

Bridge Rail Identification Guide



NEBRASKA

Good Life. Great Journey.

**DEPARTMENT OF TRANSPORTATION
BRIDGE DIVISION**

August 13, 2025

Introduction

This guide is published by NDOT Bridge Division for use in conjunction with the NDOT BIP Manual to determine which test level code should be entered for each structure in the field B.RH.01 in BrM. The information published herein is solely a guide to be used with judgment by certified inspectors.

Substantial effort has been made to find all rails currently installed on bridges in Nebraska used by owners of all different classes. It is likely that some rail types or variations have been overlooked. If a rail is discovered that does not appear to match any of the types shown in this guide please contact the NBIS Program Manager Wayne Patras at wayne.patras@nebraska.gov with drawings, pictures, and the structure number in question. Bridge Division will assist in determining an appropriate test level code for your use.

Rail Identification

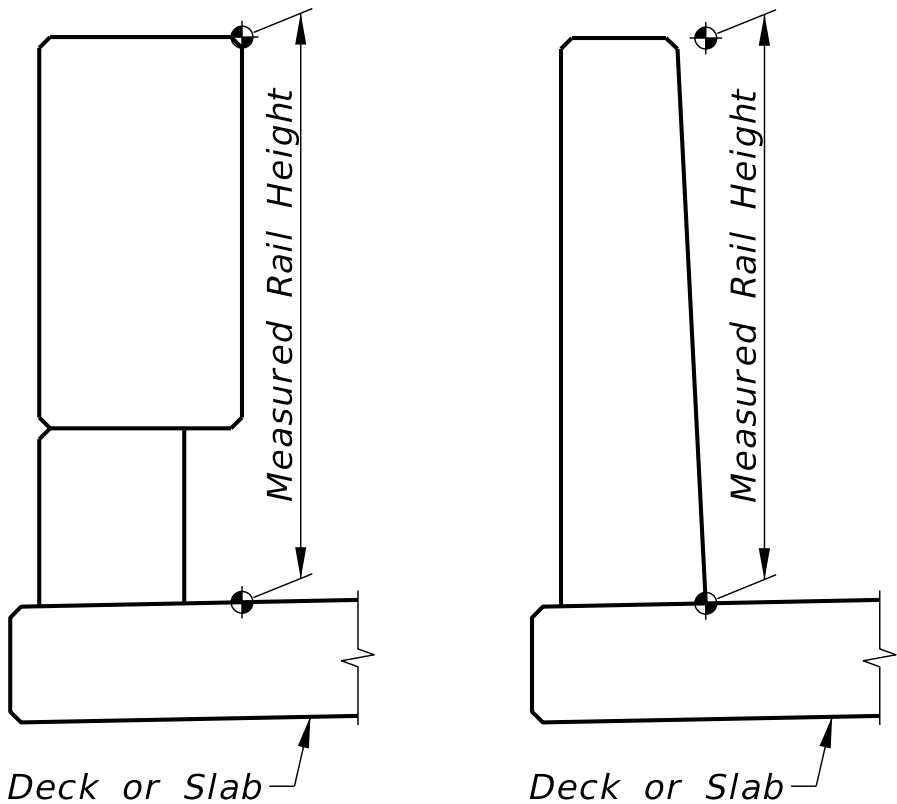
Rail height must be measured plumb and level with the top of the rail. This may require the use of a spirit level, plumb bob, or both depending on the rail shape. See figures on next page showing the locations and orientation of rail height measurement. It may be helpful to take a measurement of the rail height on the back of the rail when an overlay or seal coat is present. This can help ensure the correct rail has been identified.

Rails where overlay or seal coat has been applied and the rail no longer reaches the minimum height from the tables on the following pages must be coded as I rather than the code listed.

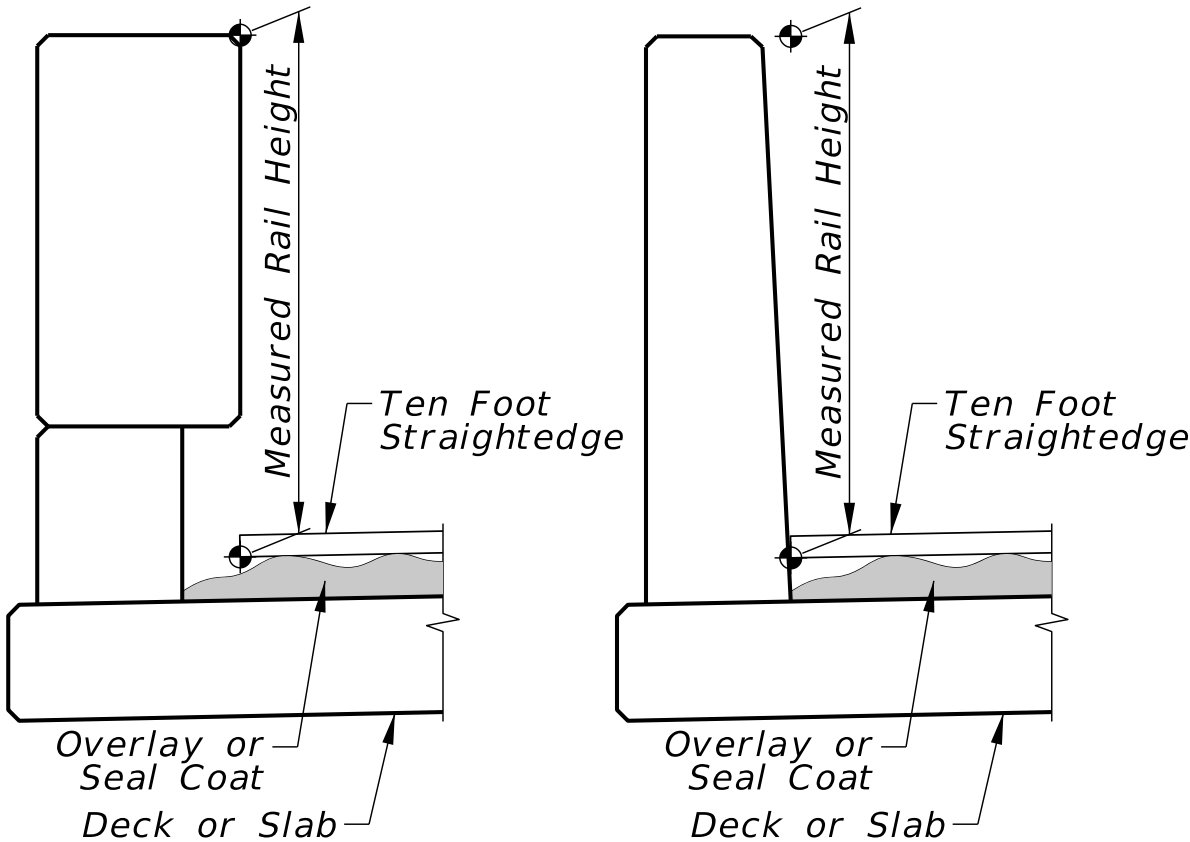
For structures where there are multiple rail test level codes occur see Table 6 in the §2.3 of the *Specifications for the National Bridge Inventory*. Use the code that first applies going from the bottom (Code 0) of Table 6 to the top (MY Y).

Definitions

- Nominal Height — The height at which the rail is traditionally built, measured vertically at the front face of the rail
- Minimum Height — The reduced height at which the rail is able to maintain its test level code
- Report Number — An identifier issued by a certified body that shows the rail has been crashed tested and meets the requirements of one of the specifications used to certify bridge railings

