# Stormwater Pre-Submittal Package for Designers

For assistance:
(478) 738-6532

Macon Water Authority

# Table of Contents

# SITE PLAN CHECKLIST – Identify location of items in the tables

## Section 1: Report Format

1.1 Does the Hydrologic & Hydraulic Report or Plans contain the following information:

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 1.1.1 | | Name of the Development |
| 1.1.2 | | Name of the Developer |
| 1.1.3 | | Location Map of the Site referencing the nearest major road |
| 1.1.4 | | Stormwater Impact Certification |
| 1.1.5 | | Seal of the Professional having prepared the Report |
| 1.1.6 | | Total Project Area |
| 1.1.7 | | Disturbed Project Area |

1.2 Does the Hydrologic & Hydraulic Report or Plans contain the following sections:

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 1.2.1 | | Existing Conditions Hydrologic Analysis |
| 1.2.2 | | Post Development Hydrologic Analysis |
| 1.2.3 | | Stormwater Management System Design |
| 1.2.4 | | Downstream Analysis |
| 1.2.5 | | Erosion & Sedimentation Control Plan |
| 1.2.6 | | Planting Plan (if applicable) |
| 1.2.7 | | Operations & Maintenance Plan |

## Section 2: Existing Conditions Hydrologic Analysis

This section should provide the reader with a comprehensive evaluation of the site conditions prior to development of the project.

### 2.1 Narratives

A narrative and supporting calculations of the pre-development conditions of the site as related to stormwater management should be provided to determine the current characteristics of the site.

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 2.1.1 | | Written description of the existing conditions found on the site |
| 2.1.2 | | Name of the receiving waters from which runoff drains to after leaving the site |
| 2.1.3 | | Analysis of runoff provided by off-site areas upstream of the project site |

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 2.1.4 | | Methodologies, assumptions, site parameters and supporting design calculations used in the analyzing the existing conditions site hydrology |

## 2.2 Existing Conditions Map

A map documenting the following elements should be provided with the following information if applicable.

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 2.2.1 | | Topography (2-ft. or less contour interval) of existing site conditions |
| 2.2.2 | | Perennial / intermittent streams, wetlands, lakes, and other surface water features |
| 2.2.3 | | Drainage basin delineations showing the location of each drainage sub-basin |
| 2.2.4 | | Drainage basin delineations for each contributing drainage basin upstream of the project site on an appropriate map (USGS Quadrangle, etc.) |
| 2.2.5 | | Existing stormwater conveyances and structural control facilities |
| 2.2.6 | | Soil types including hydrologic soil groups |
| 2.2.7 | | Direction of flow and discharge points from the site including sheet flow areas |
| 2.2.8 | | Existing easements (e.g. water, sewer, drainage) on the project area |

## 2.3 Existing Conditions Tables

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 2.3.1 | | A table listing the acreage, soil types, impervious surface area and land cover characteristics for each sub-basin |
| 2.3.2 | | A table listing the peak runoff rates and total runoff volumes from each sub-basin |
| 2.3.3 | | A table listing the peak runoff rates and total runoff volumes for each drainage area upstream of the project site |
| 2.3.4 | | A table listing the peak discharge rates, total runoff volumes and peak elevations for all detention ponds studied |

## Section 3: Post-Development Hydrologic Analysis

The post-development hydrologic analysis should provide the reader with a comprehensive evaluation of the anticipated site conditions following development of the project. The designer should provide the following information with this element of the report:

### 3.1 Narratives

A narrative and supporting calculations of the post-development conditions of the site as related to stormwater management should be provided to determine the future stormwater characteristics of the site.

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 3.1.1 | | Written description of the existing conditions found on the site |
| 3.1.2 | | Stormwater calculations for water quality, channel protection, and post construction detention for each sub-basin affected by the project |
| 3.1.3 | | Documentation and calculations for any applicable site design credits that are being utilized |
| 3.1.4 | | Methodologies, assumptions, site parameters and supporting design calculations used in the analyzing the post development conditions site hydrology |

### 3.2 Post Development Conditions Map

A map documenting the following elements should be provided with the following information if applicable.

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 3.2.1 | | Topography (2-ft or less contour interval) of proposed site conditions |
| 3.2.2 | | Perennial / intermittent streams, wetlands, lakes and other surface water features |
| 3.2.3 | | Drainage basin delineations showing the location of each drainage sub-basin |
| 3.2.4 | | Proposed stormwater conveyances and structural control facilities |
| 3.2.5 | | Direction of flow and discharge points from the site including sheet flow areas |
| 3.2.6 | | Location and boundaries of proposed natural feature protection areas |
| 3.2.7 | | Existing and proposed easements (e.g. water, sewer, drainage) on the project area |

### 3.3 Post Development Conditions Tables

Tables documenting the following information should be provided if applicable.

