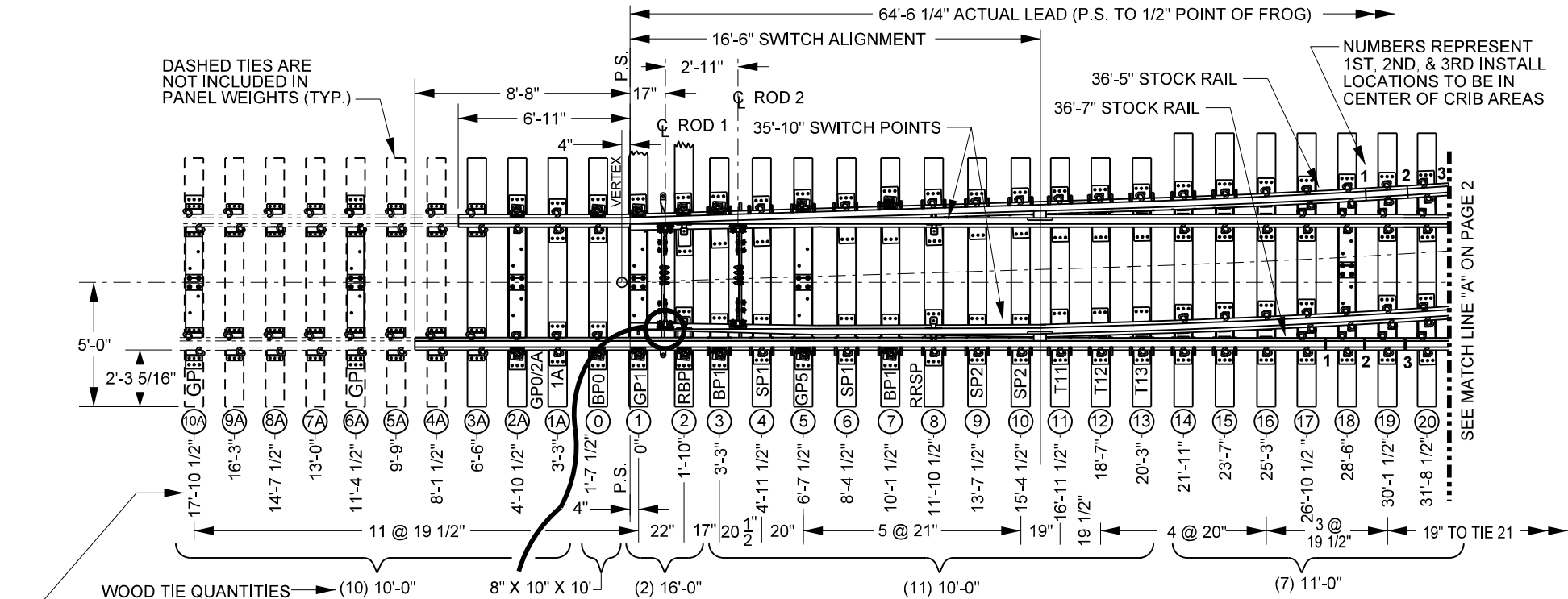
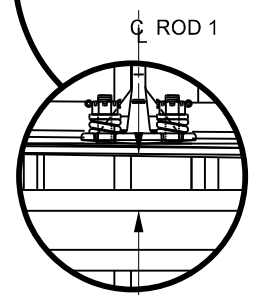


DASHED TIES ARE NOT INCLUDED IN PANEL WEIGHTS (TYP.)

