

PUBLIC WORKS DEPARTMENT

Engineering Division

Policy Number	Title	Date of Issuance or Revision	Author
PW.SW.02	Stormwater Extent of Service	February 27, 2018	L. Wells

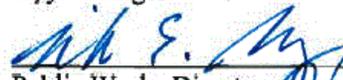
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APPROVALS



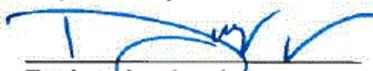
City Manager



Public Works Director



City Attorney



Engineering Services Manager

I. Purpose

The purpose of this policy is to provide an overview of the various stormwater conveyance system components and to provide guidance regarding maintenance priorities of the City and private landowners for each type of conveyance system. The City of Greenville owns, operates, and maintains stormwater conveyance systems (e.g., pipes, ditches, and inlets) within the City's right of way (RoW) and established easements. As a general rule, the City is not responsible for the operation or maintenance of stormwater conveyance systems located outside of an established City right of way or easement. Neither is the City responsible for surface drainage problems arising from street runoff or stormwater conveyance systems owned, operated, or maintained by others (e.g., SCDOT). This document has been developed in keeping with the City's Asset Management Policy (PW.SW.01).

II. Applicability/Scope

This policy is written to support Public Works Engineering and Operations staff in making maintenance and capital improvement project decisions related to the stormwater system. For additional guidance, refer to the Asset Management Strategy document and associated standard operating procedures.

III. Summary

In general, the City will perform maintenance on the stormwater drainage system when the system component lies within a City road right of way, City owned property, or within a properly dedicated easement. There are some exceptions to this rule that are described in the policy. In those instances when maintenance responsibility is not clear or when the City otherwise is compelled to work on a privately owned system, this policy provides guidance on the issues to be considered during the decision-making process.

IV. Definitions

For the purposes of this policy, definitions of stormwater system components are consistent with definitions being used in other City planning documents and with the Asset Management Program Policy (PW.SW.01).

Pipe systems: Pipes include a variety of materials, shapes, and sizes conveying stormwater runoff. Typically, pipe systems are "closed" systems; meaning one end of the pipe system contains a junction box or inlet box. There may be additional junction or inlet boxes contained within the system and the system outlet generally discharges to a stormwater control measure or receiving stream.

Culverts: Culverts include a variety of materials, shapes, and sizes conveying stream flow, but may also contain inlets for stormwater runoff. Both ends of the culvert are open (i.e., pipe ends are not a box). In most cases, culverts convey stream flow underneath a road, path, or railroad crossing.

Inlets/junction boxes: Structures typically built of concrete or brick that serve as endpoints or junctions for pipes. Inlets are designed to allow stormwater to enter through a variety of openings (e.g., grates, curb inlets, etc.). Typically, junction boxes serve as a transition for pipe direction, size, or material and are not designed to allow for stormwater entry.

Ditches: Ditches are generally small man-made, grass-lined stormwater conveyances, but may also be lined with concrete, asphalt, or other protective surfaces. For the purposes of this document, ditches drain less than 40 acres at their intersection/confluence with another ditch or stream.

Streams: Streams are typically natural, defined waterways that range considerably in size. For the purposes of this document, they drain a minimum of 40 acres at their intersection/confluence with another stream and some may not contain water during dry conditions. Streams also include large waterways such as the Reedy River.

Driveway Culverts: Culverts under private driveways (either residential or commercial properties) designed to convey stormwater runoff that may or may not lie within City right of way.

Curbs and Gutters: Typically concrete or asphalt, poured in place or extruded roadside edging intended to convey stormwater parallel to the street centerline.

Stormwater Control Measures (SCMs): Devices constructed or installed to control either the quantity or quality of stormwater runoff. SCMs may include detention/retention basins, infiltration trenches, bioretention, pervious/porous pavements, catch basin inserts, manufactured boxes, etc.

Right of Way: Right of Way (RoW) includes City owned road rights of way and other rights of way that are properly dedicated to the City.

Easements: Easements refer to stormwater, utility, and other easements properly dedicated to the City.

V. Roles/Responsibilities

This policy is intended to assist the Public Works Director and those designated by the Public Works Director (i.e. Engineering Services Manager) in making management decisions regarding where to perform work on the stormwater drainage system.

Those using this policy should have experience in engineering, construction, and operations of stormwater drainage systems as well as an understanding of the City's easement and right of way requirements.

