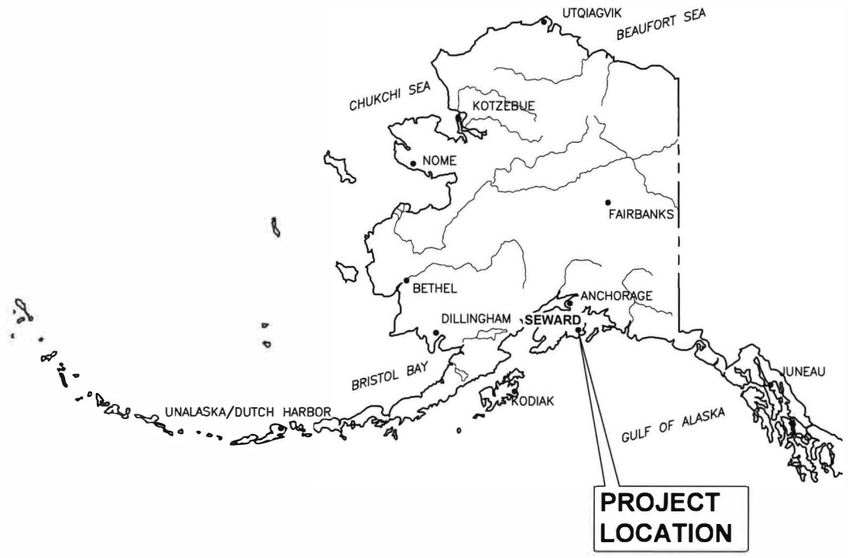
ALASKA RAILROAD
SEWARD PASSENGER DOCK REPAIR

SEWARD, ALASKA

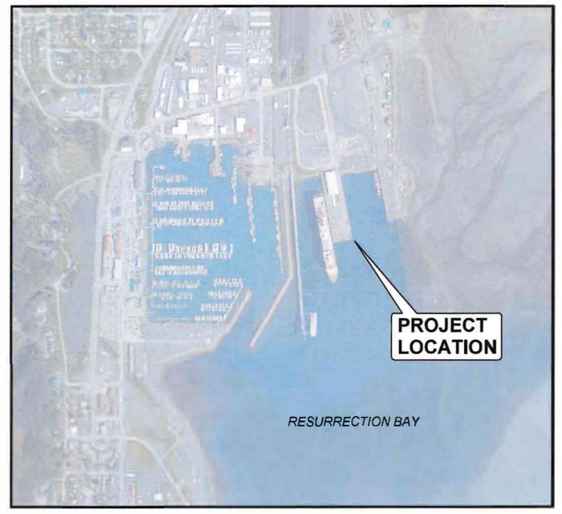
~~NOVEMBER 2023~~

FEBRUARY, 2025



STATE OF ALASKA

DRAWING INDEX



SEWARD VICINITY MAP

REVISED FOR DECK ~~REPAIR~~ WEST ONLY - ARRC [redacted]

2/28/2025

ISSUED FOR BID
MARCH 5, 2025

REV	DATE	DESCRIPTION

ALASKA RAILROAD SEWARD PASSENGER WEST DOCK REPAIR

TITLE: COVER SHEET AND DRAWING INDEX

DESIGNED BY:	EAG	DATE:	3/5/25
CHECKED BY:	DS	PROJECT NO:	

DRAWING NO: 1 SHEET NO: OF 6

GENERAL NOTES:

OWNER – ALASKA RAILROAD CORP. (ARRC)

ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, SPECIFICATIONS, SITE CONDITIONS, AND THESE NOTES SHALL BE REPORTED TO THE OWNER/ENGINEER AT ONCE. ANY FURTHER WORK PERFORMED BY THE CONTRACTOR AFTER FINDING SUCH DISCREPANCIES SHALL BE DONE AT CONTRACTOR'S OWN RISK.

ORIGINAL STRUCTURAL DESIGN DRAWINGS ARE AVAILABLE UPON REQUEST. STRUCTURE WAS ORIGINALLY DESIGNED WITH AN AASHTO HS20–S16 LIVE LOAD, COOPER'S E50 RAILROAD LOAD, 50–KIP CRANE TIRE LOAD, AND 600 PSF UNIFORM LIVE LOAD. SEE DESIGN DRAWINGS FOR ADDITIONAL INFORMATION.

SCOPE OF WORK

VERTICAL SUPPORT H–PILE REPAIR AND REDISTRIBUTION OF LOAD TO SOUND STRUCTURAL COMPONENTS TO RAISE THE DOCK'S CAPACITY TO ACCOMMODATE AN HS–20 VEHICLE OR A REDUCED UNIFORM LIVE LOAD OF 100 PSF.

REPAIRS ARE INTENDED TO PROTECT AGAINST FURTHER SUPPORT PILE OVERSTRESSING AND TEMPORARILY EXTEND THE LIFE OF THE DOCK IN THE SHORT–TERM.

