NORTRAK®

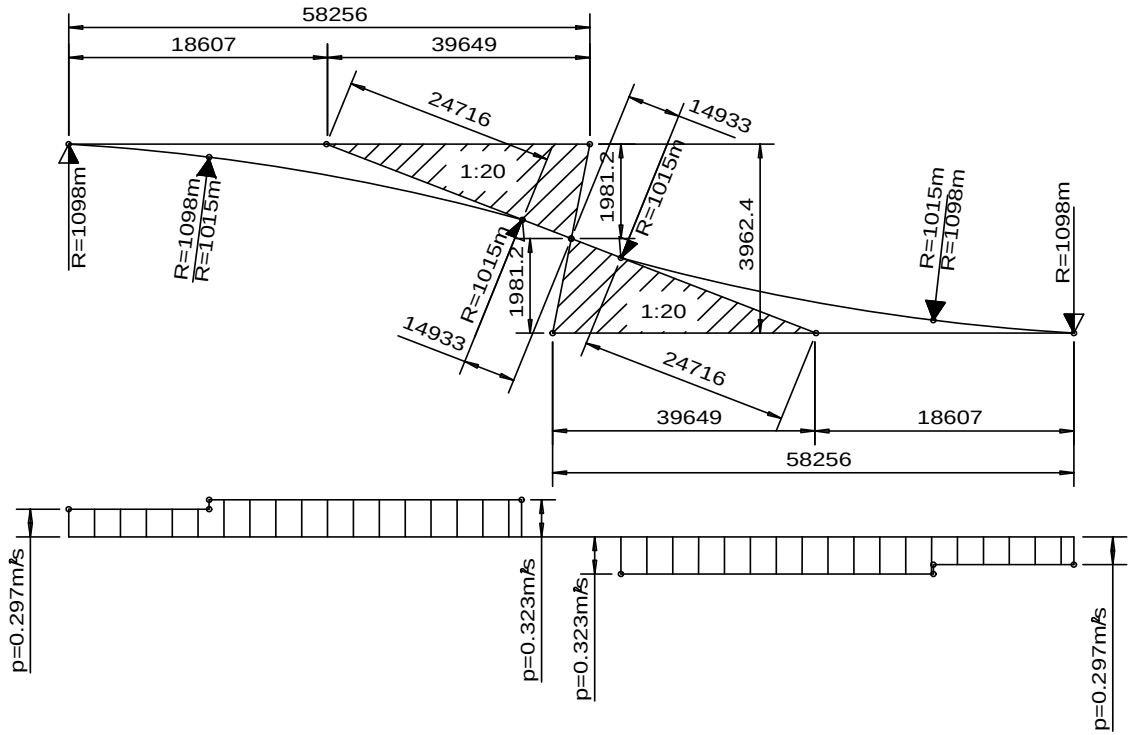
Low Impact
Special Trackwork Designs

January 12, 2009

Gary Click

voestalpine

REMA Standard Geometry



Speed in the deviation: v=65 km/h (40 mph)
Length of standard waggon: 12.34 m
Distance from beginning of turnout to the theor.point: L=47562 mm
Pull in jerk: ψ R1 = 0.414 m/s³ , ψ R2 = 0.449 m/s³

Ae.Nr.							Allgemeintoleranzen nach ISO 2768 - OENORM M 1365C
Datum							
Bearb.							
Index	a	b	c	d	e	f	

	Datum	Name
2000		
Gez.	18.Ma	Klemen
Gepr.		
Norm		

Gesehen:

Maßstab: unscaled

Hiezu Z.Nr. -

Ersatz fuer

VAE Aktiengesellschaft
A-8740 Zeltweg
Austria

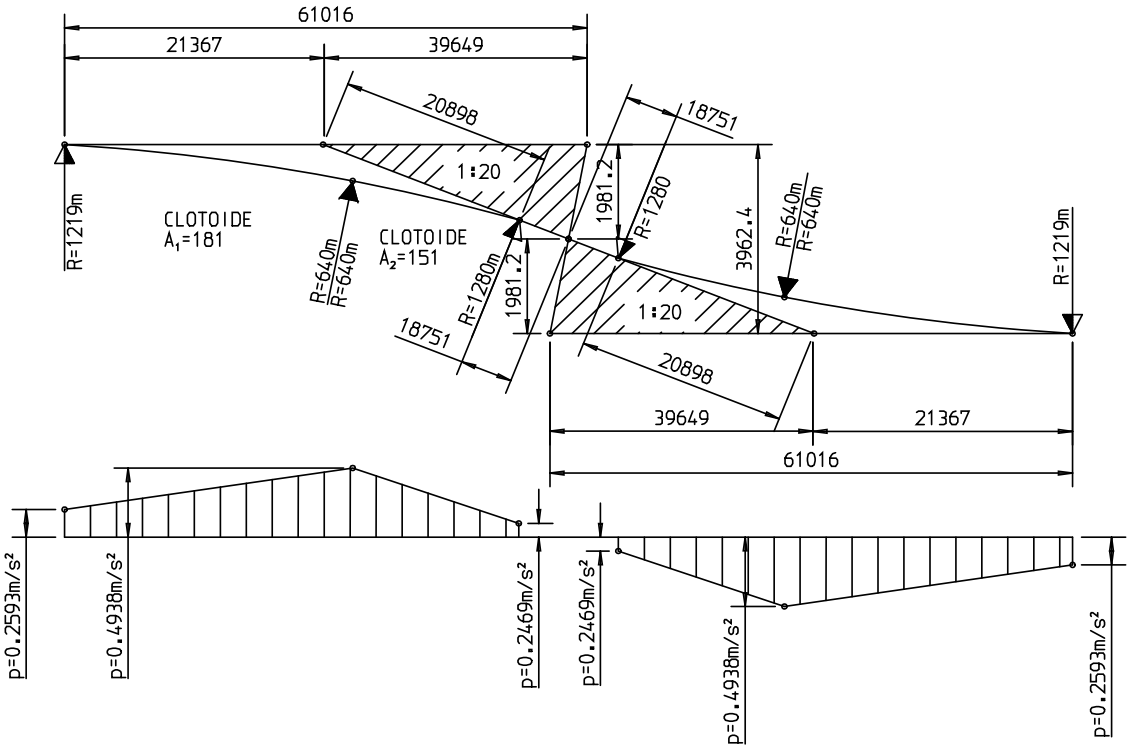
TURNOUT AREA133RE,USA
GEOMETRICALLY SKETCH
FOR AREA STANDARD T/O PLAN NO.920-51

Partname: 757E2867.PRT
Drawing: DWG-E2867
Layout: !DRAWING

E2867

Format: A3
Verfilmung:

ouble Clothoid



Speed in the deviation: v=65 km/h (40 mph)
Length of standard waggon: 12.34 m
Distance from beginning of turnout to the theor.point: L=50067 mm
Pull in jerk: ψ R1 = 0.374 m/s³ ,ψ R3 = 0.356 m/s³
Increase of lateral acceleration: ψ K1 = 0.172 m/s³ ,ψ K3 = 0.246 m/s³

Ae.Nr.							Allgemeintoleranzen nach ISO 2768 - DENORM M 1365 - C
Datum							
Bearb.							
Index	a	b	c	d	e	f	

