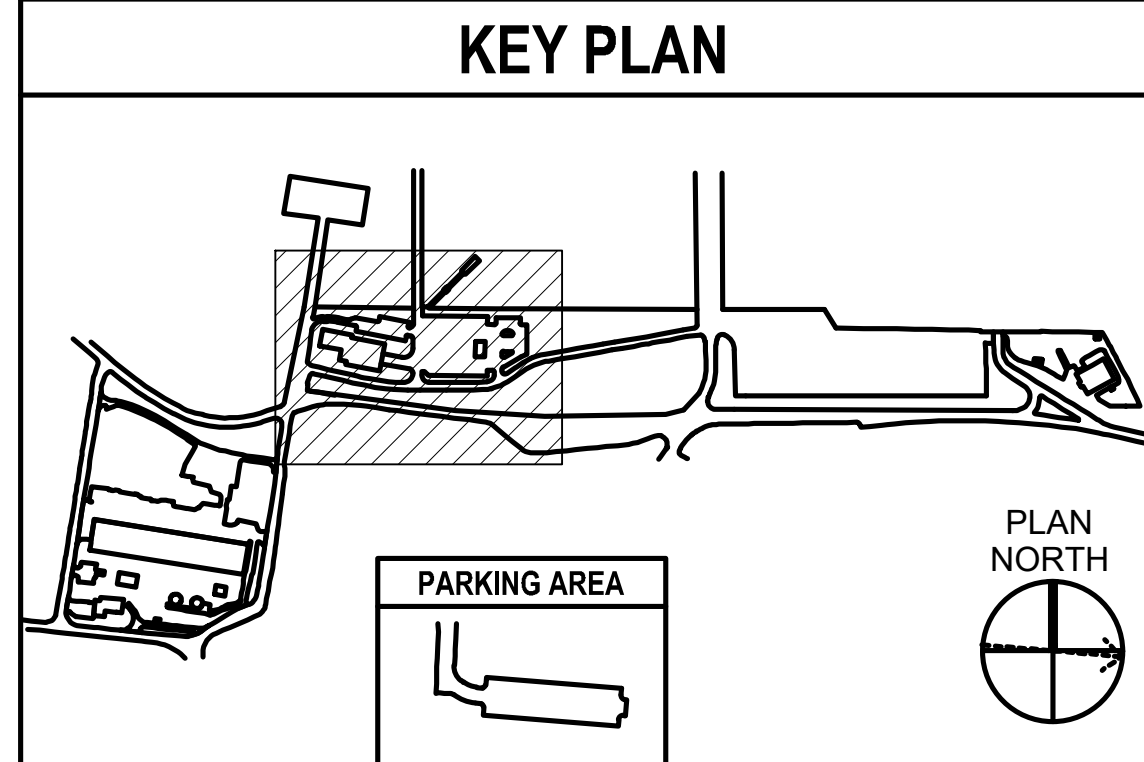


- ### SHEET KEYNOTES
1. PROVIDE "ACCESSIBLE PARKING" SIGNS AT ALL ACCESSIBLE PARKING LOCATIONS. PROVIDE "VAN ACCESSIBLE" SIGN WHERE APPLICABLE. PROVIDE "LONG TERM PARKING" SIGN WHERE SHOWN.
  2. PROVIDE "ELECTRIC VEHICLE PARKING/CHARGING STATION" SIGN.
  3. PROVIDE "NO TRESPASSING" SIGNS ALONG BULKHEAD, EQUALLY SPACED 75'-100' MAXIMUM, TYP.
  4. SEE ELECTRICAL PLANS FOR ELECTRICAL EQUIPMENT AND LIGHTING LAYOUT AND DETAILS, TYP.
  5. PROVIDE 4" WIDE WHITE PAVEMENT MARKINGS FOR ALL PARKING LOT STRIPING, TYP.
  6. PROVIDE 8" WIDE WHITE DOTTED LINE (2 FT. LINE AND 4 FT. SPACE) FOR DRIVE AISLE AND STOCKPILE/LAYDOWN AREA SEPARATION.
  7. PROVIDE 12" WIDE WHITE STOP BAR, TYP.
  8. PROVIDE 4" WIDE YELLOW CENTERLINE MARKING, TYP.
  9. PROVIDE GALVANIZED STEEL RAZOR WIRE COILED FOR ENTIRE HEIGHT OF CHAINLINK FENCE. ATTACH RAZOR WIRE TO END POST WITH GALVANIZED POST TIES (TYP. BOTH SIDES OF PIER).
  10. FIRE HYDRANT. SEE PLAN CU105, TYP.
  11. SSWR STRUCTURE. SEE PLAN CU106, TYP.
  12. DRAINAGE STRUCTURE. SEE PLAN CU102, TYP.
  13. STORMWATER BIORETENTION FILTER BASIN. SEE PLAN CU-101 FOR GRADING, TYP.
  14. CONCRETE DUMPSTER PAD AND ENCLOSURE, SEE PLAN A-461 FOR DETAILS. DUMPSTER BY OTHERS, TYP.
  15. LANDSCAPED ISLAND WITH CONCRETE CURBING, TYP.
  16. CONCRETE ISLAND WITH CONCRETE CURBING FOR AUTOMATED SECURITY GATE READER, TYP.
  17. LIMIT OF 8' HEIGHT CHAIN LINK FENCE AT BULKHEAD, TYP.
  18. PROVIDE "RESERVED PARKING - LOW EMITTING & FUEL EFFICIENT VEHICLES ONLY" SIGN.
  19. BID OPTION - HAZARDOUS MATERIAL CONTAINER.
  20. WATER STRUCTURE. SEE PLAN CU105.
  21. LIMIT OF CONCRETE PARKING AREA. SAWCUT AND MATCH EXISTING ROADWAY FLUSH, TYP.
  22. LIMIT OF BITUMINOUS CONCRETE DRIVEWAY. SAWCUT MATCH EXISTING ROADWAY FLUSH, TYP.
  23. SITE BENCH, TYP.
  24. TRASH RECEPTACLE, TYP.
  25. FLAG POLE.
  26. SHADE STRUCTURE.
  27. EXISTING MONITORING WELL TO REMAIN. RESET COVER FLUSH WITH EXISTING GRADE, TYP. SEE DETAIL A4/C-504.
  28. 8" WIDE WHITE PAINTED CROSSWALK. 12" STRIPES, 45-DEGREE DIAGONAL LINES SPACED AT 30", TYP.
  29. PROVIDE CARD READER ON POST. PROVIDE BOLLARD PROTECTION. TYPICAL FOR BOTH SIDES OF GATE. PROVIDE EMERGENCY KEY BOX MOUNTED ON POST (UNSECURE SIDE OF GATE ONLY).
  30. PROVIDE VEHICLE PRESENCE DETECTOR ON POST.
  31. ACCESSIBLE CONCRETE RAMP. SEE DETAIL ON C-505.
  32. BID OPTION - BOAT REPAIR BUILDING. BOLLARD PROTECTION AROUND BUILDING TO BE PROVIDED AS PART OF BID OPTION.
  33. BID OPTION - FLOATING DOCK SYSTEM. REFER TO STRUCTURAL SHEETS.
  34. CONCRETE FILLED STEEL BOLLARD, TYP.
  35. CURB RAMP, TYP.
  36. NOT USED.
  37. 4-FT PERSONNEL GATE. PROVIDE CARD READER AND EMERGENCY KEY BOX WELDED TO POST.
  38. PROVIDE BITUMINOUS CONCRETE PAVEMENT, MARKINGS, SIDEWALK RAMP IN THIS AREA AS PART OF BASE BID IF BID OPTION - PIER AND TRESTLE IS NOT SELECTED.
  39. PROVIDE BITUMINOUS CONCRETE PAVEMENT IN THIS AREA AS PART OF BASE BID IF BID OPTION - BOAT REPAIR BUILDING IS NOT SELECTED.
  40. BID OPTION - PIER AND TRESTLE. ALL CHAIN LINK FENCING AND GATES SHALL BE PROVIDED AS PART OF BID OPTION.
  41. PROVIDE "IN CASE OF FIRE OR EMERGENCY PLEASE CALL THE FIRE DEPARTMENT AT 911 OR 401-841-3333" SIGN AT PERSONNEL GATE SECURED TO FENCE. "OR 401-841-3333" TO BE MOUNTED ON A CHANGEABLE PLACARD.