NUMBERS REPRESENT 1ST, 2ND, & 3RD INSTALL LOCATIONS TO BE IN CENTER OF CRIB AREAS



WOOD TIE QUANTITIES AND LENGTH  
 ACCUMULATIVE TIE SPACING FROM  $\bar{C}$  TIE 1



$\bar{C}$  ROD 1  
**MANUAL OPERATED**  
 4 3/4" THROW AT  $\bar{C}$  OF ROD  
**THROW DETAIL**

**UNION PACIFIC RAILROAD  
 ENGINEERING STANDARDS**

**NO. 7 TURNOUT  
 136 LB. RAIL**

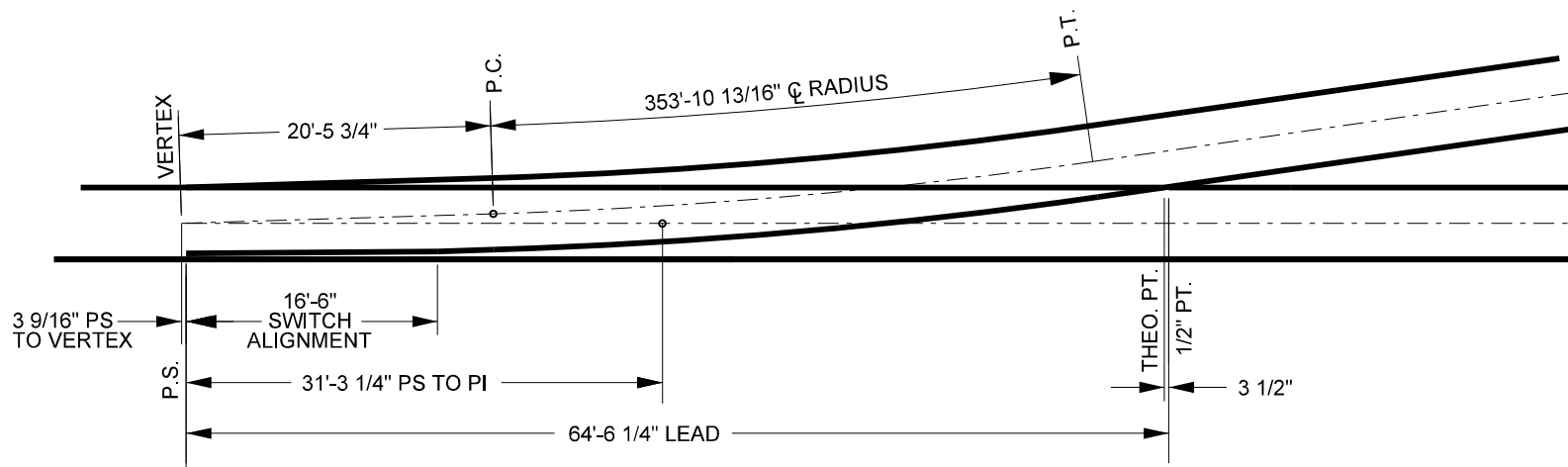


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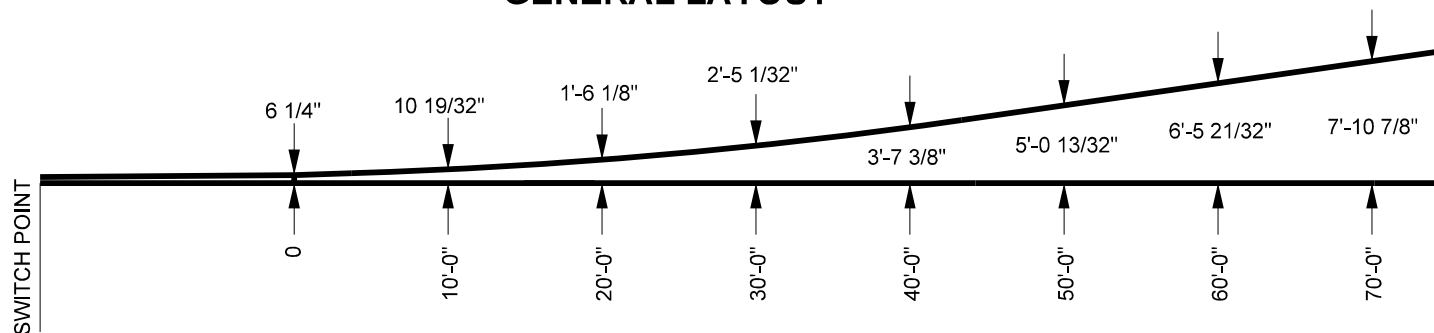
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**GENERAL LAYOUT**



**SPREAD LAYOUT**

**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"
THICKNESS AT POINT	0"
RADIUS (CLOSURE CURVE)	616.3542'
VERTEX DISTANCE	7 1/16"

**FROG DATA**

ANGLE	8°-10'-16"
LENGTH	VARIABLE

**TURNOUT DATA**

RADIUS OF CENTER LINE	353.9'
T =	19'-10 11/16"
CENTRAL ANGLE - CLOSURE CURVE	6°26'05"
DEGREE OF CURVE	16°14'39"

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### ITEMS USED IN HAND THROW #7 TURNOUTS

