ALASKA RAILROAD CORPORATION

ENGINEERING SERVICES

P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

BR. 370.7 SPAN #1 BEARING REPLACEMENT

LATITUDE: 64.0124°, LONGITUDE: -149.1173°

DRAWING INDEX

STATE OF ALASKA
49TH
JACOB B. HANNA
02-20-2020
SE#143526
REGISTERED STRUCTURAL ENGINEER

ISSUED FOR CONSTRUCTION

LETTER SERIES
SHEET NO. CUT ON
SHEET NO. SHOWN ON
SECTION DESIGNATION

WILSON & COMPANY

REV.	DATE	BY	REVISION

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT:
BR. 370.7 SPAN #1
BEARING REPLACEMENT

TITLE:
COVER SHEET

DESIGNED BY:	BJB	SCALE: AS NOTED	1 OF 9
DRAWN BY:	BJB		
CHECKED BY:	JBH	DATE: 02/20/20	
APPROVED BY:	BWB		

GENERAL NOTES

1. All work requirements on these drawings and not otherwise detailed shall be accomplished as specified in the current edition of the American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering.
2. Field verify all dimensions and elevations prior to start of construction.

DESIGN NOTES

1. The proposed bearings have been designed in accordance with the AREMA Manual for Railway Engineering, Chapter 8: Concrete Structures and Foundations, Chapter 9: Seismic Design for Railway Structures and Chapter 15: Steel Structures.
2. This structure was designed for Cooper E80 Live Load plus Impact.
3. Existing concrete is assumed to be 3,000 psi.

STRUCTURAL STEEL NOTES

1. Materials, fabrication and shop assembly shall be in accordance with Chapter 15: Steel Structures of the current AREMA Manual for Railway Engineering.
2. Material shall conform to the following requirements:

Structural Steel	ASTM A709 Gr. 50W T3
Threaded Rods	ASTM F1554 Gr. 105

3. All steel surfaces shall be cleaned to a minimum SSPC-SP6, commercial blast cleaning.
4. Structural steel shall not be painted.
5. Structural steel shall be of the type and quality as designated on the drawings. Material supplied shall meet the longitudinal Charpy V-notch requirements for Zone 3 as specified in the AREMA Manual for Railway Engineering.
6. All shop and field bolted connections shall use high strength bolts (including nuts and washers) conforming to ASTM A325 Type 3, except as otherwise noted. Nuts shall conform to ASTM A563. All bolts shall be 1" diameter unless noted otherwise. Diameter of bolt holes shall be 1/16" larger than nominal bolt diameter, unless noted otherwise. All bolts shall have one hardened steel washer conforming to ASTM F436 per bolt under the element to be turned.
7. High strength steel bolts shall be installed in accordance with the "Turn of the Nut Method". The procedure for installation is as specified by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation. Alternative bolt installation methods are subject to approval by the Railroad.
8. Bolts shall be of such length that they will extend entirely through their nuts and approximately 1/4" beyond them and the full threads shall extend no more than 3/8" into the grip.
9. When assembled, all joint surfaces, including those adjacent to the bolt heads, nuts or washers, shall be free of scale, except tight mill scale; and shall also be free of dirt, loose scale, burrs, other foreign material and other defects that would prevent solid seating of the parts.
10. All welding shall be in accordance with the Bridge Welding Code, AWS D1.5.
11. Welded joints are to be AWS prequalified. Alternate joint details are subject to approval by the Railroad. All welding shall be done to minimize distortion. The welding sequence and procedures to be used shall be submitted for approval to the Railroad.
12. Fully automatic submerged arc welding shall be required for this project. Manual shielded arc welding or semi-automatic submerged arc welding shall be allowed only if fully automatic submerged arc welding is not practical. Alternate welding methods are subject to approval by the Railroad.
13. When welding A709 Grade 50W steel, weld metal shall be equivalent to A709, Grade 50W steel in strength, corrosion resistance and weathered appearance.
14. The Fabricator shall submit copies of welders' certificates for all welding processes. Welders shall possess valid qualifications.
15. The Fabricator shall submit detailed shop drawings prior to beginning fabrication. Fabrication shall not begin until shop drawings are approved.
16. The fabricator is responsible for the design and detailing of lifting devices. Details for all lifting devices required for handling and shipping shall be submitted with the shop drawings.
17. All steel components shall be inspected by the Fabricator before shipment.
18. All material certifications and quality control test results shall be submitted to the Railroad at project completion.

BEARING NOTES

1. Bearing fabrication, finishing, tolerances, testing requirements and installation requirements shall conform to AREMA Chapter 15, Part 5.
2. Elastomeric bearings shall be previously unvulcanized 100 percent virgin polyisoprene (natural rubber), 60 durometer with low temperature properties equal to AASHTO Grade 5. Steel laminates shall be ASTM A1011, Grade 36.
3. Sole plates shall be in full contact with elastomeric bearings.
4. Methyl Ethyl Ketone for use in cleaning of elastomeric bearings shall conform to ASTM D740, Type I or Type 2.
5. The surface finish of bearing and base plates and other bearing surfaces that are to come in contact with each other or with concrete shall meet the American National Standard Institute (ANSI) surface roughness requirements as defined in ANSI Standard B46.1, "Surface Roughness, Waviness, and Lay" and shown on the plans, or in the following listing:

Bearing plates (surfaces in contact with rubber)	500
Heavy plates in contact to be welded or bolted	250

6. All plates in bearing assemblies shall be flat and level.

GROUT PAD NOTES

1. GROUT PADS SHALL BE PROVIDED UNDER PROPOSED BEARINGS TO PROVIDE A SOUND LEVEL BEARING SURFACE. GROUT SHALL BE SIKAGROUT 428 FS OR APPROVED ALTERNATIVE.
2. ALL LOOSE CONCRETE AND DEBRIS SHALL BE REMOVED FROM EXISTING PIER/ABUTMENT SEAT. CONCRETE WITHIN EXTENTS OF PROPOSED GROUT PAD MUST BE SOUND AND ROUGHENED TO PROMOTE MECHANICAL ADHESION. BASED ON FIELD OBSERVATION THE EXISTING CONCRETE SEATS HAVE SOUND CONCRETE WITHIN 2" +/- FROM THE EXISTING SEAT ELEVATION.
3. PROPOSED GROUT PADS SHALL BE A MINIMUM OF 1/4" THICK POURED TO THE ELEVATIONS PROVIDED. GROUT PADS EXCEEDING 2" IN THICKNESS SHALL BE EXTENDED WITH AGGREGATE PER MANUFACTURER'S INSTRUCTIONS. GROUT PADS SHALL NOT EXCEED 6" IN THICKNESS.
4. THE GROUT PADS SHALL REACH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI PRIOR TO SETTING THE BRIDGE DOWN.