	Datum	Name
2000		
Gez.	18.Mai	Klemen
Gepr.		
Norm		
Gesehen		

VAE Aktiengesellschaft
A-8740 Zeltweg
Austria

Maßstab: unscaled

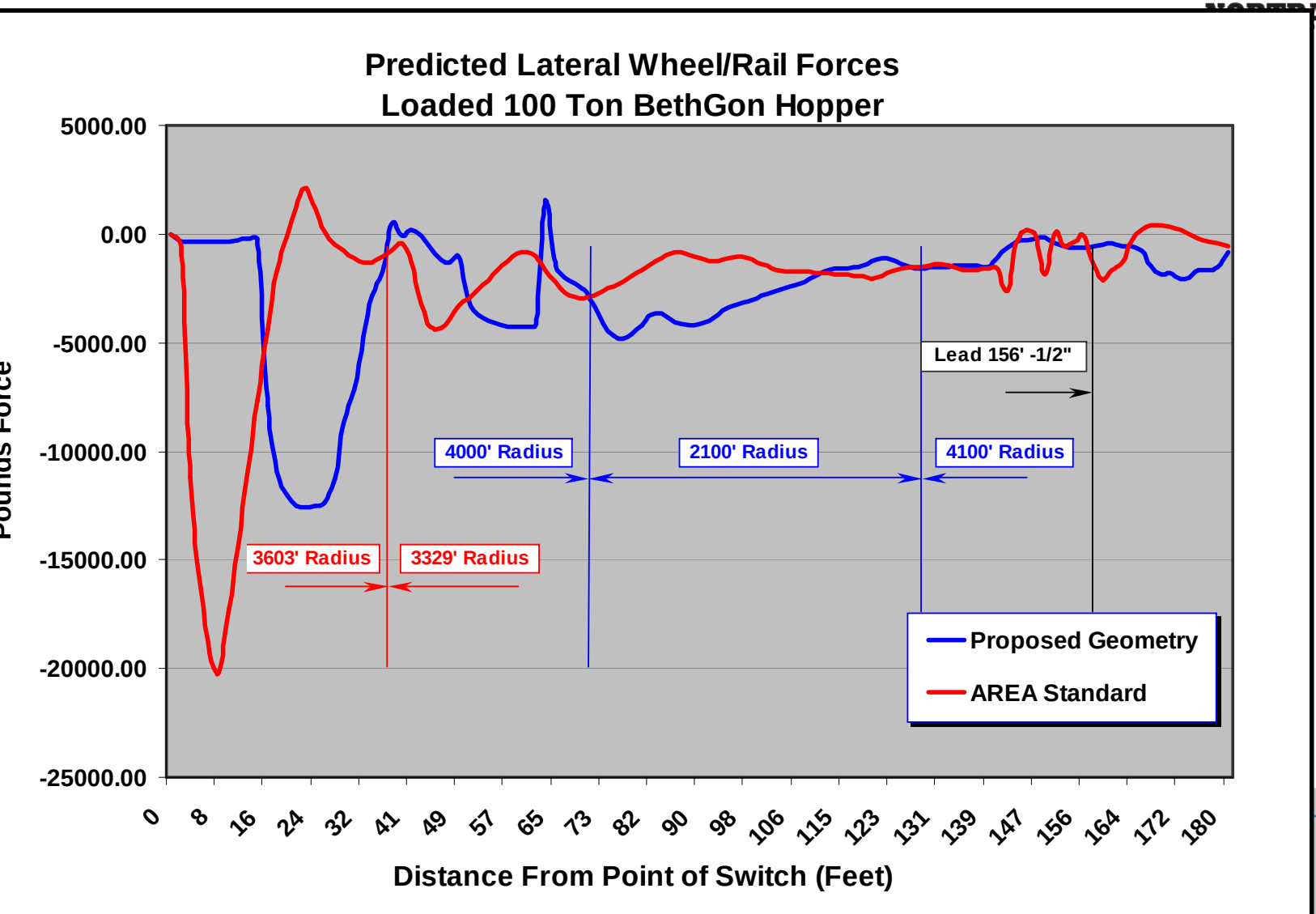
TURNOUT AREA136RE10,USA
GEOMETRICALLY SKETCH
FOR T/O No.20 VAE DESIGN

Partname:	758E2866.PRT
Drawing:	DWG-E2866
Layout:	!DRAWING
Hiezu Z.Nr.	-
Ersatz fuer	

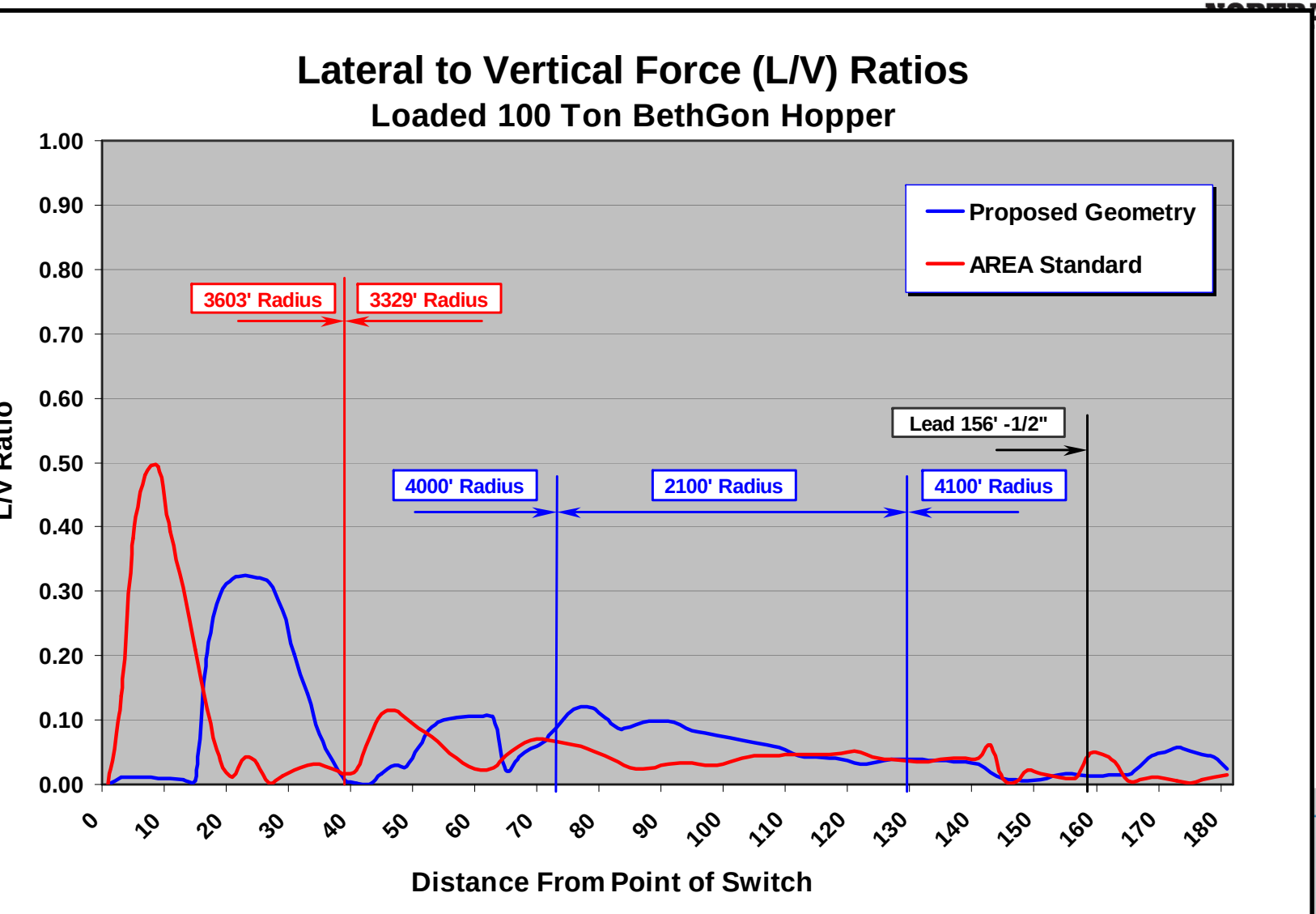
E2866

Format: A3
Verfilmung:

