

| PIPE Ø | MIN WIDTH |
|--------|-----------|
| 12"    | 2'-6"     |
| 15"    | 2'-9"     |
| 18"    | 3'-0"     |
| 24"    | 3'-6"     |
| 30"    | 4'-1 1/2" |
| 36"    | 4'-9"     |
| 42"    | 5'-4 1/2" |

Notes:  
1. New street surface shall comply with local authority jurisdiction.

**REINFORCED CONCRETE PIPE BEDDING**

Scale: N.T.S.

Street signs shall have black lettering on a white background. The sign shall have a 0.375" black border.

Block numbers can be obtained from the Area Plan Commission

Hardware to fit 2" C vandal proof

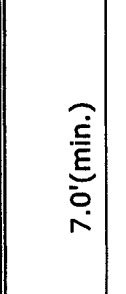


Stop signs shall have dimensions of 30" x 30". Lettering for stop signs shall be 10" high capital letters. All lettering shall be in Standard Highway Signs Series C font. Sheeting shall have Type VII, VIII or IX preprinted face.

Min. 13' length, 2 lb/R Galvanized "U" channel post painted factory green. Steel used in the posts shall conform to ASTM A 499, grade 60.

Concrete Curb & Gutter

1.5" (min.)

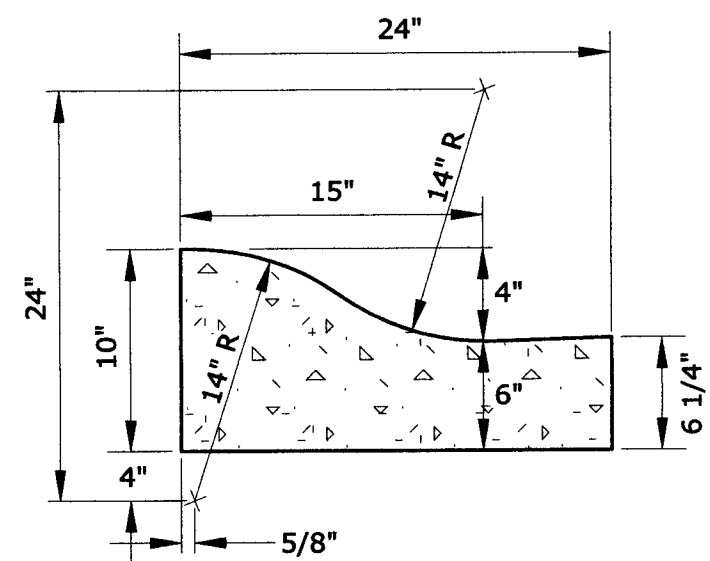


Notes:

- All signs shall be High Intensity Grade.
- All signage to be installed per the requirements on the Indiana Manual on Uniform Traffic Control Devices (latest issue).
- Shop drawings shall be provided to the Vanderburgh County Engineering Dept. for approval prior to manufacture and installation of any signs.

**STREET SIGNS**

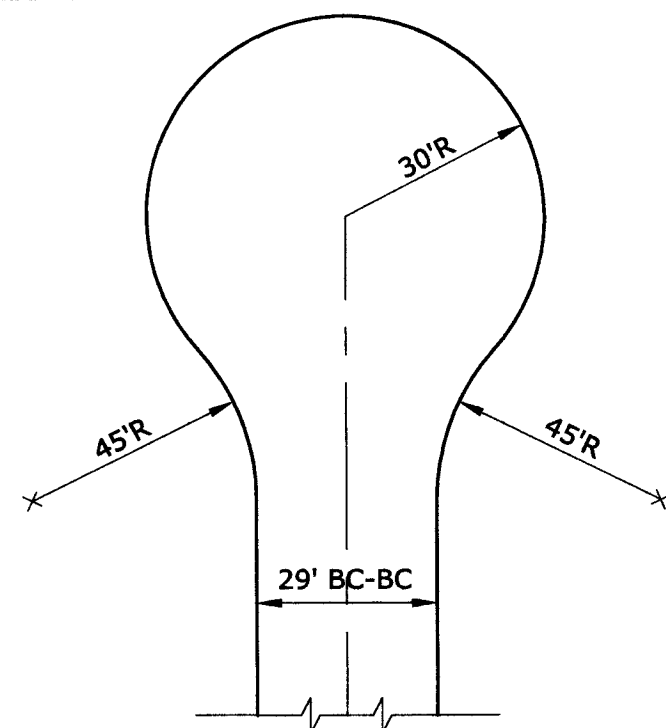
Scale: N.T.S.



