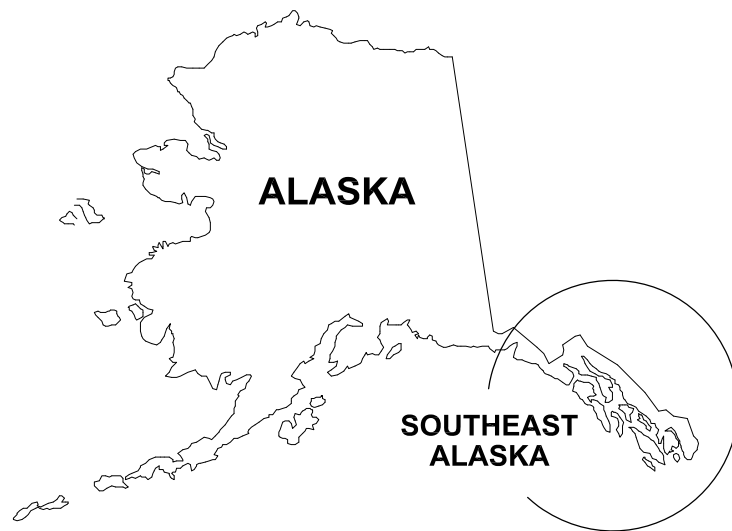
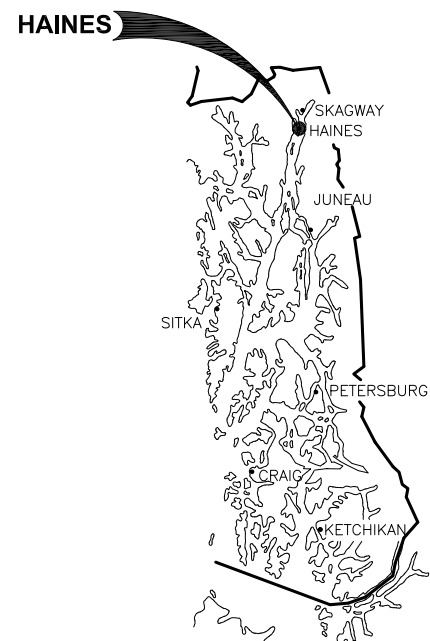


# HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS 95% DESIGN REVIEW SUBMITTAL

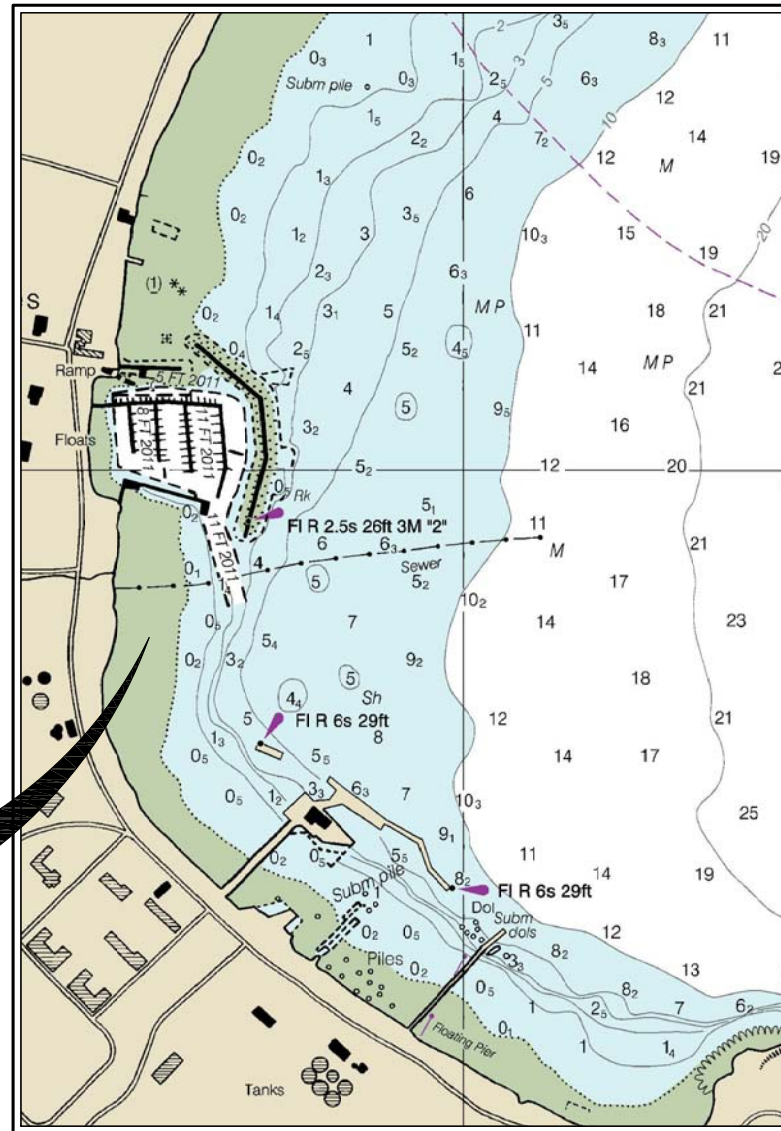


ALASKA  
SOUTHEAST ALASKA  
**LOCATION MAP**



HAINES  
SKAGWAY  
HAINES  
JUNEAU  
SITKA  
PETERSBURG  
CRAIG  
KETCHIKAN  
**SOUTHEAST ALASKA**

**PROJECT LOCATION**



**VICINITY MAP**

NOTE: RECENT WAVE BARRIER, DREDGING AND UPLAND IMPROVEMENTS NOT SHOWN.

**PROJECT SCHEDULE**

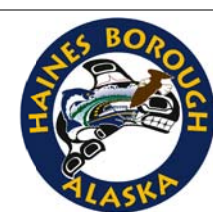
DESCRIPTION	SCHEDULE
SUBSTANTIAL COMPLETION	AUGUST 1, 2020
FINAL COMPLETION OF ALL WORK UNDER THIS CONTRACT	SEPTEMBER 1, 2020

**DRAWING INDEX**

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2	OF 34	1.02 GENERAL NOTES, LEGEND AND ABBREVIATIONS
3	OF 34	1.03 EXISTING CONDITIONS
4	OF 34	1.04 EXISTING TYPICAL SECTIONS
5	OF 34	1.05 OVERALL SITE PLAN
<b>CIVIL</b>		
6	OF 34	2.01 UPLANDS SITE PLAN
7	OF 34	2.02 UPLANDS GRADING PLAN
8	OF 34	2.03 UPLANDS GRADING PLAN
9	OF 34	2.04 LAYOUT TABLES
10	OF 34	2.05 STORM DRAIN PLAN
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12	OF 34	2.07 SIGNAGE AND STRIPING PLAN
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19	OF 34	3.02 TYPICAL SECTIONS
20	OF 34	3.03 PLANK AND SLEEPER DETAILS
21	OF 34	3.04 APRON, ABUTMENT AND PILE DETAILS
22	OF 34	3.05 APRON AND ABUTMENT DETAILS
23	OF 34	3.06 BOARDING FLOAT DETAILS
24	OF 34	3.07 BOARDING FLOAT DETAILS
25	OF 34	3.08 BOARDING FLOAT DETAILS
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<b>RETAINING WALL</b>		
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95% DESIGN REVIEW SUBMITTAL



REVISIONS					
REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

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DESIGN: BMI CHECKED: CRS SCALE: AS SHOWN  
DRAWN: BMI APPROVED: \_\_\_\_\_

DATE: JAN. 18, 2019

**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**COVER SHEET, VICINITY MAP  
AND DRAWING INDEX**

PND PROJECT NO.: 172032

**1.01**  
SHEET  
1 OF 34

# GENERAL NOTES

- THE CONTRACTOR SHALL OBTAIN A CONSTRUCTION GENERAL PERMIT (CGP) IN ACCORDANCE WITH CONTRACT SPECIFICATIONS AND STATE LAW. THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF THE CGP AT ALL TIMES INCLUDING THE DEVELOPMENT, IMPLEMENTATION AND MAINTENANCE OF A STORM WATER POLLUTION PREVENTION PLAN WITH APPROPRIATE SPILL PREVENTION AND RESPONSE MEASURES.
- MATCH EXISTING GRADES AT PROJECT LIMITS AND WHERE REQUIRED TO MATCH ELEVATIONS AT EXISTING SURFACES.
- THE LOCATIONS AND ELEVATIONS OF EXISTING FEATURES AND UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE. UTILITIES SHOWN ARE TAKEN FROM EXISTING AS-BUILT RECORDS AND OTHER SOURCES. ADDITIONAL UTILITIES MAY BE PRESENT HOWEVER ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS IN THE FIELD AS NECESSARY PRIOR TO BEGINNING WORK. THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ENCOUNTERED IN THE FIELD SHALL BE RECORDED ON THE CONTRACTOR'S RECORD DRAWINGS. CONTACT LOCAL UTILITIES AT THE FOLLOWING NUMBERS FOR LOCATE SERVICE A MINIMUM OF TWO BUSINESS DAYS PRIOR TO ANY EXCAVATION:  
**WATER AND WASTE MATERIAL (907) 766-2237 OR 766-2200**  
**POWER AND LIGHT (AP&T) (907) 766-2331**  
**CATV (907) 766-2137**  
**TELEPHONE (GTE) (907) 766-2311**
- PROPERTY DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ITS PRE-CONSTRUCTION CONDITION OR BETTER AT NO ADDITIONAL COST.
- PROPERTY LINE LOCATIONS USED IN THESE PLANS ARE DERIVED FROM RECORD PLATS AND DO NOT REPRESENT A BOUNDARY SURVEY.
- PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION. NO ASSURANCE IS GIVEN THAT THE INDICATED POSITION OF ANY EXISTING UTILITY IS CORRECT OR THAT THE INFORMATION IS COMPLETE. ALL LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE CORRECT AND TRUE LOCATION AS TO AVOID DAMAGE OR DISTURBANCE. DAMAGE TO EXISTING SITE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- OVERHEAD UTILITIES INCLUDING ELECTRICAL POWER, TELEPHONE, CABLE TV, AND OTHER OVERHEAD LINES ARE GENERALLY NOT SHOWN, THE LINES THAT ARE SHOWN ARE LOCATED BY POINT-TO-POINT, POLE-TO-POLE. DETERMINE THE EXTENT OF HAZARDS OR IMPACTS ON CONSTRUCTION ACTIVITIES CREATED BY OVERHEAD OR UNDERGROUND LINES IN ALL AREAS AND FOLLOW PROCEDURES DURING CONSTRUCTION AS REQUIRED BY LAW. PRIOR TO CONSTRUCTION, MEET WITH UTILITY OWNERS TO DETERMINE THE EXTENT OF HAZARDS AND TAKE PRECAUTIONS AS REQUIRED TO PROTECT PERSONS AND PROPERTY AND TO AVOID DISRUPTION OF SERVICE.
- GRADING AND ALIGNMENT OF PIPE, STRUCTURES & FINAL SURFACING ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER TO FIT SITE CONDITIONS. GRADE ALL IMPROVEMENTS WITH POSITIVE DRAINAGE AWAY FROM BUILDINGS TO DITCHES, SWALES OR STORM DRAIN INLETS.
- THE DRAWINGS DO NOT NECESSARILY SHOW ALL TREES, BUSHES OR OTHER PLANTINGS THAT WILL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES.
- ALL ITEMS DESIGNATED TO BE REMOVED, INCLUDING PAVEMENT, SHALL BE DISPOSED OF AT CONTRACTOR-PROVIDED DISPOSAL SITE, APPROVED BY THE ENGINEER, EXCEPT AS NOTED.
- CONTRACTOR SHALL REFERENCE ALL EXISTING SURVEY MONUMENTS PRIOR TO CONSTRUCTION. DISTURBED MONUMENTS SHALL BE RESET OR REPLACED EXCEPT WHERE MONUMENT WOULD BE A HAZARD AS DETERMINED BY THE ENGINEER. EXISTING SURVEY MONUMENTS MAY NOT BE SHOWN ON THE DRAWINGS. ALL WORK SHALL BE DONE BY, OR UNDER THE DIRECTION OF, AN ALASKA REGISTERED LAND SURVEYOR.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES TO PRIVATE AND PUBLIC PROPERTY ASSOCIATED WITH THE CONSTRUCTION ACTIVITIES, INCLUDING BUT NOT LIMITED TO DAMAGES CAUSED BY COMPACTION EFFORTS.
- HORIZONTAL DIMENSIONS ON PLAN AND PROFILE SHEETS TO PIPELINES, MANHOLES, AND OTHER FACILITIES, ARE TO THE CENTERLINES OF THOSE FACILITIES UNLESS SPECIFICALLY NOTED OTHERWISE. PIPELINE LENGTHS ARE MEASURED HORIZONTALLY. (I.E. PLANAR - NOT CORRECTED FOR SLOPE)

# LEGEND

EXISTING	THIS PROJECT	
		OVERHEAD ELECTRICAL
		BURIED FUEL LINE
		ELECTRICAL (UNDERGROUND)
		WATER
		SANITARY SEWER
		SANITARY SEWER (ABANDONED)
		COMMUNICATION (CABLE/TEL)
		STORM DRAIN
		FORCE MAIN
		PROPERTY LINE
		GRADE BREAK
		GEOTEXTILE FABRIC
		GUY WIRE ANCHOR
		SURVEY CONTROL
		NAVIGATION AID
		UTILITY POLE
		BOLLARD
		CURB & GUTTER
		ELECTRICAL TRANSFORMER
		ELECTRICAL HANDHOLE
		FIRE HYDRANT
		LIGHT POLE
		SANITARY SEWER MANHOLE
		STORM DRAIN STRUCTURE
		STORM DRAIN CURB INLET
		SIGN
		JERSEY BARRIER
		TREE/VEGETATION
		SIDEWALK RAMP DIRECTION
		GUARDRAIL
		WATER VALVE
		LAYOUT POINT
		LAYOUT RADIUS
		ARTWORK/ DISPLAYS
		ARMOR ROCK, UNO
		ACP
		BASE COURSE, GRADING C-1

# ABBREVIATIONS

<b>A</b>	AT	<b>H</b>	HUB & TACK	<b>Q</b>	QUANTITY
<b>@</b>	ASBESTOS CEMENT PIPE	<b>HD</b>	HEAVY DUTY	<b>R</b>	RADIUS
<b>AC</b>	ASPHALT CONCRETE PAVEMENT	<b>HDG</b>	HOT-DIPPED GALVANIZED	<b>R/RAD</b>	RADIUS
<b>ACP</b>	AMERICANS WITH DISABILITIES ACT	<b>HDPE</b>	HIGH DENSITY POLYETHYLENE	<b>RE</b>	RIM ELEVATION
<b>ADA</b>	ADJUSTABLE	<b>HORIZ</b>	HORIZONTAL	<b>REF</b>	REFERENCE
<b>ADJ</b>	ASSOCIATED PILE AND FITTING CORP.	<b>HSE</b>	HOUSE	<b>REINF</b>	REINFORCEMENT
<b>APF</b>	APPROXIMATE	<b>HT</b>	HEIGHT	<b>REQD</b>	REQUIRED
<b>APPROX. or APPX.</b>	ALASKA TIDELANDS SURVEY	<b>HWY.</b>	HIGHWAY	<b>RET</b>	RETAINING
<b>ATS</b>	AIR RELEASE VALVE	<b>I</b>	IN ACCORDANCE WITH	<b>RO</b>	ROUGH OPENING
<b>AV</b>	BEGINNING OF CURB CUT	<b>IAW</b>	INSIDE DIAMETER	<b>ROW</b>	RIGHT OF WAY
<b>B</b>	BUTTERFLY VALVE	<b>ID</b>	INVERT ELEVATION	<b>S</b>	SOUTH
<b>BCC</b>	BOREHOLE	<b>IN</b>	INCH	<b>S</b>	SCHED/SCH SCHEDULE
<b>BFV</b>	BUILDING	<b>IP</b>	IRON PIPE	<b>SD</b>	STORM DRAIN
<b>BH</b>	BEGINNING OF PROJECT	<b>INCL</b>	INCLUDE (D) (ING)	<b>SDI</b>	STORM DRAIN INLET STRUCTURE
<b>BLDG</b>	BOTTOM	<b>INSUL</b>	INSULATE (D) (ION)	<b>SDO</b>	STORM DRAIN OUTLET STRUCTURE
<b>BOP/BP</b>	CURB & GUTTER	<b>INV</b>	INVERT	<b>SDR</b>	STANDARD DIMENSION RATIO
<b>BTM, BOT</b>	CATCH BASIN	<b>J</b>	JUNCTION BOX	<b>SF</b>	SQUARE FOOT
<b>C</b>	CAST IRON	<b>LB</b>	POUNDS	<b>SHLDR</b>	SHOULDER
<b>C&amp;G</b>	CAST-IN-PLACE	<b>L</b>	LINEAR FEET	<b>SI</b>	STREET INTERSECTION
<b>CB</b>	CONTROL JOINT	<b>LF</b>	LINEAR FEET	<b>SPEC</b>	SPECIFICATION (S)
<b>CB</b>	CORNER	<b>LL</b>	LIVE LOAD	<b>SQ</b>	SQUARE
<b>CI</b>	CORRUGATED POLYETHYLENE PIPE	<b>LOC</b>	LOCATION	<b>SRB</b>	SHOT ROCK BORROW
<b>CIP</b>	COUNTERSINK	<b>LS</b>	LUMP SUM	<b>SSC</b>	SANITARY SEWER CONNECTION
<b>CJ</b>	CENTER	<b>M</b>	MAXIMUM	<b>SS</b>	STAINLESS STEEL, SANITARY SEWER
<b>CL</b>	CLEAR	<b>MAX</b>	MAXIMUM	<b>SDMH</b>	STORM DRAIN MANHOLE
<b>CLR</b>	CORRUGATED METAL PIPE	<b>M.E.</b>	MATCH EXISTING	<b>SDMH</b>	SANITARY SEWER MANHOLE
<b>CMP</b>	CLEANOUT	<b>MECH</b>	MECHANICAL	<b>STA</b>	STATION
<b>CO</b>	CORPS OF ENGINEERS	<b>MFR</b>	MANUFACTURE (R)	<b>STD</b>	STANDARD
<b>C.O.E.</b>	COMMUNICATION	<b>MH</b>	MANHOLE	<b>STL</b>	STEEL
<b>COMM</b>	CONCRETE	<b>MJ</b>	MECHANICAL JOINT	<b>STRG</b>	STRONG
<b>CONC.</b>	COMPLETE PENETRATION	<b>MI</b>	MALLEABLE IRON	<b>SW</b>	SIDEWALK
<b>CP</b>	CORRUGATED POLYETHYLENE PIPE	<b>MIN</b>	MINIMUM	<b>SWR</b>	SEWER
<b>CPEP/CP</b>	CORNER	<b>MLLW</b>	MEAN LOWER LOW WATER	<b>SY</b>	SQUARE YARD
<b>COR</b>	COUNTERSINK	<b>MSF</b>	1000 SQUARE FEET	<b>SYM</b>	SYMMETRICAL
<b>CSC</b>	CENTER	<b>MSE</b>	MECHANICALLY STABILIZED EARTH	<b>T</b>	THICK
<b>CTR</b>	CUBIC YARD	<b>MTL</b>	MATERIAL (S)	<b>t</b>	TOP AND BOTTOM
<b>CY</b>	DISSIMILAR PIPE COUPLING	<b>N</b>	NORTH	<b>T&amp;B</b>	TONGUE AND GROOVE
<b>D</b>	DIAMETER	<b>NFS</b>	NON FROST SUSCEPTIBLE	<b>TBC</b>	TOP BACK OF CURB
<b>DCP</b>	DOUBLE	<b>NIC</b>	NOT IN CONTRACT	<b>TBD</b>	TO BE DETERMINED
<b>D/DIA</b>	DEMOLITION	<b>NO</b>	NUMBER	<b>TBM</b>	TEMPORARY BENCH MARK
<b>DBL</b>	DEAD LOAD	<b>NTS</b>	NOT TO SCALE	<b>TD</b>	TRENCH DRAIN
<b>DEMO</b>	DUCTILE IRON PIPE	<b>O</b>	OVERBURDEN	<b>TEL</b>	TELEPHONE
<b>DL</b>	DIMENSION	<b>OC</b>	ON CENTER	<b>TEMP</b>	TEMPERATURE, TEMPORARY
<b>DIP</b>	DOWN	<b>OD</b>	OUTSIDE DIAMETER	<b>TH</b>	TEST HOLE
<b>DIM</b>	DETAIL	<b>OG</b>	ORIGINAL GOUND	<b>THK</b>	THICK
<b>DN</b>	EAST	<b>OHE</b>	OVERHEAD ELECTRICAL	<b>TRANS</b>	TRANSVERSE
<b>DTL</b>	EACH	<b>OWS</b>	OIL-WATER SEPARATOR	<b>TV</b>	TELEVISION
<b>E</b>	EACH	<b>OPP</b>	OPPOSITE	<b>TYP</b>	TYPICAL
<b>EA.</b>	EDGE OF CONCRETE	<b>P</b>	PIPE	<b>UBC</b>	UNIFORM BUILDING CODE
<b>EC</b>	END OF CURB CUT	<b>P</b>	POINT OF CURVATURE, PIECE	<b>UE</b>	UNDERGROUND ELECTRIC
<b>ECC</b>	EXISTING GRADE	<b>PC</b>	PRECAST CONCRATE	<b>UMC</b>	UNIFORM MECHANICAL CODE
<b>EG</b>	EXPANSION JOINT	<b>PCC</b>	POINT OF COMPOUND CURVATURE	<b>UHMW</b>	ULTRA HIGH MOLECULAR WEIGHT
<b>EJ</b>	ELEVATION	<b>PE</b>	POLYETHYLENE	<b>UON/UNO</b>	UNLESS OTHERWISE NOTED
<b>EL/ELEV</b>	ELECTRICAL	<b>PER</b>	PERIMETER	<b>UPC</b>	UNIFORM PLUMBING CODE
<b>ELEL</b>	END OF PAVEMENT	<b>PED</b>	PEDESTAL	<b>USACE</b>	US ARMY CORPS OF ENGINEERS
<b>EP</b>	END PROJECT	<b>PERF</b>	PERFORATE (D)	<b>V</b>	VALVE BOX
<b>EQ</b>	EQUAL	<b>PI</b>	POINT OF INTERSECTION	<b>VERT</b>	VERTICAL
<b>EQUIP</b>	EQUIPMENT	<b>PLWD</b>	PLYWOOD	<b>VG</b>	VALLEY GUTTER
<b>EST</b>	ESTIMATE	<b>PL</b>	PROPERTY LINE, PLATE	<b>W</b>	WEST
<b>EW</b>	EACH WAY	<b>PL</b>	POINT OF CURVE	<b>W</b>	WITH
<b>EXC</b>	EXCAVATE	<b>PP</b>	POLYPROPYLENE	<b>WD</b>	WOOD
<b>EXIST</b>	EXISTING	<b>PRC</b>	POINT OF REVERSE CURVATURE	<b>WELDMT</b>	WELDMENT
<b>F</b>	FACE OF CURB	<b>PRJ</b>	PROJECT	<b>WL</b>	WATERLINE
<b>FC</b>	FLOOR DRAIN	<b>PRKG</b>	PARKING	<b>WQU</b>	WATER QUALITY UNIT
<b>FD</b>	FINISHED FLOOR	<b>PRV</b>	PRESSURE REDUCING VALVE	<b>WV</b>	WATER VALVE
<b>FF</b>	FINISHED GRADE	<b>PSI</b>	POUND PER SQUARE INCH	<b>WW</b>	WATER WATER
<b>FG</b>	FIRE HYDRANT, FLAT HEAD	<b>PT</b>	POINT, PRESSURE TREATED,	<b>WWTP</b>	WASTE WATER TREATMENT PLANT
<b>FH</b>	FINISH (ED)	<b>PVC</b>	POINT OF TANGENCY	<b>W/O</b>	WITHOUT
<b>FM</b>	FORCE MAIN SEWER	<b>PVI</b>	POINT OF VERTICAL CURVATURE,	<b>X</b>	TRANSFORMER
<b>FND</b>	FOUNDATION		POLY-VINYL CHLORIDE	<b>&lt;PT</b>	ANGLE POINT
<b>FOC</b>	FACE OF CURB				
<b>FT</b>	FOOT				
<b>FTG</b>	FOOTING				
<b>FL</b>	FLOWLINE OR FLANGE				
<b>G</b>	GALLON				
<b>GAL</b>	GALVANIZED				
<b>GALV</b>	GRADE BREAK				
<b>GB</b>	GALLONS PER MINUTE				
<b>GPM</b>	GROUND				
<b>GRD</b>	GATE VALVE				
<b>GV</b>					

35% DESIGN REVIEW SUBMITTAL



REVISIONS					
REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.



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DESIGN: BMI CHECKED: CRS  
DRAWN: BMI APPROVED: \_\_\_\_\_

SCALE: NTS

DATE: MAR. 23, 2018

HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS

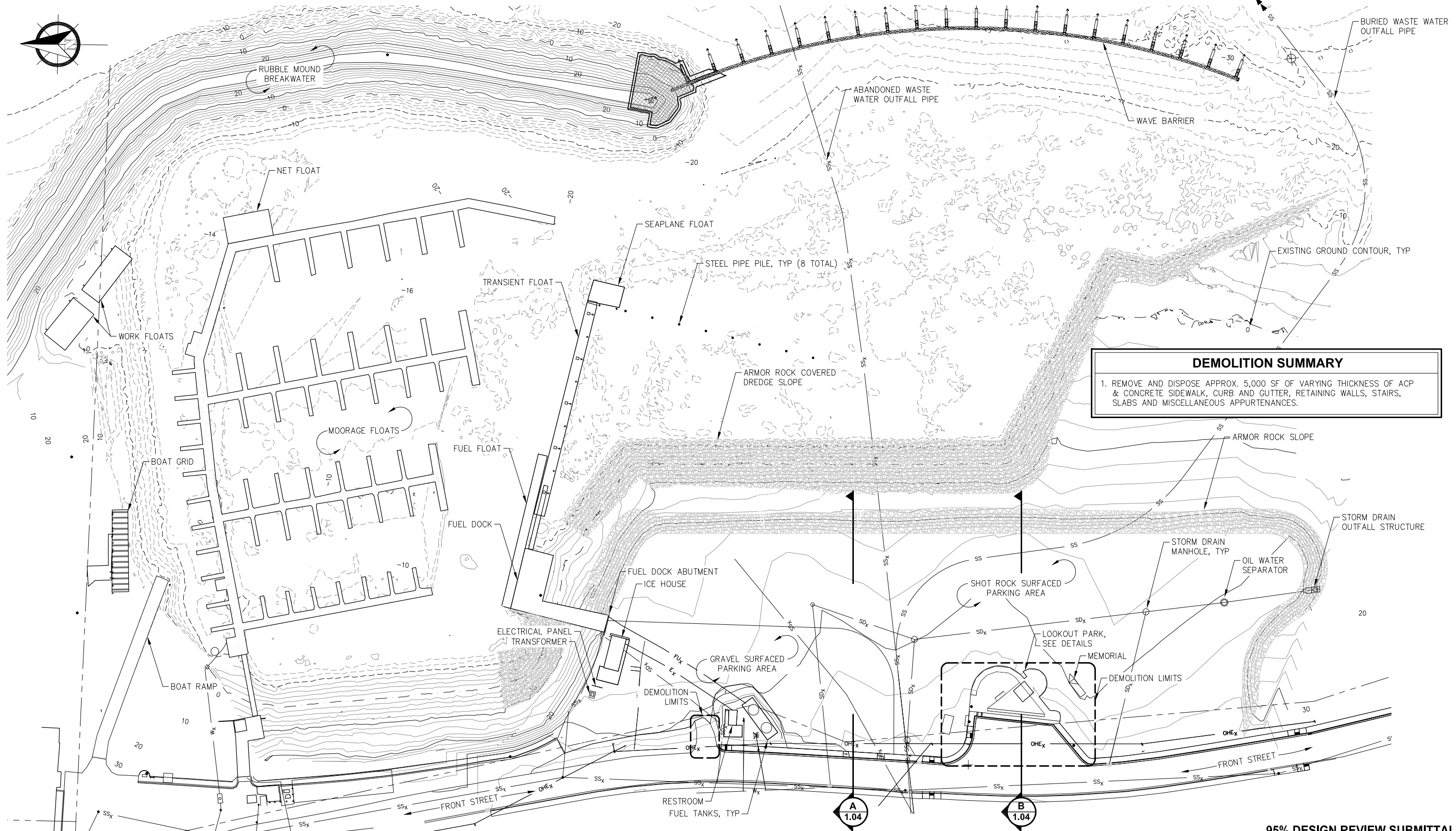
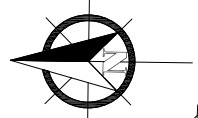
SHEET TITLE:  
**GENERAL NOTES, LEGEND AND  
ABBREVIATIONS**

PND PROJECT NO.: 172032

1.02

SHEET  
2 OF 24





**DEMOLITION SUMMARY**

1. REMOVE AND DISPOSE APPROX. 5,000 SF OF VARYING THICKNESS OF ACP & CONCRETE SIDEWALK, CURB AND GUTTER, RETAINING WALLS, STAIRS, SLABS AND MISCELLANEOUS APPURTENANCES.

95% DESIGN REVIEW SUBMITTAL



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DESIGN: BMI    CHECKED: CRS  
DRAWN: BMI    APPROVED: \_\_\_\_\_

SCALE: SCALE IN FEET  
0    50    100 FT.

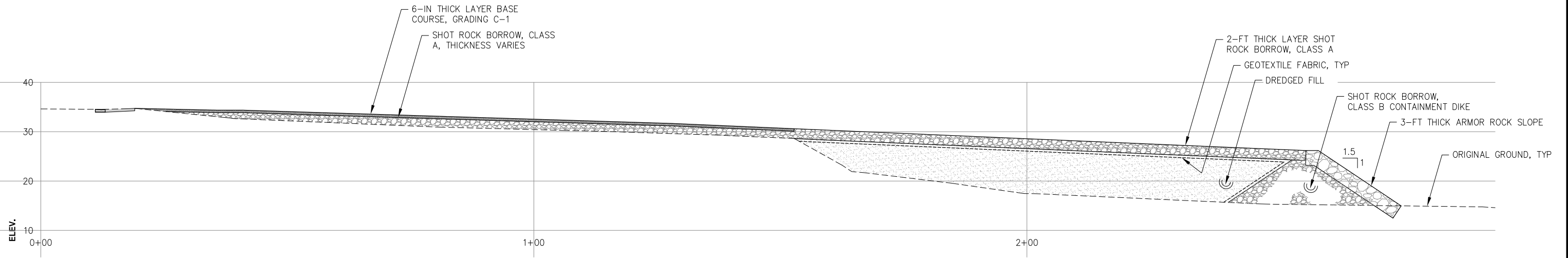
DATE: JAN. 18, 2019

**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

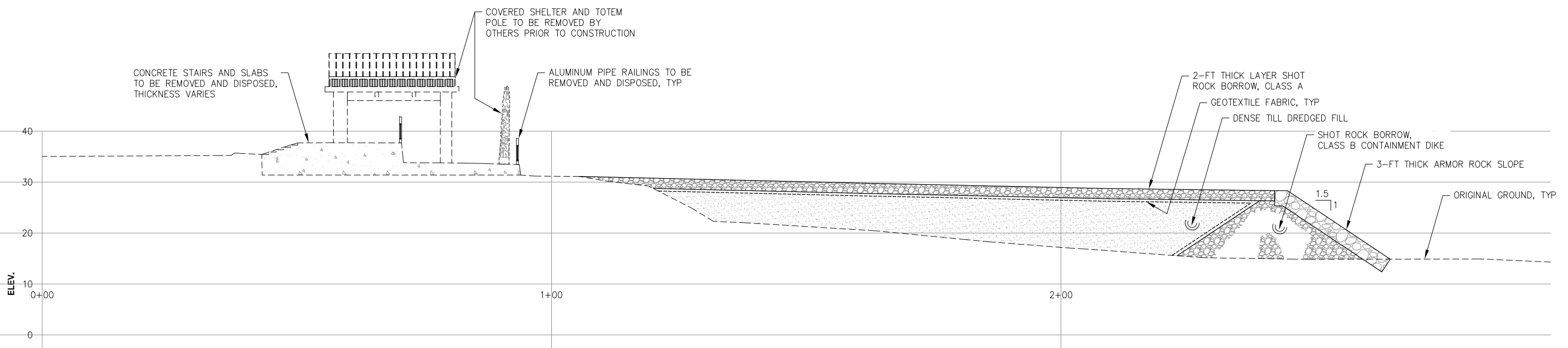
SHEET TITLE:  
**EXISTING CONDITIONS, DEMOLITION  
PLAN AND SURVEY CONTROL**

1.03  
SHEET  
3 OF 34

PND PROJECT NO.: 172032



**A**  
1.03  
**TYPICAL SECTION - EXISTING**



**B**  
1.03  
**TYPICAL SECTION - EXISTING**

95% DESIGN REVIEW SUBMITTAL



REVISIONS					
REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

**P | N | D**  
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0 10 20 FT.

DATE: JAN. 18, 2019

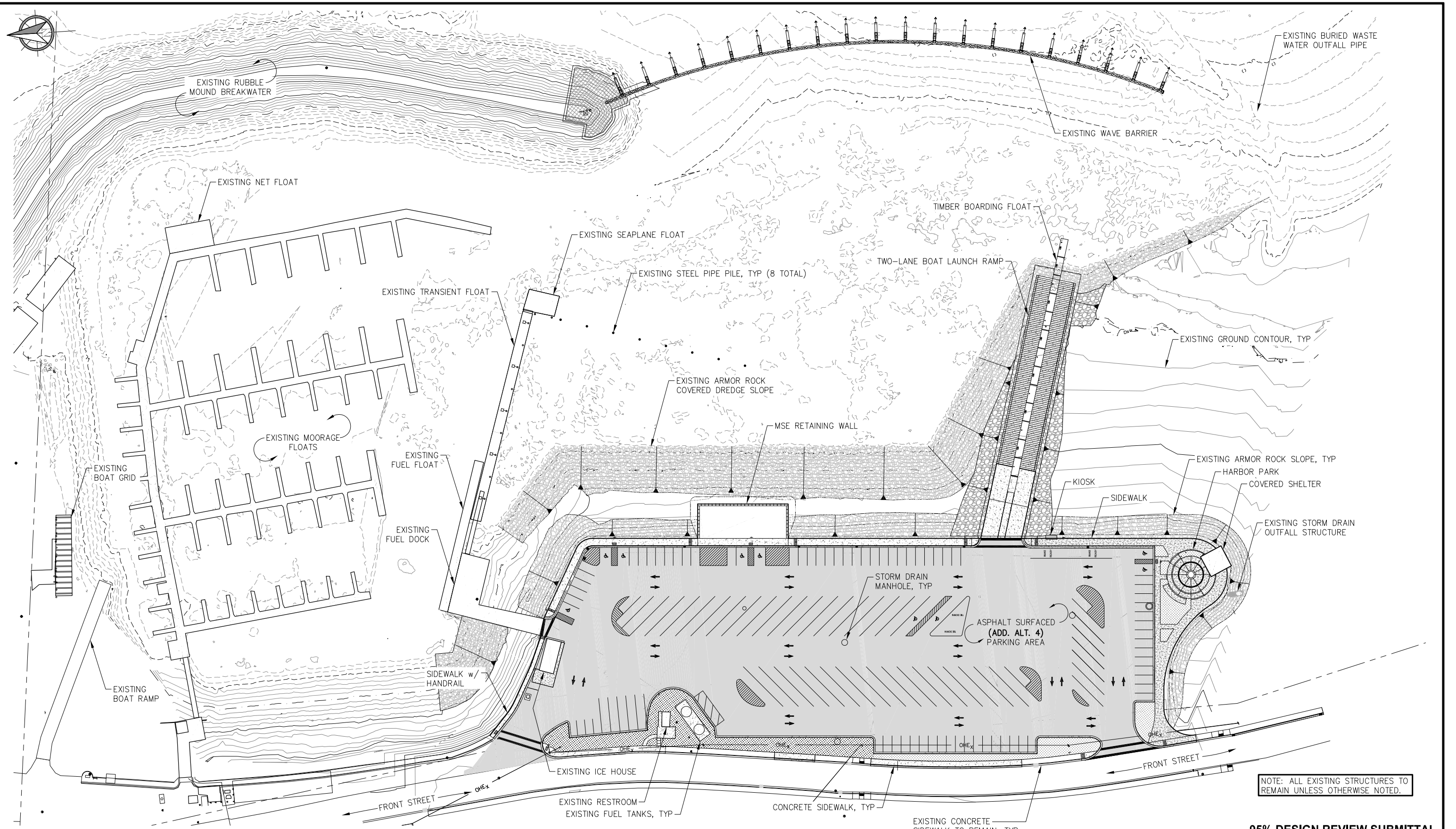
**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**EXISTING TYPICAL SECTIONS**

PND PROJECT NO.: 172032

**1.04**  
SHEET  
4 OF 34





NOTE: ALL EXISTING STRUCTURES TO REMAIN UNLESS OTHERWISE NOTED.

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DESIGN: BMI CHECKED: CRS  
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SCALE: SCALE IN FEET  
 0 50 100 FT.

DATE: JAN. 18, 2019

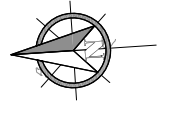
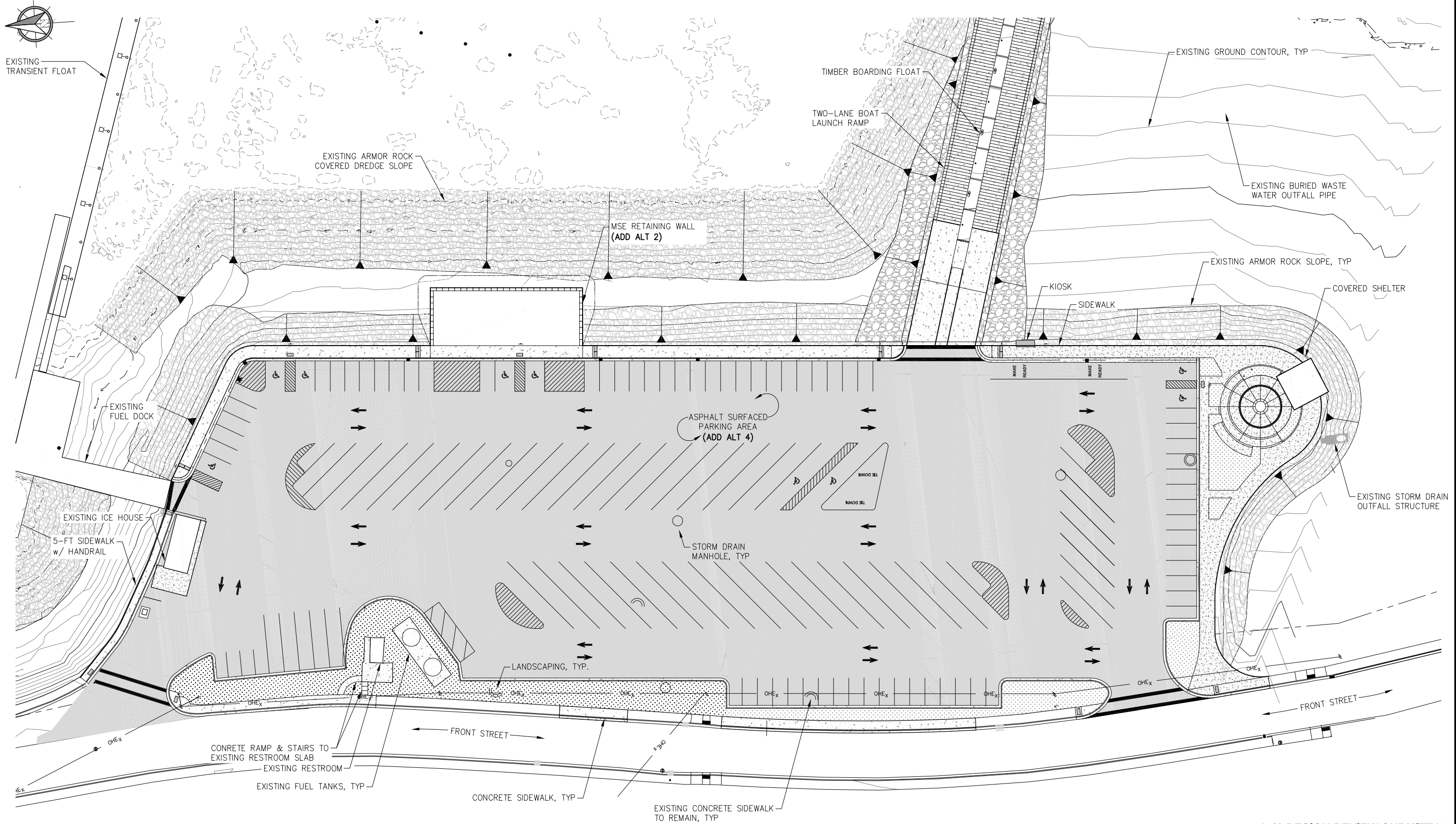
**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**OVERALL SITE PLAN**

PND PROJECT NO.: 172032

**1.05**  
 SHEET 5 OF 34





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DRAWN: BMI    APPROVED: \_\_\_\_\_

SCALE: SCALE IN FEET  
0    30    60 FT.

DATE: JAN. 18, 2019

**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

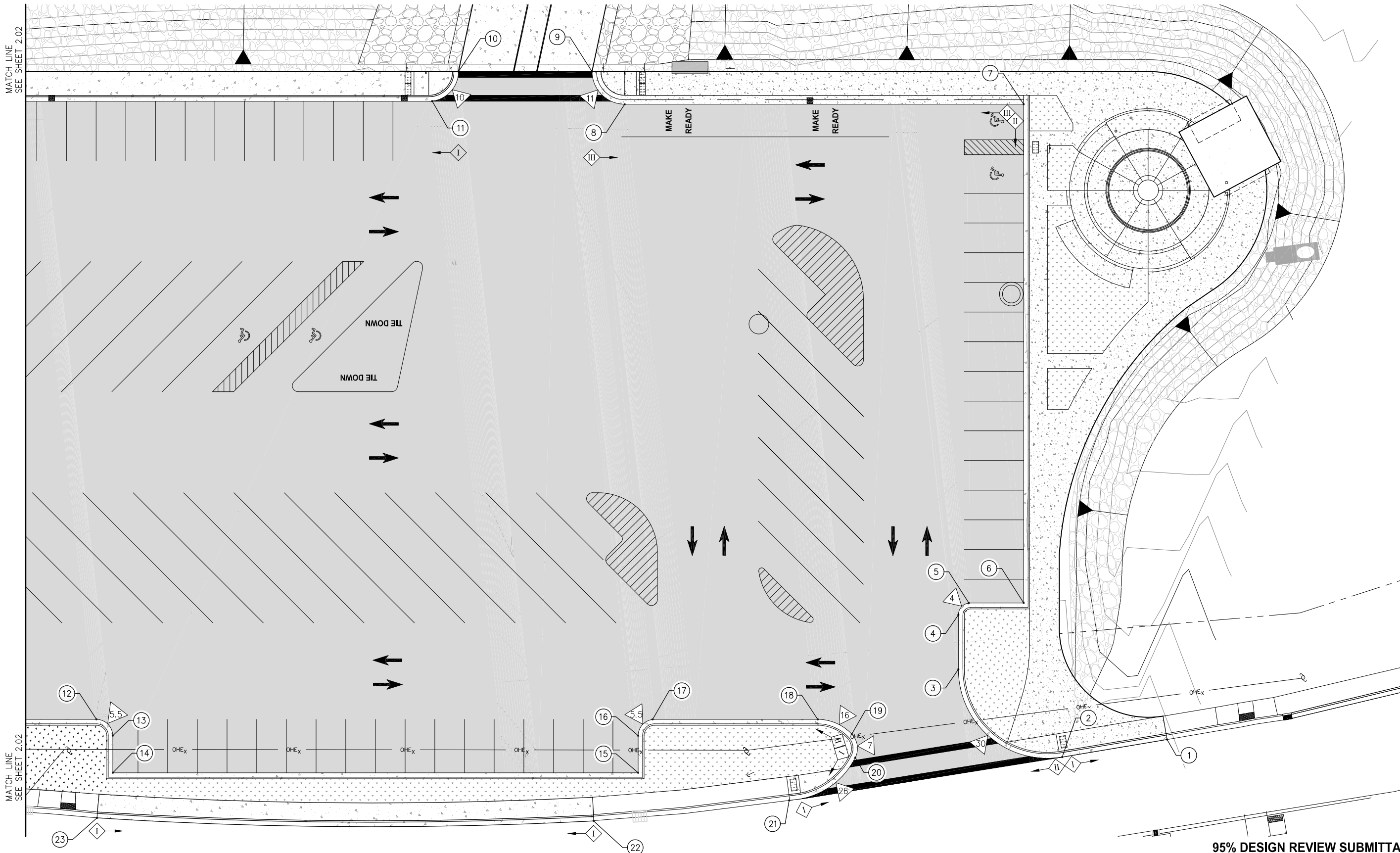
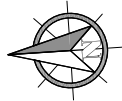
SHEET TITLE:  
**UPLANDS SITE PLAN**

PND PROJECT NO.: 172032

**2.01**  
SHEET  
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DRAWN: BMI    APPROVED: \_\_\_\_\_

SCALE: SCALE IN FEET  
0    15    30 FT.

