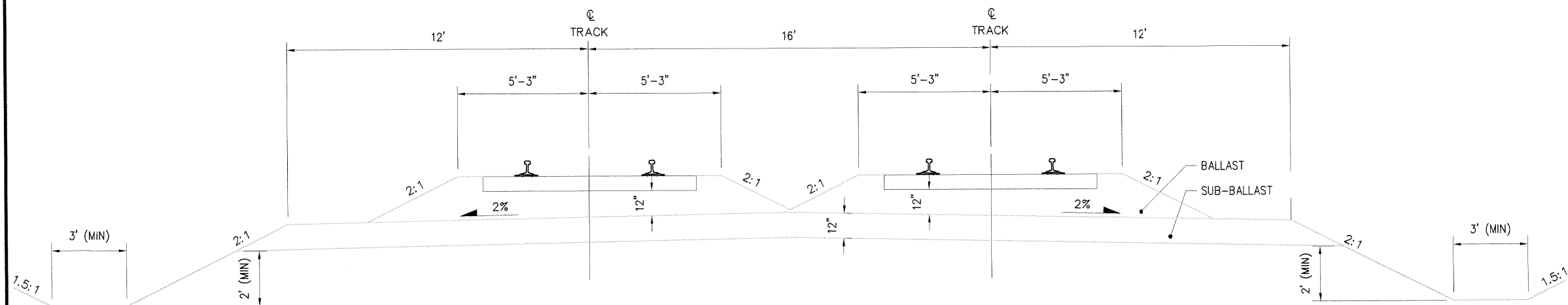
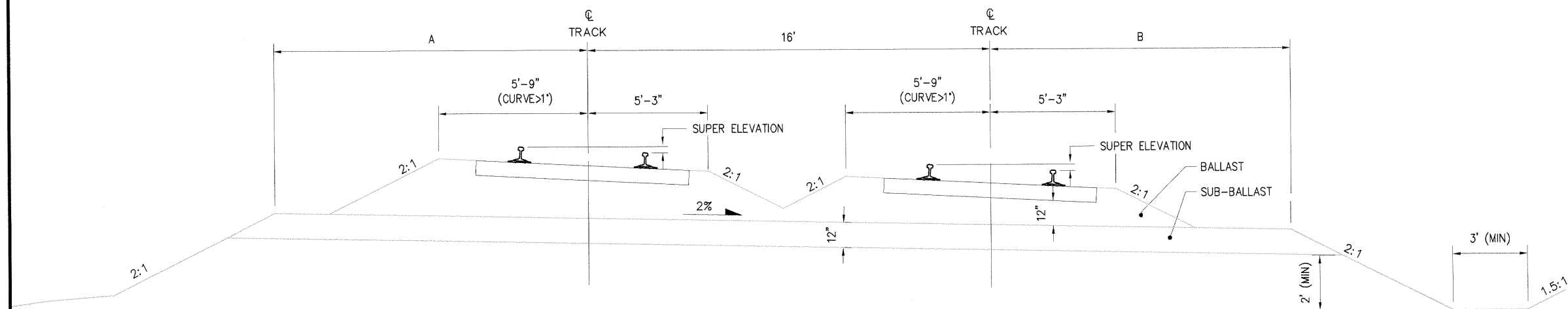


SUB-BALLAST WIDTH FOR DEGREE CURVATURE		
	DIMENSIONS	
	A	B
0° - 1° 0' INCLUSIVE	12'-0"	12'-0"
1° 1' - 2° 0' INCLUSIVE	12'-6"	12'-0"
2° 1' - 6° 0' INCLUSIVE	13'-0"	12'-0"
OVER 6°	13'-6"	12'-0"

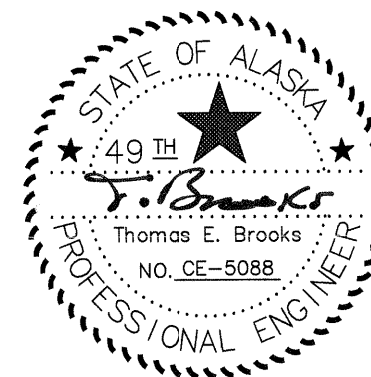
- NOTES
1. BALLAST DEPTH SHALL BE MINIMUM 12" UNDER TIE, MEASURED AT LOW RAIL.
 2. SUBGRADE SLOPE TRANSITION RATE TO BE 1" IN 10'.
 3. DEPTH OF DITCH VARIES TO PROVIDE POSITIVE DRAINAGE.



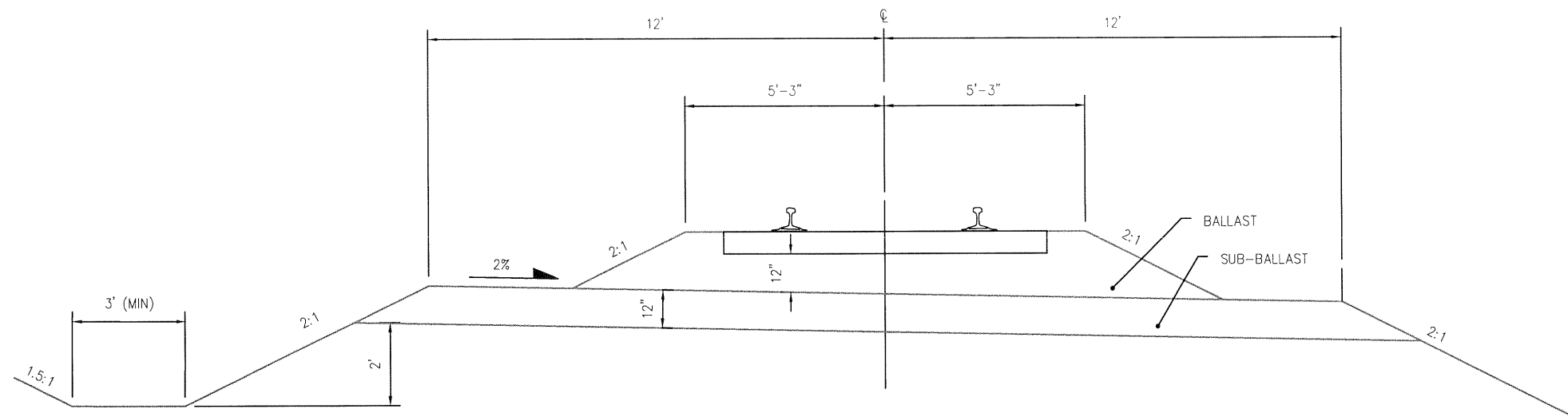
TANGENT SECTION
SCALE: 1" = 5'



CURVED SECTION
SCALE: 1" = 5'

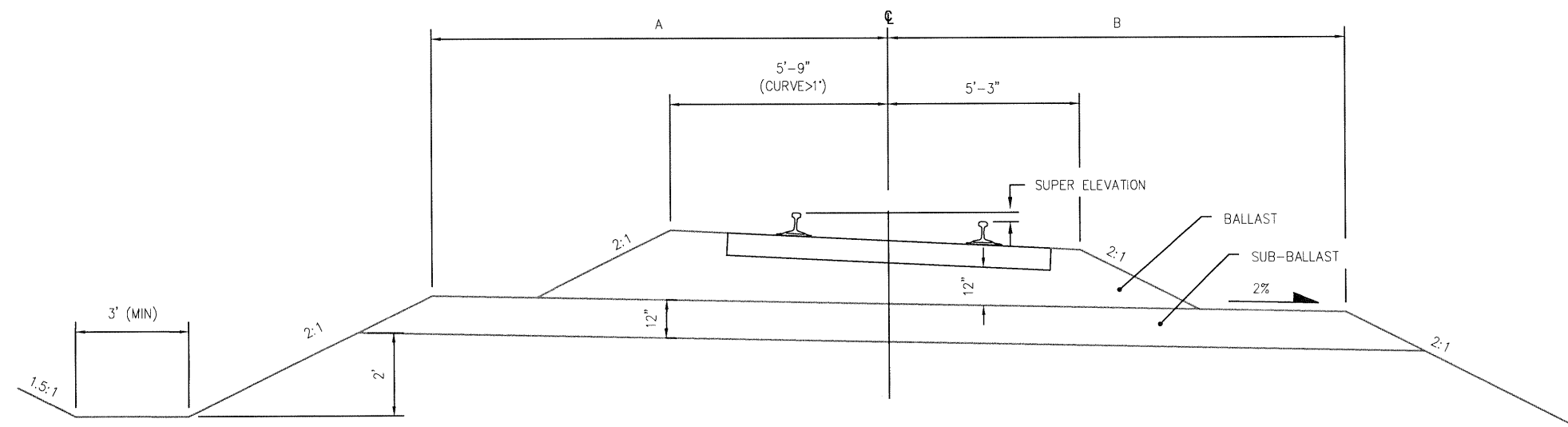


ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456		
STANDARD MAIN LINE DOUBLE TRACK BALLAST SECTIONS 16' CENTERS WOOD TIES		
APPROVED:	DATE:	
DESIGNED BY: REH	SCALE: 1" = 60'	FILE:s2.11-05.dwg
DRAWN BY: BBF		
CHECKED BY: JLS		
APPROVED BY: JEB	DATE: 4/14/2005	2.11-05



TANGENT SECTION

SCALE: 1" = 4'



CURVE SECTION

SCALE: 1" = 4'

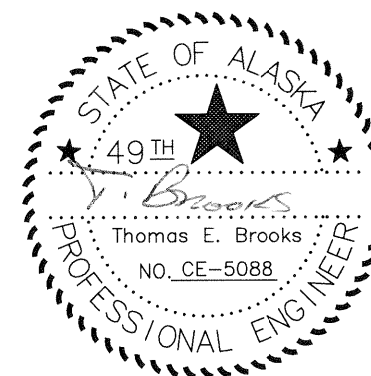
BALLAST REQUIRED FOR 100' OF TRACK		
CURVED TRACK	SUPER ELEVATION	CUBIC YARDS
	1"	75.1
	2"	77.0
	3"	80.1
	4"	83.4
	5"	86.8
TANGENT TRACK		75.0

SUB-BALLAST REQUIRED FOR 100' OF TRACK		
CURVED TRACK	DEGREE OF CURVE	CUBIC YARDS
	0 - 1 °	96.3
	1 - 2 °	98.2
	2 - 6 °	100.0
	+6 °	101.9
TANGENT TRACK		96.3

SUB-BALLAST WIDTH FOR DEGREE CURVATURE		
	DIMENSIONS	
	A	B
0° - 1 ° INCLUSIVE	12'-0"	12'-0"
1°1' - 2 ° INCLUSIVE	12'-6"	12'-0"
2°1' - 6 ° INCLUSIVE	13'-0"	12'-0"
OVER 6 °	13'-6"	12'-0"

NOTES

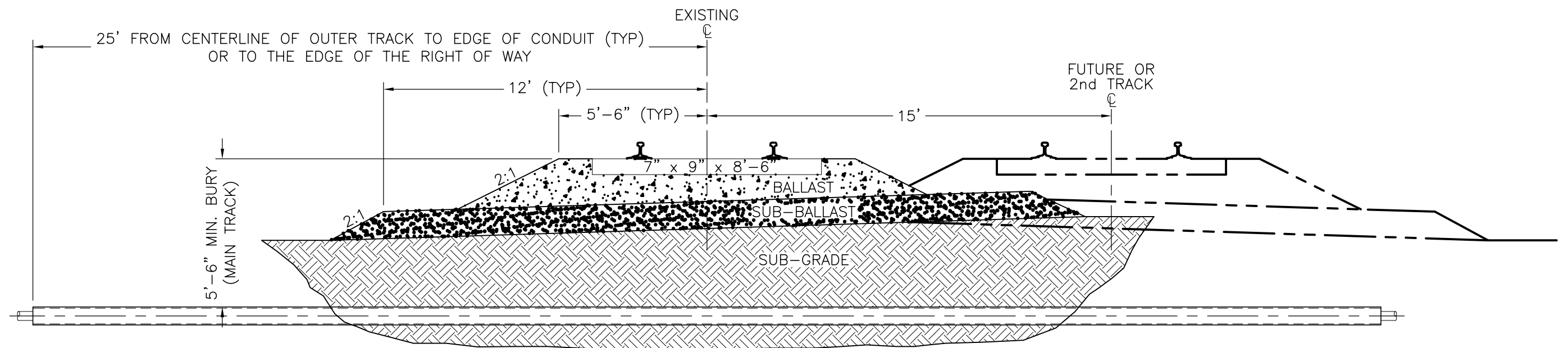
- BALLAST DEPTH SHALL BE MINIMUM 12" UNDER TIE, MEASURED AT LOW RAIL.
- ALL QUANTITIES ESTIMATED, REPRESENT IN-PLACE, COMPACTED MATERIAL, BASED ON 3,250 TIES PER MILE AND MINIMUM BALLAST AND SUB-BALLAST DIMENSIONS.
- SUB GRADE SHALL SLOPE TO PREVAILING DRAINAGE SIDE ON TANGENT, OR TO THE INSIDE OF THE CURVE.
- SUBGRADE SLOPE TRANSITION RATE TO BE 1" IN 10'.



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

STANDARD
MAIN LINE
BALLAST SECTIONS

APPROVED: *J. Brooks* DATE: 12/29/03
DESIGNED BY: REH
DRAWN BY: BBF
APPROVED BY: TEB
SCALE: 1" = 4'
DATE: 12/29/2003
FILE: s2.21-03.dwg
2.21-03




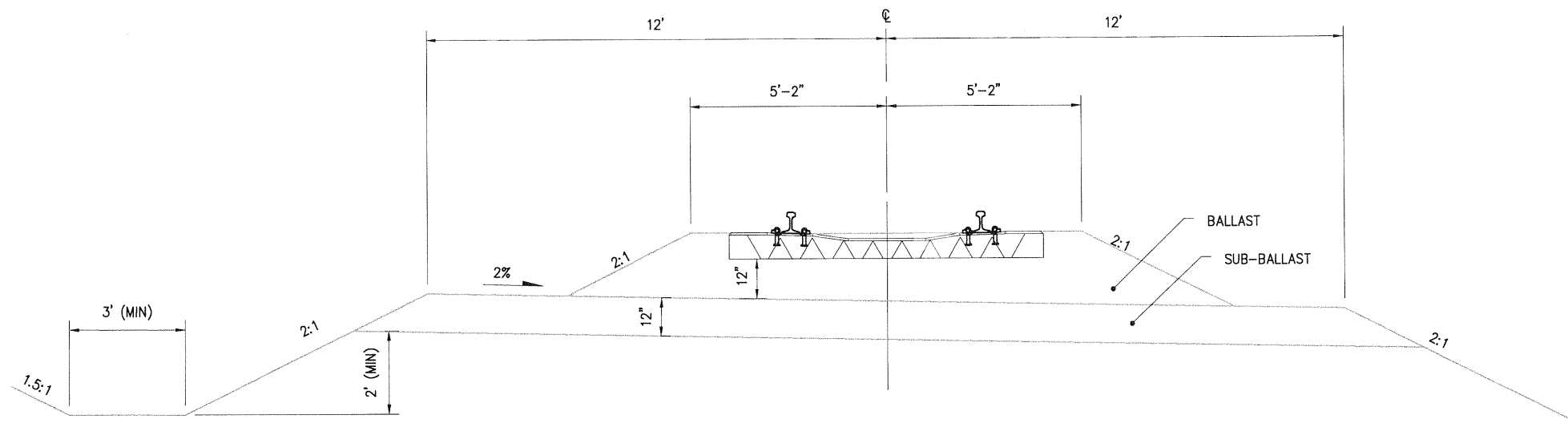
TANGENT SECTION

SCALE: 1/4" = 1'-0"

