

Notes to the Designer

Updated June 2024

3R Typical Section Sheets - Minor Horizontal/Vertical Alignment Adjustments

General Information

- All graphics and text will be in the design model. Only use the sheet model for printing and adding applicable guardrail as a reference; Reference guardrail using the appropriate saved view from the design model to the appropriate sheet model.
- Length of Project table is integrated into the design model. Double click on the cell to edit.
- **3R Horizontal/Vertical Alignment Adjustments Template Drawings.** Refer to the 3R+ Matrix to ensure this is the appropriate template to use for your application. Use these template drawings for spot locations where Horizontal and Vertical Alignment adjustments are proposed along with re-use of the existing pavement.
- **Road Inventory Program Milepost data.** The NPS uses the Road Inventory Program (RIP) as part of their asset management program. Include the RIP milepost data in the 'Length of Project' table for NPS projects only. To find this information, use Pathweb (<https://pathweb.pathwayservices.com/rip/>) or ask Planning and Programming. Delete the last column in the 'Length of Project' table for all non-NPS projects (e.g. USFS, USFWS, IRR, etc.).

Applicable SCRs

- SCR's used can vary based on the project and pay items used. Ensure that SCR's provided are consistent with the pay items provided in the contract. Coordinate with the Pavements Engineer to select and edit the appropriate SCR for the project. Include in Section 152 what information is being provided to the Contractor. Recommend using 304 SCR if the project requires regrading the subgrade. Refer to the designer's notes in each SCR for common items needing input and editing.

Typical Pay Items Used

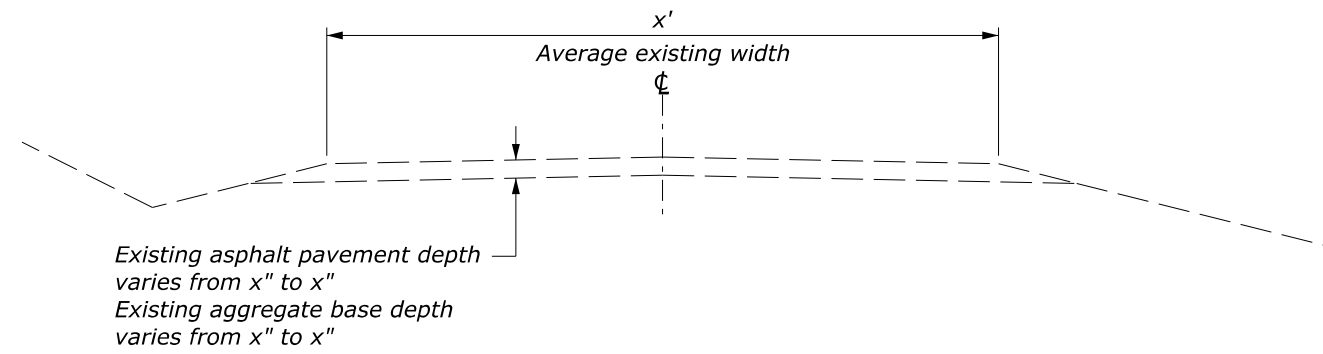
- The pay items used for 3R projects in Sections 152, 302, 304, 401, 402, 403 can vary per project. Refer to the CFLHD Engineer's Estimate Manual for recommended pay items. Coordinate with the Pavements Engineer to determine the most appropriate pay items for the structural section. Use Section 304 pay item when pulverizing and re-using the existing pavement. Evaluate the need to include a separate 302 pay item for imported aggregate as well based on volumes required to construct proposed typical section.
- Subexcavation may be included. Roadway excavation or embankment will be included.

