**ROAD APPROACH CULVERT END TREATMENT**

**QUANTITIES (FOR ESTIMATING ONLY)**

<table>
<thead>
<tr>
<th>DIA. A RCP</th>
<th>H PIPE LENGTH</th>
<th>F-64 1/2&quot; x 4 1/8&quot; FERRULE LOOP INSERT EACH</th>
<th>LENGTH 2 1/2&quot; DIA. SCHEDULE 40 GALV. PIPE</th>
<th>DIMENSIONS (FT.)</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>G</th>
<th>R</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>15&quot;</td>
<td>4.19</td>
<td>~</td>
<td>~</td>
<td>~</td>
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<td>0.75</td>
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<td></td>
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<tr>
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<td>~</td>
<td>~</td>
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<td>0.75</td>
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<td>9.25</td>
<td>0.25</td>
<td>0.75</td>
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<td></td>
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**METRIC QUANTITIES (FOR ESTIMATING ONLY)**

<table>
<thead>
<tr>
<th>DIA. A RCP</th>
<th>H PIPE LENGTH</th>
<th>M12 x 105 FERRULE LOOP INSERT EACH</th>
<th>LENGTH 63 DIA. SCHEDULE 40 GALV. PIPE</th>
<th>DIMENSIONS (mm)</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>G</th>
<th>R</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>375</td>
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<td>~</td>
<td>~</td>
<td>~</td>
<td>210</td>
<td>82</td>
<td>1219</td>
<td>76</td>
<td>229</td>
<td></td>
<td></td>
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<tr>
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<td>1981</td>
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<td>216</td>
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<td>229</td>
<td>64</td>
<td>2819</td>
<td>76</td>
<td>229</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION A-A**

**PLAN VIEW**

**VIEW OF INSERTS**

**END VIEW**

**NOTE:**

- **Paint all non-galvanized parts.**
- **PER SECTION 710.**

**UNITS SHOWN IN BRACKETS [ ]**

- **METRIC and are in millimeters (mm)**
- **UNLESS OTHER UNITS ARE SHOWN.**

**DETAILED DRAWING**

**REFERENCE:**
- DWG. NO. 603-12
- STANDARD SPEC. 603.710.711

**RCP ROAD APPROACH CULVERT END TREATMENT (RACP)**

**EFFECTIVE:** SEPTEMBER 2014
**ROAD APPROACH CULVERT END TREATMENT**

**QUANTITIES FOR ESTIMATING ONLY**

<table>
<thead>
<tr>
<th>DIA</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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</thead>
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<td>1.75</td>
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<td>0</td>
<td>0</td>
<td>1.00</td>
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<td>0</td>
<td>1.00</td>
<td></td>
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</tbody>
</table>

**DIMENSIONS (FEET)**

- **18.0'** to **24.0'**
- **24.0'** to **30.0'**

**NOTES:**

1. PIPE TO HAVE ANNUAL CORROSION IN REBAR REDUCED ENDS. USE ONLY APPROVED COUPLING BAND FOR SECTION 39A FOR CMP. FOR CMP END TREATMENT, SEE DLG. NO. 603-26 FOR CONNECTION.

2. **THE CULVERT IS FABRICATED WITH 12 GAUGE (0.109" [2.8] THICK) MATERIAL.**
3. **HALF-CIRCLE NOTCHES ARE CUT IN THE CULVERT FOR THE STEEL PIPE.**
4. **ALL WELDS AND OTHER NON-GALVANIZED PARTS ARE PAINTED.PER CONTINUOUS WELD OF THE PERIPHERY IN CONTACT PROVIDED.**
5. **THE VALLEYS MAY BE WELDED.**

**COMPONENTS**

- **CMP ROAD APPROACH CULVERT END TREATMENT**
- **RACET**

**UNITS SHOWN IN BRACKETS [ ] ARE METRIC AND ARE IN MILLIMETERS (MM) UNLESS OTHER UNITS ARE SHOWN.**

**REFERENCES:**

- **DETAILED DRAWING**
- **SECTION 603-14**
- **MONA DEPARTMENT OF TRANSPORTATION**
PER SECTION 711.

