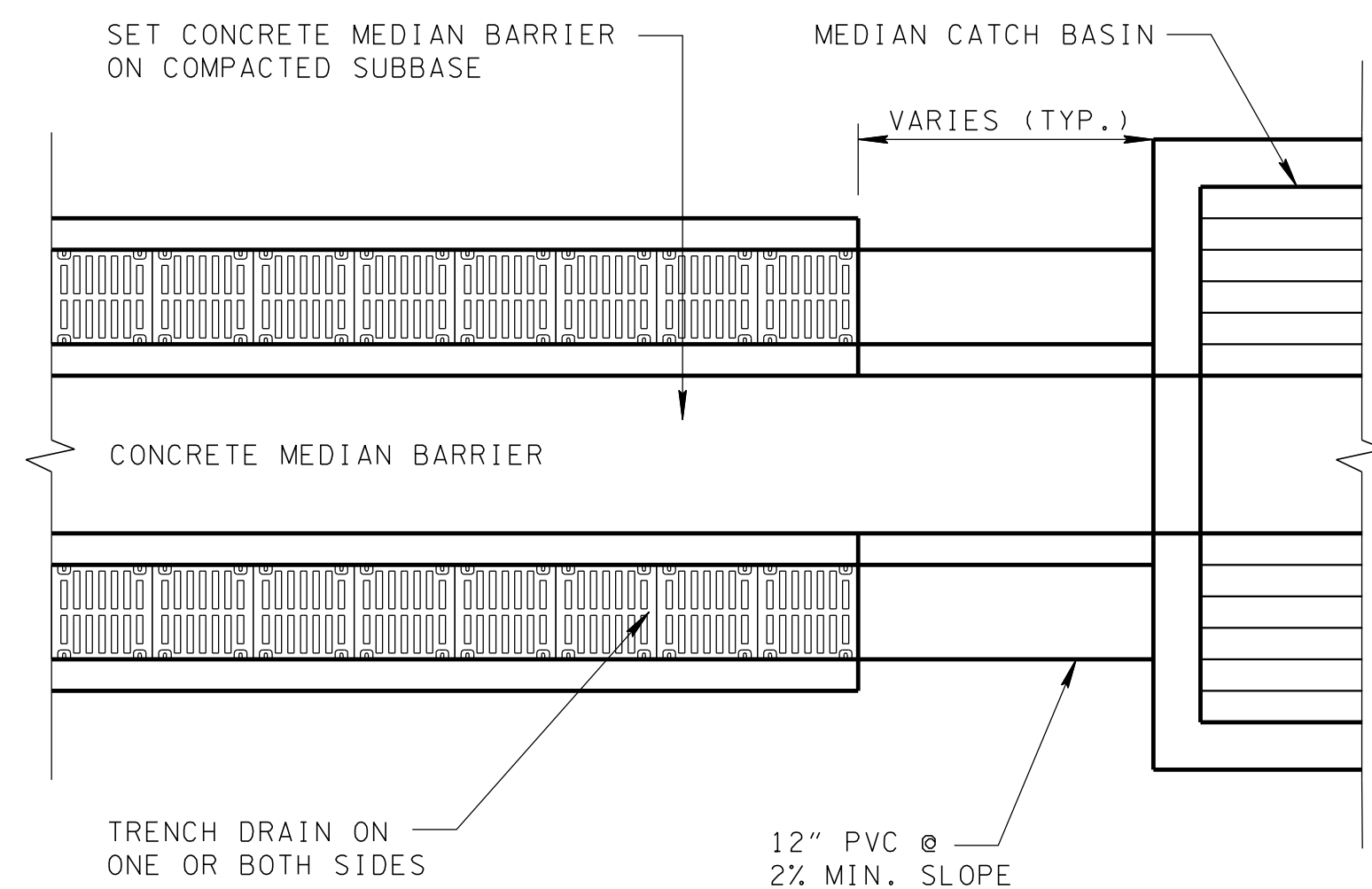
