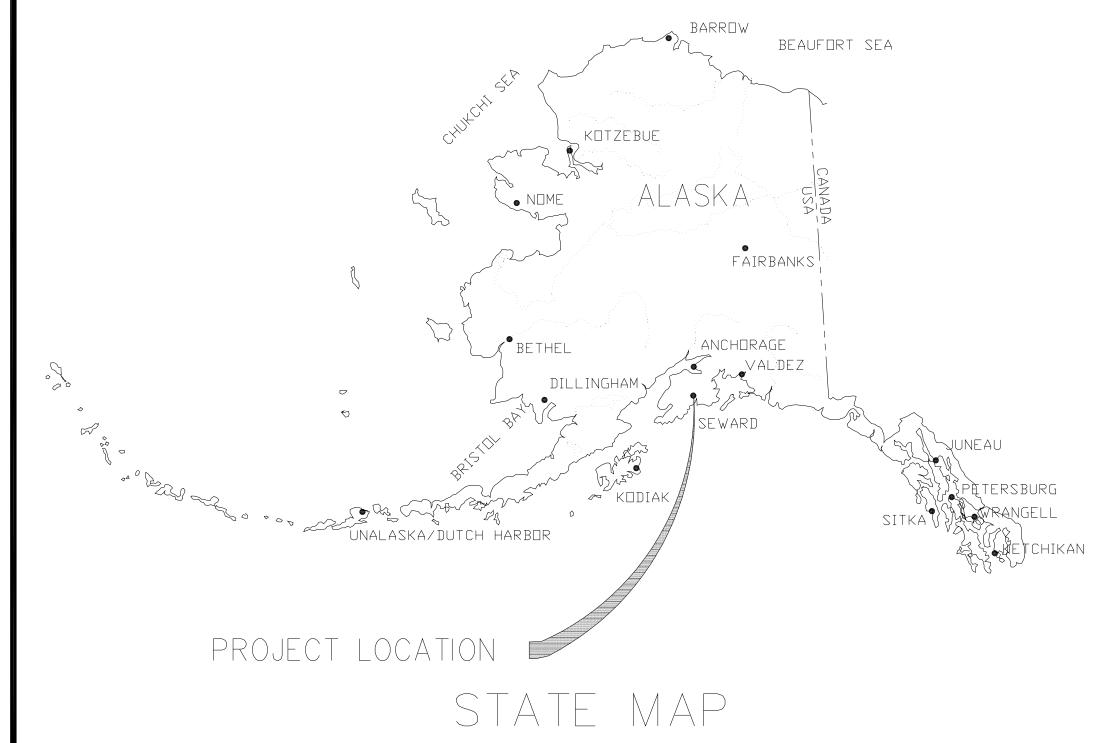
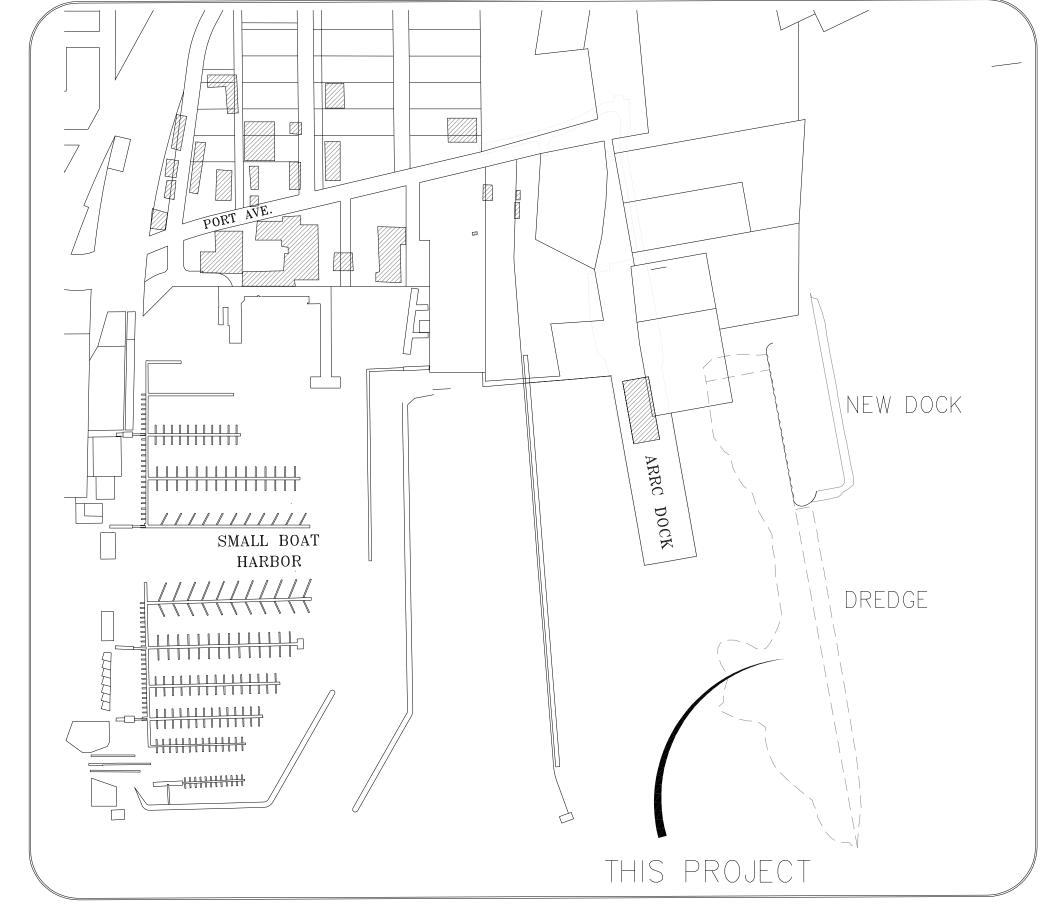
# ALASKA RAILROAD CORPORATION NEW SEWARD RAILROAD DOCK







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2	EXISTING SITE PLAN AND PROJECT CONTROL
3	SITE DEMOLITION PLAN
4	SITE PLAN, DREDGING AND TEST HOLE LOCATIONS
5	DOCK SECTIONS AND TYPICAL SECTIONS
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W	

### WORK SUMMARY

#### MAJOR ITEMS OF WORK INCLUDE:

- 1. APPROXIMATELY 215,000 CY DREDGING (NEATLINE VARIES)
- 2. CONSTRUCT NEW ±627' OPEN CELL SHEET PILE BULKHEAD DOCK 3. CONSTRUCT STRUCTURAL STEEL, BOLLARDS AND FENDERS
- 4. CONSTRUCT NEW MOORING DOLPHIN AND CATWALK
- 5. REMOVE AND SALVAGE PORTIONS OF EXISTING ROCK GROIN
- 6. CONSTRUCT FILL ARMOR AND RIPRAP SLOPE PROTECTION
- 7. INSTALL NEW WATER LINES
- 8. INSTALL ELECTRICITY AND 4 NEW HI MAST LIGHTS



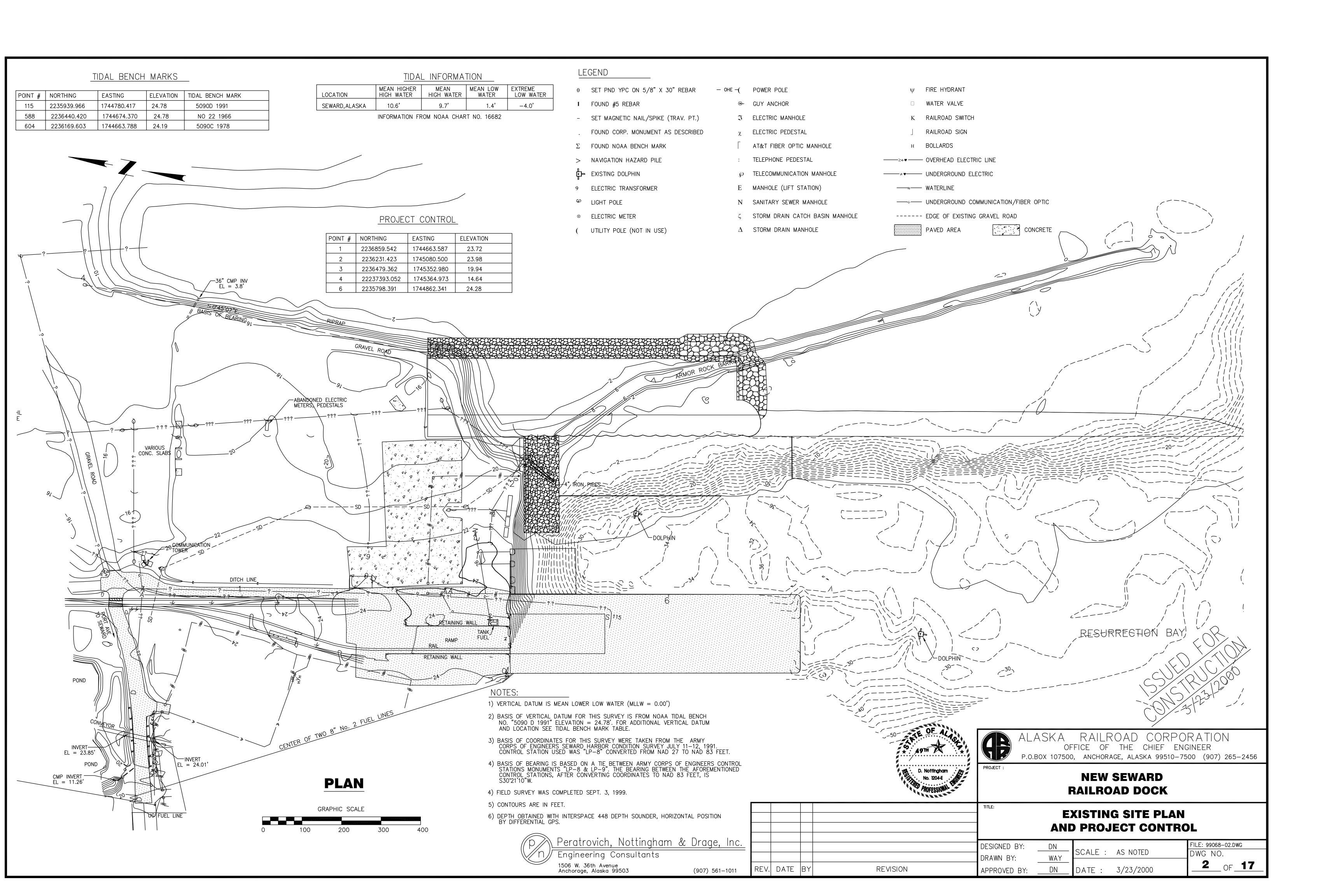
# Peratrovich, Nottingham & Drage, Inc. Engineering Consultants

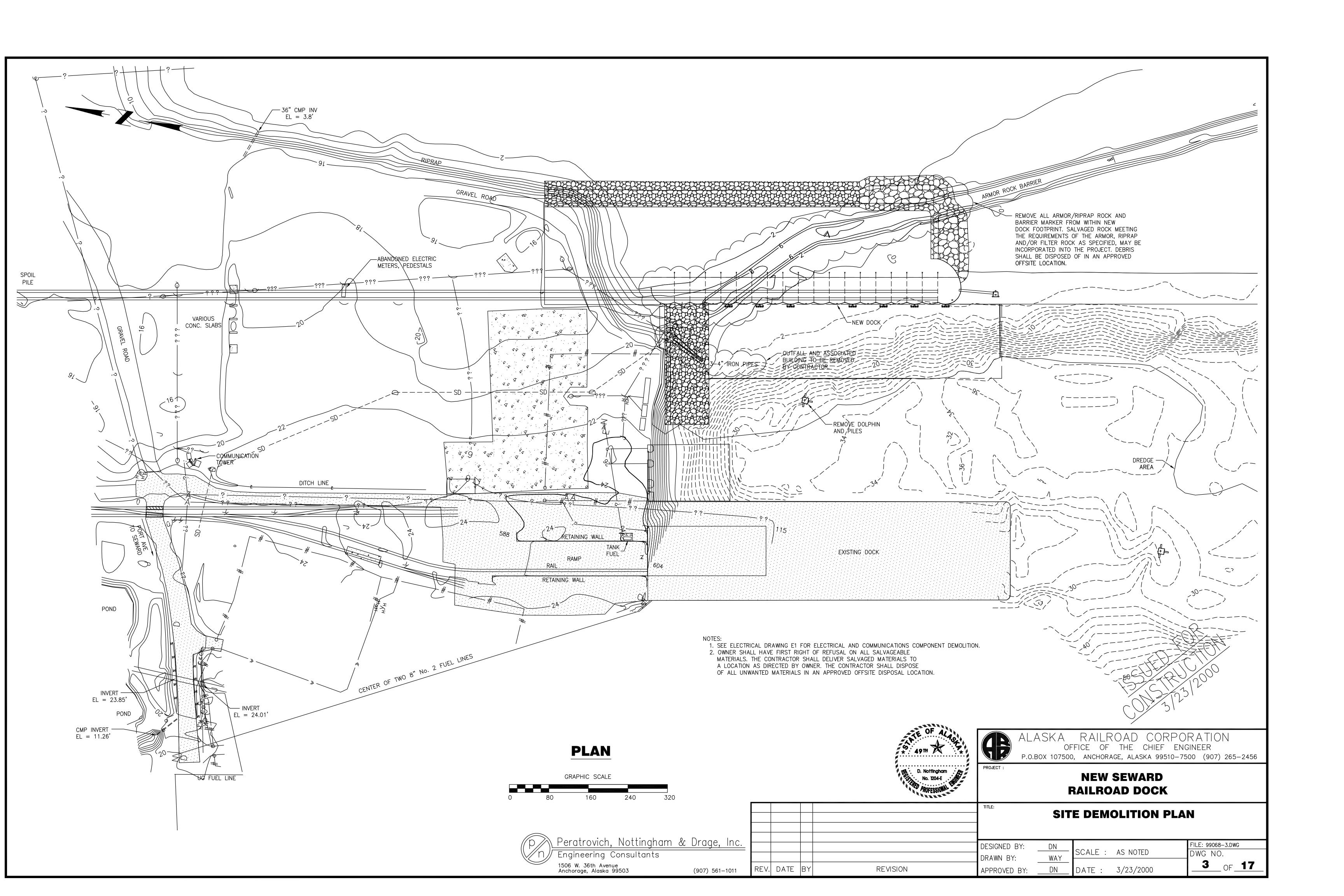
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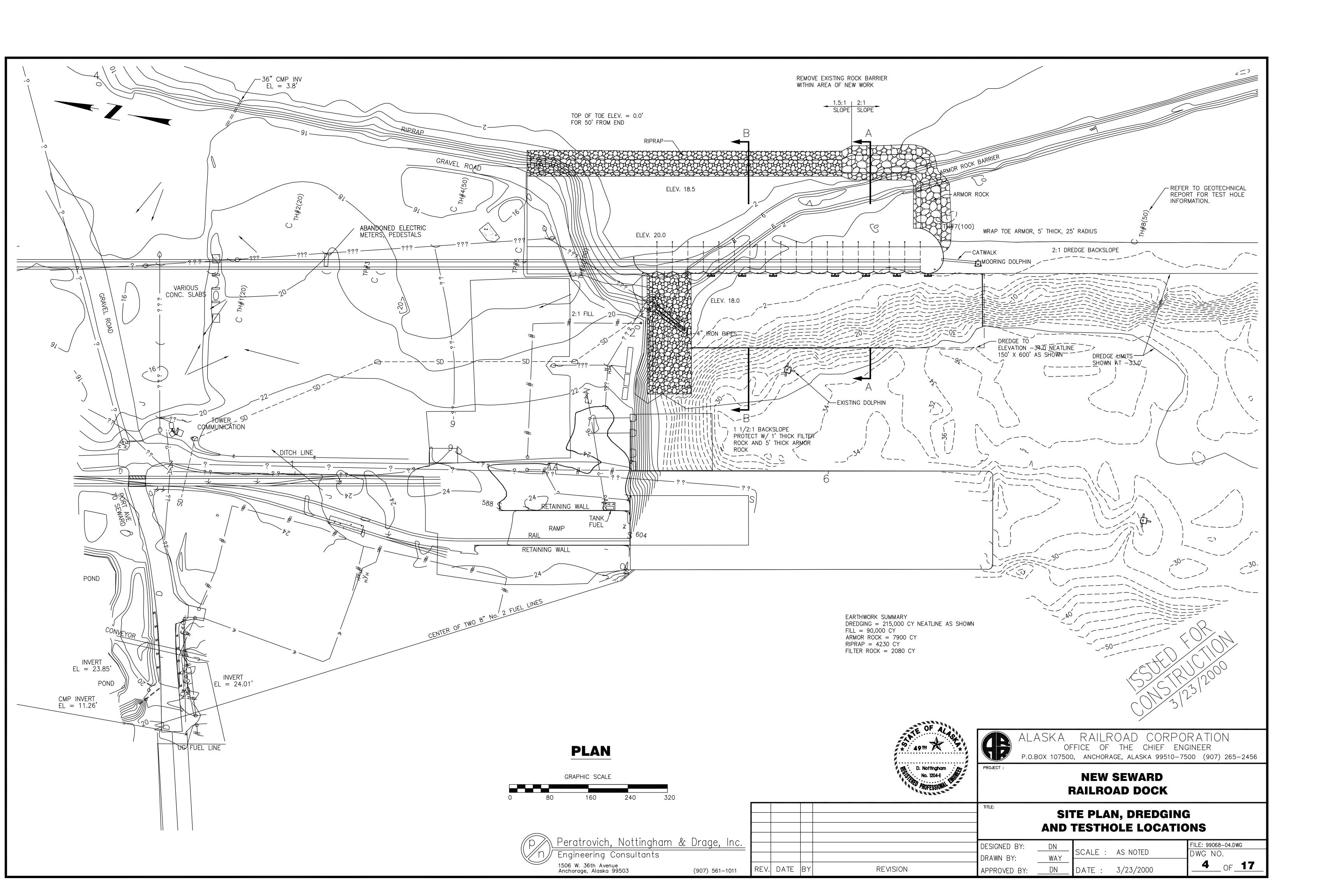
(907) 561-1011