SUMMARY OF ESTIMATED QUANTITIES

DESCRIPTION	ESTIMATING UNIT	QUANTITY
EXPANSION BEARING (PER NOTES, DWG. NO. 2 AND MATERAL SCHEDULE/DETAILS, DWG. NO. 8)	EA.	2
FIXED BEARING (PER NOTES, DWG. NO. 2 AND MATERAL SCHEDULE/DETAILS, DWG. NO. 8)	EA.	2
STEEL PEDESTAL P-1 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 7)	EA.	1
STEEL PEDESTAL P-2 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 7)	EA.	1
STEEL GRILLAGE G-1 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 7)	EA.	2
STEEL STRUT S-1 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 7)	EA.	1
STEEL CONNECTION PLATE CP-1 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 7)	EA.	4
STEEL FILLER PLATE FP-1 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 7)	EA.	4
BEARING PAD SBP-1 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 9)	EA.	2
BEARING PAD SBP-2 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 9)	EA.	2
SHIM PACK (PER NOTES, DWG. NO. 2 AND SCHEDULE/DETAILS, DWG. NO. 9)	EA.	2
BOLT B-1 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 9)	EA.	16
1½" DIA. x 2'-6" LONG THREADED ROD (ASTM F1554 GR. 105) w/ 2 HVY HEX NUTS AND ASTM A436 FLAT CIRCULAR WASHER	EA.	14
1½" DIA. x 1'-8" LONG THREADED ROD (ASTM F1554 GR. 105) w/ 2 HVY HEX NUTS AND ASTM F436 FLAT CIRCULAR WASHER	EA.	2
1" DIA. x 3½" ASTM F3125 GR. A325 TYPE 3 LONG HEX HEAD TAP BOLT	EA.	16
1" DIA. x 3½" ASTM F3125 GR. A325 TYPE 3 BOLT w/ 1 HVY HEX NUT (A563, LUBRICATED) AND ASTM F436 FLAT CIRCULAR WASHER	EA.	24
SIKAGROUT 428 FS OR APPROVED ALTERNATIVE	LOT	1
ITW RAMSET/REDHEAD EPCON SYSTEM CERAMIC 6 EPOXY CARTRIDGES, EPOXY GROUT, OR APPROVED ALTERNATE	LOT	1

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49TH
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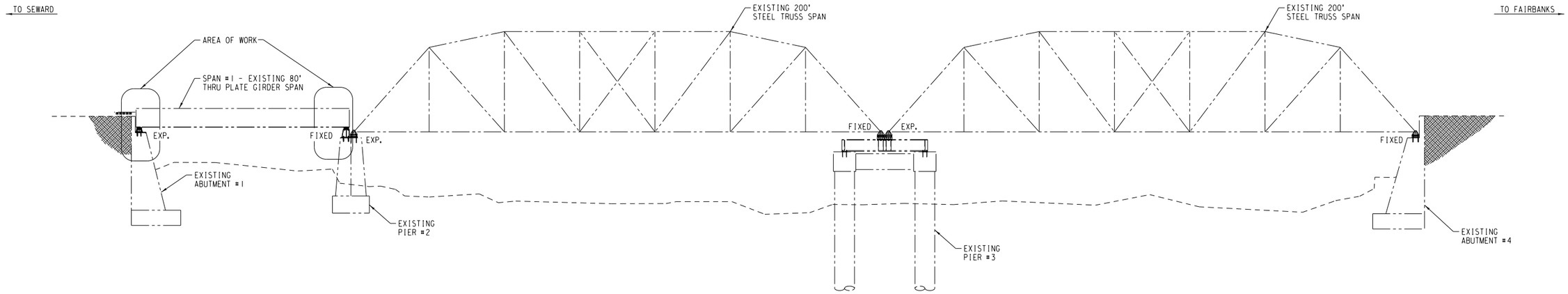
ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT:
BR. 370.7 SPAN #1
BEARING REPLACEMENT

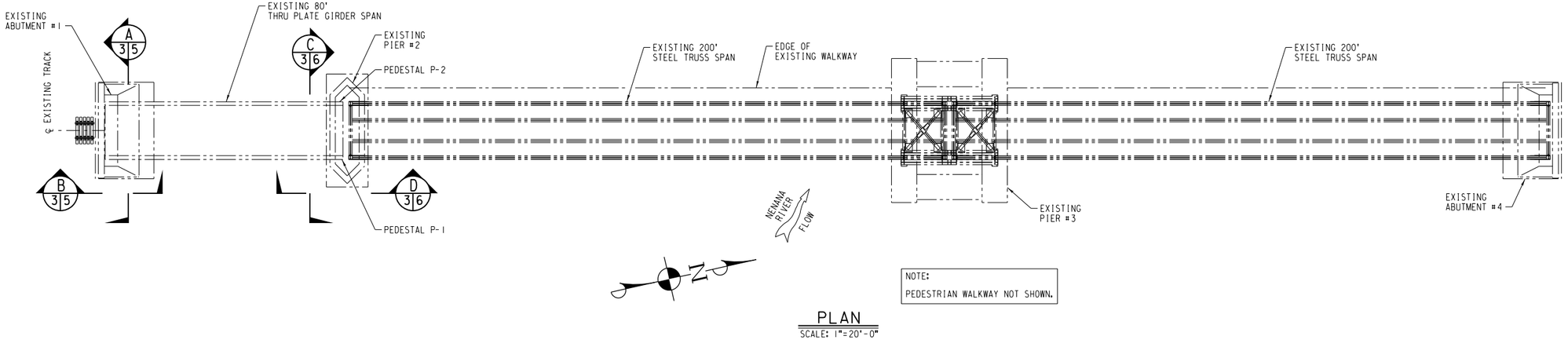
TITLE:
GENERAL NOTES AND QUANTITIES

DESIGNED BY: BJB	SCALE: AS NOTED	2 OF 9
DRAWN BY: BJB		
CHECKED BY: JBH	DATE: 02/20/20	
APPROVED BY: BWB		



ELEVATION

SCALE: 1"=20'-0"



NOTE:
PEDESTRIAN WALKWAY NOT SHOWN.