DATE: JAN. 18, 2019

**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**UPLANDS GRADING PLAN**

PND PROJECT NO.: 172032

**2.03**  
SHEET  
8 OF 34



LAYOUT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	-	-	MA/35.10	EP
2	-	-	MA/35.30	EP/PC
3	-	-	34.32	EP/PC
4	-	-	33.96	EP/PC
5	-	-	34.04	EP/PC
6	-	-	34.10	EP
7	-	-	28.35	EP/PC
8	-	-	28.53	EP/PC
9	-	-	28.20	EP/PC
10	-	-	28.20	EP/PC
11	-	-	28.53	EP/PC
12	-	-	33.86	EP/PC
13	-	-	34.01	EP
14	-	-	34.40	EP
15	-	-	35.00	EP/PC
16	-	-	34.61	EP/PC
17	-	-	34.46	EP/PC
18	-	-	34.67	EP/PC
19	-	-	34.88	EP/PC
20	-	-	35.09	EP/PC
21	-	-	MA/35.30	EP/PC
22	-	-	MA/35.09	EP/PC
23	-	-	MA/34.43	EP
24	-	-	34.95	EP
25	-	-	34.90	EP
26	-	-	33.00	EP
27	-	-	32.80	EP
28	-	-	31.89	EP
29	-	-	31.61	EP
30	-	-	31.02	EP
31	-	-	32.00	EP
32	-	-	31.00	EP
33	-	-	30.24	EP
34	-	-	30.20	EP
35	-	-	31.40	EP
36	-	-	35.60	EP
37	-	-	MA/35.80	EP
38	-	-	MA/35.79	EP
39	-	-	MA/35.78	EP
40	-	-	MA/31.83	EP
41	-	-	30.80	EP
42	-	-	30.12	EP
43	-	-	28.75	EP
44	-	-	28.48	EP
45	-	-	27.28	EP
46	-	-	27.28	EP
47	-	-	27.15	EP
48	-	-	26.32	EP
49	-	-	26.30	EP
50	-	-	26.30	EP

LAYOUT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
51	-	-	26.32	EP/PC
52	-	-	28.00	TBC
53	-	-	27.50	TBC
54	-	-	27.50	TBC
55	-	-	28.00	TBC
56	-	-	MA/33.65	EC
57	-	-	35.80	EC
58	-	-	35.80	EC
59	-	-	MA/33.65	EC
60	-	-	-	EC
61	-	-	-	EC
62	-	-	-	EC
63	-	-	-	EC
64	-	-	-	EC
65	-	-	-	EC
66	-	-	-	EC
67	-	-	-	EC
68	-	-	-	EC
69	-	-	-	EC
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72	-	-	-	EC
73	-	-	-	EC
74	-	-	-	EC
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84	-	-	-	EC
85	-	-	-	TOP WALL
86	-	-	-	EC
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89	-	-	-	EC
90	-	-	-	TOP WALL
91	-	-	-	TOP WALL
92	-	-	-	EC
93	-	-	-	TOP WALL
94	-	-	-	EC
95	-	-	-	TOP WALL
96	-	-	-	EC
97	-	-	-	EC
98	-	-	-	EC
99	-	-	-	CENTER/LAYOUT POINT

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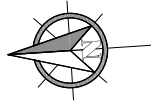


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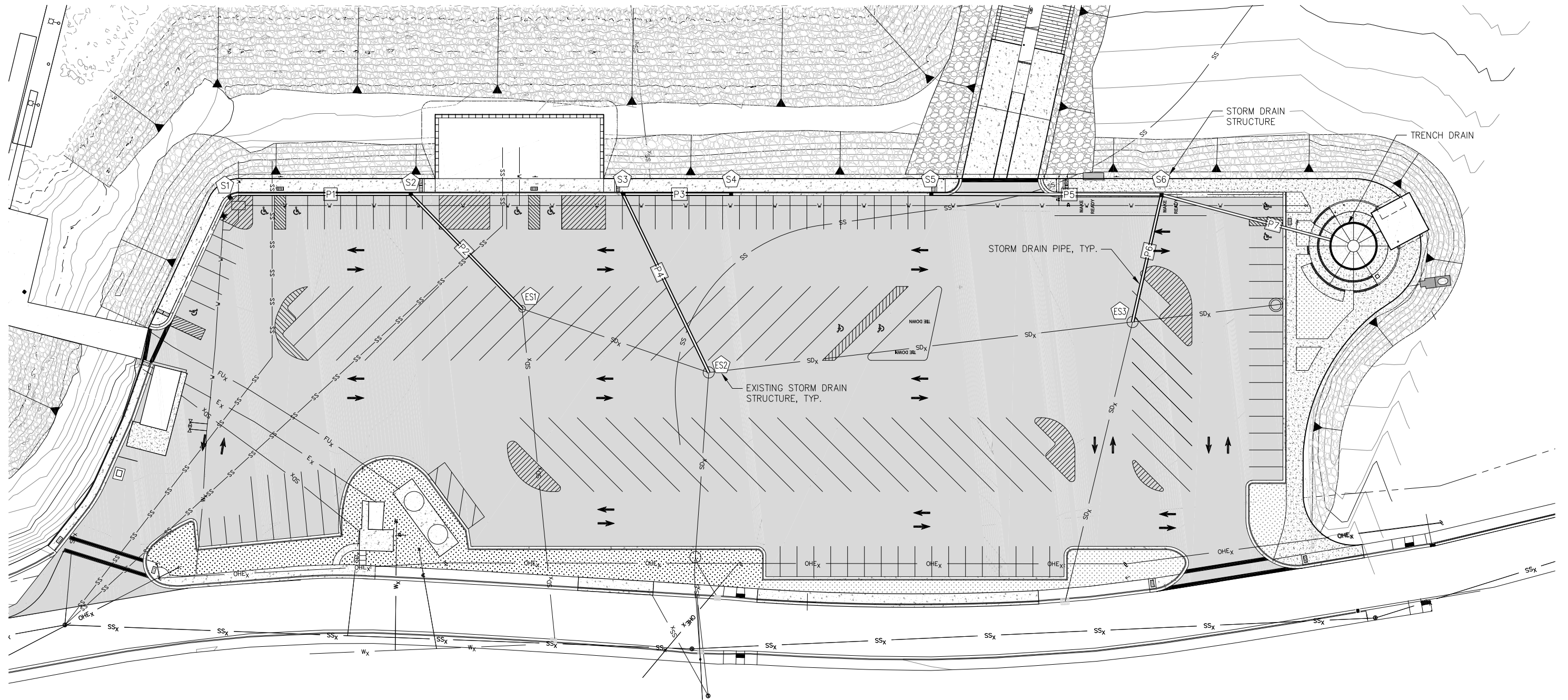
<b>HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS</b>		<b>2.04</b> <small>SHEET OF 34</small>
SHEET TITLE: <b>LAYOUT TABLES</b>		
PND PROJECT NO.: 172032		



STORM DRAIN STRUCTURES				
STRUCTURE DESIGNATION	NORTHING	EASTING	RIM ELEVATION	TYPE
S1	2706979.96	2353590.83	26.30	TYPE IV CB, SCI
S2	2706873.19	2353580.77	27.50	TYPE IV CB, SCI
S3	2706747.62	2353566.41	27.50	TYPE IV CB, SCI
S4	2706684.27	2353559.17	28.40	TYPE IV CB, SCI
S5	2706566.23	2353545.67	28.20	TYPE IV CB, SCI
S6	2706430.67	2353529.35	27.65	TYPE IV CB, RCI
S7	-	-	28.00	TRENCH DRAIN, SEE DTL

STORM DRAIN PIPING						
PIPE DESIGNATION	NOMINAL Ø	LENGTH	FROM	IE	TO	IE
P1	18" CPEP	90	S1	24.80	S2	23.90
P2	18" CPEP	105	S2	23.80	ES1	22.75
P3	18" CPEP	90	S4	26.90	S3	26.00
P4	18" CPEP	115	S3	25.90	ES2	24.75
P5	18" CPEP	120	S5	26.70	S6	25.50
P6	18" CPEP	70	S6	25.40	ES3	24.70
P7	6" CPEP	110	TD	26.60	S6	25.50

- CB = CATCH BASIN
- MH = MANHOLE
- SCI = STANDARD CURB INLET IAW CBJ STD 308
- RCI = ROLL CURB INLET, EAST JORDAN IRON WORKS 7711 OR APPROVED EQUAL
- \* = INVERT ELEVATION



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DATE: JAN. 18, 2019

HAINES BOROUGH  
 PORTAGE COVE HARBOR  
 BOAT LAUNCH IMPROVEMENTS

SHEET TITLE:

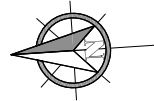
STORM DRAIN PLAN

PND PROJECT NO.: 172032

2.05

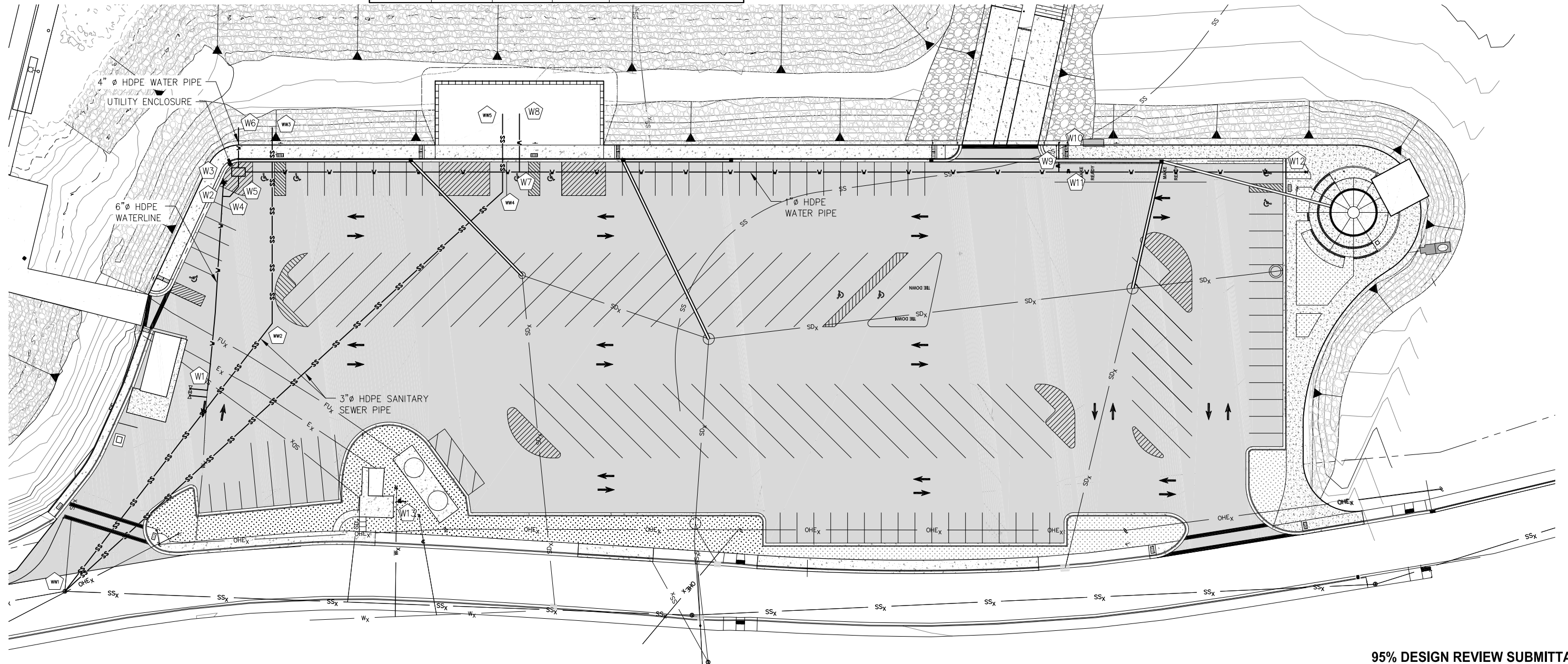
SHEET  
 10 OF 34





WATER SYSTEM STRUCTURES				
STRUCTURE DESIGNATION	NORTHING	EASTING	FG ELEVATION	TYPE
W1	-	-	-	CONNECT TO EXISTING
W2	-	-	-	TEE AND GATE VALVE
W3	-	-	-	HYDRANT
W4	-	-	-	45° ELBOW
W5	-	-	-	45° ELBOW
W6	-	-	-	CAP
W7	-	-	-	TEE w/3" TO 1" REDUCER AND GATE VALVE
W8	-	-	-	CAP
W9	-	-	-	TEE AND GATE VALVE
W10	-	-	-	YARD HYDRANT
W11	-	-	-	GATE VALVE
W12	-	-	-	YARD HYDRANT
W13	-	-	-	GATE VALVE AND YARD HYDRANT

WASTEWATER SYSTEM STRUCTURES				
STRUCTURE DESIGNATION	NORTHING	EASTING	IE	TYPE
WW1	-	-	-	CONNECT TO EXISTING
WW2	-	-	-	ELBOW
WW3	-	-	-	CAP
WW4	-	-	-	ELBOW
WW5	-	-	-	CAP



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SCALE: SCALE IN FEET  
0 30 60 FT.

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HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS

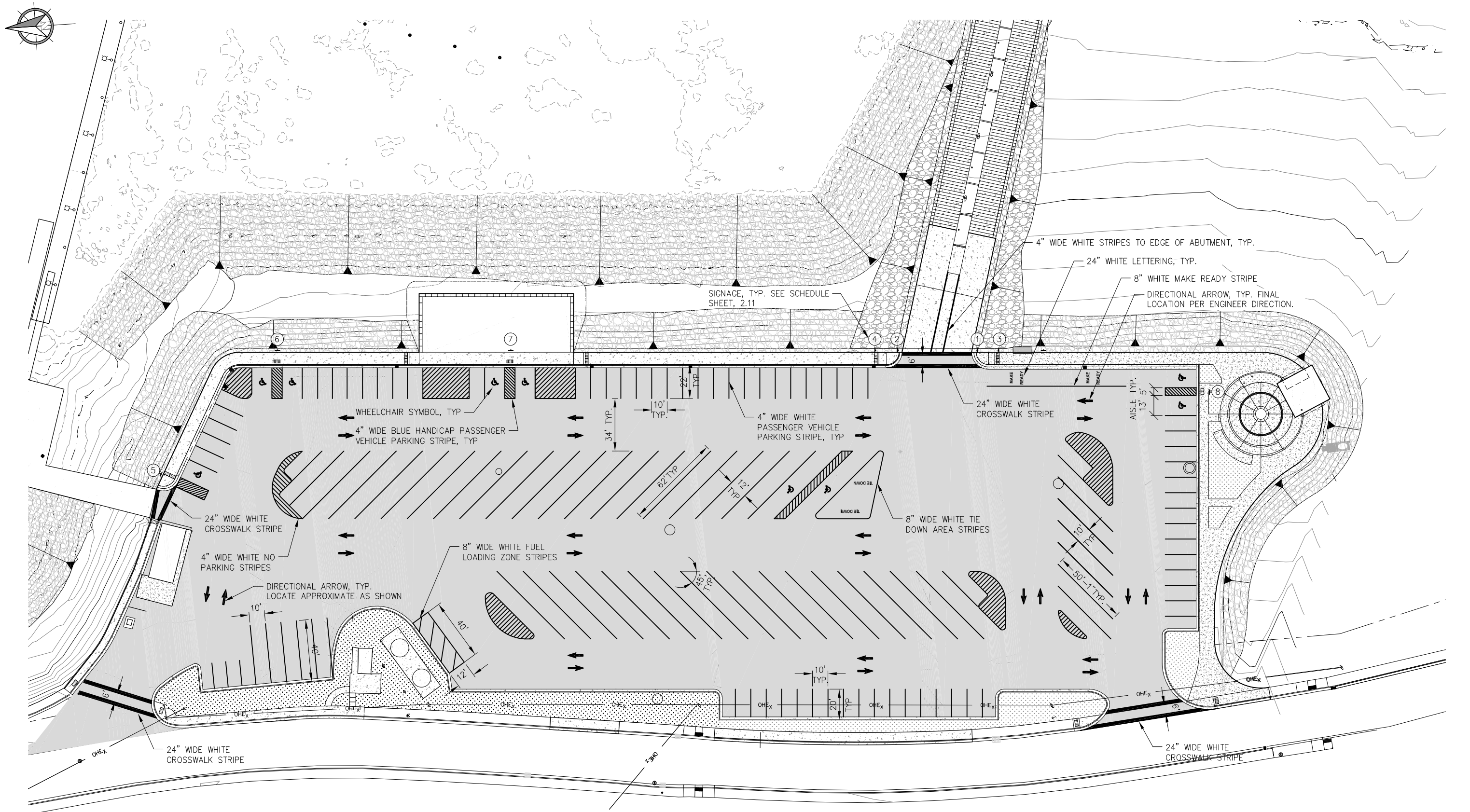
SHEET TITLE:  
WATER AND WASTEWATER PLAN

2.06

PND PROJECT NO.: 172032

SHEET  
11 OF 34





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DATE: JAN. 18, 2019

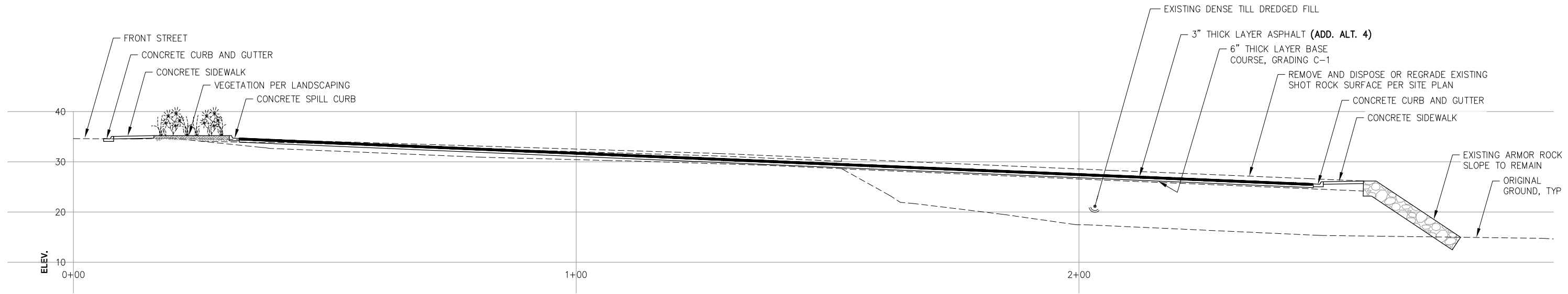
**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**SIGNAGE AND STRIPING PLAN**

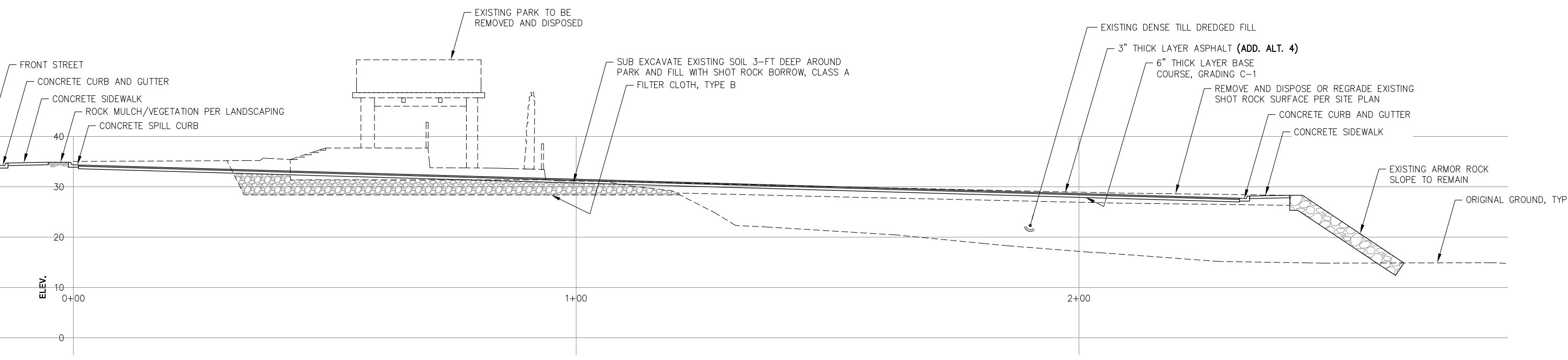
PND PROJECT NO.: 172032

**2.07**  
SHEET  
12 OF 34





**A**  
2.01  
**TYPICAL SECTION**



**B**  
2.01  
**TYPICAL SECTION**

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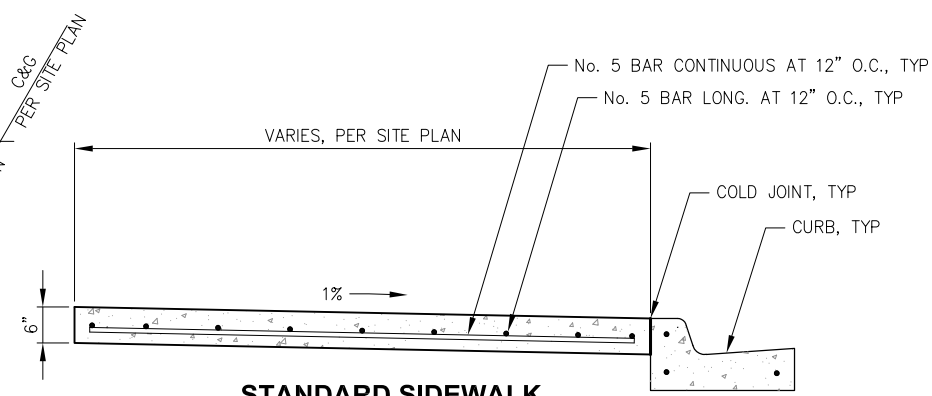
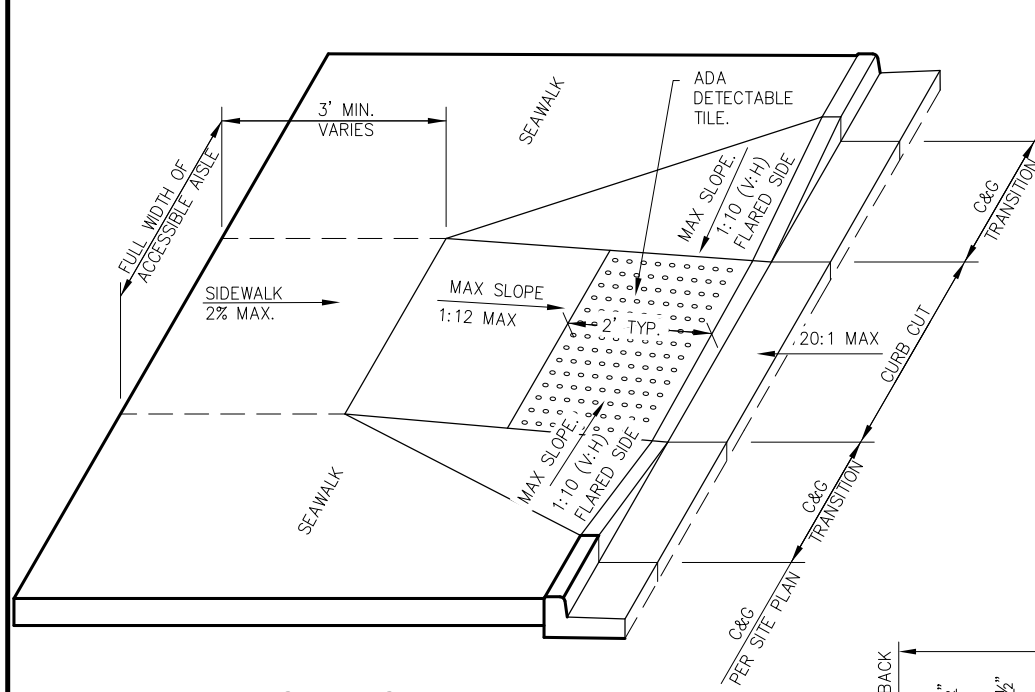
DATE: JAN. 18, 2019

**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**TYPICAL SECTIONS**

PND PROJECT NO.: 172032

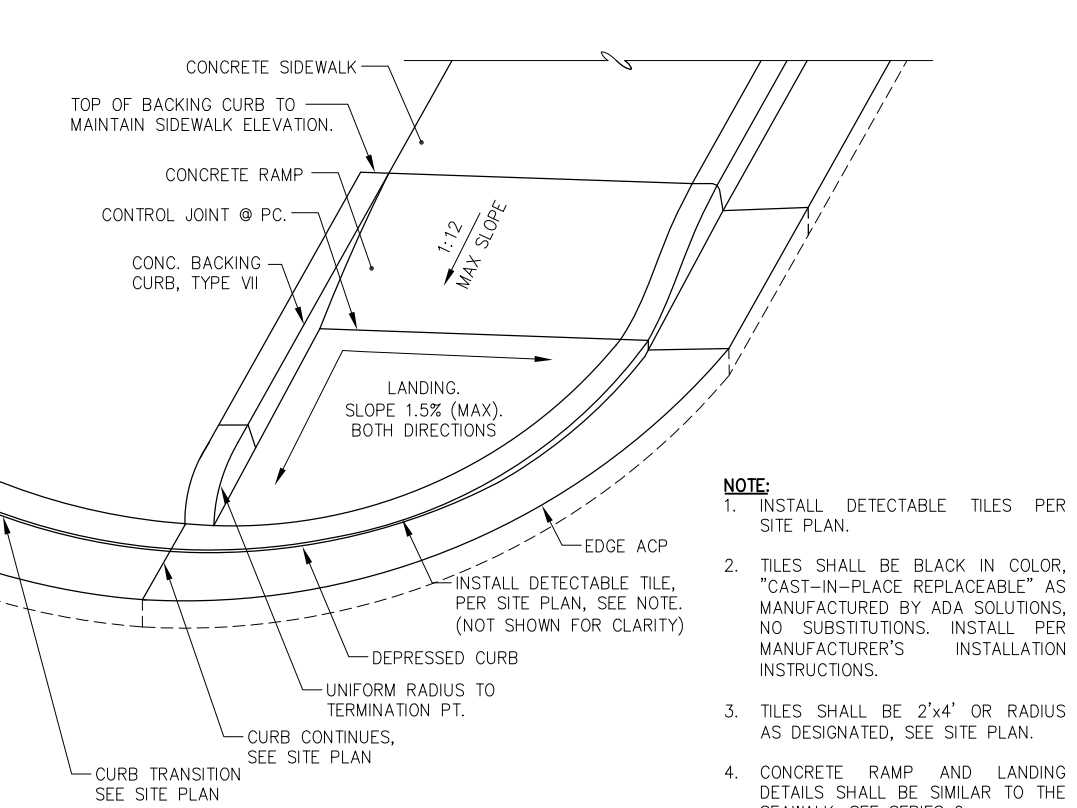
**2.08**  
SHEET  
13 OF 34



**STANDARD SIDEWALK**

NOTES:

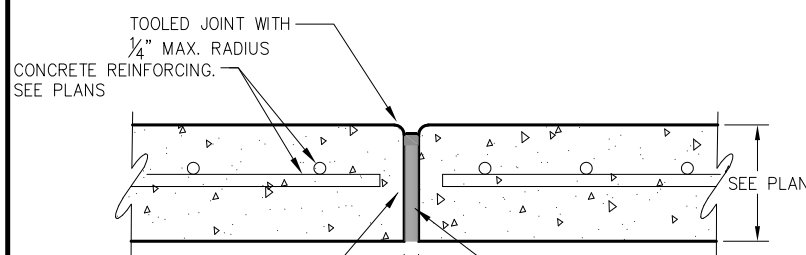
1. ALL STEEL MUST HAVE A MINIMUM OF 2" OF CONCRETE COVER. FIBER REINFORCING SHALL BE ALLOWED PER ENGINEER OF PLANS.
2. ALL JOINTS AND SEAMS SHALL BE EDGED.
3. EXPANSION JOINTS SHALL BE MAX 1/2", MIN 1/4", WITH NO GAPS FOR WATER INTRUSION.
4. STEEL TROWELING FINISH REQUIRED PRIOR TO BROOM FINISHING ON ALL SURFACES.
5. CONCRETE INTERNATIONAL CORPORATION ASHFORD FORMULA OR APPROVED EQUAL SHALL BE APPLIED AS A CURING COMPOUND. APPLICATION SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATIONS.



**NOTE:**

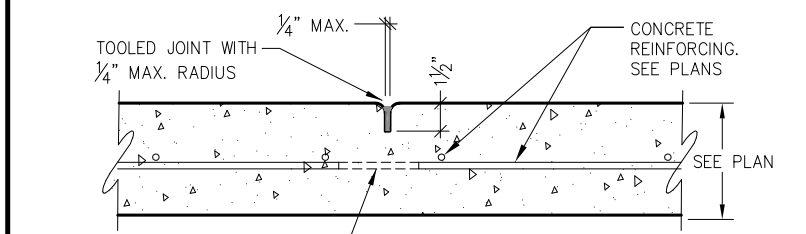
1. INSTALL DETECTABLE TILES PER SITE PLAN.
2. TILES SHALL BE BLACK IN COLOR, "CAST-IN-PLACE REPLACEABLE" AS MANUFACTURED BY ADA SOLUTIONS, NO SUBSTITUTIONS. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
3. TILES SHALL BE 2'x4' OR RADIUS AS DESIGNATED, SEE SITE PLAN.
4. CONCRETE RAMP AND LANDING DETAILS SHALL BE SIMILAR TO THE SEAWALK, SEE SERIES 6.

**PERPENDICULAR CURB RAMP**



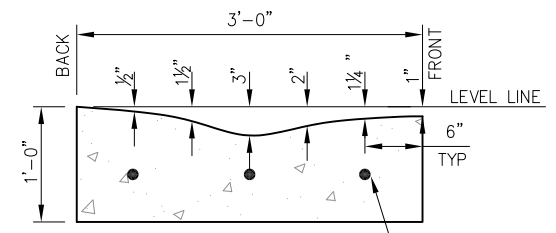
**EXPANSION JOINT**

NOTE: EXPANSION JOINTS IN CURB & GUTTER PLACED MAX. EVERY 30'-0" O.C.



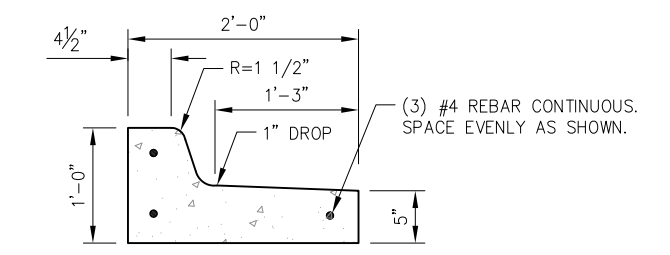
**CONTROL JOINT**

NOTE: CONTROL JOINTS IN CURB & GUTTER PLACED MAX. EVERY 10'-0" O.C. CONTROL JOINTS IN SIDEWALK EQUAL TO WIDTH.



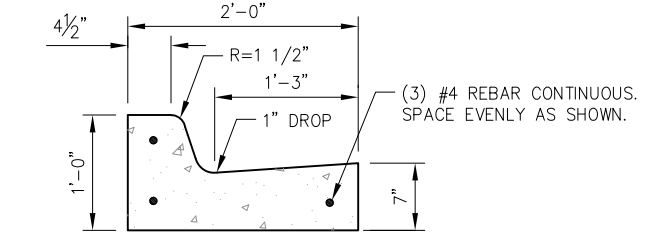
**ROLLED CURB**

NOTE: BED w/ MIN 6" BASE COURSE, D-1 GRADING. (3) #4 REBAR CONTINUOUS, SPACE EVENLY AS SHOWN



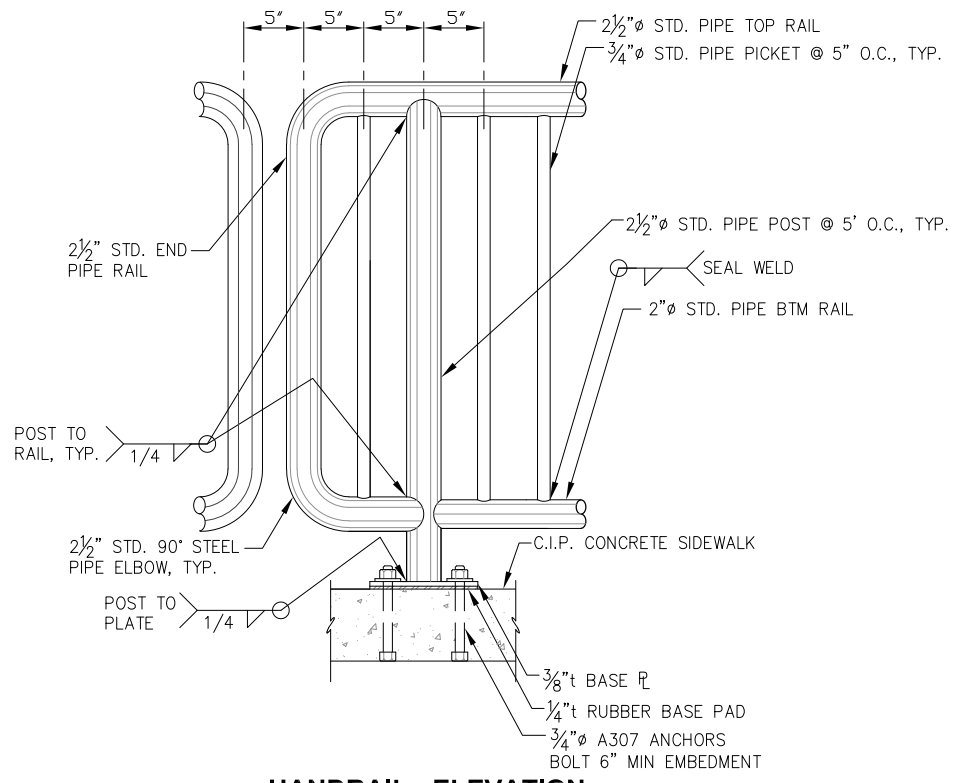
**SPILL CURB**

NOTE: BED w/ MIN 6" BASE COURSE, D-1 GRADING. (3) #4 REBAR CONTINUOUS, SPACE EVENLY AS SHOWN.

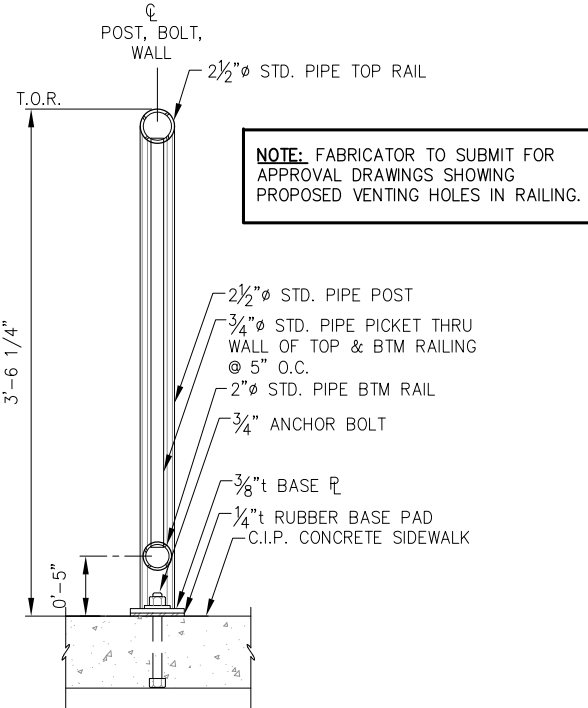


**STANDARD CURB**

NOTE: BED w/ MIN 6" BASE COURSE, D-1 GRADING.



**HANDRAIL - ELEVATION**



**HANDRAIL - SECTION**

**NOTE:** FABRICATOR TO SUBMIT FOR APPROVAL DRAWINGS SHOWING PROPOSED VENTING HOLES IN RAILING.

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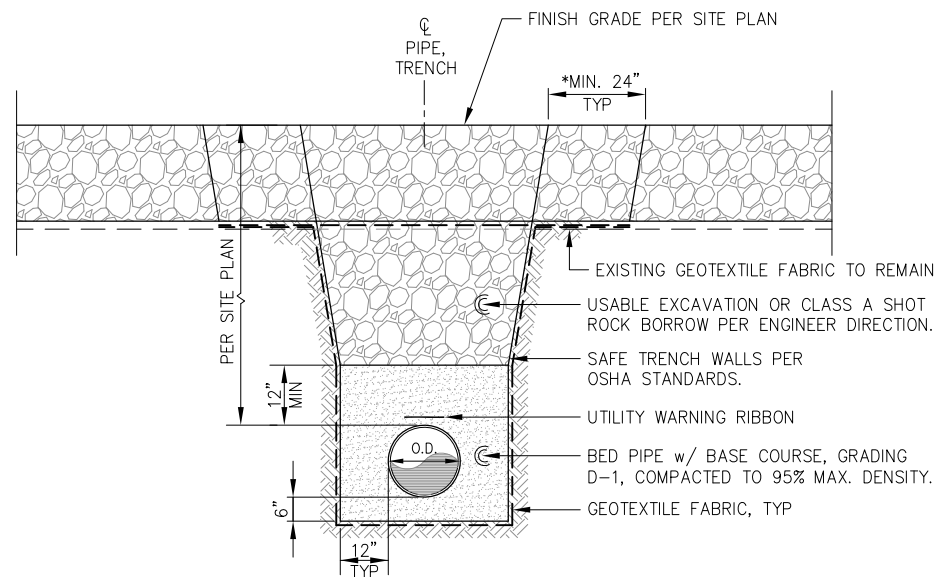
**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE: **CURB AND SIDEWALK DETAILS**

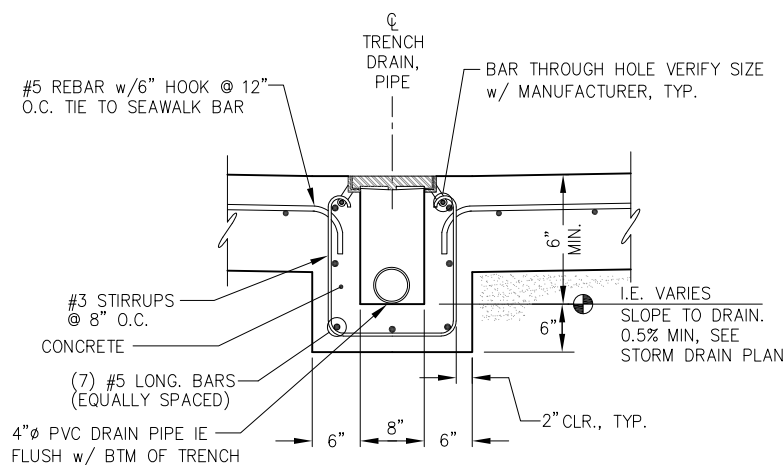
PND PROJECT NO.: 172032

**2.09**  
SHEET 14 OF 34

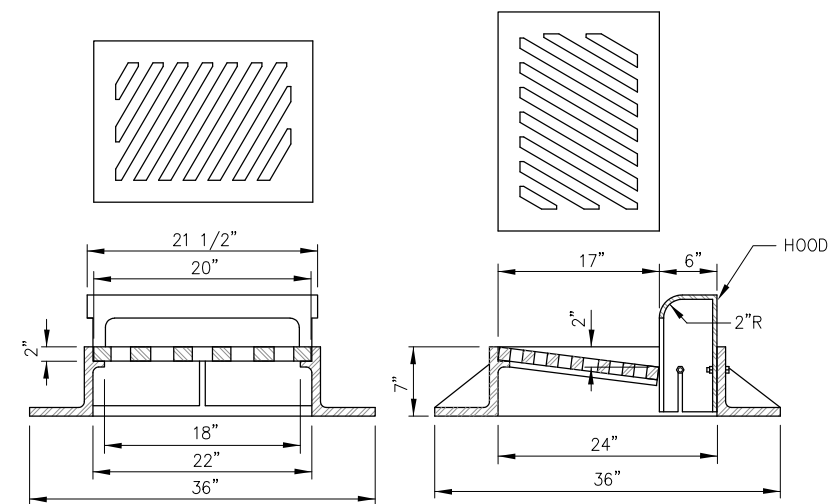




**PIPE TRENCH - TYPICAL SECTION**

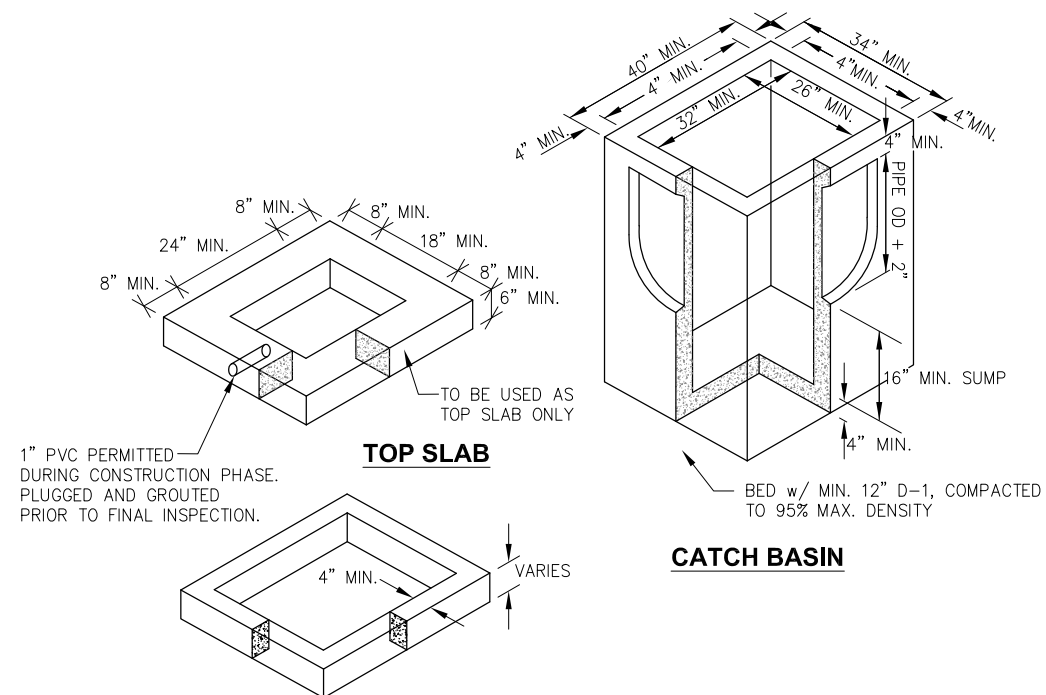


**TRENCH DRAIN DETAIL**



NOTE:

**FRAME AND GRATE**



NOTES

1. ALL JOINTS BETWEEN SECTIONS AND BETWEEN FRAME AND CONCRETE SECTIONS SHALL BE GROUTED INSIDE AND OUTSIDE.
2. ENTIRE KNOCKOUT IS TO BE REMOVED AND SEALED SHUT AROUND PIPE. ALL PIPES ARE TO EXTEND MIN. 1" AND MAX. 2" INTO CATCH BASIN.
3. FRAME AND GRATE SHALL BE DUCTILE IRON. FRAME MAY BE CAST INTO THE TOP UNIT OF PLACED OVER THE OPENING AS APPROVED BY THE ENGINEER. FRAME AND GRATE MUST BE OF A TYPE THAT WILL NOT CREATE A HAZARD FOR BICYCLE TRAFFIC.
4. CATCH BASIN SHALL MEET HIGHWAY STANDARD-20 LOAD REQUIREMENTS.
5. MINIMUM STEEL REQUIRED AS PER ASTM C-478-69.
6. MINIMUM SUMP DEPTH SHALL BE 16".
7. ADJUSTING RING SHALL BE THE SAME SIZE AS THE CATCH BASIN.
8. NO BRICKS, WOOD, OR OTHER MATERIALS PERMITTED FOR ADJUSTING GRADE, SOLID RISER OR FORMED TYPE II ONLY.
9. FRAME AND GRATE SHALL MATCH CURB TYPE. SEE PLAN FOR CURB TYPES AND STRUCTURE LOCATIONS.

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**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE: **CONCRETE AND  
STORM DRAIN DETAILS**

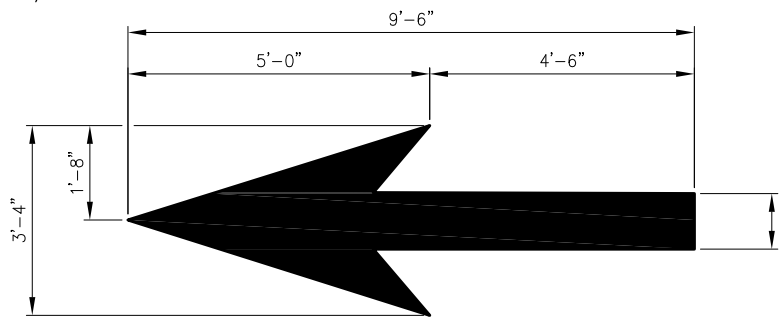
PND PROJECT NO.: 172032

**2.10**  
SHEET  
15 OF 34

SIGNAGE SCHEDULE						
SIGN NO.	MUTCD CODE NO.	DESCRIPTION	SIGN SIZE (INCH)	POST SIZE (INCH)	NORTHING	EASTING
①	-	STOP SIGN	18 x 18	2 1/4" SQUARE PERFORATED TUBE	2706498.60	2353548.31
②	-	STOP SIGN	18 x 18	2 1/4" SQUARE PERFORATED TUBE	2706549.56	2353554.14
③	-	CAUTION	18 x 24	2 1/4" SQUARE PERFORATED TUBE	2706484.99	2353546.75
④	-	CAUTION	18 x 24	2 1/4" SQUARE PERFORATED TUBE	2706564.17	2353555.81
⑤	R7-8 R7-8p	RESERVED PARKING VAN ACCESSIBLE	12 x 18 18 x 9	2 1/4" SQUARE PERFORATED TUBE	2707032.91	2353528.72
⑥	R7-8 R7-8p	RESERVED PARKING VAN ACCESSIBLE	12 x 18 18 x 9	2 1/4" SQUARE PERFORATED TUBE	2706948.72	2353599.78
⑦	R7-8 R7-8p	RESERVED PARKING VAN ACCESSIBLE	12 x 18 18 x 9	2 1/4" SQUARE PERFORATED TUBE	2706798.65	2353582.62
⑧	R7-8 R7-8p	RESERVED PARKING VAN ACCESSIBLE	12 x 18 18 x 9	2 1/4" SQUARE PERFORATED TUBE	2706351.99	2353504.26
⑨	-	BOAT LAUNCH RAMP SIGN	72 x 48	(2) 2 1/4" SQUARE PERFORATED TUBE	2706455.95	2353543.43

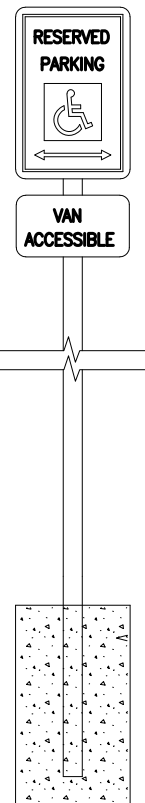
**NOTES:**

- MUTCD CODE NO. FROM U.S. DOT FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2009
- SIGNS AND SIGN POSTS SHALL BE PROVIDED & INSTALLED AS SHOWN ON THE PLANS.
- SEE ACCESSIBLE PARKING DTL.
- CHANNELIZING TUBULAR MARKERS SHALL BE PROVIDED IN ACCORDANCE w/ MUTCD 3h.01 AND 6f.65

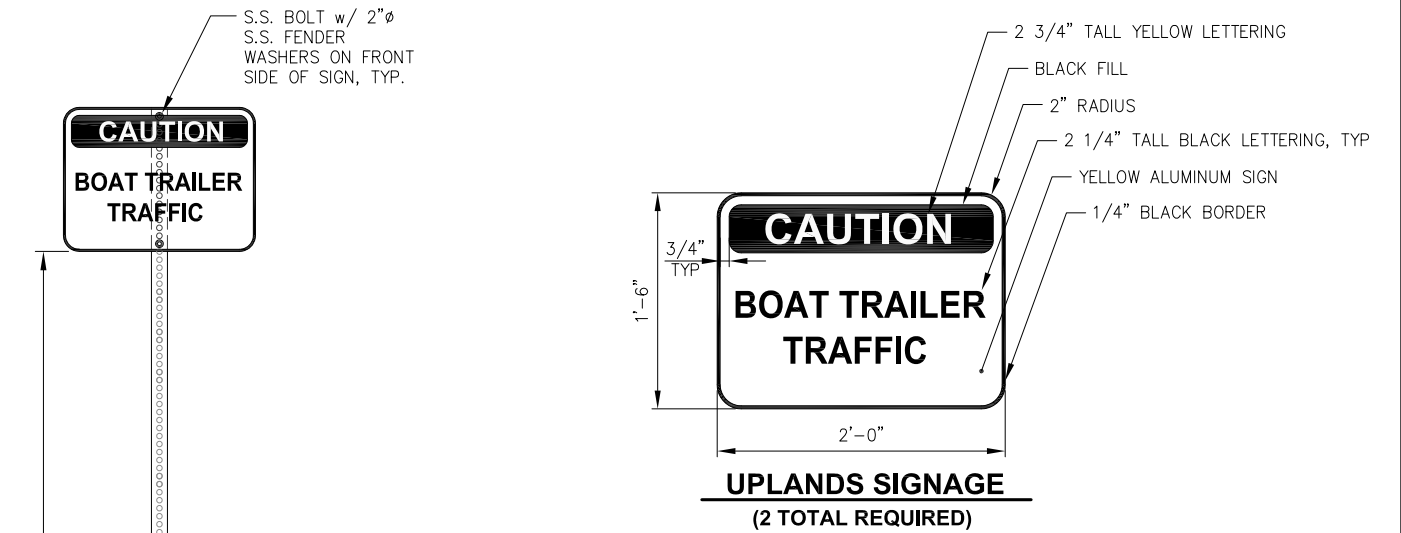
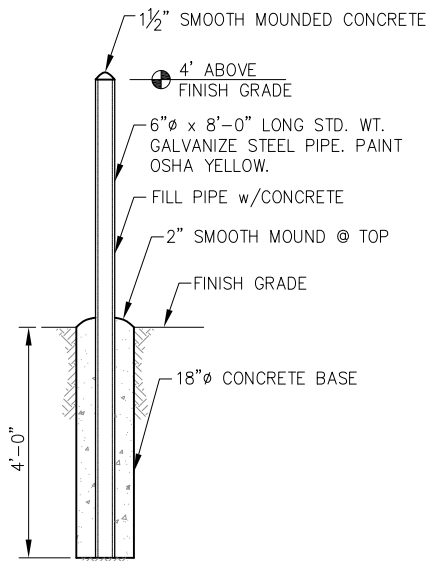


**THROUGH LANE-USE ARROW**

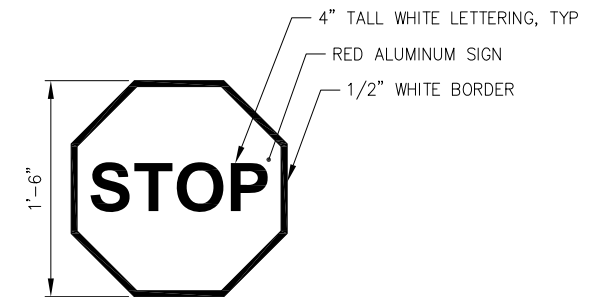
**NOTE:**  
ARROWS TO BE LOCATED AT APPROXIMATE LOCATION SHOWN ON SIGNING AND STRIPING PLAN. EXACT LOCATION TO BE DETERMINED IN FIELD AS INSTRUCTED BY ENGINEER.