QTY.	COMPONENT DESCRIPTION	STD DWG
1	16'-6" (EXT. 35'-10") STRAIGHT SAMSON SWITCH POINT (NO TIP)	241100
1	16'-6" (EXT. 35'-10") STRAIGHT SAMSON SWITCH POINT (WITH TIP)	241100
1	36'-7" STRAIGHT SAMSON STOCK RAIL	241500
1	36'-5" BENT/CURVED SAMSON STOCK RAIL	241500
2	"BP0" PLATE FOR TIE 0	241306
1	"GP1" ADJUSTABLE BRACE GAGE PLATE FOR TIE 1	241300
2	RBP - ADJUSTABLE BRACE ROLLER PLATE FOR TIE 2	2223
2	EKOSLIDE ROLLER ASSEMBLY TYPE CZ-5	2223
1 EA.	SWITCH ROD NO. 2	241600
2	"GP" GAGE PLATE FOR TIES 6A & 10A AHEAD OF POINT	241304
1	"GP0/2A" ADJUSTABLE BRACE GAGE PLATE FOR TIE 2A	241301
2	"1A" PLATE FOR TIE 1A	241307
1	"GP5 & GP9" ADJUSTABLE BRACE GAGE PLATE FOR TIES 5 & 9	241305
4	"BP1" ADJUSTABLE BRACE SLIDE PLATE	241306
4	"SP1" SLIDE PLATE	241306
2	RRSP - ROLLER RISER SLIDE PLATE FOR TIE 8	2223
2	EKOSLIDE ROLLER ASSEMBLY TYPE CX	2223
4	"SP2" RISER SLIDE PLATE FOR TIES 9 AND 10	241306
2	TURNOUT PLATES T11 THRU T13	241307
1	"GP18" GAGE PLATE FOR TIE 18	N/A
1	"GP23" GAGE PLATE FOR TIE 23	N/A
1	"GP32" GAGE PLATE FOR TIE 32	N/A
1	TURNOUT PLATES T14 - T20	N/A
232	136 LB. RAIL (IN LINEAR FEET)	N/A
118	PANDROL TIE PLATE	263000
8	MODIFIED PANDROL TIE PLATE	263001
372	PANDROL ECLIP E-2055 (SUBTRACT 8 FOR INSULATED TURNOUT)	132500
776	15/16" DIA. X 6" LG. "RAILROAD APPROVED" SCREW SPIKES	130800
432	RAIL ANCHORS FOR UPRR	135010

### OPTIONAL ITEMS

QTY.	FROGS	DWG #
1	RBM WITH PLATES	3035
1	SOLID MANGANESE SELF GUARDED FROG WITH PLATES	N/A
QTY.	ITEMS REQUIRED FOR RBM FROGS	DWG #
2	13'-0" BOLTLESS ADJUSTABLE GUARD BAR	160103
4	"FGP" FROG GAGE PLATE	156000

#### NOTES:

1. NEW INSTALLATION OF TURNOUT REQUIRES A MINIMUM OF 6" OF CLEAN BALLAST UNDER THE TIES.
2. ALL RAIL TO BE HEAD HARDENED.
3. ADJUSTABLE RAIL BRACES SHOWN ARE SYMBOLIC ILLUSTRATIONS ONLY. ACTUAL RAIL BRACES EMPLOYED ARE DEPENDENT ON THE MANUFACTURER.
4. 16'-6" SWITCH LAYOUTS USED WITH A NO. 7 TURNOUT HAVE DIFFERENT TURNOUT PLATE ARRANGEMENTS THAN THOSE USED WITH A NO. 9 TURNOUT.
5. INSTALL INSULATED JOINTS WHERE INDICATED ONLY WHEN REQUIRED BY SIGNAL CIRCUITS. ALL INSULATED JOINTS ARE TO BE SUSPENDED. THE LOCATION OF INSULATED JOINTS ON CROSSOVER RAILS AS SHOWN ARE BASED ON A MINIMUM 13' TRACK CENTERS. WHERE TRACK CENTERS ARE GREATER, CROSSOVER RAILS ARE TO BE EXTENDED, BUT INSULATED JOINTS MUST NOT BE STAGGERED OVER 4'-3".
6. ALL SWITCH RODS AND GAGE PLATES TO BE FURNISHED WITH SWITCH PACKAGE.
7. 22E, 36E, 1003ARS, OR 1004ARS SWITCH STANDS TO BE USED ON ALL YARD TURNOUTS.
8. A MINIMUM 1/2" GAP MUST BE MAINTAINED BETWEEN THE ENDS OF METAL TIE PLATES LOCATED BEYOND THE CENTER OF INSULATED JOINTS IN THE SWITCH HEEL AREA TO PROVIDE PROPER TRACK CIRCUIT SEPARATION.
9. FOR USE OF TURNOUT AS DERAIL, SEE STD DWG 2000.

### BILL OF TIES

QTY.	SIZE	TIE NUMBER
1	7" X 9" X 10'-0"	TIES 0 THRU 10A
2	7" X 9" X 16'-0"	TIES 1 AND 2
13	7" X 9" X 10'-0"	TIES 3 THRU 13
10	7" X 9" X 11'-0"	TIES 14 THRU 23
6	7" X 9" X 12'-0"	TIES 24 THRU 29
4	7" X 9" X 13'-0"	TIES 30 THRU 33
4	7" X 9" X 14'-0"	TIES 34 THRU 37
4	7" X 9" X 15'-0"	TIES 38 THRU 41
5	7" X 9" X 16'-0"	TIES 42 THRU 46
7	7" X 9" X 17'-0"	TIES 47 THRU 53
3	7" X 9" X 18'-0"	TIES 54 THRU 56

#### NOTES FOR MANUFACTURERS

1. ALL MATERIAL TO MEET OR EXCEED RAILROADS RELATED SPECIFICATIONS.
2. SIGNAL DEPARTMENT TO FURNISH PLATING FOR MACHINE MOUNTING.