NOTES

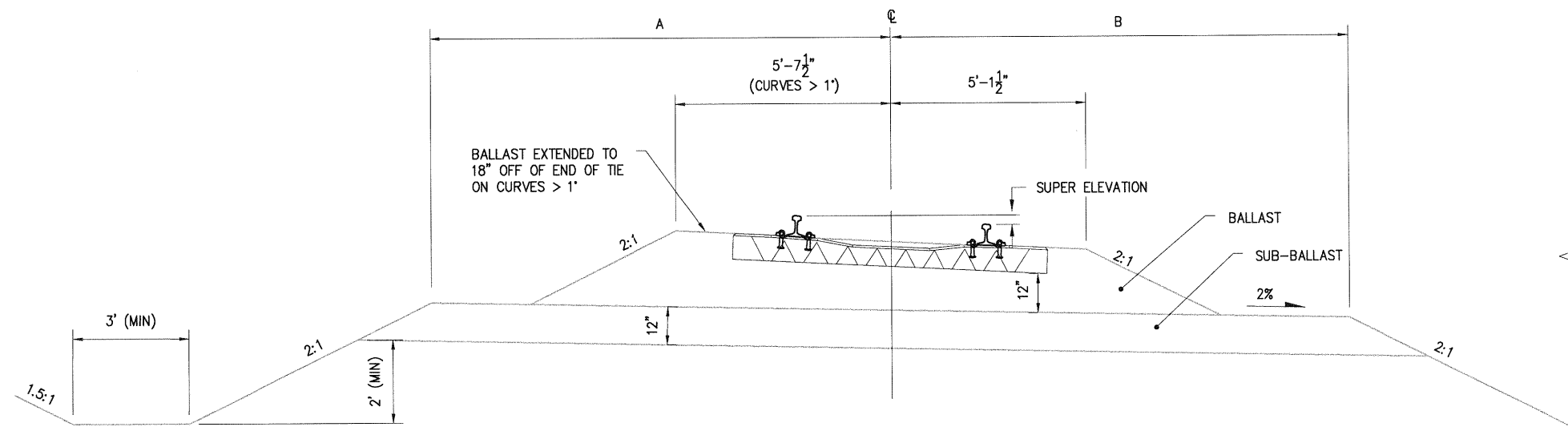
1. UNDER TRACK FIBEROPTIC CROSSING TO CROSS THE TRACKS PERPENDICULAR. CROSSING SHALL NOT BE PLACED WITHIN CULVERTS NOR UNDER RAILWAY BRIDGES WHERE IT MAY INTERFERE WITH THE ORIGINAL FUNCTION OF THESE CROSSINGS. CROSSING SHALL NOT INTERFERE WITH FOUNDATIONS OF EXISTING CULVERTS OR BRIDGES.
2. THE ALASKA RAILROAD CORPORATION (ARRC) RESERVES THE RIGHT TO RELOCATE THE EXISTING TRACK(S), ADD FUTURE TRACKS, OR MAKE OTHER CHANGES TO THE RAILROAD RIGHT-OF-WAY. THE UTILITY COMPANY SHALL TAKE RESPONSIBILITY FOR ALL COSTS RELATED TO MODIFICATIONS IN THE FIBEROPTIC CABLE THROUGH THESE CHANGES.

 ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456		
STANDARD UNDER TRACK FIBEROPTIC CROSSING		
APPROVED:	DATE:	
DESIGNED BY:	SCALE: AS NOTED	FILE: s2-22.dwg
DRAWN BY: BBF		
APPROVED BY: ENG DEPT	DATE: 5/02	2.22



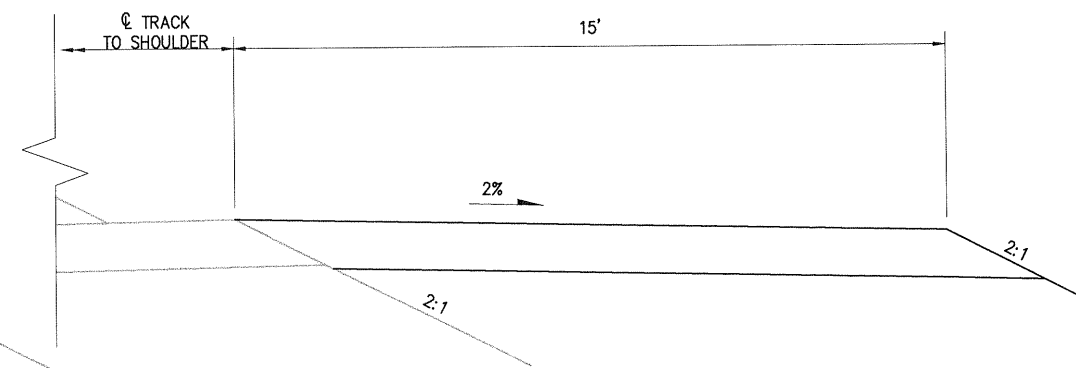
TANGENT SECTION

SCALE: 1" = 4'



CURVE SECTION

SCALE: 1" = 4'



ROAD SECTION

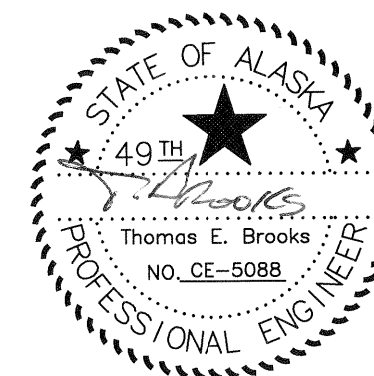
SCALE: 1" = 4'

BALLAST REQUIRED FOR 100' OF TRACK		
CURVED TRACK	SUPER ELEVATION	CUBIC YARDS
	1"	80.1
	2"	84.8
	3"	89.6
	4"	94.9
	5"	100.0
TANGENT TRACK		84.3

SUB-BALLAST REQUIRED FOR 100' OF TRACK		
CURVED TRACK	DEGREE OF CURVE	CUBIC YARDS
	0' - 1'	96.3
	1' - 2'	98.2
	2' - 6'	100.0
	+6"	101.9
TANGENT TRACK		96.3

SUB-BALLAST WIDTH FOR DEGREE CURVATURE		
	DIMENSIONS	
	A	B
0' - 1' 00' INCLUSIVE	12'-0"	12'-0"
1' 01' - 2' 00' INCLUSIVE	12'-6"	12'-0"
2' 01' - 6' 00' INCLUSIVE	13'-0"	12'-0"
OVER 6'	13'-6"	12'-0"

- NOTES
1. BALLAST DEPTH SHALL BE MINIMUM 12" UNDER TIE, MEASURED AT LOW RAIL.
 2. ALL QUANTITIES ESTIMATED, REPRESENT IN-PLACE, COMPACTED MATERIAL, BASED ON 2,640 EACH, 8'-3" CONCRETE TIES PER MILE AND MINIMUM BALLAST AND SUB-BALLAST DIMENSIONS.
 3. SUB GRADE SHALL SLOPE TO PREVAILING DRAINAGE SIDE ON TANGENT, OR TO THE INSIDE OF THE CURVE.
 4. SUBGRADE SLOPE TRANSITION RATE TO BE 1" IN 10'.
 5. DEPTH OF DITCH VARIES TO PROVIDE POSITIVE DRAINAGE.

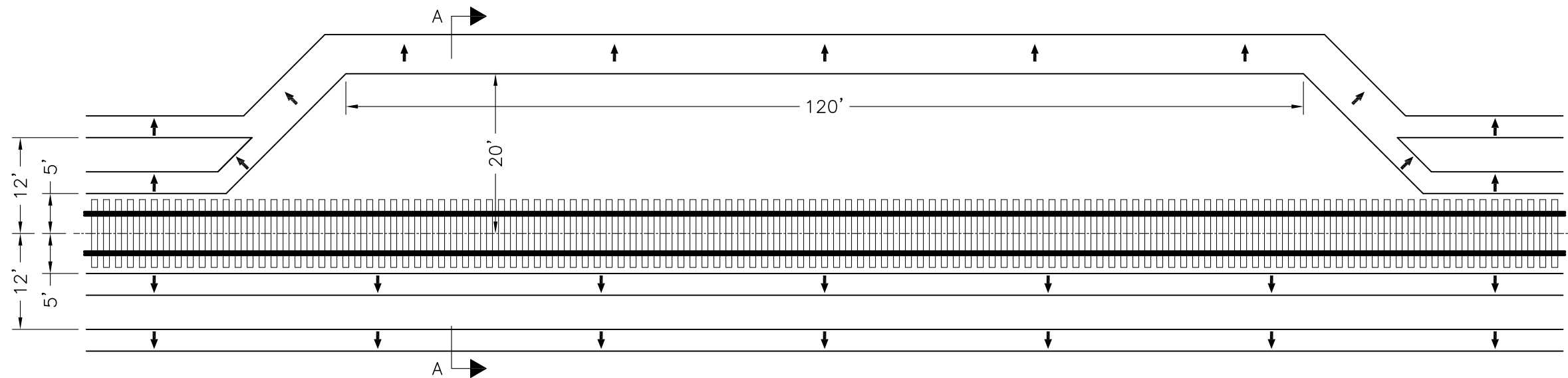


ALASKA RAILROAD CORPORATION
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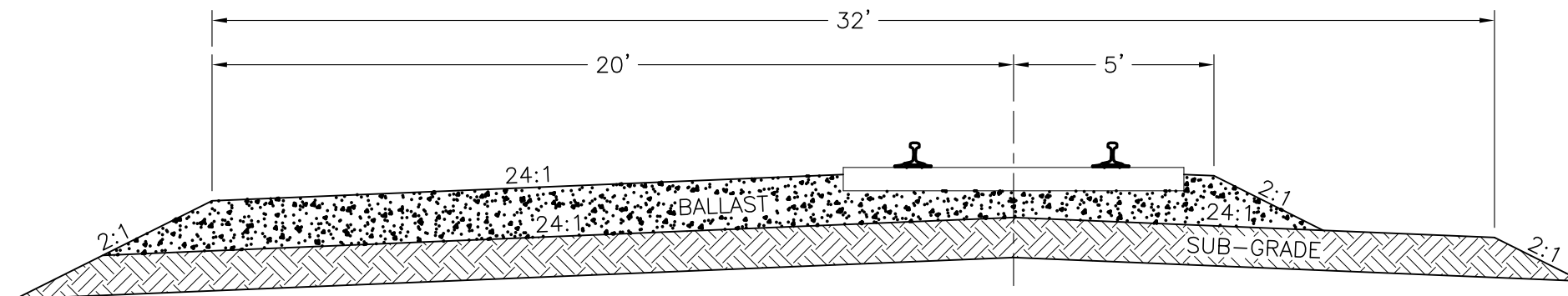
STANDARD
**MAIN LINE
BALLAST SECTIONS
CONCRETE TIES**

APPROVED: *Thomas E. Brooks* DATE: 1/28/2004


DESIGNED BY: REH	SCALE: 1" = 4'	FILE: a2.3-04.dwg
DRAWN BY: BBF		
CHECKED BY: REH		
APPROVED BY: TEB	DATE: 1/28/2004	2.3-04

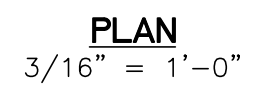
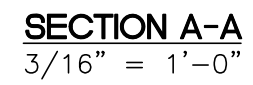



PLAN OF ROADBED
SCALE: 1/16" = 1'-0"



SECTION A-A
SCALE: 1/4" = 1'-0"

		
ALASKA RAILROAD CORPORATION		
OFFICE OF THE CHIEF ENGINEER		
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456		
STANDARD		
GRAVEL PLATFORM FOR WEIGH STATIONS		
APPROVED: _____ DATE: _____		
DESIGNED BY: _____	SCALE: AS NOTED	FILE: s2-4.dwg
DRAWN BY: BBF		
APPROVED BY: ENG_DEPT	DATE: 5/02	2.4



	ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER	
	P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456	
STANDARD MOTOR CAR SET-OFF		
APPROVED: _____		DATE: _____
DESIGNED BY: _____	SCALE: AS NOTED	FILE: s2-5.dwg <div style="font-size: 2em; font-weight: bold;">2.5</div>
DRAWN BY: <u>BBF</u> APPROVED BY: _____ ENG DEPT		

REQUIRED SUPERELEVATION (INCHES)											
DEGREE CURVE	SPEED (MPH)										
	10	15	20	25	30	35	40	45	50	55	60
0°30'	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1°00'	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1°30'	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.25	2.00
2°00'	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	2.25	3.25
2°30'	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.75	2.50	3.50	4.50
3°00'	1.00	1.00	1.00	1.00	1.00	1.00	1.50	2.25	3.25	4.50	*5.00
3°30'	1.00	1.00	1.00	1.00	1.00	1.00	2.00	3.00	4.25		
4°00'	1.00	1.00	1.00	1.00	1.00	1.50	2.50	3.75	*5.00		
4°30'	1.00	1.00	1.00	1.00	1.00	2.00	3.25	4.50			
5°00'	1.00	1.00	1.00	1.00	1.25	2.50	3.75	*5.00			
5°30'	1.00	1.00	1.00	1.00	1.50	2.75	4.25				
6°00'	1.00	1.00	1.00	1.00	2.00	3.25	4.75				
6°30'	1.00	1.00	1.00	1.00	2.25	3.75	*5.00				
7°00'	1.00	1.00	1.00	1.25	2.50	4.00					
7°30'	1.00	1.00	1.00	1.50	2.75	4.50					
8°00'	1.00	1.00	1.00	1.50	3.25	*5.00					
8°30'	1.00	1.00	1.00	1.75	3.50						
9°00'	1.00	1.00	1.00	2.00	3.75						
9°30'	1.00	1.00	1.00	2.25							
10°00'	1.00	1.00	1.00	2.50							
10°30'	1.00	1.00	1.00	2.75							
11°00'	1.00	1.00	1.25	3.00							
11°30'	1.00	1.00	1.25	3.25							
12°00'	1.00	1.00	1.50	3.25							
12°30'	1.00	1.00	1.50								
13°00'	1.00	1.00	1.75								
13°30'	1.00	1.00	2.00								
14°00'	1.00	1.00	2.00								
14°30'	1.00	1.00	2.25								

* NO SUPERELEVATION GREATER THAN 5” SHALL BE USED WITHOUT CONSENT OF THE CHIEF ENGINEER (360(g))

RATES OF RUNOFF FOR SUPERELEVATION OF CURVES		
SPEED (MPH)	PREFERRED LENGTH (FEET) FOR EACH INCH CHANGE IN SUPERELEVATION	OPTIONAL LENGTH (FEET) FOR EACH INCH CHANGE IN SUPERELEVATION
(1)	(2)	(3)
20	24	20
25	29	24
30	35	29
35	41	34
40	47	39
45	53	44
50	59	49
55	65	54
60	70	59
65	76	64
70	82	69
75	88	73
80	94	78
85	100	83
90	106	88
95	111	—
100	117	—

GENERAL NOTES
1. THIS STANDARD PLAN REPLACES STANDARD PLAN 2.61
2. THIS STANDARD PLAN SUPERCEDES 360(h)