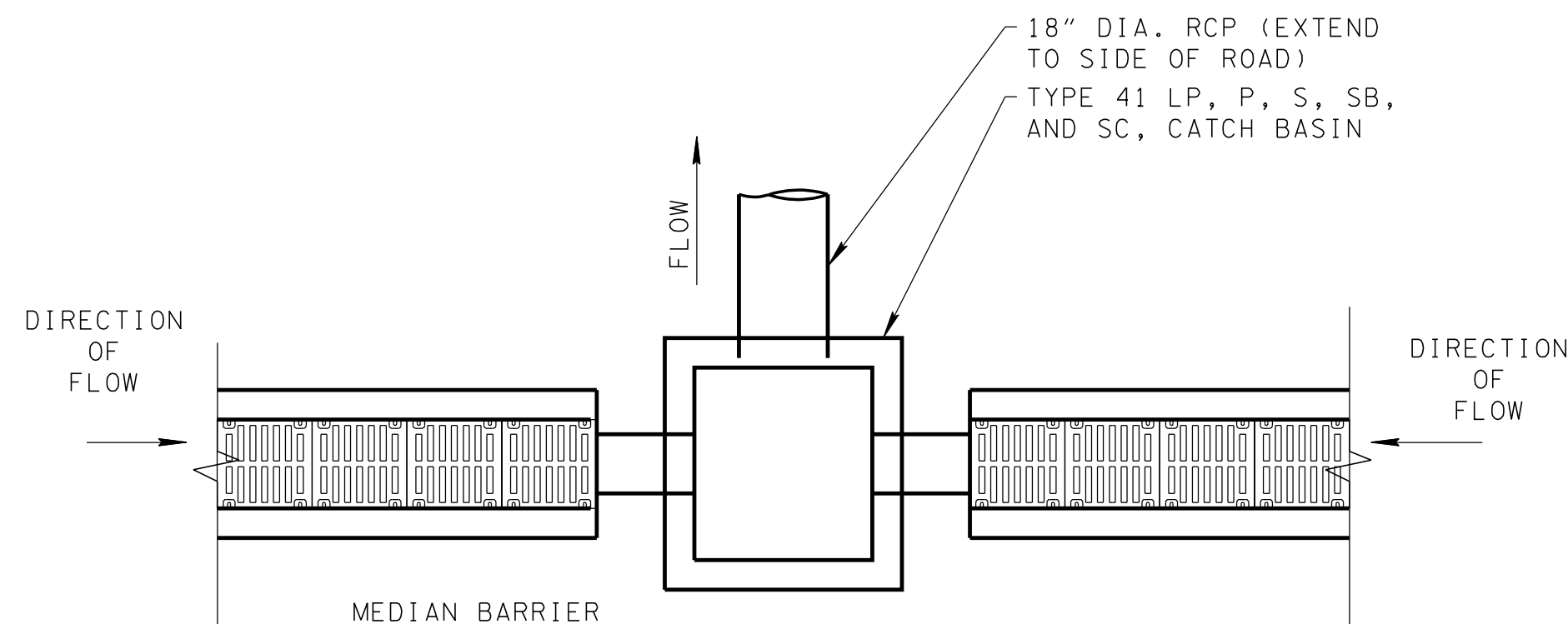