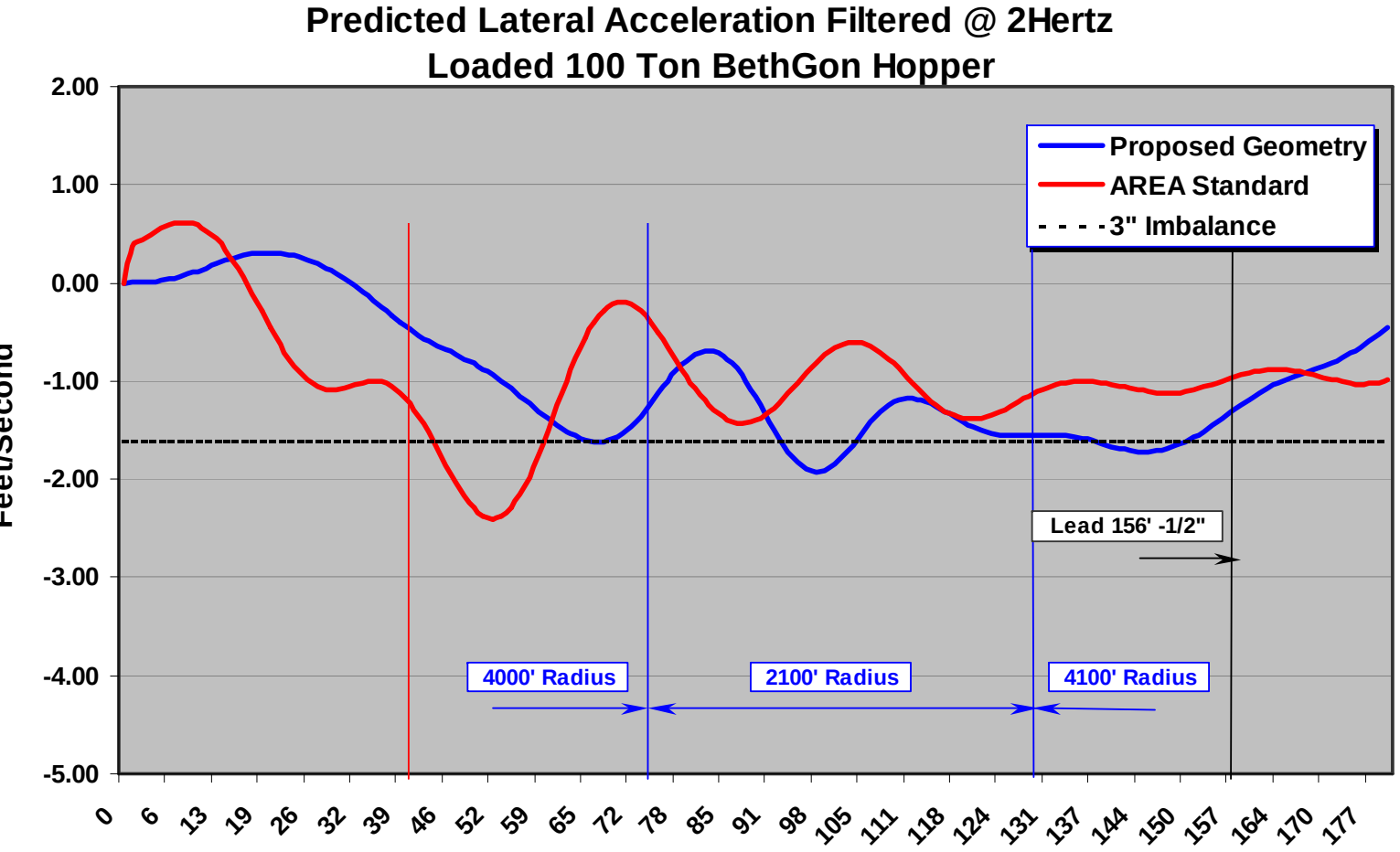
edicted Lateral Wheel / Rail Forces



/ Ratios


Lateral to Vertical Force (L/V) Ratios
Loaded 100 Ton BethGon Hopper
L/V Ratio
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Proposed Geometry
AREA Standard
3603' Radius
3329' Radius
Lead 156' -1/2"
4000' Radius
2100' Radius
4100' Radius
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
Distance From Point of Switch

