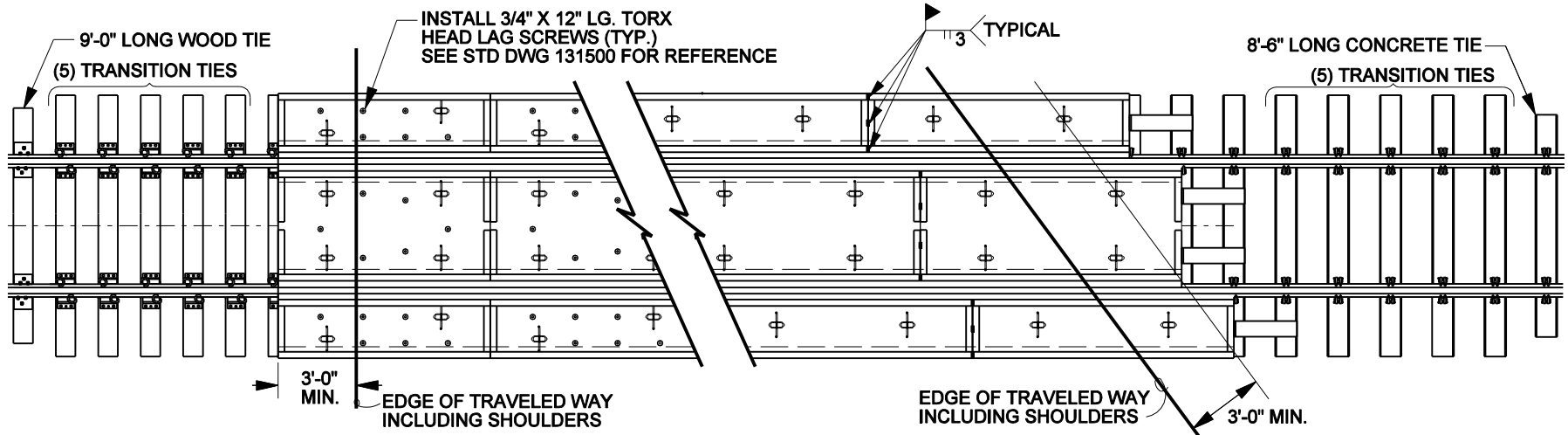
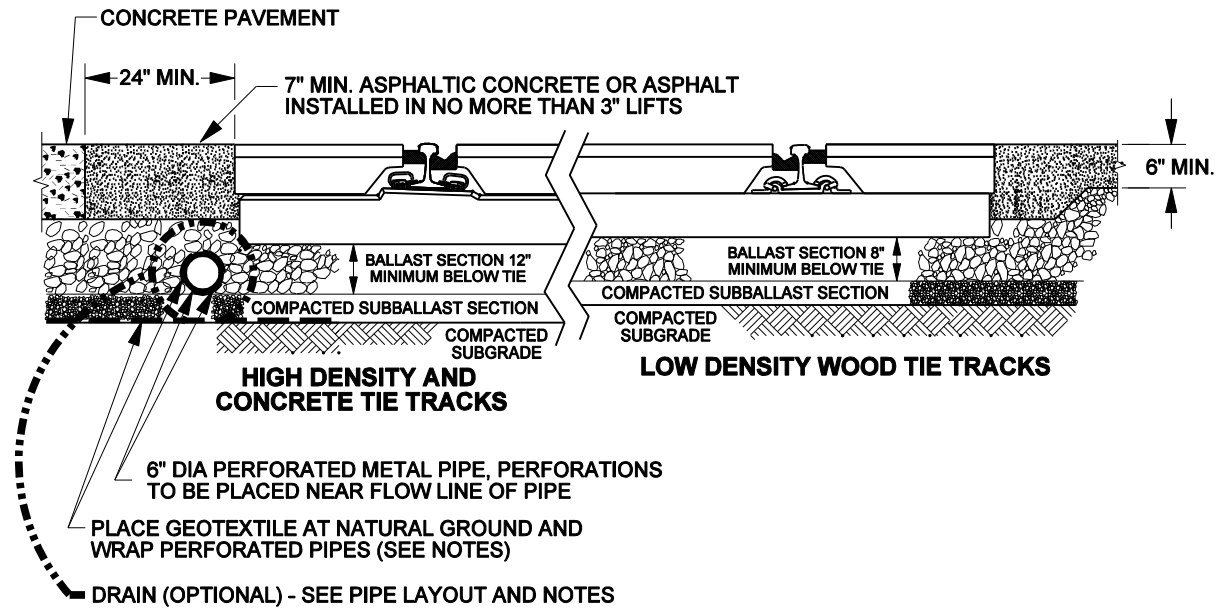
 <small>This seal appearing on this document was authorized by Patricia Syzdek Edwards, P.E., 121496. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. This document is released for permitting purposes on 12/7/2016.</small>	BRAZOS CO. INDUSTRIAL PARK #3 INDEPENDENCE AVE. PAVEMENT REPAIR		
	DRAWN BY: PSE		
	DATE: 12/2016		
	APPR BY:		
SCALE: 1" = 40'			
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PLAN VIEW OF PANEL WITH TIMBER TIES

