ACCEPTABLE TEMPORARY CONCRETE BARRIER (TCB) TYPES AND ANCHORING DETAILS
BASED ON UNDERLYING SURFACE TYPE AND BARRIER OFFSET FROM DROP-OFF

<table>
<thead>
<tr>
<th>UNDERLYING SURFACE</th>
<th>BARRIER OFFSET</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0° ≤ A &lt; 6°</td>
</tr>
<tr>
<td>TCB TYPE</td>
<td>DETAIL</td>
</tr>
<tr>
<td>BRIDGE DECK (CONCRETE)</td>
<td>L OR S</td>
</tr>
<tr>
<td>BRIDGE DECK (CONCRETE WITH HMA OVERLAY)</td>
<td>L OR S</td>
</tr>
<tr>
<td>ROADWAY (CONCRETE)</td>
<td>L OR S</td>
</tr>
<tr>
<td>ROADWAY (CONCRETE WITH HMA OVERLAY)</td>
<td>L OR S</td>
</tr>
</tbody>
</table>

**NOTES:**

The clear dimension, A, between the toe of the TCB and the drop-off or edge of slab will be as specified on the plans or as specified by the engineer.

The anchoring detail required at each location will be as specified on the plans or as specified by the engineer.

Provide acceptable TCB type(s) based on the specified anchoring detail, specified barrier offset, and underlying surface type at each location.

Alternative TCB types and/or anchoring detail(s) will only be permitted when approved by the engineer on a case-by-case basis. Additional requirements and/or restrictions regarding the use of alternative TCB types and/or anchoring details will be specified in the contract documents or as specified by the engineer.

* Use type J1 and J2 TCB sections over bridge deck expansion joints with thermal expansion from 1½" to 4". Do not use details 3A, 3B, or 4A over bridge deck expansion joints with thermal expansion greater than 4". Instead, use detail L and type L TCB sections (with "A" now being ≥ 12") over the entire bridge span when placing limited deflection TCB sections over bridge deck expansion joints with thermal expansion greater than 4". Refer to TCB section over bridge expansion joint details. For additional information contact the traffic and safety crash barrier engineer.

** Provide the anchoring detail specified on the plans or as specified by the engineer.

*** Use of limited deflection TCB is not required when "A" ≥ 26". Type L or Type S TCB may be used without anchoring to the underlying surface or box-beam stiffeners. Other most approved standard temporary barrier types may also be used when "A" ≥ 26".

**** Do not install limited deflection TCB on HMA roadways when "A" < 6".

IN REGARDS TO BARRIER OFFSET, "A" IS THE DISTANCE FROM THE OUTSIDE EDGE OF THE TCB TO THE DROP-OFF OR THE EDGE OF SLAB.
LIMITED DEFLECTION
TEMPORARY CONCRETE BARRIER
R-53-A

PLAN VIEW TCB CURVING TOWARD TRAFFIC

SHIM OUTSIDE CONNECTIONS WITH FENDER WASHERS
CONSTRUCTION SIDE

SHIM INSIDE CONNECTIONS WITH FENDER WASHERS
TRAFFIC SIDE

GAP

INSIDE CONNECTION

SIDE VIEW
(CONSTRUCTION SIDE)

PLAN VIEW TCB CURVING AWAY FROM TRAFFIC

SHIM INSIDE CONNECTIONS WITH FENDER WASHERS
TRAFFIC SIDE

SHIM OUTSIDE CONNECTIONS WITH FENDER WASHERS
CONSTRUCTION SIDE

NOTES:

FOLLOW TCB TYPE AND BARRIER OFFSET REQUIREMENTS IDENTIFIED IN TABLE ON SHEET 1.

WHERE TCB WITH BOX-BEAM STIFFENERS (DETAIL 1) IS FLARED OR PLACED ON A RADIUS, THE RESULTING GAPS BETWEEN THE BOX-BEAM AND TCB MUST BE SHIMMED.