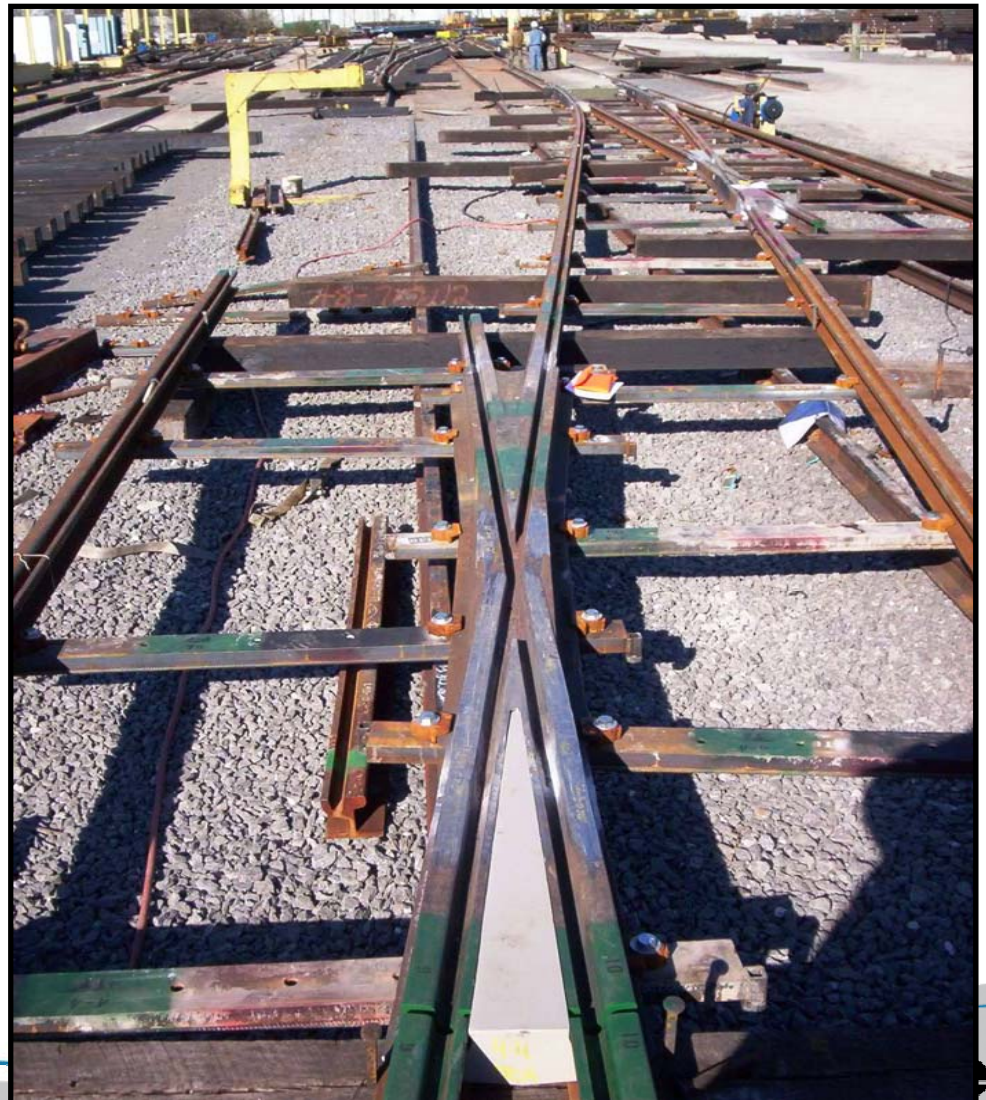
teral Acceleration



ash Butt Welded Special Trackwork

og Rail Joints Eliminated by Flash-butt Welding

elded Manganese Girder Rail Frog



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elded Manganese Switch Bed

elded Manganese Switch Bed

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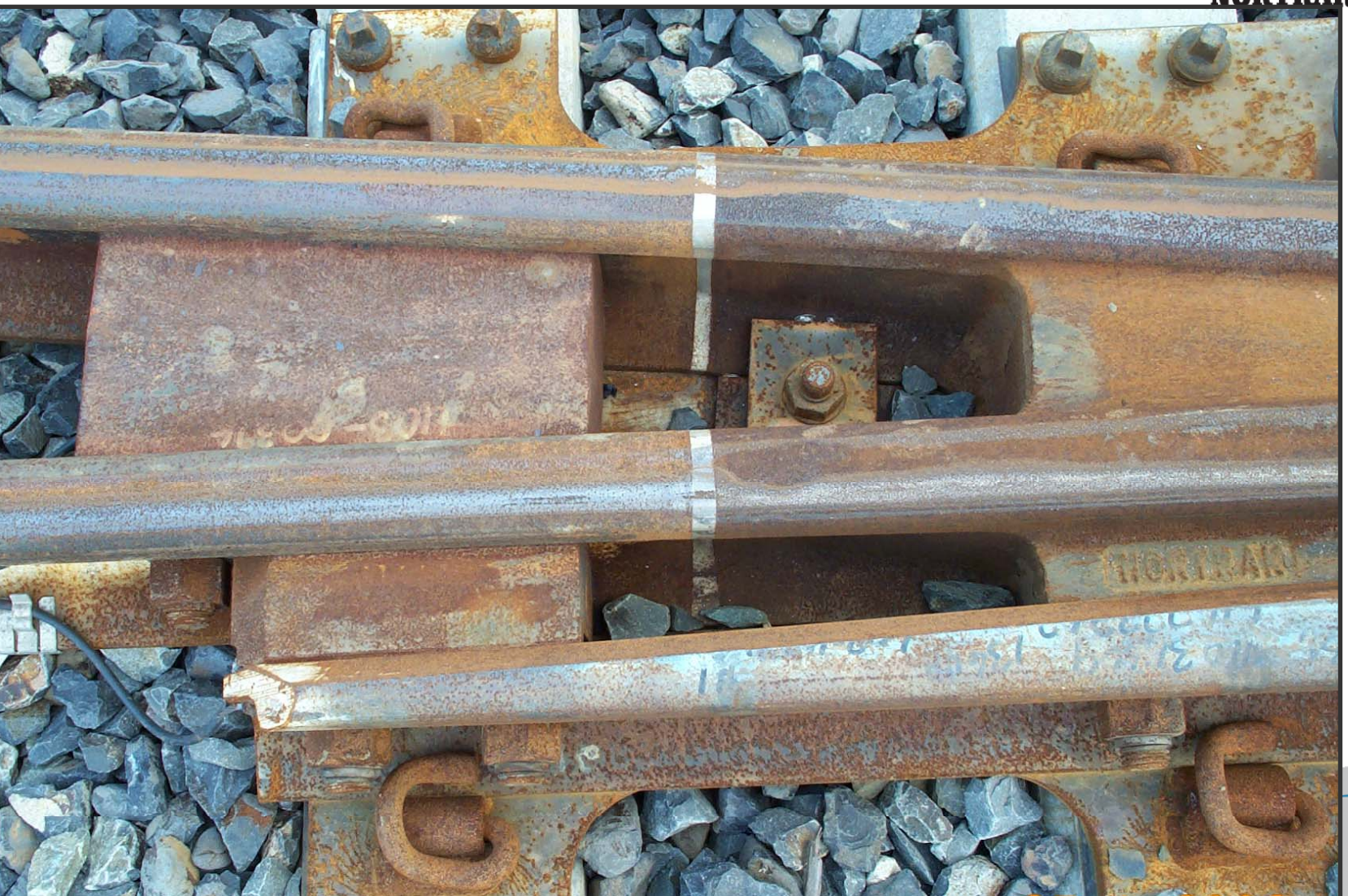
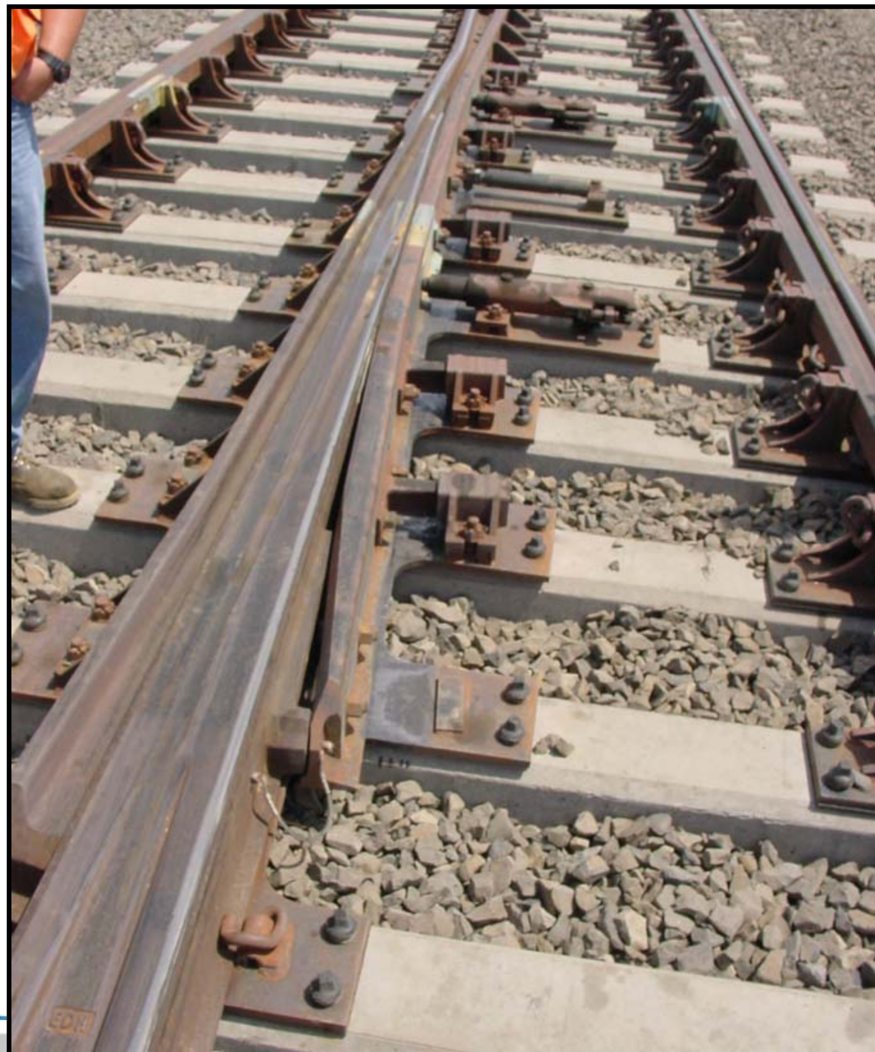
elded Manganese Spring Frog



elded Manganese Spring Frog

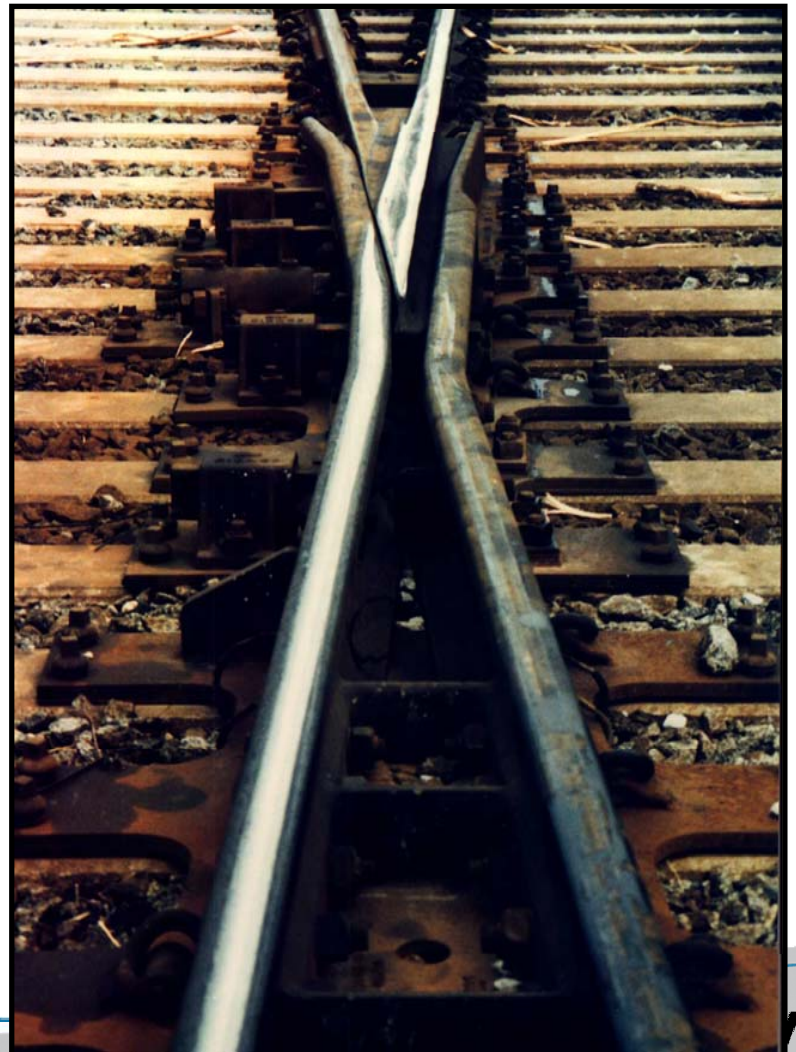
NORTRAK®



estalpine

elded Manganese Spring Frog

NORTRAK®



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elded Manganese Spring Frog *(CP Geneva CalTrain)*

