUISHER
- 00'-00'** = BULLRAIL LENGTH

BULLRAIL NOTE:
 SEE BULLRAIL STANDARD DETAILS FOR SCUPPER BLOCK LOCATION, TYP. BULLRAIL END OVERHANG 1'-6" UNLESS NOTED OTHERWISE.

NOTE:
 PORTIONS OF DECKING MAY NEED TO BE INSTALLED AFTER ELECTRICAL CABLES AND/OR PEDESTALS. FABRICATOR SHALL COORDINATE w/ GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR AS REQUIRED.

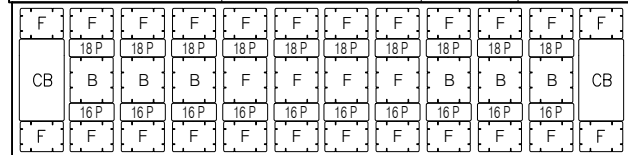
NOTE:
 HOSE MOUNT, LIFE RING AND FIRE EXTINGUISHER CABINET LOCATIONS SHOWN ARE APPROXIMATE. FIELD LOCATE PER OWNER/ENGINEER DIRECTION.

MODULE: H1 (63)				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	24
FLOTATION TUB	48	36	24	4
BALLAST TANK	48	36	24	6
POLYSTYRENE BILLET	SEE DETAILS		18	10
POLYSTYRENE BILLET	SEE DETAILS		16	10
POLYSTYRENE BILLET (CB)	SEE DETAILS		18	2



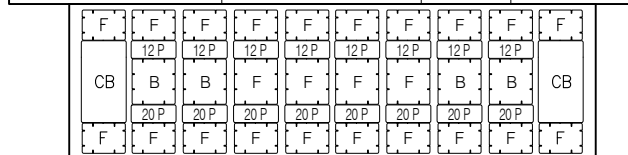
** SEE NOTE 1 THIS SHEET.

MODULE: H2 (63)				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	24
FLOTATION TUB	48	36	24	4
BALLAST TANK	48	36	24	6
POLYSTYRENE BILLET	SEE DETAILS		18	10
POLYSTYRENE BILLET	SEE DETAILS		16	10
POLYSTYRENE BILLET (CB)	SEE DETAILS		18	2



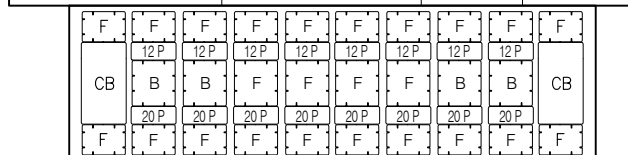
** SEE NOTE 1 THIS SHEET.

MODULE: H3 (54)				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	20
FLOTATION TUB	48	36	24	4
BALLAST TANK	48	36	24	4
POLYSTYRENE BILLET	SEE DETAILS		12	8
POLYSTYRENE BILLET	SEE DETAILS		20	8
POLYSTYRENE BILLET (CB)	SEE DETAILS		18	2



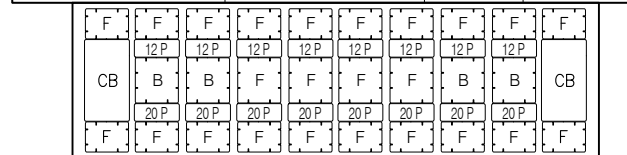
** SEE NOTE 1 THIS SHEET.

MODULE: M1(54)				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	20
FLOTATION TUB	48	36	24	4
BALLAST TANK	48	36	24	4
POLYSTYRENE BILLET	SEE DETAILS		12	8
POLYSTYRENE BILLET	SEE DETAILS		20	8
POLYSTYRENE BILLET (CB)	SEE DETAILS		18	2



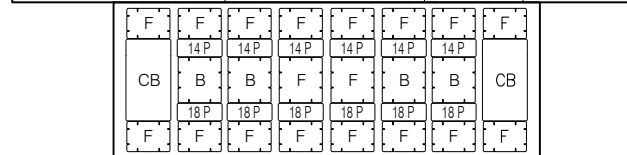
** SEE NOTE 1 THIS SHEET.

MODULE: M2 (54)				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	20
FLOTATION TUB	48	36	24	4
BALLAST TANK	48	36	24	4
POLYSTYRENE BILLET	SEE DETAILS		12	8
POLYSTYRENE BILLET	SEE DETAILS		20	8
POLYSTYRENE BILLET (CB)	SEE DETAILS		18	2



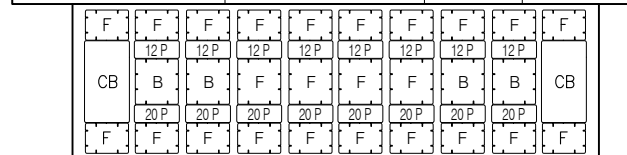
** SEE NOTE 1 THIS SHEET.

MODULE: M3 (43)				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	16
FLOTATION TUB	48	36	24	2
BALLAST TANK	48	36	24	4
POLYSTYRENE BILLET	SEE DETAILS		14	6
POLYSTYRENE BILLET	SEE DETAILS		18	6
POLYSTYRENE BILLET (CB)	SEE DETAILS		18	2



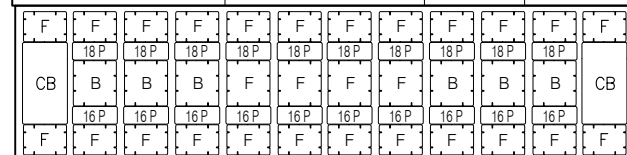
** SEE NOTE 1 THIS SHEET.

MODULE: M4 (54)				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	20
FLOTATION TUB	48	36	24	4
BALLAST TANK	48	36	24	4
POLYSTYRENE BILLET	SEE DETAILS		12	8
POLYSTYRENE BILLET	SEE DETAILS		20	8
POLYSTYRENE BILLET (CB)	SEE DETAILS		18	2



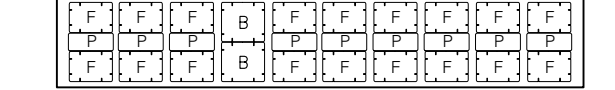
** SEE NOTE 1 THIS SHEET.

MODULE: M5 (63)				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	24
FLOTATION TUB	48	36	24	4
BALLAST TANK	48	36	24	6
POLYSTYRENE BILLET	SEE DETAILS		18	10
POLYSTYRENE BILLET	SEE DETAILS		16	10
POLYSTYRENE BILLET (CB)	SEE DETAILS		18	2



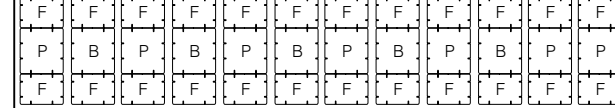
** SEE NOTE 1 THIS SHEET.

FINGER 48'				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	18
BALLAST TANK	48	36	24	2
POLYSTYRENE BILLET	SEE DETAILS		19	9



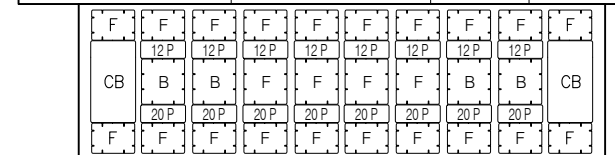
** SEE NOTE 1 THIS SHEET.

FINGER 60'				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	24
BALLAST TANK	48	36	24	5
POLYSTYRENE BILLET	SEE DETAILS		20	7



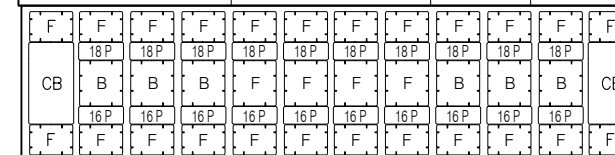
** SEE NOTE 1 THIS SHEET.

MODULE: T1 (54)				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	20
FLOTATION TUB	48	36	24	4
BALLAST TANK	48	36	24	4
POLYSTYRENE BILLET	SEE DETAILS		12	8
POLYSTYRENE BILLET	SEE DETAILS		20	8
POLYSTYRENE BILLET (CB)	SEE DETAILS		18	2



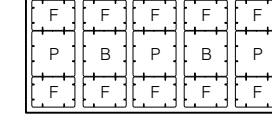
** SEE NOTE 1 THIS SHEET.

MODULE: T2 (63)				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	24
FLOTATION TUB	48	36	24	4
BALLAST TANK	48	36	24	6
POLYSTYRENE BILLET	SEE DETAILS		18	10
POLYSTYRENE BILLET	SEE DETAILS		16	10
POLYSTYRENE BILLET (CB)	SEE DETAILS		18	2



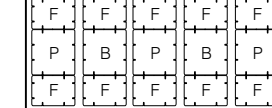
** SEE NOTE 1 THIS SHEET.

EQUIP. FLOAT A				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	24
BALLAST TANK	48	36	24	5
POLYSTYRENE BILLET	SEE DETAILS		20	7



** SEE NOTE 1 THIS SHEET.

EQUIP. FLOAT B				
ITEM DESCRIPTION	LENGTH	WIDTH	HEIGHT	QUANTITY
FLOTATION TUB	48	24	24	24
BALLAST TANK	48	36	24	5
POLYSTYRENE BILLET	SEE DETAILS		20	7



** SEE NOTE 1 THIS SHEET.

- NOTES:
- HEIGHT SHOWN IN TABLE REFERS TO DISTANCE FROM BOTTOM OF SILL TO BOTTOM OF BILLET, NOT OVERALL HEIGHT OF BILLET. SEE FLOTATION BILLET DETAILS SHEET FOR BILLET DIMENSIONS AND DETAILS.
 - BALLAST TANK WALL THICKNESS TO BE 0.375".
 - FLOTATION TUB WALL THICKNESS TO BE 0.175"
 - F= FLOTATION TUB
B= BALLAST TANK
P= POLYSTYRENE BILLET
CB= CENTER POLYSTYRENE BILLET
GB= GANGWAY POLYSTYRENE BILLET
 - ORIENTATION OF FLOATS ON THIS SHEET MATCHES ORIENTATION SHOWN ON DETAILED FLOAT PLANS.

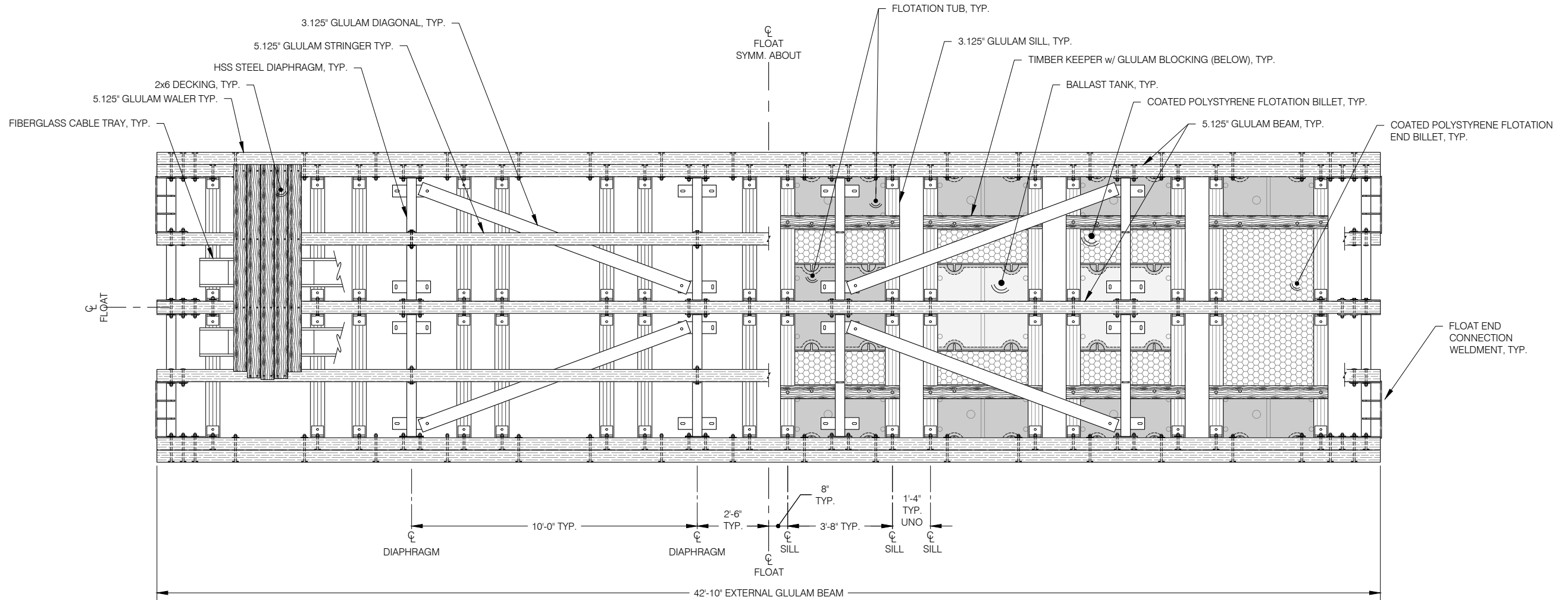


REVISIONS					
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 155 SOUTH SEWARD STREET
 JUNEAU, ALASKA 99801
 PHONE: 907-586-0292

FLOTATION SCHEDULE
 AURORA HARBOR REBUILD - PHASE III

DESIGN:	MS	DATE:	FEBRUARY 21, 2023
CHECKED:	CU	CONTRACT NO.:	DH23-015
APPROVED:	CU	FILE NO.	1541
		SHEET:	13 of 72

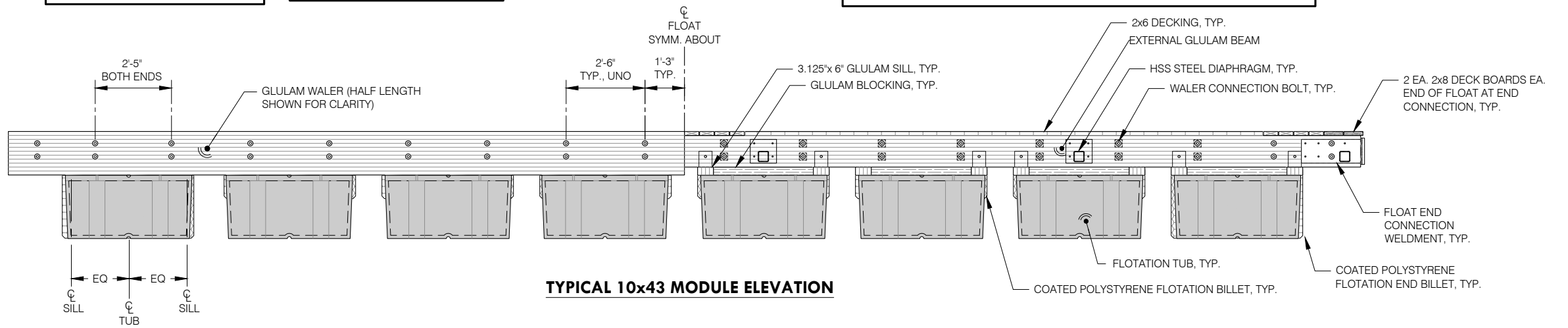


TYPICAL 10x43 MODULE PLAN

NOTE:
SEE DETAILED FLOAT PLAN FOR FINGER
FLOAT, PILE HOOP, ELECTRIC PEDESTAL
AND BULLRAIL LOCATIONS.

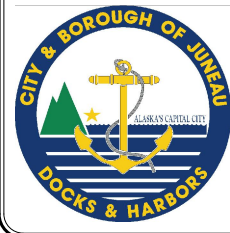
NOTE:
UHMW RUBSTRIP NOT SHOWN.
LOCATION AND SIZE IN ACCORDANCE
WITH RUBSTRIP DETAIL AND TABLE.

NOTE:
TYPICAL FLOAT UNIT COMPONENTS INCLUDING HSS DIAPHRAGMS, GLULAM SILLS,
FLOTATION TUBS, FLOTATION BILLETS, BALLAST TANKS, DIAGONALS AND TYPICAL TIMBER
FRAMING ARE SYMMETRIC ABOUT CENTERLINE OF FLOAT UNIT, UNLESS OTHERWISE
NOTED.



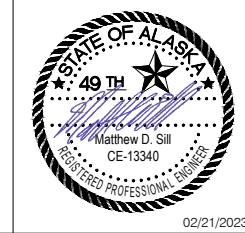
TYPICAL 10x43 MODULE ELEVATION

FB - 10x43 Mainwalk Module



REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP

CITY AND BOROUGH OF JUNEAU
DOCKS & HARBORS
 155 SOUTH SEWARD STREET
 JUNEAU, ALASKA 99801
 PHONE: 907-586-0292

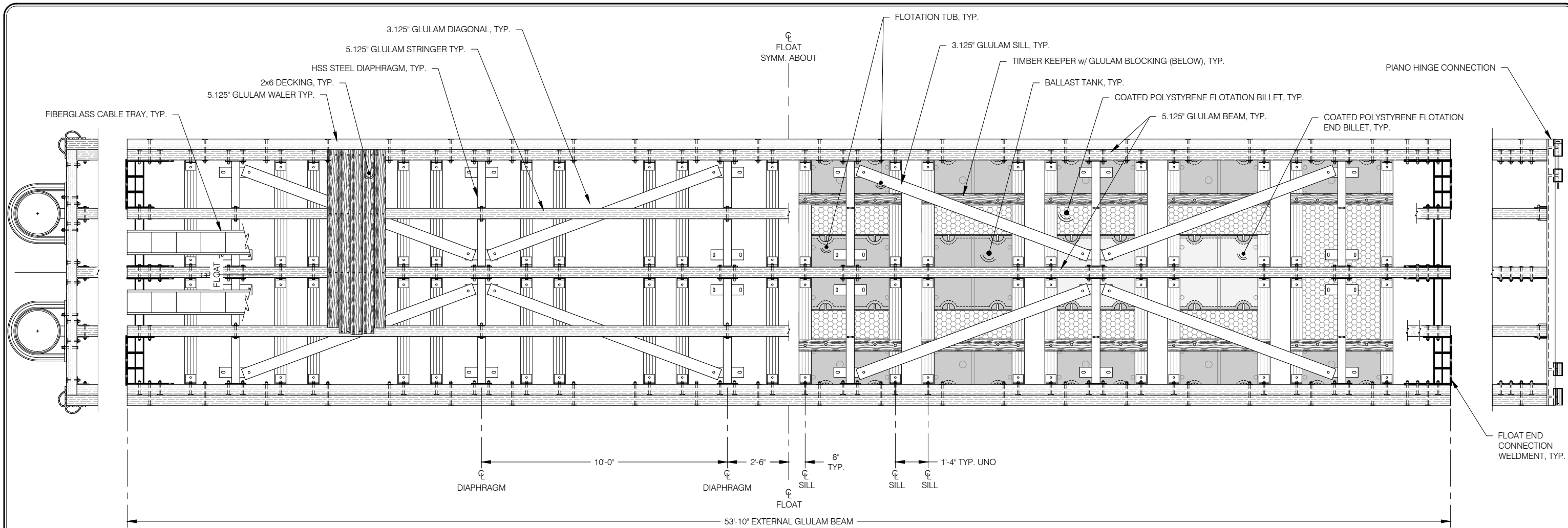


TYPICAL 10x43 MODULE PLAN & ELEVATION

AURORA HARBOR REBUILD - PHASE III

DESIGN:	MS	DATE:	FEBRUARY 21, 2023
CHECKED:	CU	CONTRACT NO.:	DH23-015
APPROVED:	CU	FILE NO.	1541
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TYPICAL 10x54 MODULE PLAN

NOTE:
SUBSTITUTE MODULE END
CONNECTION w/ END GLULAM AND
PILE HOOPS, AS SHOWN, FLOAT
MODULE

T
1

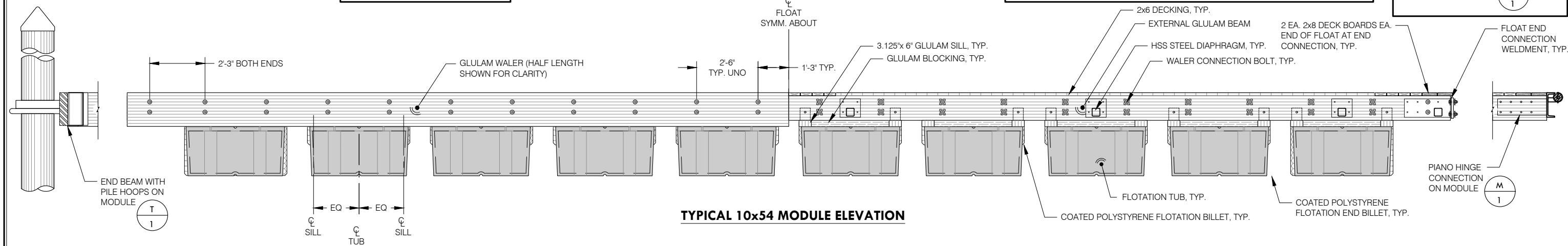
NOTE:
SEE DETAILED FLOAT PLAN FOR FINGER
FLOAT, PILE HOOP, ELECTRIC PEDESTAL
AND BULLRAIL LOCATIONS.

NOTE:
UHMW RUBSTRIP NOT SHOWN.
LOCATION AND SIZE IN ACCORDANCE
WITH RUBSTRIP DETAIL AND TABLE.

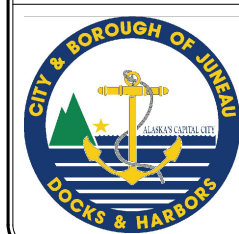
NOTE:
TYPICAL FLOAT UNIT COMPONENTS INCLUDING HSS DIAPHRAGMS, GLULAM SILLS,
FLOTATION TUBS, FLOTATION BILLETS, BALLAST TANKS, DIAGONALS AND TYPICAL TIMBER
FRAMING ARE SYMMETRIC ABOUT CENTERLINE OF FLOAT UNIT, UNLESS OTHERWISE
NOTED.

NOTE:
SUBSTITUTE MODULE END CONNECTION
w/ PIANO HINGE CONNECTION, AS
SHOWN, FLOAT MODULE

M
1



TYPICAL 10x54 MODULE ELEVATION



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REV	DATE	DESCRIPTION	DWN	CHK	APP

CITY AND BOROUGH OF JUNEAU
DOCKS & HARBORS
155 SOUTH SEWARD STREET
JUNEAU, ALASKA 99801
PHONE: 907-586-0292

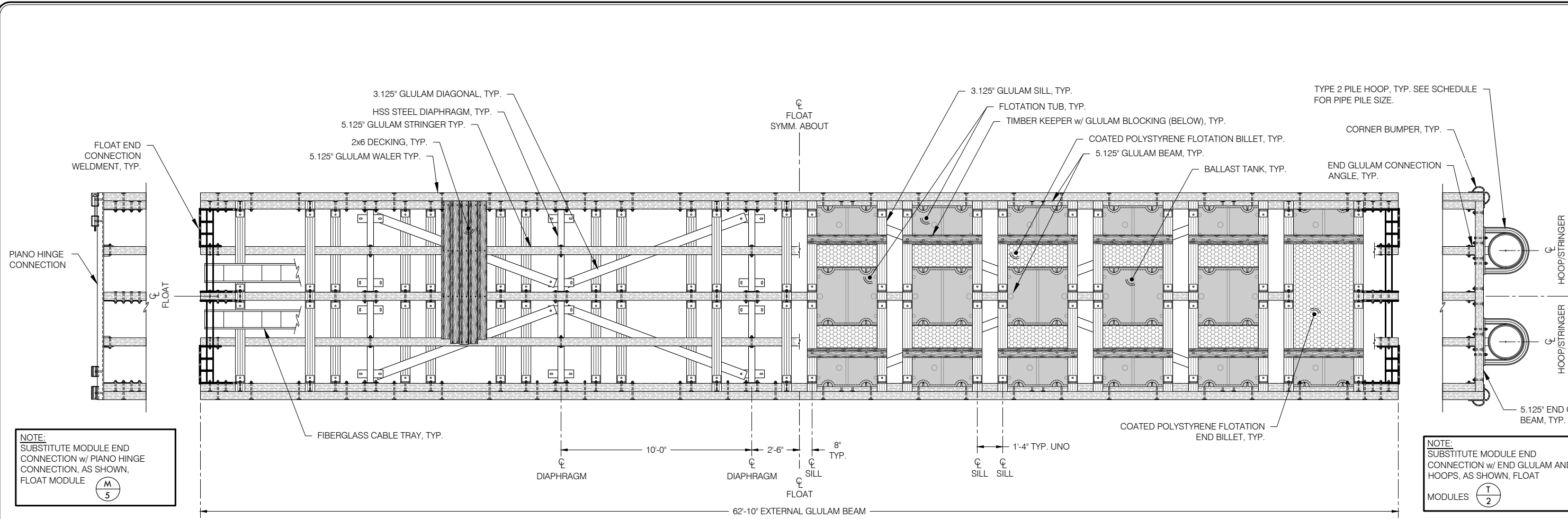


TYPICAL 10x54 MODULE PLAN & ELEVATION

AURORA HARBOR REBUILD - PHASE III

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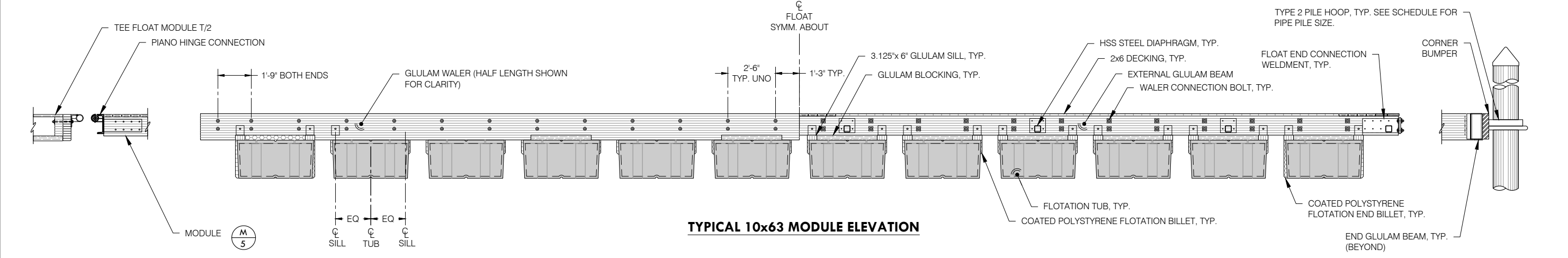


TYPICAL 10x63 MODULE PLAN

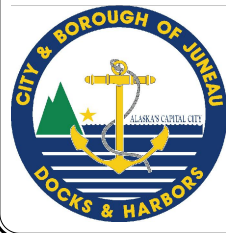
NOTE:
SEE DETAILED FLOAT PLAN FOR FINGER
FLOAT, PILE HOOP, ELECTRIC
PEDESTAL AND BULLRAIL LOCATIONS.

NOTE:
UHMW RUBSTRIP NOT SHOWN.
LOCATION AND SIZE IN ACCORDANCE
WITH RUBSTRIP DETAIL AND TABLE.

NOTE:
TYPICAL FLOAT UNIT COMPONENTS INCLUDING HSS DIAPHRAGMS, GLULAM
SILLS, FLOTATION TUBS, FLOTATION BILLETS, BALLAST TANKS, DIAGONALS AND
TYPICAL TIMBER FRAMING ARE SYMMETRIC ABOUT CENTERLINE OF FLOAT UNIT,
UNLESS OTHERWISE NOTED.



TYPICAL 10x63 MODULE ELEVATION



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TYPICAL 10x63 MODULE PLAN & ELEVATION

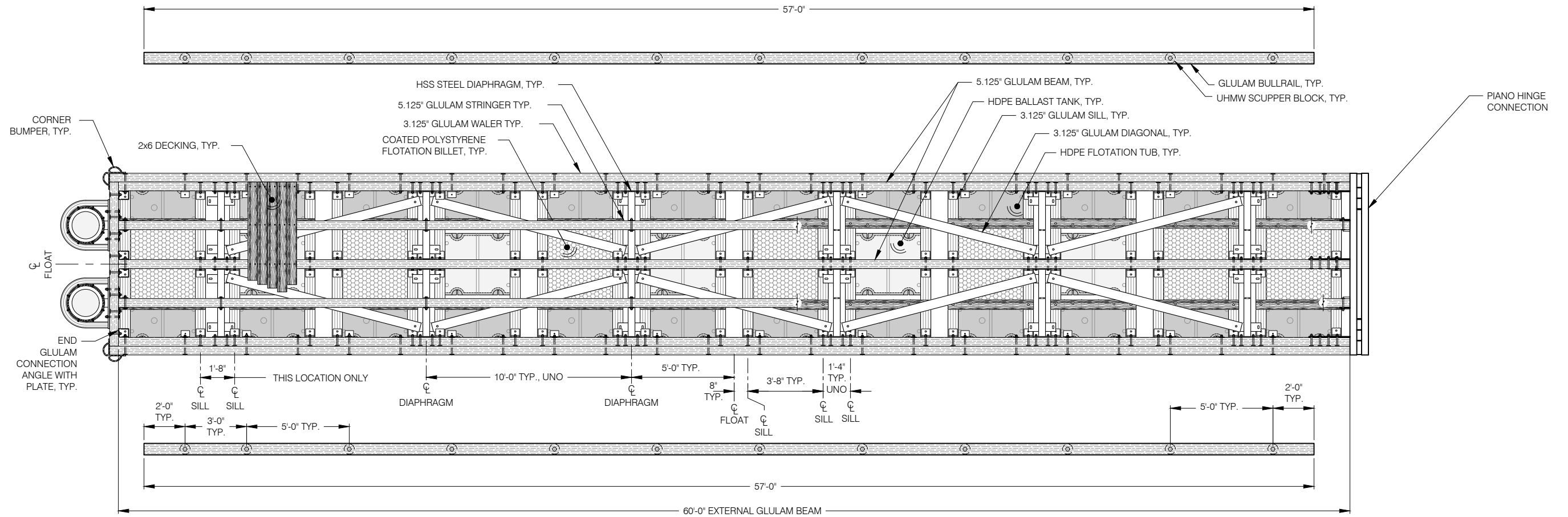
AURORA HARBOR REBUILD - PHASE III

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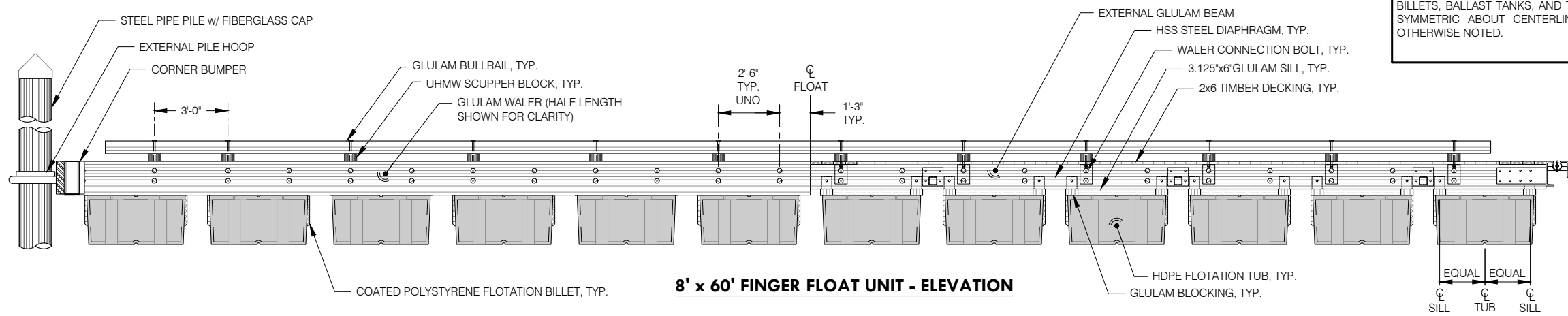
F10

F10 - 10x63 Module

02/21/2023

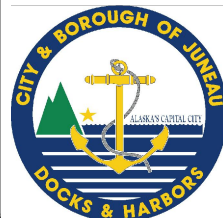


8' x 60' FINGER FLOAT UNIT - PLAN



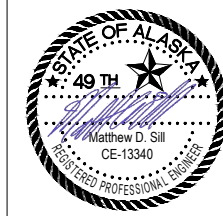
NOTE:
TYPICAL FLOAT UNIT COMPONENTS INCLUDING HSS DIAPHRAGMS, GLULAM SILLS, FLOTATION TUBS, FLOTATION BILLETS, BALLAST TANKS, AND TYPICAL TIMBER FRAMING ARE SYMMETRIC ABOUT CENTERLINE OF FLOAT UNIT, UNLESS OTHERWISE NOTED.

F11 - 8x60 Finger Module



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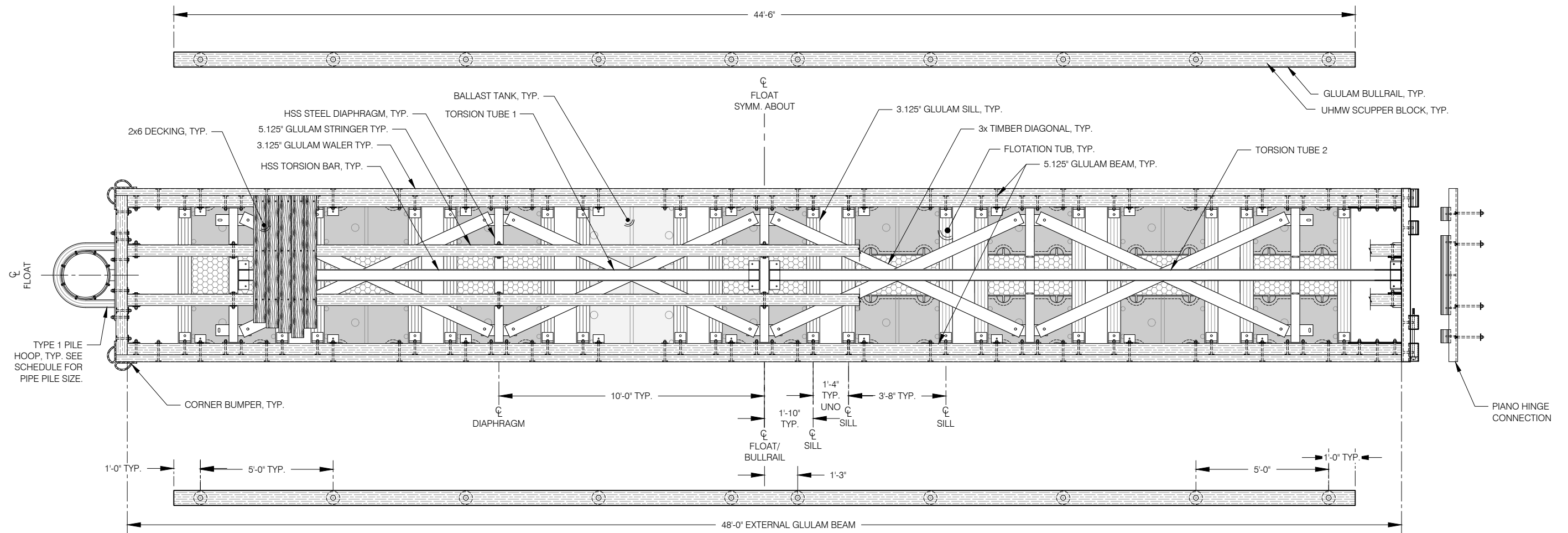


8x60 FINGER FLOAT PLAN & ELEVATION

AURORA HARBOR REBUILD - PHASE III

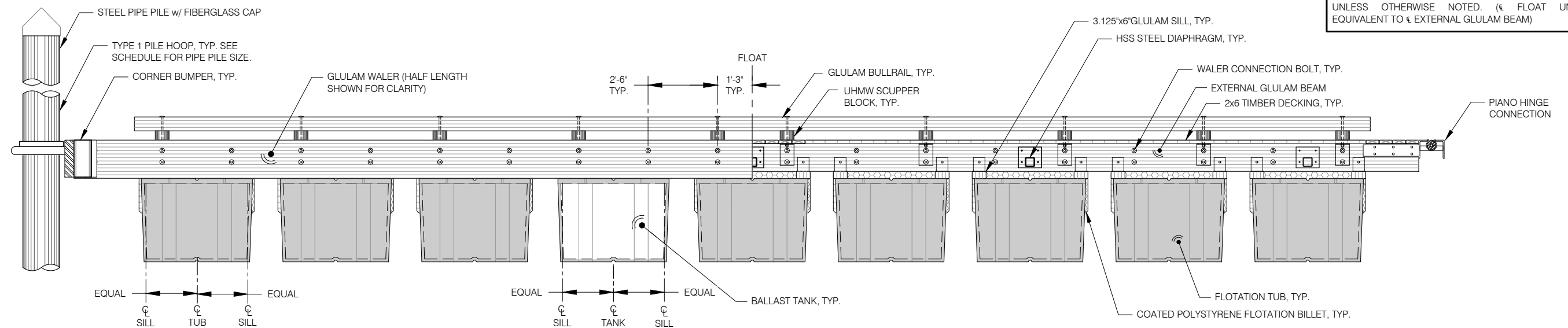
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6' x 48' FINGER FLOAT MODULE - PLAN

NOTE:
TYPICAL FLOAT UNIT COMPONENTS INCLUDING HSS DIAPHRAGMS, GLULAM SILLS, FLOTATION BILLET, DIAGONALS AND TYPICAL TIMBER FRAMING ARE SYMMETRIC ABOUT CENTERLINE OF FLOAT UNIT, UNLESS OTHERWISE NOTED. (€ FLOAT UNIT EQUIVALENT TO € EXTERNAL GLULAM BEAM)

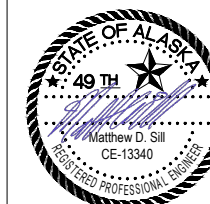


6' x 48' FINGER FLOAT MODULE - ELEVATION

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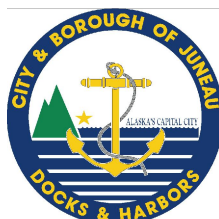


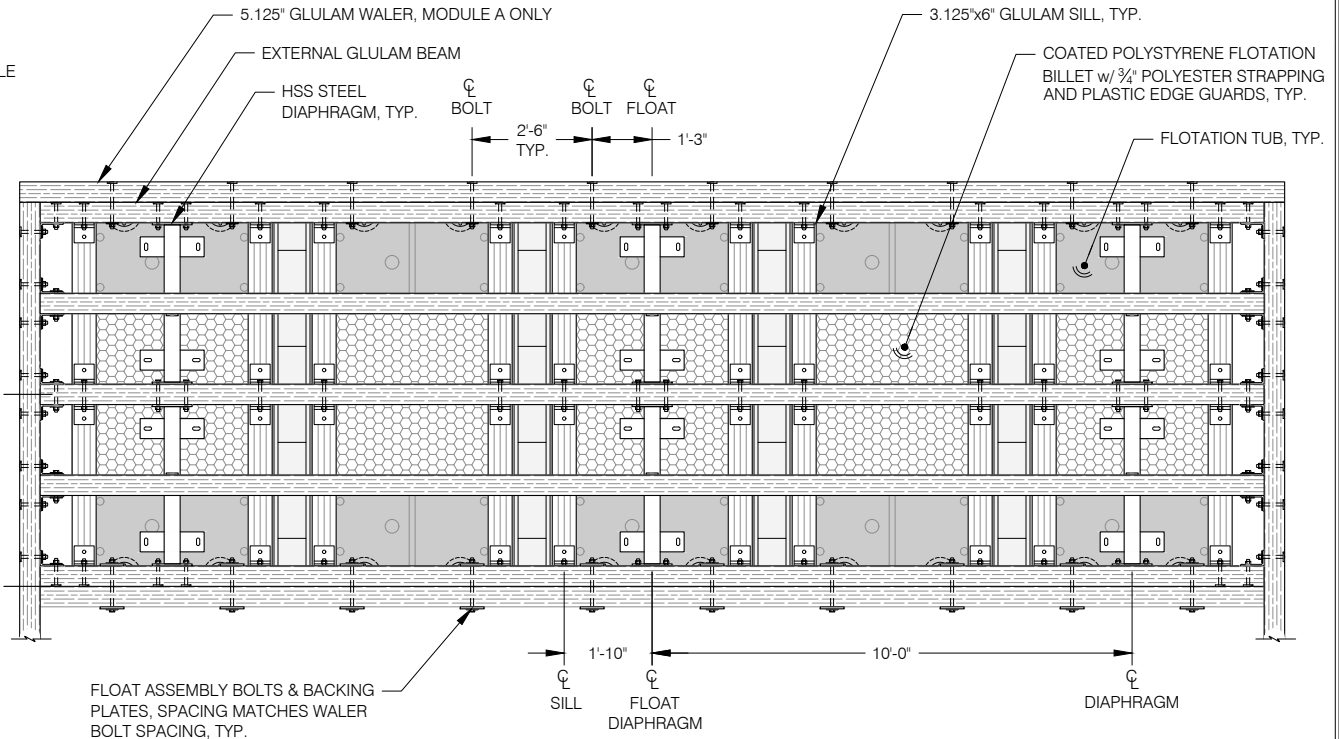
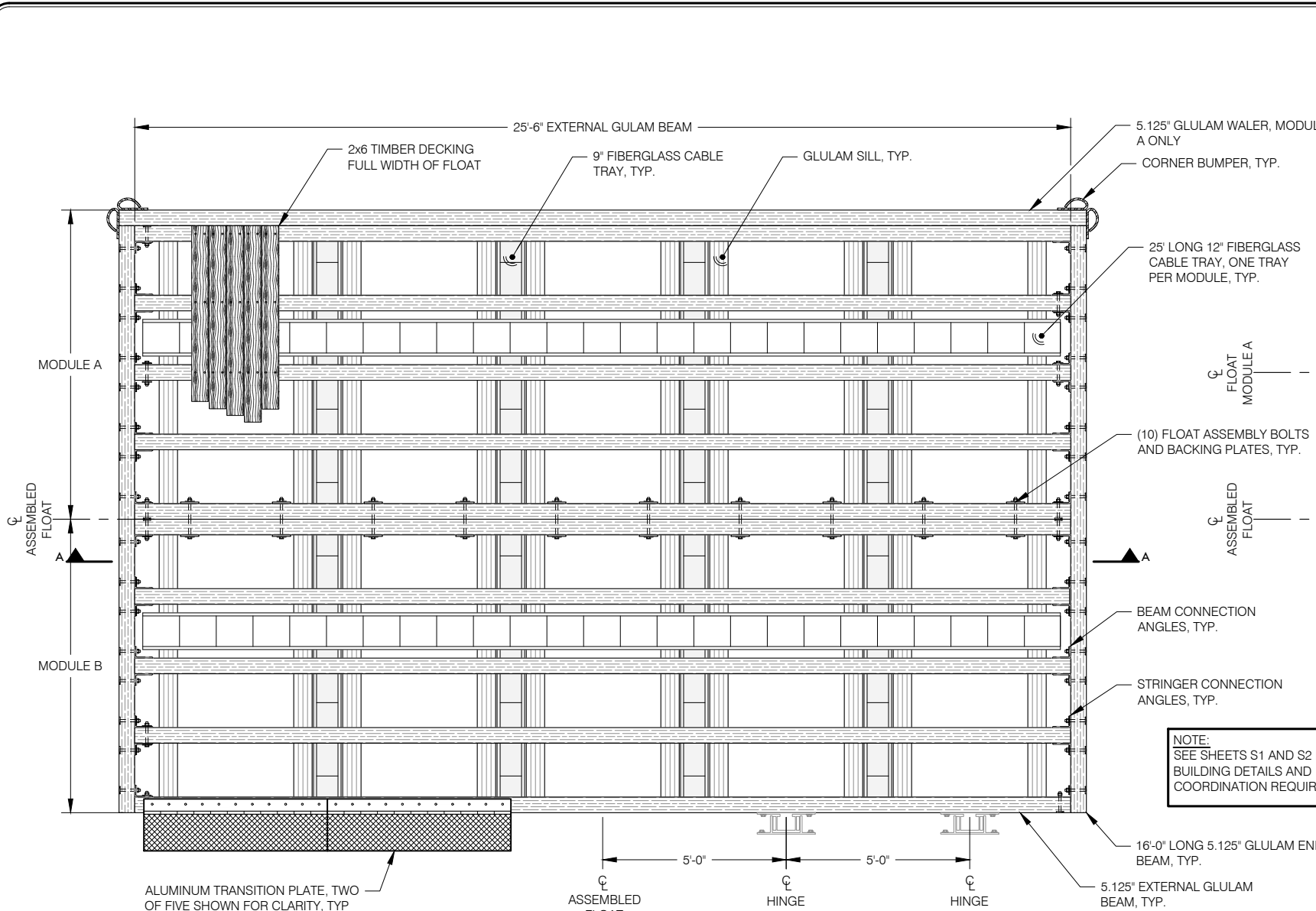
6x48 FINGER FLOAT PLAN & ELEVATION

AURORA HARBOR REBUILD - PHASE III

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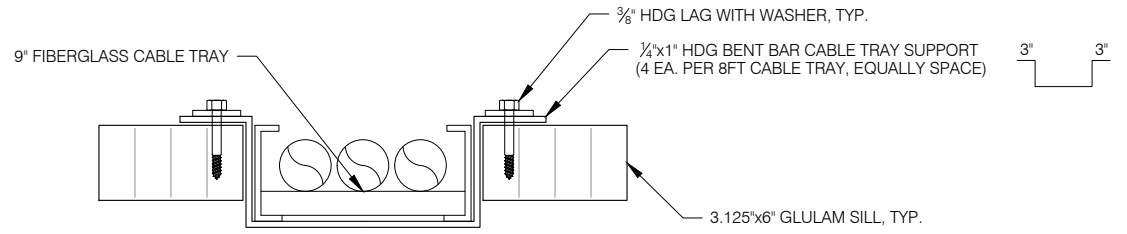
F12





8' x 25' ELECTRICAL EQUIPMENT FLOAT MODULE A
(MODULE B SIMILAR, MIRRORRED ABOUT ASSEMBLY CL)

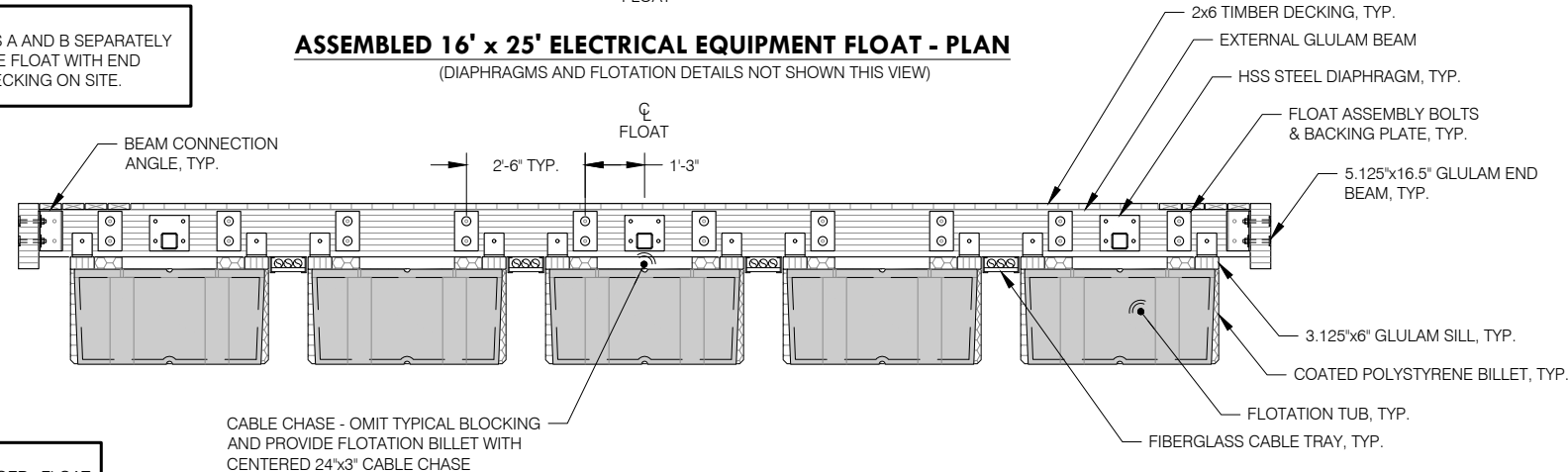
NOTE:
SEE SHEETS S1 AND S2 FOR UTILITY
BUILDING DETAILS AND
COORDINATION REQUIREMENTS



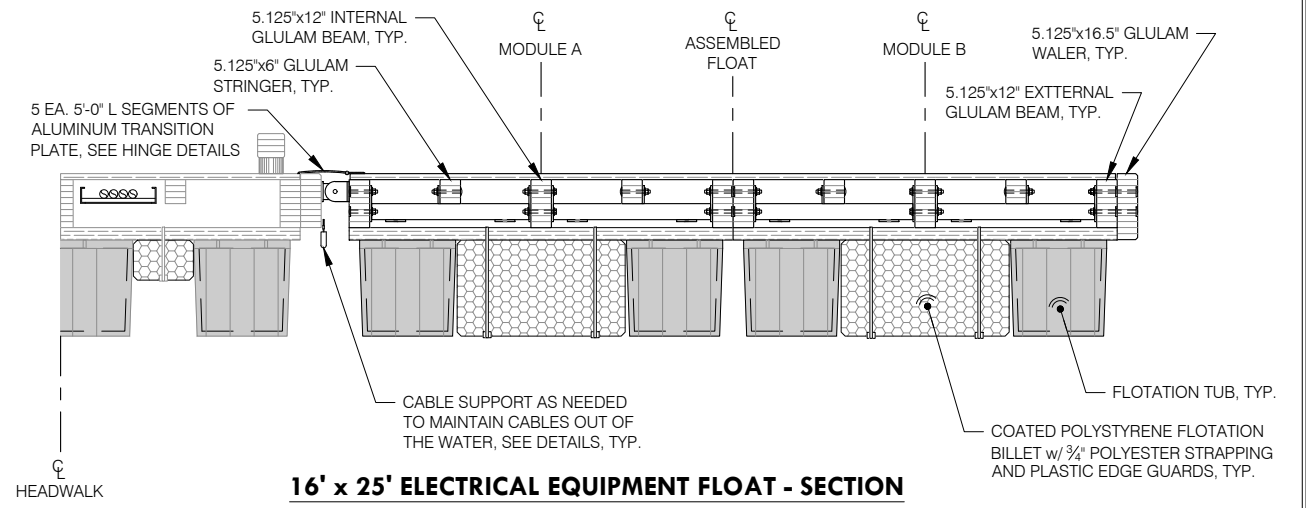
CABLE TRAY SUPPORT BETWEEN FLOAT SILLS

NOTE:
SHIP MODULES A AND B SEPARATELY
AND ASSEMBLE FLOAT WITH END
BEAMS AND DECKING ON SITE.

ASSEMBLED 16' x 25' ELECTRICAL EQUIPMENT FLOAT - PLAN
(DIAPHRAGMS AND FLOTATION DETAILS NOT SHOWN THIS VIEW)



16' x 25' ELECTRICAL EQUIPMENT FLOAT SECTION A-A

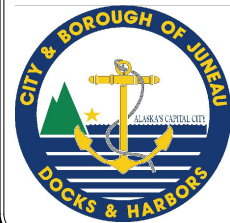


16' x 25' ELECTRICAL EQUIPMENT FLOAT - SECTION

NOTE:
SEE 8x60 FINGER FLOAT
FOR DETAILS NOT SHOWN.
OMIT ALL BLOCKING, THIS
FLOAT ONLY.

CABLE CHASE - OMIT TYPICAL BLOCKING
AND PROVIDE FLOTATION BILLET WITH
CENTERED 24\"/>

F13 - 16x24 ELECTRICAL EQUIPMENT FLOAT



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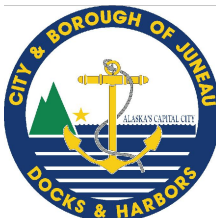
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PHONE: 907-586-0292



16x25 ELECTRICAL EQUIPMENT FLOAT
AURORA HARBOR REBUILD - PHASE III

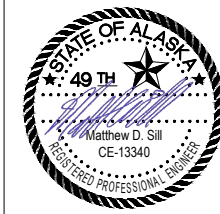
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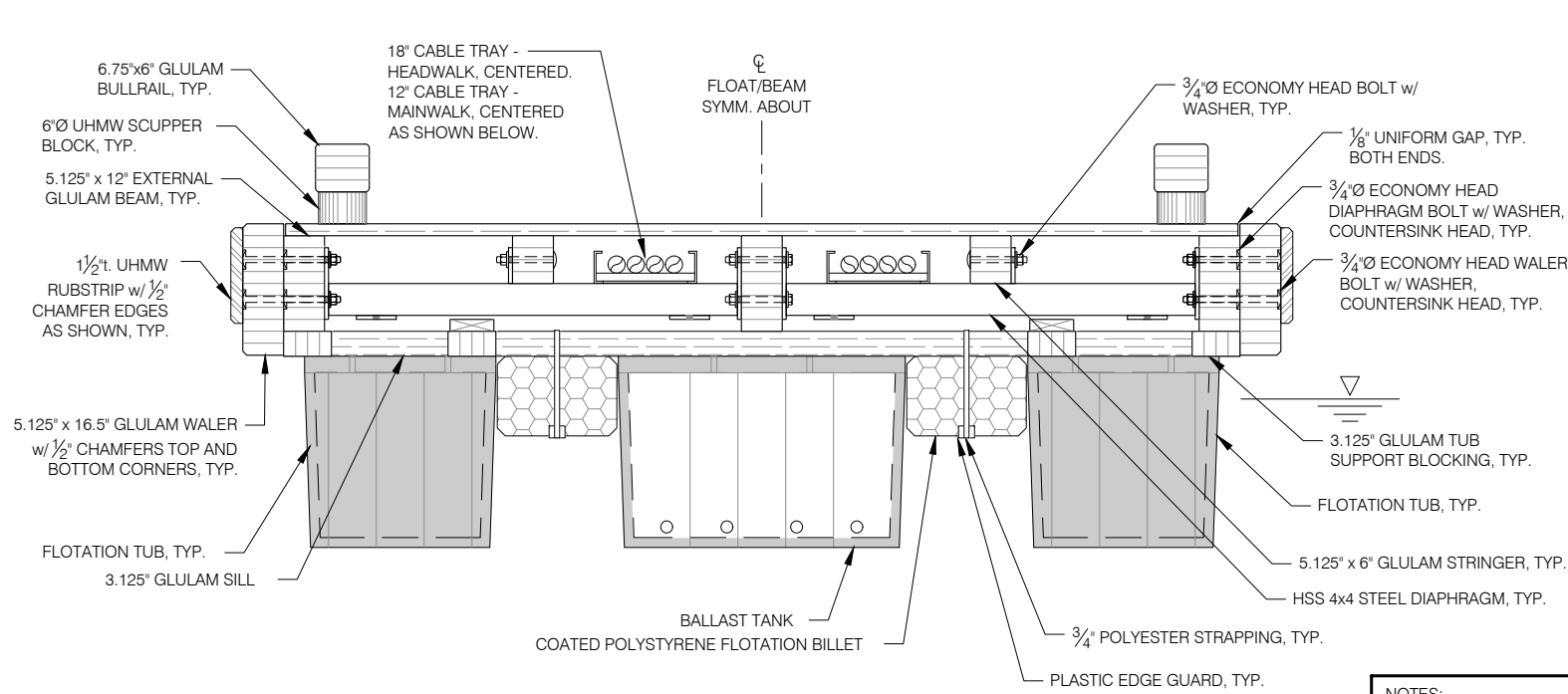


TYPICAL 8' & 10' FLOAT SECTIONS

AURORA HARBOR REBUILD - PHASE III

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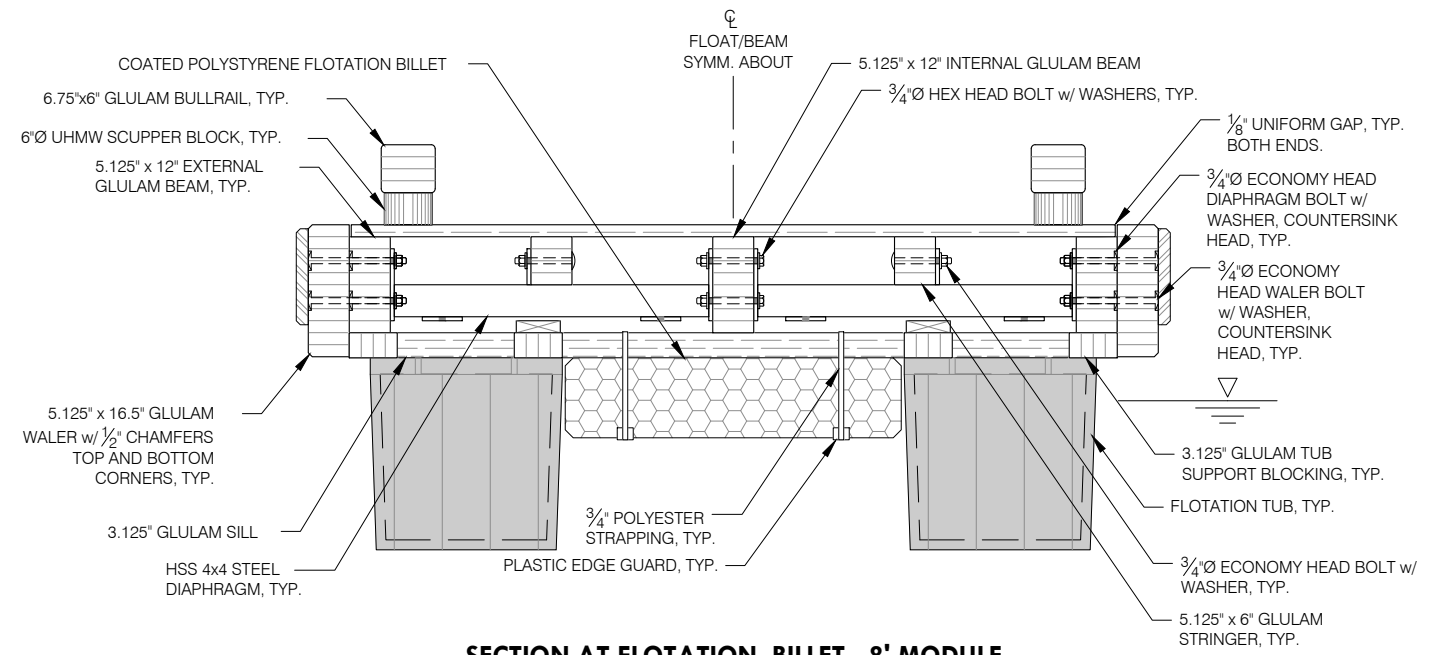
F14



SECTION AT DIAPHRAGMS - 10' MODULE

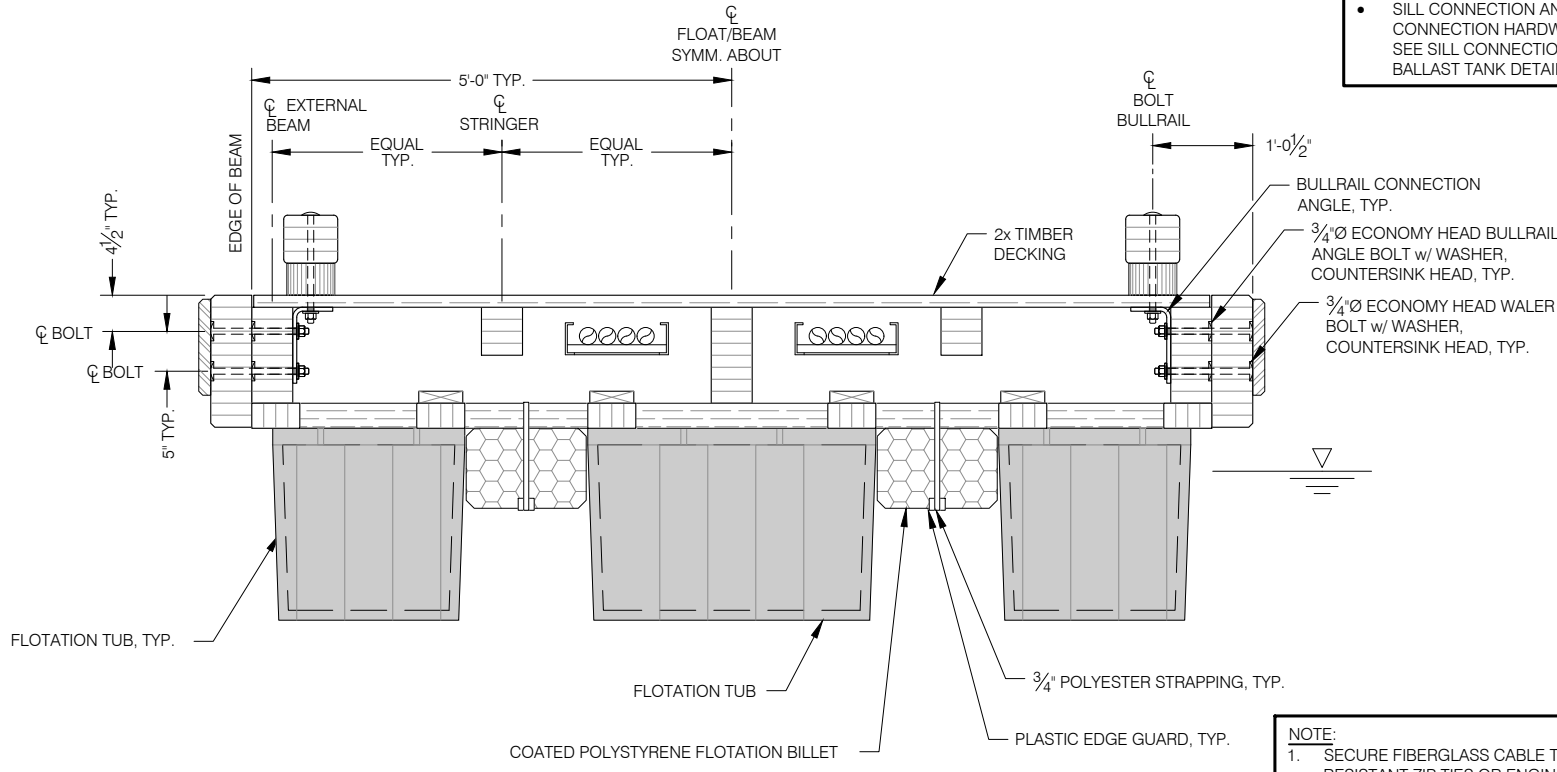
NOTE: DETAILS NOT SHOWN SIMILAR TO 10' SECTION BETWEEN DIAPHRAGMS.

- NOTES:**
- FURNISH CABLE TRAY FULL LENGTH OF FLOAT, FULL STRENGTH SPLICE CABLE TRAY PER MANUFACTURE RECOMMENDATIONS.
 - SILL CONNECTION ANGLES AND TUB/TANK CONNECTION HARDWARE NOT SHOWN FOR CLARITY, SEE SILL CONNECTION SECTION, FLOTATION TUB AND BALLAST TANK DETAILS.



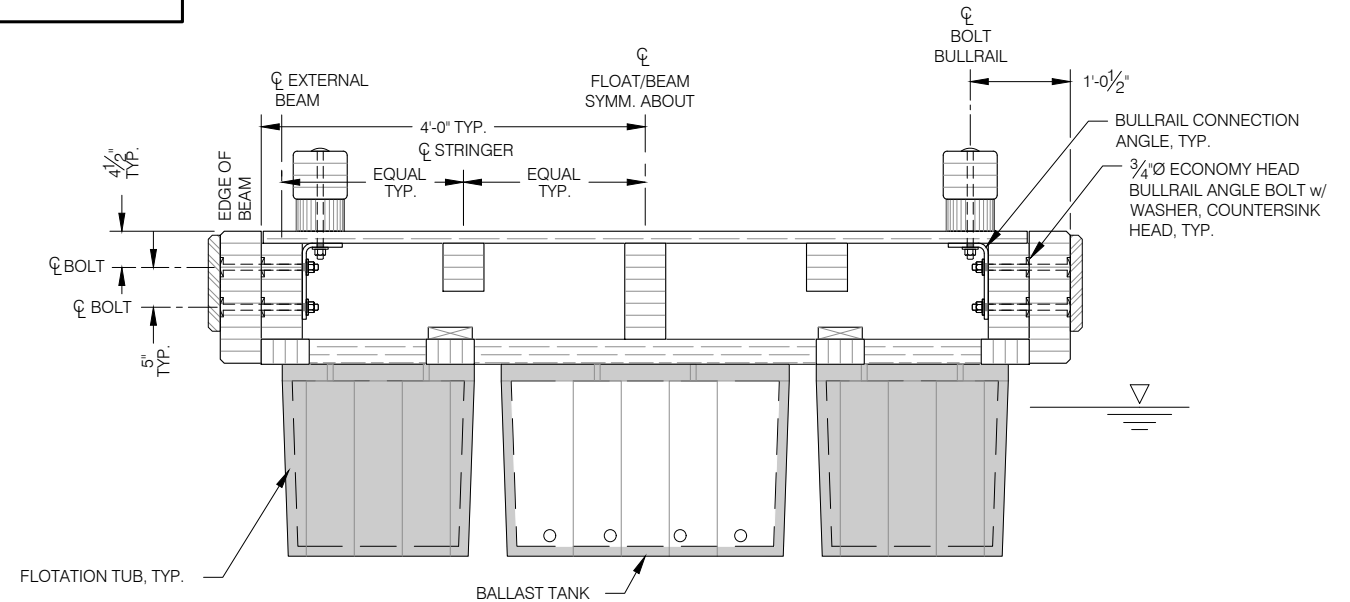
SECTION AT FLOTATION BILLET - 8' MODULE

NOTE: DETAILS NOT SHOWN SIMILAR TO 8' SECTION AT BALLAST TANK AND FLOTATION TUB.



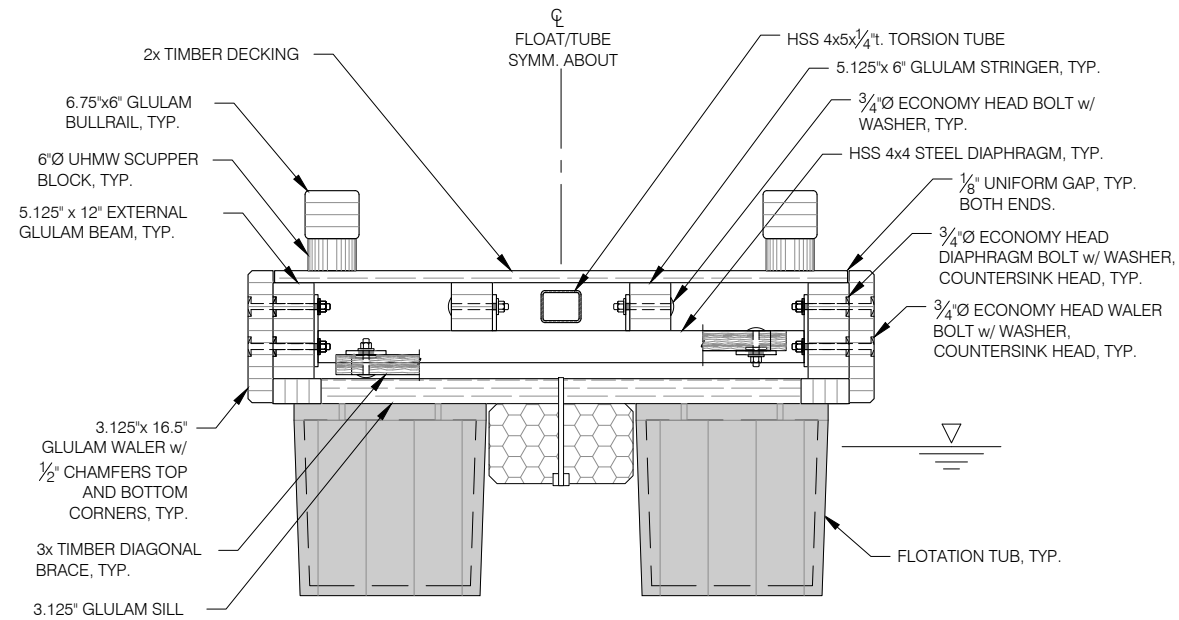
SECTION BETWEEN DIAPHRAGMS - 10' MODULE

NOTE: DETAILS NOT SHOWN SIMILAR TO 10' DIAPHRAGM SECTION.



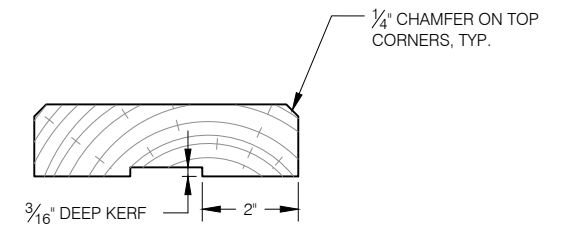
SECTION AT BALLAST TANK - 8' MODULE

NOTE: DETAILS NOT SHOWN SIMILAR TO 8' SECTION AT FLOTATION BILLET AND FLOTATION TUB.



SECTION AT FLOTATION TUB - 6' MODULE

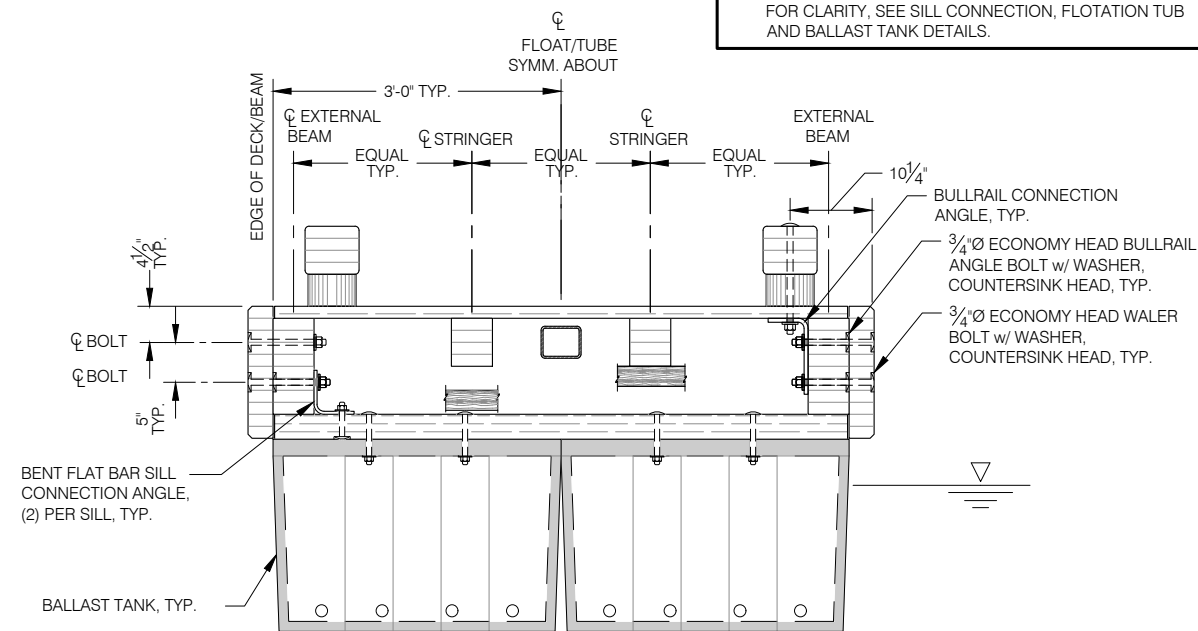
NOTE: DETAILS NOT SHOWN SIMILAR TO 6' SECTION AT BALLAST TANK SECTION



2x6 DECKING PROFILE
(2x8 DECKING SIMILAR)

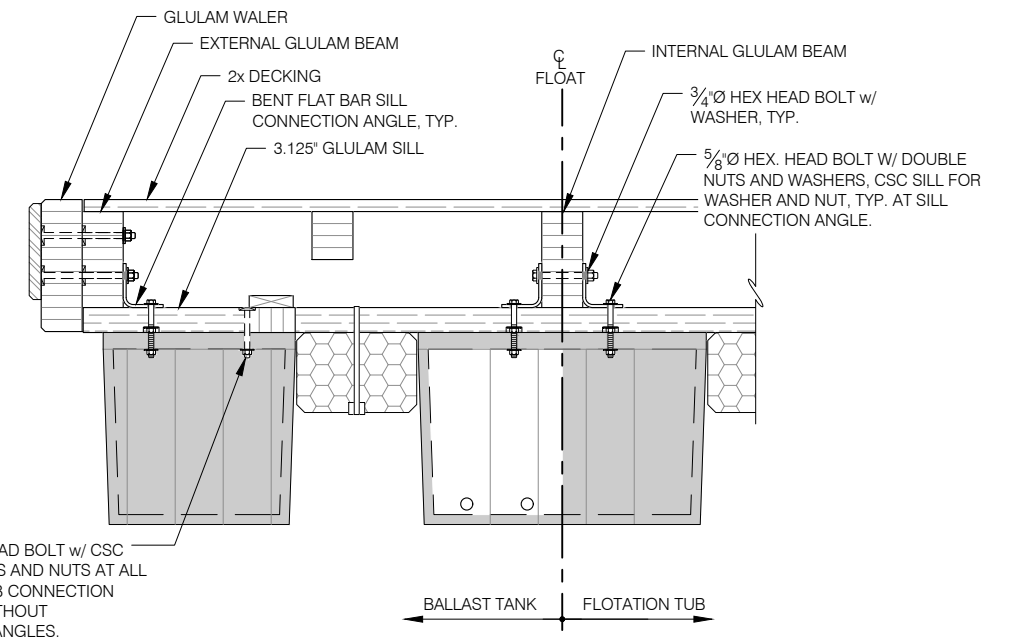
- NOTES:**
1. SEE SPECIFICATIONS FOR COMPLETE DECKING REQUIREMENTS.
 2. NO DECKING SHALL BE INCORPORATED INTO THE WORK THAT FALLS OUTSIDE OF THE SPECIFIED GRADING.
 3. NO DECKING WITH WANE ON THE TOP OF SURFACE SHALL BE INCORPORATED IN THE WORK.
 4. FASTEN 2x DECKING TO GLULAM w/ 9 GAUGE 16d HOT DIP GALVANIZED SPIRAL SHANK NAILS AS SHOWN IN PLAN.
 5. PREDRILL ALL DECKING. SIZE HOLE AS REQUIRED PER AITC TO PREVENT SPLITTING.

