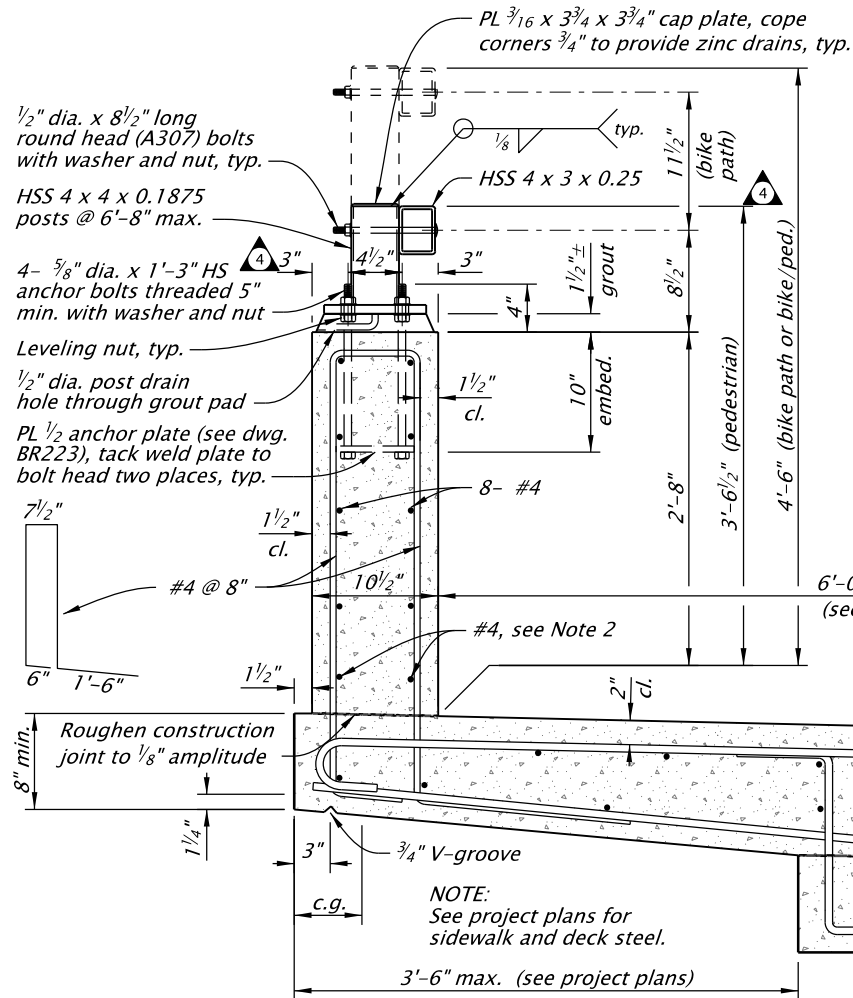


ESTIMATED QUANTITIES			
		3'-6 1/2" rail	4'-6" rail
Concrete Volume	(ft ³ /ft)	2.26	2.26
Reinforcement Weight	(lbs/ft)	23.39	23.39
Structural Steel Weight	(lbs/ft)	18.0	30.0
Total Rail Weight	(lbs/ft)	357	369
Center of Gravity	(cg, ft)	0.572	0.581



GENERAL NOTES:

Provide steel tubing conforming to ASTM A500, Grade B, A501 or A618.

Provide reinforcing steel conforming to ASTM A706, or AASHTO M31 (ASTM A615) Grade 60. Splice #4 bars 1'-4" min.

Provide concrete Class 3300 - 1 1/2 or 3/4.

