

CHAPTER 4 - STORMWATER DRAINAGE SYSTEM DESIGN

4.01 GENERAL DESIGN REQUIREMENTS

4.02 MINIMUM DESIGN CRITERIA

4.03 ALIGNMENT AND COVER

4.04 PIPE MATERIALS AND SIZE

4.05 STRUCTURES

4.05.01 ACCESS

4.05.02 MANHOLES

4.05.03 CLEANOUTS

4.05.04 STORMWATER INLETS

Stormwater inlets shall be located at the following locations, but, in no case, be spaced further than 400-feet apart:

- A. Within 50-feet of the curb returns on the upstream side of an intersection
- B. At the ends of all dead-end streets with a descending grade
- C. At intermediate locations so that stormwater flows at the curb line do not exceed 3-feet in width (measured from the curb face) or 3-inches in depth (measured at the curb face)
- D. At the upstream or downstream end of the street improvements that abut unimproved roads or undeveloped property

Stormwater inlets shall be capable of completely intercepting the design stormwater flow.

4.05.04A CATCH BASINS

4.05.04B INLET MANHOLES

Except when otherwise approved by the City to install a flowthrough catch basin, ~~Where~~ where proposed stormwater drainage systems connect to the existing or proposed public stormwater drainage system at a catch basin location, inlet manholes shall be required where any of the following conditions apply. Refer to **Standard Details 404 (A-F)**.

- A. the pipe connection is larger than 6-inches in diameter,
- B. 2 or more pipes discharge to the location, or
- C. the design peak flow from the onsite system exceeds 0.5 cfs

~~C-D.~~ When a flowthrough catch basin is approved by the City in lieu of an inlet manhole, the flowthrough catch basin may not be connected in a chain greater than one upstream catch basin, and the inlet elevation must be at least 0.20 feet above the outlet pipe elevation.

4.05.04C DITCH INLETS

Ditch inlets are required any time stormwater is collected from a ditch and conveyed to a piped system.

4.05.04D BEEHIVE INLETS

4.05.05 OUTFALL PROTECTION

4.06 CULVERTS

4.07 CONVEYANCE SYSTEMS

4.08 DOWNSTREAM CONDITIONS ASSESSMENT

When the City has a known downstream deficiency in its stormwater system within a quarter mile downstream of the discharge point of a proposed development~~When required~~, the analysis of downstream conditions must be completed in accordance with the Downstream Conditions Assessment requirement in section 4.3 of the Stormwater Management Manual.

4.09 EROSION PREVENTION AND SEDIMENT CONTROL

4.10 STORMWATER FLOW CONTROL (DETENTION/RETENTION)

4.11 STORMWATER QUALITY TREATMENT

4.12 OPEN CHANNEL DESIGN

4.13 REAR LOT DRAINAGE

4.14 PRIVATE STORM DRAIN SYSTEMS