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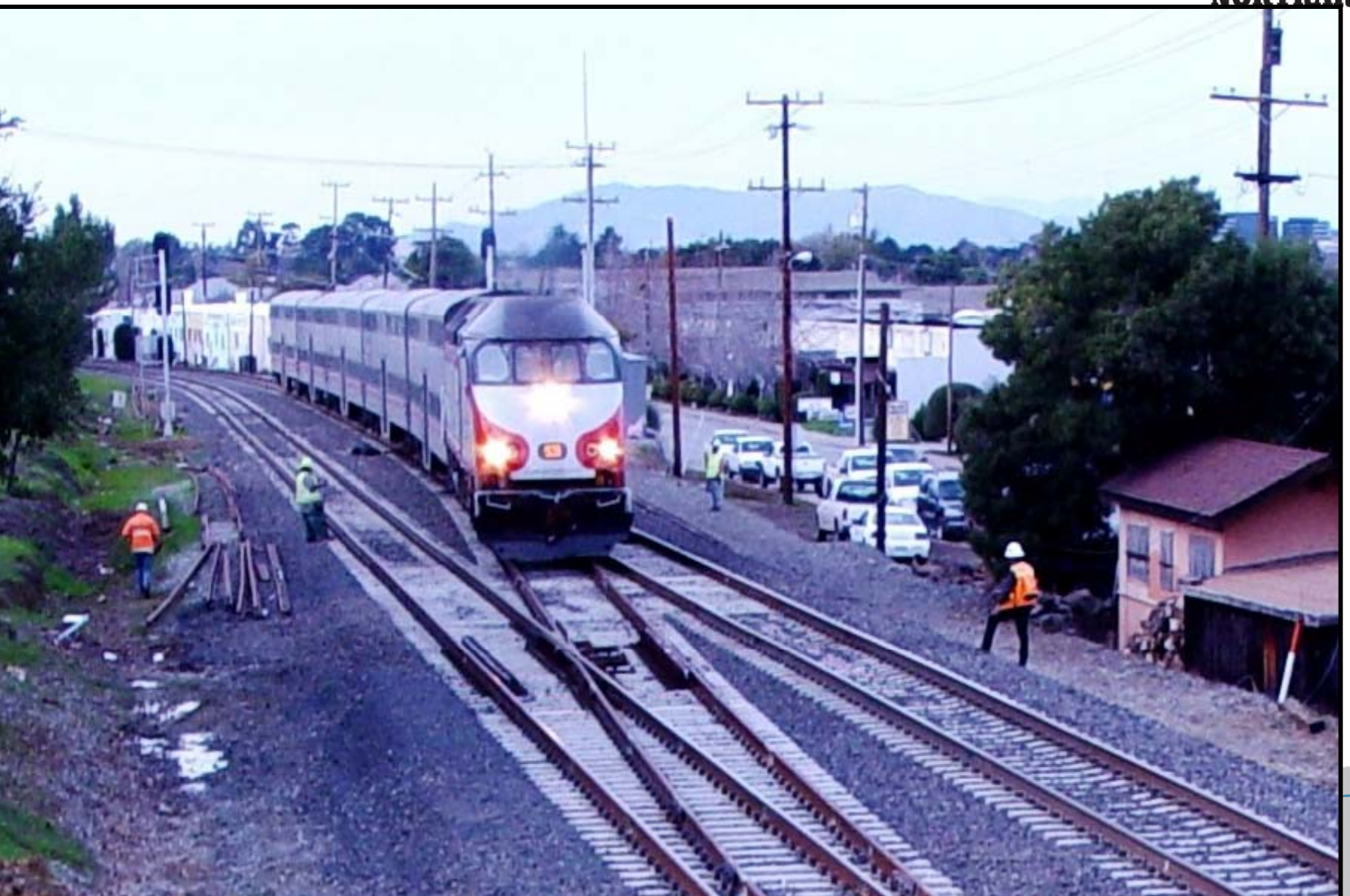
elded Manganese Spring Frog *(CP Ralston CalTrain)*

NORTRAK®



oveable Point Frogs

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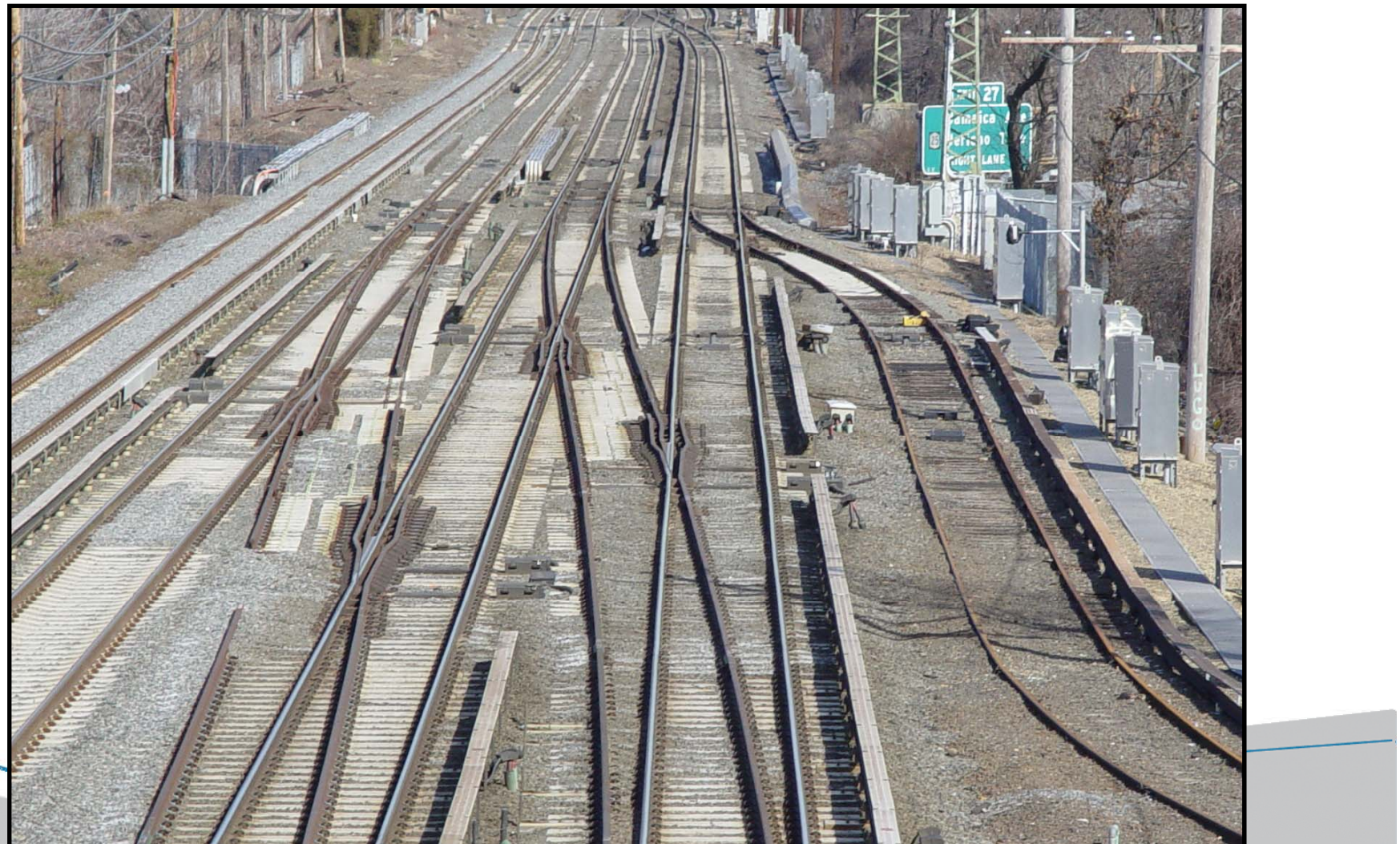
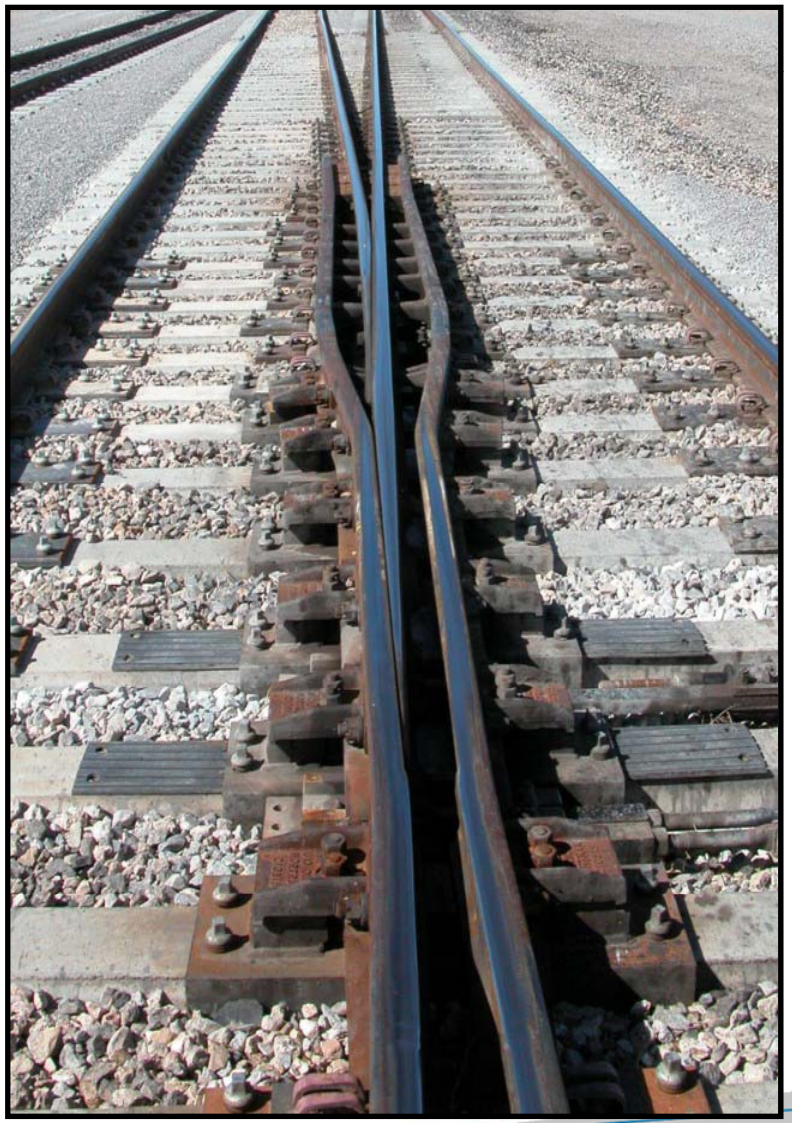