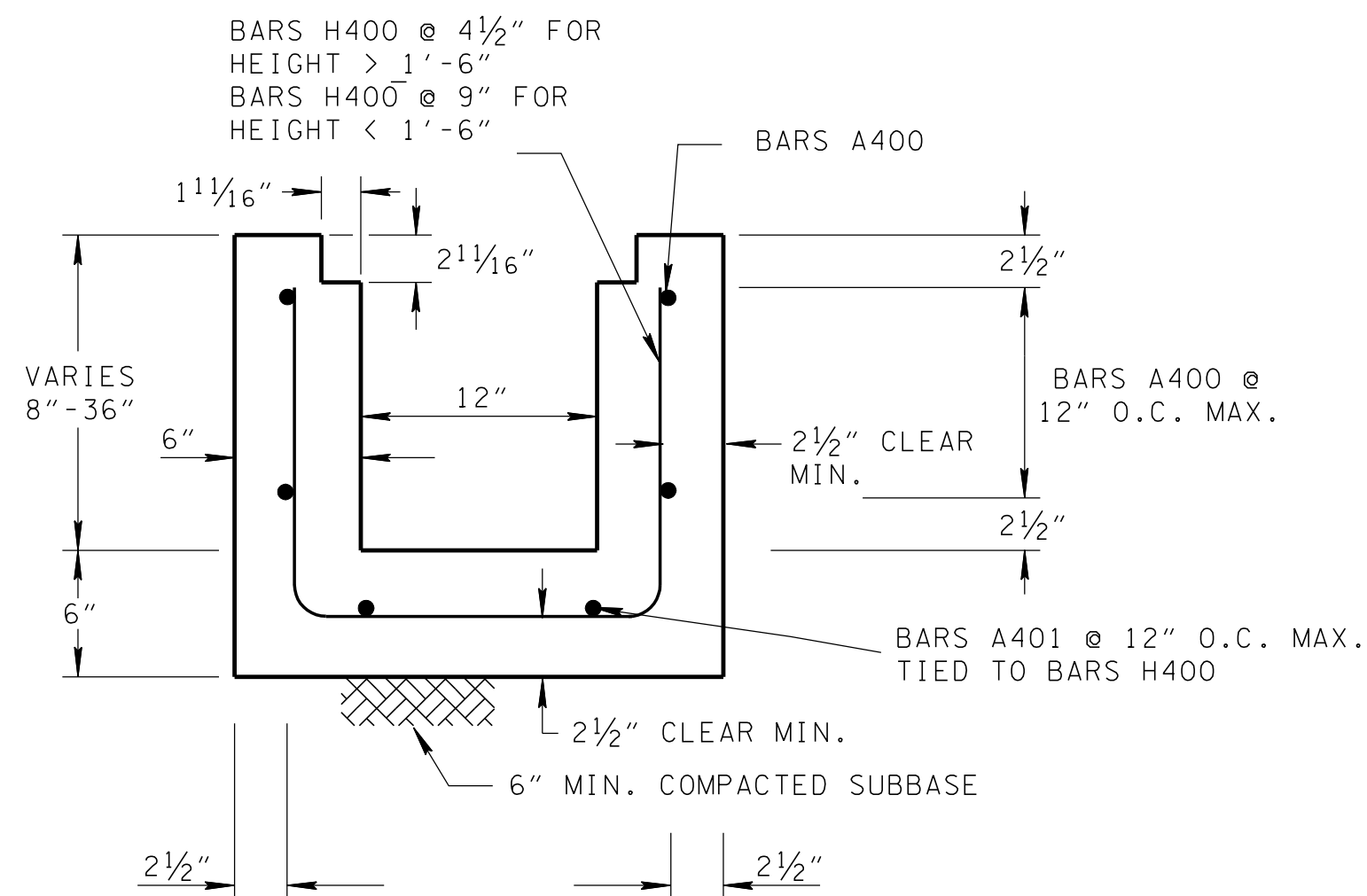
PERSPECTIVE VIEW



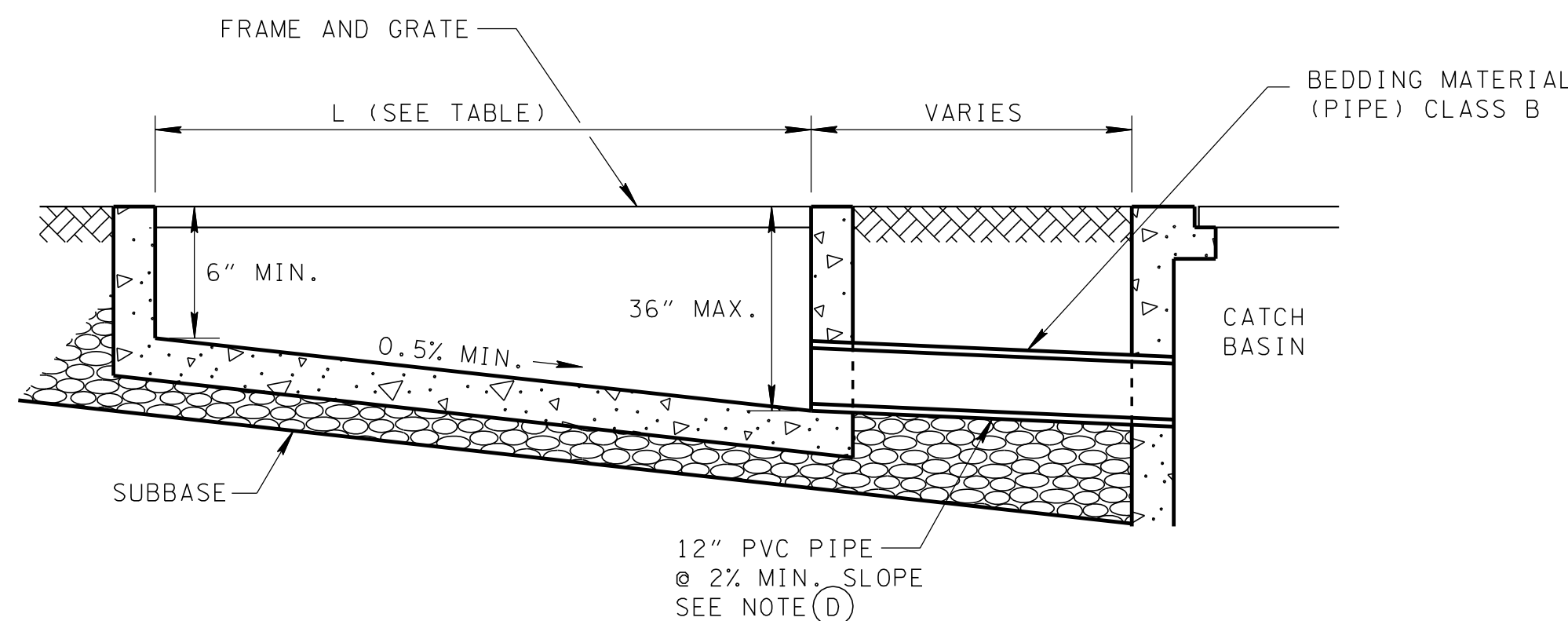
PLAN VIEW -
