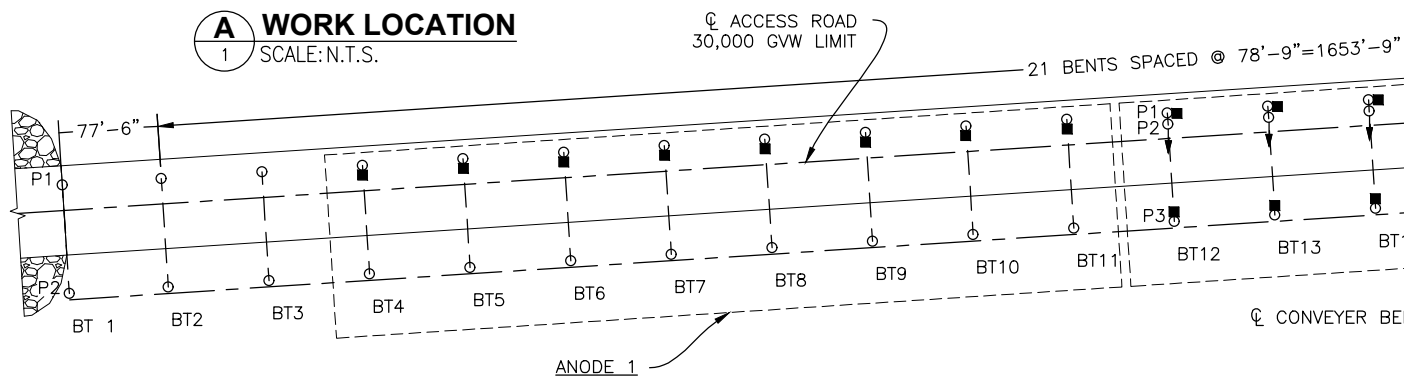
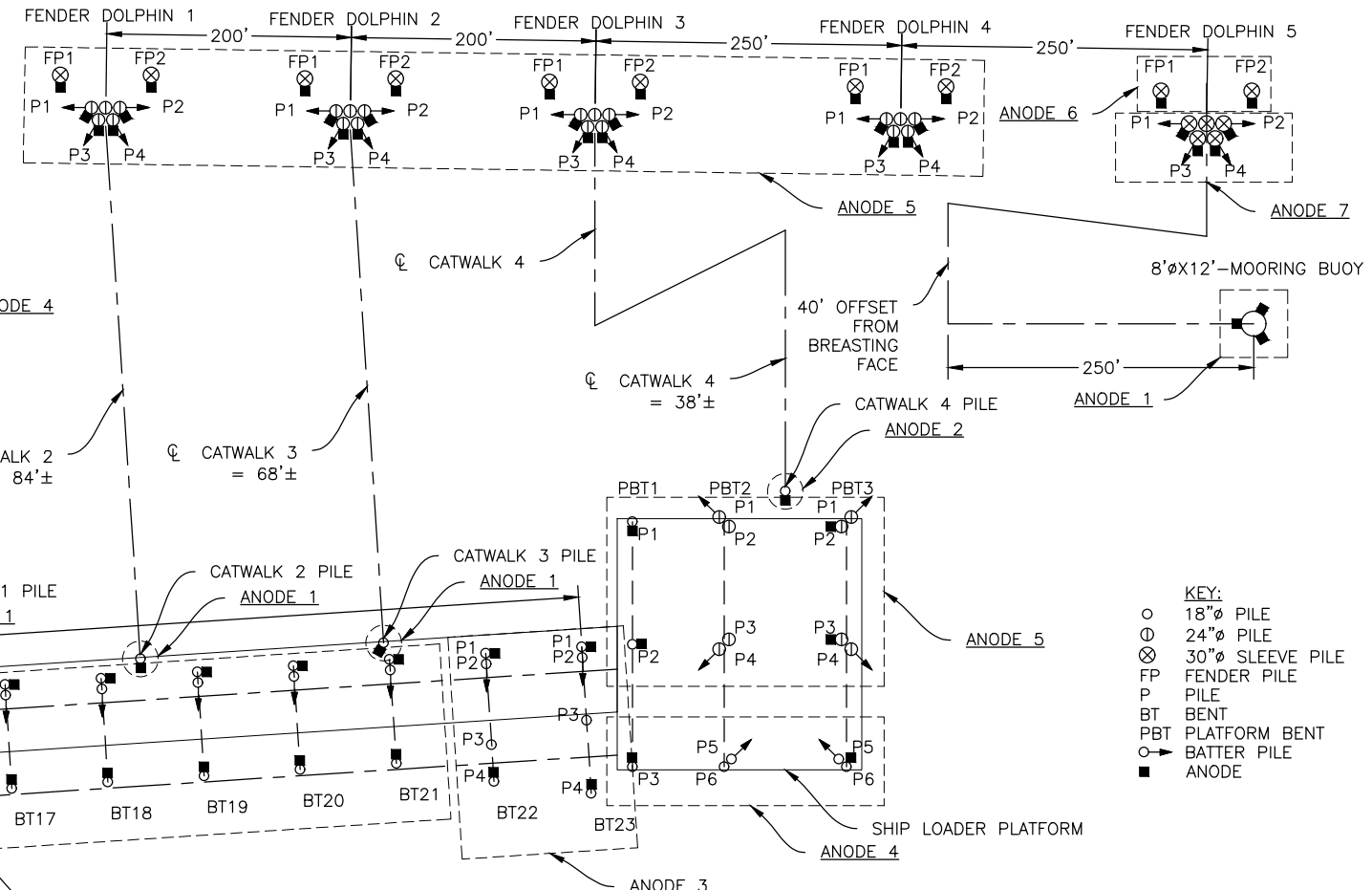