SHIMMING MUST CONSIST OF 8" x 8" x 1/2" SQUARE PLATE AND FENDER WASHERS, AS NEEDED TO SNUG THE BOX-BEAM STIFFENER TO THE TCB.

FENDER WASHERS MUST BE 3" NOMINAL O.D.

INSTALL CONNECTION PINS BETWEEN TCB SECTIONS IN ADDITION TO BOX-BEAM STIFFENERS.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION
**BOX BEAM STIFFENED METHOD DETAIL 1**

- 3/8' or 1' hole through barrier
- 3/8' hole continuously threaded rod (length as required)
- 1/2' hex nut each end
- Fender washer

**SECTION WITH SHIMMING**
- 8' x 8' x 1/2' thick plate with 3/8' hole
- 12'-0" continuous (splices not permitted)
- 3' hole
- 11/2' hole
- 3' hole

**SECTION WITHOUT SHIMMING**
- 8' x 8' x 1/2' thick plate with 3/8' hole

**TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION**

- F.H.W.A. APPROVAL
- 3 OF 22
TRANSITION FROM LIMITED DEFLECTION TEMPORARY CONCRETE BARRIER TO STANDARD TEMPORARY BARRIER WHEN USING DETAIL 1

- Transition section from Standard Temporary Barrier to Limited Deflection Temporary Concrete Barrier (required when Standard Temporary Barrier and Limited Deflection Temporary Concrete Barrier have different cross sectional dimensions and/or different connections).

- Area requiring Limited Deflection Temporary Concrete Barrier

- Box Beam Stiffener

- Standard Temporary Barrier **

- Limited Deflection Temporary Concrete Barrier

- Standard Temporary Barrier **

** INSTALL THE FOLLOWING NUMBER OF ANCHORS OR STAKES EVENLY SPACED (ON THE TRAFFIC SIDE OF THE BARRIER) ON THE FOLLOWING TEMPORARY CONCRETE BARRIER SECTIONS:

<table>
<thead>
<tr>
<th>Type</th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
<th>#4</th>
<th>#5</th>
<th>#6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type L</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Type S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** STANDARD TEMPORARY BARRIER CONSISTS OF ANY TEMPORARY BARRIER MEETING MDOT SPECIFICATIONS.

NOTES:

- TCB Sections #3 and #6 must be located outside the area requiring Limited Deflection Temporary Concrete Barrier.

- Any deviations from this detail require approval from the Engineer prior to installation.

- Install Box-Beam Stiffeners between TCB sections as depicted in this detail.

- Use either Type L or Type S TCB for Sections #1, #2, #3, #4, #5, and #6. All other Limited Deflection TCB Sections, excluding Transition sections, must consist of Type L TCB when using DETAIL 1.
STAKED METHOD DETAIL 2

NOTES:

FOLLOW TCB TYPE AND BARRIER OFFSET REQUIREMENTS IDENTIFIED IN TABLE ON SHEET 1.

INSTALL CONNECTION PINS BETWEEN TCB SECTIONS IN ADDITION TO STAKES.

A MAXIMUM OF TWO STAKES IN A SINGLE TCB SECTION MAY BE OMITTED WHEN NECESSARY TO AVOID IMPACTING UNDERGROUND UTILITIES OR OBSTRUCTIONS WITHIN STAKE DEPTH. HOWEVER, ADJACENT TCB SECTIONS ON BOTH ENDS OF THE PARTIALLY STAKED TCB SECTION MUST BE FULLY STAKED WITH STAKES IN ALL ANCHOR BOLT BLOCKOUTS ON THE TRAFFIC SIDE OF THE BARRIER.

* PREDRILL AND CLEAN OUT 1½" HOLE IN HMA PAVEMENT PRIOR TO INSTALLING STAKES.

HMA OR HMA PAD

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BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION

F.H.W.A. APPROVAL
8-14-2015
R-53-A
SHEET 5 OF 22
NOTES:

FOLLOW TCB TYPE AND BARRIER OFFSET REQUIREMENTS IDENTIFIED IN TABLE ON SHEET 1.

