NOTES:
1. ALL HOLES SHALL BE DRILLED PRIOR TO GALVANIZING.
2. ALL WOOD SIZES ARE NOMINAL DIMENSIONS.
3. POSTS SHOULD BE PLACED SO THAT BREAKAWAY HOLES ARE NO LOWER THAN GROUND LEVEL AND NO HIGHER THAN 4' 0" (1220MM) ABOVE GROUND LEVEL.

SOIL PLATE
3/8" COLD DIA. HOLE

STEEL TUBE
5/8" X 4" X 4' 0"
GALVANIZED STEEL TUBE
3/8" COLD DIA.HOLES

WOOD BLOCK
2 3/4" X 2 3/4" X 4'
1 1/4" HT. X 2 1/2" WIDE
3/8" COLD DIA. HOLE

SHORT WOOD BREAKAWAY POST
5/8" COLD DIA. HOLE

LONG WOOD BREAKAWAY POST
SEE NOTE 3

DELAWARE DEPARTMENT OF TRANSPORTATION

HARDWARE

APPROVED

STANDARD NO. B-14/3000
RECOMMENDED
07/04/2019
INTEGRAL P.C.C. CURB AND GUTTER

Type 1

INTEGRAL P.C.C. CURB AND GUTTER

Type 2

INTEGRAL P.C.C. CURB AND GUTTER

Type 3

NOTES:

1. WHEN P.C.C. CURB OR INTEGRAL, P.C.C. CURB AND GUTTER IS PLACED ADJACENT TO PORTLAND CEMENT CONCRETE PAVEMENT, CONSTRUCT THE JOINT AS PER THE LONGITUDINAL JOINT SEALMENT DETAIL ON DETAIL P-4, SHEET 3 OF THIS APPENDIX.

2. JOINT FILLER TO SEAL Holes TO BE FILLED UNDER RESPECTIVE CURB AND GUTTER ITEM.

3. DEPRESS CURB AT ENTRANCES AND CURB RAMPS AS DETAILED ON THIS SHEET.

4. DEPRESS CURB Flush WITH PAVEMENT AT CURB RAMPS. MAXIMUM SLOPE OF CURB AT CURB RAMPS IS DOWN THE DIRECTION OF PEDESTRIAN TRAVEL. SEE DETAIL C-SHEET 1 OF 4.

5. DEPRESS CURB Flush WITH PAVEMENT IN ADJACENT AREA AT WIND OF RAMPS. TOPPING BACK TO FULL HEIGHT AT A SLOPE OF 1:4.
MAXIMUM DIFFERENCE IN GRADE

For example, if the curb ramp and depressed curb slope \( x \) is 8\% and the pavement slope \( y \) is 4\%, then to determine the difference in grade, add \( x + y \) to get 12\%, which is greater than the 8\% preferred but less than the 13\% maximum.
NOTES:

1. WHERE A 12% MAXIMUM SLOPE RAMP WILL NOT MEET THE SIDEWALK GRADE WITHIN A LENGTH OF 15' (4570) DUE TO STEEP ADJACENT ROADWAY, THE RAMP LENGTH MAY BE LIMITED TO 15' (4570), AND THE RAMP SLOPE ALLOWED TO EXCEED 12%.
2. TRANSITION TO EXISTING SIDEWALK WIDTH OVER THE LENGTH OF THE RAMP.
3. RAMP AND SIDEWALK CROSS SLOPE SHALL BE 50% (2%) MAXIMUM.
4. IF GRADING WILL BE STEEPER THAN 6% ADJACENT TO THE CURB RAMP OR SIDEWALK, THEN A TYPE I CURB OR RETAINING WALL SHOULD BE USED TO ELIMINATE THE NEED FOR THE STEEP SLOPE.
5. FOR THE CURB RAMP, TYPE 3, IF THE WIDTH OF THE FULLY DEPRESSED CURB AT THE STREET IS MORE THAN 5' (1525), THE THE DETECTABLE WARNING TRUNCATED DOMES SHALL FOLLOW THE RADIUS OF THE CURB CONTINUOUSLY WITHOUT GAPS FOR THE ENTIRE LENGTH OF DEPRESSED CURB.
7. IF THE WIDTH OF THE FULLY DEPRESSED CURVED CURB AT THE STREET IS 5' (1525) OR LESS, THEN A RECTANGULAR PIECE OF DETECTABLE WARNING TRUNCATED DOMES MAY BE USED.