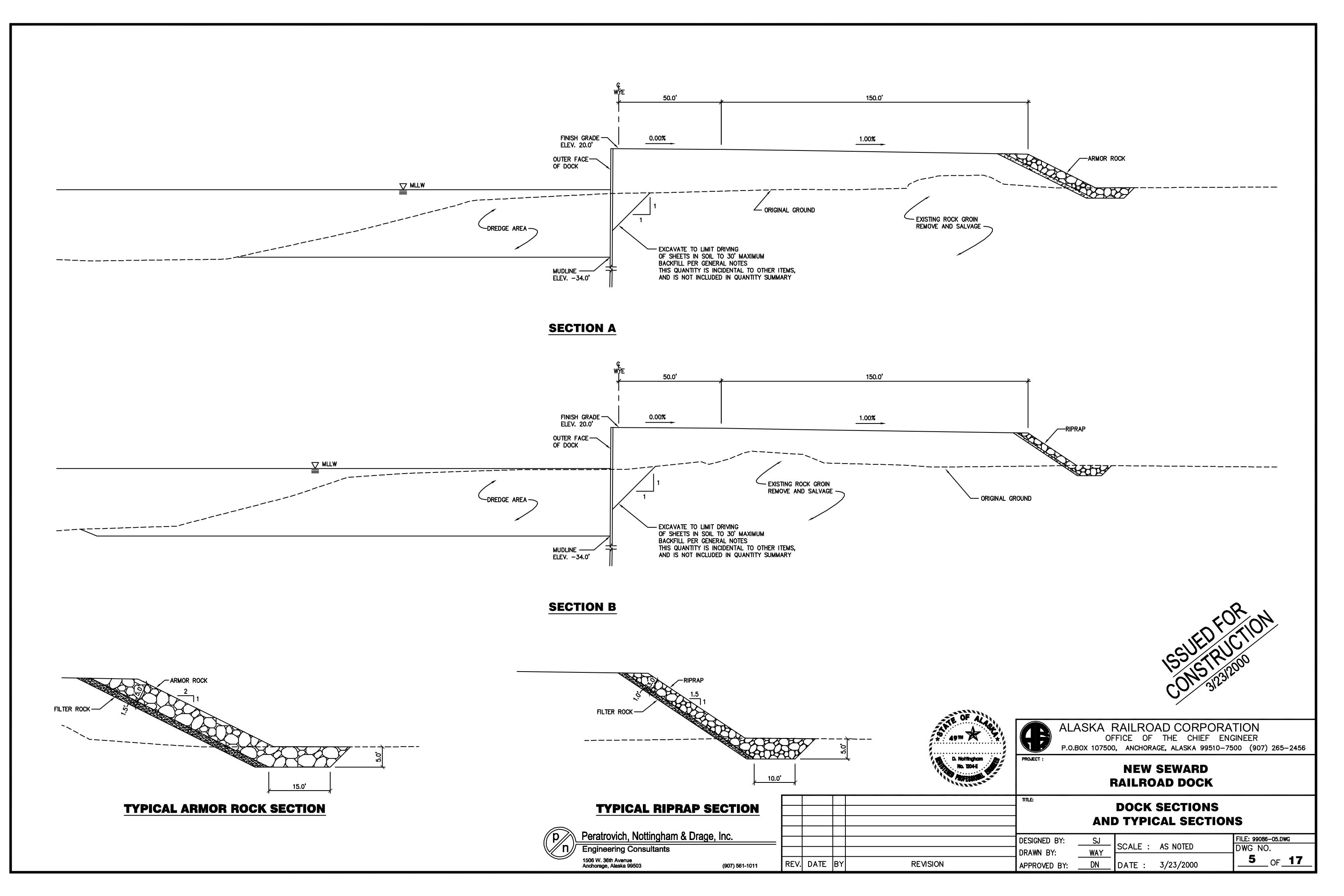
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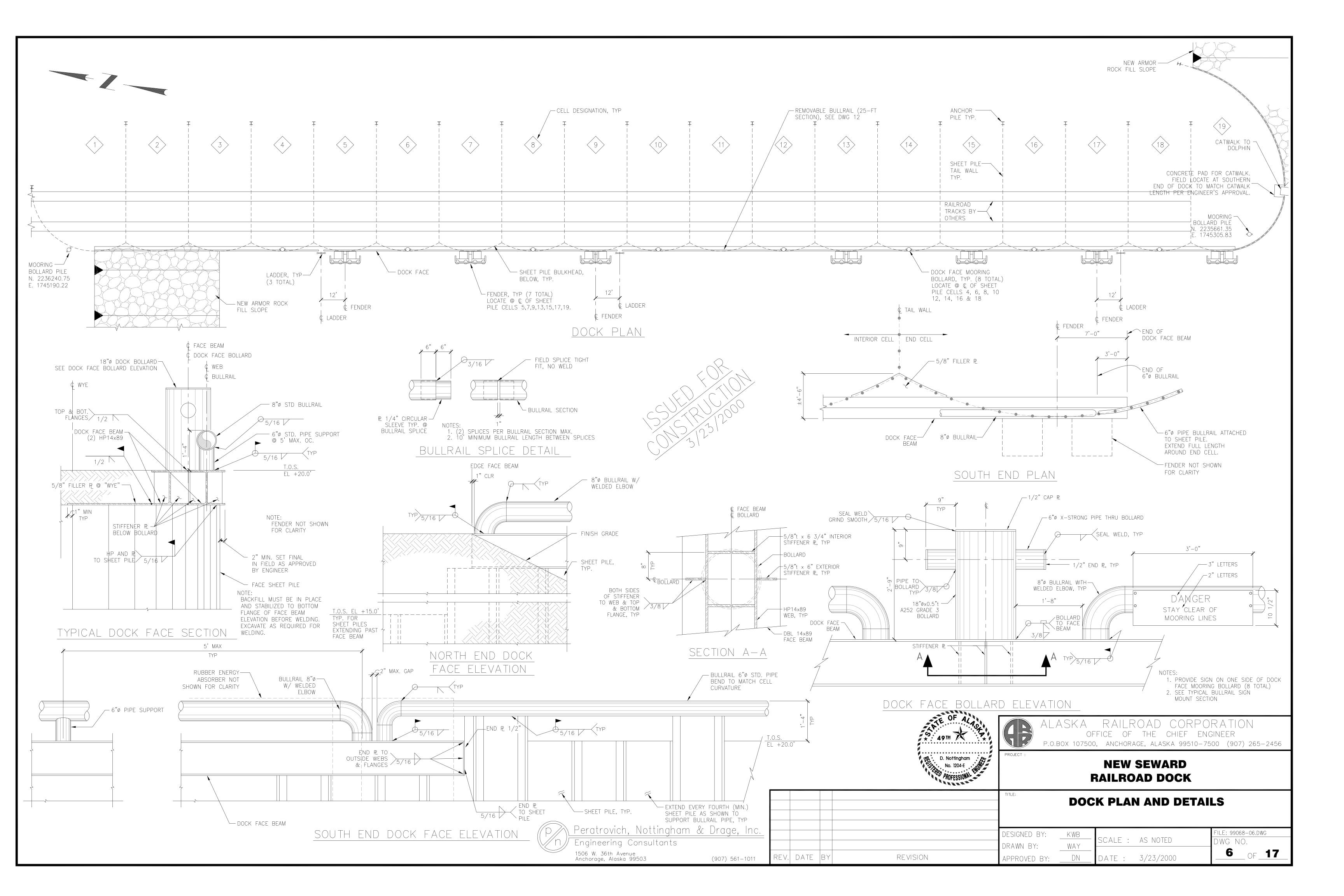
VICINITY MAP