INSTALL CONNECTION PINS BETWEEN TCB SECTIONS IN ADDITION TO ANCHOR BOLTS / THREADED RODS.

DETAILS 3A AND 3B SHOULD NOT BE USED WHEN CORRUGATED METAL BRIDGE DECKING IS PRESENT.

* 1" DIAMETER THREADED ROD WITH HEX NUT, LOCK WASHER, AND \( \frac{1}{2} \times 3" \times 3" \) SQUARE WASHER MAY BE USED IN LIEU OF ANCHOR BOLT. HEX NUT MUST BE FULLY ENGAGED WITH THE THREADED ROD. BUT THREADED ROD MUST NOT CREATE A SNAGGING HAZARD BY PROTRUDING ABOVE THE SLOPED TOE OF THE TCB SECTION.

** HEX NUT MUST BE FULLY ENGAGED WITH ANCHOR BOLT / THREADED ROD. MAXIMUM ALLOWABLE ANCHOR BOLT/THREADED ROD PROTRUSION BELOW THE HEX NUT WILL BE AS SPECIFIED BY THE ENGINEER, AND MAY VARY BY LOCATION.

THROUGH BOLT METHOD DETAILS 3A AND 3B

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BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

DETAIL 3A

DETAIL 3B

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION
NOTES:

FOLLOW TCB TYPE AND BARRIER OFFSET REQUIREMENTS IDENTIFIED IN TABLE ON SHEET 1.

INSTALL CONNECTION PINS BETWEEN TCB SECTIONS IN ADDITION TO THREADED RODS.

CONCRETE ROADWAY OR CONCRETE BRIDGE DECK

(Do not use this detail on concrete bridge decks with HMA overlay)

DETAIL 4A

CONCRETE ROADWAY WITH HMA OVERLAY

(Do not use this detail on concrete bridge decks with HMA overlay)

DETAIL 4B
TRANSITION FROM LIMITED DEFLECTION TEMPORARY CONCRETE BARRIER TO STANDARD TEMPORARY BARRIER WHEN USING DETAIL 2, 3A, 3B, 4A, OR 4B

TRANSITION SECTION FROM STANDARD TEMPORARY BARRIER TO LIMITED DEFLECTION TEMPORARY CONCRETE BARRIER (REQUIRED WHEN STANDARD TEMPORARY BARRIER AND LIMITED DEFLECTION TEMPORARY CONCRETE BARRIER HAVE DIFFERENT CROSS SECTIONAL DIMENSIONS AND/OR DIFFERENT CONNECTIONS)

AREA REQUIRING LIMITED DEFLECTION TEMPORARY CONCRETE BARRIER

STANDARD TEMPORARY BARRIER **

LIMITED DEFLECTION TEMPORARY CONCRETE BARRIER

STANDARD TEMPORARY BARRIER **

---

** INSTALL TYPE L OR TYPE S TEMPORARY CONCRETE BARRIER WITH THE FOLLOWING NUMBER OF ANCHORS OR STAKES (EVENLY SPACED ON THE TRAFFIC SIDE OF THE BARRIER) ON THE FOLLOWING SECTIONS:

<table>
<thead>
<tr>
<th>TYPE</th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
<th>#4</th>
<th>#5</th>
<th>#6</th>
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</thead>
<tbody>
<tr>
<td>TYPE L</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>TYPE S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** STANDARD TEMPORARY BARRIER CONSISTS OF ANY TEMPORARY BARRIER MEETING MDOT SPECIFICATIONS.

*** INSTALL STAKES, ANCHOR BOLTS, OR RODS IN ALL ANCHOR BOLT BLOCKOUTS ON THE TRAFFIC SIDE OF THE BARRIER EXCEPT AS NOTED IN STACKED METHOD DETAIL 2 (SHEET 5 OF 22) AND THE BRIDGE DECK EXPANSION JOINT DETAILS (SHEET 9 AND 11 OF 22).

---

NOTES:

TCB SECTIONS #3 AND #4 MUST BE LOCATED OUTSIDE THE AREA REQUIRING LIMITED DEFLECTION TEMPORARY CONCRETE BARRIER.