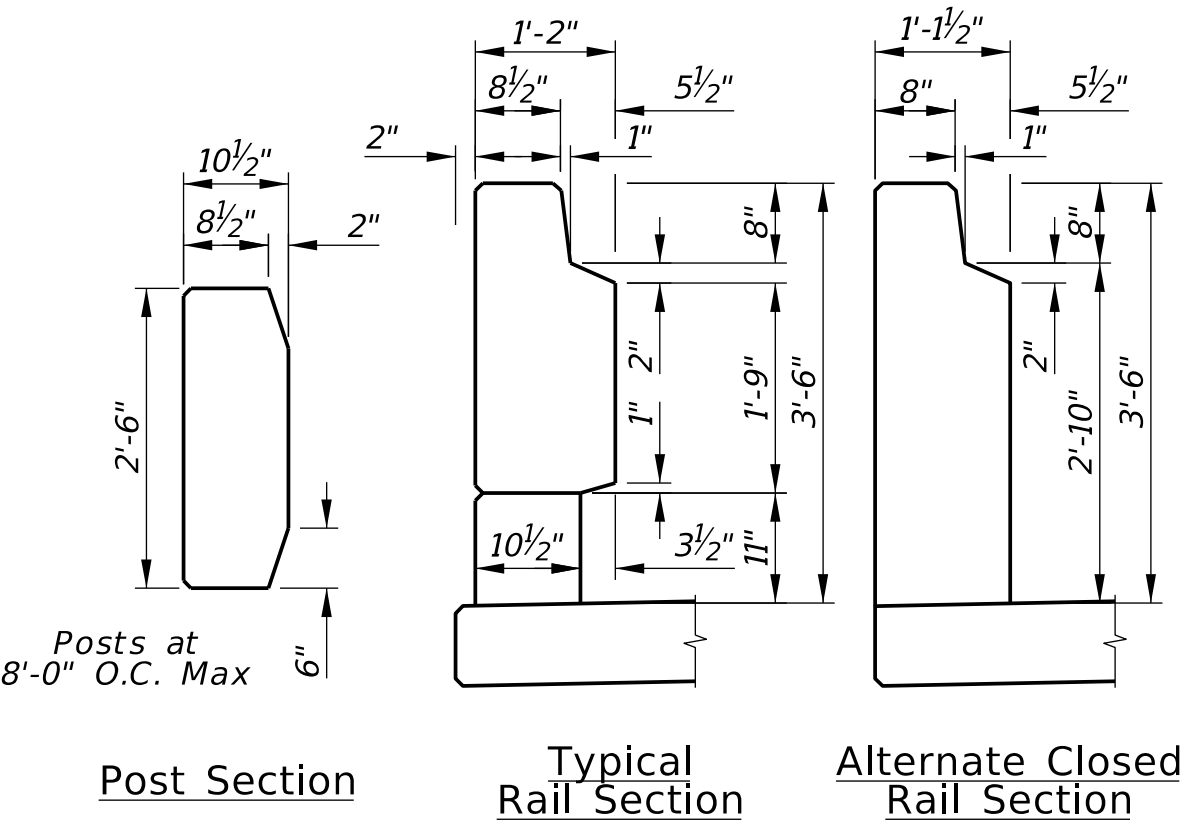


Measuring Bridge Rail Height without an Overlay

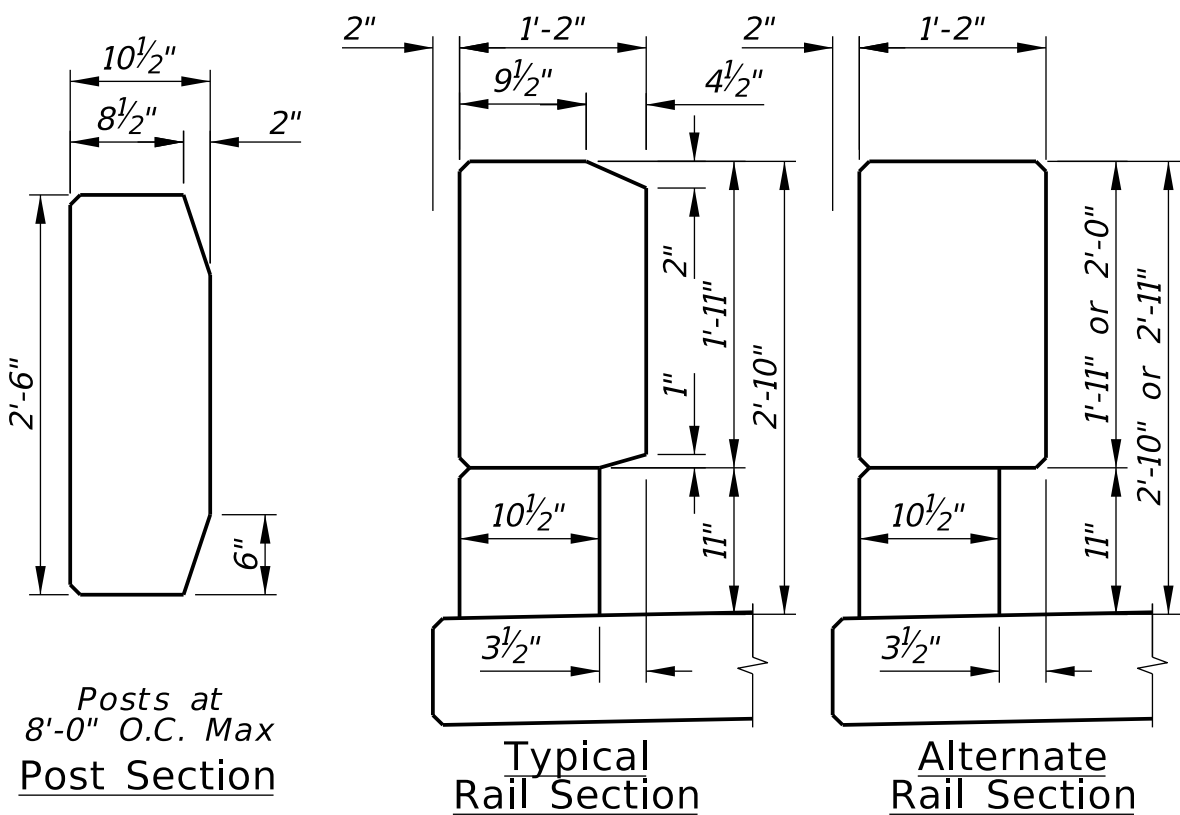


Measuring Bridge Rail Height with an Overlay or Seal Coat

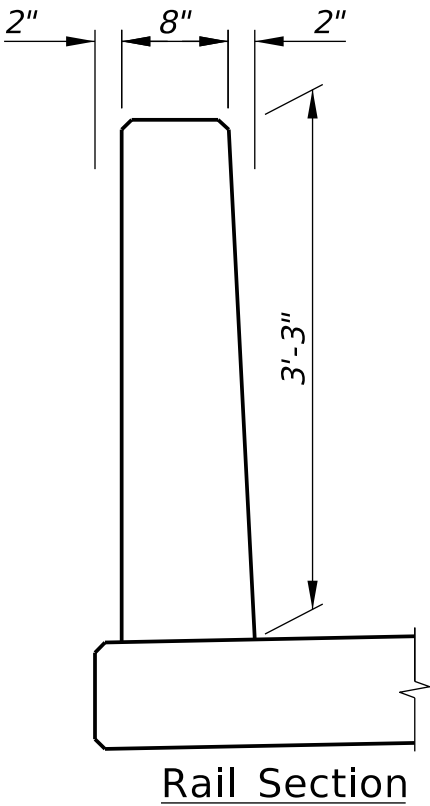
Family	NU 42 in.
Description	Posts may also be continuous to form a closed rail
Report Number	TRP-03-148-05
Nominal Height	42
Minimum Height	42
Test Level Code at Minimum Height	M165



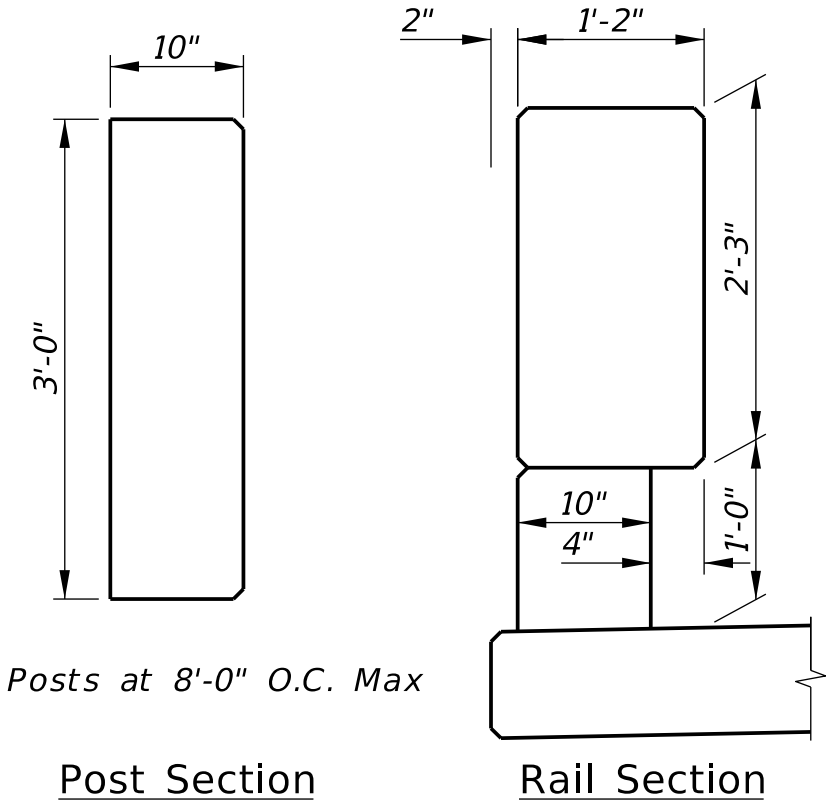
Family	NU 34 in.
Description	Posts may also be continuous to form a closed rail
Report Number	Project No. 20-07 / Task 395 TTI Project 607141
Nominal Height	34
Minimum Height	32 for code 3504, 30 for code M163
Test Level Code at Minimum Height	Structure Letting Date prior to 2020 use 3504 Structure Letting Date 2020 or later use M163



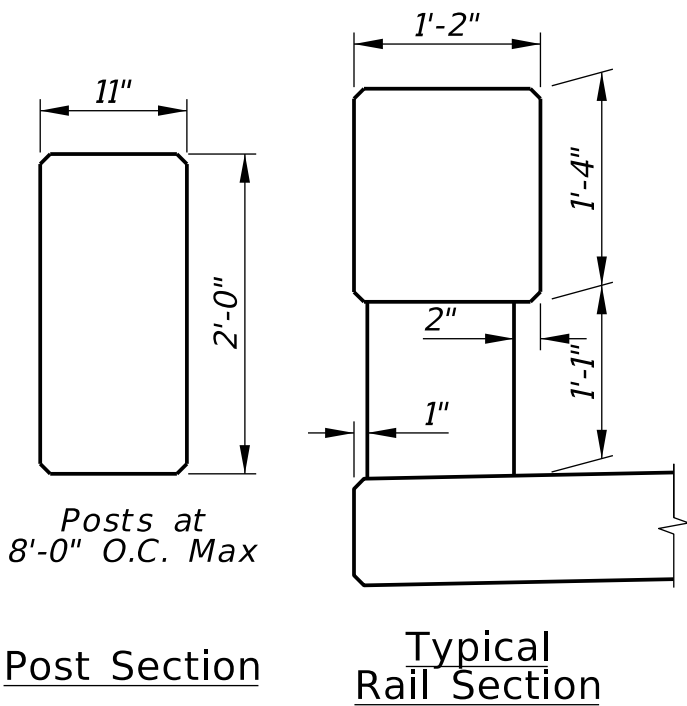
Family	39 in. SSCR
Description	
Report Number	TRP-03-415-21
Nominal Height	39
Minimum Height	36
Test Level Code at Minimum Height	M164