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 3.3.1 | | A table listing the acreage, soil types, impervious surface area and land cover characteristics for each sub-basin |
| 3.3.2 | | A table listing the peak runoff rates and total runoff volumes from each sub-basin |
| 3.3.3 | | A table listing the peak runoff rates and total runoff volumes for each drainage area upstream of the project site |
| 3.3.4 | | A table listing the peak discharge rates, total runoff volumes and peak elevations for all detention ponds studied |

## Section 4: Stormwater Management System

The stormwater management system section should provide the reader with a comprehensive description of the proposed stormwater management system components on site. The designer should provide the following information with this element of the report:

### 4.1 Narratives

A narrative and supporting calculations describing the on-site stormwater management controls to be utilized. This narrative should include appropriate narratives / tables demonstrating compliance with the various stormwater management requirements outlined in the post-development article of the stormwater ordinance and local design manual.

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 4.1.1 | | Narrative describing that appropriate and effective structural stormwater controls have been selected |
| 4.1.2 | | Design calculations and elevations for all existing and proposed stormwater conveyance elements including stormwater drains, pipes culverts catch basins, channels, swales and areas of overland flow |

### 4.2 Stormwater Management System Map(s)

A map(s) illustrating the location, type, and specifications of all stormwater management components to provide stormwater management for the proposed site.

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 4.2.1 | | Location of all non-structural stormwater controls |
| 4.2.2 | | Location of all existing stormwater controls to remain after development |
| 4.2.3 | | Location of all proposed stormwater controls |
| 4.2.4 | | Location of all proposed impoundment type controls (i.e. detention ponds, stormwater ponds, stormwater wetlands, etc.) |
| 4.2.5 | | Location of all conveyance structures |
| 4.2.6 | | All impoundment type controls should be labeled with the following information: maximum water surface elevation, depth and storage volumes for both the design storm and maximum water surface if the design storm event is exceeded (i.e. top of dam) |
| 4.2.7 | | All inlets to conveyance structures should be labeled with the following information: maximum design water surface and maximum potential water surface |
| 4.2.8 | | All pipes should be labeled with length, material, invert elevation, and slope |
| 4.2.9 | | All pipes should be profiled and labeled with length, material, slope and hydraulic grade line |
| 4.2.10 | | Pipe chart summarizing peak flows and peak velocities for design storms |

## Section 5: Downstream Analysis

The downstream analysis should provide the reader with a comprehensive picture of the downstream areas and their capacity to accommodate stormwater runoff from the proposed development.

### 5.1 Narratives

A narrative and supporting calculations for a downstream peak flow analysis using the ten-percent rule necessary to show safe passage of the post-development design flows downstream.

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 5.1.1 | | Downstream analysis narrative including appropriate descriptions / tables for points of interest such as culverts and channel constrictions downstream of the project where increases in stormwater runoff rates could be of concern. |

### 5.2 Downstream Analysis Stormwater Management Components Map(s) and Results

A map(s) illustrating the location, type and specifications of all stormwater management components to provide stormwater management for the proposed site and a summary of results for the areas of interest.

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 5.2.1 | | Drainage basin delineations showing the point at which the contributing area of the project represents 10% of the total drainage basin area |
| 5.2.2 | | Identify culverts, channels and other structural stormwater controls that the stormwater runoff must pass through prior to the 10% point identified previously |
| 5.2.3 | | Results table summarizing the results of the downstream analysis clearly identifying either a decrease in flows or an adverse impact |

## Section 6: Planting Plan

| No. | Plan/Report Page Number | Item |
|---|---|---|
| 6.1 | | If necessary, a planting plan should be included for all stormwater controls that utilize vegetation as part of the functional design |
| 6.2 | | Note identifying reference used for planting specifications and species selection (e.g., Georgia Stormwater Management Manual) |

