ROADWAY DESIGN BULLETIN 16-04
(FHWA Approved: 06/17/2016)

DATE: June 20, 2016

TO: District Directors of Transportation Operations, District Directors of Transportation Development, District Design Engineers, District Consultant Project Management Engineers, District Construction Engineers, District Geotechnical Engineers, District Structures Design Engineers, District Maintenance Engineers, District Roadway Design Engineers, District Traffic Operations Engineers, District Program Management Engineers, District Materials Engineers

FROM: Michael Shepard, P.E., State Roadway Design Engineer

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SUBJECT: Single-Slope Concrete Barriers

This bulletin supplements Roadway Design Bulletin 16-02 MASH-16 Implementation Plan.

REQUIREMENTS

Use the Single-Slope Concrete Barriers shown in Attachment ‘A’ in lieu of the F-Shape Concrete Barriers shown in the current Design Standards, Indexes 410 and 411.

The 10-foot-long vertical transition end treatments shown on the FY 2016-17 Design Standards Index 410, Sheet 12 (Section EE to FF) and Sheet 13 (Section EE to GG), are not permitted within the clear zone of approaching traffic lanes unless site-specific justification and approval is obtained from the District Design Engineer.
COMMENTARY

A redeveloped version of Design Standards Indexes 410 and 411 will be released with the FY 2018-19 Design Standards eBook, where the Single-Slope Concrete Barrier shapes shown in Attachment ‘A’ will replace F-Shape Concrete Barriers, and all reinforcing details, foundation details, and other miscellaneous details will be included to continue the similar functionality of the current Indexes. The 38”, 44”, and 56” inch height Single-Slope Barriers shown in Attachment ‘A’ will replace the 32”, 42”, and 54” height F-Shape Barriers, respectively.

The 10-foot-long vertical transition end treatment should be used only where a more crashworthy solution is not available. See the 2016 Plans Preparations Manual, Volume 1, Section 4.4.2.2.

The details in Attachment ‘A’ show the new Single-Slope Concrete Barrier dimensions and are only intended to enable the planning of roadway cross sections. Generally follow the vertical and horizontal taper rates and transition lengths for each of the conditions shown in the FY 2016-17 Design Standards Indexes 410 and 411, except as noted in the Requirements above.

The Table in Attachment ‘B’ shows additional anticipated changes to other Design Standards Indexes associated with Concrete Barrier.

Updated Standard Specifications and new Pay Items will be released along with these revised Indexes.

For structures related traffic railing Design Standards, see Structures Design Bulletin 16-04.

BACKGROUND


IMPLEMENTATION

These requirements are effective on all projects with a letting date of July 1, 2018 or later.

CONTACT

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MAS/gjm/rms
Attachment ‘A’

Single-Slope Concrete Barrier
Sections per Condition
Roadway Design Bulletin 16-04
Single-Slope Concrete Barriers
Page 4 of 8

38" FULL MEDIAN BARRIER

38" HALF MEDIAN BARRIER

38" SHOULDER BARRIER
GRADE-SEPARATED MEDIAN BARRIER
(Y ≤ 4'-0")
GRADE-SEPARATED MEDIAN BARRIER
(Y \leq 6\text{"})
44" PIER PROTECTION BARRIER

56" PIER PROTECTION BARRIER
## Attachment ‘B’

### Anticipated Changes to Design Standards Indexes with Concrete Barriers

<table>
<thead>
<tr>
<th>Index Number</th>
<th>Index Title</th>
<th>Anticipated Change</th>
<th>Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>217</td>
<td>Median Barrier Inlets Types 1, 2, 3, 4 and 5</td>
<td>Replace F-Shape Barrier with Single-Slope Barrier</td>
<td>Jul-18</td>
</tr>
<tr>
<td>218</td>
<td>Barrier Wall Inlet</td>
<td>Replace F-Shape Barrier with Single-Slope Barrier</td>
<td>Jul-18</td>
</tr>
<tr>
<td>219</td>
<td>Concrete Barrier Wall Inlet</td>
<td>Replace F-Shape Barrier with Single-Slope Barrier</td>
<td>Jul-18</td>
</tr>
<tr>
<td>400</td>
<td>Guardrail</td>
<td>Replace F-Shape Barrier with Single-Slope Barrier</td>
<td>Jul-18</td>
</tr>
<tr>
<td>402</td>
<td>Guardrail Transitions and Connections for Existing Bridges</td>
<td>No Changes Required for Existing Conditions</td>
<td>NA</td>
</tr>
<tr>
<td>410</td>
<td>Concrete Barrier Wall</td>
<td>Replace F-Shape Barrier with Single-Slope Barrier; Redevelop and Reorganize Index</td>
<td>Jul-18</td>
</tr>
<tr>
<td>411</td>
<td>Pier Protection Barrier</td>
<td>Replace F-Shape Barrier with Single-Slope Barrier</td>
<td>Jul-18</td>
</tr>
<tr>
<td>414</td>
<td>Type K Temporary Concrete Barrier System</td>
<td>No Changes Required for Temporary Condition</td>
<td>NA</td>
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<tr>
<td>415</td>
<td>Temporary Concrete Barrier</td>
<td>No Changes Required for Temporary Conditions</td>
<td>NA</td>
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<tr>
<td>461</td>
<td>Opaque Visual Barrier</td>
<td>Delete</td>
<td>Jul-18</td>
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<tr>
<td>11870</td>
<td>Single Post Bridge Mounted Sign Support</td>
<td>Replace F-Shape Barrier with Single-Slope Barrier</td>
<td>Jul-18</td>
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<tr>
<td>11871</td>
<td>Single Post Median Barrier Mounted Sign Support</td>
<td>Replace F-Shape Barrier with Single-Slope Barrier</td>
<td>Jul-18</td>
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<tr>
<td>17515</td>
<td>Standard Aluminum Lighting</td>
<td>Replace F-Shape Barrier with Single-Slope Barrier</td>
<td>Jul-18</td>
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