IN MEDIAN WITH CATCH BASIN



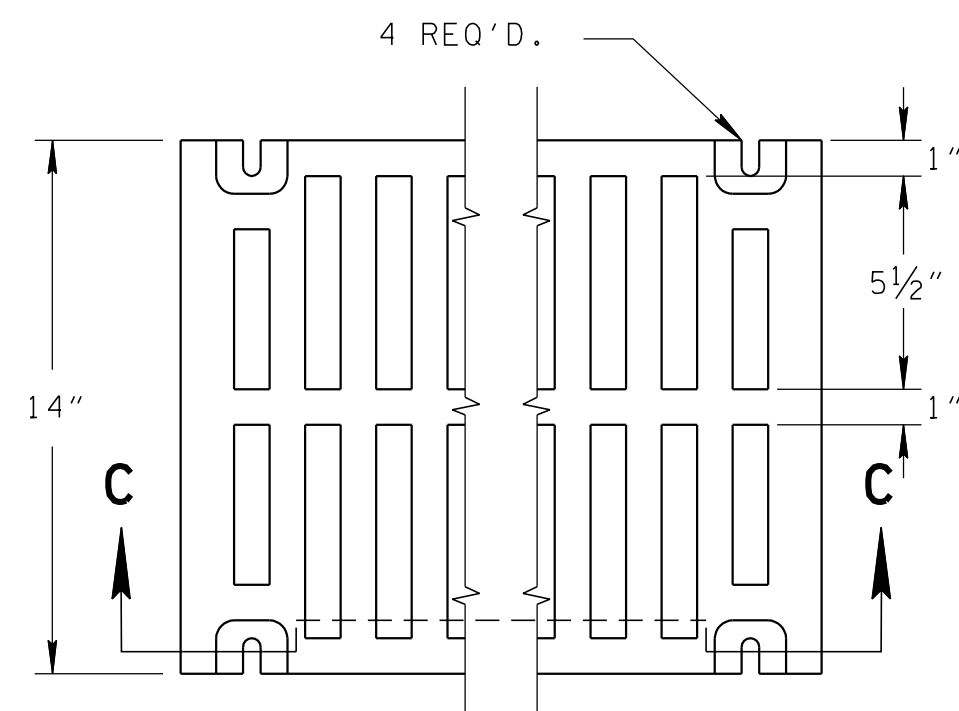
PLAN VIEW -
IN MEDIAN WITH SIDE DISCHARGE PIPE