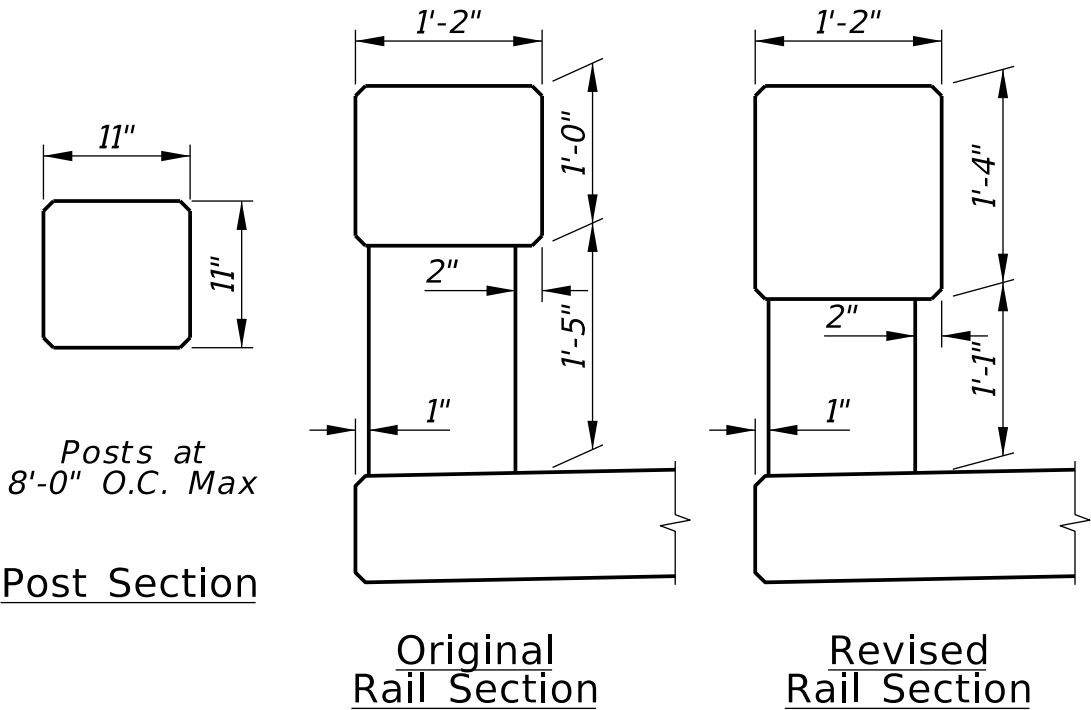
Family	39 in. NVISK Open Rail
Description	
Report Number	TRP-03-406b-24
Nominal Height	39
Minimum Height	36
Test Level Code at Minimum Height	M164



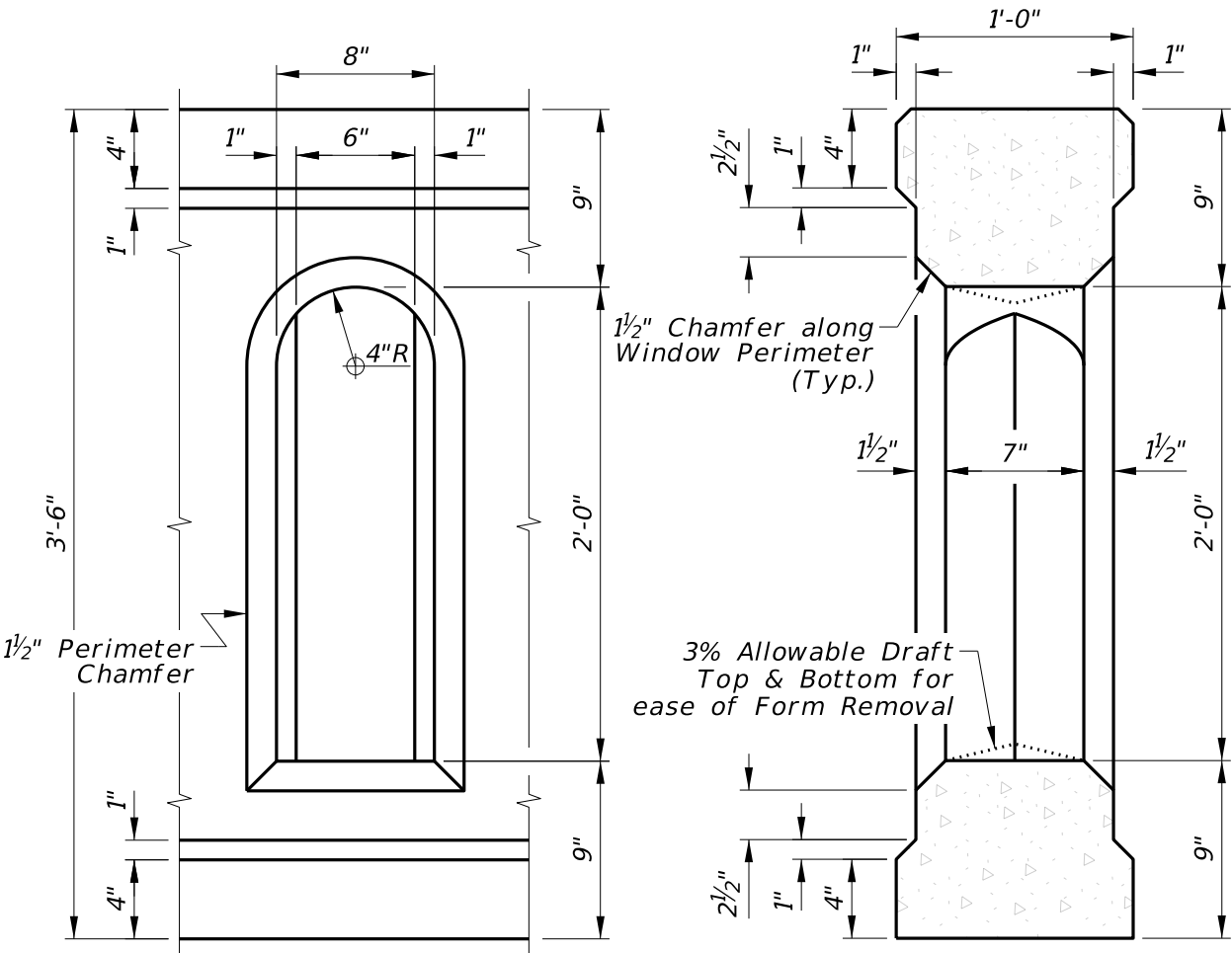
Family	29" Nebraska Rail Generation 2
Description	Posts may also be continuous to form a closed rail. Do not confuse with Generation 1, the post size is the distinguishing characteristic.
Report Number	TRP-03-051-95
Nominal Height	29
Minimum Height	27
Test Level Code at Minimum Height	892



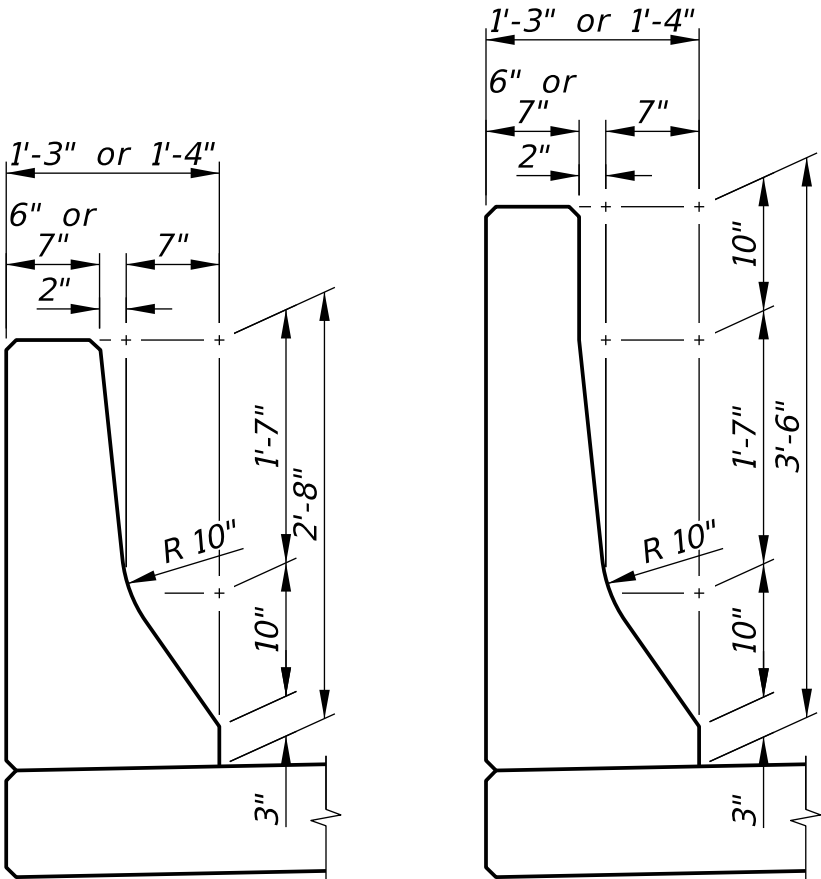
Family	29" Nebraska Rail Generation 1
Description	Do not confuse with Generation 2, the post size is the distinguishing characteristic.
Report Number	FHWA-RD-89-119
Nominal Height	29
Minimum Height	27
Test Level Code at Minimum Height	2302