VI. Service Boundaries and Maintenance Responsibility

The following sections describe the general boundaries of the City's stormwater drainage system (i.e., where and under what circumstances the City will and will not perform work). Also included is a description of typical drainage easement, criteria to consider when a work request is not described in the typical circumstances, and criteria to consider during emergency situations.

Operation and maintenance responsibilities for each of the system components defined above are as follows.

1. Pipe Systems

City Asset: The City is responsible for maintaining pipe systems within City RoW, City easements, and City owned property.

Non-City Asset: For all pipe systems outside of City RoW, City easement, or City owned property, the property owner is responsible for pipe system operation and maintenance. Under special circumstances, the City may assist with maintenance of these systems (See Special Circumstances and Emergency Maintenance Sections). Except under certain emergency situations, the City will require the property owner to provide a “Right of Entry” to the City prior to any work being started and may require the owner to sign an agreement specifying the work is a “one time only” repair.

For new systems being constructed outside of the City RoW, the City may accept ownership and maintenance responsibilities provided the following criteria are met:

- a. A dedicated drainage easement must be provided for the pipe system.
- b. The pipe system must directly connect to the City system at a RoW.
- c. The pipe system must have been designed and installed in accordance with the City’s stormwater Ordinance and Technical Reference Manual.
- d. Drainage design plans must have been previously reviewed and approved by the Public Works Environmental Engineering Division.
- e. The pipe system must be on residential property.

2. Inlets/Junction Boxes:

City Asset: The City is responsible for maintaining inlets and junction boxes within City RoW, City easements, and City owned property.

Non-City Asset: The City will provide maintenance of inlets and junction boxes outside of City RoW associated with the maintenance provided by the City for pipe systems outside of the City RoW.

3. Ditches:

City Asset: The City is responsible for maintaining ditches and open channels within City RoW, City easements, and City owned property.

- a. Should a private property owner request a ditch within an existing RoW or easement be piped (enclosed) for public safety, the City will determine if the request is justified. If an extreme hazard to public safety exists, then the Public Works Department will install or contract to install the drainage pipe and enclose the ditch at no expense to the property owner.
- b. Should a private property owner request that a ditch within an existing RoW or easement be piped (enclosed) for purposes other than public safety (e.g., aesthetics) and the request is determined to be of primary benefit to the property owner, then the City will determine whether to allow the property owner to obtain an encroachment permit and hire an independent contractor at the owner’s expense to install the pipe system in accordance with the City’s engineering standards and design.

Non-City Asset: The private property owner is responsible for maintaining ditches through their property and keeping them clear from obstructions that would reduce capacity, negatively impact the City’s stormwater conveyance system, or cause flooding on surrounding properties. The City will decide whether to assume maintenance responsibilities for ditch outside of City RoW that directly receives runoff water from a City owned street or stormwater system. Before maintenance responsibilities are assumed

by the City, a drainage easement in accordance with City policy and standards will be established.

4. Streams:

City Asset: The City is responsible for maintenance of streams within City RoW or City easements or that are contained entirely on City property. The City is also responsible for maintenance of portion of streams that are adjacent to City owned property (e.g., the embankment on the City side of the stream).

Non-City Asset: As a general rule, the City does not acquire dedicated drainage easements or accept maintenance responsibility for stream systems on private property, unless it is necessary for City road projects, bridge projects, or drainage improvement projects. The private property owner is responsible for maintaining the stream through their property and keeping it clear from obstructions that would reduce capacity, negatively impact the City's stormwater conveyance system, or cause flooding on properties in accordance with the City ordinance and state and federal requirements.

Under certain circumstances the City may consider partnering with the local property owner to perform maintenance work on a stream. In general, the project must meet the following criteria:

- a. There must be a significant City benefit (e.g., water quality improvement, utility line protection, etc.).
- b. The property owner must provide a temporary construction easement.
- c. The property owner will assume long term maintenance.

5. Driveway Culverts:

City Asset: The City is responsible for maintaining driveway culverts within City RoW, provided the developer, contractor, or property owner obtained a City encroachment permit and the City approved the installation for the pipe. In those circumstances where an encroachment permit was obtained and the City approved the original pipe installation, the City will replace damaged, defective, or deteriorated driveway pipes under existing residential driveways within City RoW if the property owner or contractor purchases the necessary pipe as required by the City. A hold harmless agreement from the property owner with respect to any damage incurred by City crews performing the work will be obtained prior to any work commencing.

The developer or property owner must obtain an encroachment permit before installing a new driveway culvert on the City's RoW.

Non-City Asset: The City does not maintain driveway culverts outside of City RoW.

