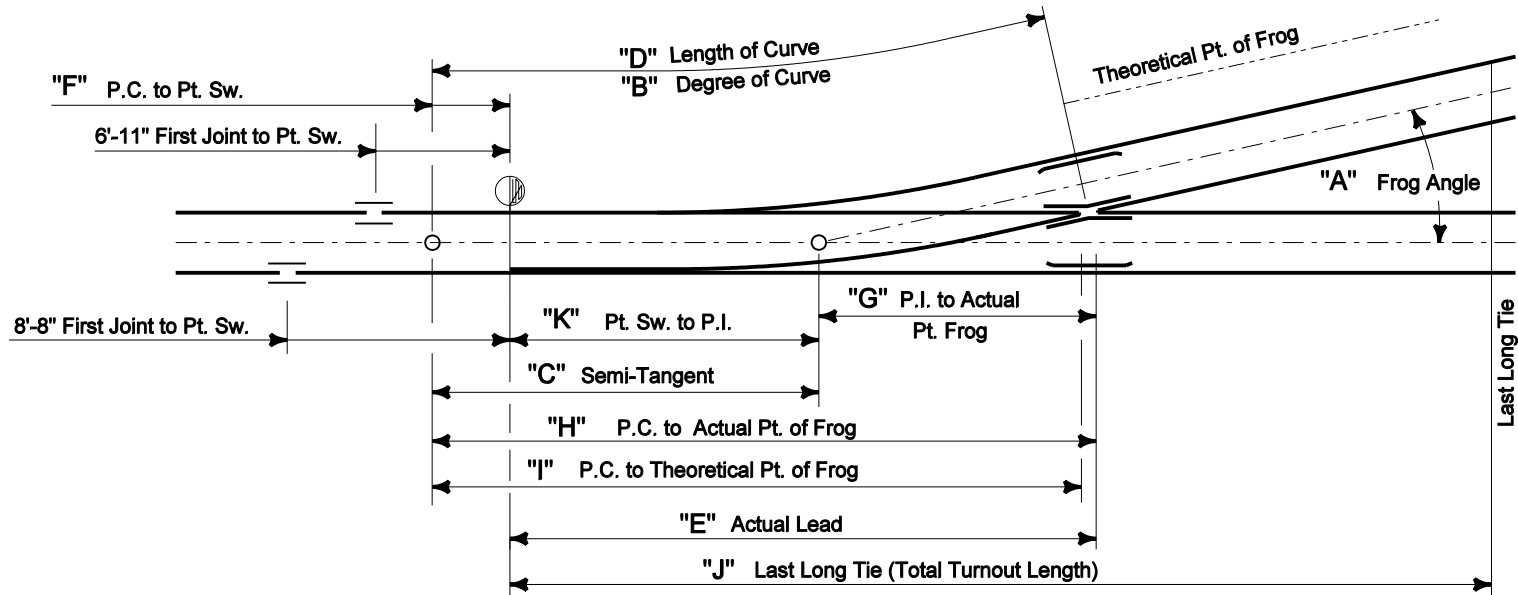


| FROG NO. | SWITCH POINTS | A        | B         | RADIUS   | C      | D      | E     | F        | G      | H       | I       | K      | J     |
|----------|---------------|----------|-----------|----------|--------|--------|-------|----------|--------|---------|---------|--------|-------|
| 7        | 16.5'         | 8°10'16" | 12°26'29" | 461.43'  | 32.96' | 65.68' | 64.52 | 1.69'    | 33.25' | 66.21'  | 65.92'  | 31.27' | 95'   |
| 9        | 16.5'         | 6°21'35" | 9°20'31"  | 614.0'   | 30.46' | 66.76' | 75.97 | 3' 9/16" | 42.75' | 73.21'  | 72.84'  | 30.17' | 108'  |
| 11       | 19.5'         | 5°12'18" | 5°40'44"  | 1011.69' | 31.84' | 76.69' | 69.00 | 7' 1/16" | 52.25' | 84.09'  | 83.63'  | 31.25' | 125'  |
| 15       | 26.0'         | 3°49'06" | 3°05'30"  | 1853.42' | 39.97' | 99.34' | 70.00 | 0"       | 71.25' | 111.23' | 110.85' | 39.98' | *180' |

\*UPRR ONLY  
167' OTHER



SEE SHEETS 3, 4, AND 5 FOR MORE  
INFORMATION ON THESE TURNOUTS

**UNION PACIFIC RAILROAD**  
OFFICE OF THE CHIEF ENGINEER OF DESIGN

**INDUSTRY STANDARDS**

**STANDARD TURNOUT DATA  
FOR INDUSTRIAL TRACKS  
CURRENT TURNOUTS**

SHEET 1 OF 5

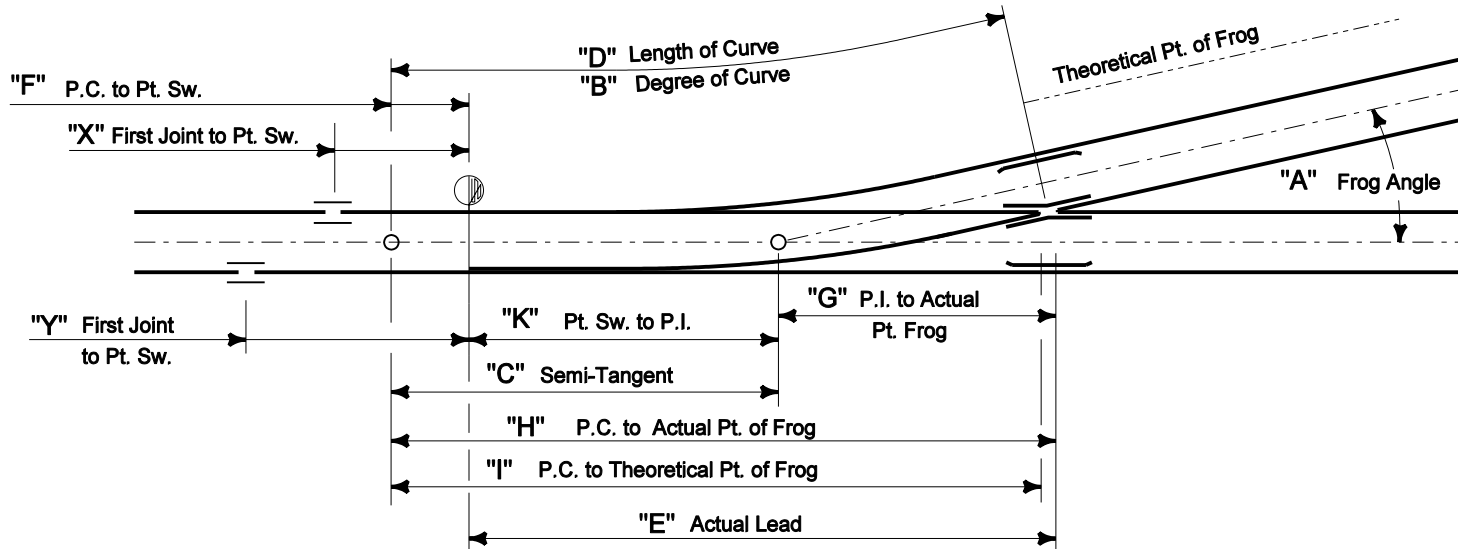


ADOPTED: AUG., 1, 1989  
REVISED: NOV. 6, 2008  
FILE NO.: EXHIBIT F

EXHIBIT

"F"

| FROG NO.  | SWITCH POINTS | A        | B         | RADIUS  | C     | D      | E      | F     | G     | H      | I      | K     | X    | Y     |
|-----------|---------------|----------|-----------|---------|-------|--------|--------|-------|-------|--------|--------|-------|------|-------|
| 7         | 16.5'         | 8°10'16" | 12°26'29" | 461.43  | 32.96 | 65.68  | 64.52  | 1.69  | 33.25 | 66.21  | 65.92  | 31.27 | 7.78 | 7.78  |
| 8         | 15.0'         | 7°09'10" | 9°31'02"  | 602.71  | 37.67 | 75.16  | 69.00  | 6.67  | 38.00 | 75.67  |        | 31.00 |      |       |
| 8 1/2" MP | 16.5'         | 6°43'59" | 8°25'46"  | 680.32  | 40.02 | 79.81  | 70.00  | 10.40 | 40.38 | 80.40  |        | 29.62 |      |       |
| 8 1/2" WP | 16.5'         | 6°44'00" | 8°25'47"  | 680.30  | 40.02 | 79.88  | 71.253 | 9.14  | 40.38 | 80.40  |        | 30.88 |      | 8.50  |
| 9         | 16.5'         | 6°21'35" | 7°31'04"  | 762.68  | 42.37 | 84.60  | 75.97  | 9.15  | 42.75 | 85.12  | 84.75  | 33.23 | 8.18 | 10.93 |
| 10        | 16.5'         | 5°43'29" | 6°05'14"  | 941.70  | 47.08 | 94.05  | 80.30  | 14.28 | 47.50 | 94.59  | 94.17  | 32.80 | 7.45 | 10.20 |
| 14        | 24.0'         | 4°05'27" | 3°06'17"  | 1845.67 | 65.92 | 131.76 | 115.70 | 16.72 | 66.50 | 132.42 | 131.83 | 49.20 | 9.58 | 12.33 |



**THIS DRAWING IS FOR REFERENCE PURPOSES ONLY. SEE SHEETS 1, 3, 4, AND 5 OF EXHIBIT "F" FOR APPROVED CURRENT STANDARD TURNOUTS ON UPRR PROPERTY.**

**UNION PACIFIC RAILROAD**  
OFFICE OF THE CHIEF ENGINEER OF DESIGN

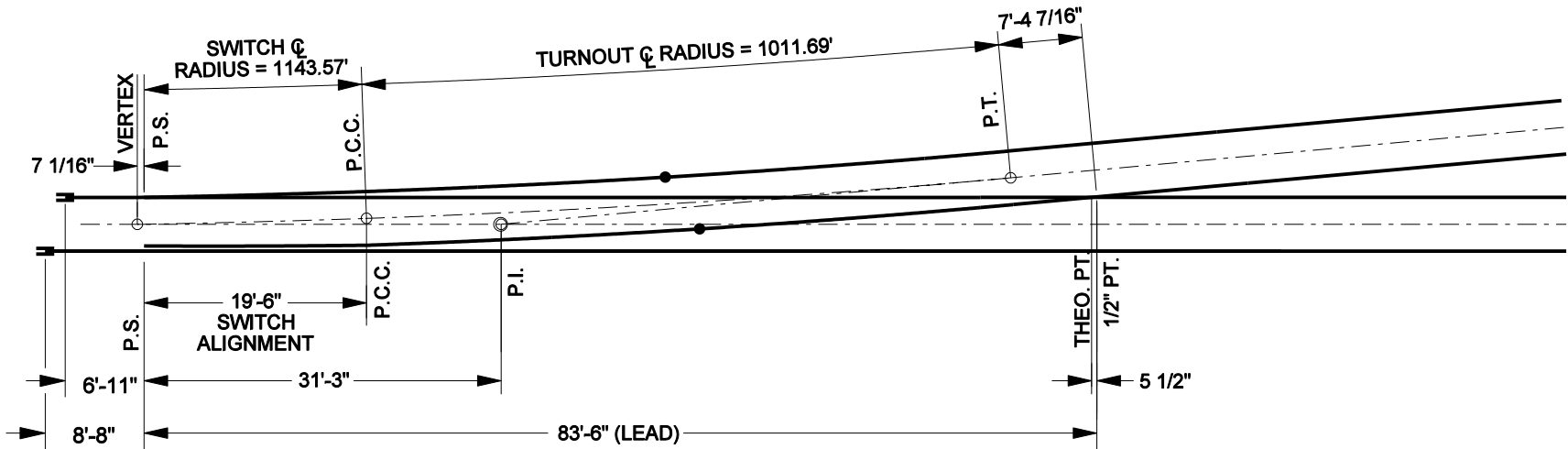
**INDUSTRY STANDARDS**  
**STANDARD TURNOUT DATA**  
**FOR INDUSTRIAL TRACKS**  
**PREVIOUS TURNOUTS**  
SHEET 2 OF 5



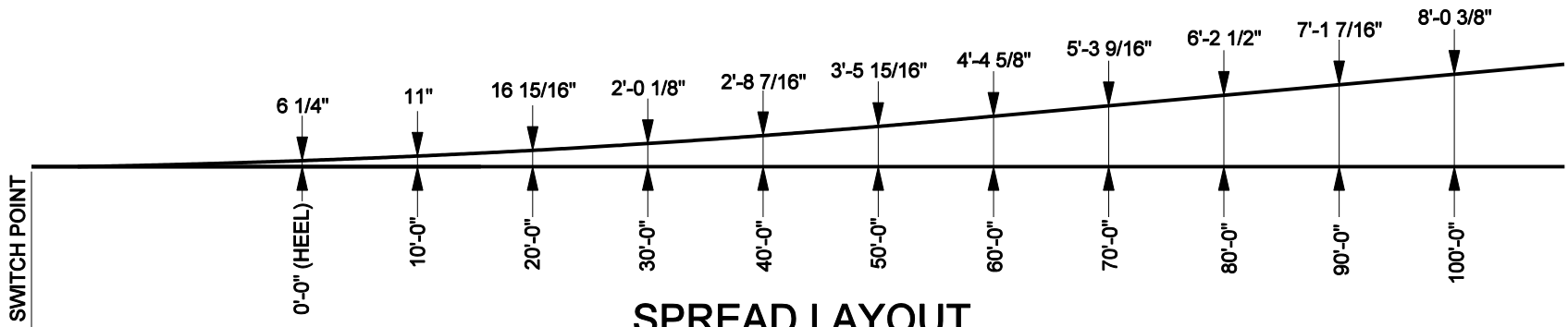
ADOPTED: AUG. 1, 1969  
REVISED: NOV. 6, 2008  
FILE NO.: EXHIBIT F

EXHIBIT  
**"F"**





### GENERAL LAYOUT



### SPREAD LAYOUT

| SWITCH DATA                   |            |
|-------------------------------|------------|
| SWITCH LENGTH                 | 19'-6"     |
| HEEL SPREAD                   | 6 1/4"     |
| HEEL ANGLE                    | 1°-59'-16" |
| SWITCH ANGLE                  | 1°-00'-40" |
| THROW AT ROD #1               | 4 3/4"     |
| RADIUS (CENTER LINE)          | 1143.57'   |
| T =                           | 9.69'      |
| CENTRAL ANGLE - CLOSURE CURVE | 0°58'16"   |
| DEGREE OF CURVE               | 5°00'06"   |
| THICKNESS AT POINT            | 1/8"       |
| RADIUS (CLOSURE CURVE)        | 1145.92'   |
| VERTEX DISTANCE               | 7 1/16"    |

| FROG DATA |            |
|-----------|------------|
| ANGLE     | 5°-12'-18" |
| LENGTH    | VARIABLES  |

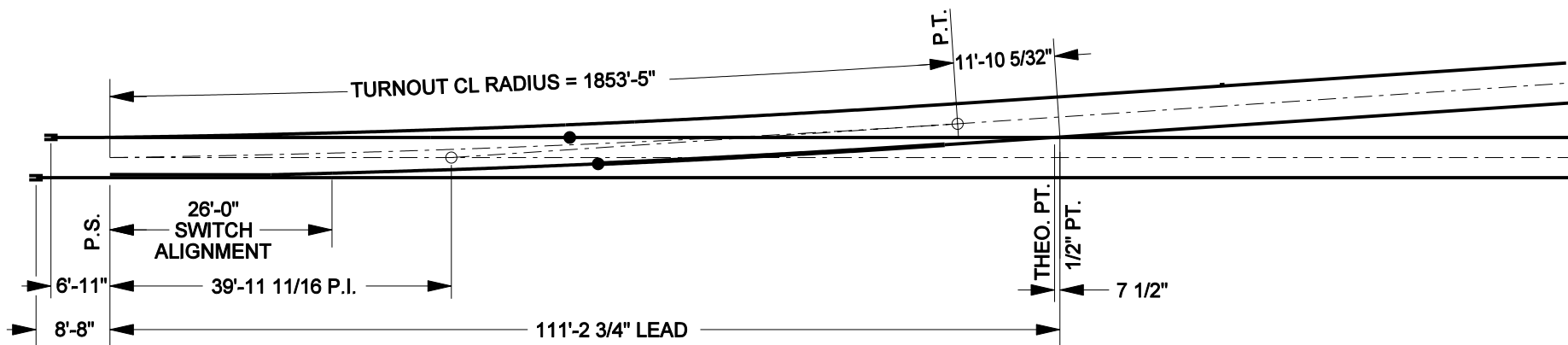
| TURNOUT DATA                  |          |
|-------------------------------|----------|
| RADIUS OF CENTER LINE         | 1011.69' |
| T =                           | 28.35'   |
| CENTRAL ANGLE - CLOSURE CURVE | 3°13'02" |
| DEGREE OF CURVE               | 5°40'44" |