**BOLLARD - ELEVATION**



**UPLANDS SIGNAGE  
(2 TOTAL REQUIRED)**

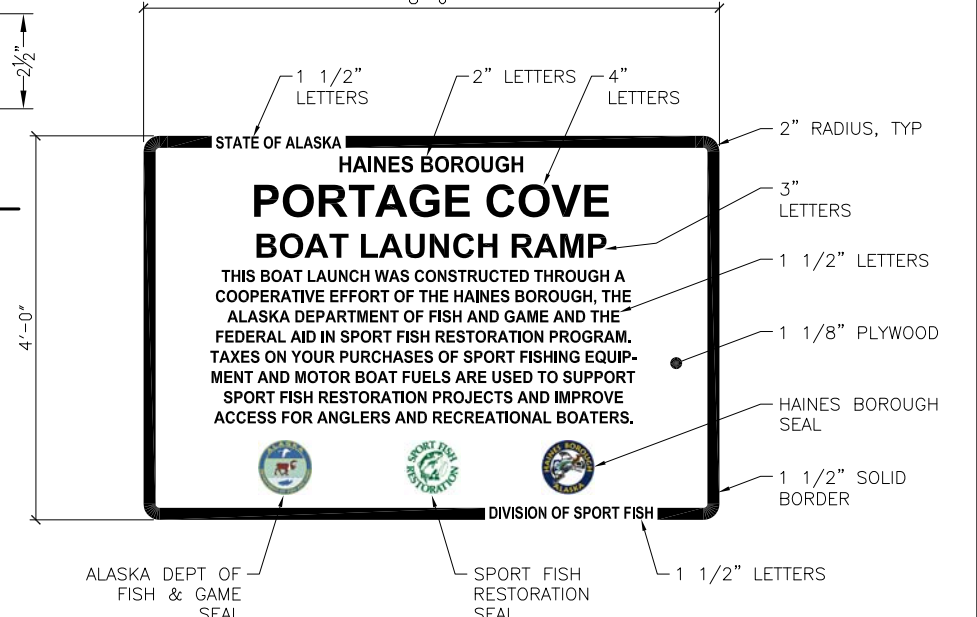
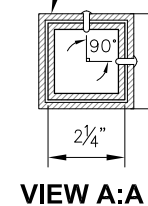


**UPLANDS SIGNAGE  
(2 TOTAL REQUIRED)**

**SIGNAGE MOUNT - ELEVATION**

NOTE: FINAL LOCATION PER ENGINEER DIRECTION.

**VIEW A:A**



**BOAT LAUNCH RAMP SIGN - ELEVATION**

NOTE: FINAL LOCATION PER ENGINEER DIRECTION. SIGN SHALL BE ALUMINUM WITH WHITE LETTERS

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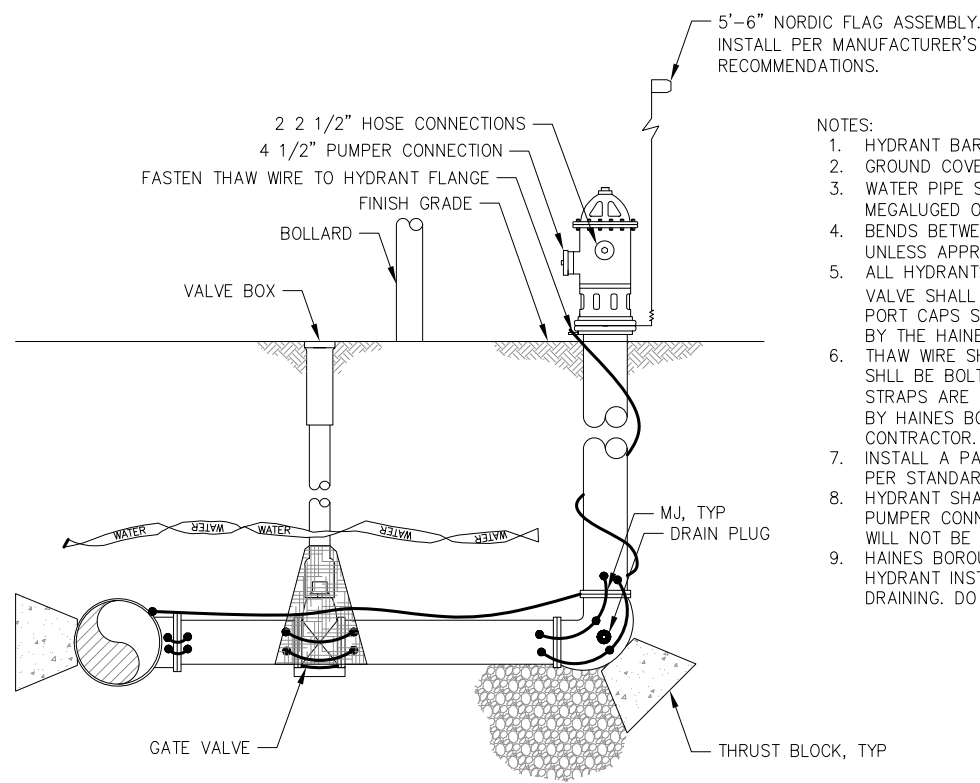
**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**SIGNAGE AND BOLLARD DETAILS**

PND PROJECT NO.: 172032

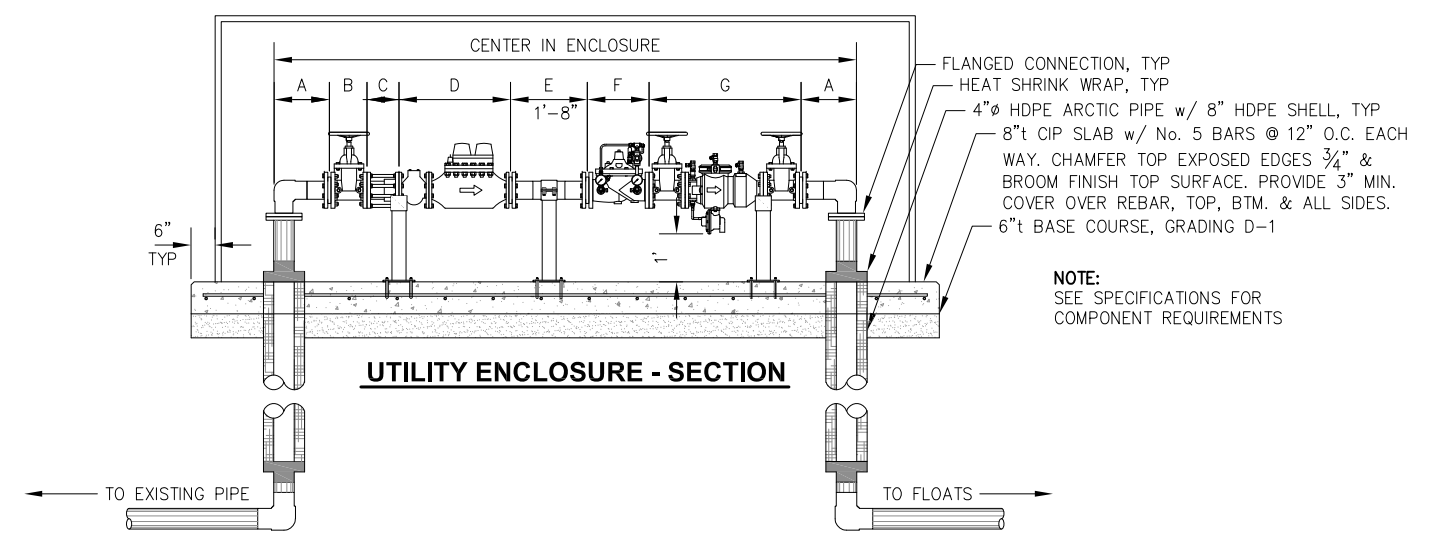
**2.11**  
SHEET  
16 OF 34



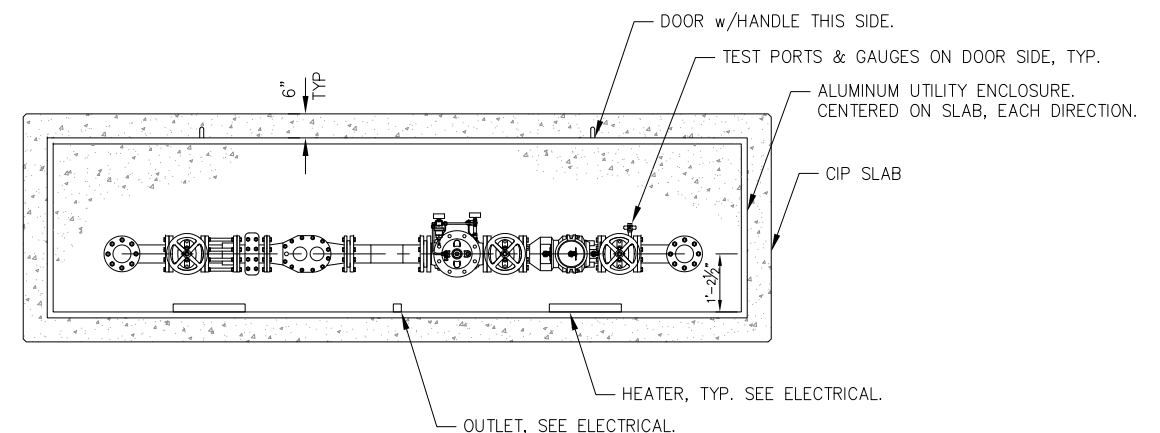


- NOTES:
1. HYDRANT BARREL AND VALVE BOX SHALL BE PLUMB.
  2. GROUND COVER SHALL BE 6' MINIMUM.
  3. WATER PIPE SHALL BE 6" MIN. D.I.P. AND ALL CONNECTIONS SHALL BE MEGALUGED OR CONNECTED WITH LOCKING FIELD GASKETS.
  4. BENDS BETWEEN THE HYDRANT AND THE MAIN SHALL NOT EXCEED 11 1/4' UNLESS APPROVED BY THE ENGINEER.
  5. ALL HYDRANTS SHALL BE PAINTED RED, AND THE NUMBER OF FEET TO VALVE SHALL BE PRINTED IN BLACK 1/2" LETTERS JUST BELOW TOP BONNET. PORT CAPS SHALL BE COLOR CODED PER NFPA STANDARD 291 AS DIRECTED BY THE HAINES BOROUGH WATER DEPARTMENT.
  6. THAW WIRE SHALL BE #2 COPPER WITH TYPE THHW INSULATION. THAW WIRE SHALL BE BOLTED OR CAD WELDED TO THE TEE AT THE MAIN. CONTINUITY STRAPS ARE REQ'D ON 6" DIP. CONTINUITY AND ARRANGEMENT FOR TESTING BY HAINES BOROUGH WATER UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
  7. INSTALL A PAVED HYDRANT PAD PER STANDARD 405 AND GUARD POSTS PER STANDARD 404.
  8. HYDRANT SHALL BE MUELLER CENTURION 200 OR 250 WITH INTEGRAL STORZ PUMPER CONNECTION OR APPROVED EQUAL. CLOW F2500 SERIES HYDRANTS WILL NOT BE ACCEPTED.
  9. HAINES BOROUGH WATER UTILITIES DEPARTMENT SHALL DETERMINE FOR EACH HYDRANT INSTALLATION IF HYDRANT PLUGS SHALL BE REMOVED FOR SELF DRAINING. DO NOT BLOCK PLUG WITH THE THRUST BLOCK.

**FIRE HYDRANT**  
(1) TOTAL

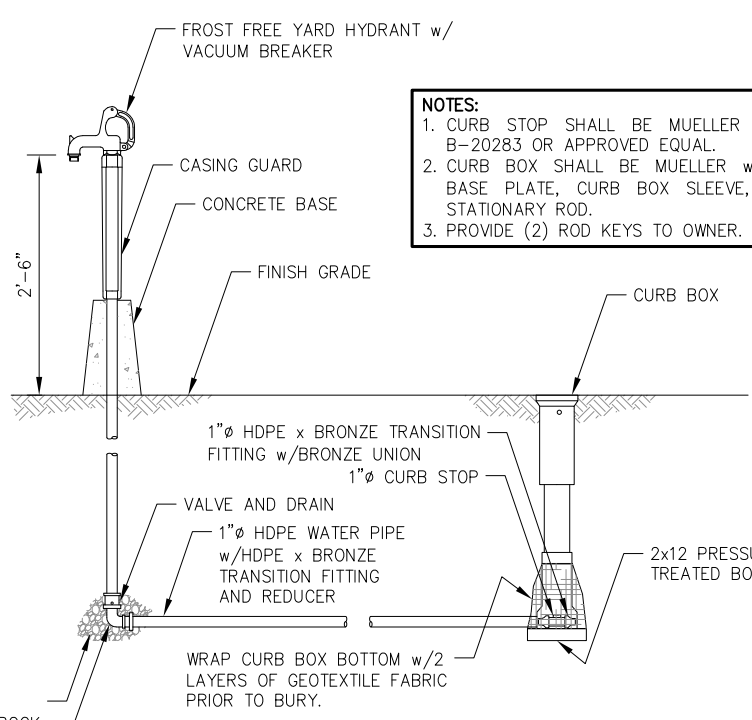


**UTILITY ENCLOSURE - SECTION**

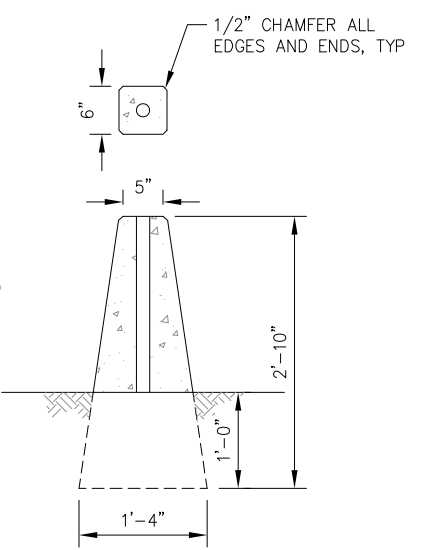


**UTILITY ENCLOSURE - PLAN**

DESIGNATION	COMPONENT DESCRIPTION
A	4" HDPE 90° ELBOW w/ FLANGE ADAPTERS & HDG BACKUP RING
B	4" NRS GATE VALVE
C	4" DISMANTLING JOINT, SET TO 8" ±
D	4" METER w/ STRAINER
E	4" HDPE PIPE SPOOL
F	4" AUTOMATIC CONTROL VALVE
G	4" REDUCED PRESSURE ZONE ASSEMBLY BACKFLOW PREVENTOR



- NOTES:
1. CURB STOP SHALL BE MUELLER B-20276 OR B-20283 OR APPROVED EQUAL.
  2. CURB BOX SHALL BE MUELLER w/ARCH BASE, BASE PLATE, CURB BOX SLEEVE, LID w/PLUG STATIONARY ROD.
  3. PROVIDE (2) ROD KEYS TO OWNER.



**CONCRETE BASE**

**YARD HYDRANT**

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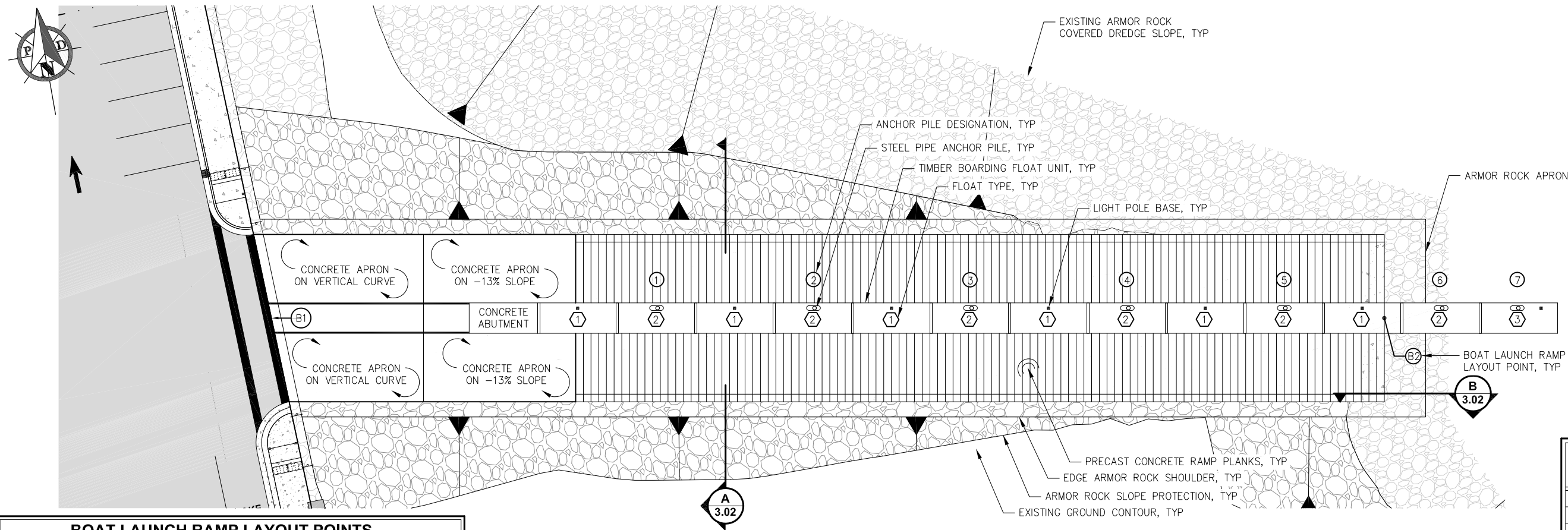
DATE: JAN. 18, 2019

**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**WATER SERVICE DETAILS**

PND PROJECT NO.: 172032

2.12  
SHEET  
17 OF 34



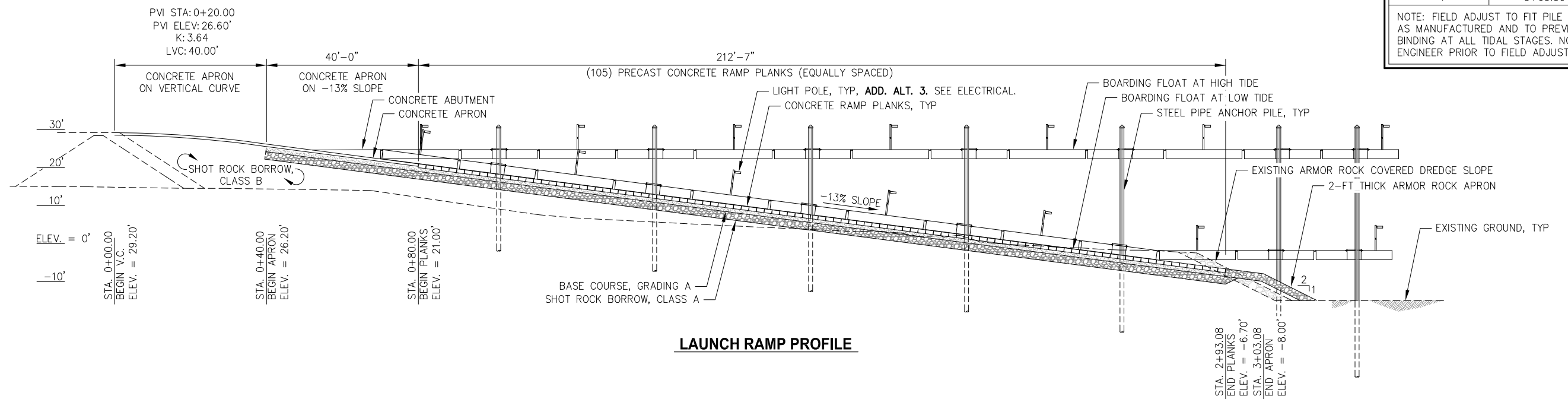
BOAT LAUNCH RAMP LAYOUT POINTS				
WORK PT.	NORTHING	EASTING	ELEV.	DESCRIPTION
B1	2706524.24	2353549.93	29.20'	STA 0+00 C BEGIN C.I.P. ABUTMENT
B2	2706431.79	2353827.42	-6.70'	STA 2+93.08 C END RAMP PLANK

**LAUNCH RAMP PLAN**

NOTE: SEE ELECTRICAL FOR DETAILS NOT SHOWN THIS SHEET.

PRELIMINARY ANCHOR PILE SCHEDULE	
PILE NO.	STATION
1	0+58.6
2	0+99.68
3	1+40.76
4	1+81.84
5	2+22.77
6	2+64.06
7	3+05.30

NOTE: FIELD ADJUST TO FIT PILE HOOPS AS MANUFACTURED AND TO PREVENT BINDING AT ALL TIDAL STAGES. NOTIFY ENGINEER PRIOR TO FIELD ADJUSTMENT.



**LAUNCH RAMP PROFILE**

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DESIGN: BMI CHECKED: CRS SCALE: SCALE IN FEET  
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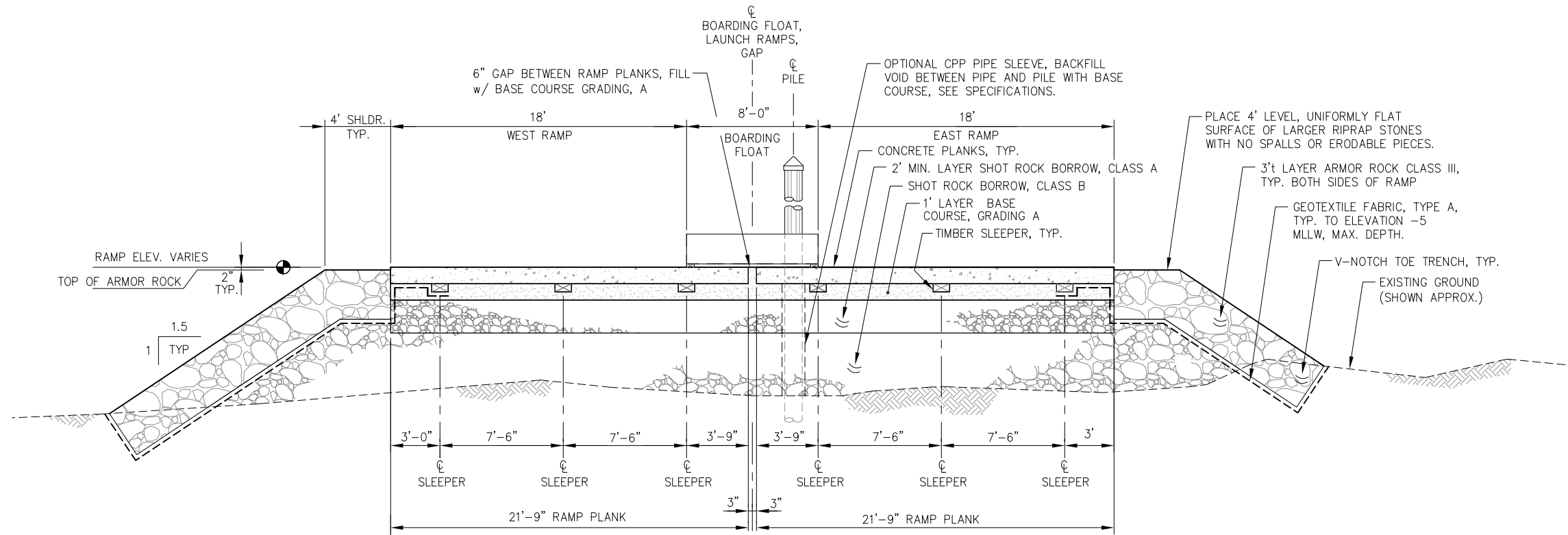
**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE: **PLAN AND PROFILE**

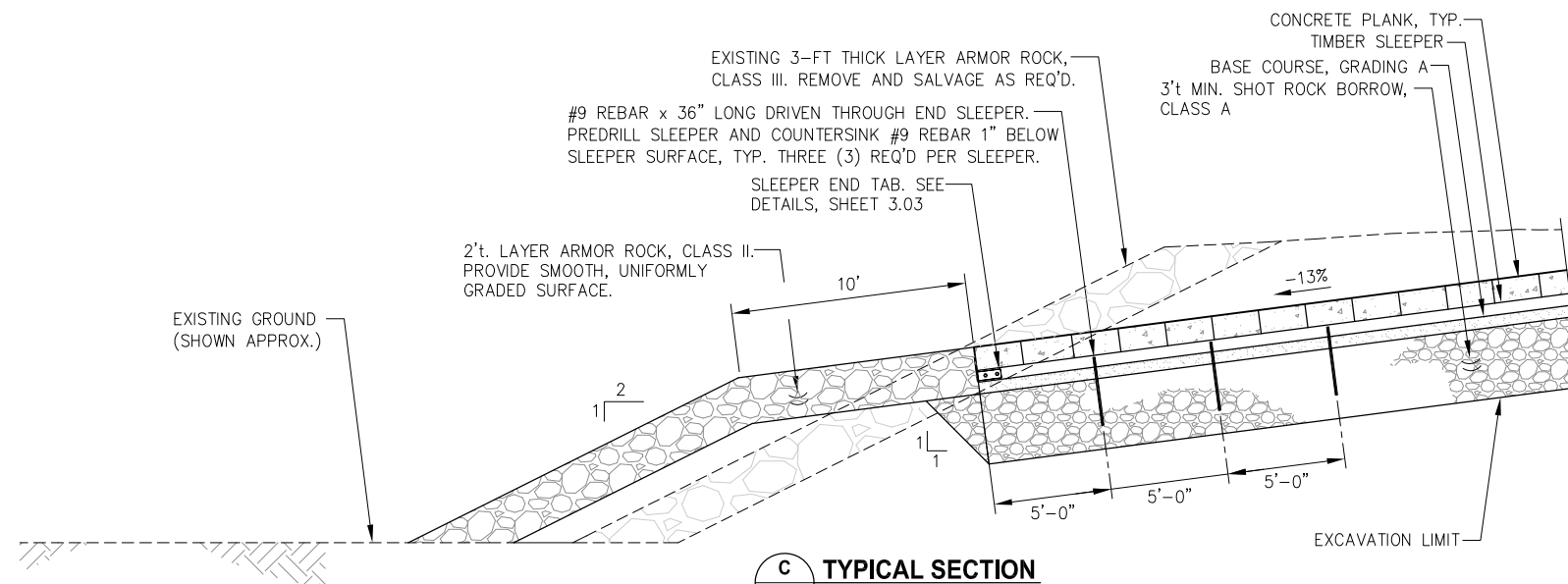
PND PROJECT NO.: 172032

**3.01**  
SHEET 18 OF 34





**A**  
3.01 **TYPICAL SECTION**  
**BOAT LAUNCH RAMP**



**C**  
3.01 **TYPICAL SECTION**  
**RIPRAP APRON**

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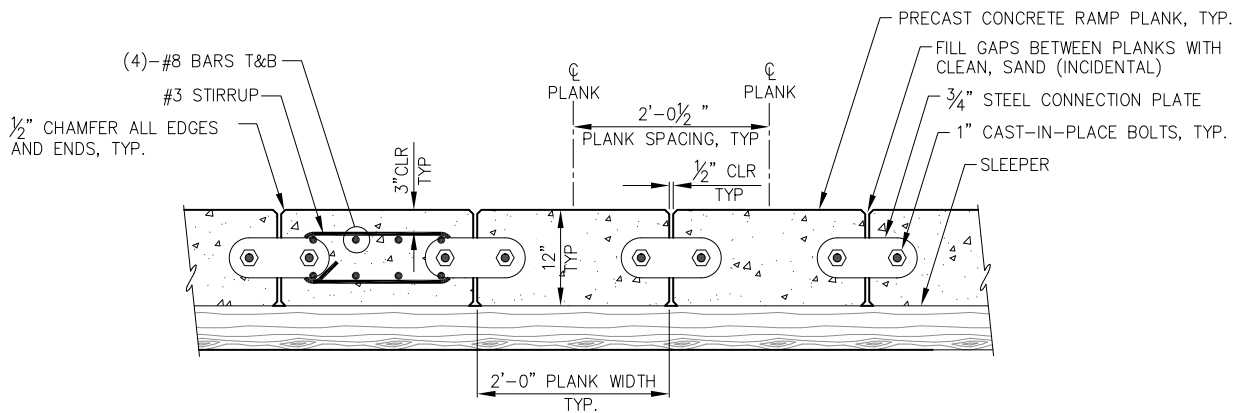
DATE: JAN. 18, 2019

**HAINES BOROUGH**  
**PORTAGE COVE HARBOR**  
**BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**TYPICAL SECTIONS**

PND PROJECT NO.: 172032

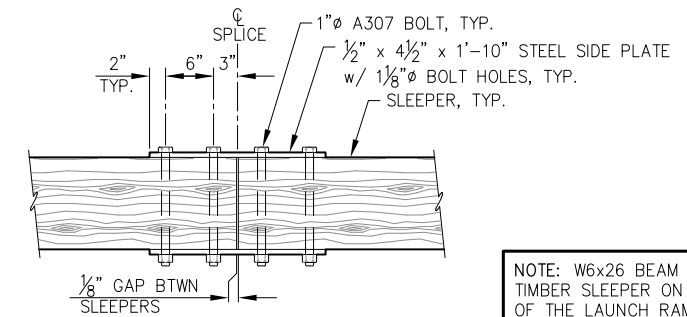
**3.02**  
SHEET  
19 OF 34



**TYPICAL RAMP PLANK SECTION**

NOTE: V-GROOVE SURFACE NOT SHOWN THIS SECTION FOR CLARITY

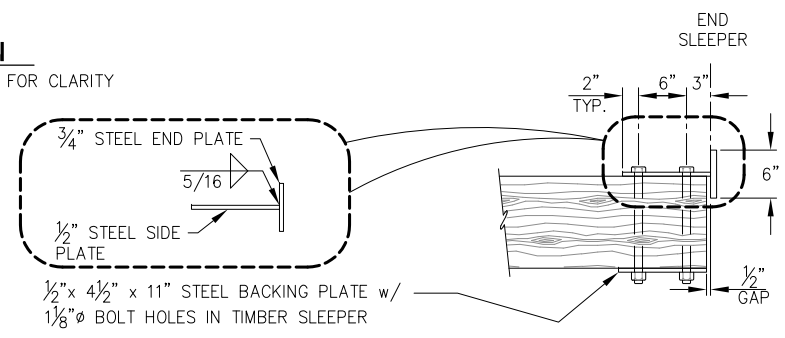
RAMP PLANK SCHEDULE	
TYPE	QUANTITY
TYPE 1	214 TOTAL
TYPE 2	36 TOTAL



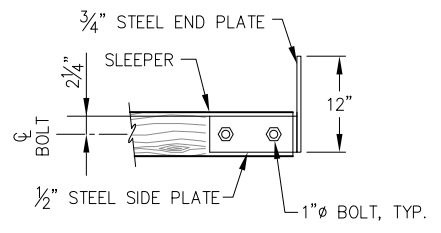
**SLEEPER SPlice DETAIL - PLAN**

NOTE: SLEEPER SPICES SHALL BE STAGGERED.

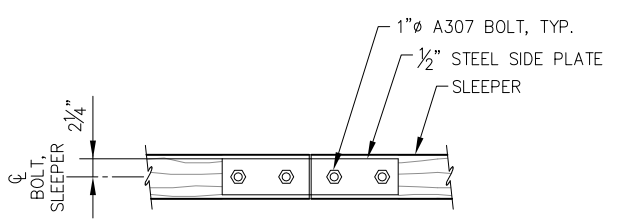
NOTE: W6x26 BEAM MAY BE USED IN LIEU OF TIMBER SLEEPER ON THE SUBMERGED PORTION OF THE LAUNCH RAMP. ATTACH END TAB AND SPLICE PLATES TO BEAM WEB SIMILAR AS SHOWN.



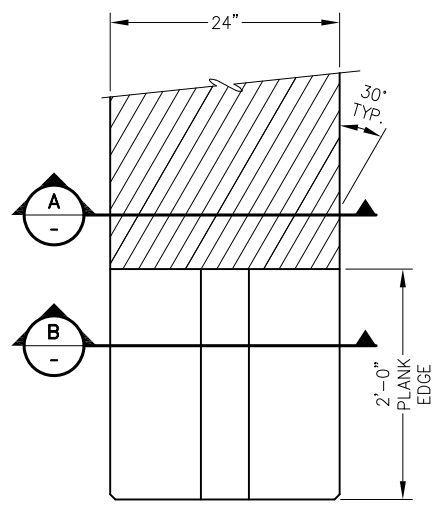
**SLEEPER END TAB DETAIL - PLAN**



**SLEEPER END TAB DETAIL - PROFILE**

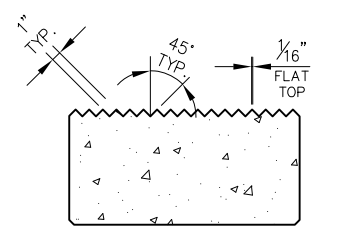


**SLEEPER SPlice DETAIL - PROFILE**

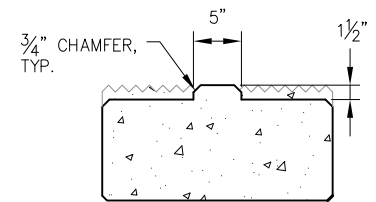


**PLAN**

NOTE: CONSTRUCT PLANKS AS REQ'D TO ACHIEVE RAMP LANES WITH OPPOSING V-GROOVES AS SHOWN IN PLAN VIEW.

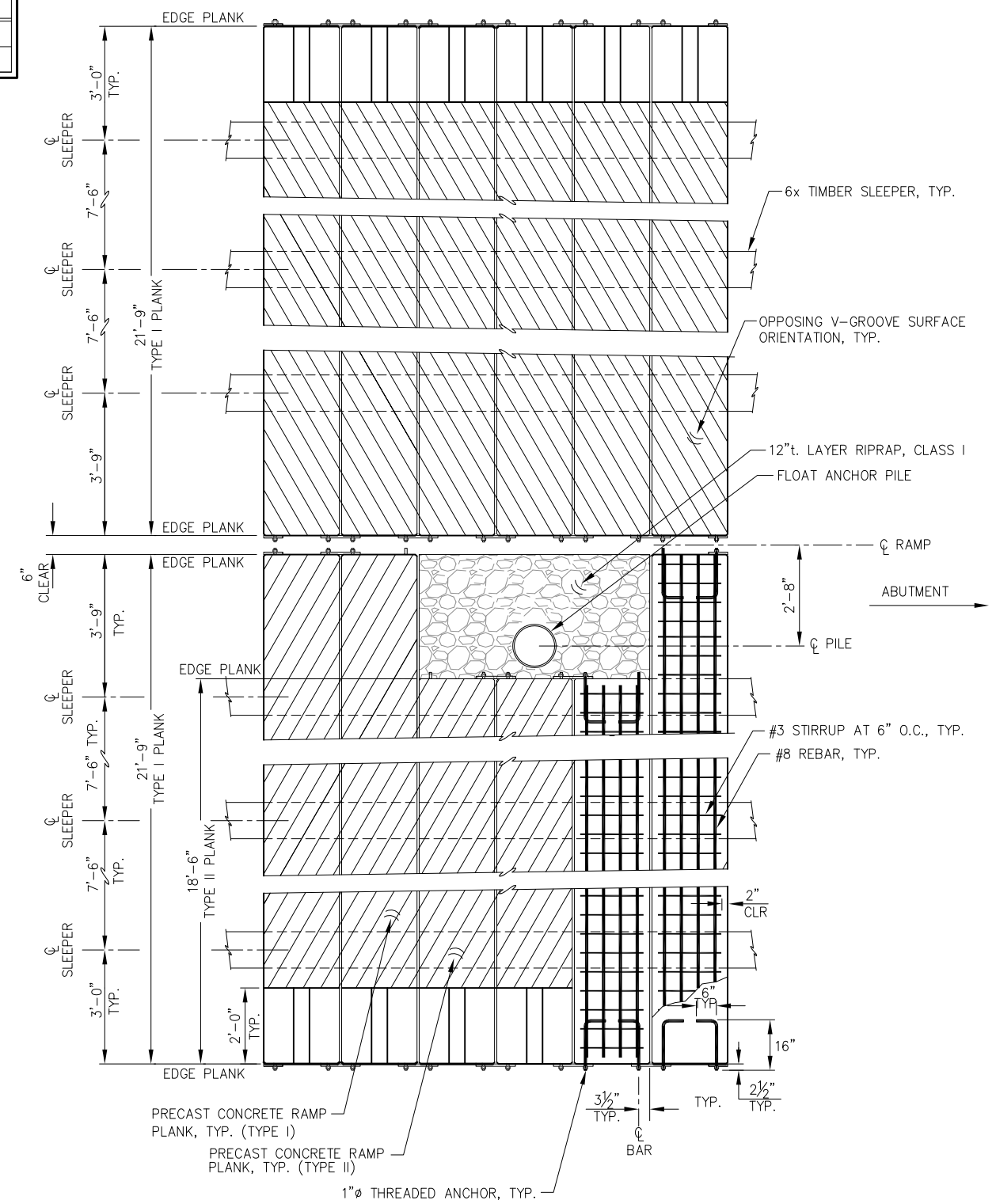


**TYPICAL SECTION A**

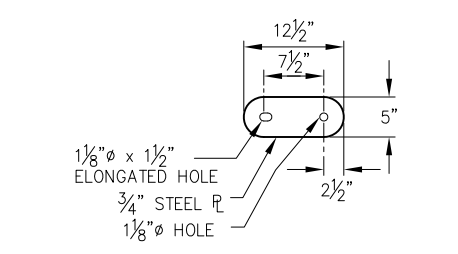


**TYPICAL SECTION B**

**PLANK SURFACE FINISH DETAILS**



**CONCRETE RAMP PLANKS - PLAN**



**CONNECTION PLATE DETAIL**

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**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

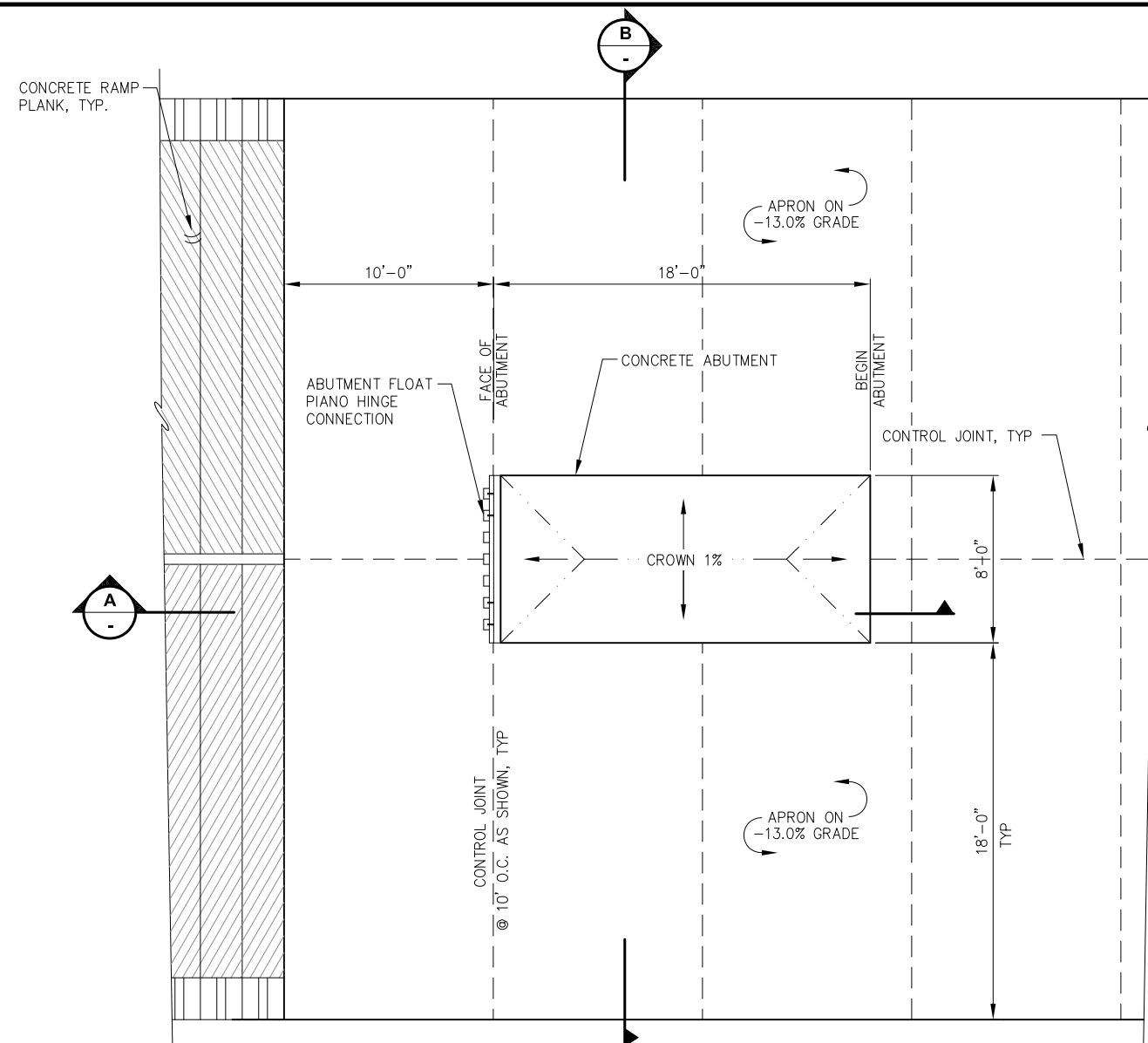
SHEET TITLE: **PLANK AND SLEEPER DETAILS**

PND PROJECT NO.: 172032

**3.03**  
SHEET 20 OF 34

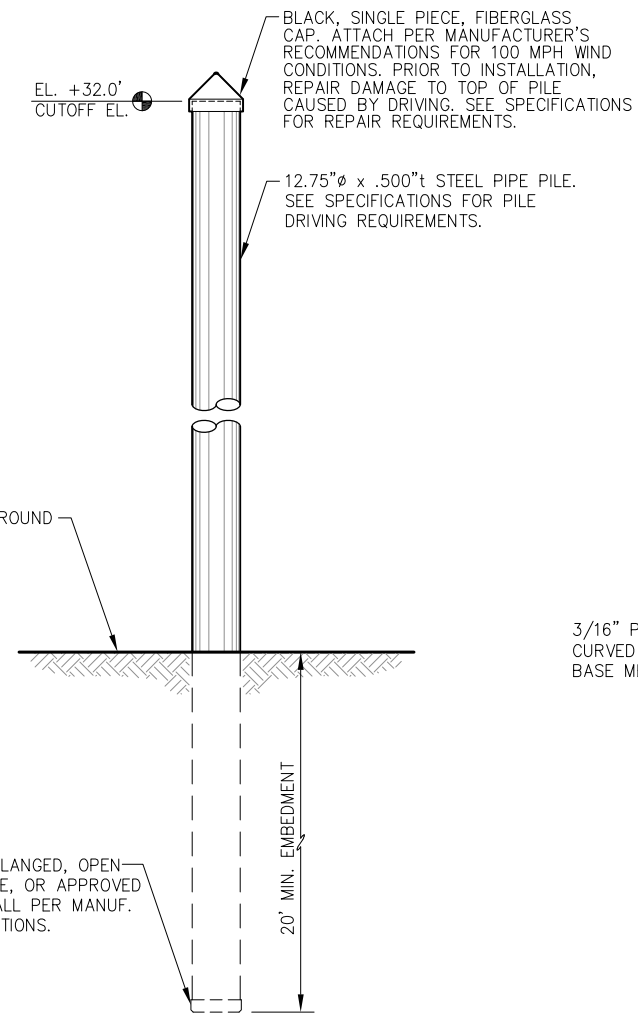






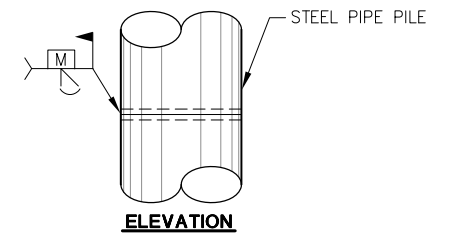
**APRON AND ABUTMENT PLAN**

- NOTES: 1. RIPRAP AND FLOAT NOT SHOWN FOR CLARITY  
 2. CONTROL JOINTS 1/4" x 1 1/2" TOOLED JOINT w/1/4" RADIUS. FILL SLOT w/FIELD-MOLDED FILLER ASPHALT SEALANT.