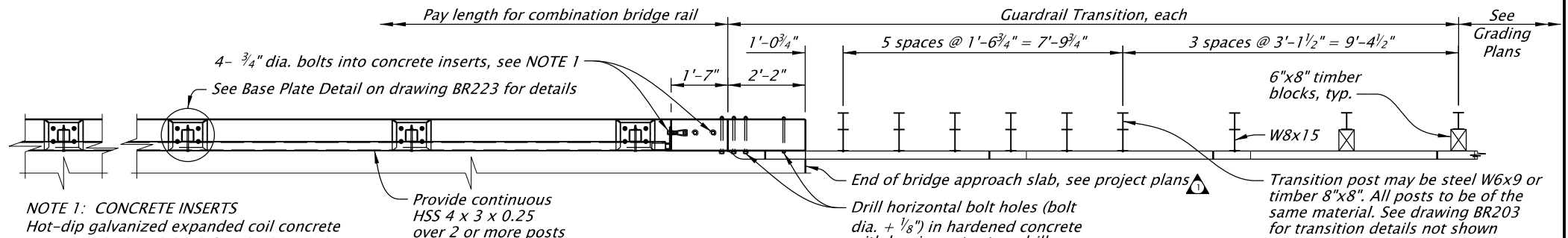
Provide steel posts and plates conforming to AASHTO M183 (ASTM A36) unless otherwise noted.

Provide high strength anchor bolts (Grade 105) according to Oregon Standard Specification 02560.30 (b).

Construct rail (posts and parapet) normal to grade in the longitudinal direction and vertical in the transverse direction.

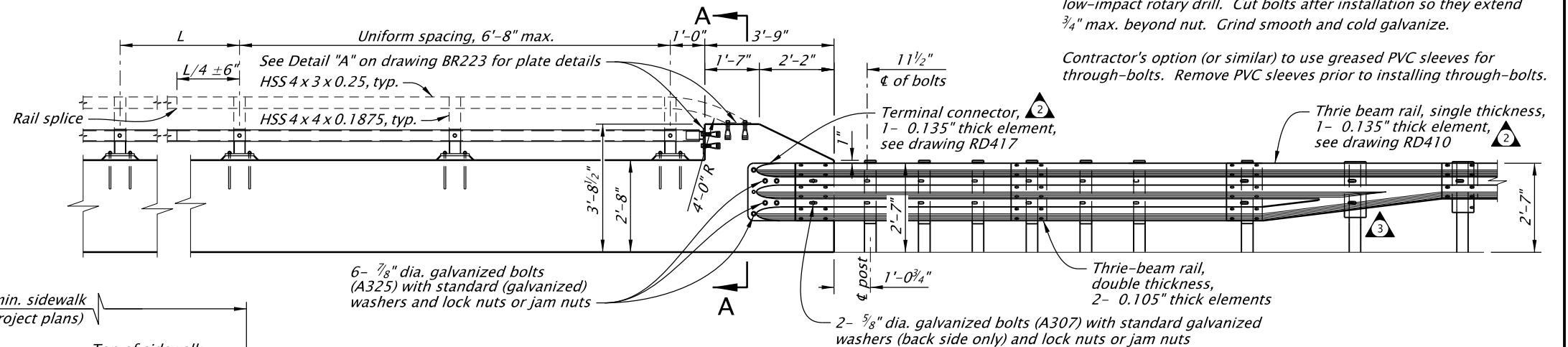
Hot-dip galvanize structural steel including fasteners after fabrication. Provide Galvanize-Control Silicon posts and horizontal rail steel tubing according to Oregon Standard Specification 02530.70. Tap nuts and inserts 0.021" oversize after galvanizing in accordance with ASTM A563.

Use 4'-6" height for bikeways when called for on project plans.



NOTE 1: CONCRETE INSERTS

Hot-dip galvanized expanded coil concrete inserts with closed-back ferrule threaded to receive 3/4" dia. bolts, Grade 36 (ASTM A307). Minimum insert length = 4 1/2" Minimum safe working load in tension = 4000 pounds



NOTES:

Drill horizontal holes (bolt dia. + 1/8") in hardened concrete with low-impact rotary drill. Cut bolts after installation so they extend 3/4" max. beyond nut. Grind smooth and cold galvanize.

Contractor's option (or similar) to use greased PVC sleeves for through-bolts. Remove PVC sleeves prior to installing through-bolts.

