

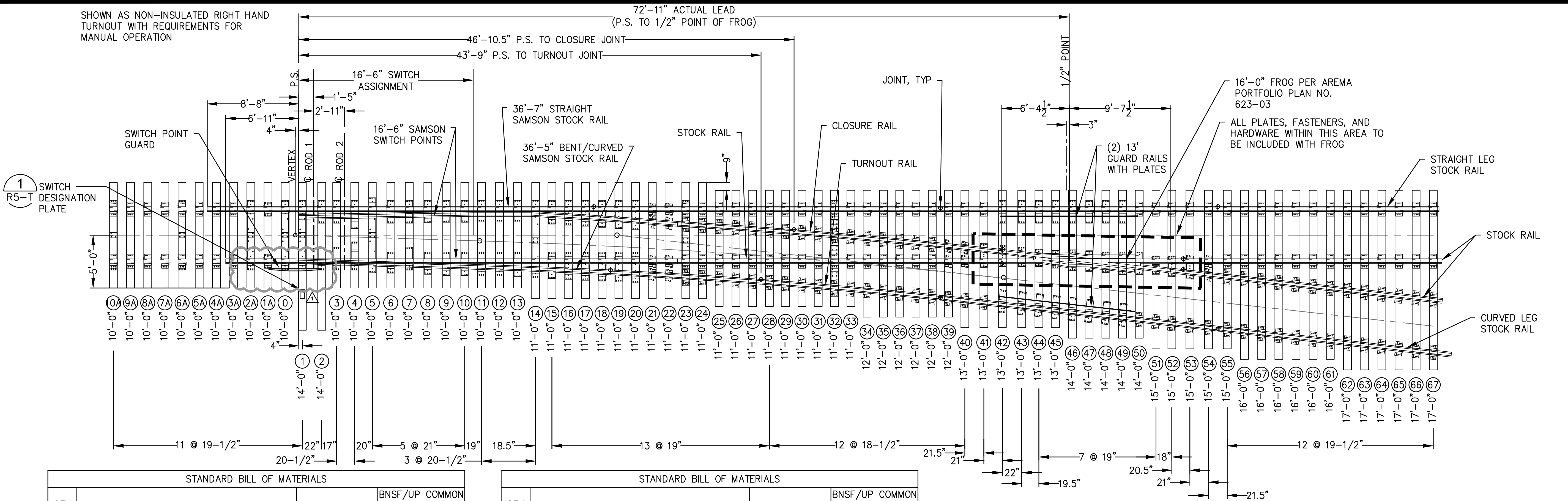
NOTES :

1. CONTRACTOR SHALL PROVIDE ALL MATERIALS REQUIRED FOR COMPLETION OF WORK.
2. ALL SURPLUS TIES TO BE SUPPLIED TO THE PORT.
3. IN ADDITION TO RAIL SHOWN WITHIN STANDARD NO. 9 TURNOUT ASSEMBLY AND ALL NEW RAIL SHOWN ON SHEETS R1-B & R2-B, CONTRACTOR SHALL PROVIDE A TOTAL OF (3) ADDITIONAL 136RE 39' RAIL STICKS FOR USE WITHIN THE BUBBLE TRACKS TO BE UTILIZED IF NECESSARY TO JOIN TURNOUTS TO EXISTING TRACK AND MAINTAIN MINIMUM JOINT SPACING AND JOINT STAGGER. ANY SURPLUS RAIL SHALL BE SUPPLIED TO THE PORT FOLLOWING COMPLETION OF WORK.
4. ELASTIC CLIP TIE PLATES AND RESILIENT FASTENERS SHALL BE USED AT ALL LOCATIONS UNLESS OTHERWISE NOTED, SEE DETAIL 3 ON SHEET R3-B.
5. THE GUARD RAIL IS TO BE 54 5/8" FROM THE GAUGE SIDE OF THE FROG POINT TO THE STRAIGHT GUARDING FACE OF THE GUARD RAIL.
6. NO ALLOWANCE HAS BEEN MADE FOR EXPANSION GAPS OR END POST IN COMPUTING RAIL LENGTHS SHOWN.
7. FRACTIONAL RAIL LENGTH CUTTINGS SHOWN ARE THEORETICAL AND ARE SUBJECT TO MINOR ADJUSTMENT TO MEET ACTUAL CLOSURE REQUIREMENTS IN THE FIELD.
8. SWITCH STANDS SHALL BE INSTALLED IN A LOCATION TO MATCH EXISTING, AS SHOWN ON PLAN.
9. CHORD METHOD IS USED TO CALCULATE TURNOUT CURVE DATA AND OFFSETS.
10. TURNOUTS SHALL HAVE HORIZONTAL SWITCH RODS.
11. FROG SHALL BE HIGH INTEGRITY, EXPLOSION HARDENED, RAIL BOUND MANGANESE STEEL CASTING WITH MITERED HEEL AND EXTENDED HEEL AND WING RAILS.
12. ALL SWITCH RODS AND GAUGE PLATES ARE TO BE INSULATED TYPES.