**UNION PACIFIC RAILROAD**  
OFFICE OF THE CHIEF ENGINEER OF DESIGN

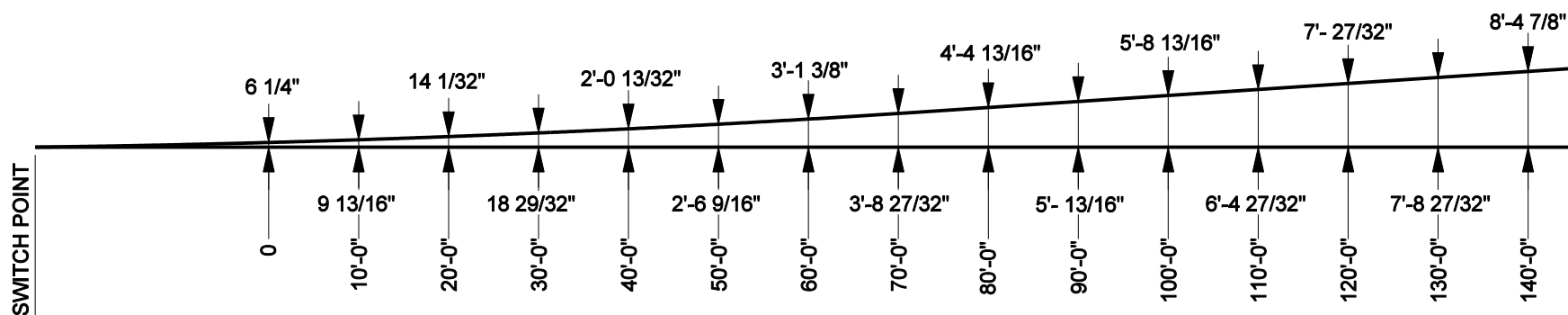
**INDUSTRY STANDARDS**  
**STANDARD TURNOUT DATA**  
**FOR INDUSTRIAL TRACKS**  
**CURRENT NO. 11 TURNOUT**  
SHEET 4 OF 5

ADOPTED: AUG. 1, 1969  
REVISED: NOV. 6, 2008  
FILE NO.: EXHIBIT F

EXHIBIT  
**"F"**



### GENERAL LAYOUT



### SPREAD LAYOUT

| SWITCH DATA                   |            |
|-------------------------------|------------|
| SWITCH LENGTH                 | 26'-0"     |
| HEEL SPREAD                   | 6 1/4"     |
| HEEL ANGLE                    | 1°-33'-2"  |
| SWITCH ANGLE                  | 0°-44'-47" |
| THROW AT ROD #1               | 4 3/4"     |
| RADIUS (CENTER LINE)          | 1853.42'   |
| T =                           | 49.68'     |
| CENTRAL ANGLE - CLOSURE CURVE | 3°-04'-16" |
| DEGREE OF CURVE               | 3°-05'-30" |
| THICKNESS AT POINT            | 1/4"       |
| RADIUS (CLOSURE CURVE)        | 1855.77'   |
| VERTEX DISTANCE               | 0"         |

| FROG DATA |            |
|-----------|------------|
| ANGLE     | 3°-49'-06" |
| LENGTH    | VARIES     |

| TURNOUT DATA                  |            |
|-------------------------------|------------|
| RADIUS OF CENTER LINE         | 1853.42'   |
| T =                           | 49.68'     |
| CENTRAL ANGLE - CLOSURE CURVE | 3°-04'-16" |
| DEGREE OF CURVE               | 3°-05'-30" |

**UNION PACIFIC RAILROAD**  
OFFICE OF THE CHIEF ENGINEER OF DESIGN

**INDUSTRY STANDARDS**

**STANDARD TURNOUT DATA  
FOR INDUSTRIAL TRACKS  
CURRENT NO. 15 TURNOUT**

SHEET 5 OF 5

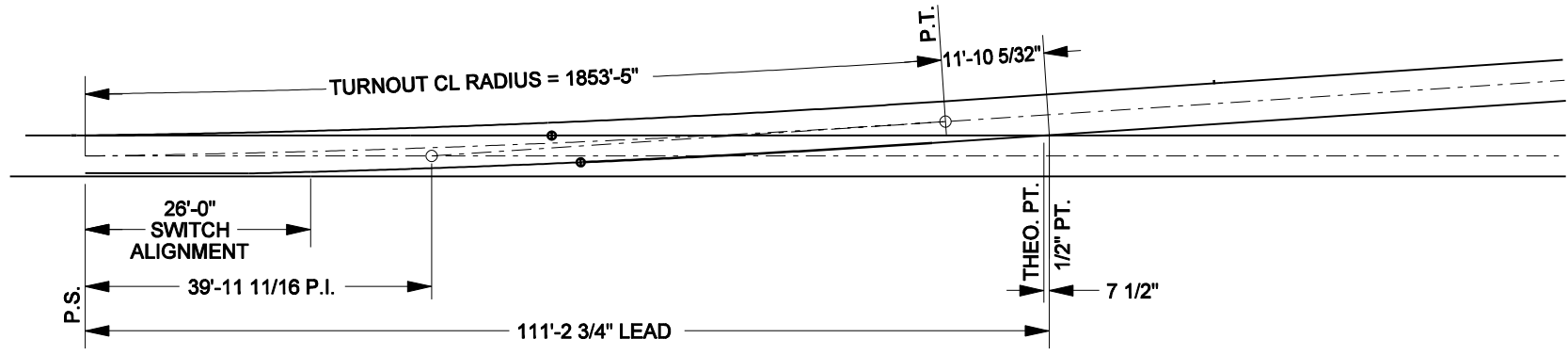


ADOPTED: AUG. 1, 1969  
REVISED: NOV. 6, 2008  
FILE NO.: EXHIBIT F

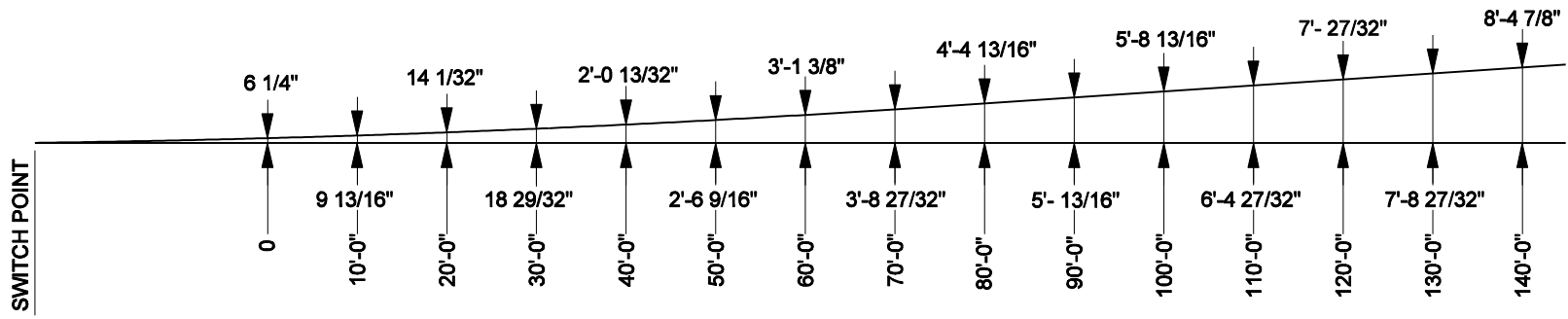
EXHIBIT  
"F"

EXHIBIT  
"F"

TURNOUT  
POINT



### GENERAL LAYOUT



### SPREAD LAYOUT

| SWITCH DATA                   |            |
|-------------------------------|------------|
| SWITCH LENGTH                 | 26'-0"     |
| HEEL SPREAD                   | 6 1/4"     |
| HEEL ANGLE                    | 1°-33'-2"  |
| SWITCH ANGLE                  | 0°-44'-47" |
| THROW AT ROD #1               | 4 3/4"     |
| RADIUS (CENTER LINE)          | 1853.42'   |
| T =                           | 49.68'     |
| CENTRAL ANGLE - CLOSURE CURVE | 3°-04'-16" |
| DEGREE OF CURVE               | 3°-05'-30" |
| THICKNESS AT POINT            | 1/4"       |
| RADIUS (CLOSURE CURVE)        | 1855.77'   |
| VERTEX DISTANCE               | 0"         |

| FROG DATA |            |
|-----------|------------|
| ANGLE     | 3°-49'-06" |
| LENGTH    | VARIES     |

| TURNOUT DATA                  |            |
|-------------------------------|------------|
| RADIUS OF CENTER LINE         | 1853.42'   |
| T =                           | 49.68'     |
| CENTRAL ANGLE - CLOSURE CURVE | 3°-04'-16" |
| DEGREE OF CURVE               | 3°-05'-30" |

NOTES:



COMMON STANDARDS



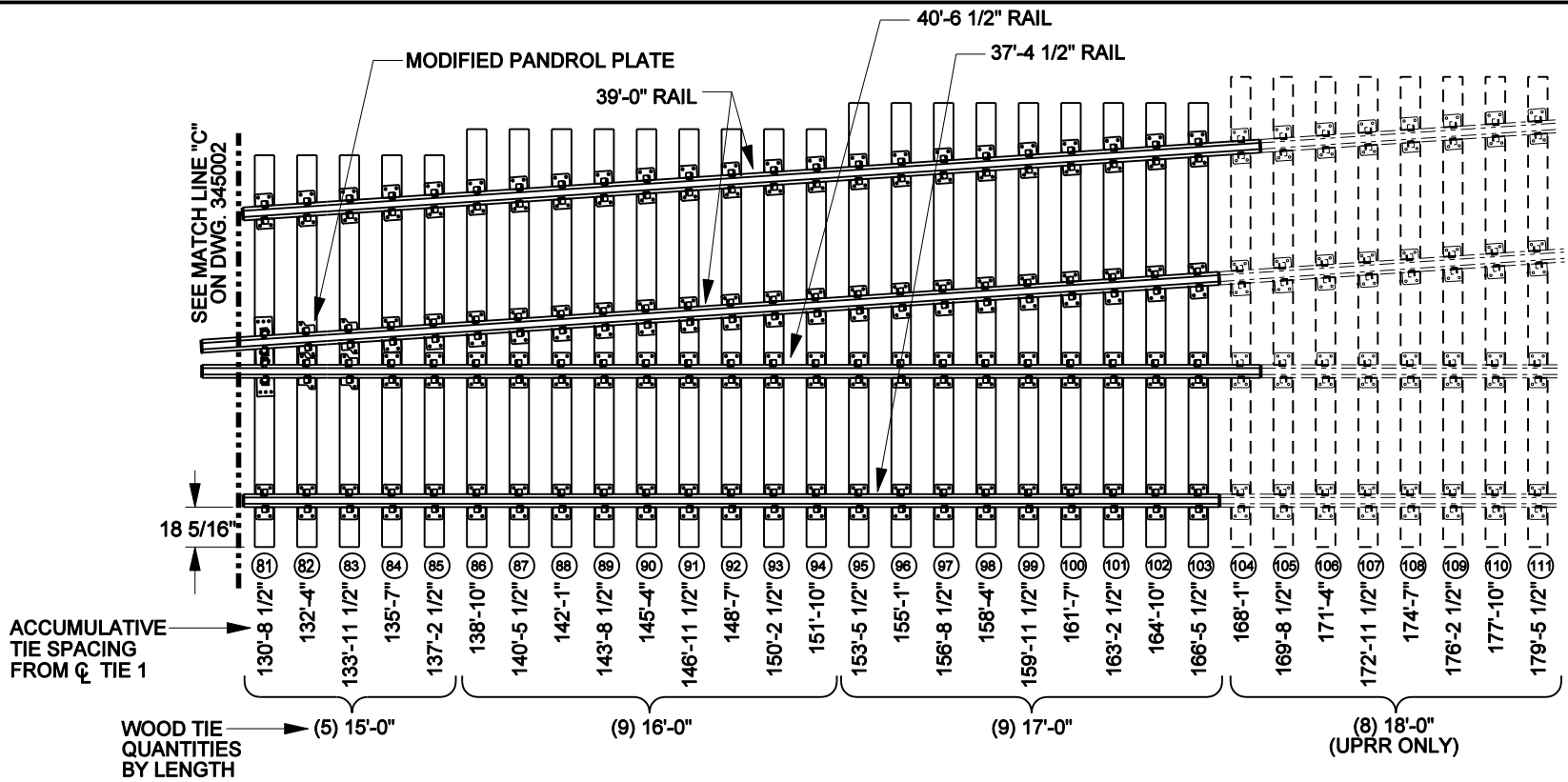
## NO. 15 TURNOUT 26'-0" CURVED SWITCH, TURNOUT GEOMETRY

FILE OWNER: UPRR DATE: JAN. 14, 2003

REV. NO.: 0 DWG NO: 345100

345100

TURNOUT POINT



**NOTES:**

1. SEE DWGS 345000, 345001, AND 345002 FOR THE BALANCE OF LAYOUT PLANS.
2. ALL TIE SPACING IS 19 1/2" ON THIS PANEL.
3. ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
4. SEE DWG 345100 FOR TURNOUT GEOMETRY.
5. SEE DWG 345200 FOR TURNOUT BILL OF MATERIAL.
6. PANEL WEIGHT = APPROXIMATELY 23,650 LBS.

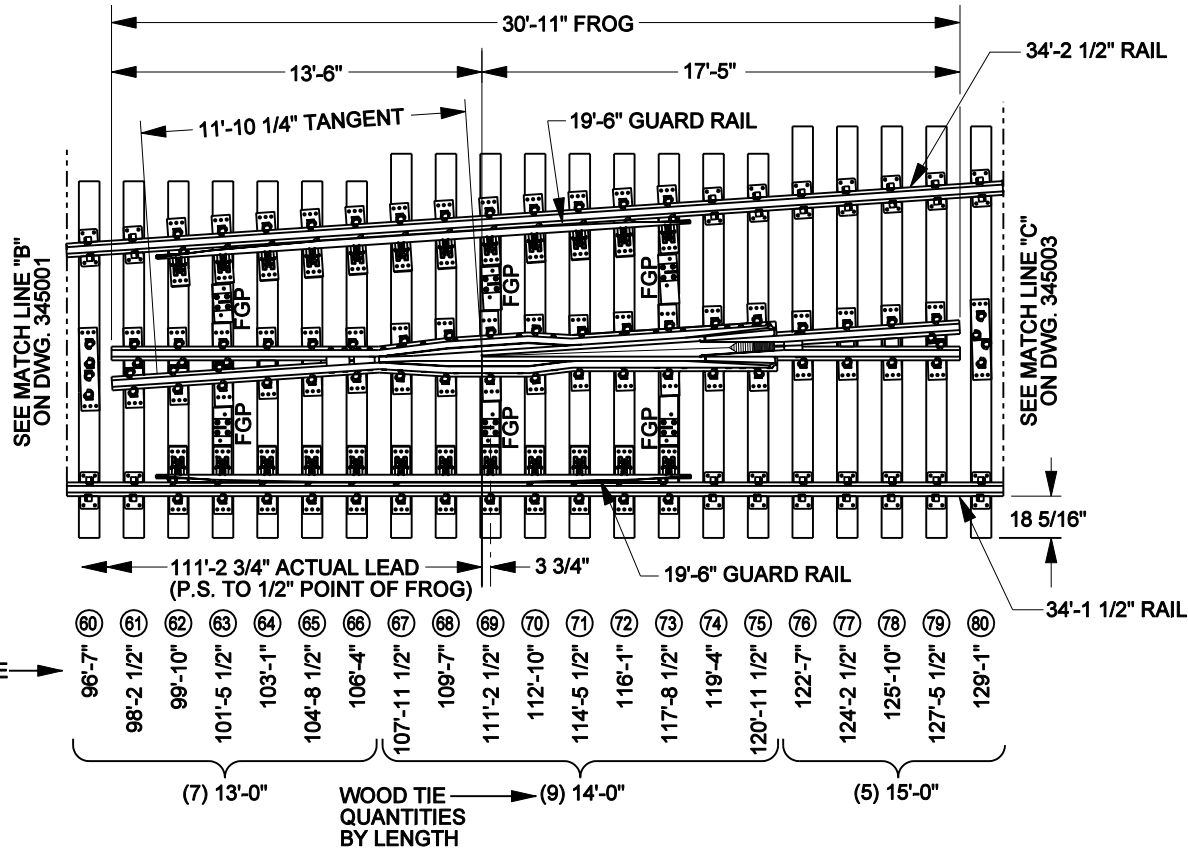


**COMMON STANDARDS**

**NO. 15 TURNOUT 136/141 LB.  
PANEL NO. 5**

|                  |                   |
|------------------|-------------------|
| FILE OWNER: UPRR | DATE: MAY 2, 2008 |
| REV. NO.: 1      | DWG NO: 345003    |

345003



ACCUMULATIVE  
TIE SPACING  
FROM  $\phi$  TIE 1

**NOTES:**

1. SEE DWGS 345000, 345001, AND 345003 FOR THE BALANCE OF LAYOUT PLANS.
2. ALL TIE SPACING IS 19 1/2" ON THIS PANEL.
3. ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
4. SEE DWG 345100 FOR TURNOUT GEOMETRY.
5. SEE DWG 345200 FOR TURNOUT BILL OF MATERIAL.
6. PANEL WEIGHT = APPROXIMATELY 28,800 LBS.