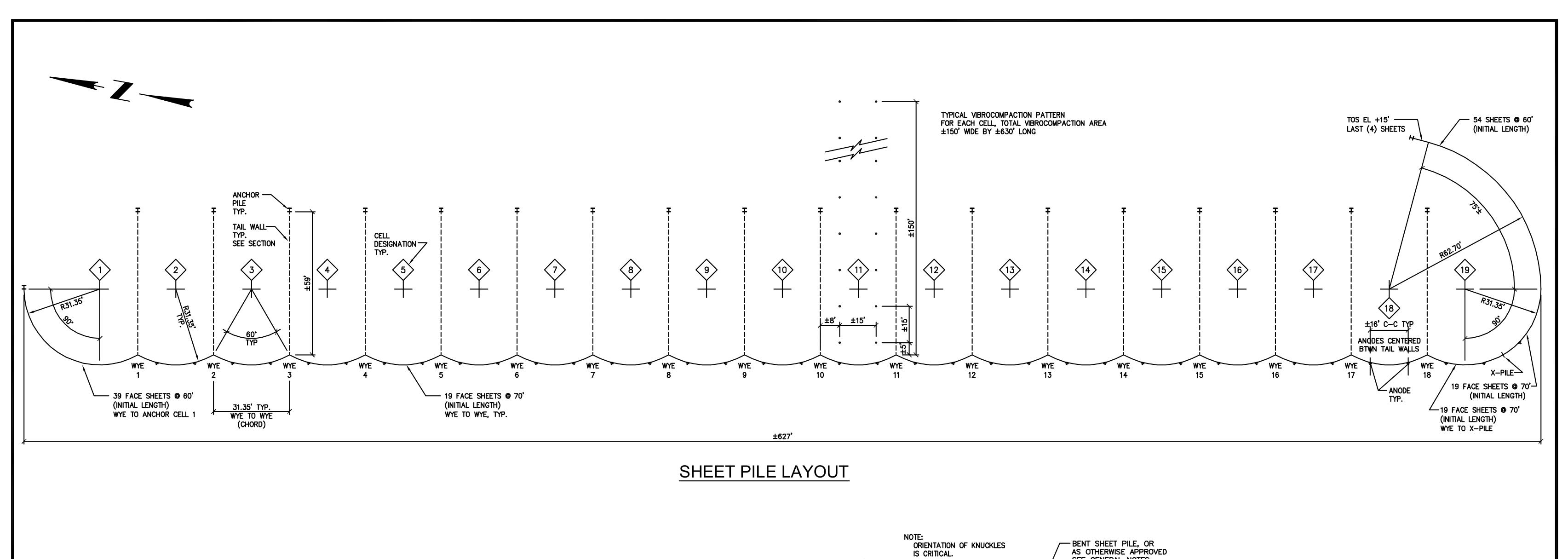


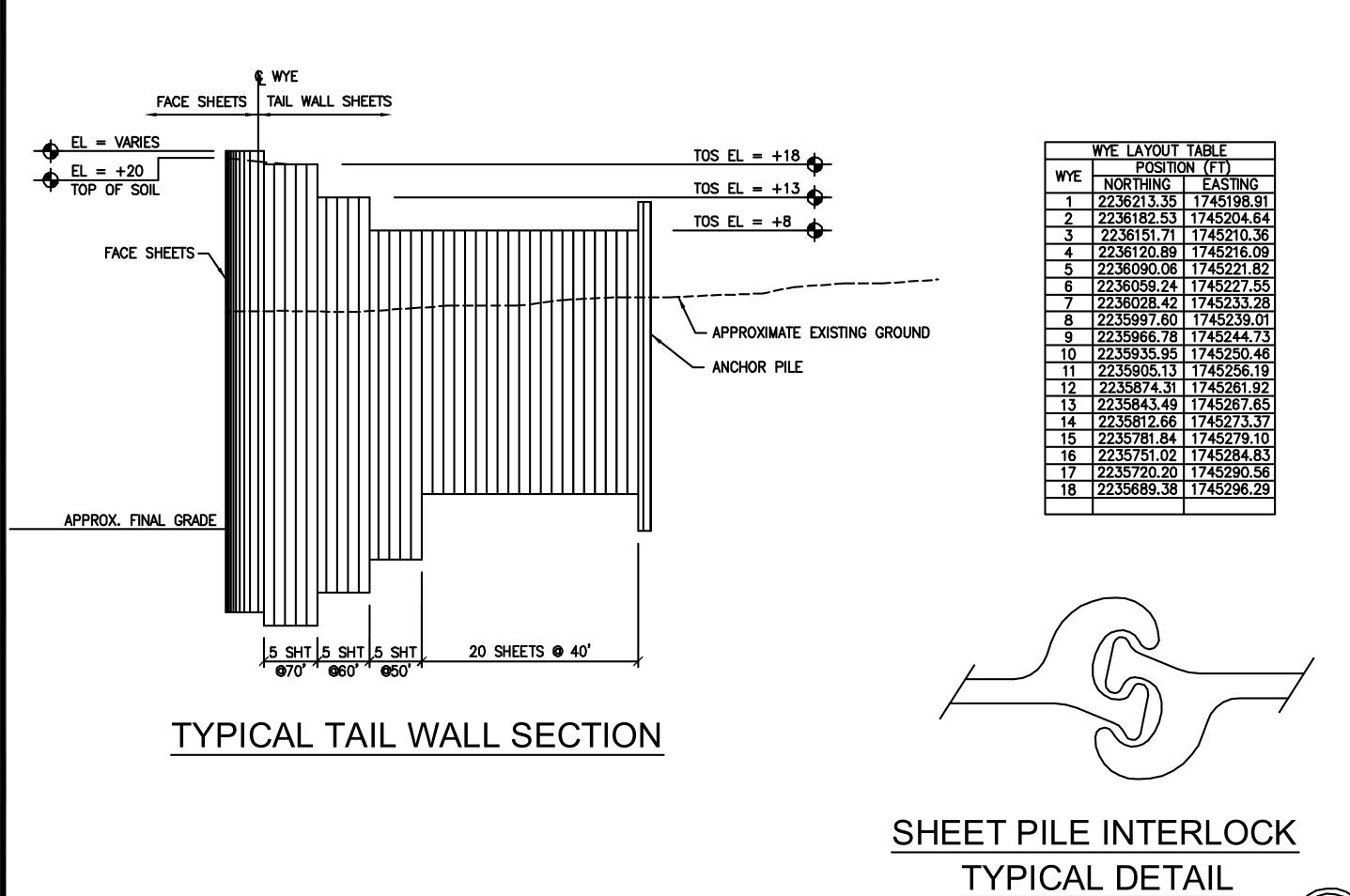


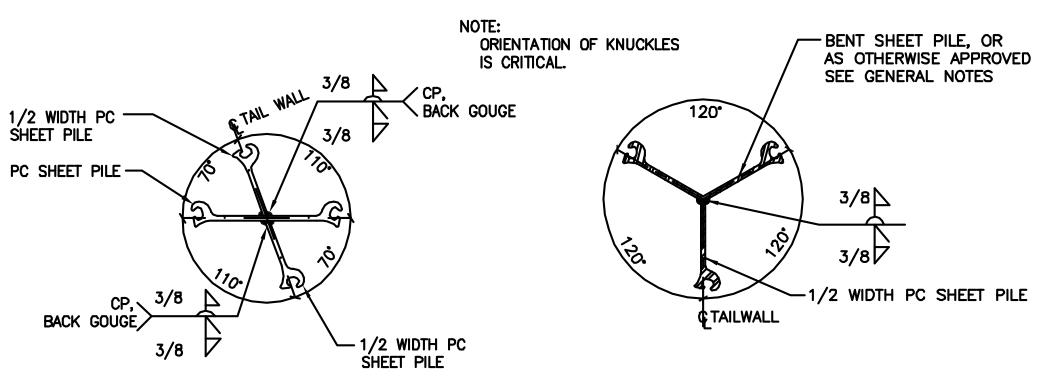


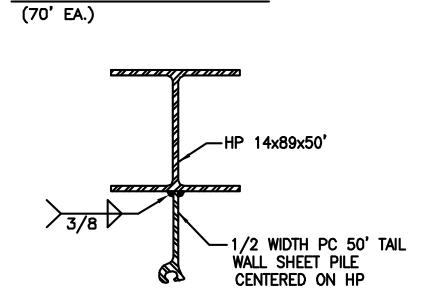


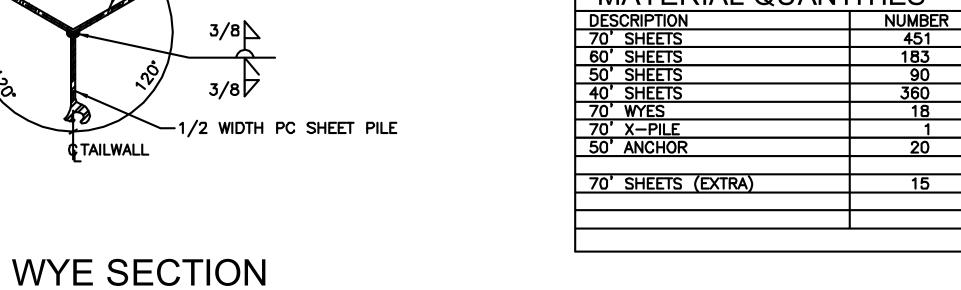
















ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O.BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

**NEW SEWARD** 

MATERIAL QUANTITIES

SHEET PILE SECTION ANCHOR PILE SECTION

**RAILROAD DOCK** 

DATE: 3/23/2000

Peratrovich, Nottingham & Drage, Inc. **Engineering Consultants** 1506 W. 36th Avenue Anchorage, Alaska 99503 (907) 561-1011

X-PILE SECTION

19.69'

-PS31 SHEETS OR APPROVED

**EQUAL** 

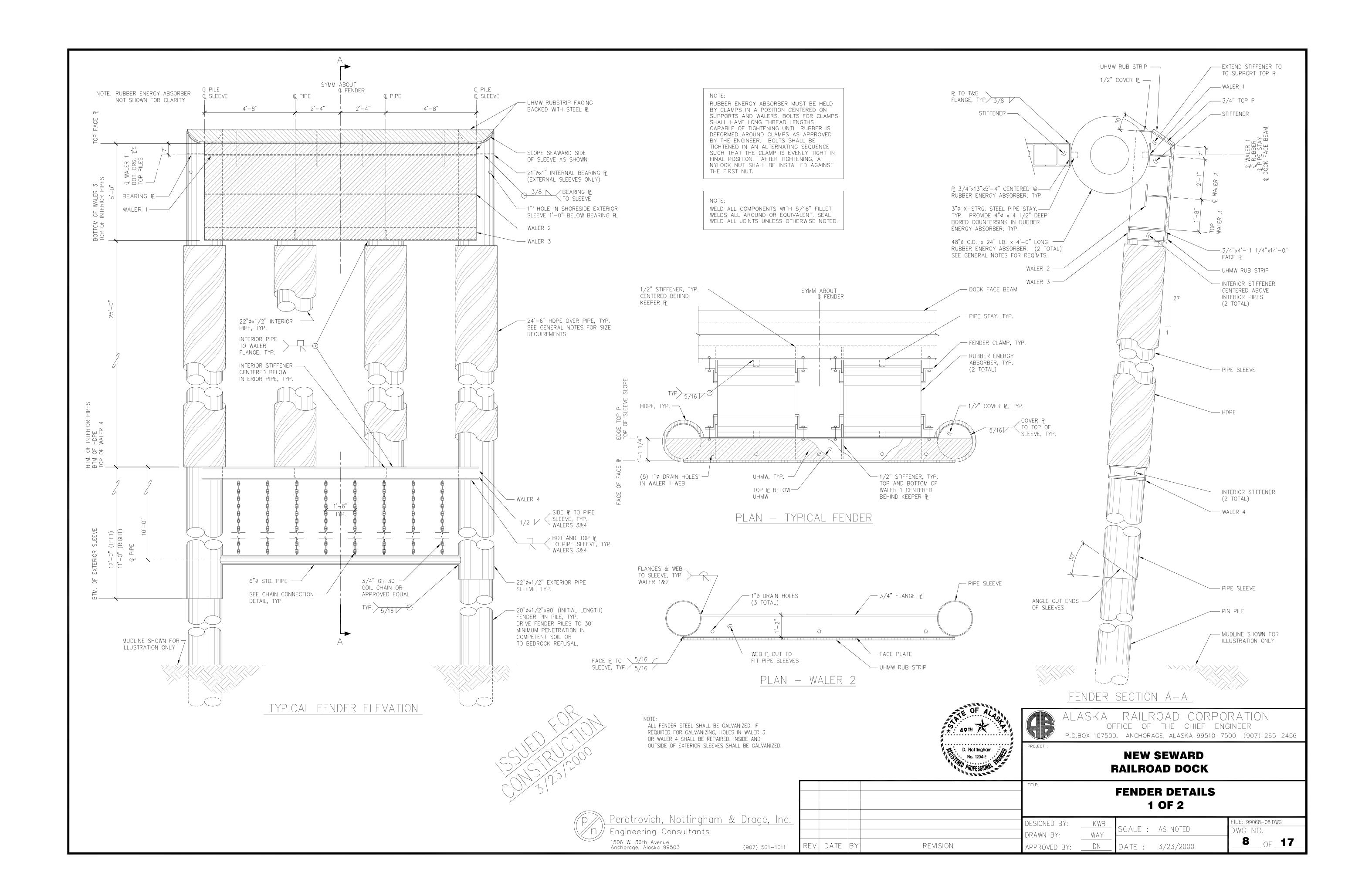
(70' EA,)

