

STORM WATER DETENTION GUIDANCE⁽¹⁾ FOR PROPOSED DEVELOPMENT IN THE CITY OF CANTON

3/26/2013

START:
ALL land disturbances shall ensure appropriate controls (e.g. silt fence, inlet protection, etc.) are in place to **prevent** sediment and polluted construction runoff from discharging off site and onto adjacent properties and streets or into drainage systems (storm sewers, ditches, creeks, etc.). Plans shall include provisions for appropriate controls.
 Will proposed development result in land disturbances ≥ 1 acre?

Yes

No

Water Quality Treatment required and Storm Water Detention required

WATER QUALITY TREATMENT:
 An NPDES Construction Storm Water General Permit (CGP) is **required**. See “Water Quality Treatment Design Guidance for Proposed Land Disturbances in the City of Canton” flowchart for further information.

STORM WATER DETENTION:
 Detention criteria is dependent on type of conveyance in which the site’s runoff will **directly** discharge to:

Will $\geq 6,000$ sq. ft.⁽²⁾ of imperviousness be created?

Yes

Detention **not** required.

No

Detention requirements per discretion of City Engineer

Discharge to a creek^{(3),(4)}:
 $Q_{2_{post}} \leq Q_{2_{pre}}$
 $Q_{5_{post}} \leq Q_{5_{pre}}$
 $Q_{10_{post}} \leq Q_{10_{pre}}$
 $Q_{25_{post}} \leq Q_{25_{pre}}$
 $Q_{50_{post}} \leq Q_{50_{pre}}$
 $Q_{100_{post}} \leq Q_{100_{pre}}$

Discharge to City storm sewer:
 $Q_{2_{post}} \leq Q_{2_{pre}}$
 $Q_{5_{post}} \leq Q_{5_{pre}}$
 $Q_{10_{post}} \leq Q_{10_{pre}}$
 $Q_{25_{post}} \leq Q_{10_{pre}}$
 $Q_{50_{post}} \leq Q_{10_{pre}}$
 $Q_{100_{post}} \leq Q_{10_{pre}}$

Discharge to roadside ditch:
 $Q_{2_{post}} \leq Q_{2_{pre}}$
 $Q_{5_{post}} \leq Q_{5_{pre}}$
 $Q_{10_{post}} \leq Q_{5_{pre}}$
 $Q_{25_{post}} \leq Q_{5_{pre}}$
 $Q_{50_{post}} \leq Q_{5_{pre}}$
 $Q_{100_{post}} \leq Q_{5_{pre}}$

Discharge to street without sewer or ditch⁽⁵⁾:
 $Q_{2_{post}} \leq Q_{2_{pre}}$
 $Q_{5_{post}} \leq Q_{5_{pre}}$
 $Q_{10_{post}} \leq Q_{5_{pre}}$
 $Q_{25_{post}} \leq Q_{5_{pre}}$
 $Q_{50_{post}} \leq Q_{5_{pre}}$
 $Q_{100_{post}} \leq Q_{5_{pre}}$

Discharge to other/private conveyance:
 Detention criteria per discretion of City Engineer.

- IMPORTANT DESIGN STANDARDS⁽⁶⁾:**
- Discharges from detention facilities must drain to an **adequate outlet** as approved by the City Engineer.
 - Do **not** design detention facilities to be located within FEMA-identified 100-yr (1%) **floodplains**/Special Flood Hazard Areas (SFHAs)⁽⁴⁾.
 - Proposed Grading Plan must clearly indicate that $Q_{100_{post}}$ (including surcharging from any onsite storm sewers) from all areas on the site can be safely conveyed to the detention facility.
 - Provide an **emergency spillway** designed to convey $Q_{100_{post}}$ to an approved downstream flood route.
 - Appropriate **tailwater** elevations must be utilized for routing each storm event through the detention facility.
 - Storm water detention design must be approved by City Engineer. Certain permits may be required; certain conditions may need to be met.

See “Construction Guidance for Activities Subject to Storm Water Quality Treatment and/or Detention in the City of Canton” flowchart for further information.

For questions, contact:
City of Canton Engineering Department
 2436 30th St NE – Building A
 Canton, Ohio 44705
 Ph: 330-489-3381
 Fax: 330-489-3337
 Email: engineering@cantonohio.gov

Footnotes:

(1): This flowchart provides general guidance and criteria for storm water detention/retention requirements. Site-specific circumstances may necessitate using alternate criteria and standards as required by the City Engineer.

(2): 6,000 sq. ft. is the average residential lot size in the City. Since detention is not required on individual residential lots, it is therefore typically not required on non-residential sites in which $<6,000$ sq. ft. of imperviousness is created.

(3): City Engineer may require comparison between creek flow hydrographs and site runoff hydrographs to determine if detention is beneficial and consequently required.

(4): Flood Hazard (FH) District regulations may apply. See Chapter 1132 of the City of Canton Zoning regulations or contact the City Zoning Inspector for details.

(5): City Engineer may require an alternate outlet to be utilized or constructed. Alternate detention criteria may apply.

(6): See the “City of Canton Storm Water Management Manual” for additional information. (<http://cantonohio.gov/engineering/?pg=510>)