PLAN

SCALE: 1"=20'-0"

STATE OF ALASKA
49 TH
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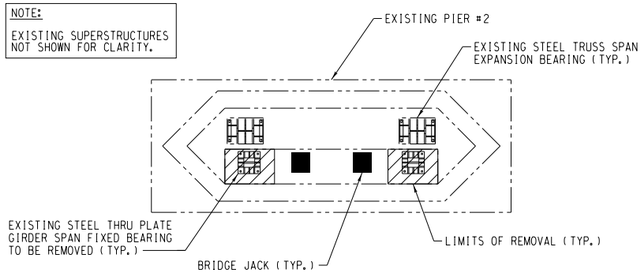
PROJECT:
BR. 370.7 SPAN #1
BEARING REPLACEMENT

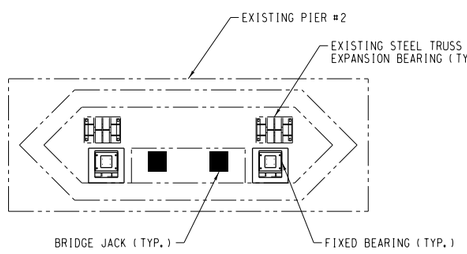
TITLE:
BRIDGE PLAN AND ELEVATION

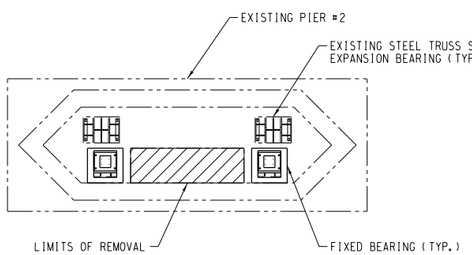
DESIGNED BY:	BJB	SCALE: AS NOTED	3 OF 9
DRAWN BY:	BJB		
CHECKED BY:	JBH	DATE: 02/20/20	
APPROVED BY:	BWB		

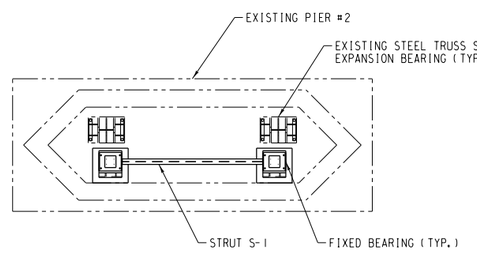
NOTE:

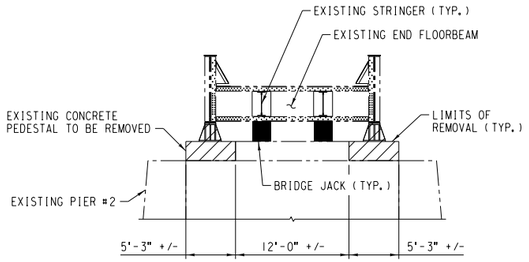
EXISTING SUPERSTRUCTURES NOT SHOWN FOR CLARITY.











CONSTRUCTION SEQUENCE - PHASE 1

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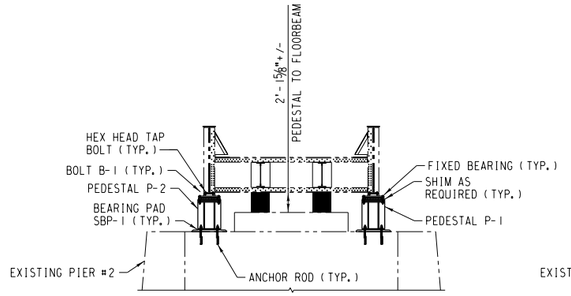

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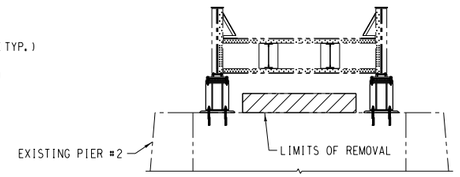
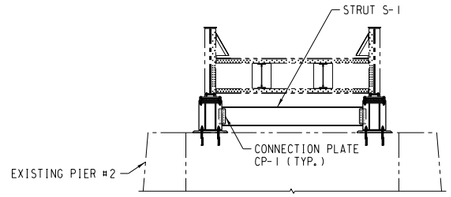


CONSTRUCTION SEQUENCE - PHASE 3

SCALE: 1/8"=1'-0"



CONSTRUCTION SEQUENCE - PHASE 4

SCALE: 1/8"=1'-0"

PIER #2 PROPOSED CONSTRUCTION SEQUENCE

PHASE 1
1. PREPARE EXISTING PIER #2 BRIDGE SEATS UNDER FLOORBEAM FOR JACKING.
2. SHUT DOWN BRIDGE TO RAILROAD TRAFFIC.
3. INSTALL BRIDGE JACKS AND JACK BOTH SIDES OF THRU PLATE GIRDER SPAN.
4. REMOVE EXISTING BEARINGS AND PORTION OF EXISTING CONCRETE PEDESTAL.
5. INSTALL GROUT PAD.

PHASE 2
6. INSTALL NEW BEARINGS AND PEDESTALS FOR THRU PLATE GIRDER SPAN.
7. LOWER THRU PLATE GIRDER SPAN.
8. REMOVE BRIDGE JACKS.

PHASE 3
9. REMOVE REMAINING PORTION OF EXISTING CONCRETE PEDESTAL.
10. ALLOW RAILROAD TRAFFIC BACK ON THE BRIDGE.

PHASE 4
11. INSTALL STRUT.

CONSTRUCTIBILITY NOTE:

BEARINGS NEED TO BE ATTACHED TO GRILLAGE OR PEDESTAL WITH BOLTS B-1 PRIOR TO POSITIONING ASSEMBLIES IN PLACE UNDER THE THRU PLATE GIRDER. BOLTS B-1 WILL CONFLICT WITH EXISTING GUSSET PLATES IF NOT INSTALLED FIRST.

ABUTMENT #1 PROPOSED CONSTRUCTION SEQUENCE

1. PREPARE EXISTING ABUTMENT #1 BRIDGE SEATS UNDER END FLOORBEAM FOR JACKING.
2. SHUT DOWN BRIDGE TO RAILROAD TRAFFIC.
3. INSTALL BRIDGE JACKS AND JACK BOTH SIDES OF THRU PLATE GIRDER SPAN.
4. REMOVE EXISTING BEARINGS AND INSTALL GROUT PAD.
5. INSTALL NEW BEARINGS AND GRILLAGES FOR THRU PLATE GIRDER SPAN.
6. LOWER THRU PLATE GIRDER SPAN.
7. ALLOW RAILROAD TRAFFIC BACK ON BRIDGE.