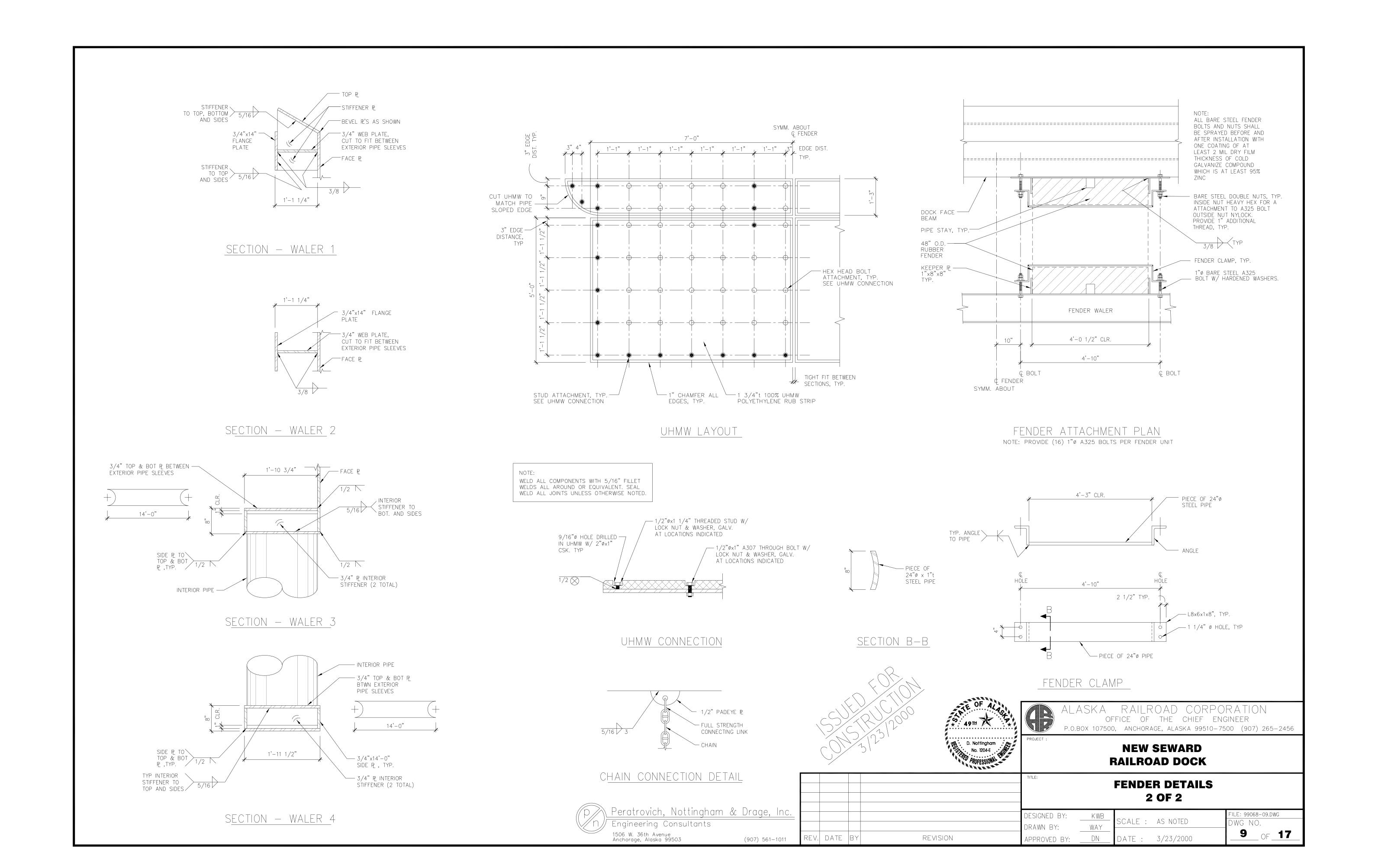
1/2" MIN-THICKNESS

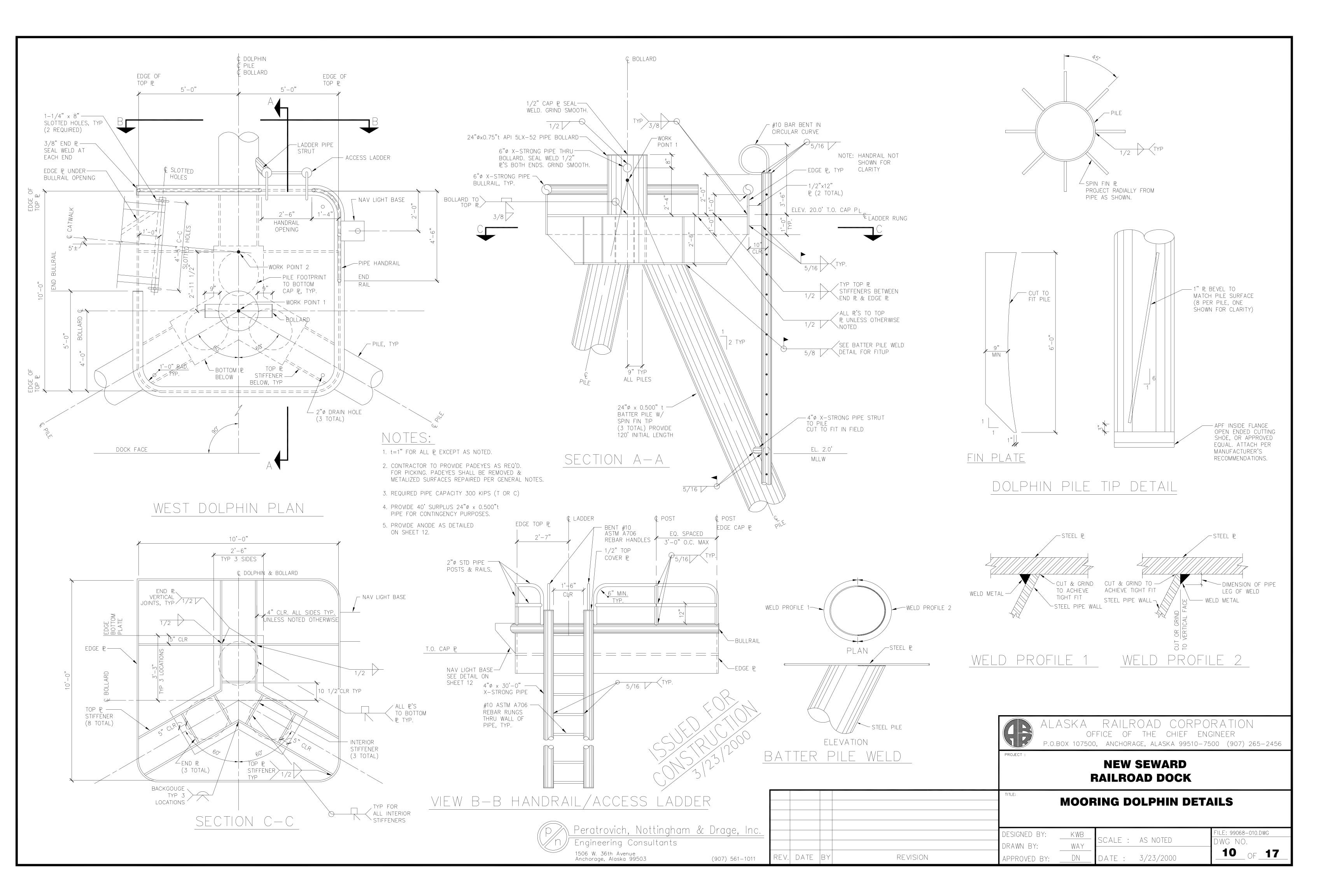
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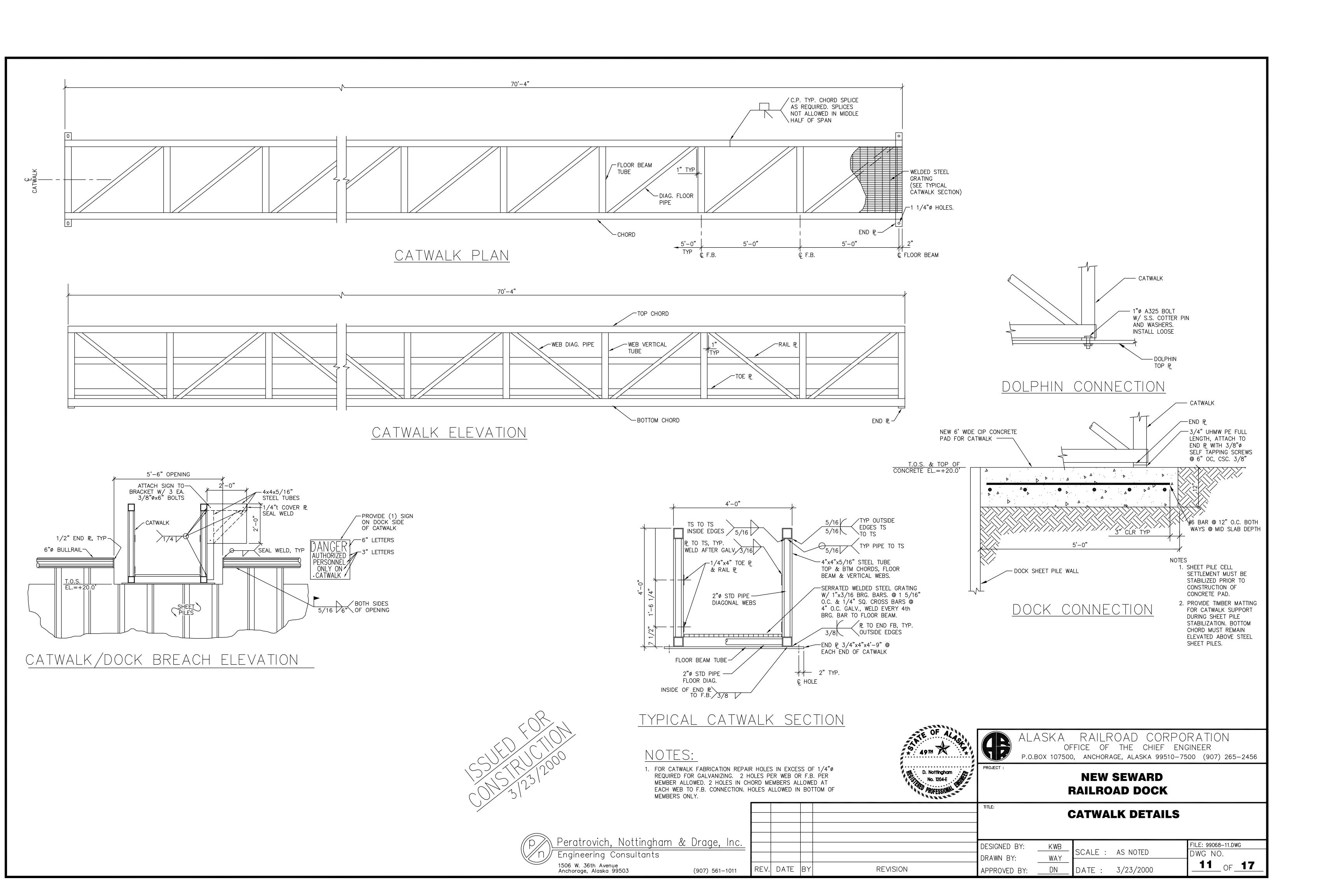
PILE AND VIBROCOMPACTION **PLAN AND DETAILS** FILE: 99068-07.DWG SCALE: NONE DWG NO.

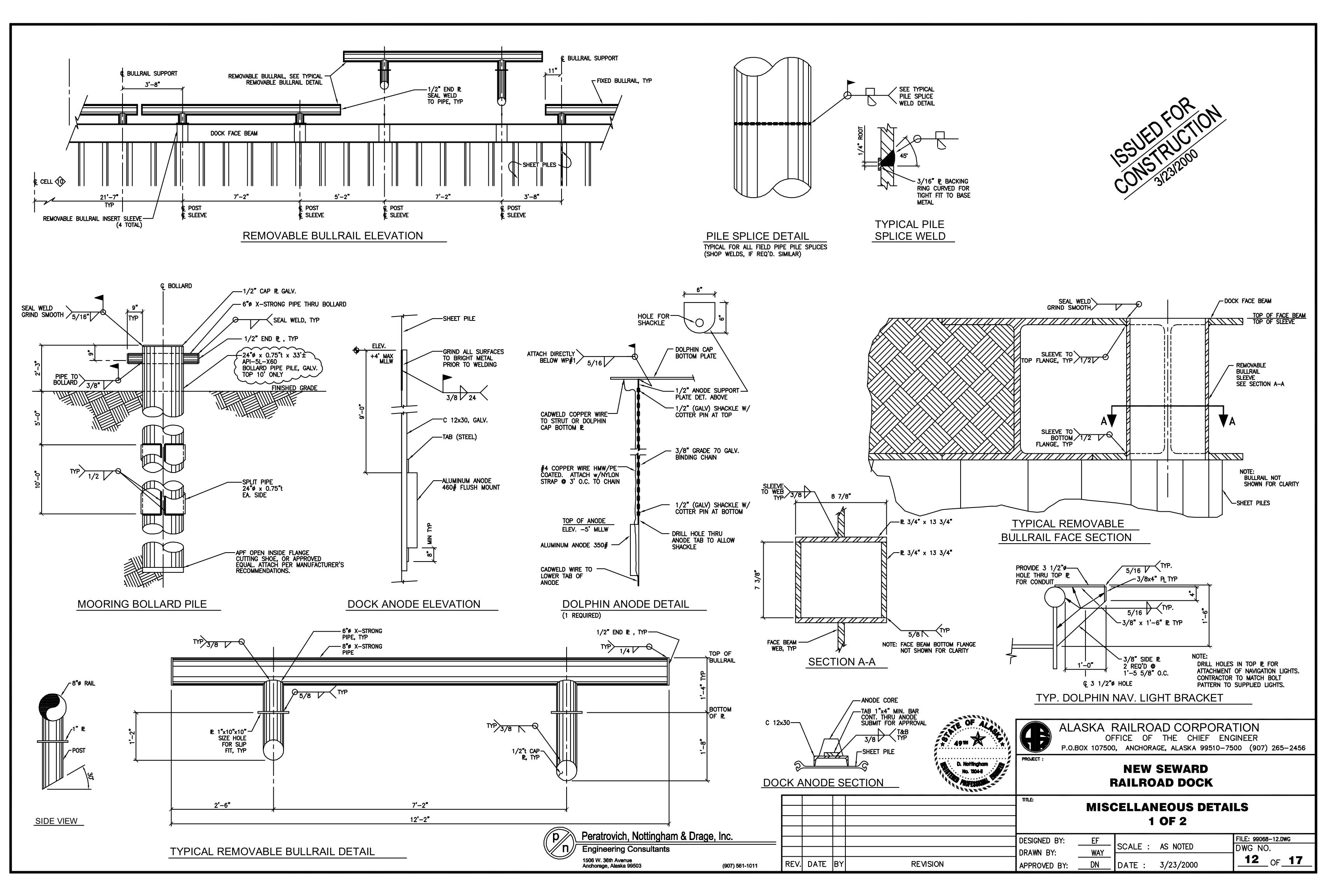
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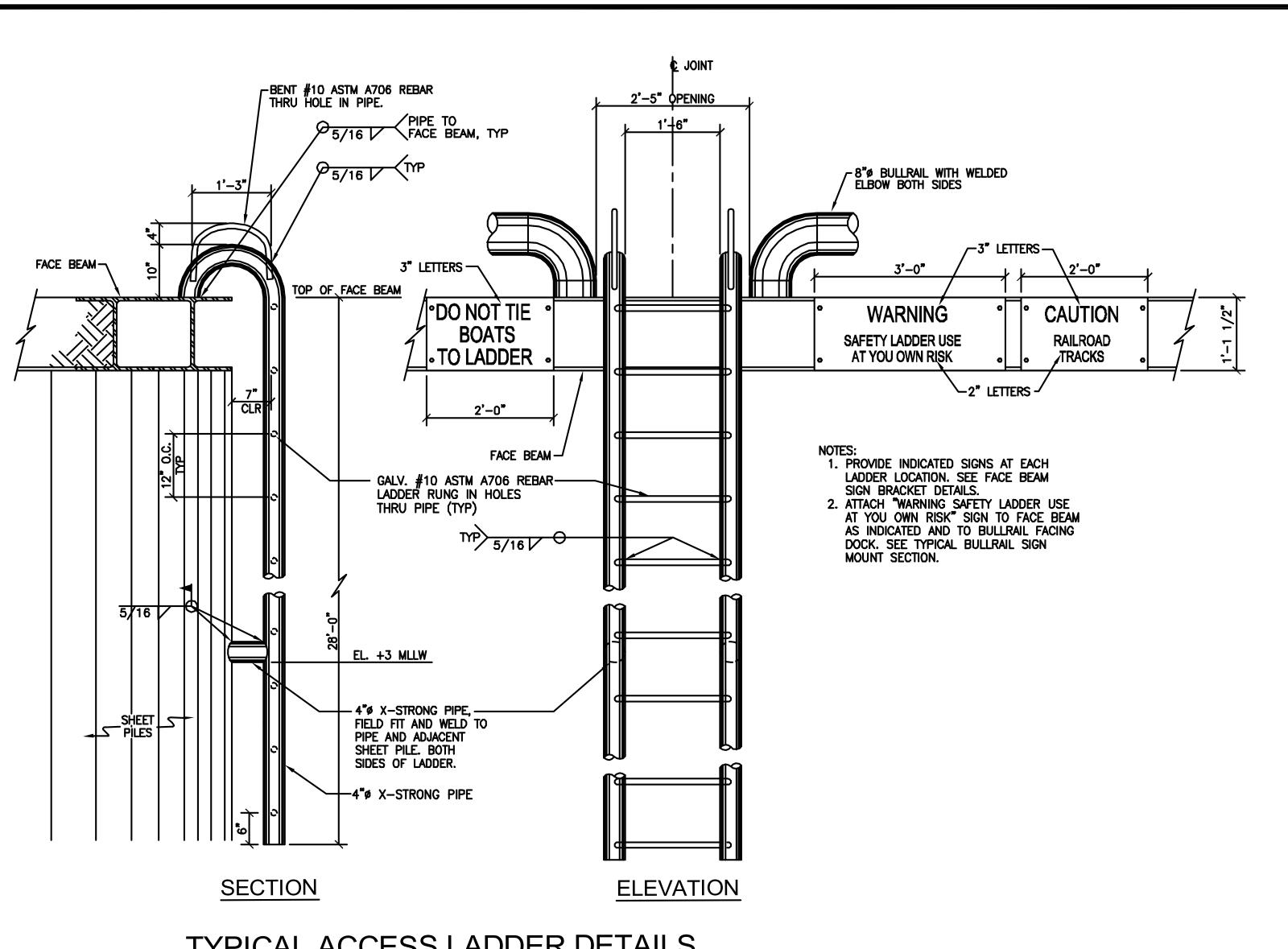