6. Curbs and Gutters:

City Asset: The City is responsible for maintaining curbs and gutters within its RoW.

The developer, contractor, or property owner must obtain a City encroachment permit before making a curb cut or installing a new driveway apron on the City's RoW. The City will not rework a driveway entrance to prevent road drainage from entering private property unless the problem is a direct result of a City road improvement or repaving

project. Lastly, the City is not responsible for curb overtopping problems caused by the increased runoff from land clearing, development, or building activities.

Non-City Asset: The City does not maintain curb and gutter located outside of its RoW.

7. Stormwater Control Measures (SCMs):

City Asset: The City is responsible for maintenance of structural SCMs when all of the following criteria have been met:

- a. The SCM is installed as part of a City project.
- b. The SCM is located on City right of way, City easement, or City property.
- c. The City has accepted maintenance responsibility for the SCM.

Non-City Asset: Routine inspection and maintenance of structural SCMs on private property (residential or commercial) is the responsibility of the property owner, Home Owners Association (HOA), or business. The schedule or frequency for routine inspections and maintenance of SCMs is set forth in the recorded maintenance agreement. The maintenance agreement is reviewed by the Public Works Environmental Engineering Department prior to being executed and recorded. After execution, the property owner, HOA, or business is bound to the terms of the maintenance agreement and is subject to enforcement action if the SCMs are not properly maintained.

City Inspections: City inspections of structural SCMs are conducted pursuant to the requirements of the SCDHEC MS4 Stormwater General Permit (mandated by EPA). In general terms, the City inspects SCMs several times during construction and again at project completion to ensure compliance with the approved plans. The City conducts follow up inspections periodically with prioritization based on a risk assessment or as stipulated in the MS4 stormwater permit.

VII. Special Circumstances

This policy provides a uniform methodology and approach for maintaining the various stormwater conveyance systems in the City. The Public Works Director or his designees may use their own discretion in following these guidelines for all situations. Where special circumstances exist, the Public Works Director or his designees may modify these guidelines as appropriate. The justification and conditions associated with special circumstances should be documented and filed with the associated work orders.

Items typically considered during the decision-making process are:

1. Public safety
2. Impact on water quality
3. Flood risk
4. Impact to other properties
5. Impact on upstream and downstream hydraulic structures (e.g., bridges and culverts)
6. Erosion risk
7. Availability of funds
8. Future operation and maintenance requirements
9. Public access
10. Other engineering and construction issues
11. Aesthetics

The miscellaneous drainage issues listed below will be handled as needs arise.

1. **Ponding on Street Surfaces.** The City will perform work to eliminate standing water on City streets only if the City deems the condition as a potential traffic safety hazard or determines that remediation is necessary to prevent pavement damage, rutting, or settlement. This work will be performed as maintenance budgets and priorities allow.
2. **Trash Racks and Safety Grates.** The City of Greenville does not allow placing trash racks or safety grates on “plain-end” pipe openings or raised slab catch basin openings due to the tendency for clogging, blockage, and subsequent flooding during storm events.
3. **Dams.** The City does not maintain dams located outside of City RoW. When a City asset, such as a roadway, is an integral part of the dam, the City may provide maintenance assistance.

VIII. Emergency Maintenance

The City may conduct emergency maintenance on any portion of the stormwater conveyance system (public or private) in order to protect the common good. Emergency maintenance includes maintenance necessary to remedy a condition which is potentially damaging to life, property, or public roads and right of way. Such emergency maintenance, conducted for the common good, shall not be construed as constituting an acceptance of a continuing maintenance obligation by the City, nor prevent the City from seeking reimbursement for expenses from the property owner(s) of the land that generated the condition. In cases of emergency maintenance, the City is not obligated to replace structures and/or plantings placed within a drainage easement.

IX. Drainage Easements

In order for the City to perform maintenance on stormwater conveyance systems on private property, properly dedicated drainage easements must be established. The easement(s) shall be drawn on a plat and shall be recorded as a descriptive easement whereby a verbal description is provided and referenced to a particular plat, deed, or tax parcel.

Drainage easements shall meet the criteria listed below.

- Provide adequate access to the conveyance system.
- Provide sufficient area for equipment and personnel to efficiently maintain the system.
- Restrictions shall include prohibiting structures which would interfere with access to the easement and/or function of the conveyance.

X. References

City of Greenville Ordinance (§ 19-7.2.2)
Asset Management Program Policy (PW.SW.01)
National Association of Sewer Service Companies, “Pipeline Assessment Certification Program”

XI. Revision History

Initial Issuance: 2/27/2018