Other Recommendations for 3R Widening

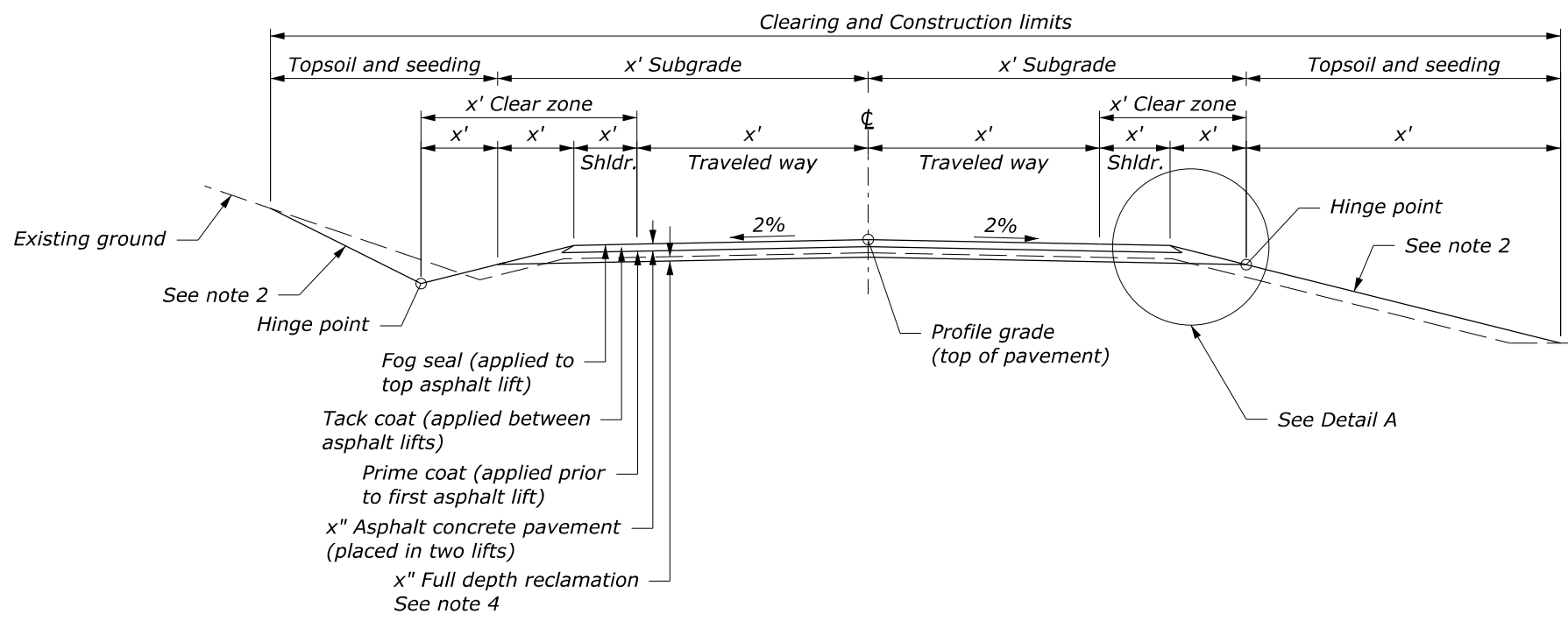
- Cross sections are typically provided.
- Staking Reports are typically provided. Provide subgrade template and blue top reports.
- Plan/Profile sheets typically provided.

Updates

- **April 2021**
 - Template sheet created
- **October 2022**
 - References to 308 pay item and SCR removed
- **April 2023**
 - Updated safety edge detail; updated border; updated to international seed file
- **June 2024**
 - Updated for FP24



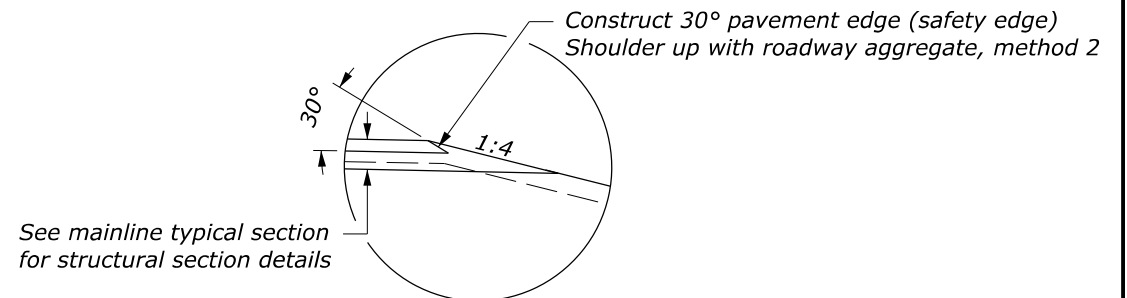
EXISTING TYPICAL SECTION
 <<>> to <<>>



TYPICAL SECTION
 <<>> to <<>>

Note:

1. The gradient and width of the roadway ditches and the excavation and embankment slope ratios may be adjusted to ensure adequate drainage and stability.
2. See cross sections for cut and fill slope ratios.
3. Construct curve widening as shown in the table below. Apply the widening on the inside of the curves throughout the superelevated sections. Transition the curve widening to coincide with the superelevation transitions.
4. Remove the pulverized material to construct the subgrade as needed. Reuse the pulverized material in the structural section. See Section 304.