APPLICABLE CODES

ALL LOCAL CODES PLUS THE FOLLOWING SPECIFICATIONS, STANDARDS AND CODES ARE PART OF THESE GENERAL NOTES:

1. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH ED
2. AISC STEEL DESIGN MANUAL, 15TH ED
3. ACI SPECIFICATIONS, 318–14 ED
4. UFC DESIGN OF PIERS AND WHARFS, 2017 ED
5. ASCE LOADS AND CRITERIA, 7–22 ED
6. ASCE WATERFRONT FACILITIES INSPECTION AND ASSESSMENT, NO. 130

IN THE EVENT THAT THERE IS A CONFLICT BETWEEN THE ABOVE REFERENCES AND THESE GENERAL NOTES THE FOLLOWING PRIORITY WILL BE FOLLOWED:

1. ALL PROJECT PERMIT REQUIREMENTS
2. THESE GENERAL NOTES AND PLANS
3. LOCAL CODES
4. THE SPECIFICATIONS, STANDARDS AND CODES LISTED ABOVE IN ORDER OF PRECEDENCE

TIDAL LEVELS

ELEVATION DATUM FOR THIS PROJECT IS 0.00 FT MEAN LOWER LOW WATER.

TIDAL DATUMS FOR NOAA STATION 9455090 (SEWARD, AK):

EXTREME HIGH WATER (EHW)	+15.70 FT	[01 JAN 1987]
HIGHEST ASTRONOMICAL TIDE (HAT)	+13.95 FT	[24 NOV 2003]
HIGH TIDE LINE (HTL)	+13.80 FT	[PER USACE]
MEAN HIGHER HIGH WATER (MHHW)	+10.63 FT	
MEAN HIGH WATER (MHW)	+ 9.71 FT	
MEAN SEAL LEVEL (MSL)	+ 5.56 FT	
MEAN TIDE LEVEL (MTL)	+ 5.55 FT	
MEAN LOW WATER (MLW)	+ 1.38 FT	
MEAN LOWER LOW WATER (MLLW)	0.00 FT	
LOWEST ASTRONOMICAL TIDE (LAT)	– 3.53 FT	[27 MAY 2021]
EXTREME LOW WATER (ELW)	– 5.01 FT	[14 DEC 2008]

PUBLICATION DATE: 29 SEPT 2011
EPOCH: 1983–2001 (PRESENT)

PERFORMANCE REQUIREMENTS

PILES IDENTIFIED FOR REPAIR WITHIN THE PLANS SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS WITHIN THE REPAIRED ZONE FOLLOWING REPAIRS:

1. DESIGN LIFE: 10 YEARS
2. ULTIMATE AXIAL STRENGTH: 420 K
3. ULTIMATE FLEXURAL STRENGTH: 290 K–FT

NOTE: THE PERFORMANCE CAPACITY REQUIREMENTS PROVIDED ARE FACTORED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH ED.

MATERIALS

ALL STEEL BOLTS COMPONENTS SHALL BE ASTM A325 GALVANIZED INCLUDING WASHERS UNLESS NOTED OTHERWISE.

ALL STRUCTURAL STEEL SHAPES SHALL BE ASTM A572 GR 50 OR ASTM A992 GR 50.

ALL REINFORCED CONCRETE SECTIONS SHALL SATISFY THE FOLLOWING REQUIREMENTS:

- f'_c @ 28 DAYS = 4 KSI
- W/C = 0.42 MAX
- AIR CONTENT = 4.5–7.5%
- SLUMP = 4–8"
- f_y REINFORCING = 60 KSI
- PAN DECK (AS REQ.) = 18 GA GALV

ALL CONCRETE SHALL BE COLD WEATHER CONCRETE CONFORMING TO ACI 306. PORTLAND CEMENT SHALL CONFORM TO ASTM C150 TYPE III HIGH EARLY WITH TRI–CALCIUM ALUMINATE CONTENT BELOW 8%. AGGREGATE SHALL CONFORM TO ASTM C–33 WITH A MAXIMUM SIZE OF 3/4–INCH. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (F'C) OF 4,000 PSI. ENTRAINED AIR SHALL BE 4.5% TO 7.5%. WATER–CEMENTITIOUS MATERIALS RATIO 0.42 MAXIMUM. 4–INCH MAXIMUM SLUMP PRIOR TO ADDITION OF WATER REDUCER.

CONSTRUCTION JOINTS AND SAW–CUT EXPANSION JOINTS SHALL BE INSTALLED WHERE REQUIRED IN DRAWINGS AT INTERVALS NOT TO EXCEED 12' BOTH DIRECTIONS WITH A TRANSVERSE JOINT PLACED OVER EACH BENT LOCATION. FORMS SHALL BE FREE OF SNOW AND ICE PRIOR TO PLACEMENT OF CONCRETE. WHERE REQUIRED, CONSTRUCTION JOINTS SHALL BE APPROVED BY ENGINEER. FOR CONSTRUCTION JOINTS NOT COINCIDENT WITH CONTROL JOINT LOCATIONS, EUCLID COMPANY EUCO #452 EPOXY BONDING AGENT, OR APPROVED EQUAL, SHALL BE APPLIED TO FINISHED CONCRETE PER MANUFACTURER'S SPECIFICATIONS.