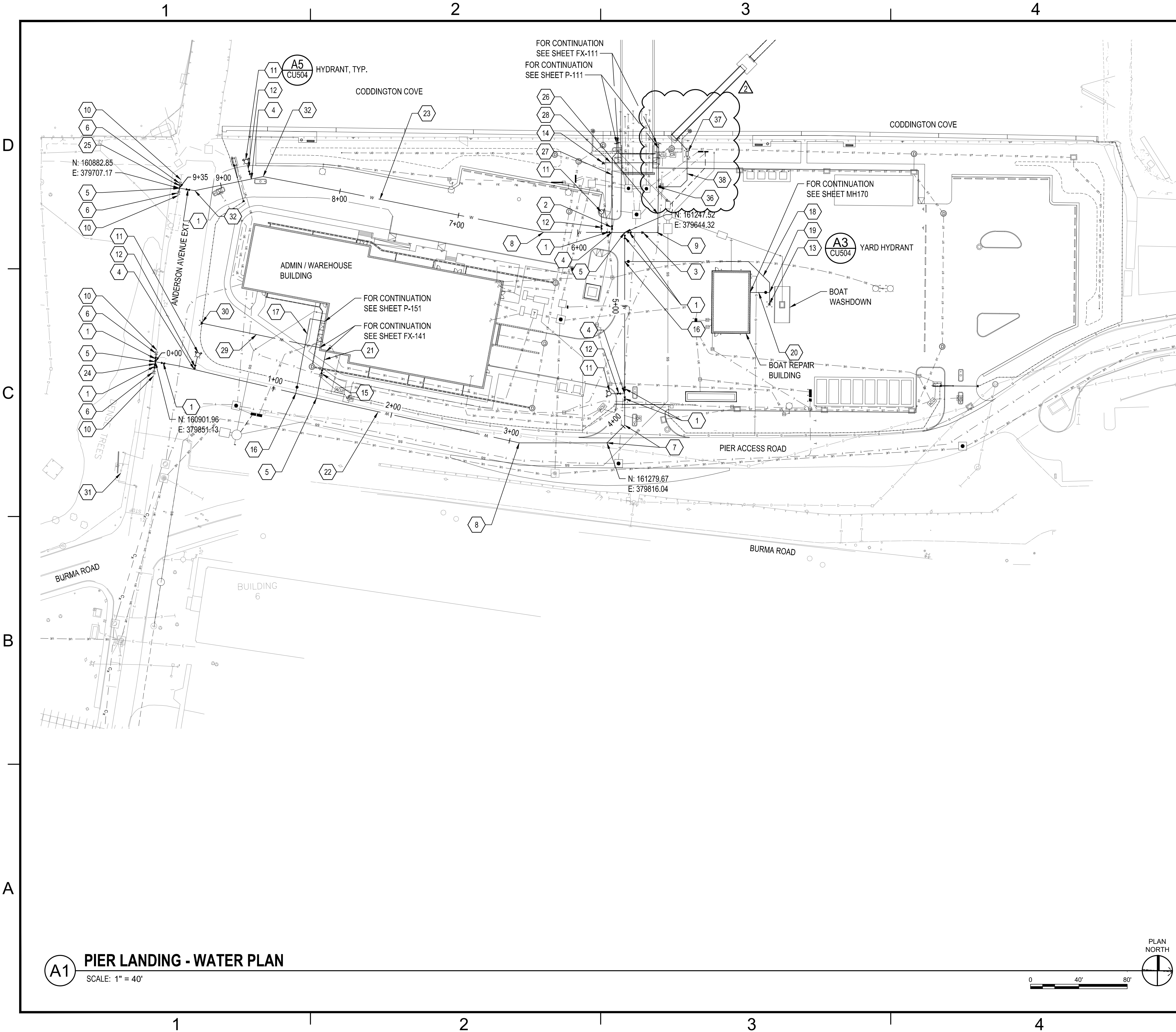
- ### SHEET NOTES
1. SEE DRAWING C-001 FOR LEGEND AND ABBREVIATIONS AND SEE DRAWING C-002 FOR GENERAL NOTES.
  2. SEE DRAWING L-101 FOR LANDSCAPING LAYOUT AND SURFACE TREATMENTS NOT DETAILED ON THIS PLAN.
  3. CONTRACTOR SHALL COORDINATE COMPLETION OF BASE BID WORK WITH SELECTED BID OPTIONS, IN ORDER TO LIMIT THE EXTENT OF REMOVAL AND RECONSTRUCTION REQUIRED FOR BASE BID IMPROVEMENTS.



**A1 PIER LANDING - OVERALL SITE PLAN**  
SCALE: 1" = 40'

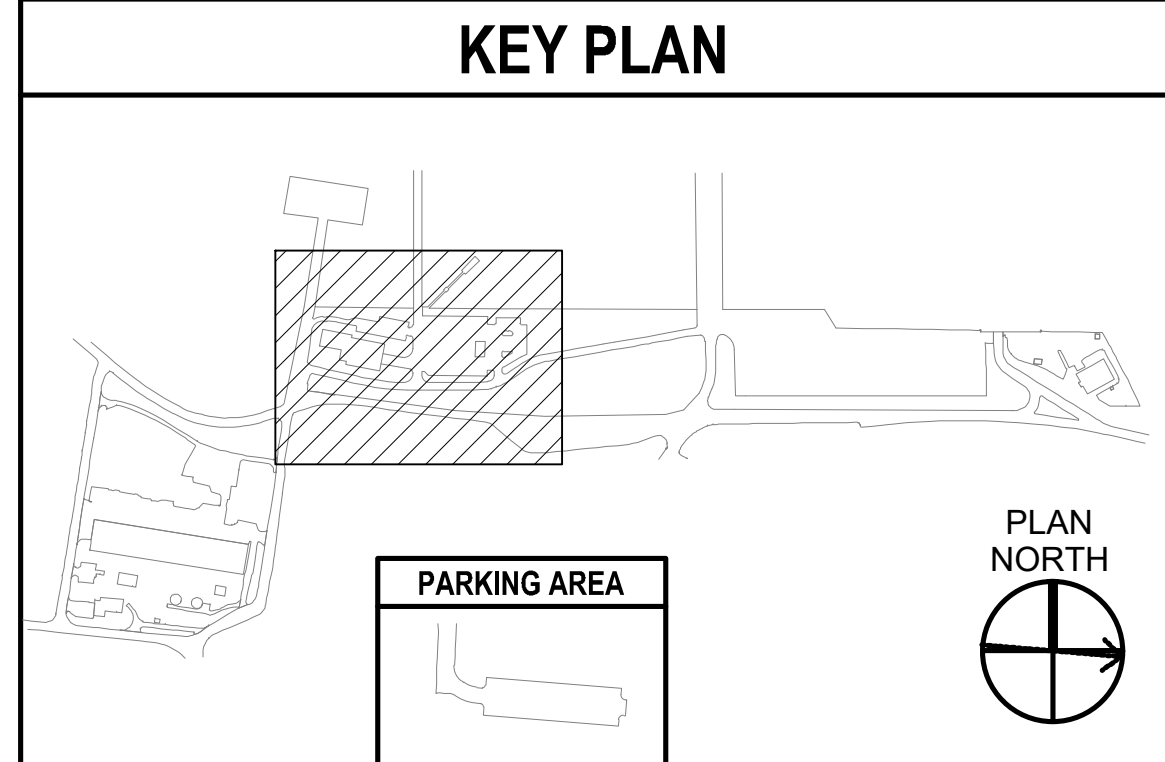
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- ### SHEET NOTES
- SEE DRAWING C-001 FOR LEGEND AND ABBREVIATIONS AND SEE DRAWING C-002 FOR GENERAL NOTES.
  - SEE DRAWINGS CU203 AND CU204 FOR WATER PIPING PROFILES
  - SEE DRAWING FX-141 AND FX-102 FOR FP PIPING CONTINUATION
  - SEE DRAWING P-111 AND P-151 FOR DOMESTIC WATER PIPING CONTINUATION

- ### SHEET KEYNOTES
- 8" GATE VALVE
  - 6" GATE VALVE
  - 8" x 6" DI RED
  - 8" x 6" DI TEE
  - 8" x 8" DI TEE
  - 8" COUPLING
  - 8" 45° DI HORZ BEND
  - 8" 11 1/4" DI HORZ BEND
  - 6" 90° DI HORZ BEND
  - C.T.E. 8"
  - HYDRANT, TYP.
  - 6" DI HYDRANT LATERAL AND 6" GATE VALVE
  - YARD HYDRANT
  - 5" FDC CONNECTION, SEE DETAIL B3 ON SHEET FX601
  - 8" PIV
  - 2 1/2" TAPPING SADDLE, CORP AND CURB STOP
  - 75 LF OF 2 1/2" PE DOMESTIC WATER SERVICE
  - 145 LF OF 2 1/2" PE
  - 1" TAPPING SADDLE, CORP AND CURB STOP
  - BID OPTION - BOAT REPAIR BUILDING: 16 LF OF 1" PE DOMESTIC WATER SERVICE
  - 45 LF OF 8" DI FP SERVICE
  - 562 LF OF 8" DI
  - 388 LF OF 8" DI
  - 16 LF OF 8" DI
  - 8 LF OF 8" DI
  - 73 LF OF 6" DI TO PIER
  - 86 LF OF 6" DI TO PIER
  - 73 LF OF 8" DI FP TO PIER
  - 100 LF OF 6" DI FP TO ADMIN BUILDING
  - 5" FDC CONNECTION THROUGH FENCE, SEE DETAIL C3 ON SHEET FX601
  - REMOVE EXISTING 12" METER AND PROVIDE 12" METER
  - 8" 22 1/2" DI HORZ BEND
  - NOT USED
  - NOT USED
  - NOT USED
  - BID OPTION - FLOATING DOCK SYSTEM: 1" TAPPING SADDLE, CORP AND CURB STOP
  - BID OPTION - FLOATING DOCK SYSTEM: 1" BACKFLOW PREVENTER AND HEATED ENCLOSURE
  - BID OPTION - FLOATING DOCK SYSTEM: 70 LF OF 1" COPPER PIPE TO FLOATING DOCK