NOTES	
1. COLUMN (2) IS BASED ON A RATE OF CHANGE OF SUPERELEVATION OF 1¼” PER SECOND OF TIME.	6. THE LENGTH OF SPIRAL OR RUN–OFF WHICH IS PROVIDED FROM THE ENDS OF THE MAIN CURVE GOVERN THE MAXIMUM SUPERELEVATION FOR THE CURVE AND THIS SUPERELEVATION SHALL GOVERN THE ALLOWABLE SPEED OF THE CURVE.
2. COLUMN (3) IS BASED ON A RATE OF CHANGE OF SUPERELEVATION OF 1½” PER SECOND OF TIME.	7. WHERE THE CURVES ARE NOT PROVIDED WITH SPIRALS, PROPER ELEVATION SHOULD BE GIVEN TO THE CURVE THROUGHOUT ITS LENGTH, RUN–OFF BEING MADE UNIFORMLY ON THE TANGENT.
3. RATES INDICATED IN COLUMN (2) SHOULD BE USED IN DETERMINING THE LENGTHS OF SPIRALS AND SUPERELEVATION OF CURVES ON NEW WORK AND REALIGNMENT OF EXISTING CURVES IN HIGH–SPEED TERRITORIES. RATES INDICATED IN COLUMN (3) MAY BE USED FOR OTHER TERRITORIES AND LOCATIONS WHERE LOCAL CONDITIONS RESTRICT THE LENGTH OF SPIRAL AND RUN–OFF.	8. ON COMPOUND CURVES WITH NO SPIRALS OR SPIRALS OF INSUFFICIENT LENGTH ARE PROVIDED BETWEEN MAIN CURVES, THE PROPER ELEVATION MUST BE GIVEN TO THE CURVE OF GREATER DEGREE THROUGHOUT ITS LENGTH. UNIFORMLY REDUCE THIS ELEVATION AT THE MAXIMUM PRESCRIBED RATE OF ELEVATION CHANGE UNTIL THE PROPER ELEVATION IS ATTAINED FOR THE CURVE OF LESSER DEGREE.
4. WHERE SPIRAL IS TOO SHORT TO PERMIT RUN–OFF AT THE PRESCRIBED RATE, A PART OF THE SUPERELEVATION MAY BE RUN OUT ON THE TANGENT (EXCEPT NO MORE THAN 3” IN CLASS 1 TRACK, 2” IN CLASS 2 TRACK, 1½” IN CLASS 4 TRACK MAY BE PLACED ON TANGENT)(SEE NOTE 2).	9. RULE 360(b), RULES AND REGULATIONS FOR THE MAINTENANCE OF WAY AND STRUCTURES, IN ALL CASES THE INNER RAIL SHALL BE MAINTAINED AT THE ESTABLISHED GRADE AND THE SUPERELEVATION SECURED BY RAISING THE OUTER RAIL ABOVE THE ESTABLISHED GRADE.
5. ALL MAIN TRACK SHALL BE SPIRALED IF PRACTICAL. SPIRALS SHALL BE INSERTED BETWEEN ALL PARTS OF COMPOUND CURVES.	

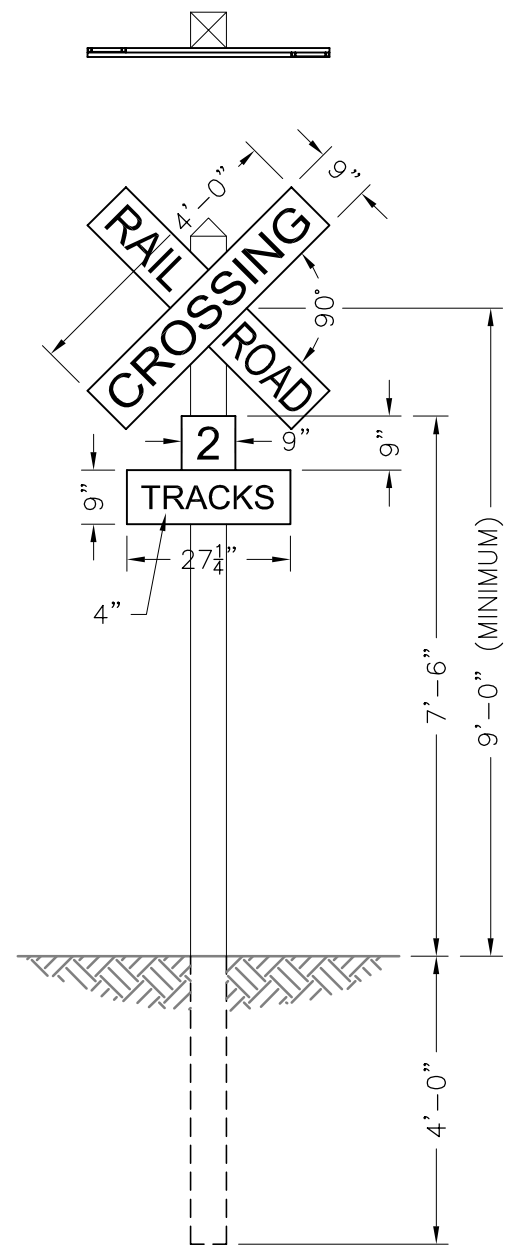


ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510–7500 (907) 265–2456

STANDARD

SUPERELEVATION TABLE

APPROVED:		DATE:	
DESIGNED BY:		SCALE:	N/A
DRAWN BY:	BBF		
APPROVED BY:	ENG_DEPT	DATE:	5/02
			2.62



HIGHWAY CROSSING SIGN
SCALE: $\frac{3}{8}$ " = 1'-0"



(MATERIAL THICKNESS .125" (TYPICAL))

SIGN BOARD DETAIL
SCALE: 1" = 1'-0"

5 1/2" LETTERS
(TYP., U.O.N.)

LOCATION

ONE SIGN TO BE PLACED AT RIGHT SIDE OF ROADWAY ON EACH SIDE OF RAILROAD PERPENDICULAR TO THE ROAD FACING THE DIRECTION OF TRAFFIC. PLACE SIGN 12" FROM CENTERLINE OF NEAREST TRACK, 7' TO 10' FROM EDGE OF ROADWAY.

NOTE

BOARD ADDED TO STATE NUMBER OF TRACKS WHERE TWO OR MORE TRACKS ARE CROSSED.



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

STANDARD

HIGHWAY CROSSING SIGN

APPROVED:

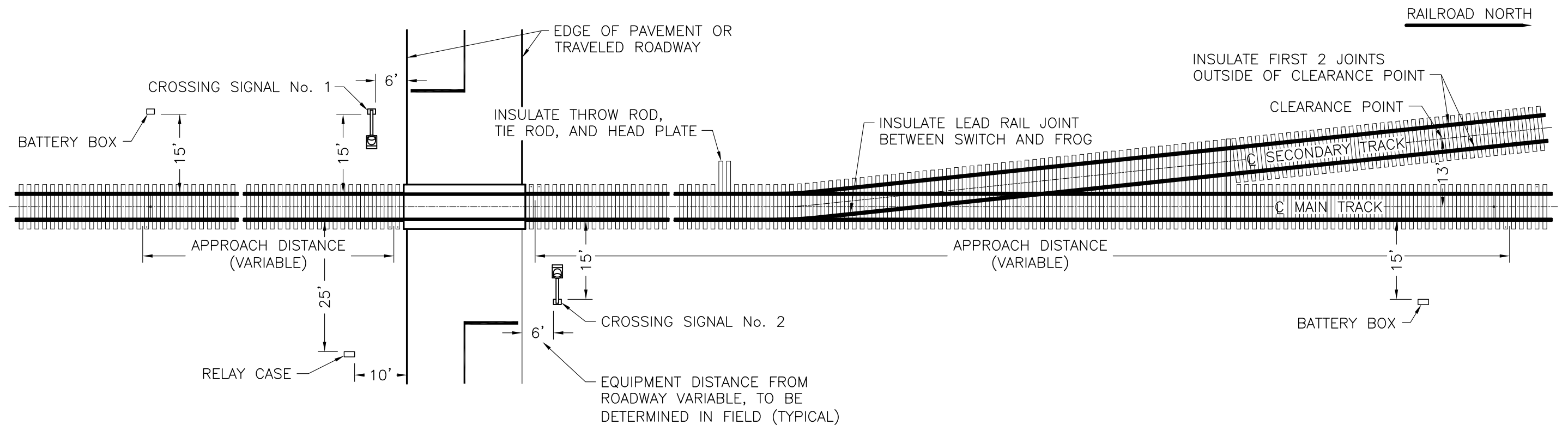
DATE:

DESIGNED BY: _____
DRAWN BY: BBF
APPROVED BY: ENG DEPT

SCALE: AS NOTED
DATE: 5/02

FILE: s2-65.dwg

2.65




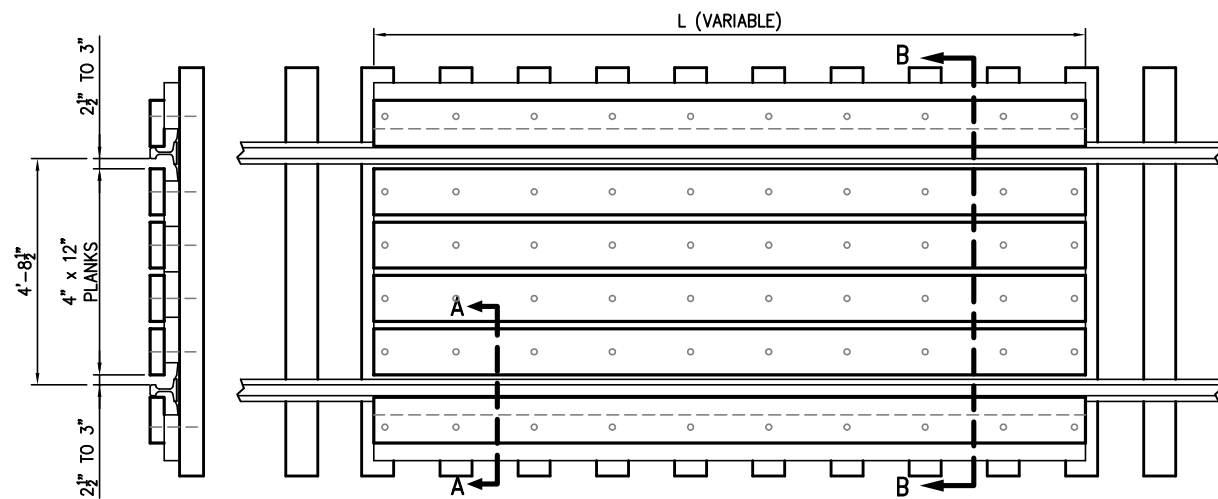
PLAN VIEW
SCALE: 1' = 20'-0"

SYMBOLS	
—•—	INSULATED JOINT
•	ELECTRICAL BOOTLEG

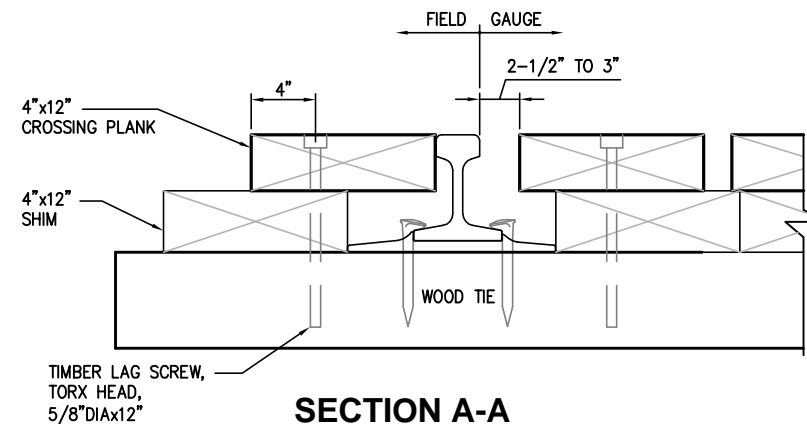
GENERAL NOTES	
1. APPROACH DISTANCES DEPEND ON TRAIN SPEED	
2. REFER TO STANDARD PLAN 5.41 FOR INSTRUCTIONS ON APPLYING AND MAINTAINING INSULATED RAIL JOINTS	

U:\ACAD\ARRStandards\Standard Plans\s2 BALLAST and CROSSINGS\s2-66.dwg

 ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456		
STANDARD HIGHWAY CROSSING SIGNAL DIAGRAM		
APPROVED:	DATE:	
DESIGNED BY:	SCALE: AS NOTED	FILE: s2-66.dwg
DRAWN BY: BBF		
APPROVED BY: ENG_DEPT	DATE: 5/02	2.66



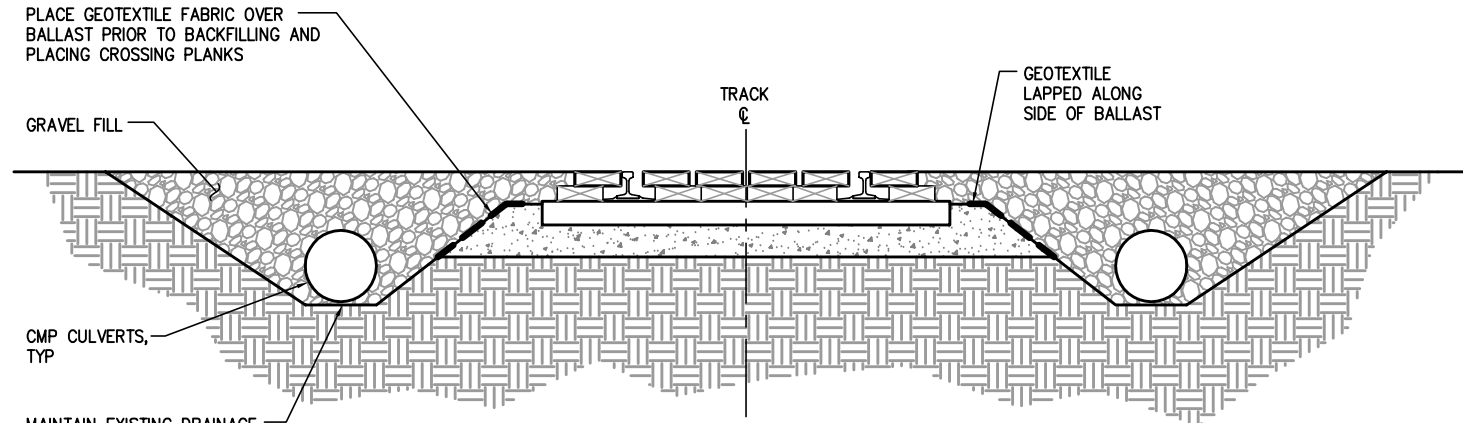
PLAN - ROAD CROSSING
SCALE: 1/4" = 1'-0"



SECTION A-A
SCALE: 1" = 1'-0"


BILL OF MATERIAL FOR CROSSING	
	4" x 12" x L LONG CROSSING PLANKS
	4" x 12" CROSSING PLANKS FOR SHIMS
	TIMBER LAG SCREWS AS SHOWN