- Notes:
- 1/2" preformed expansion joint material at all P.C. and P.T. curb radii.
  - Tooled contraction joints at 10 ft. centers. Contraction joints to be a minimum 2" deep and 1/8" to 1/4" wide.

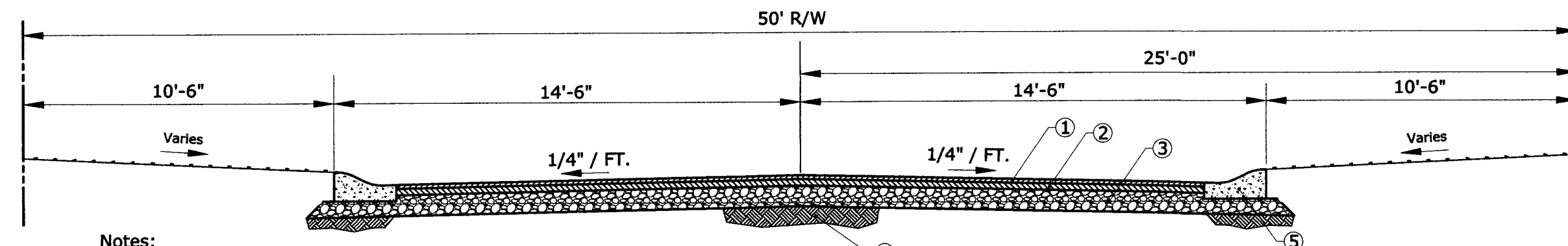
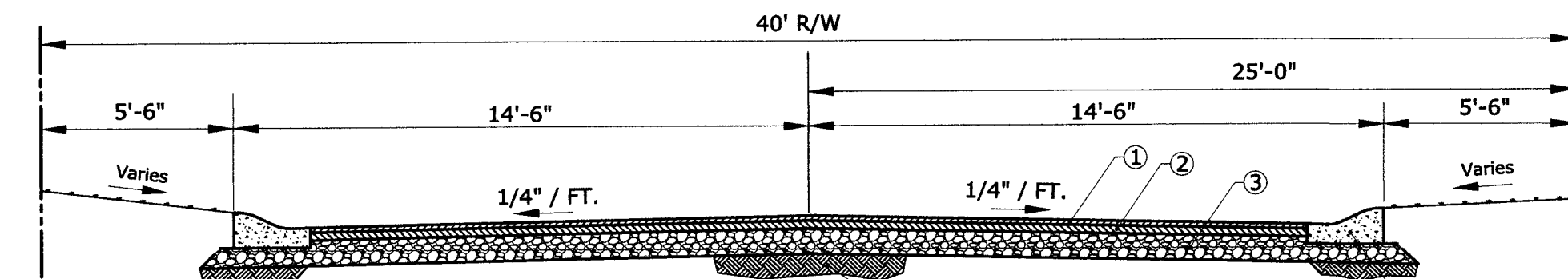
**CONCRETE ROLL CURB AND GUTTER**

Scale: N.T.S.



**TYPICAL RESIDENTIAL CUL-DE-SAC**

Scale: N.T.S.



