



COUNCIL POLICY C-ES04

Storm Water Management Facility Naturalization

Prepared By: Environmental Services
 Effective Date: January 1, 2015
 References: N/A
 Function: Property Management

Council Approval Date: February 11, 2014
 Council Resolution No.: N/A
 Revision Date: New (C-PD08)
 LAS Review Date: October 31, 2014

PURPOSE

Parkland County recognizes the importance of protecting the health of our watershed for current and future generation and that a crucial component of watershed protection involves the sustainable management of our surface water runoff.

Parkland County also recognizes that as development increases, natural systems (i.e. wetlands, riparian areas etc.) that provide valuable water-related functions to our community, such as rainwater retention, nutrient filtration, and sediment removal are likely going to be negatively impacted.

Therefore, Parkland County will ensure that:

1. All new storm water management facilities developed within its borders after January 1, 2015 are designed as Naturalized Storm Water Management Facilities
2. All new drainage courses directly related to storm water retention facilities developed within its borders after January 1, 2015 incorporate Low Impact Development Design Principles such as bioswales.

By doing so, Parkland County will be able to leverage and mimic natural processes that are known to increase water quality of storm water effluent into receiving water bodies, thereby maintaining and increasing the overall health of our watershed and the County's Natural Capital.

POLICY STATEMENT

Parkland County will employ a cumulative effects approach to storm water management, recognizing that as development proceeds, natural systems which provide valuable anthropogenic water-related service are going to be negatively impacted. Therefore, measures need to be taken to compensate for those losses by incorporating well-established and proven beneficial management practices into new storm water retention facilities and related drainage courses to replace the services provided by lost natural systems.

There are a number of environmental, social, and economic benefits for developing Naturalized Storm Water Management Facilities and drainage courses as opposed to conventional storm water retention facilities and ditches. These include:

Environmental Benefits:

- Increased removal of:
 - o Total Suspended Solids (TSS)
 - o Biological Oxygen Demand (BOD)
 - o Nutrient loads (phosphorous, nitrogen, potassium)
 - o Pesticides
 - o Pathogens

- Habitat creation (avian, amphibian, small mammals, insect)
- Replacement of water-related natural systems and their functions

Social benefits:

- Increased aesthetic appeal over conventional storm water management facilities
- Increased potential for passive recreational activities
- Increase recreational space
- Educational opportunities

Economic benefits:

- Reduced maintenance intervals and cost
- Increased adjacent property value
- Overall, less expensive than conventional storm water management facilities

DEFINITIONS

1. "Anthropogenic" means human-centric, or concerned with humans.
2. "Bioswale" means a landscape element designed to remove silt and pollution from surface runoff water. They consist of a swaled drainage course with gently sloped sides and filled with vegetation. The water's flow path, along with the wide and shallow ditch, is designed to maximize the time water spends in the swale, which aids the trapping of pollutants and silt.
3. "Cumulative Effects" means the combined effects on the aquatic environment arising from the combined environmental impacts of several individual projects including development.
4. "Natural Capital" means the stock of environmental resources that yields many goods and services that is essential to the sustained health of our environment, communities, and economy.
5. "Watershed" means the area of land that catches precipitation and drains into a larger body of water such as a marsh, stream, river, or lake. A watershed is often made up of a number of sub-watersheds that contribute to its overall drainage.

SCOPE

This policy applies to all new storm water retention facilities proposed after January 1, 2015.

Planning and Development Services shall adhere to this policy when evaluating new development applications.

Engineering Services shall adhere to this policy when conducting capital infrastructure work and maintaining County assets

MANAGEMENT RESPONSIBILITIES**Chief Administrative Officer**

- Provide the resources necessary to promote and implement this policy.

General Managers

- Provide managers and employees with the information, training, tools, procedures and support necessary to promote and implement this policy.

Managers – Engineering Services; Planning and Development Services:

- Provides employees with the information, training, tools, procedures and support necessary to promote and implement this policy.
- Provides direction to employees for individual site Naturalization projects.

Employees

- Accountable for implementing this policy in accordance with managerial direction.

STANDARDS

1. Naturalized Storm Water Management Facilities shall be constructed so as to ensure that the facility's primary function – the controlled management of storm water runoff – is not compromised in any way. If it is found that any naturalization features negatively impact a storm water management facility's primary function, they shall be removed, and may be replaced at the County's discretion.
2. The maintenance of Naturalized Storm Water Management Facilities may require the temporary or permanent removal of certain naturalization features. Removal and replacement of naturalization features for maintenance purposes shall be left to the County's discretion
3. Storm water management facilities proposed after January 1, 2015 will be required to follow Parkland County's updated storm water retention facility standards.
4. Man-made drainage courses that bring storm water to, and take storm water from storm water retention facilities, will be required to follow Parkland County's updated storm water drainage course standards if proposed after January 1, 2015.