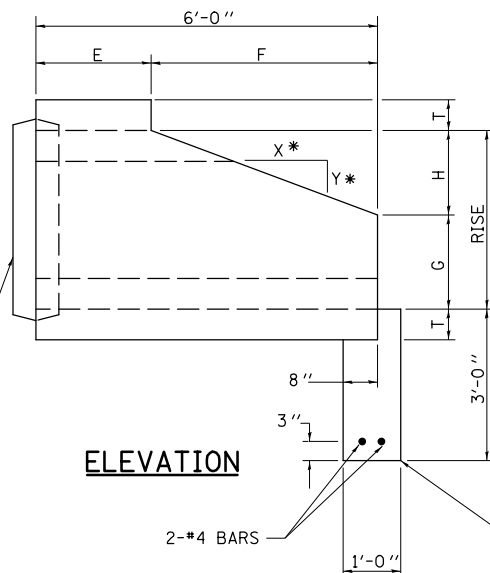
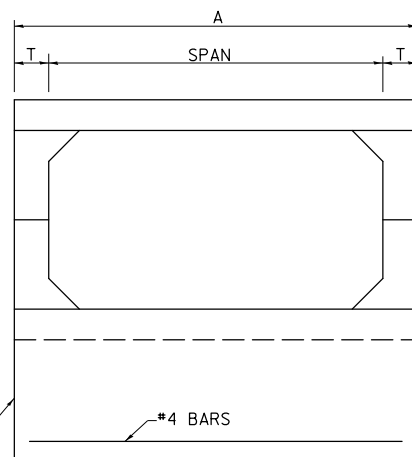


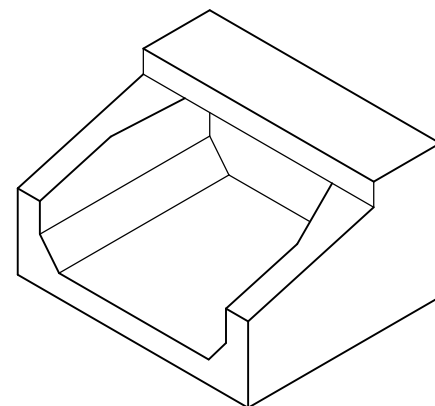
**DESIGNER NOTE:** 1. B & H PREFERENCE: BOX CULVERT END SECTIONS (PRECAST OPTION) MAY BE USED FOR SINGLE CELL BOX CULVERTS 3' OR LESS IN HEIGHT (RISE).  
 2. PRECAST BOX CULVERT END SECTIONS CAN BE FABRICATED TO SIZES LARGER THAN 12'x12'. THIS PRODUCTION IS NOT LIMITED TO DIMENSION CHART SHOWN.  
 3. CONSULT BRIDGE & HYDRAULICS UNIT FOR EVALUATION OF HYDRAULIC IMPACT FOR SINGLE CELL BOX CULVERTS 3' OR HIGHER IN HEIGHT (RISE)  
 4. STANDARD PRECAST CONCRETE BOX CULVERT (ASTM) DESIGNS ARE PREFERRED



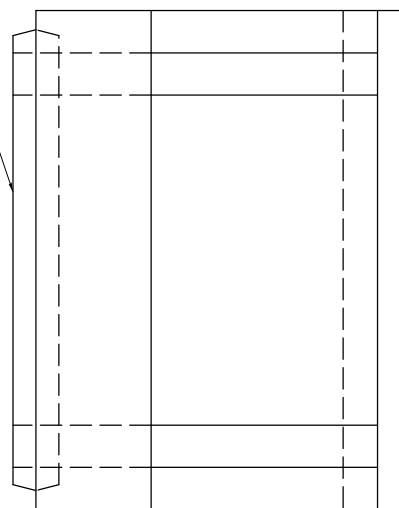
\*1:2 SLOPE MINIMUM



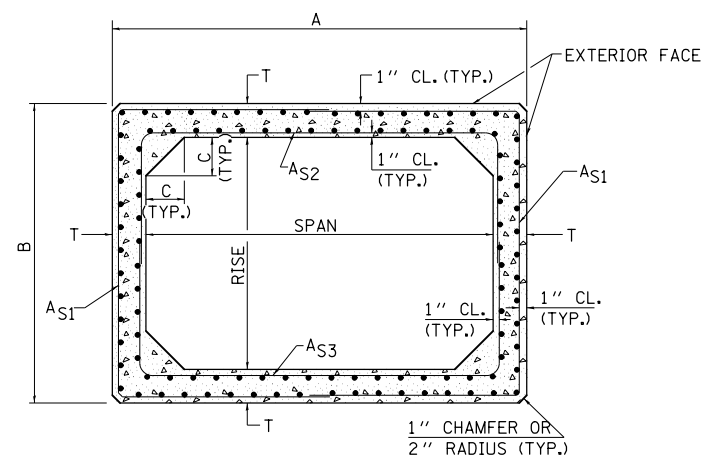
**END VIEW**



**ISOMETRIC**



**PLAN**



**CROSS SECTION**

○ "NON-STANDARD PRECAST CONCRETE BOX CULVERT (ASTM) DESIGNS"; STANDARD PCBC (ASTM) DESIGNS ARE PREFERRED.