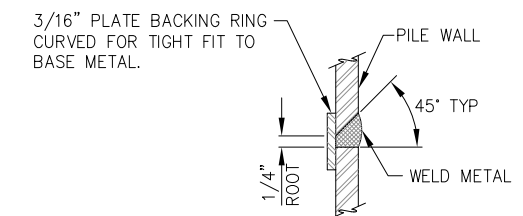


**PILE INSTALLATION DETAIL**

BOAT LAUNCH FLOAT ANCHOR PILE SCHEDULE		
PILE NO.	CUT-OFF ELEV.	PILE LENGTH TO BE SUPPLIED (FEET)
1	32.0'	35 FT
2	32.0'	40 FT
3	32.0'	45 FT
4	32.0'	50 FT
5	32.0'	55 FT
6	32.0'	60 FT
7	32.0'	70 FT

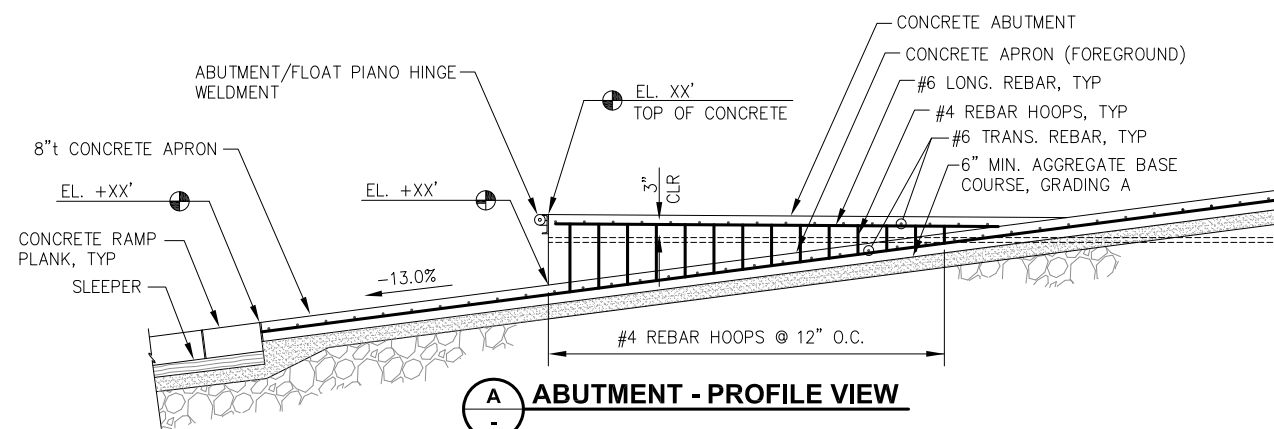


**ELEVATION**

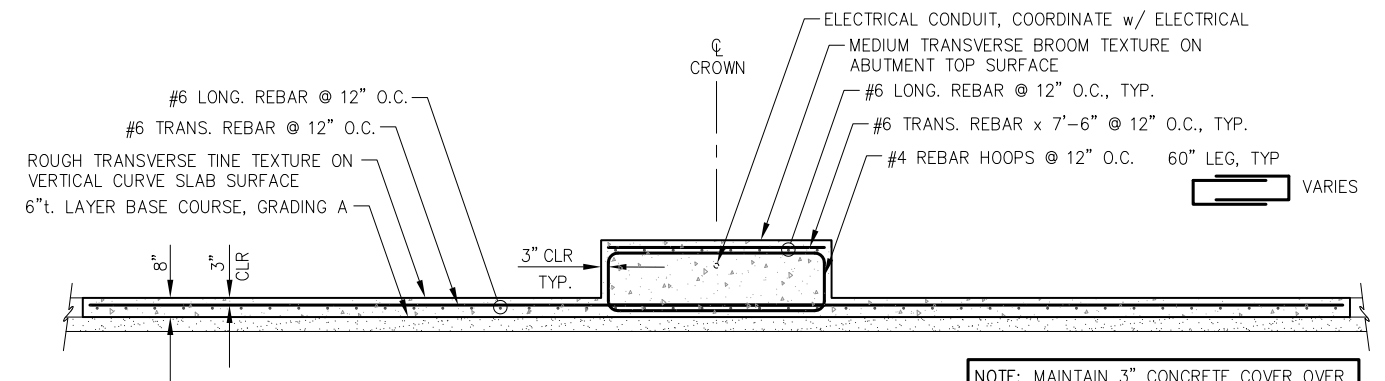


**TYPICAL SECTION**

**TYPICAL PILE SPLICE WELD**  
(TYPICAL FOR ALL PIPE PILE SPLICES)



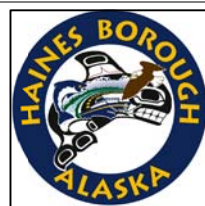
**ABUTMENT - PROFILE VIEW**



**APRON AND ABUTMENT TYPICAL SECTION**

NOTE: MAINTAIN 3" CONCRETE COVER OVER REINFORCEMENT, TOP, BTM, AND ALL SIDES.

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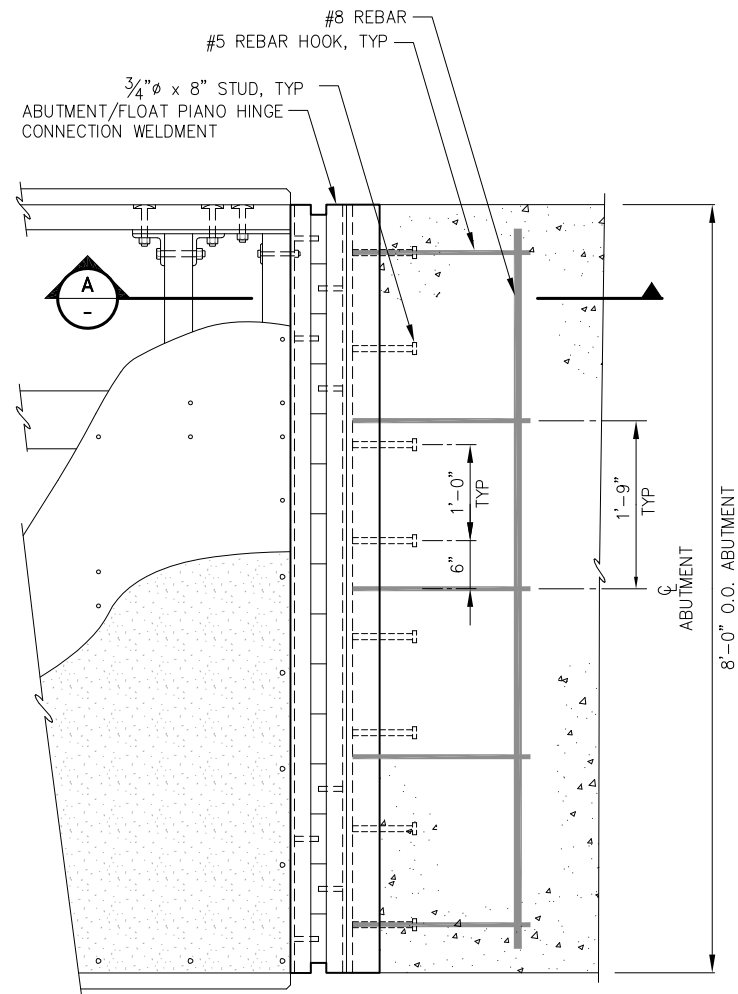
DATE: JAN. 18, 2019

**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE: **APRON, ABUTMENT AND PILE DETAILS**

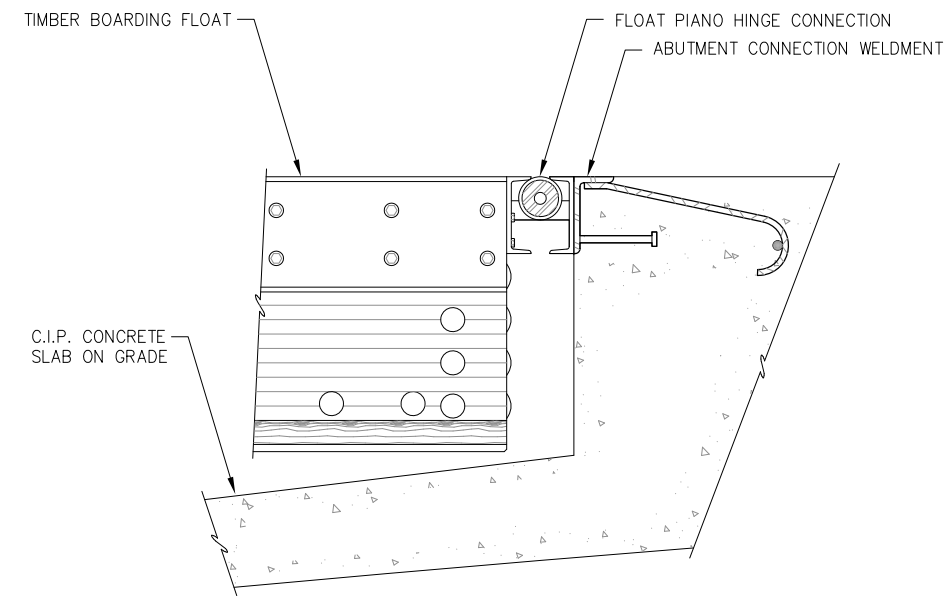
PND PROJECT NO.: 172032

**3.04**  
SHEET 21 OF 34



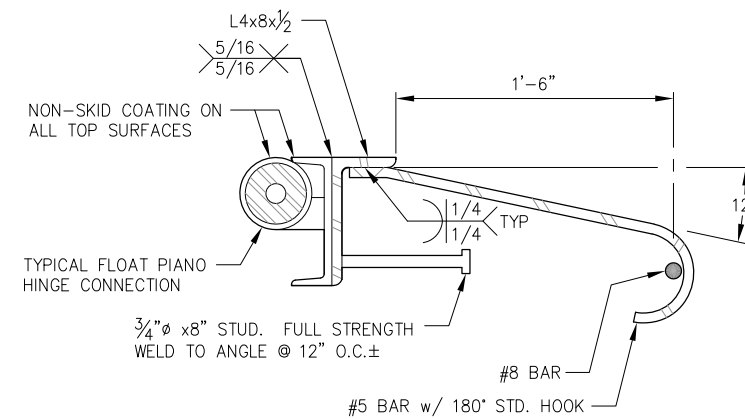
**ABUTMENT/FLOAT CONNECTION - PLAN**

NOTE: 1. ALL STEEL WALKING SURFACES TO BE COATED WITH NON-SKID SURFACE (I.E. ALL TOP SURFACES OF ABUTMENT HINGE CONNECTION WELDMENTS).



**A PROFILE VIEW  
ABUTMENT/FLOAT CONNECTION**

NOTE: NOT ALL ELECTRICAL DETAILS SHOWN THIS SHEET. SEE ELECTRICAL.



**ABUTMENT CONNECTION  
WELDMENT DETAIL**

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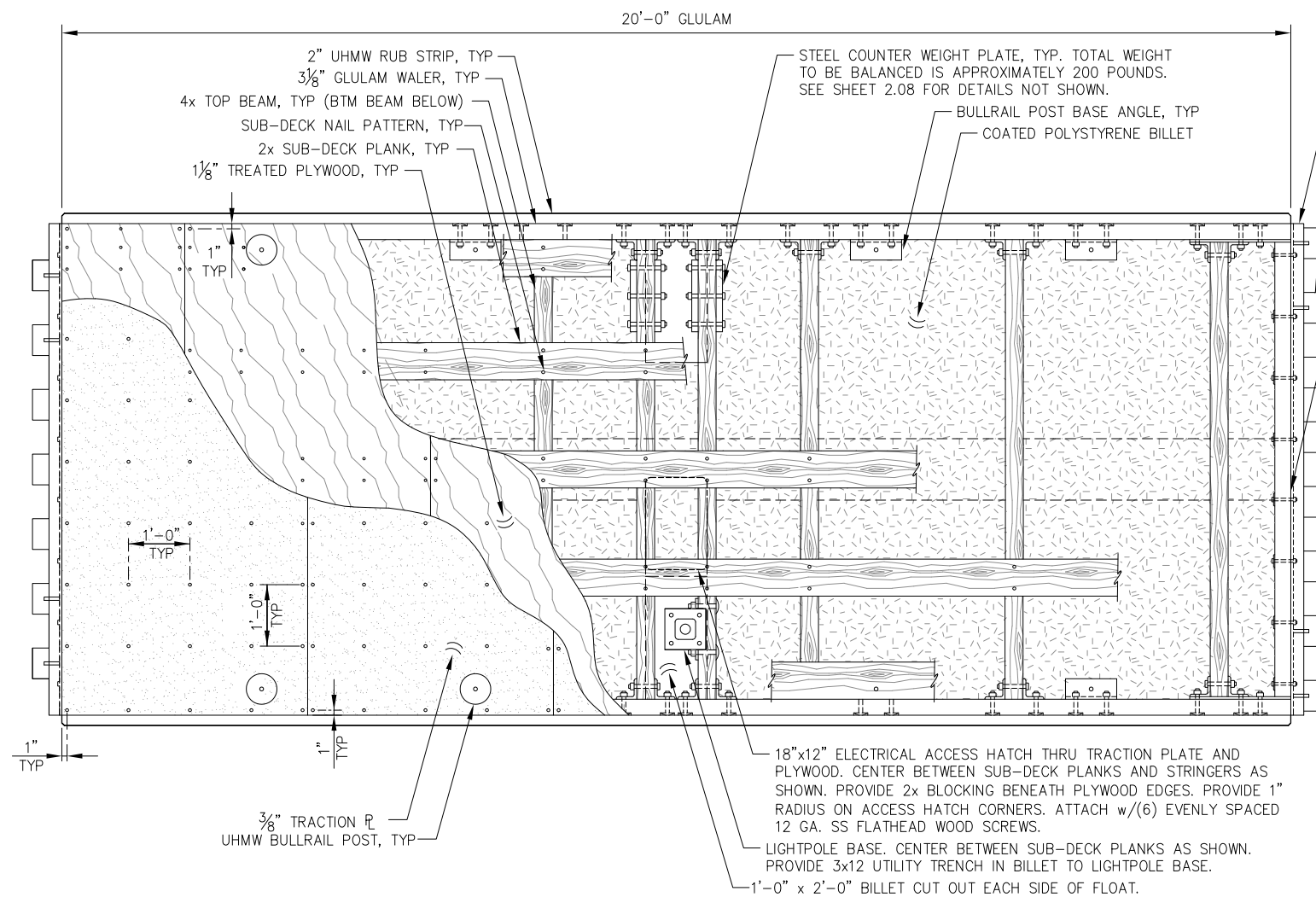
**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE: **APRON AND  
ABUTMENT DETAILS**

PND PROJECT NO.: 172032

**3.05**  
SHEET  
22 OF 28





**FLOAT FRAMING PLAN (TYPE 1)**

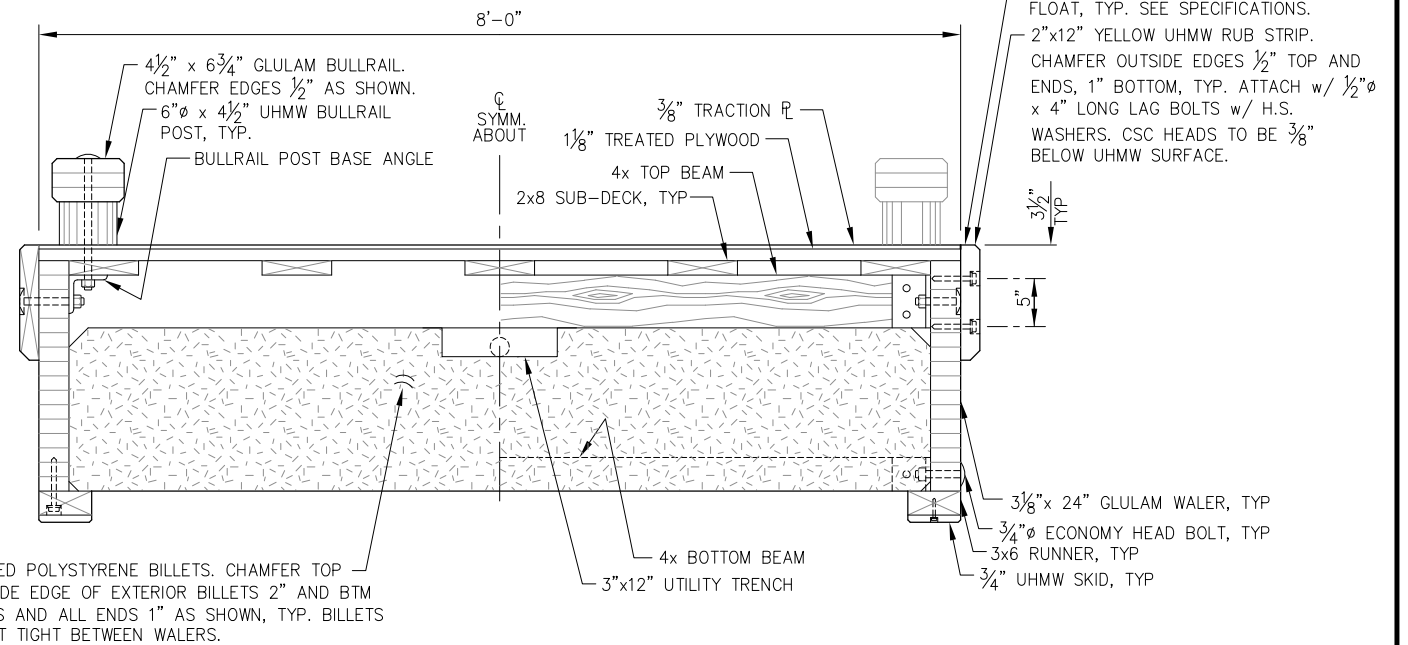
STEEL PIANO HINGE WELDMENT EACH END OF FLOAT. WELDMENT TO BE SYMMETRICAL ABOUT CENTERLINE OF FLOAT, TYP.

PIANO HINGE PIPE SEGMENT, TYP. OFFSET PIPE SEGMENTS AS SHOWN TO CONSTRUCT HINGE ASSEMBLY.

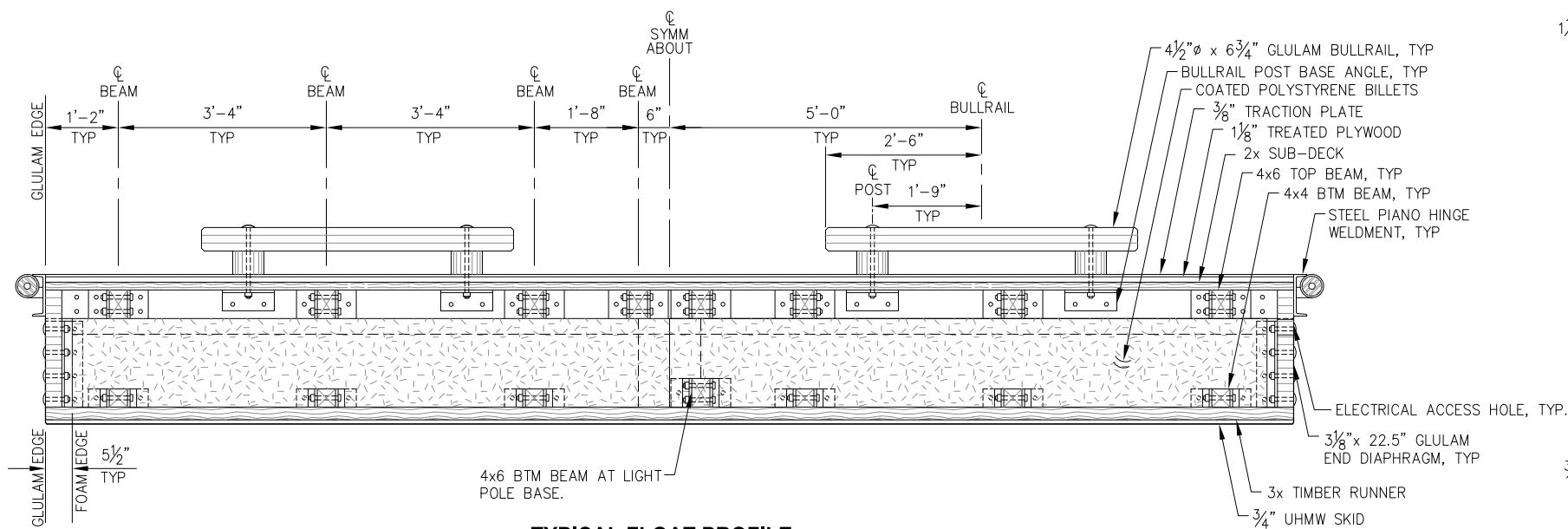
3/8" GLULAM END DIAPHRAGM, TYP. PROVIDE 3"x12" SLOTTED HOLE THRU GLULAM AT UTILITY TRENCH LOCATION.

**GENERAL NOTES:**

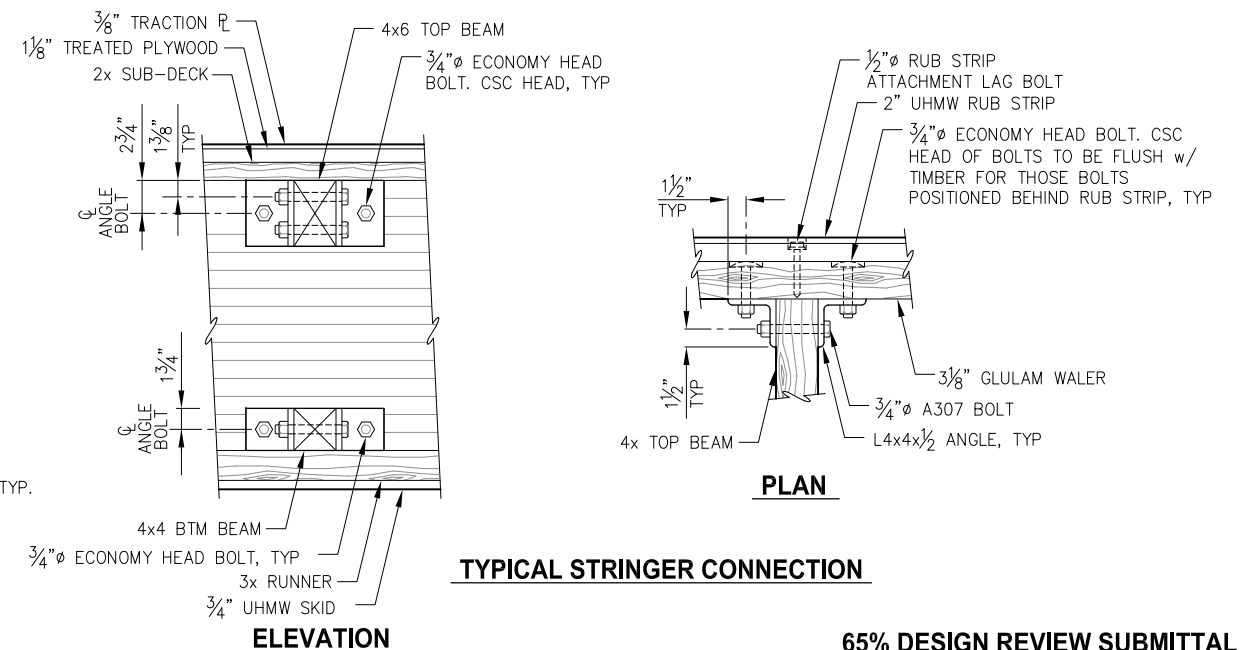
1. ATTACH 2x SUB-DECK w/ 30d GALV. NAILS AS SHOWN ON FLOAT FRAMING PLAN.
2. 1/8" TREATED PLYWOOD TO BE ATTACHED w/ 3" LONG 12 GA. STAINLESS STEEL, FLATHEAD, WOOD SCREWS AS SHOWN ON FLOAT FRAMING PLAN AND AS REQUIRED TO ASSURE PLYWOOD LAYS FLAT. ALL PLYWOOD EDGES SHALL BE FULLY SUPPORTED. PROVIDE 2x BLOCKING AS REQUIRED. SECURE BLOCKING SIMILAR TO SUB-DECKING. ALL PLYWOOD EDGES SHALL BE TREATED WITH 2 COATS OF EPOXY.
3. 3/8" TRACTION PLATE TO BE ATTACHED w/ 3" LONG 12 GA. STAINLESS STEEL, FLATHEAD, WOOD SCREWS AS SHOWN ON FLOAT FRAMING PLAN. CSC SCREWS TO HAVE HEADS FLUSH w/ TOP OF PLATE. LOCATE SCREWS TO MISS PLYWOOD ATTACHMENT SCREWS. REPAIR CUTS/HOLES IN TRACTION PLATE PER MANUF. RECOMMENDATIONS.
4. ATTACHMENT SCREWS SHALL HAVE PILOT HOLES PER INDUSTRY STANDARD.



**BOARDING FLOAT TYPICAL SECTION**



**TYPICAL FLOAT PROFILE**



**TYPICAL STRINGER CONNECTION**

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SCALE: NTS

DATE: JULY 20, 2018

**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

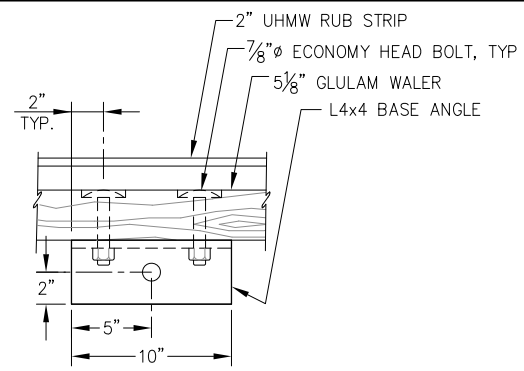
SHEET TITLE:

**BOARDING FLOAT DETAILS**

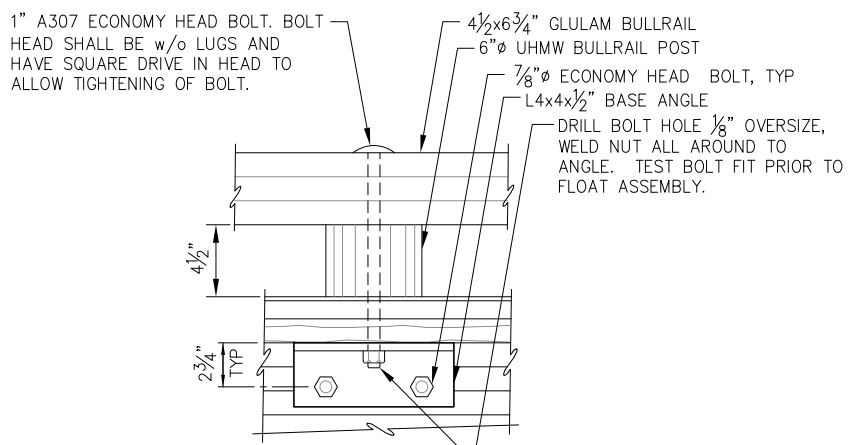
**3.06**

SHEET  
**23 OF 28**

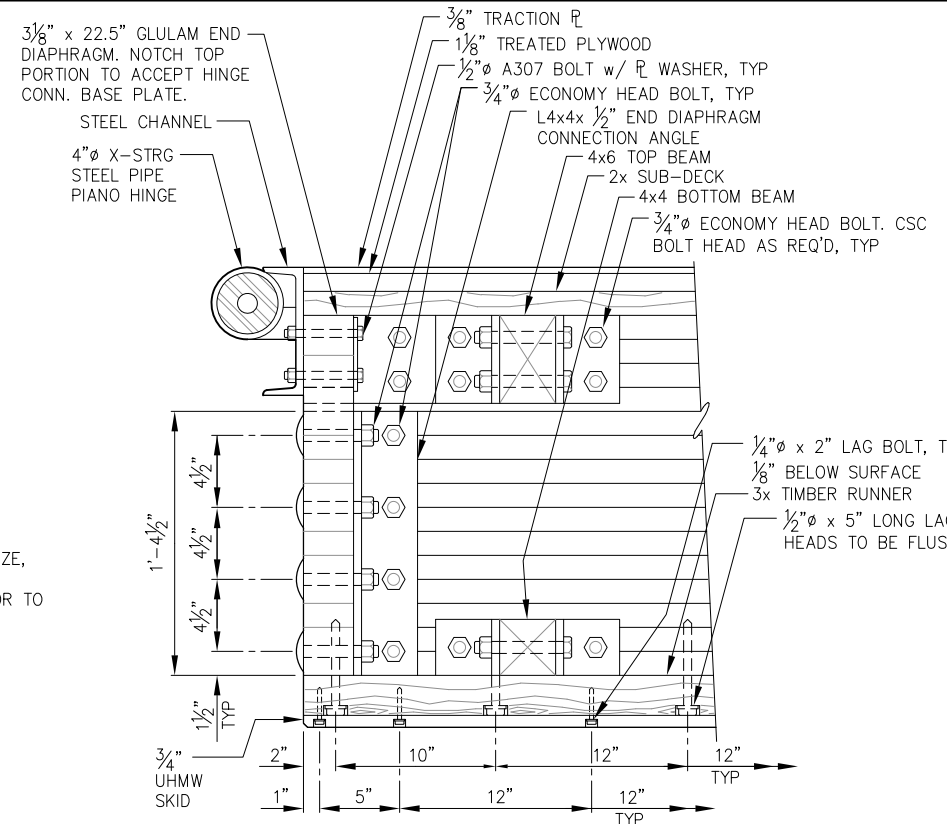
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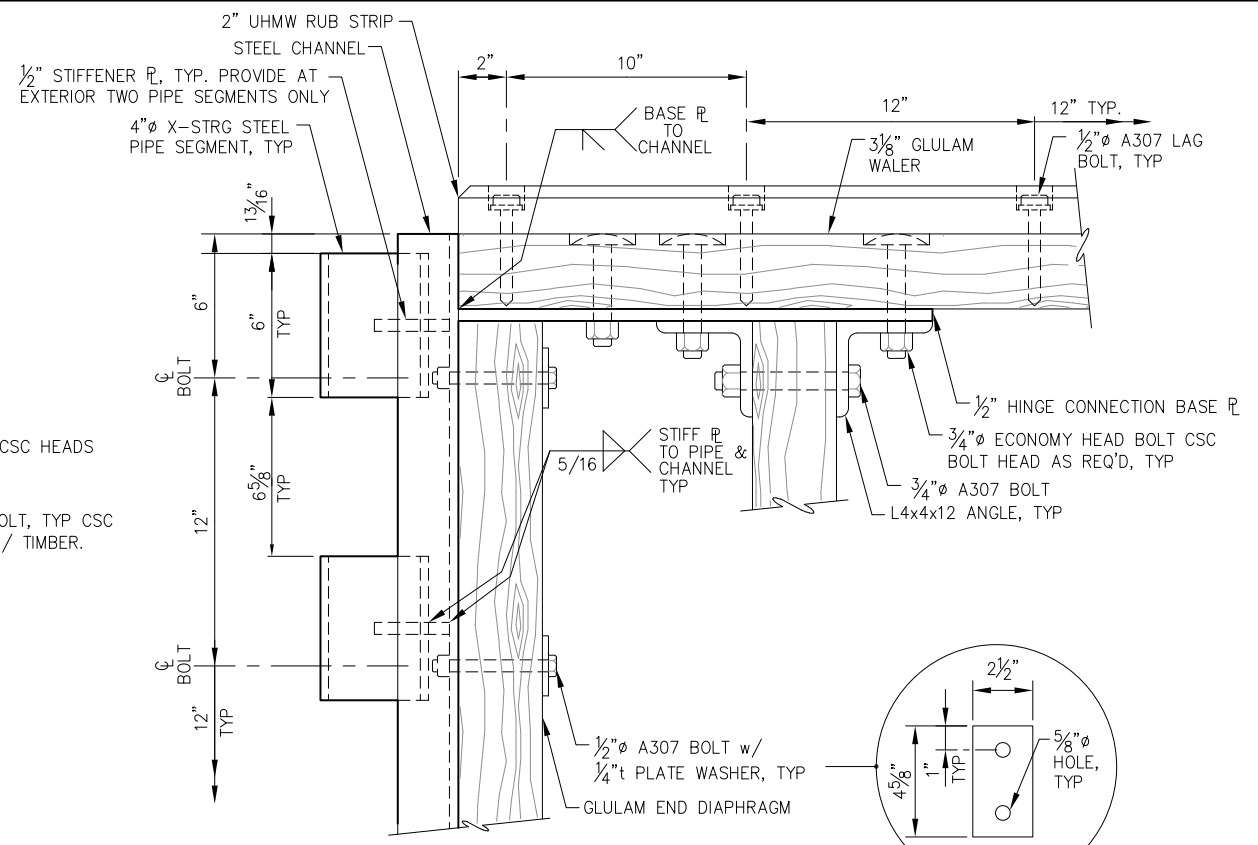
**BULLRAIL BASE ANGLE - PLAN**



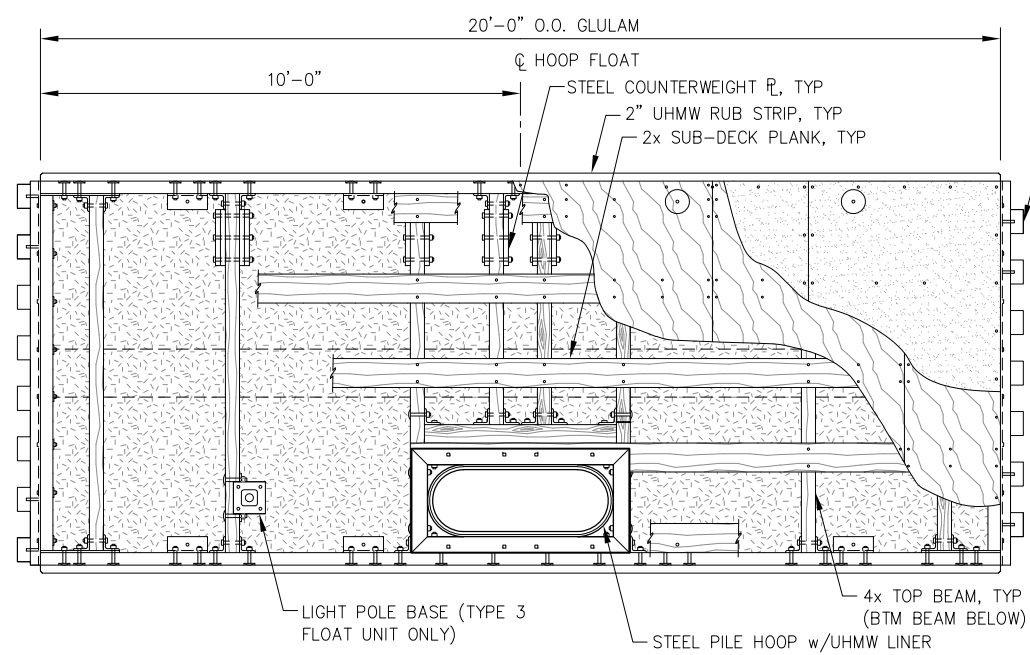
**BULLRAIL BASE ANGLE - PROFILE**



**END DIAPHRAGM/FLOAT CONNECTION PROFILE**



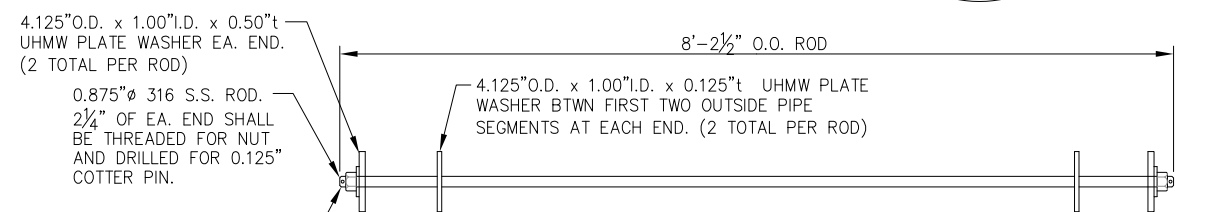
**HINGE CONNECTION PLAN**



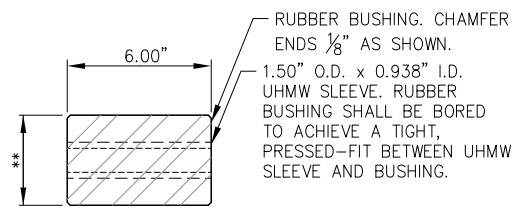
**FLOAT FRAMING PLAN (TYPE 2)**

**NOTES:**  
 1. DETAILS NOT SHOWN SIMILAR TO TYPE 1 FLOAT.  
 2. TYPE 3 FLOAT SIMILAR TO TYPE 2 FLOAT. IN LIEU OF HINGE ON OUTBOARD END INSTALL YELLOW UHMW RUB STRIP AND TIMBER BULLRAIL FULL WIDTH ACROSS END OF FLOAT, AND LIGHT POLE BASE w/BTM 4x6 BEAM AND STEEL COUNTERWEIGHTS.

**NOTES:**  
 FABRICATOR TO DRY-FIT HINGE ASSEMBLIES PRIOR TO APPLICATION OF COATINGS TO ENSURE HINGE MOVES FREELY AND DOES NOT BIND.  
 \*\* DIMENSION ASSUMED TO BE MINIMUM OF 3 5/8". FABRICATOR SHALL VERIFY DIMENSION REQ'D FOR TOP OF PIPE SEGMENT TO BE FLUSH WITH TOP OF ANGLE, AND WELDED AS SHOWN. ALSO, PIPE SEGMENT SHALL HAVE MINIMUM CLEARANCE BETWEEN IT AND THE ANGLE OF 3/8" SUCH THAT WHEN ASSEMBLED, HINGE PIPE SEGMENTS DO NOT RUB AGAINST EDGE OF ANGLE TOP LEG. (I.E. AVOID NON-SKID COATING BEING WORE OFF AFTER INSTALLATION.)

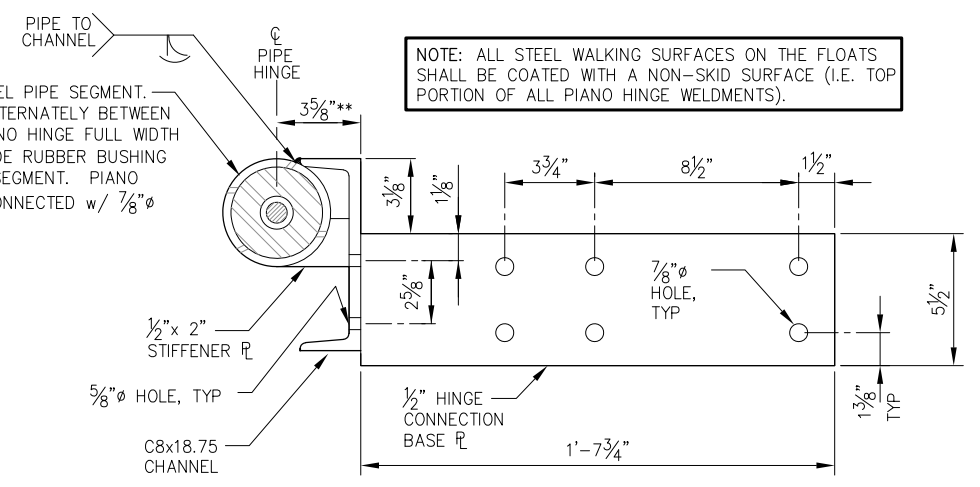


**HINGE CONNECTION ROD**



**TYPICAL PIANO HINGE RUBBER BUSHING**

\*\*SEE SPECIFICATIONS FOR DIAMETER REQUIREMENTS



**HINGE CONNECTION SECTION**

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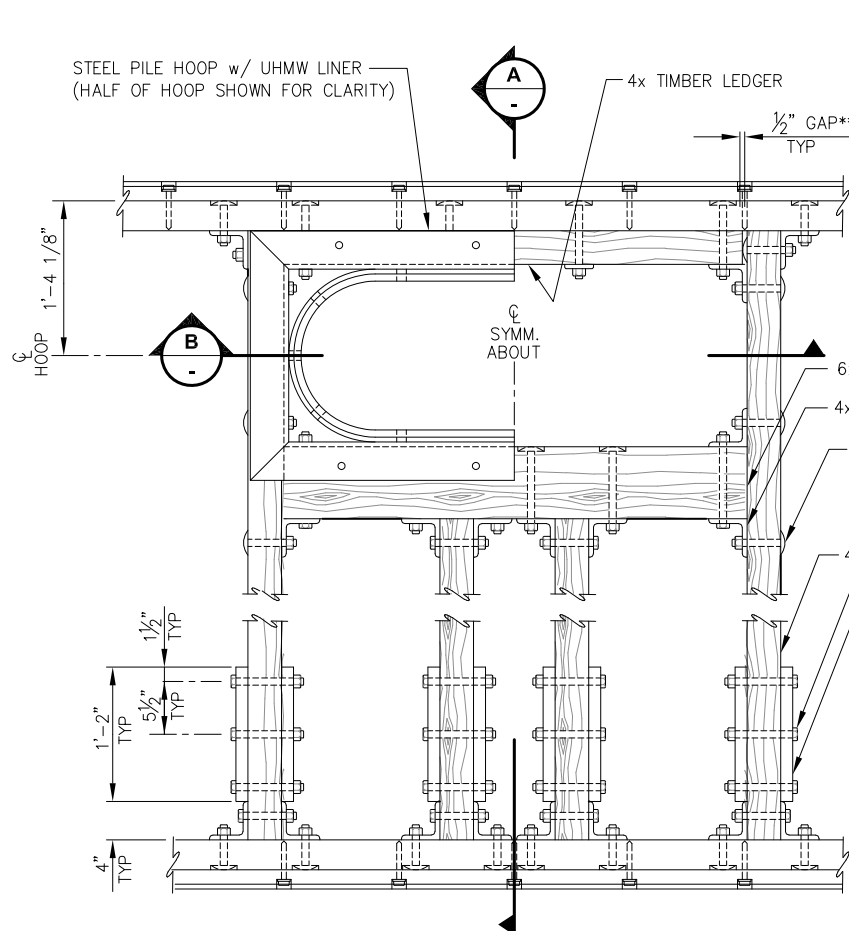
**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE: **BOARDING FLOAT DETAILS**

PND PROJECT NO.: 172032

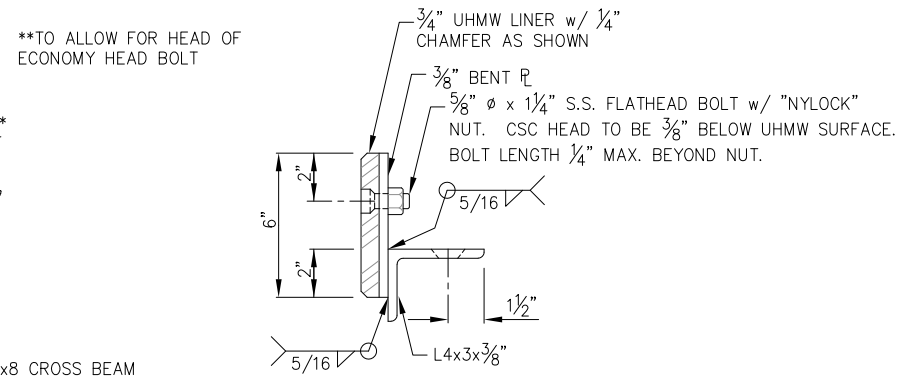
**3.07**  
 SHEET 24 OF 28



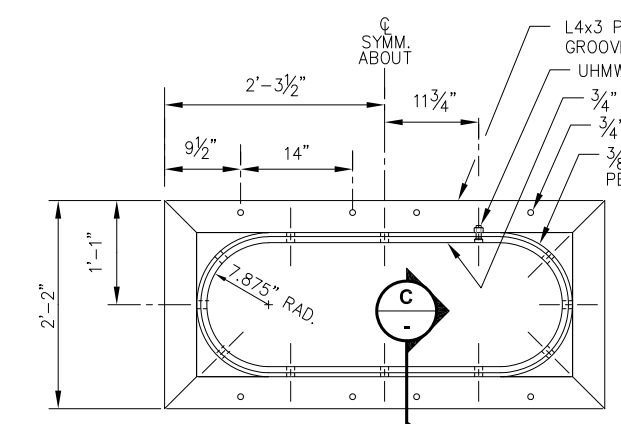


**PILE HOOP FRAMING PLAN**

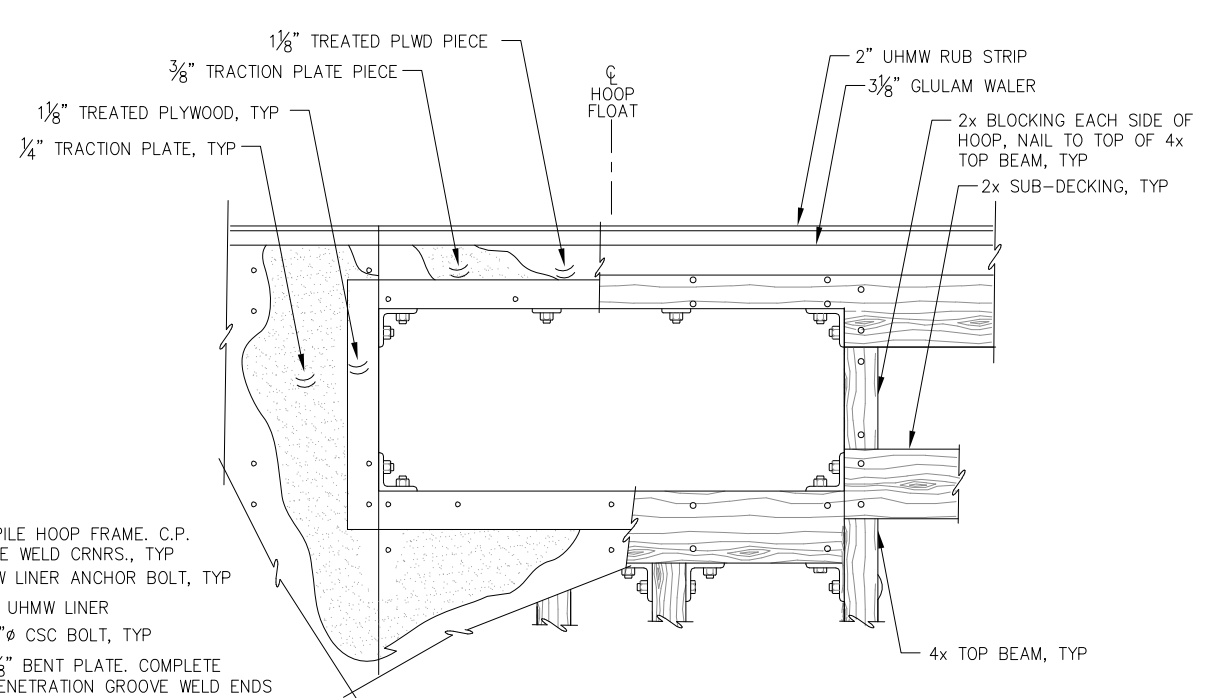
NOTE: FOAM BILLETS NOT SHOWN THIS VIEW FOR CLARITY.