STRUCTURAL TUBING CROSS-PIPE

[64 x 64 x 6.4] GALV.

2 1/2" x 2 1/2" x 1/4"

CSPA

[530 x 380]

21" x 15"

[305]

1'-0"

CONN.

3'-0"

CSP OR CSPA

EXISTING OR NEW

PLAN VIEW

4 SPACES AT 1'-11" [584] UNLESS OTHER UNITS ARE SHOWN. METRIC AND ARE IN MILLIMETERS (mm)

UNITS SHOWN IN BRACKETS [ ] ARE

NOTE:

PAINT ALL EXPOSED METAL PARTS WITH
ONE COAT OF ZINC RICH PAINT AND TWO
COATS OF ALUMINUM PAINT PER SECTION 710.

DETAIL A

3/8" [M10] LOOP FERRULE
INSERT (TYP.)

3/8" DIA. x 1" (M10 x 25)

GALV. BOLT (TYP.)

ELEVATION

DETAIL A

10:1 SLOPE

1'-0" [305]

3-0" [914] CONN.

EXISTING OR NEW

CSP OR CSPA

2 1/2" x 2 1/2" x 1/4"

[64 x 64 x 6.4] GALV.

STRUCTURAL TUBING CROSS-PIPE

PER SECTION 711.

NOTE:

PAINT ALL EXPOSED METAL PARTS WITH
ONE COAT OF ZINC RICH PAINT AND TWO
COATS OF ALUMINUM PAINT PER SECTION 710.

UNIT S SHOWN IN BRACKETS [ ] ARE

METRIC AND ARE IN MILLIMETERS (mm)

UNLESS OTHER UNITS ARE SHOWN.
1. STANDARD BEDDING INSTALLATION

- Excavate as needed.
- Depth = D/4 + T + 3" (75)
- Depth = R/3 + T + 3" (75)
- Place loose bedding material uniformly in the bottom of the trench and bring to fit bottom of pipe. The minimum thickness of loose bedding material is automatic. After placing, compact bedding material at hunches and sides of pipe.

2. ROCK

- Excavate as needed.
- Depth = D/4 + T + 3" (75)
- Depth = R/3 + T + 3" (75)
- Place loose bedding material uniformly in the bottom of the trench and bring to fit bottom of pipe. The minimum thickness of loose bedding material is automatic. After placing, compact bedding material at hunches and sides of pipe.

3. FOUNDATION STABILIZATION

- Excavate as needed.
- Depth = D/4 + T + 3" (75)
- Depth = R/3 + T + 3" (75)
- Place loose bedding material uniformly in the bottom of the trench and bring to fit bottom of pipe. The minimum thickness of loose bedding material is automatic. After placing, compact bedding material at hunches and sides of pipe.

**NOTES:**
- Do not extend bedding material to the end of the pipe unless otherwise noted.
- Place loose bedding material uniformly in the bottom of the trench and bring to fit bottom of pipe. The minimum thickness of loose bedding material is automatic. After placing, compact bedding material at hunches and sides of pipe.
- Excavate a sufficient amount to provide a safe working environment and to allow achievement of all required installation and compaction requirements. Slurry, trench or prop shoring may be required by the U.S. Department of Labor, Occupational Safety and Health Administration under safety and health regulations for construction.
- Build rear fill with full material as needed to contain the bedding material to the proper depth.