**A1 PIER LANDING - WATER PLAN**  
SCALE: 1" = 40'

DATE		04/17/2023
DATE		02/27/2023
2	FLOATING DOCK RBFP	
1	BASE BID UPDATE	
SYN	DESCRIPTION	

APPROVED

FOR COMMANDER NAFAC

ACTIVITY

Timothy Calohan, PE  
NOAA Senior Project Manager

SATISFACTORY TO DATE 04OCT2022

DES	RJS	DRW	RJS	CHK	JJA
PM/DM					RS/RC
BRANCH MANAGER					DLB
CHIEF ENGINEER					EJA
FIRE PROTECTION					DSN

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND  
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND - MID-ATLANTIC  
NAVAL STATION NORFOLK - NORFOLK, VA  
NAVAL STATION NEWPORT  
NOAA OMAO SHIP & SUPPORT FACILITY RELOCATION  
NEWPORT, RHODE ISLAND  
PIER LANDING - WATER PLAN

SCALE: AS NOTED

PROJECT NO.: 1562331

CONSTR. CONTR. NO. N4008523R2527

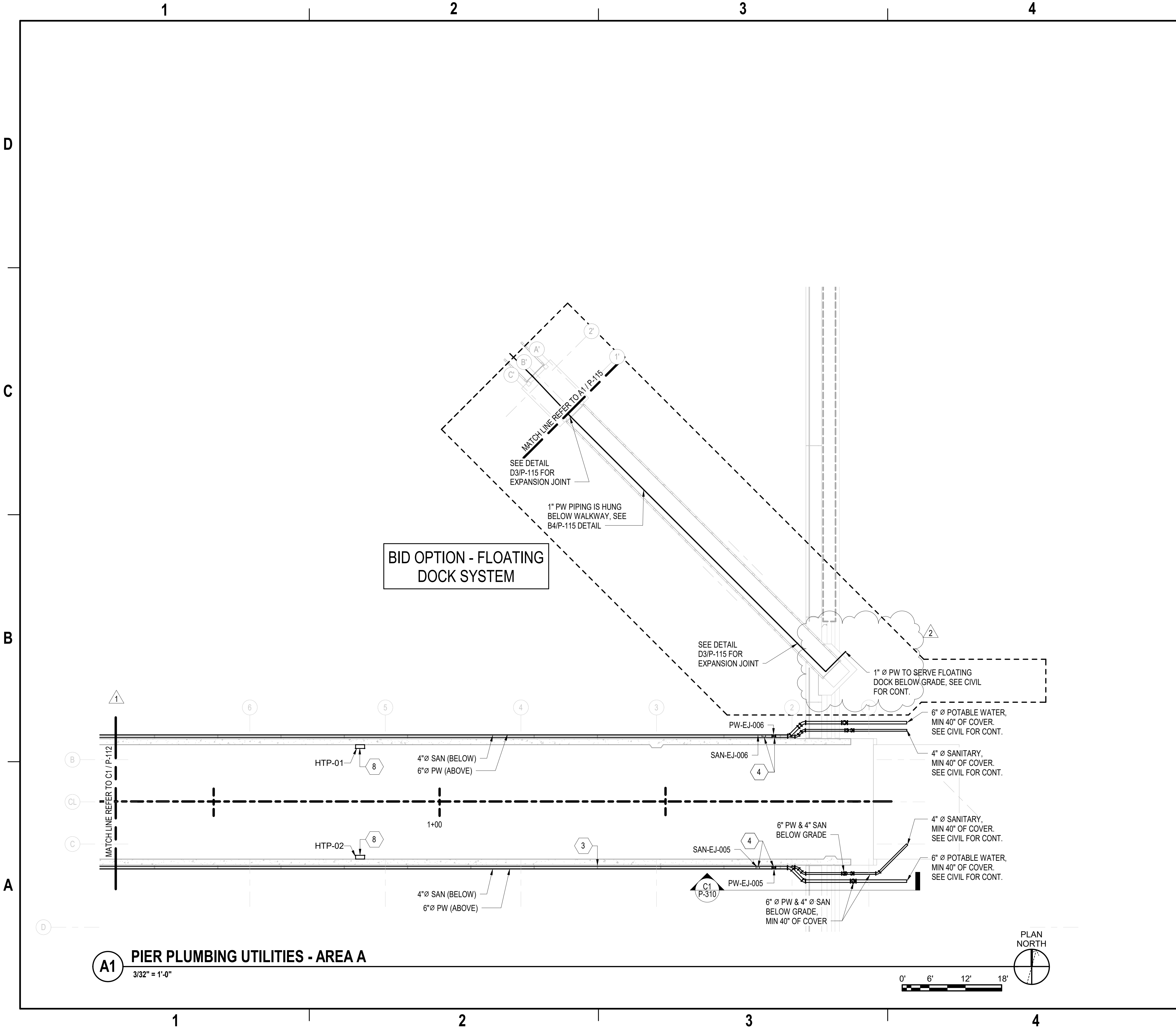
NAVFAC DRAWING NO. 12873947

SHEET 71 OF 504

**CU105**

DRAWING REVISION: 25 AUG 2020





SHEET NOTES			
1.	REFER TO DRAWING P-001 FOR PLUMBING LEGEND, ABBREVIATIONS AND NOTES.		

SHEET KEYNOTES			
3	PROVIDE SUPPORTS EVERY 14' AT MINIMUM FOR POTABLE WATER, FIRE AND SANITARY, SEE P-610 FOR PIPE SCHEDULE.		
4	PROVIDE DOUBLE BELLOW EXPANSION JOINTS AS SPECIFIED WITHIN SECTION 40 05 13.		
8	HEAT TRACE CONTROL PANEL; PROVIDE 4 CIRCUITS PER CONTROL PANEL.		

KEY PLAN			

APPR	DATE	02/27/2023	04/17/2023	2	PW UPDATE
SYM	DESCRIPTION	1	BID OPTION UPDATE	1	

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

Timothy Calohan, PE,  
NOAA Senior Project Manager

SATISFACTORY TO DATE 04OCT2022

DES RMB DRW GHA CHK CWS

PM/DM RS/RC

BRANCH MANAGER ALG

CHIEF ENGINEER EJA

FIRE PROTECTION DSN

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND  
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND - MID-ATLANTIC  
MID-ATLANTIC DISTRICT  
NAVAL STATION NEWPORT  
NOAA OMAO SHIP & SUPPORT FACILITY FACILITY RELOCATION  
NEWPORT, RHODE ISLAND