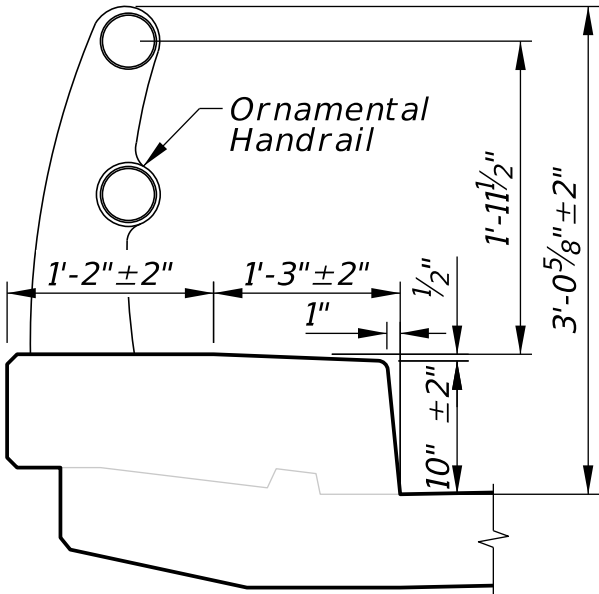
Family	Texas Classic C411
Description	Top of window profile may vary, but overall window dimensions remain the same.
Report Number	0-6946-R2
Nominal Height	42
Minimum Height	42
Test Level Code at Minimum Height	M162



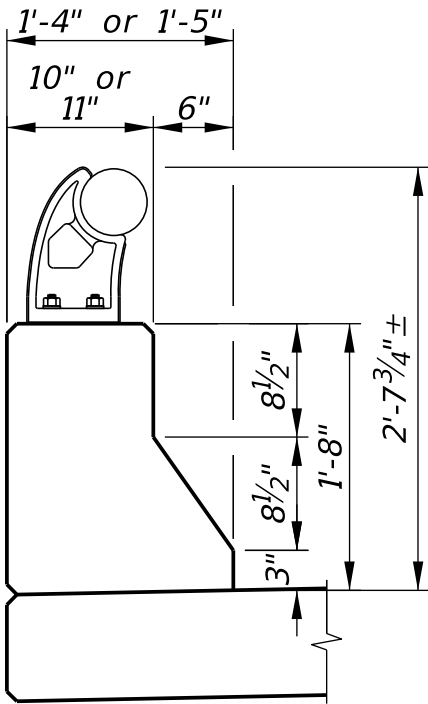
Family	Safety Barrier
Description	Additional height of 42 in. version only functions as glare shade and does not provide higher test level code.
Report Number	FHWA-RD-96-201
Nominal Height	32 or 42
Minimum Height	32
Test Level Code at Minimum Height	3504



Family	Curb with 1753-C Ornamental
Description	
Report Number	
Nominal Height	36½
Minimum Height	
Test Level Code at Minimum Height	S60

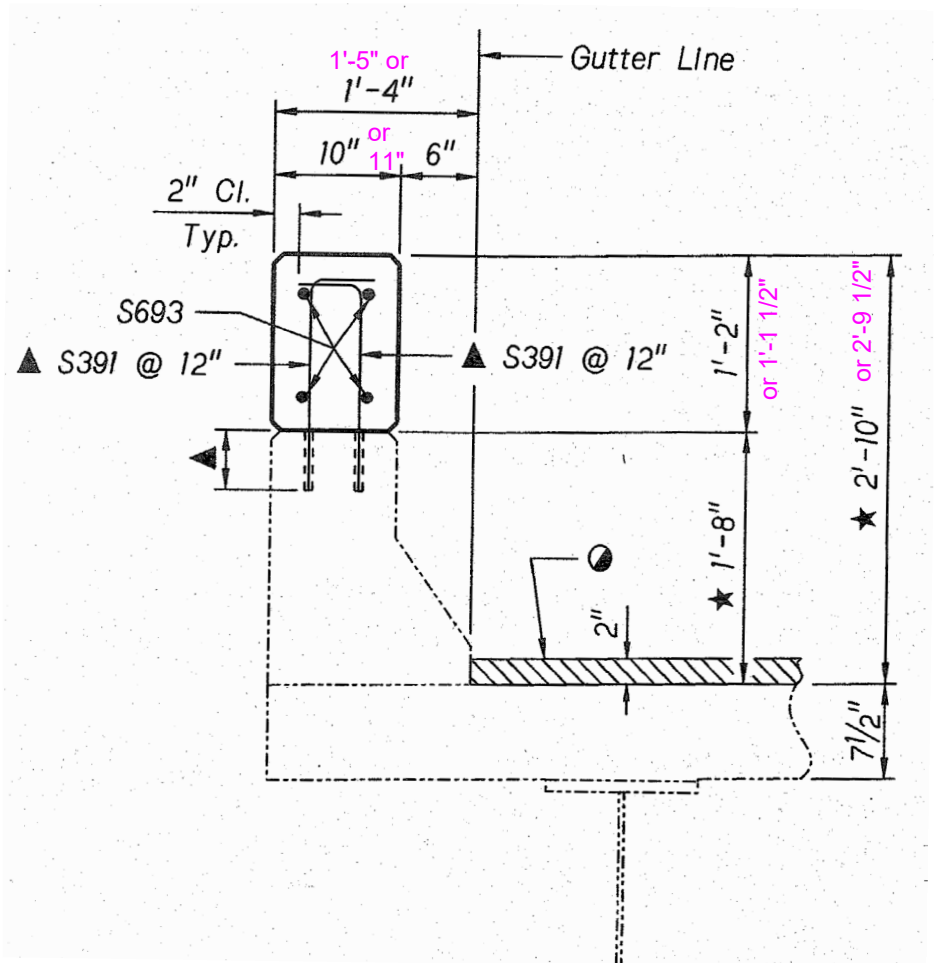


Family	Prototype Safety Barrier with 1755-C or 1757 Ornamental
Description	
Report Number	
Nominal Height	31¾
Minimum Height	
Test Level Code at Minimum Height	A64

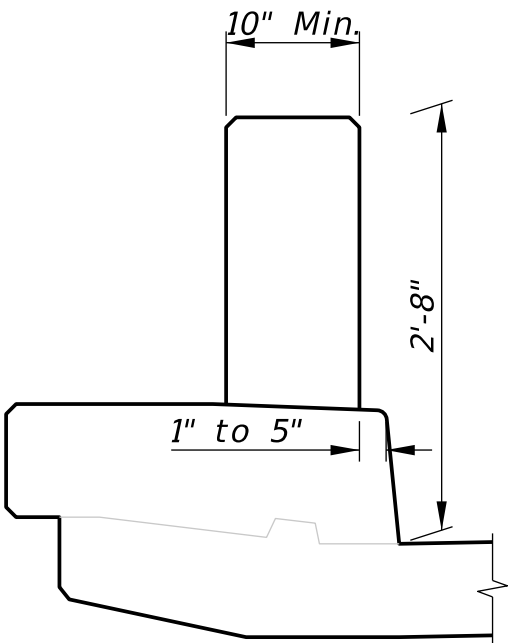


Rail Section

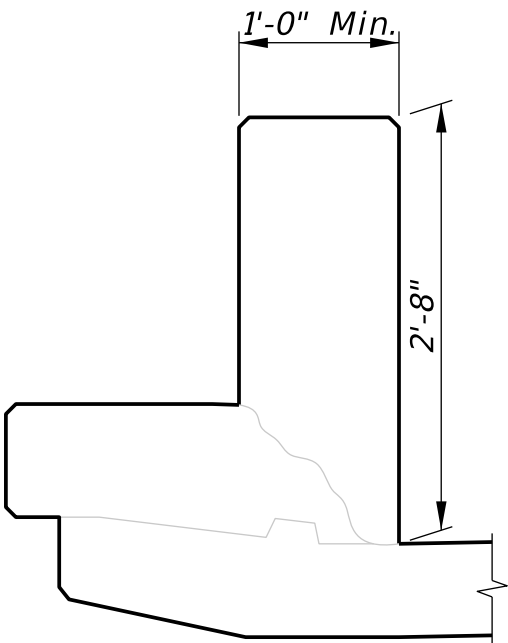
Family	Prototype Safety Barrier with Retrofit
Description	
Report Number	
Nominal Height	34
Minimum Height	
Test Level Code at Minimum Height	S52



Family	Iowa Retrofit Concrete Barrier Rail
Description	
Report Number	TRP-03-015-88 & TRP-03-019-90
Nominal Height	32
Minimum Height	32
Test Level Code at Minimum Height	892