**C PILE HOOP TYPICAL SECTION**

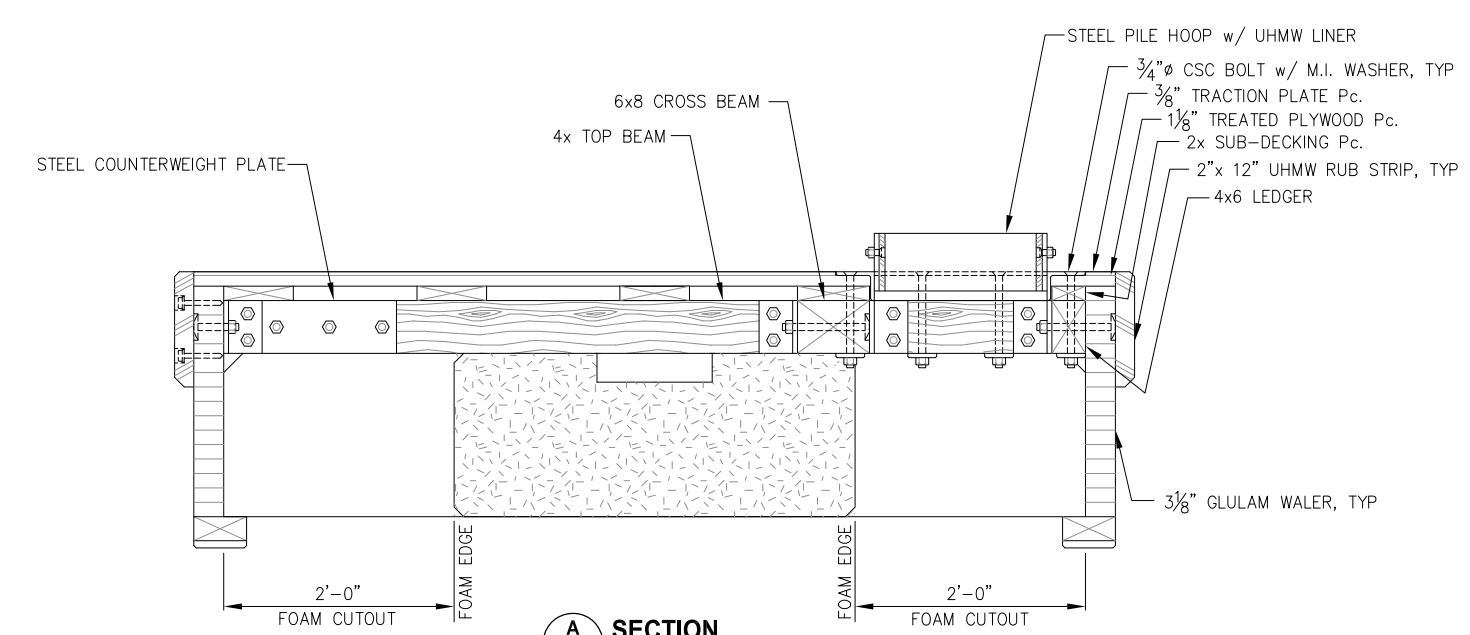


**PILE HOOP PLAN**

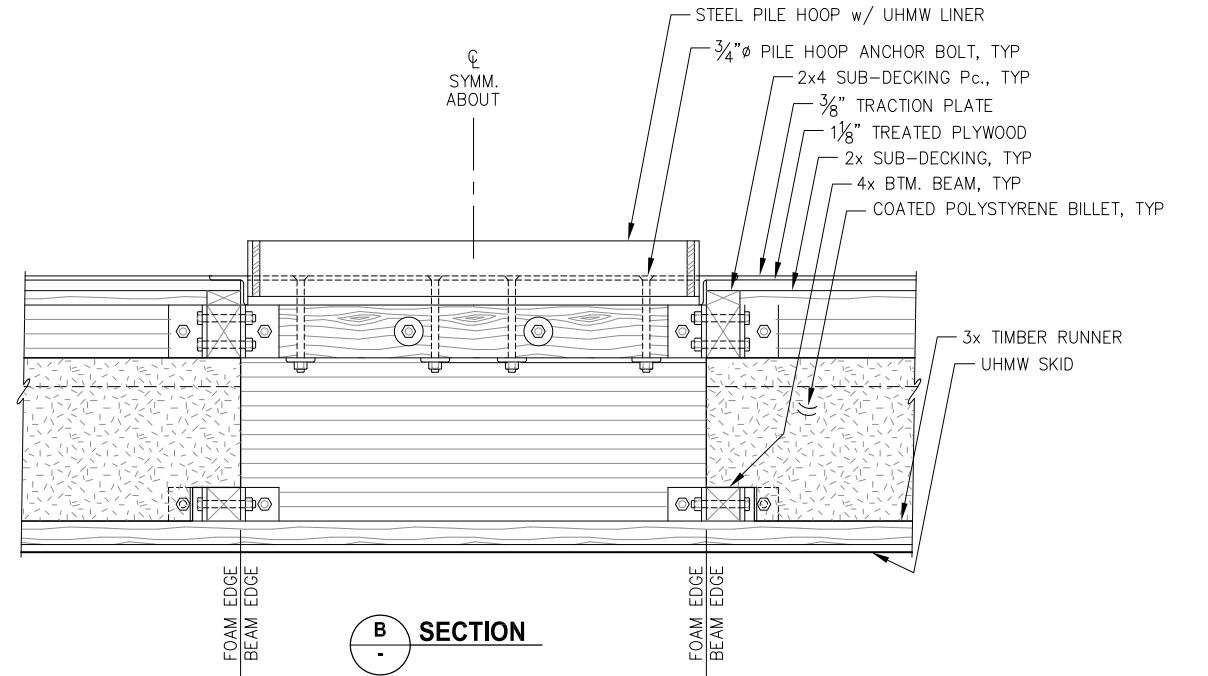


**PILE HOOP DECKING PLAN**

NOTES: PILE HOOP NOT SHOWN FOR CLARITY. CHAMFER TOP INSIDE EDGE OF TRACTION PLATE/DECK AS REQ'D FOR PILE HOOP FRAME FIT-UP.



**A SECTION**



**B SECTION**

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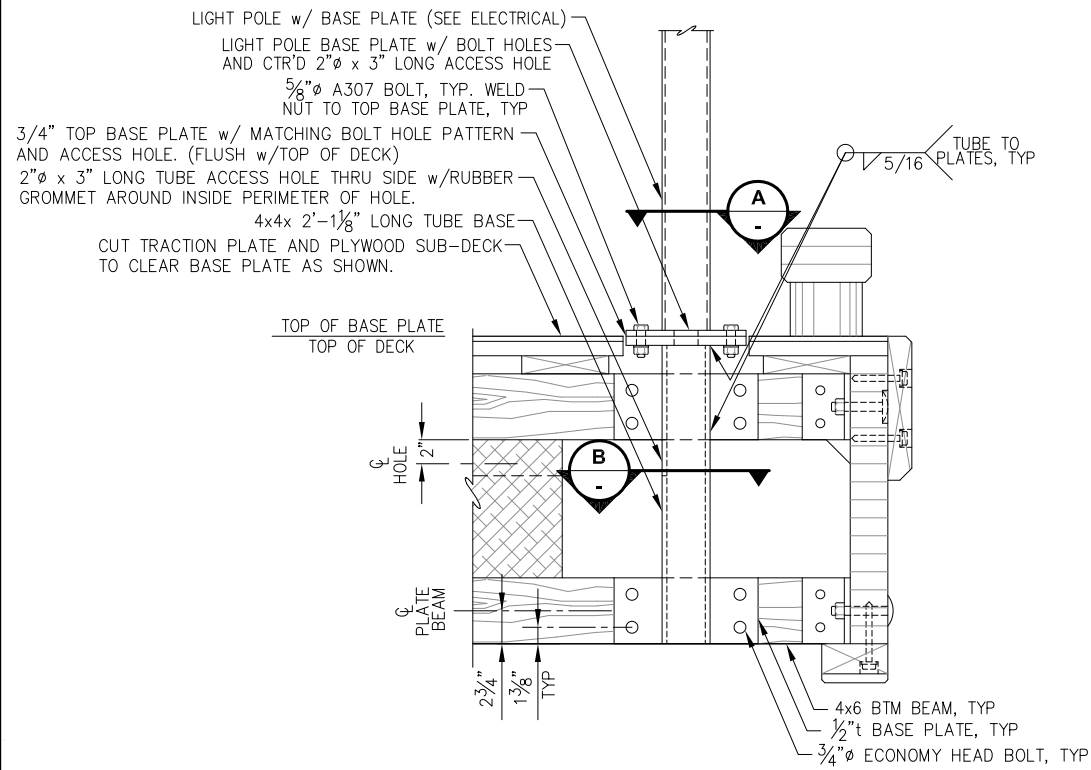
DATE: JULY 20, 2018

**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE: **BOARDING FLOAT DETAILS**

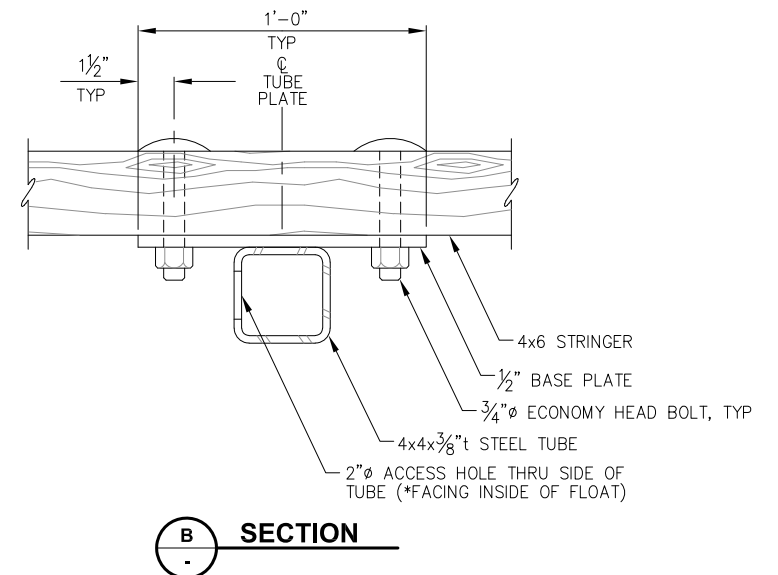
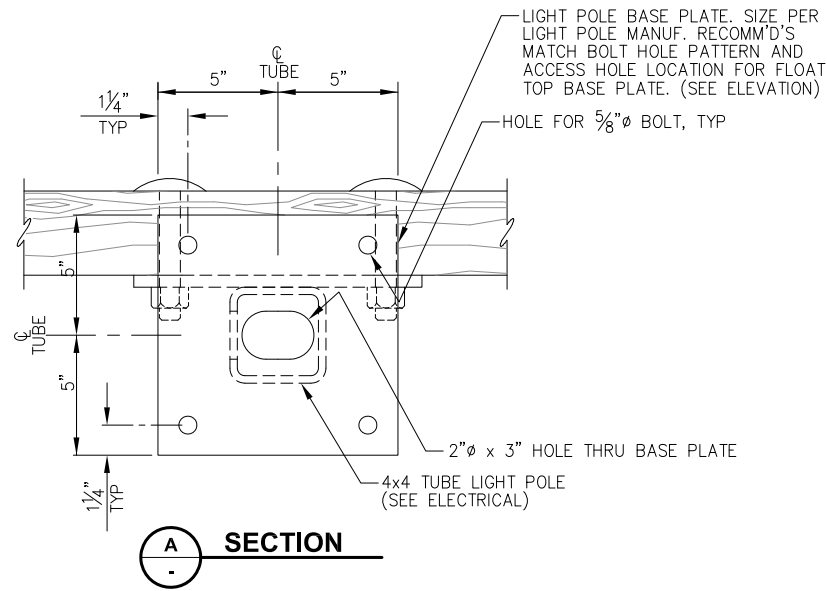
PND PROJECT NO.: 172032

**3.08**  
 SHEET 25 OF 28

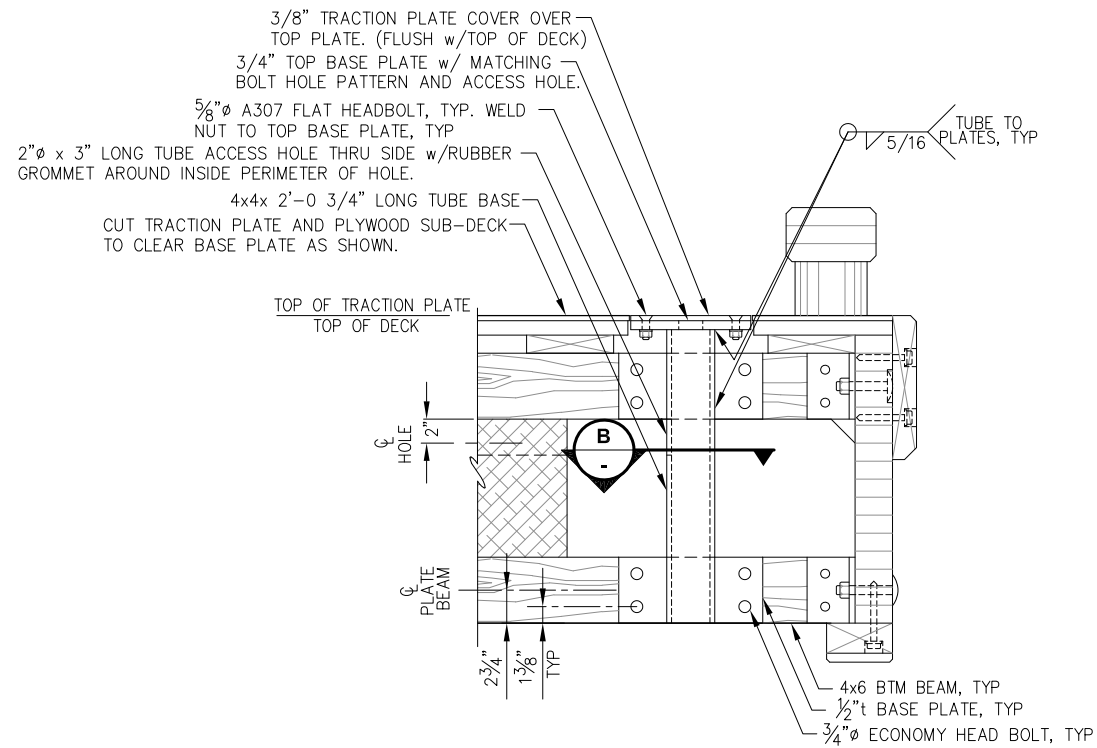


**LIGHT POLE BASE - ELEVATION - ADD ALT 2**

NOTE: SEE FLOAT PLANS FOR LOCATION (7 TOTAL).



\*NOTE: FLOAT TYPE 3 LIGHT POLE BASE ON OPPOSITE SIDE OF 4x TUBE FOR TYPE 3 FLOAT UNIT.



**LIGHT POLE BASE - ELEVATION - BASE BID**

NOTE: SEE FLOAT PLANS FOR LOCATION (7 TOTAL).

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**HAINES BOROUGH  
 PORTAGE COVE HARBOR  
 BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**BOARDING FLOAT DETAILS**

3.09

SHEET 26 OF 28

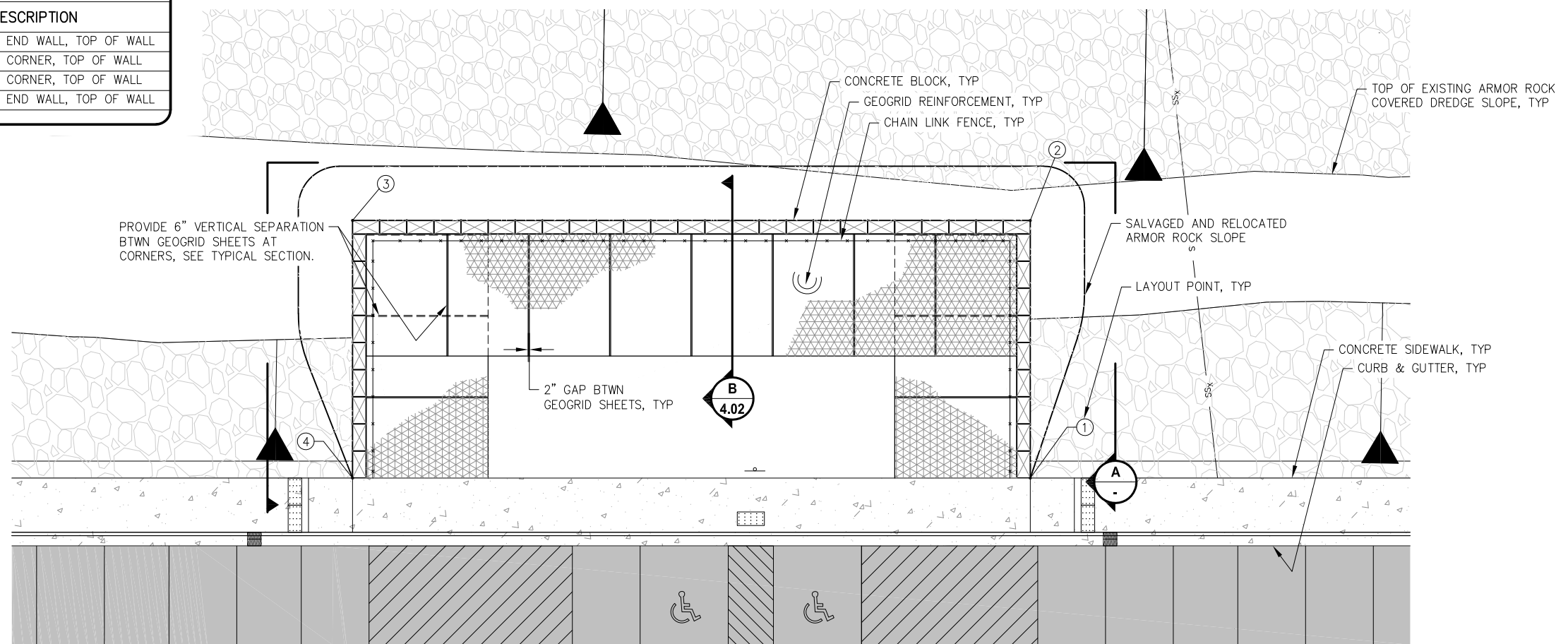
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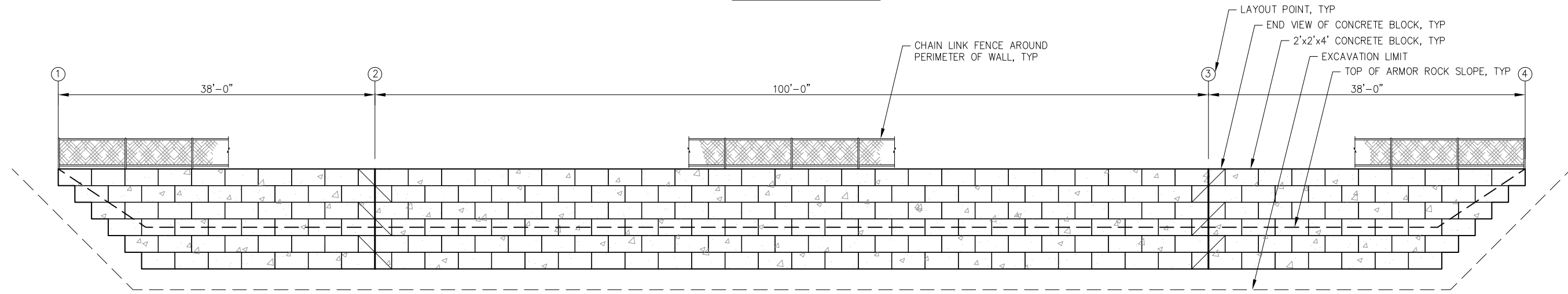


### MSE WALL LAYOUT POINTS

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION
1	2706758.42	2353576.71	26.50	FACE OF BLOCK, END WALL, TOP OF WALL
2	2706754.10	2353614.46	26.50	FACE OF BLOCK, CORNER, TOP OF WALL
3	2706853.45	2353625.82	26.50	FACE OF BLOCK, CORNER, TOP OF WALL
4	2706857.77	2353588.07	26.50	FACE OF BLOCK, END WALL, TOP OF WALL



**MSE WALL - PLAN**



**MSE WALL - PROFILE**

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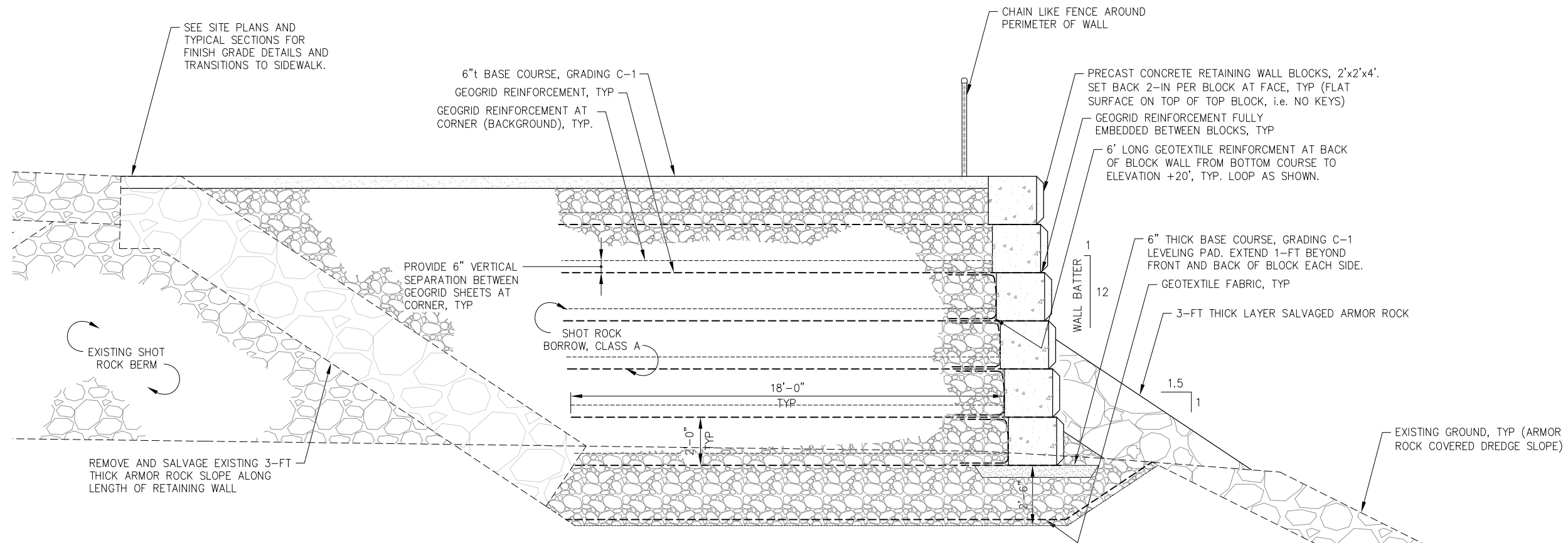
DATE: JAN. 18, 2019

**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

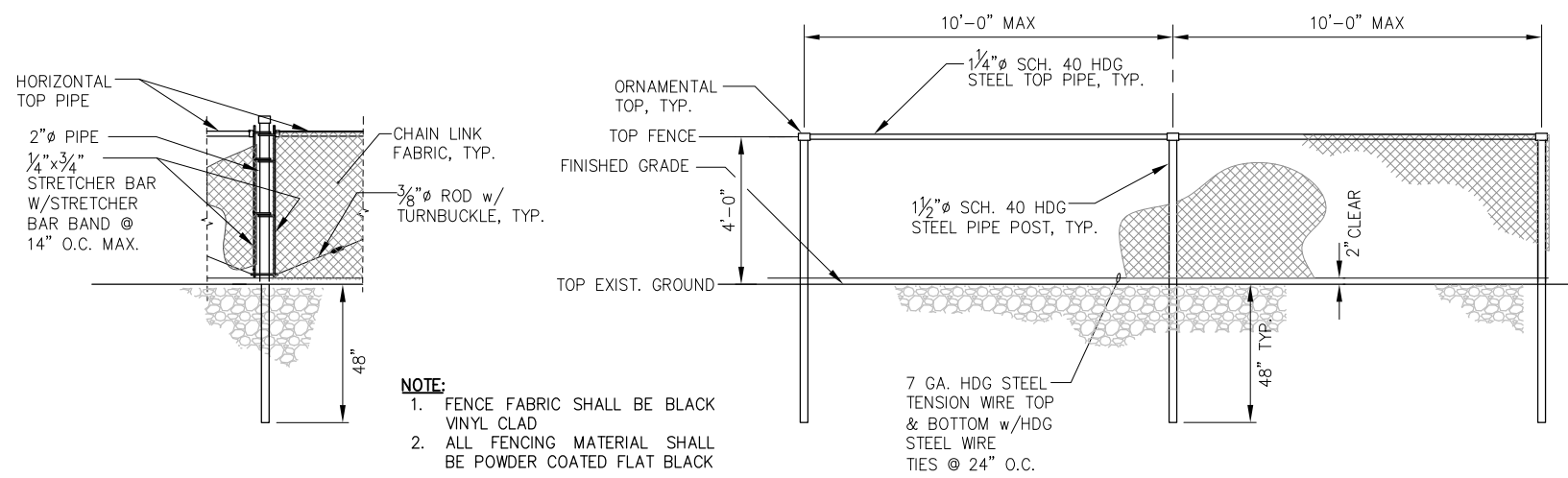
SHEET TITLE:  
**MSE WALL PLAN AND PROFILE**

PND PROJECT NO.: 172032

**4.01**  
SHEET  
27 OF 34



**B**  
4.01 **MSE WALL TYPICAL SECTION**



**CORNER & END FENCE POST**

**FENCE ELEVATION**

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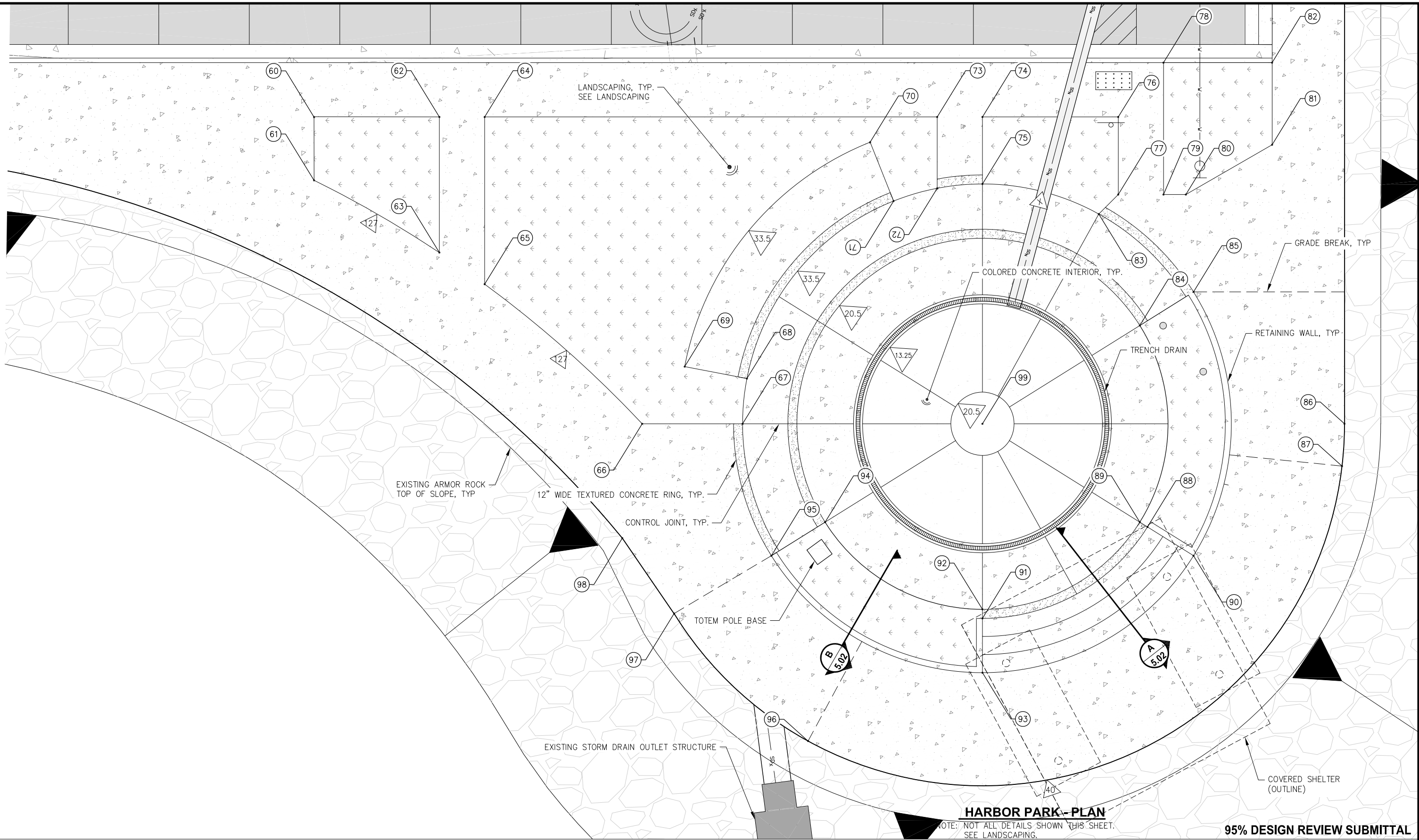
**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**MSE WALL TYPICAL SECTION**

4.02  
SHEET  
28 OF 34

PND PROJECT NO.: 172032





**HARBOR PARK - PLAN**

NOTE: NOT ALL DETAILS SHOWN THIS SHEET. SEE LANDSCAPING.

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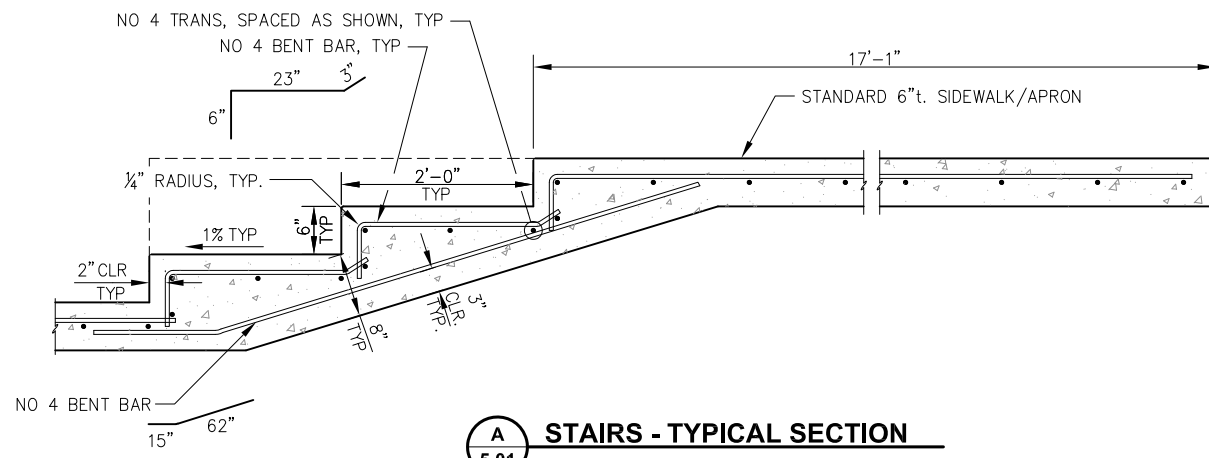
DATE: JAN. 18, 2019

**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

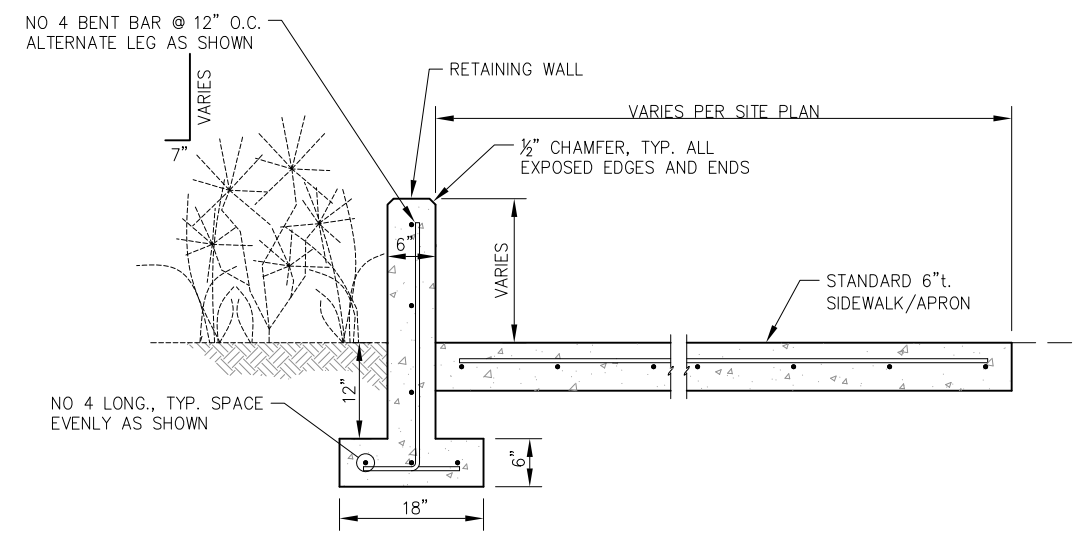
SHEET TITLE:  
**HARBOR PARK PLAN**

PND PROJECT NO.: 172032

**5.01**  
SHEET  
29 OF 34



**A** STAIRS - TYPICAL SECTION  
5.01



**B** RETAINING WALL - TYPICAL SECTION  
5.01

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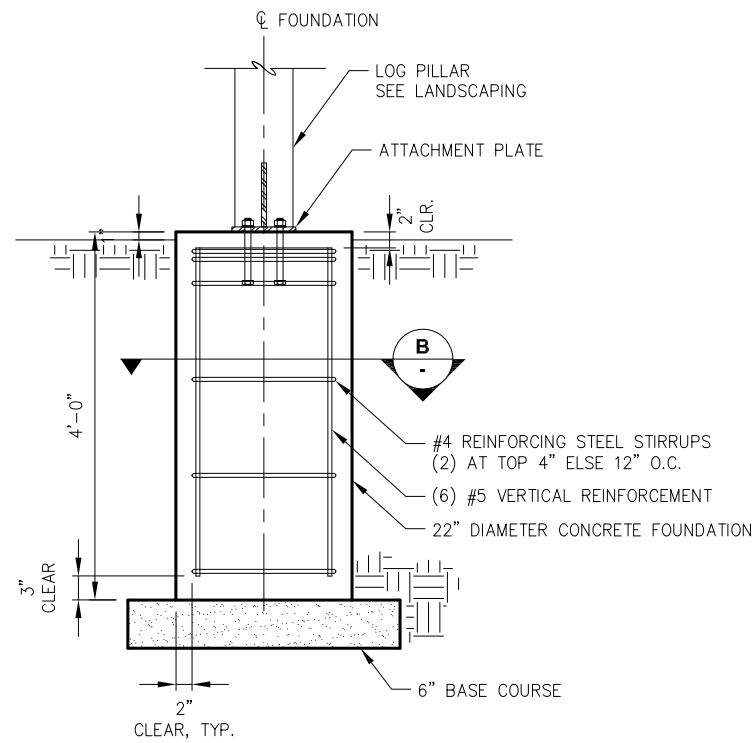
**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**HARBOR PARK DETAILS**

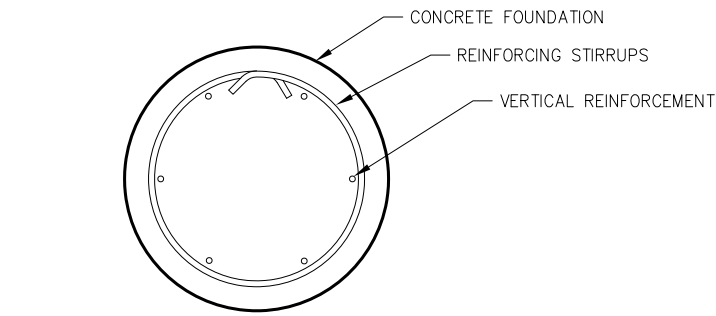
5.02  
SHEET  
30 OF 34

PND PROJECT NO.: 172032

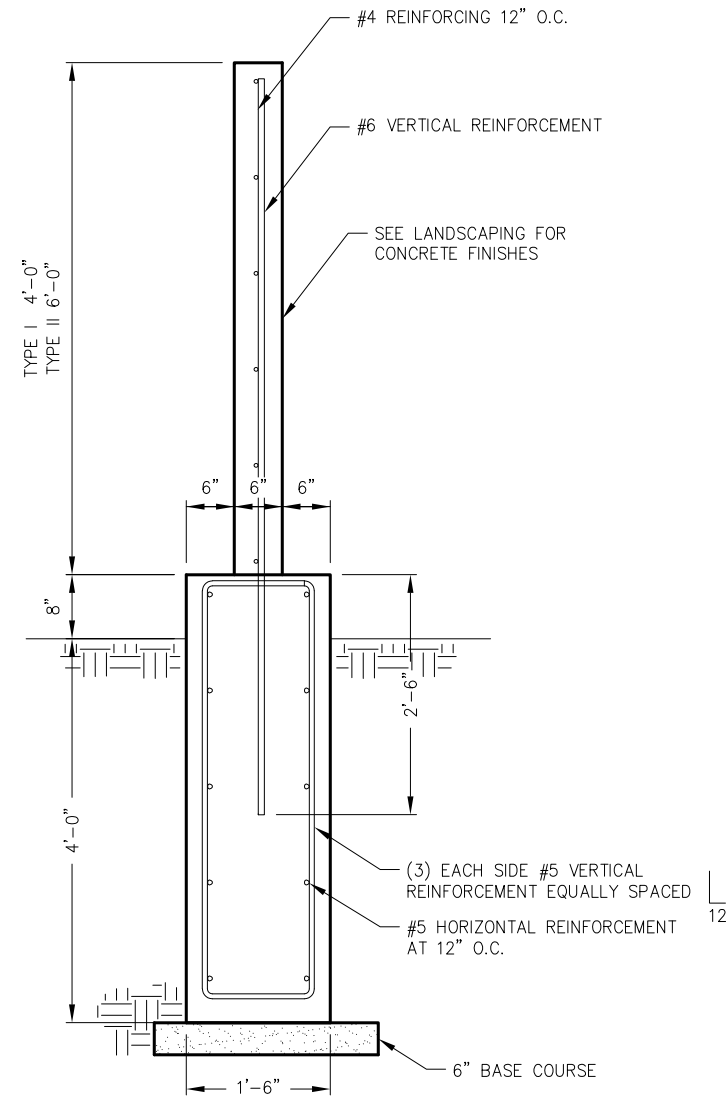




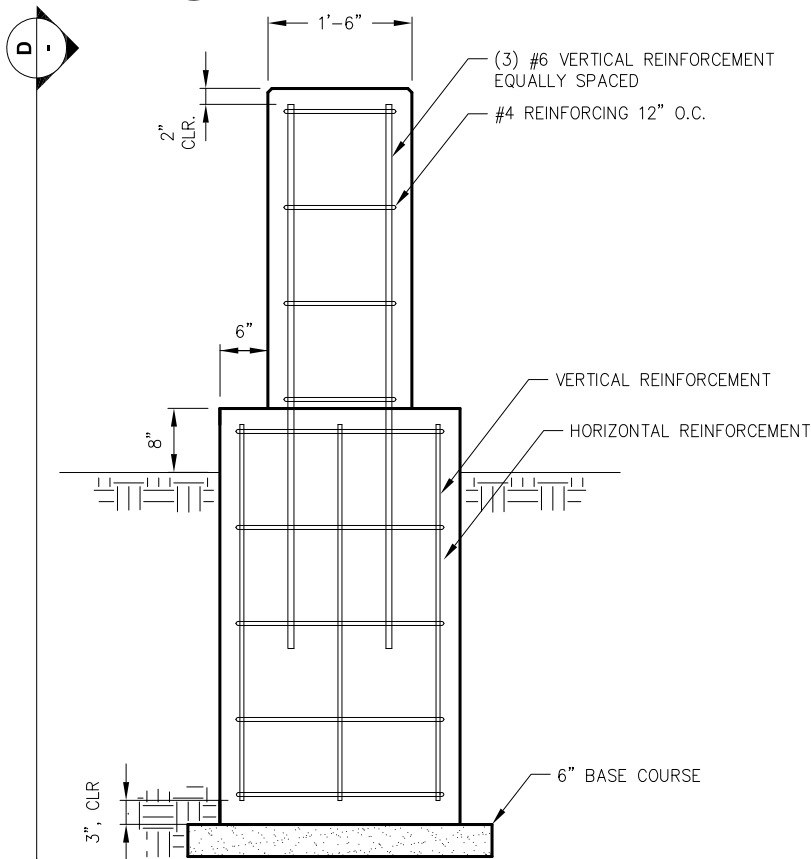
**A LOG PILLAR FOUNDATION COVERED KIOSK**



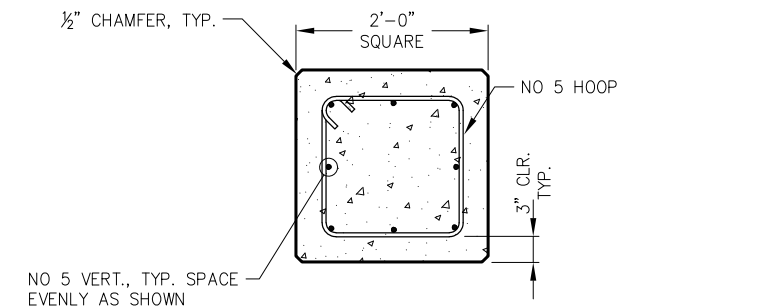
**B TYPICAL LOG PILLAR FOUNDATION SECTION**



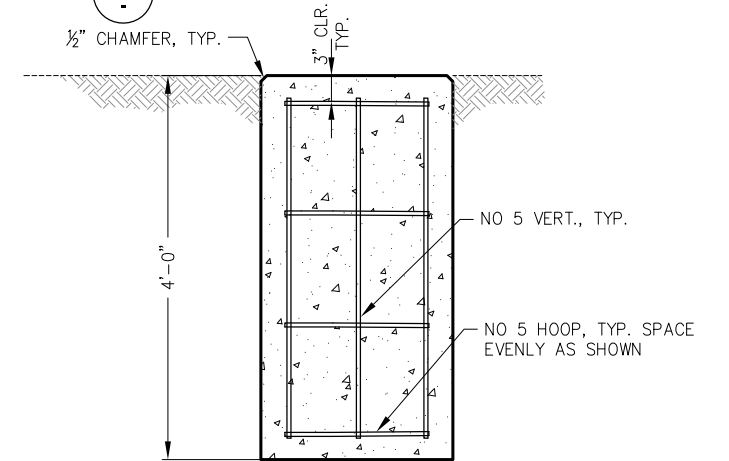
**D TYPICAL MEMORIAL FOUNDATION**



**C TYPICAL MEMORIAL FOUNDATION**



**E TOTEM POLE FOUNDATION - PLAN**



**F TOTEM POLE FOUNDATION**



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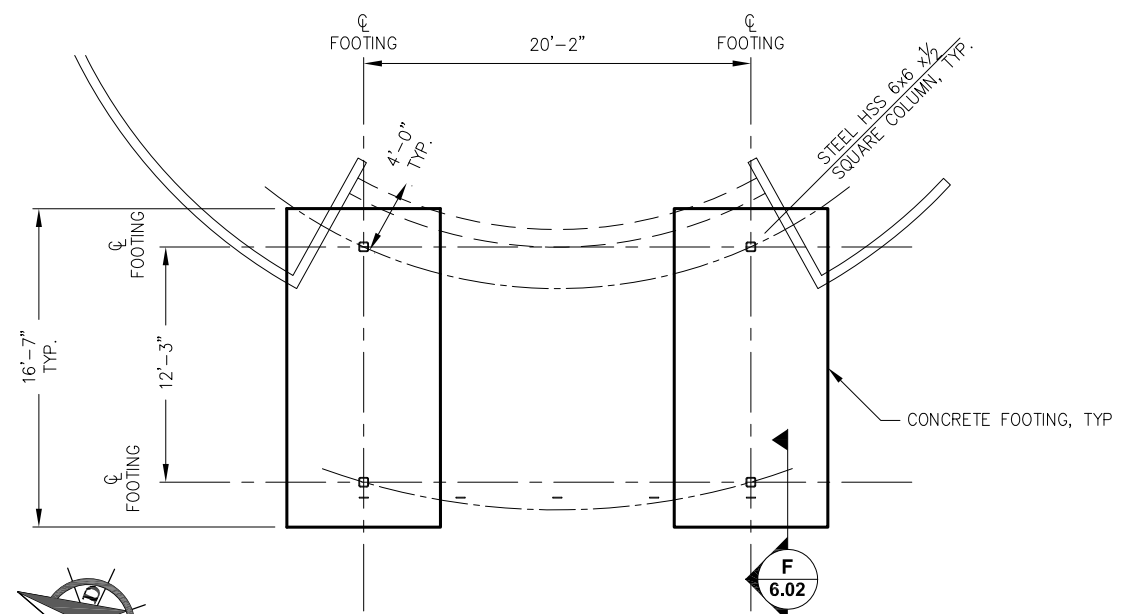
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**HAINES BOROUGH  
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BOAT LAUNCH IMPROVEMENTS**

