e-Notification No. 60, dated July 29, 2016

CROSS BAR

RECOMMENDED

APR. 29, 2016

WELDLESS PLAN VIEW

SECTION A-A

INSTALLED

CHIEF BRIDGE ENGINEER

DIRECTOR, BUR. OF PROJECT DELIVERY

BD-604M

SEE NOTES 17 & 18

MAIN BAR SPLICE AT PANEL ENDS

SPLICE BAR PLAN VIEW

SECTION C-C

SPLICE BETWEEN PANELS

SECTION F-F

MAIN BAR SPLICE AT PANEL ENDS

SECTION G-G

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

BUREAU OF PROJECT DELIVERY

STANDARD

GRID REINFORCED CONCRETE BRIDGE DECK

DESIGN & DETAILS

FOR BEAM BRIDGES

RECOMMENDED APR. 27, 2016

BD-604M
SOME GRID CROSS BARS MAY BE OMITTED TO FACILITATE REBAR PLACEMENT

MODIFIED MEDIAN BARRIER DETAIL

MODIFIED CONCRETE MEDIAN BARRIER DETAIL

BARRIER REINFORCEMENT

MODIFIED MEDIAN BARRIER REINFORCEMENT
## TABLE 1: FULL DEPTH FLOORING DESIGNS

<table>
<thead>
<tr>
<th>DESIGN</th>
<th>EXISTING</th>
<th>NUMBER OF SHEAR PANELS</th>
<th>SIZE OF SHEAR PANEL</th>
<th>MAXIMUM SPAN (FT)</th>
<th>TYPE OF CONCRETE FILL</th>
<th>OVERALL DECK WEIGHT (LBS/FT)</th>
<th>LIGHT WEIGHT CONCRETE</th>
<th>COMPLIANCE</th>
<th>MAXIMUM SPAN (FT)</th>
<th>MAXIMUM DESIGN PL-3 CRASH LOAD (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>6</td>
<td>16</td>
<td>4 x 8</td>
<td>50</td>
<td>50</td>
<td>4.0</td>
<td>6.0</td>
<td>4.0</td>
<td>3.0</td>
<td>5.0</td>
</tr>
<tr>
<td>15%</td>
<td>6</td>
<td>12</td>
<td>4 x 8</td>
<td>60</td>
<td>60</td>
<td>5.0</td>
<td>7.5</td>
<td>5.0</td>
<td>3.0</td>
<td>5.0</td>
</tr>
<tr>
<td>5%</td>
<td>6</td>
<td>12</td>
<td>4 x 10</td>
<td>40</td>
<td>40</td>
<td>3.5</td>
<td>4.5</td>
<td>3.5</td>
<td>3.0</td>
<td>5.0</td>
</tr>
<tr>
<td>5%</td>
<td>10</td>
<td>12</td>
<td>4 x 10</td>
<td>40</td>
<td>40</td>
<td>3.5</td>
<td>4.5</td>
<td>3.5</td>
<td>3.0</td>
<td>5.0</td>
</tr>
</tbody>
</table>

### NOTES ON TABLE:
1. The number of supplemental bars includes size and spacing of steel which must be placed flush with top of steel and grid reinforcement over beam.
2. Grid bearing resistance is based on the structural design and field-tested installation.
3. All listed designs require the use of steel grade 50 except where otherwise noted.
4. Please refer to section 12.2 for definition of PL-3 loading.

## TABLE 2: HALF DEPTH FLOORING DESIGNS

<table>
<thead>
<tr>
<th>DESIGN</th>
<th>EXISTING</th>
<th>NUMBER OF SHEAR PANELS</th>
<th>SIZE OF SHEAR PANEL</th>
<th>MAXIMUM SPAN (FT)</th>
<th>TYPE OF CONCRETE FILL</th>
<th>OVERALL DECK WEIGHT (LBS/FT)</th>
<th>LIGHT WEIGHT CONCRETE</th>
<th>COMPLIANCE</th>
<th>MAXIMUM SPAN (FT)</th>
<th>MAXIMUM DESIGN PL-3 CRASH LOAD (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>6</td>
<td>12</td>
<td>4 x 8</td>
<td>50</td>
<td>50</td>
<td>4.0</td>
<td>6.0</td>
<td>4.0</td>
<td>3.0</td>
<td>5.0</td>
</tr>
<tr>
<td>15%</td>
<td>6</td>
<td>12</td>
<td>4 x 8</td>
<td>60</td>
<td>60</td>
<td>5.0</td>
<td>7.5</td>
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<td>3.5</td>
<td>4.5</td>
<td>3.5</td>
<td>3.0</td>
<td>5.0</td>
</tr>
<tr>
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<td>10</td>
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<td>4 x 10</td>
<td>40</td>
<td>40</td>
<td>3.5</td>
<td>4.5</td>
<td>3.5</td>
<td>3.0</td>
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</tr>
</tbody>
</table>

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2. Grid bearing resistance is based on the structural design and field-tested installation.
3. All listed designs require the use of steel grade 50 except where otherwise noted.
4. Please refer to section 12.2 for definition of PL-3 loading.

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**NOTES:**

1. *Overhead load considerations:
   - Overhead load considerations are based on the structural design and field-tested installation.
   - Grid bearing resistance is based on the structural design and field-tested installation.
   - All listed designs require the use of steel grade 50 except where otherwise noted.

2. *Composite floor systems:
   - Composite floor systems are composed of steel grid and concrete, and are designed to be integral with the superstructure.
   - Overhead load considerations are based on the structural design and field-tested installation.
   - Grid bearing resistance is based on the structural design and field-tested installation.

3. *Additional considerations:
   - Additional considerations are based on the structural design and field-tested installation.
   - Grid bearing resistance is based on the structural design and field-tested installation.
   - All listed designs require the use of steel grade 50 except where otherwise noted.

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**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF PROJECT DELIVERY

STANDARD GRID REINFORCED CONCRETE BRIDGE DECK DESIGN & DETAILS FOR BEAM BRIDGES

RECOMMENDED 2015
RECORDED 2016
SHEET 4 OF 4

BD-604M

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