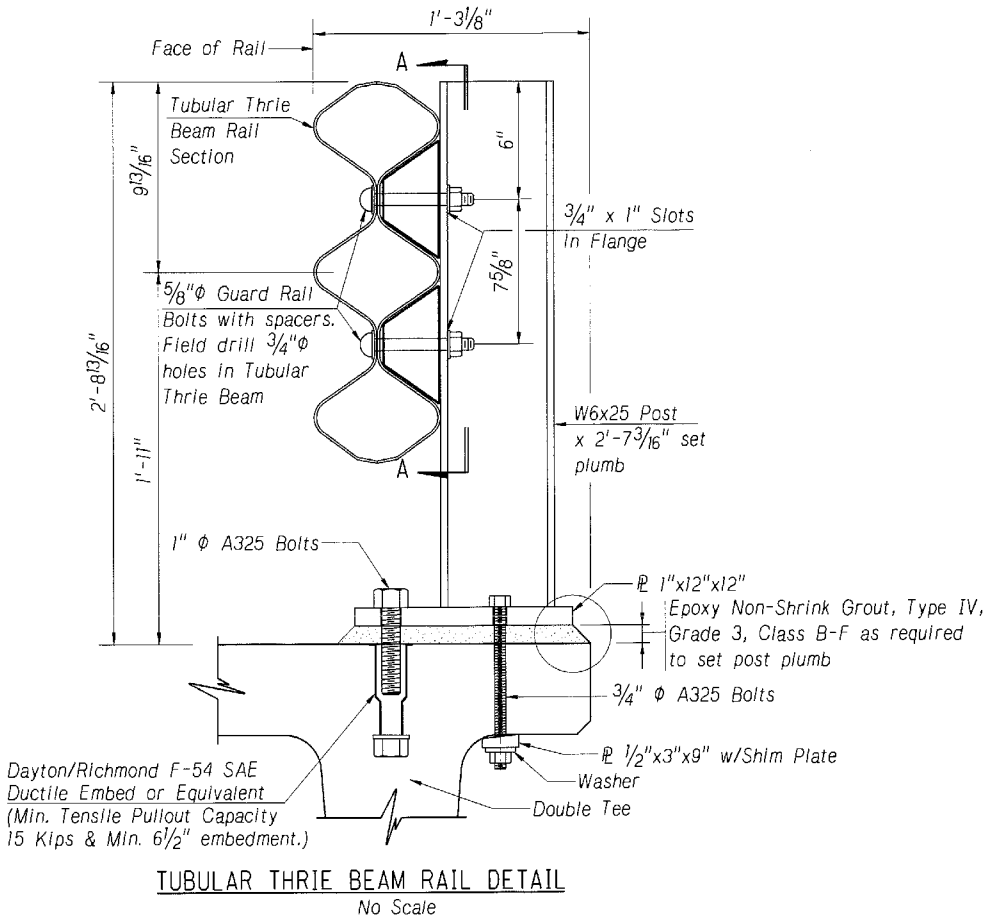


Parapet Addition

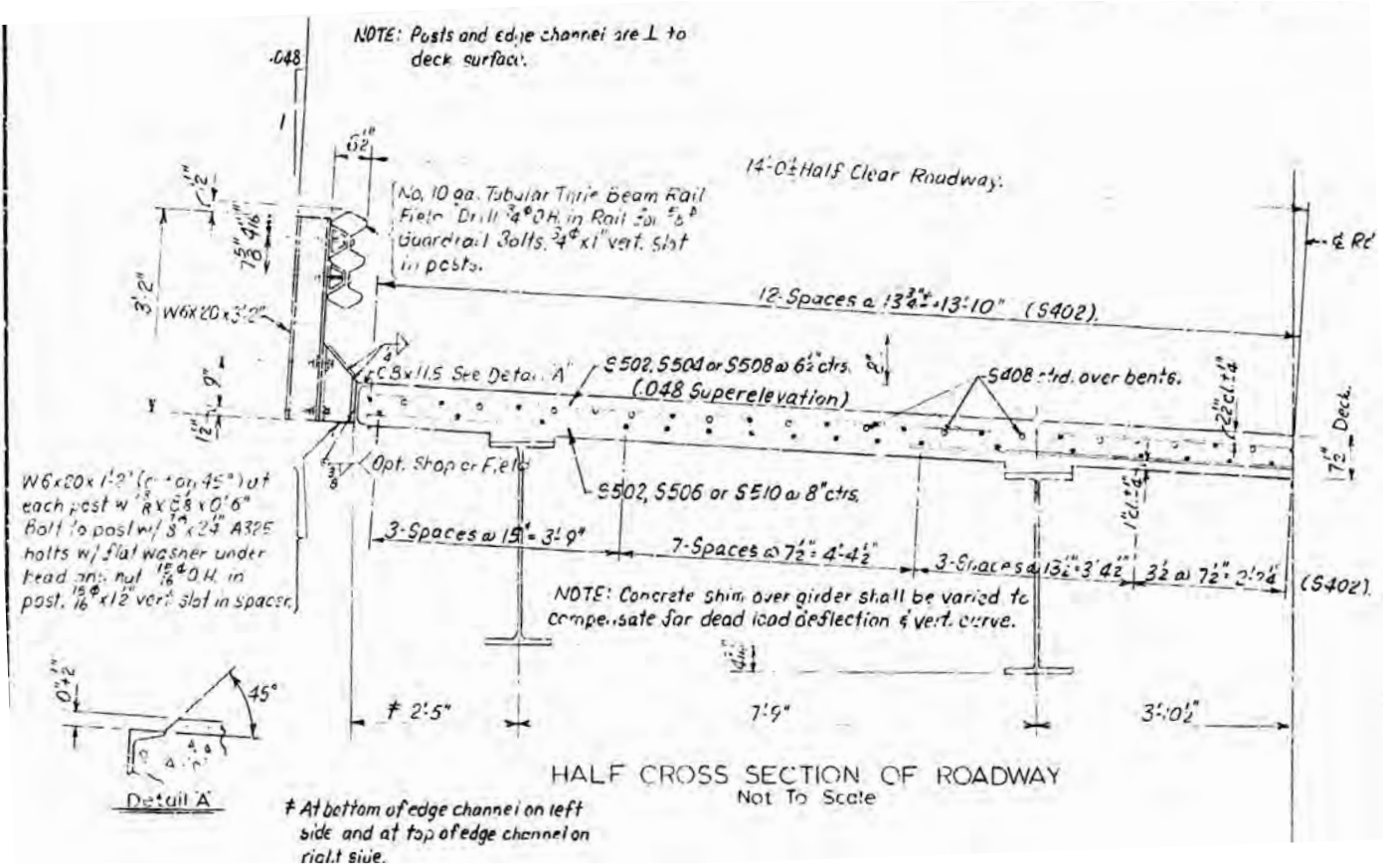


Full Height Retrofit

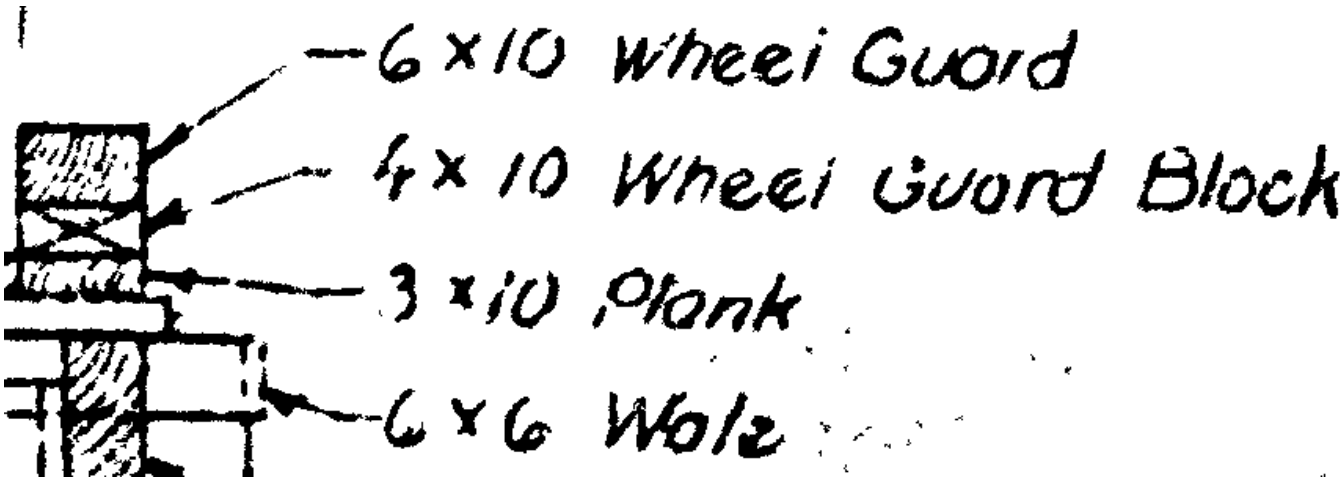
Family	Tubular Thrie Beam Top Mounted
Description	
Report Number	FHWA-RD-87-049
Nominal Height	32¾"
Minimum Height	32¾"
Test Level Code at Minimum Height	2302