DETAIL A
 (applies to both sides of roadway)

WIDENING ON CURVES

(see note 3)

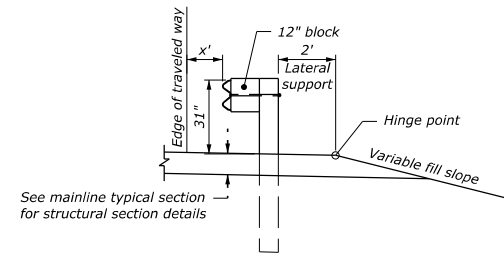
Radius (ft)	Widening (ft)
Over ??	
?? to ??	
?? to ??	
?? and under	

LENGTH OF PROJECT

Station to Station	Roadway (ft)	Bridge (ft)	Road Inventory Program Milepost Data (Cycle #)*
??+?? to ??+??			
??+?? to ??+??			
??+?? to ??+??			
TOTALS (ft)			
TOTALS (mi)			

*Road Inventory Program data shown for information only

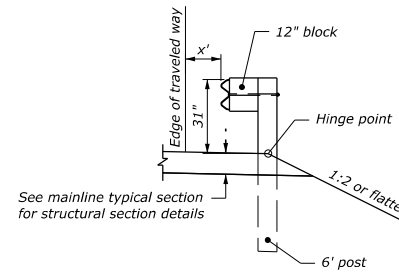
TYPICAL SECTION MAINLINE



See mainline typical section for structural section details

**MGS GUARDRAIL
TYPICAL SECTION**

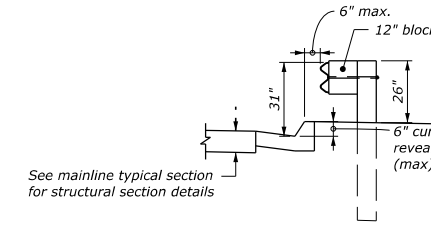
12" Block & 2' Lateral Support



See mainline typical section for structural section details

**MGS GUARDRAIL
TYPICAL SECTION**

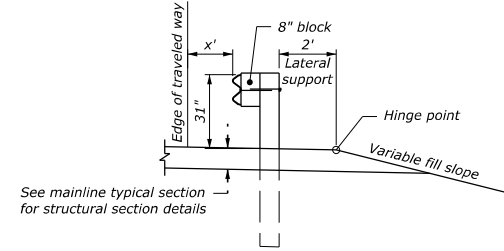
12" Block & No Lateral Support



See mainline typical section for structural section details

**MGS GUARDRAIL
TYPICAL SECTION**

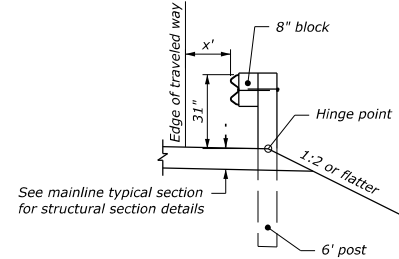
12" Block & Curb and Gutter



See mainline typical section for structural section details

**MGS GUARDRAIL
TYPICAL SECTION**

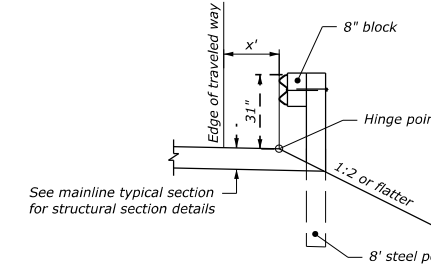
8" Block & 2' Lateral Support



See mainline typical section for structural section details

**MGS GUARDRAIL
TYPICAL SECTION**

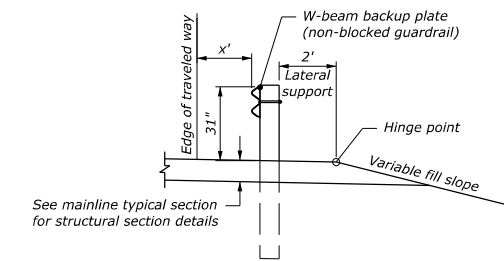
8" Block & No Lateral Support



See mainline typical section for structural section details

**MGS GUARDRAIL
TYPICAL SECTION**

8" Block & Face of GR at Hinge Point

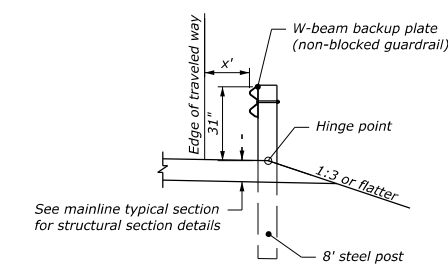


See mainline typical section for structural section details

**MGS GUARDRAIL
TYPICAL SECTION**

No Block & 2' Lateral Support

— W-beam backup plate (non-blocked guardrail)



See mainline typical section for structural section details

**MGS GUARDRAIL
TYPICAL SECTION**

No Block & No Lateral Support