ADMIXTURES SHALL MEET ASTM C–494, TYPE F OR TYPE E FOR COLD WEATHER CONCRETE. ADMIXTURES CONTAINING CHLORIDE SHALL NOT BE USED.
CONTRACTOR SHALL PROVIDE QUALITY CONTROL DURING ALL CONCRETE OPERATIONS. QUALITY CONTROL WILL INCLUDE MONITORING OF BATCHING, MONITORING OF TRANSPORTATION, MONITORING OF PLACEMENT, MONITORING OF CONCRETE CURE, COLLECTION OF TEST CYLINDERS, BREAKING OF TEST CYLINDERS, SLUMP TEST, AIR ENTRAINMENT TESTS AND ALL OTHER QUALITY ASPECTS RELATED TO FINAL CONCRETE PRODUCT. CONTRACTOR SHALL SUBMIT CERTIFICATE OF CONFORMANCE WITH EACH TRUCK LOAD OF CONCRETE PRIOR TO PLACEMENT. OWNER MAY PROVIDE ADDITIONAL PERSONNEL FOR CONCRETE QUALITY ASSURANCE AT OWNER'S DISCRETION.

CONTRACTOR SHALL NOTIFY THE ENGINEER 7 DAYS IN ADVANCE OF ANY POUR. A MINIMUM OF 8 TEST CYLINDERS SHALL BE TAKEN AND TESTED FROM EACH 100 CUBIC YARDS, OR FRACTION THEREOF, OF CONCRETE PLACED EACH DAY. TWO CYLINDERS WILL BE BROKEN AT 3–DAYS, TWO AT 7 DAYS, TWO AT 28 AND TWO CYLINDERS WILL BE HELD IN RESERVE. ALL TESTING SHALL BE PERFORMED BY A THIRD–PARTY Q.C. IN ACCORDANCE WITH ACI 301. MATERIALS AND INSTALLED WORK MAY REQUIRE TESTING AND RE–TESTING AS DIRECTED BY THE ENGINEER. TRAFFIC WILL NOT BE ALLOWED ON NEW CONCRETE UNTIL CYLINDER BREAKS STRENGTHS ACHIEVE 4000 PSI.

ALL SURFACES SHALL BE WATER CURED AND KEPT THOROUGHLY WET, USING POTABLE WATER, FOR A MINIMUM OF (6) DAYS UNLESS OTHERWISE APPROVED BY ENGINEER. ACI 306 SHALL BE FOLLOWED THROUGHOUT THE PROJECT. THE CONCRETE ROADWAY SHALL RECEIVE TRANSVERSE BROOM FINISH. FINISHED SURFACE TOLERANCES SHALL BE TRUE PLANES WITHIN 1/4–INCH IN 10 FT IN ANY DIRECTION.

ALL REINFORCING SHALL BE NEW BILLET STOCK ASTM A–615, GRADE 60 STEEL UNLESS NOTED OTHERWISE. BARS SHALL BE SUPPORTED ON APPROVED CHAIRS AND SHALL BE DETAILED, BENT, AND PLACED IN ACCORDANCE WITH LATEST ACI 318. BARS SHALL BE CLEAN AND FREE FROM CUTTING OIL OR OTHER DELETERIOUS MATERIAL. LAP SPLICE SHALL BE 2'–6" UNLESS OTHERWISE NOTED.

PROJECT PERMIT REQUIREMENTS

CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF ALL PROJECT PERMITS. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS.

THIS PROJECT HAS SOME REQUIREMENTS TO FULFILL STATE AND FEDERAL PERMIT STIPULATIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR KNOWING, UNDERSTANDING, AND IMPLEMENTING ALL OF THE THESE REQUIREMENTS DURING ALL STAGES OF PROJECT CONSTRUCTION. THE CONTRACTOR MUST UNDERSTAND THAT SOME OF THESE REQUIREMENTS WILL ADD TIME AND/OR COST TO THE EXECUTION OF VARIOUS TASKS ASSOCIATED WITH PROJECT COMPLETION.

ACCESS AND STAGING

CONTRACTOR SHALL NOT BLOCK ARRC PARKING AREAS OR EGRESS AROUND TERMINAL BUILDING, UNLESS APPROVED BY OWNER.

PRIOR TO ANY STAGING ON OR TRAVEL THROUGH THE WEST ACCESS OF THE DOCK, A TEMPORARY STRUCTURAL SPAN MUST BE PLACED OVER BENTS 5 AND 6 PRIOR TO ANY STAGING ON OR TRAVEL THROUGH THE WEST ACCESS OF THE DOCK.