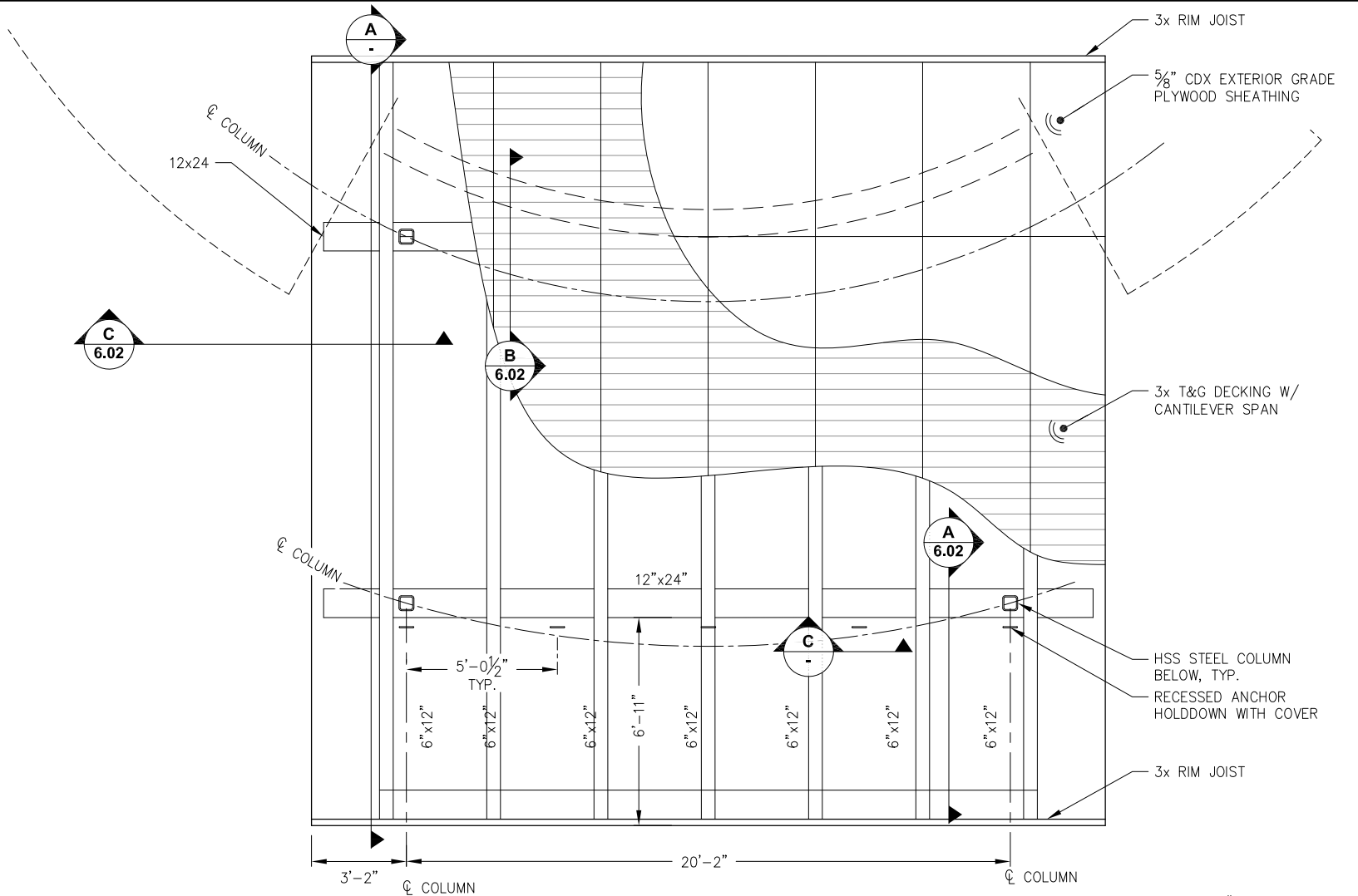
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**HARBOR PARK DETAILS**

PND PROJECT NO.: 172032

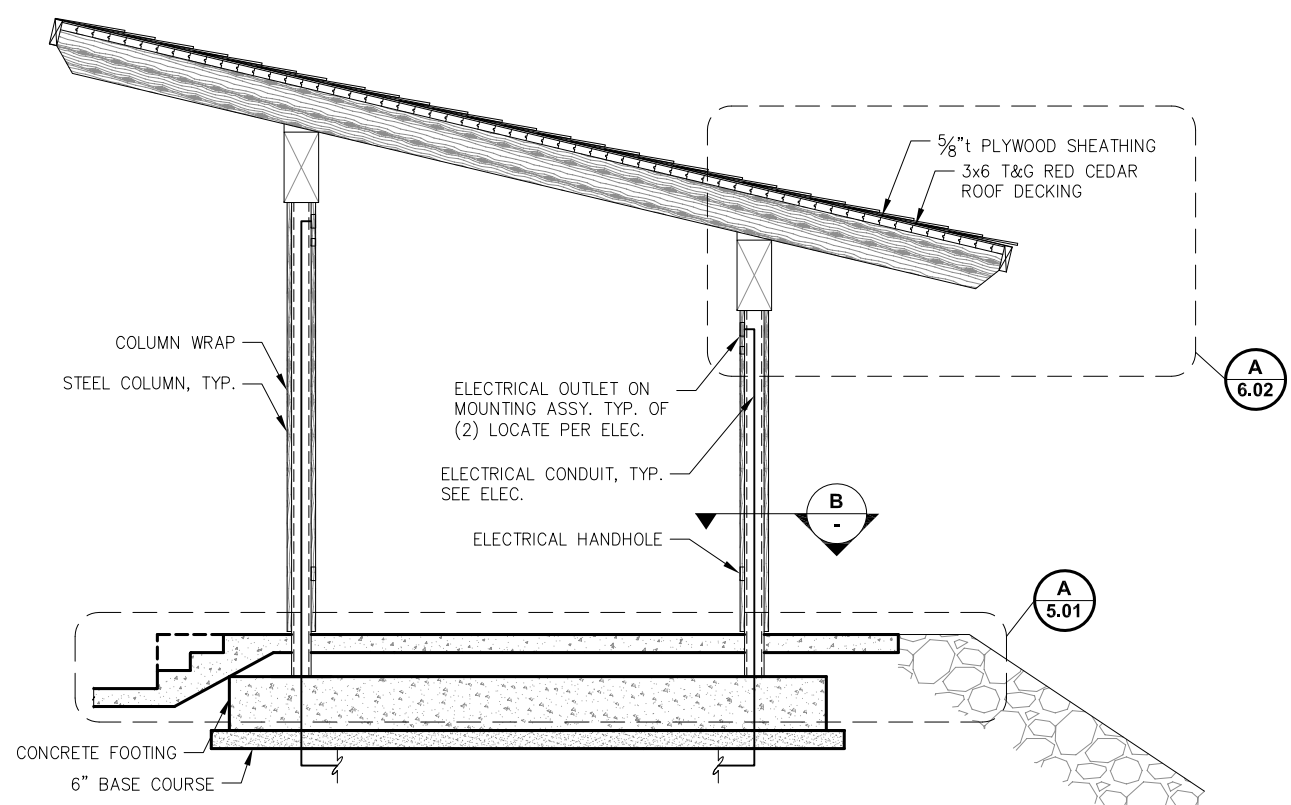
**5.03**  
SHEET  
31 OF 34



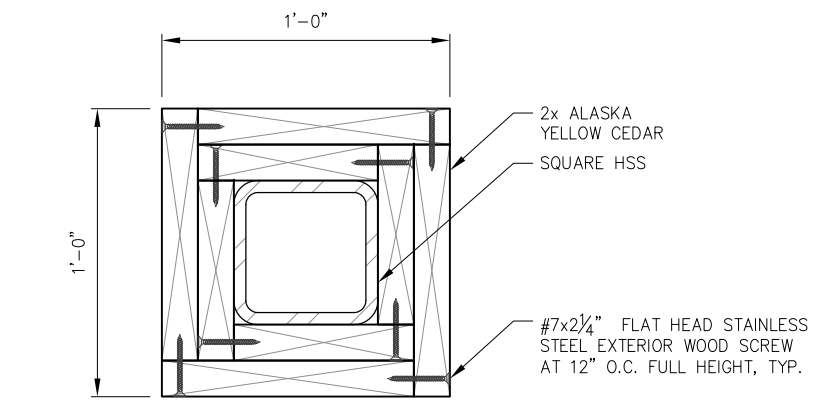
**FOUNDATION PLAN - COVERED SHELTER**



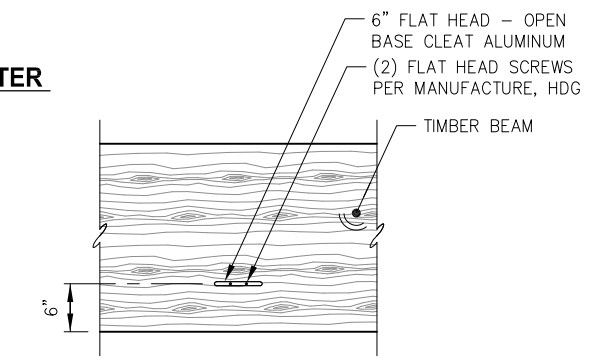
**ROOF FRAMING PLAN - COVERED SHELTER**



**SHELTER ELEVATION - COVERED SHELTER**



**DECORATIVE COLUMN WRAP SECTION**



**CANVAS CLEAT CONNECTION**  
\*CENTER CLEATS ABOVE CONCRETE EMBEDS  
SPACING FOR EMBEDS SHOWN ON SHEET 6.01

- NOTES:**
- EDGE NAIL ALL ROOF SHEATHING @ 6" O.C., FIELD NAIL @ 12" O.C. w/ 10d HOT-DIP GALVANIZED COMMON NAILS.
  - NAIL ALL TONGUE AND GROOVE ROOF DECKING PER THE MANUFACTURERS RECOMMENDATIONS.
  - ALL FRAMING NAILS TO BE 16d HOT-DIP GALVANIZED COMMON NAILS.

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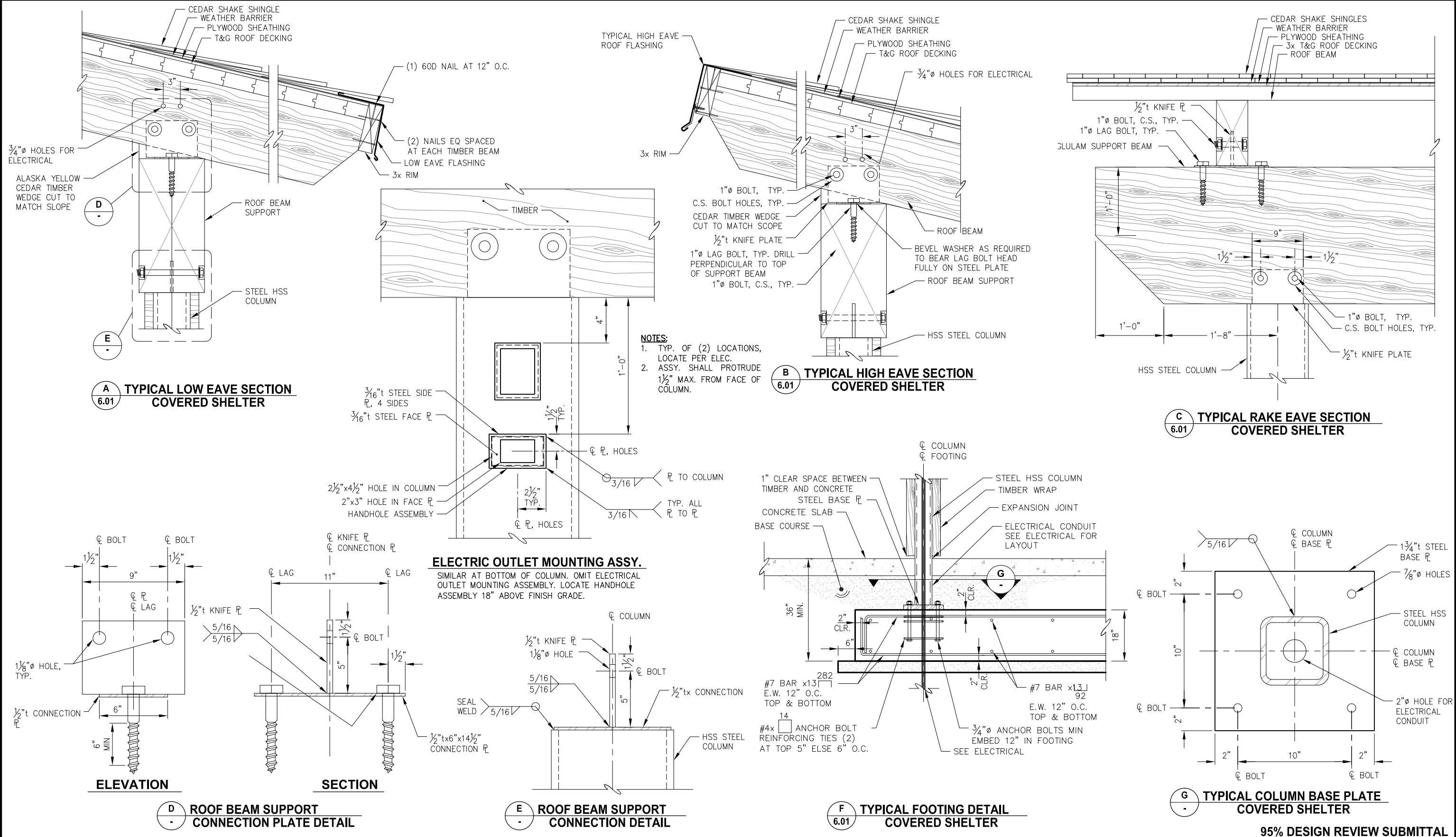
**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**COVERED SHELTER PLANS  
AND ELEVATION**

PND PROJECT NO.: 172032

**6.01**  
SHEET  
32 OF 34





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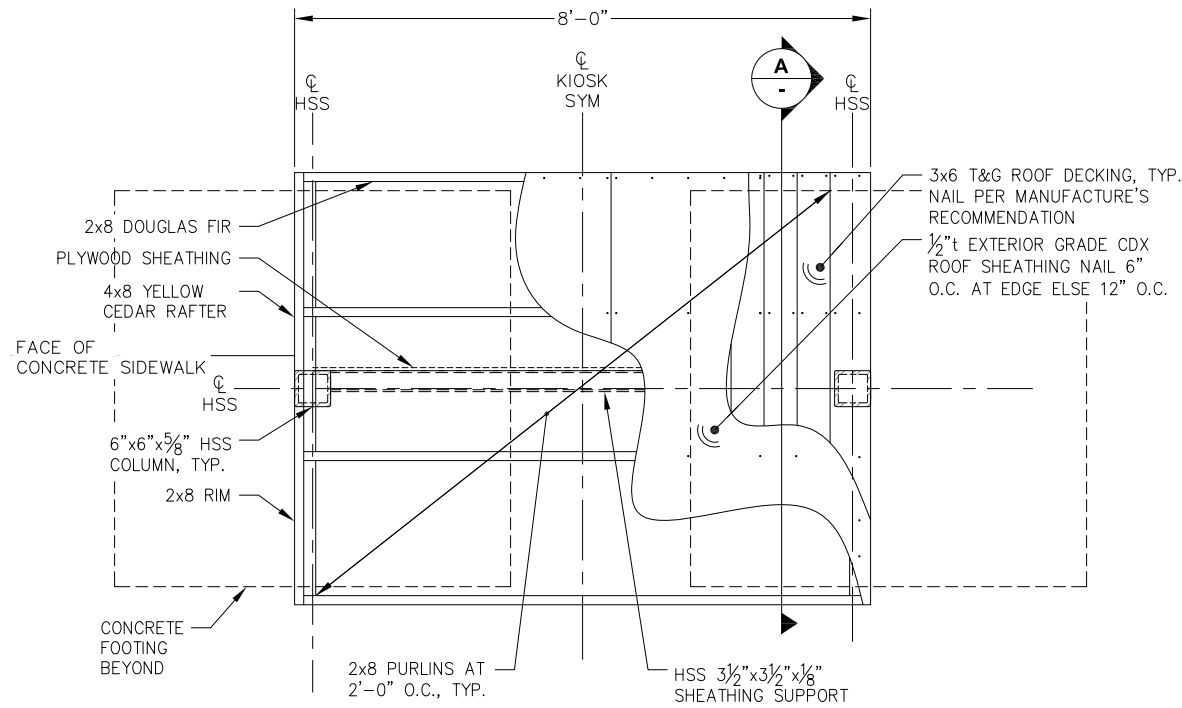
DATE: JAN. 18, 2019

**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

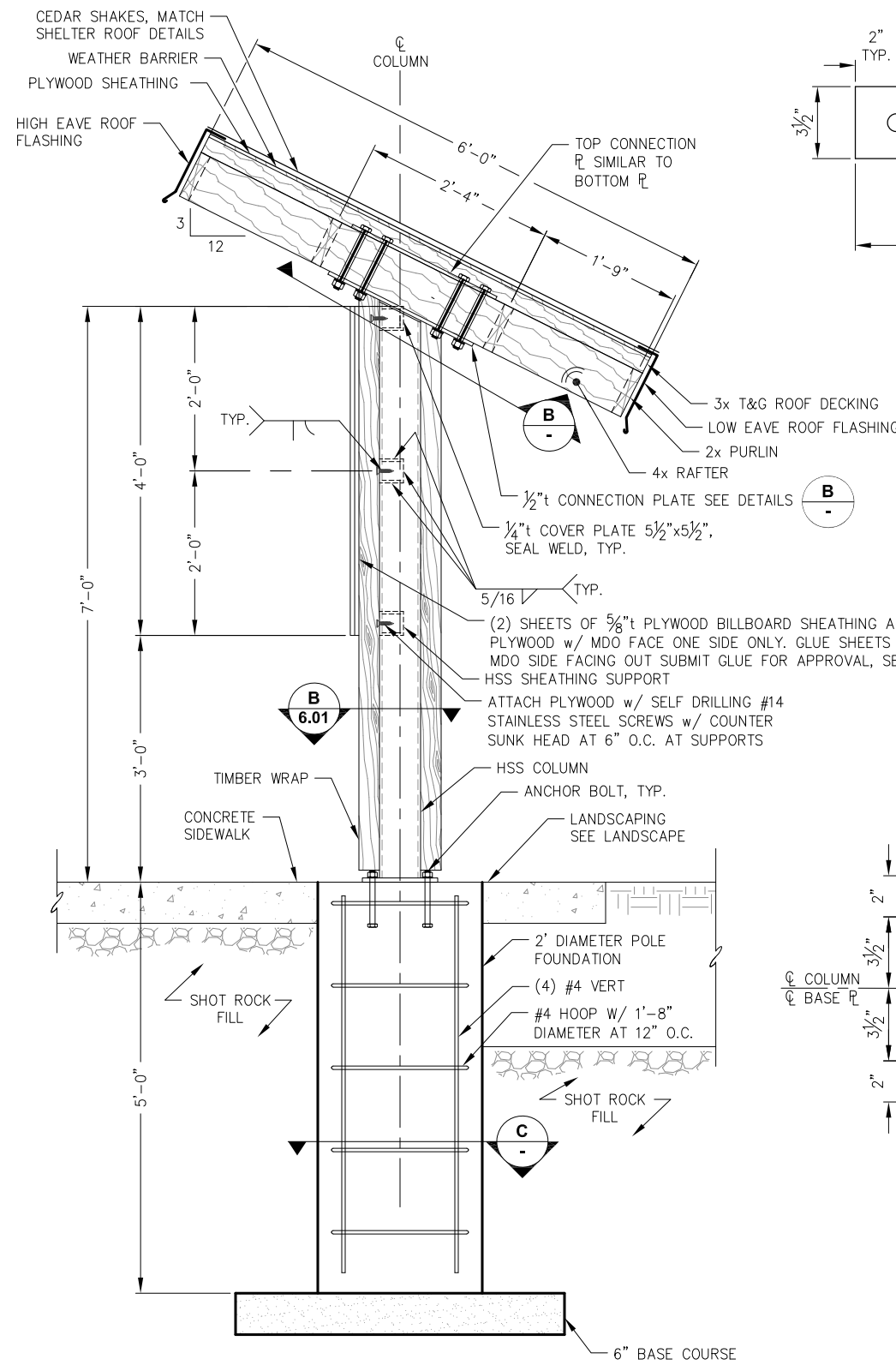
SHEET TITLE: **COVERED SHELTER DETAILS**

PND PROJECT NO.: 172032

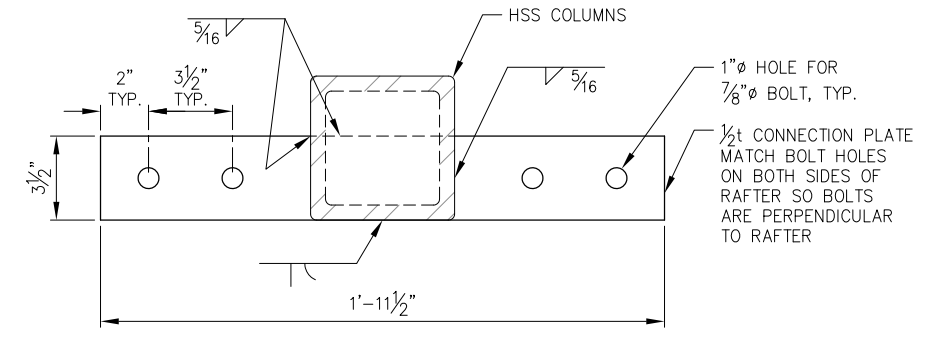
**6.02**  
SHEET 33 OF 34



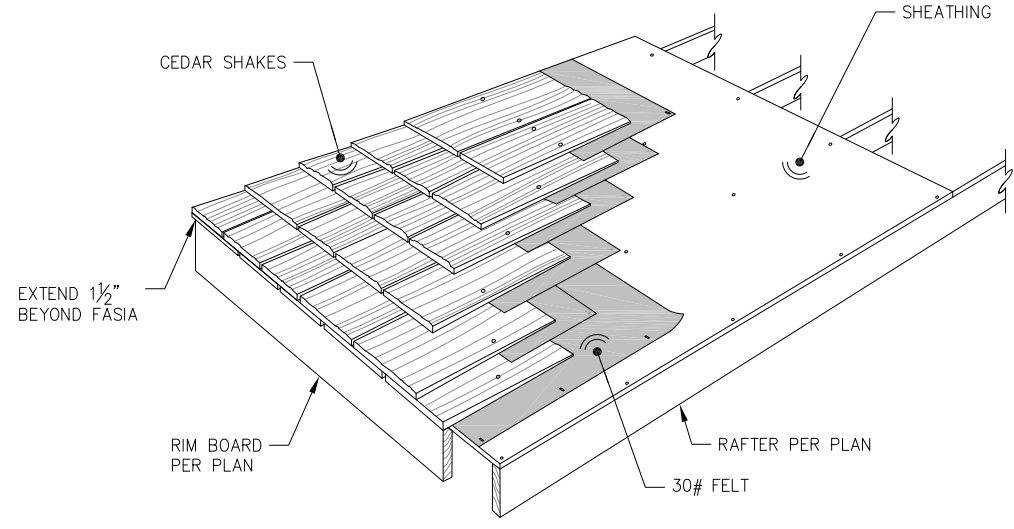
**COVERED KIOSK SECTION FRAMING PLAN**



**TYPICAL HIGH EAVE SECTION COVERED KIOSK**

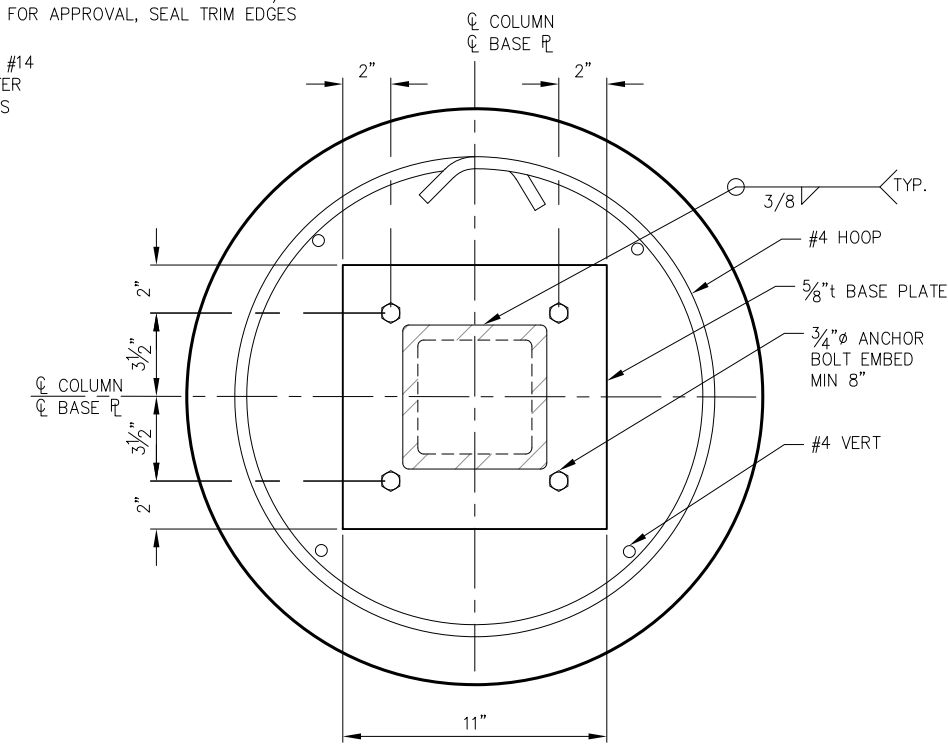


**TYPICAL TIMBER FRAME CONNECTION PLATE**



**TYPICAL CEDAR SHAKE SHINGLE**

\*RAFTERS, RIM BOARD AND SHEATHING SHOWN FOR REFERENCE ONLY. SEE FRAMING FOR SIZE AND SPACING



**POLE FOUNDATION DETAIL**

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DATE: JAN. 18, 2019

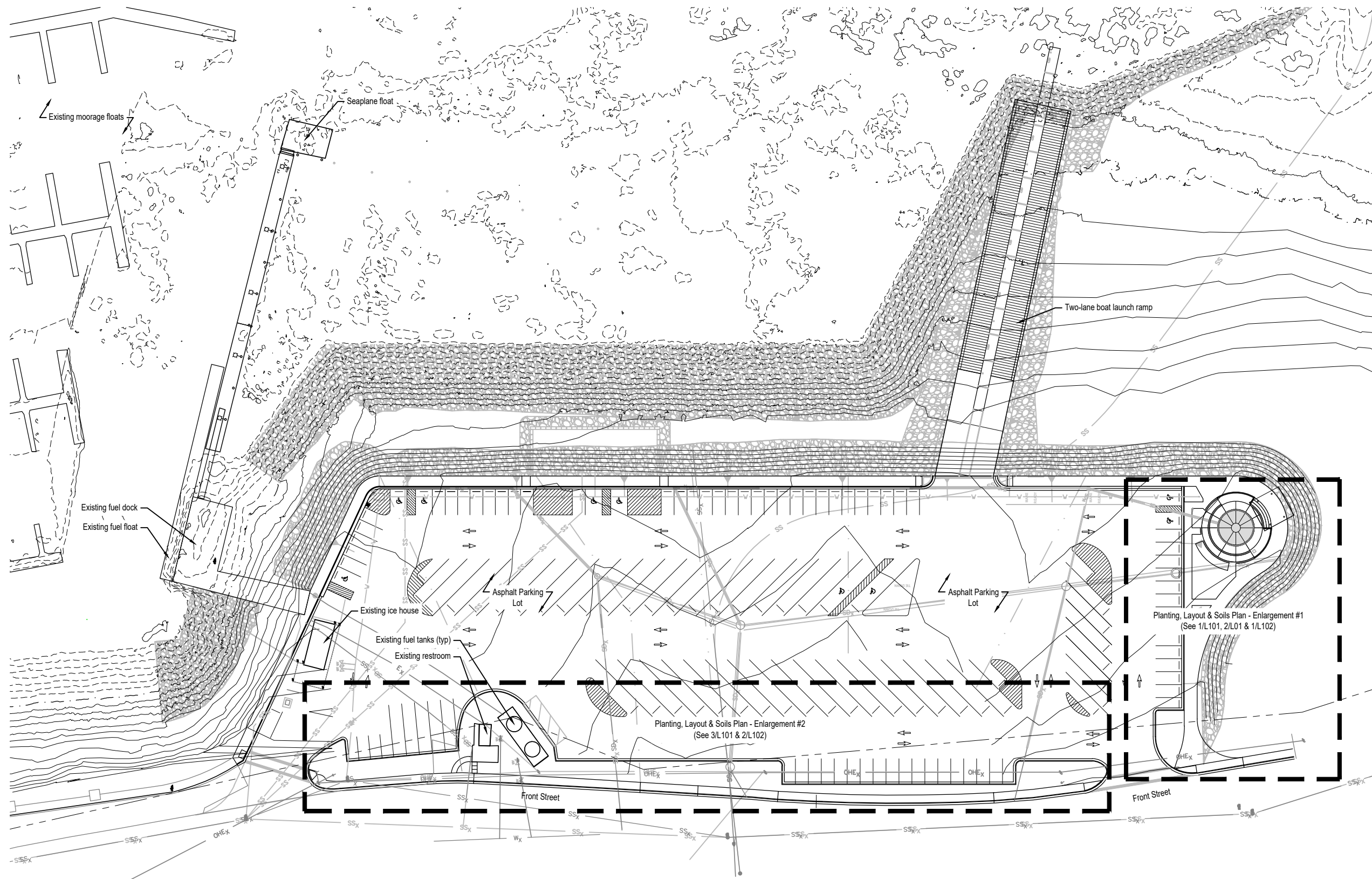
**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE: **COVERED KIOSK PLANS AND DETAILS**

PND PROJECT NO.: 172032

**6.03**  
 SHEET 34 OF 34





1 Landscape Key Plan  
L100 SCALE: 1" = 40'-0" @22x34



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SCALE: \_\_\_\_\_



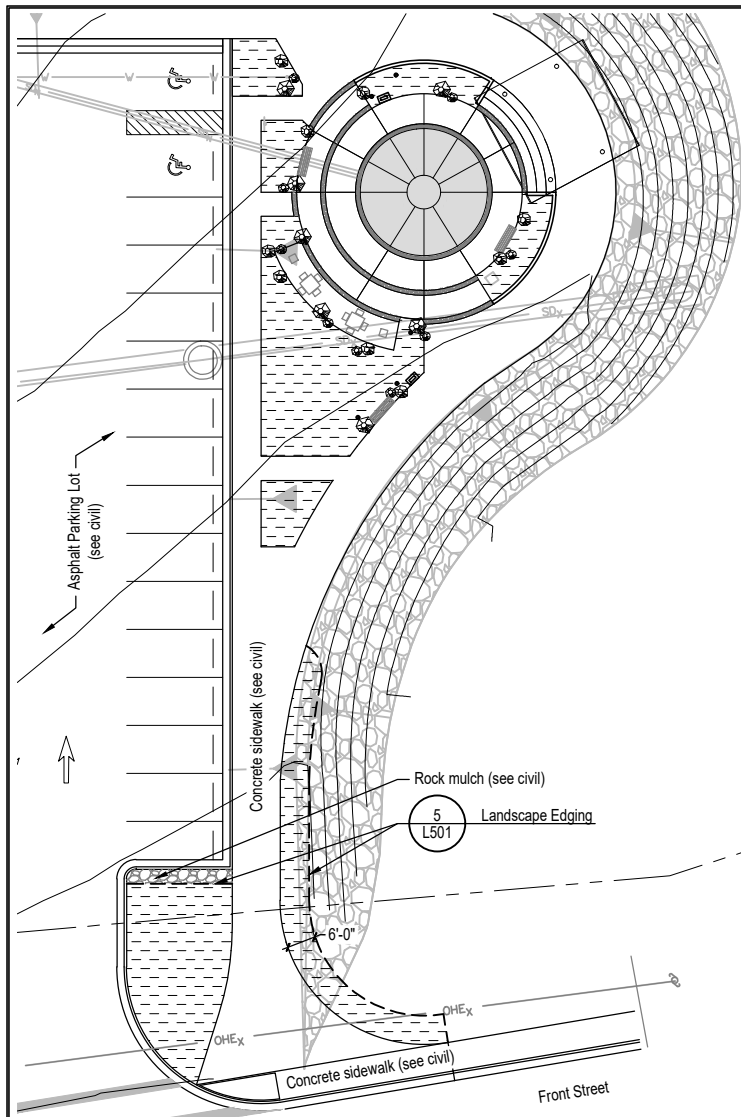
**HAINES BOROUGH  
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BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**Landscape Key Plan**

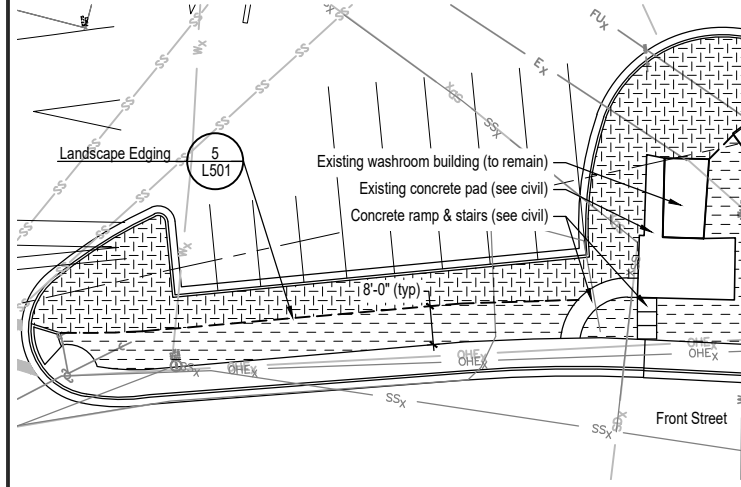
PND PROJECT NO.: 172032

**L100**  
SHEET  
1 OF 6

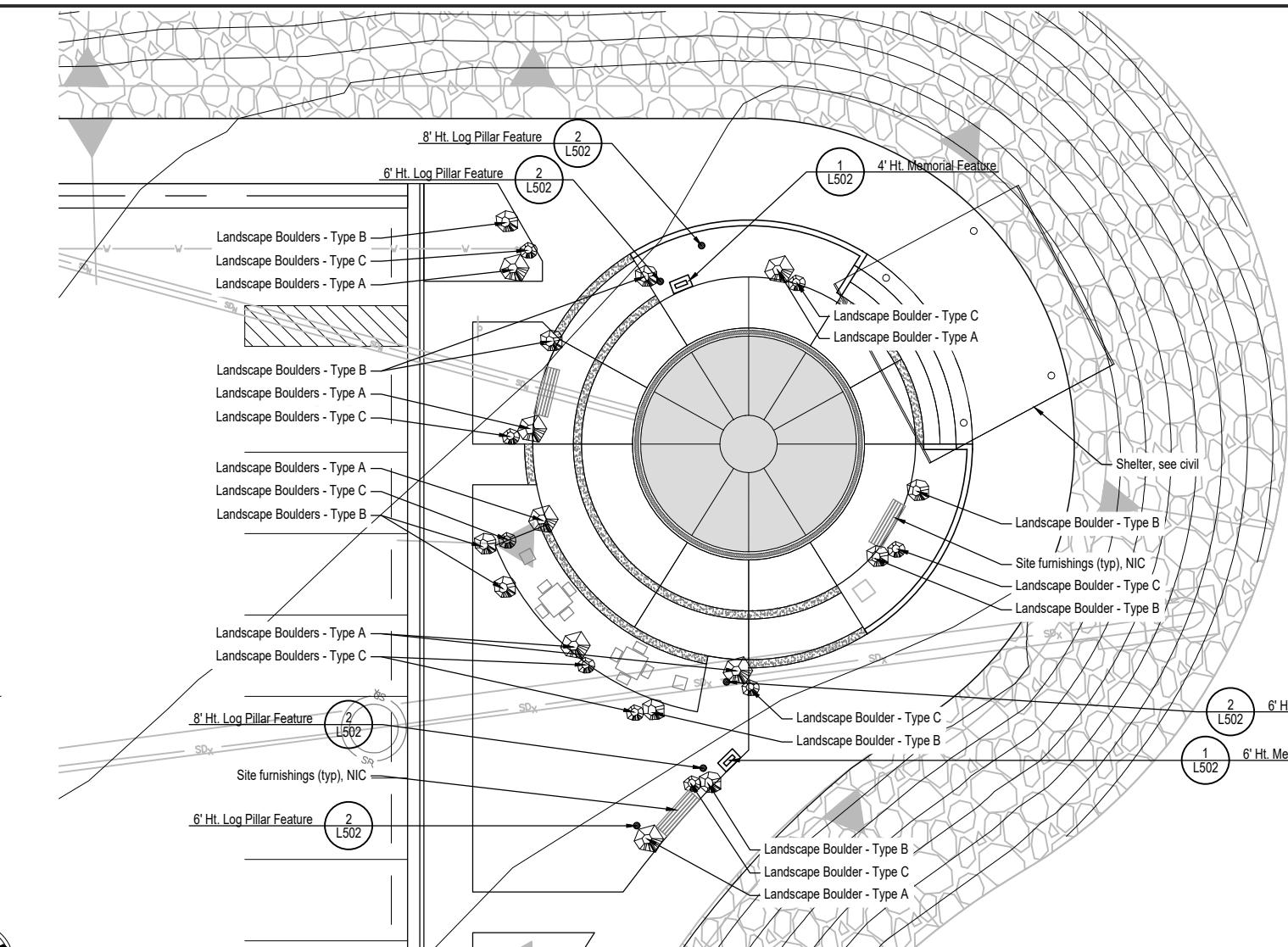




**1 Soils Plan - Enlargement 1**  
 L101 SCALE: 1" = 20'-0" @22x34





**3 Soils & Layout Plan - Enlargement 2**  
 L101 SCALE: 1" = 20'-0" @22x34







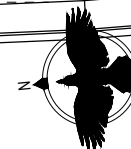
**2 Layout Plan - Enlargement #1**  
 L101 SCALE: 1" = 10'-0" @22x34

**Soils Legend**

-  18" depth Planting Soil- Excavate as necessary to allow placement of 18" depth of planting soil (as measured after compaction) and installation of 2" depth mulch to meet finished grades.
-  4" depth Planting Soil- Excavate as necessary to allow placement of 4" depth of planting soil (as measured after compaction) to meet finished grades.

**Landscape Boulder Legend**

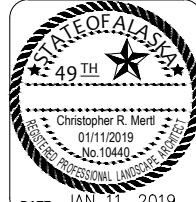
-  Boulder - Type A
-  Boulder - Type B
-  Boulder - Type C
-  Landscape Boulders



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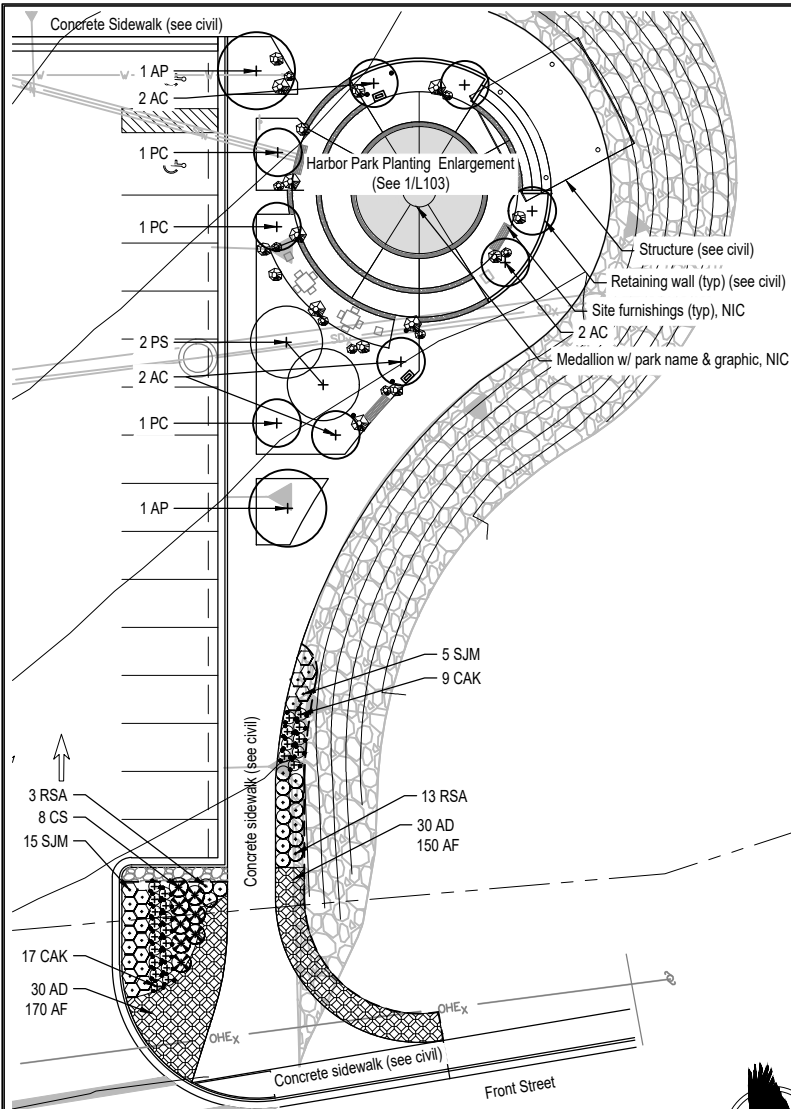
**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**Soils & Layout Plan**

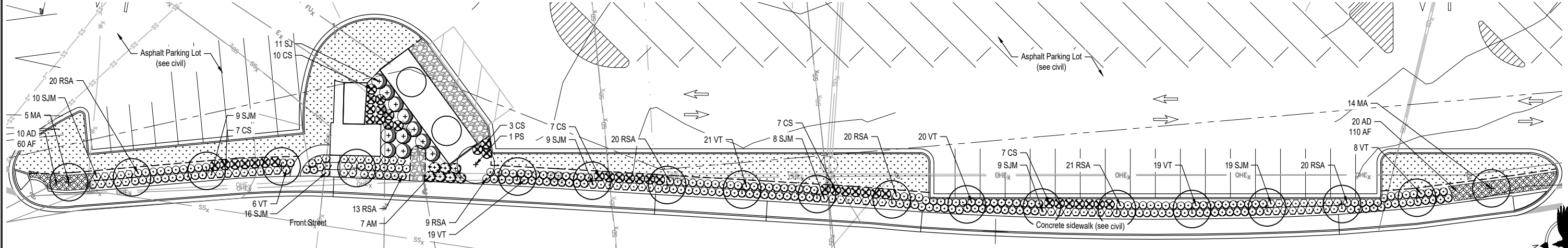
PND PROJECT NO.: 172032

**L101**  
 SHEET 2 OF 6





**1**  
L102  
**Planting Plan - Enlargement 1**  
SCALE: 1" = 20'-0" @ 22x34



**2**  
L102  
**Planting Plan - Enlargement 2**  
SCALE: 1" = 20'-0" @ 22x34

# Planting Schedule

## Deciduous Trees- See Detail: 1 L501 Deciduous Tree Planting - Staked

Qty.	Symbol	Label	Latin Name	Common Name	Size	Furnished	Notes
02	+	AP	Acer platanoides 'Schwedleri'	Schwedleri Norway maple	2" CAL	B&B	Single stem
06	+	AC	Amelanchier canadensis	Shadblow serviceberry	2" CAL	B&B	Multi-stemmed
19	+	MA	Malus 'Prairiefire'	Prairie Fire flowering crabapple	2" CAL	B&B	Single stem - low branches min. 6' ht.
03	+	PC	Populus tremuloides	Quaking aspen	2" CAL	B&B	Multi-stemmed

## Evergreen Trees- See Detail: 2 L501 Evergreen Tree Planting - Staked

Qty.	Symbol	Label	Latin Name	Common Name	Size	Furnished	Notes
03	+	PS	Picea sitchensis	Sitka spruce	6' HT	B&B	

## Shrubs - See Detail: 3 L501 Shrub Planting

Qty.	Symbol	Label	Latin Name	Common Name	Size	Furnished	Notes
10	+	AM	Aronia melanocarpa var. elata	Black chokeberry	#5 24" MIN	CG	
57	⊗	CS	Cornus sericea 'Farrow'	Arctic Fire dogwood	#5 24" MIN	CG	
165	+	RSA	Rosa rugosa	Rugosa rose	#2 18" MIN	CG	
112	+	SJM	Spiraea japonica 'Magic Carpet'	Magic Carpet spirea	#2 18" MIN	CG	
11	+	SJ	Spiraea japonica 'Shirobana'	Shirobana spirea	#5 24" MIN	CG	
120	+	VT	Viburnum trilobum 'Compactum'	Compact highbush cranberry	#5 24" MIN	CG	

## Perennials- See Detail: 4 L501 Perennial Planting

Qty.	Symbol	Label	Latin Name	Common Name	Size	Furnished	Notes
59	+	AMO	Alchemilla mollis	Lady's mantle	#1	CG	18" OC Triangular spacing
130	+	AD	Astilbe 'Deutschland'	False spirea astilbe	#1	CG	18" OC Triangular spacing
527	+	AF	Astilbe 'Fanal'	Fanal astilbe	#1	CG	18" OC Triangular spacing
45	+	IS	Iris setosa	Wild Iris	#1	CG	18" OC Triangular spacing
		AD	Astilbe 'Deutschland'	False spirea astilbe	#1	CG	18" OC Triangular spacing
		AF	Astilbe 'Fanal'	Fanal astilbe	#1	CG	18" OC Triangular spacing

## Grasses- See Detail: 4 L501 Perennial Planting

Qty.	Symbol	Label	Latin Name	Common Name	Size	Furnished	Notes
50	+	CAK	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	#1	CG	18" OC Triangular spacing

## Ferns- See Detail: 4 L501 Perennial Planting

Qty.	Symbol	Label	Latin Name	Common Name	Size	Furnished	Notes
30	+	MS	Matteuccia struthiopteris	Ostrich fern	#2	CG	18" OC Triangular spacing

## Groundcovers- See Detail: 4 L501 Perennial Planting

Qty.	Symbol	Label	Latin Name	Common Name	Size	Furnished	Notes
156	+	VAC	Vaccinium vitis-idaea	Lingonberry	#1	CG	12" OC Triangular spacing

## Miscellaneous

- Type A Seed Mix
- Rock Mulch (see civil)



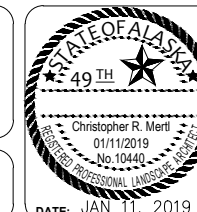
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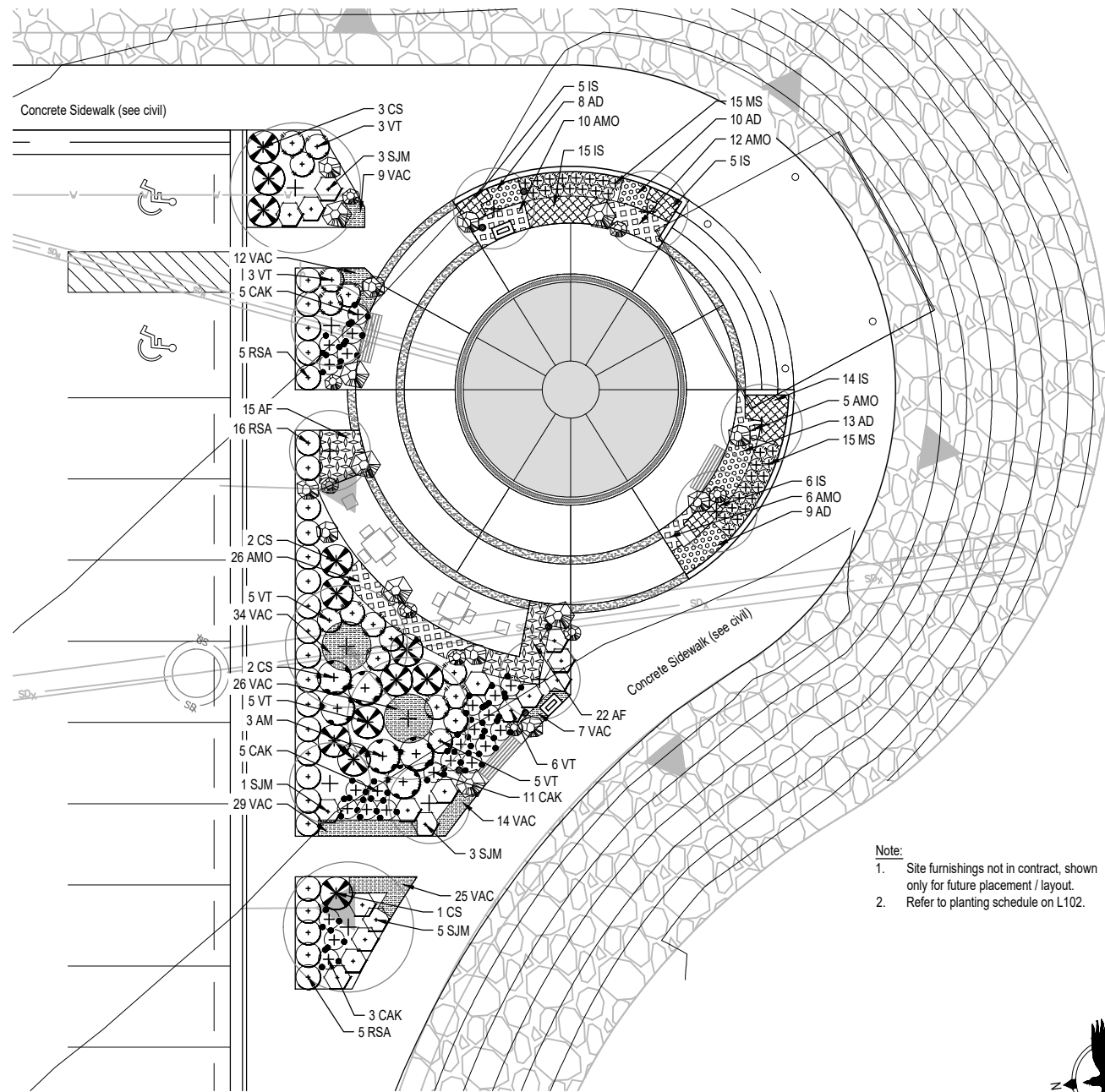
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**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**Planting Plan**

PND PROJECT NO.: 172032

**L102**  
SHEET  
3 OF 6



**Note:**  
 1. Site furnishings not in contract, shown only for future placement / layout.  
 2. Refer to planting schedule on L102.