**COMMON STANDARDS**

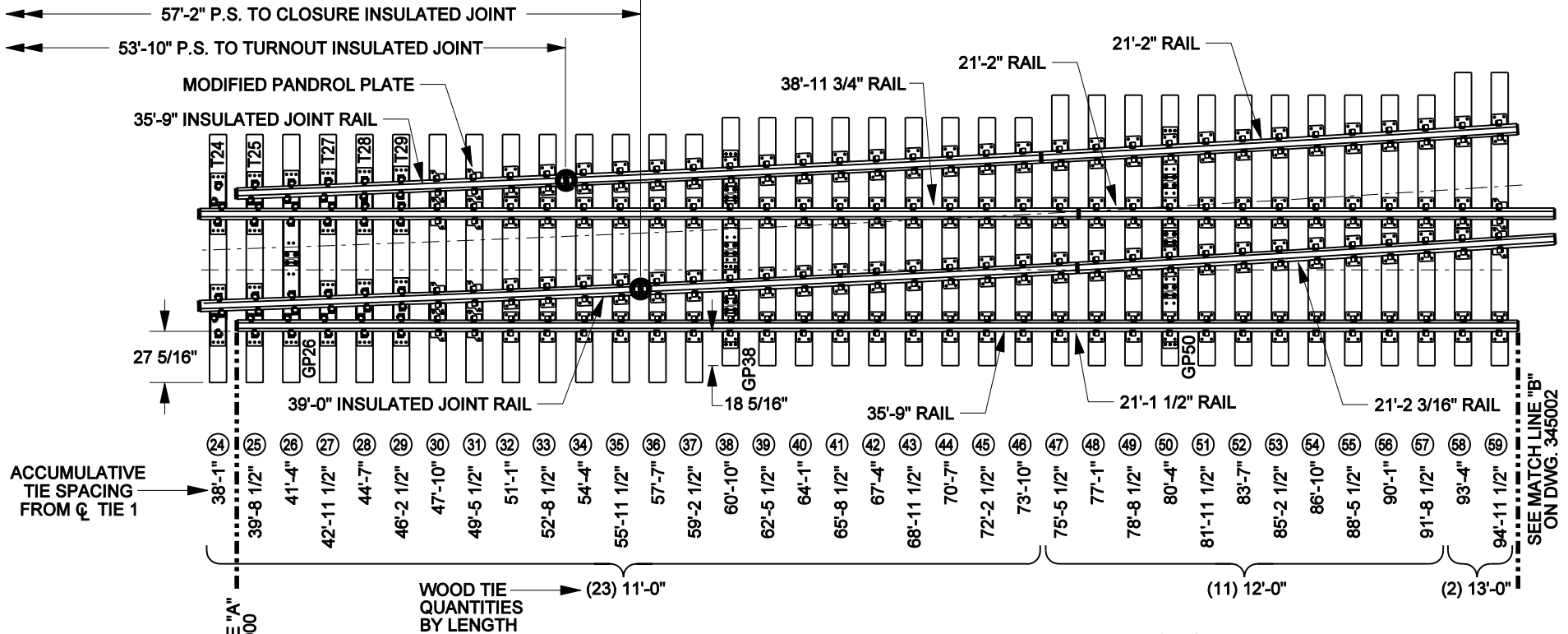
**NO. 15 TURNOUT 136/141 LB.  
PANEL NO. 4**

|                | UPRR | BNSF LH   | BNSF RH   |
|----------------|------|-----------|-----------|
| 136LB. RBM     | N/A  | 513450060 | 513450059 |
| 136 LB. SPRING | N/A  | 513450063 | 513450061 |
| 141 LB. RBM    | N/A  | 513450232 | 513450233 |
| 141 LB. SPRING | N/A  | 513450234 | 513450235 |

|                  |                    |
|------------------|--------------------|
| FILE OWNER: UPRR | DATE: MAY 16, 2008 |
| REV. NO.: 3      | DWG NO: 345002     |

345002



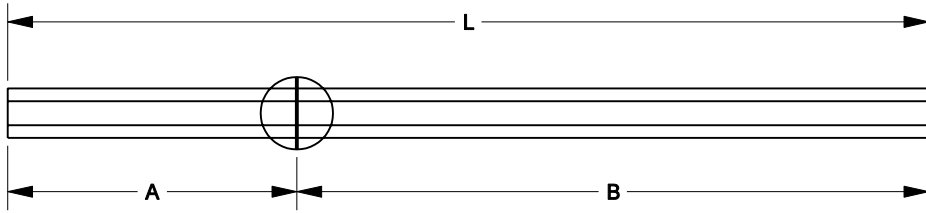


ACCUMULATIVE  
TIE SPACING  
FROM  $\phi$  TIE 1

WOOD TIE  
QUANTITIES  
BY LENGTH

SEE MATCH LINE "A"  
ON DWG. 345000

SEE MATCH LINE "B"  
ON DWG. 345002



- NOTES:
1. SEE DWGS 345000, 345002, AND 345003 FOR THE BALANCE OF LAYOUT PLANS.
  2. ALL TIE SPACING IS 19 1/2" ON THIS PANEL.
  3. ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
  4. SEE DWG 345100 FOR TURNOUT GEOMETRY.
  5. SEE DWG 345200 FOR TURNOUT BILL OF MATERIAL.
  6. PANEL WEIGHTS = APPROXIMATELY 19,500 LBS. AND 11,800 LBS.



**COMMON STANDARDS**

**NO. 15 TURNOUT 136/141 LB.  
PANELS NO. 2 AND NO. 3**

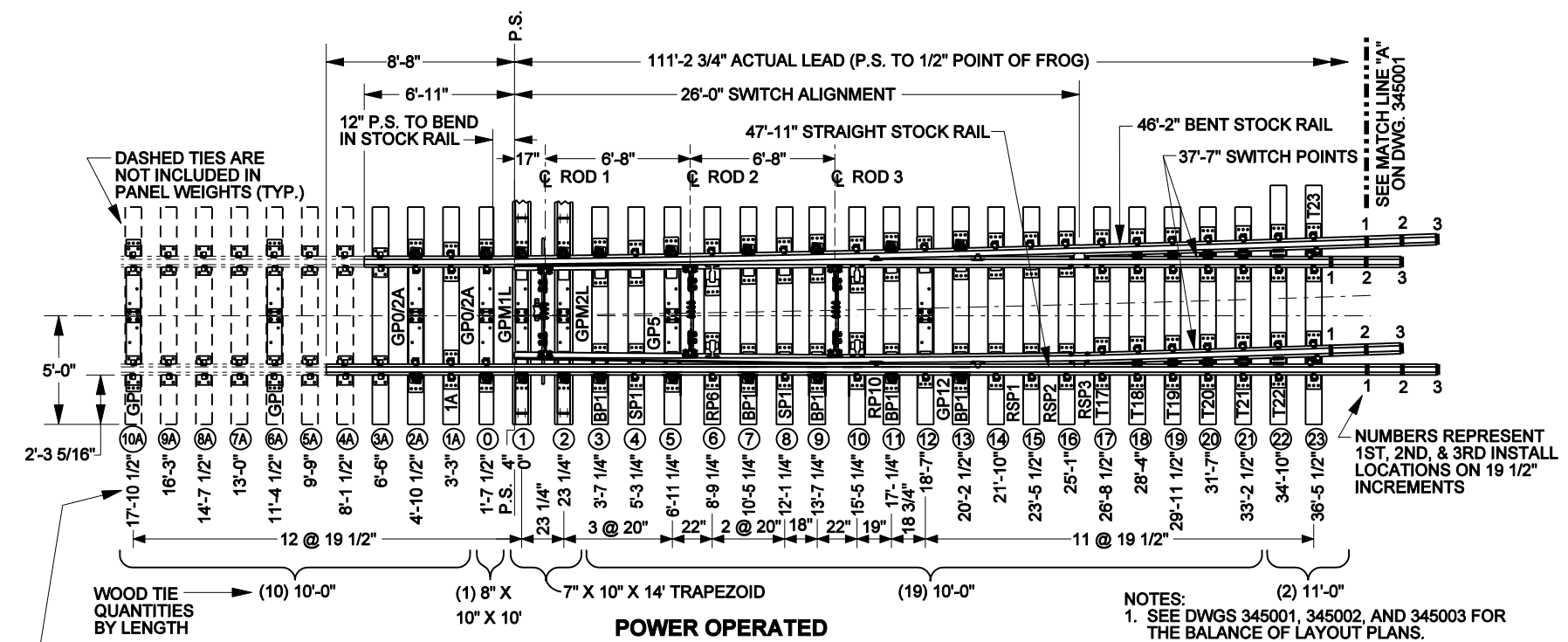
FILE OWNER: UPRR    DATE: MAY 19, 2008  
REV. NO.: 3    DWG NO: 345001

345001

|                              | A      | B      | L      |
|------------------------------|--------|--------|--------|
| TURNOUT INSULATED JOINT RAIL | 14'-8" | 21'-1" | 35'-9" |
| CLOSURE INSULATED JOINT RAIL | 19'-7" | 19'-5" | 39'-0" |

|                                 | BNSF ITEM NUMBER |           |
|---------------------------------|------------------|-----------|
|                                 | 136LB.           | 141LB.    |
| LH TURNOUT INSULATED JOINT RAIL | 518030155        | 518030140 |
| LH CLOSURE INSULATED JOINT RAIL | 518030156        | 518030141 |
| RH TURNOUT INSULATED JOINT RAIL | 518030157        | 518030142 |
| RH CLOSURE INSULATED JOINT RAIL | 518030158        | 518030143 |

345000



- NOTES:
1. SEE DWGS 345001, 345002, AND 345003 FOR THE BALANCE OF LAYOUT PLANS.
  2. ALL TIE SPACING 19 1/2" EXCEPT WHERE NOTED.
  3. ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
  4. SEE DWG 345100 FOR TURNOUT GEOMETRY.
  5. SEE DWG 345200 FOR TURNOUT BILL OF MATERIAL.
  6. APPLY 5" SAFE BOND WIRES ONE CRIB AHEAD OF HEEL OF SWITCH ON STOCK AND SWITCH POINT RAILS.
  7. BNSF MANUAL AND MANUAL SPRING SWITCHES WILL BE SUPPLIED WITH UHMWPE PADS ON TIES 1 THROUGH 14.
  8. PANEL WEIGHT = APPROXIMATELY 20,900 LBS.



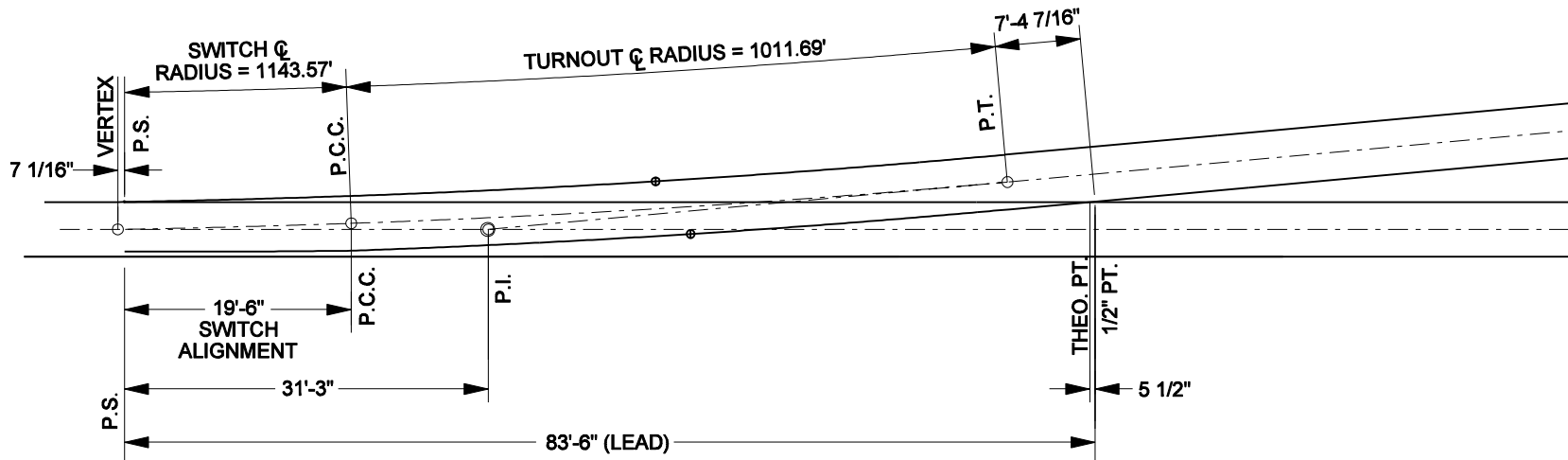
**COMMON STANDARDS**

**NO. 15 TURNOUT 136/141 LB. PANEL NO. 1**

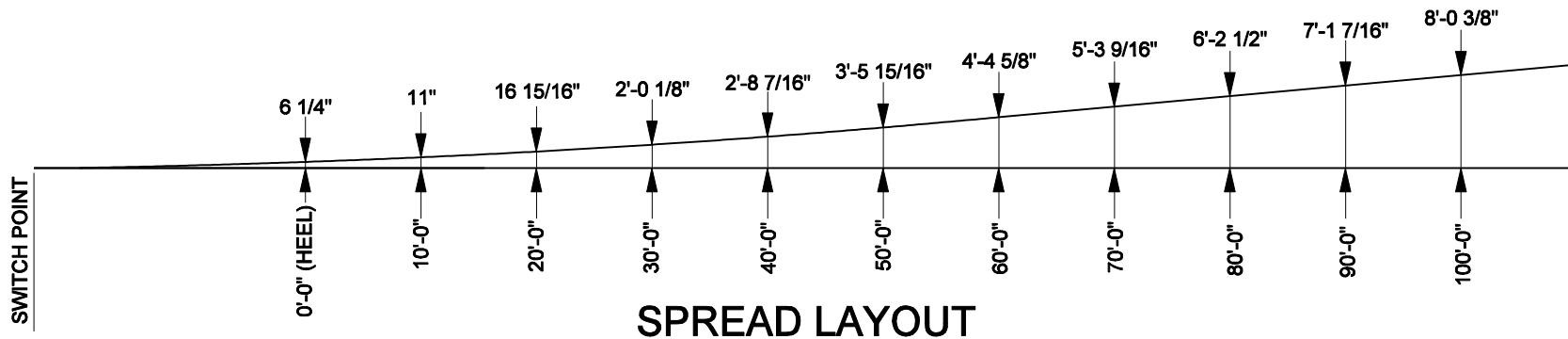
|                   | UPRR | BNSF LH   | BNSF RH   |
|-------------------|------|-----------|-----------|
| 136LB. POWER      | N/A  | 518030091 | 518030065 |
| 136LB. MANUAL     | N/A  | 518030093 | 518030092 |
| 136LB. MAN. SPRG. | N/A  | 518030095 | 518030094 |
| 141LB. POWER      | N/A  | 518030134 | 518030135 |
| 141LB. MANUAL     | N/A  | 518030136 | 518030137 |
| 141LB. MAN. SPRG. | N/A  | 518030138 | 518030139 |

|                  |                    |
|------------------|--------------------|
| FILE OWNER: UPRR | DATE: MAY 16, 2008 |
| REV. NO.: 4      | DWG NO: 345000     |