CONTRACTOR MUST COORDINATE WORK WITH ARRC OPERATIONS ON AND NEAR THE DOCK.
SEWARD PORT MANAGER: (907) 265–2696

SUBMITTAL REQUIREMENTS

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. ALL CAPACITY CALCULATIONS SHALL CONFORM TO AASHTO LRFD SPECIFICATIONS, 9TH ED. A REVIEWED COPY OF EACH SUBMITTAL WILL BE RETURNED AND MARKED AS REQUIRED FOR ACCEPTANCE AND NON–ACCEPTANCE.

ELECTRONIC SUBMITTALS ARE PREFERRED. FOR HARD COPY SUBMITTALS, A MINIMUM OF THREE (3) SETS SHALL BE PROVIDED WITH EACH SUBMITTAL. REVIEWED COPIES WILL BE RETURNED TO THE CONTRACTOR AND MARKED AS REQUIRED FOR ACCEPTANCE OR NON–ACCEPTANCE. THE ENGINEER'S REVIEW OF SUBMITTALS WILL BE FOR GENERAL CONFORMANCE ONLY, AND IT SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. ANY INTENDED DEVIATION FROM THE PLANS AND SPECIFICATIONS MUST BE SPECIFICALLY IDENTIFIED BY THE CONTRACTOR AND SPECIFICALLY APPROVED BY THE ENGINEER TO BE ACCEPTABLE. WORK PERFORMED BY THE CONTRACTOR PRIOR TO RECEIVING ENGINEER'S OR OWNER'S WRITTEN APPROVAL SHALL BE AT THE CONTRACTOR'S OWN RISK. ANY SUCH WORK REQUIRED BY THE ENGINEER OR OWNER TO BE REMOVED AND/OR REPLACED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

LIST OF SUBMITTALS

1. PILE REPAIR PRODUCT DATA – PRIOR TO MATERIAL PURCHASE
2. PILE REPAIR CAPACITY CALCULATIONS – PRIOR TO MATERIAL PURCHASE
3. PILE REPAIR PLAN – PRIOR TO MATERIAL PURCHASE
4. SUPPORT BEAM OR SLAB AND ASSOCIATED COMPONENTS PRODUCT DATA – PRIOR TO MATERIAL PURCHASE
5. SUPPORT BEAM OR SLAB INSTALLATION PLAN – 14 DAYS PRIOR TO MOBILIZATION
6. COLD WEATHER OPERATIONS – 14 DAYS PRIOR TO MOBILIZATION
7. WORK PLAN & SCHEDULE – 14 DAYS PRIOR TO MOBILIZATION
8. CERTIFICATIONS FOR ALL STEEL USED INCLUDING CHEMISTRY, YIELD, AND MILL NUMBERS – PRIOR TO MATERIAL PURCHASE
9. CONCRETE MIX DESIGN – PRIOR TO MATERIAL PURCHASE
10. CONCRETE REINFORCING SHOP DRAWINGS – PRIOR TO MATERIAL PURCHASE AND SHOP DRAWINGS
11. RED–LINED AS–BUILT DRAWINGS – WITHIN 30 DAYS OF FINAL COMPLETION

AS–BUILT PLANS

THE CONTRACTOR SHALL MAINTAIN A SET OF AS–BUILT PLANS IN THE ONSITE PROJECT OFFICE. THE AS–BUILT PLANS SHALL BE KEPT UP TO DATE THROUGHOUT THE PROJECT WITH THE LATEST AS–BUILT DIMENSIONS AND DETAILS AS APPROVED BY THE ENGINEER AND SHALL BE SUBMITTED TO THE OWNER AT THE END OF THE PROJECT. FINAL PROJECT PAYMENT SHALL NOT BE MADE TO THE CONTRACTOR UNTIL RED–LINED AS–BUILT DRAWINGS HAVE BEEN SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE OWNER/ENGINEER.

ABBREBIATIONS

ALT	ALTERNATE	MISC	MISCELLANEOUS
APPROX	APPROXIMATE	MLLW	MEAN LOWER LOW WATER
℄,	CENTERLINE	NA, N/A	NOT APPLICABLE
CLR	CLEAR	NTS	NOT TO SCALE
CONC	CONCRETE	OC	ON–CENTER
ø, DIA	DIAMETER	OD	OUTSIDE DIAMETER
DEMO	DEMOLISH	PL	PLATE
DIM	DIMENSION	REINF	REINFORCE, REINFORCING
DWGS	DRAWINGS	REQ'D	REQUIRED
ELEV, EL	ELEVATION	SIM	SIMILAR
FT	FOOT, FEET	STD	STANDARD
GA	GAUGE	SYMM	SYMMETRICAL
GALV	GALVANIZED	THRU	THROUGH
IN	INCH, INCHES	TYP	TYPICAL
LF	LINEAR FEET	W/	WITH
MAX	MAXIMUM		