## UNION PACIFIC RAILROAD ENGINEERING STANDARDS

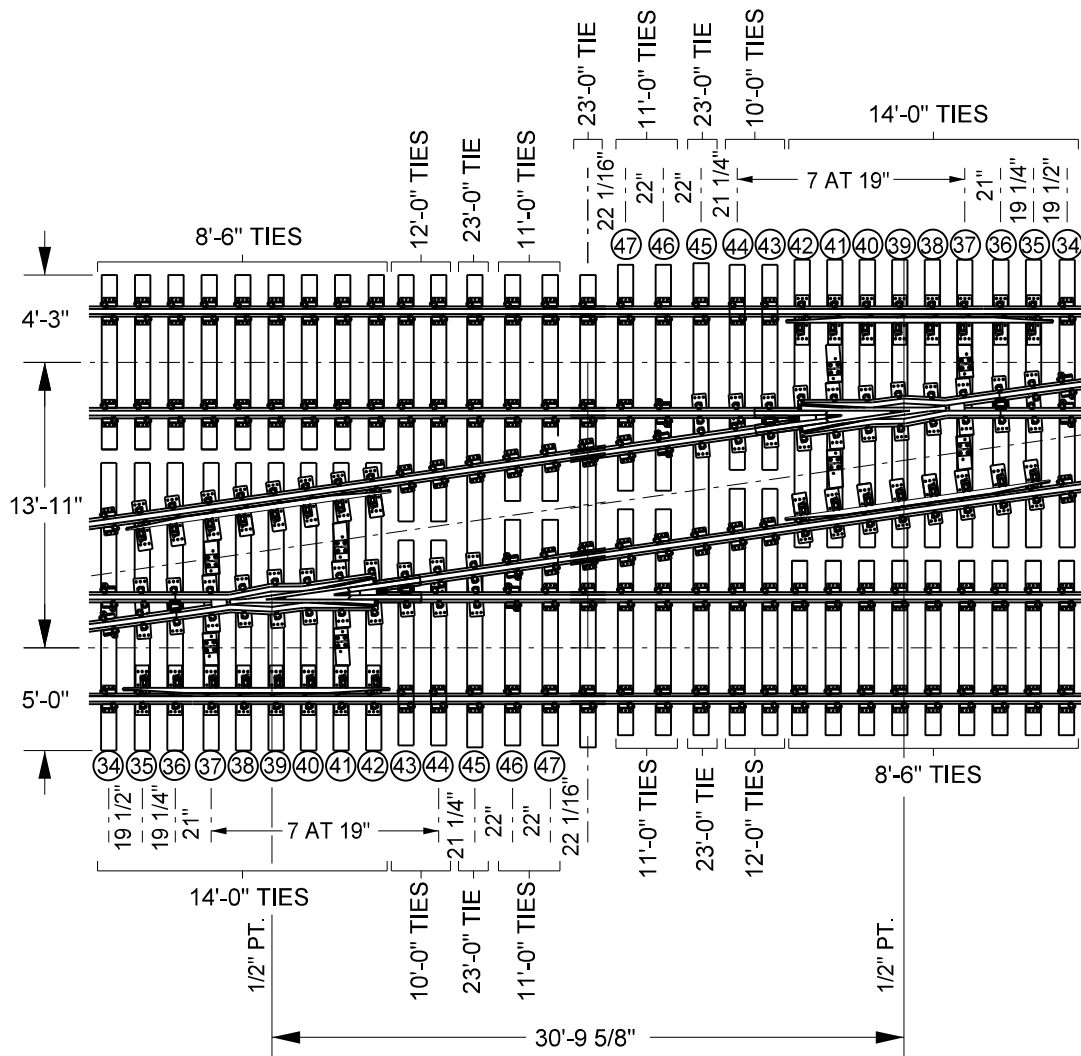
## NO. 7 TURNOUT 136 LB. RAIL



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TRACK CENTER	1/2" PT. TO 1/2" PT.
13'-0"	24'-5"
13'-1"	25'-0"
13'-2"	25'-6 15/16"
13'-3"	26'-1 7/8"
13'-4"	26'-8 7/8"
13'-5"	27'-3 13/16"
13'-6"	27'-10 13/16"
13'-7"	28'-5 3/4"
13'-8"	29'-0 3/4"
13'-9"	29'-7 11/16"
13'-10"	30'-2 5/8"
13'-11"	30'-9 5/8"

## UNION PACIFIC RAILROAD ENGINEERING STANDARDS

### NO. 7 CROSSOVER 13'-0" TO 13'-11" TRACK CENTERS



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