SWITCH DATA		
	SWITCH LENGTH	16'-6"
	HEEL SPREAD	6 1/4"
	HEEL ANGLE	1'-46"-22"
	SWITCH ANGLE	1'-46"-22"
	THROW AT ROD #1	4 3/4"
TURNOUT POINT	THICKNESS AT POINT	0"
	RADIUS (CLOSURE CURVE)	616.3542'
	VERTEX DISTANCE	7 4/16"

LEGEND :

⊕ JOINT, (2) 36" 136RE JOINT BARS



STANDARD BILL OF MATERIALS			
QTY	DESCRIPTION	LOCATION	BNSF/UP COMMON STANDARDS DWG NUMBER
2	16'-6" (EXT. 35'-10") STRAIGHT SAMSON SWITCH POINTS		
1	36'-7" STRAIGHT SAMSON STOCK RAIL		
1	36'-5" BENT/CURVED SAMSON STOCK RAIL		
1	SWITCH ROD #1		241600
1	SWITCH ROD #2		241600
2	GAGE PLATE AHEAD OF POINT	TIES 6A & 10A	241304
1	ADJUSTABLE BRACE GAGE PLATE	TIE 1	241300
2	ADJUSTABLE BRACE GAGE PLATE	TIES 5 & 9	241305
6	ADJUSTABLE BRACE SLIDE PLATE	TIES 2, 3, & 7	241306
2	SLIDE PLATE	TIE 6	241306
2	RISER SLIDE PLATE	TIE 8	243309
2	RISER SLIDE PLATE	TIE 10	241306
18	TURNOUT PLATE	TIES 11, 12, 13, 15, 16, 17, 18, 19, & 20	241307
1	GAGE PLATE	TIE 14	241311
1	GAGE PLATE	TIE 23	241312
1	GAGE PLATE	TIE 32	241313
1	CLOSURE INSULATED JOINT RAIL		341001
1	INSULATED JOINT TURNOUT RAIL		341001
A/R	INSULATED JOINT CLIP ASSEMBLY		132800
1	CLOSURE RAIL		341001
1	TURNOUT RAIL		341001

STANDARD BILL OF MATERIALS			
QTY	DESCRIPTION	LOCATION	BNSF/UP COMMON STANDARDS DWG NUMBER
A/R	136 RE RAIL		N/A
A/R	ELASTIC CLIP TIE PLATES	SEE NOTE 4	263000
14	MODIFIED ELASTIC CLIP TIE PLATE	TIES 21, 22, 39, 40, & 54	263001
A/R	ELASTIC CLIP E-2055		132500
A/R	15/16" DIA. X 6 1/2" LG. SCREW SPIKES		130800
2	FIXED HEEL BLOCKS		
1	NO. 9 16'-0" AREMA RBM FROG PER AREMA PORTFOLIO PLAN NO. 623-03 WITH SCREW SPIKE PLATES AND ELASTIC FASTENERS		N/A
2	GUARD RAILS PER AREMA PORTFOLIO PLAN NO. 504-03 (13') WITH SCREW PLATES AND ELASTIC FASTENERS		N/A
1	SWITCH POINT GUARD. A&K RAILROAD MATERIALS MODEL U69, OR APPROVED EQUAL		N/A
1	SWITCH STAND, RACOR MODEL 22-E TRAILABLE, OR APPROVED EQUAL		N/A
20	136RE 36" JOINT BARS		
22	7" X 9" X 10'-0" TIE	TIES 0-10A & 3-13	
20	7" X 9" X 11'-0" TIE	TIES 14-33	
6	7" X 9" X 12'-0" TIE	TIES 34-39	
6	7" X 9" X 13'-0" TIE	TIES 40-45	
7	7" X 9" X 14'-0" TIE	TIES 1-2 & 46-50	
5	7" X 9" X 15'-0" TIE	51-55	
6	7" X 9" X 16'-0" TIE	TIES 56-61	
6	7" X 9" X 17'-0" TIE	TIES 62-67	

1 R4-T

DETAIL - STANDARD NO. 9
TURNOUT ASSEMBLY

SCALE: 1"=5'

NOTES :