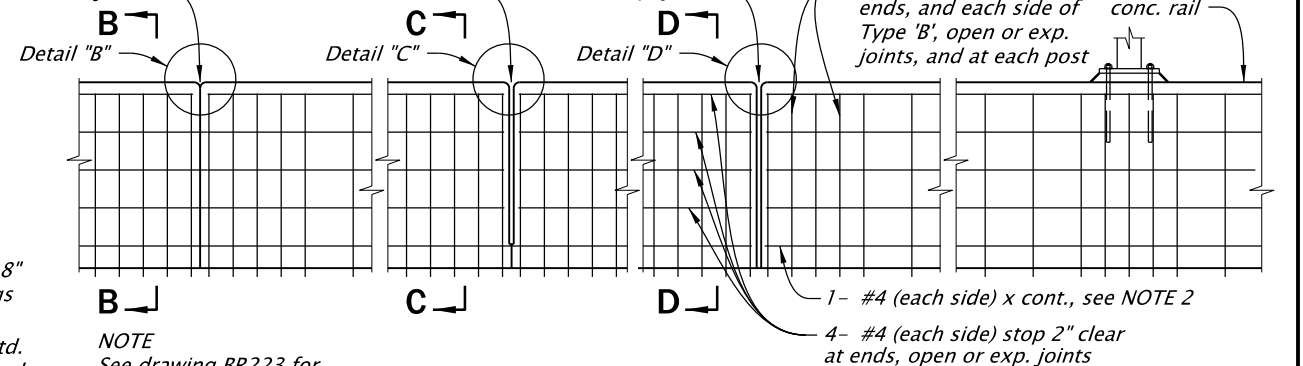
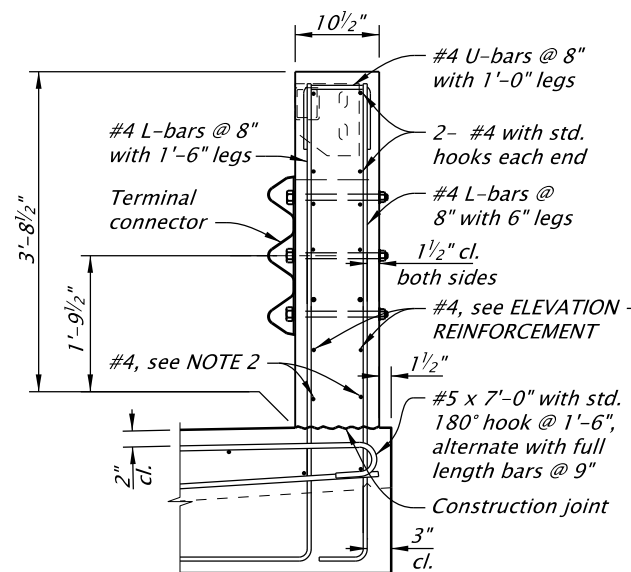
Scoring joint, see bridge plans for location. Place at equal spaces 15'-0" max. between all other joints

Type "B" joint. Place at interior bent with continuous deck

Open or exp. joint

2 extra #4 bent bars at ends, and each side of Type 'B', open or exp. joints, and at each post

NOTE 2
Continuous through scoring joints, stop 2" clear at ends and open or expansion joints.



NOTE

See drawing BR223 for Sections B-B, C-C, and D-D; and Details A, B, C, and D.

ELEVATION - REINFORCEMENT

Accompanied by dwgs. BR203, BR223, RD401, RD402, RD407, RD408, RD410, RD417, RD412

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS
SIDEWALK MOUNTED COMBINATION BRIDGE RAIL

2024

DATE	REVISION	DESCRIPTION
01-2023	Revised	Revised accompanied by dwg references, General text revisions.
07-2024	General	General text revisions.
01-2025	Thrie-beam	Thrie-beam transition revised; CAD standards updates
07-2025	Dimensions	Dimensions adjusted.
CALC. BOOK NO.	N/A	SDR DATE 11-JULY-2025

BR216

Effective Date: June 1, 2026 - November 30, 2026