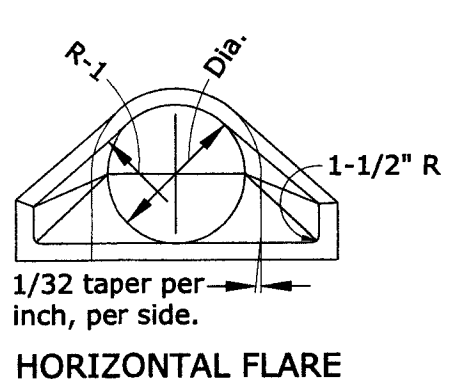
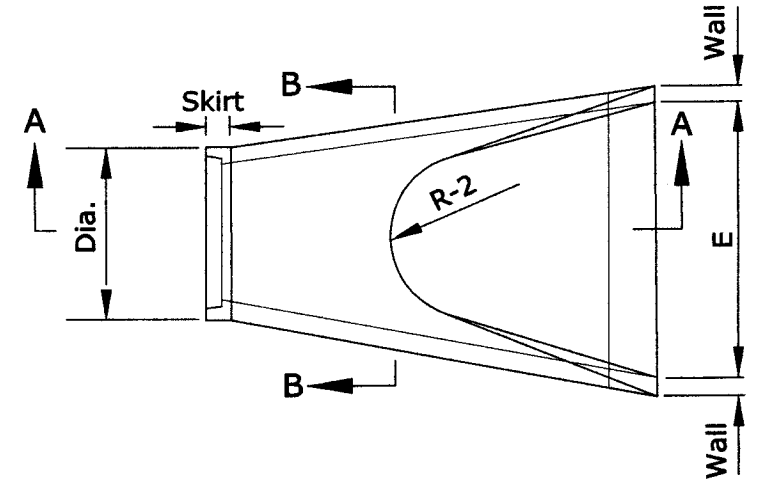
Notes:

- Compaction tests and proffroll are required by the County Engineer. A copy of the compaction tests shall be delivered to the owner and the County Engineer's office.
- Subgrade must be proof rolled prior to the placement of any stone or pavement. Proof rolling shall be done by a fully legally loaded tri-axle dump truck. There shall be 1 or 2 complete coverages as directed. Roller marks, irregularities or failures shall be corrected. Proof rolling must be completed in the presence of a county inspector.
- All fill must be constructed in lifts not to exceed six inches.

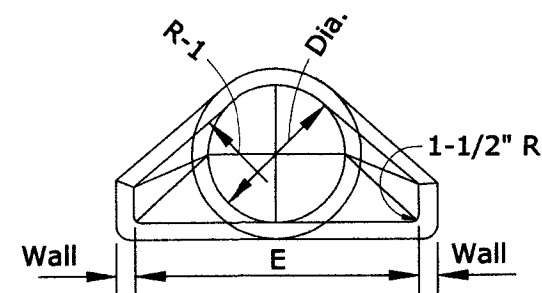
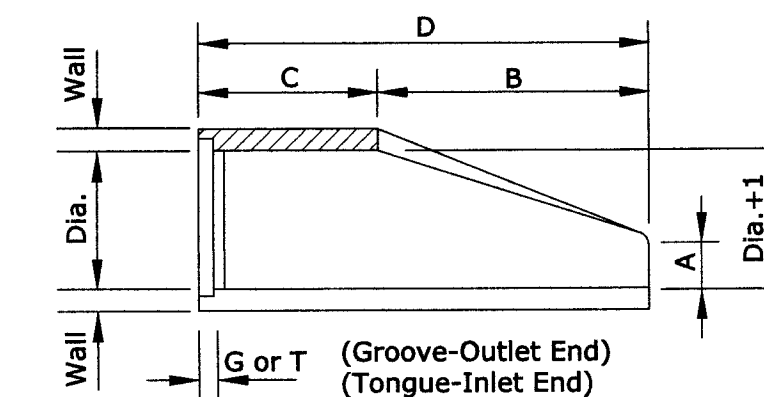
- ① 1" H.M.A. Surface
- ② 2" H.M.A. Base
- ③ 6" Compacted Agg. Base, #53 - 95% Standard Proctor
- ④ Compacted Subgrade - 95% Standard Proctor
- ⑤ Curb & Gutter per County Stds. - 4000 psi P.C.C.

**29' RESIDENTIAL BITUMINOUS PAVEMENT WITH CONCRETE ROLL CURB & GUTTER**

Scale: N.T.S.