JACKING NOTES

1. THE EXISTING 80' STEEL THRU PLATE GIRDER SPAN SHALL BE JACKED AT THE CENTERLINE OF THE END FLOOR BEAM AND AT THE CENTERLINE OF THE STRINGERS.
2. THE BRIDGE JACK SHALL HAVE A MINIMUM SAFE WORKING LOAD OF 90 KIPS. THE MINIMUM CAPACITY REQUIRED PROVIDES A SAFETY FACTOR OF 1.5.
3. THE MINIMUM JACKING AREA ON CONCRETE SURFACES SHALL BE 144 SQ IN. PLATE THICKNESS SHALL BE OF SUFFICIENT THICKNESS TO TRANSFER THE LOAD TO THE ENTIRE BEARING FOOTPRINT.
4. ALL BRIDGE JACKING COMPONENTS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION (AREMA) MANUAL FOR RAILWAY ENGINEERING. THE UNFACTORED DESIGN JACKING LOAD REACTIONS ARE AS FOLLOWS:

   DEAD LOAD REACTION = 46 KIPS
   WIND LOAD REACTION = 14 KIPS

5. EXISTING RAIL SHALL BE CUT OR UNCOUPLED AS REQUIRED TO FACILITATE JACKING.

EST. WT. OF EXISTING SPAN
80' THRU PLATE = 176,000 LB. (88 TON)

ESTIMATED WEIGHT INCLUDES TIES AND RAIL

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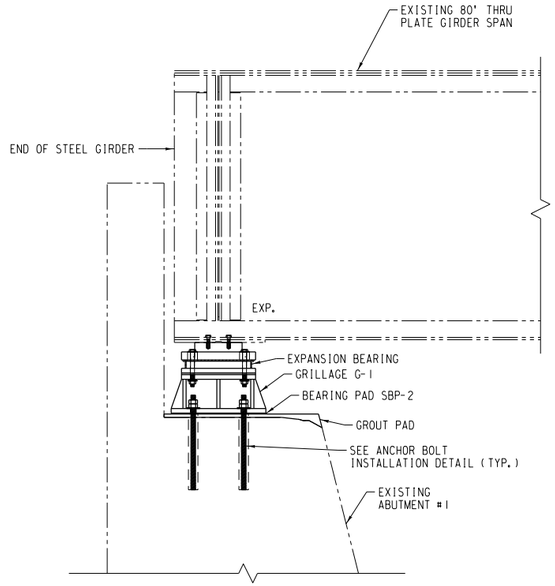
ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT:
BR. 370.7 SPAN #1
BEARING REPLACEMENT

TITLE:
PHASING DETAILS

DESIGNED BY: BJB
DRAWN BY: BJB
CHECKED BY: JBH
APPROVED BY: BWB

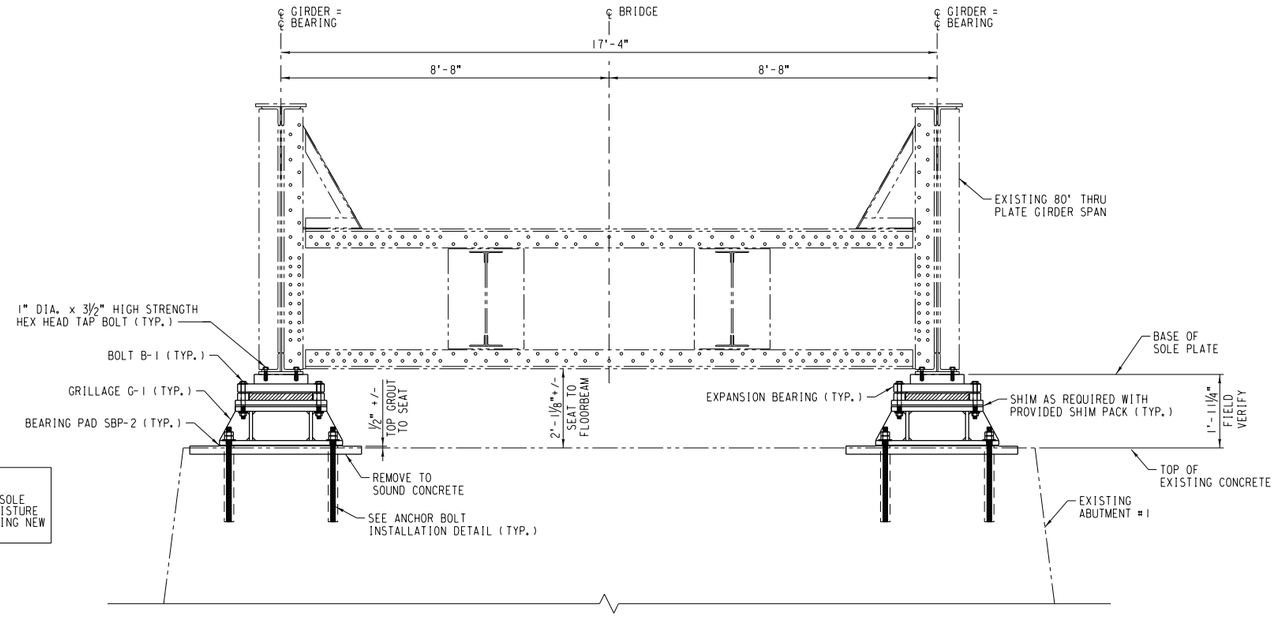
SCALE: AS NOTED
DATE: 02/20/20



SECTION (B) 3|5
SCALE: ½"=1'-0"

NOTE:

CLEAN BOTTOM OF EXISTING SOLE PLATES FREE OF DEBRIS, MOISTURE AND DIRT PRIOR TO INSTALLING NEW BEARINGS.



ELEVATION

SECTION (A) 3|5
SCALE: ½"=1'-0"

ISSUED FOR CONSTRUCTION

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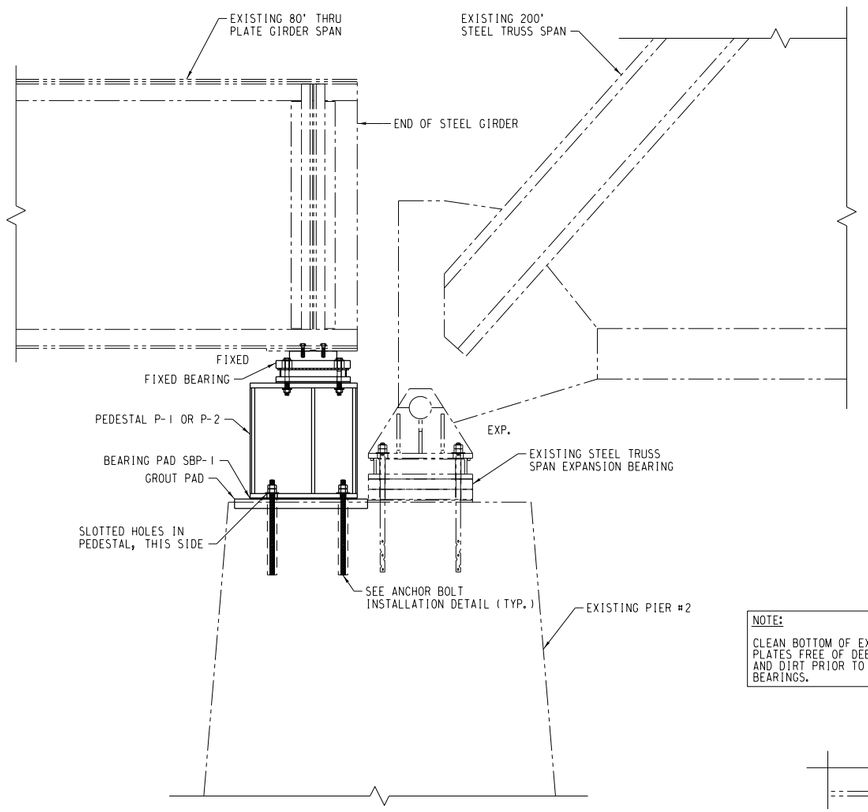
REV.	DATE	BY	REVISION