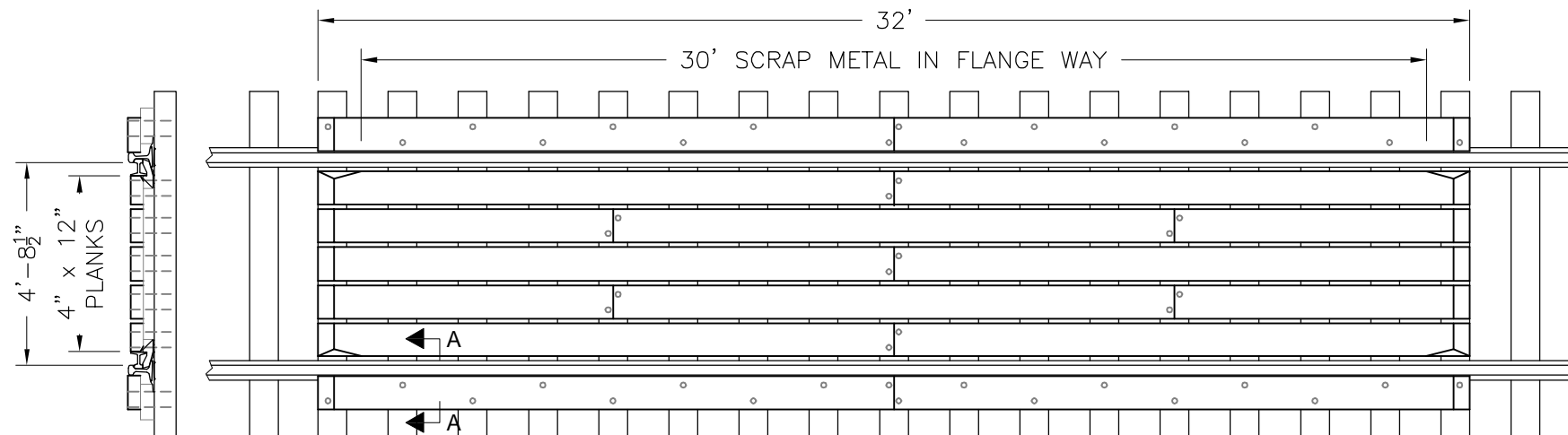
- NOTES**
- BEFORE PUTTING CROSSING IN PLACE, REPLACE ALL TIES REQUIRING ATTENTION.
 - PLACE GEOTEXTILE FABRIC ALONG SHOULDER OF BALLAST PRIOR TO FILLING APPROACHES AND LAYING PLANKS.
 - FASTEN PLANKS TO TIES WITH TIMBER LAG SCREWS AS SHOWN ON PLAN. PROVIDE ADDITIONAL PLANKS TO BE USED AS SHIMS ON EACH TIE UNDER PLANKING IN ORDER TO BRING TOP OF PLANKING FLUSH WITH OR ABOVE TOP OF RAIL.
 - THIS PLAN IS TO BE USED FOR ALL NEW OR REBUILT TIMBER PLANK CROSSINGS.
 - FOR RIGHT ANGLE CROSSINGS THE WIDTH OF PLANKING SHALL BE NOT LESS THAN THE FULL WIDTH OF THE TRAVELED ROADWAY.
 - FOR SKEWED CROSSINGS, PLANKING SHALL BE EXTENDED 2' BEYOND EACH EDGE OF TRAVELED ROADWAY.
 - GRADE SHALL BE LEVEL (0%) A MINIMUM OF 50'-0" ON BOTH SIDES OF TRACK CENTERLINE.
 - RUBBER FLANGWAY FILLER OR MUD RAIL MAY BE REQUIRED ON A PROJECT-SPECIFIC BASIS. IF REQUIRED, CUT HEAD OF MUD RAIL TO CLEAR ANGLE BARS AND BOND WIRES.
 - IF REQUIRED, CUT PLANKS 10 INCHES BEYOND EACH END OF ANGLE BAR TO CLEAR BOND WIRES.
 - HUCK-BOLT ALL ANGLE BARS IN AND ADJACENT TO CROSSING.



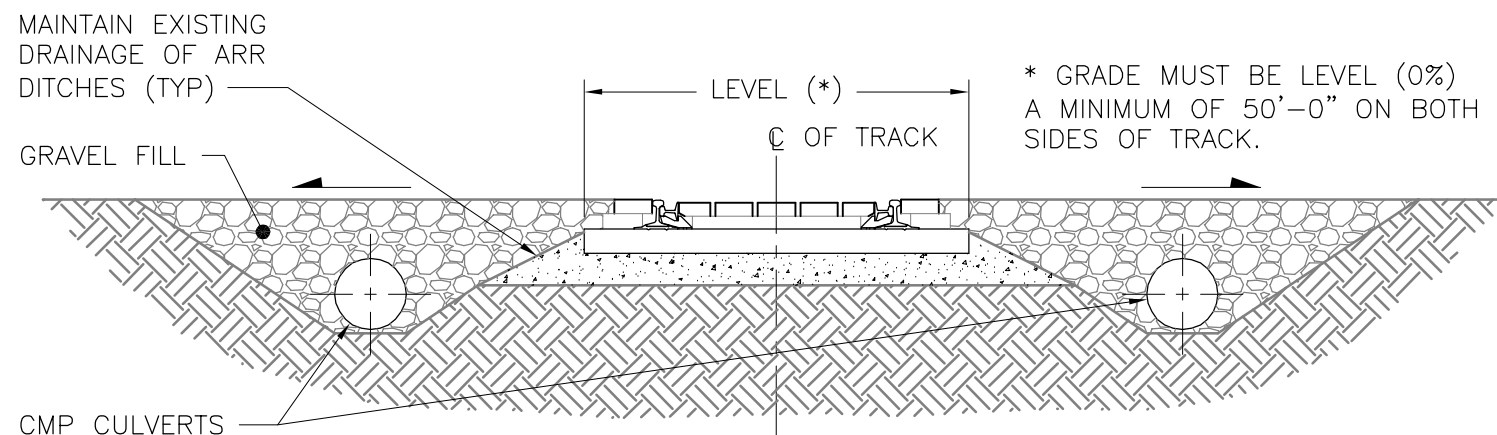
SECTION B-B - ROADBED
SCALE: 1/4" = 1'-0"

DRAFT

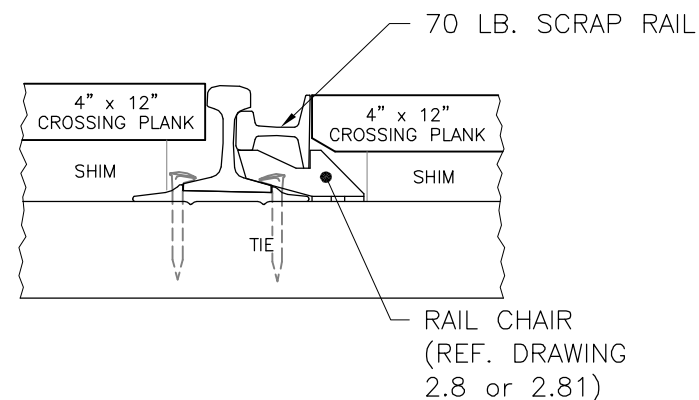
 ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456		
STANDARD		
TIMBER PLANK ROAD CROSSING		
APPROVED:	DATE:	
DESIGNED BY: JCL	SCALE: AS NOTED	FILE: s2-7_08.DWG
DRAWN BY: rsm		
CHECKED BY:	DATE: 8/16/2006	2.7-08
APPROVED BY: JEB		



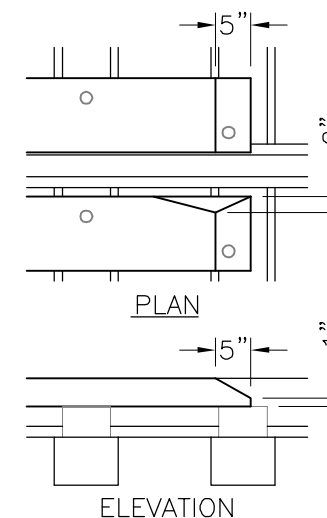
PLAN - ROAD CROSSING
SCALE: 1/4" = 1'-0"



SECTION - ROADBED
SCALE: 1/4" = 1'-0"



SECTION - A-A
SCALE: 1" = 1'-0"




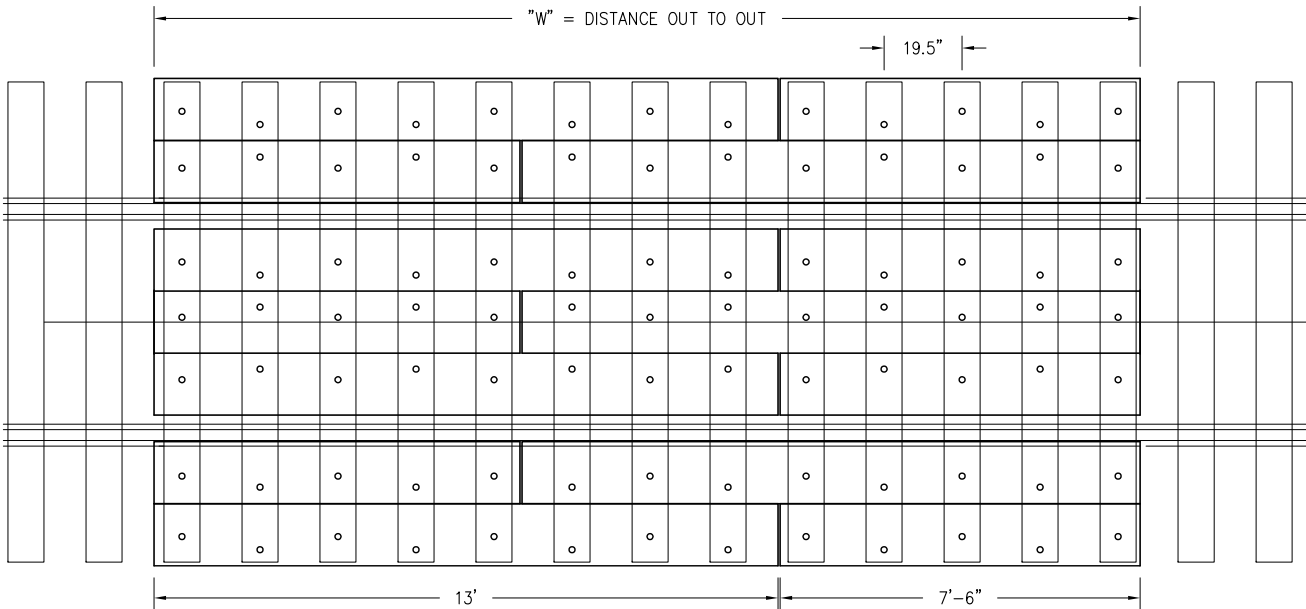
DETAIL - END BEVEL
SCALE: 1/2" = 1'-0"

BILL OF MATERIAL FOR CROSSING	
QUANTITY	DESCRIPTION
12	4" x 10" x 16'-0" LONG PLANKS
12	16'-0" LONG PLANKS FOR SHIMS
	(SEE TABLE FOR DIMENSIONS)
14	ARR STANDARD RAIL CHAIRS (REF. 2.8/2.81)
2	70# SCRAP RAIL 30'-0" LONG
143	1/2" x 12" BOAT SPIKES
28	70 LB. TRACK SPIKES
NOTE: PLANKING, INCLUDING SHIMS, SHALL BE TREATED FIR	

SHIM SIZES	
RAILS	SHIMS ON TOP OF TIES
115 LB. R.E. WITH TIE PLATES	3" x 6" ROUGH
70 LB. R.E. WITH TIE PLATES	1" x 6" ROUGH

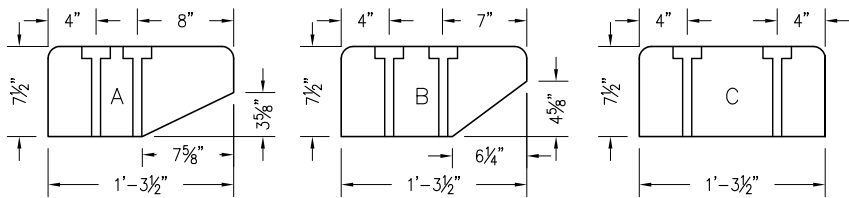
- NOTES**
1. EXTEND THE CUT 10" BEYOND EACH END OF ANGLE BAR TO CLEAR BOND WIRES WHEN REQUIRED TO CLEAR THE ANGLE BAR OF A RAIL JOINT CUT HEAD OF FLANGEWAY RAIL AND WHERE TRACK IS BONDED.
 2. REPLACE TIES THAT REQUIRE EARLY ATTENTION AND FASTEN PLANKS TO TIES WITH 1/2" x 12" BOAT SPIKES (AS SHOWN ON PLAN) BEFORE PUTTING CROSSING IN PLACE.
 3. RAIL CHAIRS SHALL BE PLACED UNDER FLANGEWAY GUARD RAILS ON EVERY THIRD TIE AND SHALL BE SECURED TO TIES WITH 70 LB. TRACK SPIKES.
 4. THE WIDTH OF PLANKING SHALL BE NO LESS THAN FULL WIDTH OF TRAVELED ROADWAY FOR RIGHT ANGLE CROSSINGS. PLANKING SHALL BE EXTENDED 2' BEYOND EACH EDGE OF TRAVELED ROADWAY FOR SKEWED CROSSINGS. ROADWAY TO BE SLOPED AWAY FROM CROSSING.
 5. HUCK BOLT ALL ANGLE BARS IN AND ADJACENT TO CROSSING.

 ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456		
STANDARD		
ROAD CROSSING		
APPROVED:	DATE:	
DESIGNED BY:	SCALE: AS NOTED	FILE: s2-71.dwg
DRAWN BY: BBF		
APPROVED BY: ENG DEPT	DATE: 5/02	
		2.71



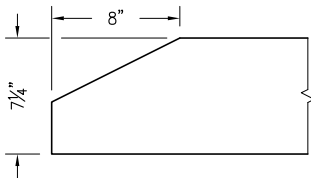
TYPICAL PLAN OF CROSSING PLANK (115# RAIL)

SCALE 1/4" = 1'-0"



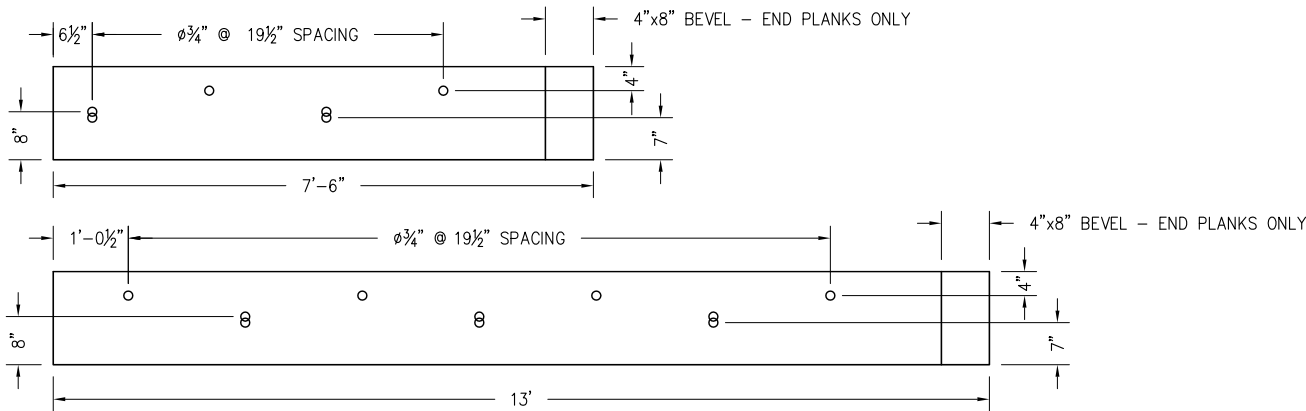
DETAIL - PLANKS A, B, & C

SCALE 3/4" = 1'-0"