ANODE MATERIAL LIST					
ANODE TYPE	MIN. ALUMINUM WEIGHT, LBS	MAX. ALUMINUM WEIGHT, LBS	MIN. LENGTH, IN	MAX. LENGTH, IN	QTY, EA.
ANODE 1	36	44	20	36	14
ANODE 2	47	57	24	46	21
ANODE 3	63	80	36	48	4
ANODE 4	81	90	24	36	8
ANODE 5	130	140	26	40	28
ANODE 6	169	180	36	48	2
ANODE 7	226	235	36	48	4
					81 TOTAL

**A WORK LOCATION**  
1 SCALE: N.T.S.



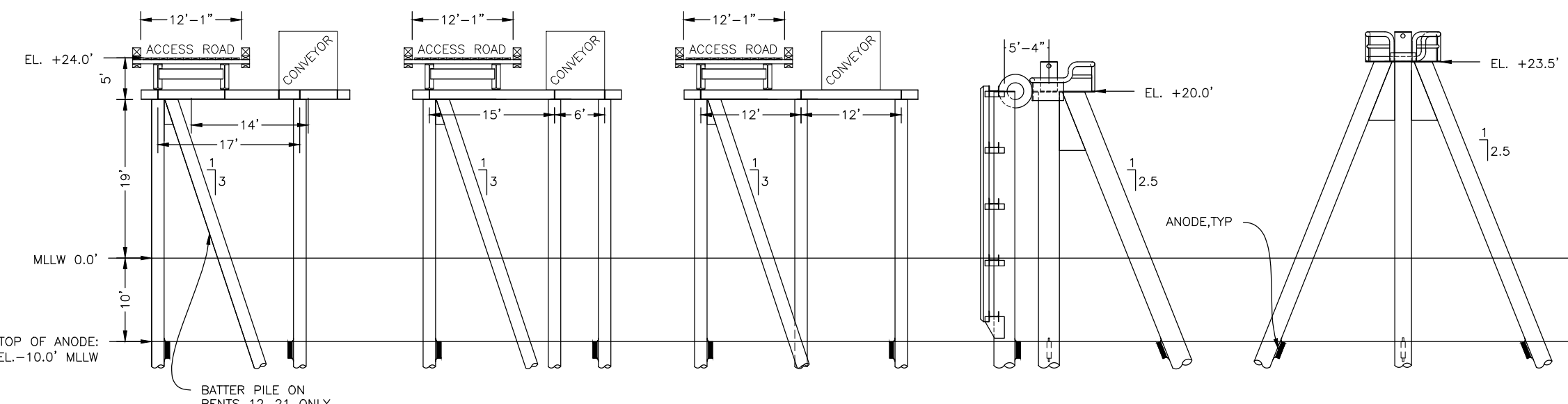
**B COAL DOCK LAYOUT**  
1 SCALE: N.T.S.