**DEVELOPED BY:** Montana Department of Transportation

**FURNISH BEDDING AND FOUNDATION MATERIAL PER SECTION 716.**

**PER SECTION 603 AND 701.**

**ENGINEER DIRECTED BY THE PROJECT MANAGER OR AS DIRECTED BY THE PROJECT MANAGER.**

**FOUNDATION MATERIAL PER SECTION 716.**

**STABILIZATION GEOTEXTILE PER SECTION 716.**

**EXISTING GROUND EXCAVATION FOR BEDDING EXCAVATE AS NEEDED.**

**EXISTING GROUND.**

**SIDE FILL.**

**Loose Bedding Material.**

**Stabilization Geotextile.**

**Compacted Bedding Material.**

**Foundation Material.**

**3" [75] DEPTH = D/4 + T + 3" (75) **

**3" [75] DEPTH = R/3 + T + 3" (75) **

**203, 207, 603, 701**

**IF REQUIRED**

**PUBLIC APPROACH CULVERTS**

**METRIC AND UNITS SHOWN IN BRACKETS [ ] ARE IN MILLIMETERS (mm).**

**UNLESS OTHERWISE NOTED.**

**ENGINEER DIRECTED BY THE PROJECT MANAGER OR AS DIRECTED BY THE PROJECT MANAGER.**

**UNITS SHOWN IN BRACKETS [ ] ARE IN MILLIMETERS (mm).**

**UNLESS OTHERWISE NOTED.**

**DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION.**


**PROJECT MANAGER OR AS DIRECTED BY THE PROJECT MANAGER.**

**WHEN SPECIFIED.**

**FURNISH BEDDING AND FOUNDATION MATERIAL PER SECTION 716.**

**PER SECTION 701.**

**NOTE: D, S, AND R ARE INSIDE PIPE DIAMETER, THE THICKNESS FOR CONCRETE OR CORRUGATION DEPTH FOR METAL. CORRUGATION THICKNESSES FOR CONCRETE OR CORRUGATION DEPTH FOR METAL. CORRUGATION THICKNESSES FOR CONCRETE OR CORRUGATION DEPTH FOR METAL. CORRUGATION WORSTED ARE TYPICALLY 10'-0" [3000] UNLESS OTHERWISE NOTED.**

**METAL CULVERTS AND SMALLER.**
**Rigid Pipe Trench/Bedding Detail**

**For 12" [300] to 54" [1350] Dia.**

**Notes:**
- The bedding material directly underneath the pipe should be left uncompacted to facilitate the installation of the pipe.
- The bedding material should be left uncompacted to facilitate the installation of the pipe.
- Sand cushion use grade 5 material per table 701.02.3 in standard specification 701.02.3.2.
- The sand material should be left uncompacted to facilitate the installation of the pipe.
- Include the sand material in the cost of the granular bedding.

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>Quantities (C.Y. per ft)</th>
<th>Metric Quantities (C.Y. per m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18&quot;</td>
<td>0.36</td>
<td>0.28</td>
</tr>
<tr>
<td>24&quot;</td>
<td>0.25</td>
<td>0.20</td>
</tr>
<tr>
<td>30&quot;</td>
<td>0.35</td>
<td>0.29</td>
</tr>
<tr>
<td>36&quot;</td>
<td>0.44</td>
<td>0.32</td>
</tr>
</tbody>
</table>

**Flexible Pipe Trench/Bedding Detail**

**For 12" [300] to 48" [1200] Dia.**

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>Quantities (C.Y. per ft)</th>
<th>Metric Quantities (C.Y. per m)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.37</td>
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<td>24&quot;</td>
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<td>30&quot;</td>
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<td>0.53</td>
</tr>
<tr>
<td>36&quot;</td>
<td>0.77</td>
<td>0.60</td>
</tr>
<tr>
<td>42&quot;</td>
<td>0.88</td>
<td>0.69</td>
</tr>
</tbody>
</table>

**Quantities:**
- Based on RCP B wall pipe.
- Units shown in brackets (in.) are in kilometers (m).
- Unless other units are shown.

