ON PUBLIC CROSSINGS, USE APPROVED RUBBER FLANGE WAY FILLER. ON PRIVATE CROSSINGS, FLANGEWAY FILLER IS NOT REQUIRED.

7" MINIMUM TOPPING OF ASPHALTIC CONCRETE OR ASPHALT INSTALLED IN NO MORE THAN 3" LIFTS

CONCRETE PAVEMENT

BALLAST SECTION 8" MINIMUM

COMPACTED SUBBALLAST SECTION - SEE NOTE

COMPACTED SUBGRADE

GEOWEB/OVERFILL 8"

SECTION A-A (THROUGH CROSSING WITH TIMBER TIES)

SECTION WITH DRAIN

GEOTEXTILE

6" PERFORATED PIPE

OPEN TIE CRIB FOR DRAINAGE

SECTION B-B

3/4" SELF TAPPING TIMBER SCREWS

CROSSING SECTION

TIE 19 1/2" (TYP.)

EXTEND TIES TO FIVE TIES BEYOND END OF CROSSING (TYPICAL BOTH SIDES)

EDGE OF TRAVELED WAY INCLUDING SHOULDERS

NOTES:
1. CROSSING PANELS MUST BE EVENLY SUPPORTED ON ALL TIES. TRACK STRUCTURE INCLUDING RAIL, OBM, TIES, BALLAST AND ROADBED MUST BE IN EXCELLENT CONDITION. ALL TIES MUST BE 9" LONG, SPACED AT 19 1/2" CENTERS AND EXTEND FIVE TIES BEYOND END OF CROSSING. NEW 7" X 9" X 9'-0" TRACK TIES TO BE INSTALLED IF NECESSARY.

2. CROSSING SITE IS TO BE INSPECTED PRIOR TO START OF INSTALLATION TO DETERMINE THAT PROPER DRAINAGE AND SURFACE SUPPORT IS PROVIDED. TRACK GRADING IS UNIFORM AND EXISTING TIES ARE AT LEAST 9" LONG.

3. IF CONDITIONS WARRANT, SITE IS TO BE OVER-EXCAVATED AND CROSSING DRAINAGE SYSTEM INSTALLED USING COMPACTED, WELL GRADED GRANULAR FILL, SUBBALLAST, GEOTEXTILE AND PERFORATED DRAINAGE PIPE (IF REQUIRED) INSTALLED PER DETAILS OF THIS DRAWING.

4. GEOWEB UNDERLAYMENT RECOMMENDED FOR ALL ROAD CROSSING INSTALLATIONS.

5. ADDITIONAL SITE DRAINAGE INCLUDING PROPER DRAINAGE AT EACH QUADRANT OF CROSSING SHALL BE COMPLETED TO ENSURE CROSSING DRAINAGE.

6. RAIL JOINTS TO BE LOCATED TO FALL OUTSIDE THE CROSSING AREA A MINIMUM OF 15'-0" FROM END OF CROSSING TIMBER.

SEE PAGE 2 FOR THE REST OF THE NOTES

UNION PACIFIC RAILROAD ENGINEERING STANDARDS

INSTALLATION OF ROAD CROSSING W/ PREFAB TIMBER PANELS

APPROVED: VP ENGINEERING
ADOPTED: AUG. 17, 1987
REVISED: MAR. 7, 2019
FILE NO.: 03011

STD DWG 03011

PAGE 1 OF 2

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PLAN

SIDE VIEW

FIELD TIMBER PANEL A

MATERIAL FOR ONE SECTION
2 - A x 8 1/2" x 8'-1 1/4" TIMBERS
3 - 3/4" x 19 1/2" TWISTED DRIVE DOWELS
6 - 3/4" x 12" SELF TAPPING TIMBER SCREWS
1 - A x 3 1/4" x 8'-1 1/4" TIMBER

HOMES FOR 3/4" TWISTED DRIVE DOWELS
HOMES FOR 3/4" SELF TAPPING TIMBER SCREWS

SIDE VIEW

GAGE TIMBER PANEL B

MATERIAL FOR ONE SECTION
3 - A x 8 1/2" x 8'-1 1/4" TIMBERS
3 - 3/4" x 24" TWISTED DRIVE DOWELS
6 - 3/4" x 13" SELF TAPPING TIMBER SCREWS

