



City of Ann Arbor

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Controlling Body: City Council

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*** File Name:** 2/18/14 - Resolution Adopting a Green Streets Policy

Final Action: 02/18/2014

Title: Resolution Adopting a Green Streets Statement Consisting of Stormwater Guidelines for Public Street Construction and Reconstruction

Notes:

Sponsors:

Enactment Date: 02/18/2014

Attachments: Green_Streets_Infiltration_Policy__10-21-13,
Green_Streets_Infiltration_Standard_Resolution__10-21-13, R-12-295.pdf

Enactment Number: R-14-051

Drafter/Contact:

Hearing Date:

* Admin/Mgr:

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	02/18/2014	Approved				Pass
	Action Text:	A motion was made by Councilmember Warpehoski, seconded by Councilmember Teall, that the Resolution be approved. On a voice vote, the Mayor declared the motion carried.					

Text of Legislative File 14-0071

Resolution Adopting a Green Streets Statement Consisting of Stormwater Guidelines for Public Street Construction and Reconstruction

On July 2, 2012 City Council passed Resolution R-12-295 directing City Staff (from the Systems Planning, Project Management, and Field Operations units of Public Services; Parks and Recreation, and Planning and Development Services units from Community Services) to work with the Environmental Commission in the development of a Green Streets policy. A copy of Resolution R-12-295 is attached.

The Environmental Commission Water Committee goal in this effort is to create a City Policy Statement to provide guidelines for “Green Streets” as the standard for design of new and reconstructed City streets.

The terms “Green Streets” and “Green Infrastructure” are adaptable terms used to describe an array of products, technologies, and practices that use natural systems - or engineered systems that mimic natural processes - to enhance overall environmental quality and provide utility services. Green Streets treat and/or infiltrate stormwater to improve water quality and reduce the volume and rate at which stormwater leaves the street.

After considering numerous options, the Water Committee and City Staff came to the conclusion that the most common denominator in green infrastructure is infiltration of stormwater on-site where it is generated. As such, a Statement consisting of Stormwater Management Guidelines for Public Street Construction and Reconstruction was developed to set infiltration standards based on the ability of the project site to infiltrate stormwater. A copy of that Statement is attached. At its October 24, 2013 meeting, the Environmental Commission approved a resolution recommending that City Council direct City Staff to implement the Statement consisting of Stormwater Management Guidelines for Public Street Construction and Reconstruction. A copy of the Environmental Commission’s resolution is attached.

Prepared By: Environmental Commission

Whereas, Impervious surfaces are major contributors to stormwater runoff pollution and volume;

Whereas, In Ann Arbor, City rights-of-way include the public streets;

Whereas, City stormwater system pipes are located within public street rights-of-way;

Whereas, Public streets are a part of the stormwater management system, as they receive runoff from adjacent parcels and convey the stormwater to the piped stormwater system;

Whereas, Given that public street surfaces are directly connected to the City’s piped

stormwater management system, it is estimated that 50% of all stormwater runoff within the City is generated from the City's street rights-of-way;

Whereas, The terms "Green Streets" and "Green Infrastructure" are adaptable terms used to describe an array of products, technologies, and practices that use natural systems - or engineered systems that mimic natural processes - to enhance overall environmental quality and provide utility services;

Whereas, The United States Environmental Protection Agency has accepted alternative strategies for stormwater management;

Whereas, Under Section 303(d) of the federal Clean Water Act, the Michigan Department of Environmental Quality has identified the Huron River and several of its tributaries within Ann Arbor as waterbodies not meeting Water Quality Standards, and, have designated Total Maximum Load (TMDL) mandates, for biota (total suspended solids), E. coli and phosphorus from nonpoint source runoff;

Whereas, Stormwater is typically delivered with minimal or no treatment to the Huron River, which is recognized as a valued natural resource for the Ann Arbor community;

Whereas, Weather models are predicting increased frequency and intensity of intense stormwater events;

Whereas, Infiltration is the stormwater management goal for Green Infrastructure;

