Design Standards Update

Design Update Training
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Design Standards Manager

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2014 Design Standards eBooklet

◆ Index 304 – Detectable Warnings and Sidewalk Curb Ramps

◆ Index 310 – Concrete Sidewalks

◆ Index 515 – Turnouts

◆ Index 17346 – Special Marking Areas

◆ Index 400 – Guardrail

◆ Index 430 – Crash Cushion Details
Index 304 – Detectable Warnings and Sidewalk Curb Ramps
Need - Redevelopment of Index 304

-BACKGROUND:

- Roadway Designer Calls on Index 304;
  - Curb Returns are not Buildable,
  - Curb Returns Lack Sufficient Detail.

- Construction Office Requests;
  - Curb Returns cannot be Constructed to meet ADA Standards,
  - Difficult to Adequately Estimate Quantities of Detectable Warnings (DW),
  - DW Quantity Payment is not Consistent.
Proposed Design

Survey Monkeys Results:
✓ Eliminated 15 of 25 Existing Curb Ramps.

Redeveloped Design Standards:
✓ Index 304.

Instructions to the Design Standard:
✓ IDS-304.
Survey Monkey Results

The Survey Monkey aided in identifying curb ramps that were either:

1) Non-complaint to ADA,
2) Rarely Used and/or
3) Could not be Constructed.
Redeveloped Design Standard

- Revised General Notes:
- 10 Proposed Curb Ramps (Urban):
  - Meet ADA Requirements,
  - Buildable/Constructible.
- 2 Flush Shoulder Options (Suburban):
  - Option A – DW @ Radial Return,
  - Option B – DW @ 5’ Max from Radial Return.
Instructions to the Design Standards

- Design Criteria,
- Design Assumptions and Limitations,
- Plan Content Requirements,
- Payment.

- ✔ 520-1, Concrete Curb-n-Gutter (LF)
- ✔ 522-1, Concrete Sidewalks-n-Driveways (SY)
- ✔ 527-2, Detectable Warnings (SF)
Other Affected Documents

- Other Design Standards:
  - Index 310, Index 515, and Index 17346.

- Specifications Revisions:
  - Sections 520, 522, and 527.

- Basis Of Estimates (BOE) Revisions:
  - Pay Item 522 and Pay Item 527.
Index 310 – Concrete Sidewalks

Back Of Sidewalk Variations

Omit Joints On Curb Ramps

Or Controller Base, Ex.

Sidewalk

Turnout Or Side Road
(Full Return Shown)

Sheet 1 of 2
Index 515 - Turnouts

3' Curb Transition From Full To Zero Height At End Of All Curb And Gutter Construction Except Where Connecting Existing Curb And Gutter. △

Full Height Curb Length Varies:
2' Min. Beyond Limits Of Sidewalk Curb Ramps - See Index No. 304. 4' Min. Back Of Sidewalk In Absence Of Sidewalk Curb Ramps. As Required For Connecting To Existing Curb. △

Side Road Edge Of Pavement Extension Line (Future Edge Of Pavement Where Available In An Adopted Five Year Transportation Plan).

No Drop Curb Allowed Within These Limits Except As Required For Sidewalk Curb Ramps Shown On Index No. 304. △

Corner Clearance (C).
See General Note No. 3.
Index 17346 – Special Marking Areas

Revise the Curb Return to be Perpendicular to the Curve Radius.

TYPICAL CROSSWALK MARKINGS FOR CURB RAMPS

Sheet 3
Index 17346 – Special Marking Areas

TYPICAL CROSSWALK MARKINGS FOR CURB RAMPS

Sheet 3 of 14
Specifications Revisions

Section 520:

- 520-1, Added to Description;
  - “curb for sidewalk curb ramps and driveways,”

- 520-11, Added to Method of Measurement;
  - “Curb for sidewalk curb ramps or driveways will be paid at the contract unit price for the parent curb.”

- 520-12.3, Inserted Removal of Existing Curb;
  - “For repairs and replacements, removal of the existing curb will be included in the cost of the new curb.”
Specifications Revisions

Section 522:

- SECTION 522, Added to Title;
  - “AND DRIVEWAYS”

- 522-9, Added to Method of Measurement;
  - “Ramps, reconstructed sidewalks, walk around sidewalks, sidewalk landings, sidewalk curb, and driveways will be included in the area to be paid.”

- 522-10, Added to Basis of Payment;
  - “For repairs and replacements, removal of the existing sidewalk or driveway will be included in the cost of the new sidewalk and driveway.”
  - Pay Item Description, Added “and Driveways”
Section 527:

- SECTION 527, Deleted from Title;
  - “ON WALKING SURFACES”

- 527-4, Revised Method of Measurement;
  - “Detectable warnings will be paid per square foot, furnished, installed and accepted.”