### GENERAL LAYOUT



### SPREAD LAYOUT

| SWITCH DATA                   |            |
|-------------------------------|------------|
| SWITCH LENGTH                 | 19'-6"     |
| HEEL SPREAD                   | 6 1/4"     |
| HEEL ANGLE                    | 1°-59'-16" |
| SWITCH ANGLE                  | 1°-00'-40" |
| THROW AT ROD #1               | 4 3/4"     |
| RADIUS (CENTER LINE)          | 1143.57'   |
| T =                           | 9.69'      |
| CENTRAL ANGLE - CLOSURE CURVE | 0°58'16"   |
| DEGREE OF CURVE               | 5°00'06"   |
| THICKNESS AT POINT            | 1/8"       |
| RADIUS (CLOSURE CURVE)        | 1145.92'   |
| VERTEX DISTANCE               | 7 1/16"    |

| FROG DATA |            |
|-----------|------------|
| ANGLE     | 5°-12'-18" |
| LENGTH    | VARIES     |

| TURNOUT DATA                  |          |
|-------------------------------|----------|
| RADIUS OF CENTER LINE         | 1011.69' |
| T =                           | 28.35'   |
| CENTRAL ANGLE - CLOSURE CURVE | 3°13'02" |
| DEGREE OF CURVE               | 5°40'44" |

NOTES:



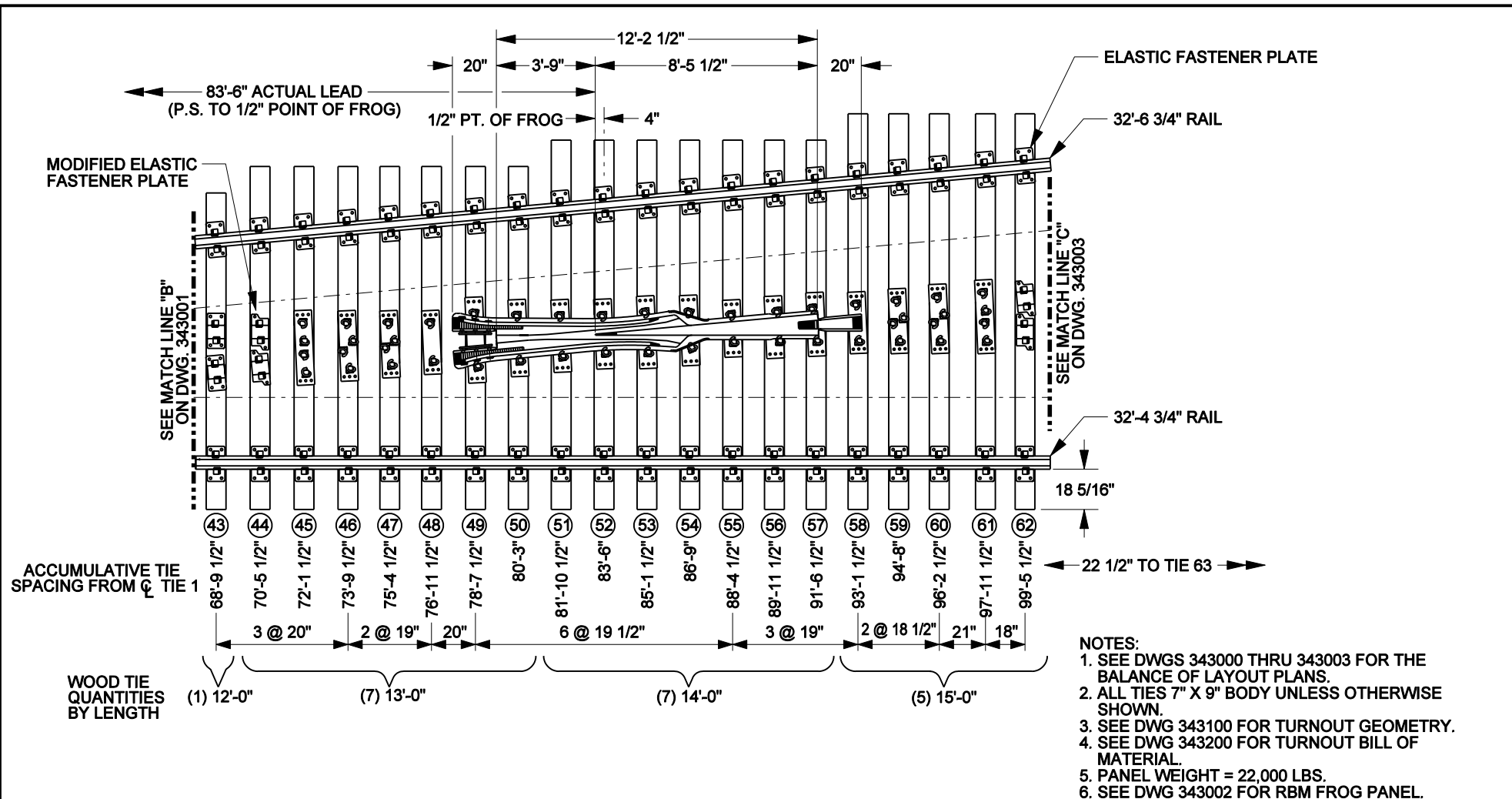
COMMON STANDARDS



## NO. 11 TURNOUT 19'-6" CURVED SWITCH TURNOUT GEOMETRY

|                  |                    |
|------------------|--------------------|
| FILE OWNER: BNSF | DATE: JAN. 9, 2003 |
| REV. NO.: 0      | DWG NO: 343100     |

343100



- NOTES:
1. SEE DWGS 343000 THRU 343003 FOR THE BALANCE OF LAYOUT PLANS.
  2. ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
  3. SEE DWG 343100 FOR TURNOUT GEOMETRY.
  4. SEE DWG 343200 FOR TURNOUT BILL OF MATERIAL.
  5. PANEL WEIGHT = 22,000 LBS.
  6. SEE DWG 343002 FOR RBM FROG PANEL.



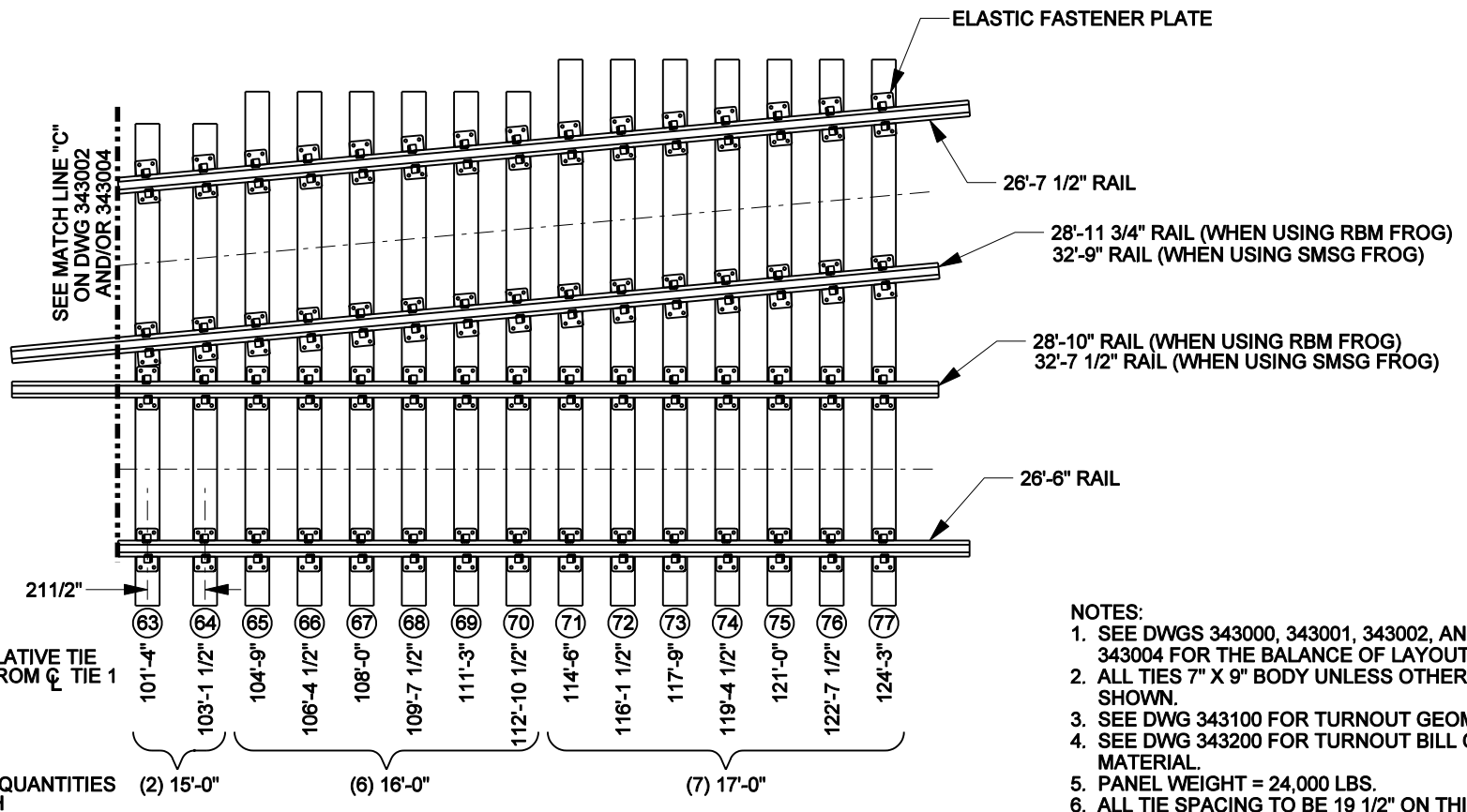
**COMMON STANDARDS**

**NO. 11 TURNOUT 136/141 LB. PANEL NO. 3 WITH OPTIONAL SMSG FROG**

|              | UPRR | BNSF RH   | BNSF LH   |
|--------------|------|-----------|-----------|
| 136LB. RBM   | N/A  | 513450052 | 513450053 |
| 136LB. SPR   | N/A  | 513450054 | 513450055 |
| 136LB. SOLID | N/A  | 513450056 | 513450058 |
| 141LB. RBM   | N/A  | 513450225 | 513450189 |
| 141LB. SPR   | N/A  | 513450227 | 513450226 |
| 141LB. SOLID | N/A  | N/A       | N/A       |

|                  |                     |
|------------------|---------------------|
| FILE OWNER: BNSF | DATE: JUNE 25, 2008 |
| REV. NO.: 1      | DWG NO: 343004      |

343004



NOTES:

1. SEE DWGS 343000, 343001, 343002, AND 343004 FOR THE BALANCE OF LAYOUT PLANS.
2. ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
3. SEE DWG 343100 FOR TURNOUT GEOMETRY.
4. SEE DWG 343200 FOR TURNOUT BILL OF MATERIAL.
5. PANEL WEIGHT = 24,000 LBS.
6. ALL TIE SPACING TO BE 19 1/2" ON THIS DWG. EXCEPT BETWEEN TIES 63 AND 64; WHICH ARE SHOWN AT 21 1/2".



COMMON STANDARDS

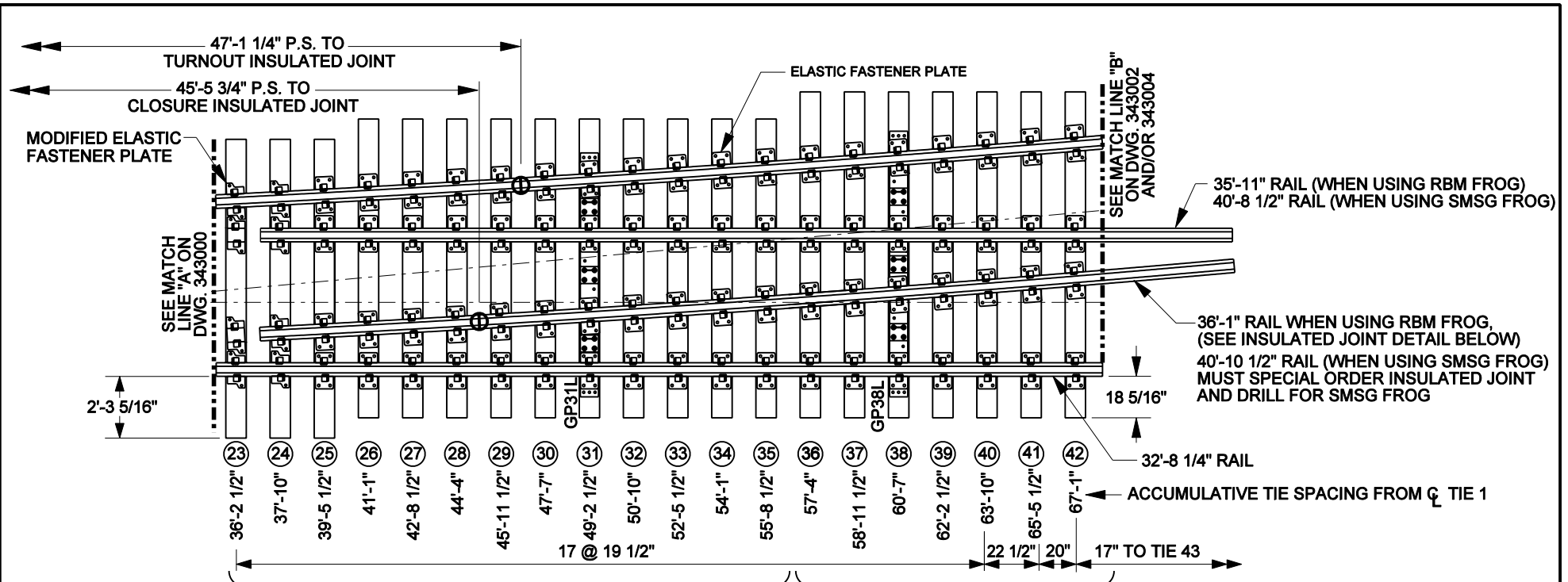
NO. 11 TURNOUT 136/141 LB.  
PANEL NO. 4

|                  |                   |
|------------------|-------------------|
| FILE OWNER: BNSF | DATE: MAY 1, 2008 |
| REV. NO.: 2      | DWG NO: 343003    |

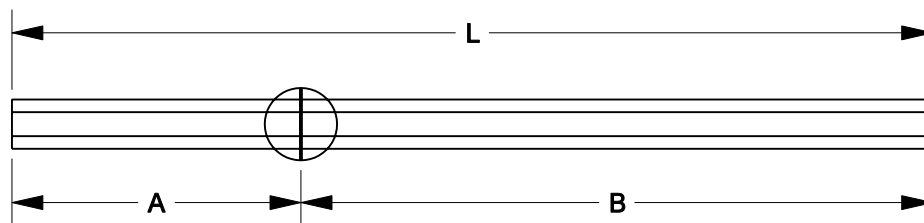
343003







- NOTES:
1. WHEN INSULATED JOINTS ARE REQUIRED, THE LOCATION OF THE JOINTS SHOULD BE STAGGERED NO CLOSER THAN 6" AND NOT MORE THAN 4'-8" APART, MEASURED ALONG THE TURNOUT.
  2. SEE DWGS 343000, 343002, 343003, AND 343004 FOR THE BALANCE OF LAYOUT PLANS.
  3. ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
  4. SEE DWG 343100 FOR TURNOUT GEOMETRY.
  5. SEE DWG 343200 FOR TURNOUT BILL OF MATERIAL.
  6. PANEL WEIGHT = 17,000 LBS.