**HORIZONTAL FLANGE**



**VERTICAL FLANGE**

**SECTION A-A**

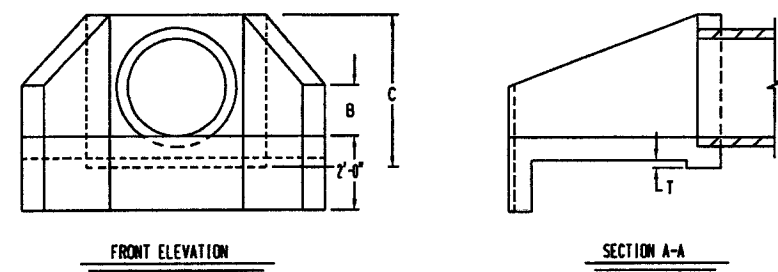
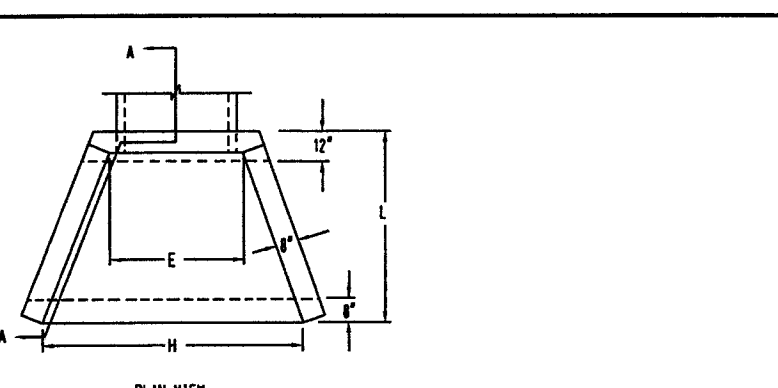
**SECTION B-B**

| DIA. | WALL  | G or T | WT. SEC. | A      | B      | C      | D      | E   | DIA.+1 | R-1      | R-2    | SKIRT |
|------|-------|--------|----------|--------|--------|--------|--------|-----|--------|----------|--------|-------|
| 12   | 2     | 1 1/2  | 530      | 4      | 24     | 48 7/8 | 72 7/8 | 24  | 13     | 10 1/16  | 9      | 3 1/2 |
| 15   | 2 1/4 | 2      | 740      | 6      | 27     | 46     | 73     | 30  | 16     | 12 1/2   | 11     | 3 1/2 |
| 18   | 2 1/2 | 2 1/2  | 990      | 9      | 27     | 46     | 73     | 36  | 19     | 15 1/2   | 12     | 4     |
| 21   | 2 3/4 | 2 1/4  | 1280     | 9      | 35     | 38     | 73     | 42  | 22     | 16 1/8   | 13     | 4     |
| 24   | 3     | 2 1/2  | 1520     | 9 1/2  | 43 1/2 | 30     | 73 1/2 | 48  | 25     | 16 11/16 | 14     | 4 1/2 |
| 27   | 3 1/4 | 2 1/2  | 1930     | 10 1/2 | 48     | 25 1/2 | 73 1/2 | 54  | 28     | 17 3/4   | 14 1/2 | 4 1/2 |
| 30   | 3 1/2 | 3      | 2190     | 12     | 54     | 19 3/4 | 73 3/4 | 60  | 31     | 18 5/16  | 15     | 5     |
| 33   | 3 3/4 | 3 3/8  | 3150     | 13 1/2 | 58 1/2 | 19 1/4 | 97 3/4 | 66  | 34     | 23 3/4   | 17 1/2 | 5 1/2 |
| 36   | 4     | 3 1/2  | 4100     | 15     | 63     | 34 3/4 | 97 3/4 | 72  | 37     | 24 1/16  | 20     | 5 1/2 |
| 42   | 4 1/2 | 3 3/4  | 5380     | 21     | 63     | 35     | 98     | 78  | 43     | 27 1/4   | 22     | 5 1/2 |
| 48   | 5     | 4 1/4  | 6550     | 24     | 72     | 26     | 98     | 84  | 49     | 28 1/8   | 22     | 5 3/4 |
| 54   | 5 1/2 | 4 3/4  | 8040     | 27     | 65     | 35     | 100    | 90  | 55     | 32 7/8   | 24     | 6 1/4 |
| 60   | 6     | 5      | 8750     | 30     | 60     | 39     | 99     | 96  | 61     | 36 3/4   | 24     | 6 3/4 |
| 66   | 6 1/2 | 5 1/2  | 10630    | 24     | 78     | 21     | 99     | 102 | 67     | 35 11/16 | 24     | 7 1/4 |
| 72   | 7     | 6      | 12520    | 34     | 78     | 21     | 99     | 108 | 73     | 38 5/8   | 24     | 7 3/4 |
| 78   | 7 1/2 | 6 1/2  | 14430    | 24     | 78     | 21     | 99     | 114 | 79     | 41 15/16 | 24     | 8 1/2 |
| 84   | 8     | 7      | 16350    | 24     | 78     | 21     | 99     | 120 | 85     | 44 13/16 | 24     | 9     |

