

BETHEL PARK SMALL PROJECTS STORMWATER MANAGEMENT

SMALL PROJECT DEFINITION

Regulated activities that create additional impervious areas of greater than 400 sq. ft. and less than 1,000 sq. ft. The impervious area on a specific property will be measured on a cumulative basis beginning on May 1, 2017.

SMALL PROJECT STORMWATER MANAGEMENT

Table 1 presents the Municipality's stormwater management requirements.

Table 1 – Stormwater Management Requirements		
No.	Sqft of Proposed Impervious Surface	Stormwater Management Requirement
1.	<400	No Requirements
2.	400 - 1000 (small project)	Capture and detain the first 2" of any storm event
3.	>1000	Comply with Municipal Ordinance 61

Stormwater management for small projects will consist of capturing and detaining the first two inches of any storm event. For small projects, consider the following:

Two inches of rain results in the following volumes that need to be captured and detained:

- 400 sq. ft. * 2 in./(12 in./ft.) * 7.48 gal/cu. ft.= 499 gal., call it 500 gallons of detention storage.
- 1000 sq. ft. * 2 in./(12 in./ft.) * 7.48 gal/cu. ft.= 1247 gal., call it 1250 gallons of detention storage.

Therefore, small project detention requirements range from 500 gallons to 1250 gallons.

Capture and detention can be accomplished by a variety of methods, including, but not limited to:

1. Rain Barrels.
2. Rain Gardens.
3. Stone Sumps (Dry Wells) and Infiltration Trenches (filled with clean, AASHTO No. 3 stone, 40%void space. The void space will be used as the detention volume).
4. Other methods as approved by the municipal staff.
5. A combination of methods.

In all cases, the detention method must be designed to drain all accumulated runoff not less than 24 hours and not more than 72 hours after the end of the storm event. For example, a rain barrel can be drained through a soaker hose. Appropriate soil percolation conditions must be available for stone sumps and rain gardens, and demonstrated by percolation tests.

A maintenance agreement must be signed by the property owner to ensure the proper, continual inspection & maintenance of the capture and detention method.

SUBMITTALS FOR APPROVAL

The property owner must submit the following stormwater management information for review by the Municipality staff:

1. A written description of the proposed project, including the dimensions of all proposed impervious surfaces.
2. A scale drawing showing existing and proposed features of the property.
3. A written description of the proposed stormwater management methods.
4. Dimensioned drawings of the proposed stormwater management methods and their locations.
5. A list of proposed impervious surfaces and their square footage.
6. Supporting documentation, such as assumptions, calculations, rain barrel size, stone size, percolation tests, etc.
7. Draft operation & maintenance agreement.
Construction of the proposed improvements will not begin prior to receiving approval of the stormwater management plan from the Municipality.

EXAMPLE SUMP DESIGN

NEW IMPERVIOUS AREA = 500 SF

$$500 \text{ SF} \times \frac{2'' \text{ RUNOFF}}{12''/\text{FT}} = 83.3 \text{ CF} = 84 \text{ CF}$$

$$\frac{84 \text{ CF}}{40\% \text{ VOIDS IN STONE}} = 210 \text{ CF STORAGE REQUIRED}$$

SIZE OF PIT

$$D \times L \times W = \text{STORAGE REQUIRED}$$
$$3.5' \times L \times W = 210$$

$$L \times W = 60$$

$$7.75' \times 7.75' \times 3.5'$$

* 3.5' IS MAX DEPTH