ISSUED FOR BID
MARCH 5, 2025

REV	DATE	DESCRIPTION

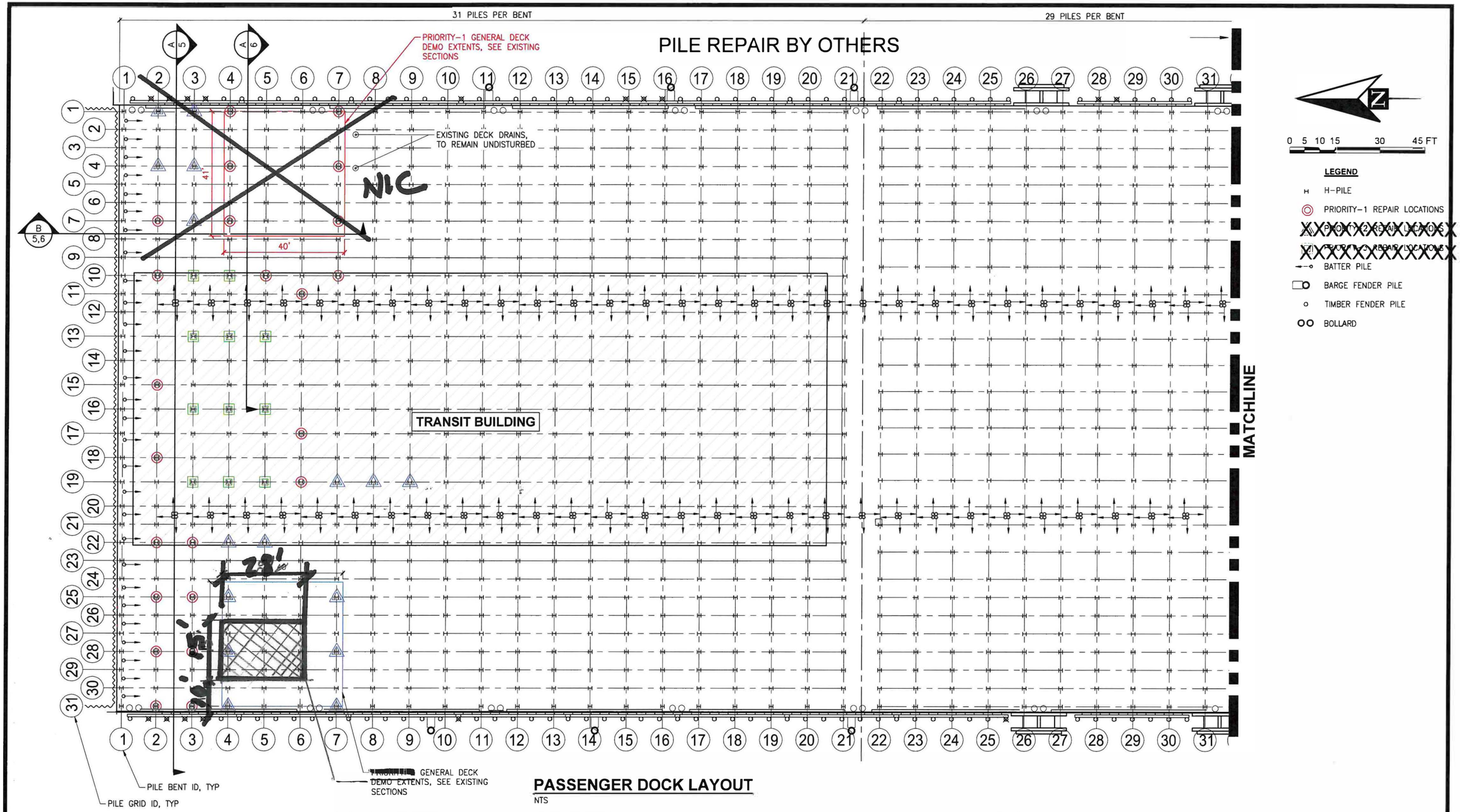
DATE: _____

PROJECT: ALASKA RAILROAD SEWARD PASSENGER DOCK WEST REPAIR

TITLE: GENERAL NOTES

DESIGNED BY:	EAG	DATE:	3/5/25
CHECKED BY:	DS	PROJECT NO:	