- NOTES:**
- SILL CONNECTION ANGLES AND TUB/TANK CONNECTION HARDWARE NOT SHOWN IN SECTIONS FOR CLARITY, SEE SILL CONNECTION, FLOTATION TUB AND BALLAST TANK DETAILS.



SECTION AT BALLAST TANK - 6' MODULE

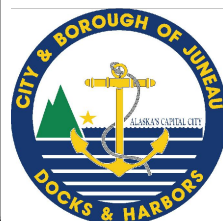
NOTE: DETAILS NOT SHOWN SIMILAR TO 6' SECTION AT FLOTATION TUB. SILL CONNECTION ANGLES OMITTED FOR CLARITY.



TYPICAL SECTION AT SILL CONNECTION

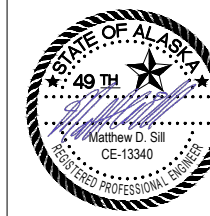
NOTE: 10' WIDE SECTION SHOWN, 8' AND 6' FLOAT SECTIONS SIMILAR.

F13 & F14 - Typical Float Sections



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JUNEAU, ALASKA 99801
PHONE: 907-586-0292

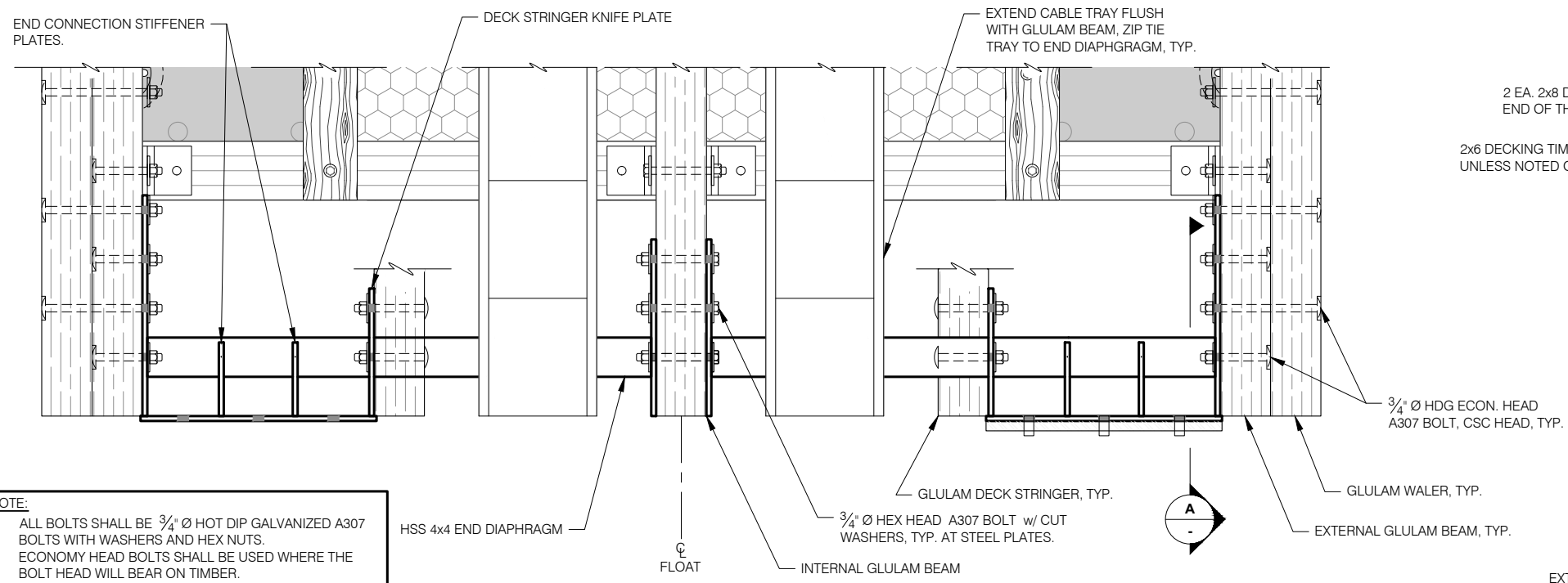


TYPICAL 6' FLOAT SECTIONS & DETAILS

AURORA HARBOR REBUILD - PHASE III

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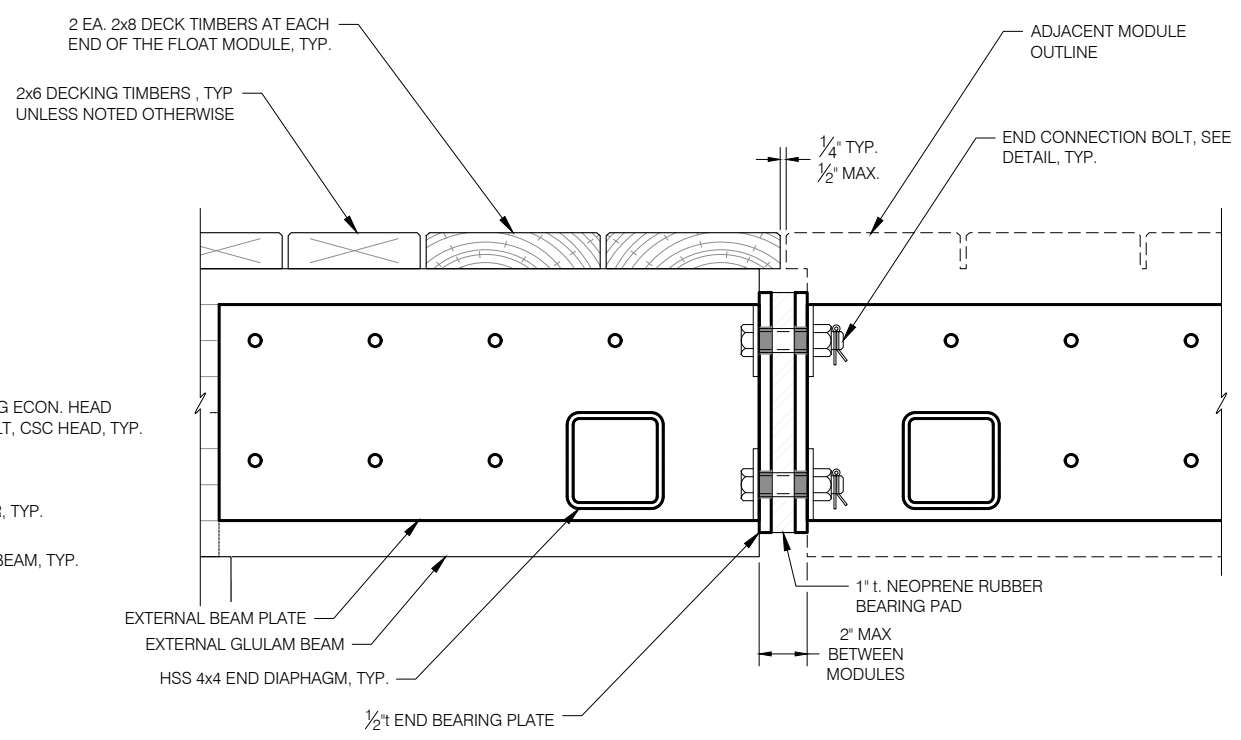
F15



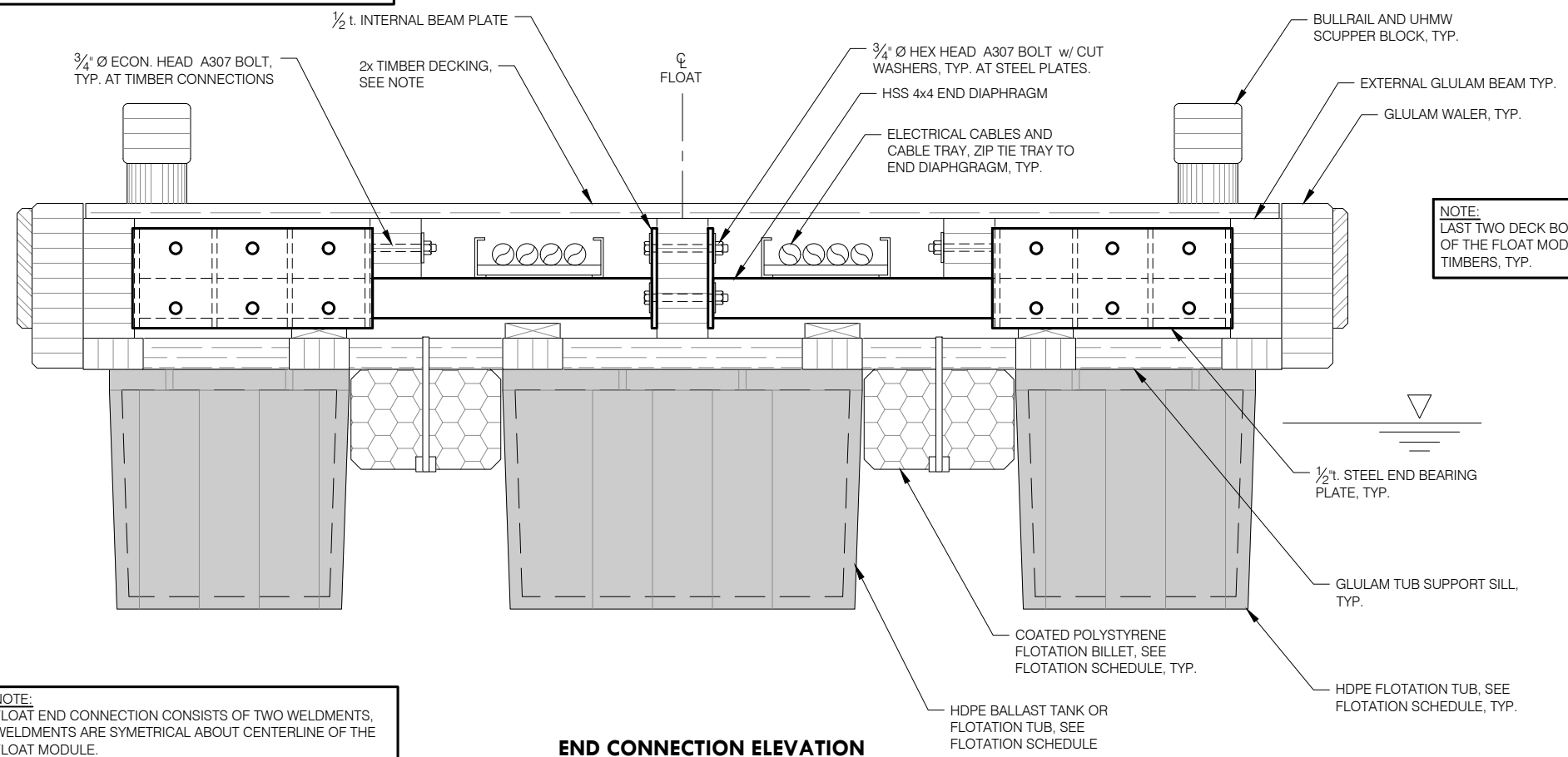
NOTE:

- ALL BOLTS SHALL BE 3/4" Ø HOT DIP GALVANIZED A307 BOLTS WITH WASHERS AND HEX NUTS.
- ECONOMY HEAD BOLTS SHALL BE USED WHERE THE BOLT HEAD WILL BEAR ON TIMBER.
- HEX HEAD BOLTS SHALL BE USED WHERE THE BOLT HEAD WILL BEAR ON STEEL.
- HEX NUTS SHALL BE INSTALLED WITH CUT WASHERS, TO PROTECT GALVANIZED COATING DURING INSTALLATION.

END CONNECTION PLAN



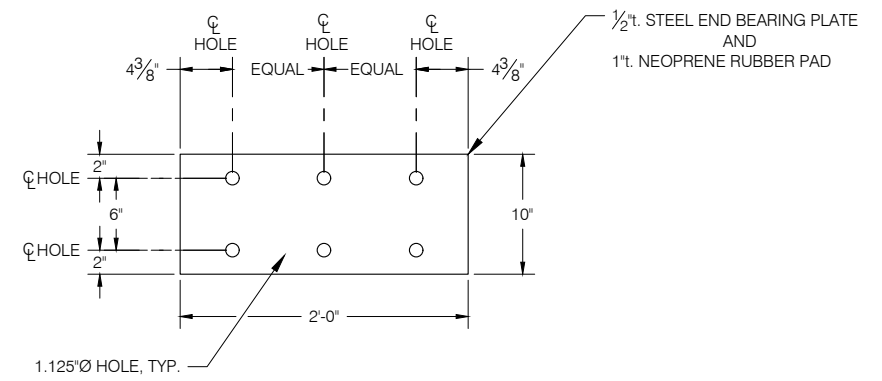
END CONNECTION ASSEMBLY (SECTION A THIS SHEET)



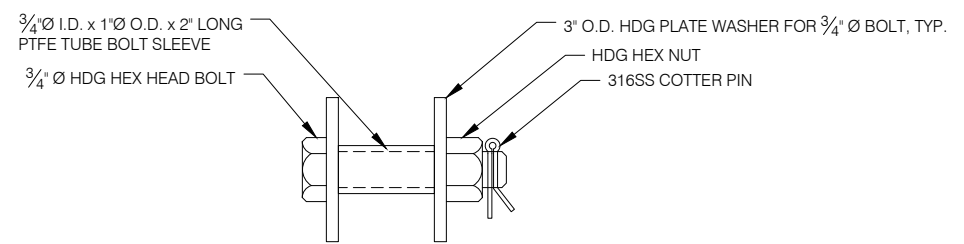
NOTE:
LAST TWO DECK BOARDS AT EACH END OF THE FLOAT MODULE SHALL BE 2x8 TIMBERS, TYP.

NOTE:
FLOAT END CONNECTION CONSISTS OF TWO WELDMENTS, WELDMENTS ARE SYMMETRICAL ABOUT CENTERLINE OF THE FLOAT MODULE.

END CONNECTION ELEVATION

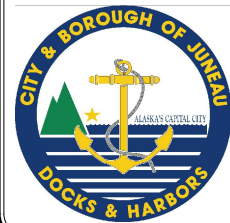


END BEARING PLATE AND BEARING PAD



END CONNECTION BOLT DETAIL

F16 F17 - END CONNECTIONS



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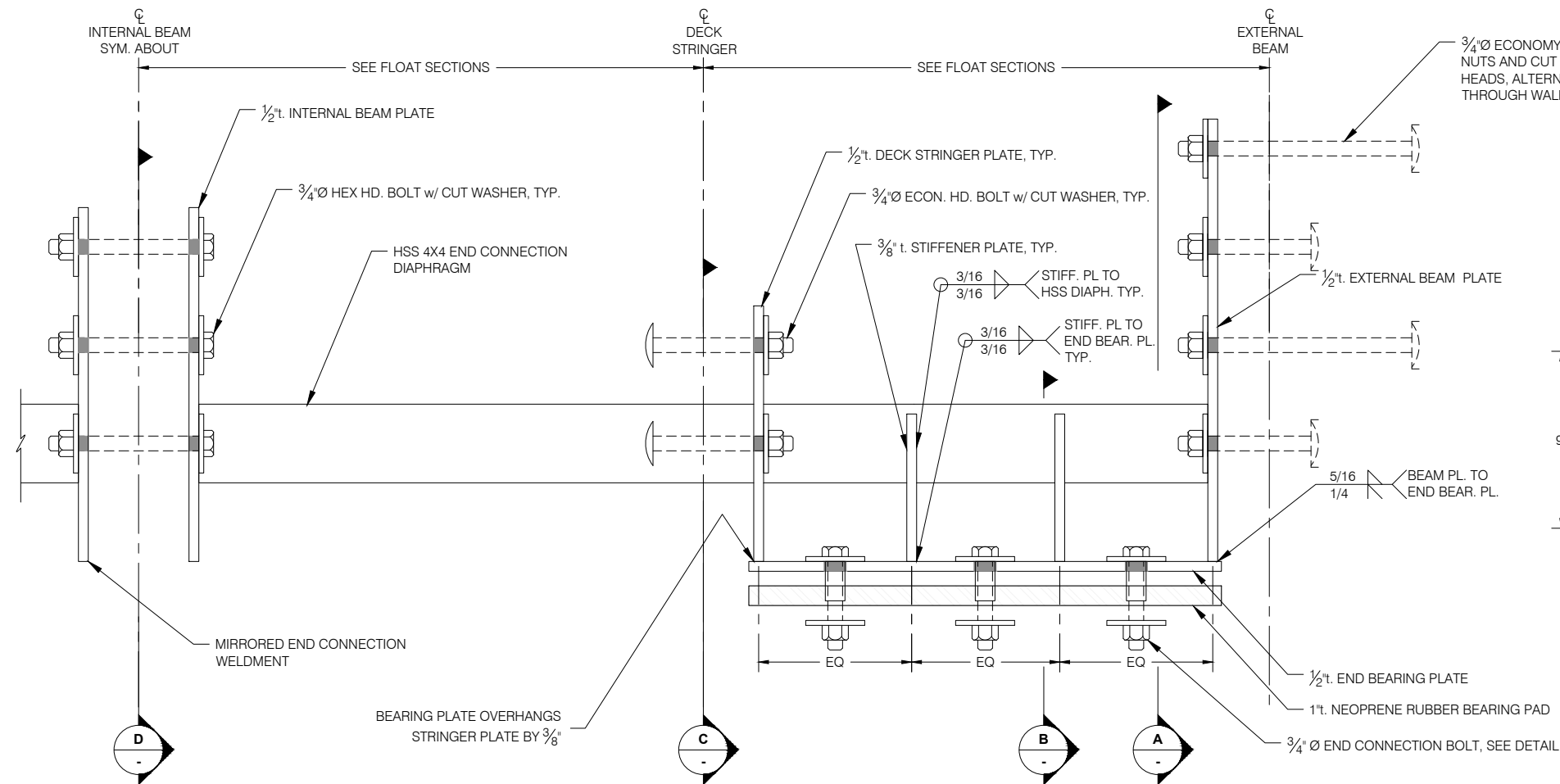


END CONNECTION PLANS & ELEVATIONS

AURORA HARBOR REBUILD - PHASE III

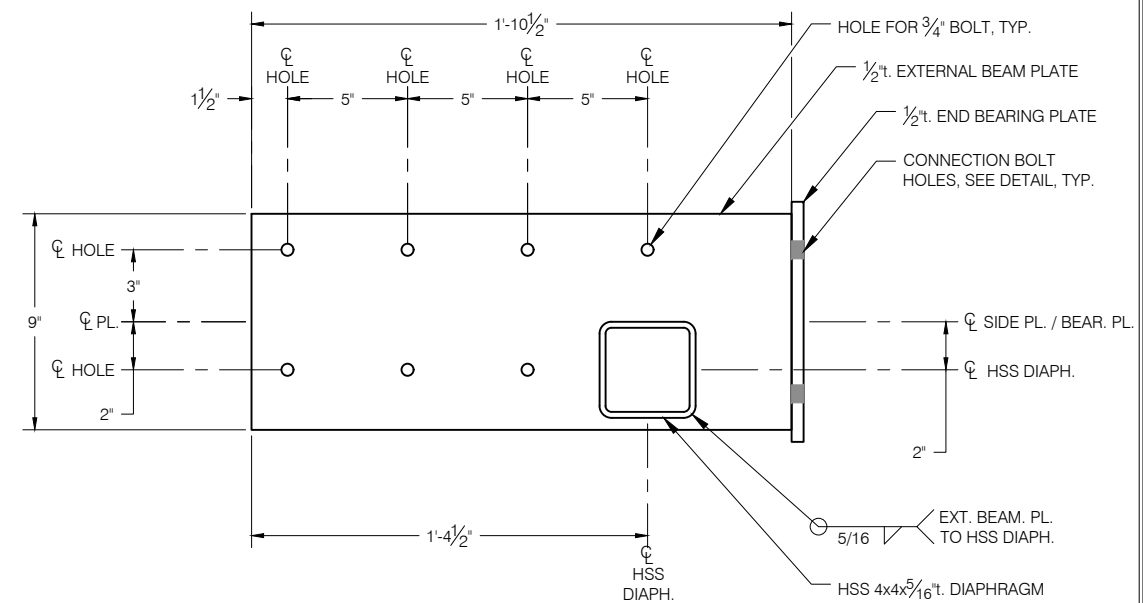
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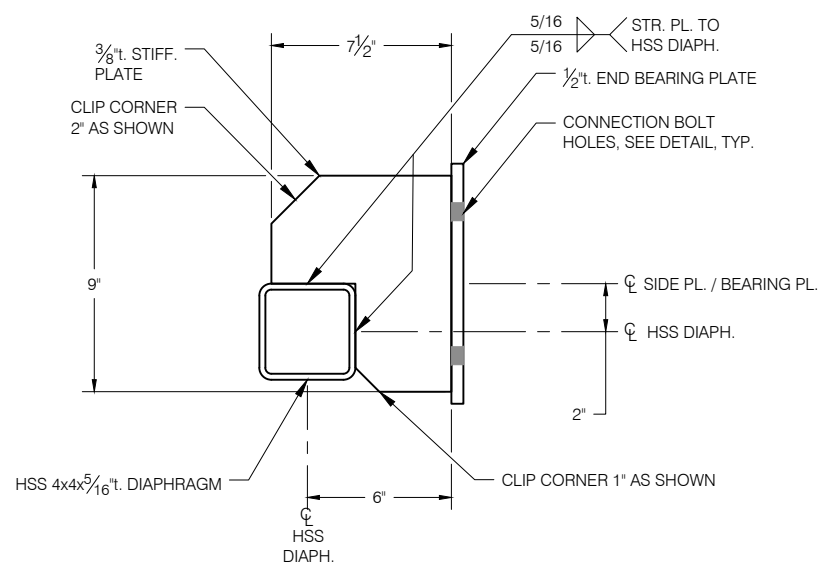


END CONNECTION WELDMENT PLAN

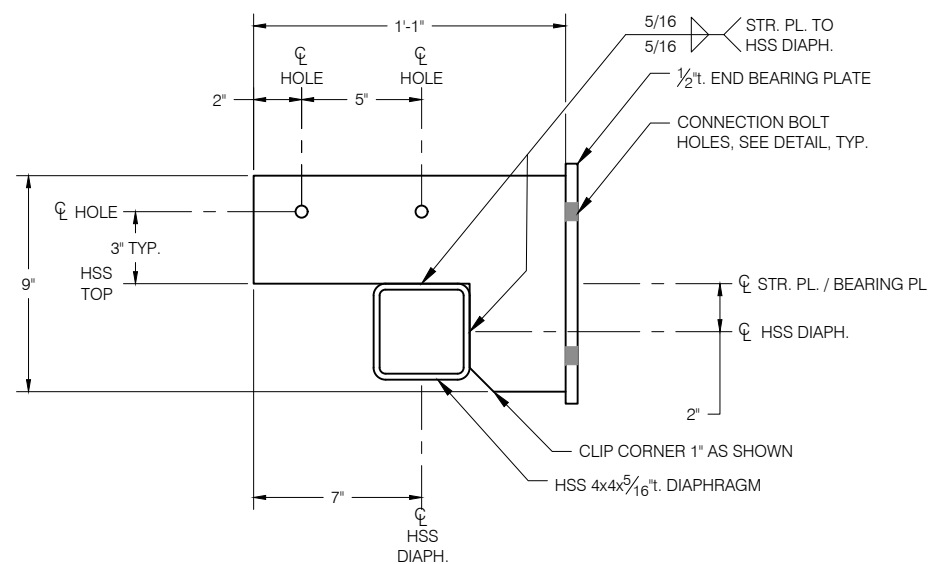
(TWO WELDMENTS PER END OF FLOAT, MIRROR WELDMENT FOR OTHER HAND)



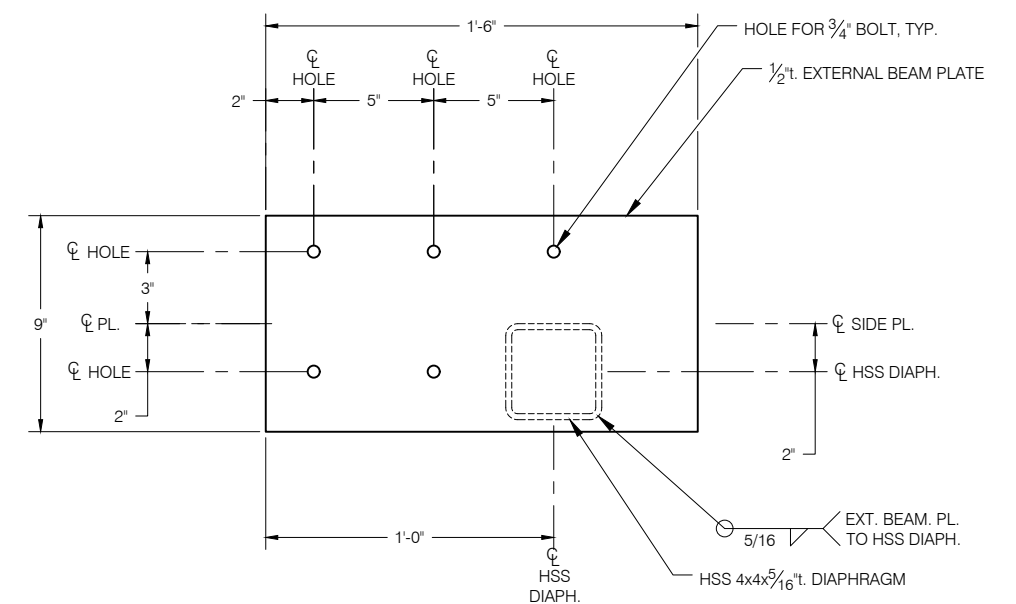
SECTION A - EXTERNAL BEAM PLATE



SECTION B - STIFFENER PLATE

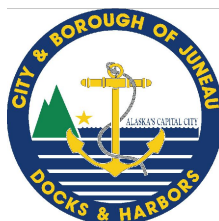


SECTION C - DECK STRINGER PLATE



SECTION D - INTERNAL BEAM PLATE

F16 F17 - END CONNECTIONS



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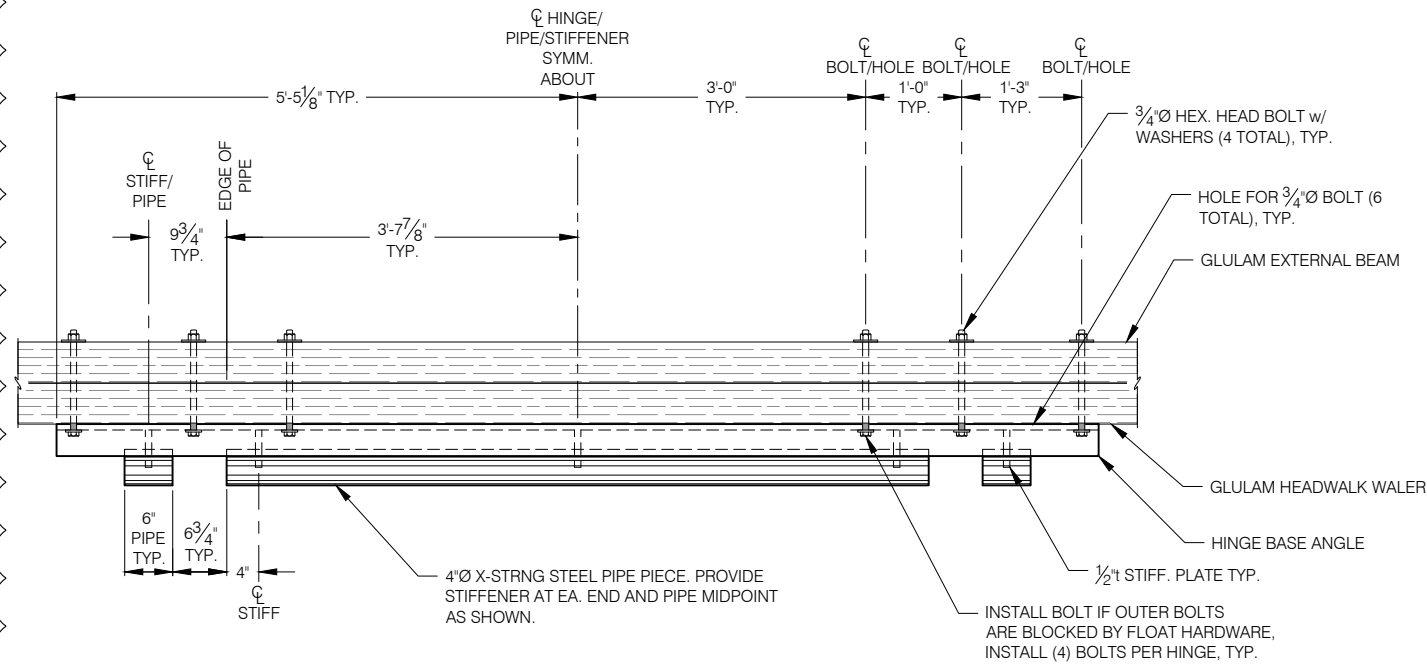


END CONNECTION DETAILS

AURORA HARBOR REBUILD - PHASE III

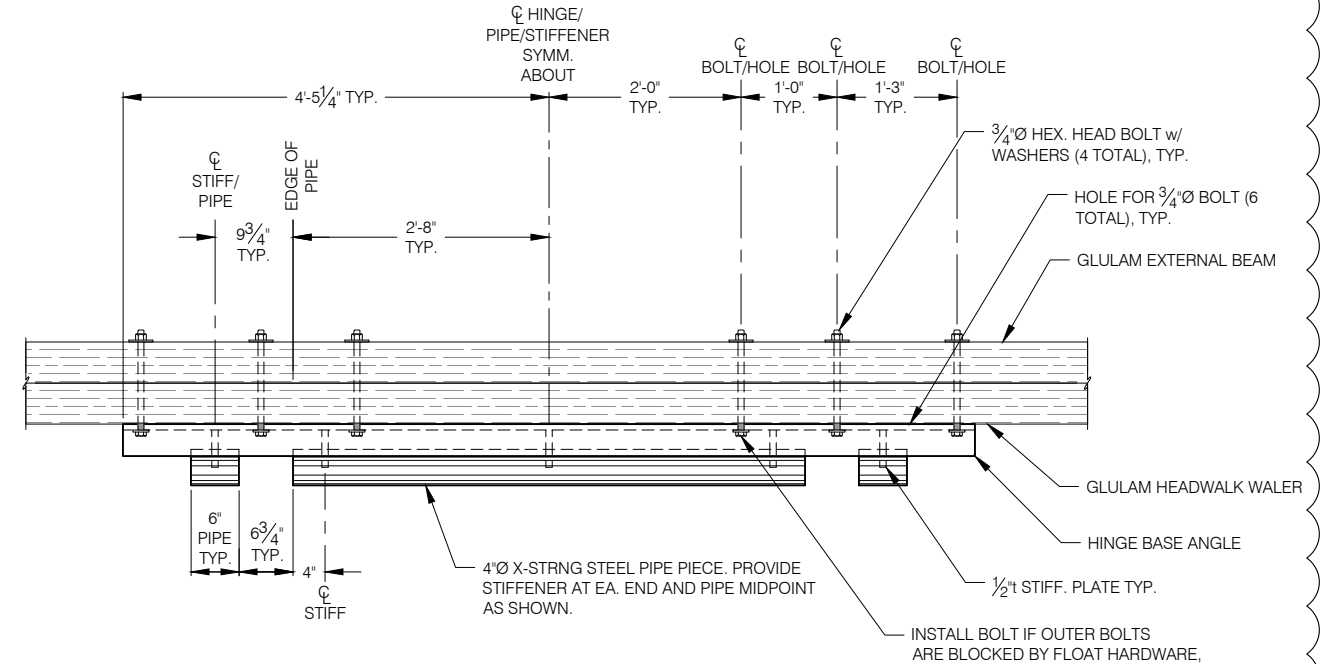
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F17



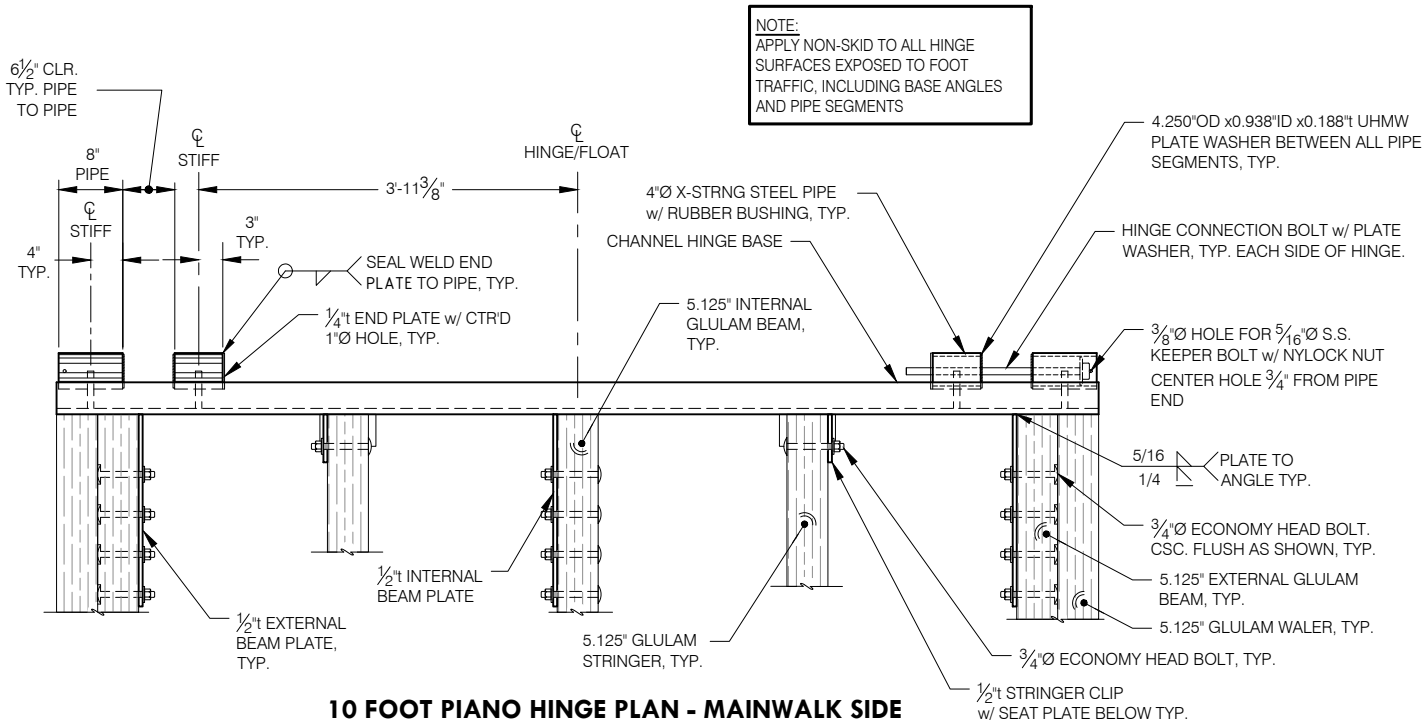
10 FOOT PIANO HINGE PLAN - HEADWALK & TEE FLOAT SIDE

NOTE: 10' WIDE SECTION SHOWN, 8' AND 6' FLOAT SECTIONS SIMILAR.



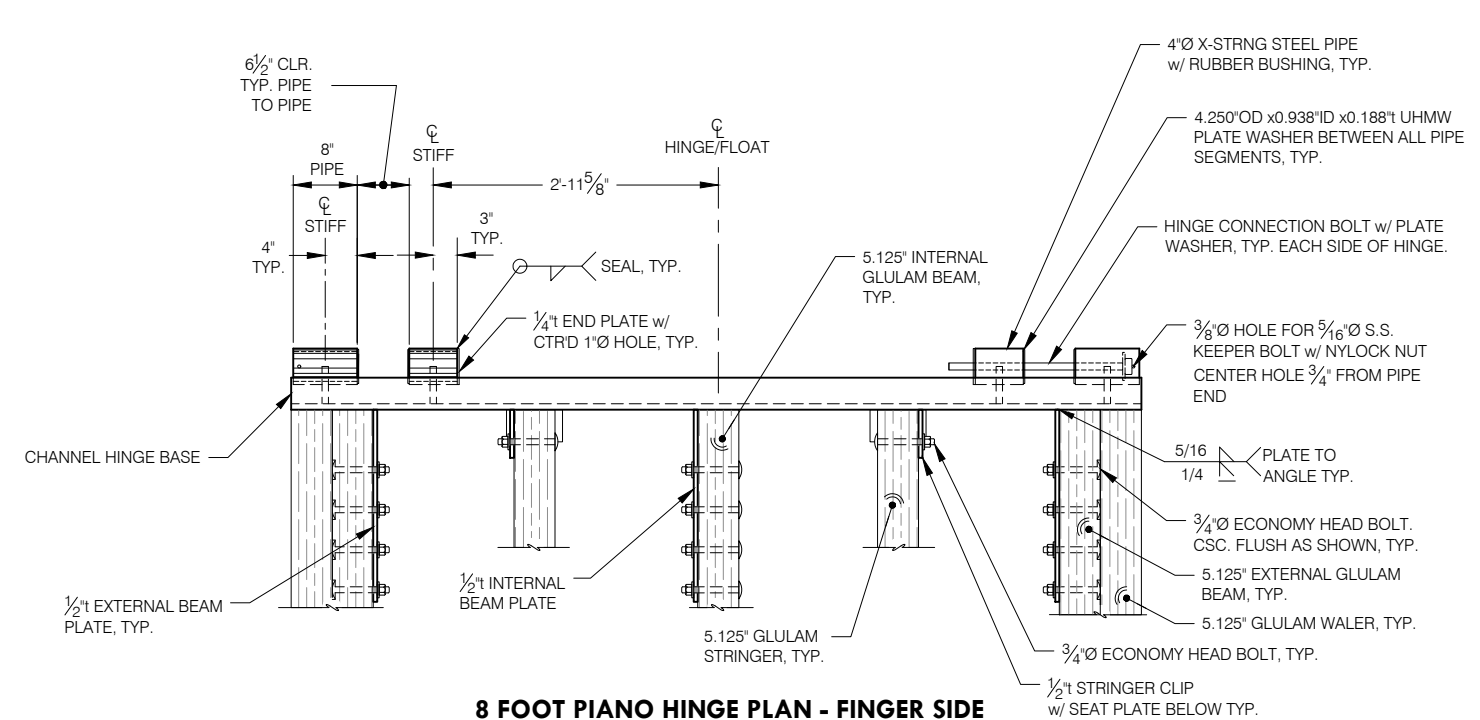
8 FOOT PIANO HINGE PLAN - HEADWALK SIDE

(8 FOOT PIANO HINGE SHOWN FOR 8x60 FINGER FLOAT AT HEADWALK)



10 FOOT PIANO HINGE PLAN - MAINWALK SIDE

NOTE: 10' WIDE SECTION SHOWN, 8' AND 6' FLOAT SECTIONS SIMILAR.



8 FOOT PIANO HINGE PLAN - FINGER SIDE

(8 FOOT PIANO HINGE SHOWN FOR 8x60 FINGER FLOAT)

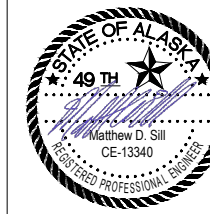
NOTE:
APPLY NON-SKID TO ALL HINGE SURFACES EXPOSED TO FOOT TRAFFIC, INCLUDING BASE ANGLES AND PIPE SEGMENTS

F18 F19 F20 - Piano Hinge Details



REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP
ADD. 1	02/28/2023	REVISE BOLT SPACING	MDS	CU	CU

CITY AND BOROUGH OF JUNEAU
DOCKS & HARBORS
155 SOUTH SEWARD STREET
JUNEAU, ALASKA 99801
PHONE: 907-586-0292

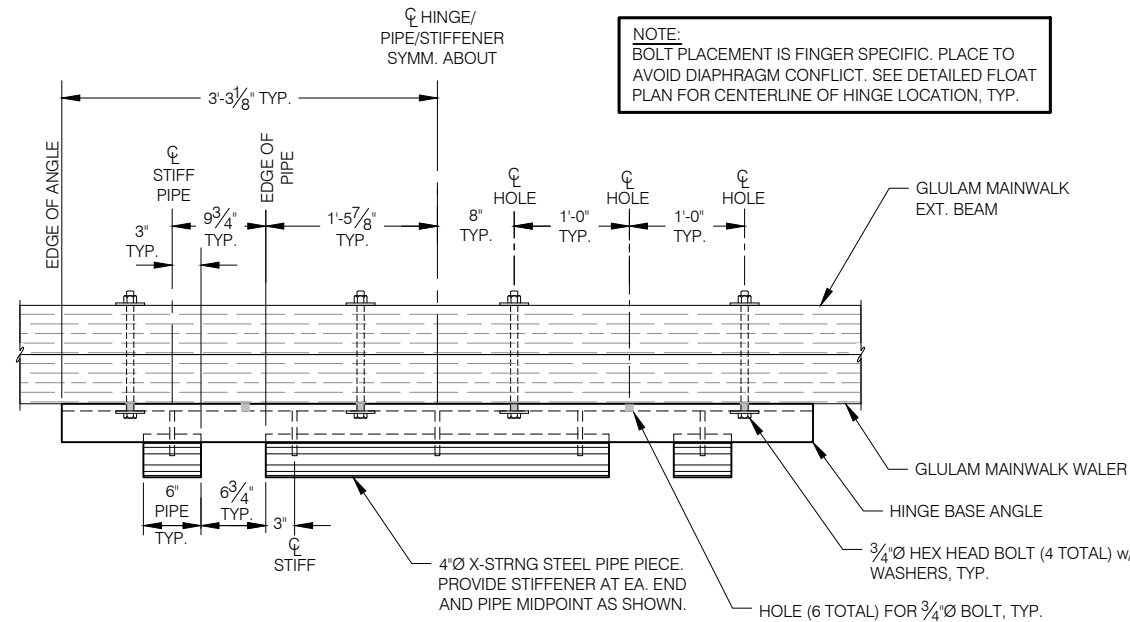


10' & 8' PIANO HINGE PLANS

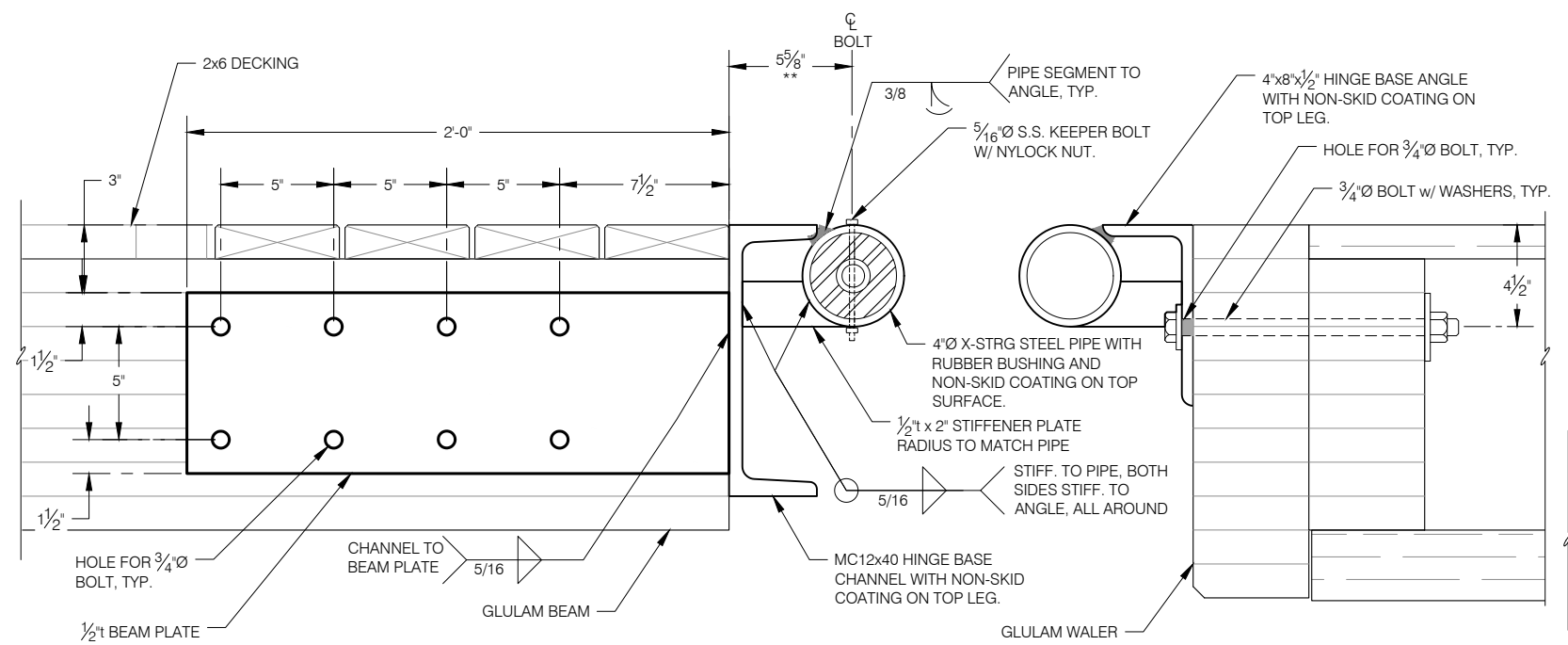
AURORA HARBOR REBUILD - PHASE III

DESIGN:	MS	DATE:	FEBRUARY 21, 2023
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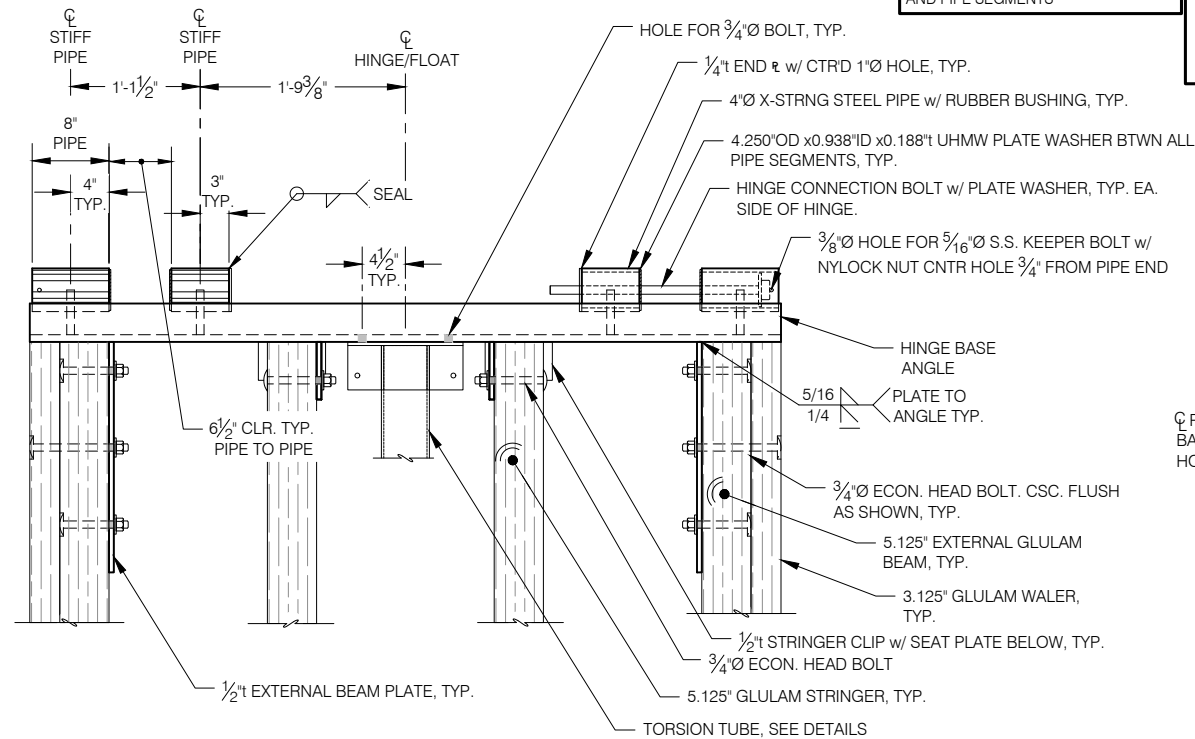
F18



6 FOOT PIANO HINGE PLAN - HEADWALK SIDE
(6 FOOT PIANO HINGE SHOWN FOR 6x48 FINGER FLOAT AT HEADWALK)



10' AND 8' PIANO HINGE SECTION
(NOTE: HINGE HALVES SEPARATED FOR CLARITY, SEE PLAN VIEW)

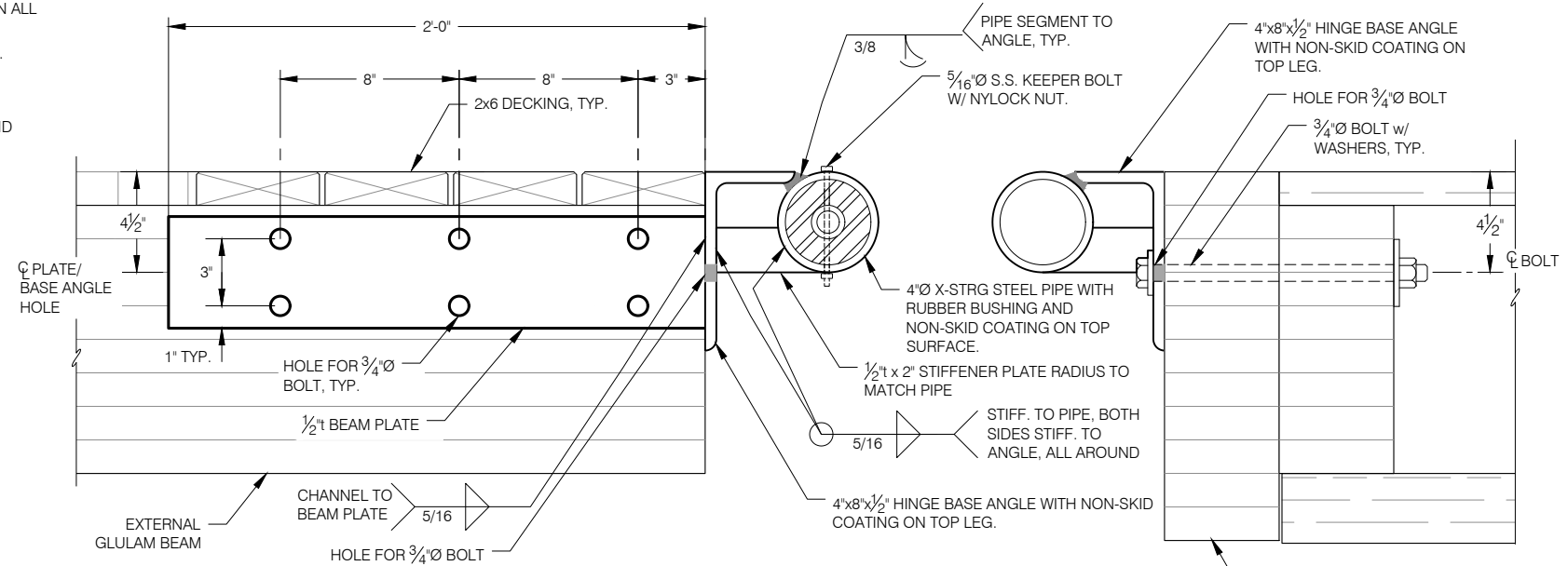


6 FOOT PIANO HINGE PLAN - FINGER SIDE
(6 FOOT PIANO HINGE SHOWN FOR 6x48 FINGER FLOAT)

NOTES:
FABRICATOR TO DRY-FIT HINGE ASSEMBLIES PRIOR TO APPLICATION OF COATINGS TO ENSURE HINGE MOVES FREELY, DOES NOT BIND AND HAS ADEQUATE GAPS BETWEEN PIPE SEGMENTS OF EQUAL SIZE.
** DIMENSION ASSUMED TO BE MINIMUM OF 5 5/8". FABRICATOR SHALL VERIFY DIMENSION REQUIRED FOR TOP OF PIPE SEGMENT TO BE FLUSH WITH TOP OF ANGLE, AND WELDED AS SHOWN. ALSO, PIPE SEGMENT SHALL HAVE ADEQUATE CLEARANCE BETWEEN IT AND THE ANGLE/CHANNEL TOP LEG SUCH THAT WHEN ASSEMBLED, HINGE PIPE SEGMENTS DO NOT RUB AGAINST EDGE OF ANGLE/CHANNEL TOP LEG.

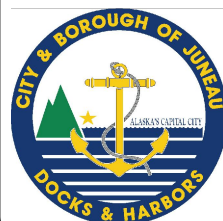
NOTE:
APPLY NON-SKID TO ALL HINGE SURFACES EXPOSED TO FOOT TRAFFIC, INCLUDING BASE ANGLES AND PIPE SEGMENTS

NOTE:
OMIT WALER BOLTS WITHIN LIMITS OF PIANO HINGE CONNECTION, TYP.



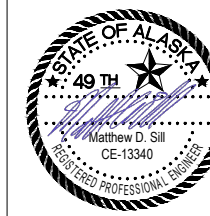
6' PIANO HINGE SECTION
(NOTE: HINGE HALVES SEPARATED FOR CLARITY, SEE PLAN VIEW)

F18 F19 F20 - Piano Hinge Details



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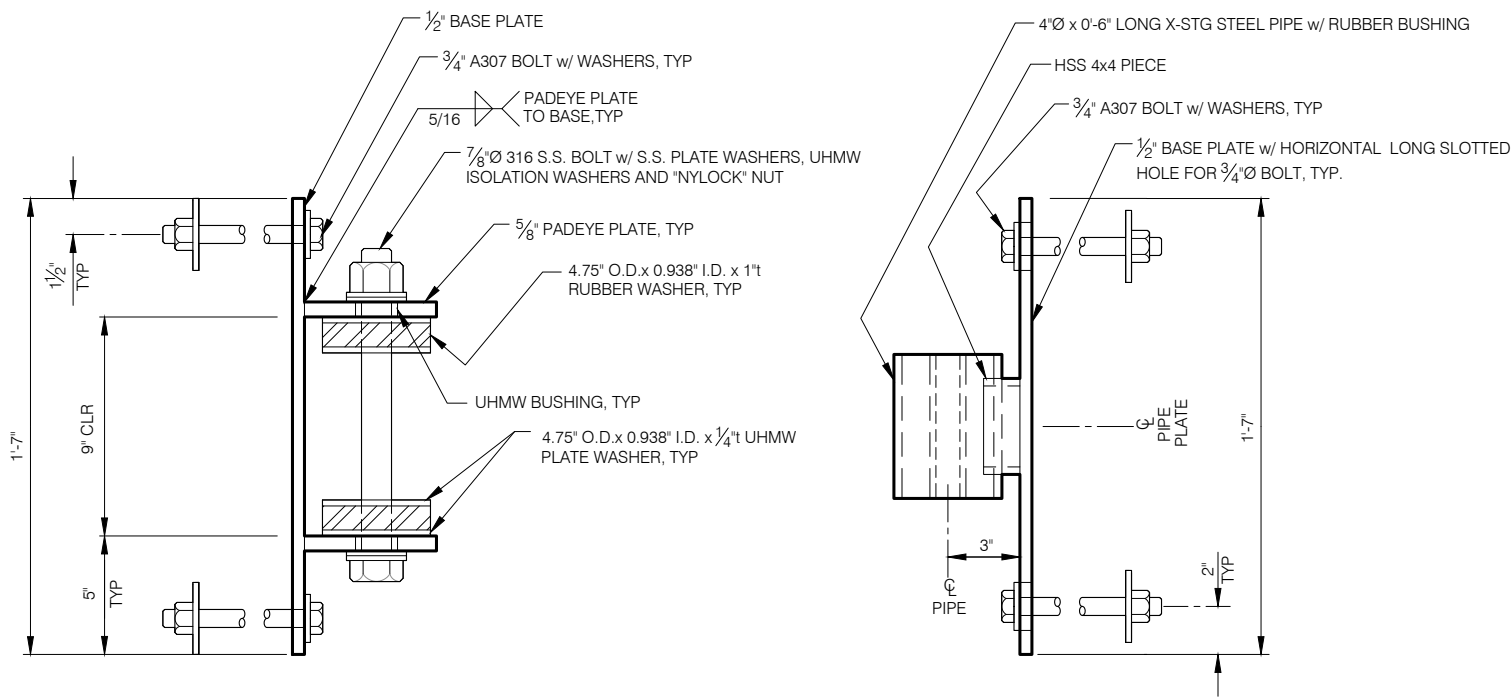


6' PIANO HINGE PLAN & HINGE SECTIONS

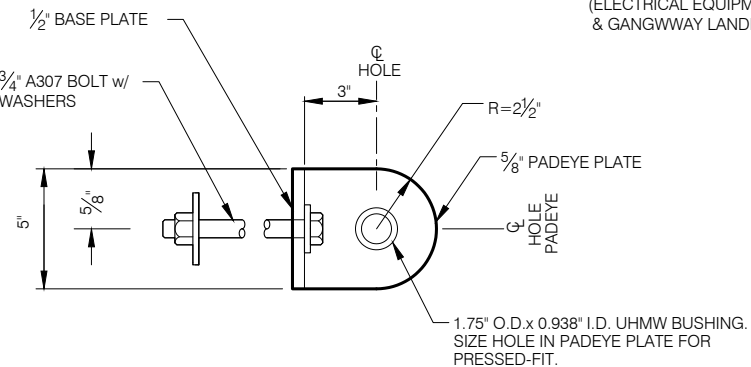
AURORA HARBOR REBUILD - PHASE III

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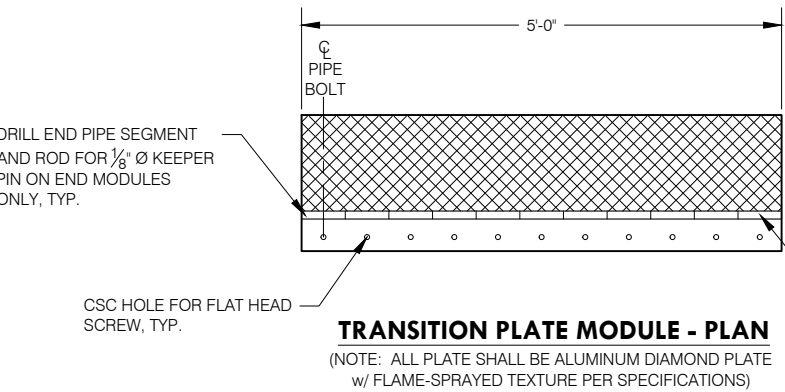
F19



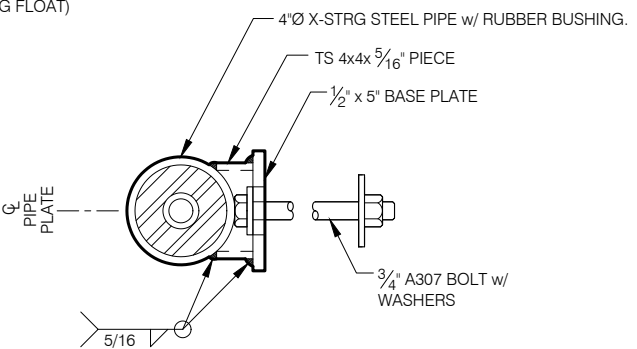
PIPE HINGE CONNECTION PLAN
(ELECTRICAL EQUIPMENT FLOAT & GANGWAY LANDING FLOAT)



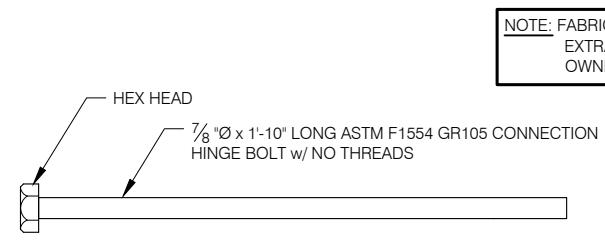
PIPE HINGE CONNECTION ELEVATION
(ELECTRICAL EQUIPMENT FLOAT & GANGWAY LANDING FLOAT)



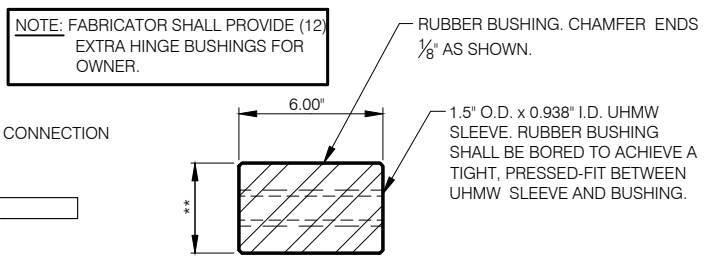
TRANSITION PLATE MODULE - PLAN
(NOTE: ALL PLATE SHALL BE ALUMINUM DIAMOND PLATE w/ FLAME-SPRAYED TEXTURE PER SPECIFICATIONS)



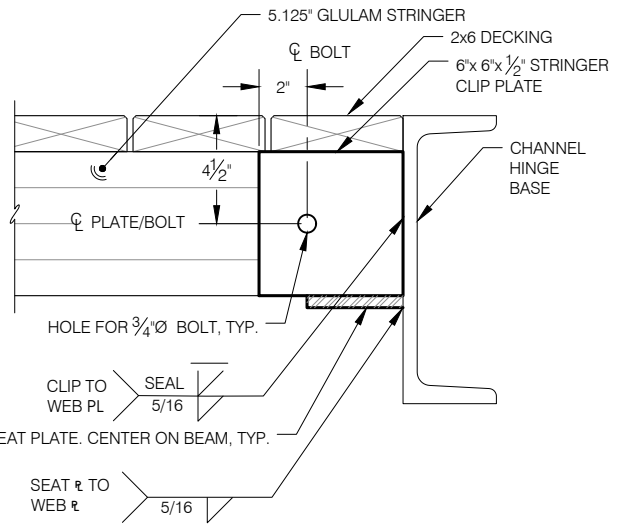
TRANSITION PLATE - TYPICAL SECTION
(NOTE: ALL PLATE SHALL BE ALUMINUM DIAMOND PLATE w/ FLAME-SPRAYED TEXTURE PER SPECIFICATIONS)



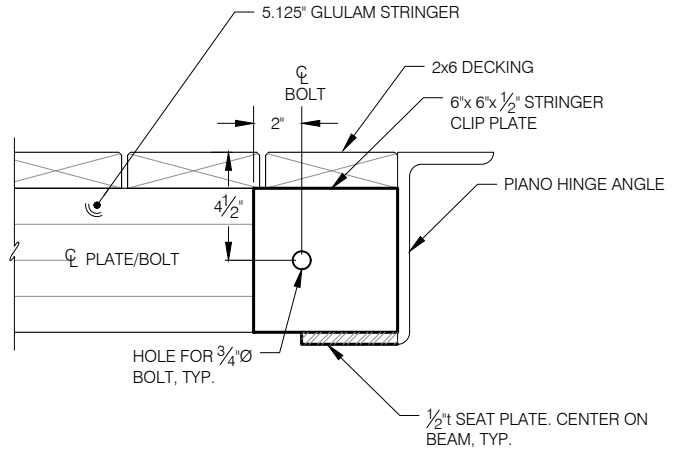
TYPICAL HINGE CONNECTION BOLT
NOTE: DIAMETER OF 0.875" WITHOUT THREADS.



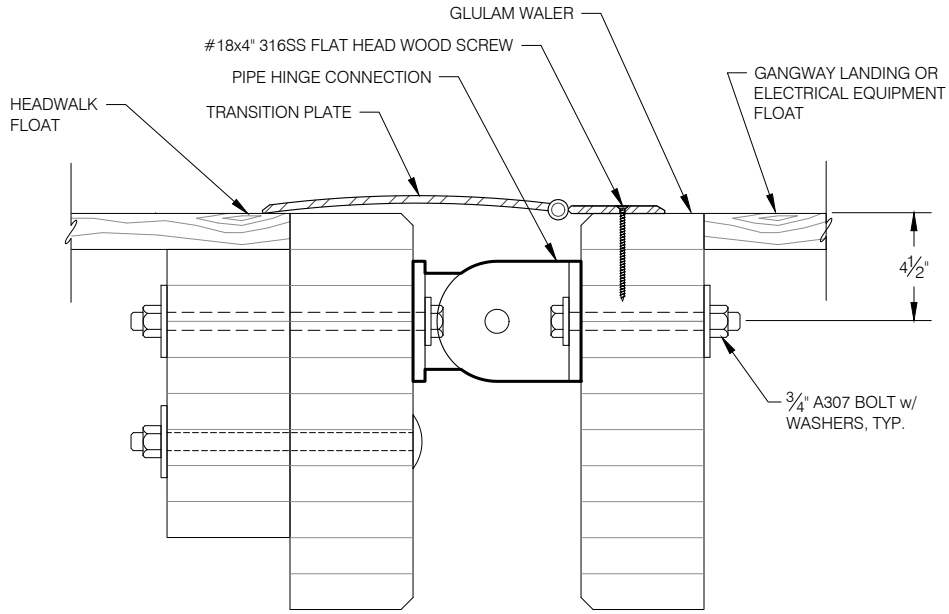
TYPICAL HINGE BUSHING
(BUSHINGS TYPICAL ALL HINGE PIPE SEGMENTS)
**NOTE: SEE SPECIFICATIONS FOR DIAMETER REQUIREMENTS



SECTION AT STRINGER CLIP w/ SEAT PLATE
(10 FOOT AND 8 FOOT HINGE CONNECTION)

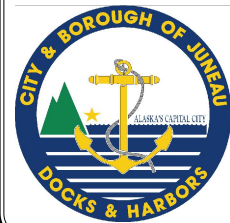


SECTION AT STRINGER CLIP w/ SEAT PLATE
(6 FOOT PIANO HINGE CONNECTION)



PIPE HINGE CONNECTION INSTALLED SECTION
(TYPICAL AT GANGWAY LANDING FLOAT, ELECTRICAL EQUIPMENT FLOAT)

F18 F19 F20 - Piano Hinge Details



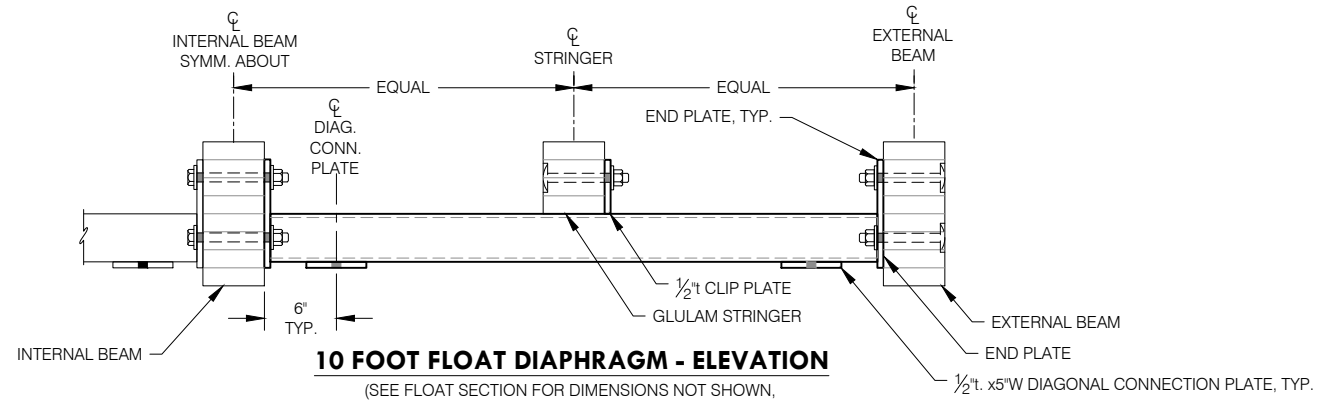
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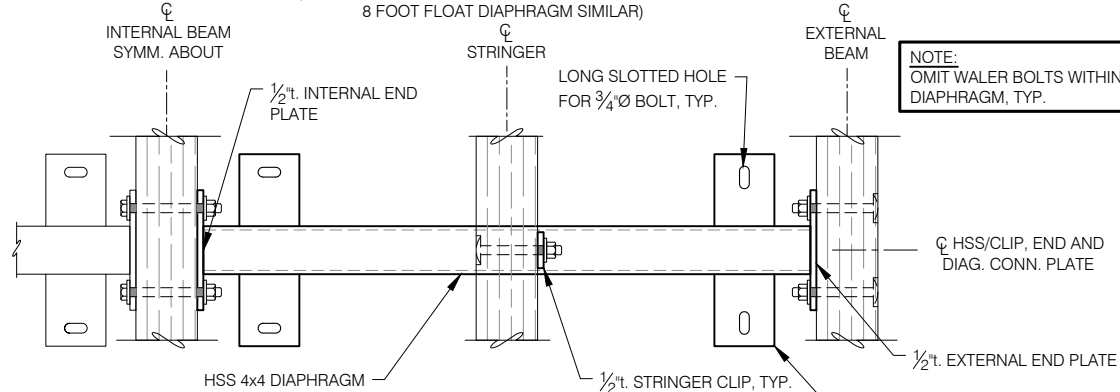
HINGE DETAILS			
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10 FOOT FLOAT DIAPHRAGM - ELEVATION

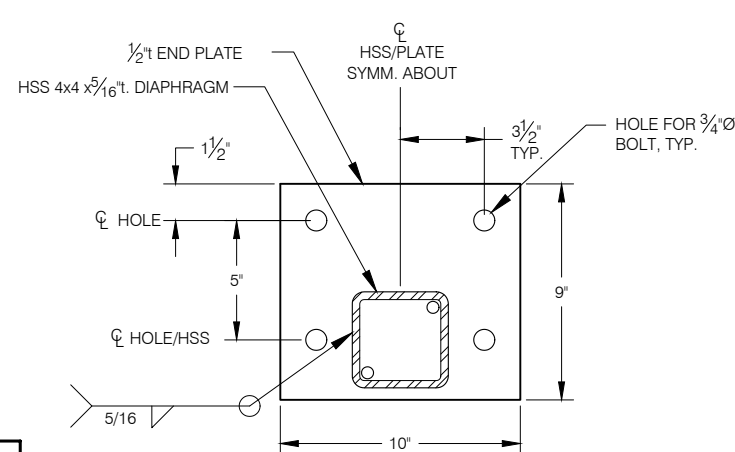
(SEE FLOAT SECTION FOR DIMENSIONS NOT SHOWN, 8 FOOT FLOAT DIAPHRAGM SIMILAR)



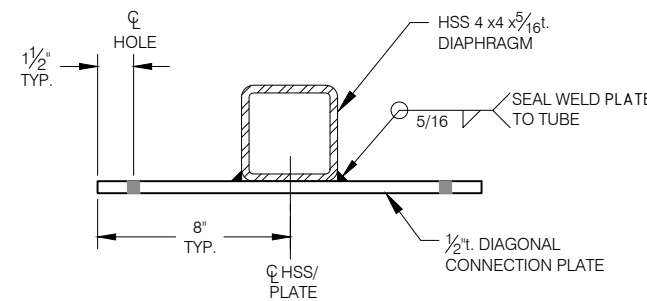
10 FOOT FLOAT DIAPHRAGM - PLAN

(SEE FLOAT SECTION FOR DIMENSIONS NOT SHOWN, 8 FOOT FLOAT DIAPHRAGM SIMILAR)

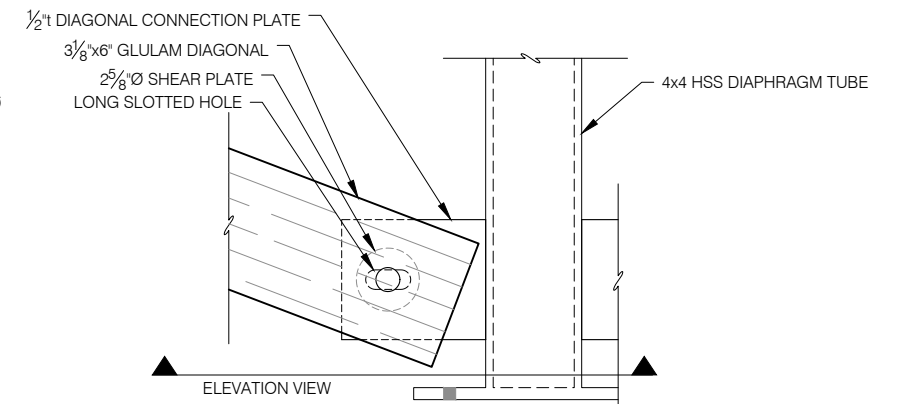
NOTE:
OMIT WATER BOLTS WITHIN LIMITS OF HSS DIAPHRAGM, TYP.