- SCOPE OF WORK:**
- WITH THE EXCEPTION OF BENTS 1-3, CONTRACTOR SHALL CLEAN ALL PILING (95 TOTAL) AND MOORING BUOY, REMOVING ALL MARINE GROWTH AND NOTE OVERALL CONDITION OF PILE AND BUOY. LIMIT DEPTH OF PILE CLEANING TO -20' MLLW.
  - CONTRACTOR TO INSTALL OWNER SUPPLIED ANODES AT PILE LOCATIONS AND MOORING BUOY AS SHOWN.

- ANODE SPECIFICATIONS:**
- ALL ANODES SHALL HAVE A 2" OFFSET WITH A MINIMUM 2"x3/8" STEEL CORE.
  - ALL ANODES SHALL BE ALUMINUM ALLOY IN CONFORMANCE TO MILITARY SPECIFICATION MIL-A-24779.
  - ANODES SHALL FALL WITHIN THE RANGE OF ALUMINUM WEIGHT AND LENGTHS AS SPECIFIED. ANODE SUPPLIER TO SUBMIT FOR APPROVAL.

- INSTALLATION NOTES:**
- ANODES ON PILING SHALL BE POSITIONED -10.0' BELOW MLLW WHERE WATER DEPTH IS SUFFICIENT AND AWAY FROM OUTER FACE OF PILING TO PREVENT DAMAGE FROM VESSELS AND DEBRIS. ANODES SHALL BE INSTALLED AS CLOSE AS PRACTICAL TO SEA FLOOR WHERE WATER DEPTH IS NOT SUFFICIENT.
  - ANODES INSTALLED ON MOORING BUOY SHALL BE EVENLY SPACED AND POSITIONED AS CLOSE AS PRACTICAL TO BOTTOM OF BUOY.
  - ANODES TO BE WELDED DIRECTLY TO PILING AND BUOY WITH 1/4" FILLET WELD FULL LENGTH ON BOTH SIDES OF STEEL TABS. WELD ELECTRODES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70,000 PSI.
  - ALL WELDERS SHALL BE QUALIFIED FOR THE WELD PROCEDURE PER AWS. D3.6M.
  - ALL WELDING SURFACES SHALL BE PREPARED PER SSPC-SP11.
  - EXISTING ANODES SHALL BE ABANDONED IN PLACE UNLESS THEY PROHIBIT INSTALLATION OF NEW ANODES. CONTRACTOR TO PROPERLY DISPOSE OF ANY REMOVED ANODES.