ALL LIMITED DEFLECTION TCB SECTIONS, EXCLUDING TRANSITION SECTIONS AND SECTIONS OVER EXPANSION JOINTS WITH THERMAL EXPANSION 1½" OR GREATER, MAY BE TYPE L OR TYPE S. INTERMIXING TYPE L AND TYPE S TCB SECTIONS WILL BE PERMITTED.

ANY DEVIATIONS FROM THIS LAYOUT REQUIRE APPROVAL FROM THE ENGINEER PRIOR TO INSTALLATION.
LIMITED DEFLECTION TEMPORARY CONCRETE BARRIER

ELEVATION VIEW

TO EXPANSION JOINT

OMIT ANCHOR BOLT ADJACENT TO EXPANSION JOINT

ANCHOR BOLT (DETAIL 4A SHOWN)

BRIDGE DECK

EXPANSION JOINT

APPROACH PAVEMENT (CONCRETE) OR BRIDGE DECK

ELEVATION VIEW

TYPE L TCB PLACED OVER BRIDGE EXPANSION JOINT WITH THERMAL EXPANSION LESS THAN 1\(\frac{1}{2}\)"

ANCHOR BOLT (DETAIL 3A SHOWN)

TCB SECTION OVER BRIDGE DECK EXPANSION JOINT WITH THERMAL EXPANSION LESS THAN 1\(\frac{1}{2}\)" WHEN USING DETAIL 3A, 3B, OR 4A

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BUROU OF DEVELOPMENT STANDARD PLAN FOR

BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION

PLAN VIEW
TEMPORARY CONCRETE BARRIER TYPE L

ELEVATION VIEW
TEMPORARY CONCRETE BARRIER TYPE L

NOTE:
ADDITIONAL LIFTING SLOTS MAY BE INSTALLED AT THE CONTRACTOR'S OPTION PROVIDED THE ADDITIONAL SLOTS DO NOT INTERFERE WITH ANCHOR BLOCKOUTS OR STEEL REINFORCEMENT IN THE TEMPORARY CONCRETE BARRIER SECTION.
OR BRIDGE DECK APPROACH PAVEMENT (CONCRETE) AS POSSIBLE TO THE EXPANSION JOINT)

** IF TWO OR MORE ANCHOR BOLTS ARE OMITTED, INSTALL TWO WIRE ROPE ASSEMBLIES INSTEAD OF ONE.

* TYPE J1 AND J2 TCB SECTIONS MAY BE REVERSED IN ORDER TO MATCH CONNECTIONS OF ADJACENT TYPE L OR TYPE S TCB SECTIONS.

† " DIAMETER 6x36 STEEL CORE WIRE ROPE, EXTRA EXTRA IMPROVED PLOW (EEP), REGULAR LAY (RL)

4" MAX. GAP AFTER INSTALLATION

CONNECT PIN TO ACCOMMODATE CONNECTION PIN

TCB SECTION OVER BRIDGE DECK EXPANSION JOINT WITH THERMAL EXPANSION 1/2" TO 4" WHEN USING DETAIL 3A, 3B, OR 4A

WIRE ROPE ASSEMBLY DETAIL
STEEL CAP PLATE DETAILS

WIRE ROPE AND PIN CONNECTION DETAIL
**PLAN VIEW**
TEMPORARY CONCRETE BARRIER TYPE J1

**ELEVATION VIEW**
TEMPORARY CONCRETE BARRIER TYPE J1
**PLAN VIEW**
TEMPORARY CONCRETE BARRIER TYPE J2

**ELEVATION VIEW**
TEMPORARY CONCRETE BARRIER TYPE J2

- "4"Ø LIFTING HOLE WITH 11 GAUGE STEEL ROUND MECHANICAL TUBING SLEEVE. (LIFTING HOLES ARE OPTIONAL)
- "4"Ø x 12'-6" GALVANIZED PIPE
ON APPROACH TRAFFIC SIDE