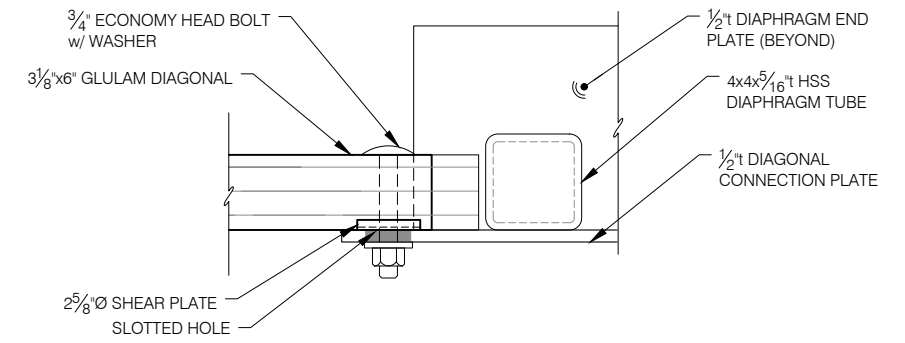
END PLATE - ELEVATION



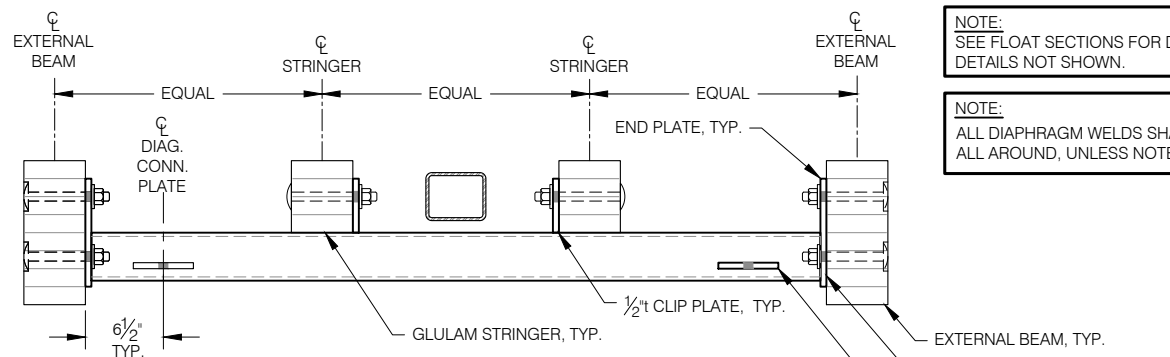
DIAPHRAGM SECTION AT DIAG. CONN. PLATE



DIAPHRAGM - DIAG. BRACING CONN. DETAIL - PLAN



DIAPHRAGM - DIAG. BRACING CONN. DETAIL - ELEV.

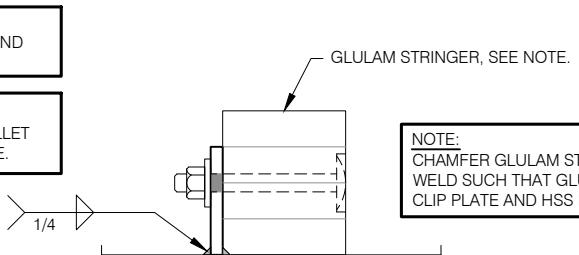


6 FOOT FINGER DIAPHRAGM - ELEVATION

(SEE FLOAT SECTION FOR DIMENSIONS NOT SHOWN)

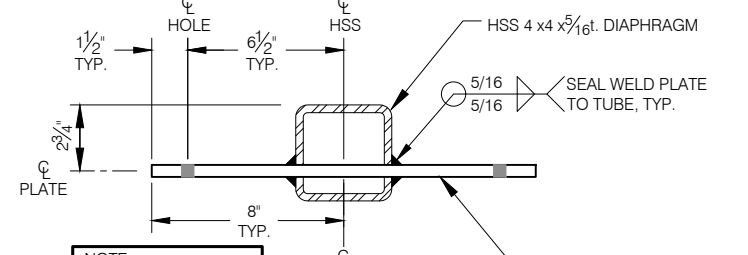
NOTE:
SEE FLOAT SECTIONS FOR DIMENSIONS AND DETAILS NOT SHOWN.

NOTE:
ALL DIAPHRAGM WELDS SHALL BE 5/16" FILLET ALL AROUND, UNLESS NOTED OTHERWISE.



STRINGER CLIP PLATE - SECTION

NOTE:
CHAMFER GLULAM STRINGER AT CLIP PLATE WELD SUCH THAT GLULAM SITS FLUSH AGAINST CLIP PLATE AND HSS DIAPHRAGM.

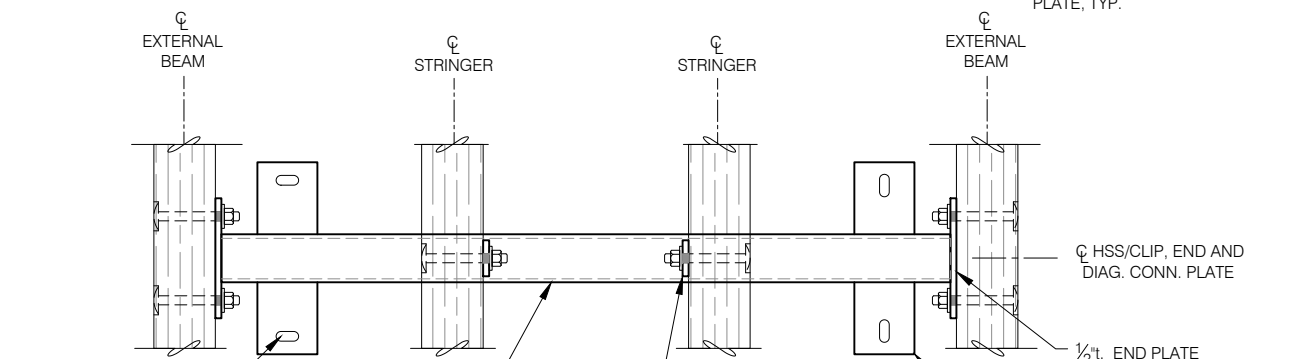


DIAPHRAGM SECTION AT DIAG. CONN. PLATE

(TYPICAL FOR 6 FOOT FINGER DIAPHRAGMS ONLY)

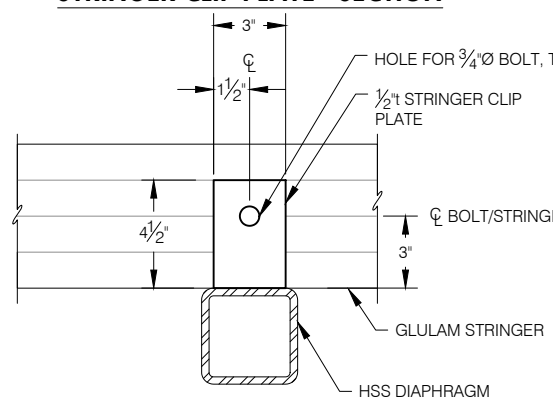
NOTE:
NOTCH HSS FOR DIAG. KNIFE PLATE

NOTE:
ALTERNATE TIMBER DIAGONALS BETWEEN TOP AND BOTTOM OF DIAGONAL CONNECTION KNIFE PLATE, AS SHOWN.

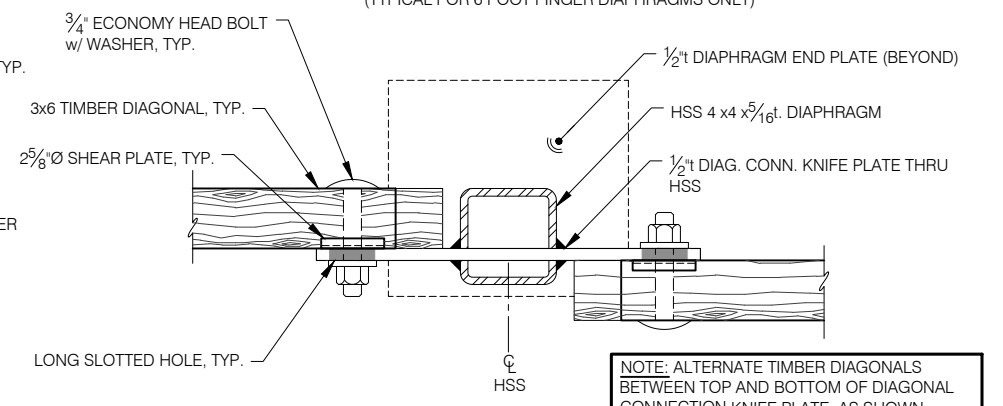


6 FOOT FINGER DIAPHRAGM - PLAN

(SEE FLOAT SECTION FOR DIMENSIONS NOT SHOWN)



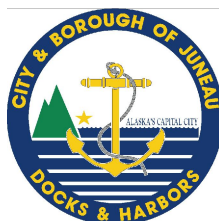
STRINGER CLIP PLATE - ELEVATION



DIAPHRAGM - DIAG. BRACING CONN. DETAIL

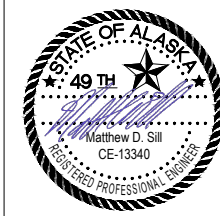
(TYPICAL FOR 6 FOOT FINGER DIAPHRAGMS ONLY)

F25 - Diaphragm and Misc. Details



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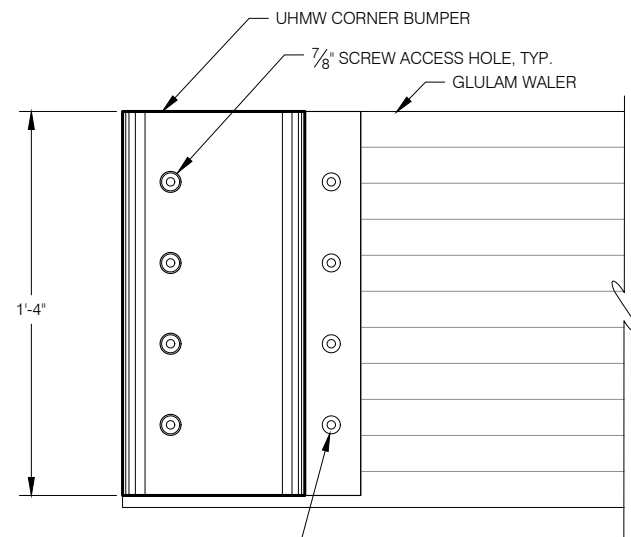
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DIAPHRAGM DETAILS
AURORA HARBOR REBUILD - PHASE III

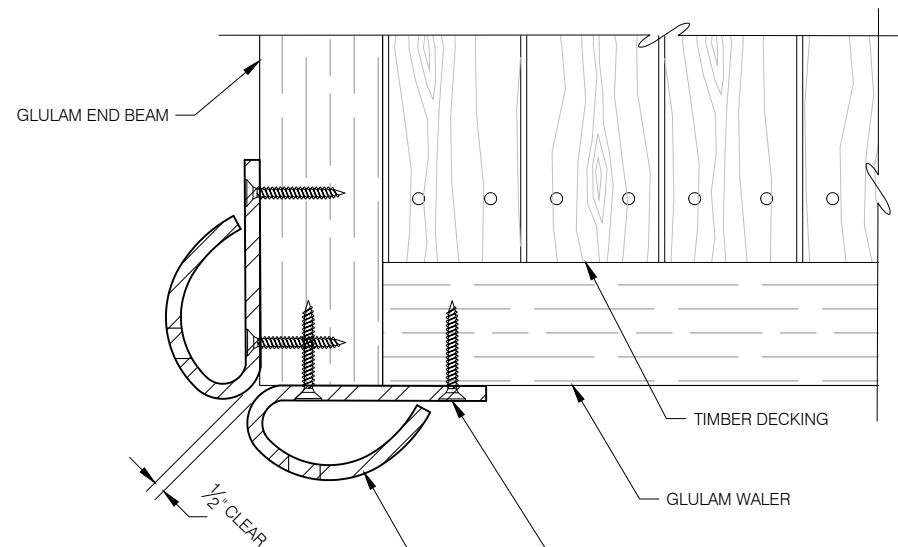
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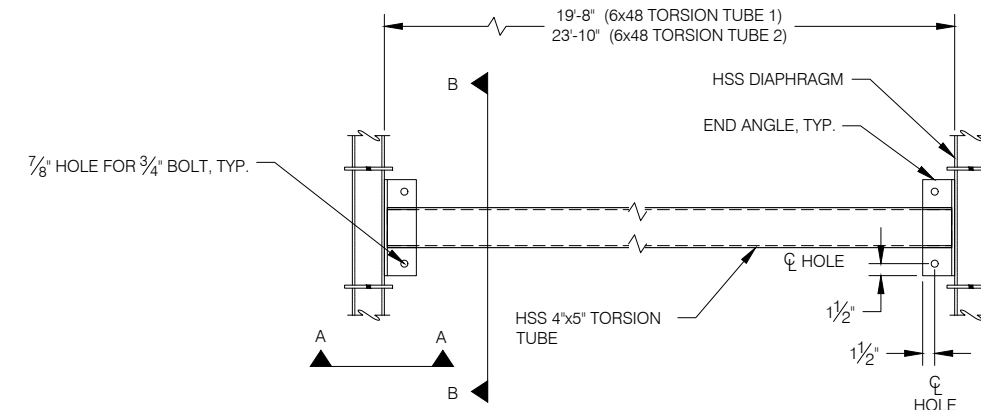
CORNER BUMPER DETAIL - ELEVATION

#24 SCREW HOLE EQUALLY SPACED TO MISS INTERNAL HARDWARE, TYP.

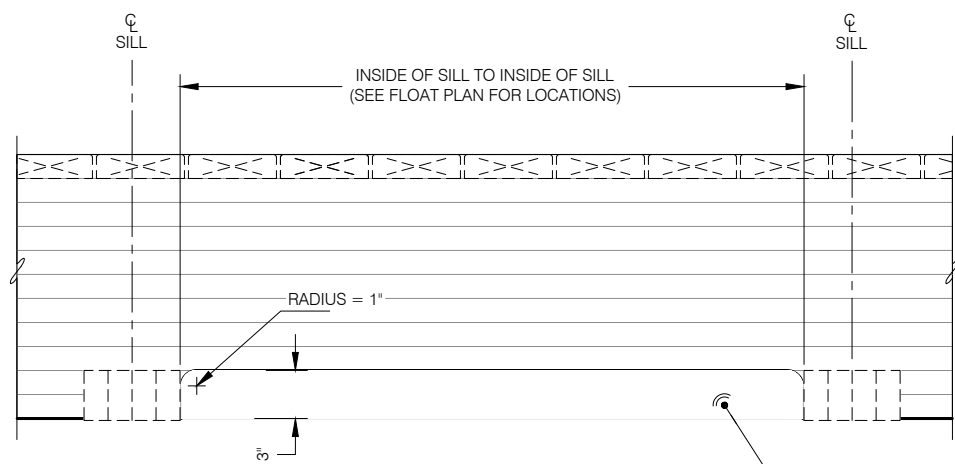


CORNER BUMPER DETAIL - PLAN

#24 x 4" LONG F.H. PHILLIPS HEAD WOOD SCREW, TYP. CSC HEAD TO BE FLUSH w/ FACE AS SHOWN STAGGER AS REQUIRED TO MISS ADJACENT BUMPER SCREWS AT CORNER

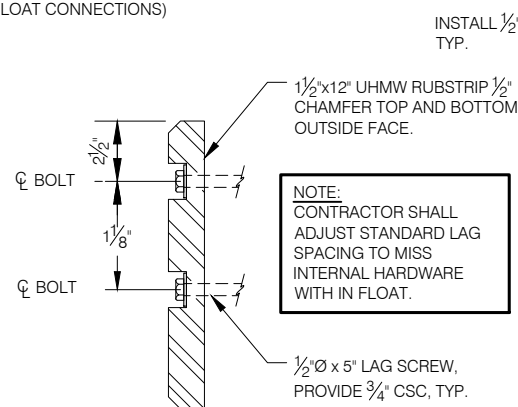


FINGER FLOAT TORSION TUBE - PLAN



GLULAM WALER MODIFICATION FOR CABLE PASSAGE
(TYPICAL AT ALL FLOAT TO FLOAT CONNECTIONS)

OMIT GLULAM BLOCKING FOR FLOTATION TUBS AT CABLE PASSAGE LOCATIONS.



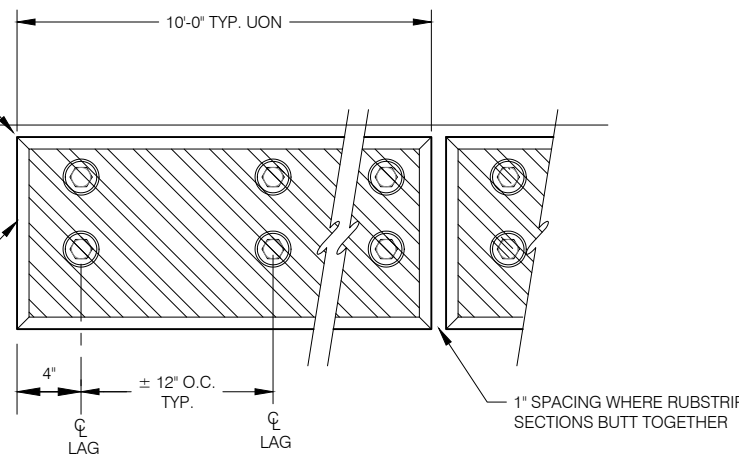
UHMW RUB STRIP - SECTION

NOTE: CONTRACTOR SHALL ADJUST STANDARD LAG SPACING TO MISS INTERNAL HARDWARE WITH IN FLOAT.

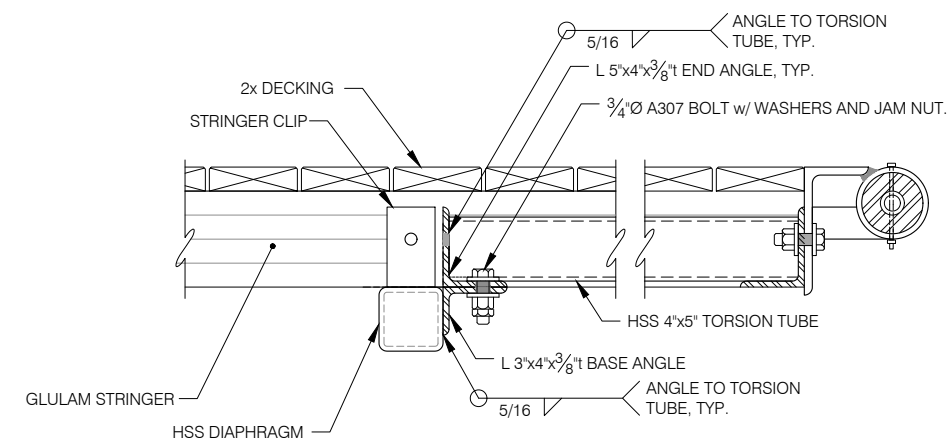
1/2" Ø x 5" LAG SCREW, PROVIDE 3/4" CSC, TYP.

INSTALL 1/2" BELOW TOP OF WALER, TYP.

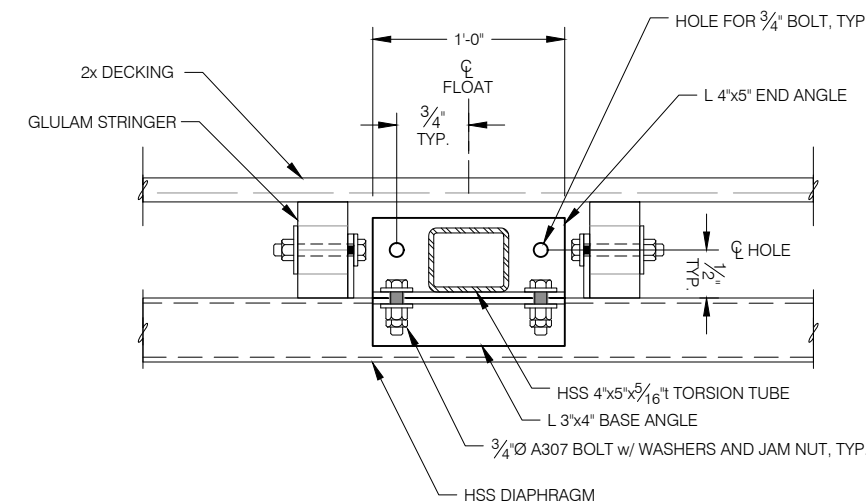
NOTE: SEE DETAILED FLOAT PLAN FOR UHMW RUBSTRIP PLACEMENT.



UHMW RUB STRIP - ELEVATION

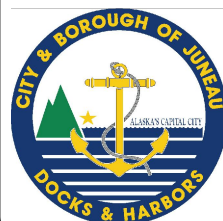


FINGER FLOAT TORSION TUBE - SECTION AA



FINGER FLOAT TORSION TUBE - SECTION BB

F25 - Diaphragm and Misc. Details



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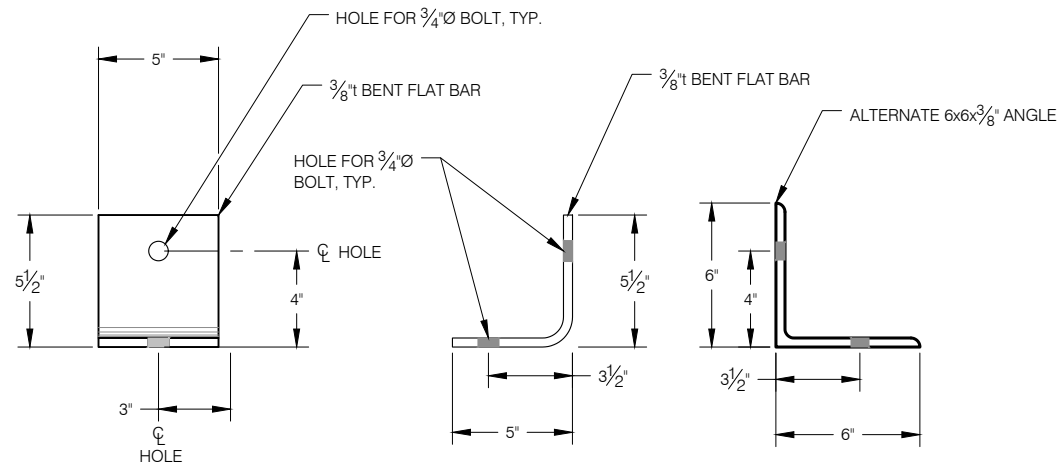


MISC. FLOAT DETAILS

AURORA HARBOR REBUILD - PHASE III

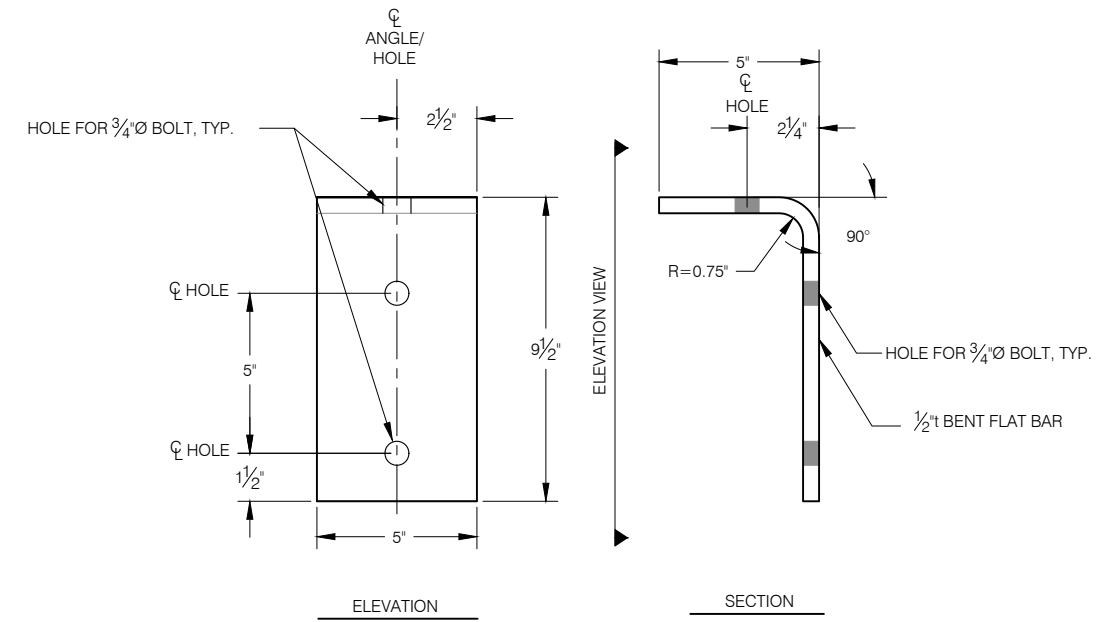
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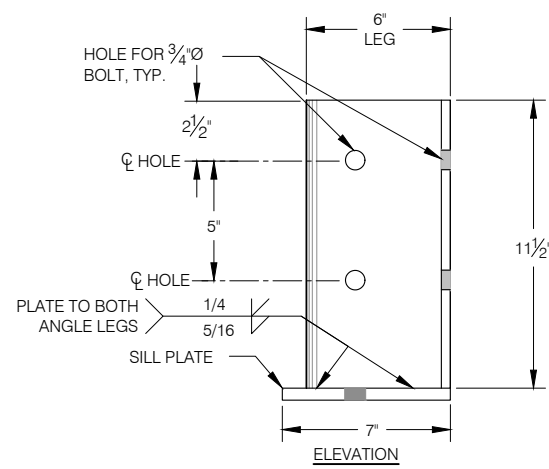


BENT FLAT BAR SILL CONNECTION ANGLE

(CONTRACTOR MAY UTILIZE 6x6x3/8" ANGLE FOR THE SILL CONNECTION ANGLE INSTEAD OF THE BENT BAR)



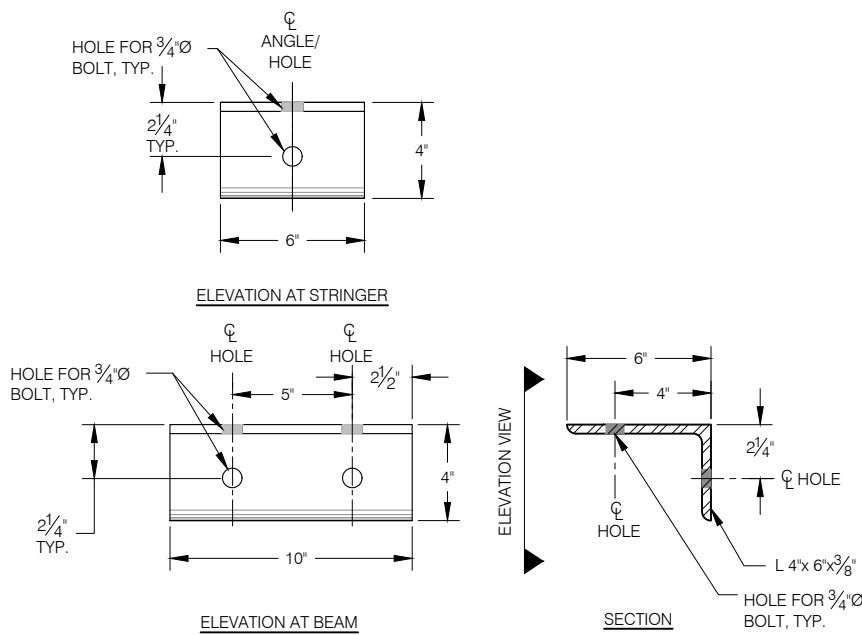
BULLRAIL CONNECTION ANGLE



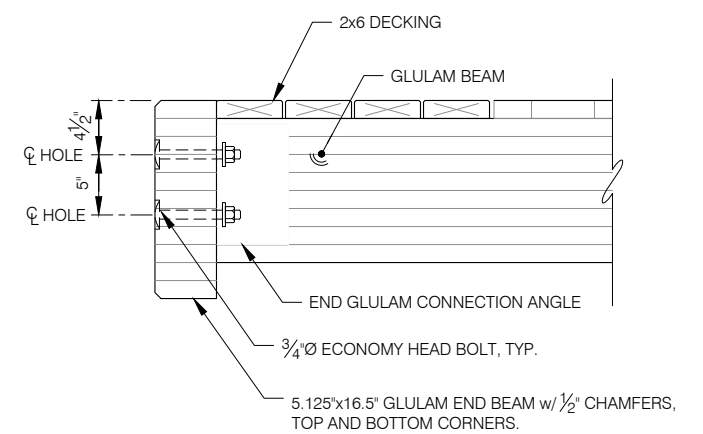
NOTE:
EACH FLOAT REQUIRES LEFT AND RIGHT VERSIONS OF THIS ASSEMBLY. MIRROR DETAIL FOR OPPOSITE HAND.

END GLULAM CONNECTION ANGLE WITH SILL PLATE

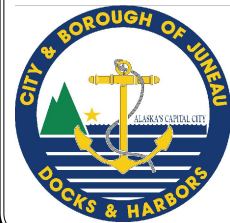
(8x60 FINGER ONLY)



END GLULAM CONNECTION ANGLE

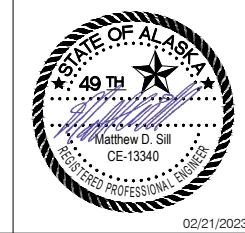


FLOAT END GLULAM SECTION



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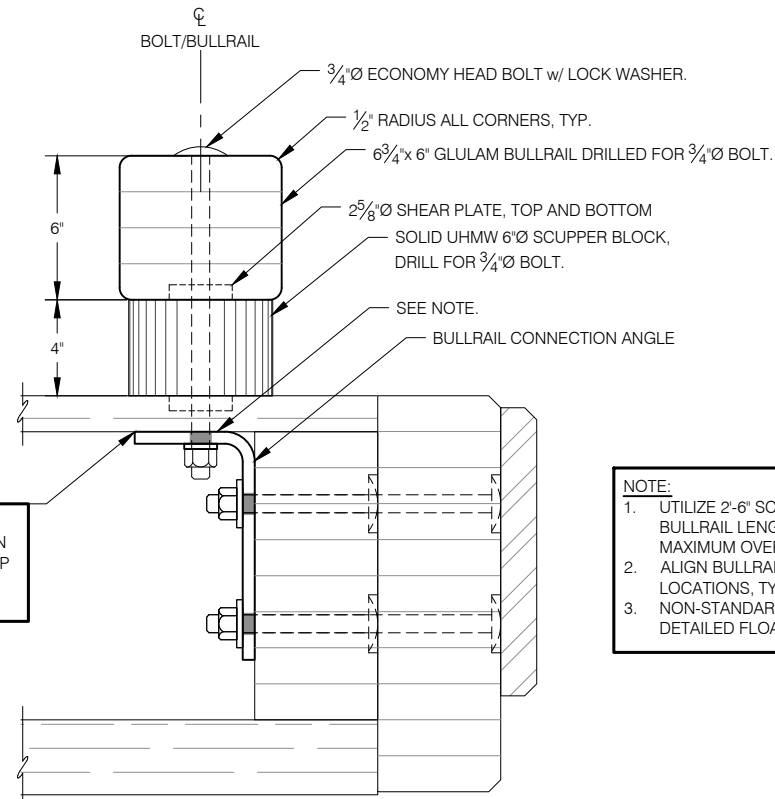


MISC. FLOAT HARDWARE
AURORA HARBOR REBUILD - PHASE III

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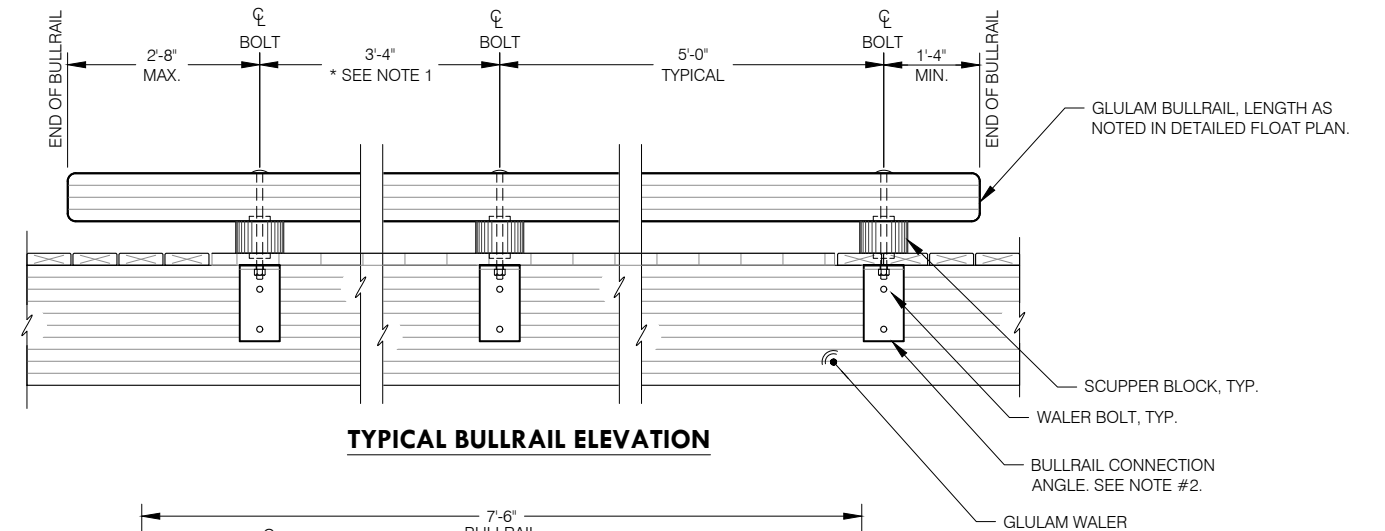
F25 - Diaphragm and Misc. Details



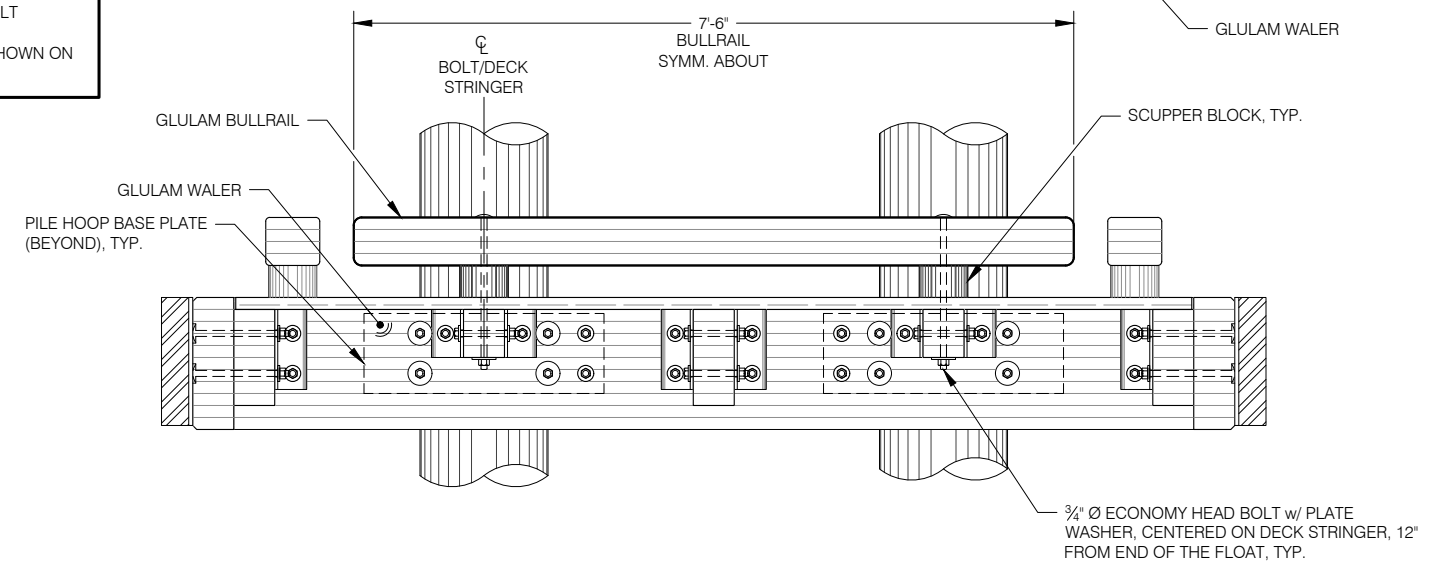
BULLRAIL AND SCUPPER BLOCK DETAIL

NOTE:
DECKING MUST BE FIRMLY BEARING ON BULLRAIL CONNECTION ANGLE. NO GAP IS ALLOWED BETWEEN DECKING AND BULLRAIL CONNECTION ANGLE.

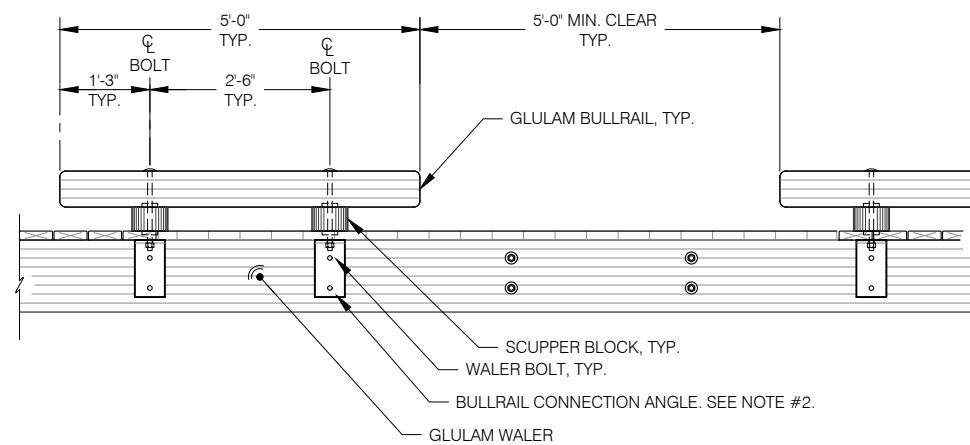
NOTE:
1. UTILIZE 2'-6" SCUPPER BLOCK SPACING AS REQUIRED ON BULLRAIL LENGTHS THAT CANNOT MEET MINIMUM AND MAXIMUM OVERHANG REQUIREMENTS WITH 5'-0" SPACING.
2. ALIGN BULLRAIL CONNECTION ANGLE WITH WALER BOLT LOCATIONS, TYPICAL, UNLESS NOTED OTHERWISE.
3. NON-STANDARD SCUPPER BLOCK DIMENSIONS ARE SHOWN ON DETAILED FLOAT PLANS.



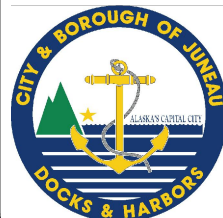
TYPICAL BULLRAIL ELEVATION



BULLRAIL AND SCUPPER BLOCK DETAIL
(TYPICAL MODULES T1, T2, AND H3)

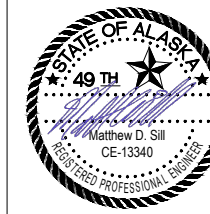


ADA BULLRAIL SEGMENTS



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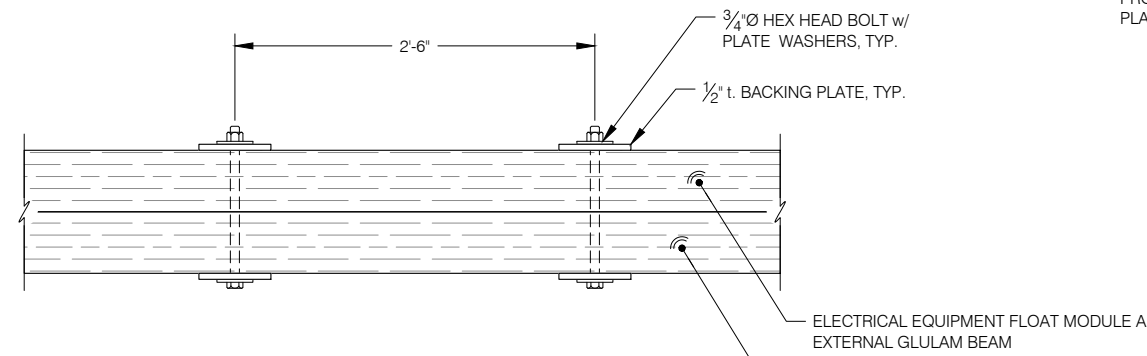
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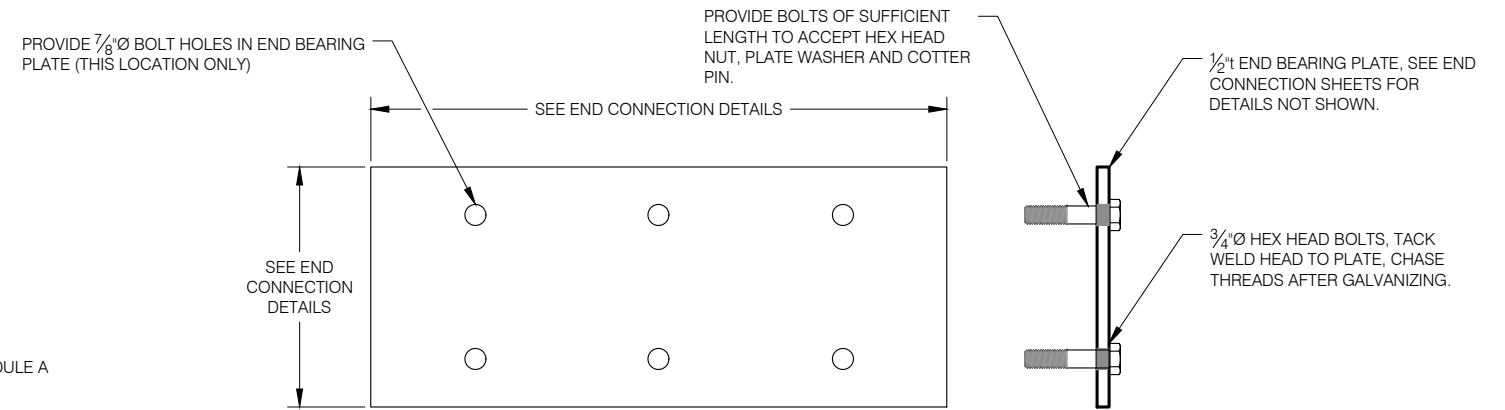
BULLRAIL DETAILS
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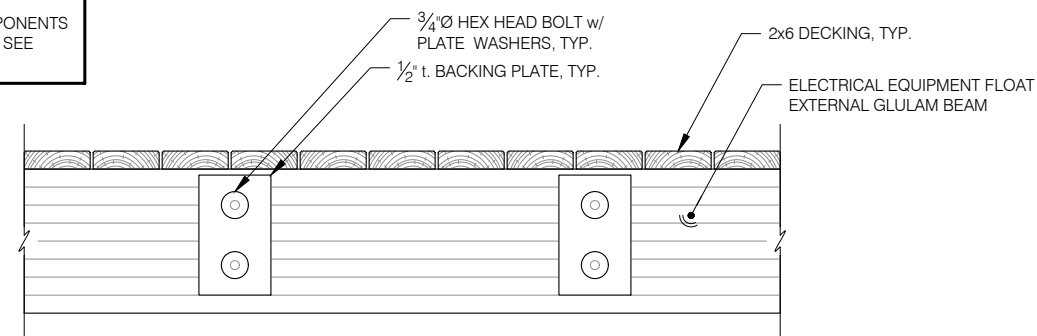


FLOAT ASSEMBLY BOLTS AND BACKING PLATE - PLAN
(FIELD INSTALL AFTER PLACING MODULES A AND B IN THE WATER)

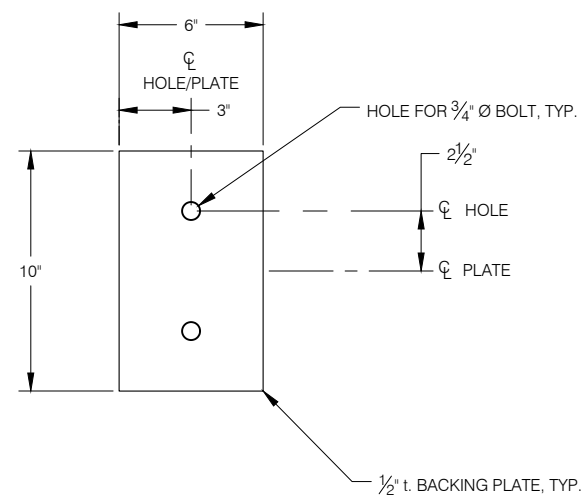


END BEARING PLATE PLAN & ELEVATION
(SEE END CONNECTION SHEETS FOR DETAILS NOT SHOWN)

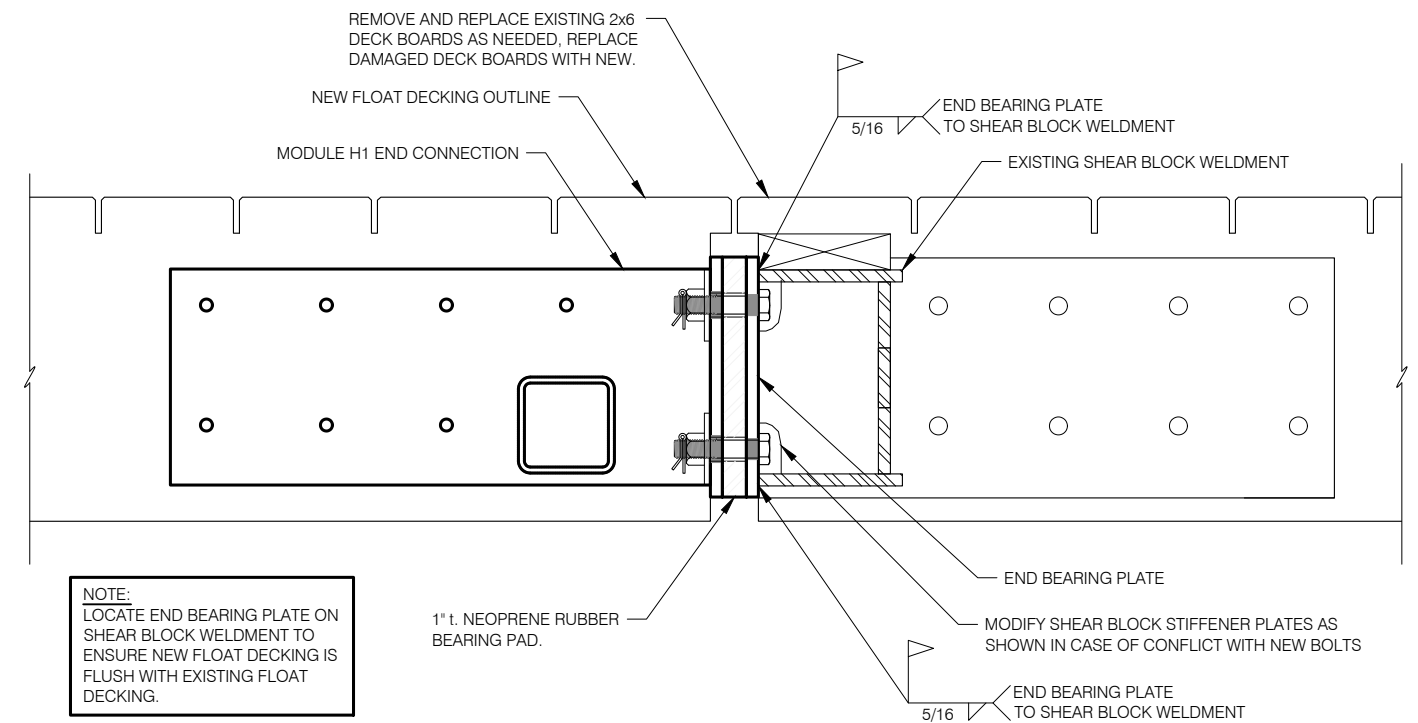
NOTE:
INTERNAL FLOAT COMPONENTS
OMITTED FOR CLARITY. SEE
FLOAT DETAILS.



FLOAT ASSEMBLY BOLTS AND BACKING PLATE - ELEVATION



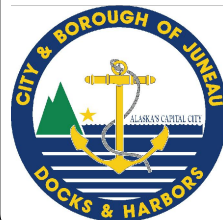
BACKING PLATE DETAIL



NOTE:
LOCATE END BEARING PLATE ON
SHEAR BLOCK WELDMENT TO
ENSURE NEW FLOAT DECKING IS
FLUSH WITH EXISTING FLOAT
DECKING.

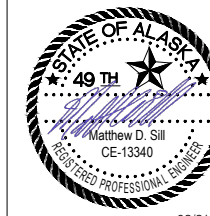
PHASE II FLOAT END CONNECTION MODIFICATIONS
(MODIFY SHEAR BLOCK WELDMENT AS SHOWN AFTER REMOVING THE EXISTING ALUMINUM TRANSITION BRIDGE)

F25 - Diaphragm and Misc. Details



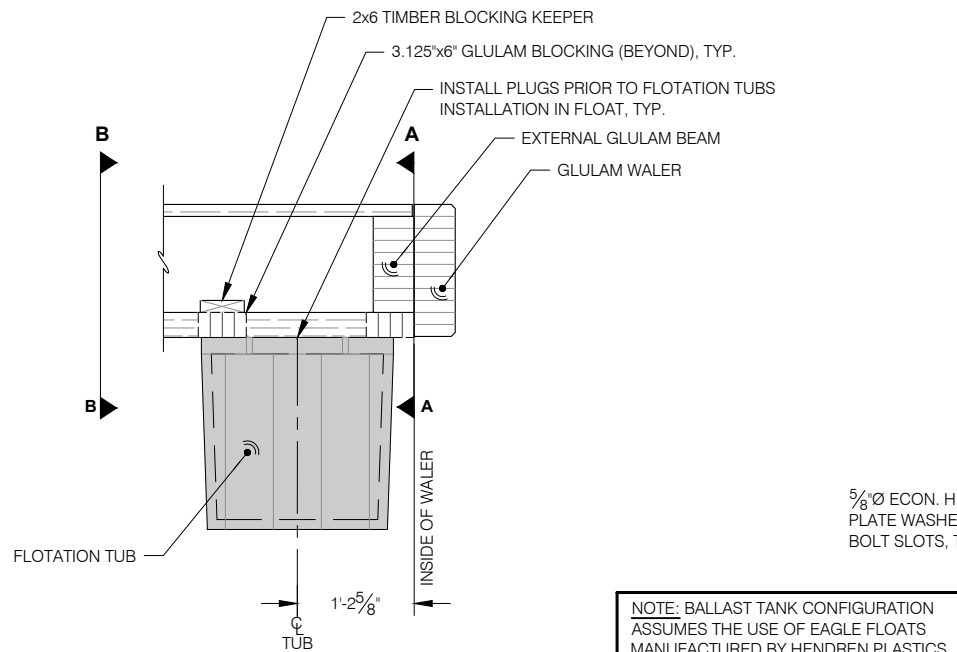
REVISIONS					
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MISC. DETAILS			
AURORA HARBOR REBUILD - PHASE III			
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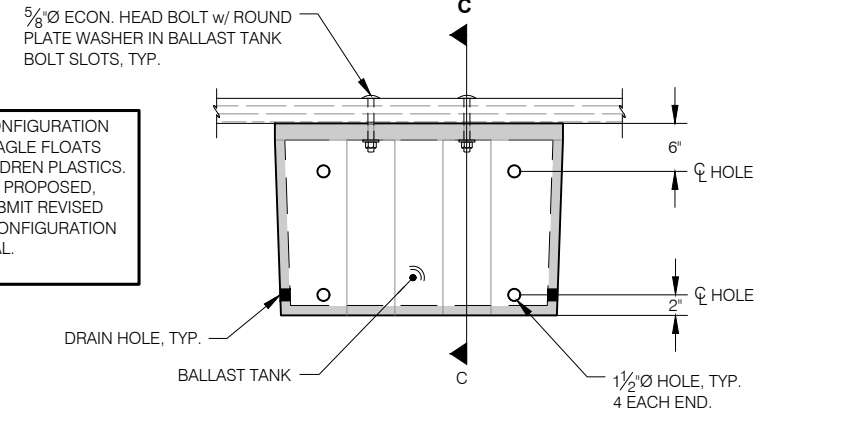
F25



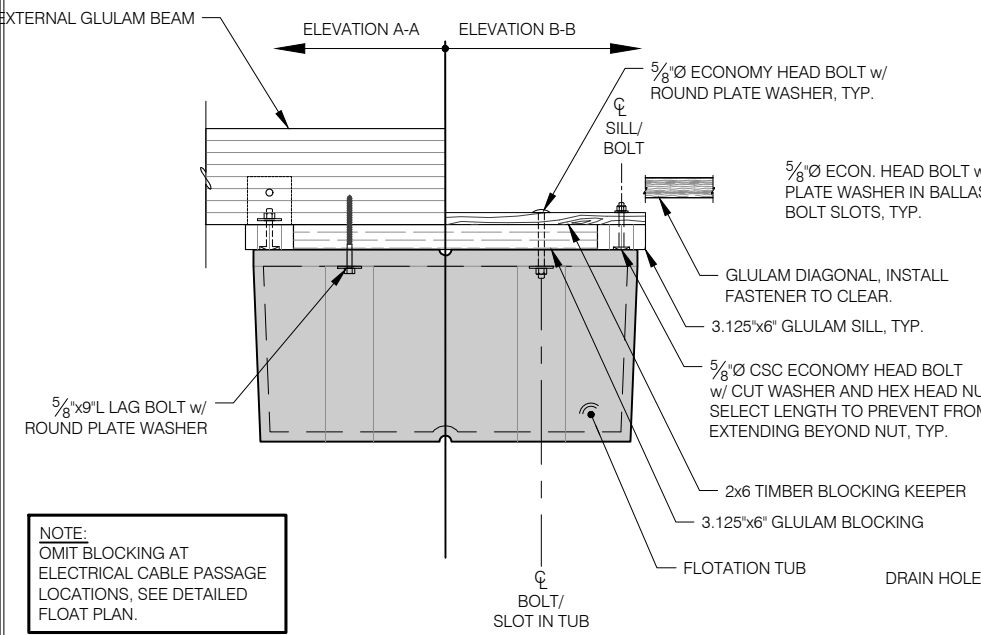
2X4 FLOTATION TUB - END ELEVATION

NOTE: SILL CONNECTION ANGLES NOT SHOWN FOR CLARITY. COUNTERSINK TUB AND TANK BOLTS AS REQUIRED TO AVOID CONFLICTS DUE TO DIFFERING RIB LOCATIONS.

NOTE: BALLAST TANK CONFIGURATION ASSUMES THE USE OF EAGLE FLOATS MANUFACTURED BY HENDREN PLASTICS. IF ALTERNATE UNITS ARE PROPOSED, CONTRACTOR SHALL SUBMIT REVISED TANK AND HARDWARE CONFIGURATION FOR ENGINEER APPROVAL.

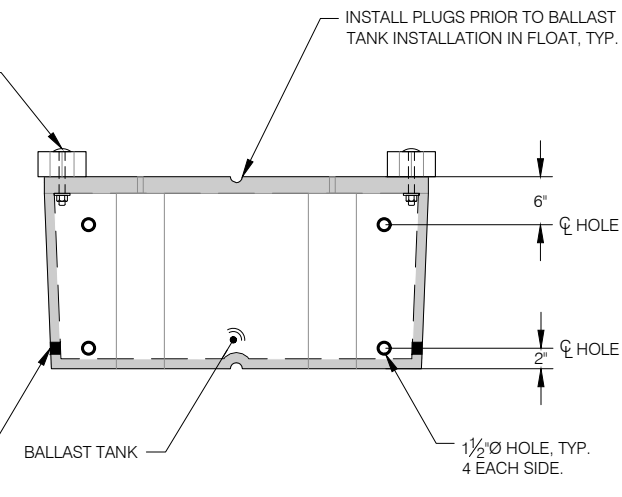


3X4 FLOTATION TUB - END ELEVATION



2X4 FLOTATION TUB - SIDE ELEVATION

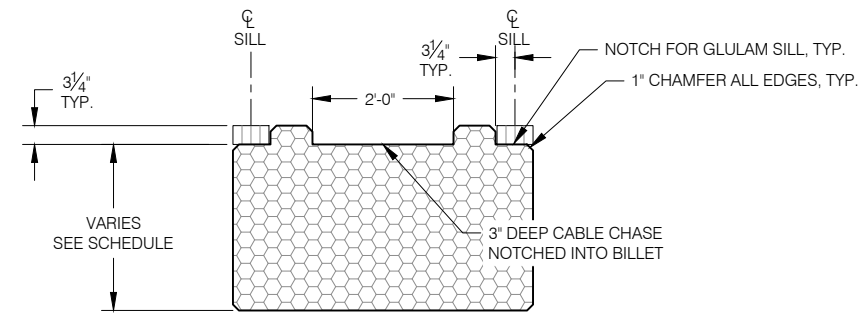
NOTE: OMIT BLOCKING AT ELECTRICAL CABLE PASSAGE LOCATIONS, SEE DETAILED FLOAT PLAN.



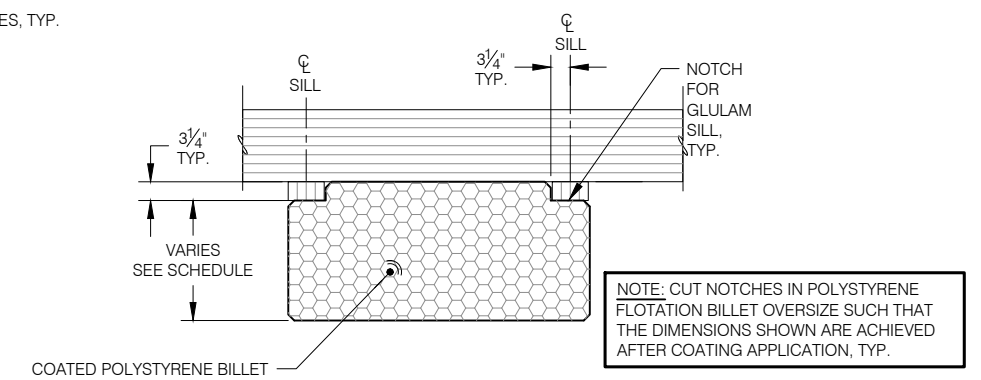
3X4 BALLAST TANK - SIDE ELEVATION

(SECTION C-C VIEW, 2x4 BALLAST TANK SIMILAR)

NOTE:
 • BALLAST TANK WALL THICKNESS SHALL BE 0.375"
 • FLOTATION TANK WALL THICKNESS SHALL BE 0.175"

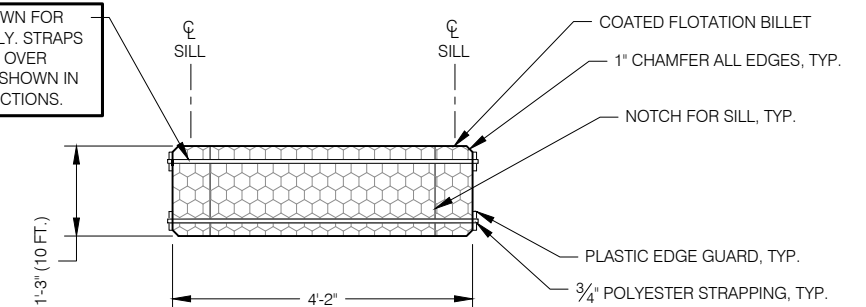


FLOTATION BILLET w/ CABLE CHASE
 (TYPICAL 16x25 ELECTRICAL EQUIPMENT FLOAT, MODULES H1, AND H2)



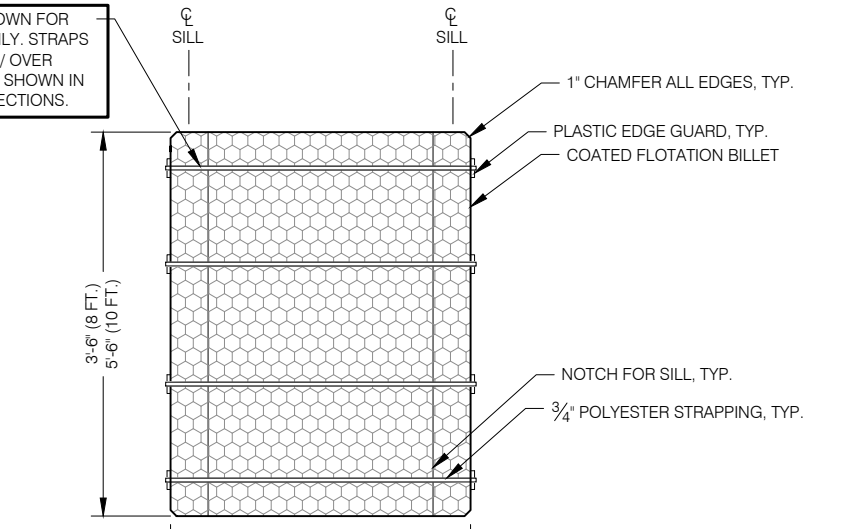
FLOTATION BILLET - TYPICAL SIDE ELEVATION
 (SEE FLOTATION SCHEDULE FOR DEPTH AND WIDTH OF BILLETS)

NOTE: STRAP SHOWN FOR ILLUSTRATION ONLY. STRAPS ARE TO LAY ATOP/ OVER GLULAM SILLS AS SHOWN IN TYPICAL FLOAT SECTIONS.

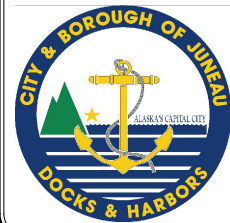


FLOTATION BILLET - TYPICAL PLAN

NOTE: STRAP SHOWN FOR ILLUSTRATION ONLY. STRAPS ARE TO LAY ATOP/ OVER GLULAM SILLS AS SHOWN IN TYPICAL FLOAT SECTIONS.

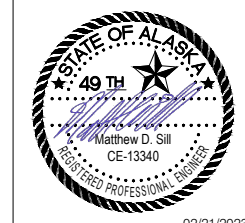


CENTER BILLET - TYPICAL PLAN



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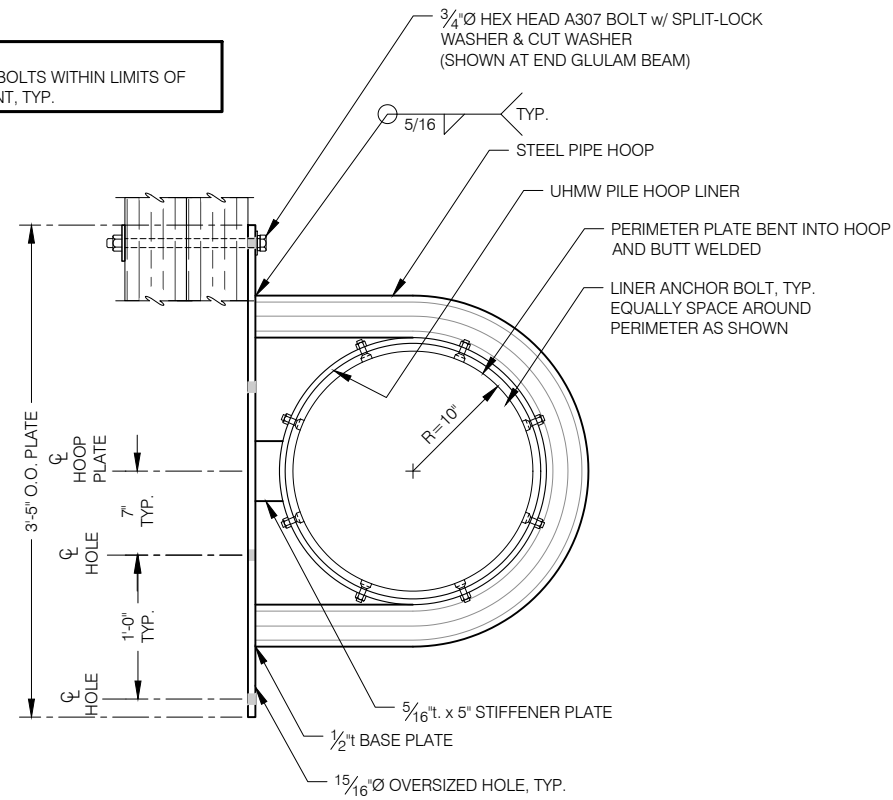


FLOTATION TUB, BALLAST TANK AND BILLET DETAILS
 AURORA HARBOR REBUILD - PHASE III

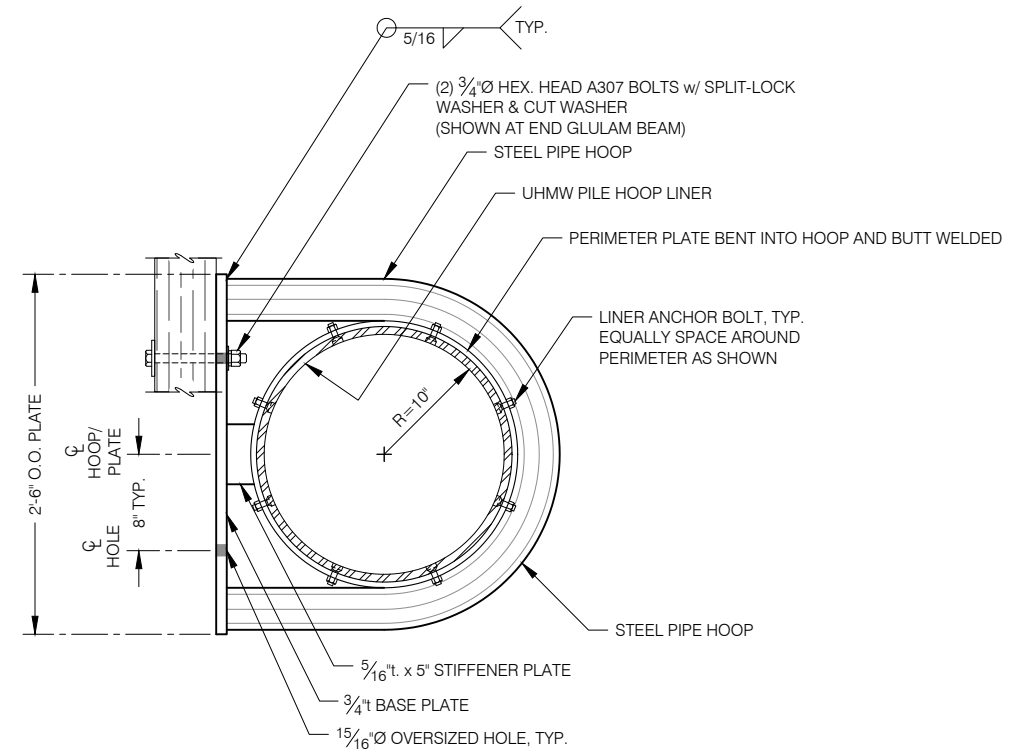
DESIGN:	MS	DATE:	FEBRUARY 21, 2023
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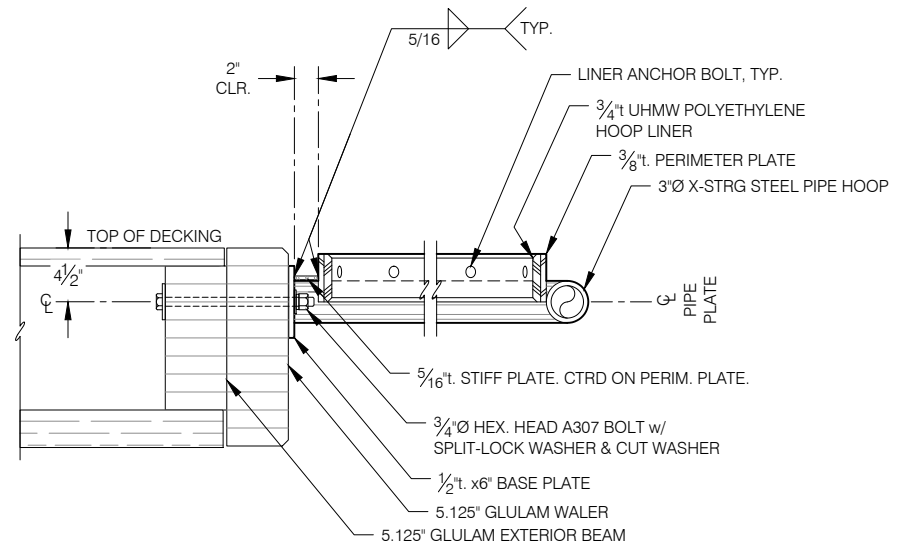
NOTE:
OMIT UPPER WALER BOLTS WITHIN LIMITS OF PILE HOOP WELDMENT, TYP.



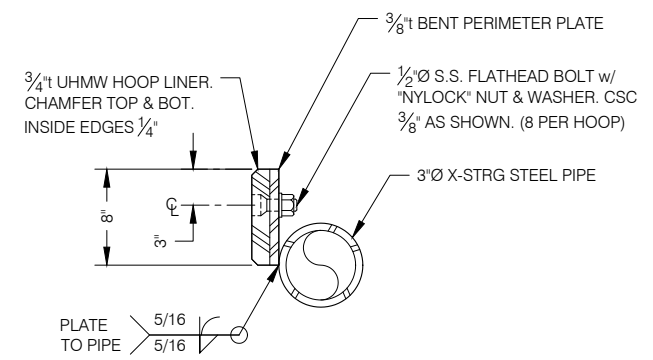
EXTERNAL PILE HOOP PLAN - TYPE 1



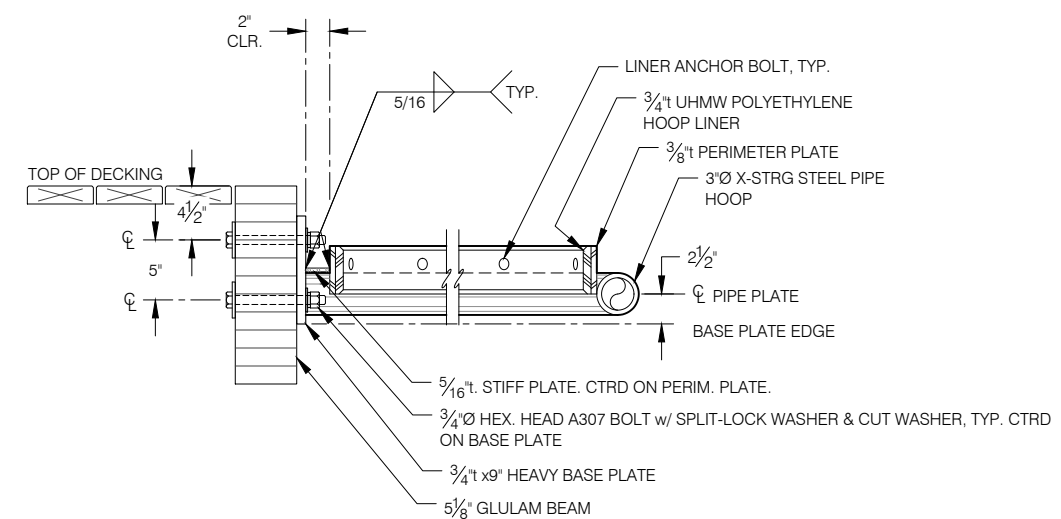
EXTERNAL PILE HOOP PLAN - TYPE 2



EXTERNAL PILE HOOP ELEVATION - TYPE 1

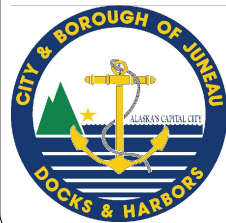


TYPICAL HOOP SECTION



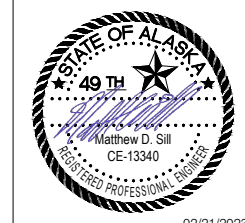
EXTERNAL PILE HOOP ELEVATION - TYPE 2

F27 - EXTERNAL Pile Hoop Details



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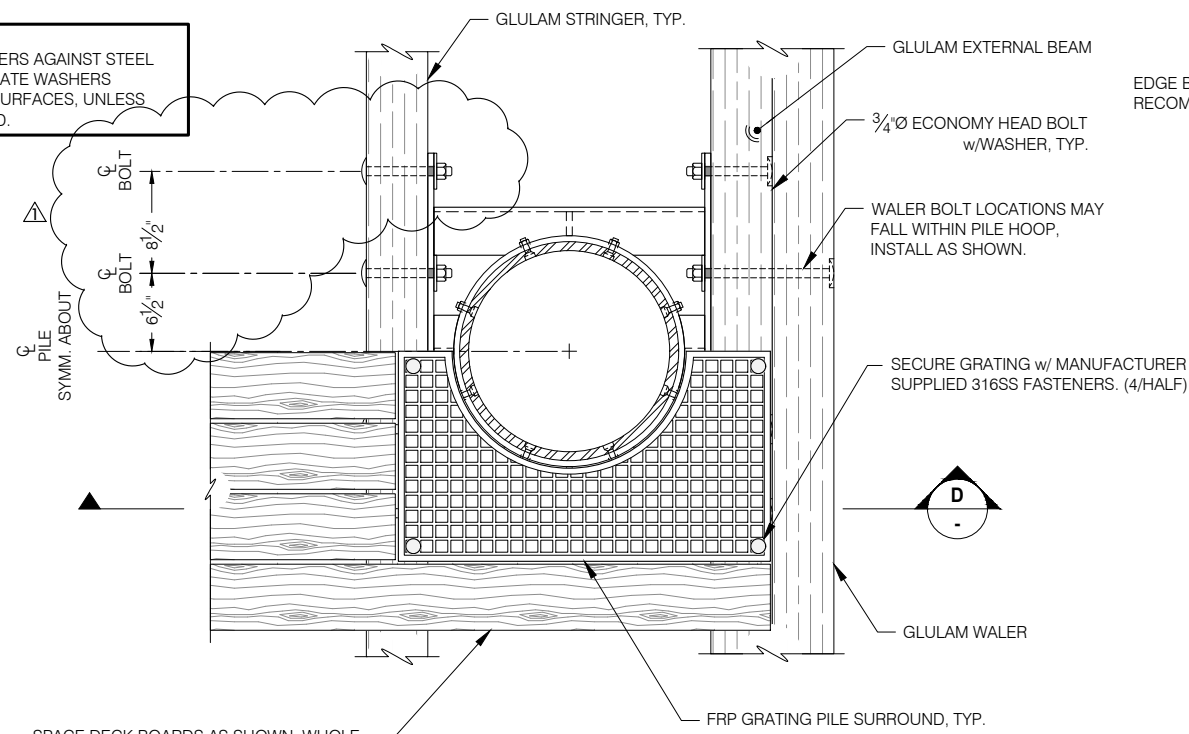
EXTERNAL PILE HOOP DETAILS

AURORA HARBOR REBUILD - PHASE III

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NOTE:
UTILIZE CUT WASHERS AGAINST STEEL SURFACES AND PLATE WASHERS AGAINST TIMBER SURFACES, UNLESS OTHERWISE NOTED.