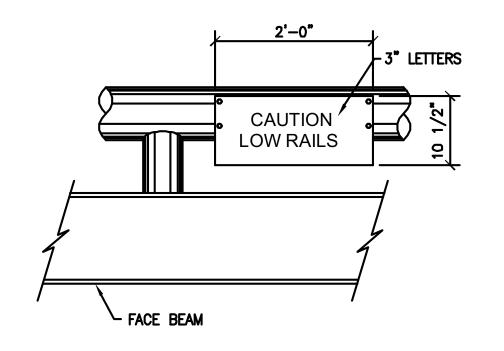








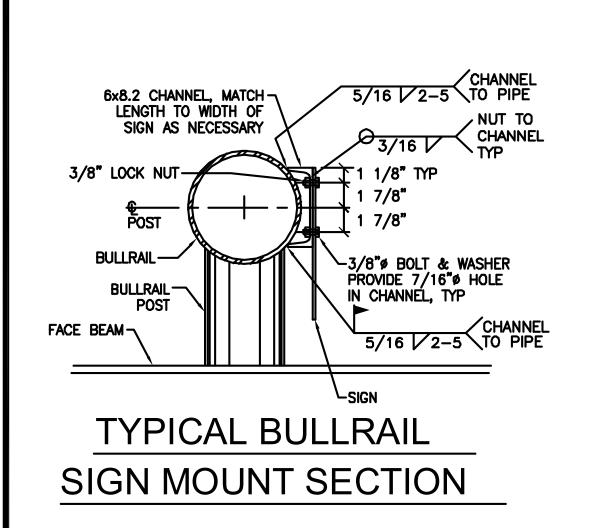
SIGN BRACKET SECTION

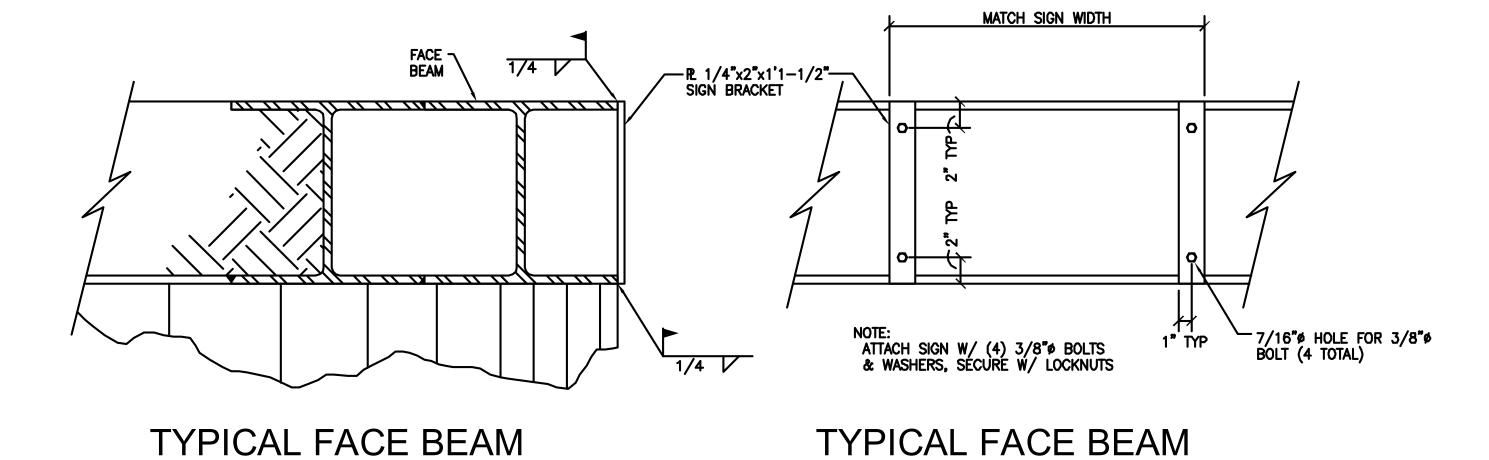


"CAUTION LOW RAILS" SIGN

1. PROVIDE © OWNER
SPECIFIED LOCATIONS. (10 TOTAL)
2. SEE TYPICAL BULLRAIL SIGN
MOUNT SECTION

# TYPICAL ACCESS LADDER DETAILS







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D CORPORATION THE CHIEF ENGINEER ALASKA 99510-7500 (907) 265-2456

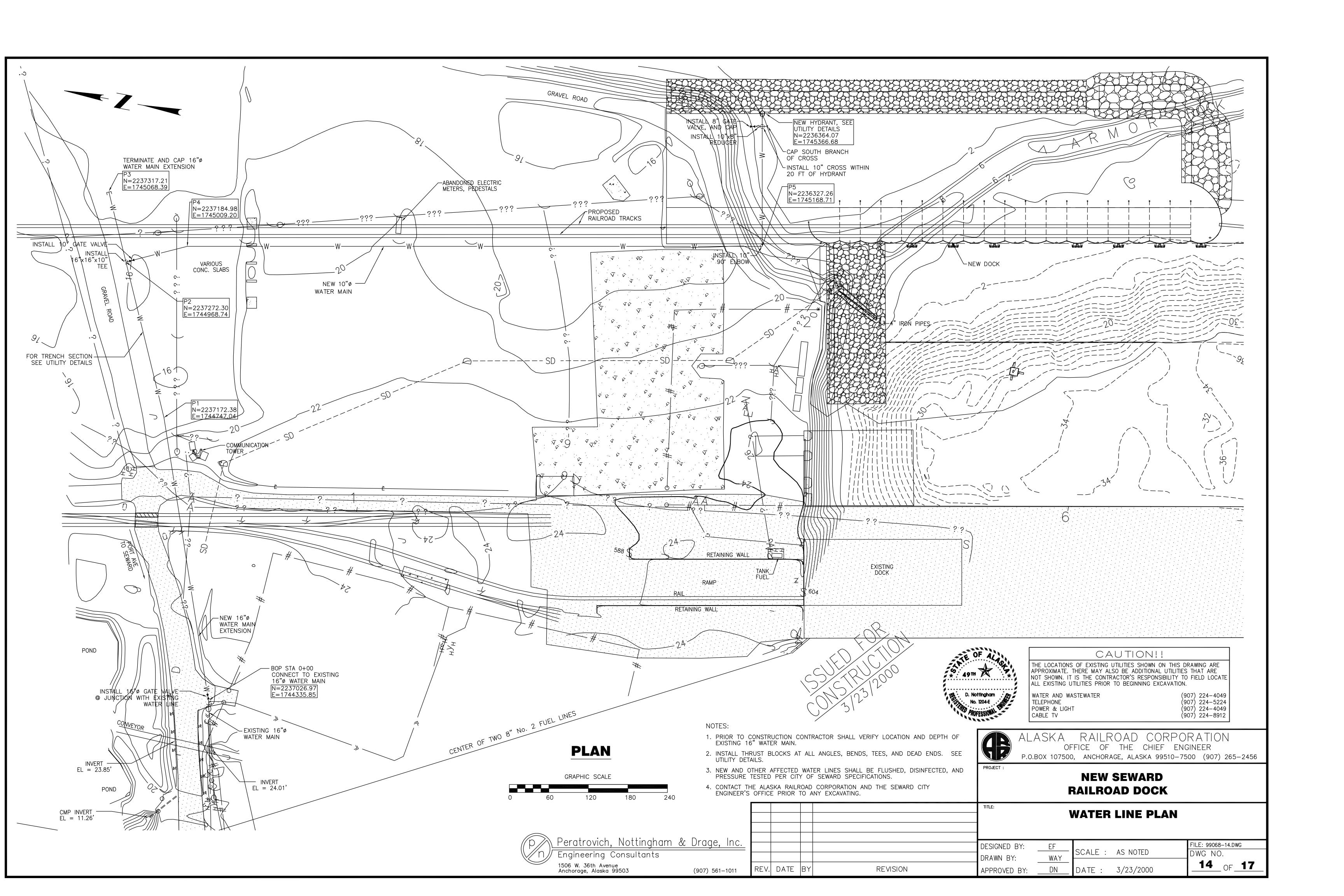
## **NEW SEWARD** RAILROAD DOCK

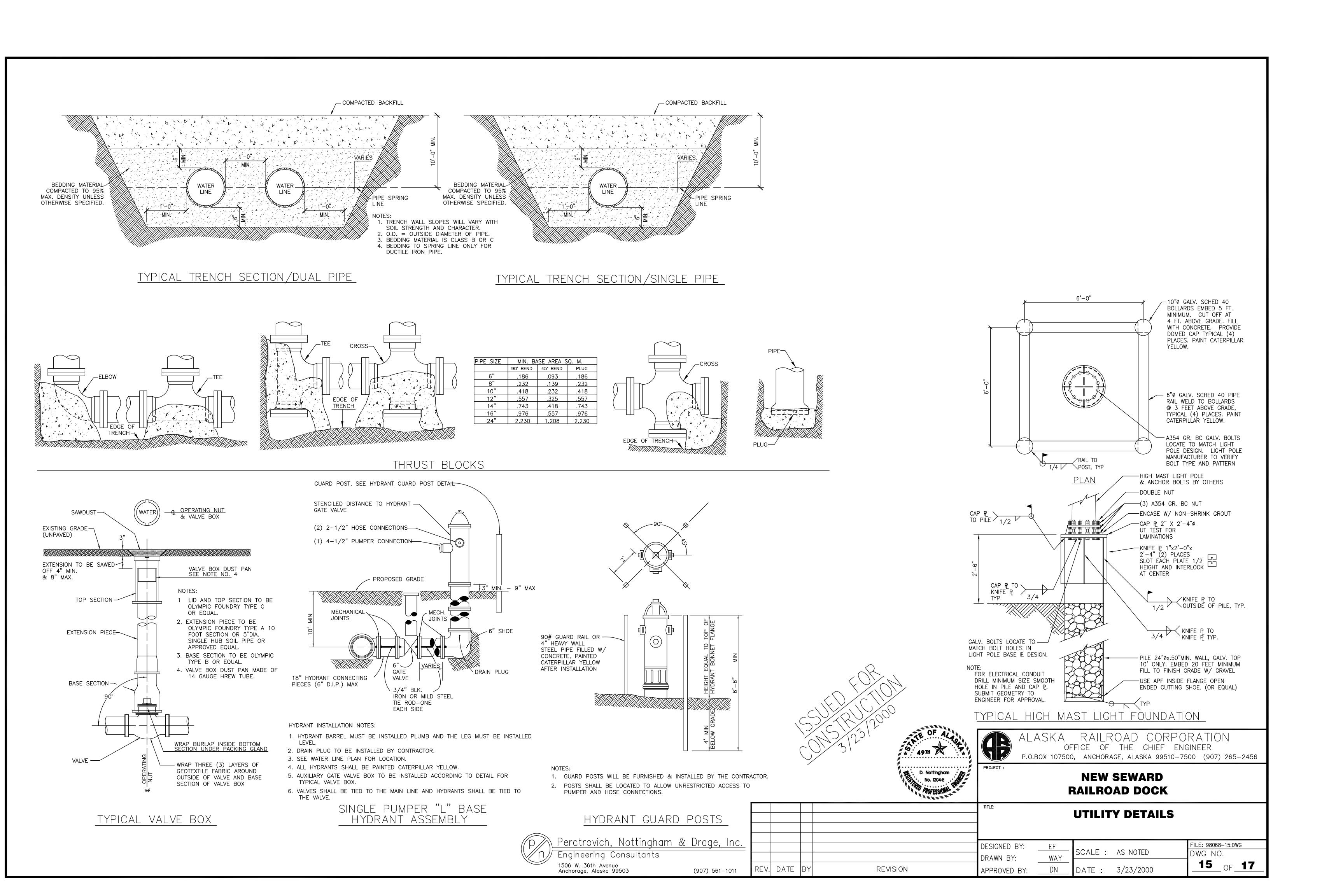


TYPICAL FACE BEAM

SIGN BRACKET ELEVATION

				MISCELLANEOUS DETAILS 2 OF 2				
				DESIGNED BY:	<u>EF</u>		FILE: 99068-13.DWG	
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GENERAL NOTES (CIVIL AND STRUCTURAL ONLY)

#### <u>DATUM</u>

TIDAL LEVELS — ELEVATION DATUM FOR THIS PROJECT IS 0.0 MEAN LOWER LOW WATER.

EXTREME HIGH WATER	+15.1 FT.
MEAN HIGHER HIGH WATER (MHHW)	+10.6 FT.
MEAN HIGH WATER (MHW)	+9.7 FT.
MEAN LOW WATER (MLW)	+1.4 FT.
MEAN LOWER LOW WATER (MLLW)	+0.0 FT.
EXTREME LOW WATER	-4.0 FT.

#### **DESIGN PARAMETERS**

110 MPH EXPOSURE "D" (UBC) EXCEPT FOR VESSEL MOORING LOADS. FOR VESSEL MOORING LOADS, 80 MPH IN NORTH-SOUTH DIRECTION OCTOBER THRU APRIL, 50 MPH IN NORTH-SOUTH DIRECTION MAY THRU SEPTEMBER, 32 MPH IN EAST-WEST DIRECTION YEAR ROUND.

#### EARTHQUAKE -

DESIGN HORIZONTAL OPEN CELL RESPONSE ACCELERATION: 0.13G OPERATING, 0.19G CONTINGENCY

### LIVE LOAD -

1000 PSF UNIFORM LIVE LOAD OR COOPER E-80 ON TWO TRACKS AT DOCK FACE

#### BERTHING -

44,000-TON CRUISE SHIP APPROACHING DOCK AT 0.5 FT./SEC. ASSUME SHIP'S QUARTER POINT SHALL CONTACT FENDER AT 10 DEGREES FROM PARALLEL TO DOCK FACE. MAXIMUM DOCKING ENERGY TO EACH FENDER IS 250 KIP-FT.

#### DOCK FACE MOORING BOLLARD -

100 KIPS IN ANY HORIZONTAL DIRECTION

#### MOORING BOLLARD PILE AND DOLPHIN-

200 KIPS IN ANY SEAWARD DIRECTION AT A 30° MAXIMUM INCLINE FROM HORIZONTAL

DESIGN VESSELS -

LENGTH = 656 FT. CARGO SHIP: BEAM =85 FT.

40,800 LT (DISPLACEMENT) TONNAGE =

CRUISE SHIP: LENGTH = 856 FT.

BEAM =106 FT. TONNAGE = 44,000 LT (DISPLACEMENT)

#### CORROSION -

PILES PROTECTED BY ANODES. STRUCTURAL STEEL SPRAY-METALLIZED AND/OR GALVANIZED. AFTER 10 YEARS OWNER SHOULD DEVELOP AN INSPECTION PROGRAM.

#### **MATERIALS**

#### STRUCTURAL STEEL -

ALL MISCELLANEOUS STEEL PLATES AND SHAPES, EXCLUDING DOLPHIN CAP AND SPIN-FIN PLATES. SHALL BE ASTM A572 GRADE 50 OR EQUAL AS APPROVED BY ENGINEER, UNLESS NOTED OTHERWISE ON PLANS.

ALL DOLPHIN CAP AND SPIN FIN PLATES SHALL BE ASTM A36 OR EQUAL AS APPROVED BY ENGINEER.

ALL MISCELLANEOUS PIPE SHALL BE ASTM A53 GRADE B, TYPE E OR S, UNLESS NOTED OTHERSWISE. FENDER SLEEVES SHALL BE API-5LX-52 OR EQUAL AS APPROVED BY ENGINEER.

STEEL ERECTION SHALL CONFORM TO AISC STANDARDS.

ALL PLATES 1-1/2 INCHES THICK, OR GREATER, SHALL BE 100% STRAIGHT BEAM ULTRASONICALLY TESTED FOR LAMINATIONS AND ANY DISCONTINUITIES FOUND SHALL REQUIRE REPLACEMENT OF THE PLATE.