oveable Point Frogs

4 Moveable Point Frog



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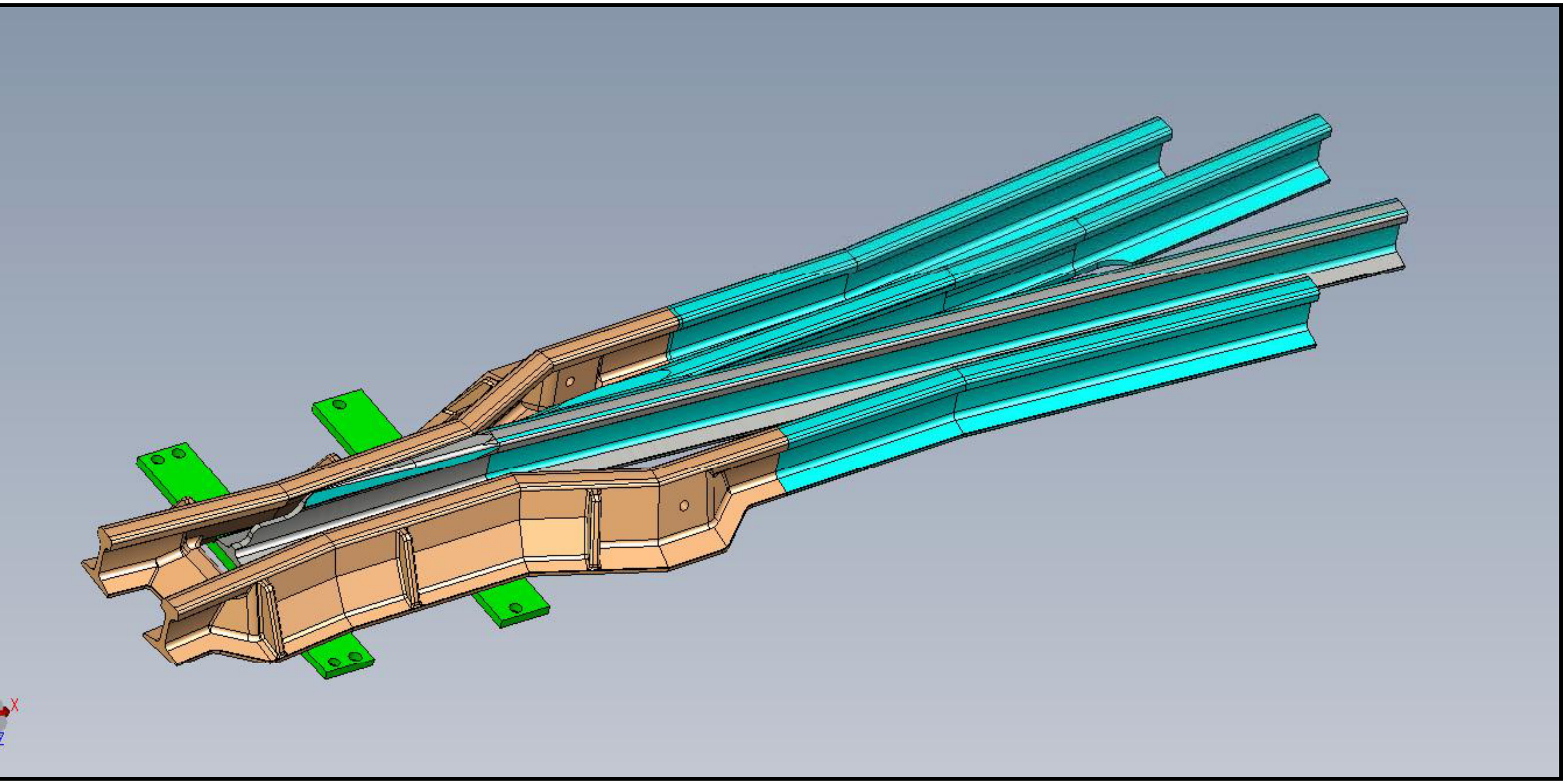
Moveable Point Frog

NORTRAK®



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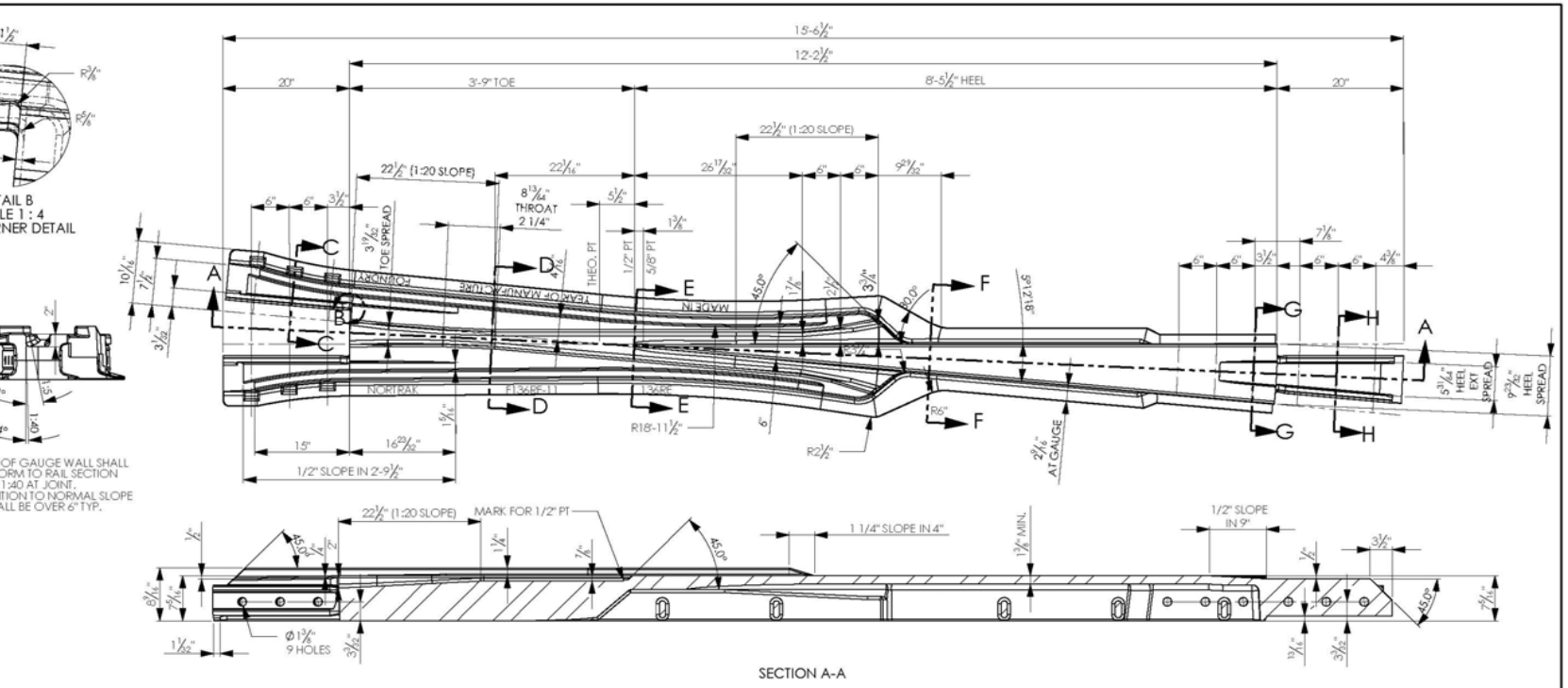
ange Bearing Self Guarded Frog