Note:  
Manufacture of end section is in accordance with applicable portions of A.S.T.M. specification C76.

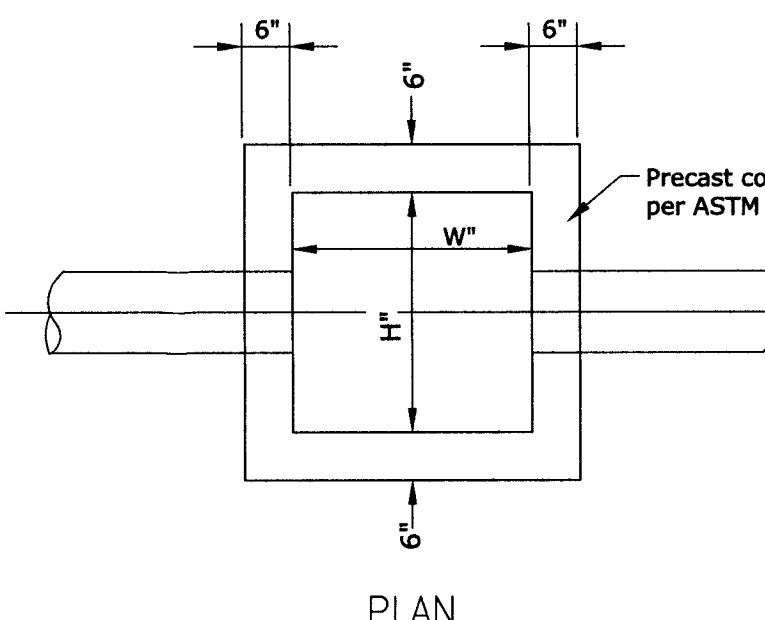
**PRECAST CONCRETE END SECTION**

Scale: N.T.S.