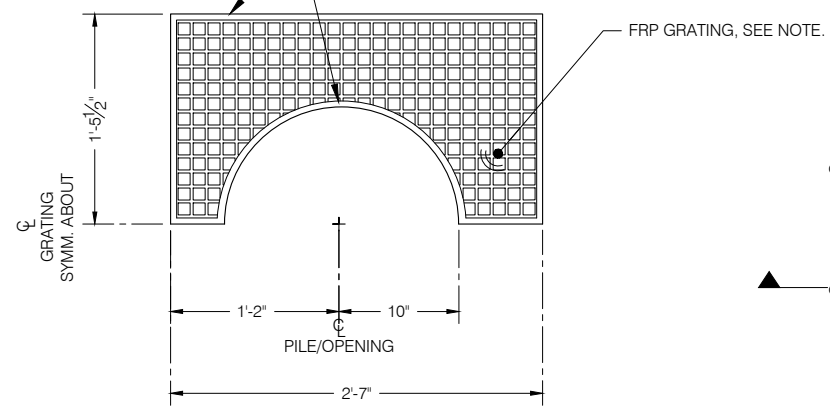


SPACE DECK BOARDS AS SHOWN, WHOLE BOARDS ONLY. DO NOT RIP BOARDS TO FIT.

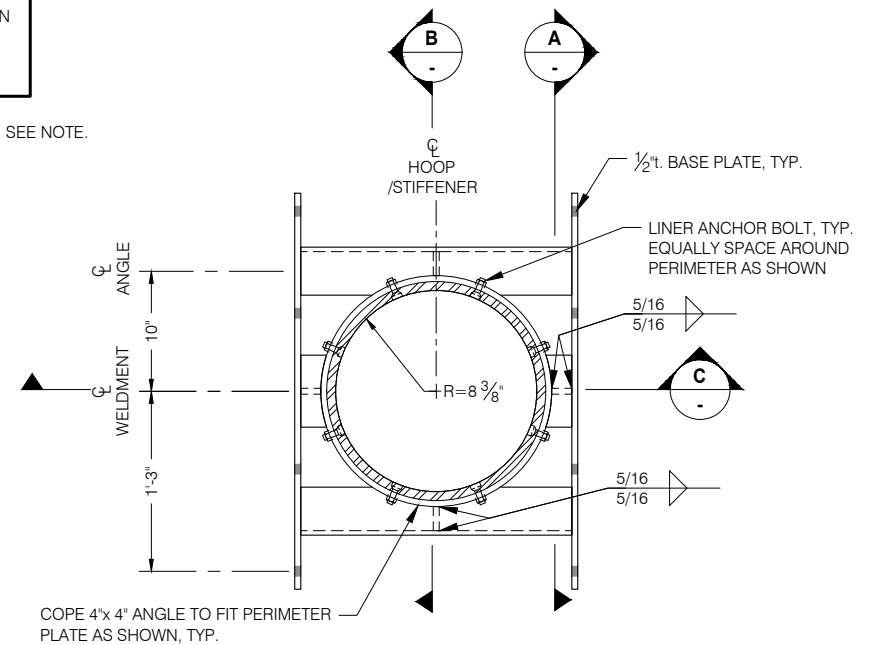
INTERNAL PILE HOOP INSTALLATION - PLAN

EDGE BAND FRP GRATING PER MANUFACTURER RECOMMENDATIONS w/ SS FASTENERS, TYP.

NOTE: PROVIDE FRP GRATING PILE SURROUND IN TWO HALVES (ONE HALF SHOWN). FASTEN TO BEAMS AND STRINGERS USING S.S. HARDWARE PER MANUFACTURER'S GUIDELINES, TYP.

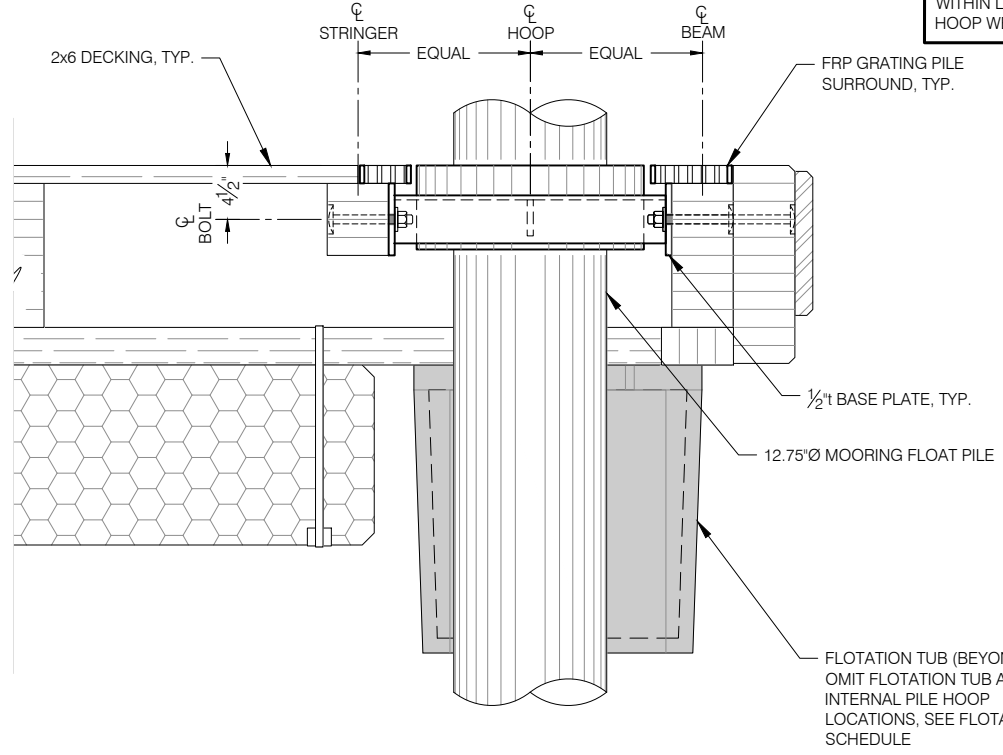


FRP GRATING PILE SURROUND PLAN

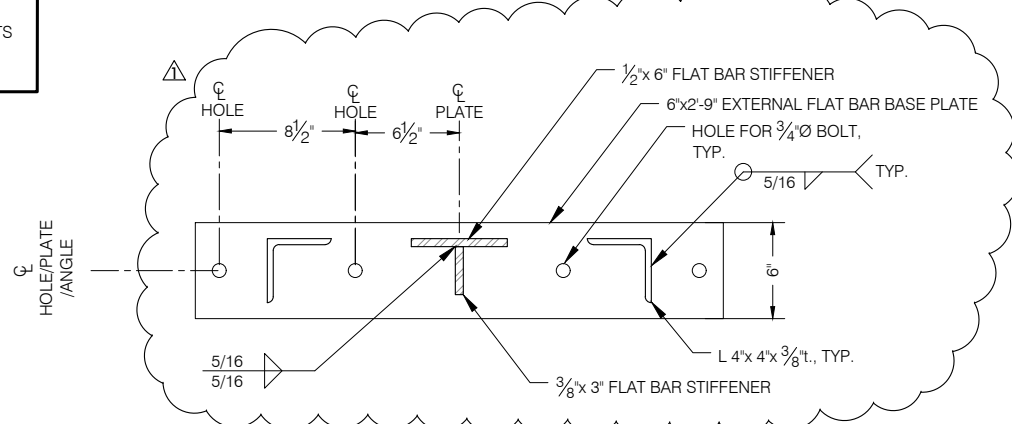


INTERNAL PILE HOOP WELDMENT - PLAN

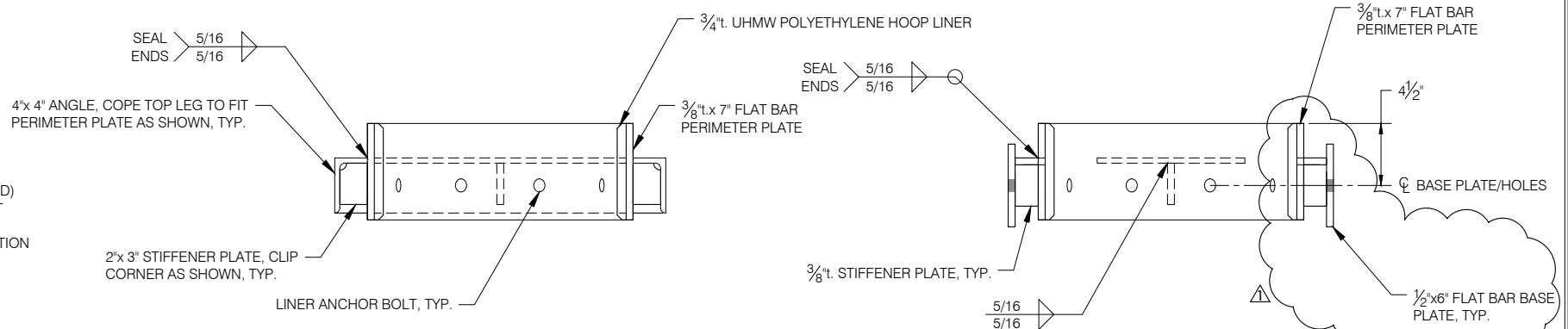
NOTE:
OMIT UPPER WALER BOLTS WITHIN LIMITS OF PILE HOOP WELDMENT, TYP.



INTERNAL PILE HOOP INSTALLATION - SECTION D



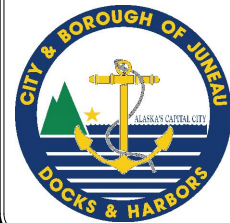
INTERNAL PILE HOOP WELDMENT - SECTION A



INTERNAL PILE HOOP WELDMENT - SECTION B

INTERNAL PILE HOOP WELDMENT - SECTION C

F28 - INTERNAL Pile Hoop Details



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ADD. 1	02/28/2023	REVISE PLATE LENGTH AND BOLT SPACING	MDS	CU	CU

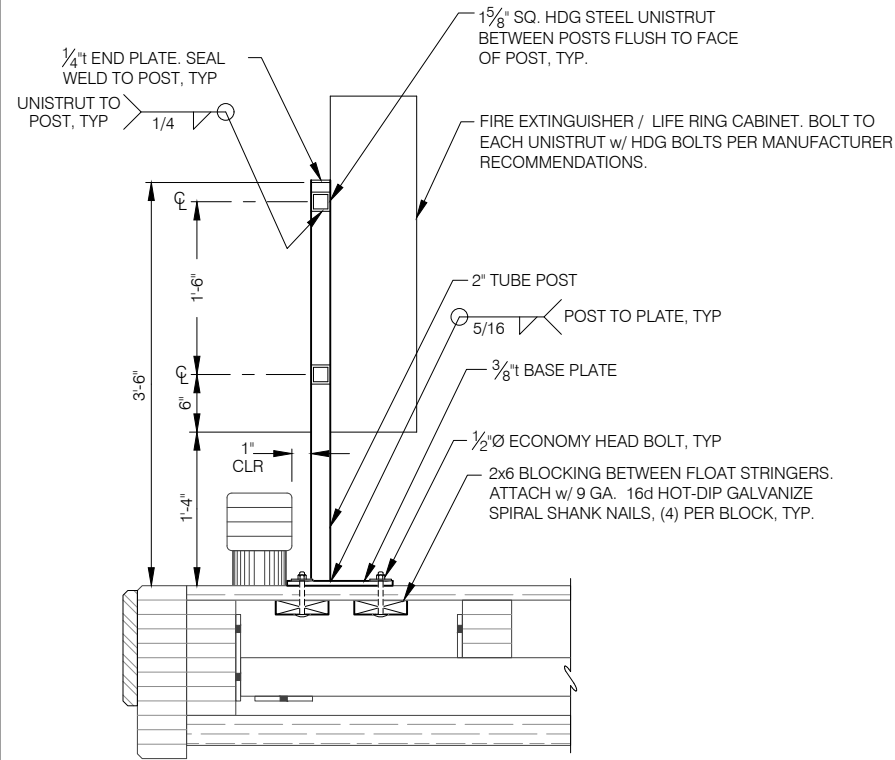
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PHONE: 907-586-0292



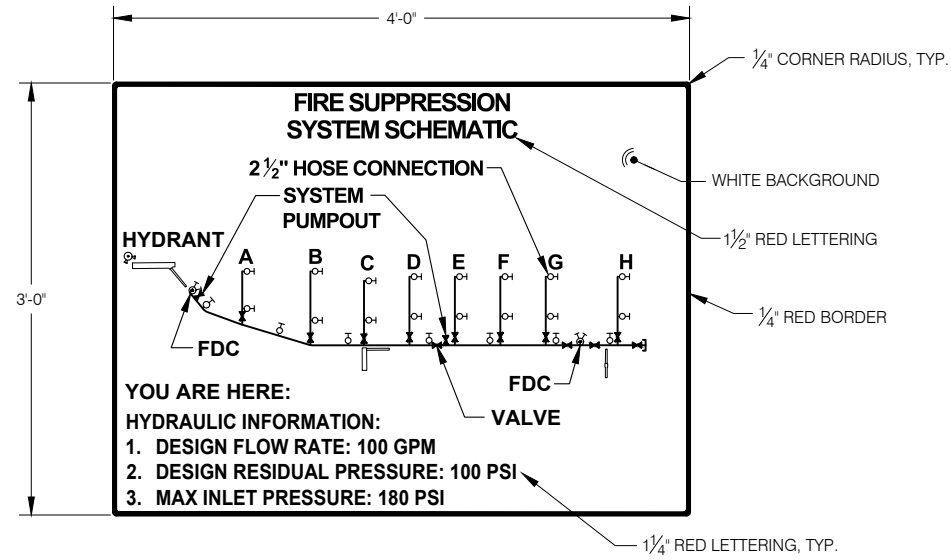
INTERNAL PILE HOOP DETAILS
AURORA HARBOR REBUILD - PHASE III

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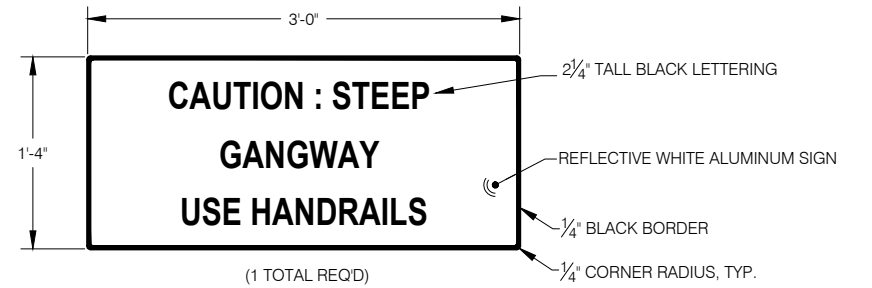
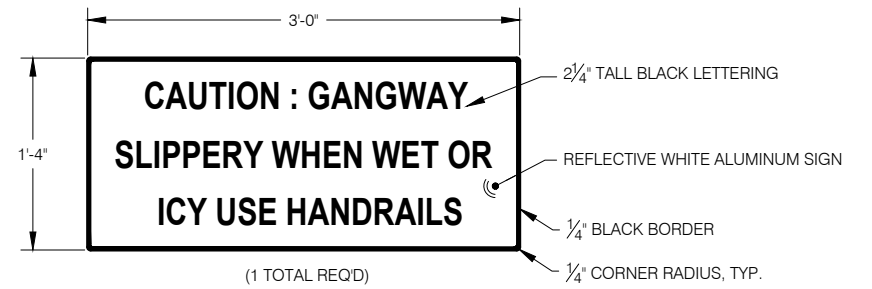
FIRE EXTINGUISHER/LIFE RING CABINET STAND



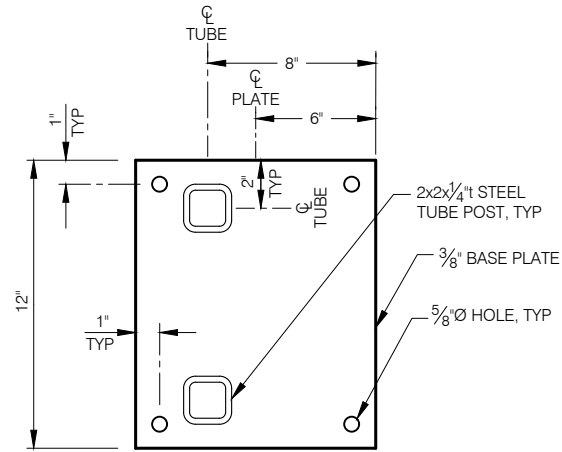
NOTE:
 PROVIDE (4) TO BE MOUNTED NEAR EVERY GANGWAY. REMOVE AND REPLACE EXISTING SIGNS. CONTRACTOR SHALL APPLY 2 EA. 1" DIA. ROUND RED WEATHER RESISTANT MARK TO THE SIGN TO INDICATE SIGN PLACEMENT LOCATION. CONTRACTOR SHALL BE PREPARED TO MOUNT SIGN TO TIMBER, STEEL OR CONCRETE. MOUNTING HARDWARE SHALL BE PROVIDED BY THE CONTRACTOR.

FIRE SUPPRESSION SYSTEM SIGNAGE

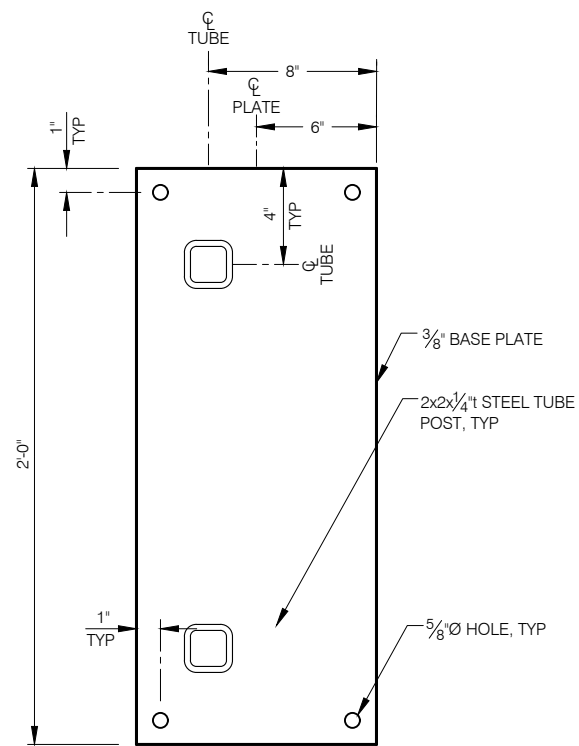
NOTE:
 MOUNT GANGWAY CAUTION SIGNS TO ABUTMENT SAFETY RAILS WITH (3) HDG U-BOLTS, OR SIMILAR. FINAL LOCATION PER OWNER/ENGINEER



GANGWAY SIGNAGE

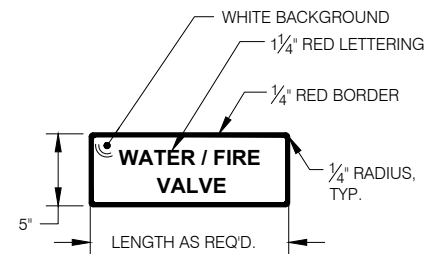


FIRE EXTINGUISHER BASE PLATE - PLAN



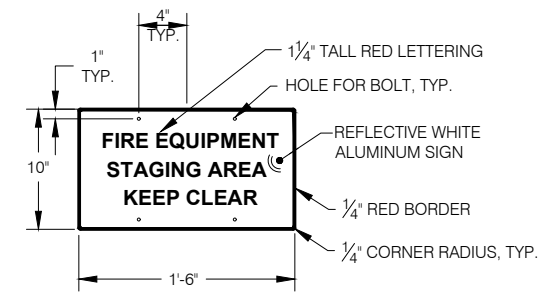
LIFE RING BASE PLATE - PLAN

NOTES:
 1. ALL FABRICATED STEEL AND HARDWARE SHALL BE HOT DIP GALVANIZED EXCEPT AS NOTED.
 2. EASE ALL EDGES OF FABRICATED STEEL PIECES.
 3. ALL HOT DIP GALVANIZED PARTS SHALL BE GALVANIZED AFTER FABRICATION.



NOTE:
 TYP. OF (4) MOUNT ON VALVE ADJACENT TO VALVE w/ (4) 1/4" X 3" SS SCREWS W/WASHERS. FINAL LOCATION PER ENGINEER DIRECTION.

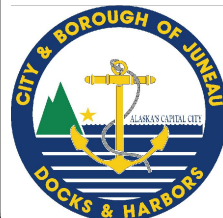
VALVE SIGNAGE



NOTE:
 TYP. OF (3), MOUNT ON FIRE PEDESTAL STAND w/ (4) 1/4" 316SS BOLTS w/ NUTS AND CUT WASHER.

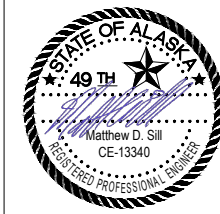
STAGING AREA SIGNAGE

F29 ES4 - APPURTENANCE SUPPORT DETAILS



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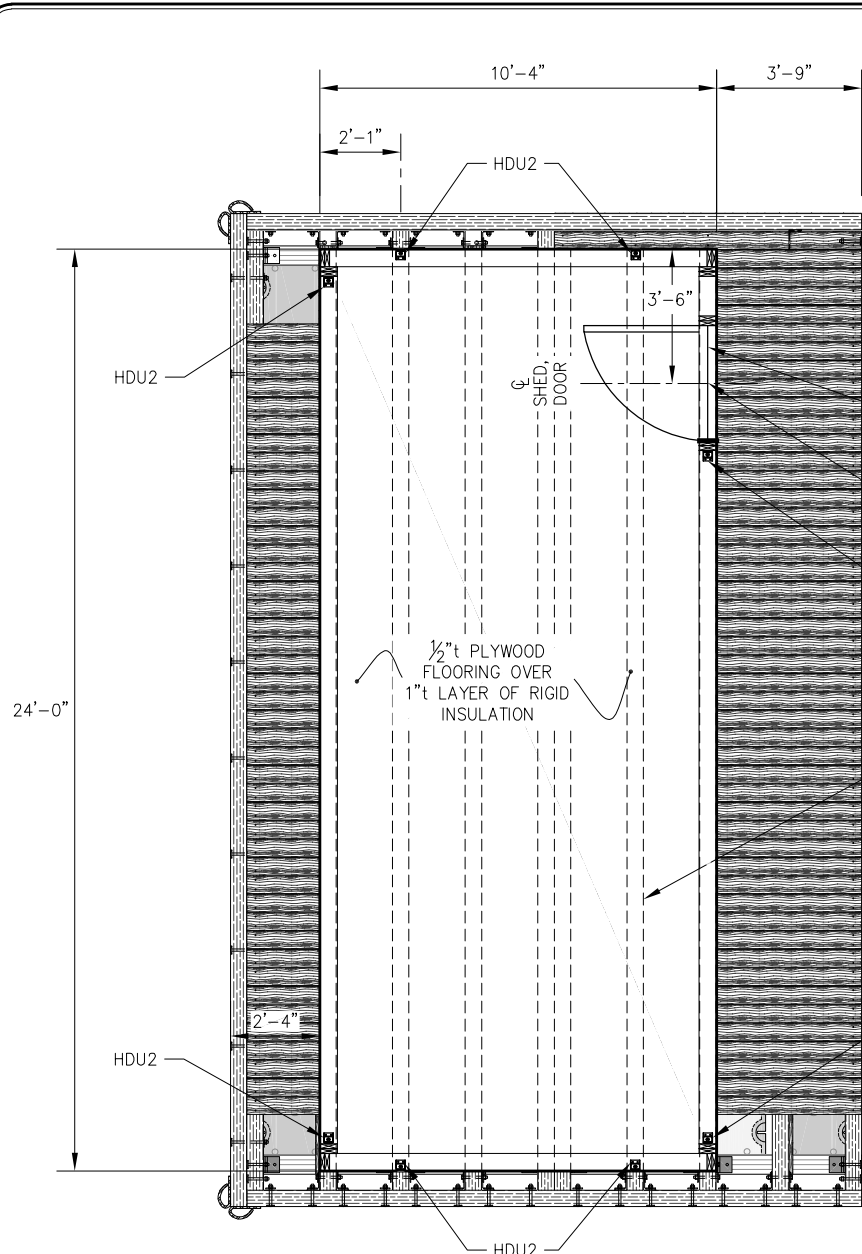
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SIGNAGE AND APPURTENANCE SUPPORT DETAILS
 AURORA HARBOR REBUILD - PHASE III

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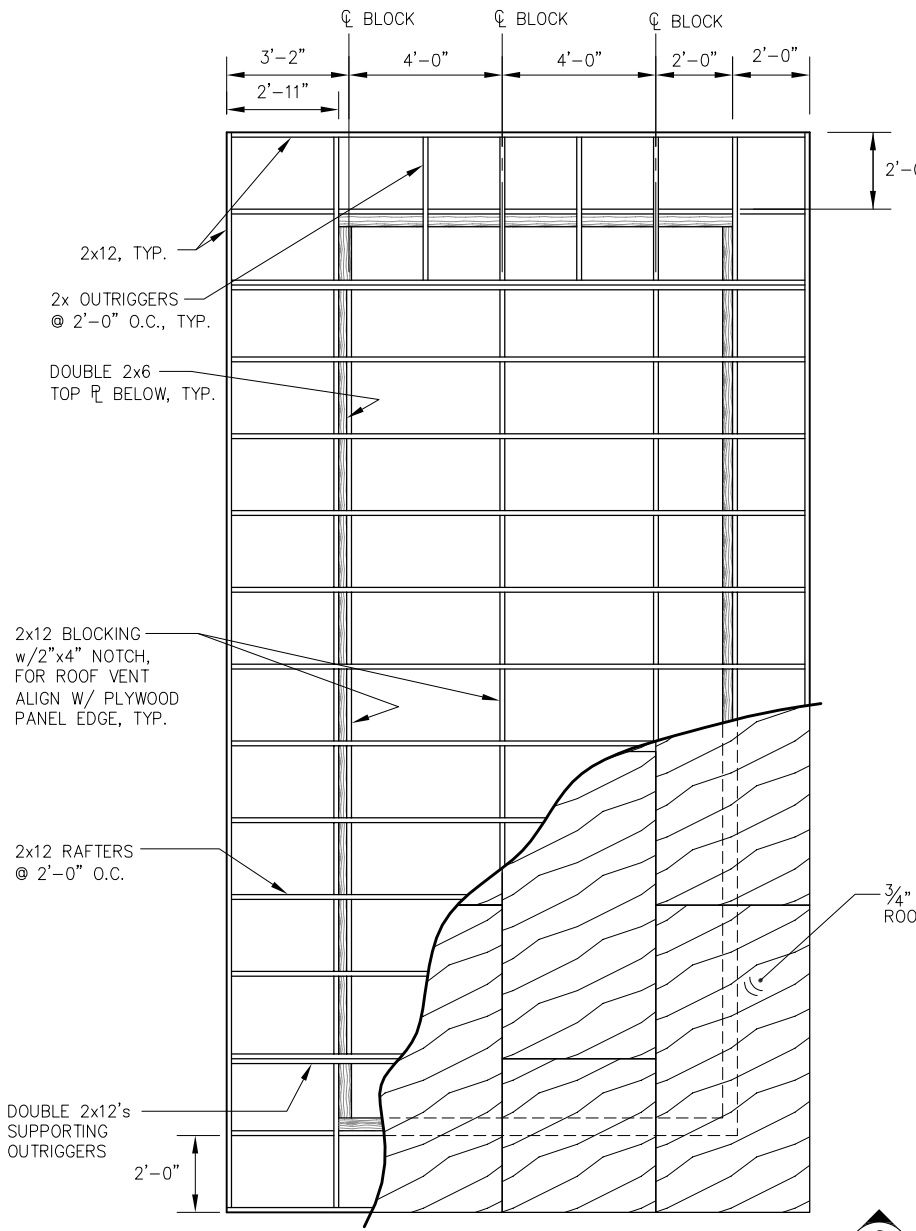
F29



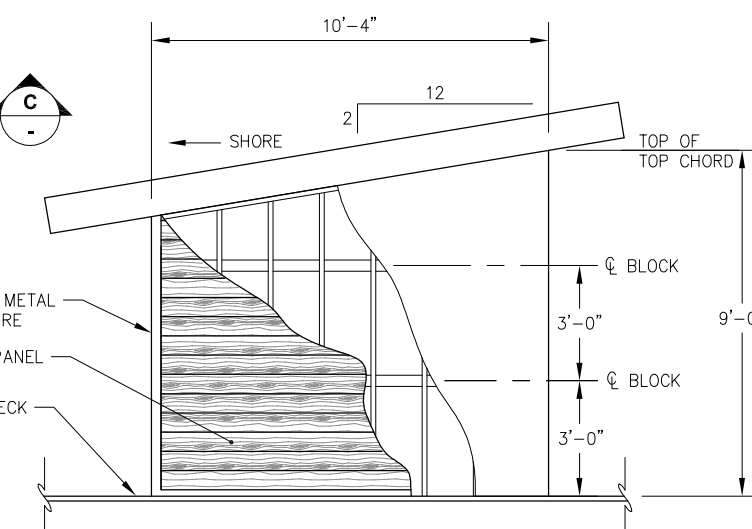
FLOOR PLAN

NOTES:

- EDGE NAIL ALL ROOFING & WALL SHEATHING @ 6" O.C., IN FIELD NAIL @ 12" O.C. w/10d HOT-DIP GALVANIZED COMMON NAILS. BLOCKING REQUIRED @ ALL PANEL EDGES.
- ALL FRAMING NAILS TO BE 16d HOT-DIP GALVANIZED COMMON NAILS.
- INTERIOR WALLS AND CEILING SHALL BE PAINTED w/100% ACRYLIC PAINT. SEE SPECS FOR PAINT DETAILS AND COLOR.
- ALL FLASHING SHALL BE SIMILAR MATERIAL AND GAGE AS METAL ROOFING.
- ATTACH SILL PLATE TO FLOAT FRAMING w/ 3/4"Øx9" LONG LAG BOLT AT 4'-0" O.C. BEGIN SPACE 12" FROM EITHER END WALL. AT END WALLS INSTALL AT ALTERNATING FLOAT STRINGERS BEGINNING AT CORNER, OMIT WHERE SPACING CONFLICTS WITH HOLDOWNS.
- ALL HDU HOLDOWNS SHALL USE LAG BOLTS OF SIMILAR SIZE AS TYPICAL BOLT.



ROOF FRAMING PLAN



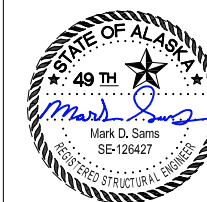
SIDE ELEVATION

36-37 UTILITY BUILDING



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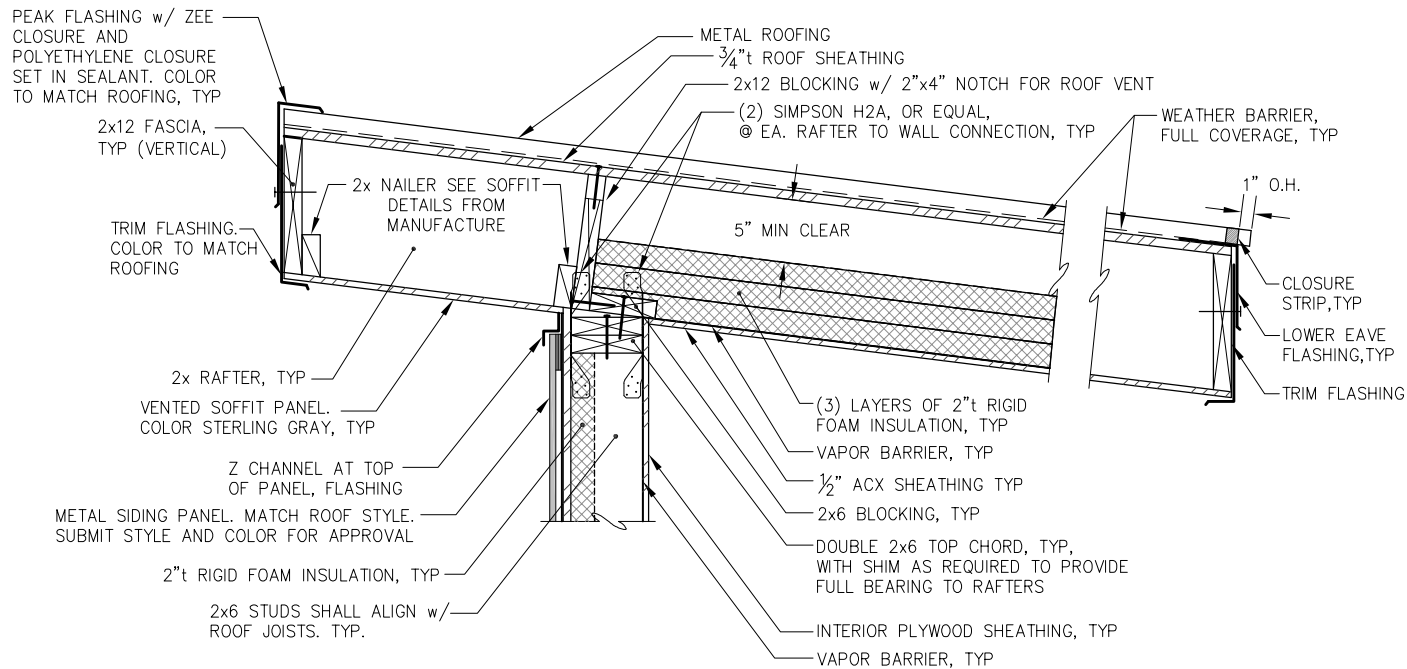


UTILITY BUILDING PLANS AND ELEVATION

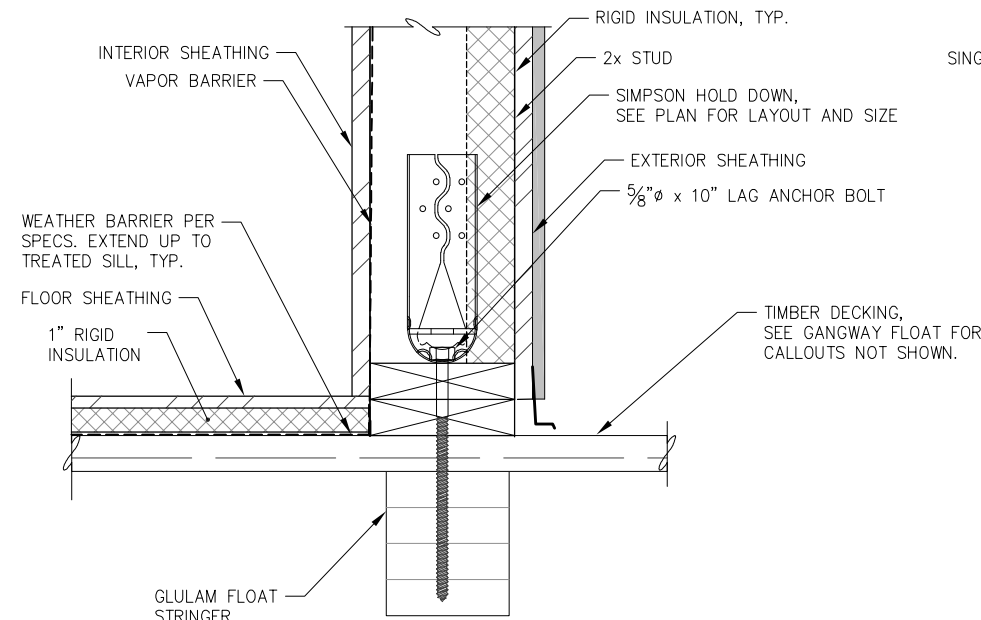
AURORA HARBOR REBUILD - PHASE III

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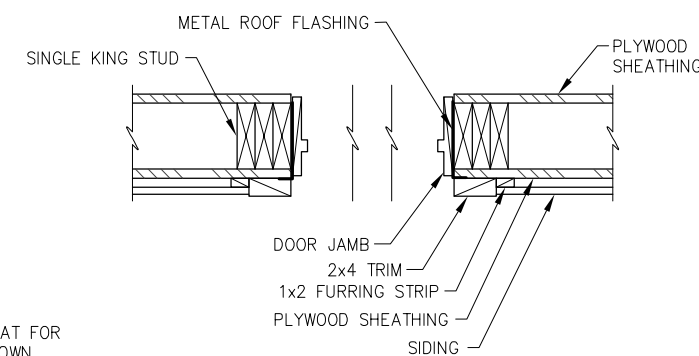
S1



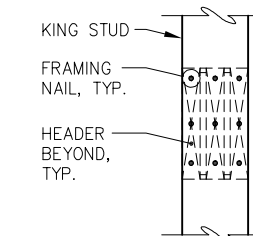
TYPICAL EAVE SECTION



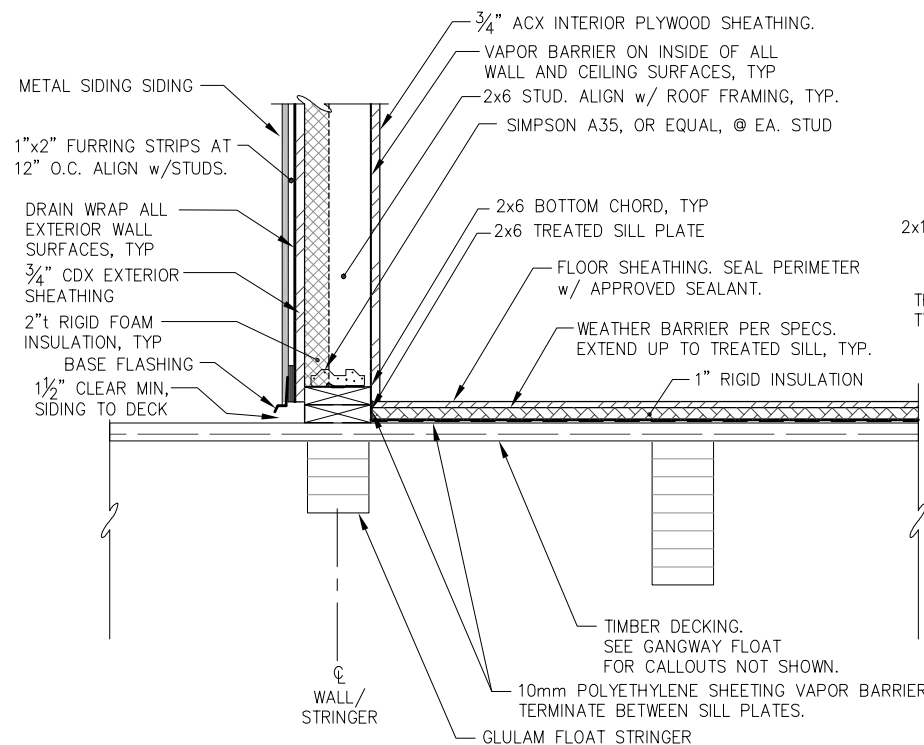
HOLD DOWN SECTION



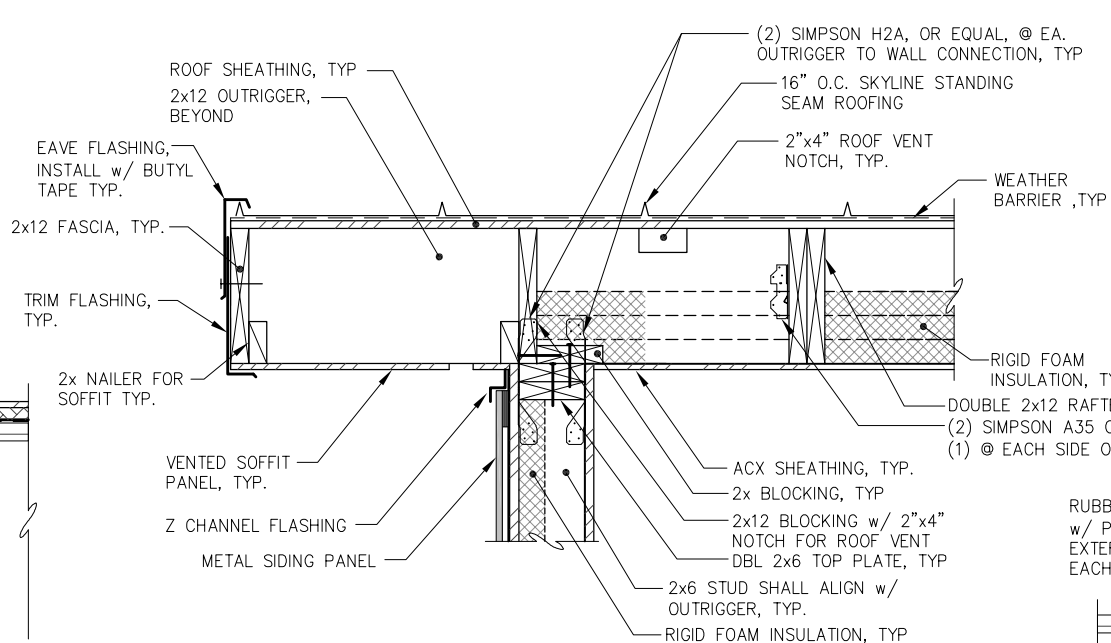
**MAN DOOR JAMB DETAIL
PLAN VIEW**



HEADER ATTACHMENT DETAIL

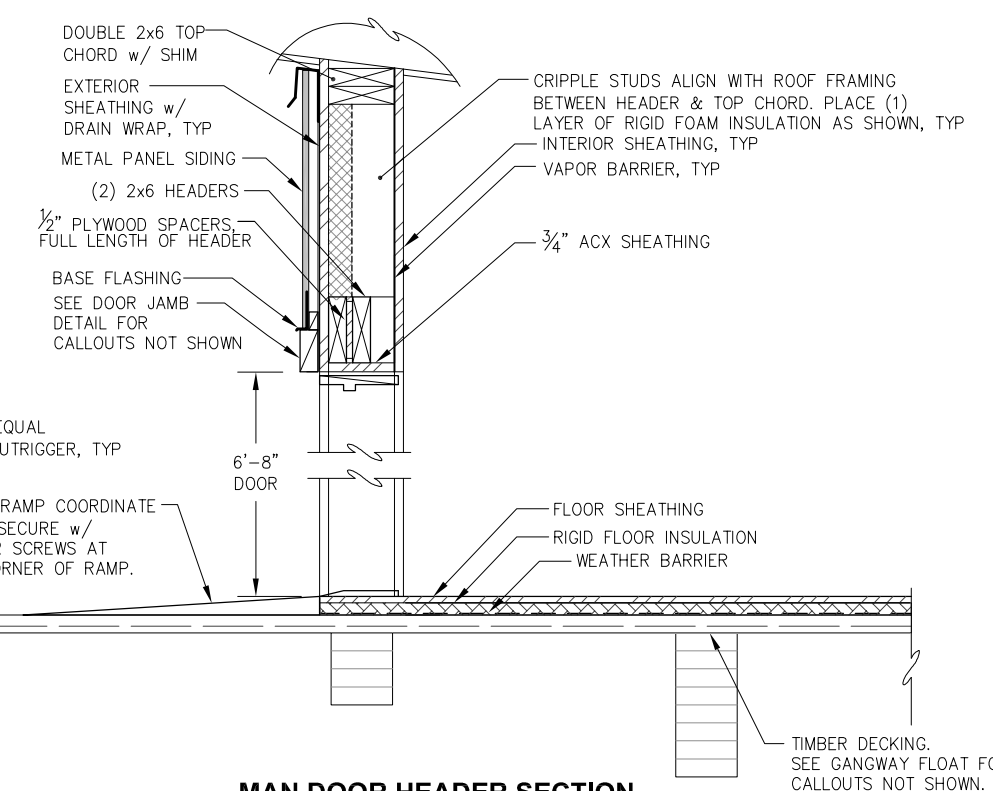


TYPICAL BASE SECTION



TYPICAL SIDEWALL SECTION

NOTE: SEE TYPICAL EAVE SECTION FOR DETAILS NOT CALLED OUT



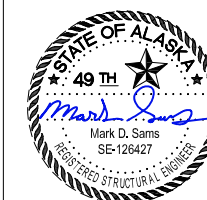
MAN DOOR HEADER SECTION

36-37 UTILITY BUILDING



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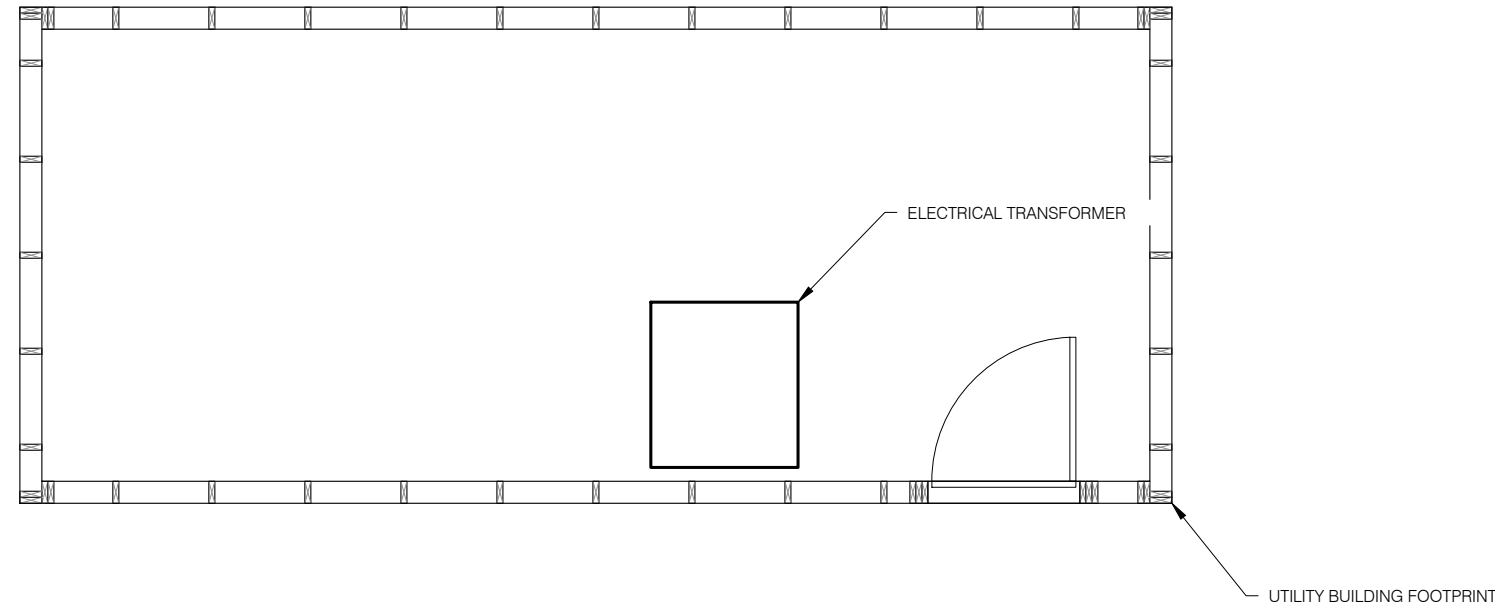
UTILITY BUILDING DETAILS

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2/13/23



ELECTRICAL EQUIPMENT FLOOR PLAN

CABLE FLOOR TRANSITION DETAIL

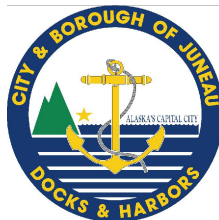
TRANSFORMER SUPPORT WELDMENT - PLAN

TRANSFORMER SUPPORT WELDMENT - ELEVATION

NOTE REQUIRED COORDINATION:
 CONSTRUCTION OF THE UTILITY BUILDING AND THE ELECTRICAL EQUIPMENT INSTALLED THEREIN WILL REQUIRE CLOSE COORDINATION BETWEEN THE ELECTRICAL SUB-CONTRACTOR AND THE UTILITY BUILDING CONTRACTOR. IN PARTICULAR THE FOLLOWING (NON-INCLUSIVE) LIST OF COORDINATION ITEMS SHOULD BE CONSIDERED:

- ELECTRICAL CONDUCTORS SHOULD BE PULLED INTO THE FOOTPRINT OF THE UTILITY BUILDING PRIOR TO THE CONSTRUCTION OF THE INSULATED FLOOR AND POSSIBLY PRIOR TO THE INSTALLATION OF THE DECKING.
- ELECTRICAL TRANSFORMER WILL REQUIRE INSTALLATION VIA CRANE DUE TO ITS WEIGHT. THIS PRECLUDES THE INSTALLATION OF THE UTILITY BUILDING ROOF UNTIL THE TRANSFORMER IS INSTALLED.
- MUCH OF THE ELECTRICAL EQUIPMENT IS WALL MOUNTED, THE ELECTRICIANS WILL NOT BE ABLE TO INSTALL ELECTRICAL PANELS UNTIL THE WALLS ARE INSTALLED.

S3 - EQUIPMENT FLOOR PLAN

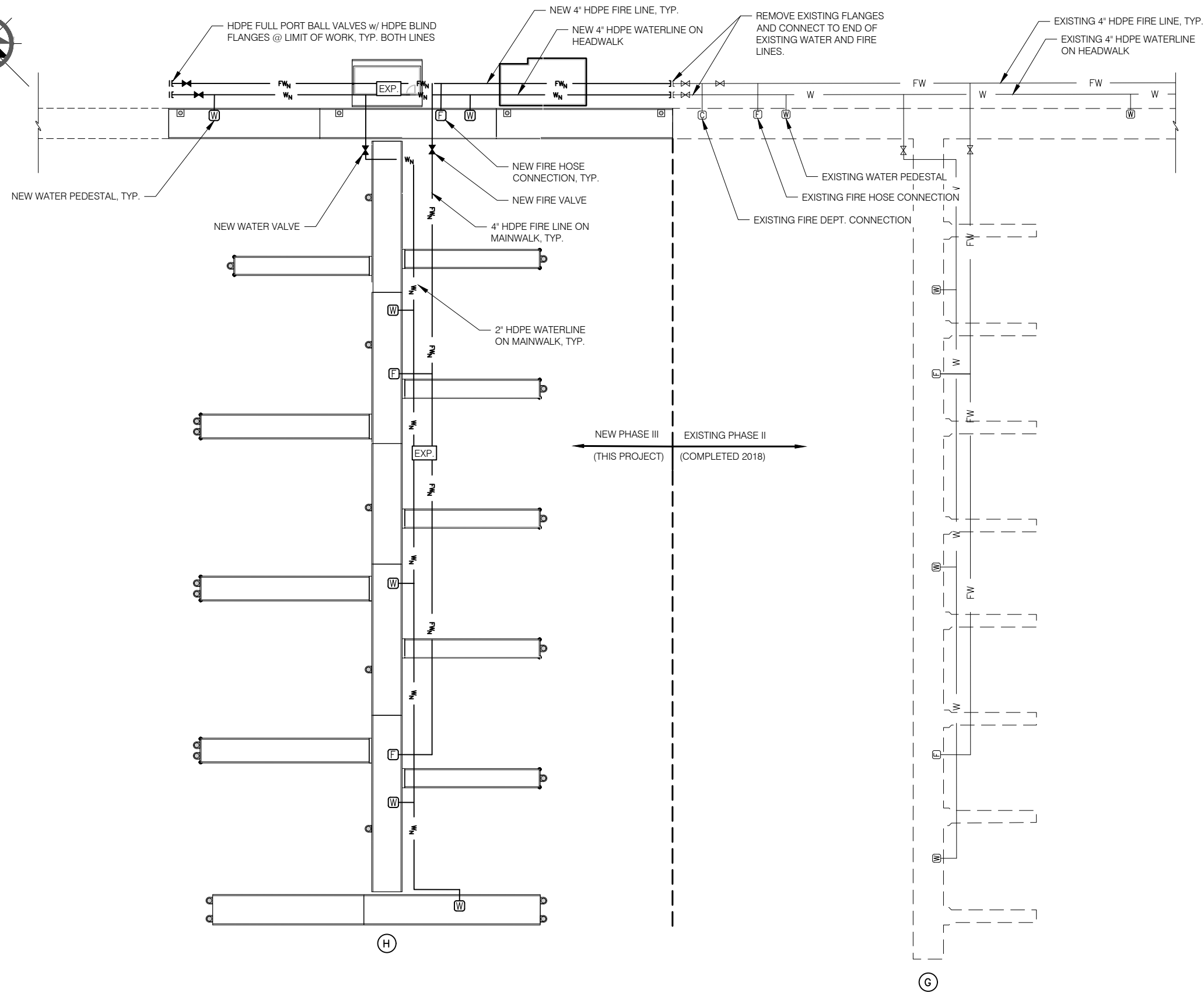


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UTILITY BUILDING EQUIPMENT FLOOR PLAN			
AURORA HARBOR REBUILD - PHASE III			
DESIGN:	MS	DATE:	FEBRUARY 21, 2023
CHECKED:	CU	CONTRACT NO.:	DH23-015
APPROVED:	CU	FILE NO.	1541 SHEET: 38 of 72

S3

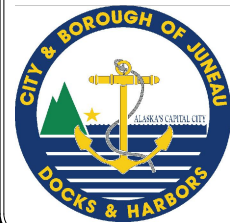


LEGEND & ESTIMATE OF MATERIAL QUANTITIES		
SYMBOL	DESCRIPTION	QUANTITY
⊗	VALVE	4
Ⓜ	WATER PEDESTAL	6
ⓕ	FIRE HOSE CONNECTION	3
Ⓟ	FIRE LINE PUMPOUT	0
ⓐ	FIRE DEPT. CONNECTION	0
EXP.	EXPANSION LOOP	2
w	WATERLINE (SIZE VARIES)	500 LF
FW	4" FIRE LINE	450 LF
w _x	EXISTING WATERLINE	N/A
FW _x	EXISTING FIRE LINE	N/A
⊗	EXISTING VALVE	N/A

GENERAL UTILITY NOTES:

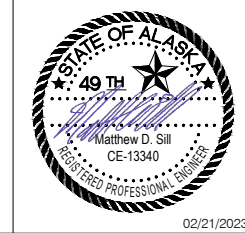
1. QUANTITIES ESTIMATED FOR REFERENCE PURPOSES ONLY, CONTRACTOR SHALL CONFIRM ALL QUANTITIES PRIOR TO MATERIAL ORDER.
2. ADDITIONAL QUANTITIES SHALL BE PROVIDED FOR SPARE PARTS AS LISTED IN THE TECHNICAL SPECIFICATIONS.
3. UTILITY LINES AND APPURTENANCES SHOWN APPROXIMATE, LOCATE SERVICES ACCORDING TO FLOAT PLAN AND DETAILS AND PER ENGINEER DIRECTION.
4. EXISTING SERVICES ARE SHOWN APPROXIMATE, CONTRACTOR SHALL FIELD VERIFY.
5. ALL BENDS IN THE PIPE THAT EXCEED THE PIPE MANUFACTURER'S RECOMMENDED BENDING RADII SHALL BE COMPLETED WITH ELBOW FITTINGS AS REQUIRED, (INCIDENTAL).
6. PRIOR TO MAKING FINAL CONNECTIONS TO THE EXISTING WATER SYSTEM DESIGNATED TO REMAIN THE CONTRACTOR SHALL CONSTRUCT, FLUSH, DISINFECT, AND PRESSURE TEST THE NEW WATERLINE AND FLEXIBLE HOSE ASSEMBLIES. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BLIND FLANGES, TAPS, FITTINGS AND VALVES AS REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH SPECIFICATIONS. FINAL CONNECTION SHALL BE COORDINATED WITH THE ENGINEER, OWNER AND CBS WATER DEPT. SUCH THAT SYSTEM DOWN TIME IS LIMITED TO 4 HOURS MAXIMUM. FINAL CONNECTIONS SHALL BE DISINFECTED IAW AWWA C651.
7. MINOR FITTINGS AND VARIOUS SYSTEM APPURTENANCES NOT SHOWN IN UTILITY SHEETS MAY BE REQUIRED TO CONSTRUCT UTILITY SYSTEMS. CONTRACTOR SHALL USE INDUSTRY STANDARD PRACTICES TO ACHIEVE ALL CONNECTIONS NOT DETAILED IN ACCORDANCE WITH THE SPECIFICATIONS AND CONSISTENT WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS PER ENGINEER DIRECTION (INCIDENTAL).
8. HOSES SHALL BE MONITORED THROUGH MULTIPLE TIDAL CYCLES TO ENSURE NO BINDING, STRETCHING OR OTHERWISE DAMAGING CONDITIONS EXISTING UNSATISFACTORY HOSE SHALL BE RECONFIGURED OR REPLACED TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE OWNER.
9. COORDINATE WATER PEDESTAL INSTALLATION WITH ELECTRICAL SUB-CRONTACTOR TO ENSURE HEAT TRACE JUNCTION BOX IS LOCATED CORRECTLY AND HEAT TRACE IS INSTALLED PER ELECTRICAL DRAWINGS.

U1 - WATER AND FIRE SCHEMATIC SITE PLAN



REVISIONS					
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 JUNEAU, ALASKA 99801
 PHONE: 907-586-0292

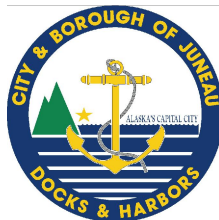


WATER AND FIRE SCHEMATIC SITE PLAN

AURORA HARBOR REBUILD - PHASE III

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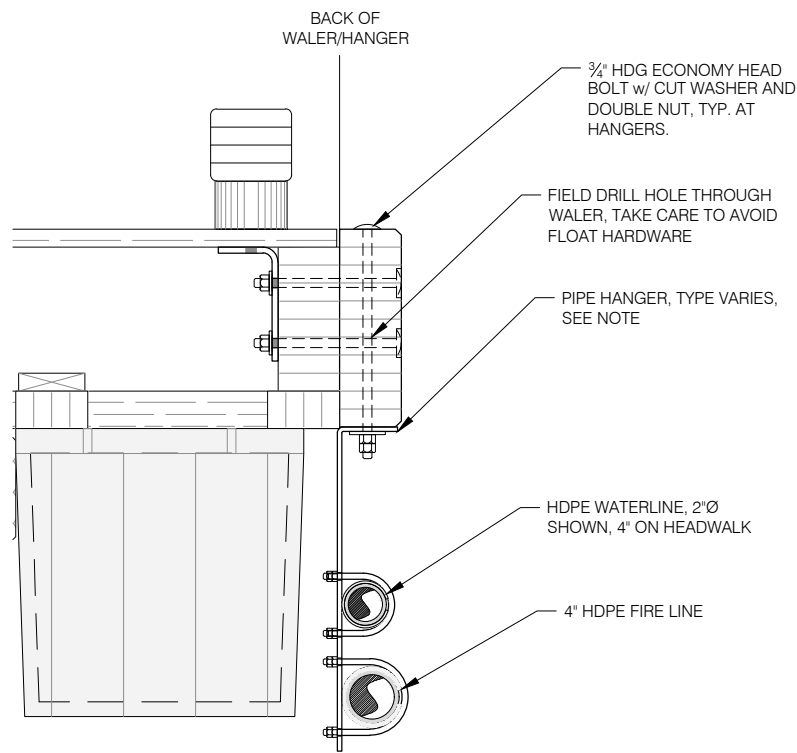
REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP

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**WATER AND FIRE SYSTEMS
 ROUTING PLAN**
 AURORA HARBOR REBUILD - PHASE III

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PIPE HANGER MOUNTING DETAIL

HANGER INSTALLATION NOTES:

PIPE HANGERS SHALL BE USED TO SUPPORT POTABLE WATER SYSTEM PIPES AND DRY FIRE SUPPRESSION SYSTEM PIPES. SEE SHEET U5 FOR PIPE HANGER DETAILS

TYPE I HANGERS SHALL BE USED TO SUPPORT STRAIGHT RUNS OF PIPE. SPACING SHALL NOT EXCEED 8'-0" O.C.

TYPE II HANGERS SHALL BE USED TO SUPPORT PIPES IN THE MIDDLE OF EXPANSION LOOPS.

TYPE III HANGERS SHALL BE USED TO SUPPORT FIRE SUPPRESSION LINE AT ALL CHANGES IN PIPE DIRECTION. INSTALL ONE TYPE III HANGER ON EACH SIDE OF A TEE, AND ONE TYPE III HANGER AT EACH ELBOW. INSTALL TYPE III ON BOTH SIDES OF EACH EXPANSION LOOP.

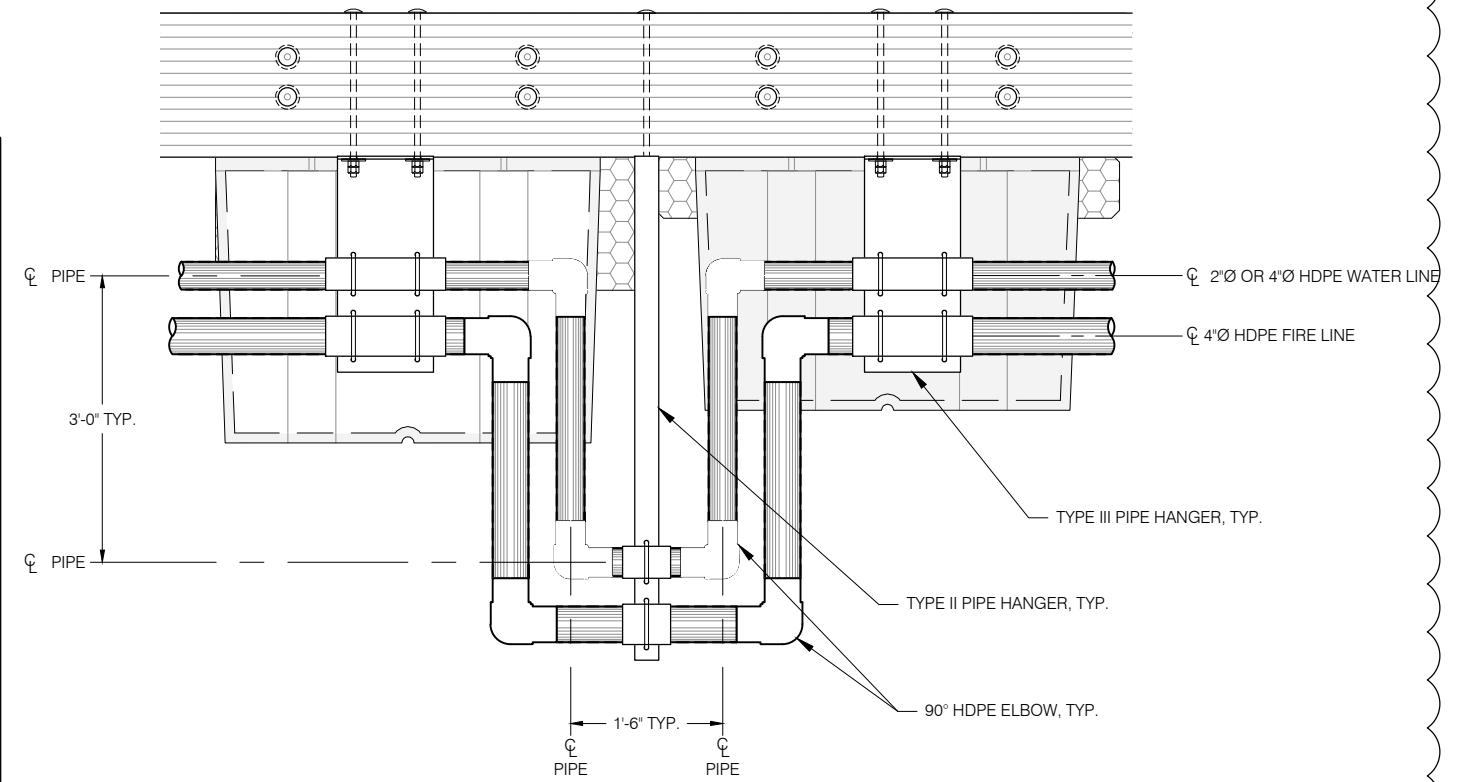
TYPE IV HANGERS SHALL BE USED TO SUPPORT PIPE AS IT PASSES UNDER THE FLOAT PERPENDICULAR TO THE LONG AXIS OF THE FLOAT, AND SHALL BE LOCATED ON THE CENTERLINE OF THE CENTER STRINGER.

INSTALL TYPE I, II, AND III HANGERS WITH 3/4" DIA. ECONOMY HEAD BOLTS. INSTALL TYPE IV HANGER WITH 3/4"x6" LAG BOLT, PRE-DRILL HOLE FOR LAG BOLT PRIOR TO INSTALLATION.

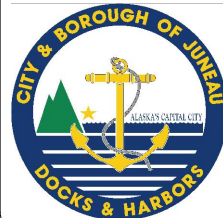
AFTER DRILLING BOLT HOLES, TREAT WOOD IN ACCORDANCE WITH AWPA M-4, THEN COAT BOLT AND UNDERSIDE OF BOLT HEAD WITH MASTIC AND INSTALL BOLT IN HOLE TO PROVIDE A SEAL AGAINST WATER INTRUSION.

CONTRACTOR SHALL LOCATE HANGER BOLTS OUTSIDE OF THE WALKING SURFACE OF THE FLOATS UNLESS DIRECTED OTHERWISE BY THE ENGINEER. ADDITIONAL HANGERS MAY BE REQUIRED TO PROVIDE 8'-0" MIN HANGER SPACING AT FINGER FLOATS.

MAINTAIN A MINIMUM OF 2 1/2" CLEAR TO ALL FLOAT HARDWARE UNLESS OTHERWISE APPROVED BY THE ENGINEER..

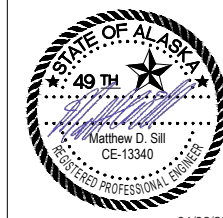


EXPANSION LOOP - ELEVATION



REVISIONS					
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ADD. 4	04/06/2023	RE-ISSUE ENTIRE SHEET	MDS	CU	CU

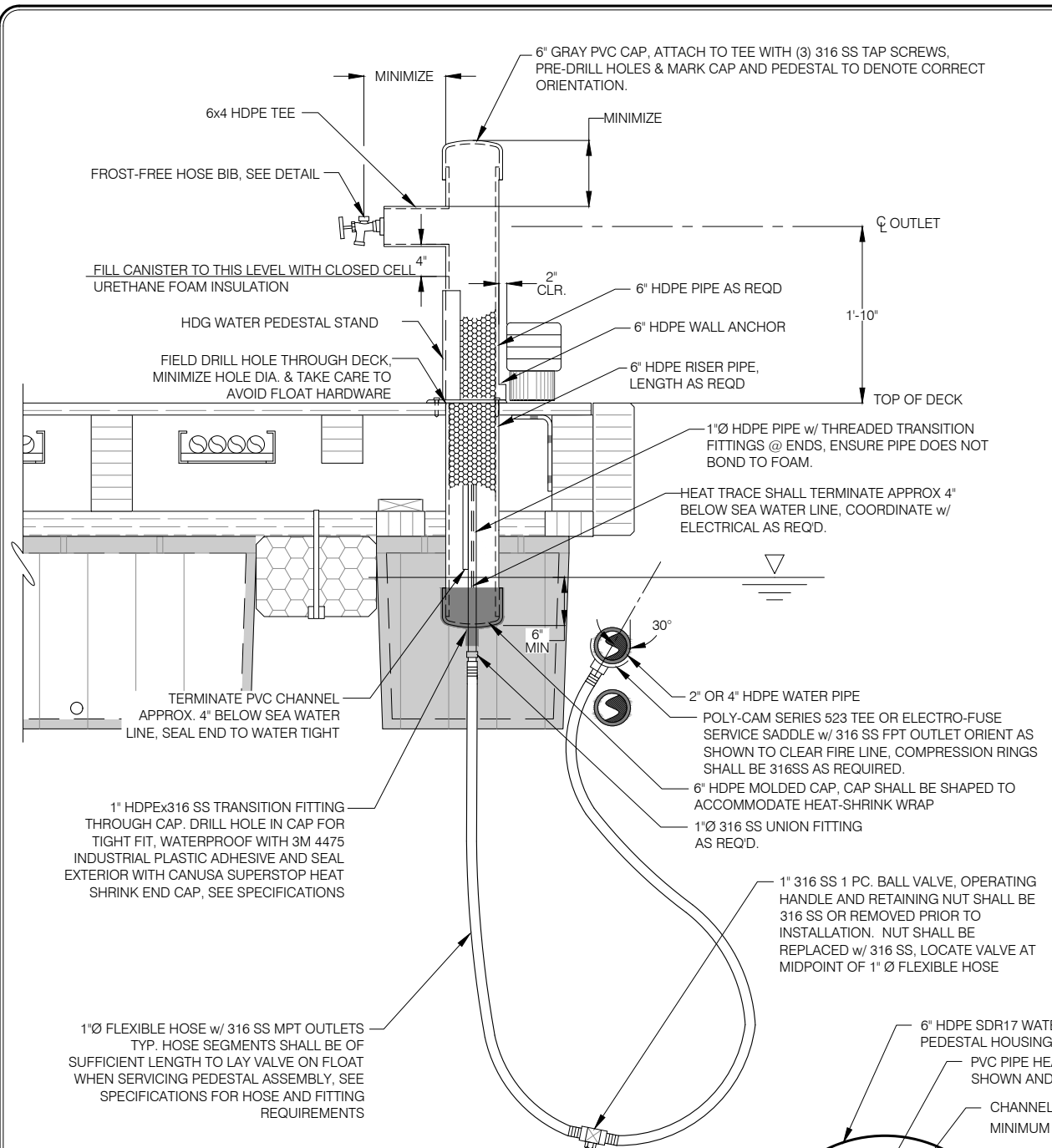
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FLOAT MOUNTED UTILITY DETAILS

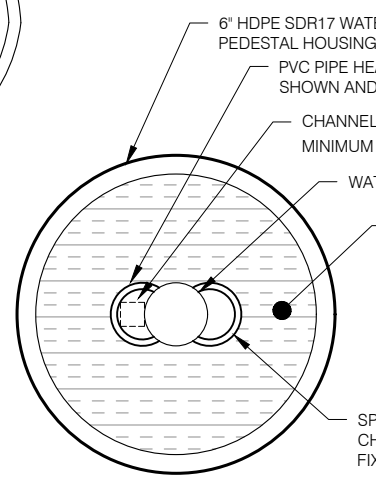
AURORA HARBOR REBUILD - PHASE III

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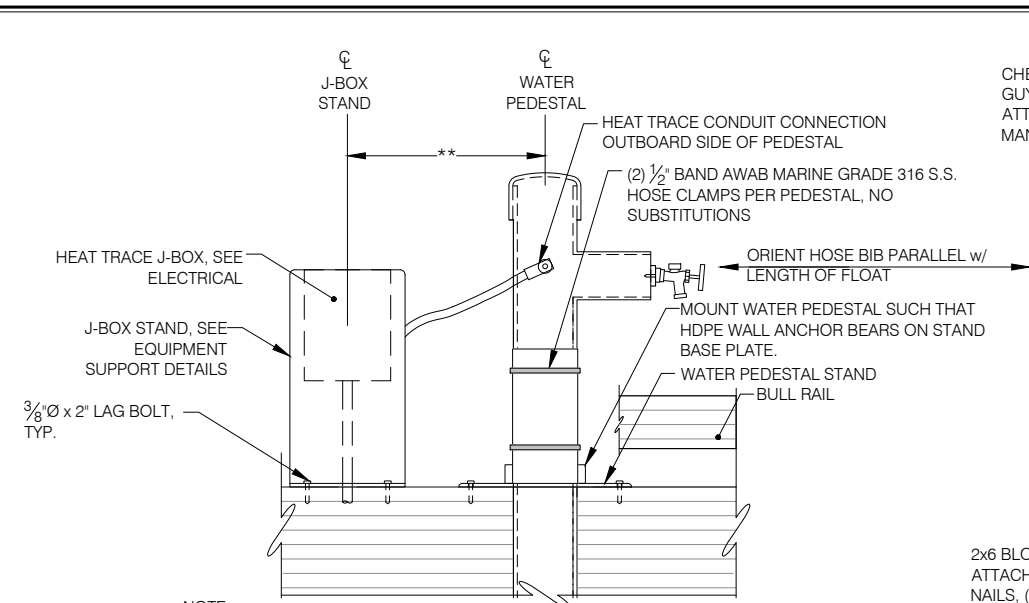


WATER PEDESTAL TYPICAL INSTALLATION

- WATER PEDESTAL NOTES:**
- HOSE BIB SHOWN IN PROFILE FOR ILLUSTRATIVE PURPOSES ONLY. ORIENT HOSE BIB PARALLEL WITH BULLRAIL.
 - HANGER AND CONNECTION HARDWARE NOT SHOWN FOR CLARITY.
 - ALL SUBMERGED STEEL SHALL BE CONSTRUCTED OF 316 SS, UNO.
 - LOCATE PEDESTALS PER FLOAT PLAN, FINAL LAYOUT AND ORIENTATION OF PEDESTAL SHALL BE FILED DETERMINED BY ENGINEER.