PIER PLUMBING UTILITIES - AREA A

SCALE: AS NOTED

PROJECT NO.: 1562331

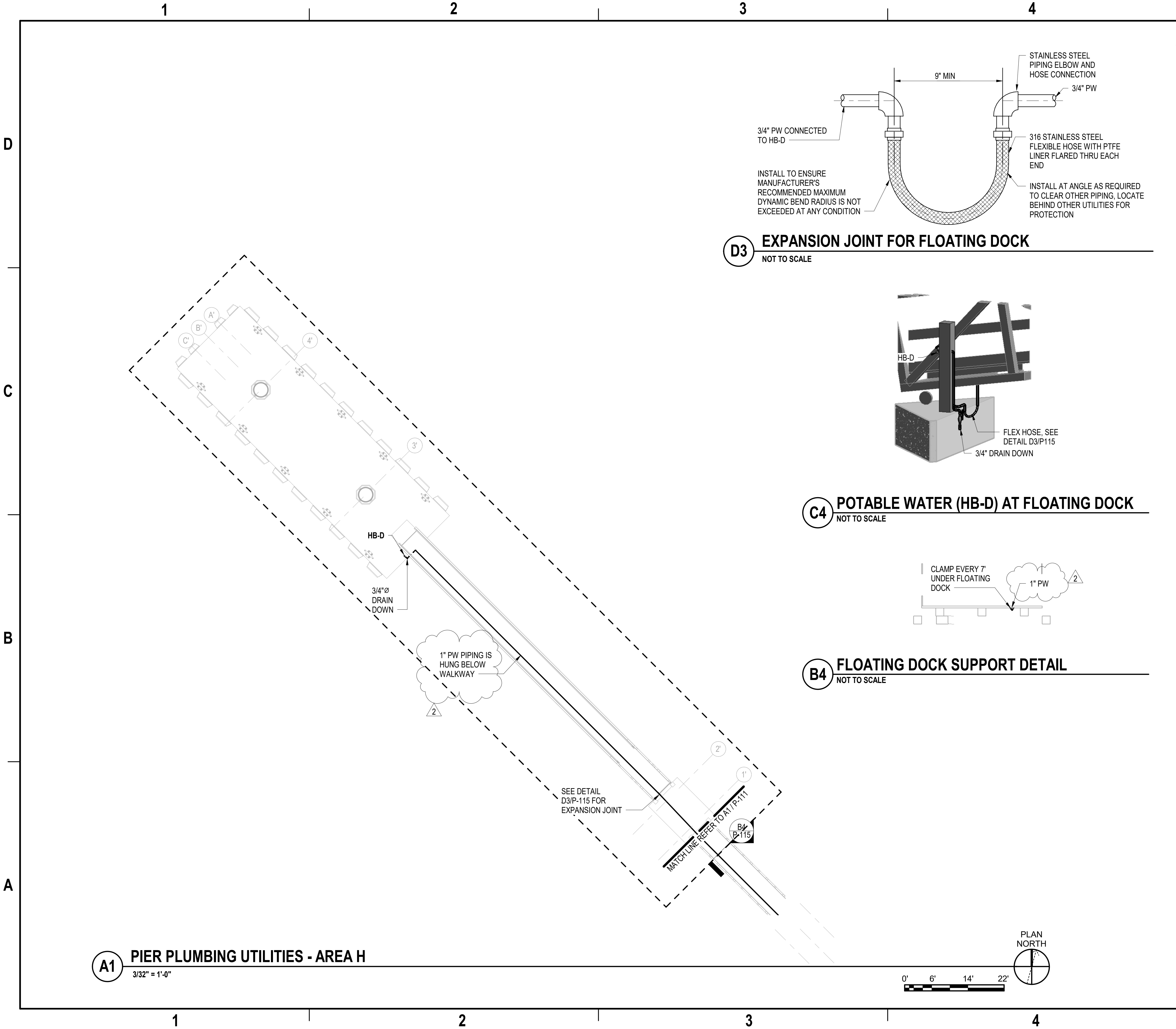
CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12874168

SHEET 292 OF 504

P-111

DRAWING REVISION: 25 AUGUST 2020



5

**SHEET NOTES**

1. REFER TO DRAWING P-001 FOR PLUMBING LEGEND, ABBREVIATIONS AND NOTES.

**KEY PLAN**

ALL WORK THIS SHEET IS  
BID OPTION - FLOATING DOCK SYSTEM

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND - MID-ATLANTIC  
MID-ATLANTIC DISTRICT  
NAVAL STATION NEWPORT  
NOAA OMAO SHIP & SUPPORT FACILITY RELOCATION  
NEWPORT, RHODE ISLAND  
PIER PLUMBING UTILITIES - AREA H

SCALE: AS NOTED  
PROJECT NO.: 1562331  
CONSTR. CONTR. NO.  
NAVFAC DRAWING NO. 12874172  
SHEET 296 OF 504  
P-115

APPROVED  
FOR COMMANDER NAVFAC  
ACTIVITY  
Timothy Calohan, PE,  
NOAA Senior Project Manager  
SATISFACTORY TO DATE 04OCT2022  
DES RMB DRW GHA CHK CWS  
PM/DM RS/RC  
BRANCH MANAGER ALG  
CHIEF ENGINEER EJA  
FIRE PROTECTION DSN

DATE 04/17/2023  
SYMBOL DESCRIPTION  
2 REV/UPDATE

1 2 3 4 5



FILE NAME: Z:\Clients\AWF\US Navy\Media\Waterfront\DDO\1288272\_NOA\Navport\Design\Elec\Sheets\1562331-ES101 to ES112.dwg LAYOUT NAME: ES101 PLOTTED: Friday, April 14, 2023 - 2:19pm USER: lgoji

D

C

B

A

ELECTRICAL AND TELECOM FEEDER SCHEDULE				
#	WIRE	CONDUIT	DESCRIPTION	NOTES
1	48ST SMFOC	4" SCH40 PVC	ACS, AMI, DATA	1,2
2	50PR CU	4" SCH40 PVC	PHONE	3
3	(4) 48ST SMFOC	4" SCH40 PVC	SHIP SERVICE	1,2
4	--	4" SCH40 PVC	SPARE	1,4
5	--	4" SCH40 PVC	SPARE	4
6	2 #6, #8 G (HIGH MAST CKT #1) 2 #6, #8 G (HIGH MAST CKT #2) 2 #6, #8 G (HIGH MAST CKT #3) 2 #6, #8 G (TRESTLE CKT #1) 2 #6, #8 G (TRESTLE CKT #2)	4" SCH80 PVC	HIGH MAST & TRESTLE LIGHTING	7,8
7	2 #6, #8 G (HIGH MAST CKT #1) 2 #6, #8 G (TRESTLE CKT #1)	3" SCH80 PVC	HIGH MAST & TRESTLE LIGHTING	7
8	--	5" SCH80 PVC	SPARE	6
9	3-1/C #4/0, 15KV, MV-105, 133% EPR, #6 G (600V)	5" SCH80 PVC	PIER 15KV	6
10	2 #6, #8 G (HIGH MAST CKT #2) 2 #6, #8 G (HIGH MAST CKT #3) 2 #6, #8 G (TRESTLE CKT #2)	3" SCH80 PVC	HIGH MAST & TRESTLE LIGHTING	6
11	2 #6, #8 G	2" SCH80 PVC	FLOATING DOCK LIGHTING	7, 10
12	4 #4/0, #4 G	4" SCH80 PVC	PIER INDUSTRIAL POWER	6
13	3 EACH (3 #8, #10 G) - L10-20R RECEPTACLES 3 EACH (2 #8, #10 G) - L5-20R RECEPTACLES	4" SCH80 PVC	PIER INDUSTRIAL POWER	6
14	3 #8, #10 G	4" SCH80 PVC	PIER SHORE POWER	6
15	3-600KCML, #2 G	4" SCH80 PVC	PIER SHORE POWER	6
16	3-1/C 350KCML, 15KV, MV-105, 133% EPR, #4/0 G (600V)	5" SCH40 PVC	LANDSIDE 15KV	5
17	--	5" SCH40 PVC	SPARE	5
18	3-1/C #4/0, 15KV, MV105, 133% EPR, #3 G (600V)	5" SCH40 PVC	LANDSIDE 15KV	5
20	3 #6, #8 G (SMALL CRAFT CKT #1) 3 #6, #8 G (SMALL CRAFT CKT #2) 3 #6, #8 G (SMALL CRAFT CKT #3) 3 #6, #8 G (SMALL CRAFT CKT #4)	3" SCHD40 / 80 PVC	FLOATING DOCK BOAT POWER	7
21	3 #3, #8 G	2" SCHD40 PVC	CONEX / HAZMAT BLDG POWER	9
22	3 #6, #10 G	1" SCHD40 PVC	SEWER LIFT STATION / CONEXES	9
23	2 #8, #10 G 2 #8, #10 G	1" SCHD40 PVC	CONEX POWER	9
24	4 - 600KCML, #1/0 G	4" SCHD40 PVC	BOATHOUSE XFMR SECONDARY	9
25	--	4" SCHD40 PVC	SPARE	
26	4 #1/0, #6 G	2" SCHD40 PVC	GENERATOR TO ATS-1	9
27	3 #1/0, #6 G	3" SCHD 40 PVC	GENERATOR TO LOAD BANK	9
28	4 #3/0, #4 G	3" SCHD40 PVC	GEN / TEMP GEN TO ATS-LS	9
29	3 #4/0, #6 G	3" SCHD40 PVC	GENERATOR TO FIRE PUMP	9
30	2 #10, #10 G	1" SCHC40 / 80 PVC	HEATING ENCLOSURE / PIER ACU	7
31	(3) 12ST SMFOC	4" SCHD80 PVC	AMI & DATA	1,2
32	(2) 12ST SMFOC	4" SCHD80 PVC	DATA	1,2
33	4 - 600KCML, #1/0 G	4" SCHD40 PVC	ADMIN / WAREHOUSE	9
34	(1) 12ST SMFOC	4" SCHD40 PVC	DATA	1,2
35	4 #1/0, #6 G	2" SCHD40 PVC	300KVA XFMR TO FIRE PUMP	9
36	2 #6, #8 G	1-1/4" SCHD40 PVC	SITE LIGHTING/ SITE HIGH MAST	9
37	48ST SMFOC	EXISTING	ACS, AMI, DATA	9
38	50PR CU	EXISTING	PHONE	3
39	--	1" SCHD40 PVC	GENERATOR REMOTE ANNUNCIATOR	9, 11
40	--	1" SCHD40 PVC	GENERATOR START SIGNAL TO ATS-LS	9, 12
41	2 #12, #12 G	1" SCHD40 PVC	GENERATOR BATTERY CHARGER	9
42	2 #12, #12 G	1" SCHD40 PVC	GENERATOR JACKET HEATER	9
43	REFER TO FA601	1" SCHD40 PVC	FIRE ALARM	9, 13
44	2 #12, #12 G	1" SCHD40 PVC	SHORE / INDUSTRIAL POWER HEATER	6
45	6ST SMFOC	4" SCHD40 PVC	ACS	1,2
46	12ST SMFOC	4" SCHD40 PVC	AMI	1,2
47	6ST & 48ST SMFOC	EXISTING	AMI & DATA	1,2
48	2 #10, #10 G	3/4" SCHD40 PVC	PIER/TRESTLE CAMERAS	6
49	2 #10, #10 G	1" SCHD40 PVC	PIER LCP	9