**INSULATED JOINT DETAIL**  
(FOR USE WITH RBM FROG ONLY)



**COMMON STANDARDS**

**NO. 11 TURNOUT 136/141 LB. PANEL NO. 2**

FILE OWNER: BNSF DATE: MAY 19, 2008  
REV. NO.: 4 DWG NO: 343001

**BNSF ITEM NUMBER**

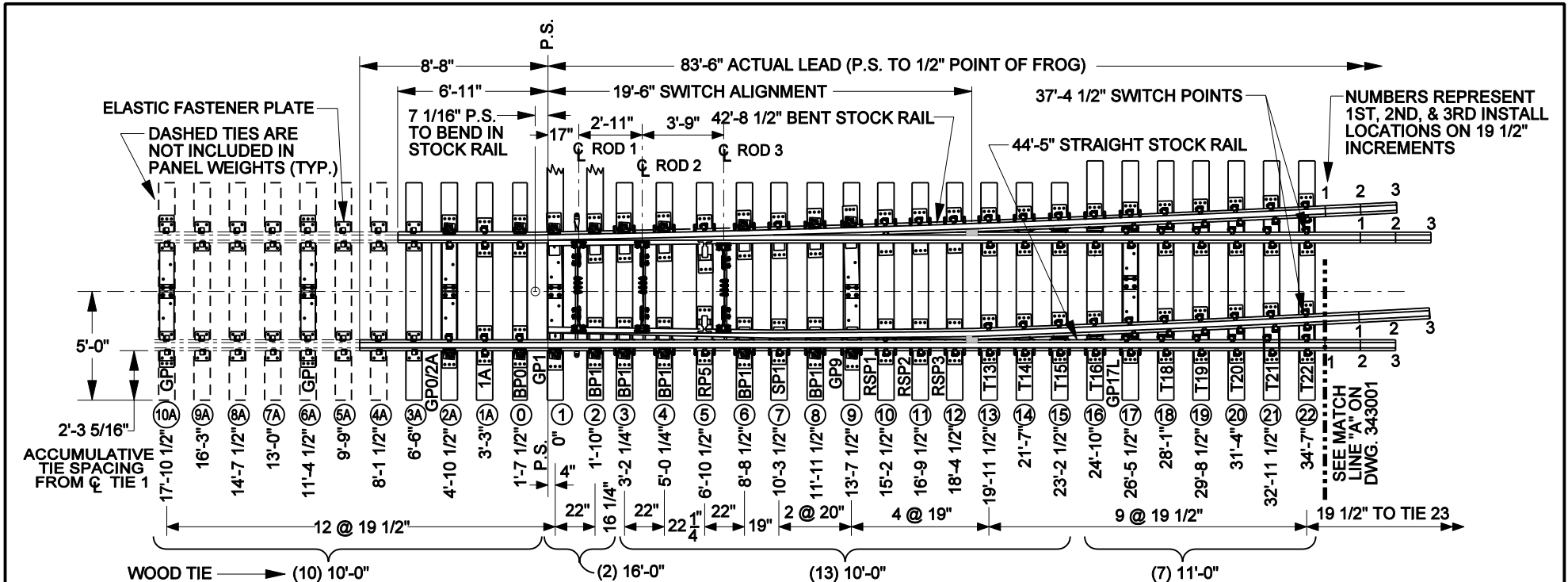
136LB. 141LB.

|                                 |           |           |
|---------------------------------|-----------|-----------|
| LH TURNOUT INSULATED JOINT RAIL | 518030151 | 518030130 |
| LH CLOSURE INSULATED JOINT RAIL | 518030152 | 518030131 |
| RH TURNOUT INSULATED JOINT RAIL | 518030153 | 518030132 |
| RH CLOSURE INSULATED JOINT RAIL | 518030154 | 518030133 |

|                              | A      | B       | L      |
|------------------------------|--------|---------|--------|
| TURNOUT INSULATED JOINT RAIL | 11'-4" | 21'-5"  | 32'-9" |
| CLOSURE INSULATED JOINT RAIL | 8'-2"  | 27'-11" | 36'-1" |

343001



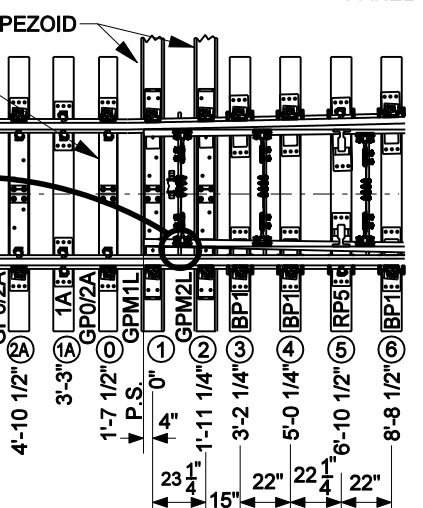
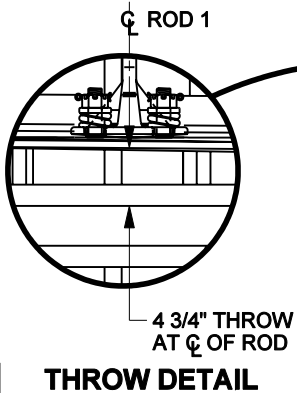


2'-3 5/16"  
ACCUMULATIVE  
TIE SPACING  
FROM  $\phi$  TIE 1

WOOD TIE  
QUANTITIES  
BY LENGTH

**MANUAL OPERATED**  
PANEL WEIGHT: 20,000 LBS.

- NOTES:
1. SEE DWGS 343001 THRU 343004 FOR THE BALANCE OF LAYOUT PLANS.
  2. ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
  3. SEE DWG 343100 FOR TURNOUT GEOMETRY.
  4. SEE DWG 343200 FOR TURNOUT BILL OF MATERIAL.
  5. FULLY BOX ANCHOR STOCK RAILS, TIES 3-15 FOR SHIPPING OF PANELS ONLY.
  6. APPLY 5" SAFE BOND WIRES ONE CRIB AHEAD OF HEEL OF SWITCH ON STOCK AND SWITCH POINT RAILS.
  7. ALL SWITCH POINT AND STOCKRAIL DIMENSIONS ARE TO FIRST INSTALL, SEE PLAN 241500 FOR FULL LENGTH.



**POWER OPERATED**  
PANEL WEIGHT: 20,000 LBS.

|                      | UPRR | BNSF RH   | BNSF LH   |
|----------------------|------|-----------|-----------|
| 136LB. POWER         | N/A  | 518030063 | 518030079 |
| 136LB. MANUAL        | N/A  | 518030080 | 518030081 |
| 136LB. MAN. SPR. SW. | N/A  | 518030084 | 518030085 |
| 141LB. POWER         | N/A  | 518030125 | 518030104 |
| 141LB. MANUAL        | N/A  | 518030127 | 518030126 |
| 141LB. MAN. SPR. SW. | N/A  | 518030129 | 518030128 |



**COMMON STANDARDS**

**NO. 11 TURNOUT 136/141 LB.  
PANEL NO. 1**

|                  |                    |
|------------------|--------------------|
| FILE OWNER: BNSF | DATE: MAY 16, 2008 |
| REV. NO.: 4      | DWG NO: 343000     |

343000

**ITEMS USED IN ALL # 9 TURNOUTS**

| QTY.  | COMPONENT DESCRIPTION   | DWG #  | BNSF ITEM # | UPRR ITEM # |
|-------|---|--------|-------------|-------------|
| 1     | 16'-6" (EXT. 35'-10") STRAIGHT SAMSON SWITCH POINT (NO TIP)   | 241100 | SEE DWG     | SEE DWG     |
| 1     | 16'-6" (EXT. 35'-10") STRAIGHT SAMSON SWITCH POINT (WITH TIP) | 241100 | SEE DWG     | SEE DWG     |
| 1     | 36'-7" STRAIGHT SAMSON STOCK RAIL                             | 241500 | SEE DWG     | SEE DWG     |
| 1     | 36'-5" BENT/CURVED SAMSON STOCK RAIL                          | 241500 | SEE DWG     | SEE DWG     |
| 1 EA. | SWITCH ROD NO. 2  | 241600 | SEE DWG     | SEE DWG     |
| 2     | "GP" GAGE PLATE FOR TIES 6A & 10A AHEAD OF POINT              | 241304 | 515821526   | N/A         |
| 1     | "GP0/2A" ADJUSTABLE BRACE GAGE PLATE FOR TIE 2A               | 241301 | 515821501   | N/A         |
| 2     | "1A" PLATE FOR TIE 1A   | 241307 | 515821539   | N/A         |
| 1     | "GP5 & GP9" ADJUSTABLE BRACE GAGE PLATE FOR TIES 5 & 9        | 241305 | 515821526   | N/A         |
| 2     | "RP4" ROLLER RISER PLATE                                      | 241309 | 515821501   | SEE DWG     |
| 2     | ROLLER BEARING ASSEMBLY FOR "RP4" PLATE                       | 241309 | 515821539   | SEE DWG     |
| 6     | "BP1" ADJUSTABLE BRACE SLIDE PLATE                            | 241306 | 515821532   | 557-2960    |
| 2     | "SP1" SLIDE PLATE   | 241306 | 515821533   | 557-2961    |
| 2     | "RSP2" RISER SLIDE PLATE FOR TIE 8                            | 243309 | 515821537   | N/A         |
| 4     | "SP2" RISER SLIDE PLATE FOR TIES 9 AND 10                     | 241306 | 515821534   | N/A         |
| 2     | TURNOUT PLATES T11 THRU T20                                   | 241307 | SEE DWG     | SEE DWG     |
| 1     | "GP14" GAGE PLATE FOR TIE 14                                  | 241311 | SEE DWG     | SEE DWG     |
| 1     | "GP23" GAGE PLATE FOR TIE 23                                  | 241312 | SEE DWG     | SEE DWG     |
| 1     | "GP32" GAGE PLATE FOR TIE 32                                  | 241313 | SEE DWG     | SEE DWG     |
| 1     | 29'-7 1/2" CLOSURE INSULATED JOINT RAIL                       | 341001 | 524400030   | N/A         |
| 1     | 31'-4" INSULATED JOINT TURNOUT RAIL                           | 341001 | 524400027   | N/A         |
| 1     | 29'-7 1/2" CLOSURE RAIL (ONLY IN NON-INSULATED TURNOUT)       | 341001 | N/A         | N/A         |
| 1     | 31'-4" TURNOUT RAIL (ONLY IN NON-INSULATED TURNOUT)           | 341001 | N/A         | N/A         |
| 207   | 136 LB. RAIL (IN LINEAR FEET)                                 | N/A    | N/A         | N/A         |
| 142   | PANDROL TIE PLATE   | 263000 | 525820956   | 503-9020    |
| 14    | MODIFIED PANDROL TIE PLATE                                    | 263001 |             | N/A         |
| 462   | PANDROL ECLIP E-2055 (SUBTRACT 8 FOR INSULATED TURNOUT)       | 132500 | 521710020   | 503-6100    |
| 8     | INSULATED JOINT CLIP ASSEMBLY (ONLY IN INSULATED TURNOUT)     | 132800 | SEE DWG     | SEE DWG     |
| 1064  | 15/16" DIA. x 6 1/2" LG. "RAILROAD APPROVED" SCREW SPIKES     | 130800 | 527570012   | 503-8620    |
| 2208  | RAIL ANCHORS FOR BNSF   | 135010 | 520130012   | N/A         |
| 432   | RAIL ANCHORS FOR UPRR   | 135010 | N/A         | 550-1650    |

**ITEMS SPECIAL TO MANUAL OR POWER AND A CHOICE OF FROGS**

| QTY. | REQUIRED FOR MANUAL                                     | DWG #  | BNSF ITEM # | UPRR ITEM # |
|------|---|--------|-------------|-------------|
| 2    | "BP0" PLATE FOR TIE 0                                   | 241306 | 515821535   | N/A         |
| 1    | "GP1" ADJUSTABLE BRACE GAGE PLATE FOR TIE 1             | 241300 | SEE DWG     | SEE DWG     |
| 2    | "BP1" ADJUSTABLE BRACE SLIDE PLATE FOR TIE 2            | 241306 | 515821532   | 557-2960    |
| 1    | 7" X 9" X 10'-0" TIE (TIE 0)                            | N/A    | 048400005T  | 502-1000    |
| 2    | 7" X 9" X 16'-0" TIE (TIES 1 AND 2)                     | N/A    | 0484000011T | 502-1600    |
| 1    | SWITCH ROD NO. 1  | 241600 | SEE DWG     | 557-5587    |
| QTY. | REQUIRED FOR POWER                                      | DWG #  | BNSF ITEM # | UPRR ITEM # |
| 1    | "GP0/2A" ADJUSTABLE BRACE GAGE PLATE FOR TIE 0          | 241301 | 515821501   | N/A         |
| 1    | "GPM1/LR" ADJUSTABLE BRACE MACHINE GAGE PLATE FOR TIE 1 | 241302 | SEE DWG     | SEE DWG     |
| 1    | "GPM2/LR" ADJUSTABLE BRACE MACHINE GAGE PLATE FOR TIE 2 | 241303 | SEE DWG     | SEE DWG     |
| 1    | 8" (TOP) X 10" X 10'-0" TIE (TIE 0)                     | 250000 | 048400996N  | 502-4300    |
| 2    | 7" X 10" X 14'-0" TRAPEZOID TIE (TIES 1 AND #2)         | 250000 | 048400999N  | 502-4899    |
| 1    | SWITCH ROD NO. 1 WITH BASKET (ADJUSTER)                 | 241601 | SEE DWG     | 557-5585    |
| QTY. | FROGS   | DWG #  | BNSF ITEM # | UPRR ITEM # |
| 1    | RBM WITH PLATES   | 151000 | SEE DWG     | SEE DWG     |
| 1    | SOLID MANGANESE SELF GUARDED FROG WITH PLATES           | 151200 | SEE DWG     | SEE DWG     |
| 6    | "FGP" FROG GAGE PLATE                                   | 156000 | 515821497   | 555-6806    |
| QTY. | ITEMS REQUIRED FOR RBM FROGS                            | DWG #  | BNSF ITEM # | UPRR ITEM # |
| 2    | 13'-0" BOLTLESS ADJUSTABLE GUARD BAR                    | 160100 | 516240060   | 556-5250    |

**TIES USED IN ALL # 9 TURNOUTS**

| QTY. | SIZE             | TIE NUMBER       |
|------|------------------|------------------|
| 10   | 7" X 9" X 10'-0" | TIES 1A THRU 10A |
| 11   | 7" X 9" X 10'-0" | TIES 3 THRU 13   |
| 20   | 7" X 9" X 11'-0" | TIES 14 THRU 33  |
| 6    | 7" X 9" X 12'-0" | TIES 34 THRU 39  |
| 6    | 7" X 9" X 13'-0" | TIES 40 THRU 45  |
| 5    | 7" X 9" X 14'-0" | TIES 46 THRU 50  |
| 5    | 7" X 9" X 15'-0" | TIES 51 THRU 55  |
| 6    | 7" X 9" X 16'-0" | TIES 56 THRU 61  |
| 6    | 7" X 9" X 17'-0" | TIES 62 THRU 67  |

**NOTES FOR MANUFACTURERS**

1. ALL MATERIAL TO MEET OR EXCEED RAILROADS RELATED SPECIFICATIONS.
2. SIGNAL DEPARTMENT TO FURNISH DAP PLATING FOR MACHINE MOUNTING.
3. TRAPEZOID HEAD BLOCK TIES ARE DAPPED PER DWG 250000.