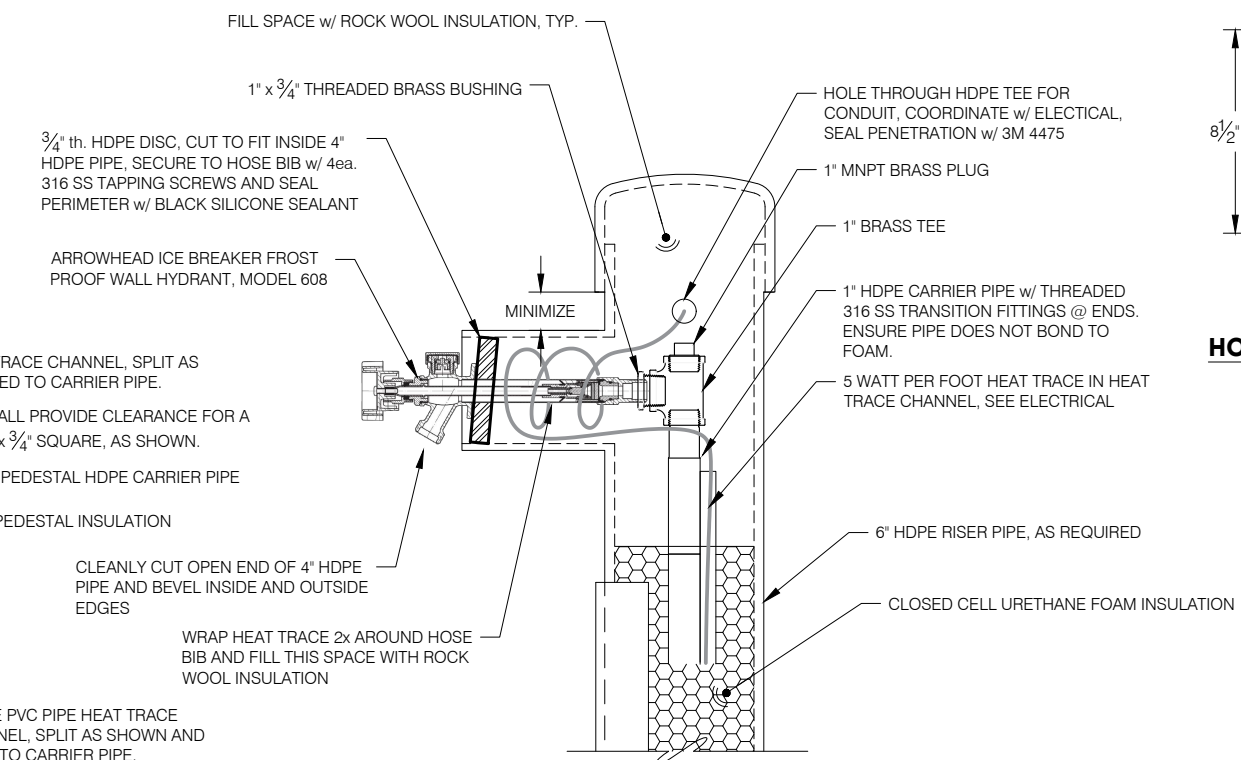


INSULATED WATER PEDESTAL - SECTION

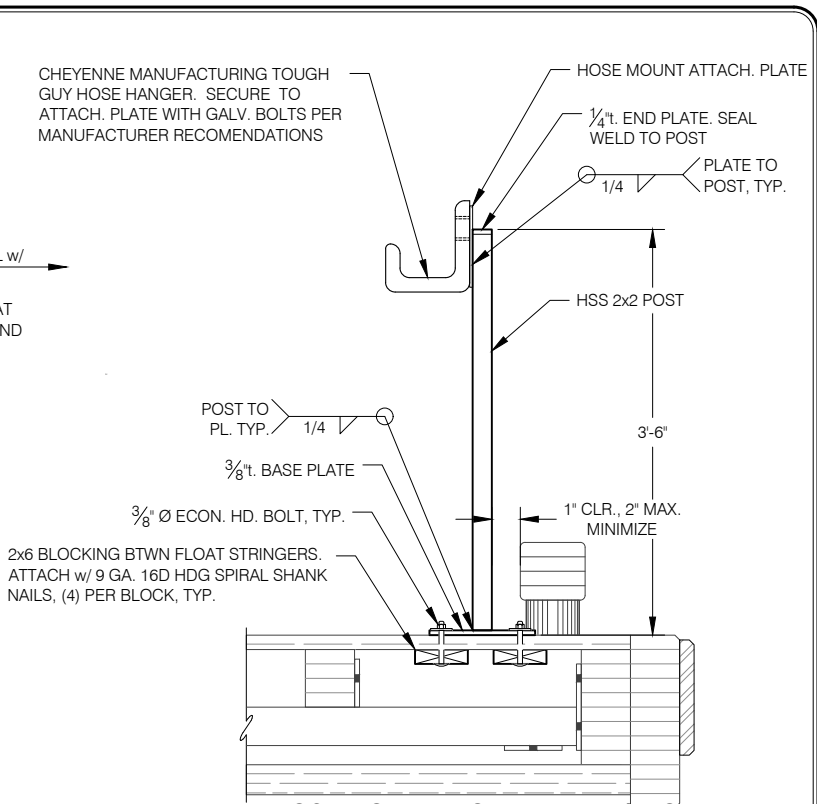


- NOTE:**
- TRIM WALL ANCHOR BEARING RING TO FLUSH WITH PIPE AROUND MOUNTING BRACKET VERTICAL PLATE.
 - ** 1'-6" MINIMUM 5'-0" MAX, LOCATE PER ENGINEER DIRECTION.

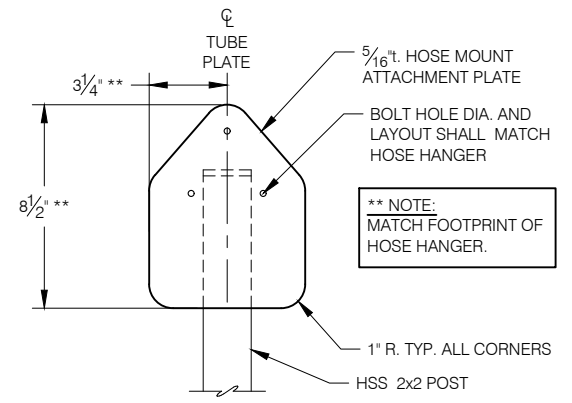
WATER PEDESTAL HEAT TRACE TYPICAL INSTALLATION



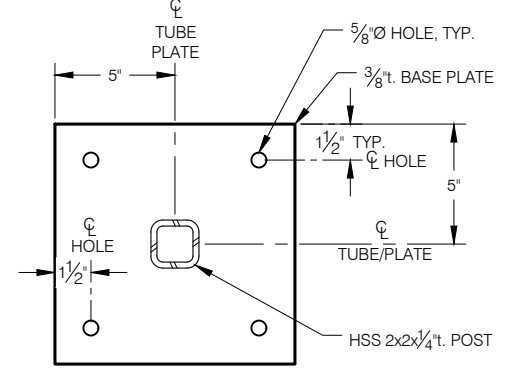
WATER PEDESTAL PIPING DETAILS



HOSE MOUNT MOUNT - ELEVATION

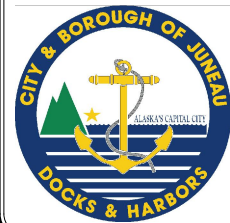


HOSE MOUNT ATTACH. PLATE - ELEV.



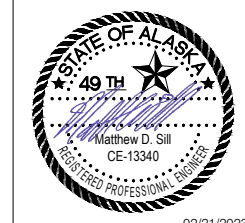
HOSE MOUNT BASE PLAN - PLAN

U4 U5 - Utility Details



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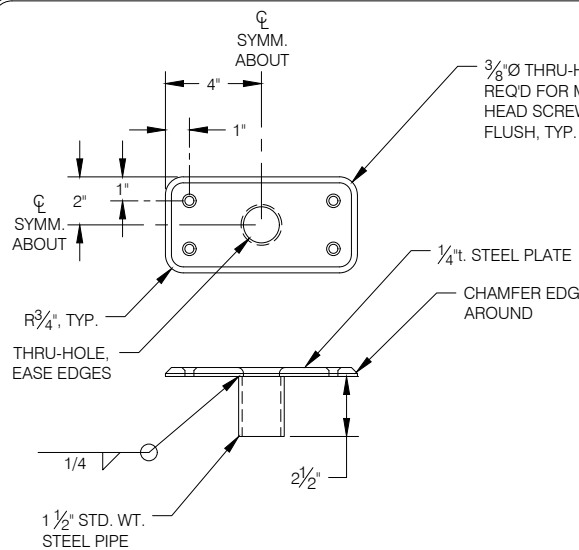


FLOAT MOUNTED UTILITY DETAILS

AURORA HARBOR REBUILD - PHASE III

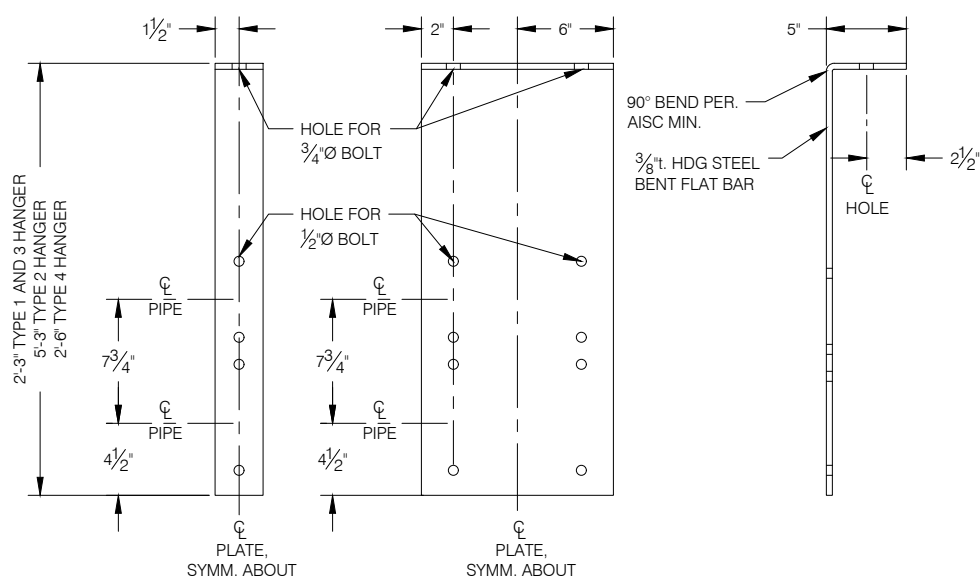
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U4

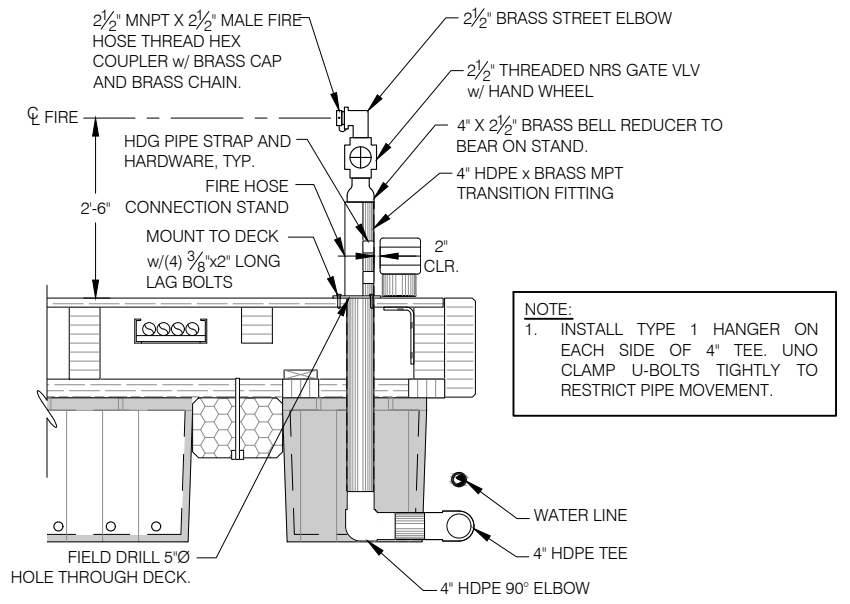


VALVE RISER BRACKET

- NOTES:**
1. ALL FABRICATED STEEL AND HARDWARE, SHOWN THIS SHEET, SHALL BE HOT DIP GALVANIZED.
 2. ALL STEEL DESIGNATED AS STAINLESS STEEL SHALL BE 316L STAINLESS STEEL.
 3. EASE ALL EDGES OF FABRICATED STEEL PIECES.
 4. ALL HOT DIP GALVANIZED PARTS SHALL BE GALVANIZED AFTER FABRICATION.

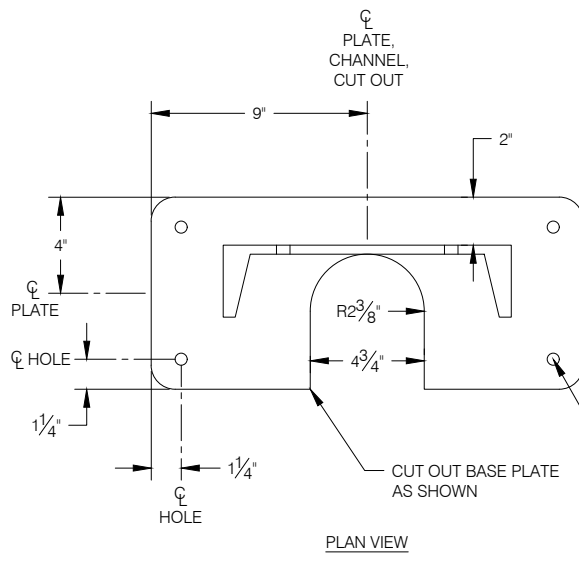


PIPE HANGER DETAILS

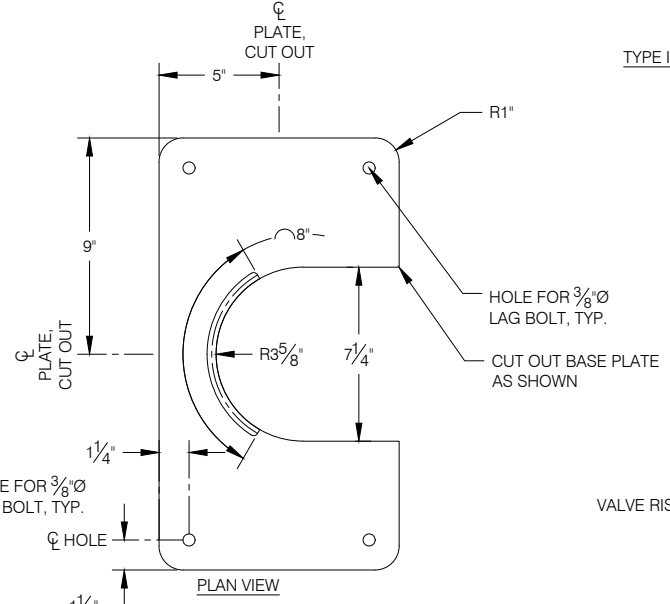


FIRE HOSE CONNECTION

- NOTE:**
1. INSTALL TYPE 1 HANGER ON EACH SIDE OF 4" TEE. UNO CLAMP U-BOLTS TIGHTLY TO RESTRICT PIPE MOVEMENT.

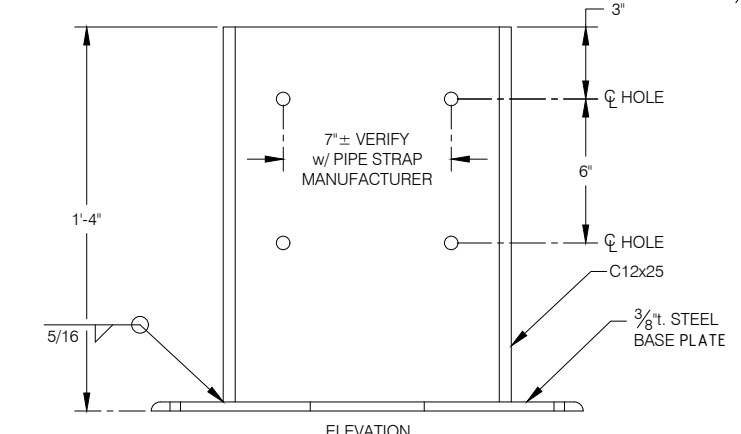


PLAN VIEW



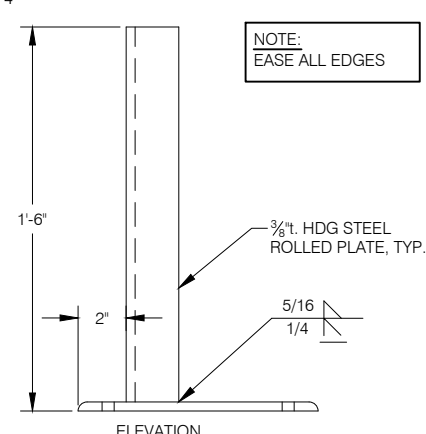
PLAN VIEW

- NOTE:**
EASE ALL EDGES



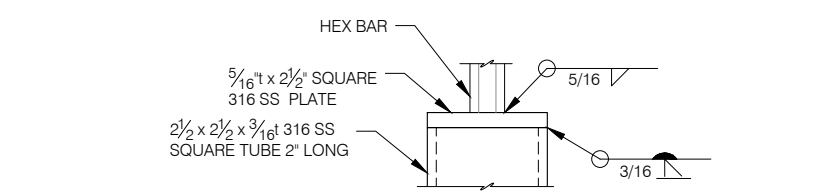
ELEVATION

FIRE HOSE CONNECTION STAND

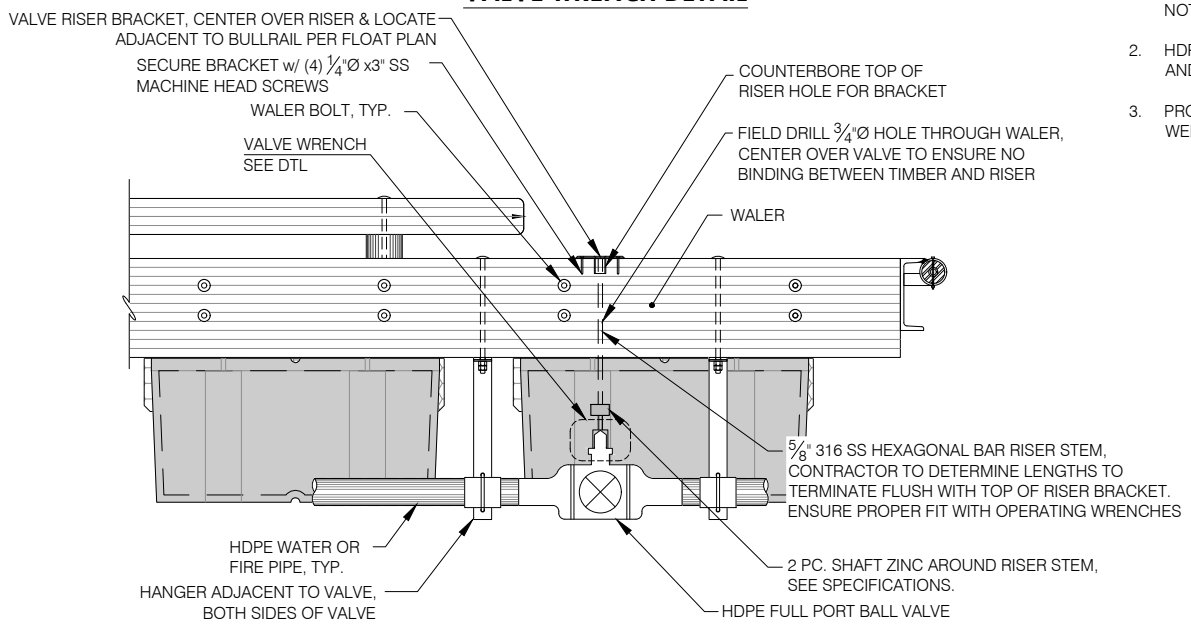


ELEVATION

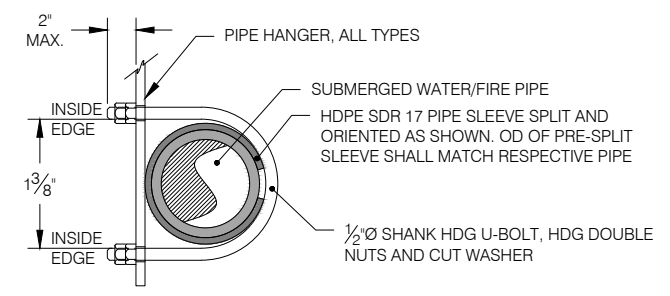
WATER PEDESTAL STAND



VALVE WRENCH DETAIL



VALVE AND OPERATION RISER ASSEMBLY

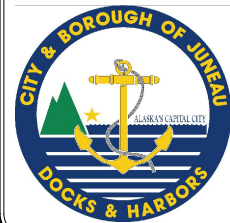


PIPE MOUNT TO HANGER

- NOTES:**
1. PIPE SHALL BE CLAMPED SUCH THAT SLEEVE IS SECURED, BUT PIPE IS ALLOWED TO SLIDE LONGITUDINALLY EXCEPT WHERE NOTED.
 2. HDPE PIPE SLEEVE SHALL BE 13" LONG FOR TYPE III HANGERS AND 6" LONG FOR ALL OTHER HANGERS.
 3. PROVIDE 4" MINIMUM CLEARANCE BETWEEN SLEEVE AND PIPE WELDS, UNO.

- NOTES:**
1. VALVES SHALL BE OPERATED WITH A TEE-HANDLE SOCKET WRENCH OF ADEQUATE LENGTH TO TURN THE HANDLE ABOVE THE BULLRAIL. PROVIDE (1) SNAP-ON, OR EQUAL TEE HANDLE SOCKET WRENCHES TO OWNER AND (1) TO THE CBJ FIRE DEPARTMENT, (2) TOTAL REQD. VERIFY FIT UP W/ 5/8" HEXAGONAL BAR.
 2. HANGER ASSEMBLIES SHALL BE CLAMPED TO RESTRICT PIPE MOVEMENT.
 3. HOLES THROUGH TIMBER FOR HANGER BOLTS AND RISER BRACKETS TO BE FIELD DRILLED, TAKE CARE TO AVOID FLOAT HARDWARE, TREAT ALL TIMBER CUTS & PENETRATIONS PER SPECIFICATIONS.
 4. WRENCH AND RISER NOT REQUIRED AT FIRE VALVE LOCATIONS ON HEADWALK.

U4 U5 - Utility Details



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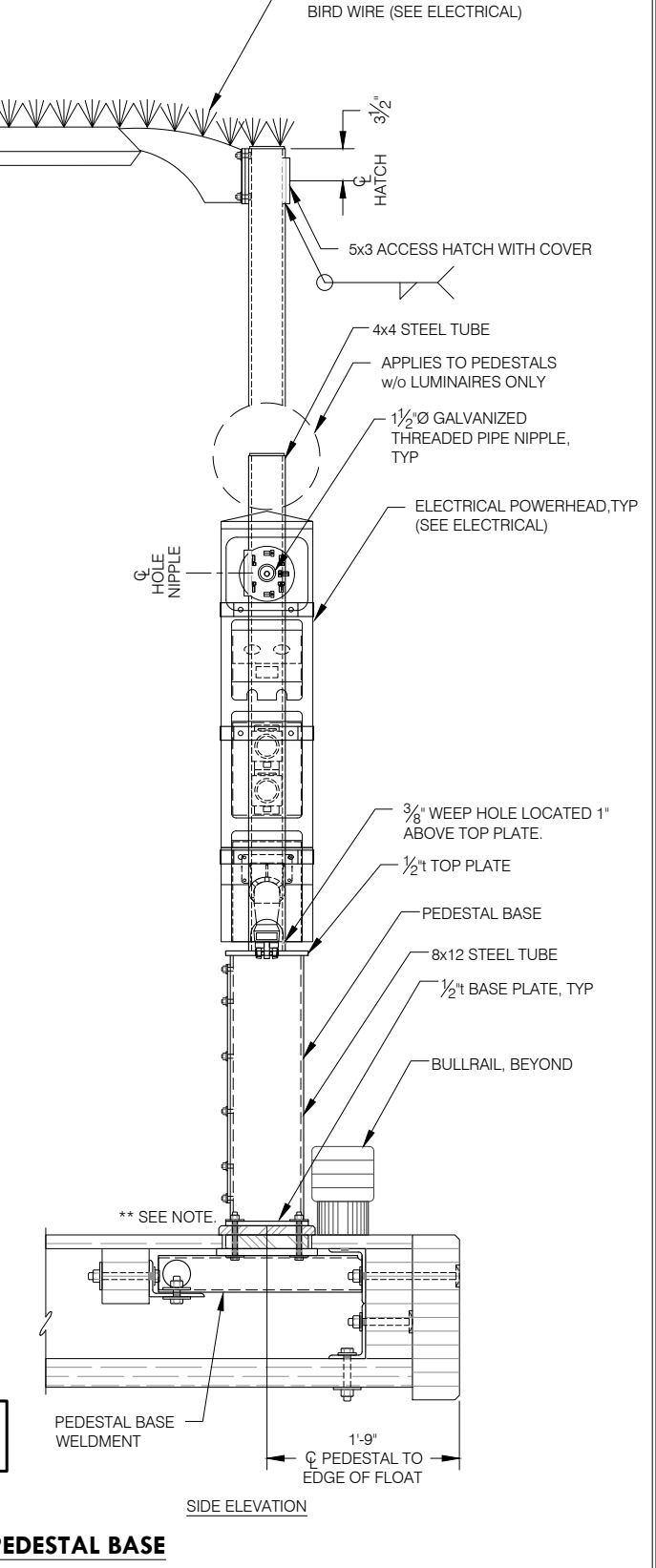
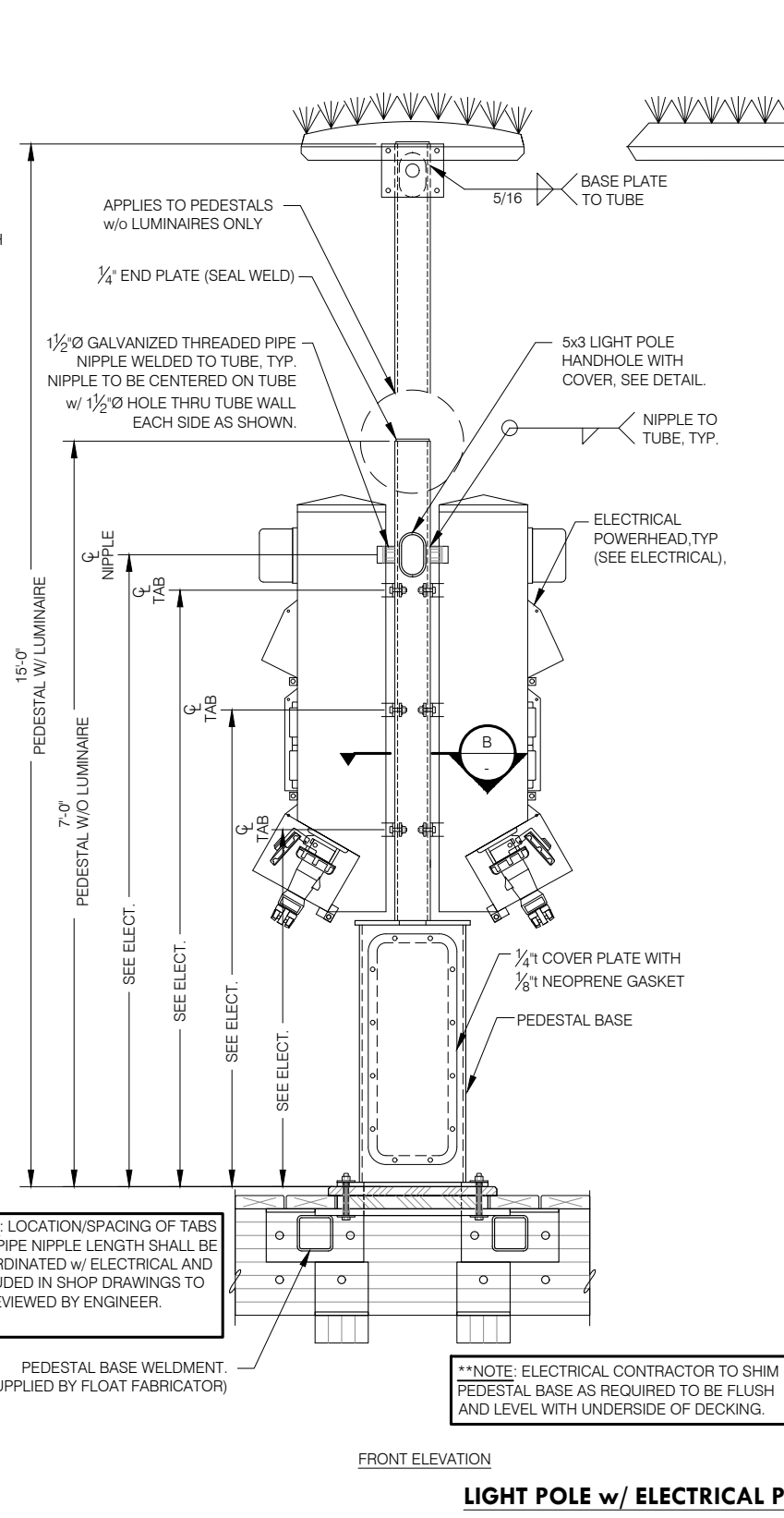
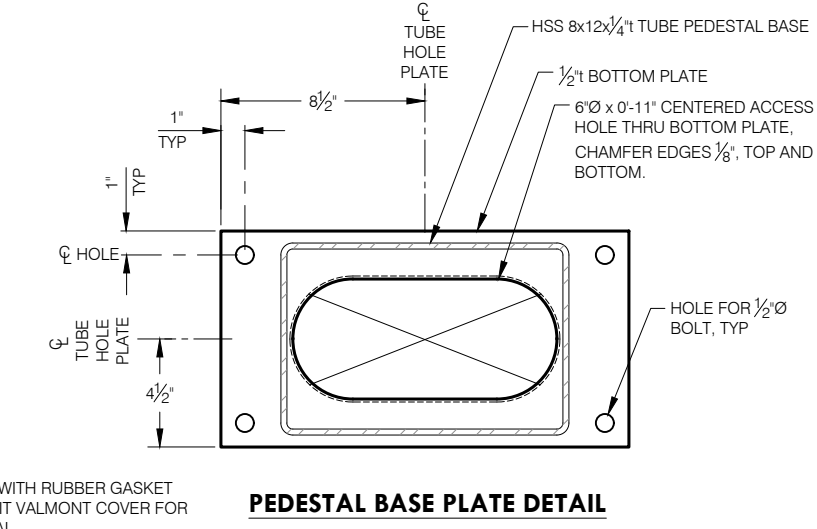
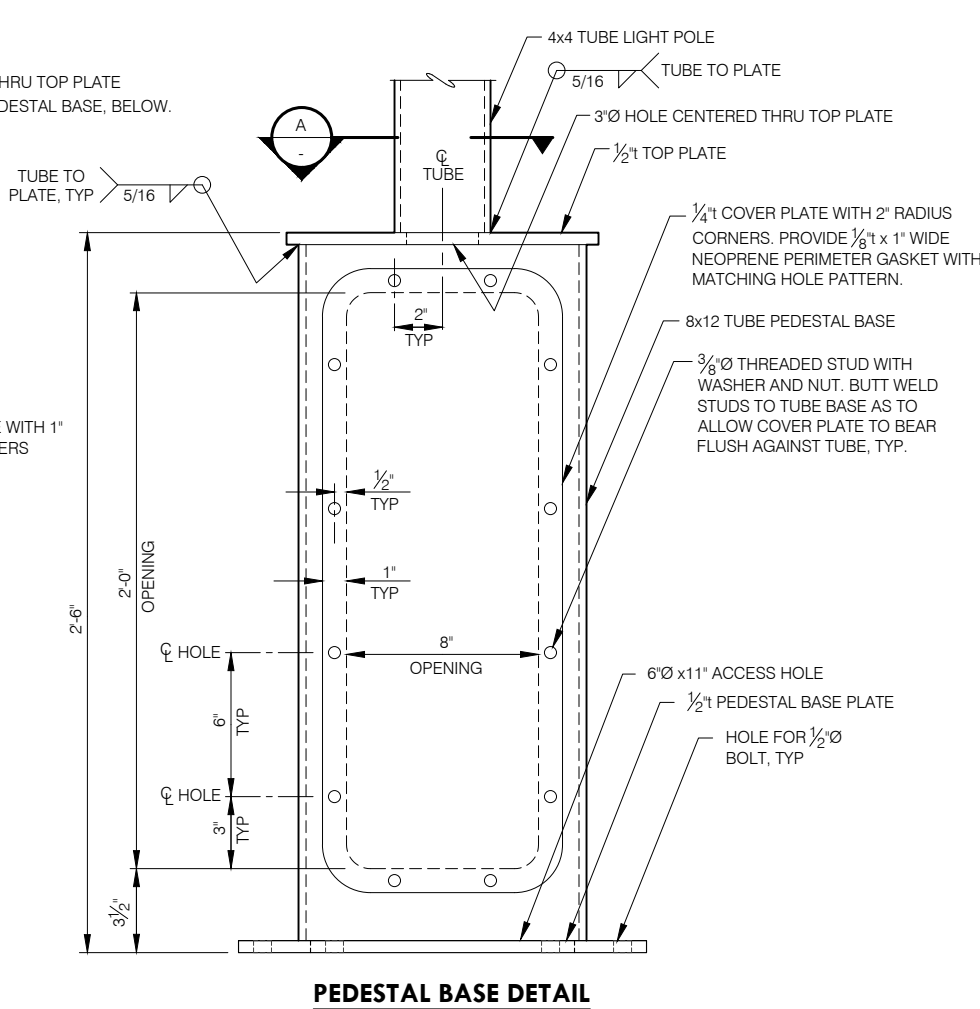
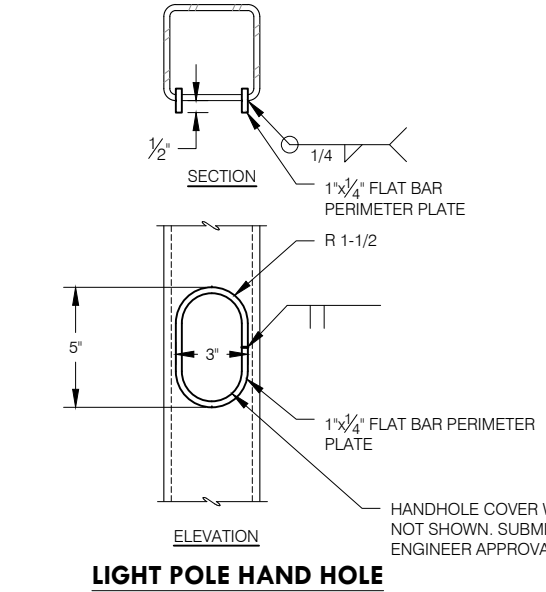
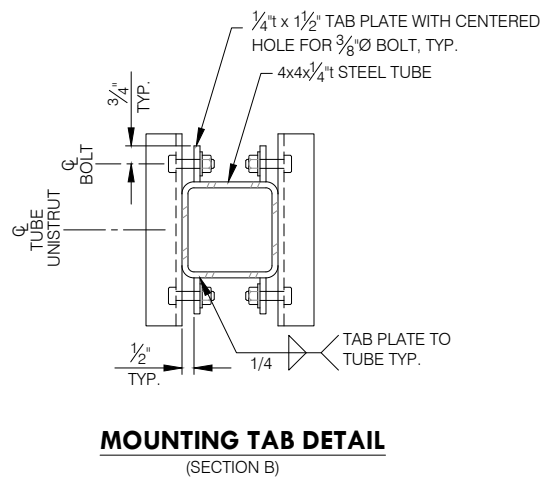
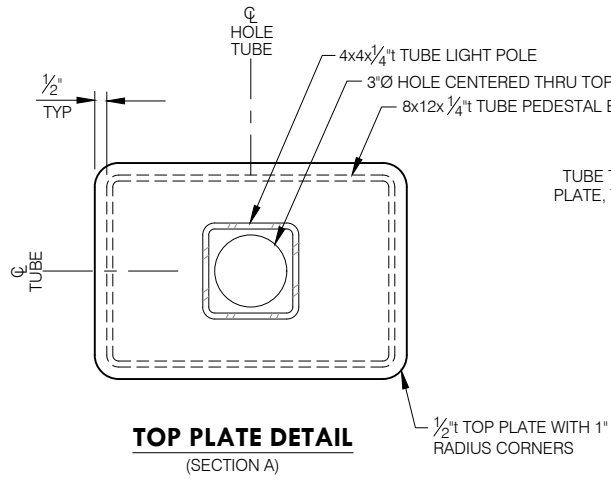


FLOAT MOUNTED UTILITY DETAILS

AURORA HARBOR REBUILD - PHASE III

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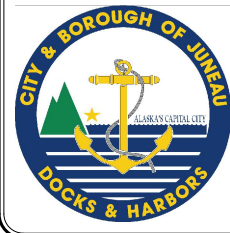
U5



NOTE: LOCATION/SPACING OF TABS AND PIPE NIPPLE LENGTH SHALL BE COORDINATED w/ ELECTRICAL AND INCLUDED IN SHOP DRAWINGS TO BE REVIEWED BY ENGINEER.

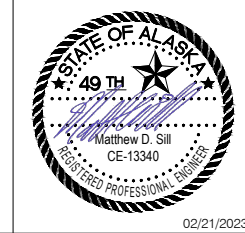
**NOTE: ELECTRICAL CONTRACTOR TO SHIM PEDESTAL BASE AS REQUIRED TO BE FLUSH AND LEVEL WITH UNDERSIDE OF DECKING.

ES1 ES2 ES3 - ELECTRICAL SUPPORT DETAILS



REVISIONS					
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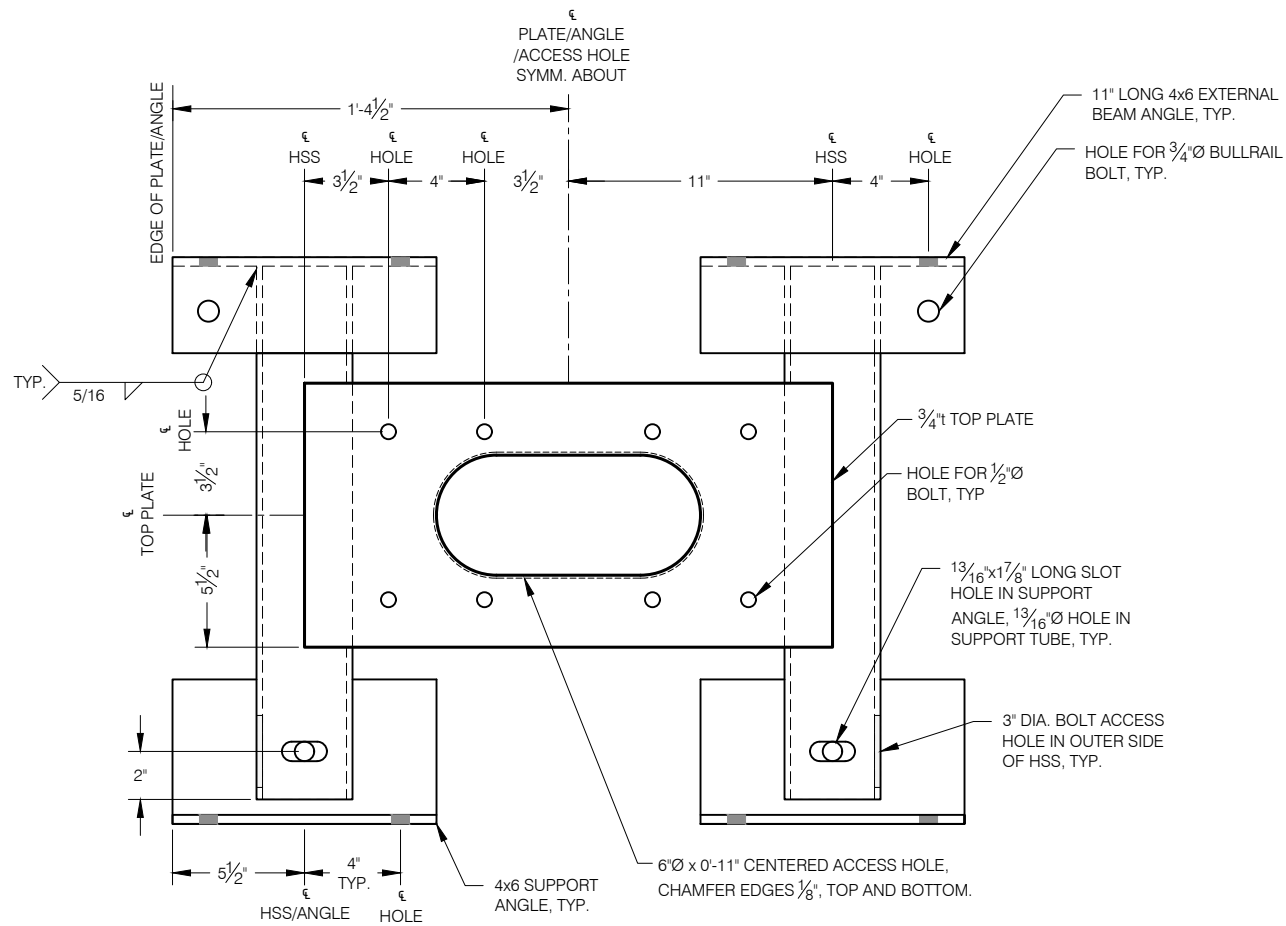
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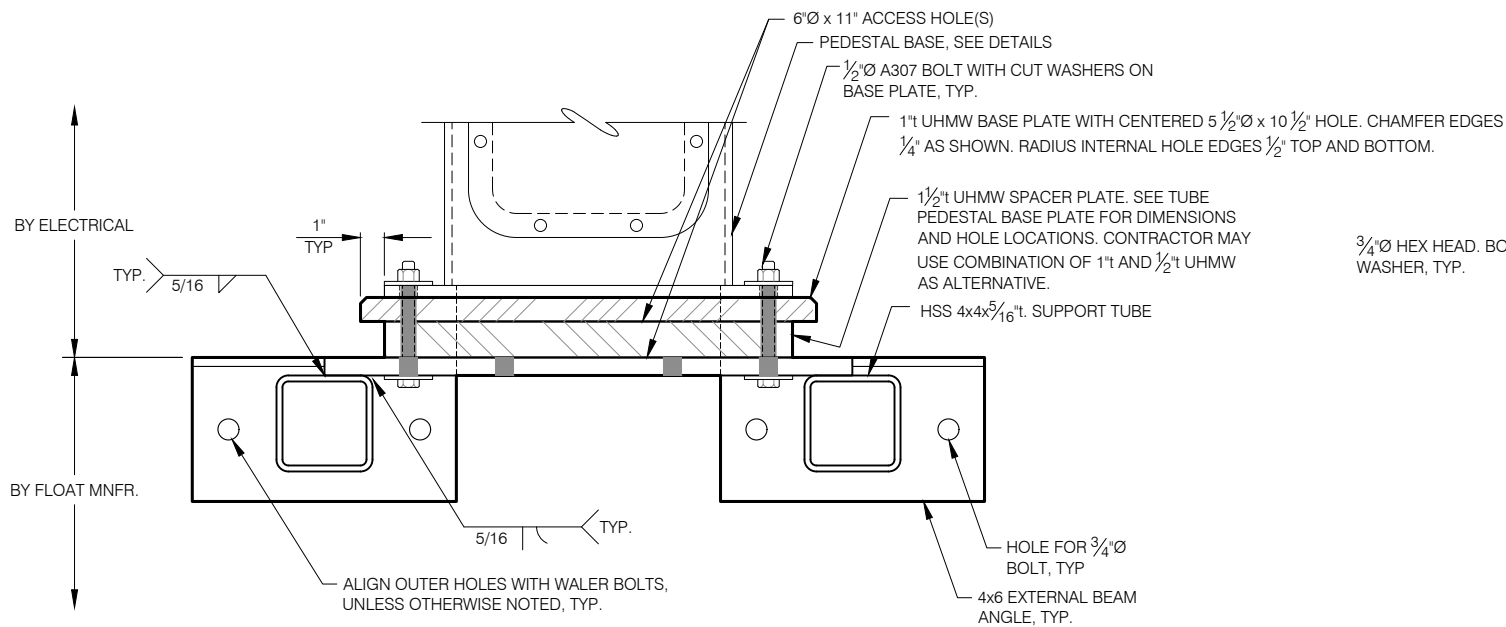
ELECTRICAL SUPPORT ASSEMBLIES
AURORA HARBOR REBUILD - PHASE III

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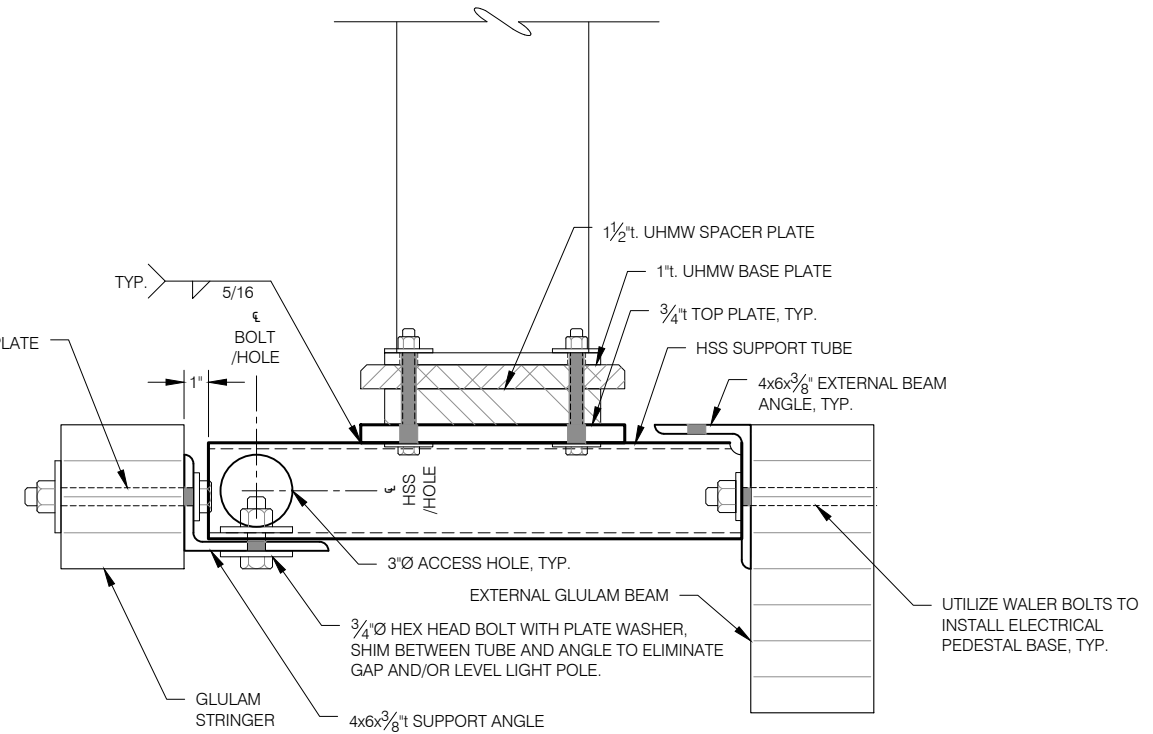
ES1



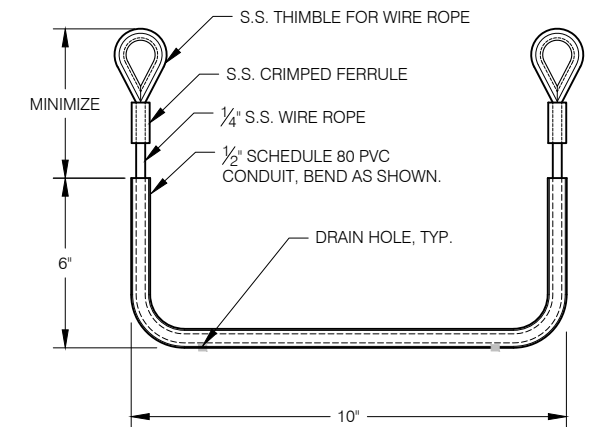
ELECTRICAL PEDESTAL BASE WELDMENT - PLAN



ELECTRICAL PEDESTAL BASE WELDMENT - FRONT ELEV.



ELECTRICAL PEDESTAL BASE WELDMENT - SIDE ELEV.

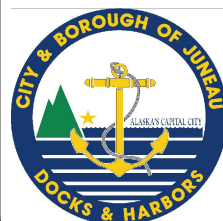


CABLE SUPPORT DETAIL

NOTE:
USE LAG w/ WASHER, TYP. TO INSTALL CABLE SUPPORT TO WALER AT CABLE PASSAGE LOCATIONS. SEE GLULAM WALER MODIFICATION DETAIL.

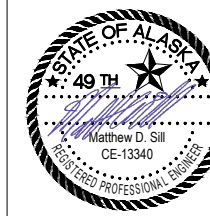
NOTE:
CONTRACTOR MAY SUBMIT ALTERNATIVE DESIGN FOR CABLE SUPPORTS FOR ENGINEERS CONSIDERATION.

ES1 ES2 ES3 - ELECTRICAL SUPPORT DETAILS



REVISIONS					
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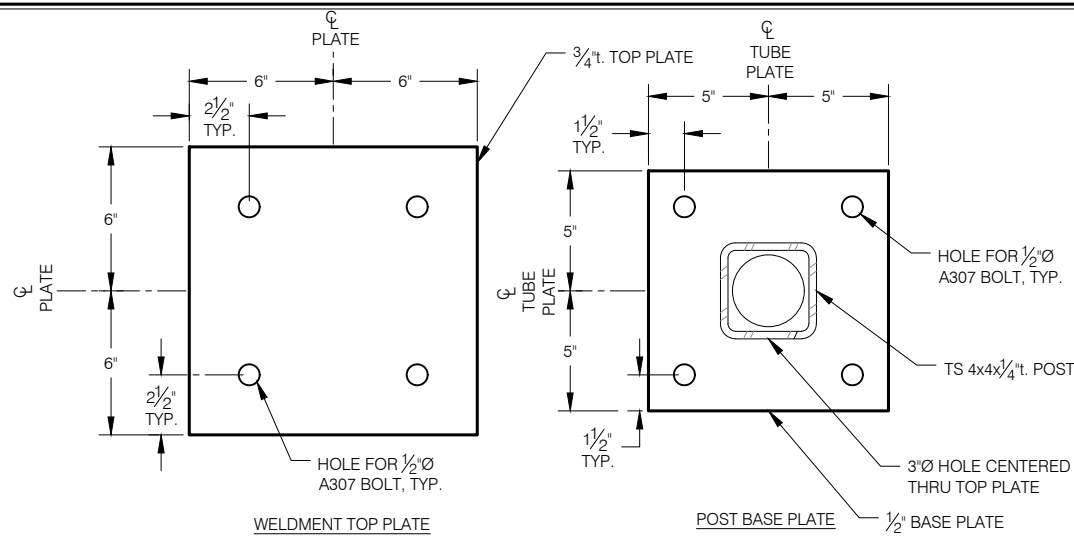


ELECTRICAL SUPPORT ASSEMBLY DETAILS

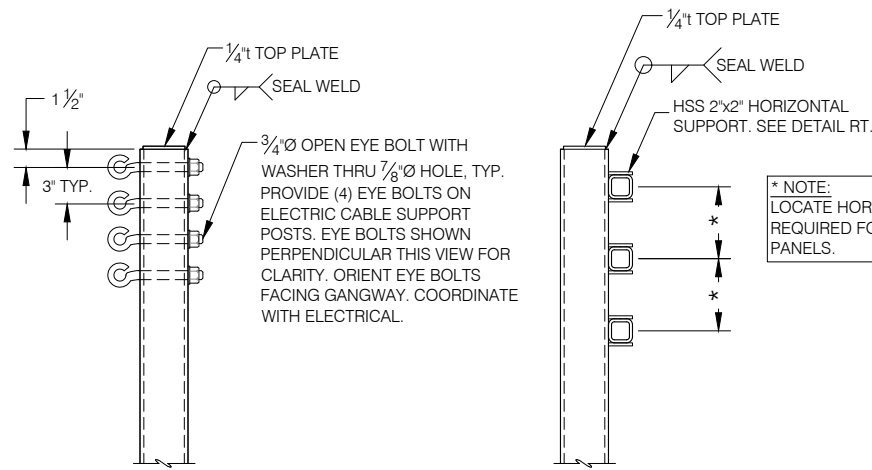
AURORA HARBOR REBUILD - PHASE III

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ES2



ELECTRICAL SUPPORT POST PLATE DETAILS

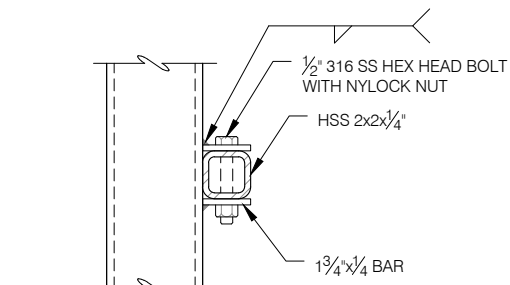


CABLE SUPPORT POST

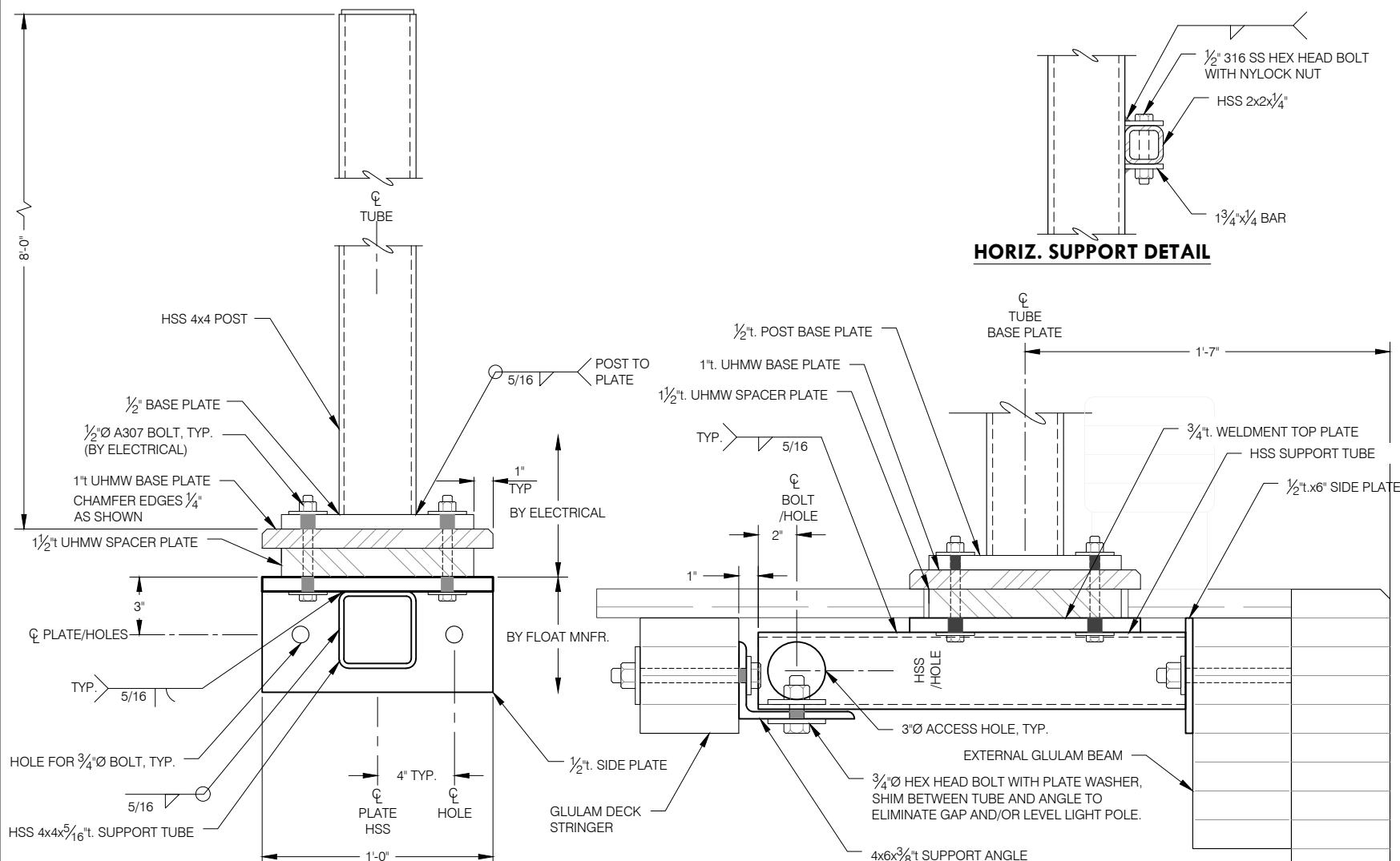
PANEL SUPPORT POST

* NOTE:
LOCATE HORIZ. SUPPORT AS
REQUIRED FOR ELECTRICAL
PANELS.

NOTE:
LOCATION AND QUANTITY OF HSS
HORIZONTAL SUPPORTS SHALL MATCH
PANEL H. HSS HORIZONTAL SUPPORTS
MAY REQUIRE FASTENERS OR STRUT
(NOT SHOWN) TO SUPPORT PANEL H.

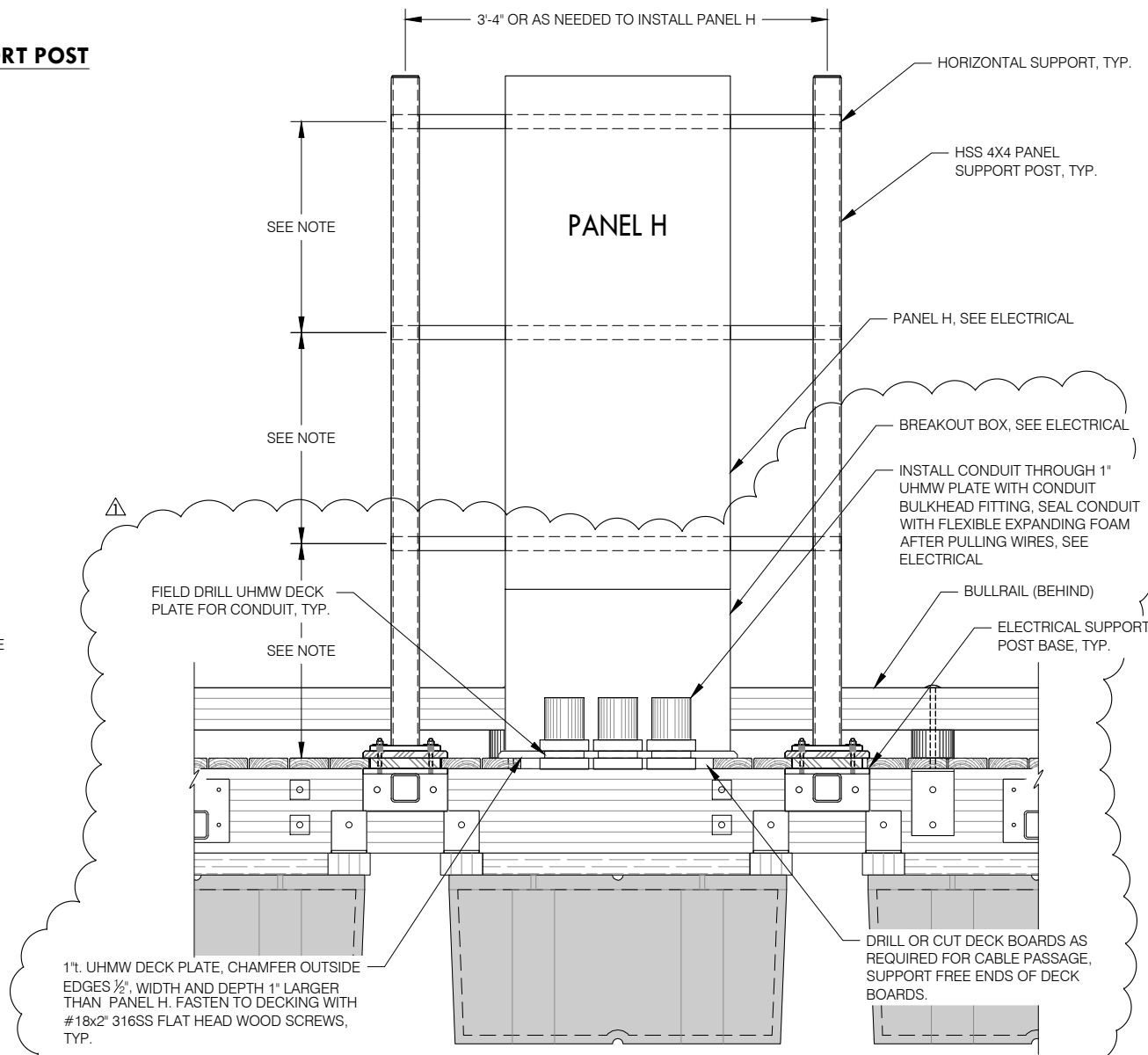


HORIZ. SUPPORT DETAIL



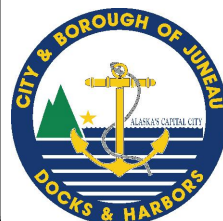
ELECTRICAL SUPPORT POST - FRONT ELEVATION

ELECTRICAL SUPPORT POST - SIDE ELEVATION



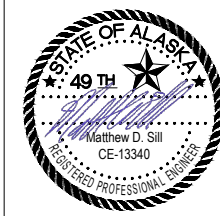
PANEL H ELEVATION

ES1 ES2 ES3 - ELECTRICAL SUPPORT DETAILS



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ADD. 1	02/28/2023	REVISE DECK PENETRATION DETAIL & ADD BREAKOUT BOX	MDS	CU	CU

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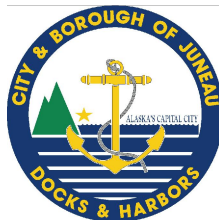
ELECTRICAL SUPPORT POST DETAILS

AURORA HARBOR REBUILD - PHASE III

DESIGN:	MS	DATE:	FEBRUARY 21, 2023
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		SHEET:	46 of 72

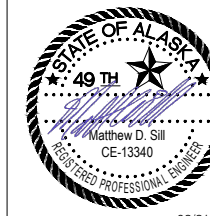
ES3

03/02/2023



REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP

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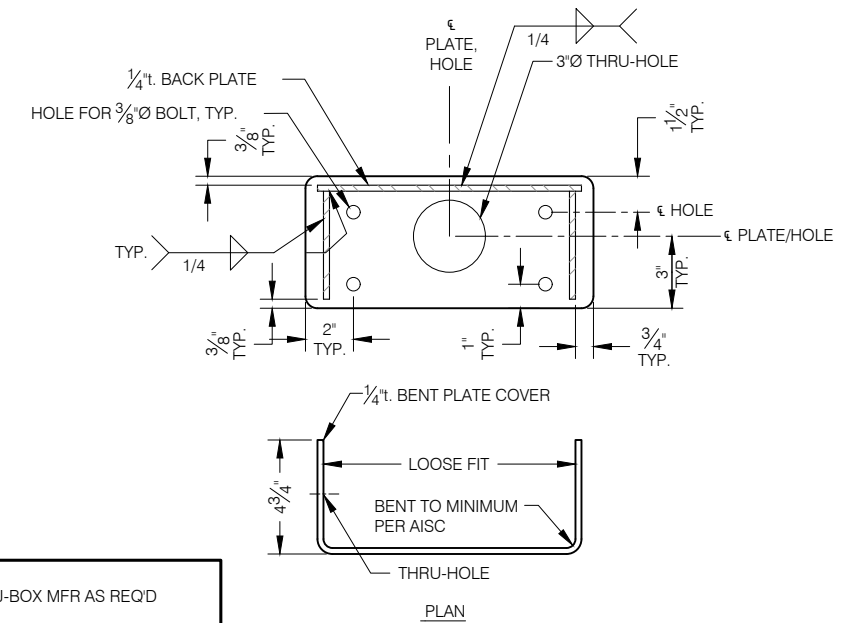
HEAT TRACE SUPPORT DETAILS

AURORA HARBOR REBUILD - PHASE III

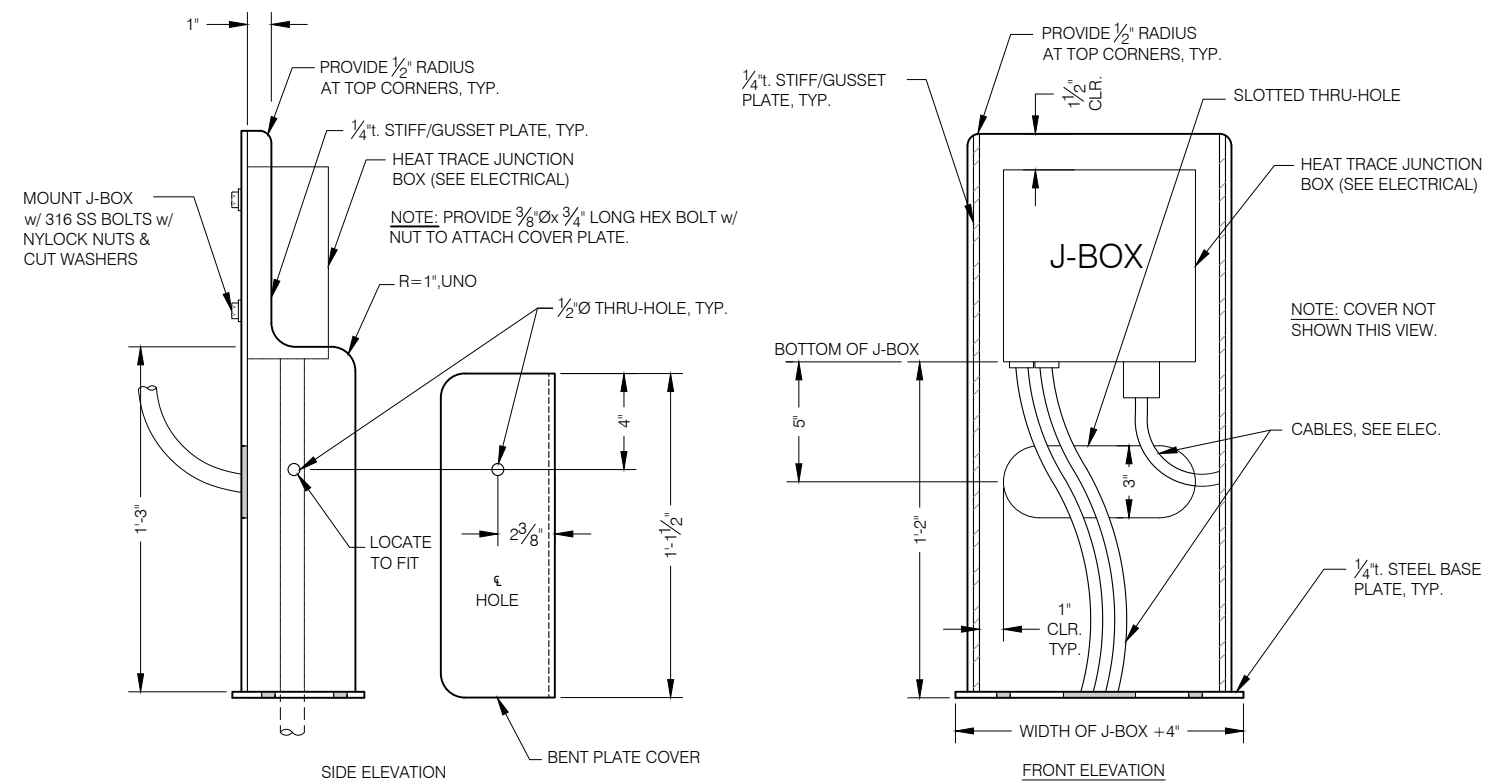
DESIGN:	MS	DATE:	FEBRUARY 21, 2023
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APPROVED:	CU	FILE NO.	1541
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ES4

- NOTES:**
- ALL FABRICATED STEEL AND HARDWARE SHALL BE HOT DIP GALVANIZED EXCEPT AS NOTED.
 - EASE ALL EDGES OF FABRICATED STEEL PIECES.
 - ALL HOT DIP GALVANIZED PARTS SHALL BE GALVANIZED AFTER FABRICATION.



- NOTE:**
- COORDINATE w/ J-BOX MFR AS REQ'D
 - EASE ALL EDGES



HEAT TRACE JUNCTION BOX STANDS
 (BY ELECTRICAL)

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AURORA HARBOR REBUILD - PHASE III 2023

Sheet List Table

SHEET NO.	SHEET TITLE
E1	GENERAL NOTES, INDEX, AND LEGEND
E2	GENERAL SITE PLAN – POWER
E3	GENERAL SITE PLAN – LIGHTING
E4	GENERAL SITE PLAN – HEAT TRACE
E5	SINGLE LINE DIAGRAM – OVERALL
E6	SINGLE LINE DIAGRAM – PANEL H & GFPE BREAKER DETAIL
E7	GANGWAY ELEVATION
E8	GANGWAY TO APPROACH DOCK ELEVATION
E9	FLOAT TO GANGWAY ELEVATION
E10	GANGWAY LANDING FLOAT AND HEADWALK PLAN
E11	ELECTRICAL BUILDING FLOOR PLAN & CABLE ROUTING
E12	MAINWALK CABLE ROUTING
E13	PANEL SCHEDULES
E14	10' FLOAT SECTIONS
E15	POWERHEAD AND PEDESTAL DETAILS
E16	POST MOUNTED PEDESTAL SUPORT BASE DETAILS
E17	POWERHEAD DETAILS
E18	PEDESTAL WIRING DIAGRAMS
E19	LUMINAIRE SCHEDULE
E20	LIGHTING DETAILS
E21	HEAT TRACE JUNCTION BOX DETAIL
E22	CABLE TRANSITION DETAIL FROM HEADWALK TO MAINWALK FLOAT
E23	GANGWAY SECTION ELECTRICAL
E24	APPROACH DOCK SECTION ELECTRICAL
E25	TRENCH AND GFPE BOX DETAILS

GENERAL NOTES (APPLICABLE ALL SHEETS):

1. ALL WORK IS NEW UNLESS OTHERWISE NOTED.
2. PERFORM ALL WORK PER THE 2020 NATIONAL ELECTRICAL CODE (NEC) AND OTHER APPLICABLE NATIONAL, STATE, AND LOCAL CODES AND STANDARDS. PROVIDE EQUIPMENT AND AN INSTALLATION THAT COMPLIES WITH ARTICLE 555 OF THE NEC.
3. MOUNT ALL OF THE ELECTRICAL EQUIPMENT IN THE LOCATIONS SHOWN ON THE CIVIL DRAWINGS. LOCATIONS SHOWN ON THE ELECTRICAL DRAWINGS ARE APPROXIMATE.
4. THE CIVIL ASSEMBLIES TO BE USED IN MOUNTING ELECTRICAL EQUIPMENT ARE SHOWN ON THE CIVIL DRAWINGS ES SERIES (ELECTRICAL SUPPORT ASSEMBLIES). SEE THESE DRAWINGS FOR ALL INFORMATION ABOUT THESE ASSEMBLIES. COORDINATE THE DETAILS OF THESE ASSEMBLIES WITH THE MANUFACTURERS OF THE ELECTRICAL EQUIPMENT, AND FLOATS. MOUNT THE ELECTRICAL SUPPORT ASSEMBLIES AS SHOWN ON THE CIVIL ES SERIES DRAWINGS. MOUNT THE ELECTRICAL EQUIPMENT AS SHOWN ON THE ELECTRICAL DRAWINGS. STUDY THE CIVIL DRAWINGS (ALL SERIES) TO UNDERSTAND HOW TO ROUTE CONDUIT AND CABLE AND HOW TO MOUNT ELECTRICAL EQUIPMENT. COORDINATE WITH ALL OTHER TRADES TO PERFORM THE ELECTRICAL WORK AND TO ALLOW THEM TO PERFORM THEIR WORK.
5. ALL CONDUIT SHALL BE SCHEDULE 80 PVC., UNLESS NOTED OTHERWISE.
6. PROVIDE MOUNTING EQUIPMENT AND HARDWARE AS REQUIRED TO MOUNT ELECTRICAL EQUIPMENT. SIZE MOUNTING BOLTS, BRACKETS, HARDWARE, ETC. FOR A SAFETY FACTOR OF 5 MINIMUM. ALL EQUIPMENT AND MATERIALS SHALL NOT MOVE WHEN PULLED OR PUSHED BY HAND (EXCEPT CABLES AND FLEXIBLE CONDUIT). SECURE ALL CONDUIT WITHIN 12 INCHES OF END OF CONDUIT AND AS REQUIRED PER NEC.
7. FIELD TREAT ALL HOT DIPPED GALVANIZED MATERIALS THAT ARE CUT, DRILLED, SCRATCHED OR DAMAGED. SEE CIVIL FOR FIELD TREATMENT.