1. PROVIDE (2) 4" 3-CELL FABRIC INNERDUCTS.

2. PROVIDE SINGLE MODE FIBER OPTIC CABLE.

3. PROVIDE RUS PE-89 TYPE CABLE.

4. PROVIDE 2500LB 3/4" POLYESTER PULL TAPE.

5. PROVIDE CONCRETE ENCASEMENT.
6. CAST CONDUIT INTO PIER STRUCTURE.

7. CAST CONDUIT INTO PIER STRUCTURE & DIRECT BURY (LANDSIDE).

8. PROVIDE THREE (3) 1" INNERDUCTS: ONE FOR THE HIGH MAST CIRCUITS, AND THE OTHER FOR THE TRESTLE CIRCUITS, AND THE

A3

### ELECTRICAL & TELECOM SITE PLAN - AREA 1

SCALE: 1" = 20'

1" = 20'

0 10' 20' 40'



- THIRD INNERDUCT MUST BE SPARE WITH PULLWIRE.
9. DIRECT BURY CONDUIT.
10. PROVIDE WATER-TIGHT SPLICE ONTO CIRCUIT #10 (TRESTLE CKT #2) IN MANHOLE EMH-L3.
11. PROVIDE GENERATOR REMOTE ANNUNCIATOR CONDUCTORS PER

- MANUFACTURER'S INSTRUCTIONS.
12. PROVIDE GENERATOR START SIGNAL CONDUCTORS PER MANUFACTURER'S INSTRUCTIONS. ROUTE TO ONE OF THE ATS UNITS.
13. CONDUCTORS PROVIDED BY FIRE ALARM.

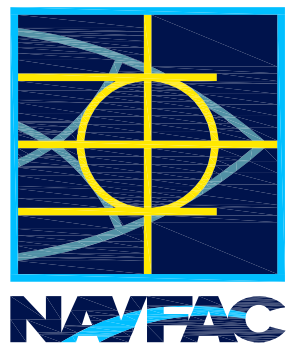
### SHEET NOTES

1. SEE SHEET TN001 FOR TELECOM LEGENDS, ABBREVIATIONS AND GENERAL NOTES.
2. SEE SHEET TN741 AND TN742 FOR TELECOMMUNICATIONS ONE-LINE DIAGRAMS.



### SHEET KEYNOTES

1. PROVIDE CABLING IN EXISTING DUCTBANK CONDUIT.



A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

Timothy Calohan, PE,  
NOAA Senior Project Manager

SATISFACTORY TO DATE 04OCT2022

DES JR DRW JR CHK JC

PMIDM RS/RIC

BRANCH MANAGER JAS

CHIEF ENGINEER EJA

FIRE PROTECTION DSN

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND  
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND - MID-ATLANTIC  
MID-ATL DCBL  
NAVAL STATION NORFOLK - NORFOLK, VA  
NAVAL STATION NEWPORT  
NEWPORT, RHODE ISLAND  
NOAA OMAO SHIP & SUPPORT FACILITY RELOCATION  
ELECTRICAL & TELECOM SITE PLAN - AREA 1

SCALE: AS NOTED

EPROJCT NO.: 1562331

CONSTR. CONTR. NO.

N4008523R2527

NAVFAC DRAWING NO.

12874239

SHEET 363 OF 504

ES101

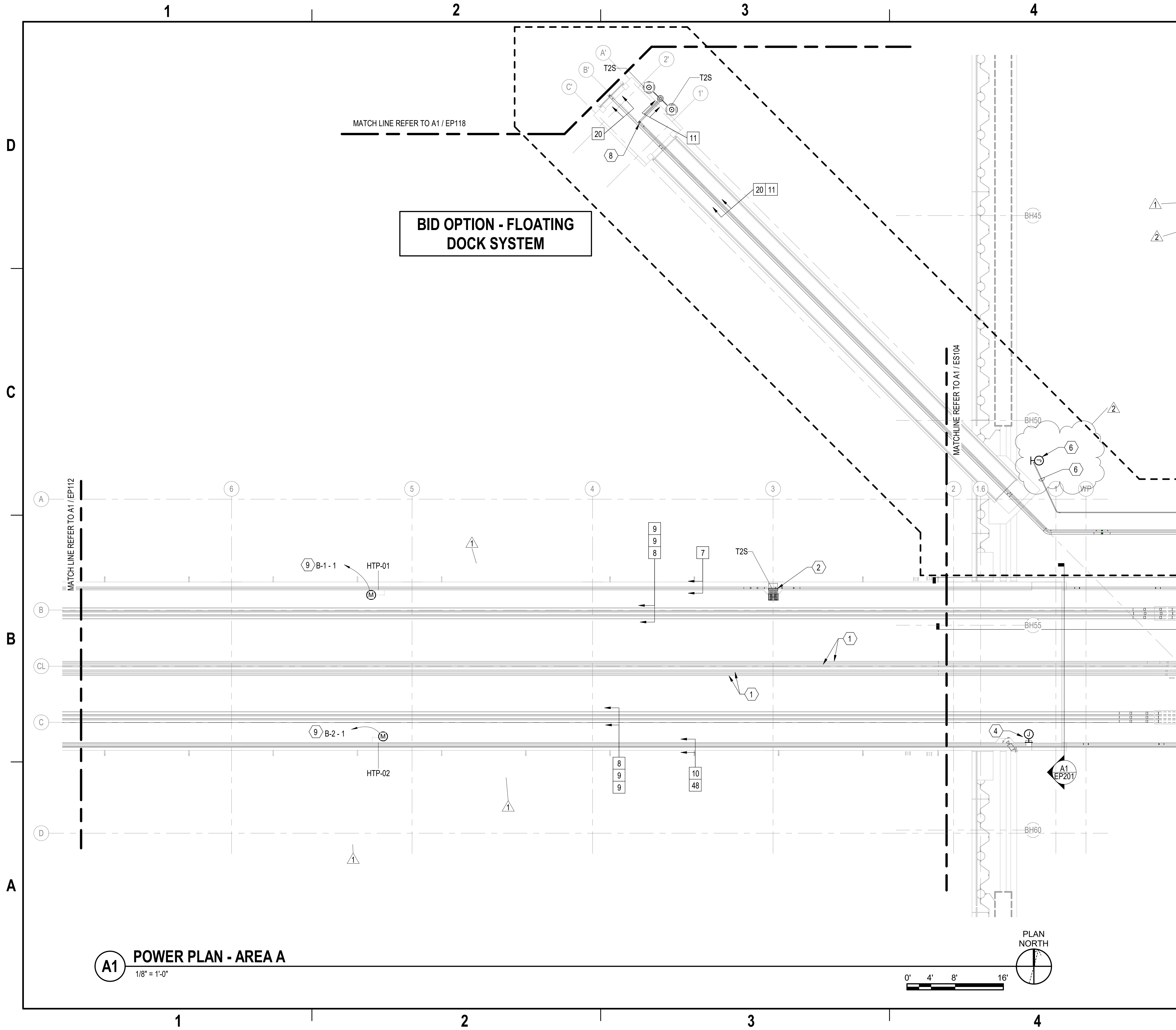
DRAWING REVISION: 25 AUG 2021

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### SHEET NOTES

- SEE SHEET ES101 FOR THE ELECTRICAL AND TELECOM FEEDER SCHEDULE.