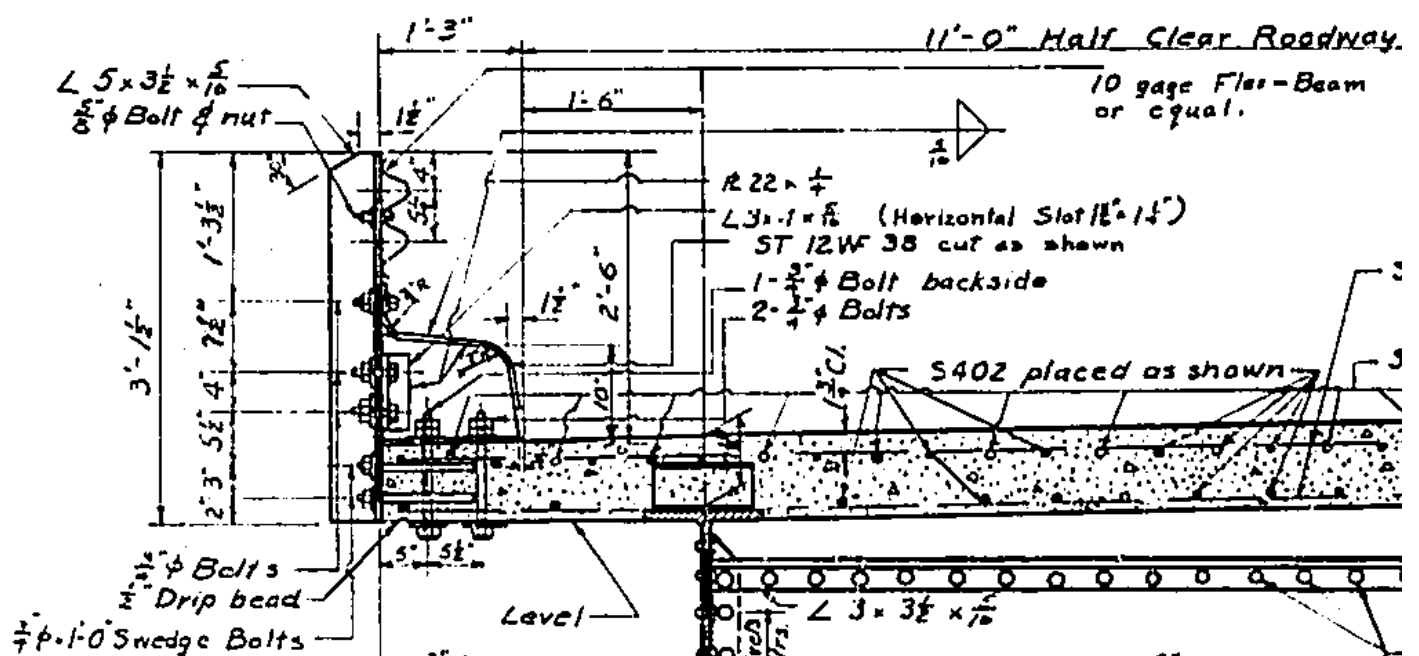
Family	Tubular Thrie Beam Edge Mounted
Description	
Report Number	
Nominal Height	32
Minimum Height	
Test Level Code at Minimum Height	I



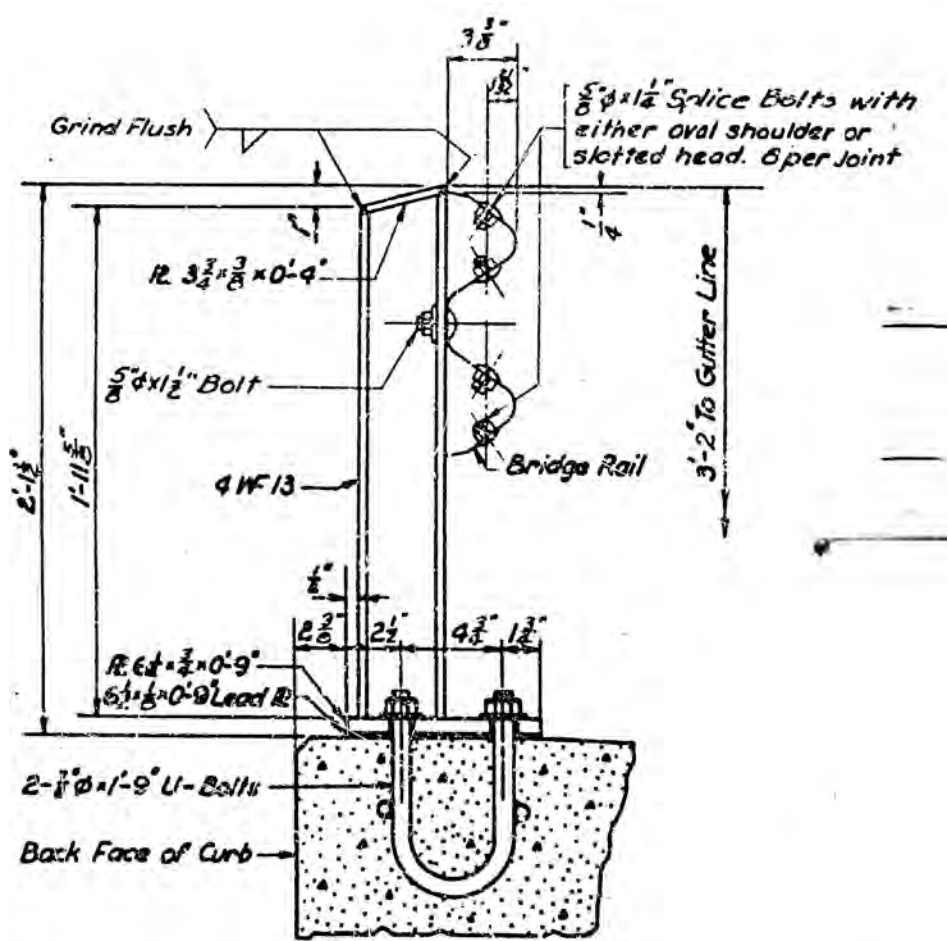
Family	Timber Curb
Description	
Report Number	
Nominal Height	10
Minimum Height	
Test Level Code at Minimum Height	I



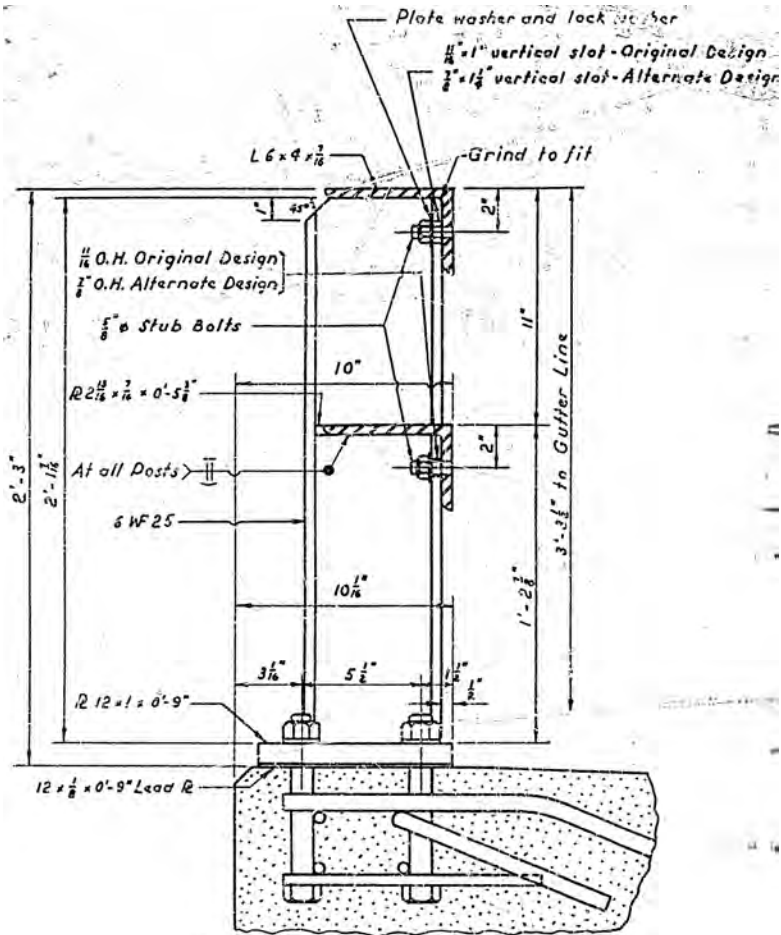
Family	Steel Guardrail with Steel Curb
Description	
Report Number	
Nominal Height	30
Minimum Height	
Test Level Code at Minimum Height	I