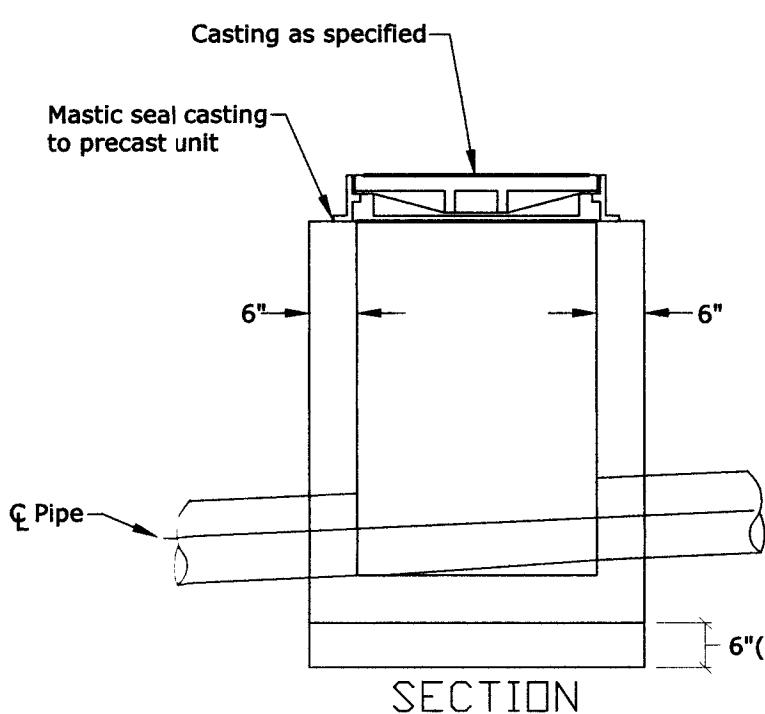


| PIPE DIA. | C      | L      | B      | E      | H      | WEIGHT    |
|-----------|--------|--------|--------|--------|--------|-----------|
| 12"       | 4'-2"  | 6'-5"  | 2'-3"  | 2'-2"  | 2'-2"  | 1,200lbs. |
| 15"       | 5'-0"  | 7'-2"  | 2'-4"  | 2'-3"  | 2'-3"  | 1,500lbs. |
| 18"       | 5'-8"  | 8'-0"  | 2'-5"  | 2'-4"  | 2'-4"  | 1,800lbs. |
| 24"       | 7'-0"  | 9'-8"  | 2'-7"  | 2'-6"  | 2'-6"  | 2,400lbs. |
| 30"       | 8'-0"  | 11'-8" | 2'-8"  | 2'-7"  | 2'-7"  | 3,000lbs. |
| 36"       | 9'-0"  | 13'-8" | 2'-9"  | 2'-8"  | 2'-8"  | 3,600lbs. |
| 42"       | 10'-0" | 15'-8" | 2'-10" | 2'-9"  | 2'-9"  | 4,200lbs. |
| 48"       | 11'-0" | 17'-8" | 2'-11" | 2'-10" | 2'-10" | 4,800lbs. |
| 54"       | 12'-0" | 19'-8" | 2'-11" | 2'-10" | 2'-10" | 5,400lbs. |
| 60"       | 13'-0" | 21'-8" | 2'-11" | 2'-10" | 2'-10" | 6,000lbs. |

GENERAL NOTES:  
1. CONCRETE 4000 PSI @ 28 DAYS  
2. 2" CONCRETE COVER  
3. REIN - #3 REBAR 12" CC, 14" END SPIRE @  
4. 3/4" COVER ON ALL COVERED SIZES  
5. MILE SIZE, PIPE DIA. + 3"  
AVAILABLE MARKETS: KY  
DIXIE  
PIPE CURB VENT HEADWALLS  
30" - 60" PIPES 0" DIA.  
SCALE: N.T.S.  
DHW ET-238  
DATE: 02/17/06  
SHEET 1 OF 1



**PLAN**



**SECTION**

**AREA DRAIN/MANHOLE**

**INLET BOX TABLE**

| CASTING BOX SIZE | INLET TYPE | CURB INLET | CURB INLET   | MANHOLE    | AREA DRAIN | AREA DRAIN |
|------------------|------------|------------|--------------|------------|------------|------------|
| "W"              | "W"        | 24"        | 30"          | 30"        | 30"        | 30"        |
| "H"              | "H"        | 36"        | 46"          | 30"        | 30"        | 46"        |
| Paved Areas      | EJIW #7030 | EJIW #7030 |              |            |            |            |
| Grate            | Type M2    | Type M2    |              |            |            |            |
| Non-Paved Areas  |            |            | EJIW #1022-1 | EJIW #6610 | EJIW #6610 |            |
| Grate            |            |            | Type A       |            |            |            |

INLET NOTES:

All precast units shall conform to ASTM C-478.

Inlets shall be backfilled with granular material and compacted in 8" loose lifts to 95% Standard Density per ASTM D698.