SPLICES SHALL BE FULL-STRENGTH BUTT-WELDED WITH BACKING PLATES PER AWS SPECIFICATIONS. CARE SHALL BE TAKEN THAT MEMBERS REMAINS IN STRAIGHT ALIGNMENT THROUGH SPLICES.

STEEL PIPE PILES - DOLPHIN SUPPORT PILES SHALL BE ASTM A-252 GRADE 3, WITH ASTM 36 CHEMISTRY. GALVANIZING IS NOT REQUIRED ON BOTTOM 40-FEET OF PILES. SPIRAL WELD PIPE MAY BE USED ONLY UPON ENGINEER'S APPROVAL.

ALL FENDER PILES SHALL BE API-5LX-52, GALVANIZED FULL LENGTH.

PILE SPLICES SHALL BE FULL-STRENGTH BUTT-WELDED WITH BACKING RINGS PER AWS SPECIFICATIONS. CARE SHALL BE TAKEN THAT MEMBERS REMAINS IN STRAIGHT ALIGNMENT THROUGH SPLICES. NO PIECE OF PILE LESS THAN 5 FEET LONG SHALL BE SPLICED.

SHEET PILES - SHEET PILES SHALL MEET REQUIREMENTS OF ASTM A328 WITH CHEMISTRY SIMILAR TO A36 OR ENGINEER APPROVED EQUAL AND SHALL BE INSTALLED FULL LENGTH WITHOUT SPLICES UNLESS OTHERWISE APPROVED BY ENGINEER.

MINIMUM INTERLOCK TENSILE STRENGTH OF FLAT SHEET PILES SHALL BE 16,000 POUNDS PER INCH. FLAT SHEET PILE ALLOWABLE INTERLOCK SWING ANGLE SHALL BE AT LEAST 7 DEGREES.

BOLTS - ALL BOLTS SHALL BE ASTM A325, GALVANIZED UNLESS OTHERWISE NOTED. ALL A325 BOLTS SHALL BE INSTALLED PER AISC TURN-OF-THE-NUT TIGHTENING. OR OTHER ENGINEER APPROVED METHODS UNLESS OTHERWISE NOTED. ALL ASTM A307 SHALL BE GALVANIZED. GALVANIZED WASHERS SHALL BE USED IN ALL AREAS WHERE THE BOLT HEAD OR NUT SHALL BEAR AGAINST OVERSIZED HOLES IN STEEL (I.E. MORE THAN 1/16 INCH LARGER THAN BOLT DIAMETER). GALVANIZED NUTS AND WASHERS SHALL CONFORM TO THE SPECIFICATION FOR THE CORRESPONDING BOLT.

CONCRETE - CONCRETE SHALL HAVE A MINIMUM OF SIX SACKS/CY AND A MINIMUM COMPRESSIVE STRENGTH OF F'C = 4000 PSI. ENTRAINED AIR SHALL BE 5 + /- 2%. MIX DESIGN SHALL BE SUBMITTED AND APPROVED 6 WEEKS PRIOR TO SCHEDULED CONCRETE PLACEMENT.

REINFORCING STEEL - ALL REINFORCING SHALL BE NEW BILLET STOCK ASTM A-615, GRADE 60 STEEL UNLESS NOTED OTHERWISE. BARS SHALL BE SUPPORTED ON APPROVED CHAIRS OR WELL-CURED CONCRETE BLOCKS. REINFORCING STEEL SHALL BE DETAILED, BENT, AND PLACED IN ACCORDANCE WITH THE LATEST ACI 318. TWO-INCH MINIMUM CLEARANCE UNLESS OTHERWISE NOTED. REINFORCEMENT SHALL BE LAP-SPLICED FOR TENSION UNLESS OTHERWISE NOTED ON THE DRAWINGS. SPLICES SHALL BE 3-FOOT LAP MINIMUM, UNLESS OTHERWISE SPECIFIED ON DRAWING. BARS SHALL BE CLEAN AND FREE FROM CUTTING OIL OR OTHER DELETERIOUS MATERIAL.

RUBBER FENDERS - ASTM DESIGNATION D-2000 3BA 720A(14), B(13), C(12), F(19), Z(1), AND Z(3) OR APPROVED EQUAL WITH DUROMETER HARDNESS OF 70± 10 (ASTM D2240) AND A MINIMUM ELONGATION OF 300% (ASMT (D412)

OVERALL DIMENSIONS OF THE RUBBER FENDER MAY VARY FROM SPECIFIED AS FOLLOWS:

- 1. OUTSIDE DIAMETER 47 TO 49 INCHES.
- 2. INSIDE DIAMETER 23.5 TO 25.5 INCHES.
- 3. LENGTH 47.5 TO 48.5 INCHES.

ALL EDGES SHALL BE PROVIDED WITH A 2 INCH CHAMFER.

THE FENDER SHALL ABSORB A MIN. OF 32 FOOT-KIPS PER FOOT OF FENDER WITH A DEFLECTION OF 24" & A MAX. OF 40 KIPS PER FOOT OF FENDER AT 24" DEFLECTION.

UHMW PE FENDER FACING - PROTECTIVE FACING SHALL BE MADE OF 100 % UHMW POLYETHYLENE WITH 2.5% BY WEIGHT UV-STABILIZATION COMPOUND AND HAVING UV-STABILIZED DYES CONFORMING TO THE FOLLOWING SPECIFICATIONS:

PROPERTY	TEST METHOD	ACCEPTANCE REQUIREMENT
MOLECULAR WEIGHT ULTIMATE TENSILE STRENGTH IZOD IMPACT, DOUBLE NOTCH	ASTM D638 ASTM D256A	3.0 MILLION, MIN. 4,000 PSI, MIN. 18 FT.—LBS./IN., MIN.
ABRASION WEAR (CARBON STL=100) WATER ABSORPTION	SAND SLURRY ASTM D570	18 MAX. NIL
COEFFICIENT OF FRICTION	ASTM D1894	0.20 MAX.

HDPE SLEEVES - HIGH DENSITY POLYETHYLENE PIPE SLEEVES SHALL MEET THE REQUIREMENTS OF ASTM F714 AND SHALL HAVE THE FOLLOWING DIMENSIONAL **REQUIREMENTS:** 

1. INSIDE DIAMETER SHALL BE A MINIMUM OF 22.5 INCHES AND A MAXIMUM OF 24 INCHES. 2. WALL THICKNESS SHALL BE A MINIMUM OF 1.5 INCHES.

SPRAY METALLIZING - ALL DOLPHIN CAPS AND OTHER MATERIAL SPECIFICALLY DESIGNATED TO BE SPRAY METALLIZED SHALL BE SPRAY METALLIZED WITH ALUMINUM OR ZINC PER THE STEEL STRUCTURES PAINTING COUNCIL (SSPC) GUIDE NO. 23. MINIMUM DRY COATING THICKNESS OF 6 MILS IS REQUIRED. METALLIZING AND/OR GALVANIZING DAMAGED FROM SHIPPING, HANDLING, WELDING, CUTTING, OR BY OTHER MEANS, SHALL BE REPAIRED BY SPRAY METALLIZING TO A MINIMUM COATING THICKNESS OF 6 MILS. CONTRACTOR SHALL SUBMIT REPAIR MATERIAL AND METHOD OF REPAIR FOR REVIEW AND APPROVAL.

GALVANIZING - ALL STRUCTURAL STEEL, INCLUDING BOLTS, NUTS AND WASHERS NOT SPECIFIED TO BE SPRAY METALLIZED, SHALL BE GALVANIZED PER ASTM A123 OR A153 AFTER FABRICATION UNLESS OTHERWISE NOTED. GALVANIZING DAMAGED FROM SHIPPING. HANDLING, WELDING, CUTTING, OR BY OTHER MEANS, SHALL BE REPAIRED BY SPRAY METALLIZING.

PAINT FINISH - HIGH MAST LIGHT PROTECTIVE BOLLARDS AND HYDRANT GUARD POSTS SHALL BE PAINTED WITH TWO 4-MIL COATS OF ZINC OXIDE PAINT. TOP COAT SHALL BE "CATERPILLAR YELLOW" OR OTHER SUITABLE BRIGHT SAFETY YELLOW.

FILL - FILL SHALL CONSIST OF A DURABLE WELL-GRADED GRAVEL AND/OR ROCK, WITH NO MORE THAN 10% PASSING THE #200 SIEVE, AND SHALL BE FREE OF ORGANICS, ICE, SNOW, AND OTHER DELETERIOUS MATERIALS. BELOW ELEVATION +2' MATERIAL SHALL BE 18-INCH MINUS. FILL ABOVE ELEVATION +2' TO 8 INCHES BELOW THE FINISHED GRADE SHALL BE 12 -INCH MINUS. CARE SHALL BE TAKEN TO AVOID PLACING LARGER ROCKS WHERE THEY MAY INTERFERE WITH SHEET AND PIPE PILE DRIVING. OVERSIZE MATERIAL MAY BE USED IN THE FILL AT THE DISCRETION OF THE ENGINEER.

THE CONTRACTOR IS RESPONSIBLE TO LOCATE A FILL SOURCE MEETING THE REQUIREMENTS SPECIFIED ABOVE.

THE DREDGE SPOILS MEETING THE DESCRIPTION OF FILL MAY BE INCORPORATED IN THE

GRAVEL SURFACING - SURFACE MATERIAL FOR THE DOCK AREA SHALL CONSIST OF 2-INCH MINUS, WELL- GRADED GRAVEL CONFORMING TO THE REQUIREMENTS OF SUBBASE GRADING A IN PARAGRAPH 703-2.09 ALASKA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION 1988 EDITION.

THE CONTRACTOR IS RESPONSIBLE TO LOCATE A GRAVEL SOURCE MEETING THE BACKGOUGE REQUIREMENTS SPECIFIED ABOVE.

ROCK FOR ARMOR, RIPRAP, AND FILTER-

STONES SHALL BE BLOCKY AND PREDOMINANTLY ANGULAR IN SHAPE. ROUNDED ROCK WILL NOT BE ACCEPTED. NO MORE THAN 25% BY WEIGHT OF THE STONES SHALL HAVE LENGTHS OF MORE THAN 2.5 TIMES THEIR BREADTH OR THICKNESS. NO STONE SHALL HAVE A LENGTH EXCEEDING 3 TIMES ITS BREADTH OR THICKNESS. STONES FROM THE SELECTED SOURCE SHALL MEET THE FOLLOWING REQUIREMENTS FOR QUALITY:

(ASTM C127) NOT LESS THAN 2.60 SPECIFIC GRAVITY, BSSD NOT MORE THAN 2.5% (ASTM C127) WATER ABSORPTION (1000 REVOLUTIONS, ASTM C535) NOT MORE THAN 30% ANGULAR WEAR SODIUM SULFATE SOUNDNESS (5 CYCLES, ASTM C88) NOT MORE THAN 5% ARMOR ROCK SHALL BE WELL GRADED WITH WEIGHTS OF INDIVIDUAL STONES RANGING FROM A MINIMUM 500 LBS. TO A MAXIMUM OF 10,000 LBS. AT LEAST 50 PERCENT OF THE INDIVIDUAL STONES SHALL WEIGH MORE THAN 3.000 LBS. FILTER ROCK SHALL BE WELL GRADED WITH WEIGHTS OF INDIVIDUAL STONES RANGING FROM

A MINIMUM 1.0 LBS. TO A MAXIMUM OF 50 LBS. AT LEAST 50 PERCENT OF THE INDIVIDUAL STONES SHALL WEIGH MORE THAN 7.0 LBS.

RIPRAP ROCK SHALL BE WELL GRADED, WITH NO MORE THAN 10% OF INDIVIDUAL STONES WEIGHING MORE THAN 1,400 LBS., AND WITH ALL INDIVIDUAL STONES WEIGHING MORE THAN 25 LBS., AND A MINIMUM OF 50% BY WEIGHT OF THE STONES SHALL WEIGH 700 LBS. OR

FOR PRODUCTION OF ROCK, A TEST SHOT SHALL BE PERFORMED TO DETERMINE DRILL PATTERNS, POWDER FACTORS, AND DELAYS, BASED ON PREVIOUS EXPERIENCE OR AS DIRECTED BY ARRC. INDIVIDUAL ROCKS REPRESENTING THE VARIOUS SIZES REQUIRED FOR ARMOR ROCK AND RIPRAP SHALL BE WEIGHED. CLEARLY LABELED AND PLACED IN PLAIN VIEW OF THE SORTING OPERATION. IN ADDITION, A REPRESENTATIVE PILE OF GRADED ROCK WEIGHING AT LEAST 10 TONS, BUT NO LESS THAN 20 INDIVIDUAL STONES, SHALL BE PLACED IN PLAIN VIEW OF THE SORTING OPERATIONS. A MINIMUM 5 TON PILE PRODUCED IN A SIMILAR MANOR SHALL BE PLACED FOR FILTER ROCK. THESE STOCKPILES WILL BE USED AS A VISUAL AID IN PRODUCING. SORTING. AND STOCKPILING ARMOR ROCK AND RIPRAP. THE STOCKPILES DESCRIBED ABOVE SHALL BE IN PLACE BEFORE COMMENCING SORTING OPERATIONS. AND BEFORE LAYING OUT THE DRILL PATTERN FOR THE SECOND SHOT.

WATER LINE (DIP) - WATER LINE SHALL BE NEW AWWA C-151, CLASS 52 DUCTILE IRON W/ AWWA C104 CEMENT MORTAR LINING AND POLY ENCASEMENT PER AWWA C105. FITTINGS SHALL BE IN ACCORDANCE W/ AWWA C110.

SIGNS - ALL SIGNS SHALL BE 16 GA GALVANIZED PLATE. ALL SIGNS SHALL HAVE BLACK LETTERING ON YELLOW BACKGROUND. SIGNS SHALL BE LETTERED WITH BLOCK STYLE LETTERING AS SHOWN ON THE PLANS. SIGNS SHALL BE MOUNTED AS SHOWN ON THE

LIFE RINGS - THE OWNER WILL PROVIDE U.S. COAST GUARD APPROVED 30-INCH-DIAMETER. ORANGE LIFE RINGS WITH 100 FEET OF 1/2-INCH-DIAMETER FLEXIBLE NYLON ROPE AND CONNECTION /HOLDING CASE AND HANGER AS REQUIRED ON THE DOCK AND BREASTING DOLPHINS.

#### <u>INSTALLATION</u>

STRUCTURAL STEEL WELDING - PER LATEST AWS D1.1 BY WELDERS QUALIFIED PER AWS FOR THE TYPE AND POSITION OF THE WELDS WELDED. ALL FILLER METAL SHALL MEET CHARPY IMPACT CRITERIA OF 20 FT-LB AT -20 DEGREES FAHRENHEIT AND SHALL HAVE A MAXIMUM CARBON CONTENT OF 0.20%. ALL SMAW ELECTRODES SHALL BE PROPERLY CONDITIONED LOW HYDROGEN. SUBMIT WELDER QUALIFICATIONS AND WELDING PROCEDURES TO ENGINEER FOR APPROVAL AT LEAST 15 DAYS PRIOR TO WELDING.