## Section 7: Operations & Maintenance Plan

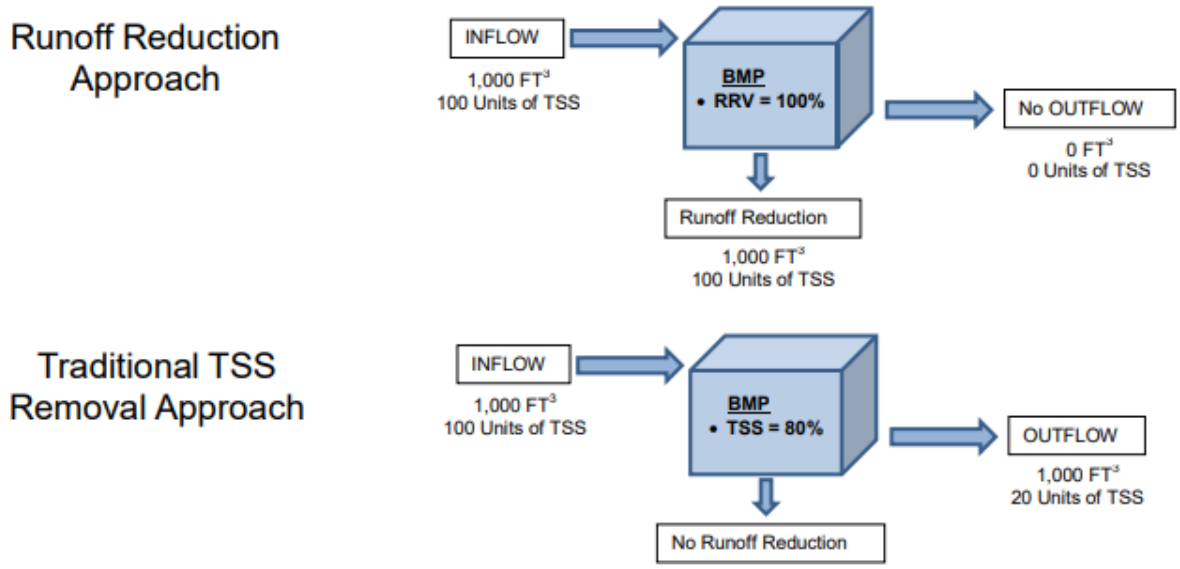
| No. | Plan/Report Page Number | Item |
|---|---|---|
| 7.1 | | A narrative of what maintenance tasks will be required for the stormwater controls specified for the site as well. Additionally, the report will need to identify access and safety issues for the site |
| 7.2 | | Responsible party for maintenance activities identified |

## THE RUNOFF REDUCTION STANDARD VS. THE WATER QUALITY-ONLY STANDARD

Since the early 2000's, the minimum performance standard set by the NPDES permit program for regulated MS4 communities required to be adopted for stormwater runoff quality was an 80% total suspended solids (TSS) reduction from the 1.2-inch rainfall event. This "water quality-only" standard allowed for the entire runoff volume to leave the site as long as some standard of treatment was applied. The minimum standard of water quality treatment was defined in the Georgia Stormwater Management Manual (a.k.a. "The Blue Book").

As of April 2020, a runoff reduction standard is required by the US EPA NPDES permit program and it replaces the water quality-only standard. Runoff reduction is referring to retaining runoff volume on site. The MS4 permit states that the stormwater management system shall be designed to retain the first 1.0 inch of rainfall on the site to the maximum extent practicable. This retention can be achieved through infiltration, evapotranspiration, rainwater harvesting or similar natural-hydrologic-cycle-mimicking processes.

As shown in the graphic below, the new runoff reduction approach focuses on both TSS removal and runoff volume reduction whereas the water quality-only approach (referred to as "Traditional TSS Removal Approach" in this graphic) focuses only on pollutant removal.



# POLICY ON PRACTICABILITY ANALYSIS FOR RUNOFF REDUCTION

## Introduction

Runoff reduction practices are stormwater Best Management Practices (BMPs) used to disconnect impervious and disturbed pervious surfaces from the storm drainage system. The purpose is to reduce post-construction stormwater runoff rates, volumes, and pollutant loads. Runoff reduction is more than simple infiltration. The Runoff Reduction Volume ($RR_V$) is the retention volume calculated to infiltrate, evapotranspirate, harvest and use, or otherwise remove runoff from a post-developed condition to more closely mimic the natural hydrologic conditions.

Certain conditions, such as soils with very low infiltration rates, high groundwater, or shallow bedrock, may lead a local jurisdiction to waive or reduce the runoff reduction requirement for proposed site development on a case-by-case basis. If any of the stormwater runoff volume generated by the first 1.0" of rainfall cannot be reduced or retained on the site, due to site characteristics or constraints, the remaining volume shall be increased by a multiplier of 1.2 and shall be intercepted and treated in one or more best management practices that provide at least an 80 percent reduction in total suspended solids.

The Policy on Practicability Analysis for Runoff Reduction (practicability policy) was developed to provide guidance about the site conditions and supporting documentation that could justify a "Determination of Infeasibility" for the runoff reduction requirement. This practicability policy does not address infeasibility for linear transportation projects being constructed by the local jurisdiction, other local governments, or authorities.