### SHEET KEYNOTES

- TELECOM CIRCUITS. SEE SHEET TN101.
- HANDHOLE FOR LIGHTING CIRCUITS. REFER TO SHEET SB522 FOR ADDITIONAL INFORMATION.
- REFER TO SHEET A1/ES104 FOR LIFT STATION CONTROL PANEL.
- PROVIDE CONNECTION TO POLE MOUNTED EXTERIOR CAMERAS. REFER TO EMLV1-5 ON SHEET E-741 FOR BRANCH CIRCUIT INFORMATION.
- UNDER BASE BID, PROVIDE CONDUITS FOR THE FLOATING DOCK UP TO MANHOLES EMH-L3 AND EMH-L4. MANHOLES ARE PART OF THE BASE BID.
- PROVIDE CONNECTION HEATING ENCLOSURE. REFER TO MECHLV8-14 ON SHEET E-744 FOR BRANCH CIRCUIT INFORMATION.
- PROVIDE CONNECTION TO PIER ACU. REFER TO EMLV14 ON SHEET E-741 FOR BRANCH CIRCUIT INFORMATION. REFER TO SHEET ES104 FOR PIER ACU LOCATION.
- REFER TO DETAIL C2/EP505 FOR FLOATING DECK HANDHOLE.
- ROUTE HEAT TRACE PANEL FEEDER CONDUIT THROUGH SLAB.

### KEY PLAN

### POWER PLAN - AREA A

1/8" = 1'-0"

APPR	DATE	02/27/2023	04/17/2023	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
SYN	DESCRIPTION	BASE BID UPDATE	UPDATED HEATING BOX LOAD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

**NAVAC**

**MN+ BMCD**  
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FOR COMMANDER NAVFAC

ACTIVITY

Timothy Calohan, PE,  
NOAA Senior Project Manager

SATISFACTORY TO DATE 04OCT2022

DES JR DRW BG CHK JC

PM/DW RS/RC

BRANCH MANAGER JAS

CHIEF ENGINEER EJA

FIRE PROTECTION DSN

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND  
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND - MID-ATLANTIC  
MIDLANT DGBL  
NAVAL STATION NEWPORT  
NOAA OMAO SHIP & SUPPORT FACILITY RELOCATION  
NEWPORT, RHODE ISLAND

PIER - POWER PLAN - AREA A

SCALE: AS NOTED

PROJECT NO.: 1562331

CONSTR. CONTR. NO. N4008523R2527

NAVFAC DRAWING NO. 12874264

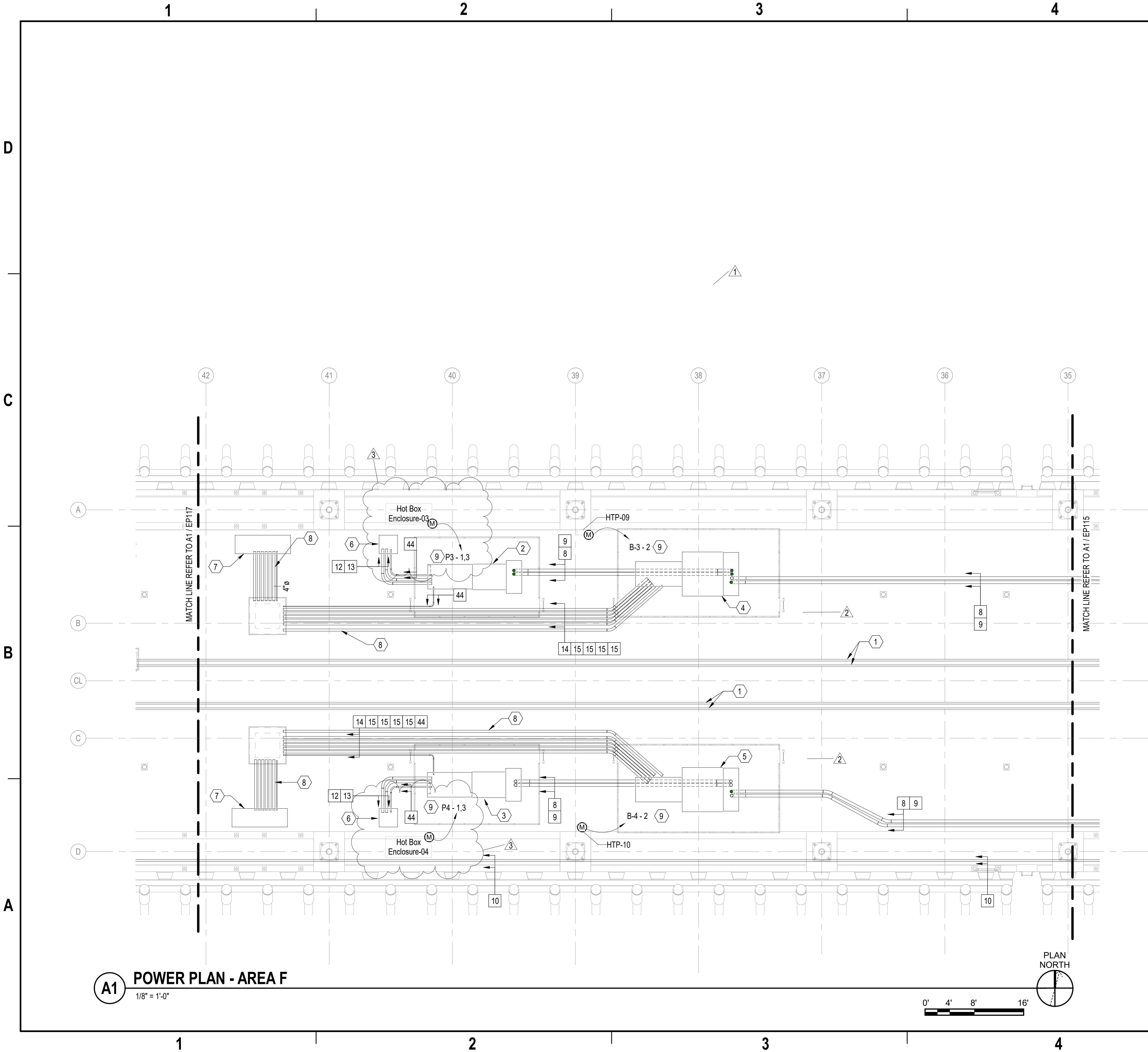
SHEET 388 OF 504

EP111

DRAWING REVISION: 25 AUGUST 2020







- ### SHEET NOTES
- SEE SHEET ES101 FOR THE ELECTRICAL AND TELECOM FEEDER SCHEDULE.
  - THE DIMENSIONS OF THE UNIT SUBSTATIONS ON THE PIER CANNOT BE EXCEEDED AS TO NOT INTRUDE INTO THE PIER FIRE LANE. ALL NEC CLEARANCES MUST BE OBSERVED. PRIMARY AND SECONDARY SECTIONS MUST BE FRONT ACCESS ONLY.
  - PRIOR TO FINAL DESIGN FABRICATION AND INSTALLATION OF PLATFORM, COORDINATE UNIT SUBSTATION MOUNTING POINTS WITH THE PLATFORM STRUCTURE TO AVOID MISALIGNMENT WITH THE UNIT SUBSTATION MOUNTING LOCATIONS.

- ### SHEET KEYNOTES
- TELECOM CIRCUITS. SEE SHEET TN105.
  - UNIT SUBSTATION IP-3. SEE DETAIL B2 / EP503.
  - UNIT SUBSTATION IP-4. SEE DETAIL B2 / EP503.
  - UNIT SUBSTATION B-3. SEE DETAIL A2 / EP503.
  - UNIT SUBSTATION B-4. SEE DETAIL A2 / EP503.
  - INDUSTRIAL POWER LVCB. SEE DETAIL A2 / EP505.
  - SHIP SHORE POWER LVCB. SEE DETAIL A2 / EP509.
  - PROVIDE CONTROL WIRING IN 3" SCHD40 PVC CONDUIT FOR SHIP SHORE POWER.
  - ROUTE HEAT TRACE PANEL (HTP) AND HOT BOX HEATER FEEDER CONDUIT THROUGH SLAB.