THE CONTRACTOR SHALL PROVIDE AN INDEPENDENT, CERTIFIED WELDING INSPECTOR TO INSPECT ALL SHOP WELDS AS INDICATED ON THE DRAWINGS. THE OWNER SHALL PROVIDE WELDING INSPECTION FOR ALL FIELD WELDS.

ALL WELDS SHALL BE 100% VISUALLY INSPECTED. IN ADDITION 10% OF ALL CJP SHOP WELDS SHALL BE TESTED BY UT EXAMINATION OR OTHER NDT METHODS APPROVED BY ENGINEER. ANY WELD FAILING INSPECTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. WHICH WILL INCLUDE THE COST FOR RETESTING.

HDPE WELDING - HDPE WELDS SHALL PROVIDE THE FULL STRENGTH OF PIPE. PIPE WELD REINFORCEMENT SHALL NOT EXCEED 1/8 INCH.

### "WYE" PILE FABRICATION -

1. FOR NEW SHEETS DEVELOP APPROPRIATE AWS WELD PROCEDURES BASED ON THE MILL CERTIFICATIONS AND CURRENT AWS D1.1 MANUAL.

2. STRAIGHTEN SHEETS AS REQUIRED

3. HEAT SHEET WITH ROSE BUDS TO 100 DEG. F. MINIMUM AND BEND SHEETS.

4. TACK WELD STOPS ON THE BENT SHEETS TO HOLD THE BEND ANGLE.

5. DYE PENETRANT TEST (100%) THE BENT SHEETS FOR CRACKS AND REPAIR CRACKS PER AWS D1.1 PROCEDURES.

6. ALL WELDS ARE DONE WITH 150 DEG. F. MINIMUM PREHEAT BACKSTEP WELD IN APPROXIMATE 6-INCH LENGTHS TO CONTROL HEAT. SLIGHT ADJUSTMENTS IN PROCEDURE MAY BE NECESSARY TO CONTROL THE BUILDUP OF HEAT.

7. CUT FLAT SHEET "B" DOWN CENTERLINE AT THE WPS SPECIFIED ANGLE. 8. WELD THE FLAT SHEET "B" TO THE BENT SHEET "A" WITH A SINGLE BEVEL FULL

PENETRATION GROOVE WELD. BACKGOUGE AND BACK WELD THE OTHER SIDE. 9. WELD REQUIRED FILLET REINFORCEMENT ON THE WELDS.

10. INSPECT ALL INTERLOCKS AND REPAIR ALL TACK WELDS. 11. STRAIGHTEN ALL LEGS OF THE WYE.

CONSTRUCTION FLAT SHEET PILE

OF AV D. Nottingham No. 1204-E

REVISION

**DESIGNED BY:** 

APPROVED BY:

DRAWN BY:

KWB

RLC

DN

FLAT SHEET PILE DRIVING -

SHEET PILES SHALL BE DRIVEN FULL LENGTH WITH A VIBRATORY AND/OR IMPACT HAMMER BY METHODS WHICH WILL ACHIEVE PENETRATION WITHOUT PILE DAMAGE. METHODS SUCH AS TRENCHING AND/OR DREDGING MAY BE REQUIRED IF DRIVING BECOMES DIFFICULT. PILES WILL BE DRIVÉN SUCH THAT THE TIPS OF ADJACENT PILES DO NOT VARY MORE THAN 5 FEET EXCEPT IN INSTANCES OF DIFFICULT DRIVING WHERE THIS DISTANCE MAY BE REDUCED TO 2 FEET. THE ENGINEER SHALL BE CONTACTED IF DIFFICULT DRIVING IS ENCOUNTERED.

FACE AND END SHEET PILES SHALL BE DRIVEN USING A TEMPLATE SUCH THAT PILES ARE DRIVEN WITHIN 3 INCHES OF PLAN LOCATION AT THE CUTOFF ELEVATION AND NOT MORE THAN 1/8-INCH PER FOOT OF LENGTH OUT OF PLUMB IN ANY DIRECTION. FACE AND END SHEETS SHALL BE DRIVEN AND LEFT 2 FEET ABOVE PLANNED CUT-OFF ELEVATION. AND MONITORED AS DESCRIBED BELOW BEFORE CUTOFF. HOLES MAY BE CUT IN THE TAILWALLS TO ALLOW FOR TIDAL EQUALIZATION. PLACEMENT, SIZE AND NUMBER OF HOLES WILL BE AT THE DIRECTION OF THE ENGINEER.

WYE SHEETS SHALL BE DRIVEN NOT MORE THAN 2 INCHES FROM PLAN LOCATION AT THE TOP. AND NOT MORE THAN 1/4 -INCH PER FOOT OF LENGTH OUT OF PLUMB. THE PLAN WYE DRIVING LOCATION SHALL BE DETERMINED IN CONSULTATION WITH THE ENGINEER AS THE COMPLETED CELLS ARE EXPECTED TO MOVE OUTWARDS 12 INCHES OR MORE AS THE CELL EXPANDS AND SETTLES.

IF OBSTACLES ARE ENCOUNTERED ALONG THE CELL FACE THAT WOULD INTERFERE WITH SHEET DRIVING, THE DEBRIS SHALL BE EXCAVATED, REMOVED, AND THE SUBSEQUENT VOID REFILLED. IF OBSTACLES ARE ENCOUNTERED ALONG THE TAIL WALL, THE DEBRIS WILL BE REMOVED AS PREVIOUSLY STATED. OR THE WALL ALIGNMENT SHALL BE CURVED AWAY FROM THE OBSTACLE IN A SMOOTH CURVE AS APPROVED BY THE ENGINEER.

SHOULD ROCK OR OBSTRUCTIONS IN THE FILL BE ENCOUNTERED DURING DRIVING. THE ENGINEER SHALL BE CONTACTED. SHOULD SOFT SOILS BE ENCOUNTERED, FACE SHEETS MAY REQUIRE SUPPORT FROM THE TEMPLATE BEFORE FILLING CELL. SHEETPILE CELL FILLING -

#### SHEETPILE CELL FILLING -

FILL IN THE SHEETPILE CELLS SHALL CONSIST OF THAT PREVIOUSLY DESCRIBED FOR FILL. CARE SHALL BE TAKEN TO AVOID PLACING LARGER ROCKS WHERE THEY MAY INTERFERE WITH SHEET AND PIPE PILE DRIVING. OVERSIZE MATERIAL MAY BE USED IN THE FILL AT THE DISCRETION OF THE ENGINEER.

THE INITIAL FILL FROM MUDLINE TO ELEVATION +2 MLLW SHALL NOT BE DUMPED INTO FINAL POSITION. BUT SHALL BE DUMPED ON THE TOP OF THE EMBANKMENT AND BULLDOZED INTO PLACE IN A MANNER THAT WILL ENSURE PROPER PLACEMENT IN NEARLY HORIZONTAL LAYERS, SUCH THAT VOIDS, POCKETS, AND BRIDGING WILL BE REDUCED TO A MINIMUM. THE INTERVENING SPACES AND INTERSTICES SHALL BE FILLED WITH SIMILAR STONES AND EARTH AS MAY BE AVAILABLE FROM EXCAVATION. SO AS TO FORM A DENSE EMBANKMENT.

FILL SHALL BE PLACED IN 18-INCH-THICK MAXIMUM HORIZONTAL LIFTS ABOVE ELEVATION +2. EACH LIFT SHALL BE COMPACTED TO ACHIEVE NOT LESS THAN 95% STANDARD PROCTOR DENSITY, WITH METHODS EQUAL TO OR GREATER THAN 8 PASSES OF A 10 -TON VIBRATORY ROLLER MOVING AT APPROXIMATELY 2 TO 4 MPH. DENSITY MEASUREMENT METHODS MAY BE ADJUSTED BY THE ENGINEER AS APPLICABLE FOR MATERIALS SUPPLIED. SMALLER COMPACTORS AND ADDITIONAL CARE SHALL BE USED TO COMPACT WITHIN 5 FEET OF THE DOCK FACE SHEET PILES TO PREVENT DAMAGE, DISTORTION, OR EXCESSIVE SOIL PRESSURES ON THE BULKHEAD FACE. SPECIAL CARE SHALL ALSO BE USED TO OBTAIN THOROUGH COMPACTION AGAINST ANCHOR WALL SHEET PILES.

FILL SHALL BE PLACED AS FOLLOWS AROUND SHEET PILE CELLS TO PREVENT DISTORTION OF THE BULKHEAD. PLACE FILL IN APPROXIMATELY LEVEL LIFTS ACROSS THE ENTIRE CELL AREA. FILL AROUND ANCHOR WALL SHEETS FIRST, AND THEN FILL AGAINST FACE SHEETS. THE ELEVATION OF FILL BETWEEN ADJACENT CELLS SHALL NOT DIFFER BY MORE THAN 3 FEET. UNEVEN FILLING OF CELLS OR FAILURE TO MAINTAIN PLAN DISTANCE BETWEEN WYES WILL RESULT IN UNDESIRABLE/UNACCEPTABLE DISTORTIONS OF THE SHEET PILE WHICH CONTRACTOR MAY BE REQUIRED TO CORRECT.

DURING AND AFTER FILLING. THE OPEN CELL FACE IS EXPECTED TO MOVE 12 INCHES OR MORE OUTWARD AND TO SETTLE VERTICALLY. AFTER FILLING TO WITHIN TWO FEET OF FINISHED GRADE. THE FILLING SHALL BE DISCONTINUED AND VERTICAL AND HORIZONTAL MOVEMENT OF THE CELLS WILL BE MEASURED BY THE CONTRACTOR EVERY THREE DAYS.

CELL SETTLEMENT MAY BE CONSIDERED STABILIZED WHEN SHEET PILE WYE DIRECTIONAL MOVEMENT (HORIZONTAL AND/OR VERTICAL) RATES SLOW TO A 7-DAY AVERAGE OF 0.05 FEET OR LESS PER WEEK (7 DAYS). AFTER STABILIZATION, SHEET PILE CUTOFF, SHEET PILE WELDING AND FILLING TO FINISH ELEVATION CAN BEGIN. VERTICAL SETTLEMENT OF THE DOCK AND SHEET PILES AFTER COMPLETION IS EXPECTED. ADDITIONAL GRADING MAY BE REQUIRED TO COMPENSATE FOR THIS SETTLEMENT.

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**NEW SEWARD** RAILROAD DOCK

ALASKA RAILROAD CORPORATION

OFFICE OF THE CHIEF ENGINEER

**GENERAL NOTES** 

3/23/2000

1 of 2

SCALE: NONE

DATE:

FILE: 99068-16.DWG DWG NO. 16 OF 17

TYPICAL WYE SECTION WELDS Peratrovich, Nottingham & Drage, Inc. **Engineering Consultants** 1506 W. 36th Avenue

5/16

**BACKGOUGE** REV. DATE BY

(907) 561-1011

VIBROCOMPACTION — VIBROCOMPACTION SHALL BE USED THROUGHOUT THE SHEETPILE CELL AREA TO COMPACT THE NEW FILL MATERIAL AND THE UNDERLYING SOIL. VIBROCOMPACTION SHALL BE PERFORMED AROUND THE ENTIRETY OF THE SHEETPILE WALL STRUCTURES IN THE AREAS DESIGNATED ON THE PLANS.

VIBROCOMPACTION SHALL CONSIST OF DRIVING A STEEL PILE PROBE WITH A VIBRATORY HAMMER ON A 15 FOOT X 15 FOOT GRID THROUGHOUT THE DESIGNATED AREA. THE PILE PROBE SHALL CONSIST OF A STEEL HP14X89 PILE WITH A TIP MODIFICATION CONSISTING OF TIP REINFORCEMENT AND EIGHT 8-INCH X 8-INCH ANGLES WELDED AS OPPOSING PAIRS TO THE HP14X89 WEB AND FLANGES SPACED 5 FEET APART AS APPROVED BY THE ENGINEER. THE PROBE SHALL BE DRIVEN TO -60 FEET MLLW AND RAISED TO THE SURFACE FOUR TIMES AT EACH GRID LOCATION FOR EACH COVERAGE OF THE AREA AS APPROVED BY THE ENGINEER. FILL MATERIAL SHALL BE PUSHED INTO ANY VOID CREATED BY THE OPERATION AS THE VIBRATION IS BEING CONDUCTED.

VIBROCOMPACTION SHALL BE PERFORMED ONCE FILL HAS REACHED THE +8 ELEVATION.

THE VIBRATORY HAMMER UTILIZED FOR VIBROCOMPACTION SHALL HAVE A MINIMUM HORSEPOWER OF 300 H.P. AND MINIMUM ECCENTRIC MOMENT OF 2,000 IN.—LBS. OR AS OTHERWISE APPROVED BY ENGINEER.

DOCK FACE BEAM INSTALLATION — DOCK FACE BEAM SHALL BE INSTALLED AFTER SHEET PILE STRUCTURES HAVE BEEN BACKFILLED, VIBROCOMPACTED AND HAVE STABILIZED. THE SHEET PILE CELLS SHALL BE SURVEYED AND THE LOCATION OF THE DOCK FACE BEAM SHALL BE ADJUSTED AND APPROVED BY THE ENGINEER.

SUPPORT PIPE PILE DRIVING — ALL PILES SHALL BE DRIVEN. THE CONTRACTOR SHALL SUBMIT A PLAN FOR PILE DRIVING. THE PLAN SHALL CONTAIN HAMMER TYPE AND DRIVING METHOD FOR ALL PILE TYPES. THE CONTRACTOR SHALL NOT MOBILIZE HAMMERS AND RELATED EQUIPMENT PRIOR TO RECEIVING WRITTEN APPROVAL OF THE PLAN. THE CONTRACTOR SHOULD ALLOW ONE WEEK FOR REVIEW OF THE PLAN BY THE ENGINEER. ALL PILE DRIVING METHODS SHALL MEET THE REQUIREMENTS OF THE PERMITS ISSUED FOR THIS PROJECT.

STEEL PIPE SUPPORT PILES SHALL BE DRIVEN WITH AN IMPACT HAMMER WITH A MINIMUM RATED ENERGY OF 50,000 FT.—LBS. OR AS OTHERWISE APPROVED BY ENGINEER. ANY HAMMER THAT CAUSES DAMAGE TO THE PILES DURING DRIVING OPERATIONS SHALL BE SUBSTITUTED WITH AN ACCEPTABLE ALTERNATE HAMMER AT NO ADDITIONAL EXPENSE TO THE OWNER. IMPACT HAMMERS SHALL BE SUPPLIED WITH NEW CAPBLOCK CUSHIONS, WHICH SHALL BE CHANGED AT THE MANUFACTURER'S RECOMMENDED CYCLE. THE CONTRACTOR'S DRIVING PLAN SHALL INCLUDE MANUFACTURER'S RECOMMENDATIONS AND INFORMATION ON HAMMER CUSHION.

