**GENERAL NOTES**

1. Trench drains are intended for use in guiderails and driveways as shown on the typical locations on Sheet B. Type I is intended for use in Type I and F curbing and adjacent to traffic barriers and standard barrier walls, without grate. Type II is intended for use where driveway openings in median barriers and drop curbs. Trench drains shall not be placed in designated pedestrian paths unless ADA compliant grates are used.

2. Unless shown in the plans, outlet pipes and pre-formed channel invert shall be shaped 0.6% or shallower toward the outlet regardless of the surface slope.

3. Trench drain may be extended directly into drainage structures, or outlet pipe may be used to connect trench drain to drainage structures.

4. A cleanout port compatible with the manufactured system shall be provided for Type I drain at the upstream end and at intervals not to exceed 50 feet. The cleanout port shall be provided on splashing 6" to 8" wide (or twice the trench drain length) and 8" to 24" long. Where cleanouts are placed adjacent to raised curb or separator, the curb or separator shall be formed around the cleanout.

5. Trench excavation may allow for a minimum of 6 inches of concrete to be placed under and alongside the trench drain channel-system. Under pre-formed concrete backfill, drain shall meet the requirements of Section 54f. At the end of all units (Type I or II), the concrete backfill shall extend 24" minimum past the end of the drain opening.

6. Trench drains for Type I trench drain shall be approved 4 to 6 inches on center.

7. Whenever the work disturbs existing conditions or work already completed, restore the area to the original condition in every detail. All repair and replacement shall meet the approval of the Engineer.

8. For pavement and channel materials see specification Section 436.

**DESIGN NOTES**

1. Where placed adjacent to reinforced concrete barrier wall or median barrier wall, the design shall be in accordance with the Section of the drain located in the wall to avoid conflicts with the C wall and reinforcement of the barrier wall. See Section 440.

2. The design shall provide for the following in the plans:
   (a) The type of drain at each location.
   (b) The location of the outlet pipe if the trench drain is ended directly into a drainage structure.

3. Capture efficiency for Type I trench drain may be computed using the equations for a straight drain in FHWA HEC 12 & 22.

4. Rounded pipe outlets are available in 12, 18, 24, 36 inch CSP.

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**TRENCH DRAIN**
WITHIN TYPE E CURB

WITHIN TYPE F CURB

WITHIN DROP CURB

WITHIN VALLEY GUTTER

ADJACENT TO STANDARD BARRIER WALL

ADJACENT TO TRAFFIC SEPARATOR

TYPICAL LOCATIONS FOR TYPE II

* As Necessary To Provide 6" Of Concrete On This Side Of Drain

ROUND PIPE ALTERNATE SHOWN, BUT PREFORMED POLYETHYLENE ALTERNATE ACCEPTABLE

TYPICAL LOCATIONS FOR TYPE I