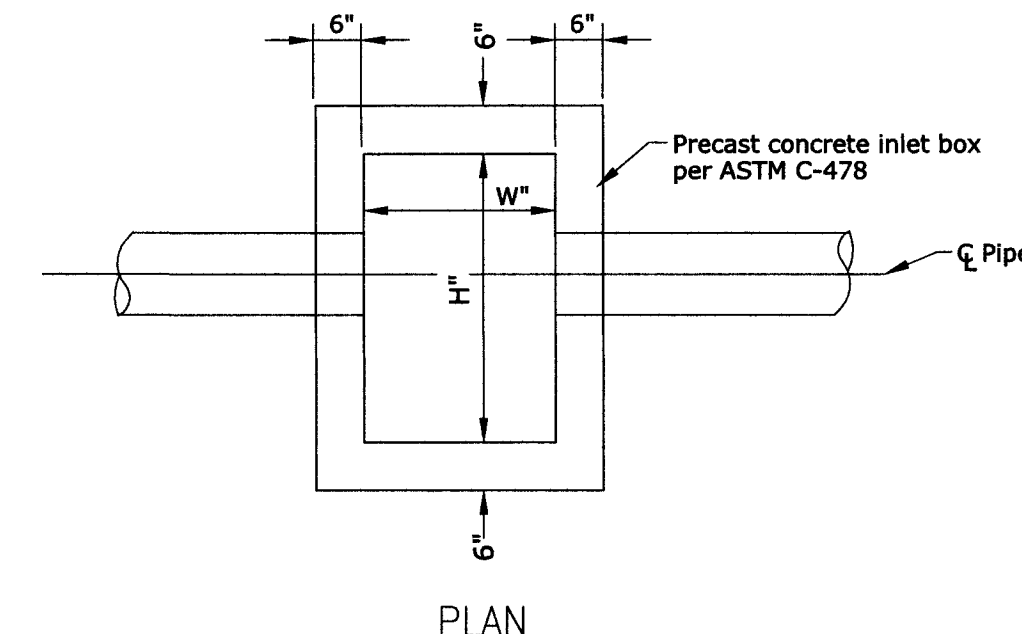
Casting shall be mastic sealed to precast unit.

All connecting pipes shall be grouted with a high strength, non-shrink grout.

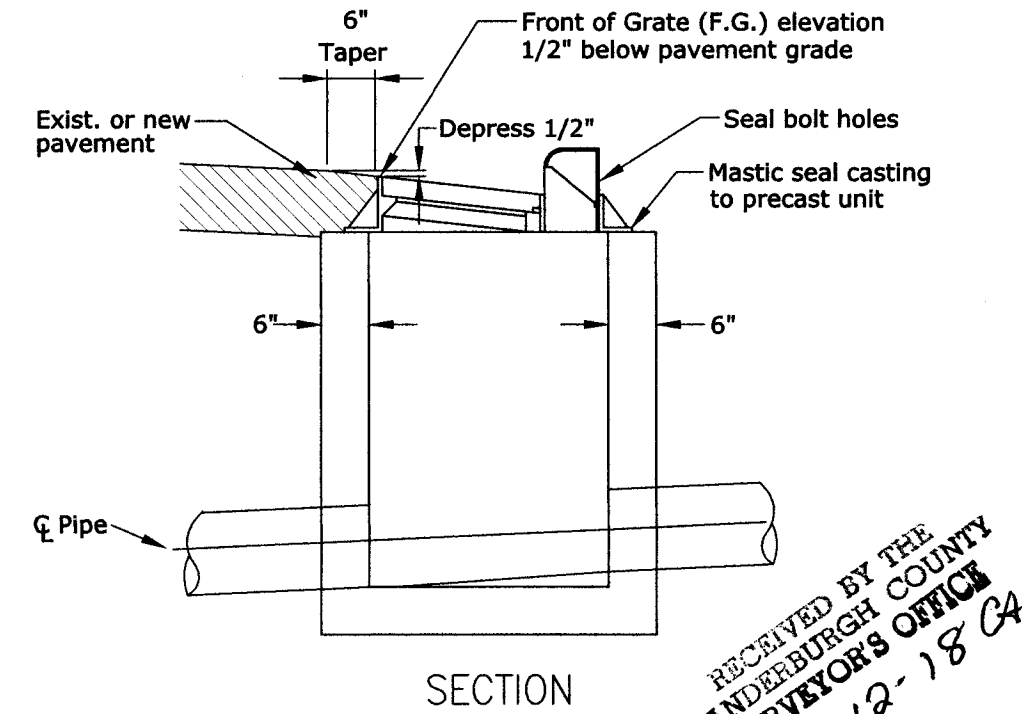
Frame & castings shown are the type & size required for the given box dimensions. Alternates shall be equal to those shown, including grate & opening sizes.