8. ALL CONDUCTORS SHALL BE COPPER. ALL INSULATION SHALL BE 600V RATED, TYPE XHHW FOR CONDUCTORS NOT IN A CABLE. ALL CABLES SHALL BE THE TYPE SPECIFIED, NO SUBSTITUTIONS. USE STAINLESS STEEL STRAPS TO SECURE CONDUIT, UNLESS OTHERWISE NOTED. PROVIDE HEAT SHRINK OVER ALL CRIMP CONNECTIONS WHEN TERMINATING A CABLE. NO SPLICES IN ANY CABLES OR CONDUCTORS. SEE ADDITIONAL REQUIREMENTS FOR PEDESTAL AND POWERHEADS.
9. IF GALVANIZED THREADS ARE CHASED IN ORDER TO BE USABLE, TREAT CHASED THREADS WITH BRAKE CLEANER, THEN COAT WITH MARINE TRAILER WHEEL BEARING GREASE BEFORE APPLYING A STAINLESS STEEL WASHER AND NUT.
10. USE 316 STAINLESS STEEL BOLTS, WASHERS, ETC. TO MOUNT ELECTRICAL EQUIPMENT AND STRUT CHANNEL. ALL FASTENERS AND OTHER EXPOSED HARDWARE SHALL BE 316 STAINLESS STEEL.
11. SEAL ALL PENETRATIONS IN ELECTRICAL EQUIPMENT WITH UL LISTED HARDWARE FOR SUCH USE. USE RUBBER OR SILICONE WASHERS IN ADDITION TO STAINLESS STEEL WASHERS. DRILL 1/4" DRAIN HOLE IN BOTTOM OF ALL EQUIPMENT AND ENCLOSURES. SEE NOTE 26 FOR MORE ON SEALING REQUIREMENTS.
12. USE 316 STAINLESS STEEL STRUT CHANNEL (UNISTRUT) TO SUPPORT CABLES, CONTACTORS, POWERHEADS, AND ALL OTHER ELECTRICAL EQUIPMENT UNLESS OTHERWISE NOTED. TRIM STRUT CHANNEL 1/4" SHORT OF EDGE OF EQUIPMENT AND POSTS. SAND END OF STRUT CHANNEL SMOOTH. MOUNT ALL PANELS TO GALVANIZED TUBES THAT ARE PART OF ELECTRICAL EQUIPMENT SUPPORTS. SEE CIVIL. USE CABLE SUPPORTS THAT COMPLY WITH 555.13(4). USE CUSHION STRAPS WHEN SUPPORTING CABLE TO STRUT CHANNEL.
13. ROUTE CABLES IN CABLE TRAY IN FLOAT UNDER DECKING. SECURE CABLE TO CABLE TRAY WITH NM CABLE TIES (MIN 500 LB TENSILE STRENGTH) EVERY 6' AS WELL AS WHERE CABLE ENTERS AND LEAVES TRAY. DO NOT EXCEED 8 TIMES CABLE DIAMETER FOR BENDING RADIUS. USE STAINLESS STEEL CABLE GRIP CONNECTORS FOR ALL CABLE ENTERING AND LEAVING CONDUIT.
14. ALL CABLE TERMINATIONS AND ALL ELECTRICAL CONNECTIONS SHALL BE A MINIMUM OF 12 INCHES ABOVE THE FLOAT DECKING INCLUDING WIRING TERMINATIONS, RECEPTACLES, ETC.
15. THE MAIN SWITCHBOARD AND PANELS ARE BEING PROVIDED BY THE OWNER. THE POWERHEADS SHALL BE MADE BY MARINE ELECTRICAL EQUIPMENT, ARC INDUSTRIES, OR APPROVED EQUAL. ALL NECESSARY CHANGES IN MOUNTING DETAILS, MOUNTING LOCATIONS, MODIFICATIONS TO FLOATS, ETC. SHALL BE MODIFIED AT THE CONTRACTOR'S EXPENSE IN ORDER TO ACCOMMODATE APPROVED SUBSTITUTE EQUIPMENT. SUBSTITUTIONS ARE REVIEWED FOR COMPLIANCE WITH CONTRACT DOCUMENTS DURING THE SUBMITTAL PROCESS THAT OCCURS AFTER CONTRACT AWARD. SUBSTITUTIONS MAY NOT BE APPROVED. SEE NOTE 30.
16. PROVIDE OXIDE INHIBITING COMPOUND ON ALL ELECTRICAL CONNECTIONS. BURNDY PENTROX TYPE A OR E AS REQUIRED.
17. ALL LUGS AND ELECTRICAL TERMINALS SHALL BE COPPER OR TIN PLATED HIGH CONDUCTIVE ALUMINUM.
18. SECURE CABLE TO CABLE TRAY WITH 500 LB MINIMUM TY-WRAPS WHEN TRANSITIONING BETWEEN FLOAT SECTIONS TO KEEP CABLE FROM CHAFING. PANDUIT MLT 316 SS SERIES OR EQUAL. ALLOW SLACK IN CABLE AT FLOAT TRANSITIONS. ALL CONDUIT SHALL BE SCHEDULE 80 PVC, HEAVY DUTY FIBERGLASS, OR GALVANIZED RIGID STEEL AS NOTED.
19. MINIMUM BENDING RADIUS FOR ALL CABLES IS 8 TIMES THE DIAMETER OF THE CABLE.
20. CABLE ROUTING AT ALL TRANSITIONS BETWEEN UPLANDS, GANGWAY, AND FLOATS SHALL BE INSTALLED SO THAT IT WILL NOT BE DAMAGED AT THE MINIMUM AND MAXIMUM TIDAL POSITIONS ON SKID PLATES AND HINGED FLOAT CONNECTIONS.
21. BUILD THE PROJECT AS DESIGNED. DO NOT ASSUME THE DESIGN WILL BE CHANGED AT CONTRACTOR'S REQUEST.
22. NOT ALL CABLES IN FLOAT ARE SHOWN FOR CLARITY. REVIEW CIVIL DRAWINGS TO UNDERSTAND HOW TO ROUTE CABLES IN THE FLOAT. ROUTE CABLES TO AVOID STRUCTURAL MEMBERS IN A MANNER THAT USES THE HIGHEST POSSIBLE BENDING RADIUS OF THE CABLE. WRAP CHAFE PROTECTION AROUND CABLE WHERE IT CROSSES THE EDGE OF A FLOAT MEMBER TO PREVENT CHAFING. USE SECTIONS OF RUBBER CABLE JACKET THAT WAS STRIPED FOR TERMINATING CABLE FOR THIS PROTECTION. SECURE TO CABLE WITH TIE WRAPS.
23. IF EQUIPMENT TO BE INSTALLED ON THE PROJECT HAS NOT ARRIVED AND TEMPORARY MEANS OF COVERING OR PROTECTING INFRASTRUCTURE IS NECESSARY, THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROVISIONS AND TEMPORARY MEANS OF PROTECTION. AT ALL TIMES THE JOB SITE SHALL REMAIN IN A SAFE AND WORKMANLIKE CONDITION.
24. PROVIDE A SUBMITTAL REGISTRY WITH A FULL LIST OF PROJECT SUBMITTALS WHERE REQUIRED PER SECTION. INCLUDE IN THE REGISTRY DATE OF EACH SUBMISSION, RESPONSES PROVIDED BY THE ENGINEER, ETC. CONTRACTOR IS FULLY RESPONSIBLE TO PROVIDE SUBMITTALS PRIOR TO COMMENCEMENT OF ANY APPLICABLE WORK WITHIN THE SECTIONS. CONTRACTOR SHALL NOT COMMENCE WORK UNTIL SUBMITTALS ARE APPROVED IN WRITING.
25. ALL JUNCTION BOXES AND ENCLOSURES ON THE PROJECT SHALL BE PROVIDED WITH VENT DRAIN TO CONTINUOUSLY DRAIN ACCUMULATED WATER AND TO HELP AIR PRESSURIZATION WITHIN ENCLOSURE. STAINLESS STEEL, HOFFMAN AVDR4SS4 OR EQUAL.
26. ALL JUNCTION BOXES AND ENCLOSURES WITH PENETRATIONS EXPOSED TO OUTSIDE AIR AND MOISTURE SHALL BE SEALED WITH FOAM TO ELIMINATE ALL GAPS AND CRACKS. PROVIDE IN SUBMITTALS FOR REVIEW. PROVIDE LOCKTITE TITE FOAM OR EQUAL.
27. ALL CABLE CLAMPS PROVIDED ON THIS PROJECT SHALL INCLUDE INSULATED INNER MATERIAL TO PROTECT CABLE JACKETS.
28. ALL JUNCTION BOXES AND ENCLOSURES SHALL COME EQUIPPED WITH A MOUNTING BACK PLANE IN THE BOX TO SECURE DISTRIBUTION BLOCKS ON. GROUND ALL THE BACK PLANES AND CONNECTED COMPONENTS.
29. ALL CABLES TRANSITIONING THROUGH THE FLOATS SHALL HAVE CHAFING PROTECTION ADDED BETWEEN THE CABLES AND THE ADJACENT FLOAT CABLE GUARDS OR MATERIAL THE CABLES REST ON AND WILL RUB AGAINST. USE 24" SECTIONS OF RUBBER CABLE JACKET THAT WAS STRIPED FOR TERMINATING CABLE FOR THIS PROTECTION. SECURE TO PROTECTED CABLES WITH NM CABLE TIES 6" ON CENTER. SEE DETAIL ON SHEET E9.
30. ALL OUTSIDE ENCLOSURES SHALL BE NEMA 4X 316L STAINLESS STEEL. ALL INSIDE ENCLOSURES SHALL BE NEMA 1 PAINTED STEEL.

LEGEND (CONTINUED)

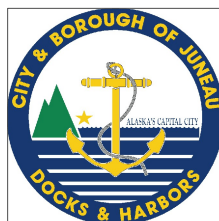
CT	CURRENT TRANSFORMER
	DISCONNECT
	EXHAUST FAN
F	FIRE PEDESTAL
GRS	GALVANIZED RIGID STEEL
GND	GROUND
	GROUND BUS
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GFPE	GROUND FAULT PROTECTION OF EQUIPMENT
GFPR	GROUND FAULT PROTECTION RELAY
HN	H FLOAT NORTH
HS	H FLOAT SOUTH
HW	HEADWALK
HT	HEAT TRACE
	HEAVY DUTY DISCONNECT (AMPS/POLES AS SHOWN)
	HOME RUN
H	HUMIDISTAT
LTG	LIGHTING
	LIGHTING CONTACTOR
	LUMINAIRE
MW	MAINWALK H
NEC	NATIONAL ELECTRICAL CODE
N.I.C.	NOT IN CONTRACT
NM	NON METALLIC
	PHOTO ELECTRIC CELL
	RECEPTACLE, 120V, 20A INDUSTRIAL SPEC GRADE, WHITE WITH STAINLESS COVER PLATE
AH-##	STALL NUMBERS (01-24)
UNISTRUT	SUPPORT CHANNEL UNISTRUT BRAND OR EQUAL
S	SWITCH, 120V, 20A INDUSTRIAL SPEC GRADE, WHITE WITH STAINLESS COVER PLATE
(TYP)	TYPICAL
UHMW-PE	ULTRA HIGH DENSITY MOLECULAR WEIGHT
AEL&P	UTILITY
	UTILITY METER
	WATER PEDESTAL

LEGEND

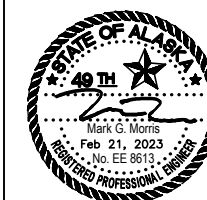
CL	CENTER-LINE
	CIRCUIT BREAKER (AMPS/POLES)
CBJ	CITY & BOROUGH OF JUNEAU
CIVIL	CIVIL PROJECT DRAWINGS
CONDS.	CONDUCTORS
	CONTACTOR

REVISIONS

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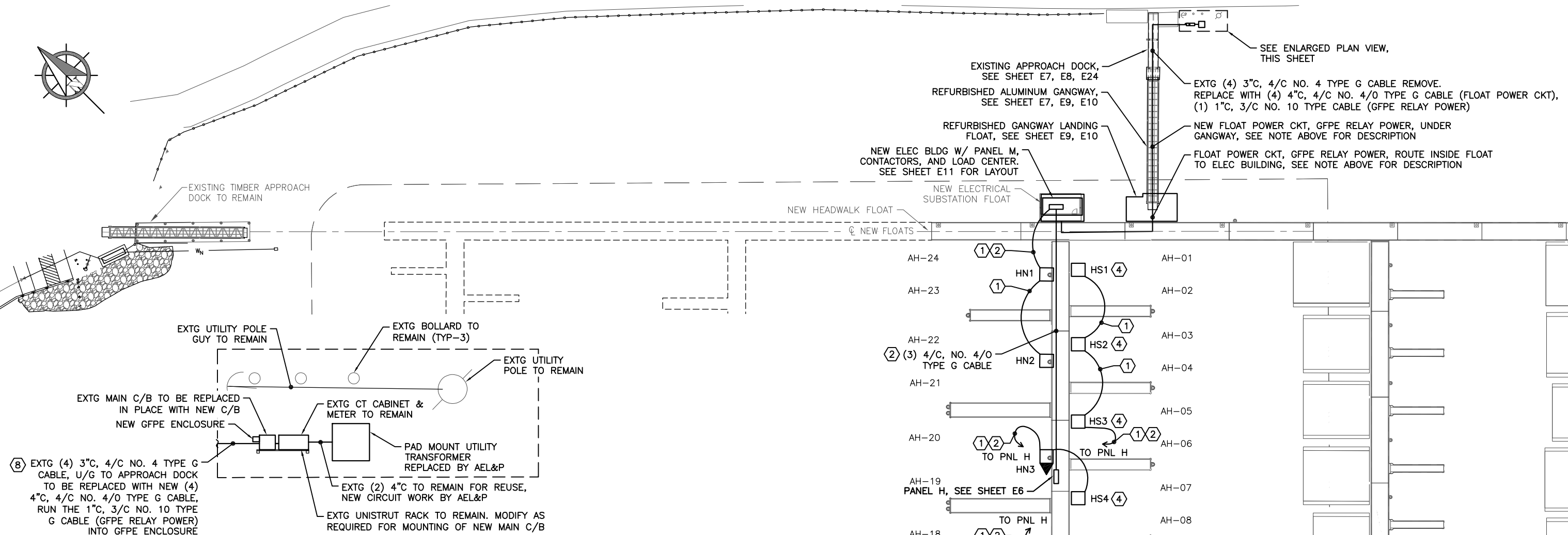
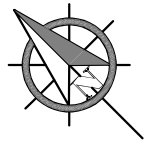
GENERAL NOTES, INDEX, AND LEGEND

AURORA HARBOR REBUILD - PHASE III

DESIGN:	MGM	DATE:	FEBRUARY 21, 2023
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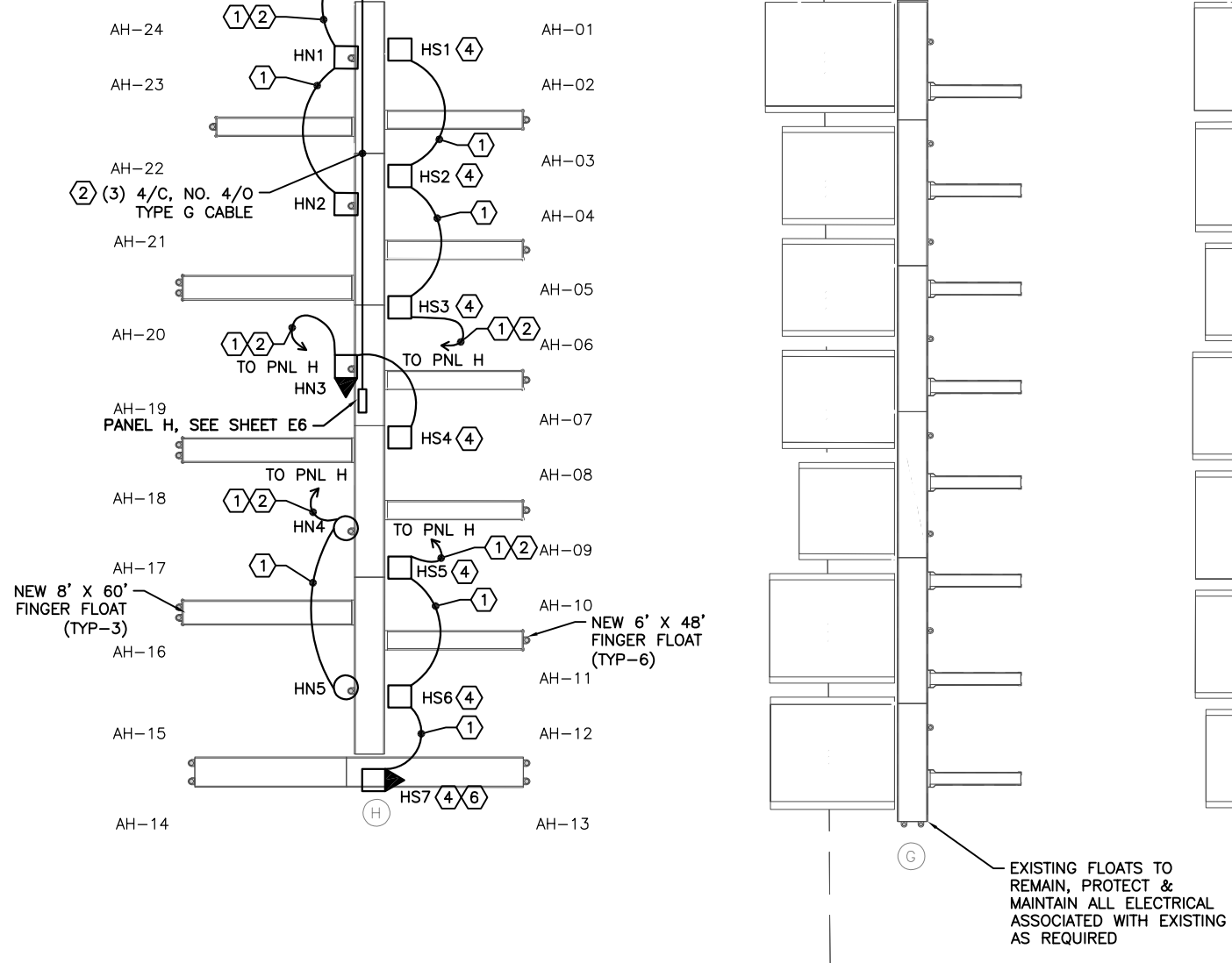
E1

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PEDESTAL SCHEDULE (5/7)		
TYPE	SYMBOL	POWERHEAD CONFIGURATION
A	○	(1) 100A, 208V, 1 PHASE 50A, 208V, 1 PHASE 30A, 120V, 1 PHASE
		(1) 100A, 208V, 1 PHASE 50A, 208V, 1 PHASE 30A, 120V, 1 PHASE
B	◻▶	(1) 100A, 208V, 1 PHASE 50A, 208V, 1 PHASE 30A, 120V, 1 PHASE (6)
		(1) 50A, 208V, 1 PHASE 30A, 120V, 1 PHASE
C	◻	(1) 50A, 208V, 1 PHASE 30A, 120V, 1 PHASE
		(1) 50A, 208V, 1 PHASE 30A, 120V, 1 PHASE

- SHEET NOTES:**
- ① 4/C 4/0, TYPE G CABLE (POWER)
 - ② CIRCUIT TO M AS APPLICABLE. SEE SINGLE LINE DIAGRAMS ON SHEETS E5 & E6. ROUTE CABLE IN CABLE TRAY INSIDE FLOAT SECTIONS.
 - 3. LOCATE PEDESTALS PER CIVIL DRAWINGS. SEE SHEET E15-E18 FOR PEDESTAL DETAILS.
 - ④ PEDESTALS HS1-HS7 INCLUDE POST TOP LUMINAIRES.
 - ⑤ EACH SYMBOL IN THE SCHEDULE REPRESENTS TWO POWERHEADS MOUNTED BACK TO BACK (I.E. HALF THE CIRCUITS INDICATED ARE FOR EACH POWERHEAD). SEE SHEET E18 FOR WIRING DIAGRAMS.
 - ⑥ PEDESTAL INCLUDES A SINGLE 100A RECEPTACLE, ARROW INDICATES WHICH POWERHEAD HAD THE 100A RECEPTACLE.
 - ⑦ COORDINATE WITH POWERHEAD FABRICATOR DURING SHOP DRAWINGS FOR LOCATION OF ACCESS PANEL ON EACH POWERHEAD TO ENSURE IT FACES CENTER OF THE ADJACENT FLOAT. SEE SHEET E17
 - ⑧ SEE SHEET E8 FOR CONDUIT ROUTING FROM APPROACH DOCK TO UPLANDS MAIN BREAKER AT UNISTRUT RACK.
 - 9. CABLE ROUTING ON THIS SHEET IS DIAGRAMMATICAL. SEE SHEETS E11 AND E12 FOR INNER FLOAT CABLE ROUTING INFO.



1 SITE PLAN - POWER



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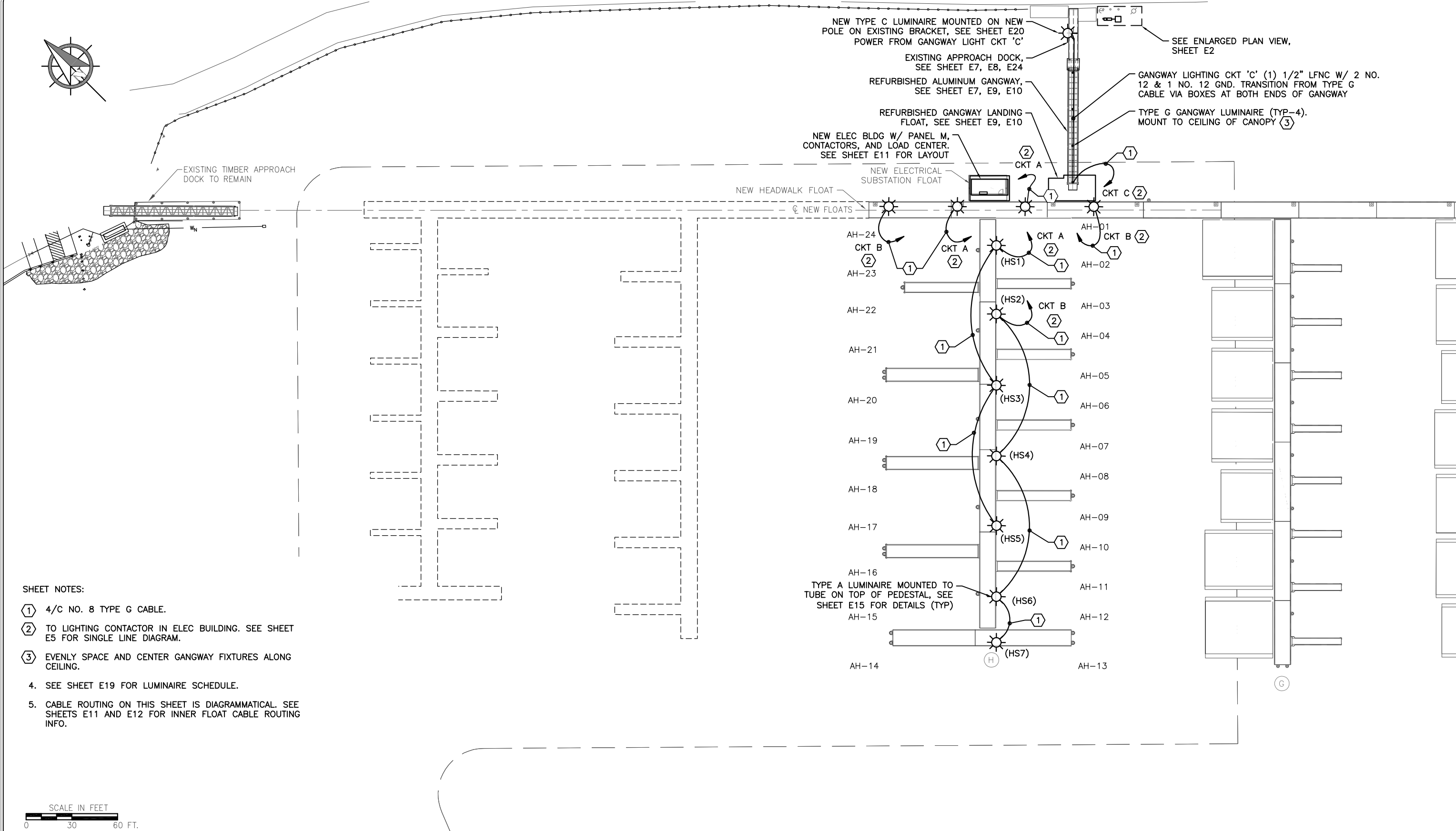
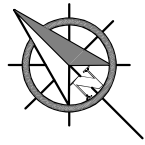


GENERAL SITE PLAN - POWER
AURORA HARBOR REBUILD - PHASE III

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E2

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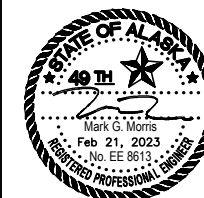
SHEET NOTES:

- ① 4/C NO. 8 TYPE G CABLE.
- ② TO LIGHTING CONTACTOR IN ELEC BUILDING. SEE SHEET E5 FOR SINGLE LINE DIAGRAM.
- ③ EVENLY SPACE AND CENTER GANGWAY FIXTURES ALONG CEILING.
- 4. SEE SHEET E19 FOR LUMINAIRE SCHEDULE.
- 5. CABLE ROUTING ON THIS SHEET IS DIAGRAMMATICAL. SEE SHEETS E11 AND E12 FOR INNER FLOAT CABLE ROUTING INFO.



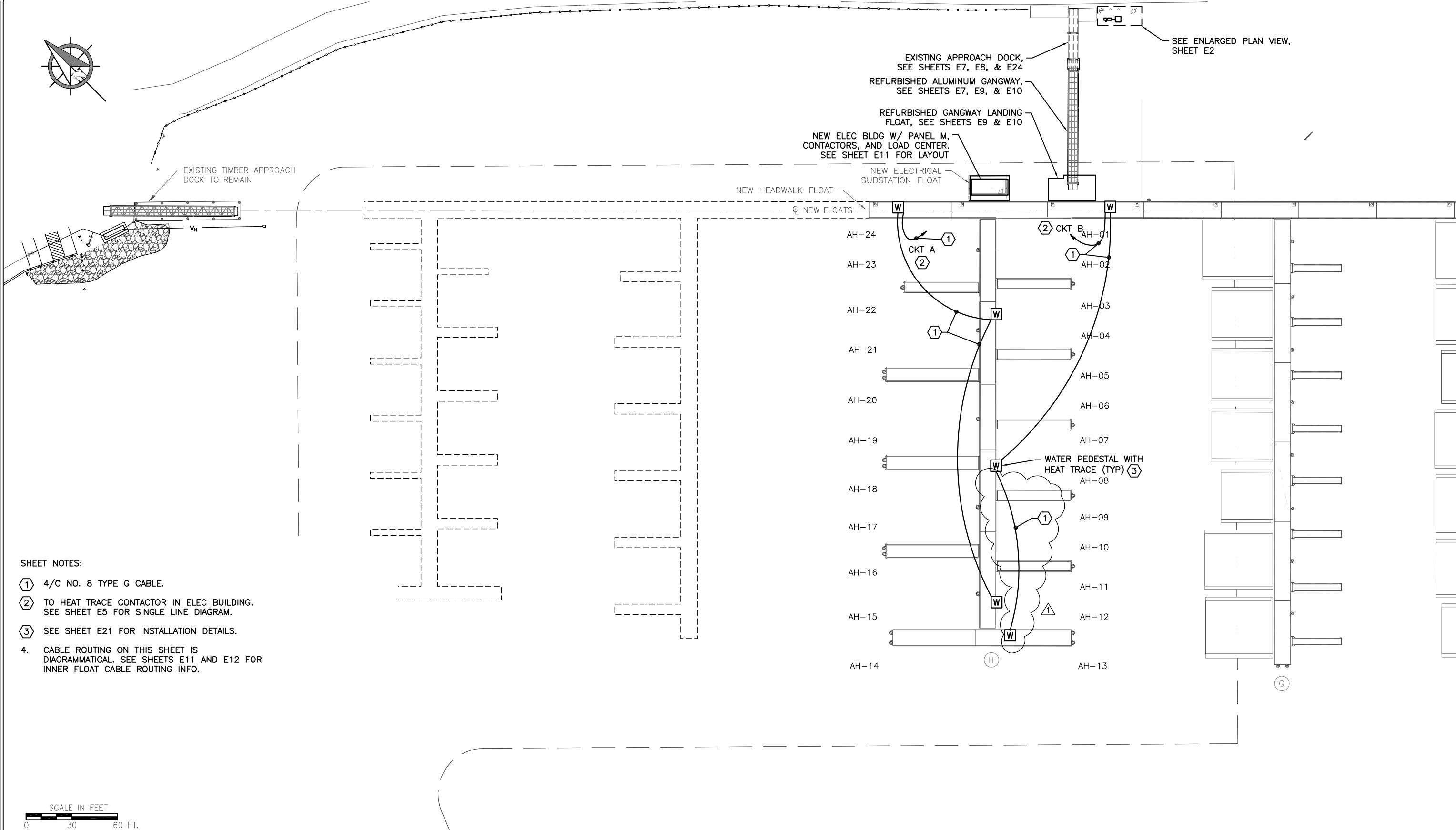
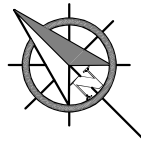
REVISIONS					
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GENERAL SITE PLAN - LIGHTING			
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DESIGN:	MGM	DATE:	FEBRUARY 21, 2023
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SHEET NOTES:

- ① 4/C NO. 8 TYPE G CABLE.
- ② TO HEAT TRACE CONTACTOR IN ELEC BUILDING. SEE SHEET E5 FOR SINGLE LINE DIAGRAM.
- ③ SEE SHEET E21 FOR INSTALLATION DETAILS.
- 4. CABLE ROUTING ON THIS SHEET IS DIAGRAMMATICAL. SEE SHEETS E11 AND E12 FOR INNER FLOAT CABLE ROUTING INFO.



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△	3/03/23	ADDENDUM 1			

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 155 SOUTH SEWARD STREET
 JUNEAU, ALASKA 99801
 PHONE: 907-586-0292



GENERAL SITE PLAN - HEAT TRACE
 AURORA HARBOR REBUILD - PHASE III

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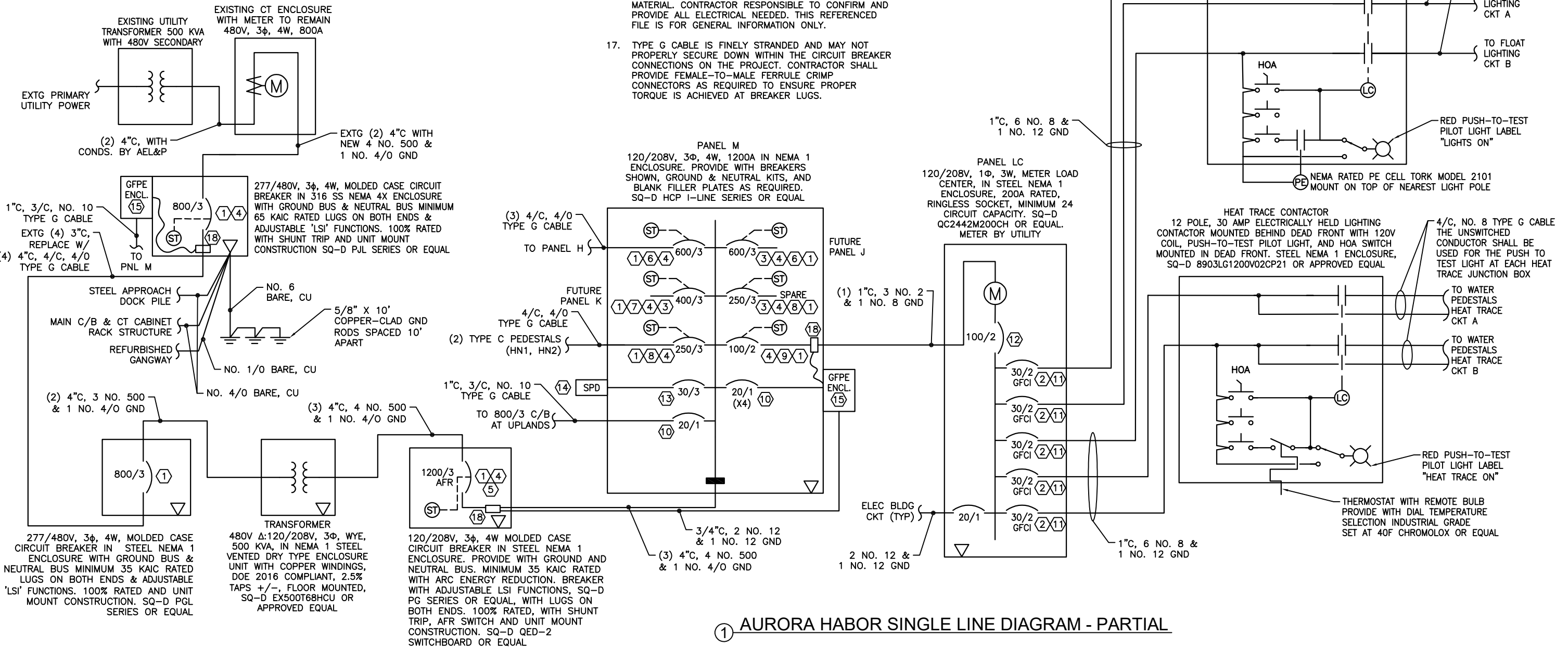
NOTES:

- ① UL 489 LISTED 100% CIRCUIT BREAKER, MINIMUM 35 KAIC RATED.
- ② CIRCUIT BREAKER WITH UL 943 CLASS A GFCI PROTECTION.
- ③ SPARE CIRCUIT BREAKER.
- ④ CIRCUIT BREAKER WITH INTEGRAL SHUNT TRIP RELAY. RELAY CONTROLLED BY EXTERNAL GFPE RELAY WITH ADJUSTABLE TRIP. SEE KEYNOTE 15, THIS SHEET.
- ⑤ CIRCUIT BREAKER WITH ARC-FLASH REDUCTION SWITCH.
- ⑥ 600A BREAKER, 35 KAIC MINIMUM WITH SHUNT TRIP, AND ADJUSTABLE 'LSI' FUNCTIONS. SQ-D I-LINE PG SERIES OR EQUAL.
- ⑦ 400A BREAKER, 35 KAIC MINIMUM WITH SHUNT TRIP, AND ADJUSTABLE 'LI' FUNCTIONS, SQ-D I-LINE LG SERIES OR EQUAL.
- ⑧ 250A BREAKER, 35 KAIC MINIMUM WITH SHUNT TRIP, AND ADJUSTABLE 'LI' FUNCTIONS, SQ-D I-LINE LG SERIES OR EQUAL.
- ⑨ 100A BREAKER, 35 KAIC MINIMUM WITH SHUNT TRIP, AND ADJUSTABLE 'LI' FUNCTIONS, SQ-D I-LINE LG SERIES OR EQUAL.
- ⑩ 20A BREAKER, 25 KAIC MINIMUM. SQ-D I-LINE QH SERIES OR EQUAL.
- ⑪ 20A BREAKER, 22 KAIC MINIMUM, WITH GFCI. SQ-D QO-VH SERIES OR EQUAL.
- ⑫ 100A BREAKER, 22 KAIC MINIMUM. SQ-D QO-VH SERIES OR EQUAL.
- ⑬ 30A BREAKER, 25 KAIC MINIMUM SQ-D I-LINE BG SERIES OR EQUAL.
- ⑭ SURGE PROTECTION DEVICE. EXTERNALLY MOUNTED. TYPE 1 UNIT. 120KA SURGE, 20KA NOMINAL RATED, 200KA SCCR. WITH COUNTER, DRY CONTACTS, LED STATUS, EMI-FILTERING. SQ-D SPSO2E2MA12F OR EQUAL.
- ⑮ GROUND FAULT PROTECTION EQUIPMENT (GFPE) RELAYS SHALL BE HOUSED IN ENCLOSURE MOUNTED NEXT TO PANEL OR ENCLOSURE. PROVIDE NECESSARY WIRING BETWEEN GFPE UNITS AND SHUNT TRIP MODULES ON THE DESIGNATED BREAKERS (BREAKER WITH KEYNOTE 4) GFPE'S POWERED FROM DEDICATED 120V, 20/1 BREAKERS IN PANEL M. SEE SHEET E6 FOR MORE DETAILS.

16. BASIS OF DESIGN ELECTRICAL PACKAGE IS SQUARE-D PRODUCTS AS NOTED. REFER TO SQUARE D PROPOSAL NO. P-220427-3011075 / QUOTE NO. Q-3853031 TO OBTAIN THE DESIGNED BILL OF MATERIAL, DIMENSIONAL DRAWINGS, ETC. NOT ALL PRODUCTS REQUIRED ARE CONTAINED WITHIN THIS REFERENCED SQUARE-D MATERIAL CONTRACTOR RESPONSIBLE TO CONFIRM AND PROVIDE ALL ELECTRICAL NEEDED. THIS REFERENCED FILE IS FOR GENERAL INFORMATION ONLY.

17. TYPE G CABLE IS FINELY STRANDED AND MAY NOT PROPERLY SECURE DOWN WITHIN THE CIRCUIT BREAKER CONNECTIONS ON THE PROJECT. CONTRACTOR SHALL PROVIDE FEMALE-TO-MALE FERRULE CRIMP CONNECTORS AS REQUIRED TO ENSURE PROPER TORQUE IS ACHIEVED AT BREAKER LUGS.

⑮ PROVIDE CT (1 PER CIRCUIT BREAKER), CT WIRING, AND SHUNT TRIP WIRING TO GFPE RELAY IN BOX. MOUNT CTs IN PANELS AND CIRCUIT BREAKER ENCLOSURES. ONLY ONE CT AT PANEL M SHOWN. PROVIDE ALL REQUIRED. SEE SHEET E6 FOR WIRING DIAGRAM. SHUNT TRIP WIRING NOT SHOWN HERE.



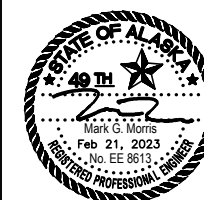
① AURORA HARBOR SINGLE LINE DIAGRAM - PARTIAL

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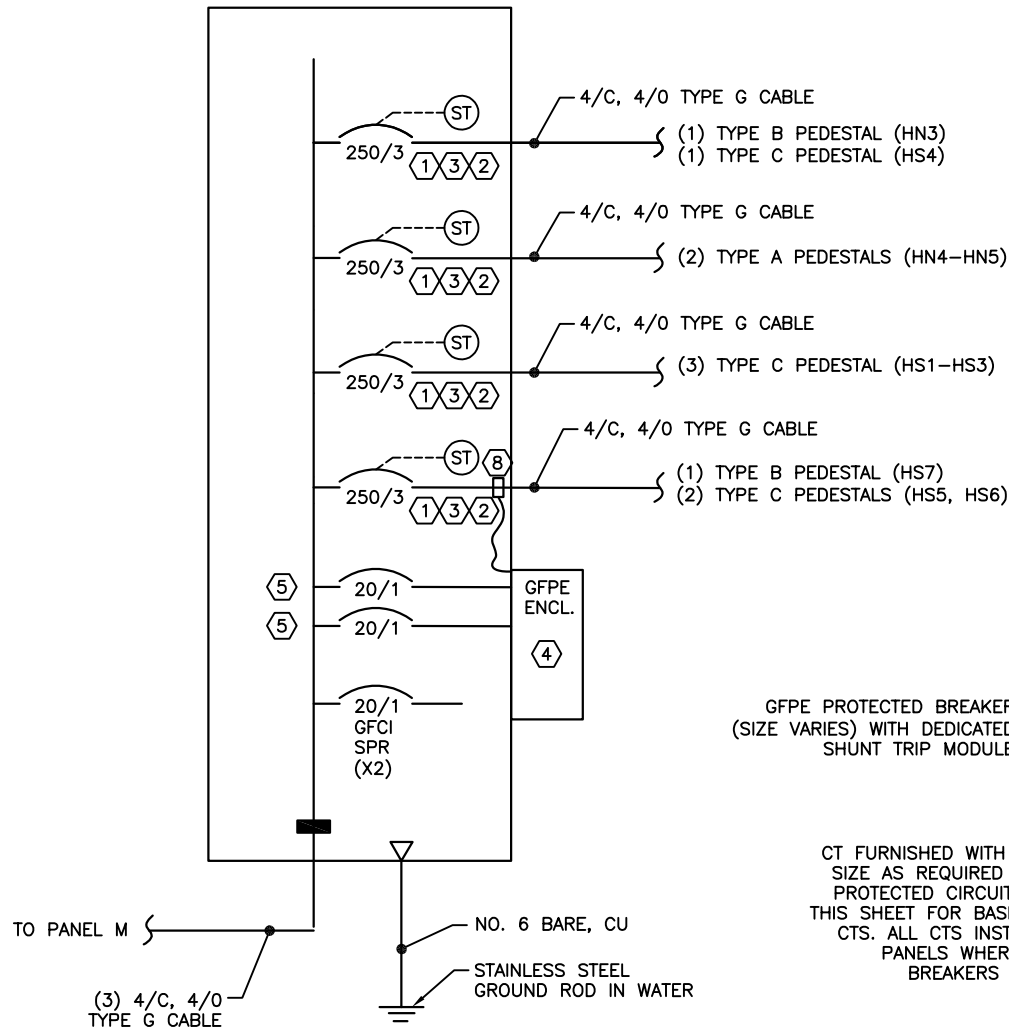


SINGLE LINE DIAGRAM - OVERALL			
AURORA HARBOR REBUILD - PHASE III			
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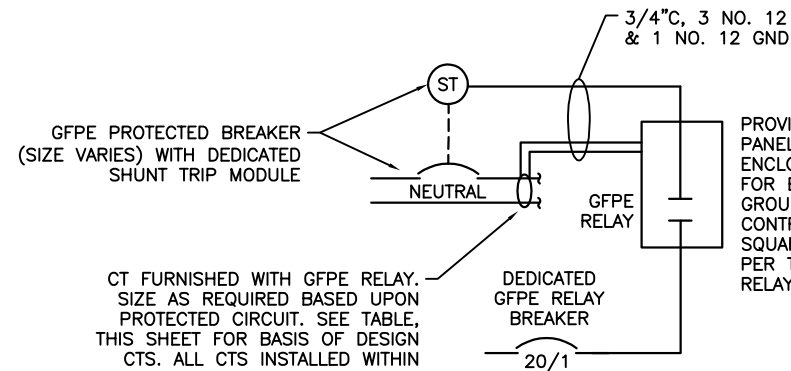
PANEL H
120/208V, 3PH, 4W, 800A IN NEMA 4X
SS ENCLOSURE. PROVIDE WITH BREAKERS
SHOWN, GROUND & NEUTRAL KITS, AND
BLANK FILLER PLATES AS REQUIRED. SQ-D
HCP I-LINE SERIES OR EQUAL



① SINGLE LINE DIAGRAM - PANEL H

KEYNOTES (APPLICABLE TO DETAIL 1):

- ① CIRCUIT BREAKER WITH INTEGRAL SHUNT TRIP RELAY. RELAY CONTROLLED BY EXTERNAL GFPE RELAY WITH ADJUSTABLE TRIP. SEE KEYNOTE 4, THIS SHEET.
- ② UL 489 LISTED 100% CIRCUIT BREAKER, MINIMUM 35 KAIC RATED.
- ③ 250A BREAKER, 35 KAIC MINIMUM WITH SHUNT TRIP, ADJUSTABLE 'LI' FUNCTIONS SQ-D I-LINE LJ SERIES OR EQUAL.
- ④ GROUND FAULT EQUIPMENT PROTECTION (GFPE) RELAYS SHALL BE HOUSED IN ENCLOSURE MOUNTED NEXT TO PANEL H. PROVIDE NECESSARY WIRING BETWEEN GFPE UNITS AND SHUNT TRIP MODULES ON THE DESIGNATED BREAKERS (BREAKERS WITH KEYNOTE 1) GFPE'S POWERED FROM DEDICATED 120V, 20/1 BREAKERS IN PANEL H. SEE DETAIL 2, THIS SHEET, FOR MORE INFO.
- ⑤ 20A BREAKER, 25 KAIC MINIMUM. SQ-D I-LINE BG SERIES OR EQUAL.
6. BASIS OF DESIGN ELECTRICAL PACKAGE IS SQUARE-D PRODUCTS AS NOTED. REFER TO SQUARE D PROPOSAL NO. P-220427-3011075 / QUOTE NO. Q-3853031 TO OBTAIN THE DESIGNED BILL OF MATERIAL, DIMENSIONAL DRAWINGS, ETC. NOT ALL PRODUCTS REQUIRED ARE CONTAINED WITHIN THIS REFERENCED SQUARE-D MATERIAL. CONTRACTOR RESPONSIBLE TO CONFIRM AND PROVIDE ALL ELECTRICAL NEEDED. THIS REFERENCED FILE IS FOR GENERAL INFORMATION ONLY.
7. TYPE G CABLE IS FINELY STRANDED AND MAY NOT PROPERLY SECURE DOWN WITHIN THE CIRCUIT BREAKER CONNECTIONS ON THE PROJECT. CONTRACTOR SHALL PROVIDE FEMALE-TO-MALE FERRULE CRIMP CONNECTORS AS REQUIRED TO ENSURE PROPER TORQUE IS ACHIEVED AT BREAKER LUGS.
- ⑧ PROVIDE CT (1 PER CIRCUIT BREAKER), CT WIRING, AND SHUNT TRIP WIRING TO GFPE RELAY IN BOX. MOUNT CTS IN PANELS AND CIRCUIT BREAKER ENCLOSURES. ONLY ONE CT AT PANEL H SHOWN. PROVIDE ALL REQUIRED. SEE DETAIL 2, THIS SHEET FOR WIRING DIAGRAM. SHUNT TRIP WIRING NOT SHOWN HERE.



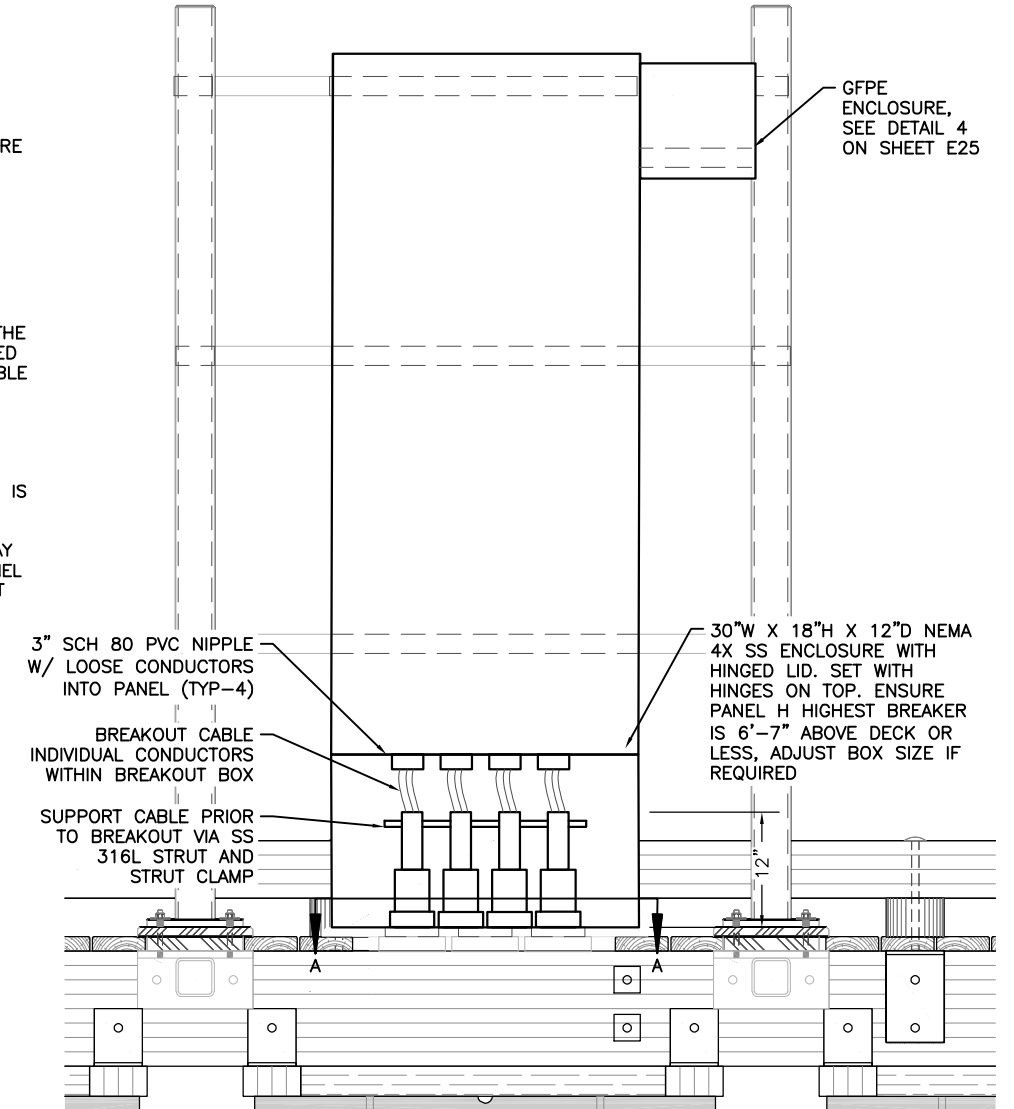
② GFPE BREAKER DETAIL (TYP)

NOTE: DETAIL IS TYPICAL WIRING FOR ALL GFPE PROTECTED RELAYS NOTED IN THE PLANS. ONE GFPE RELAY PER PROTECTED CIRCUIT BREAKER. CONTROL VOLTAGE CIRCUITS CAN BE SHARED BETWEEN GFPE RELAYS.

GFPE RELAY CT SIZING & QUANTITY TABLE

I-NOM.	INSIDE DIA.	BOD MODEL	QNTY
1600A	11" X 4.5" (RECTANGLE)	SQ-D #56053	2
630A	11.81" (CIRCLE)	SQ-D #50442	2
400A	7.87" (CIRCLE)	SQ-D #50441	1
250A	4.7" (CIRCLE)	SQ-D #50440	6
160A	3.1" (CIRCLE)	SQ-D #50439	1

TABLE NOTES:
1. ALL VALUES ARE MINIMUMS
2. I-NOM=NOMINAL CURRENT RATING, BOD=BASIS OF DESIGN
3. VENDOR TO ENSURE CT IS COMPATIBLE WITH PAIRED GFPE



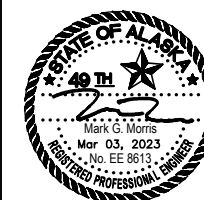
③ PANEL H - FRONT ELEVATION
NO SCALE

DETAIL 3 NOTE: BOX AND CONDUITS STUBBED UP THROUGH DECK & UHMW MATERIAL AND SECURED PER CIVIL. SEE SHEET ES3 PANEL H ELEVATION FOR MORE DETAILS.



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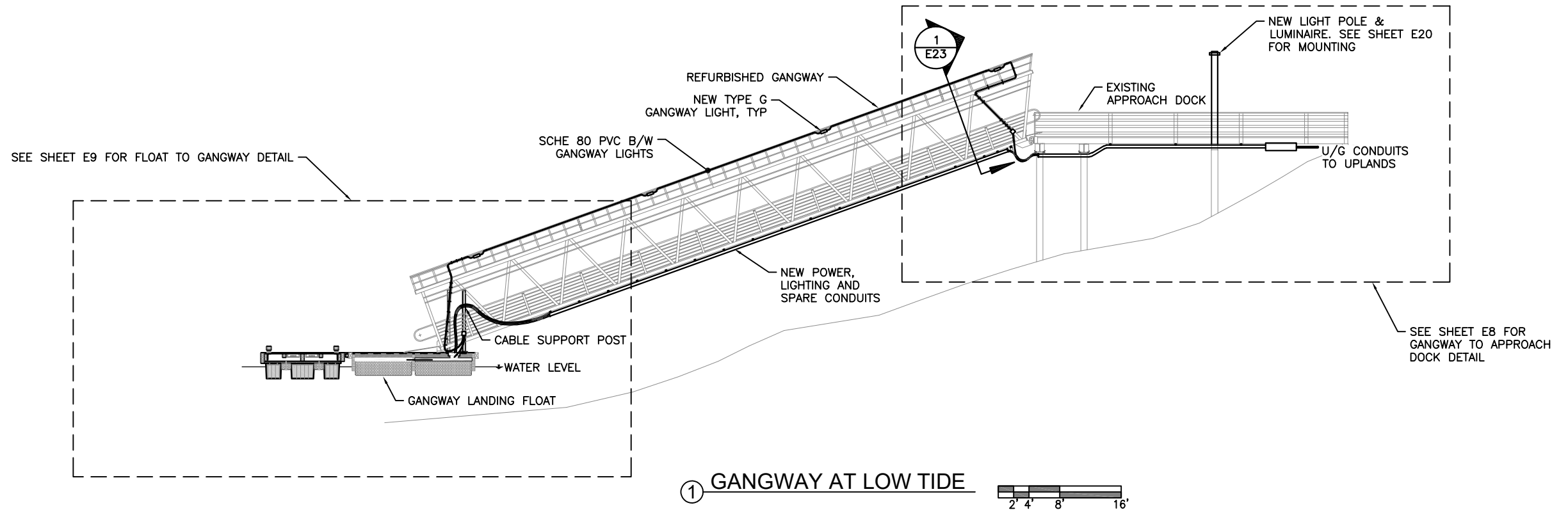


**SINGLE LINE DIAGRAM - PANEL H
& GFPE BREAKER DETAIL**
AURORA HARBOR REBUILD - PHASE III

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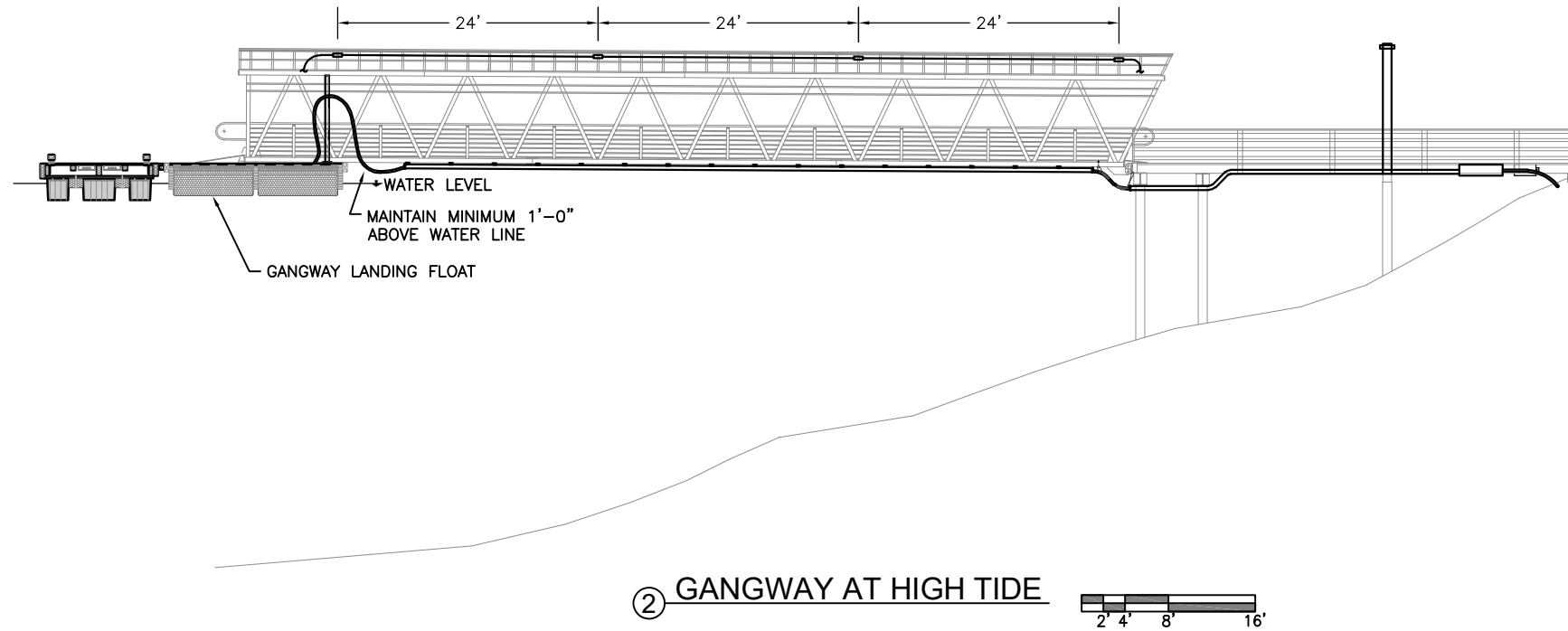
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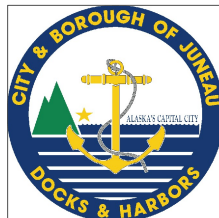
① GANGWAY AT LOW TIDE

NOTES:

1. SEE CIVIL DRAWINGS FOR POST LOCATIONS. MOUNT PANELS TO SUPPORT CHANNEL MOUNTED TO UTILITY BUILDING.
2. PROVIDE SCHE 80 PVC CONDUIT ALONG BOTTOM OF GANGWAY AND APPROACH DOCK. TRANSITION VIA EXPOSED CABLING SUPPORTED BY POST INTO FLOAT. PUT BELL ENDS ON CONDUIT.
3. ROUTE CABLES FROM ELECTRICAL BUILDING IN CABLE TRAY BELOW DECK. ROUTE CABLE IN CABLE TRAY TO OPENING IN DECK THEN TO POST. FROM POST, ROUTE CABLE TO CONDUIT UNDER GANGWAY. PROVIDE A STAINLESS STEEL CORD GRIP WHERE CABLE LEAVES FLOAT AND WHERE CABLE ENTERS CONDUIT ON GANGWAY. SUPPORT CABLE WITH CORD GRIP SECURED TO GALVANIZED EYE BOLT IN POST. PROVIDE SUFFICIENT SLACK IN CABLE TO ACCOMMODATE FOR GANGWAY MOVEMENT DUE TO TIDES. DO NOT LET CABLES HIT MARINE STRUCTURES OR WATER AT ANY TIDE LEVEL.
4. STOP CONDUIT AT TOP OF GANGWAY TO ALLOW CABLE TO HAVE SUFFICIENT SLACK FOR GANGWAY MOVEMENT AT ALL TIDES. PROVIDE CABLE GRIPS WHERE CABLE LEAVES CONDUIT ON GANGWAY AND WHERE CABLE ENTERS CONDUIT IN ABUTMENT. SECURE CABLE GRIPS TO ABUTMENT AND GANGWAY SUPPORT CHANNEL. HAVE GANGWAY FABRICATOR PROVIDE SUPPORT CHANNEL AT ABUTMENT END OF GANGWAY SOLELY TO ATTACH CABLE GRIPS TO. TAKE A STRAIN ON GRIP SO CABLE UNDER GANGWAY DOESN'T WALK TOWARD FLOAT.
5. ROUTE CABLES IN CONDUIT TO NEW BOX ON UNDERSIDE OF ABUTMENT. TRANSITION FROM THERE TO UNDERGROUND CONDUIT TO UPLANDS.
6. ADD EYEBOLTS TO POSTS ON FLOAT AS REQUIRED TO SUPPORT CABLE GRIPS. SEE STRUCTURAL FOR DETAILS.
7. VERIFY WITH CIVIL CONTRACTOR TO PROVIDE ALUMINUM SUPPORT CHANNEL TO BOTTOM OF GANGWAY FOR CONDUIT INSTALLATION. PROVIDE SUPPORT PER NEC.



② GANGWAY AT HIGH TIDE



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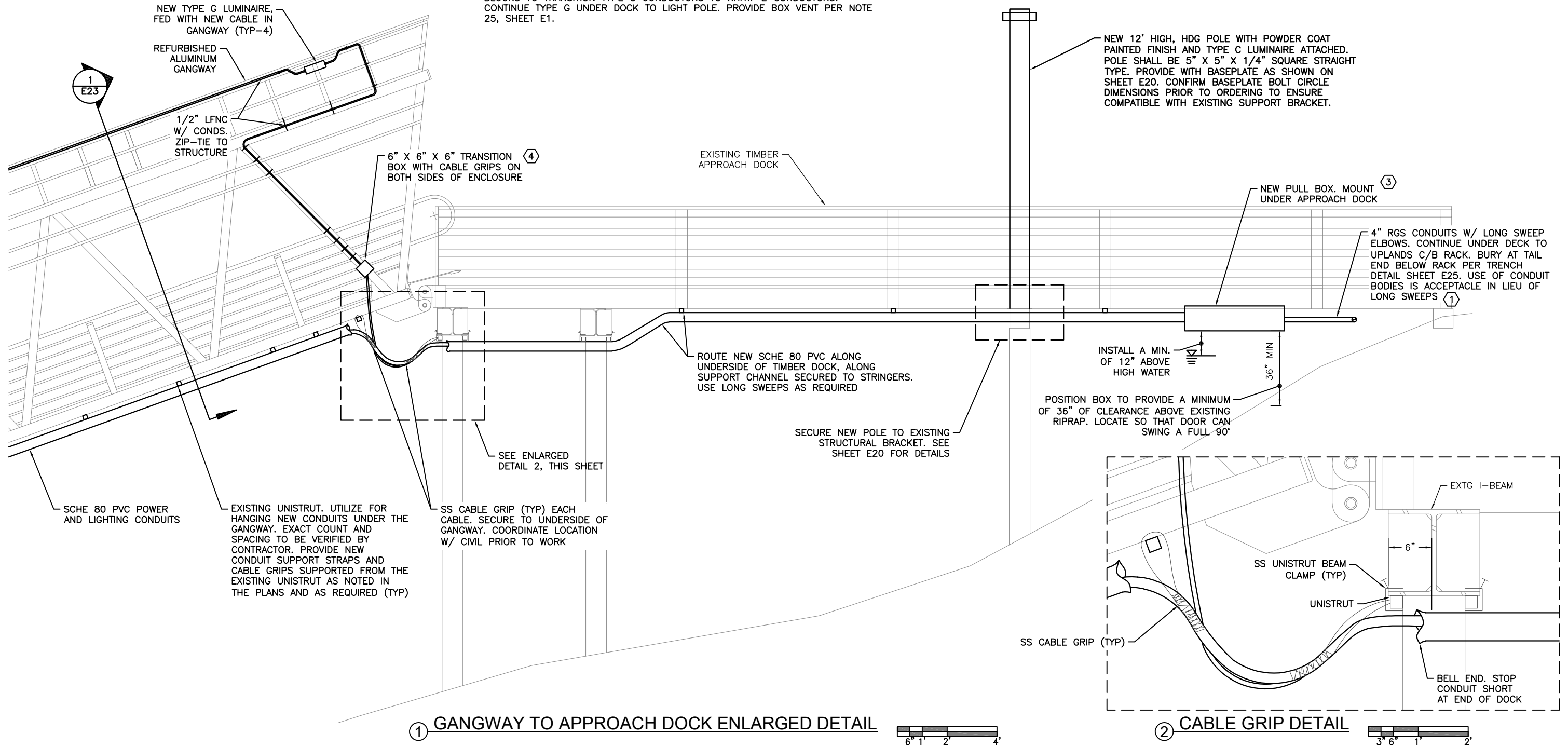
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GANGWAY ELEVATION			
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NOTES:

- ① IF LONG SWEEP ELBOWS CANNOT BE PHYSICALLY INSTALLED, CONTRACTOR MAY UTILIZE CONDUIT BODIES (I.E. CONDULETS) ABOVE GROUND BEFORE TRANSITIONING TO UNDERGROUND CONDUIT.
- 2. SEE SHEET E19 FOR LUMINAIRE SCHEDULE.
- ③ PROVIDE NEW STAINLESS STEEL BOX WITH CLAMPED ON COVER. MOUNT TO UNDERSIDE OF APPROACH DOCK ON SS UNISTRUT. NOMINAL SIZE IS 48" X 48" X 12". ROUTE ALL POWER CONDUIT FROM UPLAND MAIN BREAKER THROUGH BOX TO APPROACH DOCK. TRANSITION FROM UNDERGROUND RGS CONDUIT TO SCHE 80 PVC VIA THE BOX.
- ④ TRANSITION FROM OVERHEAD LFNC WITH CONDUCTORS BACK TO TYPE G CABLE AT 6" X 6" X 6" SS NEMA 4X BOX. SECURE BOX TO GANGWAY ~12" ABOVE WALKING SURFACE. WITHIN BOX, PROVIDE SQUARE-D POWER DISTRIBUTION BLOCKS TO TRANSITION TYPE G CONDUCTORS TO XHHW-2 CONDUCTORS. CONTINUE TYPE G UNDER DOCK TO LIGHT POLE. PROVIDE BOX VENT PER NOTE 25, SHEET E1.



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GANGWAY TO APPROACH DOCK ELEVATION

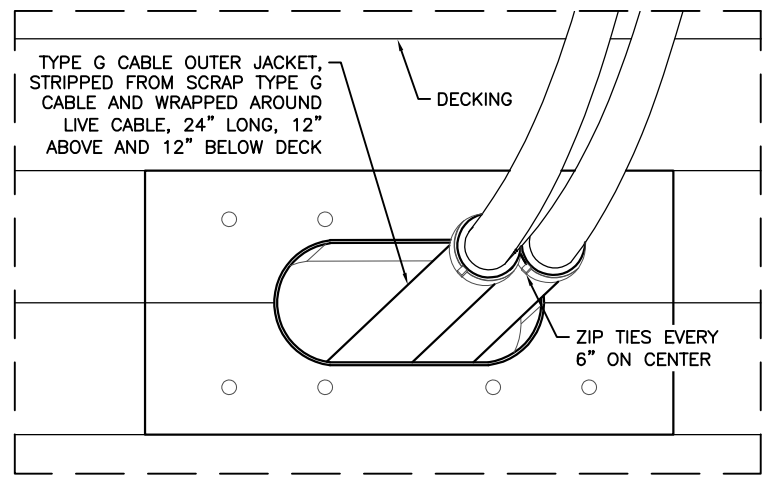
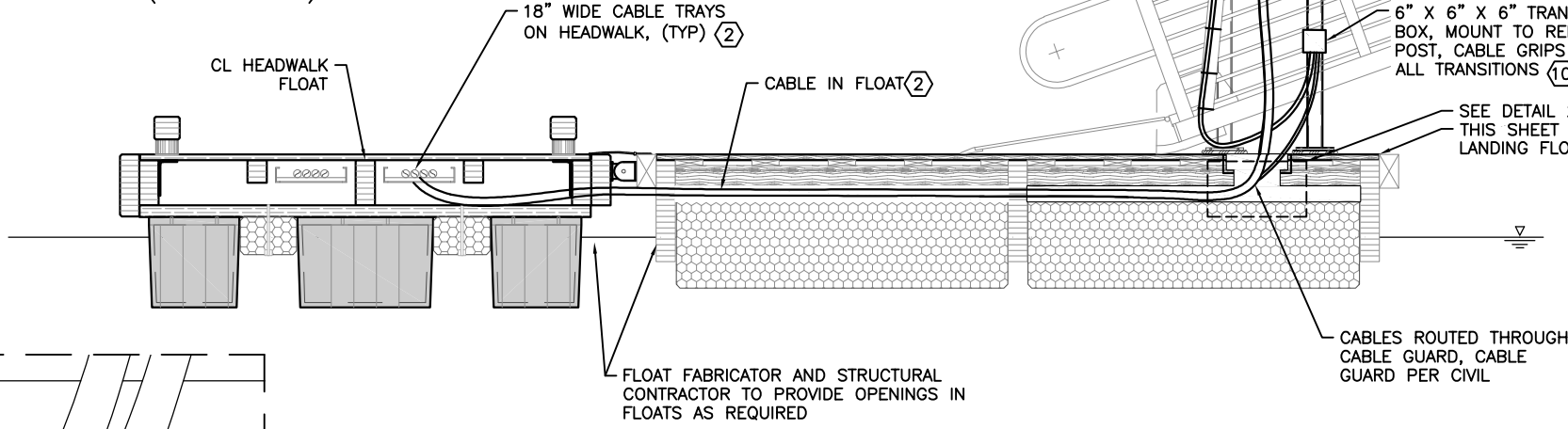
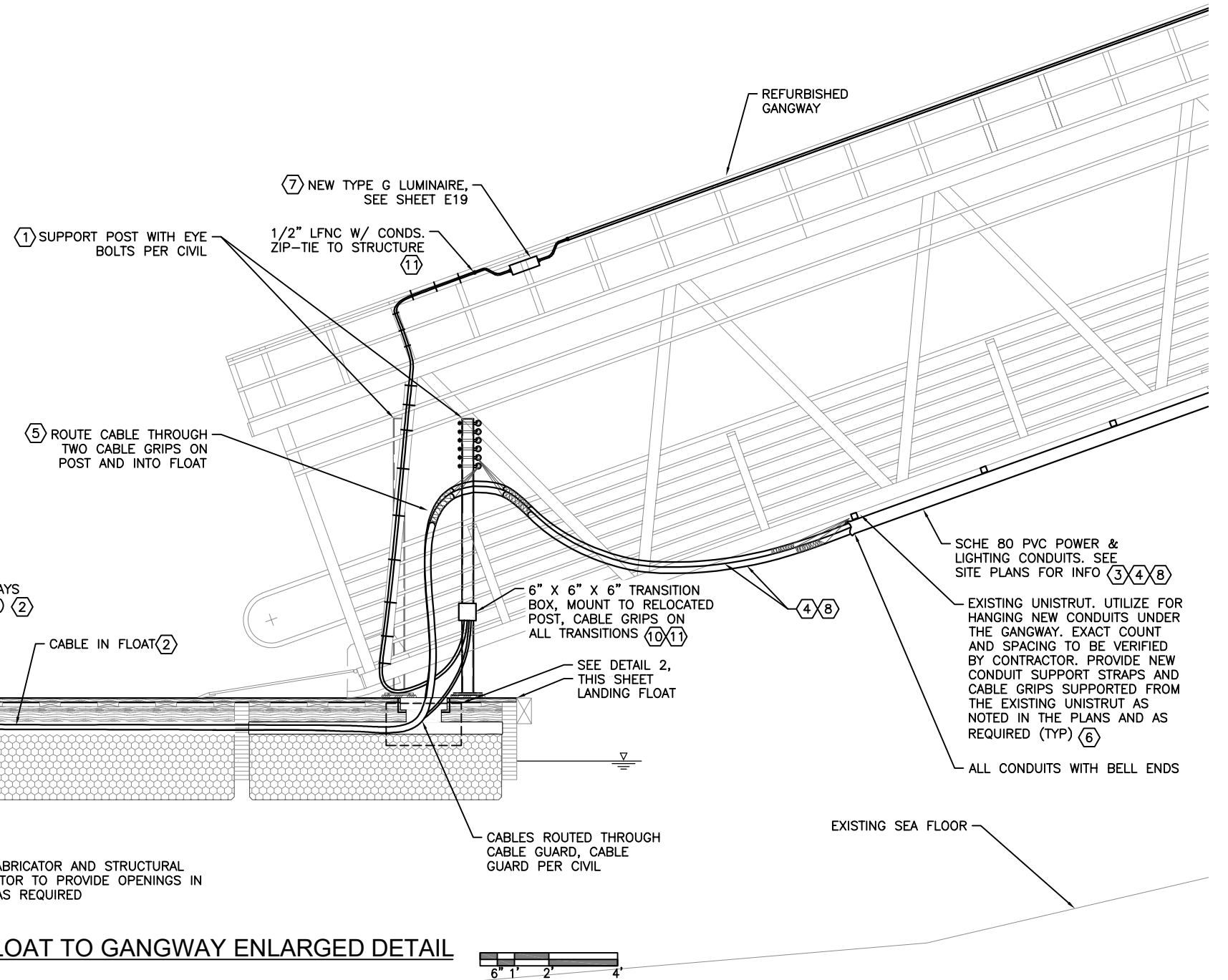
AURORA HARBOR REBUILD - PHASE III

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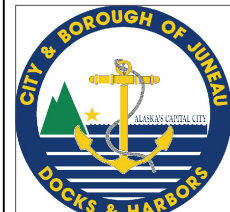
NOTES:

- ① SEE CIVIL DRAWINGS FOR POST LOCATIONS. POSTS ON BOTH SIDES OF GANGWAY TO BE UTILIZED FOR CABLE ROUTING.
- ② ROUTE CABLE IN CABLE TRAY TO OPENING IN DECK THEN TO POST. FROM POST, ROUTE CABLE TO CONDUIT UNDER GANGWAY. PROVIDE A STAINLESS STEEL CORD GRIP WHERE CABLE LEAVES FLOAT AND WHERE CABLE ENTERS CONDUIT ON GANGWAY. SUPPORT CABLE WITH CORD GRIP SECURED TO GALVANIZED EYE BOLT IN POST. PROVIDE SUFFICIENT SLACK IN CABLE TO ACCOMMODATE FOR GANGWAY MOVEMENT DUE TO TIDES. DO NOT LET CABLES HIT MARINE STRUCTURES OR WATER AT ANY TIDE LEVEL.
- ③ STOP CONDUIT AT TOP OF GANGWAY TO ALLOW CABLE TO HAVE SUFFICIENT SLACK FOR GANGWAY MOVEMENT AT ALL TIDES. PROVIDE CABLE GRIPS WHERE CABLE LEAVES CONDUIT ON GANGWAY AND WHERE CABLE ENTERS CONDUIT UNDER APPROACH DOCK. SECURE CABLE GRIPS TO APPROACH DOCK. PROVIDE SUPPORT CHANNEL AT ABUTMENT END OF GANGWAY SOLELY TO ATTACH CABLE GRIPS TO. TAKE A STRAIN ON GRIP SO CABLE UNDER GANGWAY DOESN'T WALK TOWARD FLOAT.
- ④ ROUTE CABLES IN CONDUIT UNDER APPROACH DOCK AND GANGWAY, THROUGH PULL BOX THEN UNDERGROUND TO MAIN CIRCUIT BREAKER.
- ⑤ PROVIDE TWO STAINLESS STEEL CABLE GRIPS PER CABLE, HUBBELL KELLEMS OR EQUAL. SECURE GRIPS FROM EYE-BOLTS AT TOP OF SUPPORT POST, SEE CIVIL. ARRANGE GRIPS TO PROVIDE SUPPORT OF EACH CABLE FROM EACH SIDE OF SUPPORT POST AS SHOWN HERE. ENSURE GRIPS ALLOW FOR FULL MOVEMENT OF CABLE THROUGHOUT TIDE RANGES WITHOUT BINDING CABLE OR BENDING BELOW MINIMUM BENDING RADIUS.
- ⑥ REPLACE EXISTING CONDUIT ON BOTTOM OF GANGWAY WITH NEW.
- ⑦ ROUTE 3 NO. 10 & 1 NO. 10 GND TYPE SO CABLE FROM PANEL M TO LUMINAIRES ON GANGWAY. PROVIDE CABLE GRIPS TO SUPPORT CABLE. SECURE CABLE TO GANGWAY WITH 500LB NYLON CABLE TIES EVERY 12" O.C.
- ⑧ ROUTE A 2" C UNDER GANGWAY AND ROUTE UPLANDS LIGHTING CABLE THROUGH FLOAT, UNDER GANGWAY AND UNDER APPROACH DOCK TO EXISTING LIGHT POLE. PROVIDE NEW WIRING IN LIGHT POLE (NO.10 X HHW) AND NEW LUMINAIRE ON POLE.
- 9. DETAILS SHOWN ON THIS SHEET APPLY TO BOTH SIDES OF GANGWAY.
- ⑩ TRANSITION FROM OVERHEAD LFNC WITH CONDUCTORS BACK TO TYPE G CABLE AT 6" X 6" X 6" SS NEMA 4X BOX. SECURE BOX TO GANGWAY ~12" ABOVE WALKING SURFACE. WITHIN BOX, PROVIDE SQUARE-D POWER DISTRIBUTION BLOCKS TO TRANSITION TYPE G CONDUCTORS TO XHHW-2 CONDUCTORS. CONTINUE TYPE G UNDER DOCK TO LIGHT POLE. PROVIDE BOX VENT PER NOTE 25, SHEET E1.
- ⑪ NOTE THAT LIGHTING CIRCUIT WORK OCCURS ON THE NORTH SIDE (FLOAT BLDG SIDE) OF GANGWAY.