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT:
BR. 370.7 SPAN #1
BEARING REPLACEMENT

TITLE:
ABUTMENT #1 SECTIONS

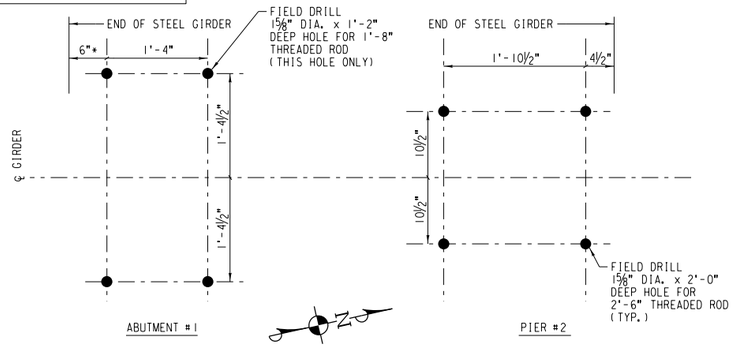
DESIGNED BY:	BJB	SCALE: AS NOTED	5 OF 9
DRAWN BY:	BJB		
CHECKED BY:	JBH	DATE: 02/20/20	
APPROVED BY:	BWB		



SECTION D
SCALE: ½"=1'-0" 3|6

NOTE:

* = AT NEUTRAL TEMPERATURE, 40° +/-

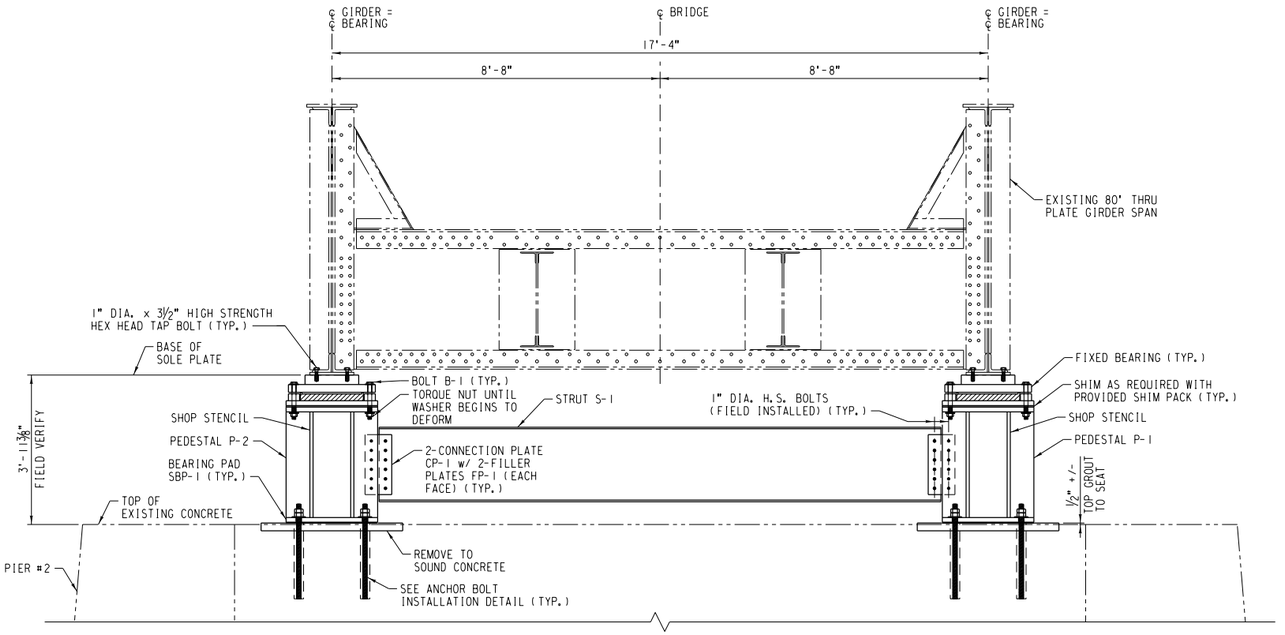


EAST GIRDER LINE SHOWN, WEST GIRDER LINE SHOWN SIMILAR.

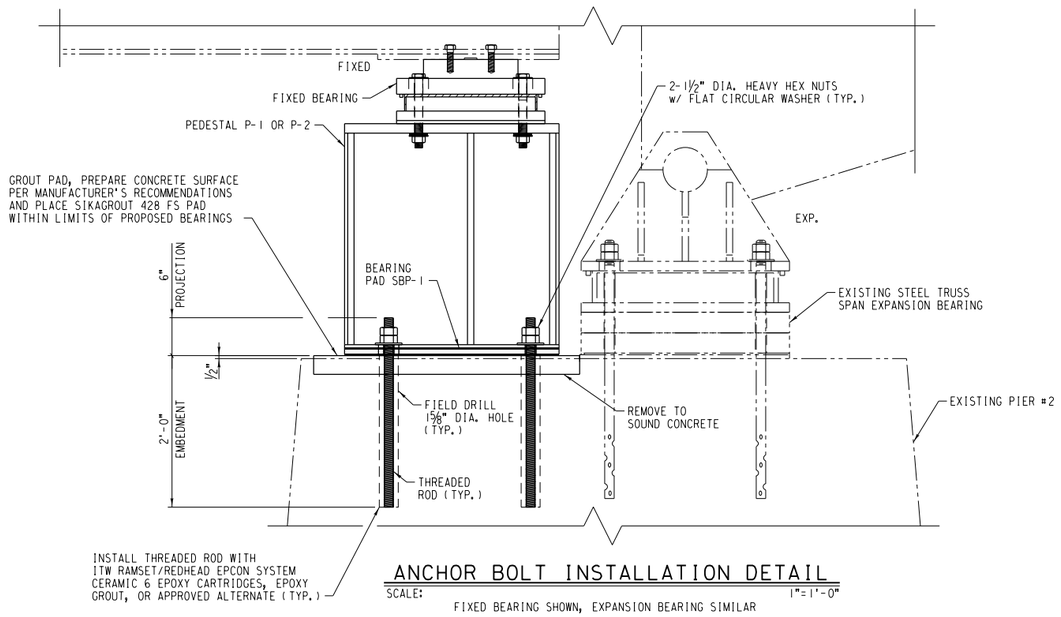
ANCHOR ROD LOCATION PLAN
SCALE: 1"=1'-0"

NOTE:

CLEAN BOTTOM OF EXISTING SOLE PLATES FREE OF DEBRIS, MOISTURE AND DIRT PRIOR TO INSTALLING NEW BEARINGS.