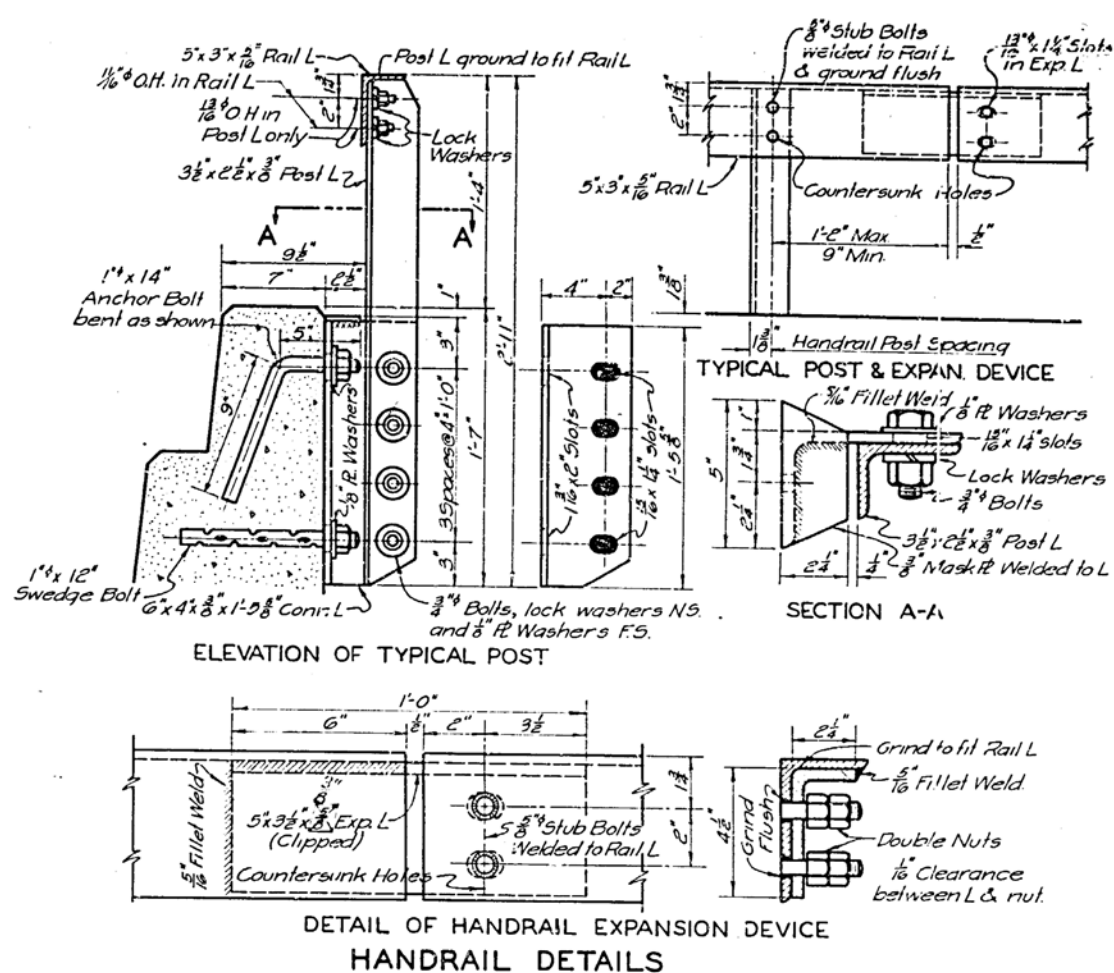
Family	1749-A Bridge Rail
Description	
Report Number	
Nominal Height	38
Minimum Height	
Test Level Code at Minimum Height	S59



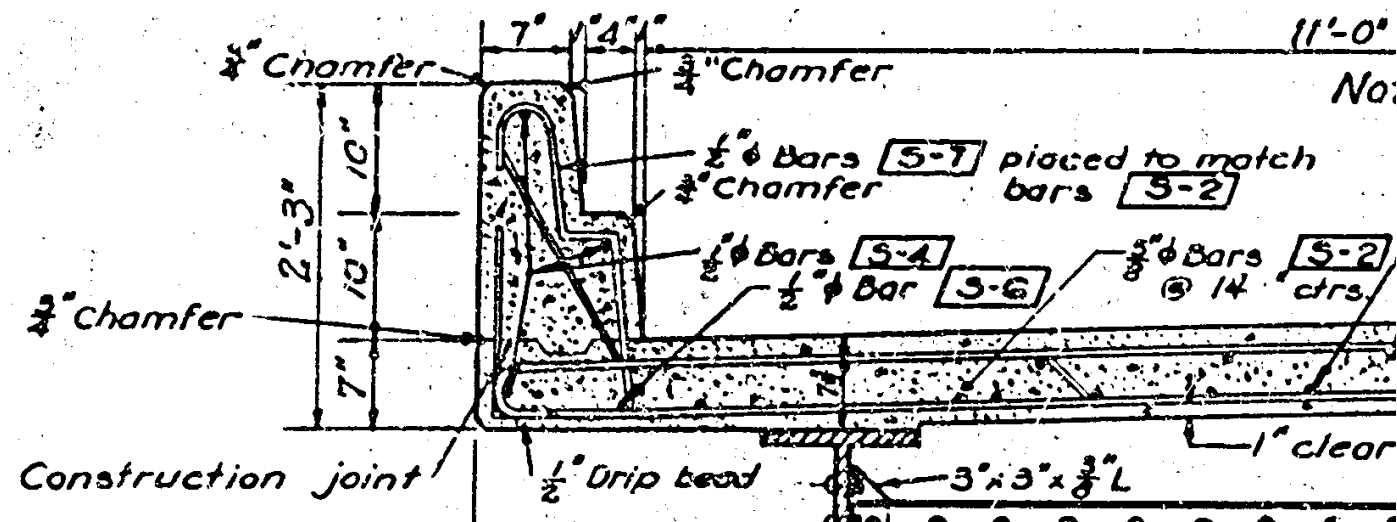
Family	1749-B Hand Rail
Description	
Report Number	
Nominal Height	39½
Minimum Height	
Test Level Code at Minimum Height	S64



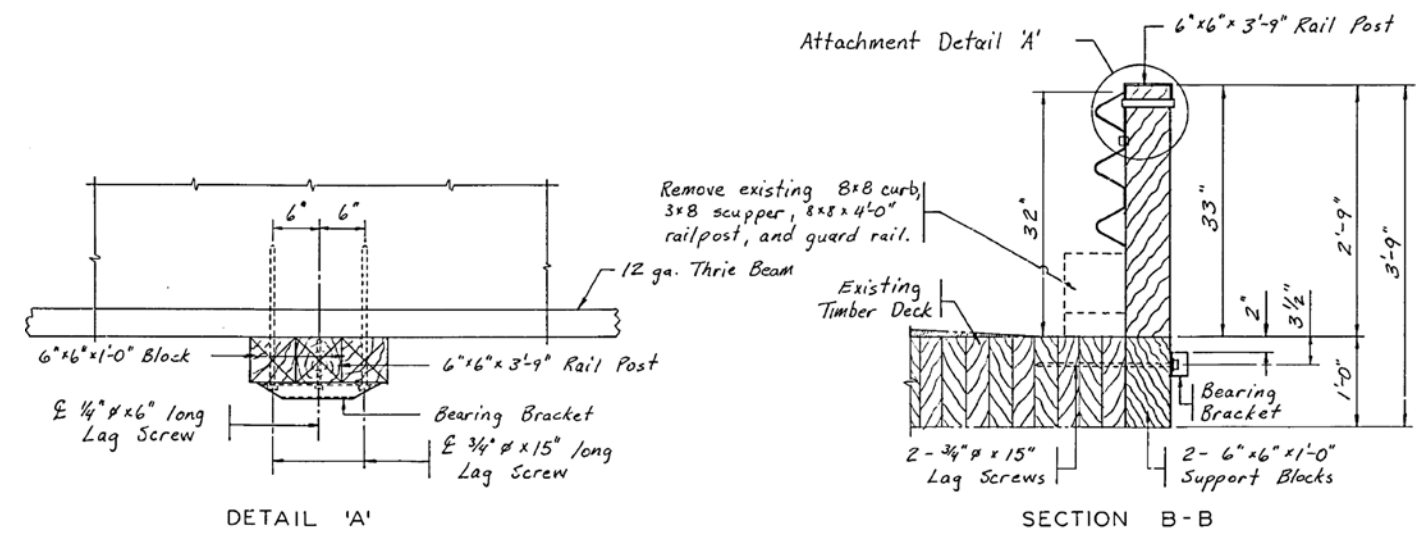
Family	1509-E/F/G Hand Rail
Description	
Report Number	
Nominal Height	36
Minimum Height	
Test Level Code at Minimum Height	S41



Family	1587-B Stepped Barrier
Description	
Report Number	
Nominal Height	20
Minimum Height	
Test Level Code at Minimum Height	S46



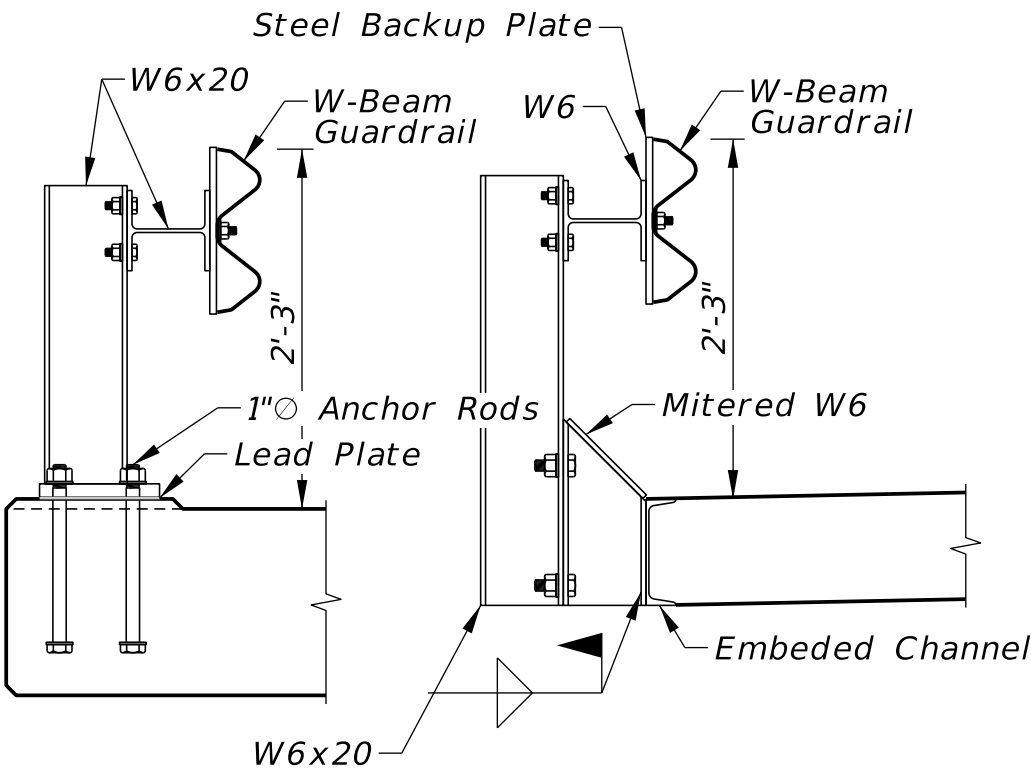
Family	Thrie Beam with Wood Posts
Description	Service Level 1 Bridge Railing Exmaple with wood post from NCHRP Report 239
Report Number	NCHRP Report 239
Nominal Height	32
Minimum Height	
Test Level Code at Minimum Height	2391