② CHAFING PROTECTION DETAIL
NO SCALE

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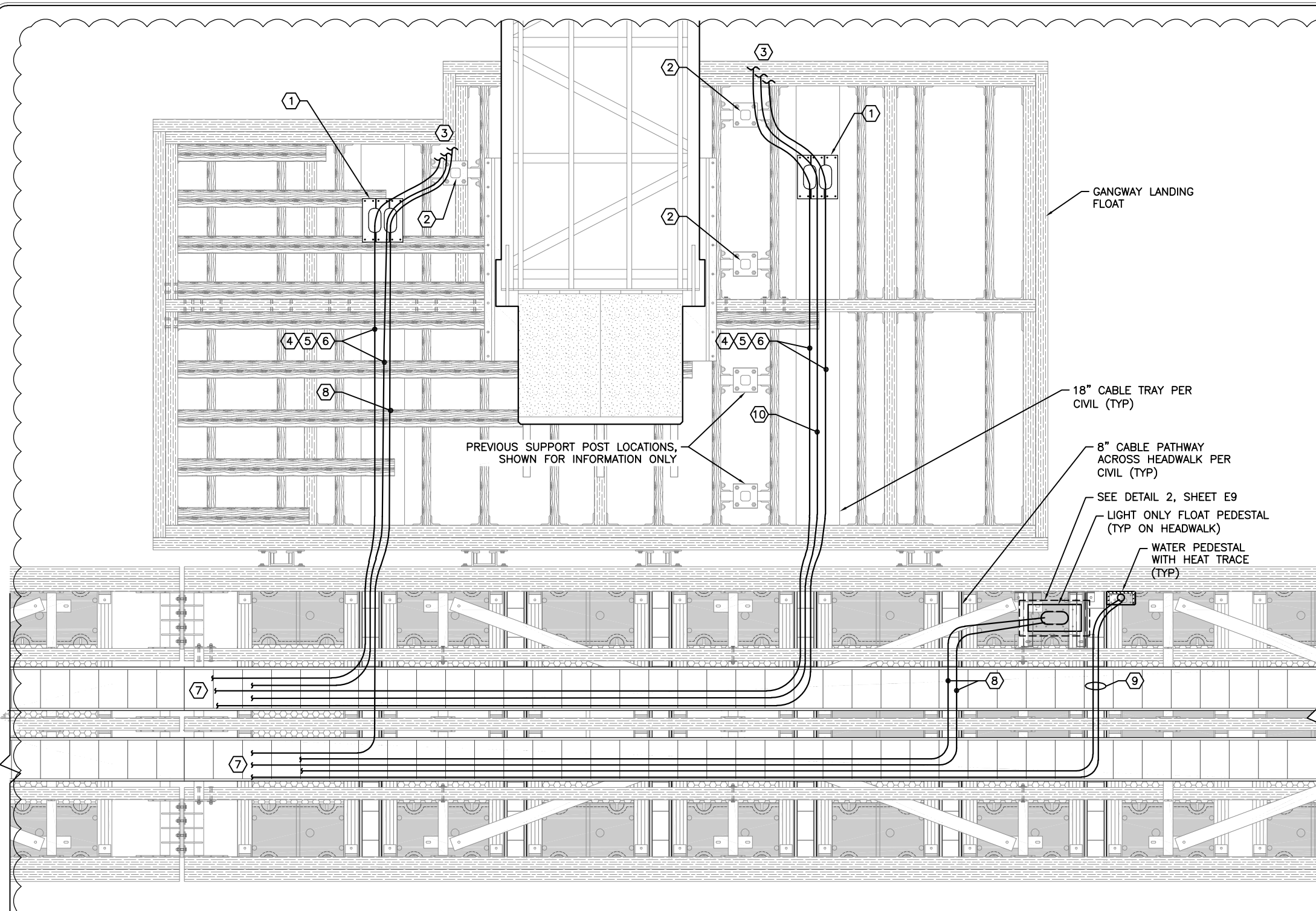


FLOAT TO GANGWAY ELEVATION
AURORA HARBOR REBUILD - PHASE III

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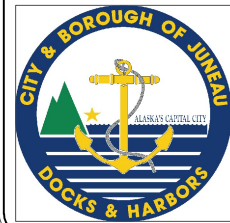


SHEET NOTES:

- ① CABLE GUARDS PER CIVIL. ROUTE ALL CABLES FROM GANGWAY INTO GANGWAY FLOAT VIA THE CABLE GUARDS. PROVIDE ANTI-CHAFING PROTECTION.
- ② RELOCATED SUPPORT POSTS PER CIVIL WITH EYEBOLTS FOR CABLE GRIPS.
- ③ CABLES TRANSITIONED FROM CONDUITS UNDER GANGWAY ACROSS SUPPORT POSTS SUPPORTED BY CABLE GRIPS, INTO GANGWAY FLOAT.
- ④ 4/C, 4/0 TYPE G CABLES IN PARALLEL, (2) CABLES ON EACH SIDE OF GANGWAY, FROM UPLANDS MAIN CIRCUIT BREAKER TO ELEC BUILDING. PROVIDE SUFFICIENT SLACK IN THE SHORTED RUN TO ENSURE OVERALL CABLE LENGTHS ARE THE SAME LENGTH END TO END.
- ⑤ ROUTE CABLE THROUGH FLOAT IN CABLE TRAY AND ON FOAM AND TUBS. DO NOT STACK CABLE IN CABLE TRAY. SUPPORT CABLE BETWEEN GANGWAY LANDING FLOAT AND HEADWALK WITH 'U' SHAPED STRAPS. SEE CIVIL.
- ⑥ CABLE MAY BE ROUTED ON TOP OF THE FLOAT TUBS AND FOAM IN THE LOCATIONS SHOWN ON THE GANGWAY LANDING FLOAT ELEVATION. THESE SPACES ARE PARALLEL TO THE 8" CABLE TRAY. HOWEVER, THESE SPACES DO NOT LINE UP WITH OPENINGS IN THE HEADWALK FLOAT. SO, ALL CABLE ROUTED INTO HEADWALK FLOAT HAS TO TRANSITION TO THE 8" TRAYS.
- ⑦ TO THE ELECTRICAL BUILDING, SEE SHEET E11 FOR CONTINUATION.
- ⑧ 4/C NO. 8 TYPE G CABLE FROM LIGHTING CONTACTOR IN ELEC BUILDING. ROUTE FROM BUILDING TO HEADWALK LIGHT PEDESTAL (FOR CKT B), CONTINUE TO GANGWAY LIGHTS AND POLE LUMINAIRE ON APPROACH DOCK (CKT C).
- ⑨ 4/C NO. 8 TYPE G CABLE FROM HEAT TRACE CONTACTOR IN ELEC BUILDING. ROUTE FROM BUILDING TO HEADWALK WATER PEDESTAL, THEN CONTINUE CIRCUIT TO NEXT WATER PEDESTAL ON HEADWALK/MAINWALK.
- ⑩ 4/C NO. 8 TYPE G CABLE FROM PANEL M DEDICATED 20/1 C/B. CABLE TO POWER GFPE RELAY AT 800/3 C/B IN UPLANDS.
- 11. CONTRACTOR RESPONSIBLE FOR ALL PLANNING, COORDINATION, AND EXECUTION WORK REQUIRED FOR PULLING CABLES WITHIN FLOATS UNSPICED END-TO-END. SEE GENERAL NOTE 31 ON SHEET E1 FOR MORE INFORMATION.
- 12. CONTRACTOR RESPONSIBLE FOR PROVIDING AND COORDINATING STRUCTURAL ELEMENTS ASSOCIATED WITH FLOAT MOUNTED ELECTRICAL. SEE GENERAL NOTE 32 ON SHEET E1 FOR MORE INFORMATION.
- 13. CABLES IN GANGWAY AND HEADWALK FLOATS CONTINUE UNDER FLOOR TO SOURCES WITHIN THE ELECTRICAL BUILDING FLOAT. COORDINATE ALL PENETRATIONS WITH FLOAT CONTRACTOR. THE ARRANGEMENT OF CABLES IN EACH TRAY IN ALL FLOATS AND INSIDE BUILDING ARE GRAPHICAL ONLY. CONTRACTOR RESPONSIBLE FOR FINAL ARRANGEMENTS AS REQUIRED THAT MEET CODE. UTILIZE DESIGNATED CABLE TRAYS AND ELECTRICAL PATHWAYS AS MUCH AS POSSIBLE. WHERE REQUIRED, CABLES WILL TRANSITION OUT OF CABLE TRAYS AND WILL BE ROUTED DIRECTLY ALONG FLOATATION TUBS, ACROSS STRUCTURAL MEMBERS, AND THROUGH OPENINGS WITHIN STRUCTURES. PATHS SHOWN ON THE ELECTRICAL SHEETS ARE NOT ANTICIPATED TO BE FOLLOWED PRECISELY. ADJUSTMENTS IN ROUTING FOR BEST FINAL FIT, FOR MAINTAINING MINIMUM BENDING RADII, ETC. ARE EXPECTED.



① GANGWAY LANDING FLOAT AND HEADWALK PLAN



MORRIS ENGINEERING GROUP INC
 2375 Jordan Avenue #7, Juneau, AK 99801
 Phone: 907-789-3350, License: AECL1010

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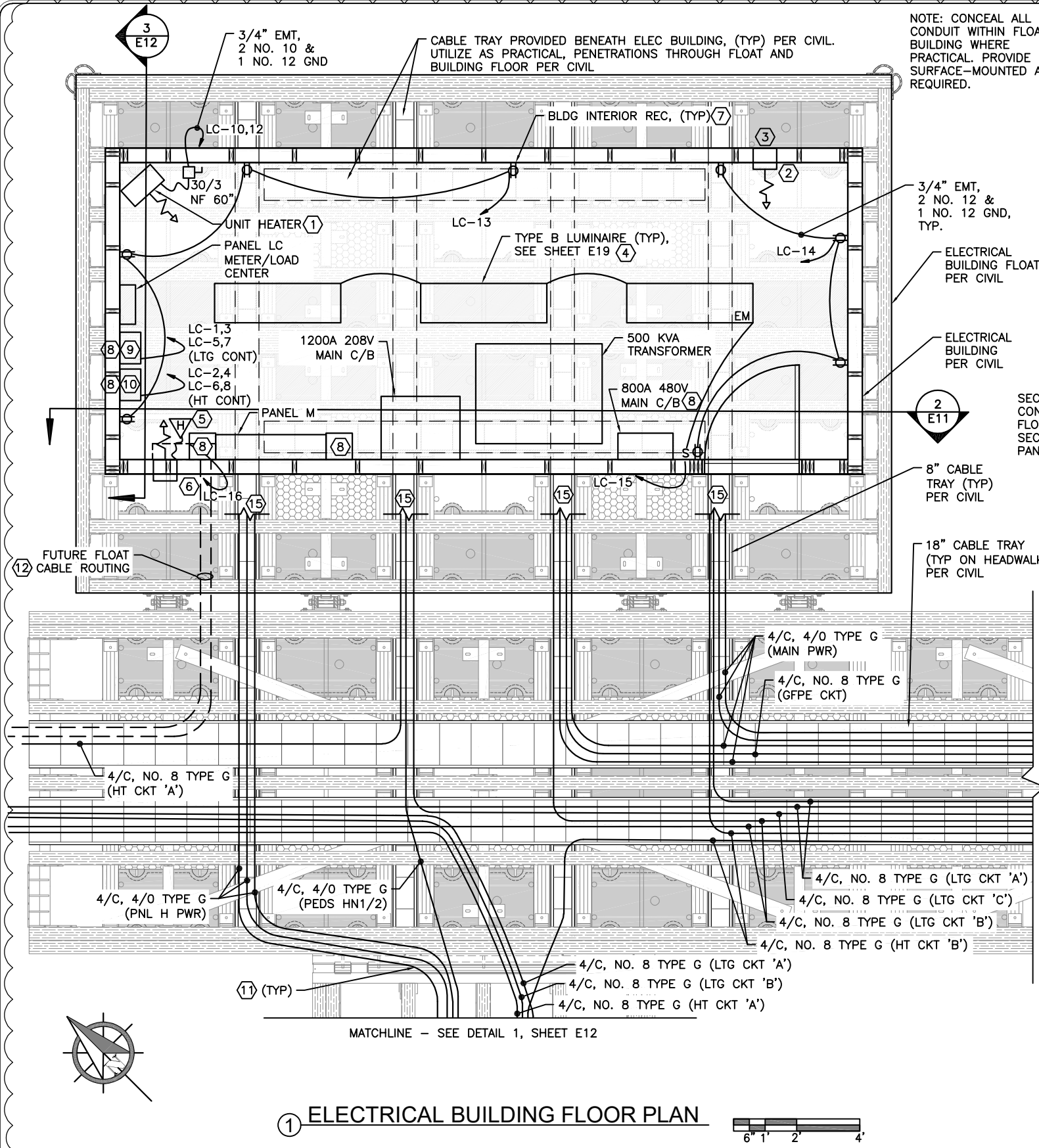
GANGWAY LANDING FLOAT AND HEADWALK PLAN

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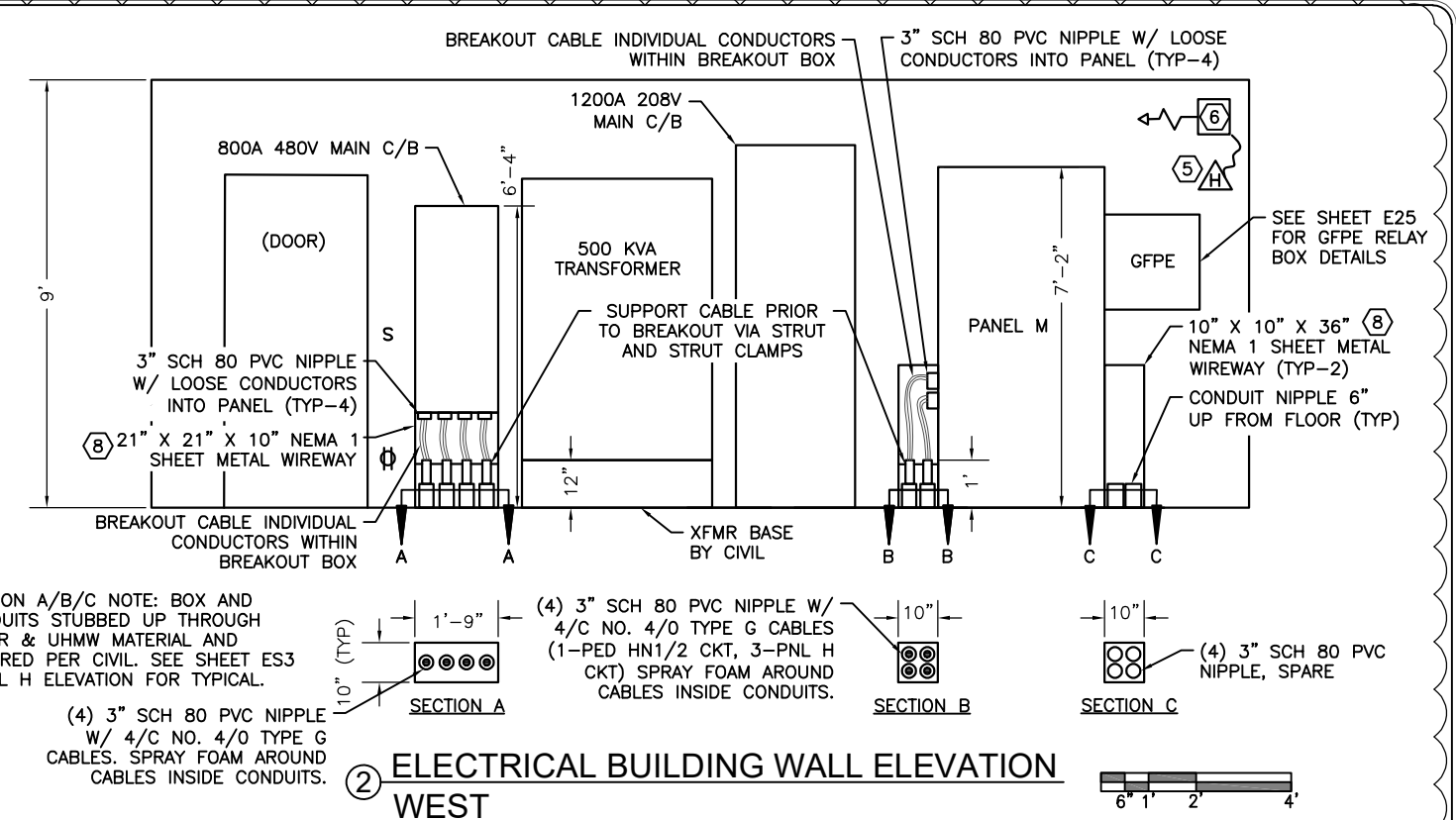
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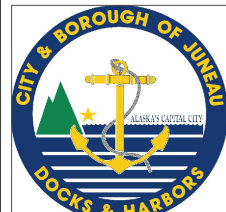
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NOTE: CONCEAL ALL CONDUIT WITHIN FLOAT BUILDING WHERE PRACTICAL. PROVIDE SURFACE-MOUNTED AS REQUIRED.



- SECTION A/B/C NOTE: BOX AND CONDUITS STUBBED UP THROUGH FLOOR & UHMW MATERIAL AND SECURED PER CIVIL. SEE SHEET ES3 PANEL H ELEVATION FOR TYPICAL.
- (4) 3" SCH 80 PVC NIPPLE W/ 4/C NO. 4/0 TYPE G CABLES. SPRAY FOAM AROUND CABLES INSIDE CONDUITS.
- NOTES:
- ELECTRICAL UNIT HEATER WITH BUILT IN THERMOSTAT AND WALL MOUNT KIT. MARLEY MUH0581 OR EQUAL. MOUNT ON WALL 6" BELOW CEILING.
 - 6"W X 8"H COUNTER BALANCED BAROMETRIC RELIEF AIR DAMPER WITH BALL BEARING 316 STAINLESS STEEL FRAME, BLADES, AND BEARINGS. GREEN HECK SEBR-32 SERIES. FLANGE ON INTAKE. TRIM AROUND DAMPER WITH 3/18" X 3" FIR WITH WATCO OIL FINISH. ADJUST LOUVER TO OPEN WHEN VENTILATION FAN RUNS. MOUNT TOP 6" BELOW CEILING.
 - 316 STAINLESS STEEL INTAKE HOOD. SIZED TO FIT OVER RELIEF AIR DAMPER FULL WIDTH AND HEIGHT OF DAMPER. BOTTOM OF HOOD SHALL EXTEND MIN. 8" OFF WALL, PROVIDE WITH 316 STAINLESS STEEL BIRD SCREEN.
 - SURFACE MOUNT LIGHT FIXTURES TO CEILING WITH STAINLESS STEEL HARDWARE. SPACE EQUI-DISTANCE ACROSS ROOM AND CENTER.
 - HUMIDISTAT 120V, 7 AMP, 20-80 PERCENT HUMIDITY SWITCH CLOSERS AND ENERGIZED THE FAN ON AN INCREASE IN RELATIVE HUMIDITY. A DECREASE IN HUMIDITY TO THE SET POINT MINUS THE DIFFERENTIAL, BREAKS THE SWITCH TO STOP THE FAN.
 - THROUGH THE WALL VENTILATION FAN (70 CFM, 120V) WITH EXTERIOR HOOD. PANASONIC FV-08WQI. MOUNT TOP 6" BELOW CEILING.
 - MOUNT ALL RECEPTACLES AT 36" ALL RECEPTACLES SHALL BE 20A, 120V, INDUSTRIAL SPEC GRADE, GFI TYPE. NO WIRING BELOW 15" AFF.
 - WIREWAY OR ENCLOSURE USED AS TYPE G CABLE BREAKOUT BOX. SECURE CABLE TO STRUT AT 12" AFF AND SEPARATE OUT CONDUCTORS PRIOR TO PANEL ENTRY.
 - LIGHTING CONTACTOR, SEE SHEET E5 FOR FULL DESCRIPTION. MOUNT SIDE-BY-SIDE TO HEAT TRACE CONTACTOR. SEE SHEET E12 FOR ELEVATION.
 - HEAT TRACE CONTACTOR, SEE SHEET E5 FOR FULL DESCRIPTION. MOUNT SIDE-BY-SIDE TO LIGHTING CONTACTOR. SEE SHEET E12 FOR ELEVATION.
 - SUPPORT CABLES WITH "U" SHAPED CABLE SUPPORT WHEN ROUTING CABLE BETWEEN HEADWALK, MAINWALK, AND ALL FLOAT SECTIONS. SEE CIVIL FOR DETAILS OF CABLE SUPPORT (TYPICAL).
 - PATH FOR FUTURE PANELS J AND K FEEDER CABLES. DO NOT RUN ANY PROJECT CABLING IN THIS PORTION OF THE FLOAT. IT IS RESERVED FOR FUTURE CABLES.
 - CONTRACTOR RESPONSIBLE FOR ALL PLANNING, COORDINATION, AND EXECUTION WORK REQUIRED FOR PULLING CABLES WITHIN FLOATS UNSPICED END-TO-END. SEE GENERAL NOTE 31 ON SHEET E1 FOR MORE INFORMATION.
 - CONTRACTOR RESPONSIBLE FOR PROVIDING AND COORDINATING STRUCTURAL ELEMENTS ASSOCIATED WITH FLOAT MOUNTED ELECTRICAL. SEE GENERAL NOTE 32 ON SHEET E1 FOR MORE INFORMATION.
 - CABLES IN HEADWALK CONTINUE UNDER FLOOR TO SOURCES WITHIN ELECTRICAL BUILDING. PATHS WITHIN BUILDING NOT SHOWN. COORDINATE ALL PENETRATIONS WITH FLOAT CONTRACTOR. THE ARRANGEMENT OF CABLES IN EACH TRAY, IN ALL FLOATS, AND INSIDE BUILDING ARE GRAPHICAL ONLY. CONTRACTOR RESPONSIBLE FOR FINAL ARRANGEMENTS AS REQUIRED THAT MEET CODE. UTILIZE DESIGNATED CABLE TRAYS AND ELECTRICAL PATHWAYS AS MUCH AS POSSIBLE. WHERE REQUIRED, CABLES WILL TRANSITION OUT OF CABLE TRAYS AND WILL BE ROUTED DIRECTLY ALONG FLOTATION TUBS, ACROSS STRUCTURAL MEMBERS, AND THROUGH OPENINGS WITHIN STRUCTURES. PATHS SHOWN ON THE ELECTRICAL SHEETS ARE NOT ANTICIPATED TO BE FOLLOWED PRECISELY. ADJUSTMENTS IN ROUTING FOR BEST FINAL FIT, FOR MAINTAINING MINIMUM BENDING RADII, ETC. ARE EXPECTED.



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A	3/03/23	ADDENDUM 1			

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ELECTRICAL BUILDING FLOOR PLAN & CABLE ROUTING
AURORA HARBOR REBUILD - PHASE III

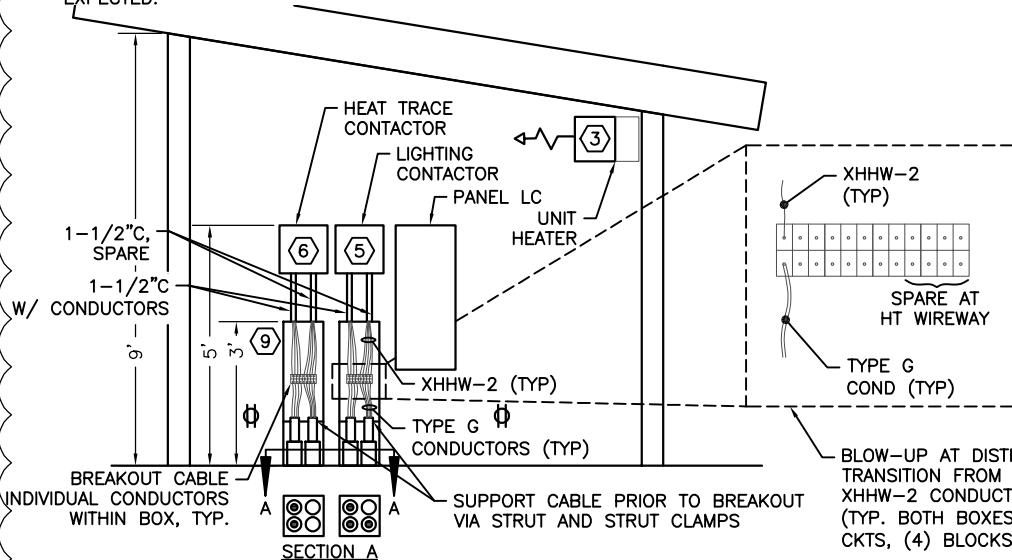
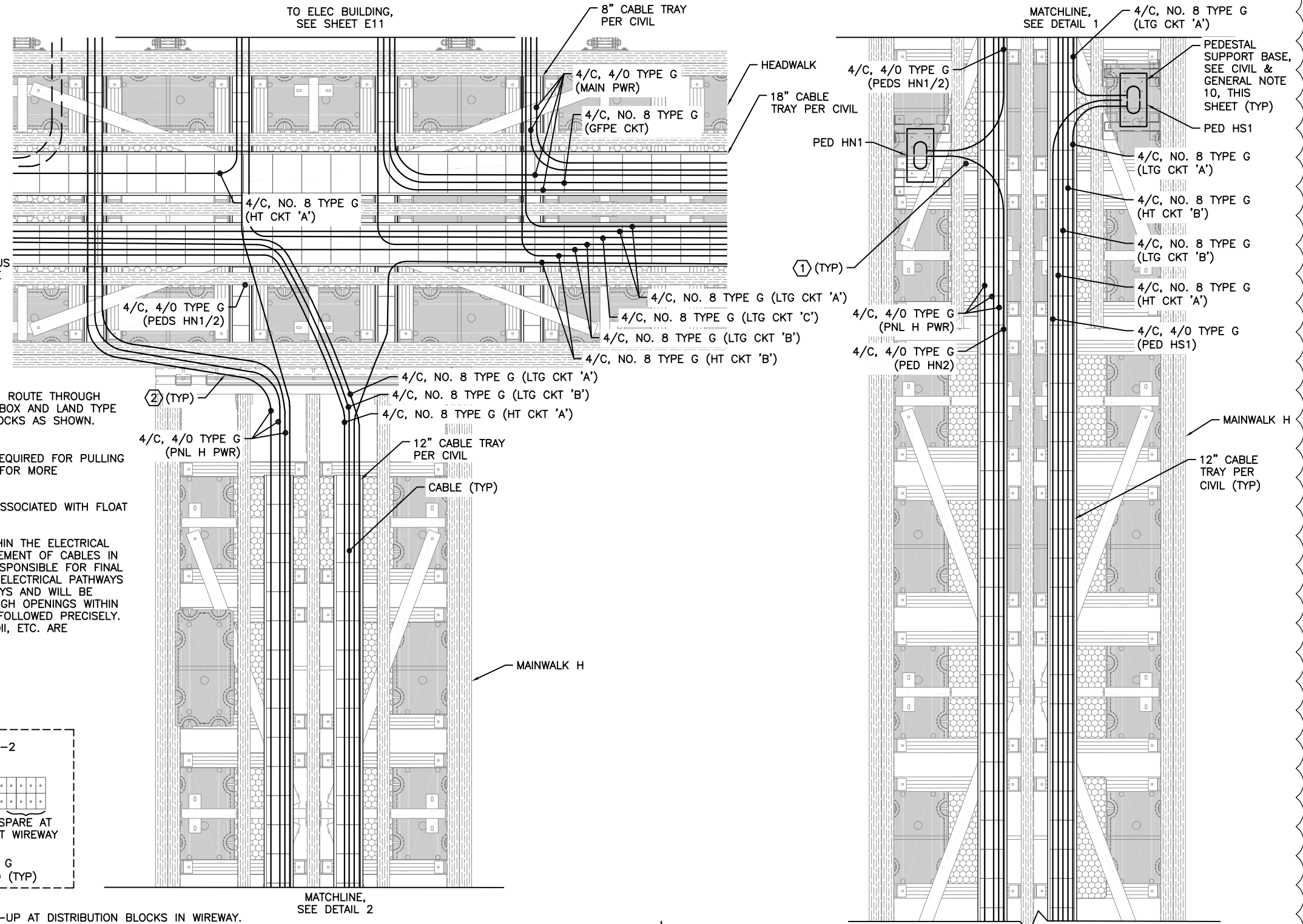
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NOTES:

- ① SUPPORT CABLE WITH CABLE GRIP WHEN ROUTED BETWEEN SILLS AS THERE IS NO FOAM OR TUB FOR CABLE TO LAY ON (TYPICAL).
- ② SUPPORT CABLES WITH "U" SHAPED CABLE SUPPORT WHEN ROUTING CABLE BETWEEN HEADWALK, MAINWALK, AND ALL FLOAT SECTIONS. SEE CIVIL FOR DETAILS OF CABLE SUPPORT (TYPICAL).
- ③ ELECTRICAL UNIT HEATER WITH BUILD IN THERMOSTAT AND WALL MOUNT KIT. MARLEY MUH0581 OR EQUAL. MOUNT ON WALL 6" BELOW CEILING.
- ④ NOT USED.
- ⑤ LIGHTING CONTACTOR, SEE SHEET E5 FOR FULL DESCRIPTION. MOUNT SIDE-BY-SIDE TO HEAT TRACE CONTACTOR. SEE SHEET E12 FOR ELEVATION.
- ⑥ HEAT TRACE CONTACTOR, SEE SHEET E5 FOR FULL DESCRIPTION. MOUNT SIDE-BY-SIDE TO LIGHTING CONTACTOR. SEE SHEET E12 FOR ELEVATION.
7. NOT ALL CABLES IN FLOAT ARE SHOWN FOR CLARITY. REVIEW CIVIL DRAWINGS TO UNDERSTAND HOW TO ROUTE CABLES IN THE FLOAT. ROUTE CABLES TO AVOID STRUCTURAL MEMBERS IN A MANNER THAT USES THE LARGEST POSSIBLE BENDING RADIUS OF THE CABLE. WRAP CHAFE PROTECTION AROUND CABLE WHERE IT CROSSES THE EDGE OF A FLOAT MEMBER TO PREVENT CHAFING. USE SECTIONS OF RUBBER CABLE JACKET THAT WAS STRIPPED FOR TERMINATING CABLE FOR THIS PROTECTION. SECURE TO CABLE WITH TIE WRAPS.
8. THE CABLE ROUTING PLANS ARE NOT COMPREHENSIVE BUT ARE MEANT TO SHOW THE ROUTING CHANGES BASED UPON WHERE ON THE FLOAT THE PEDESTALS ARE LOCATED. STUDY ALL CIVIL DRAWINGS WHICH SHOW PEDESTAL LOCATIONS TO UNDERSTAND FLOAT STRUCTURE IN ORDER TO DETERMINE HOW TO ROUTE CABLES.
- ⑨ TRANSITION THE TYPE G CABLES INTO THE ELECTRICAL FLOAT PANELS AND CONTACTORS. ROUTE THROUGH UHMW-PE MATERIAL AND INTO NEMA 1 BREAKOUT BOX. PROVIDE UNISTRUT WITHIN THE BOX AND LAND TYPE G CABLE CONDUCTORS TO XHHW STRANDED CONDUCTORS ON POWER DISTRIBUTION BLOCKS AS SHOWN. UNISTRUT HEIGHT TO BE 13" AFF OR HIGHER.
10. CONTRACTOR RESPONSIBLE FOR ALL PLANNING, COORDINATION, AND EXECUTION WORK REQUIRED FOR PULLING CABLES WITHIN FLOATS UNSPICED END-TO-END. SEE GENERAL NOTE 31 ON SHEET E1 FOR MORE INFORMATION.
11. CONTRACTOR RESPONSIBLE FOR PROVIDING AND COORDINATING STRUCTURAL ELEMENTS ASSOCIATED WITH FLOAT MOUNTED ELECTRICAL. SEE GENERAL NOTE 32 ON SHEET E1 FOR MORE INFORMATION.
12. CABLES IN GANGWAY AND HEADWALK FLOATS CONTINUE UNDER FLOOR TO SOURCES WITHIN THE ELECTRICAL BUILDING FLOAT. COORDINATE ALL PENETRATIONS WITH FLOAT CONTRACTOR. THE ARRANGEMENT OF CABLES IN EACH TRAY IN ALL FLOATS AND INSIDE BUILDING ARE GRAPHICAL ONLY. CONTRACTOR RESPONSIBLE FOR FINAL ARRANGEMENTS AS REQUIRED THAT MEET CODE. UTILIZE DESIGNATED CABLE TRAYS AND ELECTRICAL PATHWAYS AS MUCH AS POSSIBLE. WHERE REQUIRED, CABLES WILL TRANSITION OUT OF CABLE TRAYS AND WILL BE ROUTED DIRECTLY ALONG FLOTATION TUBS, ACROSS STRUCTURAL MEMBERS, AND THROUGH OPENINGS WITHIN STRUCTURES. PATHS SHOWN ON THE ELECTRICAL SHEETS ARE NOT ANTICIPATED TO BE FOLLOWED PRECISELY. ADJUSTMENTS IN ROUTING FOR BEST FINAL FIT, FOR MAINTAINING MINIMUM BENDING RADII, ETC. ARE EXPECTED.



BLOW-UP AT DISTRIBUTION BLOCKS IN WIREWAY. TRANSITION FROM TYPE G CONDUCTORS TO TYPE XHHW-2 CONDUCTORS AT DISTRIBUTION BLOCKS, (TYP. BOTH BOXES). (8) BLOCKS FOR PROJECT CKTS, (4) BLOCKS FOR FUTURE USE IN EACH BOX.

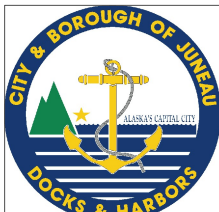
③ ELECTRICAL BUILDING WALL ELEVATION NORTH



① HEADWALK TO MAINWALK H CABLE ROUTING



② MAINWALK H CABLE ROUTING



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MAINWALK CABLE ROUTING			
AURORA HARBOR REBUILD - PHASE III			
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Y:\113_CBJ\41_aurora harbor phase iii\working drawings\ELECTRICAL BUILDING WALL ELEVATION & PANEL SCHEDULES 2/21/2023 12:15 PM

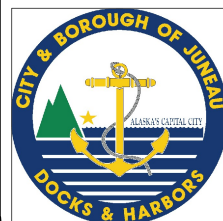
PANEL M		SIZE	VOLTS, PHASE			MOUNTING		MAIN	LOCATION	
		1200A	120/208V, 3φ, 4W			SURFACE		MLO	ELECTRICAL FLOAT BUILDING	
CKT NO.	DESCRIPTION	C/B SIZE	KVA				C/B SIZE	DESCRIPTION	CKT NO.	
			CKT	Aφ	Bφ	Cφ				
1	PANEL H	600/3	56.8	56.8			0.0	250/3	FUTURE PANEL J	2
3	-	-	56.8		56.8		0.0	-	-	4
5	-	-	56.8			56.8	0.0	-	-	6
7	FUTURE PANEL K	400/3	0.0	0.0			0.0	250/3	SPARE	8
9	-	-	0.0		0.0		0.0	-	-	10
11	-	-	0.0			0.0	0.0	-	-	12
13	PEDESTALS HN1 & HN2	250/3	12.5	17.3			4.8	100/2	PANEL LC	14
15	-	-	12.5		17.2		4.7	-	-	16
17	-	-	12.5			12.5	0.0	20/1	GFPE POWER (800/3)	18
19	GFPE POWER (PNL H & FUTURE PNL J)	20/1	0.0	0.0			0.0	20/1	SPARE (GFCI)	20
21	GFPE POWER (PNL LC, SPR 250/2)	20/1	0.0		0.0		0.0	30/3	SURGE PROTECTION DEVICE (SPD)	22
23	GFPE POWER (PEDS HN1/2, FUTURE PNL K)	20/1	0.0			0.0	0.0	-	-	24
25	GFPE POWER (1200/3 MAIN C/B)	20/1	0.0	0.0			0.0	-	-	26
TOTAL CONNECTED LOAD = 217.4 KVA/ 603 AMPS			74.1	74.0	69.3					

PANEL H		SIZE	VOLTS, PHASE			MOUNTING		MAIN	LOCATION	
		600A	120/208V, 3φ, 4W			SURFACE		MLO	MAINWALK H	
CKT NO.	DESCRIPTION	C/B SIZE	KVA				C/B SIZE	DESCRIPTION	CKT NO.	
			CKT	Aφ	Bφ	Cφ				
1	PEDESTALS HN3 & HS4	250/3	15.6	40.6			25.0	250/3	PEDESTALS HN4 & HN5	2
3	-	-	15.6		40.6		25.0	-	-	4
5	-	-	15.6			40.6	25.0	-	-	6
7	PEDESTALS HS1, HS2, & HS3	250/3	18.7	40.5			21.8	250/3	PEDESTALS HS5, HS6, & HS7	8
9	-	-	18.7		40.5		21.8	-	-	10
11	-	-	18.7			40.5	21.8	-	-	12
13	GFPE POWER (PEDS HS4, HN3-HN5)	20/1	0.0	0.0			0.0	20/1	SPARE (GFCI)	14
15	GFPE POWER (PEDS HS1-HS3, HS5-HS7)	20/1	0.0		0.0		0.0	20/1	SPARE (GFCI)	16
TOTAL CONNECTED LOAD = 171.1 KVA/ 475 AMPS (NOTE 1)			81.1	81.1	81.1					

NOTES:

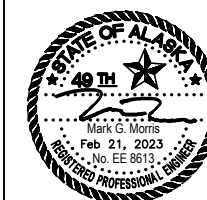
- TOTAL LOAD CALCULATED AS 70% OF COMBINED PHASE LOAD PER NEC.
- TYPE G CABLE IS FINELY STRANDED AND MAY NOT PROPERLY SECURE DOWN WITHIN THE CIRCUIT BREAKER CONNECTIONS ON THE PROJECT. CONTRACTOR SHALL PROVIDE FEMALE-TO-MALE FERRULE CRIMP CONNECTORS AS REQUIRED TO ENSURE PROPER TORQUE IS ACHIEVED AT BREAKER LUGS.

PANEL LC		SIZE	VOLTS, PHASE			MOUNTING		MAIN	LOCATION	
		225A	120/240V, 1φ, 3W			SURFACE		100/2	ELECTRICAL FLOAT BUILDING	
CKT NO.	DESCRIPTION	C/B SIZE	KVA				C/B SIZE	DESCRIPTION	CKT NO.	
			CKT	Aφ	Bφ	CKT				
1	LTG CONTACTOR CKT A (GFCI)	30/2	0.3	0.5		0.2	30/2	HEAT TRACE CONTACTOR CKT A (GFCI)	2	
3	-	-	0.3		0.5	0.2	-	-	4	
5	LTG CONTACTOR CKT B (GFCI)	30/2	0.3	0.5		0.2	30/2	HEAT TRACE CONTACTOR CKT B (GFCI)	6	
7	-	-	0.3		0.5	0.2	-	-	8	
9	LTG CONTACTOR CKT C (GFCI)	30/2	0.3	2.8		2.5	30/2	ELEC BLDG UNIT HEATER	10	
11	-	-	0.3		2.8	2.5	-	-	12	
13	ELEC BLDG NORTH RECS	20/1	0.8	1.6		0.8	20/1	ELEC BLDG SOUTH RECS	14	
15	ELEC BLDG INTERIOR LIGHTS	20/1	0.2		0.4	0.2	20/1	ELEC BLDG VENT FAN	16	
17	SPARE	20/1	0.0	0.0		0.0	20/1	SPARE	18	
19			0.0		0.0				20	
21			0.0	0.0		0.0			22	
23			0.0		0.0	0.0			24	
TOTAL CONNECTED LOAD = 9.6 KVA/ 40 AMPS			5.4	4.2	NOTE: ALL BREAKERS SHALL BE MINIMUM 10KAIC RATED					



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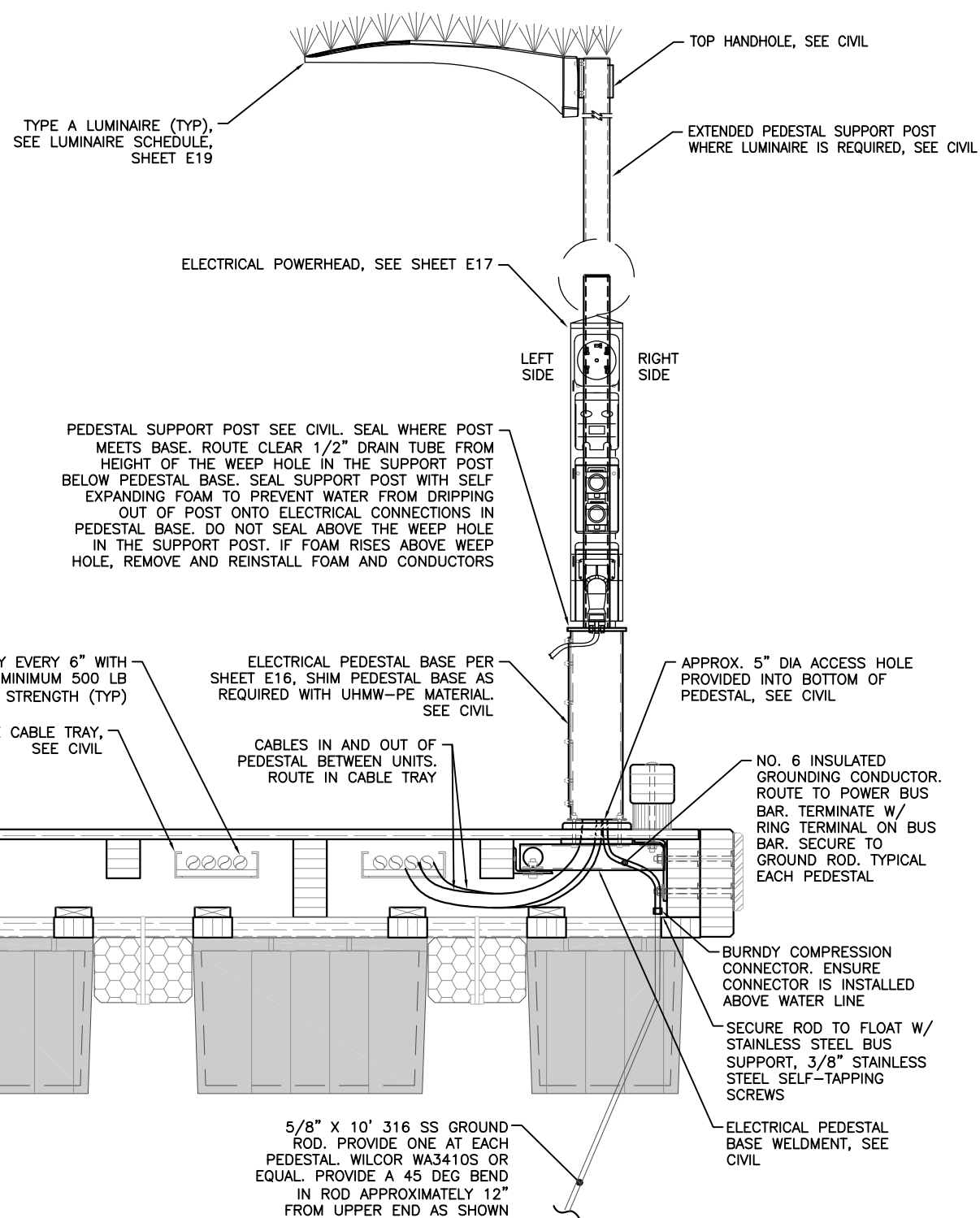
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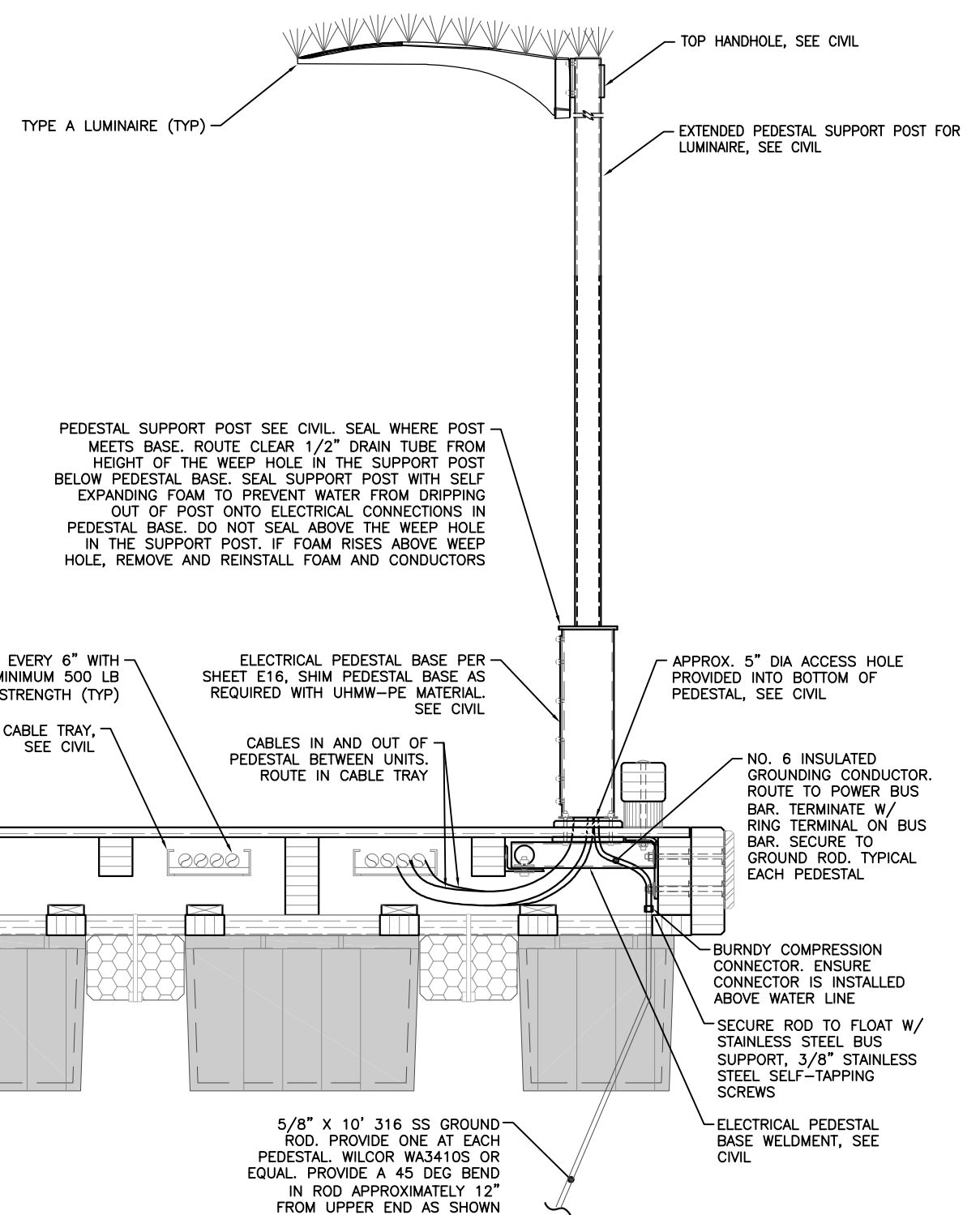
PANEL SCHEDULES			
AURORA HARBOR REBUILD - PHASE III			
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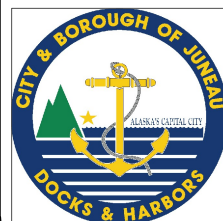
Y:\113_CBJ\41_aurora harbor phase iii\working drawings\10' FLOAT SECTIONS 2/21/2023 12:15 PM



① 10' MODULE FLOAT SECTION W/ POWERHEADS
NO SCALE

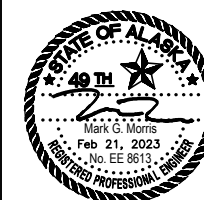


② 10' MODULE FLOAT SECTION W/O POWERHEADS
NO SCALE



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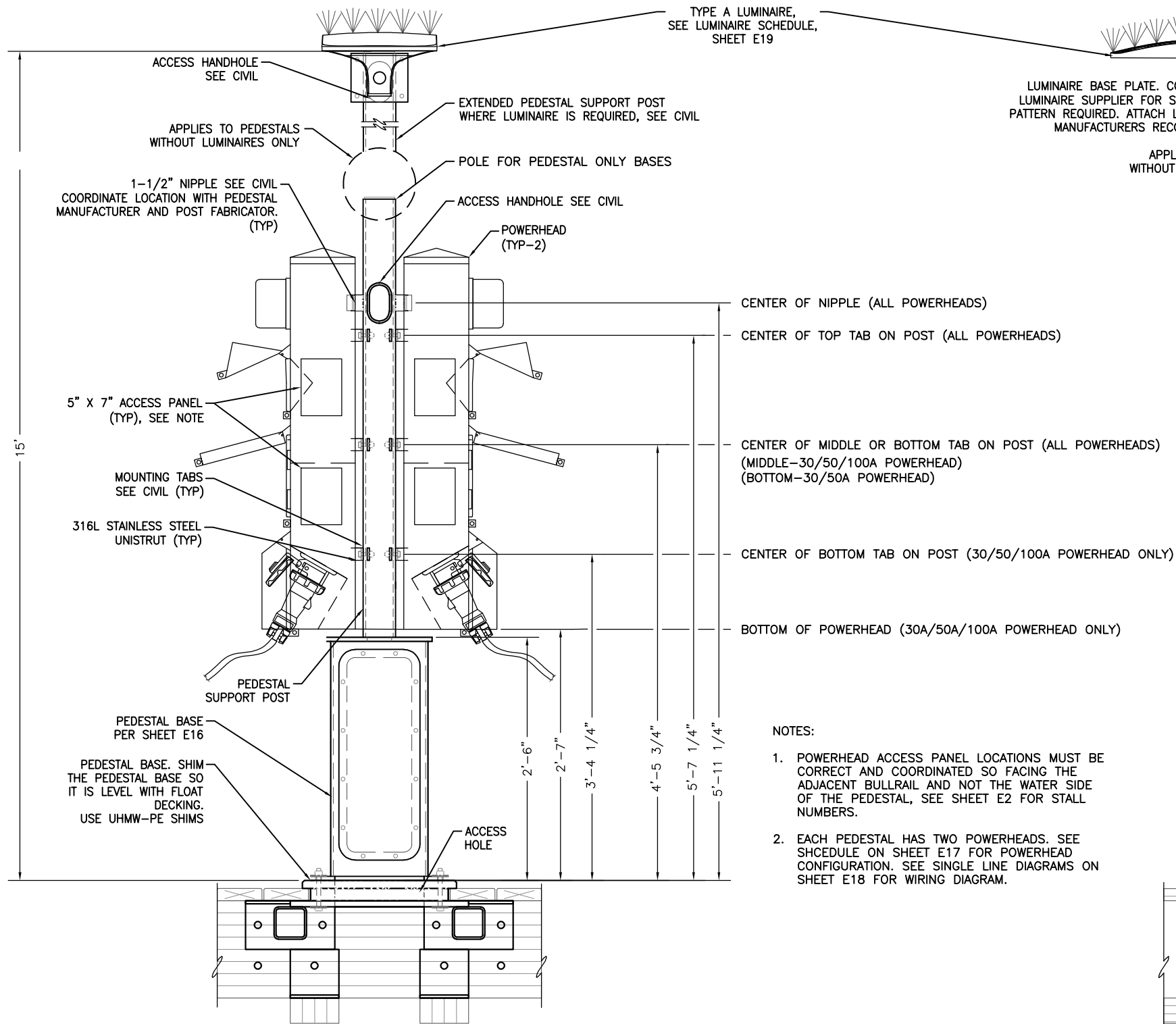
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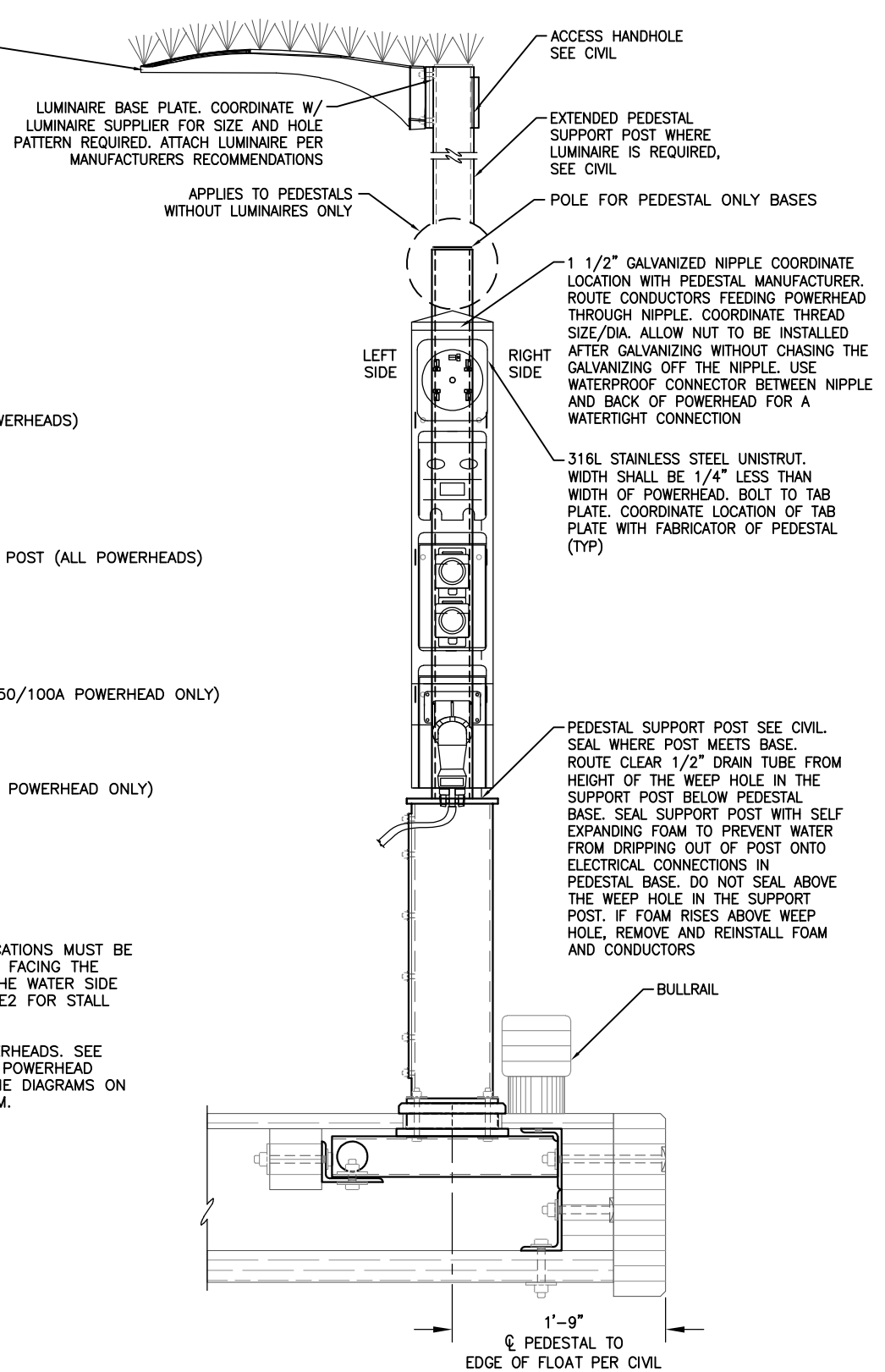
10' FLOAT SECTIONS			
AURORA HARBOR REBUILD - PHASE III			
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Y:\113_CBJ\41_aurora harbor phase iii\working drawings\POWERHEAD AND PEDESTAL DETAILS 2/21/2023 12:15 PM

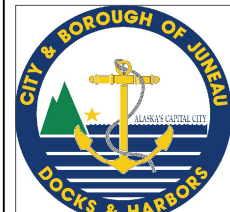


① LIGHT POLE W/ PEDESTAL BASE
FRONT ELEVATION NO SCALE



② LIGHT POLE W/ PEDESTAL BASE
SIDE ELEVATION NO SCALE

- NOTES:
1. POWERHEAD ACCESS PANEL LOCATIONS MUST BE CORRECT AND COORDINATED SO FACING THE ADJACENT BULLRAIL AND NOT THE WATER SIDE OF THE PEDESTAL, SEE SHEET E2 FOR STALL NUMBERS.
 2. EACH PEDESTAL HAS TWO POWERHEADS. SEE SHCHEDULE ON SHEET E17 FOR POWERHEAD CONFIGURATION. SEE SINGLE LINE DIAGRAMS ON SHEET E18 FOR WIRING DIAGRAM.



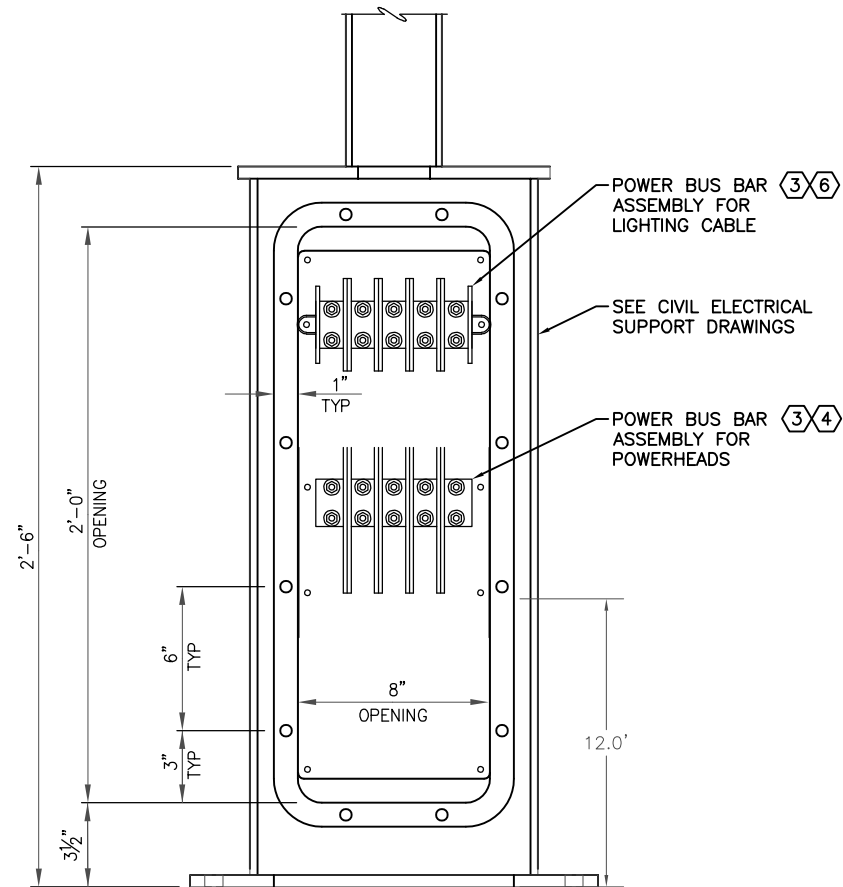
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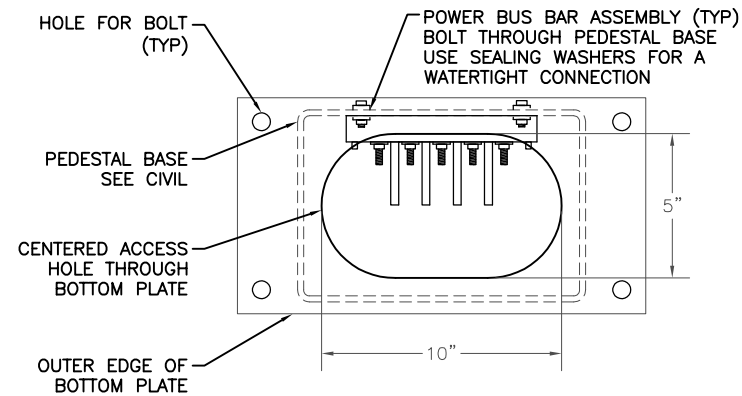


POWERHEAD AND PEDESTAL DETAILS			
AURORA HARBOR REBUILD - PHASE III			
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① PEDESTAL & POLE BASE - FRONT VIEW
NO SCALE



② PEDESTAL & POLE BASE - TOP VIEW
NO SCALE

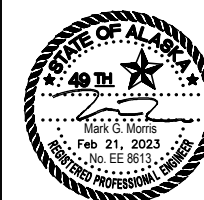
SHEET NOTES:

1. PROVIDE SIZE AND QUANTITY OF POWER DISTRIBUTION BLOCKS AS REQUIRED.
2. MOUNT POWER BUS BAR ASSEMBLY IN PEDESTAL BASE BY USING STAINLESS BOLTS, RUBBER WASHERS, STAINLESS WASHERS AND SEALANT FOR A WATERTIGHT INSTALLATION.
- ③ LOCATE BLOCKS MINIMUM 12" ABOVE DECK PER NEC.
- ④ PROVIDE COPPER BUS BARS FOR POWERHEADS RATED AT 250 AMPS, 600V. PROVIDE (2) COPPER OR BRONZE STUDS PER POLE SIZED FOR NO. 4/0 LOOP FEED. USE COMPRESSION RING TERMINALS (BURNDY OR EQUAL) TO SECURE CABLE TO STUDS. USE ANTI-OXIDATION COMPOUND, BRONZE WASHERS AND NUTS. APPLY COLORED HEAT SHRINK OVER COMPRESSION CONNECTION 2" LONG MINIMUM. COLOR PER VOLTAGE AND CONDUCTOR TYPE (BLACK, RED, BLUE FOR A,B,C PHASE, WHITE FOR NEUTRAL, GREEN FOR GROUND). SIZE AND CONFIGURATION AS REQUIRED. LABEL CONDUCTORS FEEDING POWERHEAD ON LEFT SIDE OF POST WITH "L", RIGHT SIDE WITH "R". CONDUCTORS SHALL BE TINNED COPPER WITH XHHW INSULATION (TYPICAL). COAT CONDUCTORS WITH ANTI-OXIDATION COMPOUND. TORQUE PER MANUFACTURER'S RECOMMENDATION. USE SAME METHOD FOR CONDUCTORS FEEDING POWERHEADS. NO ALUMINUM LUGS, NO STAINLESS STUDS, WASHERS, NUTS, OR BOLTS MAY BE USED WITH THE BUS BARS AND THE TERMINATION OF THE CONDUCTORS.
5. ALL PEDESTALS SHALL HAVE 30 MILLI-AMP GFI PROTECTION BUILT INTO EACH CIRCUIT BREAKER IN THE PEDESTALS (POWERHEAD).
- ⑥ PROVIDE BUS BARS FOR LIGHTING IN SAME MANNER AS POWERHEADS. SIZE STUDS FOR NO. 8 LOOP FEED. ATTACH CONDUCTORS IN SAME MANNER. BUS BAR TO BE RATED AT 50A, 600V.



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POST MOUNTED PEDESTAL SUPORT BASE
DETAILS

AURORA HARBOR REBUILD - PHASE III

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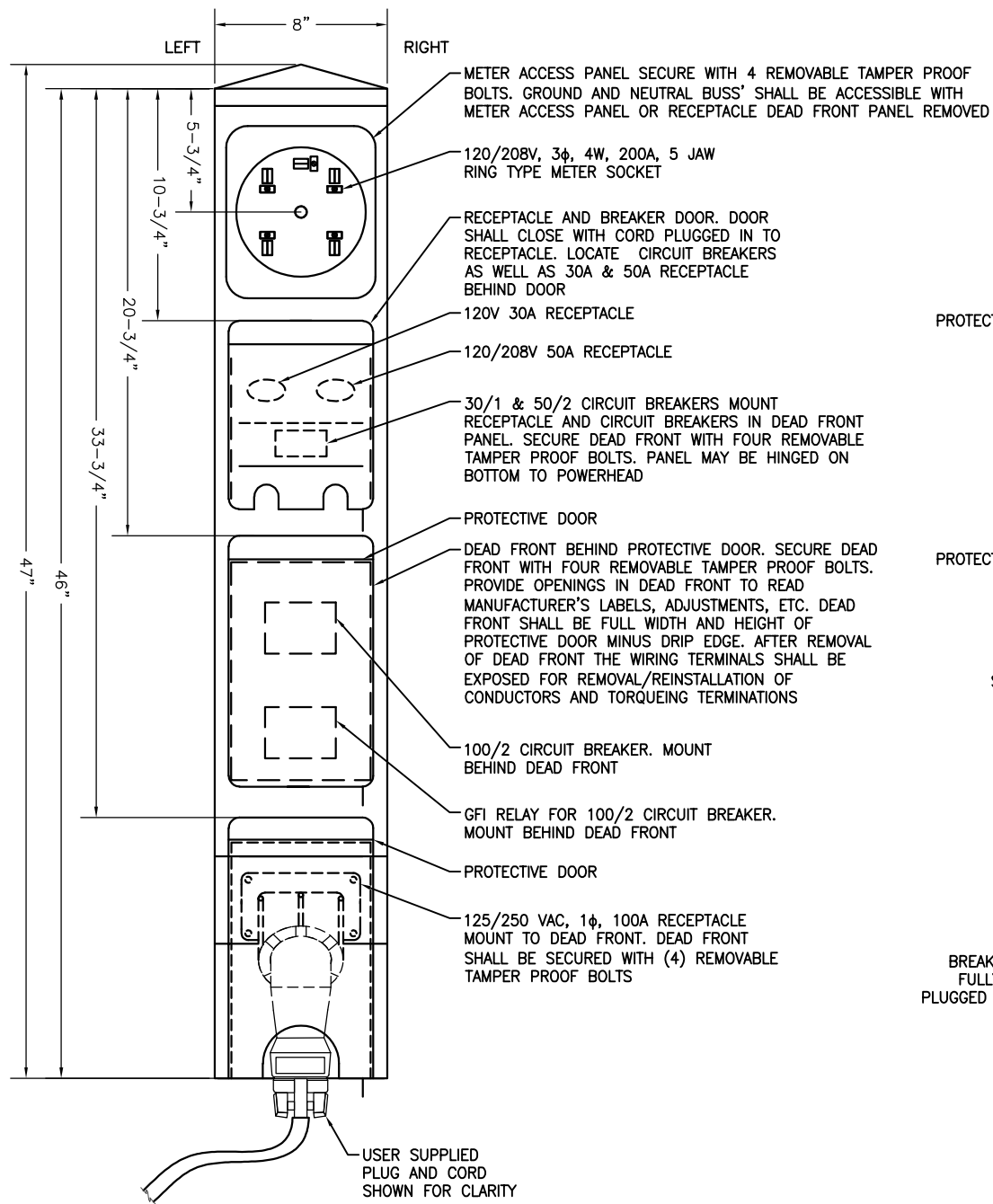
NOTE:

ALL POWERHEAD ACCESS PANELS MUST BE CORRECT AND COORDINATED SO AS TO FACE THE ADJACENT BULLRAIL AND NOT THE WATER SIDE OF THE PEDESTAL. EACH ACCESS PANEL SHALL INCLUDE A PHENOLIC LABEL ON THE PANEL ITSELF, MULTI-LINE SENTENCES CONSISTING OF 1/2" HIGH CAPITAL LETTERS, WHITE LETTERS ON BLACK BACKGROUND, AFFIXED WITH STAINLESS STEEL RIVETS. LABELS TO INCLUDE PEDESTAL ID (I.E. 'PED HS1', 'PED HS2', 'PED HN1', ETC.), DEVICE SERVED AND VOLTS & AMPS INFORMATION.