DRIVING METHODS FOR ALL PILES SHALL UTILIZE A DRIVING TEMPLATE.

PILES SHALL BE PLACED WITHIN 1% OF SPECIFIED VERTICAL ALIGNMENT AND WITHIN 2 INCHES OF SPECIFIED LOCATION AT CUTOFF. BATTER PILES WITH A 2V:1H SLOPE SHALL BE PLACED SO THEIR SLOPE VARIES BETWEEN 5-3/4" AND 6-1/4" HORIZONTAL TO ONE-FOOT VERTICAL AND WITHIN 2 INCHES OF LOCATION AT CUTOFF. PILES HITTING OBSTACLES, MISALIGNED PILES AND PILES THAT HAVE NOT ACHIEVED MINIMUM PENETRATION PRIOR TO REFUSAL SHALL BE PULLED BY THE CONTRACTOR WITH A VIBRATORY HAMMER AND REDRIVEN AT NO ADDITIONAL COST TO THE OWNER. A VIBRATORY HAMMER WITH A MINIMUM HORSEPOWER OF 300 H.P. AND MINIMUM ECCENTRIC MOMENT OF 2,000 IN.—LBS. OR AS OTHERWISE APPROVED BY ENGINEER MUST BE AVAILABLE AND ON SITE DURING ALL PIPE PILE DRIVING OPERATIONS.

PILES LENGTHS SHALL BE SUPPLIED AS SPECIFIED. SUPPORT PILES SHALL BE DRIVEN UNTIL REQUIRED PILE CAPACITY AS SHOWN ON THE PILE IS OBTAINED. PILE CAPACITY WILL BE DETERMINED SOLELY BY THE ENGINEER.

ALL PILE INSTALLATION SHALL BE CONDUCTED WITH ENGINEER PRESENT. THE CONTRACTOR SHALL ASSIST ENGINEER IN MONITORING THE PILE DRIVING. THE CONTRACTOR SHALL MARK EACH PILE WITH ONE—FOOT INCREMENTS WITH EVERY FIVE—FOOT INCREMENT NUMBERED. FOR DETERMINATION OF PILE REFUSAL OR CAPACITY, THE CONTRACTOR SHALL MARK THE PILES WITH ONE—INCH INCREMENTS DURING THE FINAL DRIVE. THE MARKS SHALL BE VISIBLE/READABLE FROM ALL SIDES OF THE PILE.

ALL STEEL PIPE PILE CUTOFFS ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE PIPE FROM THE PROJECT SITE.

DOLPHIN PILES SHALL BE DRIVEN AFTER SHEET PILE STRUCTURES HAVE BEEN BACKFILLED, VIBROCOMPACTED AND HAVE STABILIZED. THE SHEET PILE CELLS SHALL BE SURVEYED, FINAL LOCATION OF DOCK FACE BEAM SHALL BE DETERMINED AND THE LOCATION OF THE DOLPHIN PILES SHALL BE ADJUSTED AND APPROVED BY THE ENGINEER.

PILES SHALL BE DRIVEN TO REQUIRED PILE CAPACITY AND EMBEDMENT AS SHOWN ON THE DRAWINGS. PILE CAPACITY AND EMBEDMENT WILL BE DETERMINED SOLELY BY THE ENGINEER.

#### FENDER PILE DRIVING -

ALL PILES SHALL BE DRIVEN. THE CONTRACTOR SHALL SUBMIT A PLAN FOR PILE DRIVING. THE PLAN SHALL CONTAIN HAMMER TYPE AND DRIVING METHOD. THE CONTRACTOR SHALL NOT MOBILIZE HAMMERS AND RELATED EQUIPMENT PRIOR TO RECEIVING WRITTEN APPROVAL OF THE PLAN. THE CONTRACTOR SHOULD ALLOW ONE WEEK FOR REVIEW OF THE PLAN BY THE ENGINEER. ALL PILE DRIVING METHODS SHALL MEET THE REQUIREMENTS OF THE PERMITS ISSUED FOR THIS PROJECT.

FENDER PILES SHALL BE DRIVEN AFTER SHEET PILE STRUCTURES HAVE BEEN BACKFILLED, VIBROCOMPACTED AND HAVE STABILIZED. THE SHEET PILE CELLS SHALL BE SURVEYED, DOCK FACE BEAM INSTALLED AND THE LOCATION OF THE FENDER PILES SHALL BE ADJUSTED AND APPROVED BY THE ENGINEER.

STEEL PIPE FENDER PILES SHALL BE DRIVEN WITH A VIBRATORY HAMMER WITH A MINIMUM HORSEPOWER OF 300 H.P. AND MINIMUM ECCENTRIC MOMENT OF 2,000 IN.—LBS. OR AN IMPACT HAMMER WITH A MINIMUM RATED ENERGY OF 50,000 FT.—LBS. OR AS OTHERWISE APPROVED BY ENGINEER. ANY HAMMER THAT CAUSES DAMAGE TO THE PILES DURING DRIVING OPERATIONS SHALL BE SUBSTITUTED WITH AN ACCEPTABLE ALTERNATE HAMMER AT NO ADDITIONAL EXPENSE TO THE OWNER. IMPACT HAMMERS SHALL BE SUPPLIED WITH NEW CAPBLOCK CUSHIONS, WHICH SHALL BE CHANGED AT THE MANUFACTURER'S RECOMMENDED CYCLE. THE CONTRACTOR'S DRIVING PLAN SHALL INCLUDE MANUFACTURER'S RECOMMENDATIONS AND INFORMATION ON HAMMER CUSHION.

DRIVING METHODS FOR ALL PILES SHALL UTILIZE A DRIVING TEMPLATE.

FENDER PILES SHALL BE PLACED WITHIN 1% OF SPECIFIED VERTICAL ALIGNMENT AND WITHIN 1 INCH OF SPECIFIED LOCATION AT CUTOFF. PILES HITTING OBSTACLES, OR MISALIGNED PILES SHALL BE PULLED BY THE CONTRACTOR WITH A VIBRATORY HAMMER AND REDRIVEN AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL ENSURE THAT FENDER PILES DO NOT CONTACT SHEET PILES DURING DRIVING OPERATIONS.

PILES SHALL BE SUPPLIED IN THE LENGTH SPECIFIED. FENDER PIN PILES SHALL BE DRIVEN WITH EITHER AN IMPACT HAMMER OR VIBRATORY HAMMER AS REQUIRED TO OBTAIN THE REQUIRED PENETRATION OR PILE REFUSAL. PILE REFUSAL AND PENETRATION WILL BE DETERMINED SOLELY BY THE ENGINEER.

FENDER PILES SHALL BE PLACED AT THE LOCATION AND ALIGNMENT NOTED ON THE PLANS. FORCING OF FENDER SYSTEM OVER THE PIN PILES WILL NOT BE ALLOWED.

ALL PILE INSTALLATION SHALL BE CONDUCTED WITH THE ENGINEER PRESENT. THE CONTRACTOR SHALL ASSIST THE ENGINEER IN MONITORING THE PILE DRIVING. THE CONTRACTOR SHALL MARK EACH PILE WITH ONE—FOOT INCREMENTS WITH EVERY FIVE—FOOT INCREMENT NUMBERED. FOR DETERMINATION OF PILE REFUSAL, THE CONTRACTOR SHALL MARK THE PILES WITH ONE—INCH INCREMENTS DURING THE FINAL DRIVE. THE MARKS SHALL BE VISIBLE/READABLE FROM ALL SIDES OF THE PILE.

ALL STEEL PIPE PILE CUTOFFS ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE PIPE FROM THE PROJECT SITE.

CONCRETE PLACEMENT - CONCRETE SHALL BE FORMED, BATCHED, PLACED AND CURED PER ASTM C-94.

REINFORCING BAR WELDING — ALL REINFORCING BAR WELDING SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.4. THE CONTRACTOR SHALL PROVIDE AN INDEPENDENT WELDING INSPECTOR FOR ALL WELDS. WELDS SHALL BE 100% VISUALLY TESTED BY THE WELDING INSPECTOR. WELDS MAY ALSO BE TESTED BY MAGNETIC PARTICLE, ULTRASONIC, OR RADIOGRAPHIC TESTING METHODS. ANY REJECTED WELD SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, WHICH WILL INCLUDE ALL COST FOR RETESTING.

DREDGING — THE CONTRACTOR SHALL DREDGE THE INDICATED AREAS AS ALLOWED BY AND UNDER THE CONDITIONS STIPULATED IN THE COE PERMIT AND DGC FINAL CONSISTENCY DETERMINATION FOR THIS PROJECT. THE CONTRACTOR SHALL DREDGE THE INDICATED AREAS WITH A CRANE EQUIPPED WITH A HEAVY DREDGING BUCKET OR BACKHOE. THE CONTRACTOR SHALL DREDGE THE MATERIAL TO THE NOTED EXTENT AND DEPTH ON THE PLANS AND SPECIFICATIONS.

USABLE DREDGED MATERIAL MAY BE INCORPORATED INTO THE CELL FILL AS APPROVED BY THE ENGINEER. UNUSABLE DREDGE MATERIAL SHALL BE DISPOSED OF AS SPECIFIED IN THE COE PERMIT.

WATER LINE — WATER LINE CONSTRUCTION SHALL CONFORM TO CITY OF SEWARD INSTALLATION GUIDELINES AND IN ACCORDANCE WITH THE LATEST ADOPTED CODES, RULES, AND REGULATIONS.

#### SITEWORK

DEMOLITION — THE CONTRACTOR SHALL REMOVE THE STRUCTURES INDICATED ON THE PLANS. THE CONTRACTOR IS ADVISED TO INSPECT THE SITE TO DETERMINE THE SCOPE OF DEMOLITION WORK PRIOR TO BIDDING.

ALL SALVAGEABLE MATERIAL, AS DETERMINED BY THE OWNER, SHALL BE STORED AS DIRECTED BY THE OWNER. FOR ALL OTHER MATERIAL, THE CONTRACTOR SHALL REMOVE THE MATERIAL FROM THE PROJECT SITE AND TRANSPORT IT TO A LEGAL DISPOSAL AREA.

PLACEMENT OF ARMOR, RIPRAP AND FILTER ROCK—
THE STABILITY OF THE ARMORED SLOPES, AND THEIR ABILITY TO WITHSTAND WAVE ATTACK,
IS DEPENDENT ON THE EFFECTIVE INTERLOCKING OF ONE STONE WITH ANOTHER. ARMOR
SHALL BE PLACED IN A MANNER SO THAT THE FILTER ROCK LAYER IS NOT RUPTURED.
THE ARMOR ROCK SHALL BE HANDLED OR MANIPULATED INTO PLACE SO AS TO SECURE A
STONE MASS OF THE DIMENSIONS SHOWN ON THE PLANS, WITH A MINIMUM OF VOIDS. THE
STONES SHALL BE MANIPULATED SUFFICIENTLY BY MEANS OF A BACKHOE, ROCK TONGS, OR
OTHER SUITABLE EQUIPMENT TO SECURE A REASONABLY REGULAR SURFACE AND MASS
STABILITY. PLACEMENT SHALL BEGIN AT THE TOE AND PROCEED UP THE SLOPE. THE

STONES SHALL NOT BE DUMPED FROM A HEIGHT GREATER THAN 4 FEET.

#### <u>OTHER</u>

SUBMITTALS — SHOP DRAWINGS FOR ALL FABRICATED MATERIALS SHALL BE SUBMITTED TO THE ENGINEER FOR WRITTEN APPROVAL PRIOR TO FABRICATION OR SHIPPING OF ANY ITEM. CERTIFICATIONS, MANUFACTURER'S DATA, AND OTHER INFORMATION FOR ALL MATERIALS, INCLUDING THOSE NOT SPECIFICALLY NOTED IN THE GENERAL NOTES OR SHOWN ON INDIVIDUAL DRAWINGS, SHALL BE SUBMITTED TO THE ENGINEER FOR WRITTEN APPROVAL. ALL METHODS AND MATERIALS SHALL CONFORM TO THE CONTRACT DOCUMENTS, GENERAL NOTES, THE PLANS, GOOD WORKMANSHIP, GENERALLY ACCEPTED INDUSTRY STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS. A MINIMUM OF THREE SETS SHALL BE PROVIDED WITH EACH SUBMITTAL. THE REVIEWED COPY WILL BE RETURNED AND MARKED AS REQUIRED FOR ACCEPTANCE AND NON—ACCEPTANCE.

THE FOLLOWING IS A LIST OF REQUIRED SUBMITTALS FOR THIS PROJECT. THE ENGINEER MAY REQUIRE ADDITIONAL SUBMITTALS.

#### CIVIL/STRUCTURAL SUBMITTALS:

- 1. BÚLLRAIL LAYOUT PLAN WITH DETAILED LENGTHS AND SUPPORTS.
- 2. STEEL CERTIFICATION FOR ALL STEEL USED INCLUDING CHEMISTRY, YIELD, AND MILL NUMBERS.
- 3. GALVANIZING CERTIFICATION AND/OR METALLIZING CERTIFICATION.
- 4. METALLIZING REPAIR METHOD AND MATERIALS.
- 5. AWS WELDING CERTIFICATION FOR ALL WELDERS UTILIZED ON THE PROJECT.
- 6. WELDING PROCEDURES FOR ALL SHOP AND FIELD WELDS.
- 7. STEEL FABRICATION DRAWNGS.
- 8. SIGN SHOP DRAWINGS.
- 9. PILE DRIVING HAMMERS AND PILE DRIVING METHODS/PLAN.
- 10. TEMPLATE FABRICATION DRAWINGS.
- 11. REINFORCING STEEL CERTIFICATION.
- 12. C.I.P. CONCRETE MIX DESIGN.
- 13. VIBRO COMPACTION PROBE SHOP DRAWINGS.
- 14. VIBRO COMPACTION PROCEDURE/PLAN.
- 15. UHMW SHOP DRAWINGS.
- 15. RED-LINED AS-BUILT DRAWINGS.
- 16. DOCK AND DOLPHIN LAYOUT DIAGRAM.
  17. DREDGING PLAN

ELECTRICAL SUBMITTALS: SEE ELECTRICAL GENERAL NOTES







# ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O.BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

FILE: 99068-17.DWG

17 OF 17

DWG NO.

NEW SEWARD RAILROAD DOCK

				IIICE:	GENERAL NOTES 2 of 2
				DESIGNED BY: KWB	SCALE: NONF
				DRAWN BY: RLC	SCALE: NONE
ΞV.	DATE	BY	REVISION	APPROVED BY: DN	DATE: 3/23/2000

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