**1 Harbor Plaza Planting Enlargement**  
 L103 SCALE: 1" = 10'-0" @22x34



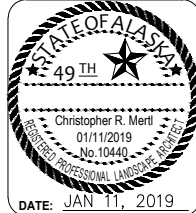
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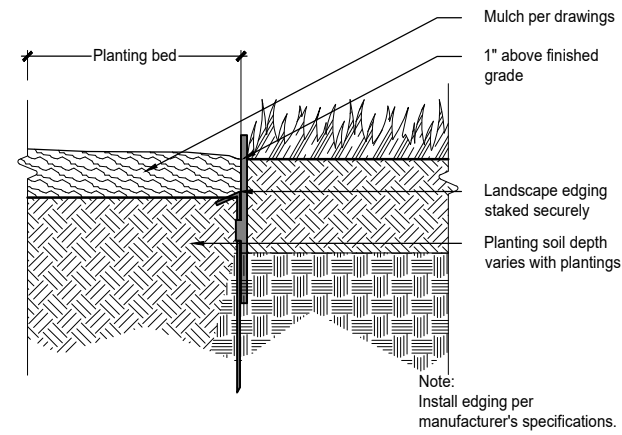


**HAINES BOROUGH  
 PORTAGE COVE HARBOR  
 BOAT LAUNCH IMPROVEMENTS**

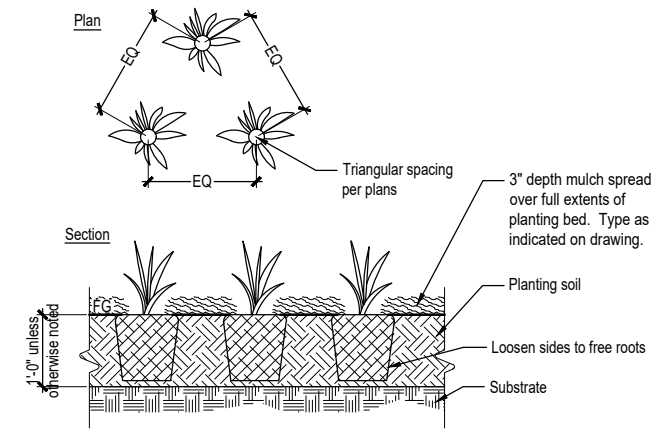
SHEET TITLE:  
**Planting Plan**  
 PND PROJECT NO.: 172032

**L103**  
 SHEET  
**4 OF 6**

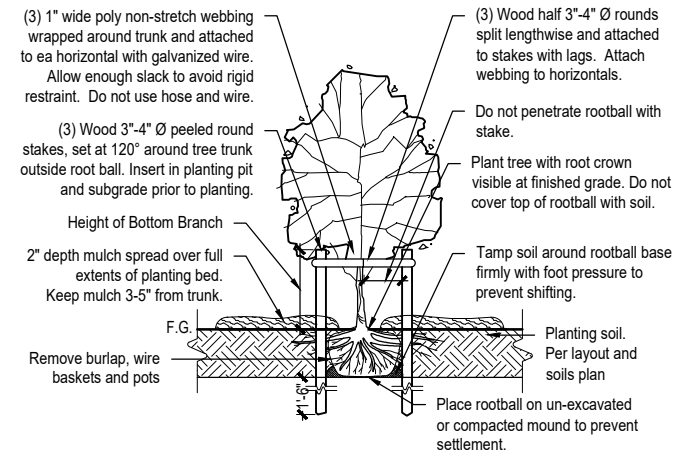




5 Landscape Edging  
L501 SCALE: NTS @22x34



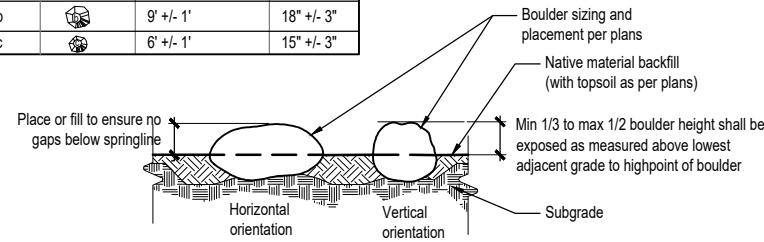
4 Perennial Planting  
L501 SCALE: NTS @22x34



1 Deciduous Tree Planting - Staked  
L501 SCALE: NTS @22x34

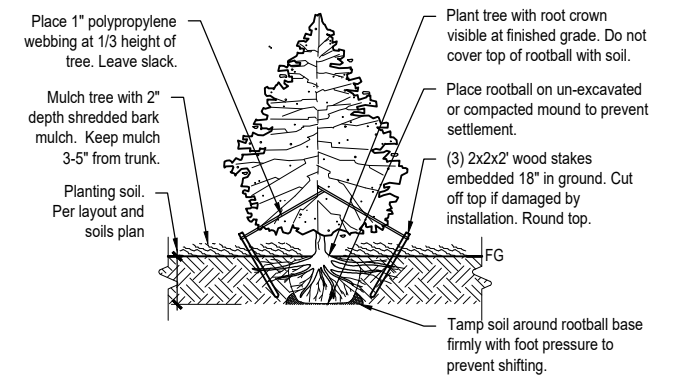
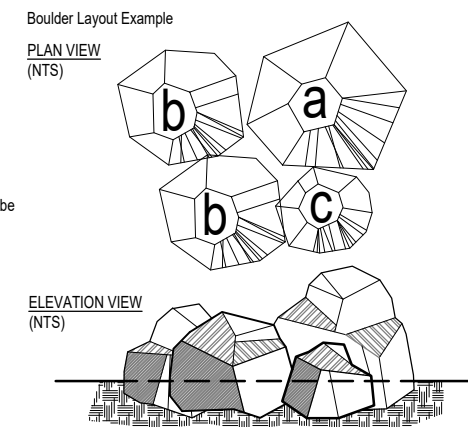
Landscape Boulder Sizing Schedule

Boulder Type	Boulder Symbol	Circumference	Height
a		12' +/- 1'	21" +/- 3"
b		9' +/- 1'	18" +/- 3"
c		6' +/- 1'	15" +/- 3"

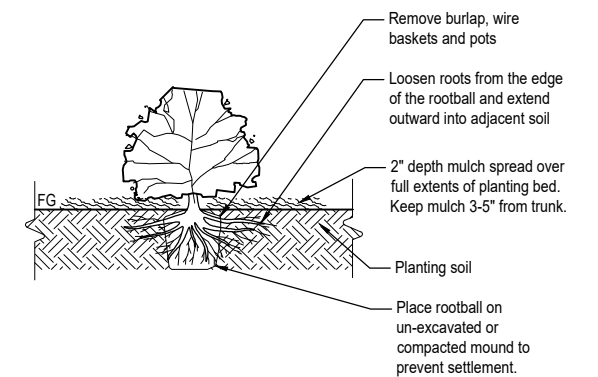


- Notes:
1. Location and orientation of placed rocks shall be field approved by owner's representative.
  2. Boulders should be no higher than 30" above any adjacent grade.
  3. Circumference refers to the largest circumference of the boulder.
  4. Height is measured perpendicular to axis used for determining circumference.

6 Landscape Boulders  
L501 SCALE: NTS @22x34



2 Evergreen Tree Planting - Staked  
L501 SCALE: NTS @22x34



3 Shrub Planting  
L501 SCALE: NTS @22x34

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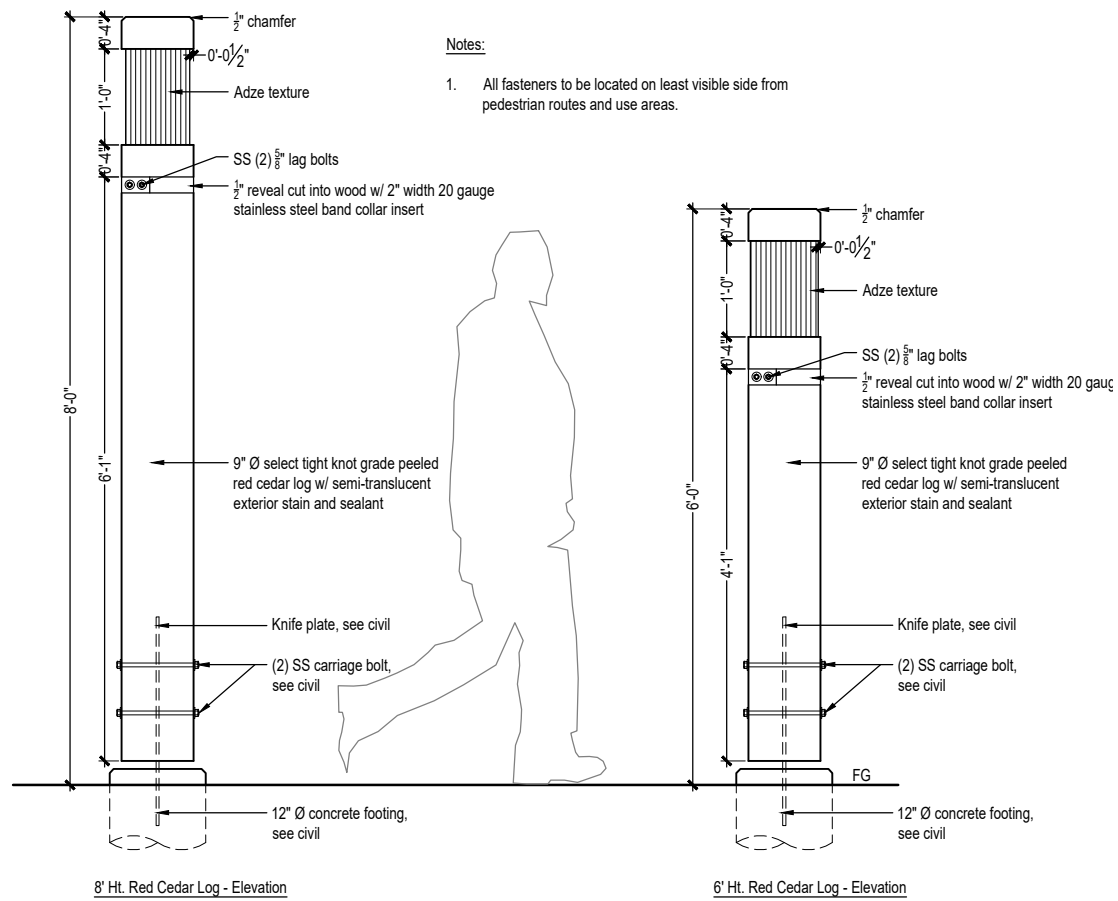
**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**Landscape Details**

PND PROJECT NO.: 172032

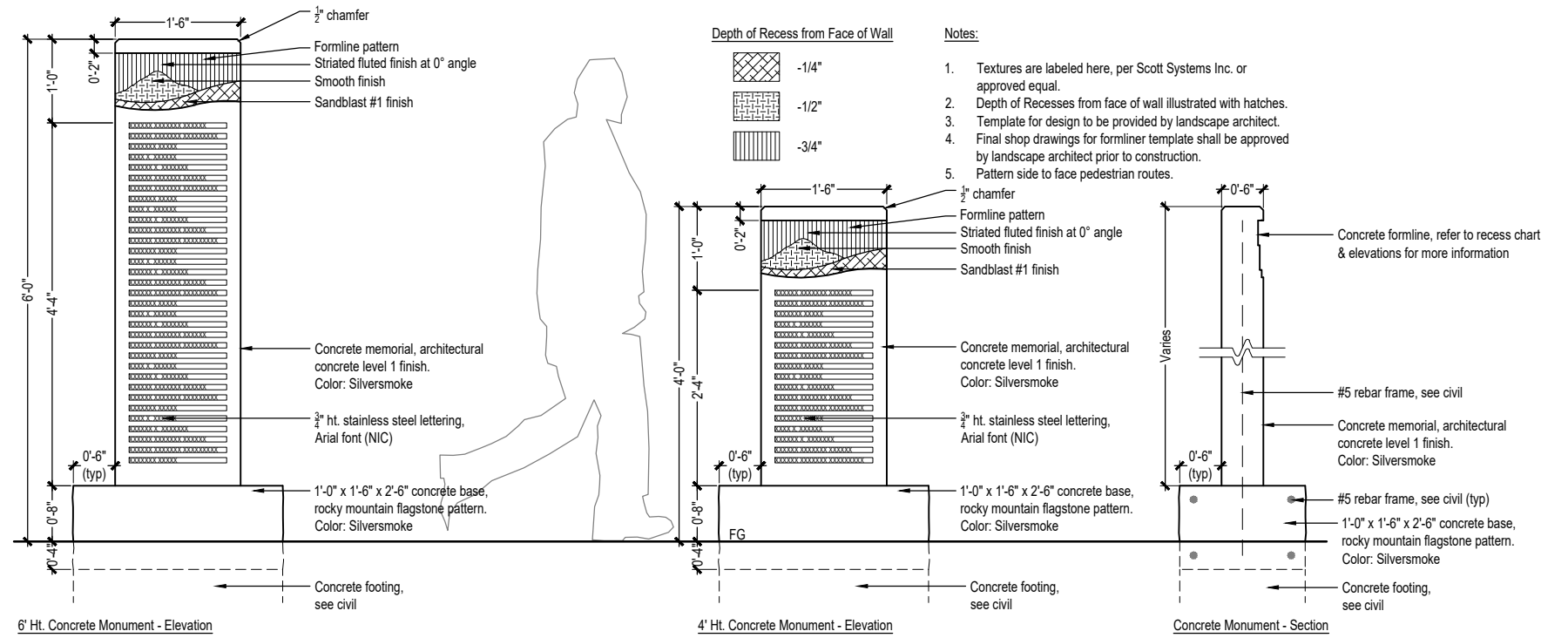
**L501**  
SHEET 5 OF 6





**Notes:**

1. All fasteners to be located on least visible side from pedestrian routes and use areas.



**Depth of Recess from Face of Wall**

- 1/4"
- 1/2"
- 3/4"

**Notes:**

1. Textures are labeled here, per Scott Systems Inc. or approved equal.
2. Depth of Recesses from face of wall illustrated with hatches.
3. Template for design to be provided by landscape architect.
4. Final shop drawings for formline template shall be approved by landscape architect prior to construction.
5. Pattern side to face pedestrian routes.

**2 Log Pillar Feature**  
SCALE: 1" = 1'-0" @22x34

**1 Memorial Feature**  
SCALE: 1" = 1'-0" @22x34



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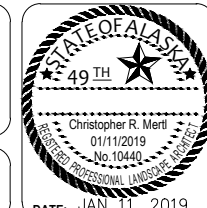
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SCALE: \_\_\_\_\_



**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**Landscape Details**

PND PROJECT NO.: 172032

**L502**  
SHEET 6 OF 6














# HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS

January 2019

Sheet List Table	
Sheet Number	Sheet Title
E1	TITLE, LEGEND, INDEX & GENERAL NOTES
E2	UPLANDS SITE PLAN - ELECTRICAL
E3	RAMP PLAN AND PROFILE - ELECTRICAL
E4	LIGHTING SCHEMATICS
E5	LUMINAIRE SCHEDULE
E6	UPLANDS LIGHT POLE DETAILS
E7	UPLANDS LIGHT POLE DETAILS, HANDHOLE & TRENCH DETAIL
E8	UPLANDS ELECTRICAL RACK ELEVATION
E9	COVERED SHELTER PLANS AND ELEVATION - ELECTRICAL
E10	CABLE ROUTING DETAILS
E11	FLOAT LIGHT POLE DETAIL

## LEGEND

 CIRCUIT BREAKER (AMPS/POLES)	 LIGHT POLE
C/B CIRCUIT BREAKER	NEC NATIONAL ELECTRICAL CODE
CIVIL CIVIL PROJECT DRAWINGS	N.I.C. NOT IN CONTRACT
 CONTACTOR	NM NON METALLIC
 DISCONNECT	 PHOTO ELECTRIC CELL
GRS GALVANIZED RIGID STEEL	REC RECEPTACLE
GND GROUND	 RECEPTACLE, 120V, 20A INDUSTRIAL SPEC GRADE, WHITE WITH STAINLESS COVER PLATE
 GROUND BUSS	STRUCTURAL STRUCTURAL PROJECT DRAWING SPECIFICATIONS
GFI GROUND FAULT INTERRUPTER	UNISTRUT SUPPORT CHANNEL UNISTRUT BRAND OR EQUAL
HT HEAT TRACE	S SWITCH, 120V, 20A INDUSTRIAL SPEC GRADE, WHITE WITH STAINLESS COVER PLATE
 HEAVY DUTY DISCONNECT (AMPS/POLES AS SHOWN)	(TYP) TYPICAL
 HOME RUN	UHMW ULTRA HIGH DENSITY MOLECULAR WEIGHT
LTG LIGHTING	 UTILITY METER
 LIGHTING CONTACTOR	


### NOTES:

1. PERFORM ALL WORK PER THE 2017 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.
2. ALL CONDUIT SHALL BE SCHEDULE 80 PVC, WITH GRS ELBOWS.
3. 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.
4. FIELD TREAT ALL HOT DIPPED GALVANIZED MATERIALS THAT ARE CUT, DRILLED, SCRATCHED OR DAMAGED. SEE CIVIL FOR FIELD TREATMENT.
5. ALL CONDUCTORS SHALL BE COPPER, ALL INSULATION SHALL BE 600V RATED, TYPE XHHW FOR CONDUCTORS NOT IN A CABLE. ALL CABLES SHALL BE TYPE G-GC. G-GC CABLE DESCRIPTION DOES NOT INCLUDE GROUND CONDUCTOR. PROVIDE CODE COMPLIANT GROUND CONDUCTORS WITH G-GC CABLE. USE STAINLESS STEEL STRAPS TO SECURE CONDUIT. PROVIDE HEAT SHRINK OVER ALL CRIMP CONNECTIONS WHEN TERMINATING A CABLE. NO SPLICES IN ANY CABLES OR CONDUCTORS. PROTECT ALL CABLES FROM CHAFING AND "WALKING THROUGH THE FLOAT SYSTEM". PROVIDE CHAFE PROTECTION AROUND CABLES WHERE THEY ARE LIKELY TO RUB OR CHAFE AGAINST OTHER SURFACES.
6. 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.
7. 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.
8. 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.
9. USE 316 STAINLESS STEEL STRUT CHANNEL (UNISTRUT) TO SUPPORT CABLES, CONTACTORS, AND ALL OTHER ELECTRICAL EQUIPMENT. 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. USE CABLE SUPPORTS THAT COMPLY WITH 555.13(4). USE CUSHION STRAPS WHEN SUPPORTING CABLE TO STRUT CHANNEL.
10. ROUTE CABLES IN UTILIDOR TRENCH IN FLOAT. DO NOT EXCEED 8 TIMES CABLE DIAMETER FOR BENDING RADIUS. USE STAINLESS STEEL CABLE GRIP CONNECTORS FOR ALL CABLE WHERE IT TURNS TO FEED POLE IN SHORT TRENCH SECTION. ALSO PROVIDE CABLE GRIP WHERE IT LEAVES UTILIDOR AND AGAIN INSIDE POLE AS SHOWN.
11. ALL CABLE TERMINATIONS AND ALL ELECTRICAL CONNECTIONS SHALL BE A MINIMUM OF 12 INCHES ABOVE THE FLOAT DECKING INCLUDING WIRING TERMINATIONS, RECEPTACLES, ETC.
12. PROVIDE OXIDE INHIBITING COMPOUND ON ALL ELECTRICAL CONNECTIONS. BURNDY PENTROX TYPE A OR E AS REQUIRED.
13. MINIMUM BENDING RADIUS FOR ALL CABLES IS 8 TIMES THE DIAMETER OF THE CABLE. PUT CHAFE PROTECTION AROUND CABLE WHERE IT IS LIKELY TO CHAFE.
14. CABLE ROUTING AT ALL TRANSITIONS BETWEEN UPLANDS, CONCRETE TRANSITION, AND FLOAT SHALL BE INSTALLED SO THAT IT WILL NOT BE DAMAGED IN ALL LOCATIONS INCLUDING HINGED FLOAT CONNECTIONS.
15. CABLE GRIPS ARE USED TO KEEP CABLES FROM BECOMING TIGHT DUE TO A CABLE "WALKING" THROUGH FLOAT WITH WAVE ACTION. THIS IS WHY SO MANY ARE SHOWN AND SO MUCH SLACK IS REQUIRED IN THE CABLE AS SHOWN.

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DRAWN: JRW APPROVED: MGM

DATE: Jan. 16, 2019

**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

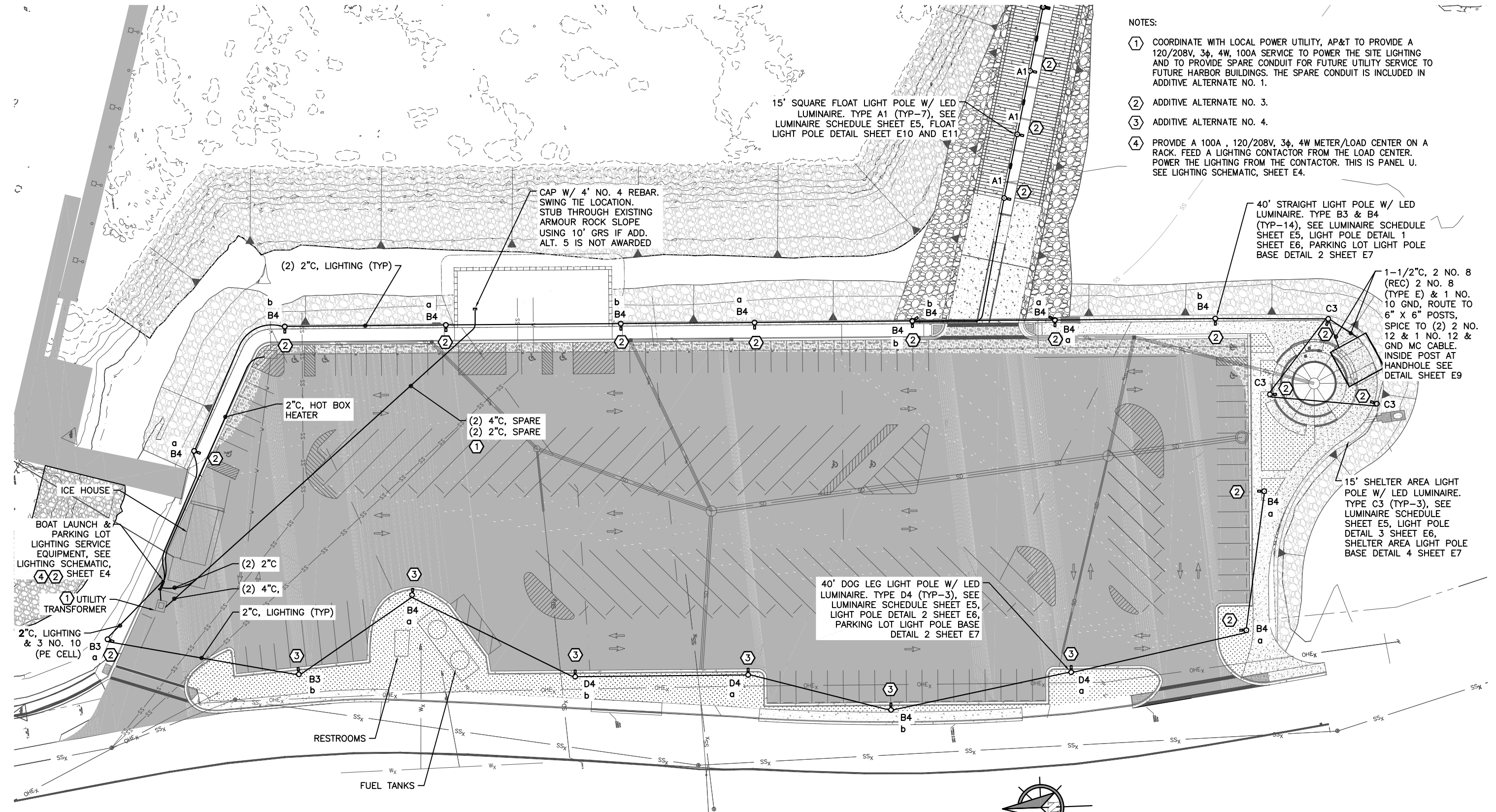
SHEET TITLE: TITLE, LEGEND, INDEX & GENERAL NOTES

PND PROJECT NO.: 172032

**E1**

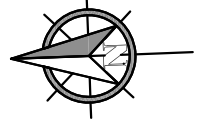
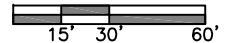
SHEET OF 11





- NOTES:
- ① COORDINATE WITH LOCAL POWER UTILITY, AP&T TO PROVIDE A 120/208V, 3 $\phi$ , 4W, 100A SERVICE TO POWER THE SITE LIGHTING AND TO PROVIDE SPARE CONDUIT FOR FUTURE UTILITY SERVICE TO FUTURE HARBOR BUILDINGS. THE SPARE CONDUIT IS INCLUDED IN ADDITIVE ALTERNATE NO. 1.
  - ② ADDITIVE ALTERNATE NO. 3.
  - ③ ADDITIVE ALTERNATE NO. 4.
  - ④ PROVIDE A 100A, 120/208V, 3 $\phi$ , 4W METER/LOAD CENTER ON A RACK. FEED A LIGHTING CONTACTOR FROM THE LOAD CENTER. POWER THE LIGHTING FROM THE CONTACTOR. THIS IS PANEL U. SEE LIGHTING SCHEMATIC, SHEET E4.

① UPLAND SITE PLAN - ELECTRICAL



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DATE: Jan. 16, 2019

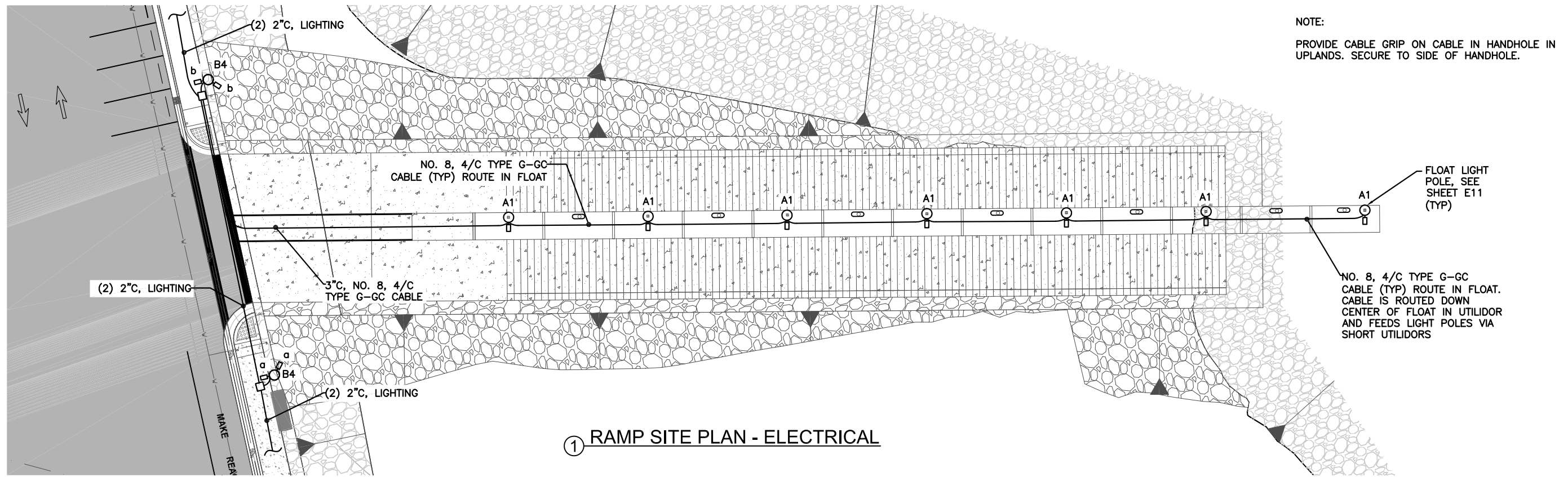
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**UPLANDS SITE PLAN - ELECTRICAL**

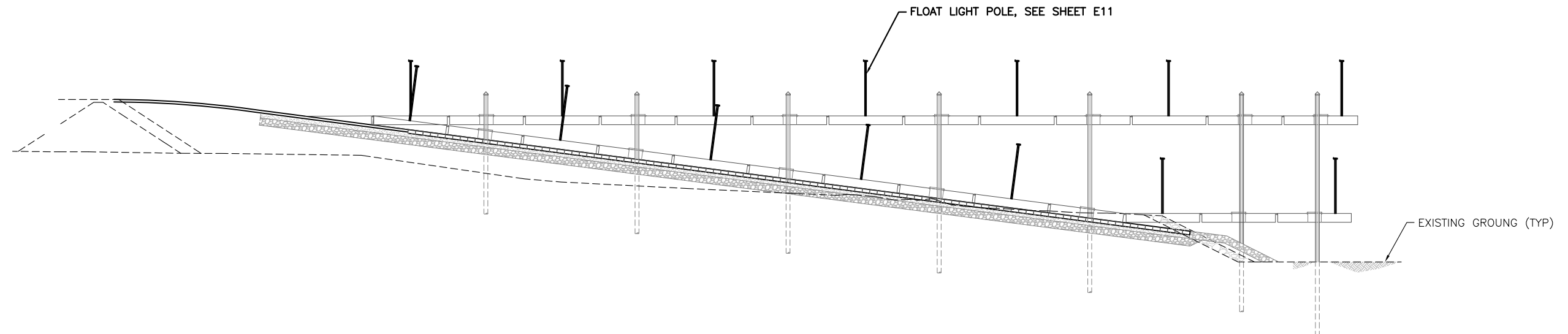
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**E2**  
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① RAMP SITE PLAN - ELECTRICAL



② RAMP PROFILE - ELECTRICAL

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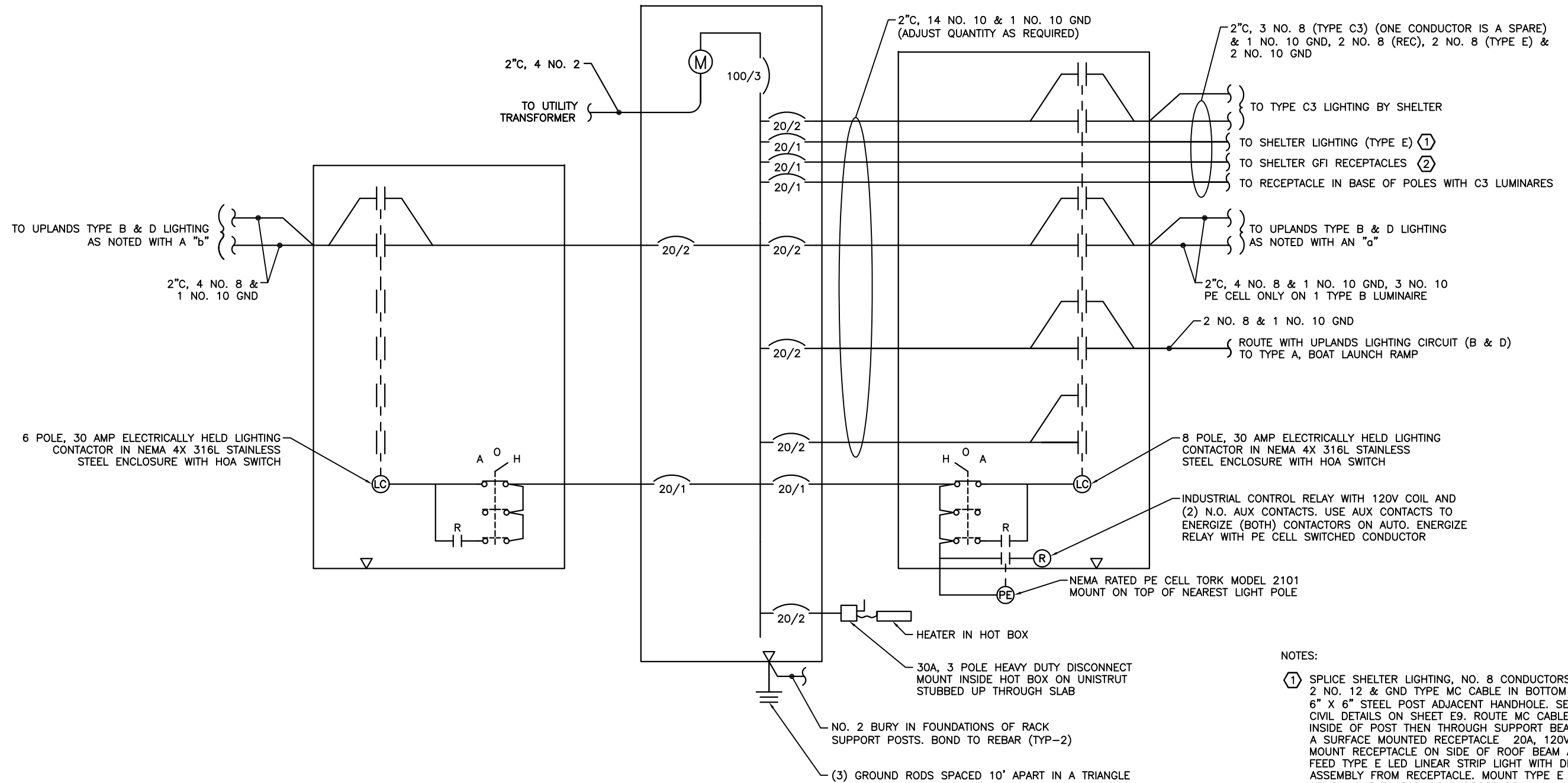
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 PORTAGE COVE HARBOR  
 BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**RAMP PLAN AND PROFILE -  
 ELECTRICAL**

PND PROJECT NO.: 172032

**E3**  
 SHEET  
 OF 11

PANEL U - UPLANDS  
 120/208V, 3 $\phi$ , 4W, 100A, METER/LOAD CENTER  
 WITH 100/3 MAIN CIRCUIT BREAKER 18 CKT, 22 KAIC,  
 7 JAW RING STYLE METER WITH SAFETY SOCKET AND  
 TEST/BYPASS FACILITIES FACTORY INSTALLED  
 IN NEMA 3R 316 STAINLESS STEEL ENCLOSURE  
 COOPER B-LINE U217MTBL-316SS 22 KAIC  
 MODIFY FOR SPECIAL ORDER



- NOTES:
- ① SPLICE SHELTER LIGHTING, NO. 8 CONDUCTORS TO 2 NO. 12 & GND TYPE MC CABLE IN BOTTOM OF 6" X 6" STEEL POST ADJACENT HANDHOLE. SEE CIVIL DETAILS ON SHEET E9. ROUTE MC CABLE UP INSIDE OF POST THEN THROUGH SUPPORT BEAM TO A SURFACE MOUNTED RECEPTACLE 20A, 120V, GFI. MOUNT RECEPTACLE ON SIDE OF ROOF BEAM AND FEED TYPE E LED LINEAR STRIP LIGHT WITH DRIVER ASSEMBLY FROM RECEPTACLE. MOUNT TYPE E STRIP LIGHT TO TOP OF SUPPORT BEAM.
  - ② SPLICE RECEPTACLE NO. 8 CONDUCTORS IN SAME MANNER AS IN NOTE 1. MOUNT RECEPTACLE AT SIDE OF ROOF BEAM NEXT TO RECEPTACLE FOR LIGHTING IN SAME MANNER AS NOTED IN NOTE 1 ABOVE.

① UPLANDS PARKING, BOAT LAUNCH LIGHTING SCHEMATIC  
 NO SCALE

95% DESIGN REVIEW SUBMITTAL



REVISIONS					
REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

**MORRIS ENGINEERING GROUP LLC**  
 2375 Jordan Avenue #7, Juneau, AK 99801  
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**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**LIGHTING SCHEMATICS**

PND PROJECT NO.: 172032

**E4**  
 SHEET OF 11



LUMINAIRE SCHEDULE					
TYPE	DESCRIPTION	MANUFACTURER	LAMPS	SPARES	REMARKS
A1	POLE MOUNT, CUTOFF LED LUMINAIRE, FLOAT	KIM LIGHTING TYPE 5 DISTRIBUTION 1SA/ARX1653K35UVBLSTSFQ	LED 3000K (11,000 LUMENS) 350MA	SEE NOTE 4	POLE MOUNT TO SQUARE POLE. PROVIDE WITH NIXALITE BIRD CONTROL. ATTACH WITH MANUFACTURER RECOMMENDED ADHESIVE. NO HOLES IN HOUSING. FLAT BLACK. USE ON FLOAT. 120-277V. PROVIDE WITH FUSING.
B3	POLE MOUNT, STRAIGHT POLE, UPLANDS	BEACON VIPER L TYPE 3 DISTRIBUTION VPL-96L-395-3K7-3	LED 3000K 70 CRI	1	POLE MOUNT TO ROUND TAPERED POLE. PROVIDE WITH NIXALITE BIRD CONTROL. ATTACH WITH MANUFACTURER RECOMMENDED ADHESIVE. NO HOLES IN HOUSING. FLAT BLACK. 120-277V. ADJUST PART NO. FOR POLE MOUNTING.
B4	POLE MOUNT, STRAIGHT POLE, UPLANDS	BEACON VIPER L TYPE 4 DISTRIBUTION VPL-96L-395-3K7-4	LED 3000K 70 CRI	1	POLE MOUNT TO ROUND TAPERED POLE. PROVIDE WITH NIXALITE BIRD CONTROL. ATTACH WITH MANUFACTURER RECOMMENDED ADHESIVE. NO HOLES IN HOUSING. FLAT BLACK. 120-277V. ADJUST PART NO. FOR POLE MOUNTING.
C3	POLE MOUNT, CUTOFF LED LUMINAIRE, UPLANDS BY SHELTER	BEACON VIPER L TYPE 4 WIDE DISTRIBUTION VPL-64L-135-3K7-4W	LED 3000K (15,000 LUMENS) 70 CRI	SEE NOTE 4	POLE MOUNT TO SQUARE POLE. PROVIDE WITH NIXALITE BIRD CONTROL. ATTACH WITH MANUFACTURER RECOMMENDED ADHESIVE. NO HOLES IN HOUSING. FLAT BLACK. USE ON FLOAT. 120-277V. PROVIDE WITH FUSING.
D4	POLE MOUNT, DOG LEG POLE, UPLANDS	BEACON VIPER L TYPE 4 DISTRIBUTION VPL-96L-395-3K7-4	LED 3000K 70 CRI	1	POLE MOUNT TO ROUND TAPERED POLE. PROVIDE WITH NIXALITE BIRD CONTROL. ATTACH WITH MANUFACTURER RECOMMENDED ADHESIVE. NO HOLES IN HOUSING. FLAT BLACK. 120-277V. ADJUST PART NO. FOR POLE MOUNTING.
E	LINEAR LOW PROFILE LED 120V, LED STRIP LIGHT IN ALUMINUM CHANNEL. BEAM ANGLE >120°, AMBIENT TEMPERATURE (-13°F TO 113°F), 20 LED DIODES PER FT, 164' ROLL, FACTORY PLUG WITH RECTIFIER AND CAP WITH FACTORY CONNECTION TO END OF CABLE	LUMILUM LUM-120505-3,000K	LED 3000K (385 LUMENS/FT, 4W/FT)	1	MOUNT RECEPTACLE ON TOP OF SUPPORT BEAM BETWEEN ROOF BEAMS. FEED EACH SECTION OF STRIP LIGHTS FROM RECEPTACLE. PROVIDE DRIVER AND PLUG ASSEMBLY FOR EACH SECTION OF STRIP LIGHTS.

NOTES:

1. 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) AS SHOWN ON THE OTHER PLAN SHEETS AND SPECIFICATIONS.
2. SEE LIGHT POLE DETAILS ON SHEETS E6-E7, LUMINAIRES SHALL BE FLAT BLACK.
3. CUTOFF LUMINAIRE. ONE PIECE DIE CAST LOW COPPER ALUMINUM ALLOY HOUSING. HOUSING SHALL HAVE A CURVED UPPER SURFACE TO PREVENT LIQUID FROM PUDDLING ON TOP OF FIXTURE. SOLID BARRIER WALL SEPARATING OPTICAL AND ELECTRICAL COMPONENTS. ONE PIECE SILICONE GASKETS SEAL COMPARTMENTS AT BARRIER SURFACE. OPTICAL MODULE UTILIZES IP66 RATED COMPONENTS. ALL OPTICAL MODULES ARE FASTENED TO THE BODY OF THE LUMINAIRE ACROSS THE CENTER AND AROUND THE PERIMETER. HOUSING AND SUPPORT ARM SHALL PROVIDE TOOL-LESS ENTRY. ELECTRICAL COMPARTMENT SHALL INCLUDE INTEGRAL 10KV SURGE PROTECTION. ALL ELECTRONIC COMPONENTS ARE UL AND CSA RECOGNIZED AND SHALL BE DIRECTLY MOUNTED TO A DRIVER TRAY. DRIVER SHALL BE RATED FOR -40°C STARTING AND HAVE A 0-10V DIMMING INTERFACE FOR MULTI-LEVER ILLUMINATION OPTIONS. ALL ELECTRONIC COMPONENTS SHALL BE IP66 RATED. A TERMINAL BLOCK LOCATED IN THE ARM CAVITY SHALL ACCEPT #14 TO #8 WIRE SIZES. TERMINAL BLOCK SHALL BE FACTORY PREWIRED TO THE ELECTRICAL MODULE TO PROVIDE A QUICK-DISCONNECT PLUG INSIDE THE ELECTRICAL COMPARTMENT. MOUNTING ARM SHALL BOLT TO SQUARE POLE OR (ROUND POLE AS NEEDED). PROVIDE WITH WIRE STRAIN RELIEF. PROVIDE WITH SUPER TGIC THERMOSET POLYESTER POWDER COAT PAINT 2.5 MIL NOMINAL THICKNESS OVER TITANATED ZIRCONIUM CONVERSION COATING. 2500 HOUR SALT SPRAY TEST ENDURANCE RATING.
4. PROVIDE (2) SPARE LUMINAIRES AND (2) SPARE DRIVERS. PROVIDE (4) OPTICAL MODULES FOR TYPE A1. PROVIDE (1) SPARE LUMINAIRE FOR TYPE B3 AND B4.