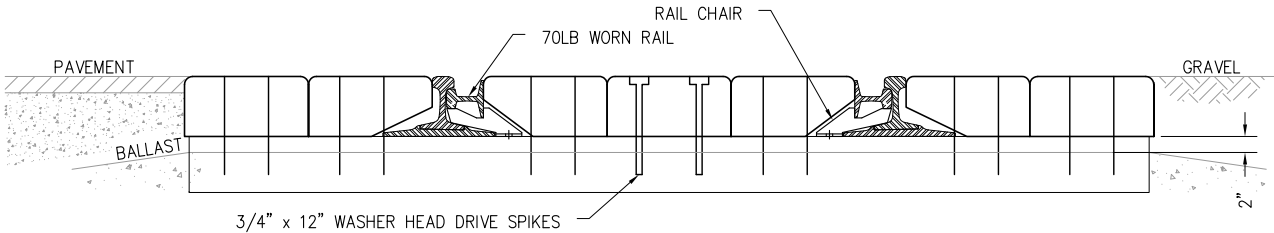
DETAIL-END BEVEL

SCALE 1" = 1'-0"



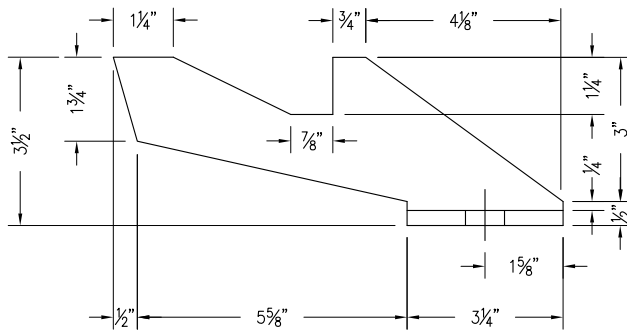
PLANKS A, B, & C - 115# CROSSING

SCALE 3/8" = 1'-0"

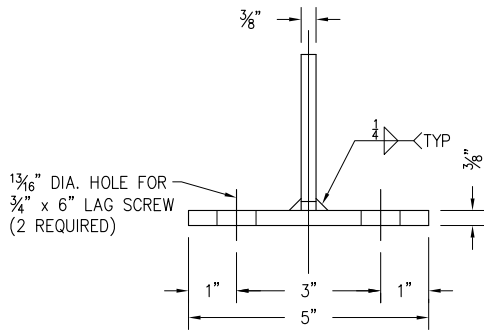


SECTION THROUGH TRACK

SCALE 1/2" = 1'-0"



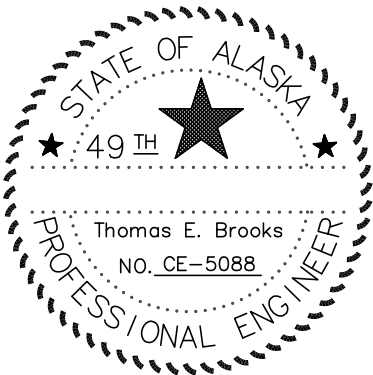
SIDE VIEW



FRONT VIEW

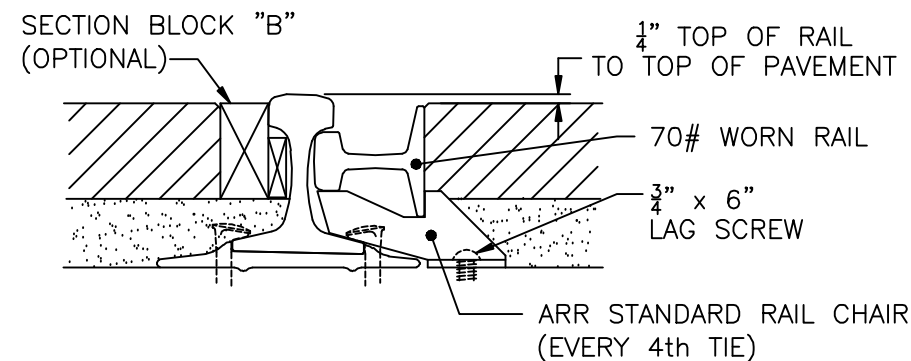
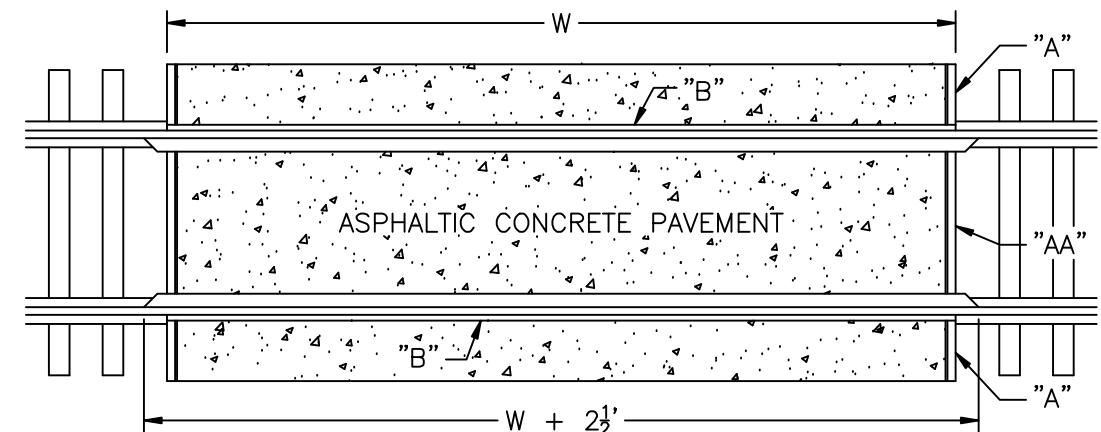
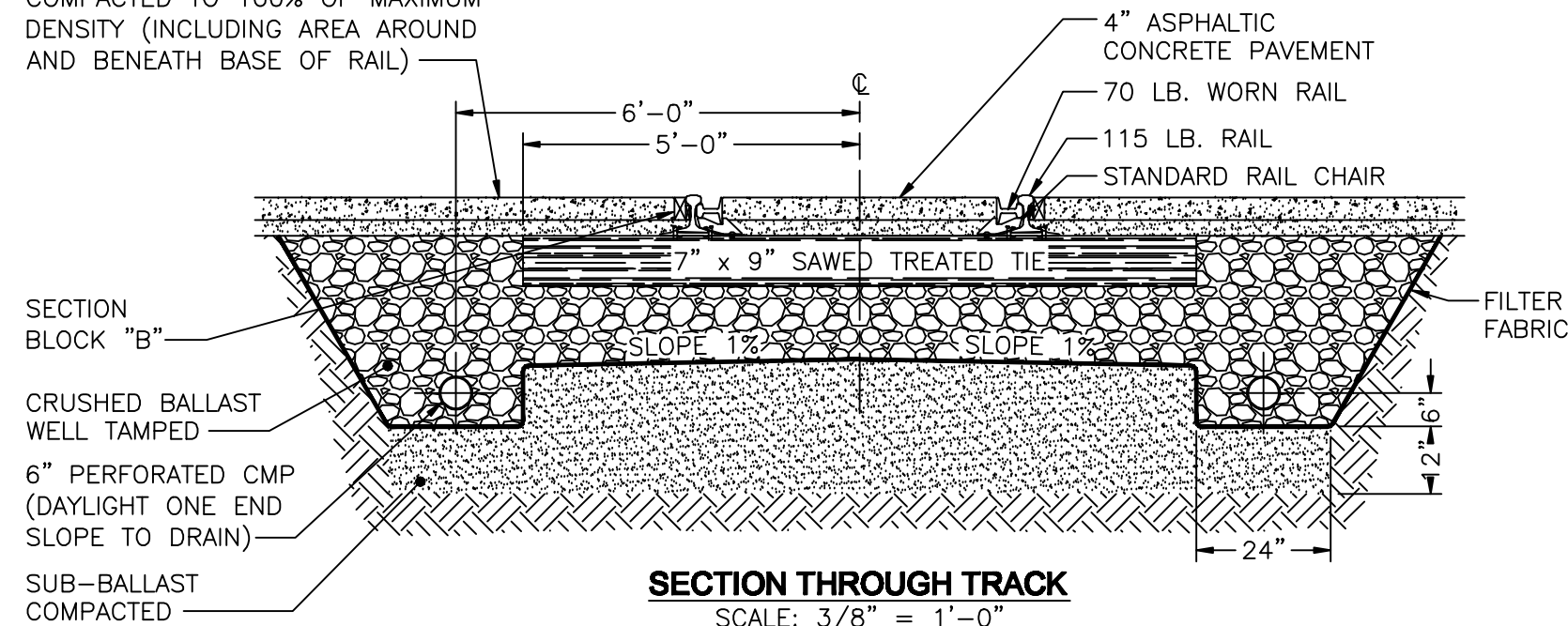
RAIL CHAIR DETAIL

SCALE: 3" = 1'



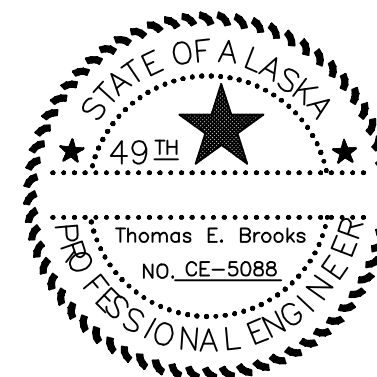
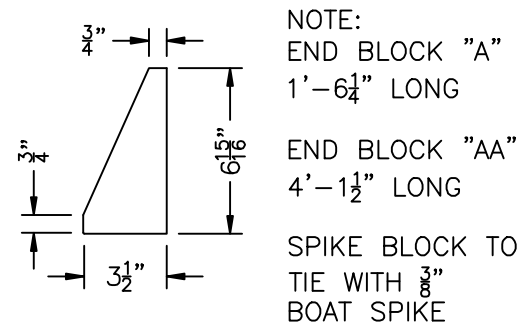
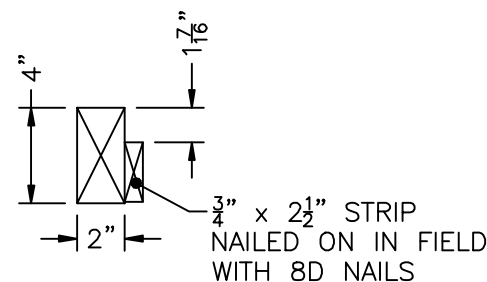
ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456		
STANDARD SOLID TIMBER PRIMARY ROAD CROSSING		
APPROVED:		DATE:
DESIGNED BY: ARRC	SCALE: AS NOTED	FILE: s2-72.04.dwg
DRAWN BY: BBF	DATE: 1/15/2004	2.72-04
CHECKED BY: REH		
APPROVED BY: TEB		

MINIMUM 6" D-1 (EXCEPT OVER TIE)
COMPACTED TO 100% OF MAXIMUM
DENSITY (INCLUDING AREA AROUND
AND BENEATH BASE OF RAIL)