| POWER OPERATED ITEM NUMBERS                        | BNSF L.H. |           | BNSF R.H. |           | UPRR L.H. |      | UPRR R.H. |      |
|--|-----------|-----------|-----------|-----------|-----------|------|-----------|------|
|  | WITHOUT   | WITH      | WITHOUT   | WITH      | WITHOUT   | WITH | WITHOUT   | WITH |
| USE OF BONDED JOINT IN TURNOUTS                    |           |           |           |           |           |      |           |      |
| 136 LB - #9 TURNOUT W/ RBM FROG, PANEL (COMPLETE)  | 518789100 | 518789099 | 518789098 | 518789097 | N/A       | N/A  | N/A       | N/A  |
| 136 LB - #9 TURNOUT W/ SMSG FROG, PANEL (COMPLETE) | 518789104 | 518789103 | 518789102 | 518789101 | N/A       | N/A  | N/A       | N/A  |
| 136 LB - #9 TURNOUT W/ RBM FROG, PREPLATED TIES    | N/A       | N/A       | N/A       | N/A       | N/A       | N/A  | N/A       | N/A  |
| 136 LB - #9 TURNOUT W/ SMSG FROG, PREPLATED TIES   | N/A       | N/A       | N/A       | N/A       | N/A       | N/A  | N/A       | N/A  |

| MANUAL OPERATED ITEM NUMBERS                        | BNSF L.H. |           | BNSF R.H. |           | UPRR L.H. |      | UPRR R.H. |      |
|---|-----------|-----------|-----------|-----------|-----------|------|-----------|------|
|   | WITHOUT   | WITH      | WITHOUT   | WITH      | WITHOUT   | WITH | WITHOUT   | WITH |
| USE OF BONDED JOINT IN TURNOUTS                     |           |           |           |           |           |      |           |      |
| 136 LB - #9 TURNOUT W/ RBM FROG, PANEL (COMPLETE)   | 518789092 | 518789091 | 518789090 | 518789089 | N/A       | N/A  | N/A       | N/A  |
| 136 LB - #91 TURNOUT W/ SMSG FROG, PANEL (COMPLETE) | 518789096 | 518789095 | 518789094 | 518789093 | N/A       | N/A  | N/A       | N/A  |
| 136 LB - #9 TURNOUT W/ RBM FROG, PREPLATED TIES     | N/A       | N/A       | N/A       | N/A       | 557-8056  | N/A  | 557-8057  | N/A  |
| 136 LB - #9 TURNOUT W/ SMSG FROG, PREPLATED TIES    | N/A       | N/A       | N/A       | N/A       | 557-8054  | N/A  | 557-8055  | N/A  |

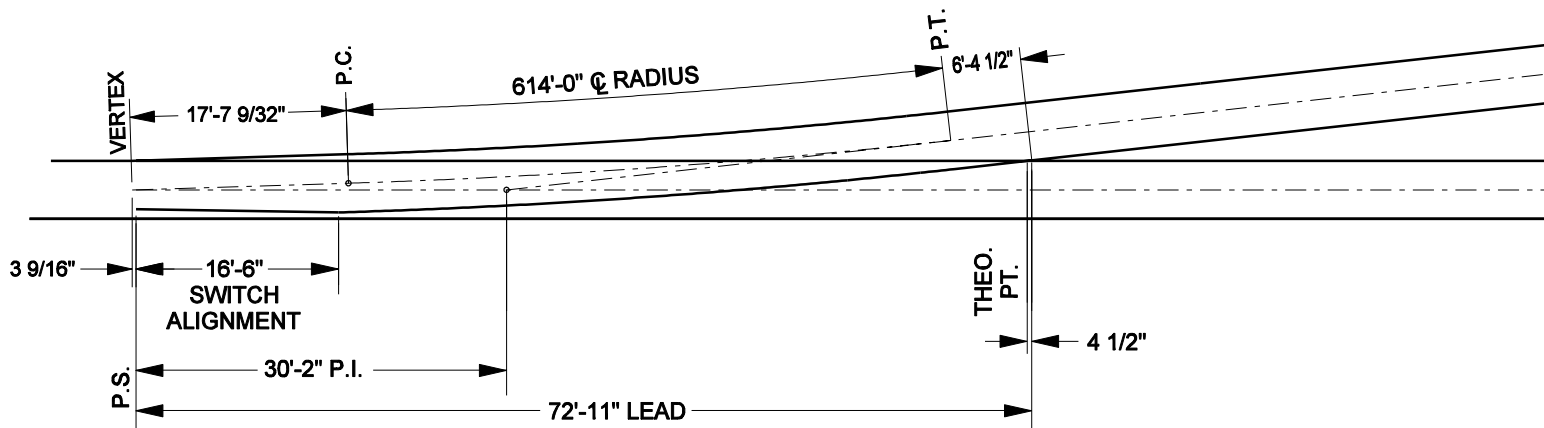


**COMMON STANDARDS**

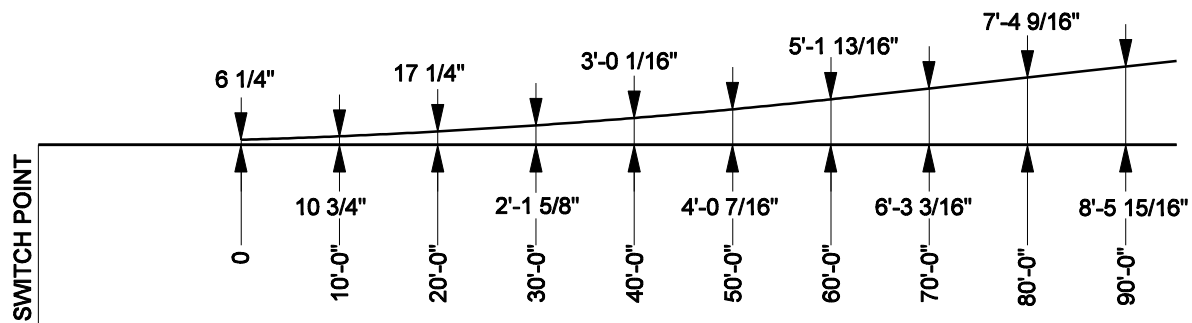
**NO. 9 TURNOUT WITH RBM AND SMSG FROGS  
BILL OF MATERIALS**

|                  |                     |
|------------------|---------------------|
| FILE OWNER: BNSF | DATE: FEB. 11, 2004 |
| REV. #: 1        | DWG: 341200         |

341200



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

| FROG DATA |            |
|-----------|------------|
| ANGLE     | 6°-21'-35" |
| LENGTH    | VARIES     |

| TURNOUT DATA                  |          |
|-------------------------------|----------|
| RADIUS OF CENTER LINE         | 614'     |
| T =                           | 24.59'   |
| CENTRAL ANGLE - CLOSURE CURVE | 4°35'13" |
| DEGREE OF CURVE               | 9°20'31" |

NOTES:



COMMON STANDARDS

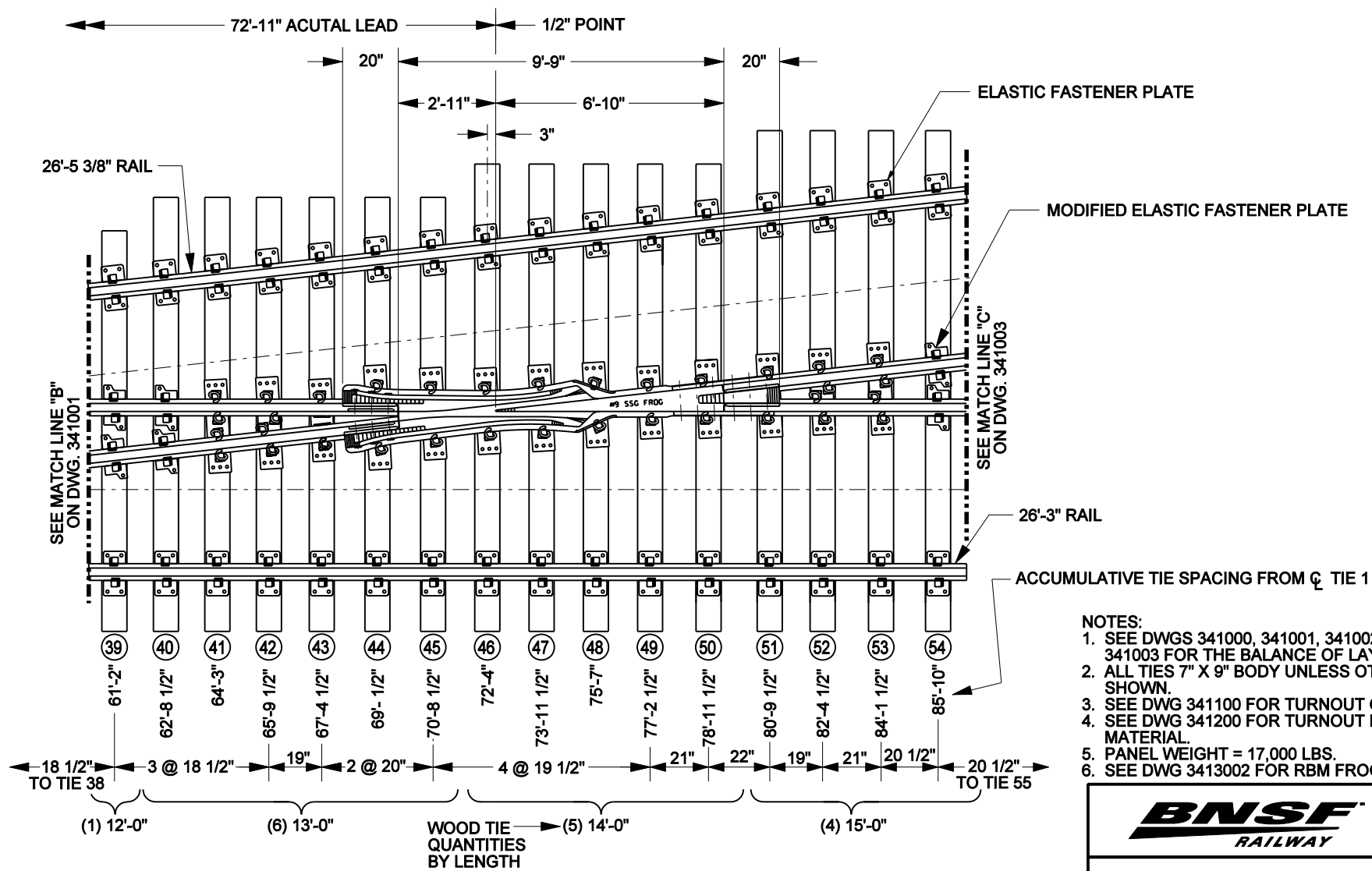


**NO. 9 TURNOUT 16'-6" STRAIGHT SWITCH TURNOUT GEOMETRY**

FILE OWNER: BNSF DATE: JAN. 8, 2003

REV. NO.: 0 DWG NO: 341100

341100



- NOTES:
1. SEE DWGS 341000, 341001, 341002, AND 341003 FOR THE BALANCE OF LAYOUT PLANS.
  2. ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
  3. SEE DWG 341100 FOR TURNOUT GEOMETRY.
  4. SEE DWG 341200 FOR TURNOUT BILL OF MATERIAL.
  5. PANEL WEIGHT = 17,000 LBS.
  6. SEE DWG 3413002 FOR RBM FROG PANEL.



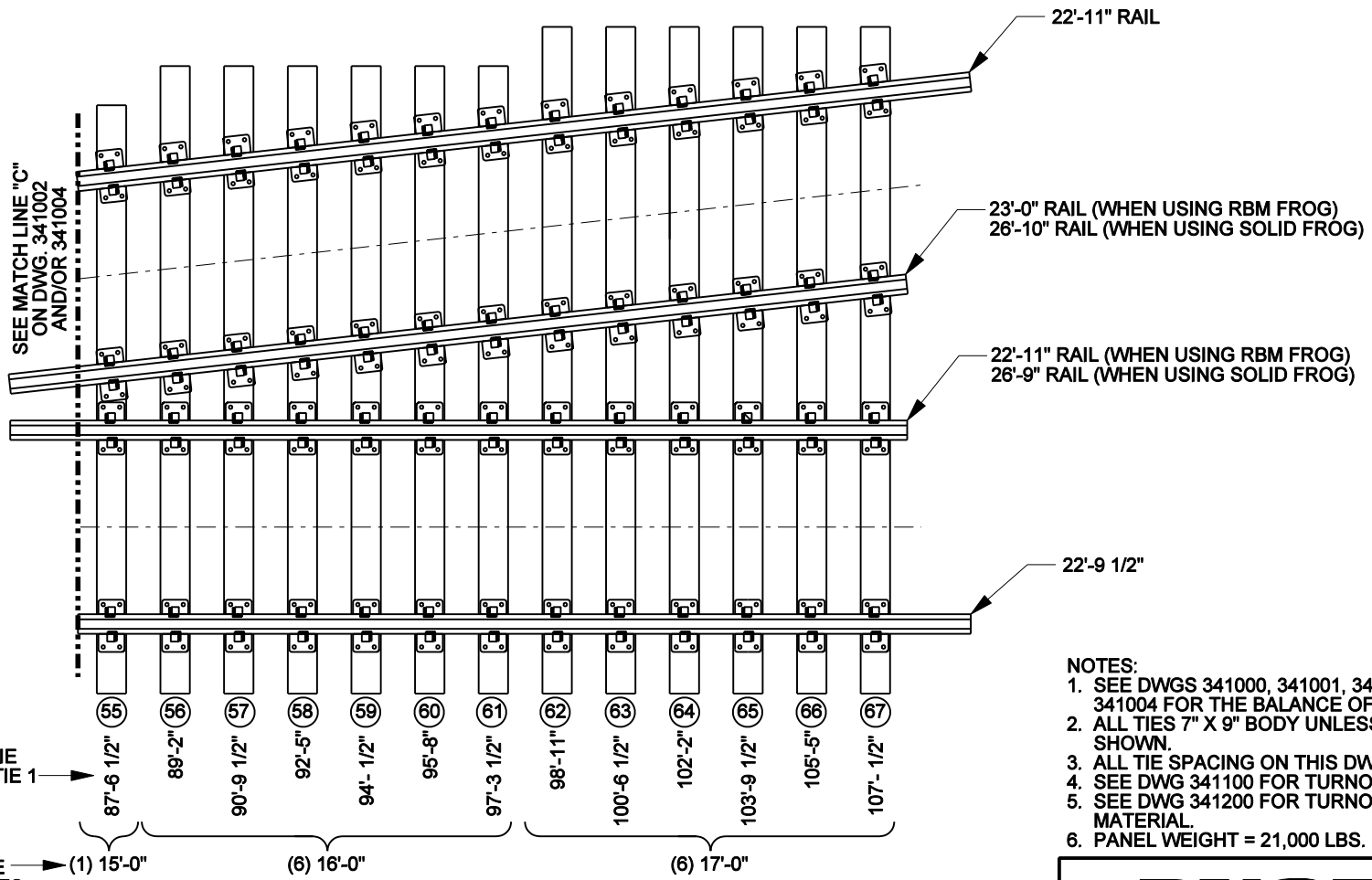
**COMMON STANDARDS**

**NO. 9 TURNOUT 136 LB. PANEL NO. 3 WITH OPTIONAL SMSG FROG**

|       | UPRR | BNSF RH   | BNSF LH   |
|-------|------|-----------|-----------|
| RBM   | N/A  | 513450048 | 513450049 |
| SOLID | N/A  | 513450050 | 513450051 |

|                  |                    |
|------------------|--------------------|
| FILE OWNER: UPRR | DATE: AUG 21, 2007 |
| REV. NO.: 2      | DWG NO: 341004     |