**Trench Depth:**
- Varies

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**QPCW/701-7**

**January 2018**

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**DEPARTMENT OF TRANSPORTATION**

**STORM DRAIN TRENCH BEDDING DETAILS**

**Detailed Drawing:**
- Reference: Standard Code D-537-20
- Section: 603.20

---

**Manager:**
- Or by using a method approved by the project manager.
**DIMENSION TABLE**

<table>
<thead>
<tr>
<th>DIA</th>
<th>APPROX OAL</th>
<th>GASKET MATERIAL</th>
<th>LENGTH OF GASKET</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>L1</th>
<th>LI</th>
<th>L2</th>
<th>L3</th>
<th>K1</th>
<th>K2</th>
<th>Y1</th>
<th>Y2</th>
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</thead>
<tbody>
<tr>
<td>12&quot;</td>
<td>2290&quot;</td>
<td>3 3/4&quot;</td>
<td>13 1/16&quot;</td>
<td>31/32&quot;</td>
<td>2 1/16&quot;</td>
<td>2&quot;</td>
<td>2 1/16&quot;</td>
<td>3/4&quot;</td>
<td>5/16&quot;</td>
<td>3/4&quot;</td>
<td>2 1/16&quot;</td>
<td>16.67</td>
<td>825</td>
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<td>14&quot;</td>
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<td>4 1/4&quot;</td>
<td>13 3/4&quot;</td>
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<td>2&quot;</td>
<td>2 1/16&quot;</td>
<td>3/4&quot;</td>
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<td>3/4&quot;</td>
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<td>825</td>
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<td>3 3/16&quot;</td>
<td>2 1/16&quot;</td>
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<td>825</td>
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<tr>
<td>18&quot;</td>
<td>2980&quot;</td>
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<td>2 1/16&quot;</td>
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<tr>
<td>20&quot;</td>
<td>3210&quot;</td>
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<td>13 3/4&quot;</td>
<td>3 3/16&quot;</td>
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<td>2 1/16&quot;</td>
<td>3/4&quot;</td>
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<td>3/4&quot;</td>
<td>2 1/16&quot;</td>
<td>16.67</td>
<td>825</td>
<td>104.78</td>
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</tr>
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</table>

**METRIC DIMENSION TABLE (mm)**

<table>
<thead>
<tr>
<th>DIA</th>
<th>APPROX OAL</th>
<th>GASKET MATERIAL</th>
<th>LENGTH OF GASKET</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>L1</th>
<th>LI</th>
<th>L2</th>
<th>L3</th>
<th>K1</th>
<th>K2</th>
<th>Y1</th>
<th>Y2</th>
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</thead>
<tbody>
<tr>
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<td></td>
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<tr>
<td>400</td>
<td>1016 0.0</td>
<td>4 1/4&quot;</td>
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<td>64.0</td>
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</tr>
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<td>64.0</td>
<td>0.0</td>
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<td></td>
<td></td>
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</tr>
</tbody>
</table>

**NOTES**

- Typical for steam and condensate applications per heads up to 100 ft. (30 m) and heads over 100 ft. (30 m).
- Unit number of pipe and gasket to meet the requirements of Section 707.
### Dimension Table

<table>
<thead>
<tr>
<th>Dia</th>
<th>A Scre. Water AREA</th>
<th>BT. Per foot of pipe</th>
<th>T + W. Wall Thickness</th>
<th>/</th>
<th>Length of Joint</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
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<td>69.7</td>
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<td>69.6</td>
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### Metric Dimension Table

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**Notes:**
- All dimensions are in millimeters unless otherwise noted
- *Wall "B" Thickness*
1:1 CHAMFER

OR EQUAL

CONCRETE

CLASS GENERAL

APPROX. 9" [230] O.C.

#4 [#13] BARS AT

1:1 CHAMFER

6" [150]

3" [75]

6" [150]

6" [150]

6" [150]

CLASS GENERAL

CONCRETE OR EQUAL

APPROX. 9" [230] O.C.