**\*\* NOTE:**

THE DIMENSIONS INDICATED ARE FOR END SECTIONS THAT ARE TO BE USED WITH PRECAST BOX CULVERT SECTIONS DESIGNED FOR 2' OR MORE OF FILL (AASHTO M259). THE DIMENSIONS MAY BE MODIFIED FOR THE END SECTION TO BE COMPATIBLE WITH PRECAST CULVERT SECTIONS DESIGNED FOR LESS THAN 2' OF FILL (AASHTO M273).

**GENERAL NOTES**

SHOP DRAWINGS SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 1042.03(b) OF THE STANDARD SPECIFICATIONS.

MINIMUM CONCRETE STRENGTH SHALL BE 5000 PSI AFTER 28 DAYS.

THE JOINTS OF THE PRECAST BOX SECTIONS SHALL BE SEALED WITH MASTIC IN ACCORDANCE WITH SECTION 1055 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THE TERMS AS1, AS2, & AS3 DENOTE THE REQUIRED STEEL AREAS FOR REINFORCEMENT AS SPECIFIED IN AASHTO M259. REINFORCEMENT SHALL BE WELDED WIRE FABRIC CONFORMING TO AASHTO M55-81.

**DIMENSIONS \*\***

| SPAN X RISE | T (INCHES) | A (FT.-IN.) | B (FT.-IN.) | C (INCHES) | E (FT.-IN.) | F (FT.-IN.) | G (FT.-IN.) | H (FT.-IN.) | SLOPE (X:Y) |
|-------------|------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|
| 2' X 2'     | 4          | 2-8         | 2-8         | 4          | 3-0         | 3-0         | 1-0         | 1-0         | 1:3         |
| 3' X 2'     | 4          | 3-8         | 2-8         | 4          | 3-0         | 3-0         | 1-0         | 1-0         | 1:3         |
| 3' X 3'     | 4          | 3-8         | 3-8         | 4          | 2-0         | 4-0         | 1-8         | 1-4         | 1:3         |
| 4' X 2'     | 5          | 4-10        | 2-10        | 5          | 3-0         | 3-0         | 1-0         | 1-0         | 1:3         |
| 4' X 3'     | 5          | 4-10        | 3-10        | 5          | 2-0         | 4-0         | 1-8         | 1-4         | 1:3         |
| 4' X 4'     | 5          | 4-10        | 4-10        | 5          | 2-0         | 4-0         | 2-0         | 2-0         | 1:2         |
| 5' X 2'     | 6          | 6-0         | 3-0         | 6          | 3-0         | 3-0         | 1-0         | 1-0         | 1:3         |
| 5' X 3'     | 6          | 6-0         | 4-0         | 6          | 2-0         | 4-0         | 1-8         | 1-4         | 1:3         |
| 5' X 4'     | 6          | 6-0         | 5-0         | 6          | 2-0         | 4-0         | 2-0         | 2-0         | 1:2         |
| 5' X 5'     | 6          | 6-0         | 6-0         | 6          |             |             |             |             |             |
| 6' X 2'     | 7          | 7-2         | 3-2         | 7          | 3-0         | 3-0         | 1-0         | 1-0         | 1:3         |
| 6' X 3'     | 7          | 7-2         | 4-2         | 7          | 2-0         | 4-0         | 1-8         | 1-4         | 1:3         |
| 6' X 4'     | 7          | 7-2         | 5-2         | 7          | 2-0         | 4-0         | 2-0         | 2-0         | 1:2         |
| 6' X 5'     | 7          | 7-2         | 6-2         | 7          | 2-0         | 4-0         | 3-0         | 2-0         | 1:2         |
| 6' X 6'     | 7          | 7-2         | 7-2         | 7          | 2-0         | 4-0         | 4-0         | 2-0         | 1:2         |
| 7' X 4'     | 8          | 8-4         | 5-4         | 8          | 2-0         | 4-0         | 2-0         | 2-0         | 1:2         |
| 7' X 5'     | 8          | 8-4         | 6-4         | 8          | 2-0         | 4-0         | 3-0         | 2-0         | 1:2         |
| 7' X 6'     | 8          | 8-4         | 7-4         | 8          | 2-0         | 4-0         | 4-0         | 2-0         | 1:2         |
| 7' X 7'     | 8          | 8-4         | 8-4         | 8          | 2-0         | 4-0         | 5-0         | 2-0         | 1:2         |
| 8' X 4'     | 8          | 9-4         | 5-4         | 8          | 2-0         | 4-0         | 2-0         | 2-0         | 1:2         |
| 8' X 5'     | 8          | 9-4         | 6-4         | 8          | 2-0         | 4-0         | 3-0         | 2-0         | 1:2         |
| 8' X 6'     | 8          | 9-4         | 7-4         | 8          | 2-0         | 4-0         | 4-0         | 2-0         | 1:2         |
| 8' X 7'     | 8          | 9-4         | 8-4         | 8          | 2-0         | 4-0         | 5-0         | 2-0         | 1:2         |