341004




ACCUMULATIVE TIE SPACING FROM  $\zeta$  TIE 1

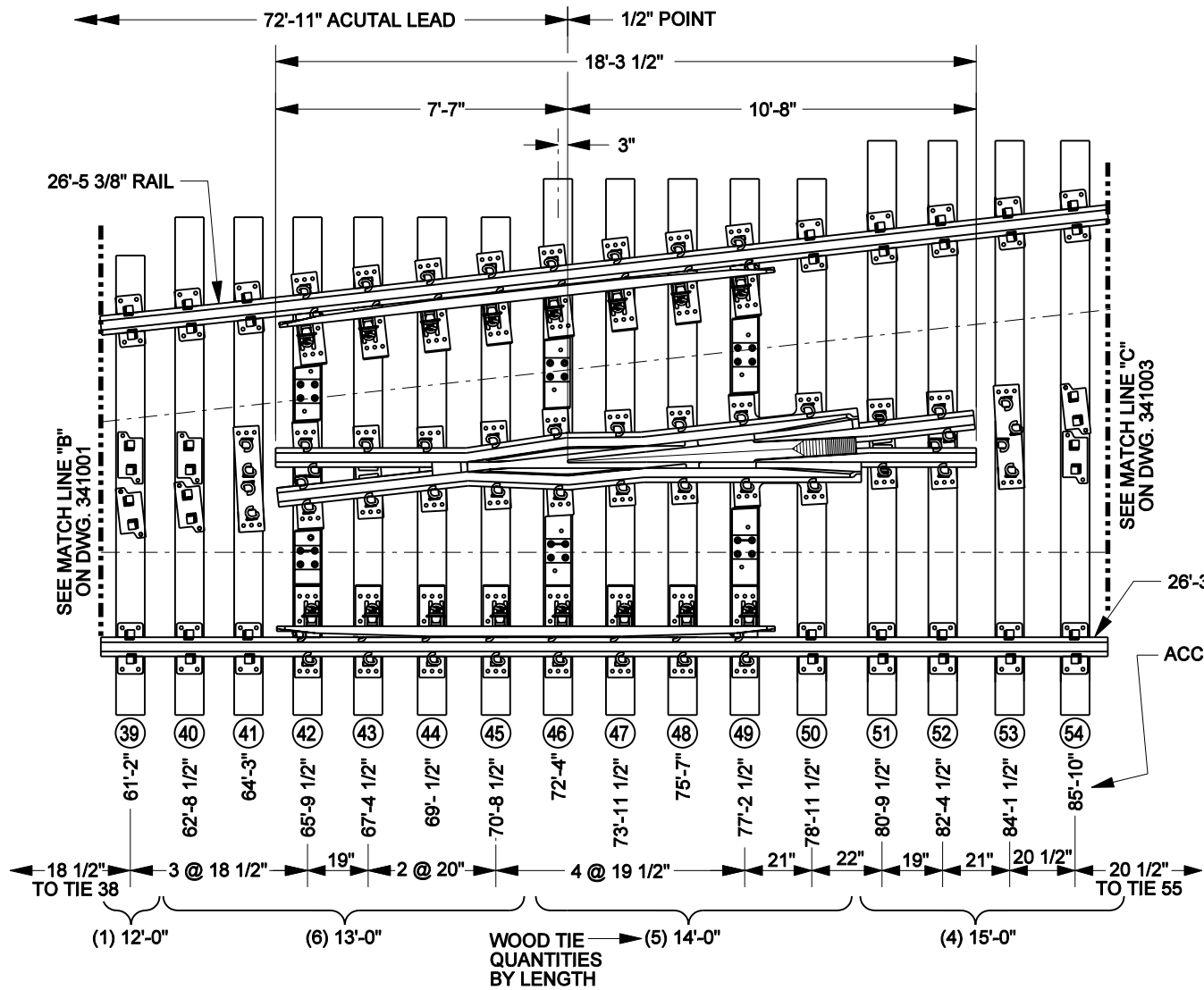
WOOD TIE QUANTITIES BY LENGTH

- 87'-6 1/2"
  - 89'-2"
  - 90'-9 1/2"
  - 92'-5"
  - 94'- 1/2"
  - 95'-8"
  - 97'-3 1/2"
  - 98'-11"
  - 100'-6 1/2"
  - 102'-2"
  - 103'-9 1/2"
  - 105'-5"
  - 107'- 1/2"
- (1) 15'-0"      (6) 16'-0"      (6) 17'-0"

- NOTES:
1. SEE DWGS 341000, 341001, 341002, AND 341004 FOR THE BALANCE OF LAYOUT PLANS.
  2. ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
  3. ALL TIE SPACING ON THIS DWG IS 19 1/2".
  4. SEE DWG 341100 FOR TURNOUT GEOMETRY.
  5. SEE DWG 341200 FOR TURNOUT BILL OF MATERIAL.
  6. PANEL WEIGHT = 21,000 LBS.

341003

|  |                    |   |
|--|--------------------|---|
| <b>BNSF</b><br>RAILWAY                       |                    |  |
| <b>COMMON STANDARDS</b>                      |                    |   |
| <b>NO. 9 TURNOUT 136 LB.<br/>PANEL NO. 4</b> |                    |   |
| FILE OWNER: BNSF                             | DATE: FEB 28, 2007 |   |
| REV. NO.: 1                                  | DWG NO: 341003     |   |



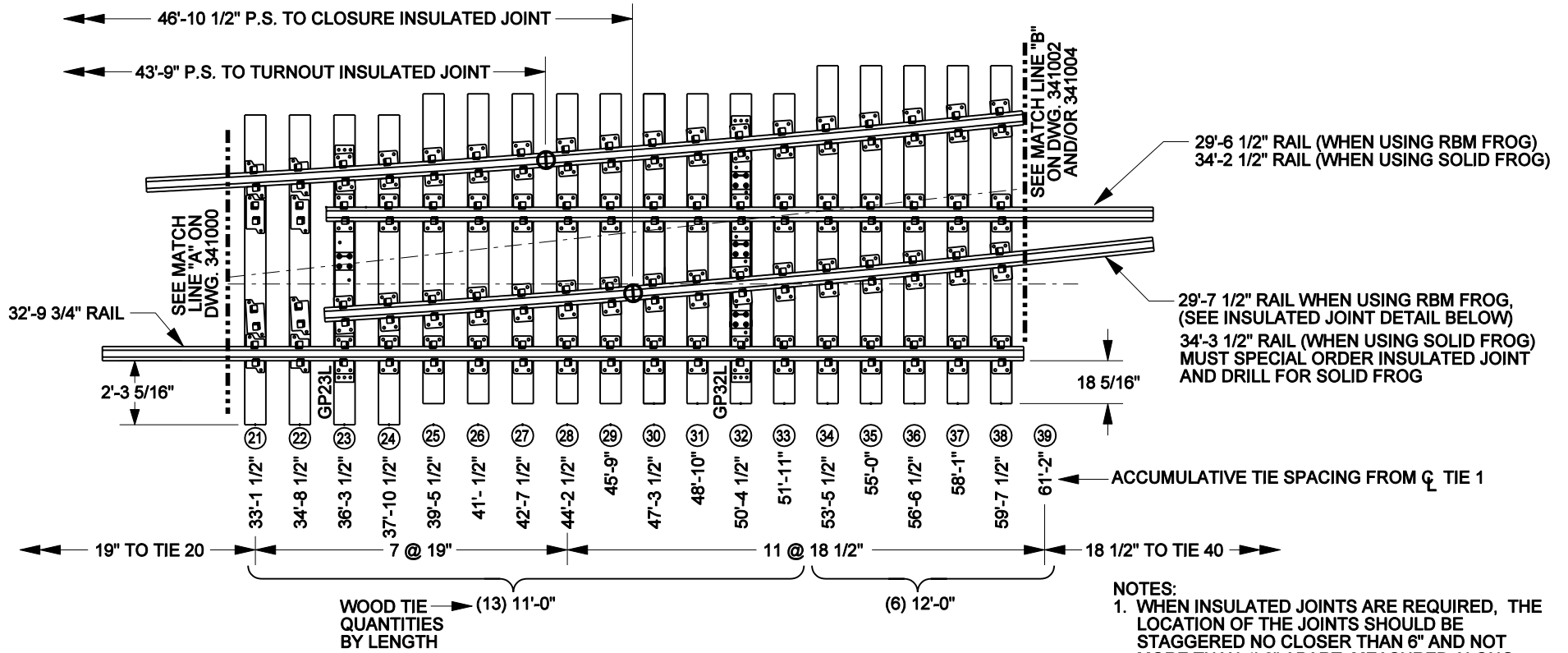
341002

|       | UPRR | BNSF RH   | BNSF LH   |
|-------|------|-----------|-----------|
| RBM   | N/A  | 513450048 | 513450049 |
| SOLID | N/A  | 513450050 | 513450051 |

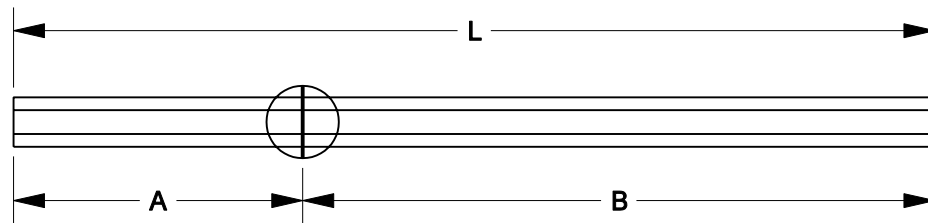
COMMON STANDARDS

NO. 9 TURNOUT 136 LB.  
PANEL NO. 3 WITH  
OPTIONAL RBM FROG

|                  |                    |
|------------------|--------------------|
| FILE OWNER: BNSF | DATE: MAY 19, 2008 |
| REV. NO.: 5      | DWG NO: 341002     |



- NOTES:
1. WHEN INSULATED JOINTS ARE REQUIRED, THE LOCATION OF THE JOINTS SHOULD BE STAGGERED NO CLOSER THAN 6" AND NOT MORE THAN 4'-6" APART, MEASURED ALONG THE TURNOUT.
  2. SEE DWGS 341000, 341002, 341003, AND 341004 FOR THE BALANCE OF LAYOUT PLANS.
  3. ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
  4. SEE DWG 341100 FOR TURNOUT GEOMETRY.
  5. SEE DWG 341200 FOR TURNOUT BILL OF MATERIAL.
  6. PANEL WEIGHT = 14,500 LBS.



|                              | A          | B          | L          | BNSF ITEM NO. |
|------------------------------|------------|------------|------------|---------------|
| TURNOUT INSULATED JOINT RAIL | 14'-3 1/4" | 17'-0 3/4" | 31'-4"     | 524400027     |
| CLOSURE INSULATED JOINT RAIL | 11'-0 1/2" | 18'-7"     | 29'-7 1/2" | 524400030     |

**INSULATED JOINT DETAIL**  
(FOR USE WITH RBM FROG ONLY)

**BNSF**  
RAILWAY



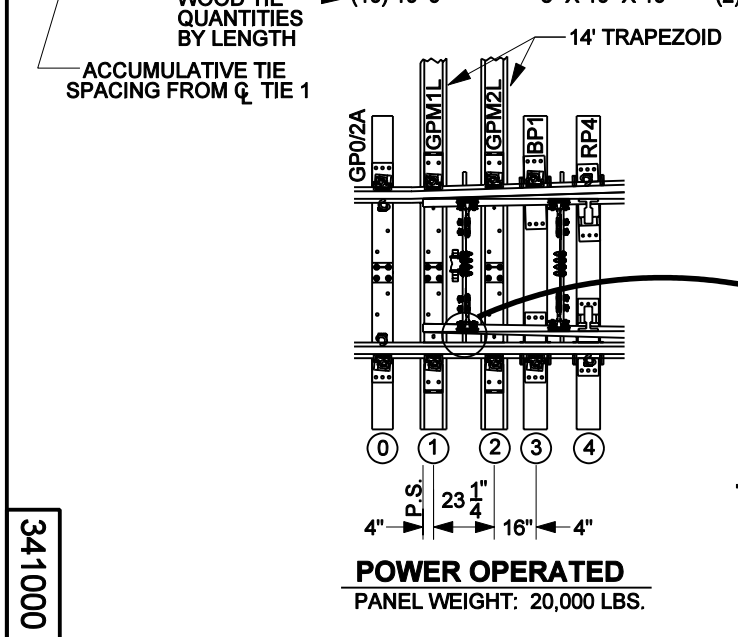
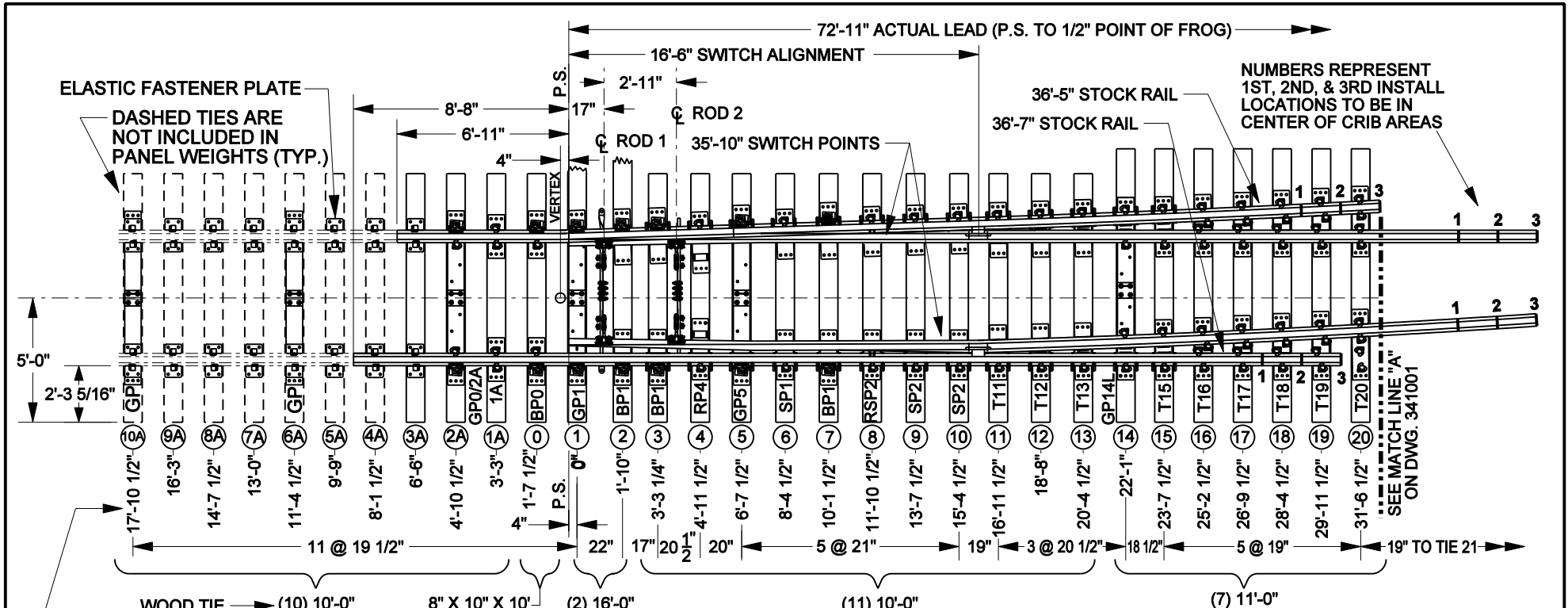
**COMMON STANDARDS**

**NO. 9 TURNOUT 136 LB.  
PANEL NO. 2**

FILE OWNER: BNSF    DATE: MAR. 1, 2007  
REV. NO.: 4    DWG NO: 341001

341001





**THROW DETAIL**

|        | UPRR | BNSF RH   | BNSF LH   |
|--------|------|-----------|-----------|
| POWER  | N/A  | 518030061 | 518030073 |
| MANUAL | N/A  | 518030074 | 518030075 |

- NOTES:
- SEE DWGS 341001, 341002, 341003, AND 341004 FOR THE BALANCE OF LAYOUT PLANS.
  - ALL TIES 7" X 9" BODY UNLESS OTHERWISE SHOWN.
  - SEE DWG 341100 FOR TURNOUT GEOMETRY.
  - SEE DWG 341200 FOR TURNOUT BILL OF MATERIAL.
  - FULLY BOX ANCHOR STOCK RAILS, TIES 3-15 FOR SHIPPING OF PANELS ONLY.
  - APPLY 5" SAFE BOND WIRES ONE CRIB AHEAD OF HEEL OF SWITCH ON STOCK AND SWITCH POINT RAILS.