NORTRAK®



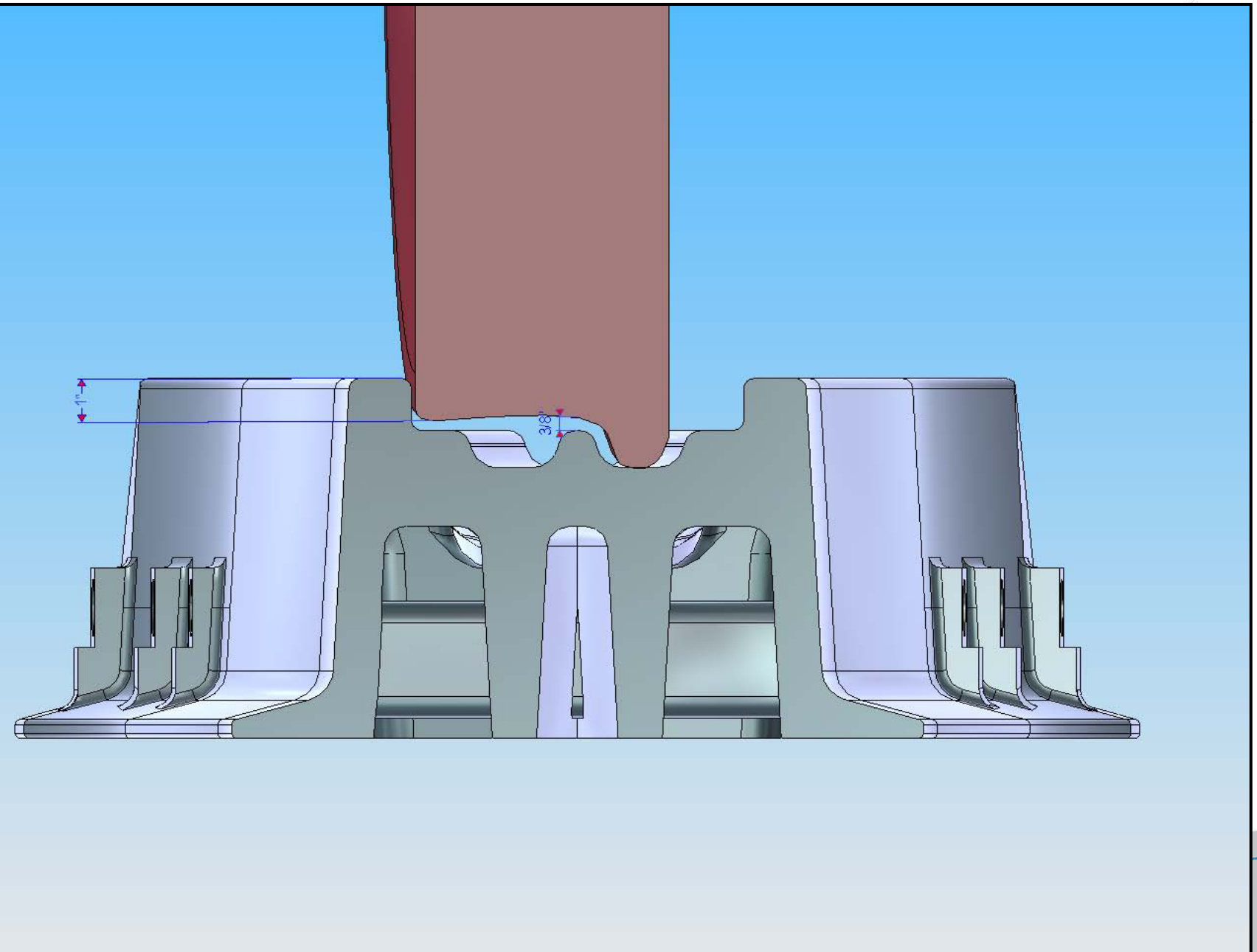
- MANGANESE STEEL: CHEMISTRY AS PER LATEST NORTRAK SPEC.
E DRAWINGS: AREMA 641-04
TION TO BE LOCATED ON SIDE OF CASTING:

MANUFACTURE
IDENTIFICATION

OF ORIGIN"
ATTERN USING 136 Lb. RE RAIL PROFILE.
SIONS TO THEORETICAL GAUGE LINES UNLESS OTHERWISE NOTED.
SIONS ARE TO FINISHED, MACHINED CASTING. NO MACHINING ALLOWANCES SHOWN.
2 FOR SECTION DETAILS.
ART No.: F136RE-11
COOLING POCKETS DIMENSION AND LOCATIONS ARE TO BE DECIDED BY FOUNDRY.
DICATED IN THESE PLANS IS THE MINIMUM FUNCTIONAL MATERIAL SPEC., IT IS THE RESPONIBILITY
DRY TO LOCATE RISERS AND GATING SO THAT FINISHED PARTS MEET SOLIDITY REQUIREMENTS.

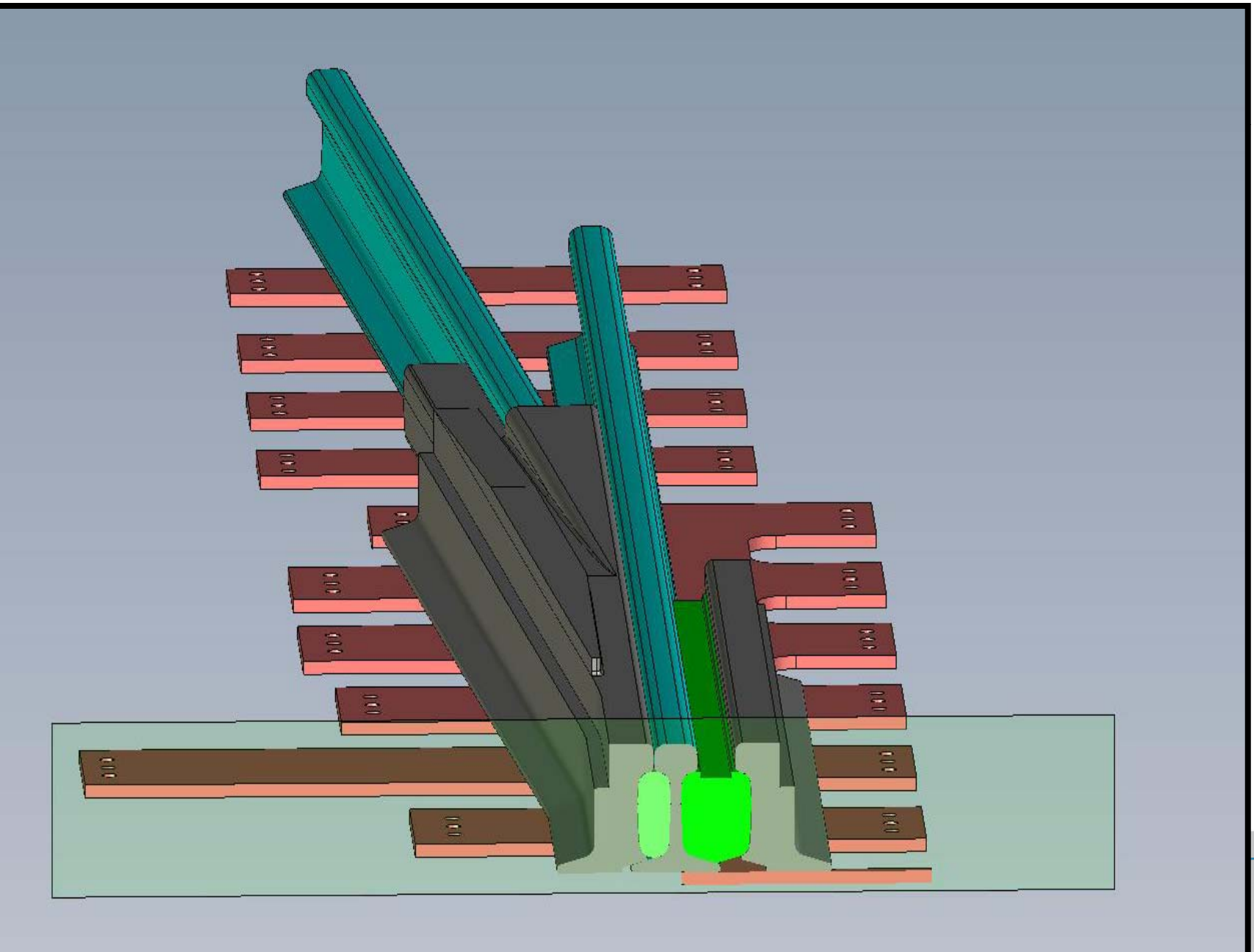
FROG, No.11-136RE, SOLID SELF-GUARDED MANGANESE FLANGE-BEARING