SECTION C
SCALE: ½"=1'-0" 3|6



ANCHOR BOLT INSTALLATION DETAIL
SCALE: 1"=1'-0"
FIXED BEARING SHOWN, EXPANSION BEARING SIMILAR

STATE OF ALASKA 49TH
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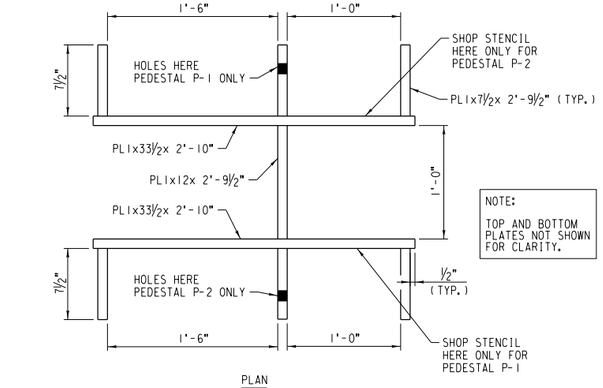
PROJECT:
BR. 370.7 SPAN #1
BEARING REPLACEMENT

TITLE:
PIER #2 SECTIONS AND DETAIL

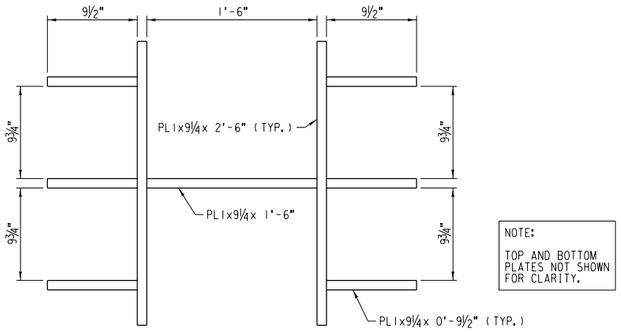
DESIGNED BY: BJB	SCALE: AS NOTED	6 OF 9
DRAWN BY: BJB		
CHECKED BY: JBH	DATE: 02/20/20	
APPROVED BY: BWB		



PLAN

NOTE:

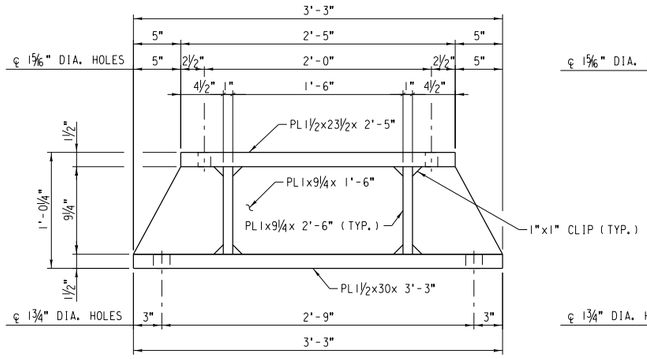
TOP AND BOTTOM PLATES NOT SHOWN FOR CLARITY.



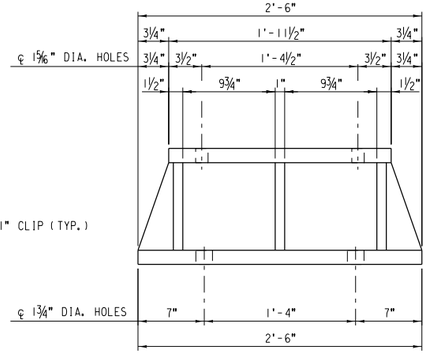
NOTE:

TOP AND BOTTOM PLATES NOT SHOWN FOR CLARITY.

PLAN



ELEVATION



END

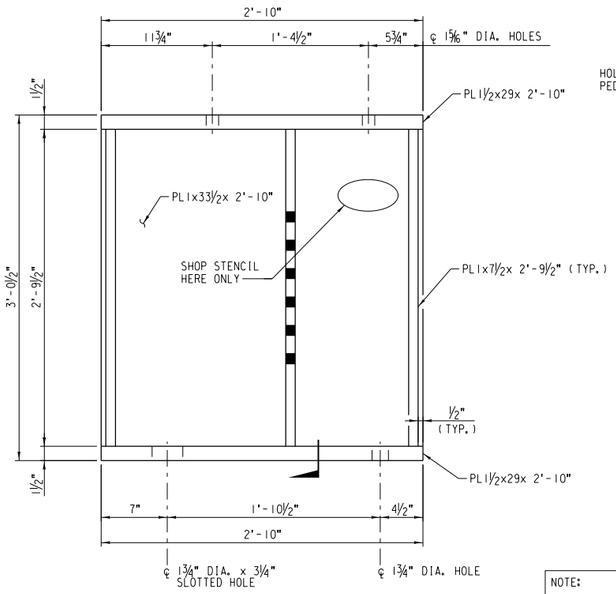
NOTE:

WELD ALL LINES OF CONTACT BETWEEN PLATES WITH A ⅝" FILLET WELD.

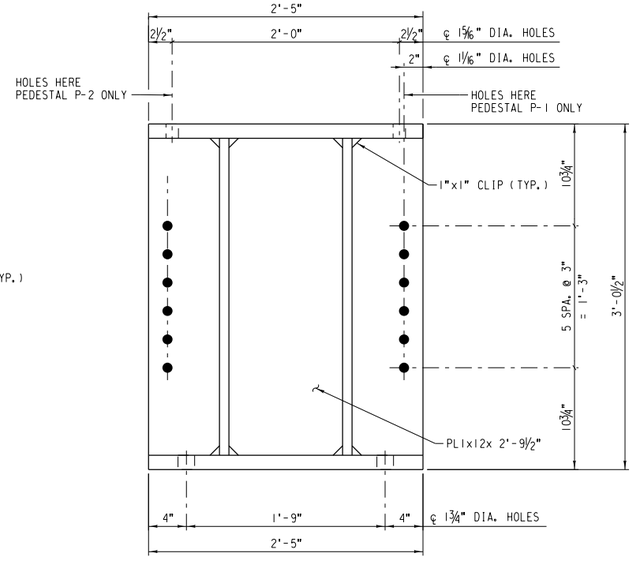
GRILLAGE G-1

SCALE: 1½"=1'-0"

EST. WT. = 1,145 LB. EA.