PLAN VIEW OF PANEL & JOINT WELD LOCATION W/CONCRETE TIES



TYPICAL BALLAST AND ASPHALT DETAIL

NOTES:
SEE PAGE 2 FOR NOTES AND MORE DETAILS.

**UNION PACIFIC RAILROAD
ENGINEERING STANDARDS**

**INSTALLATION OF ROAD
CROSSINGS W/ PRECAST
CONCRETE PANELS**

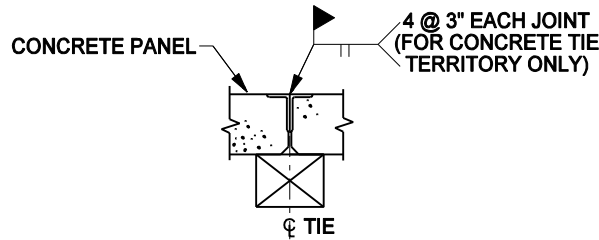
APPROVED: *Charles A. Conwell*
VP ENGINEERING
ADOPTED: DEC. 19, 1987
REVISED: JAN. 17, 2011
FILE NO.: 0304H

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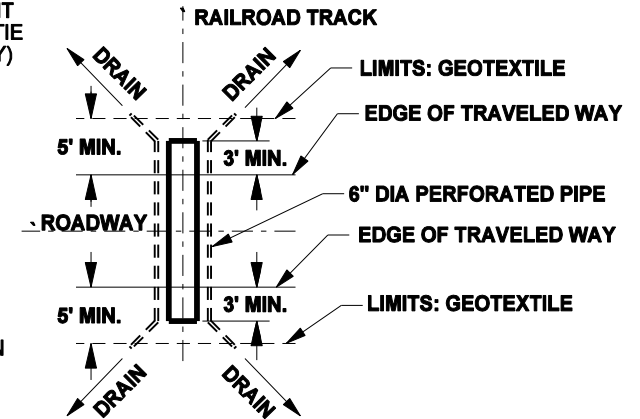
NOTES:

- CROSSING PANEL SUPPORT THROUGH THE CROSSING MUST BE UNIFORM. CONCRETE TIE SPACING IS TO BE A MAXIMUM OF 24" CENTER TO CENTER. WOOD TIE SPACING TO BE MAXIMUM OF 19 1/2" CENTER TO CENTER. TIE SPACING MUST BE ADJUSTED TO SUPPORT THE ENDS OF THE PANELS
- CROSSING SITE IS TO BE INSPECTED PRIOR TO START OF INSTALLATION TO DETERMINE THAT PROPER DRAINAGE AND SURFACE SUPPORT IS PROVIDED, TRACK GRADE IS UNIFORM AND EXISTING TIES ARE AT LEAST 10' LONG.
- 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.
- ADDITIONAL SITE DRAINAGE INCLUDING PROPER DRAINAGE AT EACH QUADRANT OF CROSSING SHALL BE COMPLETED TO ENSURE CROSSING DRAINAGE.
- PRECAST PANELS ARE TO BE HANDLED AND SUPPORTED AT SPECIFIED LIFTING INSERT LOCATIONS ONLY. LIFTING EQUIPMENT AND CONNECTION INSERTS ARE TO BE PROPERLY SIZED TO HANDLE THE LENGTH OF PANELS BEING INSTALLED. RING LIFTING DEVICES ARE AVAILABLE FROM COMPANY WAREHOUSE
- APPROACH ASPHALT ROADWAY PAVING IS TO MEET STATE DOT HIGHWAY SPECIFICATIONS AND INSTALLED ACCORDINGLY. ASPHALT IS TO BE INSTALLED WITH PAVER WITH MAXIMUM 3" LIFTS AND LAID PARALLEL TO CROSSING TO MINIMIZE APPROACH SETTLEMENTS.
- GEOTEXTILE AND PIPE TO BE INSTALLED ONLY AT LOCATIONS WHERE REQUIRED BY STATE OR LOCAL AGENCIES OR WHERE DESIGNATED BY CHIEF ENGINEER.
- GALVANIZED ELASTIC FASTENERS ARE TO BE USED WITHIN THE CROSSING AREA. PANDROL E-CLIPS TO BE USED ON WOOD TIE CROSSINGS AND SAFELOK CLIPS ON CONCRETE TIE CROSSINGS.
- ALL RAIL JOINTS IN CROSSING AREA TO BE WELDED, DO NOT INSTALL BOLTED JOINT BARS.
- REPORT CROSSING GATE MALFUNCTIONS TO 24 HR UPRR CROSSING HOT LINE AT 1-800-848-8715.
- ALL EXCEPTIONS TO THIS PLAN MUST BE APPROVED BY THE CHIEF ENGINEER.



JOINT BETWEEN PANELS

INTERIOR JOINTS BETWEEN PANELS MUST REST ON CENTER LINE OF A WOOD OR CONCRETE TIE AS SHOWN

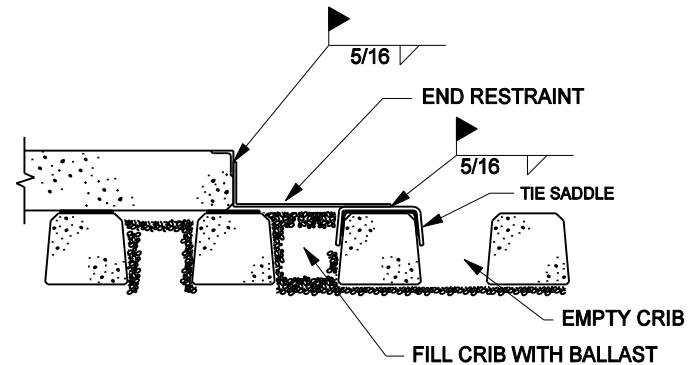


TYPICAL PIPE LAYOUT

NOTE:
GEOTEXTILE & PIPE TO BE INSTALLED ONLY AT LOCATIONS WHERE REQUIRED BY STATE OR LOCAL AGENCIES OR WHERE DESIGNATED BY CHIEF ENGINEER.

REQUIRED COMPONENTS	
RING LIFTING DEVICE	410-1371
3/4" TORX SCREW FOR WOOD TIES (STD DWG 131500)	130-5400
ELASTOMERIC BEARING PAD FOR 141 LB. RAIL ON WOOD TIES	540-0203
CONFORMAL ELASTOMERIC BEARING PAD FOR 10'-0" CONCRETE TIES	503-6315
CONFORMAL ELASTOMERIC BEARING PAD FOR 8'-6" CONCRETE TIES	503-6312
END RESTRAINT FOR CONCRETE TIES (ONLY)	540-1925

OPTIONAL COMPONENTS (SET INCLUDES 6 PIECES)	
20' SECTION 6" PERFORATED PIPE	510-3201
6" ADJUSTABLE ELBOW	510-3557
6" PIPE BANDS	510-3379
100' ROLL GEOTEXTILE	550-0119



END RESTRAINT DETAIL (FOR CONCRETE TIES ONLY)

UNION PACIFIC RAILROAD ENGINEERING STANDARDS

INSTALLATION OF ROAD CROSSINGS W/ PRECAST CONCRETE PANELS



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