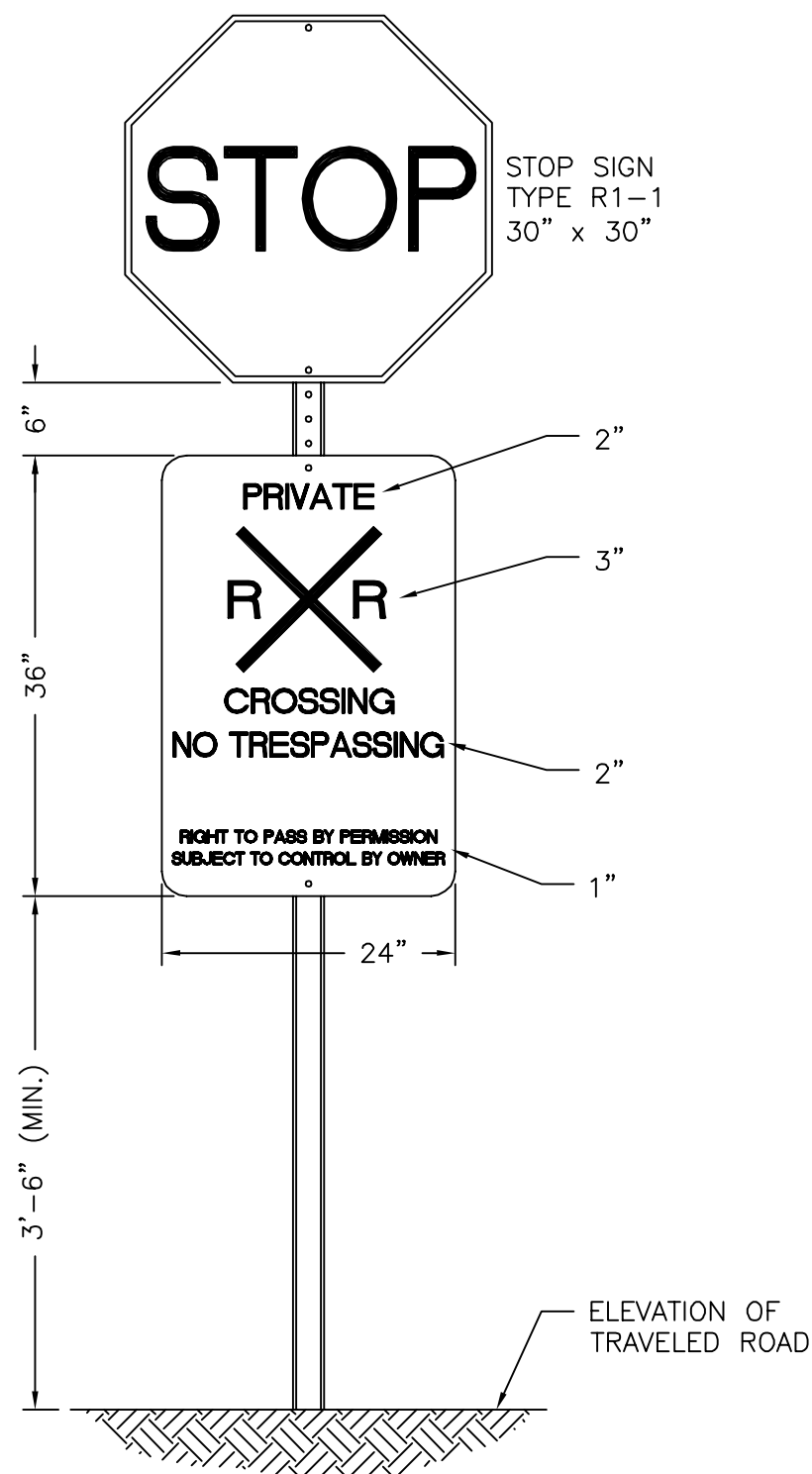


NOTES

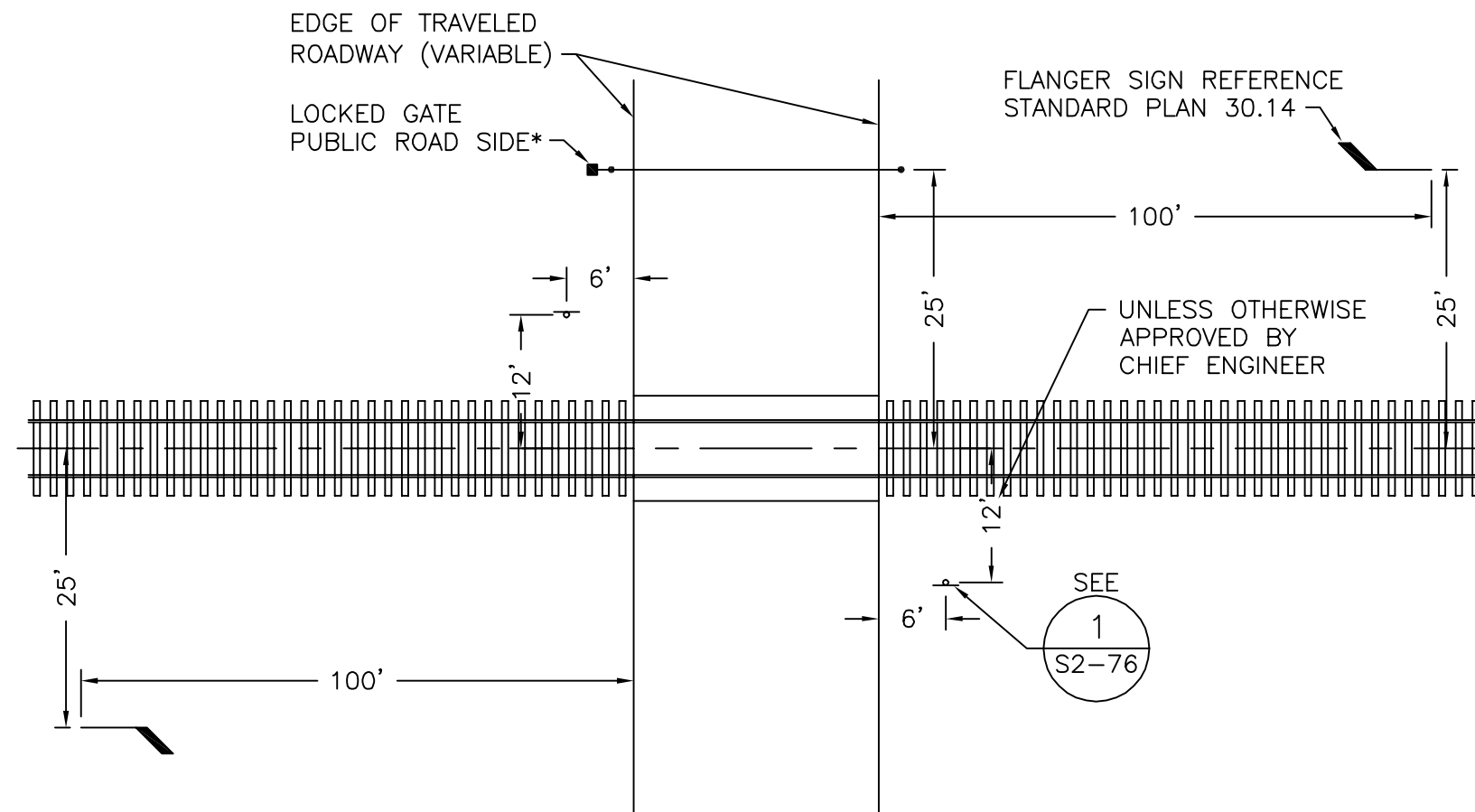
1. TIE SPACING TO BE 19 1/2" C/C THROUGH CROSSING.
2. ALL TIES, TIE PLATES, JOINT FASTENINGS, SPIKES, AND ASSOCIATED HARDWARE SHALL BE NEW MATERIAL, FURNISHED BY THE CONTRACTOR.
3. NEW 115 LB. RAIL WILL BE USED AT THE OPTION OF THE RAILROAD, DELIVERED AT THE JOBSITE (INSTALLATION WILL BE THE CONTRACTOR'S RESPONSIBILITY).
4. BEFORE INSTALLATION OF THE CROSSING MATERIALS, IT WILL BE NECESSARY TO RAISE THE TRACK THROUGH THE CROSSING TO PROVIDE ADEQUATE DRAINAGE.
5. THE RAILROAD REQUIRES A MINIMUM OF 3 DAYS RAIL TRAFFIC OVER THE CROSSING PRIOR TO FINAL SURFACING OF THE RAILS. AFTER FINAL SURFACING THE RAIL JOINTS SHALL BE FIELD WELDED OR HUCK BOLTED.
6. RAIL JOINTS MAY BE LOCATED WITHIN THE CROSSING IF WIDTH OF CROSSING EXCEEDS 62' SHOULDER TO SHOULDER. JOINTS MUST BE STAGGERED AND LOCATION APPROVED BY ARRC. JOINT IN CROSSING MUST BE THERMITE WELDED.



ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456		
STANDARD ASPHALTIC CONCRETE PAVEMENT PRIMARY ROAD CROSSING		
APPROVED:	DATE:	
DESIGNED BY:	SCALE:	FILE: s2.74-03.dwg
DRAWN BY: BBF	AS NOTED	
APPROVED BY: ENG DEPT	DATE: 5/02/03	2.74-03



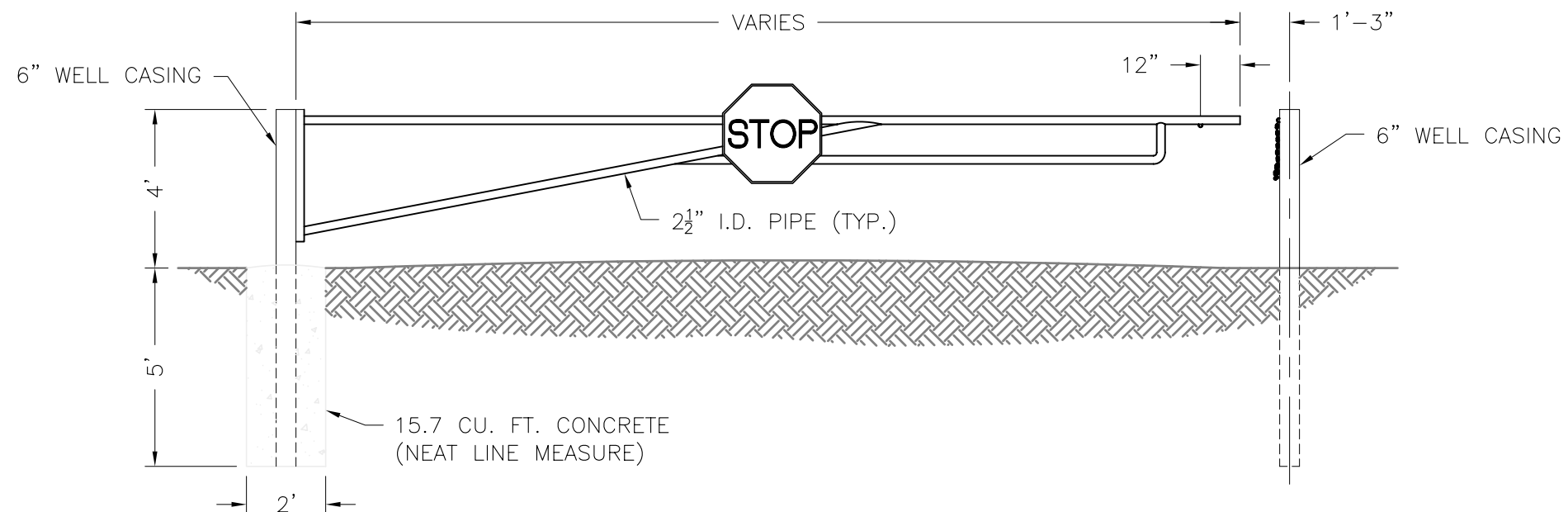
1 PRIVATE CROSSING SIGN DETAIL
S2-76 SCALE: 3/4" = 1'-0"



2 PRIVATE CROSSING LAYOUT
S2-76 SCALE: 1/16" = 1'-0"

* GATE MUST BE DELETED
IF PROVIDED IN PERMIT.
SEE STANDARD PLAN 2.77
FOR RECOMMENDED GATE.


ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456 STANDARD			
PRIVATE ROAD CROSSING			
APPROVED:		DATE:	
DESIGNED BY:	SCALE:	FILE: s2-76.dwg	
DRAWN BY: BBF	AS NOTED	<div style="font-size: 2em; font-weight: bold;">2.76</div>	
APPROVED BY: ENG. DEPT	DATE: 5/02		

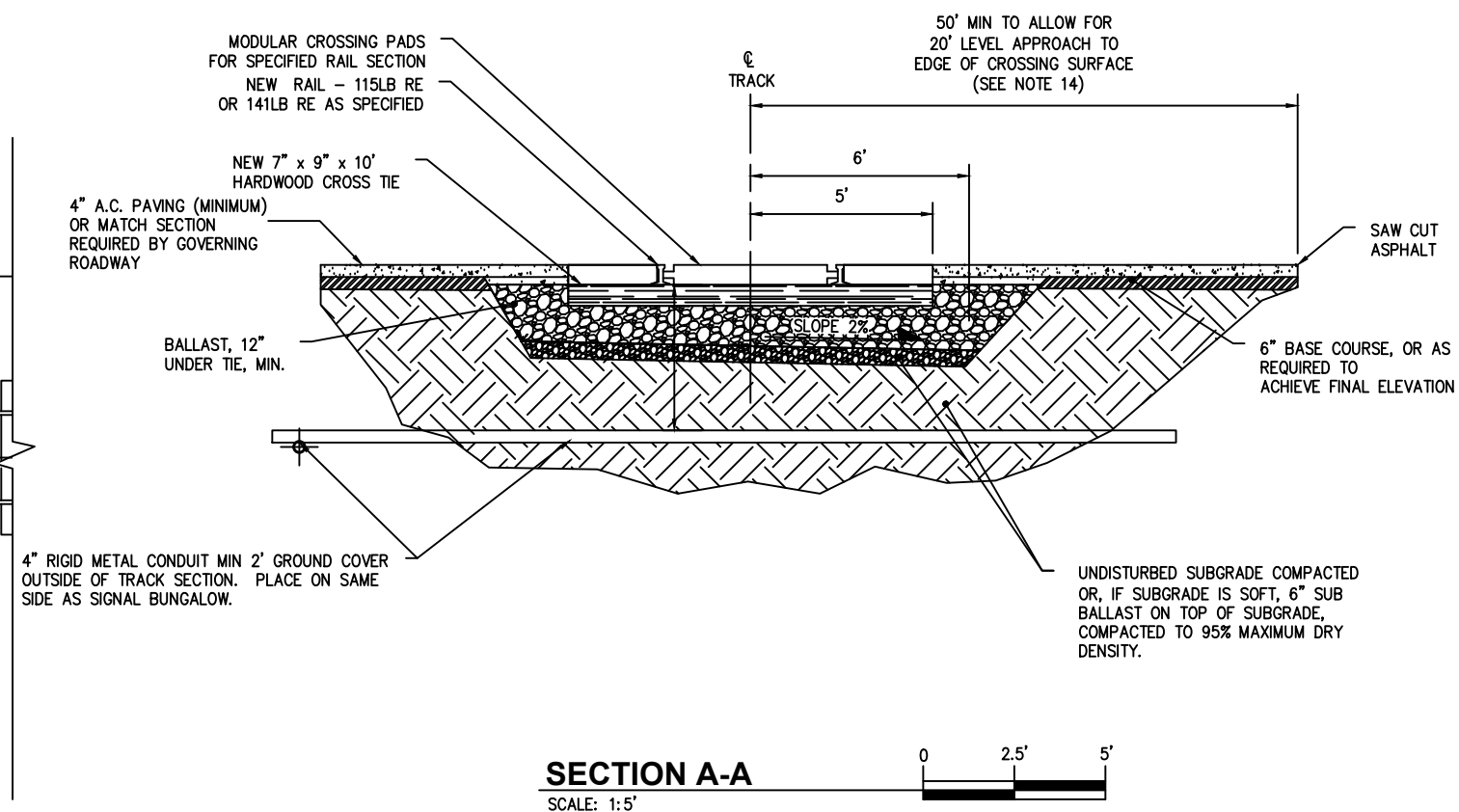


CROSSING GATE
SCALE: 1/4" = 1'-0"

NOTES

STOP SIGN REQUIRED.
GATE MUST BE HINGED OR
BLOCKED SO THAT IT CANNOT
SWING TOWARD TRACK.

 ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER <small>P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456</small>		
STANDARD		
CROSSING GATE		
APPROVED:		DATE:
DESIGNED BY:	SCALE: AS NOTED	FILE: s2-77.dwg
DRAWN BY: BBF		
APPROVED BY: ENG DEPT	DATE: 5/02	2.77



1. PROVIDE NEW 7"x9"x10' HARDWOOD CROSS TIES WITH PANDROL PLATES AND E-CLIPS ON 19-1/2" CENTER-TO-CENTER (OR PER MODULAR CROSSING MANUFACTURER'S RECOMMENDATION) THROUGH CROSSING AND 12 TIES BEYOND CROSSING IN BOTH DIRECTIONS.
2. MODULAR CROSSING PADS SHALL BE 8.125' LONG AND MANUFACTURED FROM CONCRETE SPECIFICALLY DESIGNED FOR RAILROAD CROSSING APPLICATIONS. THE PARTICULAR MANUFACTURER SHALL BE REGULARLY ENGAGED IN THE FABRICATION OF RAILROAD CROSSING MATERIALS AND APPROVED BY THE CHIEF ENGINEER.
3. CROSSING PADS LOCATED WITHIN 3' OR GREATER CURVES SHALL BE DESIGNED FOR THE SPECIFIC APPLICATION.
4. ALL MODULAR CROSSING PADS, HARDWARE, AND INSTALLATION PROCEDURES SHALL BE AS RECOMMENDED BY THE MANUFACTURER AND FOR THE RAIL SIZE USED.
5. ALL RAIL JOINTS MUST BE WELDED THROUGHOUT THE CROSSING. NO JOINTS ALLOWED WITHIN 19.5' OF THE CROSSING PANEL, WITH JOINTS STAGGERED MIN. 6.5'. WELDING KITS AND WELDER PROVIDED BY THE CONTRACTOR MUST BE APPROVED BY THE CHIEF ENGINEER. ALL WELDS IN CROSSING SHALL BE GROUND FLUSH SO AS NOT TO INTERFERE WITH FLANGE FILLER.
6. THE INNER 2 HOLES SHALL BE DRILLED ON NEW RAIL, AND CONNECTED TO EXISTING RAIL WITH NEW 36" ANGLE BARS AND BOLTS.
7. TO MINIMIZE SETTLEMENT, KEEP EXCAVATION FOR CONDUITS TO A MINIMUM. COMPACT BACKFILL IN LIFTS NOT EXCEEDING 6" TO 95% OF MAXIMUM DRY DENSITY.
8. IT WILL BE NECESSARY IN MOST CASES TO RAISE THE TRACK THROUGH THE CROSSING TO MATCH FINAL TRACK DESIGN GRADE. FINAL TRACK DESIGN GRADE SHALL BE APPROVED BY THE CHIEF ENGINEER. RUNOFF OF TRACK RAISE SHALL BE NO GREATER THAN 1/4" PER 62 FEET.
9. MINIMUM OF THREE DAYS OF RAIL TRAFFIC REQUIRED OVER NEWLY CONSTRUCTED TRACK PRIOR TO FINAL SURFACING OF THE TRACK.
10. FINAL INSTALLATION OF MODULAR CROSSING PADS CANNOT BEGIN UNTIL FINAL SURFACING OF THE TRACK IS COMPLETED.
11. DRAINAGE FROM ROAD SURFACE SHALL NOT DRAIN TOWARD CROSSING.
12. BOX ANCHOR EVERY TIE FOR 184 TIES BEYOND CROSSING PADS IN BOTH DIRECTIONS. PANDROL PLATES COUNT AS BOX ANCHORS.
13. EXTEND ROAD SURFACE LEVEL WITH CROSSING SURFACE A MINIMUM OF 20' BEYOND EDGE OF CROSSING.
14. FOR A TRACK ELEVATION CHANGE OF 3" OR LESS, SAW CUT AND REMOVE PAVEMENT A MINIMUM OF 50 FT FROM THE CENTERLINE. FOR EVERY 1" OF RAISE GREATER THAN 3", CUT THE ASPHALT BACK AN ADDITIONAL 10 FT.