ELEVATION



SECTION

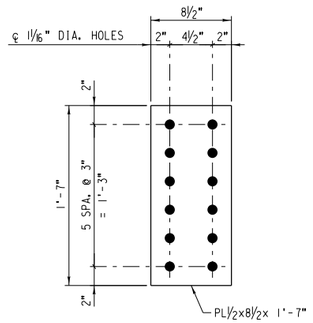
NOTE:

WELD ALL LINES OF CONTACT BETWEEN PLATES WITH A ⅝" FILLET WELD.

PEDESTAL P-1 AND P-2 DETAILS

SCALE: 1½"=1'-0"

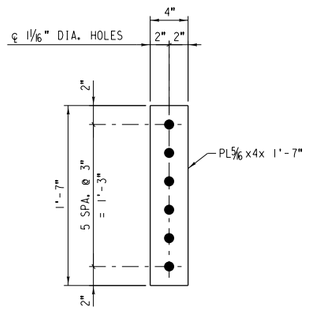
EST. WT. = 2,030 LB. EA.



CONNECTION PLATE CP-1

SCALE: 1½"=1'-0"

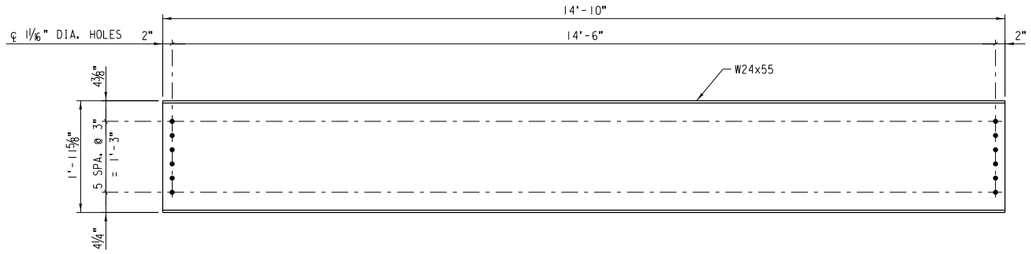
EST. WT. = 22.9 LB. EA.



FILLER PLATE FP-1

SCALE: 1½"=1'-0"

EST. WT. = 6.8 LB. EA.



STRUT S-1

SCALE: ¾"=1'-0"

EST. WT. = 816 LB. EA.

ISSUED FOR CONSTRUCTION

WILSON & COMPANY

REV.	DATE	BY	REVISION

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

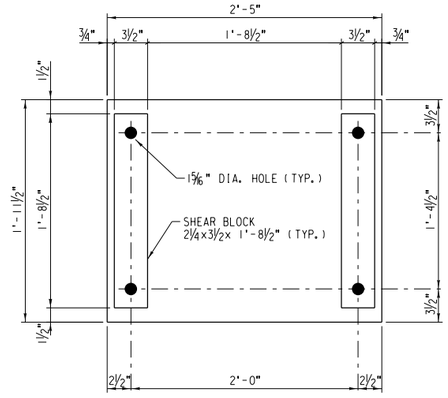
PROJECT:
BR. 370.7 SPAN #1
BEARING REPLACEMENT

TITLE:
STRUCTURAL STEEL DETAILS

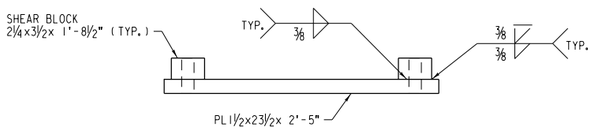
DESIGNED BY:	BJB	SCALE: AS NOTED	7 OF 9
DRAWN BY:	BJB		
CHECKED BY:	JBH	DATE: 02/20/20	
APPROVED BY:	BWB		

FIXED BEARING MATERIAL SCHEDULE (PER BEARING)		
DESCRIPTION	UNIT	QUANTITY
BEARING PLATE BP-1 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 8)	EA.	1
BEARING PLATE BP-2 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 8)	EA.	1
BEARING PLATE BP-4 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 8)	EA.	1
ELASTOMERIC REINFORCED BEARING PAD (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 8)	EA.	1

EXPANSION BEARING MATERIAL SCHEDULE (PER BEARING)		
DESCRIPTION	UNIT	QUANTITY
BEARING PLATE BP-1 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 8)	EA.	1
BEARING PLATE BP-3 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 8)	EA.	1
BEARING PLATE BP-4 (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 8)	EA.	1
ELASTOMERIC REINFORCED BEARING PAD (PER NOTES, DWG. NO. 2 AND DETAILS, DWG. NO. 8)	EA.	1



PLAN

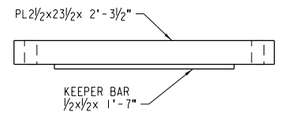


ELEVATION

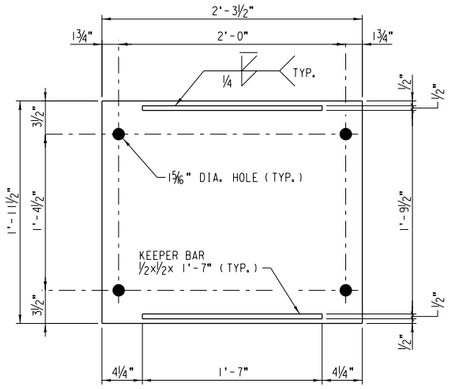
BEARING PLATE BP-1

SCALE: 1½"=1'-0"

EST. WT. = 382 LB. EA.



ELEVATION

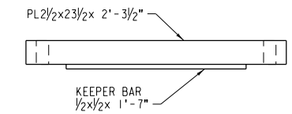


PLAN

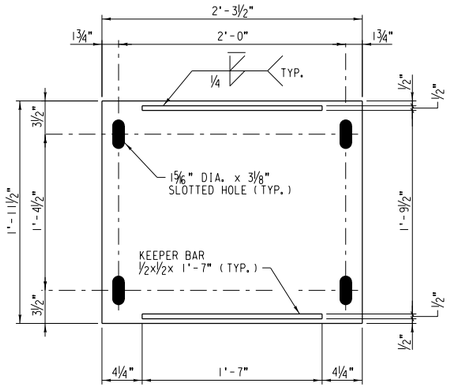
BEARING PLATE BP-2

SCALE: 1½"=1'-0"

EST. WT. = 461 LB. EA.



ELEVATION

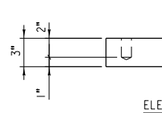


PLAN

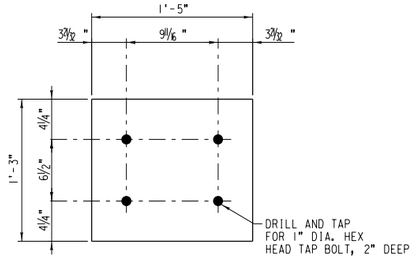
BEARING PLATE BP-3

SCALE: 1½"=1'-0"

EST. WT. = 461 LB. EA.