DRAWING NO: 2 SHEET NO: OF 6



PASSENGER DOCK LAYOUT
NTS

ALASKA RAILROAD CORPORATION EST. 1914

ISSUED FOR BID
MARCH 5, 2025

REV	DATE	DESCRIPTION

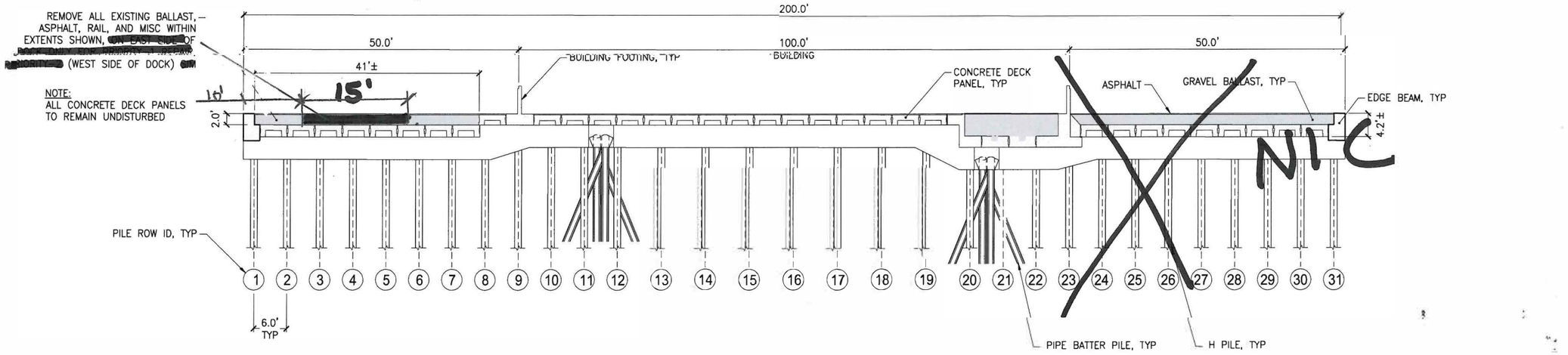
DATE: _____

ALASKA RAILROAD SEWARD
PASSENGER DOCK WEST REPAIR

GENERAL LAYOUT PLAN
1 OF 2

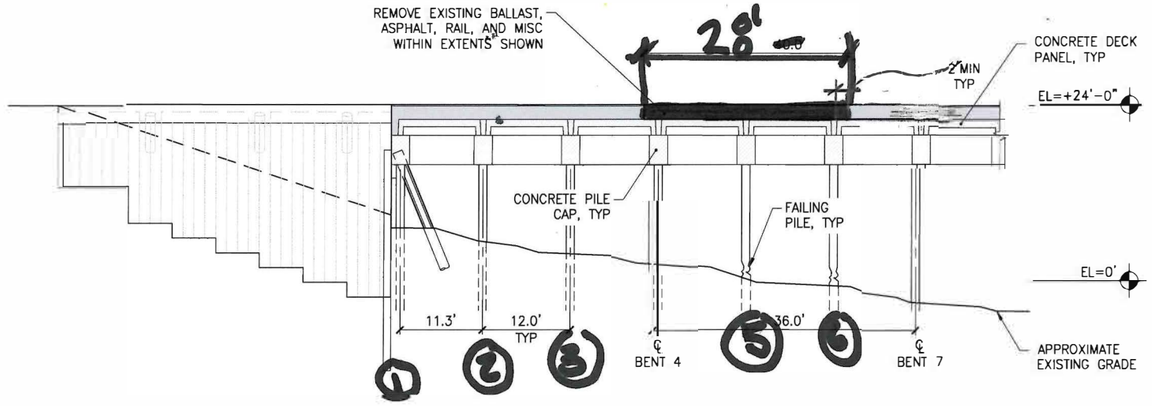
DESIGNED BY: EAG DATE: 3/5/25
CHECKED BY: DS

DRAWING NO: 3 SHEET NO: 6 OF 6



A/5 **BENT 5 SECTION - EXISTING AND DEMO**
NTS

PILE REPAIRS BY OTHERS



B/5 **TYPICAL SECTION - EXISTING AND DEMO**
NTS

ALASKA RAILROAD CORPORATION EST. 1914

ISSUED FOR BID
MARCH 5, 2025

REV	DATE	DESCRIPTION

DATE: _____

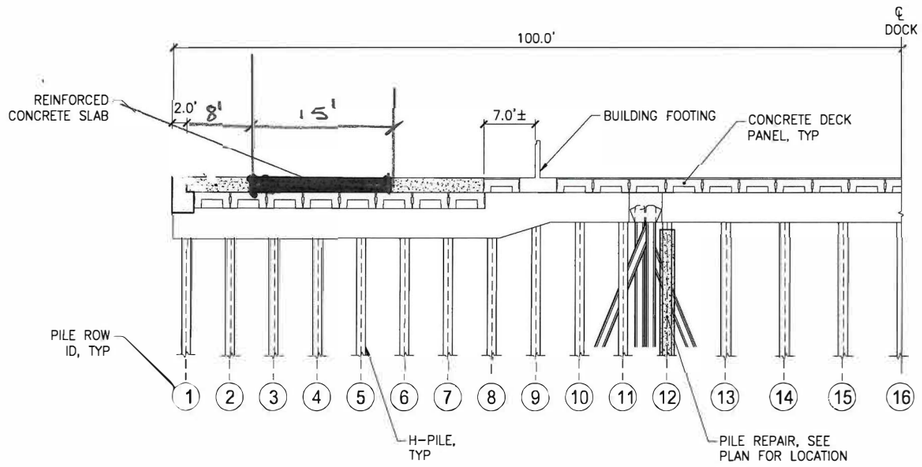
ALASKA RAILROAD SEWARD PASSENGER DOCK WEST REPAIR