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- ALL SURPLUS TIES TO BE SUPPLIED TO THE PORT.
- IN ADDITION TO RAIL SHOWN WITHIN STANDARD NO. 9 TURNOUT ASSEMBLY AND ALL NEW RAIL SHOWN ON SHEETS R1-T THROUGH R2-T, CONTRACTOR SHALL PROVIDE A TOTAL OF (9) ADDITIONAL 136RE 39' RAIL STICKS FOR USE WITHIN TRANSFER YARD TO BE UTILIZED IF NECESSARY TO JOIN TURNOUTS TO EXISTING TRACK AND MAINTAIN MINIMUM JOINT SPACING AND JOINT STAGGER. ANY SURPLUS RAIL SHALL BE SUPPLIED TO THE PORT FOLLOWING COMPLETION OF WORK.
- ELASTIC CLIP TIE PLATES AND RESILIENT FASTENERS SHALL BE USED AT ALL LOCATIONS UNLESS OTHERWISE NOTED, SEE DETAIL 3 ON SHEET R3-T.
- THE GUARD RAIL IS TO BE 54 5/8" FROM THE GAUGE SIDE OF THE FROG POINT TO THE STRAIGHT GUARDING FACE OF THE GUARD RAIL.
- NO ALLOWANCE HAS BEEN MADE FOR EXPANSION GAPS OR END POST IN COMPUTING RAIL LENGTHS SHOWN.
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- ALL SWITCH RODS AND GAUGE PLATES ARE TO BE INSULATED TYPES.

FROG DATA	
ANGLE	6°-21'-35"
TURNOUT DATA	
RADIUS OF CENTERLINE	614'
T =	24.59'
CENTRAL ANGLE - CLOSURE CURVE	4°-35'-13"
DEGREE OF CURVE	9°-20'-31"
DIMENSIONS ALONG TURNOUT	
VERTEX TO P.C.	17'-7 9/32"
P.C. TO P.T.	614'-0" C RADIUS
P.T. TO FROG POINT	6'-4 1/2"

SWITCH DATA		
TURNOUT POINT	SWITCH LENGTH	16'-6"
	HEEL SPREAD	6 1/4"
	HEEL ANGLE	1°-46'-22"
	SWITCH ANGLE	1°-46'-22"
	THROW AT ROD #1	4 3/4"
TURNOUT POINT	THICKNESS AT POINT	0"
	RADIUS (CLOSURE CURVE)	616.3542'
	VERTEX DISTANCE	7 4/16"

- LEGEND :
- JOINT, (2) 36" 136RE JOINT BARS

6569

R4-T

SHEET 10 OF 22

CONT/CONS: 070531

M. ID: 101081.01

PHASE: BID

REPLACEMENT OF RAILWAY TRACK AND SPECIAL TRACKWORK AT TRANSFER YARD

NO. 9 TURNOUT PLAN

SECTION: 2, 3

RANGE: 03E

TOWNSHIP: 20N

DAT-HRZ:

PARCEL: MUL TIPLE

DRAWING SCALE: AS NOTED

APPROVED:

RLO

CHECKED BY

DATE

SWK

PROJ. ENGR

DATE

DIRECTOR

ENG. DATE

PRINTED BY: mmedley Jul 13, 2017

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

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STATE OF WASHINGTON

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REVISION:

BY: NLM

APPENDUM #2

DATE: 07/13/2017

APPR: SWK



1. RIGHT HAND TO RIGHT HAND TURNOUT IS SHOWN WITH 15'-0" TRACK CENTERS.
2. FOR TURNOUT DATA AND NOTES SEE SHEET R4-B.
3. SEE TURNOUT DETAIL ON SHEET R4-B FOR SIZE AND SPACING OF TIES 10A - 45.
4. STOCK RAIL ON CURVED LEG OF NEW 136 RE TURNOUT TO BE JOINED TO 115 RE RAIL. CONTRACTOR TO PROVIDE JOINT COMP BARS.
5. TIE SPACING AND DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL ADJUST AS NEEDED TO TIE INTO EXISTING TRACK.
6. 8'-6" TIES 57-59 ON BUBBLE TRACK 1 SHALL BE FIELD DRILLED AND ADJUSTED TO ACCOMMODATE 16'-0" TIES 57-59 SHARED BETWEEN BUBBLE TRACK 2 AND CURVED LEG OF TURNOUT 32. 8'-6" TIES 60-62 ON BUBBLE TRACK 2 SHALL BE FIELD DRILLED AND ADJUSTED TO ACCOMMODATE 16'-0" TIES 60-61 SHARED BETWEEN BUBBLE TRACK 1 AND CURVED LEG OF TURNOUT 32. EXISTING FASTENERS ON EXISTING BUBBLE TRACK 1 RAIL TO BE REUSED.
7. EXISTING JOINT LOCATIONS AT CROSSOVER ARE APPROXIMATE. JOINT LOCATION TO BE VERIFIED AND MARKED IN THE FIELD BY CONTRACTOR AND APPROVED BY PORT PRIOR TO CUTTING RAIL.
8. TIES 55-57 SHALL BE 16'-0" TIES TO SUPPORT NEW TURNOUT 32. ADJUST TIE SPACING AND ALIGNMENT AS NECESSARY TO ACCOMMODATE EXISTING TIES SUPPORTING ADJACENT BUBBLE TRACK 1.
9. 16'-0" TIES 60-61 SHARED BETWEEN CURVED LEG OF TURNOUT 32 AND BUBBLE TRACK 1 SHALL BE FIELD DAPPED AS REQUIRED.