END VIEW

DIMENSION CHART

<table>
<thead>
<tr>
<th>RAIL SIZE</th>
<th>A</th>
<th>SCREWS</th>
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<tbody>
<tr>
<td>131# - 141#</td>
<td>8&quot;</td>
<td>3/4&quot; x 13&quot;</td>
</tr>
<tr>
<td>110# - 119#</td>
<td>7 3/8&quot;</td>
<td>3/4&quot; x 13&quot;</td>
</tr>
<tr>
<td>90# &amp; 100#</td>
<td>6 3/4&quot;</td>
<td>3/4&quot; x 12&quot;</td>
</tr>
</tbody>
</table>

* RAIL SHALL BE AT LEAST 115# FOR A MINIMUM LENGTH OF 20' BEYOND THE EDGE OF TRAVELED WAY

SUBBALLAST NOTE:
SUBBALLAST SECTION TO BE A MINIMUM OF 4" WHEN RENEWING EXISTING CROSSING.
FOR NEW CONSTRUCTION, SUBBALLAST SECTION TO BE IN ACCORDANCE WITH CONSTRUCTION DESIGN STANDARDS OR AS REQU'ED. BY STATE OR LOCAL AGENCIES.

TYPICAL PIPE LAYOUT

NOTES (CONTINUED FROM PAGE 1):

FABRICATION AND TREATMENT:
1. CROSSING SECTIONS TO BE FABRICATED AND ASSEMBLED TO AVOID ANY CUTTING OR FITTING AT THE POINT OF INSTALLATION. SECTIONS TO BE PREDRILLED WITH 1/2" HOLES AND TRANSVERSEE Dowelled WITH 3/4" TWISTED DRIVE DOWELS. EACH PLANK TO BE FRAMED, BORED AND TREATED WITH A P2 SOLUTION TO 8 LBS. PER CUBIC FOOT RETENTION PRIOR TO ASSEMBLY INTO CROSSING SECTION. PLACE THE CROSSING SECTION MARK ON THE END OF ALL SECTIONS. EACH MARK TO HAVE A SUFFIX DENOTING RAIL SIZE AS SHOWN UNDER CATEGORIES IN DIMENSION CHART.

MATERIALS AND INSTALLATION:
1. REQUIREMENTS FOR PREFABRICATED CROSSING SECTIONS TO BE MADE SPECIFYING THE NUMBER OF EACH TYPE OF SECTION REQUIRED (A OR B) AND THE WEIGHT OF RAIL WITH WHICH IT IS TO BE USED (133, 131, ETC.) AS DENOTED IN THE DIMENSION CHART UNDER CATEGORIES. DRILLING TO START AT THE CENTERLINE OF CROSSING AND WORK TOWARDS THE ENDS.

3. REPORT CROSSING GATE MALFUNCTIONS TO 24 HR UPRR CROSSING HOT LINE AT 1-800-848-8715.

4. ALL EXCEPTIONS TO THIS PLAN MUST BE APPROVED BY THE CHIEF ENGINEER.

INSTALLATION OF ROAD CROSSING W/ PREFAB TIMBER PANELS

REQUIRED COMPONENTS

<table>
<thead>
<tr>
<th>RAIL WEIGHT</th>
<th>90#-100#</th>
<th>110#-119#</th>
<th>131#-141#</th>
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<tbody>
<tr>
<td>4 PIECE SET</td>
<td>540-3500</td>
<td>540-3600</td>
<td>540-4300</td>
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</tbody>
</table>

FIELD TIMBER PANEL A 540-3600  540-4000  540-4400
GAGE TIMBER PANEL B 540-3700  540-4100  540-4500
3/4" SELF TAP TIMBER SCREWS 130-6400  130-5402

OPTIONAL COMPONENTS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>510-3201</td>
<td>20' SECTION 6&quot; PERFORATED PIPE</td>
</tr>
<tr>
<td>510-3557</td>
<td>6&quot; ADJUSTABLE PIPE ELBOW</td>
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<tr>
<td>510-3379</td>
<td>6&quot; PIPE CONNECTOR BAND</td>
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<tr>
<td>550-0119</td>
<td>100' ROLL GEOTEXTILE</td>
</tr>
<tr>
<td>540-1950</td>
<td>FLANGEWAY RUBBER</td>
</tr>
<tr>
<td>550-0120</td>
<td>GEOWEB PANEL</td>
</tr>
<tr>
<td>550-0122</td>
<td>ATRA KEY (BOX OF 450)</td>
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