TITLE: EXISTING SECTIONS

DESIGNED BY:	EAG	DATE:	3/5/25
CHECKED BY:	DS		

DRAWING NO: SHEET NO: 8 4 OF 60

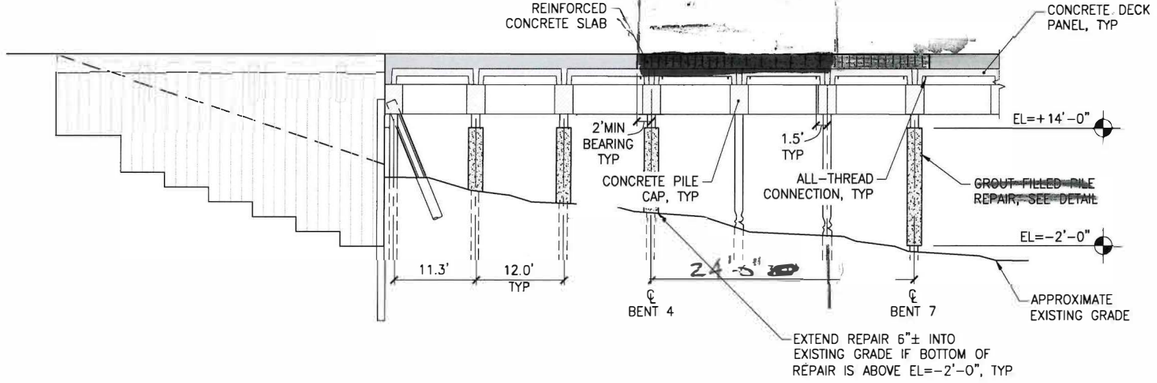
J:\2020\201322 ARRC Term Marine Engineering\11 Seward Dock Inspections\Drawings\Repair Drawings\02 General Notes.dwg



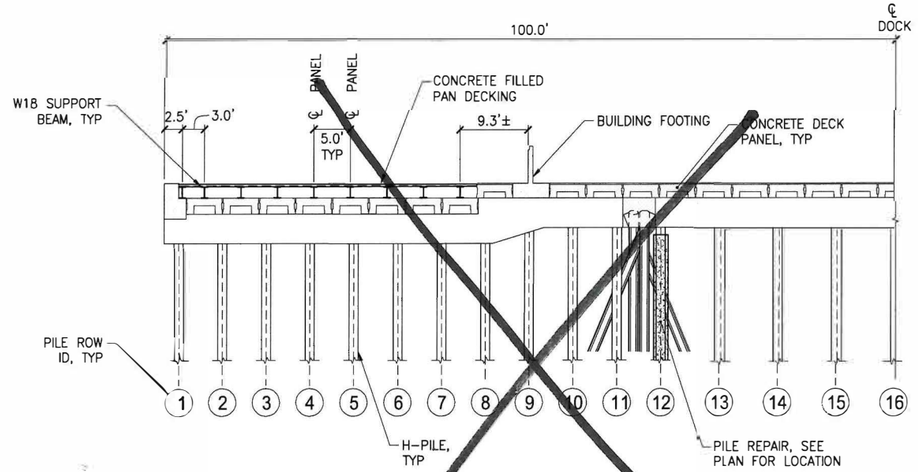
CONCRETE DECK

A REPAIR SECTION
NTS

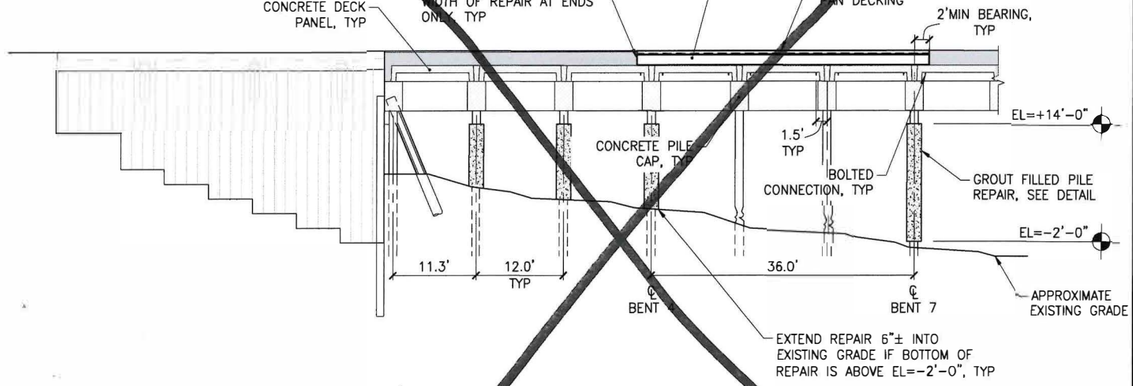
NOTES:
1. ALL REINFORCING NOT SHOWN FOR CLARITY, SEE DETAIL FOR REMAINING REINFORCING
2. CONSTRUCTION JOINTS SHALL BE PROVIDED, SEE GENERAL NOTES FOR REQUIREMENTS.