Whereas, On July 2, 2012, City Council passed Resolution R-12-295 directing City Staff to work with the Environmental Commission in the development of a Green Streets policy and City Staff worked with the Environmental Commission's Water Committee to develop a Policy Statement consisting of Stormwater Guidelines for Public Street Construction and Reconstruction; and

Whereas, the Environmental Commission passed a resolution at its October 24, 2013 meeting recommending that City Council adopt the Green Street Policy;

RESOLVED, That the Ann Arbor City Council adopt the Green Streets Statement consisting of Stormwater Management Guidelines for Public Street Construction and Reconstruction developed by City staff and the Environmental Commission's Water Committee and recommended for approval by the Environmental Commission;

RESOLVED, That the City Council direct the City Administrator to take all necessary steps to implement the Green Streets Statement consisting of Stormwater Management Guidelines for Public Street Construction and Reconstruction; and

RESOLVED, That the City Council direct the City Administrator to incorporate the Green Streets Statement's Stormwater Management Guidelines for Public Street Construction and Reconstruction into the City of Ann Arbor Public Services Department Standard Specifications.

Policy Statement

City of Ann Arbor, Michigan

Stormwater Management Guidelines for Public Street Construction and Reconstruction

Public Streets Construction and Reconstruction projects in the City of Ann Arbor will utilize Green Infrastructure to infiltrate stormwater runoff from impervious areas that are disturbed. At a minimum, infiltration techniques implemented on the project shall be similar to those described in the Low Impact Development Manual for Michigan, Sept. 2008. This policy does not apply to maintenance and/or resurfacing projects.

Based on an analysis of the soil borings, the project manager shall determine the area(s) of the project with the most favorable infiltration potential. Within the potential infiltration area(s), the infiltration rate(s) shall be determined by lab test or field test. The infiltration test location and depth shall be determined by the designers anticipated green infrastructure improvement. The infiltration standard shall be calculated for the entire project area and shall be determined using the following site condition factors:

Site Conditions

Infiltration Standard

<ul style="list-style-type: none">• Within the floodplain, or• Slopes > than 20%, or• Soil infiltration rate < 0.6 in/hr	First 1 inch
<ul style="list-style-type: none">• Not in the floodplain, and• Slopes < than 20%, and• Soil infiltration rate between 0.6 in/hr – 2.0 in/hr	50% annual chance - 24 hour event (2.35")
<ul style="list-style-type: none">• Not in the floodplain, and• Slopes < than 20%, and• Soil infiltration rate >2.0 in/hr	10% annual chance – 24 hour event (3.26")

*Notes: Soil Infiltrations Rates are based on A and B soil classifications in the Soil Survey of Washtenaw County, Michigan (1977).
Rainfall frequency estimates are derived from NOAA Atlas 14 Volume 8 (2013).*

Notes:

- All public street construction and reconstruction projects are required to comply with the stormwater management requirements of Chapter 63 to the maximum extent practicable. Chapter 63 utilizes the Rules of the Washtenaw County Water Resources Commissioner. Within these rules, there is guidance for both detention and infiltration facilities.
- The above infiltration standards are separate from and supplemental to the requirements of Chapter 63. However, the volume of runoff infiltrated would count toward a reduction of the volume required to be detained per Chapter 63 by an equal amount.
- If the site conditions suggest multiple infiltration standards, utilize the highest feasible standard.
- Where site conditions allow, infiltration beyond the minimum standard is encouraged.
- The chosen green infrastructure improvement can be placed at any location within the project area, so long as the total volume to be infiltrated is captured and hydraulically connected to the disturbed area.
- If the project area contains groundwater within 5 feet of the surface, contaminated soil, or other limiting conditions the infiltration standards will have to be examined on a case-by-case basis to determine what infiltration rate and practices are feasible. In situations where the First 1-inch cannot be infiltrated, a lower infiltration standard may be used if approved by the Public Services Administrator.
- All infiltration facilities require the development of maintenance plans that are coordinated with the City of Ann Arbor Field Operations Staff.

Infiltration Standard Flowchart

City of Ann Arbor, Michigan

Stormwater Management Guidelines for Public Street Construction and Reconstruction