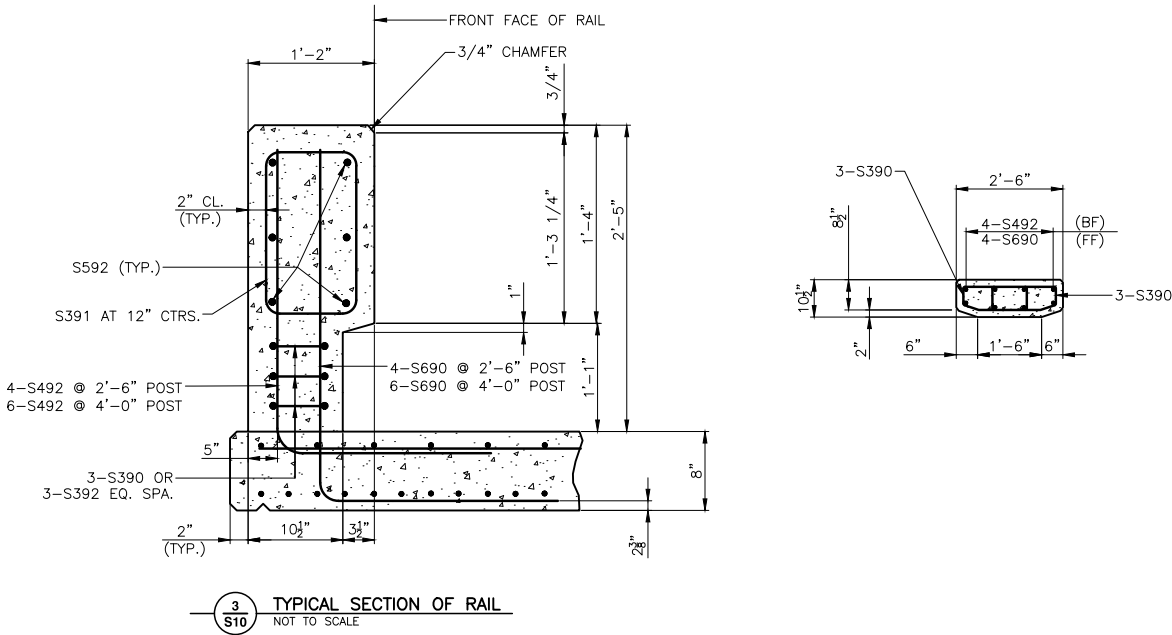
Family	W-Beam Retrofit to Wood Curb
Description	
Report Number	
Nominal Height	
Minimum Height	
Test Level Code at Minimum Height	I



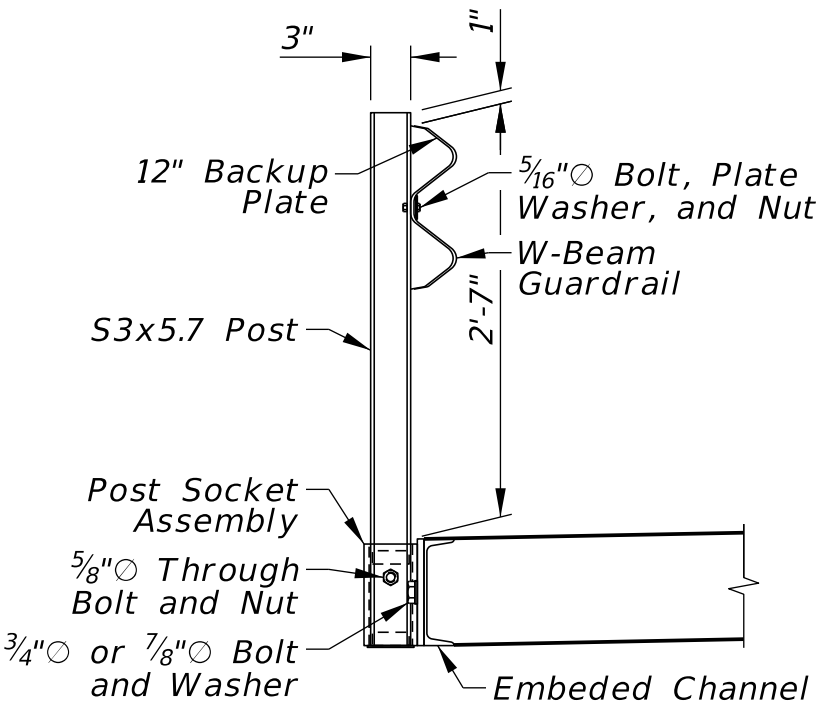
Family	W-Beam with W6 Backup Beam
Description	
Report Number	
Nominal Height	27
Minimum Height	27
Test Level Code at Minimum Height	A73



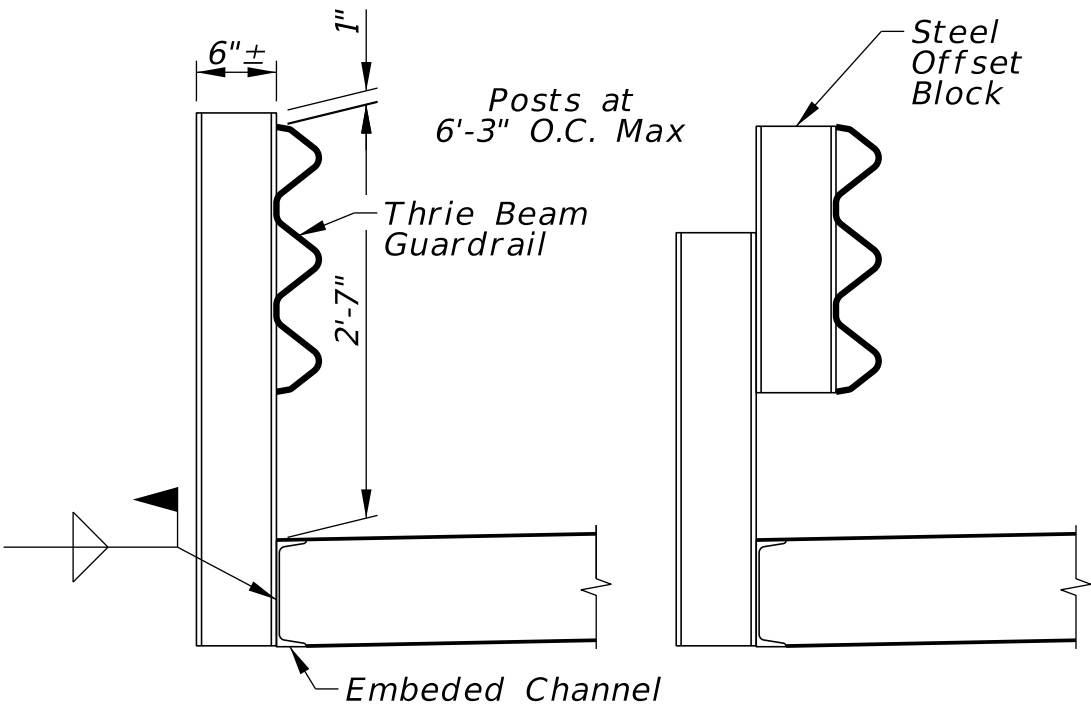
Family	Combination of 29" Nebraska and 34" NU
Description	
Report Number	
Nominal Height	29
Minimum Height	
Test Level Code at Minimum Height	I



Family	W-Beam Weak Post
Description	
Report Number	TRP-03-407-20
Nominal Height	31
Minimum Height	31
Test Level Code at Minimum Height	Post spacing up to 6'-3" use M162 Post spacing up to 3'-1½" use M163



Family	Thrie Beam Strong Post
Description	
Report Number	
Nominal Height	31½
Minimum Height	
Test Level Code at Minimum Height	I



Family	Steel Lattice
Description	
Report Number	
Nominal Height	
Minimum Height	
Test Level Code at Minimum Height	I



Family	Bridge Rail Not Present
Description	
Report Number	
Nominal Height	
Minimum Height	
Test Level Code at Minimum Height	0 (zero)