REV	DATE	DESCRIPTION	BY	APP
3	04/17/2023	UPDATED HEATING BOX LOAD		
2	02/27/2023	UPDATED UNIT SUBSTATIONS		
1	02/27/2023	BASE BID UPDATE		



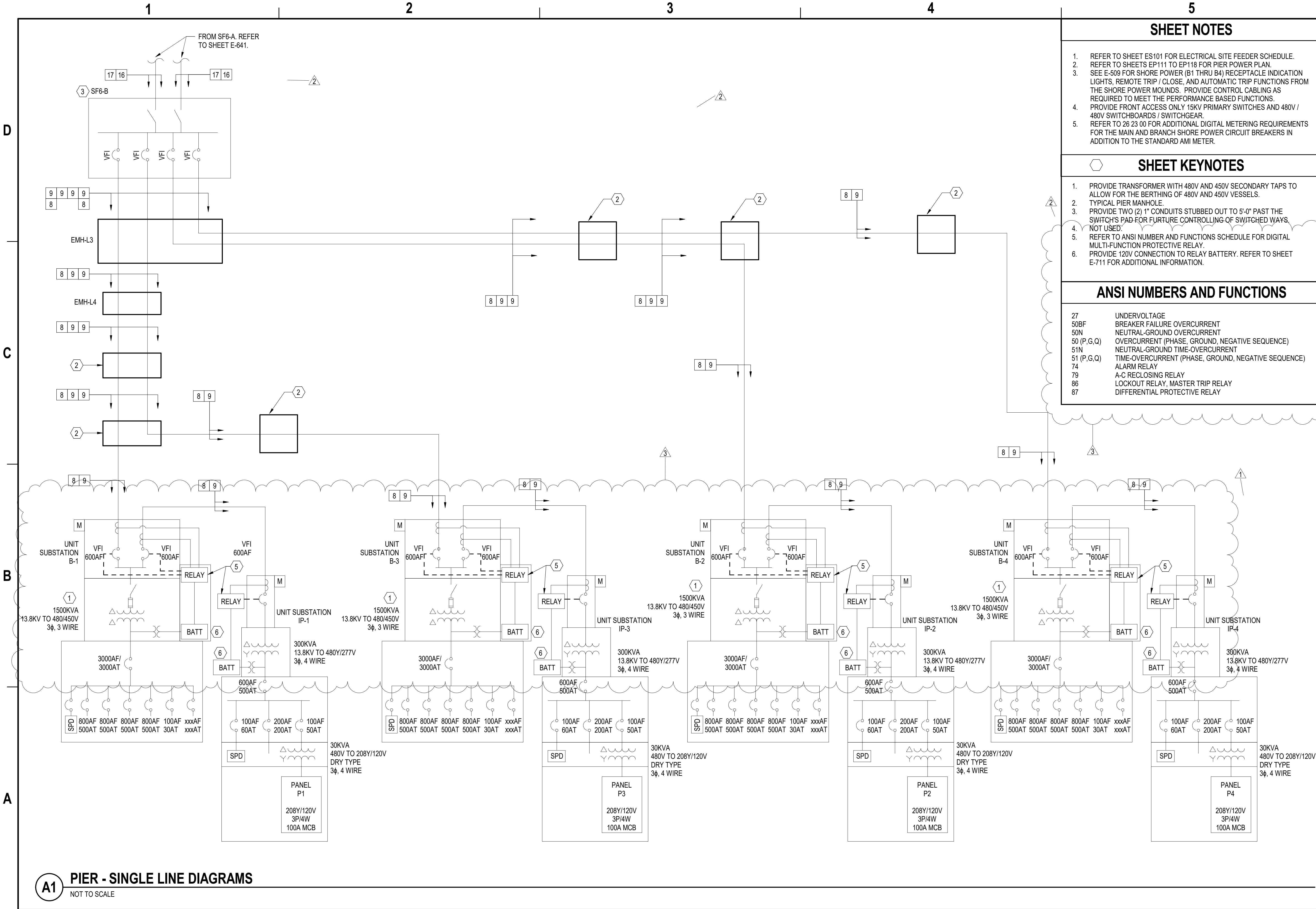
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FOR COMMANDER NAVFAC
ACTIVITY
Timothy Calohan, PE, NOAA Senior Project Manager
SATISFACTORY TO DATE 04OCT2022
DES JR DRW BG CHK JC
PM/DW RS/RC
BRANCH MANAGER JAS
CHIEF ENGINEER EJA
FIRE PROTECTION DSN

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND	NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND - MID-ATLANTIC	NAVAL STATION NORFOLK - NORFOLK, VA	NAVAL STATION NEWPORT	NOAA OMAO SHIP & SUPPORT FACILITY RELOCATION	NEWPORT, RHODE ISLAND	PIER - POWER PLAN - AREA F
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### KEY PLAN

SCALE: AS NOTED  
PROJECT NO.: 1562331  
CONSTR. CONTR. NO. N4008523R2527  
NAVFAC DRAWING NO. 12874269  
SHEET 393 OF 504





- ### SHEET NOTES
- REFER TO SHEET ES101 FOR ELECTRICAL SITE FEEDER SCHEDULE.
  - REFER TO SHEETS EP111 TO EP118 FOR PIER POWER PLAN.
  - SEE E-509 FOR SHORE POWER (B1 THRU B4) RECEPTACLE INDICATION LIGHTS, REMOTE TRIP / CLOSE, AND AUTOMATIC TRIP FUNCTIONS FROM THE SHORE POWER MOUNDS. PROVIDE CONTROL CABLING AS REQUIRED TO MEET THE PERFORMANCE BASED FUNCTIONS.
  - PROVIDE FRONT ACCESS ONLY 15KV PRIMARY SWITCHES AND 480V / 480V SWITCHBOARDS / SWITCHGEAR.
  - REFER TO 26 23 00 FOR ADDITIONAL DIGITAL METERING REQUIREMENTS FOR THE MAIN AND BRANCH SHORE POWER CIRCUIT BREAKERS IN ADDITION TO THE STANDARD AMI METER.

- ### SHEET KEYNOTES
- PROVIDE TRANSFORMER WITH 480V AND 450V SECONDARY TAPS TO ALLOW FOR THE BERTHING OF 480V AND 450V VESSELS.
  - TYPICAL PIER MANHOLE.
  - PROVIDE TWO (2) 1" CONDUITS STUBBED OUT TO 5'-0" PAST THE SWITCH'S PAD FOR FURTURE CONTROLLING OF SWITCHED WAYS.
  - NOT USED.
  - REFER TO ANSI NUMBER AND FUNCTIONS SCHEDULE FOR DIGITAL MULTI-FUNCTION PROTECTIVE RELAY.
  - PROVIDE 120V CONNECTION TO RELAY BATTERY. REFER TO SHEET E-711 FOR ADDITIONAL INFORMATION.

### ANSI NUMBERS AND FUNCTIONS

27	UNDervOLTAGE
50BF	BREAKER FAILURE OVERCURRENT
50N	NEUTRAL-GROUND OVERCURRENT
50 (P,G,Q)	OVERCURRENT (PHASE, GROUND, NEGATIVE SEQUENCE)
51N	NEUTRAL-GROUND TIME-OVERCURRENT
51 (P,G,Q)	TIME-OVERCURRENT (PHASE, GROUND, NEGATIVE SEQUENCE)
74	ALARM RELAY
79	A-C RECLOSING RELAY
86	LOCKOUT RELAY, MASTER TRIP RELAY
87	DIFFERENTIAL PROTECTIVE RELAY

04/17/2023		DATE	APPR
02/27/2023		DATE	APPR
02/09/2023		DATE	APPR
3	UPDATED UNIT SUBSTATION	SYM	DESCRIPTION
2	BASE BID UPDATE	SYM	DESCRIPTION
1	UPDATED PIER SINGLE LINE DIAGRAMS	SYM	DESCRIPTION

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

Timothy Calohan, PE,  
NOAA Senior Project Manager

SATISFACTORY TO DATE 04OCT2022

DES JR DRW BG CHK JC

PM/DW RS/RC

BRANCH MANAGER JAS

CHIEF ENGINEER EJA

FIRE PROTECTION DSN

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND  
NAVAL STATION NORFOLK - NORFOLK, VA  
NAVAL STATION NEWPORT  
NOAA OMAO SHIP & SUPPORT FACILITY RELOCATION  
NEWPORT, RHODE ISLAND