SAMPLE LAYOUT OF DETECTABLE WARNING TRUNCATED DOMES ALONG A CURB RADIUS

DETECTABLE WARNINGS SHALL BE PLACED THE FULL WIDTH OF THE DEPRESSED CURB.

DELWARE DEPARTMENT OF TRANSPORTATION

CURB RAMP TYPES 2, 3, & 4

STANDARD NO. C-2-0080 SHT. 2 OF 4 RECOMMENDED 05/02/10

1/26/2010
NOTES:
1. 5" (125) THROAT IS FOR TYPE B TOP UNITS ONLY.
2. RELOCATE ENCOACHING REINFORCING BARS WHEN USING TYPE B TOP UNITS.
3. COVER SLABS ARE TO BE PRECAST AND MUST BE SIZED TO FIT INLET BOX DIMENSIONS.
4. ALL BARS ARE TO BE 9" (16) SPACED @ 6" (150) UNLESS NOTED OTHERWISE. TOP REINFORCMENTS SHALL BE 0.75 IN (75 mm) MIN. HORIZONTAL REINFORCEMENT PER FOOT IN BOTH DIRECTIONS.
5. MINIMUM BAR COVER = 1/2" (38).

SECTION B-B
FOR TYPES A, C, D, & E TOP UNITS

S502 BENDING DIAGRAM
S502 IS NOT REQUIRED TO BE ONE CONTINUOUS BAR. IF MORE THAN ONE BAR IS USED, THERE MUST BE A 12" (300) OVERLAP BETWEEN BARS.
S504 BENDING DIAGRAM
S504 IS NOT REQUIRED TO BE ONE CONTINUOUS BAR. IF MORE THAN ONE BAR IS USED, THERE MUST BE A 12" (300) OVERLAP BETWEEN BARS.
1. The perforated pipe underdrain shall be located as shown in the typical sections of the construction plans.
2. Geotextile filter fabric shall be placed entirely over the top of underdrain trench and layered as shown.
3. Slope of underdrains shall match roadway grade, unless otherwise directed by the Engineer.
4. Outlet pipe connections shall use 45 degree elbows or shall use straights pipe with a minimum radius of 3
   feet to direct underdrain pipe into side of drainage inlet or to positive grade. Pipe shall also be non-perforated
   and have a smooth interior.
5. Return screen shall exactly fit the provided slot with the screen lip fitting right to the bottom flow line.
6. A 4" flexible drain line shall be furnished and installed at the direction of the designer to mark the
   location of the concrete headwall.
7. When two lines of pipe underdrain drain to a low point, each pipe must have its own outlet.
8. Perforated pipe underdrain shall not be placed under diagonal in order to avoid puncturing.
NOTES:

1. IF THE SHARED USE PATH ENDS AT A ROADWAY OR RAILROAD CROSSING, THEN DETECTABLE WARNING TRUNCATED DOMES 24" (600) LONG AND THE FULL WIDTH OF THE PATH SHALL BE INSTALLED, SEE DETAIL C-2.
2. STEEL TUBE TO EXTEND 1/2 (0.13) ABOVE GROUND WITH CONCRETE TO SLOPE AWAY FROM TUBE TO KEEP WATER AND SEDIMENT FROM DRAINING INTO TUBE.
3. BOLLARDS ARE NOT REQUIRED FOR A SHARED-USE PATH LESS THAN 8' (2450) HIGH.
4. SHAPE THE POST AS NECESSARY SO THAT IT WILL FIT IN THE STEEL TUBE.
5. THE LANDING SECTION SHALL BE A MINIMUM OF 5' (1525) IN LENGTH AND SHALL HAVE A MAXIMUM CROSS SLOPE AND RUNNING SLOPE OF 2%. THE ENTIRE LANDING SECTION MUST ALSO BE CONCRETE.
6. THE RAMP SECTION SHALL HAVE A MAXIMUM CROSS SLOPE OF 2%. IT SHALL ALSO HAVE A MAXIMUM RUNNING SLOPE OF 12%. HOWEVER, IF A 12% RUNNING SLOPE DOES NOT ALLOW THE RAMP TO MEET EXISTING GRADE WITHIN 15' (4200), THE RUNNING SLOPE MAY EXCEED 12%. 
PLAN