#4 [#13] BARS AT

SECTION A-A

CONNECTION DETAILS

A

2'-0" [610]

1'-0"

1'-0"

6" [150]

6" [150]

12" [305] MIN.

24" [610] MIN.

12" [305] MAX.

45° MAX.

MORTAR FILLING

WELD LONGITUDINAL AND TRANSVERSE REINFORCING STEEL OR LAP 20 BAR DIAMETERS AT SPLICES

TYPICAL FIELD CAST CONCRETE BEND

DIA.

6" [150]

3" [75]

A

2'-0" [610]

1'-0"

1'-0"

6" [150]

6" [150]

12" [305] MIN.

24" [610] MIN.

12" [305] MAX.

45° MAX.

MORTAR FILLING

WELD LONGITUDINAL AND TRANSVERSE REINFORCING STEEL OR LAP 20 BAR DIAMETERS AT SPLICES

TYPICAL FIELD CAST CONCRETE BEND

DIA.

6" [150]

3" [75]

A

2'-0" [610]

1'-0"

1'-0"

6" [150]

6" [150]

12" [305] MIN.

24" [610] MIN.

12" [305] MAX.

45° MAX.

MORTAR FILLING

WELD LONGITUDINAL AND TRANSVERSE REINFORCING STEEL OR LAP 20 BAR DIAMETERS AT SPLICES

TYPICAL FIELD CAST CONCRETE BEND

DIA.
PLAN VIEW OF INLET

SECTION A-A

NOTES:

1. CORRUGATION MAY BE EITHER ANNULAR OR HELICAL. BEND ON ELBOW (θ) IS AS SHOWN UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE PROJECT MANAGER.

2. THE COST OF SS-1 FOG SEAL IS INCLUDED IN THE COST OF PLANT MIX SURFACING.

* INCLUDED WITH ROADWAY QUANTITIES.

UNITS SHOWN IN BRACKETS (i) ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.
NOTES:

1. DESIGNATE THESE STRUCTURES, IN PLANS AND PROPOSAL, AS "VEHICULAR UNDERPASS," FOR THE SAME VEHICULAR UNDERPASS MEASUREMENTS AS THE 350

2. PROVIDE END TREATMENT FOR ALL VEHICULAR UNDERPASSES INCLUDING CUTOFF WALLS, BACKFILL RETAINING WALLS AND CONCRETE SLOPE COLLARS.

3. PROVIDE SURFACING FOR THE INSIDE OF THE STRUCTURE, CROSS-SLOPED TO ALLOW A DRAINAGE COURSE DOWN THE CENTERLINE.

4. FOR THICKNESS SEE ROAD DESIGN MANUAL, FULL HINT TABLES.

5. USE CLASS GENERAL CONCRETE OR EQUAL.

6. BASE PLATE THICKNESS SEE ROAD DESIGN MANUAL, FILL HEIGHT TABLES.

7. PROVIDE END TREATMENT FOR ALL VEHICULAR UNDERPASSES INCLUDING CUTOFF WALLS, OR PURPOSE OF THE STRUCTURE.

8. USE THE TERM "VEHICULAR UNDERPASS," REGARDLESS OF THE USE DESIGNATE THESE STRUCTURES, IN PLANS AND PROPOSAL, AS "VEHICULAR UNDERPASS."
TRANSVERSE CONTRACTION JOINT (15' [4.5 m] O.C.)