**BEFORE YOU DIG
CALL FOR FREE
UNDERGROUND
LOCATION**

Locate Call Center of Alaska
Anchorage Area.....278-3121
Statewide.....800-478-3121
who will notify subscribed utilities only.
Other utilities need to be contacted
individually.



ALASKA RAILROAD CORPORATION

OFFICE OF THE CHIEF ENGINEER

P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD

MODULAR CROSSING

APPROVED: _____ DATE: _____

DESIGNED BY: JLS

DRAWN BY: BBF

CHECKED BY: _____

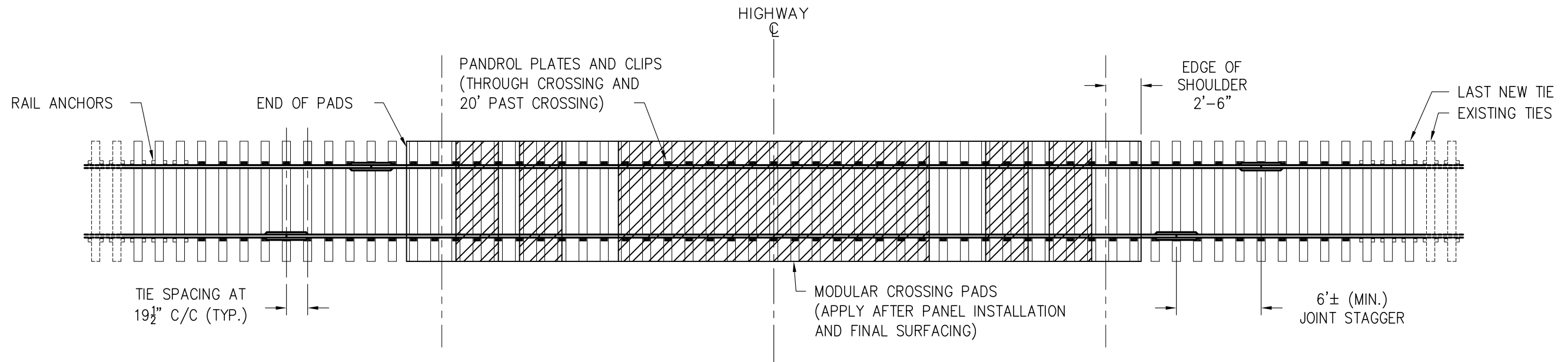
SCALE: AS NOTED

SCORE:	AS NOTED
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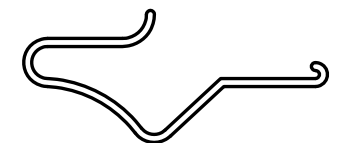
FILE: s2-78.06.dwg

FILE: SZ=78.06.dwg

12 78-06



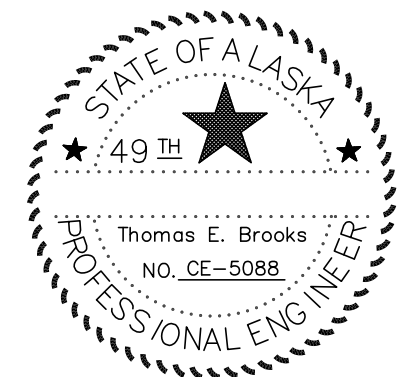
MODULAR HIGHWAY CROSSING PANEL
SCALE: 1/8" = 1'-0"




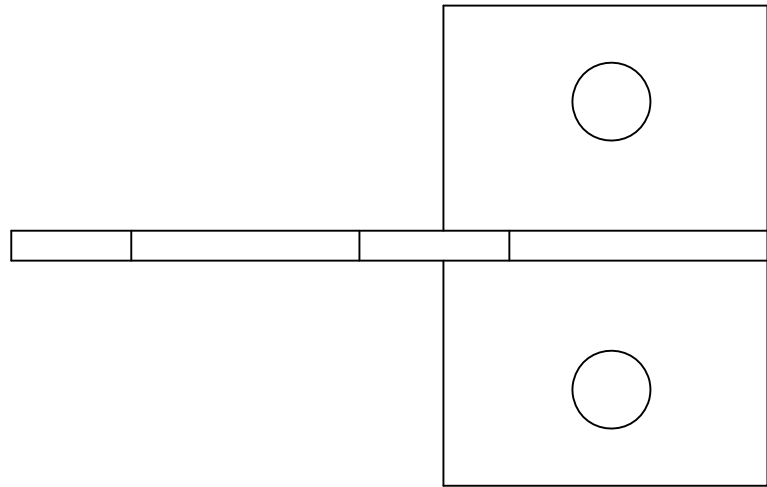
MODULAR HIGHWAY CROSSING PANEL
NOT TO SCALE

GENERAL NOTES

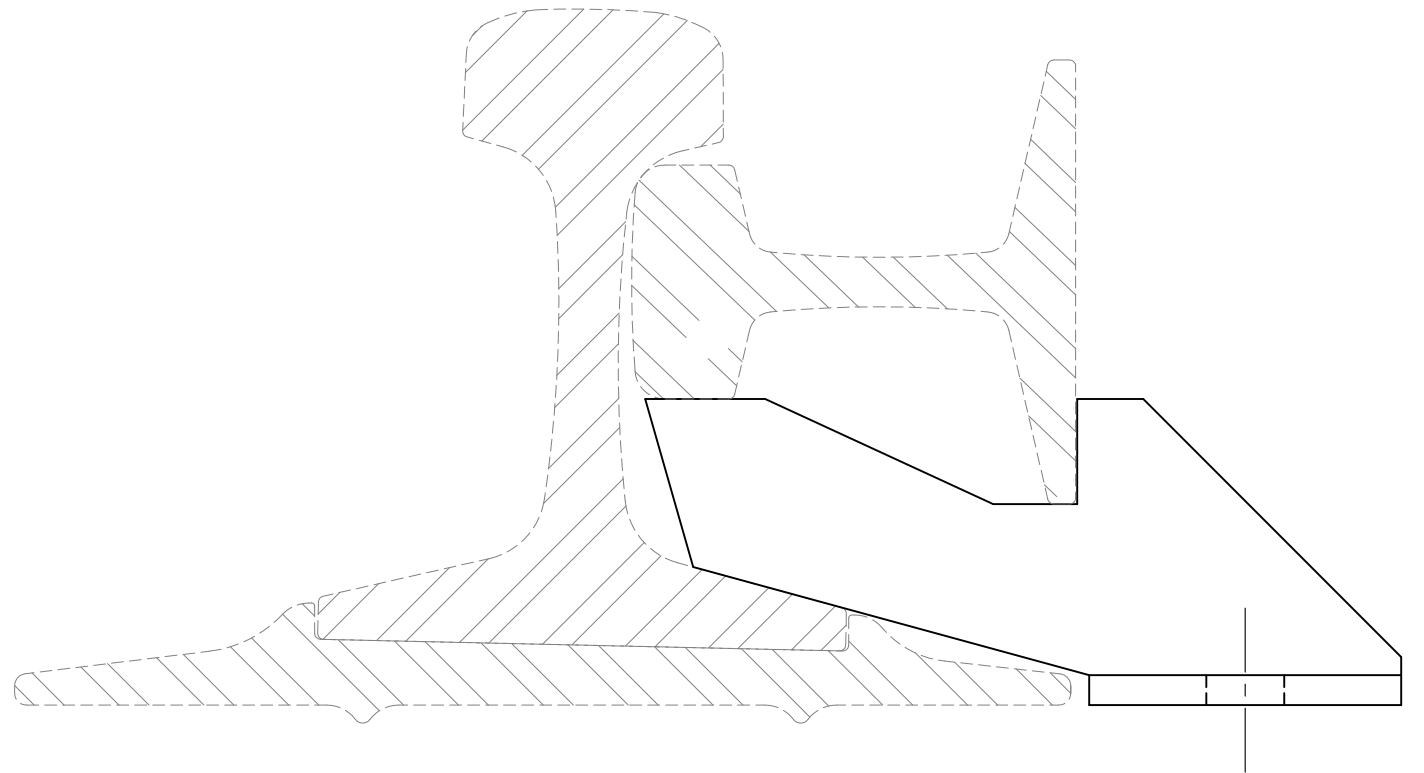
TIES	NEW 7" x 9" HARDWOOD CROSS TIES PER ARRC SPECIFICATIONS. LENGTH AND SPACING OF TIES SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATION FOR MODULAR PAD MATERIALS BEING USED.	ANCHORS	NEW UNIT RAIL PRODUCTS "UNIT IV" DRIVE-ON TYPE ANCHOR OR EQUAL. ALTERNATING TIES SHALL BE ANCHORED FOR 200' PAST EDGE OF CROSSING. EVERY THIRD TIE SHALL BE ANCHORED THEREAFTER (4 ANCHORS PER TIE). ANCHORS ARE NOT REQUIRED ON TIES WITH PANDROL PLATES AND CLIPS.
PANDROL PLATES	NEW 7 3/4" x 14" FOR 115 LB. RAIL. ARRC STANDARD PLAN 4.12. TWO TIE PLATES REQUIRED PER TIE, EXCEPT TIES WITH PANDROL PLATES.	RAIL	NEW 78'-80', 115 LB. RE CARBON STEEL RAIL. IF HIGHWAY WIDTH EXCEEDS 62' SHOULDER TO SHOULDER, TWO 78' TRACK PANELS MUST BE PROVIDED. JOINT STAGGER SHALL BE LAID AS TO ELIMINATE JOINTS WITHIN THE CROSSING AND SHALL NOT BE LESS THAN 6'. LOCATION OF ALL JOINTS MUST BE APPROVED BY ARRC PRIOR TO CONSTRUCTION OF PANELS.
TIE PLATES	NEW 7 3/4" x 15 3/16" (P26M) TIE PLATES. REFERENCE PANDROL DRAWING No. 6255. TWO PLATES PER TIE REQUIRED ON ALL TIES THROUGH CROSSING AREA AND AT LEAST 20' BEYOND EACH END OF THE CROSSING PAD.	JOINT BARS	NEW 36" HEADFREE JOINT BARS FOR 115 LB RE RAIL ARR STANDARD PLAN 5.12. JOINT STAGGER TO BE A MINIMUM OF 6' TO BE DETERMINED IN THE FIELD.
CAMCAR SCREWS	NEW 1 5/16" x 6" - 4 REQUIRED PER PANDROL PLATE, TWO ON GAUGE SIDE, TWO ON FIELD SIDE.	TRACK BOLTS	NEW 1 1/16" x 6" BOLTS WITH WASHERS AND NUTS ARRC STANDARD PLAN 6.1 AND 7.0. 6 BOLTS PER JOINT.
TRACK SPIKES	NEW 5/8" x 6", ARR STANDARD PLAN 8.1 THREE SPIKES REQUIRED PER TIE PLATE, TWO ON GAUGE SIDE, ONE ON FIELD SIDE (ARRC STANDARD PLAN 1.16).		
PANDROL CLIPS	PANDROL SPRING CLIPS SPECIFICALLY DESIGNED FOR USE WITH SPECIFIED PANDROL TIE PLATES SHALL BE INSTALLED WITH EACH PANDROL PLATE AS RECOMMENDED BY MANUFACTURER.		



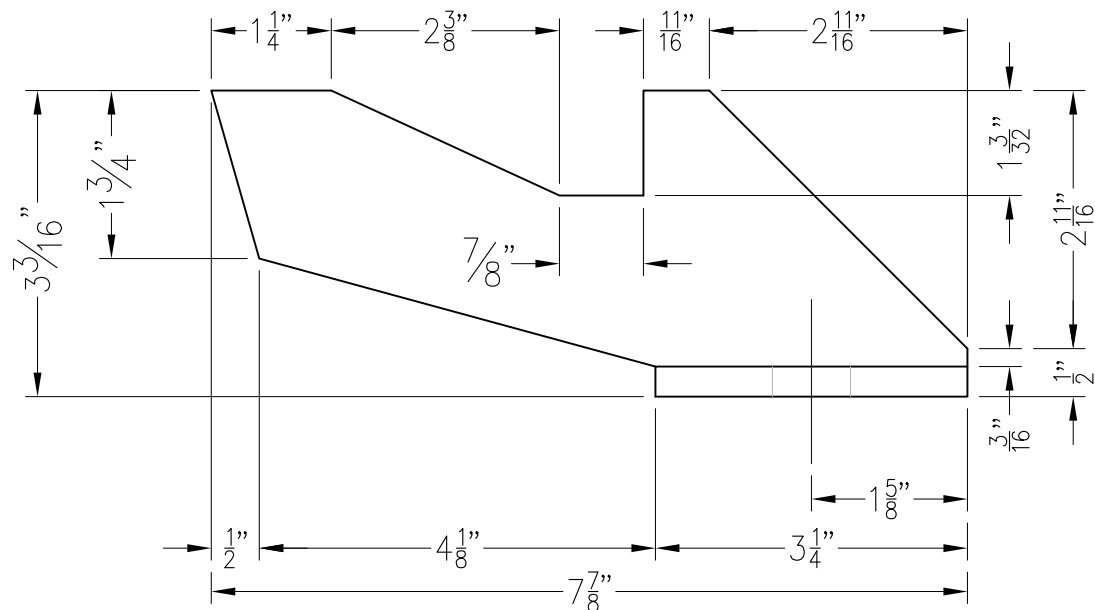
 ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456		
STANDARD MODULAR CROSSING PANEL CONSTRUCTION		
APPROVED:	DATE:	
DESIGNED BY:	SCALE: AS NOTED	FILE: s2-79.dwg
DRAWN BY: BBF		
APPROVED BY: ENG DEPT	DATE: 5/02/03	2.79-03



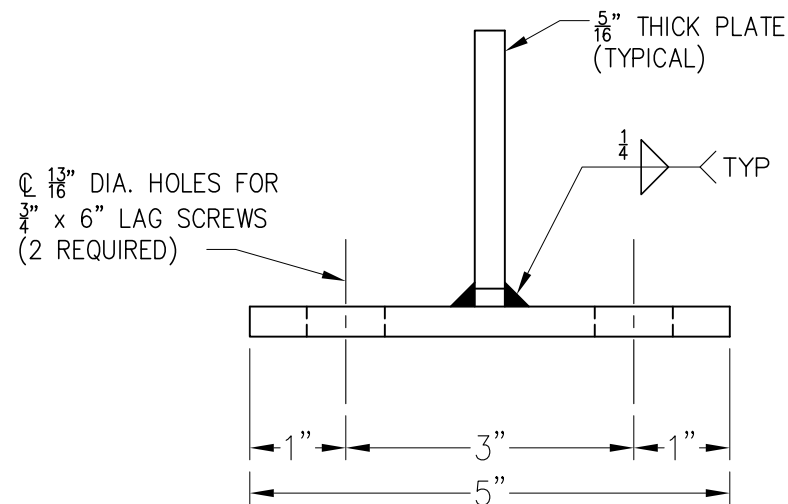
TOP VIEW
1/2"=1"