- Proposed locations for transverse joints shall exactly match the alignment of the final existing or relocated transverse joints in all adjacent lanes.

NOTES:
1. When repairing existing transverse joints, the patch shall extend a minimum of 24 inches through the centerline joint thereby eliminating the joint.
2. Proposed locations for transverse joints, even not aligned with the final expected transverse joint locations in the immediately adjacent lanes, shall be offset a minimum of 4 inches from the aforementioned joints.
3. All longitudinal joint alignment shall be straight and continuous through the repaired area.

DELAWARE DEPARTMENT OF TRANSPORTATION

PCC PAVEMENT PATCHING

STANDARD NO. P-2 0800

SHEET 1 OF 8

8/14/2008
Directions to Standard Details on Website

https://www.del dot.gov
Directions to Standard Details on Website

SCROLL DOWN
Directions to Standard Details on Website

The Standard Construction Details files are indexed by year and provided in Adobe Portable Document Format (PDF).

- 2008
- 2007
- 2006
- 2005
- 2004
- 2003
- 2002
- 2001
- 2000
- 1999
- 1998
- 1997
- Pre-1997

Approved Alternatives to Standard Details

Information
Adobe Acrobat Reader is required to view files saved in Adobe Portable Document Format (PDF). A free download is available from Adobe Systems. Visitors with visual impairments or limitations can access a free suite of tools from Adobe Systems to assist in viewing documents in PDF format.

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### Publications And Forms

**Standard Construction Details**

#### Important Notice

Design values are presented in this document in both metric and U.S. customary units and were developed independently within each system. The relationship between the metric and U.S. customary values is not an exact (soft) conversion nor a completely rationalized (hard) conversion. The metric values are those that would have been used had this document been presented exclusively in metric units. The U.S. customary values are those that would have been used if this document had been presented exclusively in U.S. customary Units. Therefore, the user is advised to work completely in one system and not attempt to convert directly between the two.

#### 2004

<table>
<thead>
<tr>
<th>Sheet No.</th>
<th>Description</th>
</tr>
</thead>
</table>
| DeDOT 2000 Standards | This file is divided into four sections below:  
DeDOT 2000 Standards Pages 1-5  
DeDOT 2000 Standards Pages 6-70  
DeDOT 2000 Standards Pages 71-105  
DeDOT 2000 Standards Pages 106-159 |
| Index of Sheets - 1 |  
Index of Sheets - 2 |  
Index of Sheets - 3 |  
Index of Sheets - 4 |  
Index of Sheets - 5 |

#### 2008 Standards Revisions

- Index of Sheets - 1
- Index of Sheets - 2
- Index of Sheets - 3
- Index of Sheets - 4
- Index of Sheets - 5

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**Section 1 - Barrier**

<table>
<thead>
<tr>
<th>Sheet No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-L (2001)</td>
<td>Barrier Legend</td>
</tr>
<tr>
<td>B-1 (2004)</td>
<td>Guardrail Applications</td>
</tr>
<tr>
<td>B-1 (2004) - 1</td>
<td>Plans (Type 1, Type 2, and Type 3)</td>
</tr>
<tr>
<td>B-1 (2004) - 2</td>
<td>Elevations and splice detail</td>
</tr>
</tbody>
</table>
Questions or comments??

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