TRANSVERSE CONTRACTION JOINT (AS NEEDED)

TYPICAL BOTH ENDS

REINFORCING STEEL FOR INLET

BACKFILL RETAINER & PCCP SLAB

SEALANT MATERIAL

SAWED JOINT FACE

BACKER ROD

4" [100]

8" [200]

17" [430] LONG x 1 1/4" [32] DIA. SMOOTH EPOXY-COATED DOWELS SPACED AT 12" [300] CENTERS

17" [430] LONG x 1 1/4" [32] DIA. SMOOTH EPOXY-COATED DOWELS SPACED AT 12" [300] CENTERS

1 1/4" [32]

15° SLOPE

1 5/8" [41]

8" [200]

3 1/4" [83]

1 5/8" [41]

1/4" [6]

1/8" [3]

3/4" [19]

1/8" [3]

1/4" [6]

1/4" [6]

2" [50]

11 - #4 [#13] L BAR CONNECTORS

1" - 4" [400] x 1" - 4" [400]

@ APPROX. 1" - 4" [400] CENTERS

UNITS SHOWN IN BRACKETS [ ] ARE METRIC AND ARE IN MILLIMETERS (mm)

UNLESS OTHER UNITS ARE SHOWN.
### MetriC Dimensions

<table>
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### Dimensions

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### Notes:
- **Area A** is to the middle of the corrugations.
- CSP 3" x 1" OR 5" x 1" CORRUGATIONS (SEE NOTE )
- **Area B** is to the middle of the corrugations.
- **Area C** is to the middle of the corrugations.
- **Area D** is to the middle of the corrugations.

---

### MetriC Dimensions

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### Area A:
- **Area A** is to the outer edge of the corrugations.
- **Area B** is to the middle of the corrugations.
- **Area C** is to the middle of the corrugations.
- **Area D** is to the middle of the corrugations.

---

### Dimensions

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### Notes:
- **Notes on Sides:**
  - **Area A** is to the middle of the corrugations.
  - **Area B** is to the middle of the corrugations.
  - **Area C** is to the middle of the corrugations.
  - **Area D** is to the middle of the corrugations.

---

### Source:
- **Reference Document**: Dwg. No. 552-00
- **Step Bevel for Circular Metal Culverts**
- **Effective**: [Step Bevel for Circular Metal Culverts](#)
**Table of Measurements**

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<th>Dimensions</th>
<th>METRIC DIMENSIONS</th>
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**Notes:**

1. Table values based on normal pipe dimensions. To place components subject to tolerance requirements of Section 700.

**Area**

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<th><strong>Area</strong></th>
<th><strong>B</strong></th>
<th><strong>A</strong></th>
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**Units Shown in Brackets**

Units shown in brackets \([\)]\) are in millimeters (mm) unless other units are shown.

**Devel on Arch Metal Cover**

**MTDX:** MAINE DEPARTMENT OF TRANSPORTATION

**DETAILED DRAWING**

Reference: DWG. NO. 603-34

**SECTION 603.70**
SEE DTL. DWG. NO. 552-00, 603-30 AND 603-19.

FOR 96" [2400] DIAMETER CORRUGATED STEEL PIPE STOCKPASS IS 0.109" [2.77].

THE MINIMUM THICKNESS FOR 84" [2100] DIAMETER AND 90" [2250] DIAMETER STEP BEVEL PIPE ENDS AT A 2:1 SLOPE.

ASPHALT SURFACING; CROSS SLOPE ASPHALT SURFACING TO ALLOW DRAINAGE AT THE INLET END AND OUTLET END, GRANULAR BEDDING AND CUTOFF WALLS, BACKFILL RETAINERS AT BOTH ENDS, CONCRETE EDGE PROTECTION WHEN COMBINATION STOCKPASSES AND DRAINS ARE SPECIFIED, INSTALL WITH BACKFILL RETAINERS AT EACH END, GRAVEL FILL AND GRANULAR BEDDING.

UNLESS OTHERWISE SPECIFIED, INSTALL STOCKPASSES WITH CUTOFF WALLS.

AS PER DTL. DWG. NO. 613-14 AND 613-06.