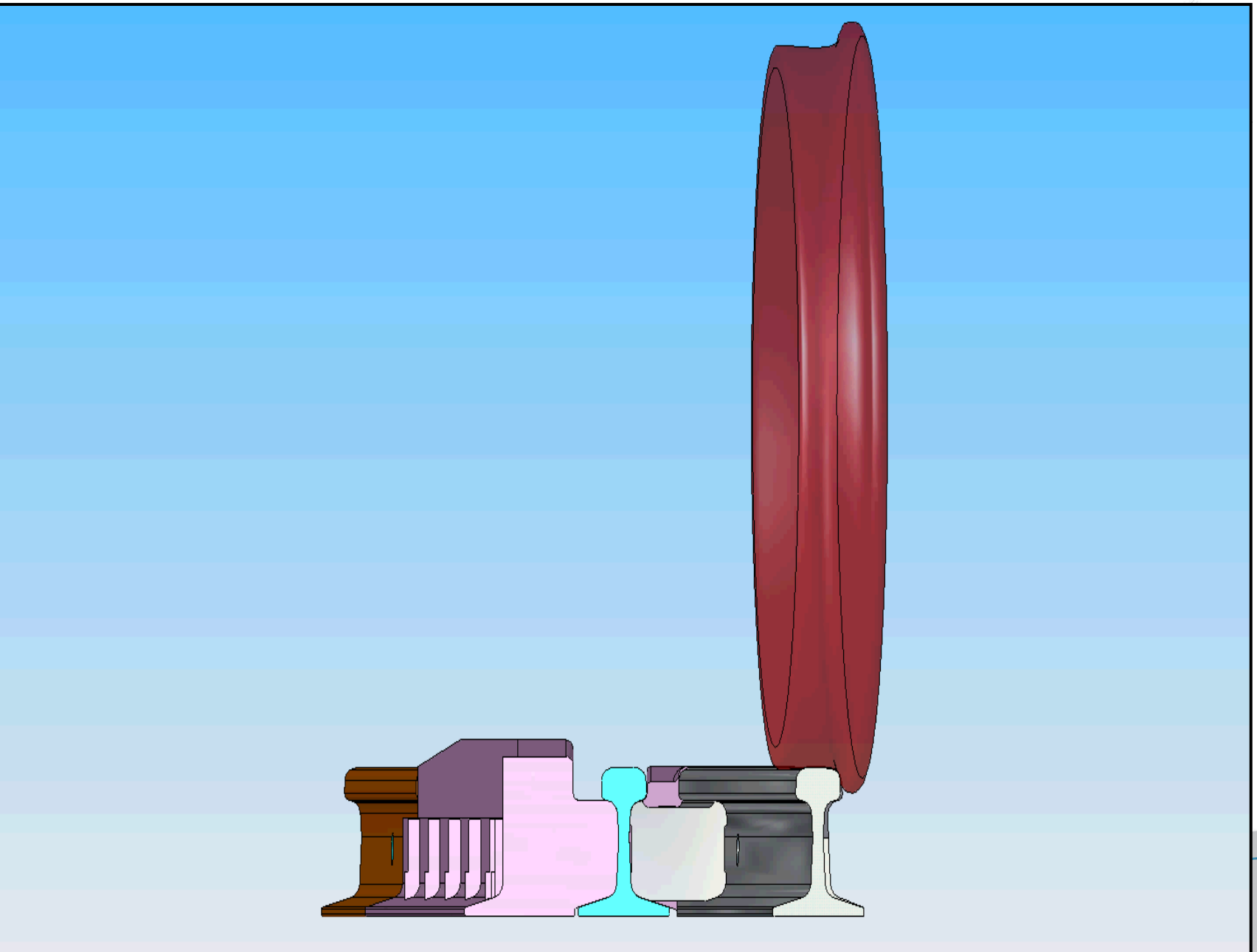
DRAWN BY:	ACS	SCALE:	1:16	1st PRED.:	U15-11801
CHECKED BY:	N.A.	WEIGHT: [Lbs.]	2200.7	2nd PRED.:	U15-00288
APPROVED BY:	N.A.	CUSTOMER CODE	P35009	REV	

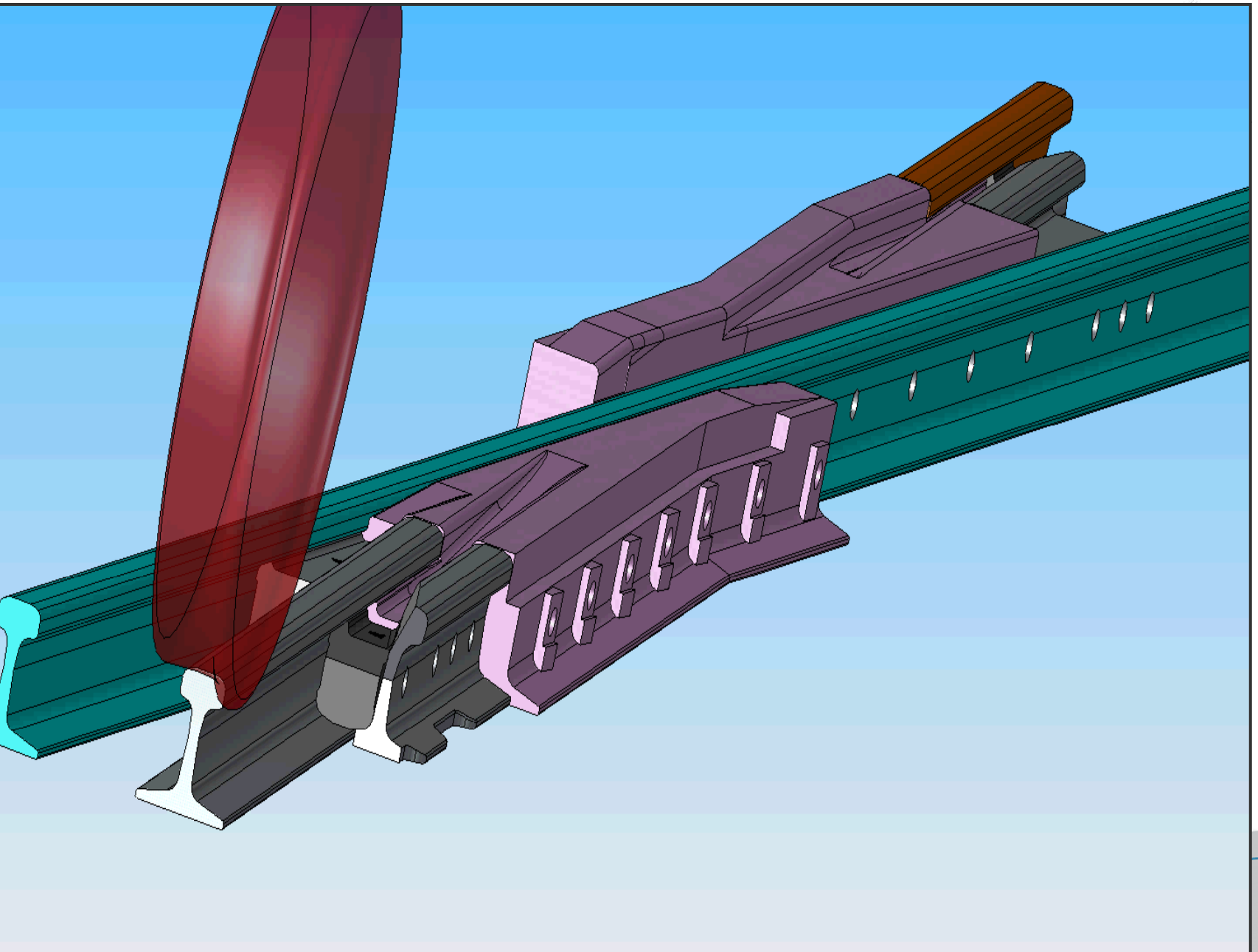

1"
3/8"

mp Frog

NORTRAK®







ne Way Low Speed (OWLS) Diamond

ange Bearing Diamond

NORTRAK®