ASSEMBLED VIEW
HALF SIZE




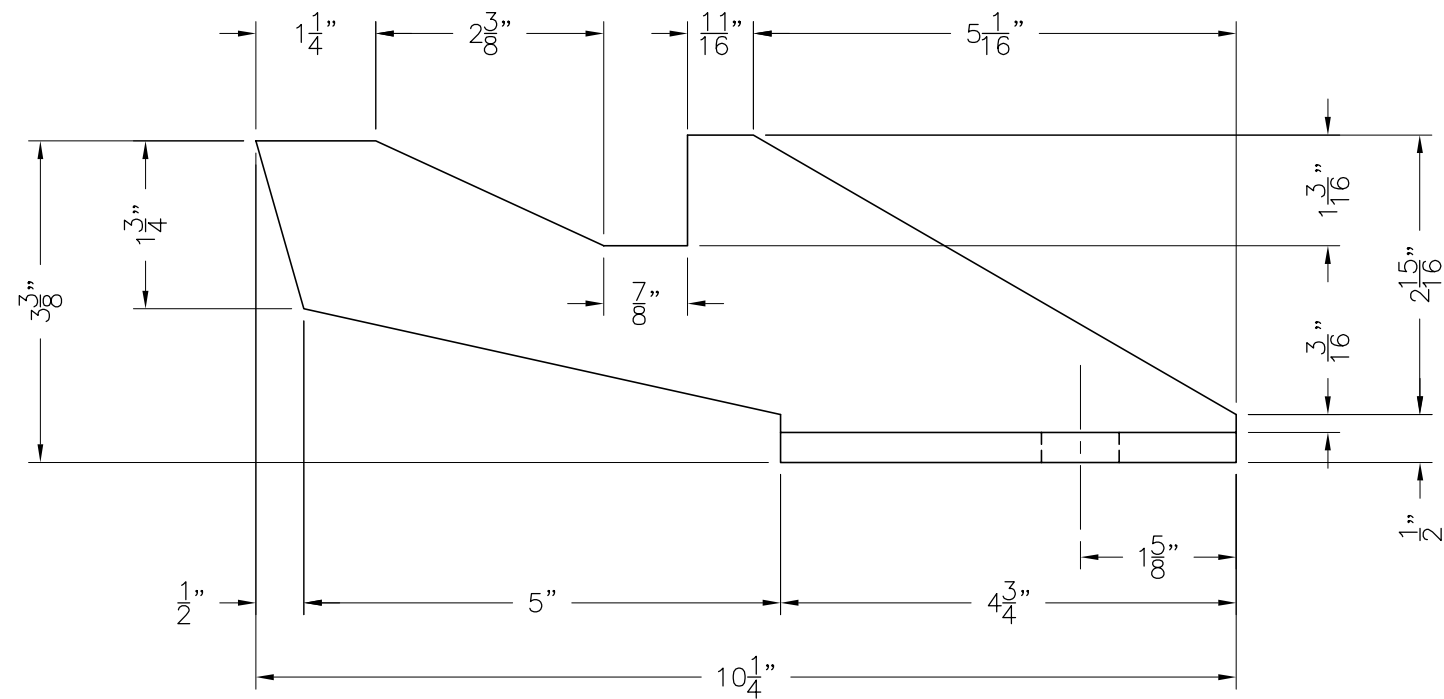
SIDE VIEW
HALF SIZE



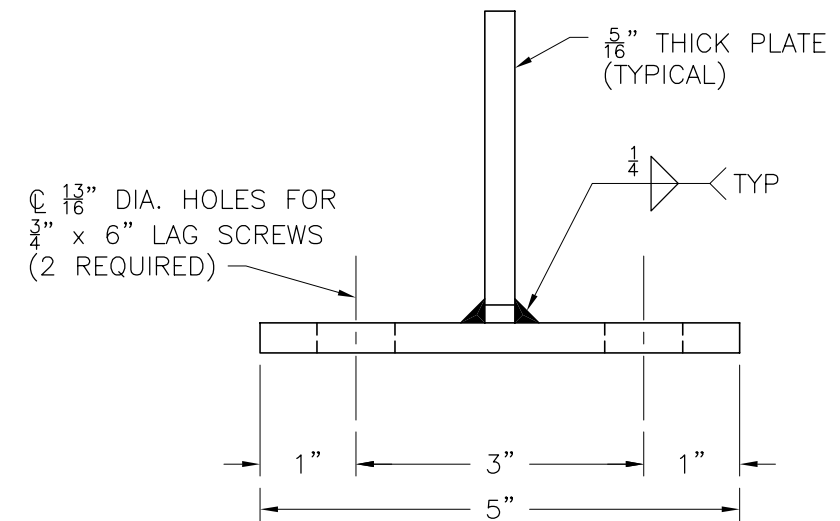
FRONT VIEW
HALF SIZE

5/16" CARBON STEEL

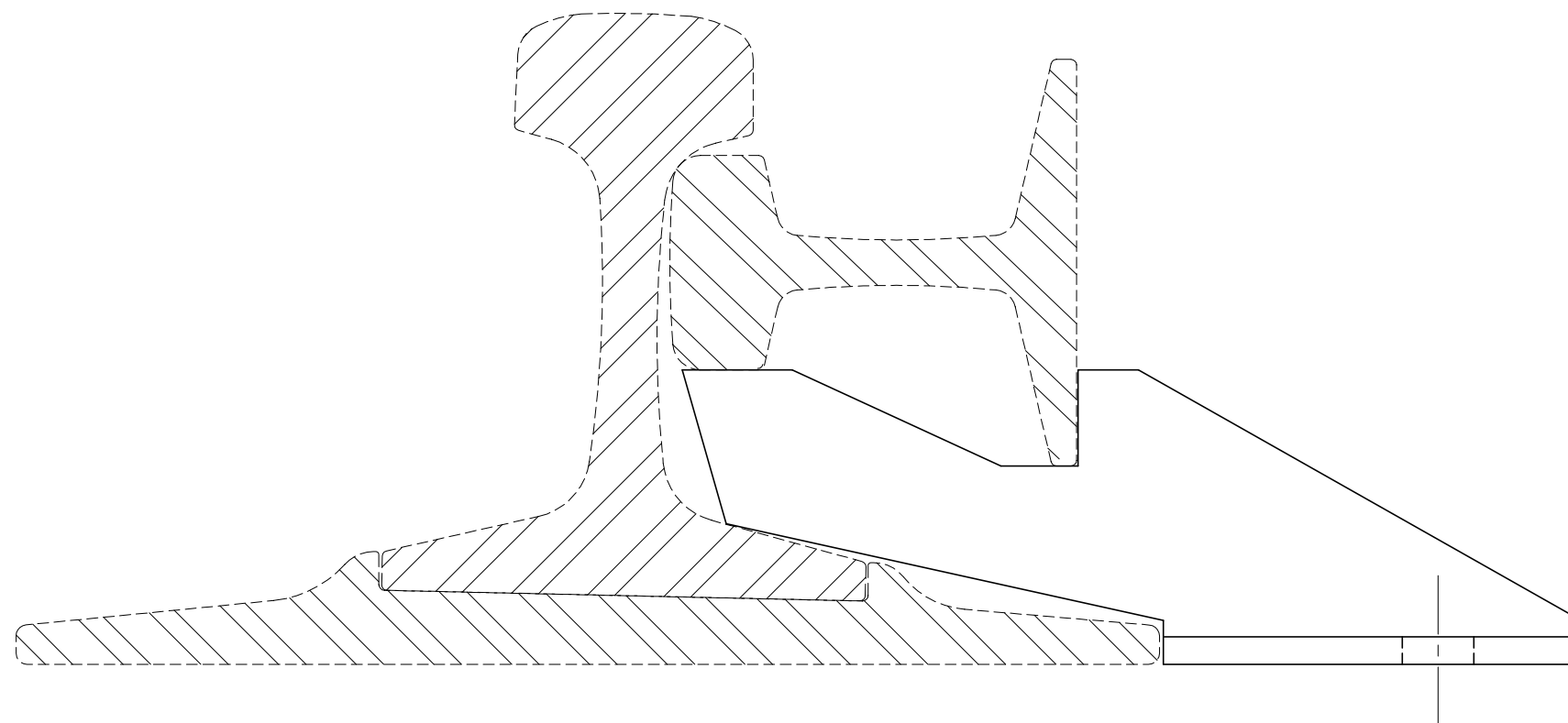
		
ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456		
STANDARD		
RAIL CHAIR FOR 11" TIE PLATE		
APPROVED: _____		DATE: _____
DESIGNED BY: _____	SCALE: AS NOTED	FILE:s2-80.06.dwg
DRAWN BY: rsm		
CHECKED BY: _____	DATE: 8/11/2002	2.80-06
APPROVED BY: TEB		



SIDE VIEW
HALF SIZE




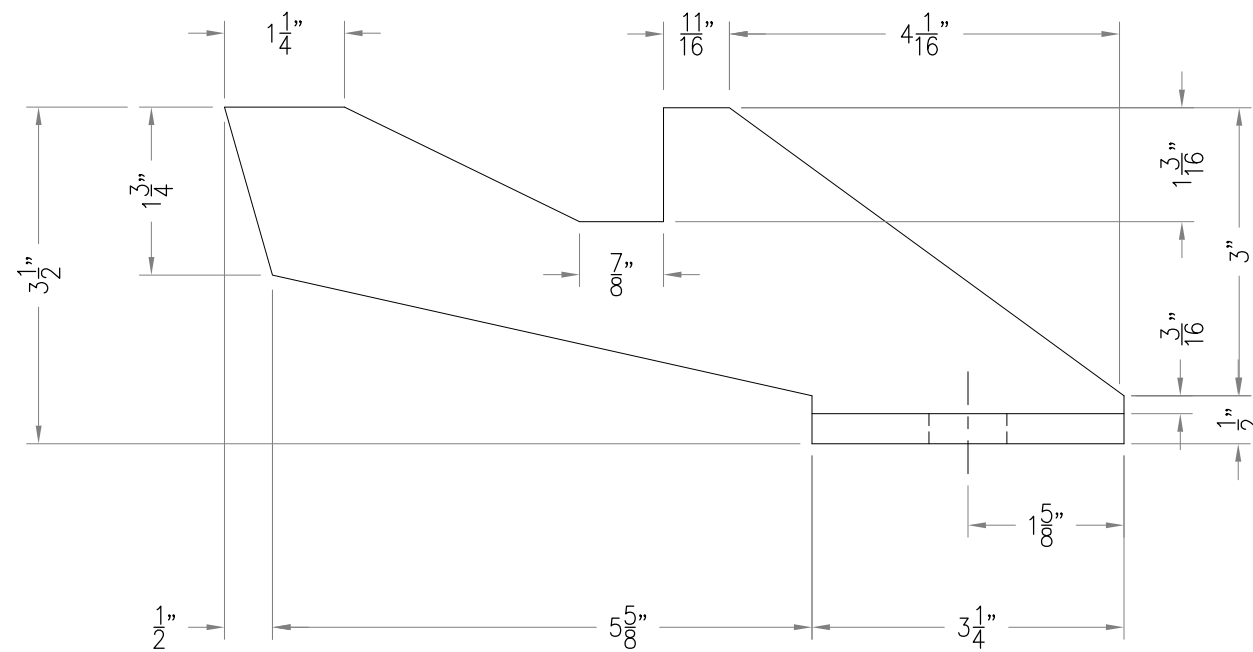
FRONT VIEW
HALF SIZE



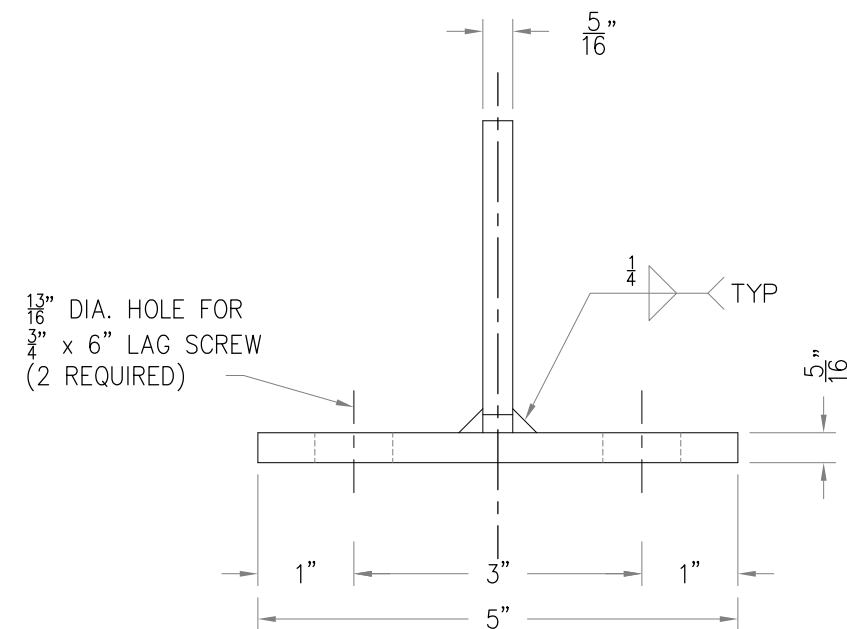
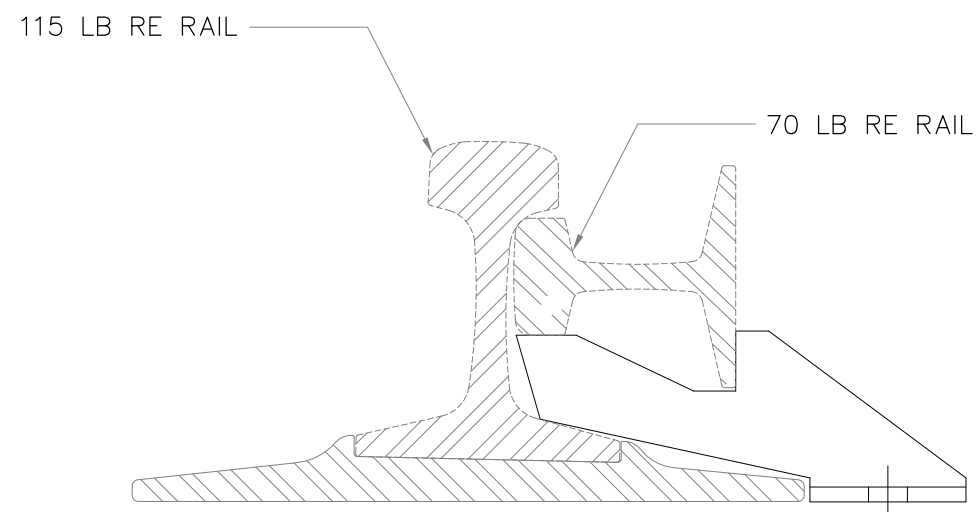
ASSEMBLED VIEW
HALF SIZE

$\frac{5}{16}$ " CARBON STEEL

	ALASKA RAILROAD CORPORATION OFFICE OF THE CHIEF ENGINEER	
	P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456	
STANDARD		
RAIL CHAIR FOR 13" TIE PLATE		
APPROVED: _____		DATE: _____
DESIGNED BY: _____ DRAWN BY: <u>BBF</u> APPROVED BY: _____	SCALE: AS NOTED DATE: 5/02	FILE: s2-81.dwg <div style="font-size: 2em; font-weight: bold; text-align: center;">2.81</div>



SIDE VIEW
HALF SIZE



FRONT VIEW
HALF SIZE

5/16" CARBON STEEL