METRIC DIMENSIONS

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<th>DIAMETER (mm)</th>
<th>X (m)</th>
<th>D (m)</th>
<th>RISE (m)</th>
<th>CLEAR (m)</th>
<th>W (m)</th>
<th>BACKFILL RETAINER (m³)</th>
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<td>0.600</td>
<td>0.098</td>
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</tbody>
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* SURFACE QUANTITIES PER LINEAR FOOT FOR DEPTH "D"

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<th>C.F. SURF.</th>
<th>TONS SURF.</th>
<th>C.F. SURF.</th>
<th>TONS SURF.</th>
<th>TONS VOL.</th>
<th>MATERIAL</th>
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<td>PRIME</td>
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* METRIC SURFACING QUANTITIES PER METER FOR DEPTH "D"

<table>
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<th>DIAMETER (mm)</th>
<th>C.F. SURF.</th>
<th>TONS SURF.</th>
<th>C.F. SURF.</th>
<th>TONS SURF.</th>
<th>TONS VOL.</th>
<th>MATERIAL</th>
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<tr>
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<tr>
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<td>0.0008</td>
<td>PRIME</td>
</tr>
</tbody>
</table>

* UNITS SHOWN IN BRACKETS [ ] ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

NOTES:

1. DIMENSIONS ARE IN INCHES ("") UNLESS OTHERWISE SPECIFIED.

2. METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

3. ACTUAL CONSTRUCTION WILL VARY DEPENDING ON LOCAL CODES AND SPECIFICATIONS.

4. THIS SHEET IS A GUIDE ONLY AND IS NOT INTENDED TO BE A SUBSTITUTE FOR THE OFFICIAL SPECIFICATIONS AND DRAWINGS.

5. FOR ADDITIONAL INFORMATION, REFER TO THE MONTANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND DTL. DWGS.

6. THE MINIMUM REQUIREMENTS FOR 60" [1500] DIAMETER AND 72" [1800] DIAMETER CORRUGATED STEEL PIPE STOCKPASSES IS 0.054" [1.4 mm]. THE MINIMUM REQUIREMENTS FOR 84" [2100] DIAMETER CORRUGATED STEEL PIPE STOCKPASSES IS 0.068" [1.72 mm].

7. DTL. DWG. NO. 613-14 AND 613-06.

8. CONCRETE CUTOFF WALLS AND CONCRETE EDGE PROTECTION ARE SPECIFIED.

9. BACKFILL RETAINERS ARE INSTALL ON BOTH ENDS.

10. GRAVEL FILL AND GRANULAR BEDDING ARE SPECIFIED.

11. UNLESS OTHERWISE SPECIFIED, INSTALL STOCKPASSES WITH CUTOFF WALLS.

12. CROSS SLOPE ASPHALT SURFACING AT THE INLET END AND OUTLET END.

13. ASPHALT SURFACING; CROSS SLOPE ASPHALT SURFACING.

14. BACKFILL RETAINERS ARE INSTALL ON BOTH ENDS.

15. GRAVEL FILL AND GRANULAR BEDDING ARE SPECIFIED.

16. UNLESS OTHERWISE SPECIFIED, INSTALL STOCKPASSES WITH CUTOFF WALLS.

17. CROSS SLOPE ASPHALT SURFACING AT THE INLET END AND OUTLET END.

18. ASPHALT SURFACING; CROSS SLOPE ASPHALT SURFACING.

19. BACKFILL RETAINERS ARE INSTALL ON BOTH ENDS.

20. GRAVEL FILL AND GRANULAR BEDDING ARE SPECIFIED.

21. UNLESS OTHERWISE SPECIFIED, INSTALL STOCKPASSES WITH CUTOFF WALLS.

22. CROSS SLOPE ASPHALT SURFACING AT THE INLET END AND OUTLET END.

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24. BACKFILL RETAINERS ARE INSTALL ON BOTH ENDS.

25. GRAVEL FILL AND GRANULAR BEDDING ARE SPECIFIED.

26. UNLESS OTHERWISE SPECIFIED, INSTALL STOCKPASSES WITH CUTOFF WALLS.

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