- 527-5, Basis of Payment;
  - Deleted Item No. 527-1, “Detectable Warnings on Existing Walking Surfaces - each.”
  - Added Item No. 527-2, “Detectable Warnings - square foot.”
Estimates Bulletin 13-07:

- Pay Item 522-1,
  - Concrete Sidewalks and Driveways (SY),

- Pay Item 527-2,
  - Detectable Warnings (SF).

Note:

Inconsistency in the Use of these Pay Items between Construction, Pushbutton, and Maintenance Projects.
# Table of Detectable Warnings

<table>
<thead>
<tr>
<th>CURB RAMP TYPE</th>
<th>CURB RADIUS (FT)</th>
<th>TOTAL AREA (SF)</th>
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<tbody>
<tr>
<td>CR-A</td>
<td>N/A</td>
<td>8</td>
</tr>
<tr>
<td>CR-B</td>
<td>N/A</td>
<td>8</td>
</tr>
<tr>
<td>CR-C</td>
<td>N/A</td>
<td>8</td>
</tr>
<tr>
<td>CR-D</td>
<td>25</td>
<td>11</td>
</tr>
<tr>
<td>CR-E</td>
<td>N/A</td>
<td>8</td>
</tr>
<tr>
<td>CR-F</td>
<td>10</td>
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<tr>
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<td>13</td>
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<td>14</td>
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<tr>
<td>CR-G</td>
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<td>14</td>
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</table>

Sheet 7 of 7
IDS-304 (Design Aid for CR-F)

CR-F:
25’ Radius,
13 SF

Figure 2 of 7
Index 400 - Guardrail

Sheet 3 Mark-up of Figure 1:

Clear Zone Limit Or Horizontal Clearance Limit In Accordance With The Criteria In Volume I Chapters 2, 4 And 25 Of The "Plans Preparation Manual" and Index No. 700.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
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<tr>
<td>≤ 45</td>
<td>16 (D-d)</td>
</tr>
<tr>
<td>≥ 50</td>
<td>13 (D-d)</td>
</tr>
</tbody>
</table>
Index 400 - Guardrail

- Proposed Sheet 3 of 26 – Figure 1:

```
Clear Zone Limit Or Horizontal Clearance
Limit In Accordance With The Criteria In
Volume 1 Chapters 2, 4 And 25 Of The "Plans
Preparation Manual".
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Sheet 3 of 26
Sheet 6 Mark-up of Detail P:

For Median Guardrail See Sheets 8 & 9 And General Note 12.

Divider Roadway - Detail P

Add - 1 Panel Min.

Add - (62.5' Min.)

Guardrail Not Required Except Where Slope Steeper Than 1:3 Or Other Hazards Are Present

4 Panels W-Beam Varies

Flared End Section End Anchorage Type II Bridge Rail Projection

Approach Slab Bridge Approach Slab

Transition Section (See Detail J) Tider Gutter Are Present
Index 400 - Guardrail

Proposed Sheet 6 of 26 – Detail P:

For Median Guardrail See Sheets 8 & 9 And General Note 12.

Transition Section
(See Detail J)

Approach Slab
Bridge
Approach Slab

Flared End Section
End Anchorage Type II

Bridge Rail Projection

4 Panels W-Beam

Guardrail Not Required Except Where Slope Steeper Than 1:3 Or Other Hazards Are Present

(62.5' Min.)

DIVIDED ROADWAY - DETAIL P

Sheet 6 of 26
Index 400 - Guardrail

- Sheet 7 Mark-up of Detail I:

DIVIDED ROADWAY - DETAIL I

LDERS AND

Add - (62.5' Min.)

Add - 1 Panel Min.
Index 400 - Guardrail

- Proposed Sheet 7 of 26 – Detail I:

- Transition Section

- See Index No. 402
  - Guardrails Are Present

- Flared End Section
  - End Anchorage Type II

- Approach Slab

- Bridge

- Approach Slab

- 4 Panels
  - Varies
  - 1 Panel Min.

- Guardrail Not Required Except Where Slope Steeper Than 1:3 Or Other Hazards Are Present (62.5' Min.)

DIVIDED ROADWAY - DETAIL I

Sheet 7 of 26
**Index 430 – Crash Cushion Details**

- **Roadway Design Bulletin 13-05:**
  - ✔ Requirements.

<table>
<thead>
<tr>
<th>Design Length (ft.)</th>
<th>Design Speed (mph)</th>
<th>Crash Test Level</th>
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<tbody>
<tr>
<td>8.75</td>
<td>35</td>
<td>TL-2</td>
</tr>
<tr>
<td>11.50</td>
<td>40</td>
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</tr>
<tr>
<td>14.25</td>
<td>50</td>
<td>TL-3</td>
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<td>18.75</td>
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<td>18.75</td>
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R2013-05 Revised Design Lengths
Questions or Comments
Thanks!

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Design Standards Update 2014 eBooklet

THE END

Please visit us at:
http://www.dot.state.fl.us/rrdesign/cs/cs.shtm

or

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