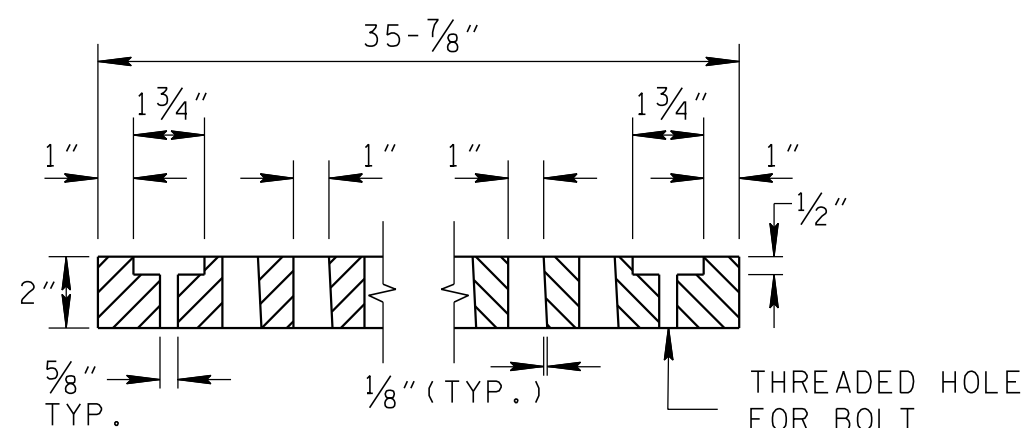
TYPICAL TRENCH CROSS SECTION



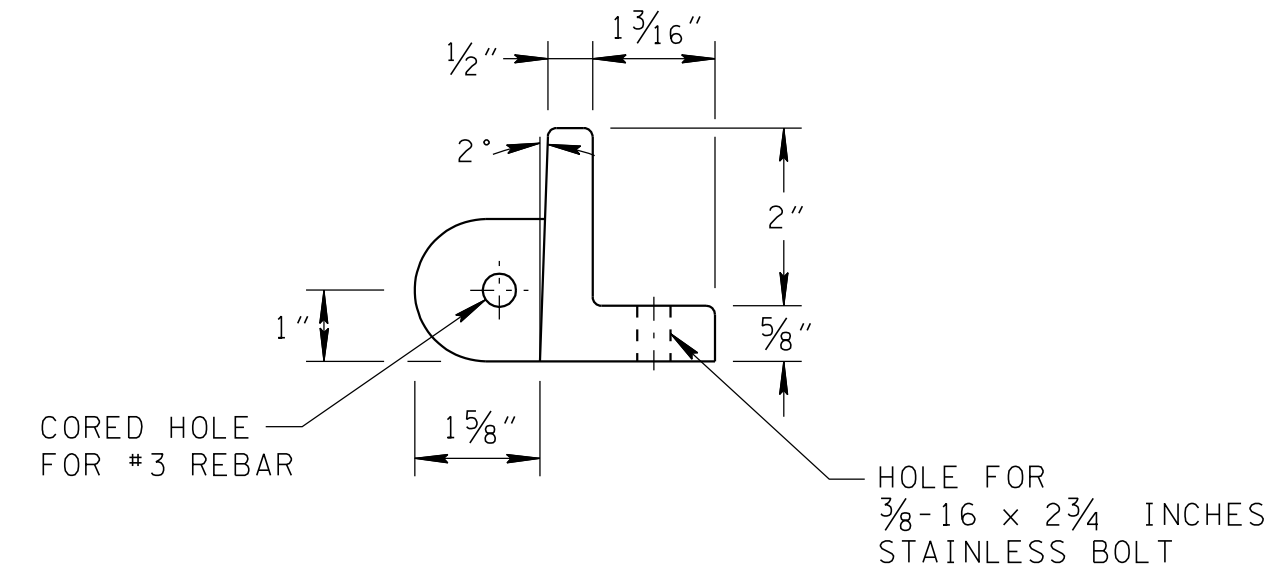
PROFILE VIEW -
IN MEDIAN WITH CATCH BASIN