① LUMINAIRE SCHEDULE

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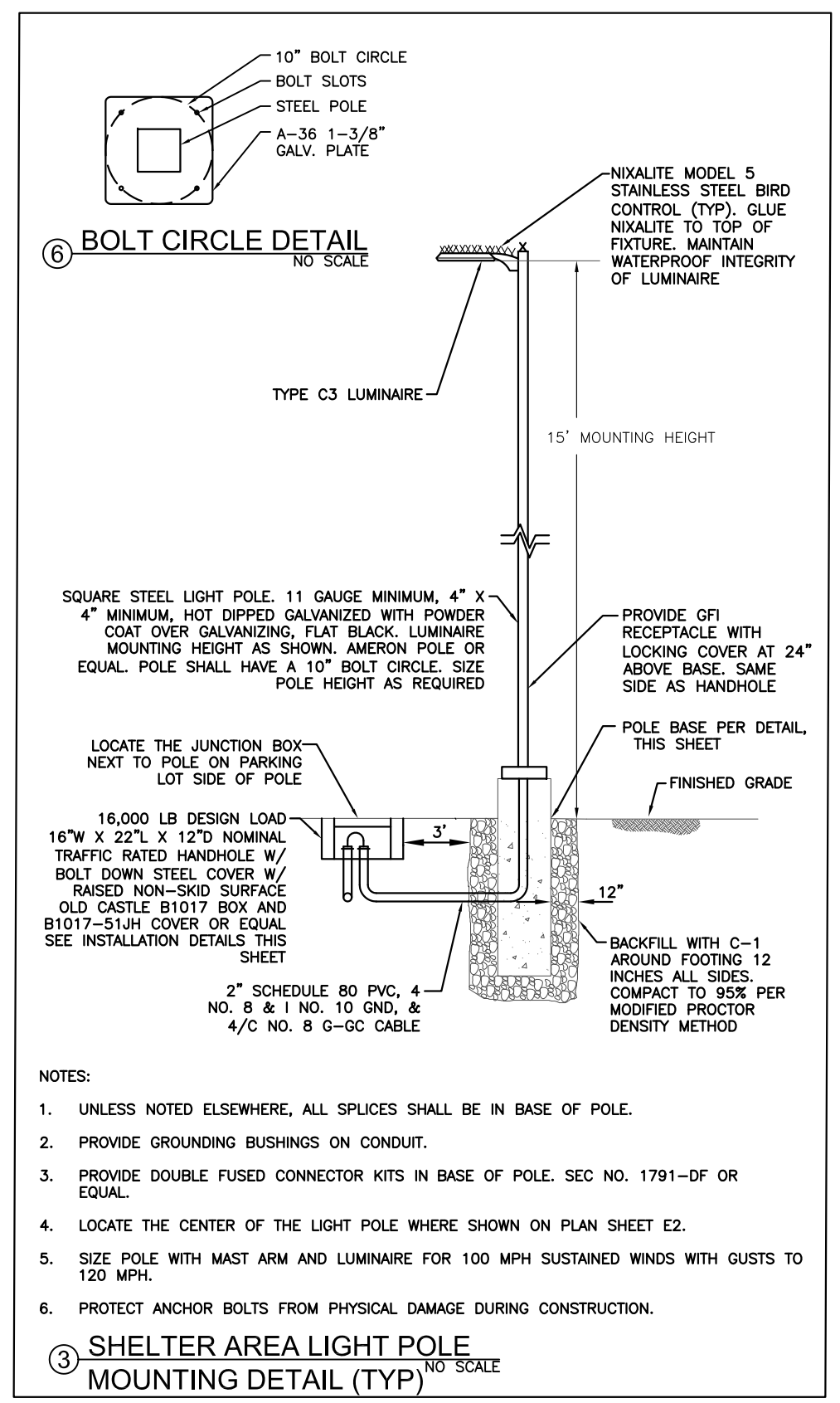
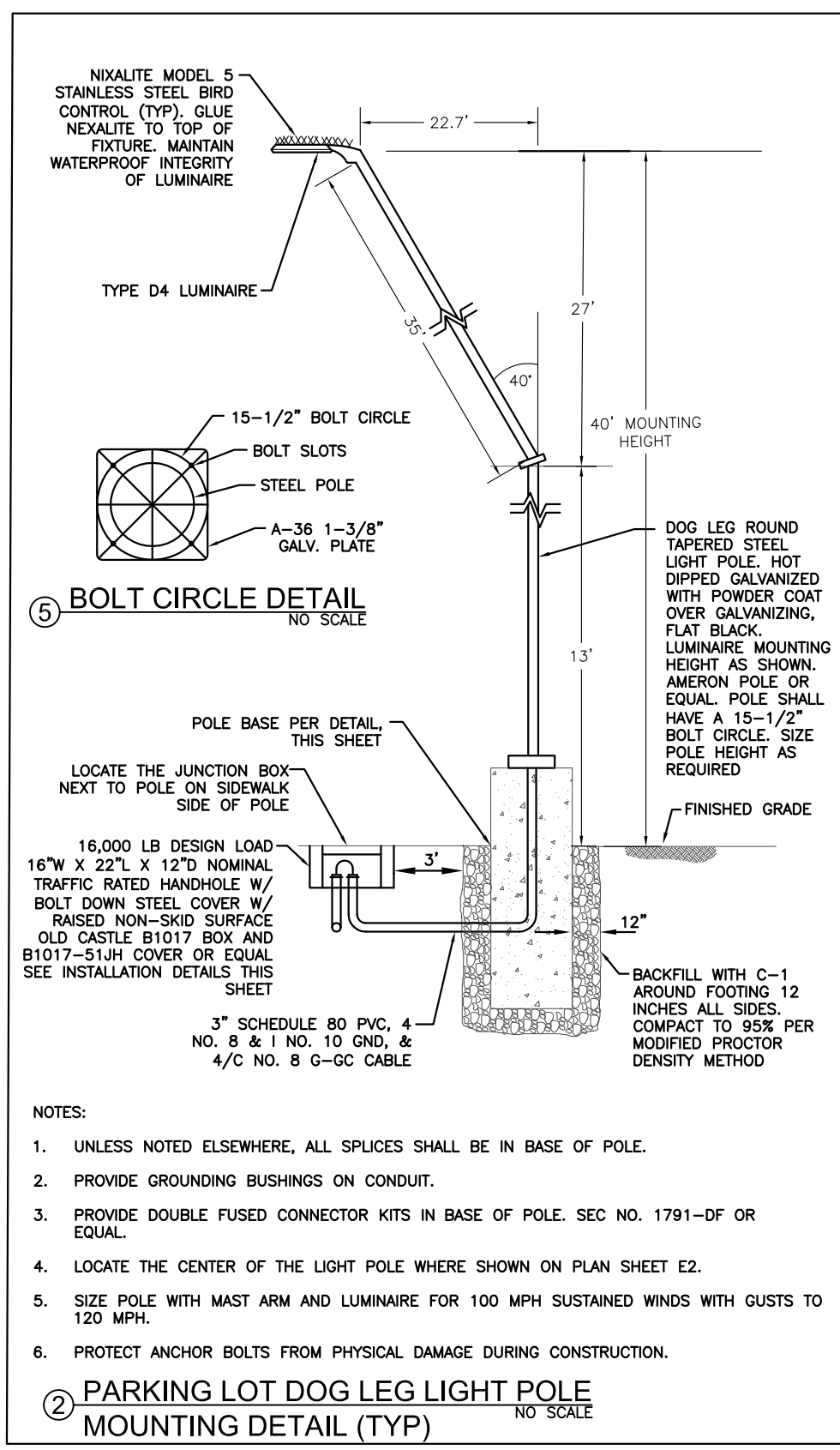
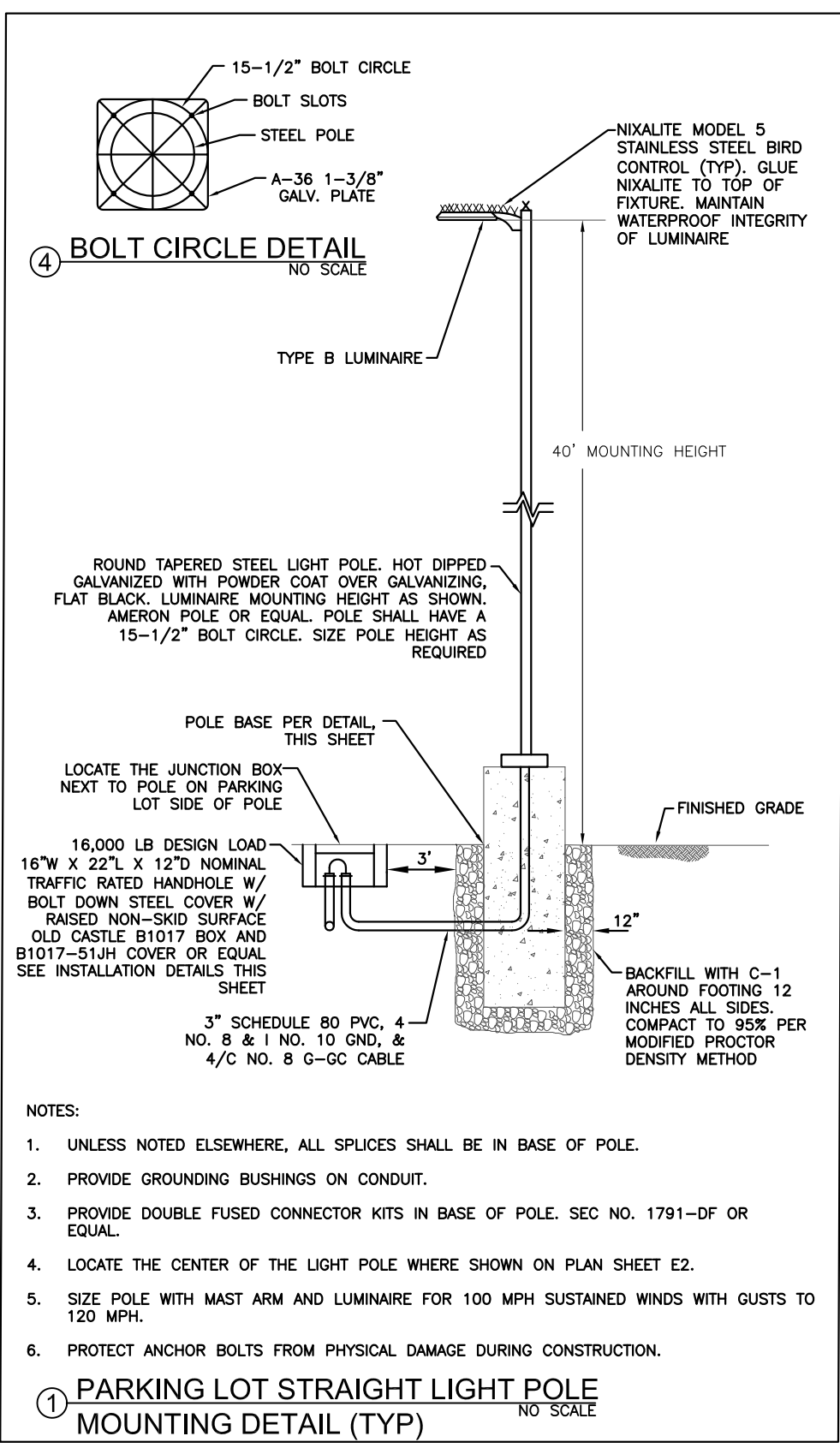
DATE: Jan. 16, 2019

**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
LUMINAIRE SCHEDULE

PND PROJECT NO.: 172032

**E5**  
SHEET OF 11



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DATE: Jan. 16, 2019

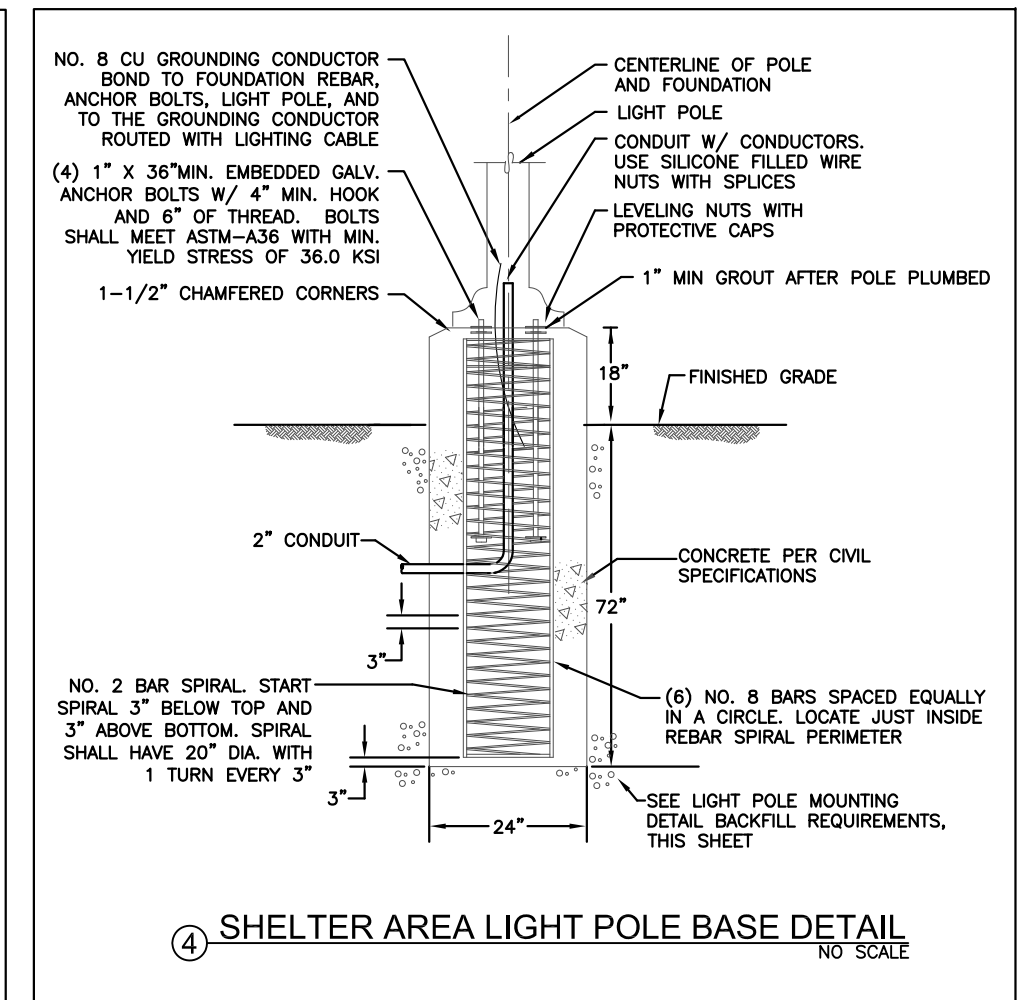
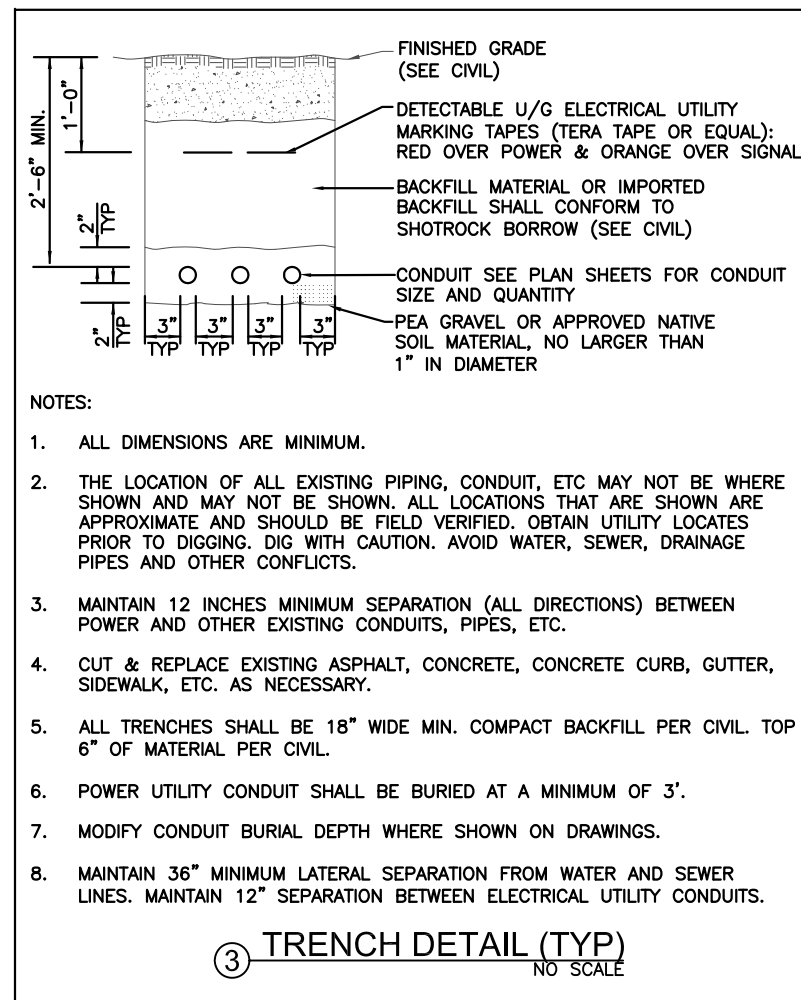
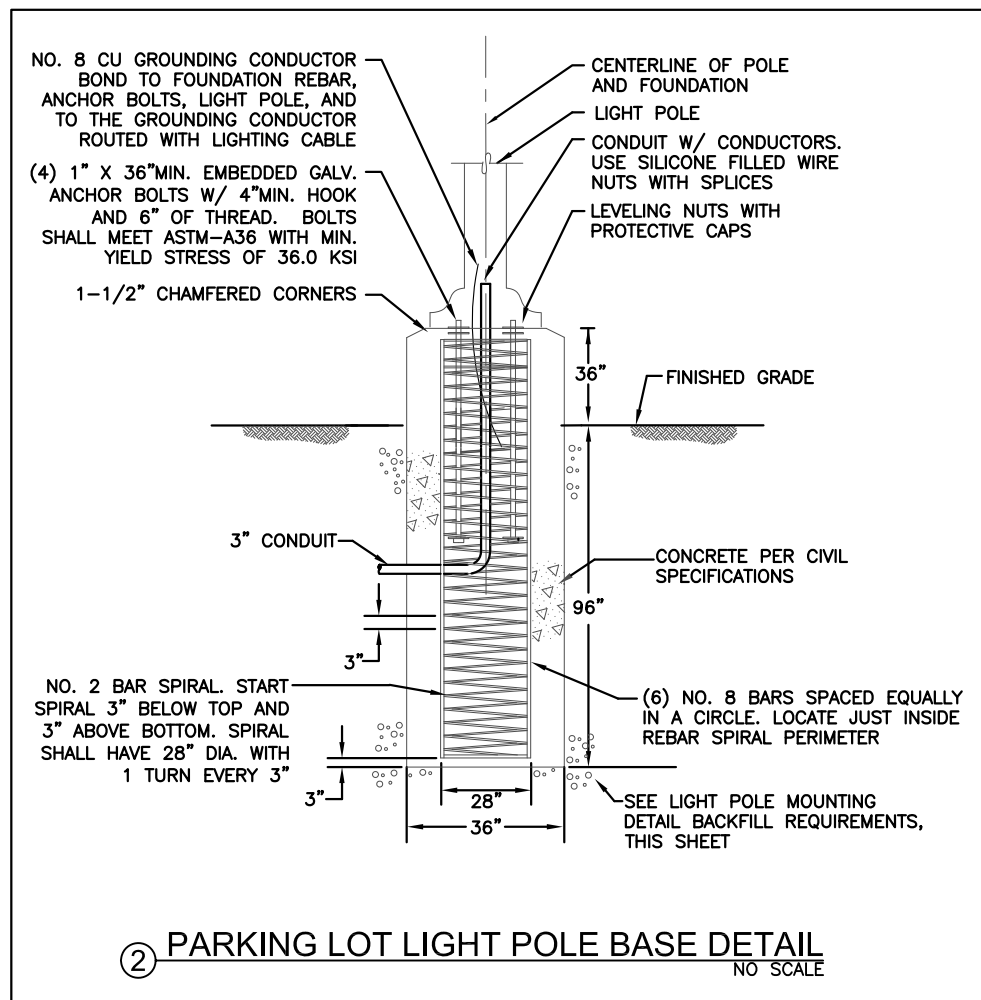
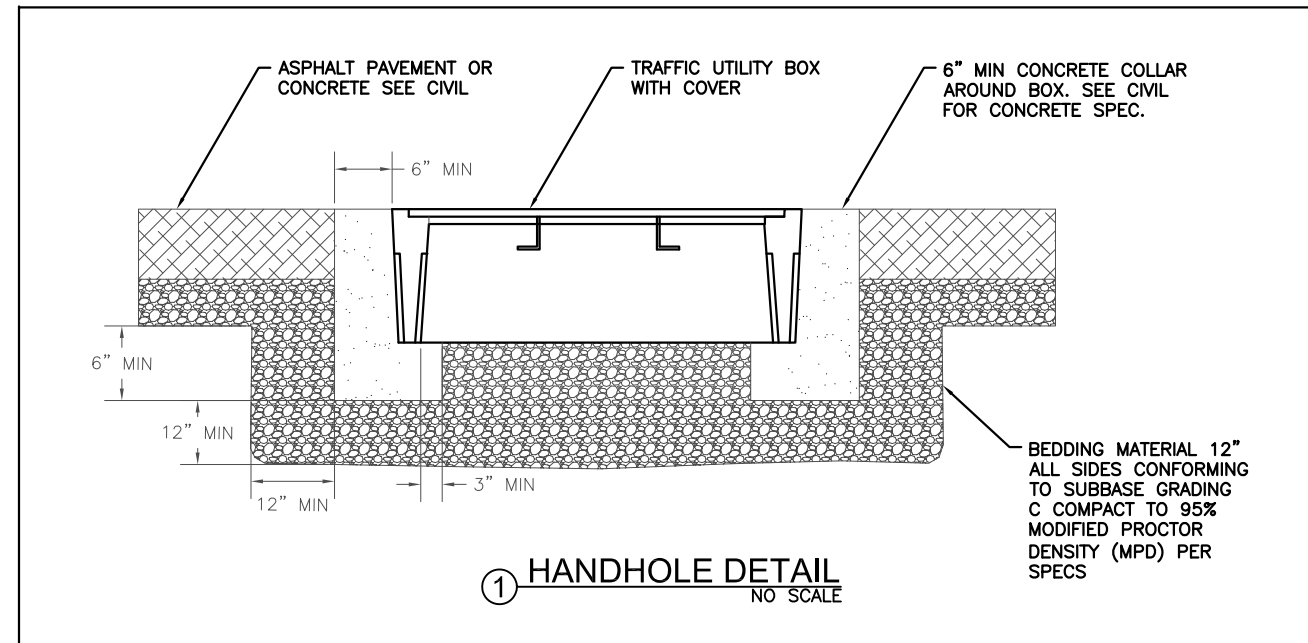
HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS

SHEET TITLE:  
UPLANDS LIGHT POLE DETAILS

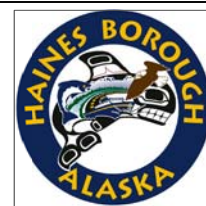
PND PROJECT NO.: 172032

**E6**  
SHEET  
OF 11





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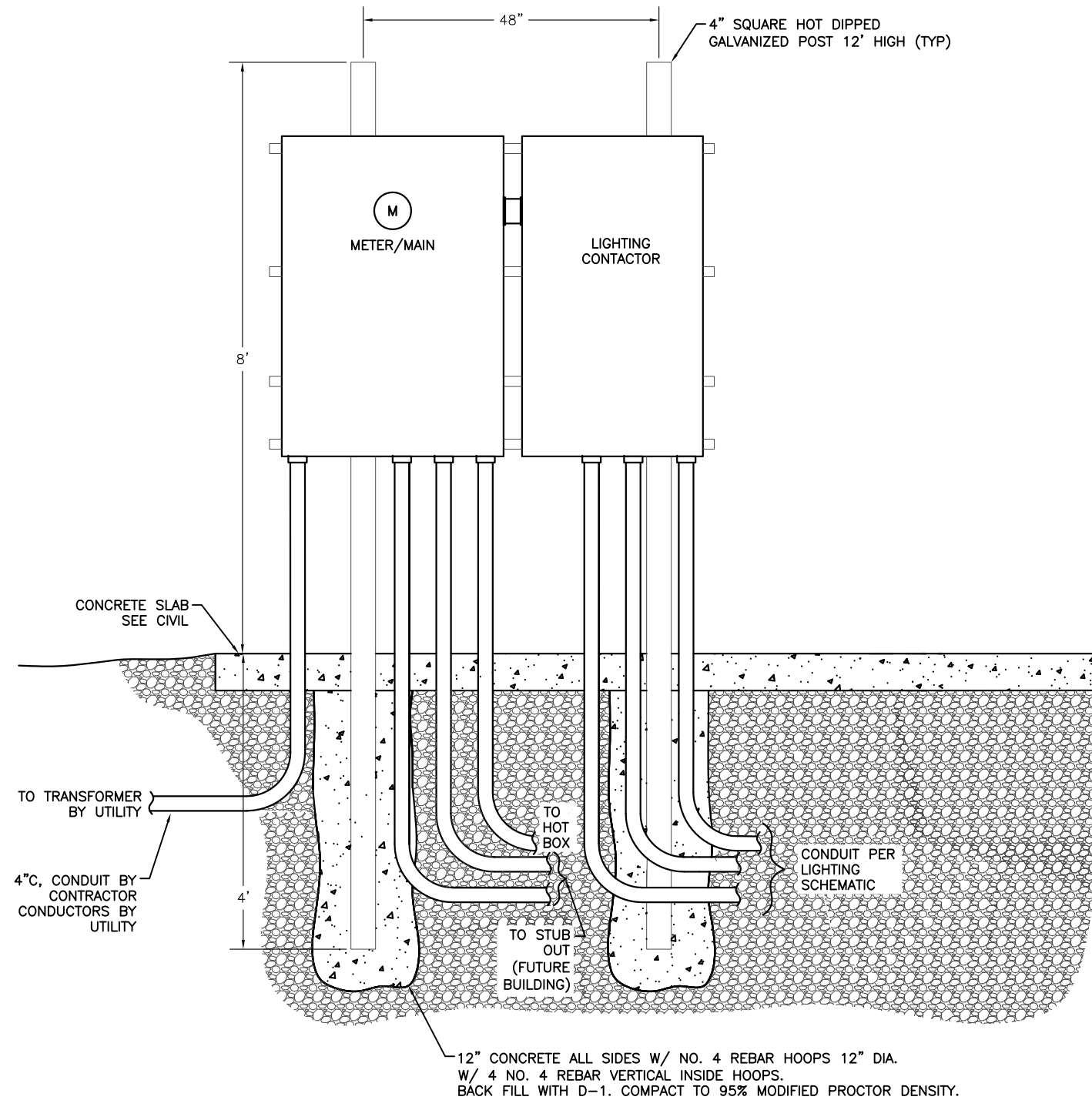
DATE: Jan. 16, 2019

**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

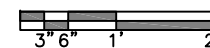
SHEET TITLE: UPLANDS LIGHT POLE DETAILS, HANDHOLE & TRENCH DETAIL

PND PROJECT NO.: 172032

**E7**  
SHEET OF 11



① UPLANDS ELECTRICAL RACK ELEVATION



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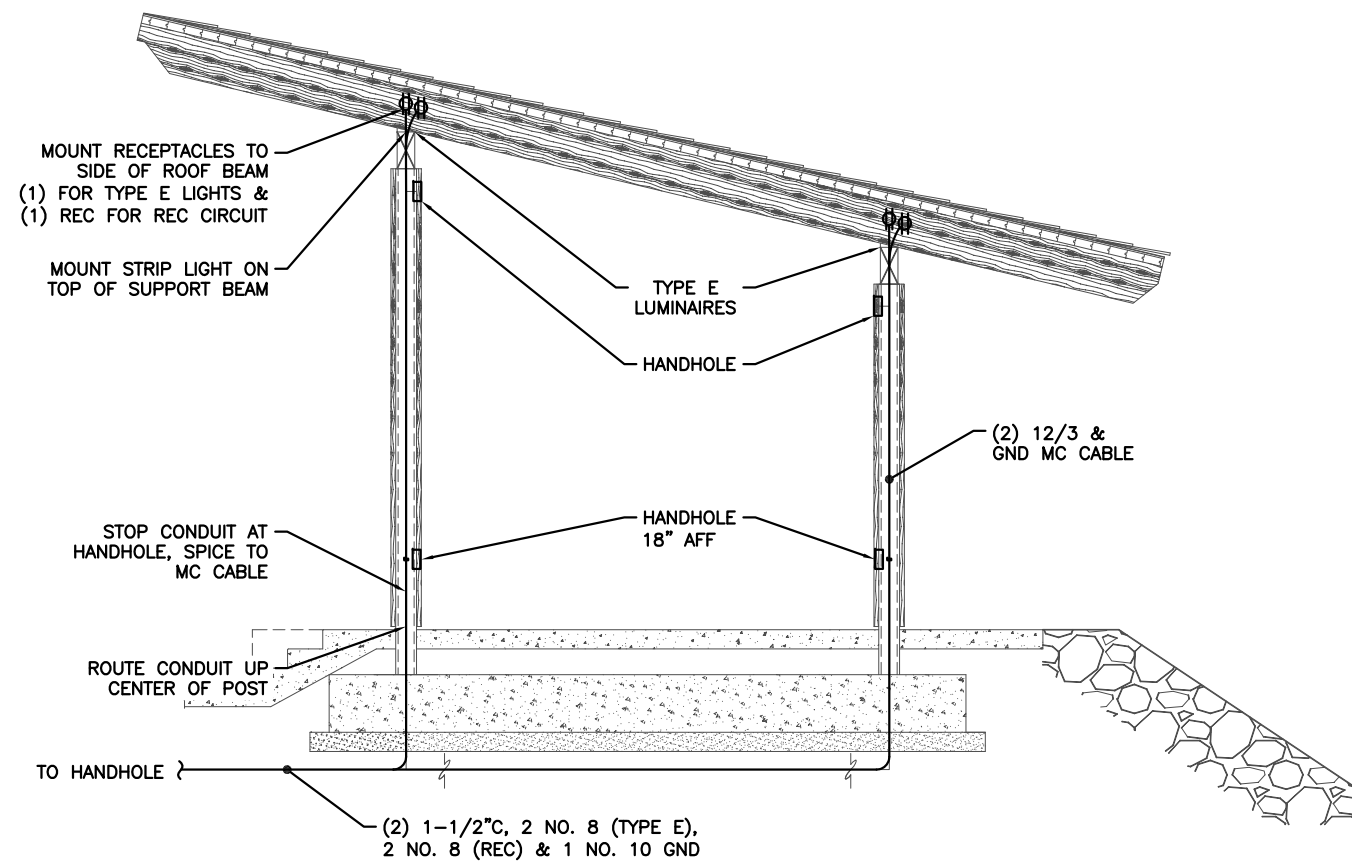
**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

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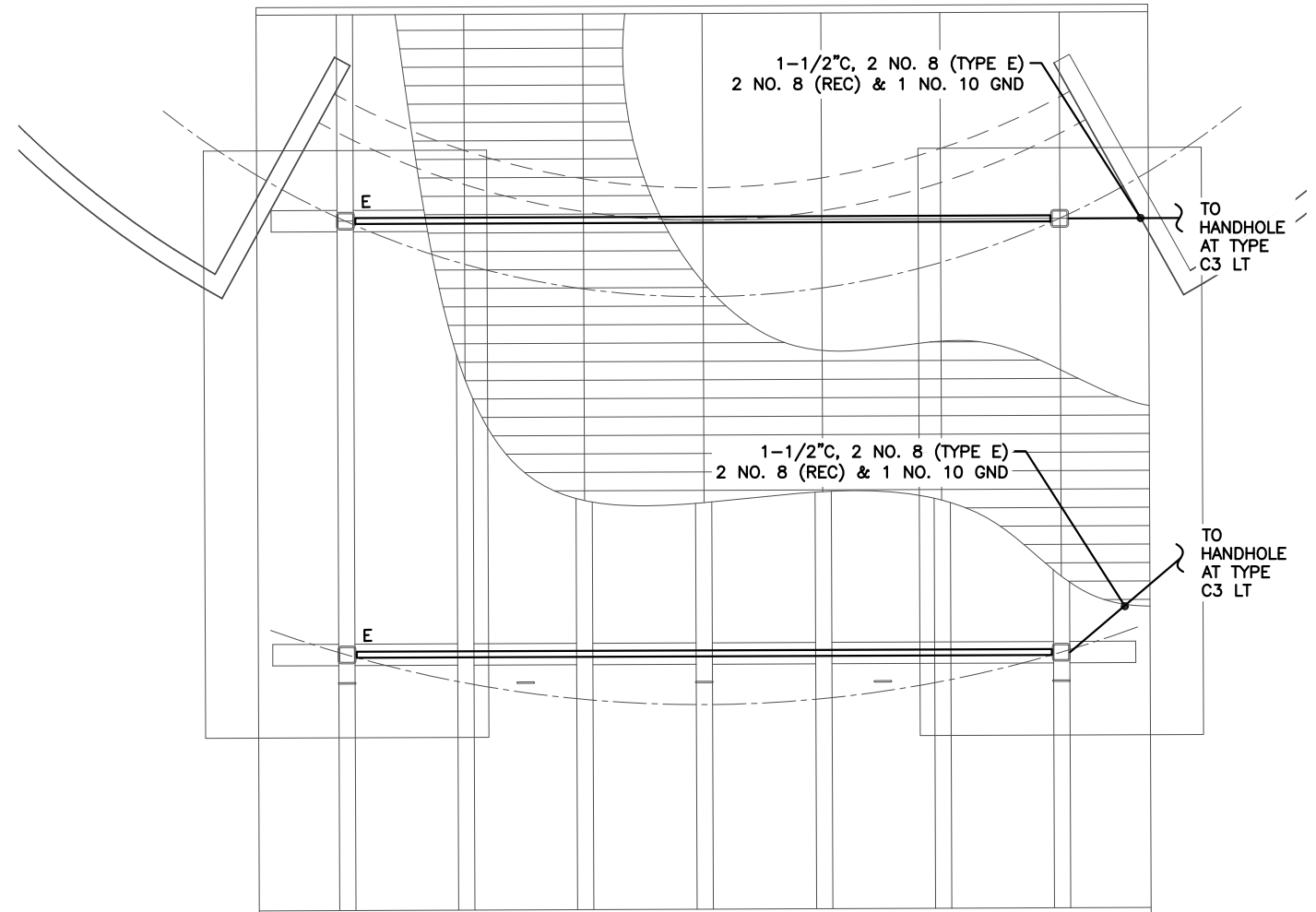
PND PROJECT NO.: 172032

**E8**  
SHEET OF 11





① SHELTER ELEVATION - COVERED SHELTER  
NO SCALE



② ROOF FRAMING PLAN - COVERED SHELTER  
NO SCALE

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**HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS**

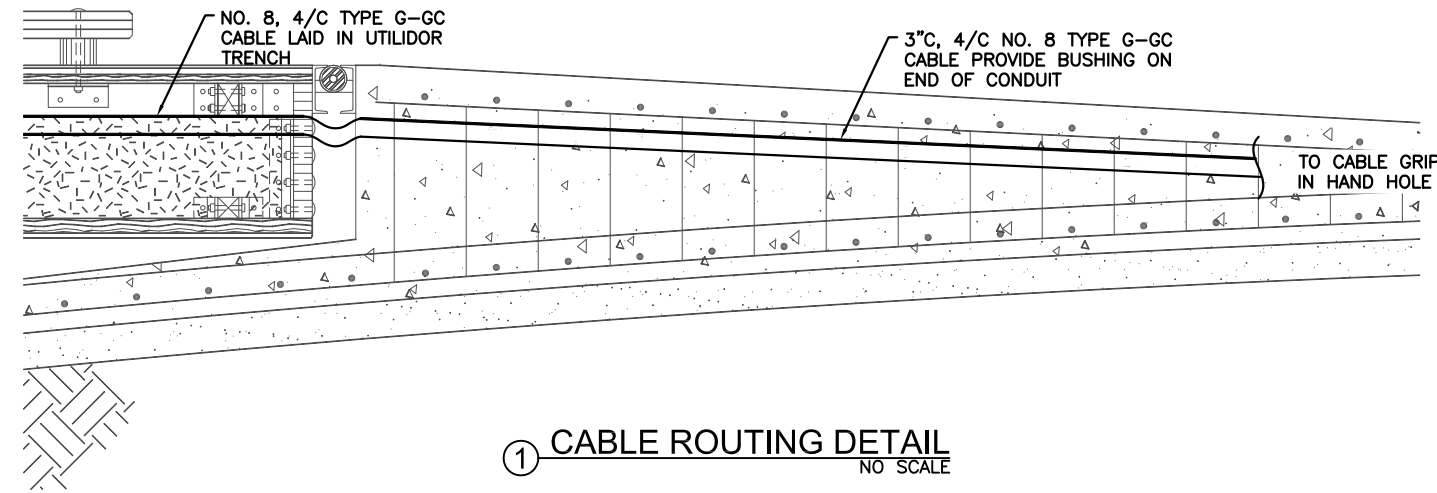
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**COVERED SHELTER PLANS  
AND ELEVATION - ELECTRICAL**

PND PROJECT NO.: 172032

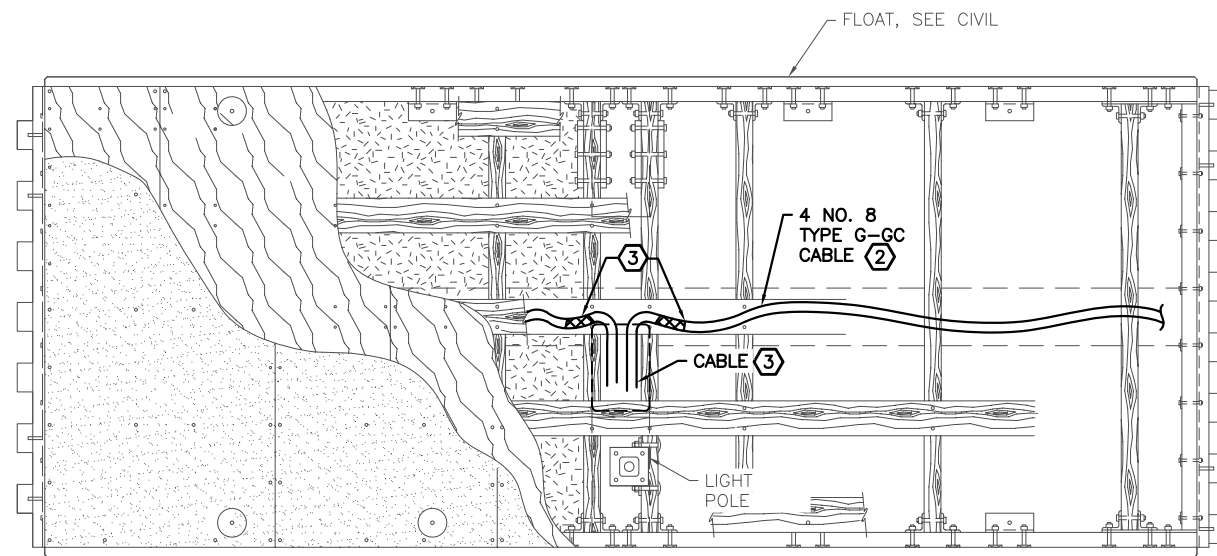
**E9**  
SHEET  
OF 11

NOTES:

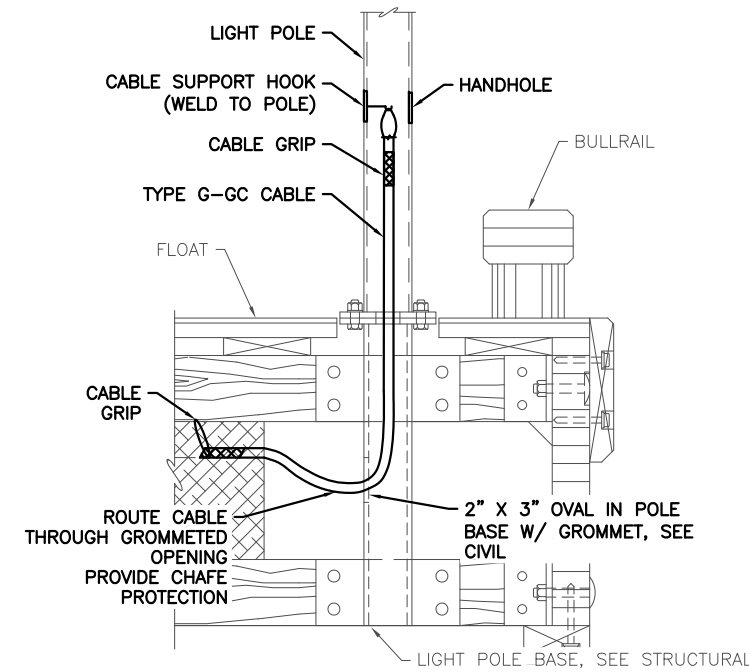
- ① CABLE IN UTILIDOR TRENCH. WAVE CABLE SIDE TO SIDE TO ADD MINIMUM OF 3' OF SLACK ON EACH SIDE OF POLE IN EACH FLOAT SECTION.
- ② WEAVE CABLE SIDE TO SIDE TO ADD SLACK IN THE CABLE.
- ③ PROVIDE CABLE GRIP ON CABLE IN MAIN UTILIDOR ON EACH SIDE OF SHORT UTILIDOR TO LIGHT POLE. SECURE GRIP TO SIDE OF UTILIDOR. ROUTE CABLE IN SHORT SECTION OF UTILIDOR BETWEEN MAIN UTILIDOR AND LIGHT POLE. ROUTE UP INTO POLE PER DETAIL THIS SHEET. PROVIDE CHAFE PROTECTION WHERE GOING AROUND CORNERS IN UTILIDOR.



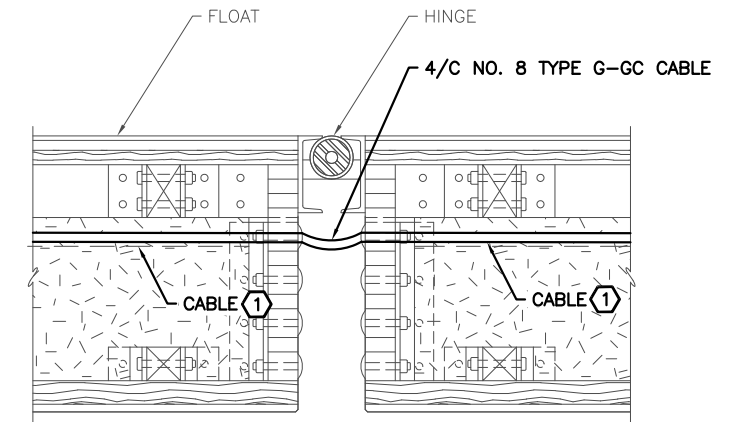
① CABLE ROUTING DETAIL  
NO SCALE



② FLOAT LIGHTING DETAIL  
NO SCALE



③ FLOAT LIGHT POLE DETAIL  
NO SCALE



④ FLOAT POWER TRANSITION DETAIL  
NO SCALE

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HAINES BOROUGH  
PORTAGE COVE HARBOR  
BOAT LAUNCH IMPROVEMENTS

SHEET TITLE:  
CABLE ROUTING DETAILS

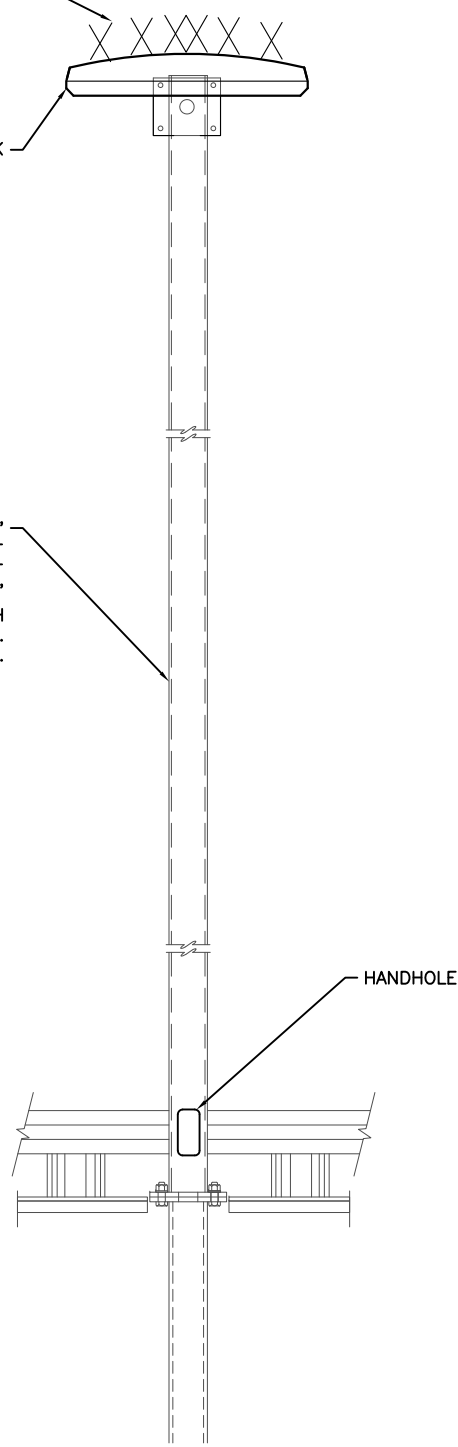
PND PROJECT NO.: 172032

E10  
SHEET  
OF 11

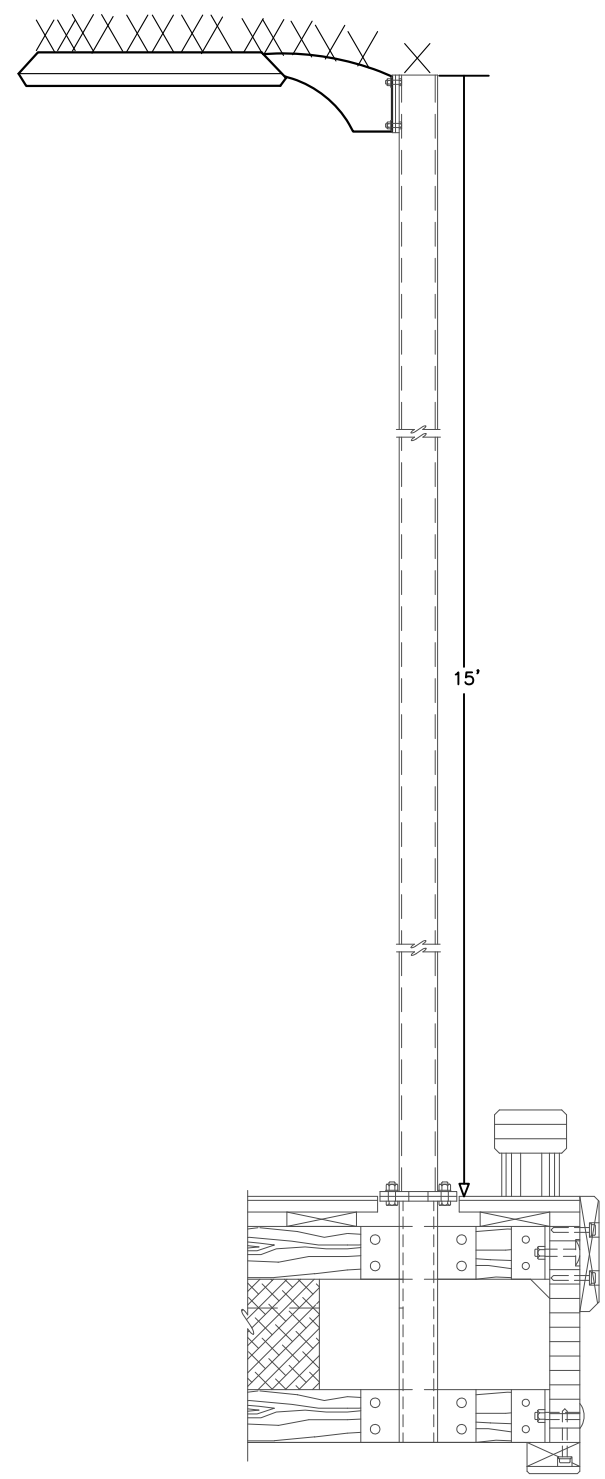


NIXALITE BIRD CONTROL (TYP)  
 TYPE A1 LUMINAIRE, FLAT BLACK

15' SQUARE POLE, 11 GAUGE MINIMUM, 4" X 4" MINIMUM, HOT DIPPED GALVANIZED STEEL LIGHT POLE. POWDER COAT FLAT BLACK OVER HOT DIPPED GALVANIZED. POLE SHALL HAVE A 10" BOLT CIRCLE. PROVIDE HANDHOLE AT 18" WITH INTERNAL HOOK FOR CABLE GRIP. SEE SHEET E6. HANDHOLE AND LUMINAIRE AT 0 DEGREES.



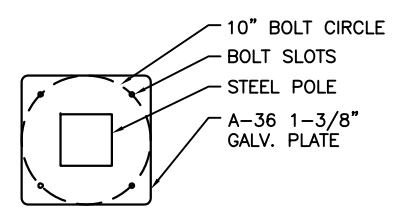
① FLOAT LIGHT POLE FRONT ELEVATION  
 NO SCALE



② FLOAT LIGHT POLE SIDE ELEVATION  
 NO SCALE

NOTES:

1. DETAILS ON THIS SHEET APPLY TO ALL FLOAT LIGHT POLES.
2. ALL SPLICES SHALL BE IN BASE OF POLE AT HANDHOLE.
3. LOCATE LIGHT POLES WHERE SHOWN ON SITE PLAN SHEET E3.
4. SIZE POLE WITH MAST ARM AND LUMINAIRE FOR 100 MPH SUSTAINED WINDS WITH GUSTS TO 120 MPH.
5. PROTECT ANCHOR BOLTS FROM PHYSICAL DAMAGE DURING CONSTRUCTION.
6. COORDINATE LIGHT BASE DIMENSIONS WITH CIVIL.



③ BOLT CIRCLE DETAIL  
 NO SCALE

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**HAINES BOROUGH PORTAGE COVE HARBOR BOAT LAUNCH IMPROVEMENTS**

SHEET TITLE:  
**FLOAT LIGHT POLE DETAIL**

PND PROJECT NO.: 172032

**E11**  
 SHEET OF 11