**C BENTS 4-21 TYPICAL SECTION**  
1 SCALE: 1/16" = 1'-0"

**D BENT 22 SECTION**  
1 SCALE: 1/16" = 1'-0"

**E BENT 23 SECTION**  
1 SCALE: 1/16" = 1'-0"

**F FENDER DOLPHIN TYPICAL SECTION**  
1 SCALE: 1/16" = 1'-0"

**G MOORING DOLPHIN SECTION**  
1 SCALE: 1/16" = 1'-0"

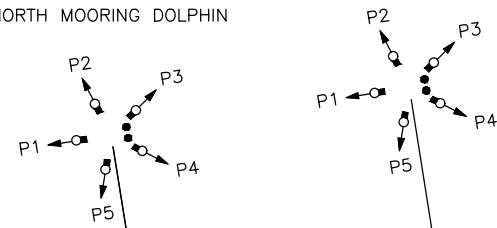
<p>ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500</p>		
PROJECT: <b>SEWARD DOCKS ANODE RENEWAL</b>		
TITLE: <b>COAL DOCK LAYOUT AND TYPICAL BENT SECTIONS</b>		
DESIGNED BY: <u>DJS</u>	SCALE: AS NOTED	AFE NO.:
DRAWN BY: <u>DJS</u>	DATE: 8/29/19	ACAD FILE:
CHECKED BY: <u>BAO</u>		DWG NO. <b>1</b> OF <b>2</b>
APPROVED BY: _____		