**BNSF RAILWAY**

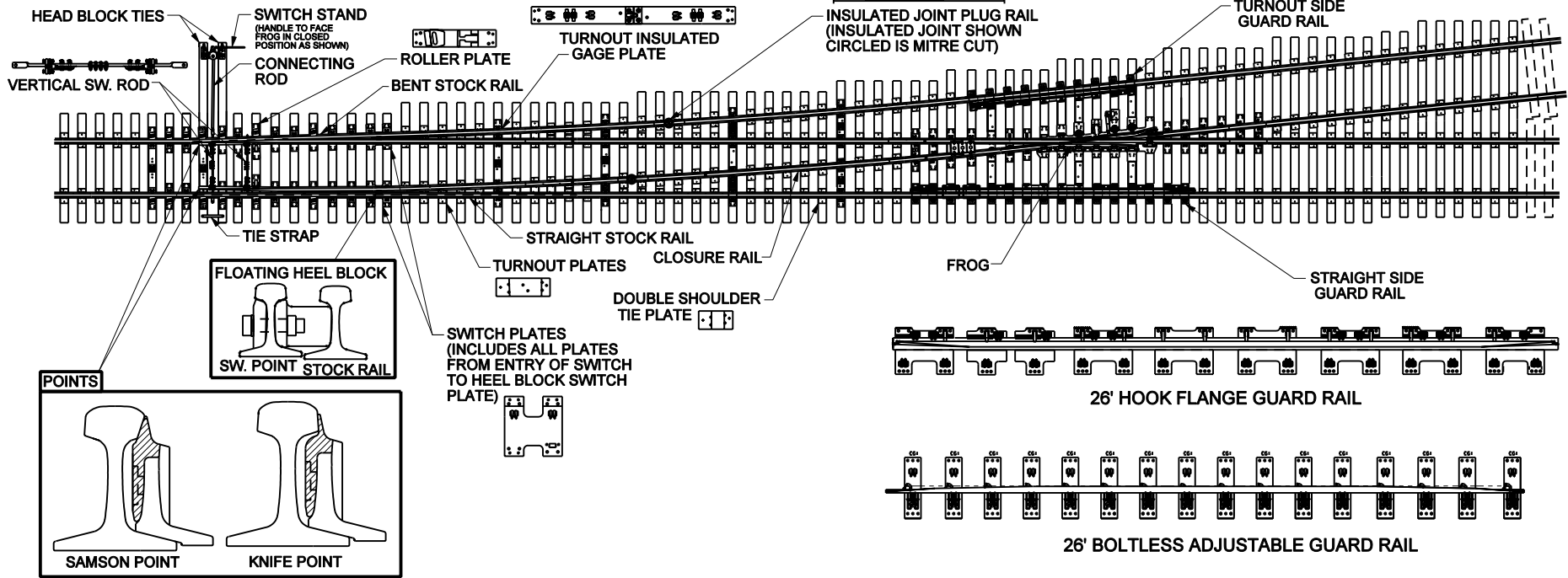
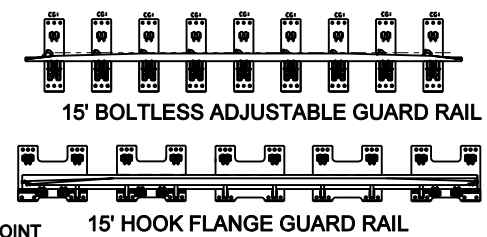
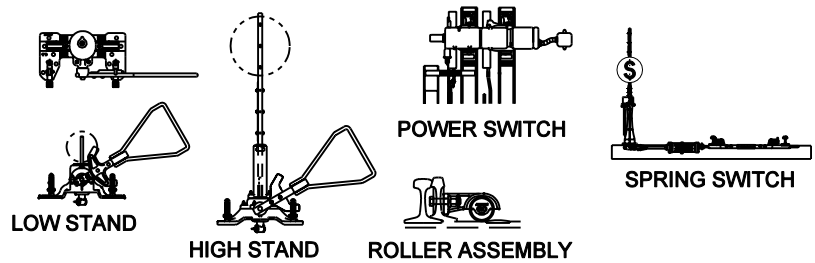
**COMMON STANDARDS**

**NO. 9 TURNOUT 136 LB  
PANEL NO. 1**

|                  |                    |
|------------------|--------------------|
| FILE OWNER: BNSF | DATE: MAR. 1, 2007 |
| REV. NO.: 3      | DWG NO: 341000     |

341000





NOTES:  
 1. ACTUAL COMPONENTS WILL VARY. REPRESENTATIONS SHOWN MAY OR MAY NOT BE A CURRENT STANDARD.

**UNION PACIFIC RAILROAD  
 ENGINEERING STANDARDS**

**NOMENCLATURE FOR  
 MOST TURNOUTS**



ADOPTED: APRIL 14, 1999  
 REVISED: MAY 25, 2004  
 FILE NO.: 5001A

STD DWG  
**5001A**



**FROG TYPES**

MOVEABLE POINT FROG (NOT SHOWN), SEE STD DWG 3080

STD DWG  
**5001A**

**ITEMS USED IN ALL NO. 15 TURNOUTS**

| QTY.  | COMPONENT DESCRIPTION                                     | DWG NO. | BNSF ITEM NO. | UPRR ITEM NO. |
|-------|---|---------|---------------|---------------|
| 1     | 26-0" (EXT. 37"-7") STRT SAMSON SWITCH POINT (NO TIP)     | 245100  | SEE DWG       | SEE DWG       |
| 1     | 26-0" (EXT. 37"-7") CURVED SAMSON SWITCH POINT (WTIP)     | 245100  | SEE DWG       | SEE DWG       |
| 1     | 47'-11" STRAIGHT SAMSON STOCK RAIL                        | 241500  | SEE DWG       | SEE DWG       |
| 1     | 46'-2" BENT/CURVED SAMSON STOCK RAIL                      | 241500  | SEE DWG       | SEE DWG       |
| 1 EA. | SWITCH RODS NO. 2 AND 3                                   | 241600  | 516620171     | 557-5586      |
| 2     | "GP" GAGE PLATE FOR TIES 6A & 10A AHEAD OF POINT          | 241304  | 515821526     | N/A           |
| 2     | "1A" PLATE FOR TIE 1A AHEAD OF POINT                      | 241306  | 515821540     | N/A           |
| 2     | "GP02A" ADJUSTABLE BRACE GAGE PLATE FOR TIES 0 & 2A       | 241301  | 515821003     | N/A           |
| 1     | "GP5" ADJUSTABLE BRACE GAGE PLATE FOR TIE 5               | 245305  | 515910639     | N/A           |
| 1     | "GP12" GAGE PLATE FOR TIE 12                              | 245300  | 515910640     | N/A           |
| 2     | "RP6" ROLLER RISER PLATE                                  | 241309  | 515821555     | SEE DWG       |
| 2     | "RP10" ROLLER RISER PLATE                                 | 241309  | 515821556     | SEE DWG       |
| 4     | ROLLER ASSEMBLY   | 241309  | 516650007     | SEE DWG       |
| 10    | "BP1" ADJUSTABLE BRACE SLIDE PLATE                        | 241306  | 515821014     | 557-2638      |
| 4     | "SP1" SLIDE PLATE   | 241306  | 515821069     | 557-2849      |
| 2     | RISER SLIDE PLATES - RSP1, RSP2, AND RSP3                 | 243309  | SEE DWG       | SEE DWG       |
| 2     | TURNOUT PLATES T17 THRU T29                               | 245307  | SEE DWG       | 557-8991      |
| 1     | "GP28" GAGE PLATE FOR TIE 28                              | 245310  | SEE DWG       | SEE DWG       |
| 1     | "GP38" GAGE PLATE FOR TIE 38                              | 245311  | SEE DWG       | SEE DWG       |
| 1     | "GP50" GAGE PLATE FOR TIE 50                              | 245312  | SEE DWG       | SEE DWG       |
| 2     | 19'-6" BOLTLESS ADJUSTABLE GUARD RAIL                     | 160100  | 516240059     | 556-5260      |
| 6     | "FGP" FROG GAGE PLATE                                     | 156000  | 515821497     | 555-6806      |
| 1     | 39'-0" CLOSURE INSULATED JOINT RAIL                       | 345001  | 524400035     | N/A           |
| 1     | 35'-9" INSULATED JOINT TURNOUT RAIL                       | 345001  | 524400034     | N/A           |
| 384   | 136 OR 141 LB. RAIL (IN LINEAR FEET)                      | 176000  | SEE DWG       | SEE DWG       |
| 218   | PANDROL TIE PLATE   | 263000  | 525820956     | 503-9020      |
| 14    | MODIFIED PANDROL TIE PLATE                                | 263001  | N/A           | N/A           |
| 720   | PANDROL CLIP E-2055                                       | 132500  | 521710020     | 503-6100      |
| 8     | PANDROL INSULATED JOINT CLIP ASSEMBLY                     | 132800  | 521710020     | 503-5580      |
| 1424  | 15/16" DIA. x 6 1/2" LG. "RAILROAD APPROVED" SCREW SPIKES | 130800  | 527570012     | 503-8620      |
| 2208  | RAIL ANCHORS FOR BNSF                                     | 135010  | 520130012     | N/A           |
| 610   | RAIL ANCHORS FOR UPRR                                     | 135010  | N/A           | 550-1650      |

**ITEMS SPECIAL TO MANUAL OR POWER AND A CHOICE OF FROGS**

| QTY. | REQUIRED FOR MANUAL                                    | DWG #  | BNSF ITEM # | UPRR ITEM # |
|------|--|--------|-------------|-------------|
| 1    | "GP1" ADJUSTABLE BRACE GAGE PLATE FOR TIE 1            | 241300 | SEE DWG     | SEE DWG     |
| 2    | "BP1" ADJUSTABLE BRACE SLIDE PLATE FOR TIE 2           | 245306 | 515821014   | 557-2638    |
| 1    | 7" X 9" X 10'-0" TIE (TIE 0)                           | N/A    | N/A         | 502-1000    |
| 2    | 7" X 9" X 16'-0" TIE (TIES 1 AND 2)                    | N/A    | N/A         | 502-1600    |
| 1    | SWITCH ROD NO. 1                                       | 241600 | SEE DWG     | 557-5587    |
|      |  |        |             |             |
| QTY. | REQUIRED FOR POWER                                     | DWG #  | BNSF ITEM # | UPRR ITEM # |
| 1    | SWITCH ROD NO. 1 WITH BASKET (ADJUSTER)                | 241601 | SEE DWG     | 557-5585    |
| 1    | "GPM1LR" ADJUSTABLE BRACE MACHINE GAGE PLATE FOR TIE 1 | 241302 | SEE DWG     | SEE DWG     |
| 1    | "GPM2LR" ADJUSTABLE BRACE MACHINE GAGE PLATE FOR TIE 2 | 241303 | SEE DWG     | SEE DWG     |
| 1    | 8" (TOP) X 10" X 10'-0" TIE (TIE 0)                    | N/A    | SEE DWG     | 502-4300    |
| 2    | 7" X 10" X 14'-0" TRAPEZOID TIE (TIES 1 AND 2)         | 250000 | SEE DWG     | 502-4899    |
|      |  |        |             |             |
| QTY. | REQUIRED FOR POWER                                     | DWG #  | BNSF ITEM # | UPRR ITEM # |
| 1    | 30'-11" RBM WITH PLATES                                | 157100 | SEE DWG     | SEE DWG     |
| 1    | 30'-11" SOLID MANGANESE SPRING FROG WITH PLATES        | 157200 | SEE DWG     | SEE DWG     |

**TIES USED IN ALL #15 TURNOUTS**

| QTY. | SIZE             | TIE NUMBER       |
|------|------------------|------------------|
| 10   | 7" X 9" X 10'-0" | TIES 1A THRU 10A |
| 19   | 7" X 9" X 10'-0" | TIES 3 THRU 21   |
| 25   | 7" X 9" X 11'-0" | TIES 22 THRU 46  |
| 11   | 7" X 9" X 12'-0" | TIES 47 THRU 57  |
| 9    | 7" X 9" X 13'-0" | TIES 58 THRU 66  |
| 9    | 7" X 9" X 14'-0" | TIES 67 THRU 75  |
| 10   | 7" X 9" X 15'-0" | TIES 76 THRU 85  |
| 9    | 7" X 9" X 16'-0" | TIES 86 THRU 94  |
| 9    | 7" X 9" X 17'-0" | TIES 95 THRU 103 |

**MANUAL OPERATED ITEM NUMBERS**

|   | BNSF L.H. | BNSF R.H. | UPRR L.H. | UPRR R.H. |
|---|-----------|-----------|-----------|-----------|
| 136 LB - #15 TURNOUT W/ SPRING SWITCH AND RBM FROG, PANEL (COMPLETE)    | 518789148 | 518789149 | N/A       | N/A       |
| 136 LB - #15 TURNOUT W/ SPRING SWITCH AND SPRING FROG, PANEL (COMPLETE) | 518789150 | 518789151 | N/A       | N/A       |
| 136 LB - #15 TURNOUT W/ RBM FROG, PREPLATED TIES                        | N/A       | N/A       | 557-8289  | 557-8290  |
| 136 LB - #15 TURNOUT W/ SPRING FROG, PREPLATED TIES                     | N/A       | N/A       | 557-8295  | 557-8296  |
| 136 LB - #15 TURNOUT W/ SPRING SWITCH AND RBM FROG, PREPLATED TIES      | N/A       | N/A       | 557-8287  | 557-8288  |
| 136 LB - #15 TURNOUT W/ SPRING SWITCH AND SPRING FROG, PREPLATED TIES   | N/A       | N/A       | 557-8293  | 557-8294  |
| 141 LB - #15 TURNOUT W/ SPRING SWITCH AND RBM FROG, PANEL (COMPLETE)    | 518789238 | 518789239 | N/A       | N/A       |
| 141 LB - #15 TURNOUT W/ SPRING SWITCH AND SPRING FROG, PANEL (COMPLETE) | 518789240 | 518789241 | N/A       | N/A       |
| 141 LB - #15 TURNOUT W/ RBM FROG, PREPLATED TIES                        | N/A       | N/A       | 557-8545  | 557-8546  |
| 141 LB - #15 TURNOUT W/ SPRING FROG, PREPLATED TIES                     | N/A       | N/A       | 557-8541  | 557-8542  |
| 141 LB - #15 TURNOUT W/ SPRING SWITCH AND RBM FROG, PREPLATED TIES      | N/A       | N/A       | 557-8543  | 557-8544  |
| 141 LB - #15 TURNOUT W/ SPRING SWITCH AND SPRING FROG, PREPLATED TIES   | N/A       | N/A       | 557-8547  | 557-8548  |

**POWER OPERATED ITEM NUMBERS**

|   | BNSF L.H. | BNSF R.H. | UPRR L.H. | UPRR R.H. |
|---|-----------|-----------|-----------|-----------|
| 136 LB - #15 TURNOUT W/ RBM FROG, PANEL (COMPLETE)    | 518789130 | 518789129 | N/A       | N/A       |
| 136 LB - #15 TURNOUT W/ SPRING FROG, PANEL (COMPLETE) | 518789132 | 518789131 | N/A       | N/A       |
| 136 LB - #15 TURNOUT W/ RBM FROG, PREPLATED TIES      | N/A       | N/A       | 557-8245  | 557-8246  |
| 136 LB - #15 TURNOUT W/ SPRING FROG, PREPLATED TIES   | N/A       | N/A       | 557-8240  | 557-8241  |
| 141 LB - #15 TURNOUT W/ RBM FROG, PANEL (COMPLETE)    | 518789242 | 518789243 | N/A       | N/A       |
| 141 LB - #15 TURNOUT W/ SPRING FROG, PANEL (COMPLETE) | 518789244 | 518789245 | N/A       | N/A       |
| 141 LB - #15 TURNOUT W/ RBM FROG, PREPLATED TIES      | N/A       | N/A       | 557-8553  | 557-8554  |
| 141 LB - #15 TURNOUT W/ SPRING FROG, PREPLATED TIES   | N/A       | N/A       | 557-8551  | 557-8552  |

**NOTES FOR MANUFACTURERS**

1. ALL MATERIAL TO MEET OR EXCEED RAILROADS RELATED SPECIFICATIONS.
2. SIGNAL DEPARTMENT TO FURNISH #1 ROD BASKET ADJUSTER AND DAP PLATING FOR MACHINE MOUNTING.
3. TRAPEZOID HEAD BLOCK TIES ARE DAPPED PER DWG 250000.



**COMMON STANDARDS**

**NO. 15 TURNOUT 136/141 LB. WITH RBM AND SPRING FROGS, BILL OF MATERIALS**

|                  |                   |
|------------------|-------------------|
| FILE OWNER: UPRR | DATE: MAY 2, 2008 |
| REV. NO.: 5      | DWG NO: 345200    |

345200