PIER - SINGLE LINE DIAGRAMS

SCALE: AS NOTED

EPROJECT NO.: 1562331

CONSTR. CONTR. NO. N4008523R2527

NAVFAC DRAWING NO. 12874298

SHEET 422 OF 504

E-601

DRAWFORM REVISION: 25 AUGUST 2020











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PANELBOARD: MECHLVA															
LOCATION: ELEC 215 SUPPLY FROM: MECHLV MOUNTING: SURFACE ENCLOSURE: NEMA 1					VOLTAGE: 208/120 Wye PHASE: 3 WIRES: 4					A.I.C. RATING: 10,000 MAINS TYPE: MCB MAINS RATING: 100 A MCB RATING: 100 A					
NOTES:															
#	B...	P	LOAD SERVED	WIRE / GROUND / CONDUIT	A		B		C		WIRE / GROUND / CONDUIT	LOAD SERVED	P	BKR	#
1	20	1	VAVs: 101, 103 AND 106	2#10, #10G, IN 1/2" C	150	54					2#12, #12G, IN 1/2" C	DSS-6: 110	2	20	2 4
3	20	1	VAVs: 104, AND 105	2#10, #10G, IN 1/2" C			150	54							
5	20	1	VAVs: 102 AND 107	2#8, #10G, IN 3/4" C					100	54	2#12, #12G, IN 1/2" C	DSS-7: 110	2	20	6 8
7	20	1	VAVs: 108 AND 109	2#10, #10G, IN 1/2" C	100	54									
9	20	1	CUH-1: 111	2#12, #12G, IN 1/2" C			60	54			2#12, #12G, IN 1/2" C	DSS-8: 110	2	20	10 12
11	20	1	CUH-2: 118	2#12, #12G, IN 1/2" C					60	54					
13	20	1	VAVs: 201, 203, 207, 211	2#10, #10G, IN 1/2" C	150	53					2#12, #12G IN 1/2" C	DSS-9: 110	2	20	14 16
15	20	1	VAVs: 204, 205, 210	2#8, #10G, IN 3/4" C			150	53							
17	20	1	VAVs:202, 206, 208	2#8, #10G, IN 3/4" C					150	53	2#12, #12G, IN 1/2" C	DSS-10: 109	2	20	18 20
19	20	1	VAVs: 207 AND 209	2#8, #10G, IN 3/4" C	100	53									
21	20	2	DSS-12: 216	2#12, #12G, IN 1/2" C			53	180			2#8, #10G, IN 3/4" C	ROOF REC	1	20	22
23									53	60	2#8, #10G, IN 3/4" C	TPM-1: 138, TPM-5: 110	1	20	24
25	20	2	DSS-14: 216	2#12, #12G, IN 1/2" C	53	180					2#8, #10G, IN 3/4" C	EF-4: 110	1	20	26
27							53	53							28
29	20	1	TPM-2: 223, TPM-7: 216	2#12, #12G, IN 1/2" C					100	53	2#12, #12G, IN 1/2" C	DSS-11: 216	2	20	30
31	20	1	SPARE		0	53					2#12, #12G, IN 1/2" C	DSS-13: 216	2	20	32 34
33	20	1	SPARE				0	53							
35	--	1	SPACE						--	0			1	20	36
37	--	1	SPACE		--	--							1	--	38
39	--	1	SPACE				--	--					1	--	40
41	--	1	SPACE										1	--	42
TOTAL LOAD:					1000 VA		913 VA		737 VA						
TOTAL AMPS:					9 A		8 A		6 A						
												PANEL TOTALS			
												TOTAL CONNECTED LOAD: 2651 VA			
												TOTAL ESTIMATED DEMAND LOAD: 2441 VA			
												TOTAL CONNECTED CURRENT: 7 A			
												TOTAL ESTIMATED DEMAND... 7 A			
												DEMAND WITH EXPANSION: 8 A			

PANELBOARD: MECHHV																
LOCATION: MECH 138 SUPPLY FROM: SWBD-1 MOUNTING: SURFACE ENCLOSURE: NEMA 1					VOLTAGE: 480/277 Wye PHASE: 3 WIRES: 4					A.I.C. RATING: 35,000 MAINS TYPE: MCB MAINS RATING: 400 A MCB RATING: 250 A						
LOAD SERVED	WIRE / GROUND / CONDUIT	A		B		C		WIRE / GROUND / CONDUIT	LOAD SERVED	P	BKR	#				
RTU-1: ROOF	3#1, #6 G IN 1-1/2"C	21195	305	21195	305			3#12, #12G IN 1/2"C	PHHWP-1: 138	3	20	2				
						21195	305					4				
AC-1: 138	3#12, #12G IN 1/2" C	2107	305	2107	305			3#12, #12G IN 1/2"C	PHHWP-2: 138	3	20	6				
						2107	305					8				
TRANSFORMER T-MECH	3#2, #6 IN 1-1/4"C	20855	582	16834	582			3#12, #12G IN 1/2"C	SHHWP-1: 138	3	20	10				
						16926	582					12				
IFT STATION CTRL PNL: PIER ACCESS ROAD	ES101 - FEEDER #22	13856	582	13856	582			3#12, #12G IN 1/2"C	SHHWP-2: 138	3	20	14				
						13856	582					16				
SPARE		0	--		--				SPACE	1	--	18				
SPARE				0	--				SPACE	1	--	20				
SPARE						0	--		SPACE	1	--	22				
SPACE		--	--						SPACE	1	--	24				
SPACE				--	--				SPACE	1	--	26				
SPACE						--	--		SPACE	1	--	28				
SPD	PER MANUFACTURER'S INSTRUCTIONS	0	--						SPACE	1	--	30				
				0	--				SPACE	1	--	32				
						0	--		SPACE	1	--	34				
									SPACE	1	--	36				
TOTAL LOAD:		59786 VA		55765 VA		55858 VA										
TOTAL AMPS:		216 A		201 A		202 A										
													PANEL TOTALS			
													TOTAL CONNECTED LOAD:		171409 VA	
													TOTAL ESTIMATED DEMAND LOAD:		157539 VA	
													TOTAL CONNECTED CURRENT:		206 A	
													TOTAL ESTIMATED DEMAND...		189 A	
													DEMAND WITH EXPANSION:		227 A	

PANELBOARD: MECHLV															
LOCATION: MECH 138 SUPPLY FROM: T-MECH MOUNTING: SURFACE ENCLOSURE: NEMA 1					VOLTAGE: 208/120 Wye PHASE: 3 WIRES: 4					A.I.C. RATING: 10,000 MAINS TYPE: MCB MAINS RATING: 225 A MCB RATING: 225 A					
NOTES:															
#	BKR	P	LOAD SERVED	WIRE / GROUND / CONDUIT	A		B		C		WIRE / GROUND / CONDUIT	LOAD SERVED	P	BKR	#
1					1000	2966									2
3	100	3	PANEL MECHLVA	REFER TO SHEET E-641 FOR SINGLE LINE			913	2966			3#8, #10G IN 3/4" C	CU-6	3	40	4
5									737	2966					6
7					10900										8
9	100	3	PANEL MECHLVB	REFER TO SHEET E-641 FOR SINGLE LINE			7428								10
11									6631	770					12
13	20	1	UH-11: 137	2#8, #10G, IN 3/4" C	60	770					2#10, #10G, IN 1/2" C	CU-2	2	20	14
15	20	1	UH-1: 125, UH-7: 128, UH-6:123	2#8, #10G, IN 3/4" C			180	528			2#12, #12G IN 1/2" C	EF-1	1	20	16
17	20	1	DHM-1: 124	2#10, #10G IN 1/2" C					612	2966					18
19	20	1	EF-5: 216	2#8, #10G, IN 3/4" C	180	2966					3#8, #10G IN 3/4" C	CU-7	3	40	20
21	20	1	B-2: 138	2#12, #12G IN 1/2" C			432	2966							22
23	20	1	B-1: 138	2#12, #12G IN 1/2" C					432	1092					24
25	20	1	RHCP-1: 138	2#12, #12G IN 1/2" C	500	1092					2#10, #10G IN 1/2" C	CU-4	2	30	26
27	20	1	DDC CONTROL:138	2#12, #12G IN 1/2" C			240	300			2#8, #10G, IN 3/4" C	FSD-216-1 AND SD-216-1	1	20	28
29	20	1	DDC CONTROL:138	2#12, #12G IN 1/2" C					240	300	2#8, #10G, IN 3/4" C	FSD-110-1 AND SD-110-1	1	20	30
31	20	1	DDC CONTROL:138	2#12, #12G IN 1/2" C	240	180					2#12, #12G IN 1/2" C	DWH-3: 138	1	20	32
33	20	1	EF-6: 127	2#12, #12G IN 1/2" C			700	180			2#12, #12G IN 1/2" C	DWH-2: 138	1	20	34
35	--	1	SPACE						--	180	2#12, #12G IN 1/2" C	DWH-1: 138	1	20	36
37					0	--						SPACE	1	--	38
39	30	3	SPD	PER MANUFACTURER'S INSTRUCTIONS			0	--				SPACE	1	--	40
41									0	--		SPACE	1	--	42
					TOTAL LOAD:	20855 VA	16834 VA	16926 VA							
					TOTAL AMPS:	174 A	140 A	141 A							
												PANEL TOTALS			
												TOTAL CONNECTED LOAD: 54615 VA			
												TOTAL ESTIMATED DEMAND LOAD: 53462 VA			
												TOTAL CONNECTED CURRENT: 152 A			
												TOTAL ESTIMATED DEMAND... 148 A			
												DEMAND WITH EXPANSION: 178 A			