PASSENGER DOCK

NORTH MOORING DOLPHIN

SOUTH MOORING DOLPHIN

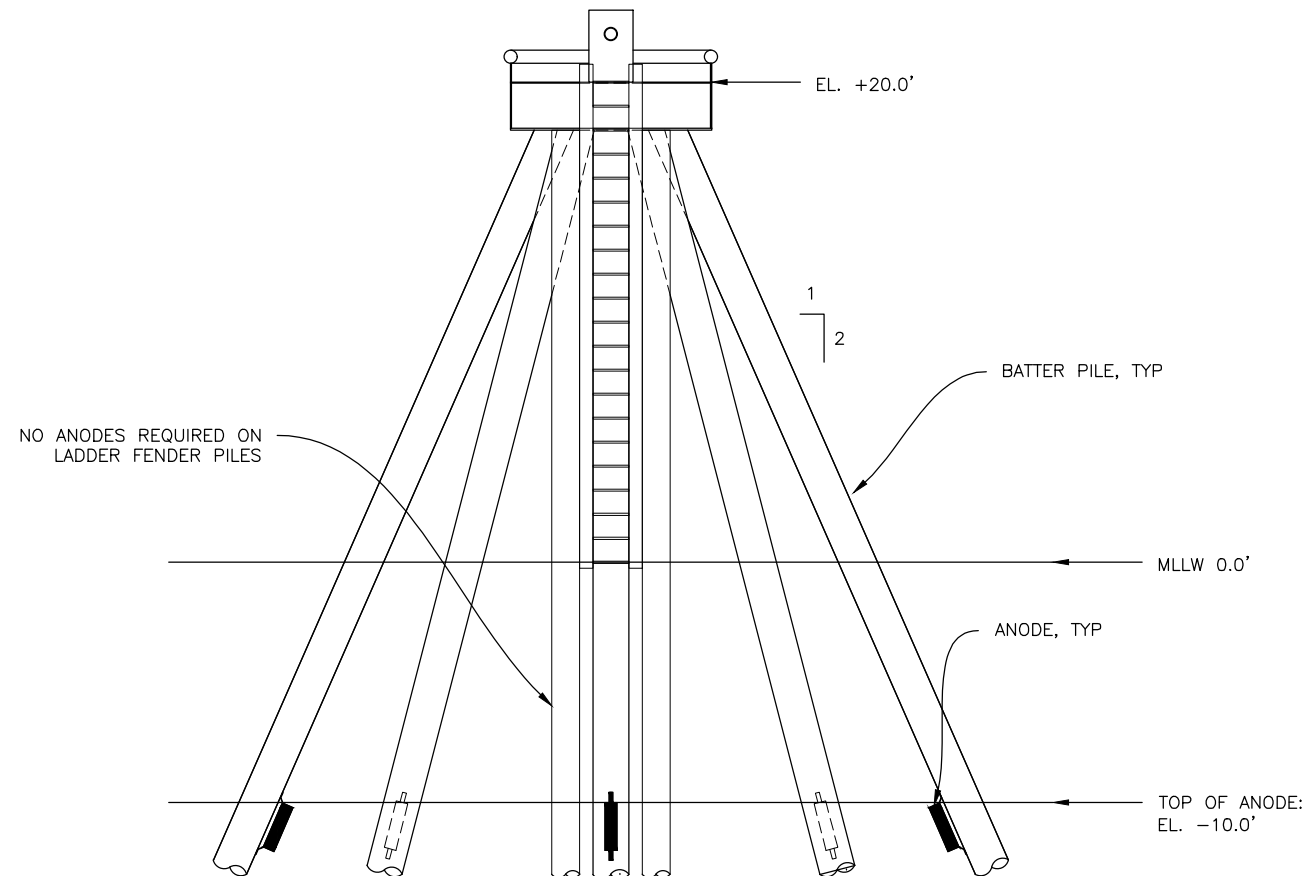


300'±

**A** PASSENGER DOCK MOORING DOLPHIN LAYOUT  
2 SCALE: N.T.S.

ANODE MATERIAL LIST					
ANODE TYPE	MIN. ALUMINUM WEIGHT, LBS	MAX. ALUMINUM WEIGHT, LBS	MIN. LENGTH, IN	MAX. LENGTH, IN	QTY, EA.
ANODE 8	76	86	34	48	10
					10 TOTAL

- KEY:
- 14"Ø PILE
  - 18"Ø PILE
  - BATTER PILE
  - ANODE



**B** MOORING DOLPHIN TYPICAL SECTION  
2 SCALE: 1/8"=1'-0"

SCOPE OF WORK:


- CONTRACTOR SHALL CLEAN ALL PILING (14 TOTAL), REMOVING ALL MARINE GROWTH AND NOTE OVERALL CONDITION OF BATTER PILE AND LADDER FENDER PILE. LIMIT DEPTH OF PILE CLEANING TO -20' MLLW.
- CONTRACTOR TO INSTALL OWNER SUPPLIED ANODES AT PILE LOCATIONS AS SHOWN.

ANODE SPECIFICATIONS:

- ALL ANODES SHALL HAVE A 2" OFFSET WITH A MINIMUM 2"x3/8" STEEL CORE.
- ALL ANODES SHALL BE ALUMINUM ALLOY IN CONFORMANCE TO MILITARY SPECIFICATION MIL-A-24779.
- ANODES SHALL FALL WITHIN THE RANGE OF ALUMINUM WEIGHT AND LENGTHS AS SPECIFIED. ANODE SUPPLIER TO SUBMIT FOR APPROVAL.

INSTALLATION NOTES:

- ANODES ON PILING SHALL BE POSITIONED -10.0' BELOW MLLW WHERE WATER DEPTH IS SUFFICIENT AND AWAY FROM OUTER FACE OF PILING TO PREVENT DAMAGE FROM VESSELS AND DEBRIS. ANODES SHALL BE INSTALLED AS CLOSE AS PRACTICAL TO SEA FLOOR WHERE WATER DEPTH IS NOT SUFFICIENT.
- ANODES TO BE WELDED DIRECTLY TO PILING WITH 1/4" FILLET WELD FULL LENGTH ON BOTH SIDES OF STEEL TABS. WELD ELECTRODES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70,000 PSI.
- ALL WELDERS SHALL BE QUALIFIED FOR THE WELD PROCEDURE PER AWS. D3.6M.
- ALL WELDING SURFACES SHALL BE PREPARED PER SSPC-SP11.
- EXISTING ANODES SHALL BE ABANDONED IN PLACE UNLESS THEY PROHIBIT INSTALLATION OF NEW ANODES. CONTRACTOR TO PROPERLY DISPOSE OF ANY REMOVED ANODES.

 <b>ALASKA RAILROAD CORPORATION</b> ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500		
PROJECT:		
<b>SEWARD DOCKS ANODE RENEWAL</b>		
TITLE:		
<b>PASSENGER DOCK MOORING DOLPHINS LAYOUT AND TYPICAL SECTIONS</b>		
DESIGNED BY: DJS	SCALE: AS NOTED	AFE NO.:
DRAWN BY: DJS		ACAD FILE:
CHECKED BY: BAO	DATE: 8/29/19	DWG NO. <b>2</b> OF <b>2</b>
APPROVED BY:		