GRATE AND FRAME SHALL BE HEAVY DUTY AND
CAPABLE OF SUPPORTING HS-20 LOADING



DETAIL OF SINGLE GRATE UNIT
SECTION C-C



FRAME DETAIL SHOWING LUG

SEE NOTE (E)

TRENCH DRAIN LENGTHS*	
DRAINAGE AREA (ACRES)	REQ'D LENGTH, L (FEET)
0.2	40
0.3	60
0.4	80
0.5	100
0.6	120

* BASED ON 50-YEAR DESIGN STORM

TRENCH DRAIN GENERAL NOTES

- TRENCH DRAIN MAY BE USED TO COLLECT ROADWAY RUNOFF IN AREAS WHERE LONG SECTIONS OF FLAT PROFILE GRADE ARE UNAVOIDABLE. THEY MAY BE USED IN MEDIANS OR IN OTHER AREAS WHERE RUNOFF MAY COLLECT.
- THE MAXIMUM ALLOWABLE OUTFLOW RATE THROUGH THE DISCHARGE PIPE SHOULD NOT EXCEED 4.5 CFS. THE DISCHARGE SHALL BE CALCULATED USING THE RATIONAL METHOD AS DESCRIBED IN CHAPTER 4 OF THE DRAINAGE DESIGN MANUAL.
- WHERE TRENCH DRAIN IS CONNECTED TO A CATCH BASIN AT THE LOW POINT OF THE PROFILE GRADE, THE OUTLET PIPE SHALL CONSIST OF 12-INCH PVC PIPE AT A SLOPE OF AT LEAST 2.0%. IN ORDER TO MAINTAIN MINIMUM COVER, THE TRENCH SHALL BE 36 INCHES DEEP AT THE OUTLET.
- PVC PIPE SHALL MEET THE REQUIREMENTS OF ASTM F949.
- TRENCH DRAIN FRAMES SHALL BE PROVIDED WITH LUGS SPACED AT 12 INCHES ON CENTER. LUG TYPE MAY VARY BY MANUFACTURER. LUGS SHALL BE PROVIDED WITH A HOLE THROUGH WHICH A #3 REBAR MAY BE PLACED PRIOR TO POURING THE TRENCH WALLS.
- GRATES SHALL BE SOLIDLY ATTACHED TO THE TRENCH DRAIN FRAMES BY MEANS OF STAINLESS STEEL BOLTS ($\frac{3}{8}$ -16 x $2\frac{3}{4}$ INCHES) AND FLAT WASHERS AT EACH CORNER OF THE GRATE.
- THE GENERAL INSTALLATION PROCEDURE FOR CAST-IN-PLACE TRENCH DRAINS SHALL BE AS FOLLOWS:
 - SET REINFORCING STEEL.
 - FORM AND POUR TRENCH DRAIN BASE.
 - SET FORMS FOR TRENCH DRAIN WALLS.
 - SET TRENCH GRATES AND FRAMES INTO PLACE ON THE FORMS. GRATES MUST BE BOLTED TO THE FRAMES. INSERT SHORT SECTIONS OF #3 REBAR AS NEEDED INTO THE FRAME LUGS.
 - POUR TRENCH DRAIN WALLS.
- PRECAST TRENCH DRAIN SECTIONS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
- PAYMENT FOR TRENCH DRAINS WILL BE MADE UNDER ITEM NUMBER 611-05.01, TRENCH DRAIN PER LINEAR FOOT.
- OTHER APPROVED TRENCH DRAIN SYSTEMS ON QUALIFIED PRODUCT LIST MAY BE USED WITH THE APPROVAL OF THE ENGINEER.

MINOR REVISION -- FHWA
APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRENCH
DRAIN

8-15-07

D-TD-1