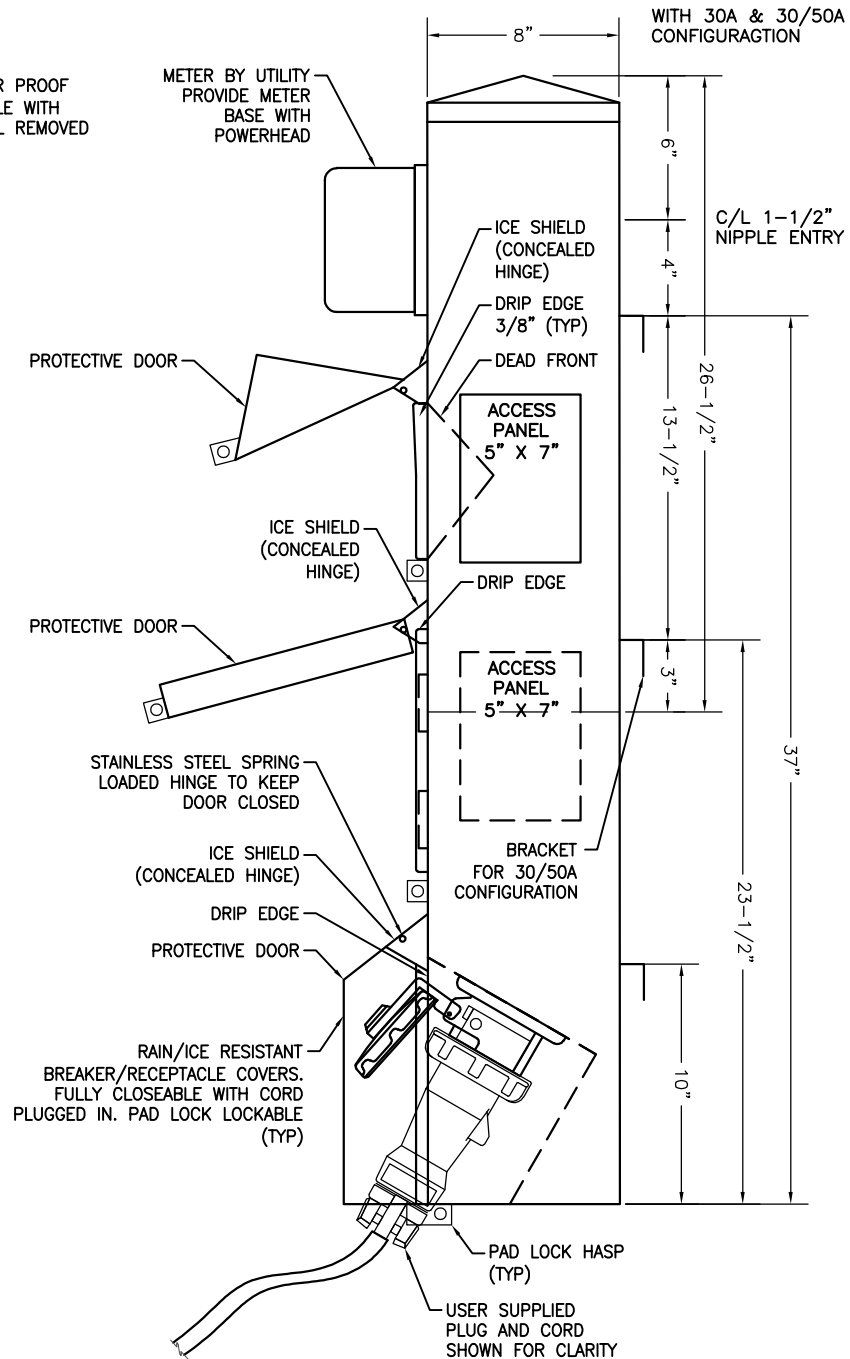
EXAMPLE FOR PED HN3:

LABEL 1 (FOR TOP ACCESS PANEL):
 PED HN3
 120/280V 30A REC
 120/208V 50A REC

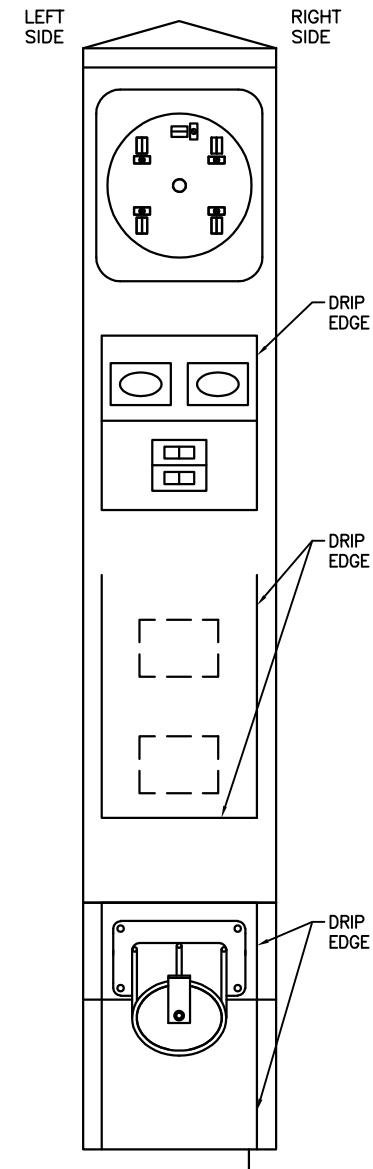
LABEL 2 (FOR BOTTOM ACCESS PANEL):
 PED HN3
 120/208V 100A REC



① POWERHEAD (FRONT)



② POWERHEAD (SIDE)
(RIGHT SIDE SHOWN)



③ POWERHEAD (PROTECTIVE DOORS REMOVED)

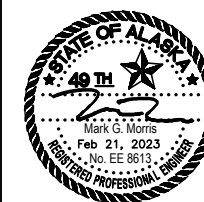
POWERHEAD SCHEDULE				
PEDESTAL	POWERHEAD	REC VOLT/AMP	ACCESS PANEL(S)	STALL
HS1	AH-01	208V/50A 120V/30A	RIGHT SIDE	AH-01
	AH-02	208V/50A 120V/30A	LEFT SIDE	AH-02
HS2	AH-03	208V/50A 120V/30A	RIGHT SIDE	AH-03
	AH-04	208V/50A 120V/30A	LEFT SIDE	AH-04
HS3	AH-05	208V/50A 120V/30A	RIGHT SIDE	AH-05
	AH-06	208V/50A 120V/30A	LEFT SIDE	AH-06
HS4	AH-07	208V/50A 120V/30A	RIGHT SIDE	AH-07
	AH-08	208V/50A 120V/30A	LEFT SIDE	AH-08
HS5	AH-09	208V/50A 120V/30A	RIGHT SIDE	AH-09
	AH-10	208V/50A 120V/30A	LEFT SIDE	AH-10
HS6	AH-11	208V/50A 120V/30A	RIGHT SIDE	AH-11
	AH-12	208V/50A 120V/30A	LEFT SIDE	AH-12
HS7	AH-13	208V/100A 208V/50A 120V/30A	RIGHT SIDE	AH-13
	AH-14	208V/50A 120V/30A	LEFT SIDE	AH-14
HN5	AH-15	208V/100A 208V/50A 120V/30A	RIGHT SIDE	AH-15
	AH-16	208V/100A 208V/50A 120V/30A	LEFT SIDE	AH-16
HN4	AH-17	208V/100A 208V/50A 120V/30A	RIGHT SIDE	AH-17
	AH-18	208V/100A 208V/50A 120V/30A	LEFT SIDE	AH-18
HN3	AH-19	208V/100A 208V/50A 120V/30A	RIGHT SIDE	AH-19
	AH-20	208V/50A 120V/30A	LEFT SIDE	AH-20
HN2	AH-21	208V/50A 120V/30A	RIGHT SIDE	AH-21
	AH-22	208V/50A 120V/30A	LEFT SIDE	AH-22
HN1	AH-23	208V/50A 120V/30A	RIGHT SIDE	AH-23
	AH-24	208V/50A 120V/30A	LEFT SIDE	AH-24

Y:\113_CBJ\41_aurora harbor phase iii\working drawings\POWERHEAD DETAILS 2/21/2023 12:15 PM



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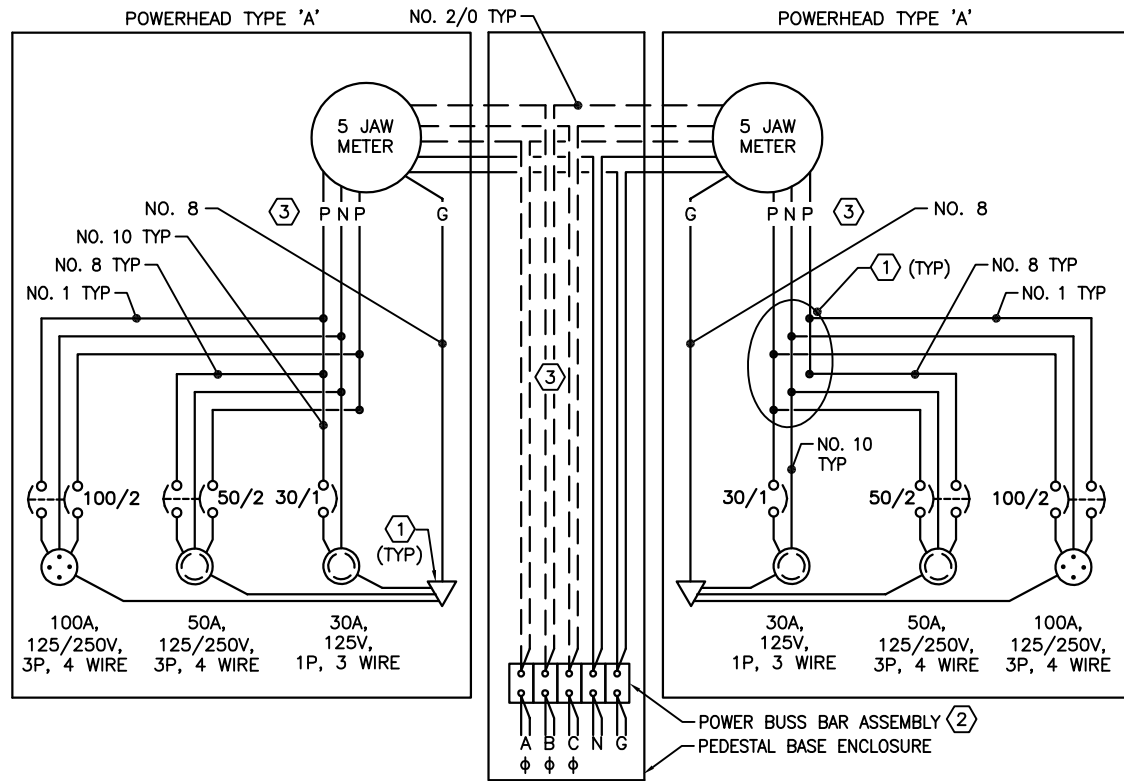
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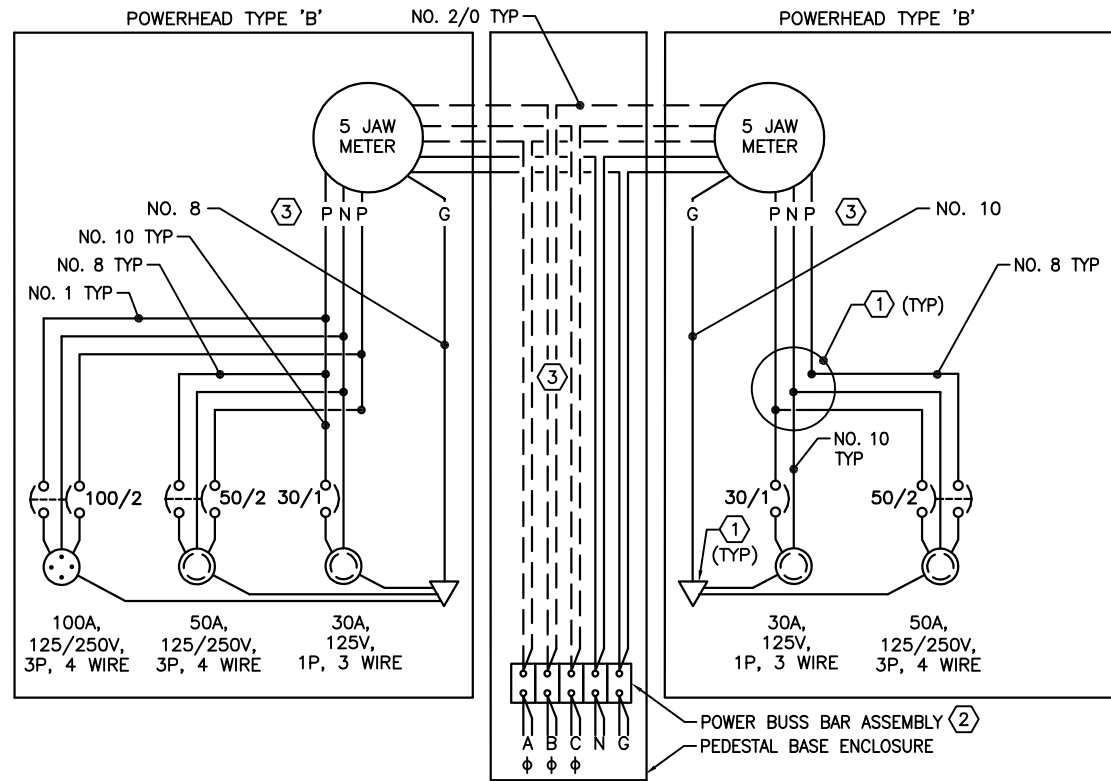
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AURORA HARBOR REBUILD - PHASE III			
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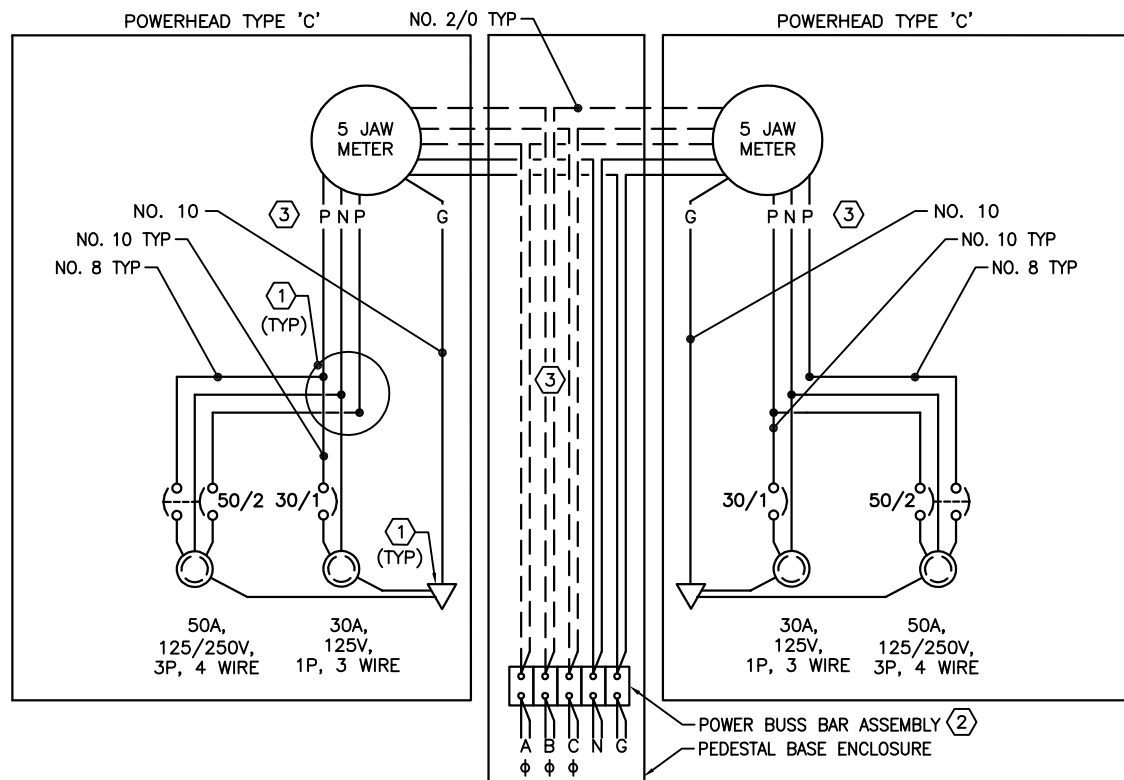
Y:\113_CBJ\41_aurora harbor phase iii\working drawings\E18 PEDESTAL WIRING DIAGRAMS 3/3/2023 10:23 AM



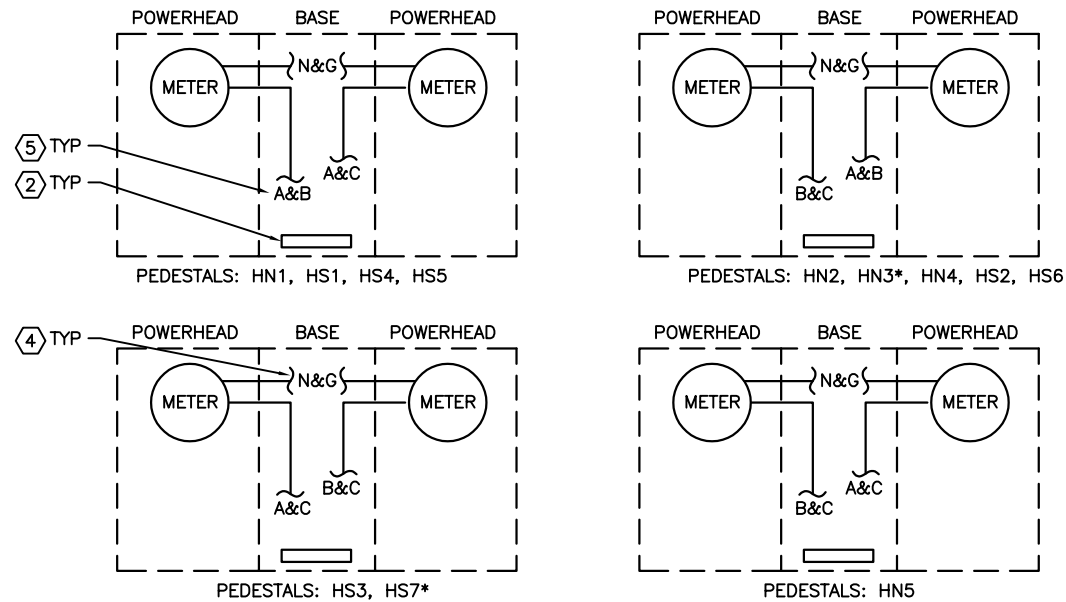
1 WIRING DIAGRAM - DUAL 100A/50A/30A PEDESTAL (TYPE A - HN4 & HN5 PEDESTALS)



2 WIRING DIAGRAM - 100A/50A/30A:50A/30A PEDESTAL (TYPE B - HN3 & HS7 PEDESTALS)



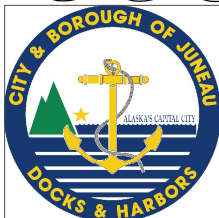
3 WIRING DIAGRAM - DUAL 50A/30A PEDESTAL (TYPE C - HN1, HN2, HS1-HS6 PEDESTALS)



4 POWERHEAD PHASE ARRANGEMENTS

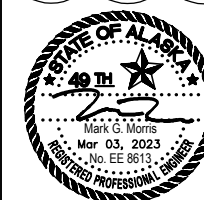
SHEET NOTES:

- 1 PROVIDE A POWER BUS BAR ASSEMBLY (AMP RATED AS REQUIRED) FOR THESE CONNECTIONS INCLUDING GROUND. COMPLY WITH REQUIREMENTS SHOWN ON SHEET E16 FOR BUS BARS AND WIRING TYPICAL ALL POWERHEADS.
 - 2 EACH POWER PEDESTAL TO BE FED WITH 3-PHASE CIRCUIT, COMMON CIRCUITING OF PEDESTALS PER POWER SITE PLAN AND PANEL SCHEDULES.
 - 3 FROM THE POWER BUS BAR AT EACH PEDESTAL THE POWERHEADS ARE TO BE CIRCUITED FOR SINGLE PHASE LOADS TO THE PEDESTAL METERS. PHASE ARRANGEMENTS TO USE FOR EACH POWERHEAD AS SHOWN ON DETAIL 4, THIS SHEET. SPECIFIC ARRANGEMENTS CALLED OUT IN ORDER TO BALANCE THE SINGLE PHASE LOADS ACROSS THE 3-PHASE CIRCUITS AT SOURCE PANEL AS MUCH AS PRACTICAL.
 - 4 NEUTRAL AND GROUND CIRCUIT CONNECTIONS FROM PEDESTAL POWER BUS BARS TO METER BASES SHALL BE MADE IN ALL PEDESTALS.
 - 5 PHASES TO CONNECT FROM PEDESTAL POWER BUS BAR ASSEMBLY IN BASE UP TO POWERHEAD METERS.
 6. ALL TYPICAL PEDESTAL WIRE SIZES SHOWN ARE MINIMUM. AT CONTRACTOR OPTION CONDUCTORS CAN ALL BE SIZED UP TO MATCH LARGEST IN THE POWERHEAD. ENSURE ALL BREAKERS AND LUGS WILL ACCOMMODATE INTERNAL CONDUCTOR SIZES.
 7. ALL PEDESTALS SHALL HAVE 30 MILLI-AMP GFI PROTECTION BUILT INTO EACH CIRCUIT BREAKER IN THE PEDESTALS. (POWERHEAD).
 8. ALL WIRING TERMINATED ON POWER BUS BAR ASSEMBLIES ON THE LOADSIDE OF THE METER (BETWEEN THE METERS AND CIRCUIT BREAKERS) SHALL BE PER NOTE 4 ON SHEET E16 (I.E. RING TERMINALS, HEAT SHRINK, ETC.) THIS INCLUDES NEUTRALS AND GROUNDS. THE POWER BUS BAR ASSEMBLY SHALL BE EASILY ACCESSIBLE FROM THE ADJACENT ACCESS PANEL.
- * CIRCUIT HN3 SLIP WITH 100A REC FROM B&C PHASES, CIRCUIT HS7 SLIP WITH 100A REC FROM A&C PHASES.



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1	3/03/23	ADDENDUM 1			

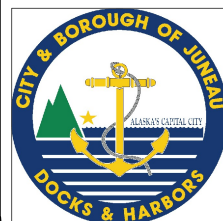
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PEDESTAL WIRING DIAGRAMS			
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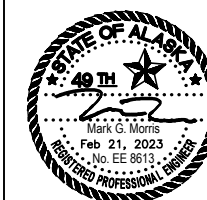
Y:\113_CBJ\41_aurora harbor phase iii\working drawings\LUMINAIRE SCHEDULE 2/21/2023 12:15 PM

LUMINAIRE SCHEDULE					
TYPE	DESCRIPTION	MANUFACTURER	LED CCT & LUMENS	SPARES	REMARKS
A	POLE MOUNT, CUTOFF LED LUMINAIRE FLOAT. NO LIGHT ABOVE 65' ABOVE NADIR	LITHONIA D-SERIES SIZE 0, DSX0 LED P3 30K 70CRI T3LG MVOLT EGS DBLXD	3000K (7,600 LUMENS)	1	POLE MOUNT TO NEW SQUARE POLE. PROVIDE WITH NIXALITE BIRD CONTROL. ATTACH WITH MANUFACTURER RECOMMENDED ADHESIVE. NO HOLES IN HOUSING. PROVIDE WITH PHOTOCELL. BLACK. USE ON FLOAT. TYPE 3 LOW GLARE DISTRIBUTION. NO LIGHT ABOVE 65' ABOVE NADIR. WITH CUSTOM GLARE SHIELD.
B	4' SURFACE MOUNT, GASKETED HIGH BAY, IP66 RATED W/ CLEAR IMPACT RESISTANT ACRYLIC, WIDE DISTRIBUTION	COLUMBIA LXEW4-30L-CA-W-EU-F3C15W	3000K (11,900 LUMENS)	2	PROVIDE WITH STAINLESS MOUNTING STRAPS (PART NO. XEWMHSS) CIRCUIT WITH XHHW CONDS. IN SCHE 80 PVC CONDUIT. PROVIDE WITH EM BATTERY WHERE NOTED, (PART NO. ELL14).
C	POLE MOUNT AT APPROACH DOCK	LITHONIA D-SERIES SIZE 0, DSX0 LED P3 30K 70CRI T3LG MVOLT EGS DBLXD	3000K (7,600 LUMENS)	1	POLE MOUNT TO NEW SQUARE POLE ON EXISTING STRUCTURE BRACKET, PROVIDE WITH NIXALITE BIRD CONTROL, ATTACH WITH MANUFACTURER RECOMMENDED ADHESIVE. NO HOLE IN HOUSING. PROVIDE WITH PHOTOCELL. BLACK. TYPE 3 LOW GLARE DISTRIBUTION.
G	10" X 10" NOM. SURFACE MOUNT CANOPY LED, W/ FIELD ADJUSTABLE CCT AND LUMEN OUTPUT, SET FOR 3000K, 5,300 LUMENS, NOM. W/ UNIVERSAL VOLTAGE DRIVER AND KNOCKS FOR SURFACE FEED IN AND OUT ALL SIDES. SEALED, IP65 RATED, DIE-CAST ALUMINUM HOUSING W/ IV-RESISTANT POLYCARBONATE LENS, BRONZE FINISH	LUMARK CLCS17S	3000K, 5300 LUMENS (FIELD SELECT)	1	SURFACE MOUNT TO GANGWAY CEILING STRUCTURE MOUNTING PLATE. COORDINATE SIZE WITH STRUCTURAL. FEED IN AND OUT W/ TYPE G CABLE W/ WATERPROOF CONNECTORS. ROUTE CABLE IN LFNC TO FIXTURES AND TRANSITION TO SCHE 80 PVC. SEE SHEET E23 FOR GANGWAY SECTION.
<p>NOTE: THE PART NUMBERS IN THE LUMINAIRE SCHEDULE MAY NOT BE COMPLETE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL PARTS AND ACCESSORIES NECESSARY TO COMPLY WITH THE FEATURES SHOWN IN THE LUMINAIRE SCHEDULE (INCLUDING THE MOUNTING) AND AS SHOWN ON THE OTHER PLAN SHEETS, AND IN THE SPECIFICATIONS.</p>					



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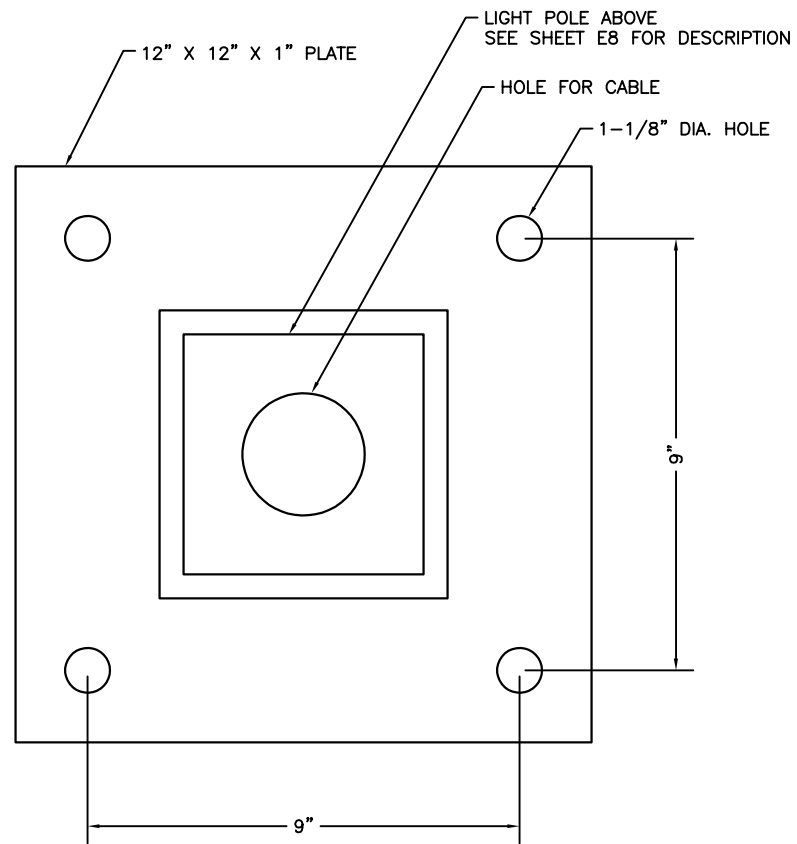
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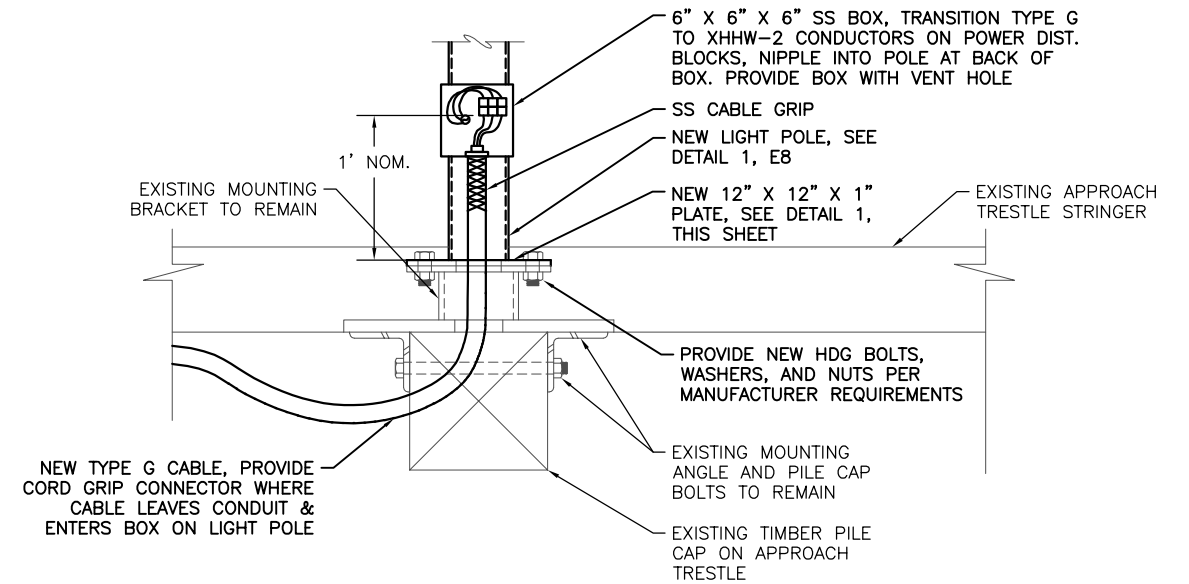
LUMINAIRE SCHEDULE			
AURORA HARBOR REBUILD - PHASE III			
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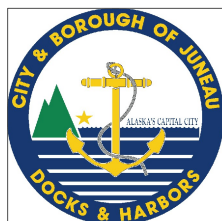
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① **POLE BASE PLATE DETAIL**
NO SCALE

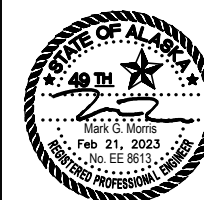


② **LIGHT POLE MOUNTING DETAIL**
ELEVATION
NO SCALE



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LIGHTING DETAILS			
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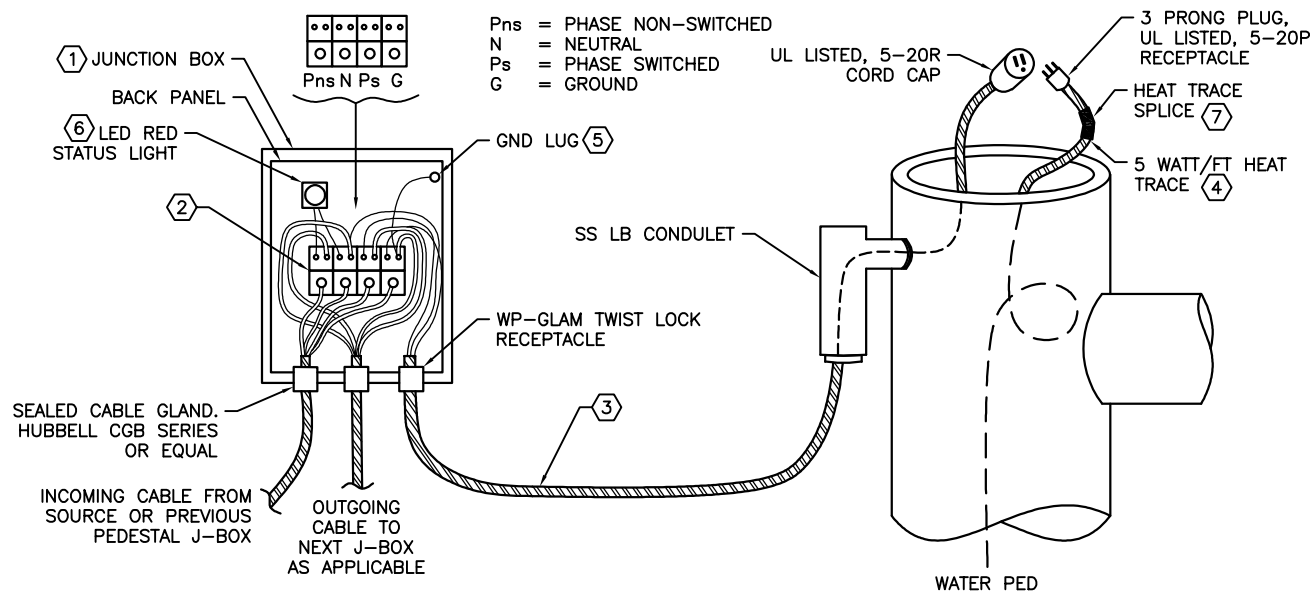
E20

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DISTRIBUTION BLOCK KEY:

Pns = PHASE NON-SWITCHED
 N = NEUTRAL
 Ps = PHASE SWITCHED
 G = GROUND

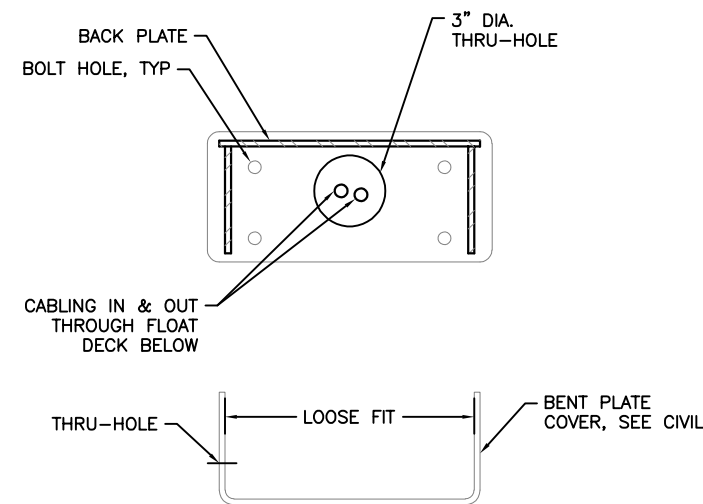
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① HEAT TRACE JUNCTION BOX DETAIL

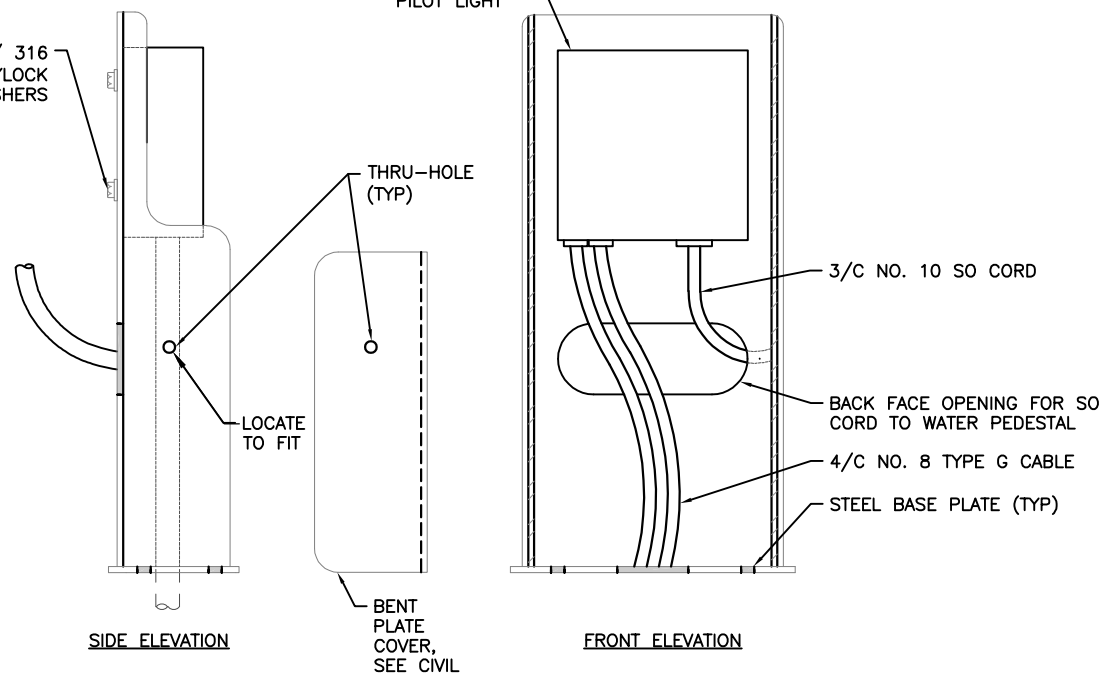
NOTES (APPLICABLE TO DETAIL 1):

- ① 10" X 8" X 4" STAINLESS STEEL JUNCTION BOX WITH CONDUCTIVE BACK PANEL. HOFFMAN A1008CHNFSS6 WITH A10P8G BACK PANEL OR EQUAL.
- ② TERMINATE CABLES FROM THE FLOAT IN JUNCTION BOX ON TERMINAL BLOCKS MOUNTED TO BACK PANEL. SQUARE D 9080 SERIES BLOCKS OR EQUAL. PROVIDE BLOCKS WITH CLEAR COVERS. SEE DISTRIBUTION BLOCK KEY, THIS DETAIL, FOR CIRCUIT INFORMATION.
- ③ (1) 3/C NO. 10 TYPE SOOW CORD WITH TWIST LOCK PLUG CONNECTED TO JUNCTION BOX RECEPTACLE. ROUTE CABLE LOOSE FROM JUNCTION BOX TO THE LB CONDULET ON THE WATER PEDESTAL. SPLICE THE HEAT TRACE TO THE CORD WITHIN THE LB CONDULET.
- ④ SELF REGULATING, 5 WATT/SF, 120V HEAT TRACE. THERMON 5-FLEX-1-FOJ OR EQUAL. WRAP HEAT TRACE ON FULL LENGTH OF HORIZONTAL WATER PIPE AND DOWN VERTICAL SECTION TO 1" ABOVE WATER LINE.
- ⑤ CONNECT GROUND WIRE TO JUNCTION BOX BACK PANEL GROUND LUG VIA RING TERMINAL. WRAP WITH 3M 1755 COTTON FRICTION TAPE, SCOTCH 130C, AND SCOTCH 88. USE TWO HALF-LAPPED LAYERS OF EACH TAPE AND COVER WITH HEAT SHRINK TUBING.
- ⑥ PROVIDE PUSH-TO-TEST LED PILOT LIGHT AT JUNCTION BOX. SQUARE D 9001SKT38LRR31 OR EQUAL. MOUNT TO EXTERIOR OF JUNCTION BOX. MOUNT TO COVER OF BOX.
- ⑦ PROVIDE CRIMPS AND HEAT SHRINK KIT TO MATE HEAT TRACE CABLE TO RECEPTACLE CONNECTED TO 3/C NO. 10 ON SOOW CORD. HEAT SHRINK KIT PER HEAT TRACE MANUFACTURER.



PLAN
 JUNCTION BOX W/ TERMINAL BLOCKS, PUSH-TO-TEST PILOT LIGHT

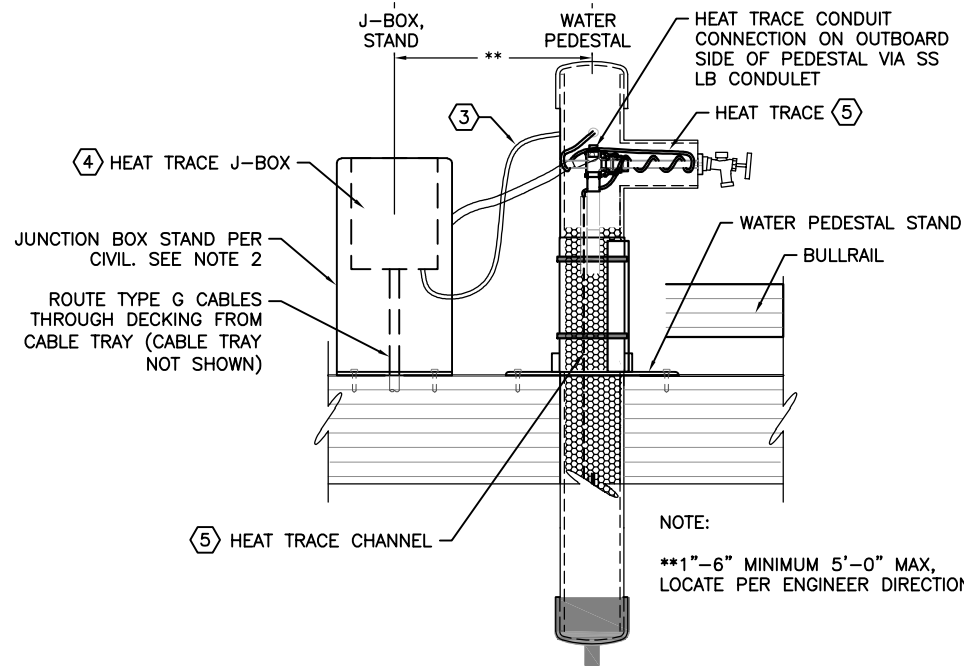
MOUNT J-BOX W/ 316 SS BOLTS W/ NYLOCK NUTS & CUT WASHERS



NOTES (APPLICABLE TO DETAIL 3):

1. SEE SHEET E5 FOR DESCRIPTIONS OF ELECTRICAL EQUIPMENT ASSOCIATED WITH THE HEAT TRACE.
2. SEE DETAIL 1, THIS SHEET FOR MORE INFORMATION ON JUNCTION BOX AND ELECTRICAL FOR THE HEAT TRACE SYSTEM.

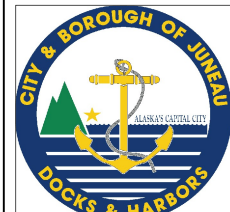
③ HEAT TRACE JUNCTION BOX DETAIL



② HEAT TRACE JUNCTION BOX DETAIL

NOTES (APPLICABLE TO DETAIL 2):

1. LOCATION AND ORIENTATION OF JUNCTION BOX STAND AND WATER PEDESTAL ARE AS SHOWN IN CIVIL DRAWINGS.
2. JUNCTION BOX STAND SHALL BE MOUNTED ADJACENT TO WATER PEDESTAL WITHOUT CONFLICTING WITH CLEAR SPACE IN FRONT OF FLOAT APPURTENANCES. COORDINATE ALL LOCATIONS WITH ENGINEER. DO NOT MOUNT UNDER WATER SPIGOT. SEE CIVIL FOR JUNCTION BOX LOCATION AND ORIENTATION.
- ③ ROUTE SO CORD EXPOSED BETWEEN JUNCTION BOX AND WATER PEDESTAL. PROVIDE A SLACK CONNECTION WITH SMALL LOOP.
- ④ PROVIDE JUNCTION BOX WITHIN JUNCTION BOX STAND. ALL CABLING TO TERMINATE WITHIN JUNCTION BOX ON POWER DISTRIBUTION BLOCKS. MOUNT JUNCTION BOX BEHIND REMOVABLE COVER. PROVIDE A RED LABEL THAT READS: "HEAT TRACE POWER ON. CHECK WATER TEMPERATURE TO VERIFY HEAT TRACE IS WORKING PROPERLY."
- ⑤ ROUTE HEAT TRACE AROUND HOSE BIB AND DOWN VERTICAL SECTION.
6. PROVIDE 50' OF HEAT TRACE WITH (2) OF EACH KIT AS HEAT TRACE SPARES FOR WATER SYSTEM. PROVIDE AND INSTALL HEAT TRACE FOR ALL SPARE WATER PEDESTALS, SEE CIVIL.
7. SEE DETAIL 1, THIS SHEET FOR COMPLETE INFORMATION OF HEAT TRACE ELECTRICAL.



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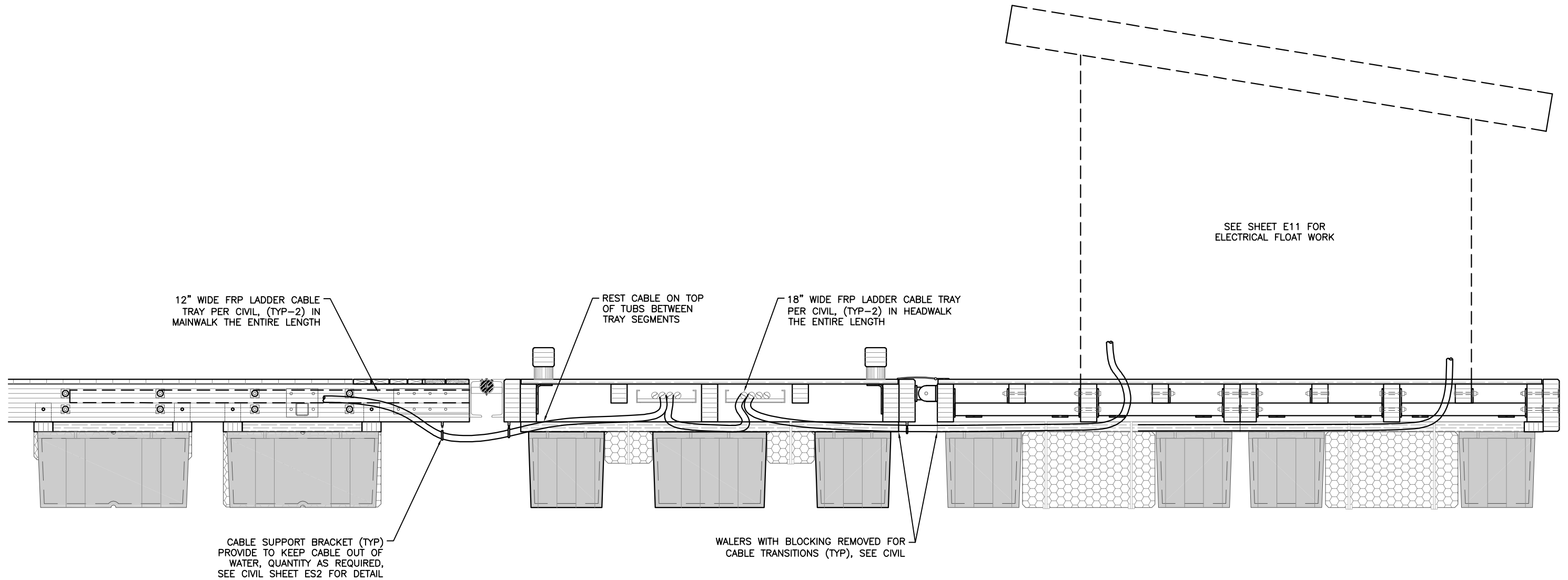


HEAT TRACE JUNCTION BOX DETAIL
 AURORA HARBOR REBUILD - PHASE III

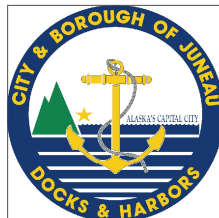
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Y:\113 CB\41 aurora harbor phase iii\working drawings\CABLE TRANSITION DETAIL FROM HEADWALK TO MAINWALK FLOAT 2/21/2023 12:16 PM



① CABLE TRANSITION DETAIL FROM HEADWALK TO MAINWALK FLOAT
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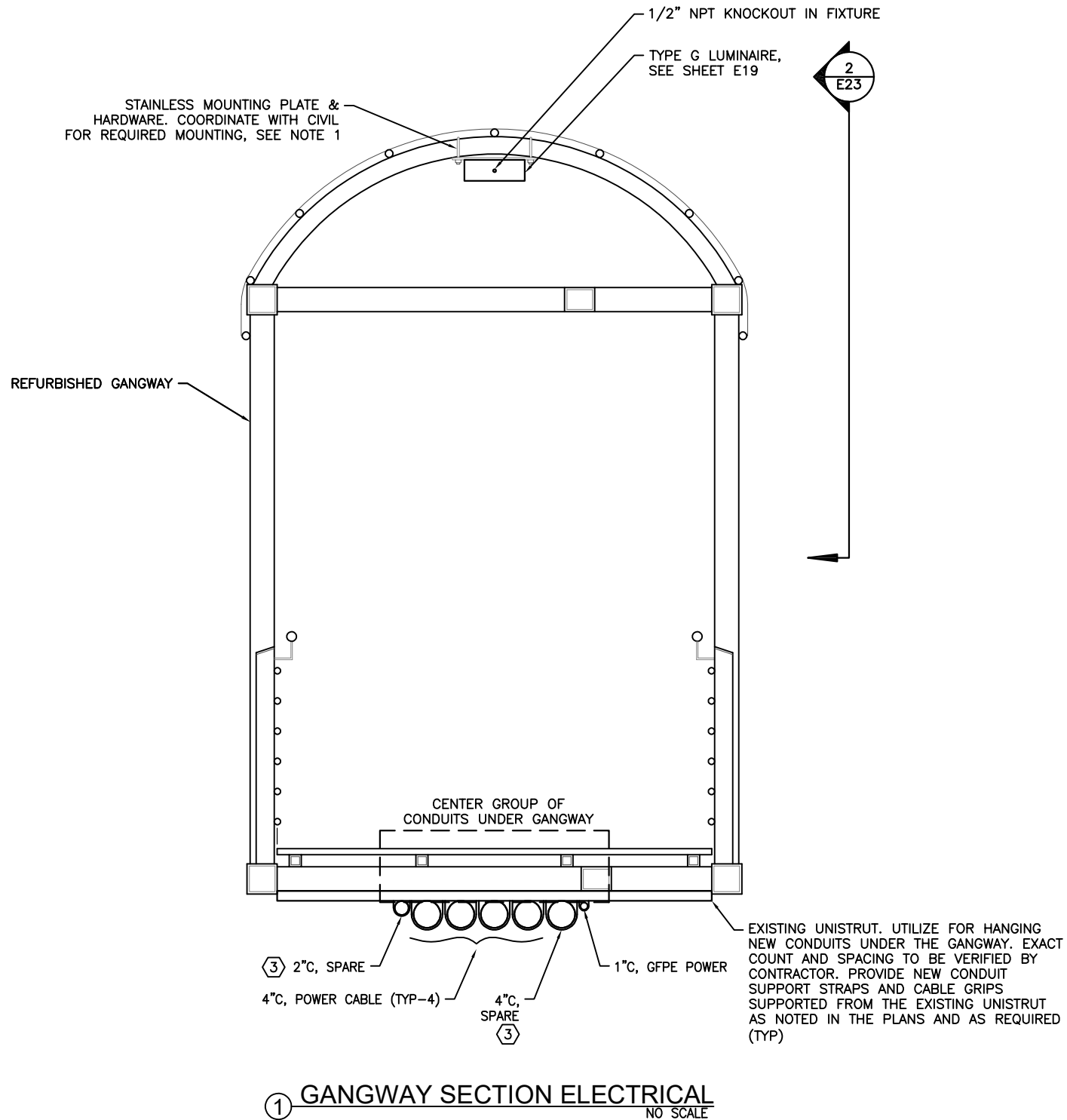
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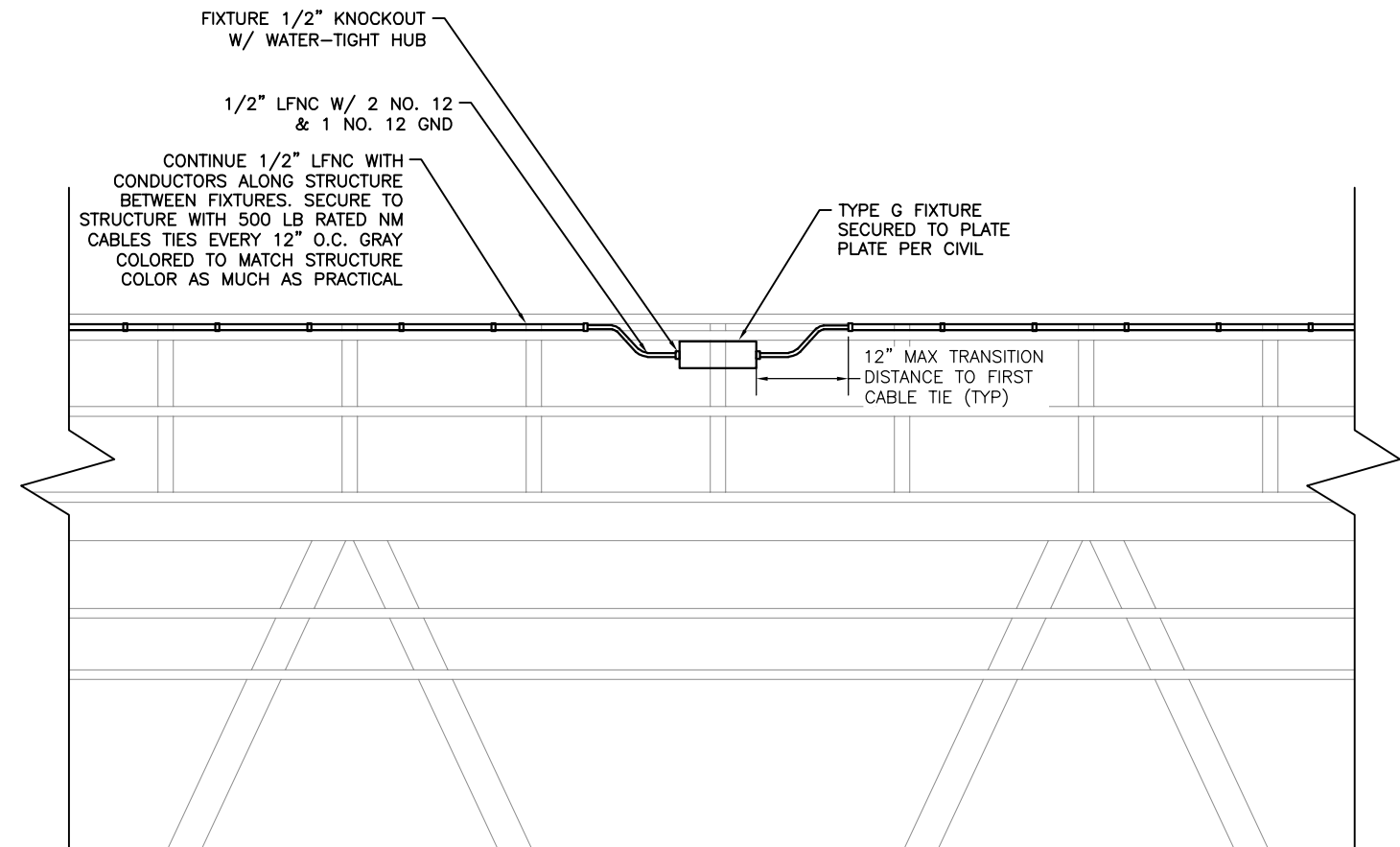
CABLE TRANSITION DETAIL FROM HEADWALK TO MAINWALK FLOAT			
AURORA HARBOR REBUILD - PHASE III			
DESIGN:	MGM	DATE:	FEBRUARY 21, 2023
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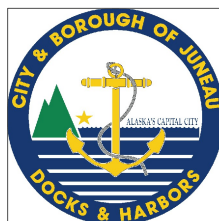
① GANGWAY SECTION ELECTRICAL
NO SCALE



② TYPE G FIXTURE SECTION
NO SCALE

NOTES:

1. MOUNT LUMINAIRE TO 1/4" ALUMINUM PLATE. SIZE AS REQUIRED. SUPPORT PLATE TO GANGWAY WITH STAINLESS STEEL U-BOLTS. WRAP U-BOLTS WITH ELECTRICAL TAPE. ADD UHMW WASHERS BETWEEN WASHERS AND PLATE.
2. PROVIDE ALL NEW SCHEDULE 80 PVC CONDUIT MOUNTED TO SUPPORT CHANNEL UNDER REFURBISHED GANGWAY PER CIVIL.
- ③ PROVIDE SPARE CONDUITS STARTING 36" FROM EXISTING UPLAND ABUTMENT TO END OF APPROACH DOCK AND FROM TOP OF GANGWAY TO BOTTOM OF GANGWAY.



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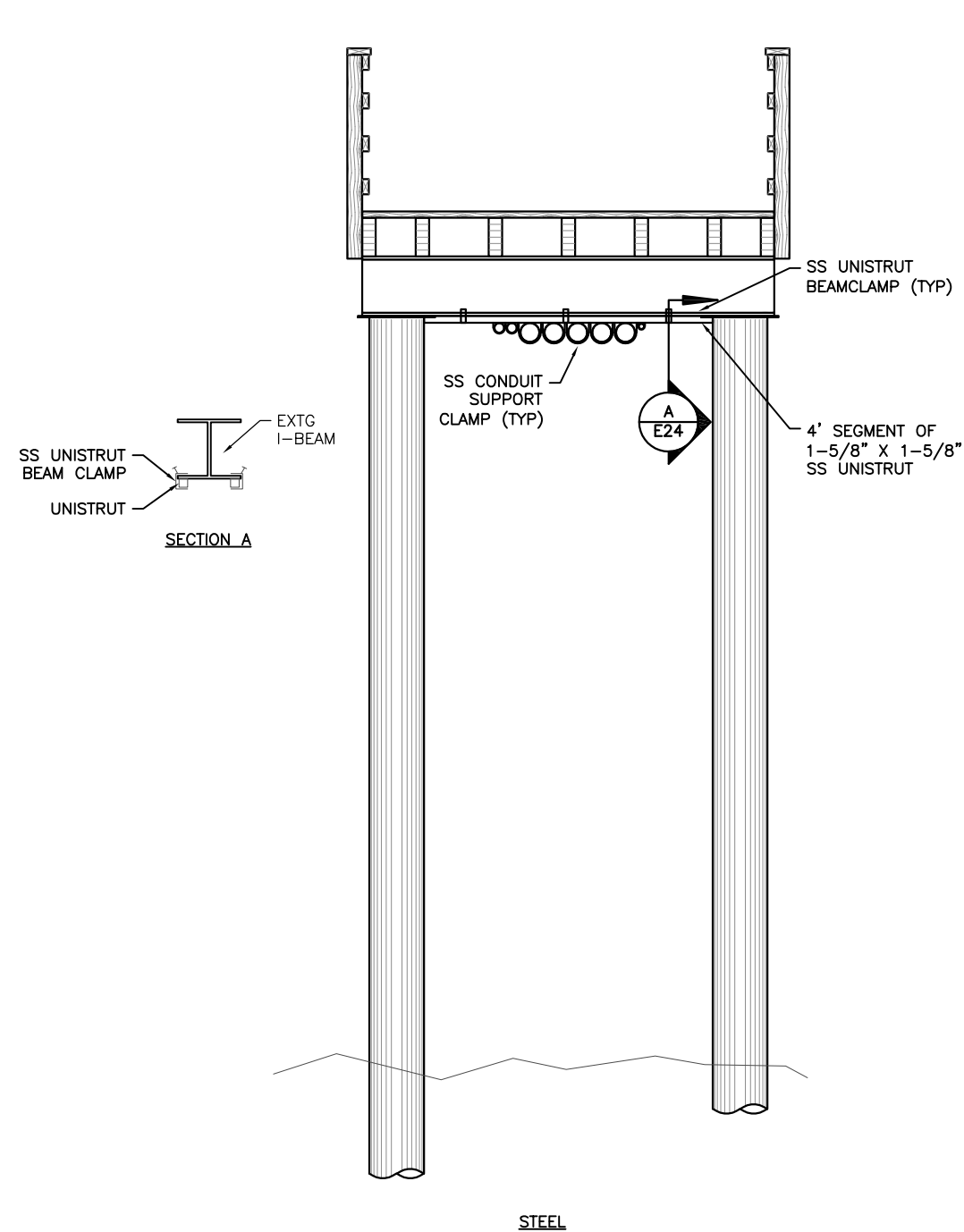
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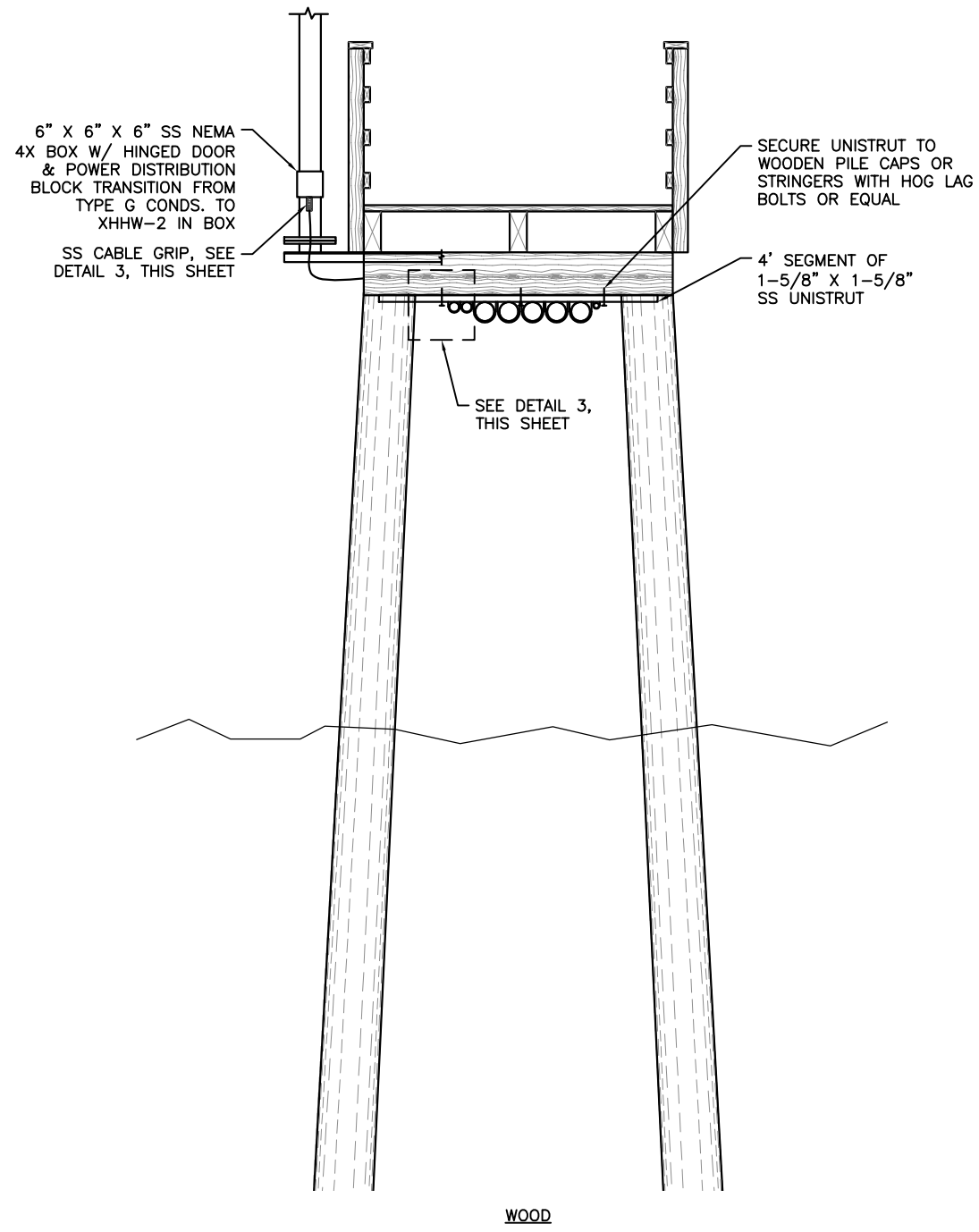
GANGWAY SECTION ELECTRICAL			
AURORA HARBOR REBUILD - PHASE III			
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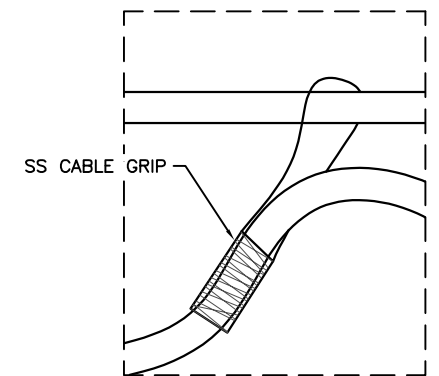
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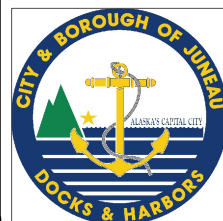
① CONDUIT SECTION OF DOCK AT OCEAN SIDE



② CONDUIT SECTION OF DOCK AT LIGHT POLE

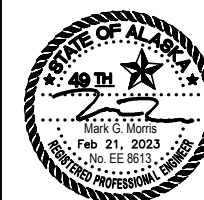


③ STAINLESS STEEL CABLE GRIP
NO SCALE



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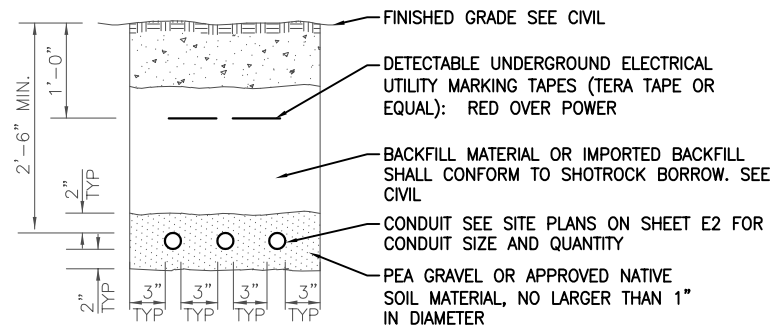
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APPROACH DOCK SECTION ELECTRICAL			
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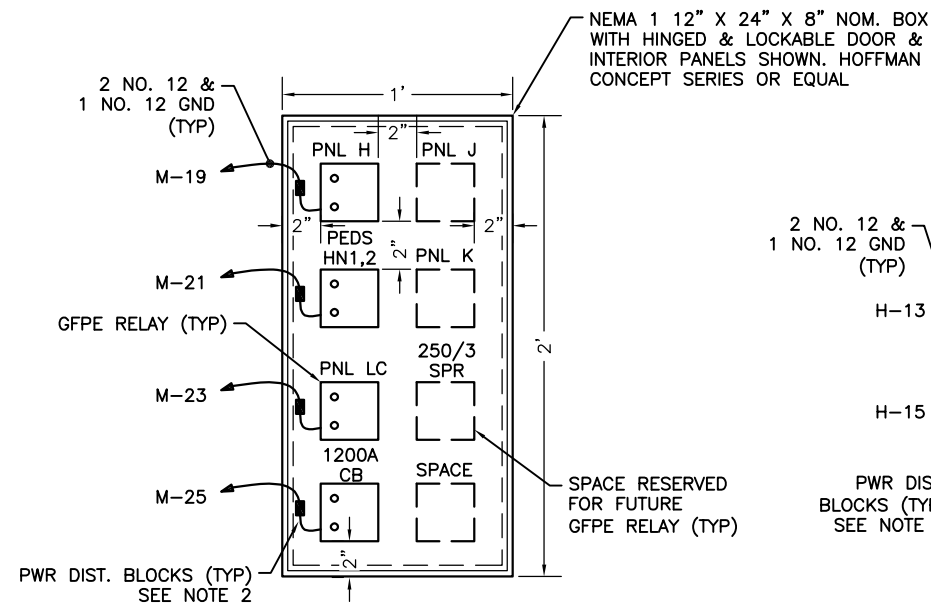
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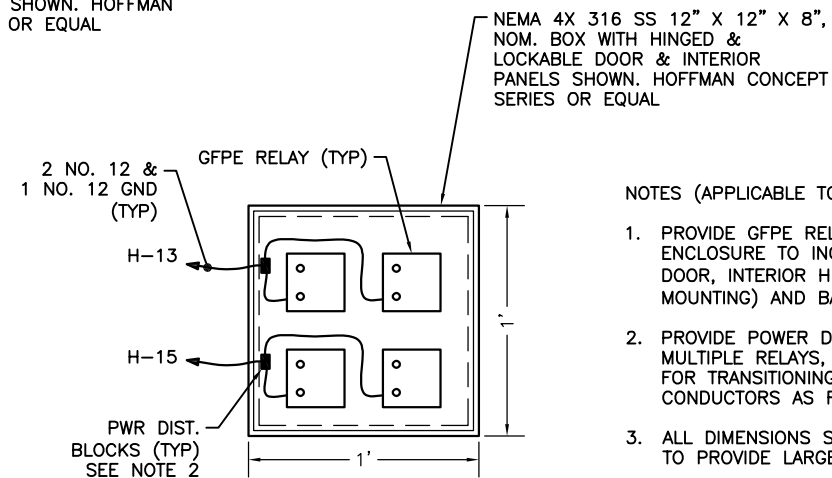
① TRENCH DETAIL
NO SCALE

NOTES:

- ALL DIMENSIONS ARE MINIMUM.
- THE LOCATION OF ALL EXISTING PIPING, CONDUIT, ETC MAY NOT BE WHERE SHOWN AND MAY NOT BE SHOWN. ALL LOCATIONS THAT ARE SHOWN ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED. OBTAIN PRIVATE LOCATES PRIOR TO DIGGING. DIG WITH CAUTION. AVOID FUEL, WATER, SEWER, DRAINAGE PIPES AND OTHER CONFLICTS.
- MAINTAIN 12 INCHES MINIMUM SEPARATION (ALL DIRECTIONS) BETWEEN POWER AND OTHER EXISTING CONDUITS, PIPES, ETC.
- CUT AND REPLACE EXISTING ASPHALT, CONCRETE, ETC. AS NECESSARY.
- ALL TRENCHES SHALL BE 18" WIDE MIN. COMPACT BACKFILL PER CIVIL. TOP 6" OF MATERIAL PER CIVIL.
- MAINTAIN 36" MINIMUM LATERAL SEPARATION FROM WATER, SEWER, AND OTHER UNDERGROUND UTILITIES.
- TRENCH DETAIL ASSUMES AS SOIL CONDITIONS AS SHOWN EXIST BETWEEN APPROACH DOCK AND THE UPLANDS UNISTRUT RACK. EXACT CONDITIONS ARE UNKNOWN. IF CONDITIONS PROVE DIFFICULT, RIPRAP IS DISCOVERED, ETC., CONTRACTOR MAY GO SHALLOWER WITH THE CONDUITS THAN WHAT IS DEPICTED. IF MINIMUM DETAIL DEPTH CANNOT BE ACHIEVED PROVIDE CONCRETE ENCASEMENT OF CONDUITS. OBTAIN APPROVAL FROM ENGINEER PRIOR TO WORK IF CONDUITS ARE RAN SHALLOWER. DESIGN ASSUMES NEW CONDUITS ARE PROVIDED UNDERGROUND. AT CONTRACTOR OPTION EXISTING 3" UNDERGROUND CONDUITS MAY BE UTILIZED INSTEAD IF CONDUITS IN GOOD WORKING CONDITION AND REUSE MEETS ALL APPLICABLE NEC REQUIREMENTS. OBTAIN APPROVAL FROM ENGINEER PRIOR TO REUSE OF UNDERGROUND CONDUIT.



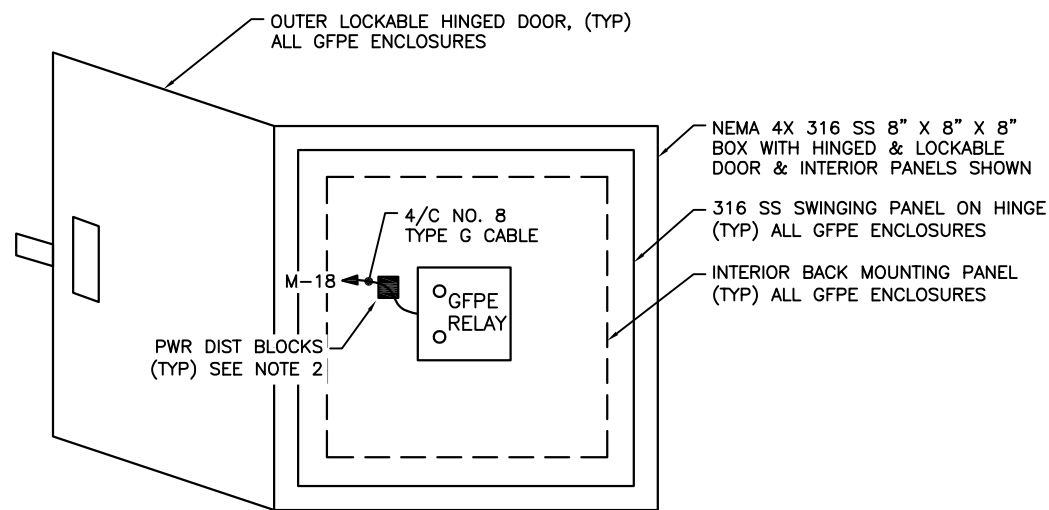
③ GFPE BOX AT PANEL M
NO SCALE



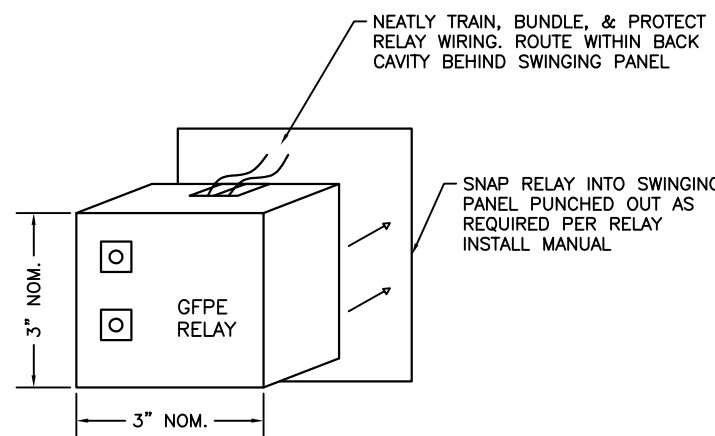
④ GFPE BOX AT PANEL H
NO SCALE

NOTES (APPLICABLE TO DETAILS 2, 3, 4, 5):

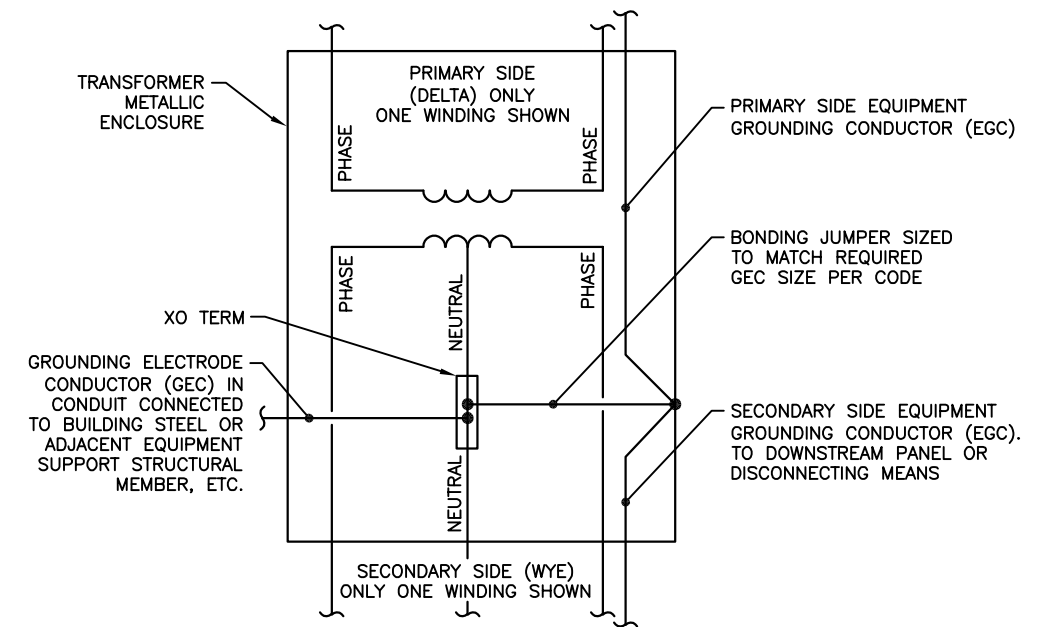
- PROVIDE GFPE RELAYS WITHIN ENCLOSURES. EACH ENCLOSURE TO INCLUDE LOCKABLE OUTER HINGED DOOR, INTERIOR HINGED DEADFRONT (FOR GFPE MOUNTING) AND BACK PANEL INSIDE.
- PROVIDE POWER DISTRIBUTION BLOCKS FOR FEEDING MULTIPLE RELAYS, THE 120V CONTROL POWER AND FOR TRANSITIONING FROM TYPE G TO XHHW-2 CONDUCTORS AS REQUIRED.
- ALL DIMENSIONS SHOWN ARE MINIMUM. CONTRACTOR TO PROVIDE LARGER ENCLOSURES IF NECESSARY.
- ARRANGEMENT OF RELAYS IS GRAPHICAL IN NATURE ONLY. MAINTAIN 2" SEPARATION ALL SIDES. COORDINATE LOCATION OF ALL ELEMENTS AS REQUIRED FOR FINAL FIT.
- ALL RELAY WIRING SHALL ENTER ENCLOSURES VIA INSULATED CONDUIT NIPPLES, NOT SHOWN IN THESE DETAILS.
- GROUND ENCLOSURE AND BACK PANEL TO CONDUIT AS REQUIRED.
- PROVIDE PHENOLIC LABELS ON THE FRONT OF EACH ENCLOSURE.



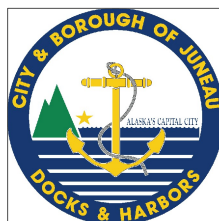
② GFPE BOX AT 800/3 CB
IN UPLANDS
NO SCALE



⑤ RELAY DETAIL
(TYP-ALL GFPE RELAY PANELS)



⑥ STEP-DOWN TRANSFORMER GROUNDING DETAIL
NO SCALE



REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP
1	3/03/23	ADDENDUM 1			

CITY AND BOROUGH OF JUNEAU
DOCKS & HARBORS DEPT.
155 SOUTH SEWARD STREET
JUNEAU, ALASKA 99801
PHONE: 907-586-0292



TRENCH AND GFPE BOX DETAILS			
AURORA HARBOR REBUILD - PHASE III			
DESIGN:	MGM	DATE:	FEBRUARY 21, 2023
CHECKED:	BM	CONTRACT NO.:	DH23-14
APPROVED:	MGM	FILE NO.	1541
		SHEET:	72 of 72

E25