ELEVATION

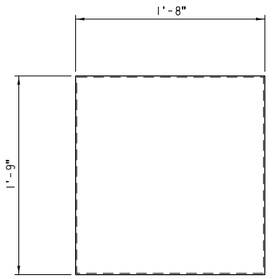


PLAN

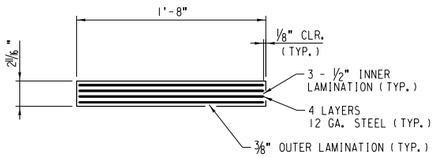
BEARING PLATE BP-4

SCALE: 1½"=1'-0"

EST. WT. = 217 LB. EA.



PLAN

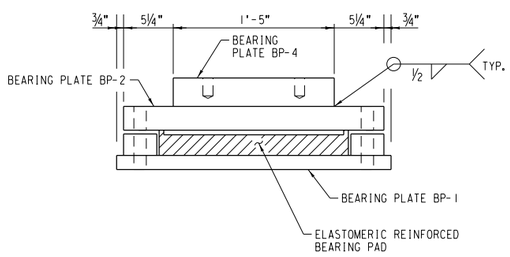


SECTION

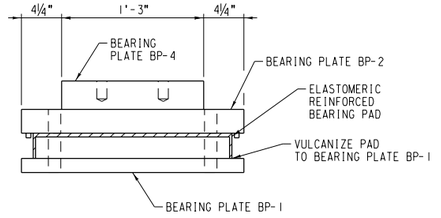
ELASTOMERIC REINFORCED BEARING PAD

SCALE: 1½"=1'-0"

(NATURAL RUBBER 60 DUROMETER)



ELEVATION

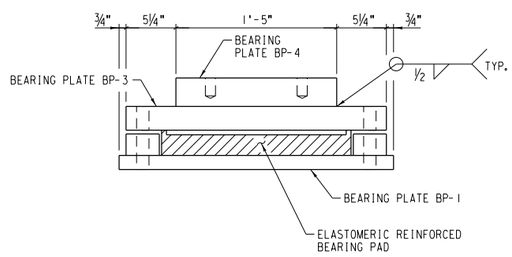


END

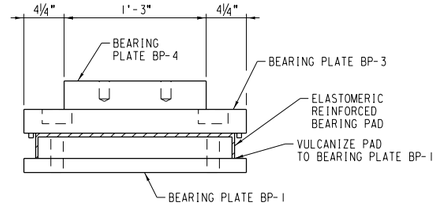
FIXED BEARING

SCALE: 1½"=1'-0"

EST. WT. = 1,060 LB. EA.



ELEVATION



END

EXPANSION BEARING

SCALE: 1½"=1'-0"

EST. WT. = 1,060 LB. EA.

ISSUED FOR CONSTRUCTION

WILSON & COMPANY

REV.	DATE	BY	REVISION

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

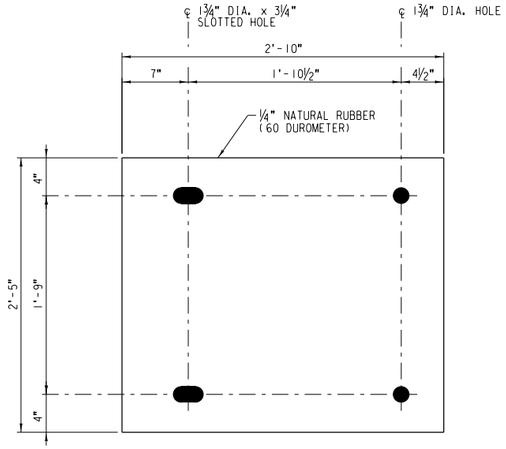
PROJECT:

BR. 370.7 SPAN #1
BEARING REPLACEMENT

TITLE:

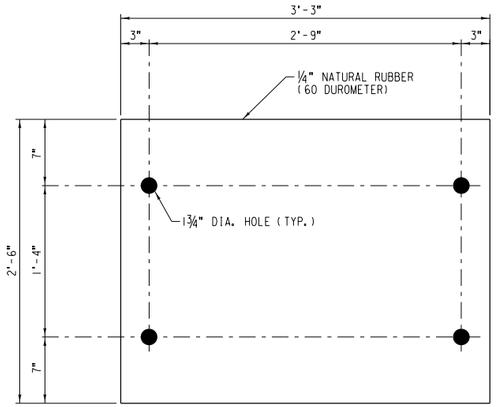
FIXED AND EXPANSION BEARING
ASSEMBLY DETAILS

DESIGNED BY:	BJB	SCALE: AS NOTED	8 OF 9
DRAWN BY:	BJB	DATE: 02/20/20	
CHECKED BY:	JBH		
APPROVED BY:	BWB		



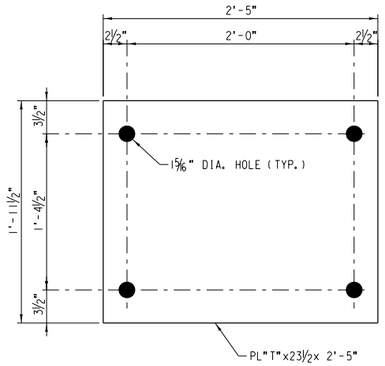
BEARING PAD SBP-1

SCALE: 1½"=1'-0"



BEARING PAD SBP-2

SCALE: 1½"=1'-0"

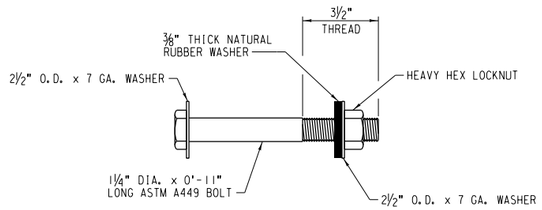


SHIM PACK

SCALE: 1½"=1'-0"

SHIM PACK SCHEDULE		
QUANTITY	THICKNESS "T"	WEIGHT PER (LB)
8	⅛"	24.2
8	¼"	48.4
4	½"	96.8

EST. WT. OF SHIMS = 968 LB.



BOLT B-1

SCALE: 3"=1'-0"

STATE OF ALASKA 49TH
JACOB B. HANNA
02-20-2020
SE#143526
REGISTERED STRUCTURAL ENGINEER

ISSUED FOR CONSTRUCTION

WILSON & COMPANY

REV.	DATE	BY	REVISION

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT:
BR. 370.7 SPAN #1
BEARING REPLACEMENT

TITLE:
MISCELLANEOUS DETAILS

DESIGNED BY: BJB
DRAWN BY: BJB
CHECKED BY: JBH
APPROVED BY: BWB

SCALE: AS NOTED
DATE: 02/20/20