**PRECAST INLET BOX**

Scale: N.T.S.



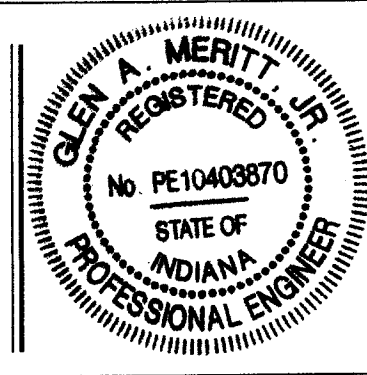
**PLAN**



**SECTION**

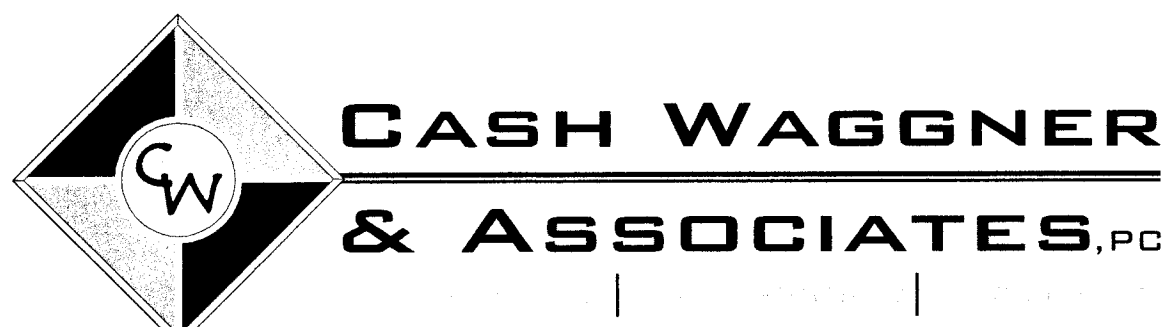
**CURB INLET**

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Written dimensions shown herein shall take precedence over scaled dimensions. Contractors shall calculate and measure required dimensions. Notify Cash Waggoner & Associates, PC with any variations in dimensions or conditions from those indicated on these drawings. This drawing was based on available information. Commencement of work constitutes verification and acceptance of existing conditions.  
Application of a material or equipment to work installed by others constitutes acceptance of that work and assumption of responsibility for satisfactory installation.



SIGNATURE  
*Glen A. Merritt, Jr.*

12 Sept 18  
DATE



414 CITADEL CIRCLE SUITE B EVANSVILLE, IN 47715 PH: 812.401.5561 FAX: 812.401.5563 CELL: 812.774.2988 E-MAIL: GMERRIT@CASHWAGGNER.COM

| NO. | DATE     | BY     | DESCRIPTION                                       |
|-----|----------|--------|---|
| 1   | 09.12.18 | G.A.M. | Added 40' R/W roadway & concrete headwall details |
| 2   |          |        |   |
| 3   |          |        |   |
| 4   |          |        |   |
| 5   |          |        |   |
| 6   |          |        |   |
| 7   |          |        |   |
| 8   |          |        |   |
| 9   |          |        |   |
| 10  |          |        |   |

| PROJECT NO.: | 15-2184              |
|--------------|----------------------|
| DESIGNED BY: | G.A.M.               |
| FILENAME:    | 2184 Road Storm Dtls |
| LAYOUT TAB:  |                      |
| SCALE:       | As Shown             |

**SADDLE CREEK ESTATES - Sect. 1 & 2**  
BAUMGART ROAD  
EVANSVILLE, INDIANA  
**ROAD & STORM SEWER DETAILS**

06.23.17  
DRAWING NO.:  
**C-121**

Dr: 1 B