B REPAIR ELEVATION
NTS



A REPAIR SECTION - ALTERNATIVE
6 NTS



B REPAIR ELEVATION - ALTERNATIVE
6 NTS

PILE REPAIRS BY OTHERS

ALASKA RAILROAD CORPORATION EST. 1914

ISSUED FOR BID
MARCH 5, 2025

REV	DATE	DESCRIPTION

DATE: _____

ALASKA RAILROAD SEWARD PASSENGER DOCK WEST REPAIR

TITLE: TYPICAL REPAIR SECTIONS

DESIGNED BY:	EAG	DATE:	3/5/25
CHECKED BY:	DS	PROJECT NO:	

DRAWING NO: 05 SHEET NO: OF 6

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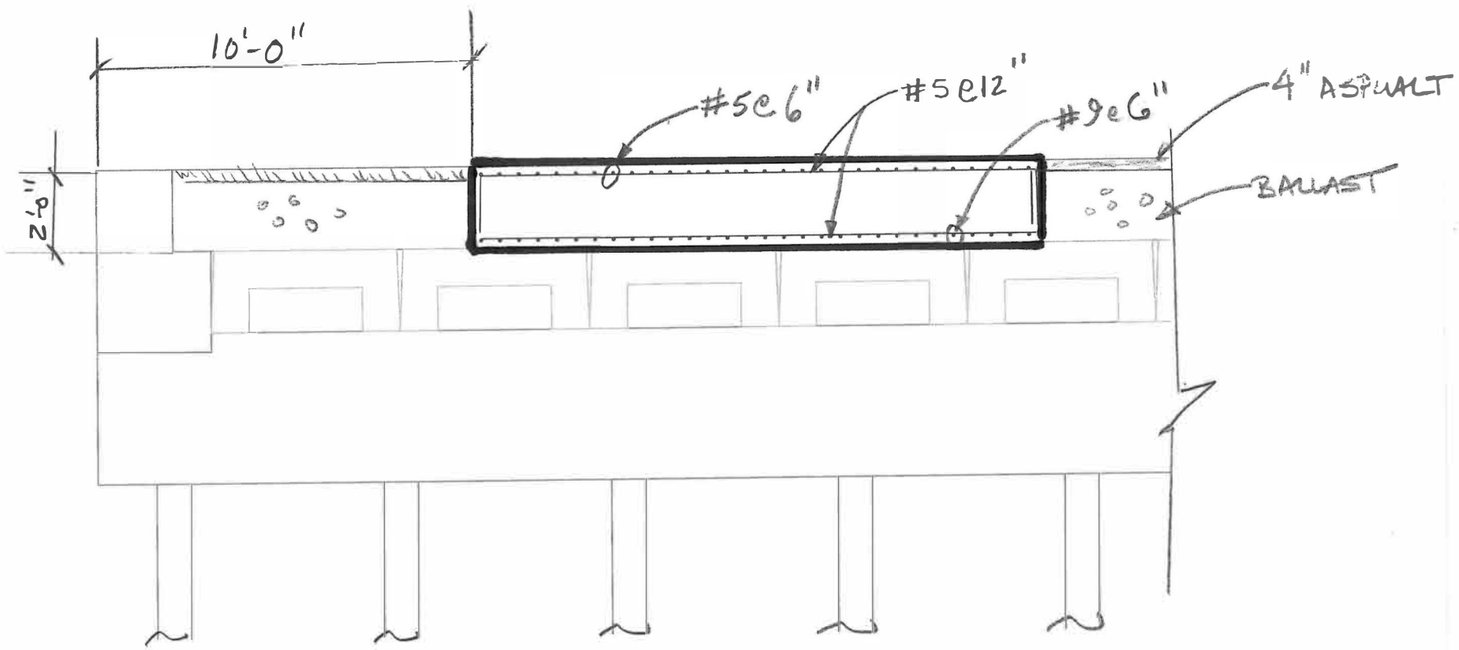

DECK SECTION
NTS

ALASKA RAILROAD CORPORATION EST. 1914

ISSUED FOR BID
MARCH 5, 2025

REV	DATE	DESCRIPTION

PROJECT: **ALASKA RAILROAD SEWARD PASSENGER DOCK WEST REPAIR**

TITLE: REPAIR DETAILS

DESIGNED BY: EAG
CHECKED BY: DS
DATE: 3/3/25

SHEET NO: 6 OF 16