" GAP OR LESS TO RECESS EDGE

INSTALL STEEL CAP PLATE WITH

1/2" GAP TO RECESS

ON APPROACH TRAFFIC SIDE

TYPE J1 TCB (SHOWN)

TYPE J2 TCB (SHOWN)

APPROACH TRAFFIC

HOLE (TYP)

2" Ø DOWEL BAR

HOLE (TYP)

1'-6" x 1'-9" x 1/2" BARRIER RECESS TO ACCOMODATE 1/2" STEEL CAP PLATE

CAP PANEL RECESS DETAILS

TEMPORARY CONCRETE BARRIER TYPES J1 AND J2

LIMITED DEFLECTION

TEMPORARY CONCRETE BARRIER

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BUREAU OF DEVELOPMENT STANDARD PLAN FOR

TEMPORARY CONCRETE BARRIER

LIMITED DEFLECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION

BUREAU OF DEVELOPMENT STANDARD PLAN FOR

TEMPORARY CONCRETE BARRIER

LIMITED DEFLECTION
SECTION C-C
TEMPORARY CONCRETE BARRIER TYPE J1 AND J2

SECTION D-D
TEMPORARY CONCRETE BARRIER TYPE J1 OR TYPE J2

SECTION E-E
TEMPORARY CONCRETE BARRIER TYPE J1 OR TYPE J2

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION

F.H.W.A. APPROVAL
8-14-2015
R-53-A SHEET
16 OF 22
### Steel Reinforcement for Temporary Concrete Barrier Types J1 & J2

<table>
<thead>
<tr>
<th>BAR</th>
<th>BAR SIZE</th>
<th>SHAPE</th>
<th>NUMBER OF BARS</th>
<th>LENGTH (PER BAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>#4</td>
<td></td>
<td>16</td>
<td>6'-0&quot;</td>
</tr>
<tr>
<td>A2</td>
<td>#6</td>
<td></td>
<td>6</td>
<td>2'-11&quot;</td>
</tr>
<tr>
<td>B1</td>
<td>#5</td>
<td></td>
<td>9</td>
<td>12'-2&quot;</td>
</tr>
<tr>
<td>D4</td>
<td>#6</td>
<td></td>
<td>3</td>
<td>8'-2&quot;</td>
</tr>
</tbody>
</table>

**Note:** Number of bars specified are per temporary concrete barrier section.

### Loop Assembly

#### Elevation

![Elevation Diagram](image)

#### Plan

**D4 Bars**

---

**MICHIGAN DEPARTMENT OF TRANSPORTATION**

**BUREAU OF DEVELOPMENT STANDARD PLAN FOR**

**TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION**

**F.H.W.A. APPROVAL**

**R-53-A**

**SHEET 17 OF 22**
**LIMITED DEFLECTION TEMPORARY CONCRETE BARRIER**

**PLAN VIEW**
TEMPORARY CONCRETE BARRIER TYPE S

**ELEVATION VIEW**
TEMPORARY CONCRETE BARRIER TYPE S

*4" LIFTING HOLE WITH 11 GAUGE STEEL ROUND MECHANICAL TUBING SLEEVE. (LIFTING HOLES ARE OPTIONAL)*
END VIEW
TEMPORARY CONCRETE BARRIER TYPE L OR TYPE S

SECTION A-A
TEMPORARY CONCRETE BARRIER TYPE L OR TYPE S

SECTION B-B
TEMPORARY CONCRETE BARRIER TYPE L OR TYPE S

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT
STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION

8-14-2015
R-53-A
SHEET 19 OF 22
BARRIER CONNECTION DETAIL
TEMPORARY CONCRETE BARRIER TYPE L OR TYPE S

TOP PLATE DETAIL

LIFTING SLOT DETAIL
1" CHAMFER TO PREVENT SPALLING

ANCHOR BLOCKOUT DETAIL
* RETAINER BOLT AND NUT ARE INSTALLED AT THE CONTRACTOR’S OPTION.