| 8' X 8'     | 8          | 9-4         | 9-4         | 8          | 2-0         | 4-0         | 6-0         | 2-0         | 1:2         |
| 9' X 5'     | 9          | 10-6        | 6-6         | 9          | 2-0         | 4-0         | 3-0         | 2-0         | 1:2         |
| 9' X 6'     | 9          | 10-6        | 7-6         | 9          | 2-0         | 4-0         | 4-0         | 2-0         | 1:2         |
| 9' X 7'     | 9          | 10-6        | 8-6         | 9          | 2-0         | 4-0         | 5-0         | 2-0         | 1:2         |
| 9' X 8'     | 9          | 10-6        | 9-6         | 9          | 2-0         | 4-0         | 6-0         | 2-0         | 1:2         |
| 9' X 9'     | 9          | 10-6        | 10-6        | 9          | 2-0         | 4-0         | 7-0         | 2-0         | 1:2         |
| 10' X 5'    | 10         | 11-8        | 6-8         | 10         | 2-0         | 4-0         | 3-0         | 2-0         | 1:2         |
| 10' X 6'    | 10         | 11-8        | 7-8         | 10         | 2-0         | 4-0         | 4-0         | 2-0         | 1:2         |
| 10' X 7'    | 10         | 11-8        | 8-8         | 10         | 2-0         | 4-0         | 5-0         | 2-0         | 1:2         |
| 10' X 8'    | 10         | 11-8        | 9-8         | 10         | 2-0         | 4-0         | 6-0         | 2-0         | 1:2         |
| 10' X 9'    | 10         | 11-8        | 10-8        | 10         | 2-0         | 4-0         | 7-0         | 2-0         | 1:2         |
| 10' X 10'   | 10         | 11-8        | 11-8        | 10         | 2-0         | 4-0         | 8-0         | 2-0         | 1:2         |
| 11' X 4'    | 11         | 12-10       | 5-10        | 11         | 2-0         | 4-0         | 2-0         | 2-0         | 1:2         |
| 11' X 6'    | 11         | 12-10       | 7-10        | 11         | 2-0         | 4-0         | 4-0         | 2-0         | 1:2         |
| 11' X 8'    | 11         | 12-10       | 9-10        | 11         | 2-0         | 4-0         | 6-0         | 2-0         | 1:2         |
| 11' X 10'   | 11         | 12-10       | 11-10       | 11         | 2-0         | 4-0         | 8-0         | 2-0         | 1:2         |
| 11' X 11'   | 11         | 12-10       | 12-10       | 11         | 2-0         | 4-0         | 9-0         | 2-0         | 1:2         |
| 12' X 4'    | 12         | 14-0        | 6-0         | 12         | 2-0         | 4-0         | 2-0         | 2-0         | 1:2         |
| 12' X 6'    | 12         | 14-0        | 8-0         | 12         | 2-0         | 4-0         | 4-0         | 2-0         | 1:2         |
| 12' X 8'    | 12         | 14-0        | 10-0        | 12         | 2-0         | 4-0         | 6-0         | 2-0         | 1:2         |
| 12' X 10'   | 12         | 14-0        | 12-0        | 12         | 2-0         | 4-0         | 8-0         | 2-0         | 1:2         |
| 12' X 12'   | 12         | 14-0        | 14-0        | 12         | 2-0         | 4-0         | 10-0        | 2-0         | 1:2         |

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

**DISTRICT 5 DETAIL NO. 54001AAA**

STD. 9-50 (FROM DISTRICT 9)

|   |                     |                 |                       |
|---|---------------------|-----------------|-----------------------|
| FILE NAME =                                     | USER NAME = craigre | DESIGNED -      | REVISED - TJB 1/5/11  |
| ei:\pw\work\p\d01\craigre\d0101509\54001AAA.dgn |                     | DRAWN - JDC     | REVISED - NJF 6/27/11 |
|   |                     | CHECKED -       | REVISED -             |
|   |                     | DATE - 12/29/08 | REVISED -             |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BOX CULVERT END SECTION  
(PRECAST OPTION)**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

| F.A. RTE.                 | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------|--------|--------------|-----------|
|                           |         |        |              |           |
| CONTRACT NO.              |         |        |              |           |
| ILLINOIS FED. AID PROJECT |         |        |              |           |