* RETAINER BOLT AND NUT ARE INSTALLED AT THE CONTRACTOR’S OPTION.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION
### Steel Reinforcement for Temporary Concrete Barrier Type S

<table>
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<tr>
<th>BAR</th>
<th>BAR SIZE</th>
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<th>NUMBER OF BARS</th>
<th>LENGTH (PER BAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>#4</td>
<td>—</td>
<td>12</td>
<td>6'-0&quot;</td>
</tr>
<tr>
<td>A2</td>
<td>#6</td>
<td>▼</td>
<td>6</td>
<td>2'-11&quot;</td>
</tr>
<tr>
<td>B1</td>
<td>#5</td>
<td>—</td>
<td>7</td>
<td>12'-2&quot;</td>
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</tbody>
</table>

**Loop Assembly**

<table>
<thead>
<tr>
<th>BAR</th>
<th>BAR SIZE</th>
<th>SHAPE</th>
<th>NUMBER OF BARS</th>
<th>LENGTH (PER BAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>#6</td>
<td>—</td>
<td>2</td>
<td>8'-5&quot;</td>
</tr>
<tr>
<td>D2</td>
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<td>—</td>
<td>2</td>
<td>7'-7&quot;</td>
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<td>D3</td>
<td>#6</td>
<td>—</td>
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<td>8'-6&quot;</td>
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</tbody>
</table>

**Note:** Number of bars specified are per temporary concrete barrier section.

### Steel Reinforcement for Temporary Concrete Barrier Type L

<table>
<thead>
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<th>BAR</th>
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<th>SHAPE</th>
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<th>LENGTH (PER BAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
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<td>10</td>
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<tr>
<td>A2</td>
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<td>▼</td>
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<td>2'-11&quot;</td>
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<tr>
<td>B1</td>
<td>#5</td>
<td>—</td>
<td>7</td>
<td>19'-8&quot;</td>
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</tbody>
</table>

**Loop Assembly**

<table>
<thead>
<tr>
<th>BAR</th>
<th>BAR SIZE</th>
<th>SHAPE</th>
<th>NUMBER OF BARS</th>
<th>LENGTH (PER BAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>#6</td>
<td>—</td>
<td>2</td>
<td>8'-5&quot;</td>
</tr>
<tr>
<td>D2</td>
<td>#5</td>
<td>—</td>
<td>2</td>
<td>7'-7&quot;</td>
</tr>
<tr>
<td>D3</td>
<td>#6</td>
<td>—</td>
<td>2</td>
<td>8'-6&quot;</td>
</tr>
</tbody>
</table>

**Note:** Number of bars specified are per temporary concrete barrier section.

---

**A1 Bar**

- 2" x 5½" x 2" square
- Ø 4½"
- 1½" x 3½" x ½"
- 1½" x 3½" x ½"
- 1½" x 3½" x ½"
- 1½" x 3½" x ½"
- 1½" x 3½" x ½"

**A2 Bar**

- Ø 6½"
- 1' - 4"

**B1 Bar**

- 1' - 4"

**Elevation**

- D3 Bar
- D2 Bar
- D1 Bar

**Plan**

Loop Bar Assembly (D1, D2 and D3 Bars)

Invert Assembly for Opposite End of Barrier

---

**Michigan Department of Transportation**

**Bureau of Development Standard Plan for**

**Temporary Concrete Barrier Limited Deflection**

**F.H.W.A. Approval**

**Plan Date**

**8-14-2015**

**R-53-A**

**Sheet 21 of 22**
NOTES:

DO NOT LIFT OR MOVE THE TCB SECTIONS BY USE OF THE CONNECTING LOOP BARS: D1, D2, D3 OR D4. DO NOT APPLY EXCESSIVE FORCE TO THE CONNECTING LOOP BARS: D1, D2, D3 OR D4.

CONCRETE CLEAR COVER FOR REINFORCING BARS MUST BE 1½" (MIN.) EXCEPT WHERE OTHERWISE SPECIFIED.

LIFTING SLOTS SHALL BE CONSTRUCTED AS SPECIFIED TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION ON THE ROADWAY.