The practicability policy is based on the following principles:

- It is designed to help administrators implement a process for granting a Determination of Infeasibility that supports efficient review of land development applications.
- It applies to new development and redevelopment projects for public and private post-construction stormwater BMPs. It is referenced in the *Model Ordinance for Post-Construction Stormwater Management for New Development and Redevelopment* (Model Ordinance) developed by the Metropolitan North Georgia Water Planning District (Metro Water District).
- It aligns with requirements for runoff reduction in the Georgia Environmental Protection Division's (EPD's) permit to discharge from the municipal separate storm sewer system (MS4) permit. The MS4 permit states that the stormwater management system shall be designed to retain the first 1.0 inch of rainfall on the site to the maximum extent practicable. Most Georgia Stormwater Management Manual (GSMM) BMPs include a runoff reduction component.
- It is focused on the typical site conditions and regulatory environment in the Metro Water District and may not be applicable for all of Georgia.
- It requires a pre-submittal meeting when pursuing a Determination of Infeasibility to ensure all attempts to provide 100% $RR_v$ on site have been exhausted.

The local jurisdiction is responsible for the review of land development applications and determination that it is infeasible to apply the runoff reduction requirement on part or all of a proposed site development. Local jurisdictions may choose to make substantive changes or otherwise customize this practicability policy. These further changes and customizations are allowable so long as their substance

meets the requirements of a local jurisdiction's MS4 permit. EPD is responsible for evaluating MS4 permit and District Plan compliance, which includes verifying whether changes and customizations are "at least as effective." EPD has reviewed this document and their comments have been incorporated.

## Conditions that may warrant a Determination of Infeasibility

The GSMM provides broad guidance about conditions that may lead a local jurisdiction to waive or reduce the runoff reduction requirement. The following conditions may warrant a Determination of Infeasibility.

- **Soil Infiltration Rate:** The soil infiltration rate is less than 0.5 inch per hour as measured over a meaningful portion of the site. Consideration should be given to infiltration rates throughout the soil profile.
- **Water Table:** The seasonal high-water table is less than two feet from the bottom of an infiltration practice.
- **Shallow Bedrock:** Material that cannot be excavated except by drilling or blasting AND is less than two feet from the bottom of an infiltration practice.
- **Extreme Topography:** In the proposed final condition, as shown on the Stormwater Concept Plan with the proposed post-development condition, anything steeper than 3:1 slope for more than 50% of the site.
- **Karst Topography:** Any of the existing condition is karst.
- **Hotspots/ Contamination:** Reasonable suspicion that previous uses of the site have resulted in soil contamination.
- **Historic Resources:** Buildings, structures, or historic sites included in the Georgia Historic Preservation Division's Historic Resources Survey or listed in the National Register of Historic Places or that has been recommended as a historic resource by a Preservation Professional.
- **Site Constraints:** Sites where the density or nature of the proposed redevelopment would create irreconcilable conflicts for compliance between the on-site runoff reduction requirement and other requirements such as zoning, floodplains, stream buffers, or septic fields.
- **Economic Hardship:** The cost of retaining the first 1.0 inch of rainfall onsite using runoff reduction practices is a minimum of three times greater than the cost of providing water quality practices. This condition must be present with another site condition for a Determination of Infeasibility. Additionally, a Determination of Infeasibility for economic hardship may only be allowed for up to 50% runoff reduction volume.

## Supplemental Materials

The District has prepared supplemental materials to support the implementation of this practicability policy. *Appendix A* is meant for internal use and provides an overview of the steps a local jurisdiction could take to implement the practicability policy and issue a Determination of Infeasibility. *Appendix B* has a template the local jurisdiction could use as a runoff reduction infeasibility form.

# APPENDIX A: OVERVIEW OF PROCESSING A DETERMINATION OF INFEASIBILITY

## Obtaining a Determination of Infeasibility

Determination of Infeasibility is not an all or nothing proposition. Designers must demonstrate that they have explored all avenues to meet the runoff reduction standard. If this is determined to be infeasible, they must attempt to provide the maximum percentage of $RR_v$ on site as feasible. Only after all attempts to provide any $RR_v$ on site are exhausted will the local jurisdiction consider a Determination of Infeasibility. The following process is recommended to:

1. identify conditions early,
2. provide flexibility,
3. support efficient land development application review, and
4. protect water quality to the maximum extent practicable.

## Does the Site Qualify for a Determination of Infeasibility?

Answering "NO" to any of the following questions may indicate that the site qualifies for a Determination of Infeasibility:

1. Can GSMM runoff reduction BMPs fully meet the runoff reduction volume?
2. Does the site analysis show the conditions are supportive for managing the calculated runoff reduction volume needed for the site?
3. Can better site design practices (see GSMM, Volume 2, Section 2.3) be used to avoid challenging site conditions or constraints?
4. Can BMPs, such as green roofs and rainwater harvesting techniques, be used in ways that do not require infiltration into subsurface soils, but rather rely on evapotranspiration and reuse?
5. Can the installation of multiple runoff reduction BMPs, such as installing runoff reduction BMPs at higher elevations or in multiple sub watersheds, manage the calculated runoff reduction volume needed for the site?

## Prior to Construction

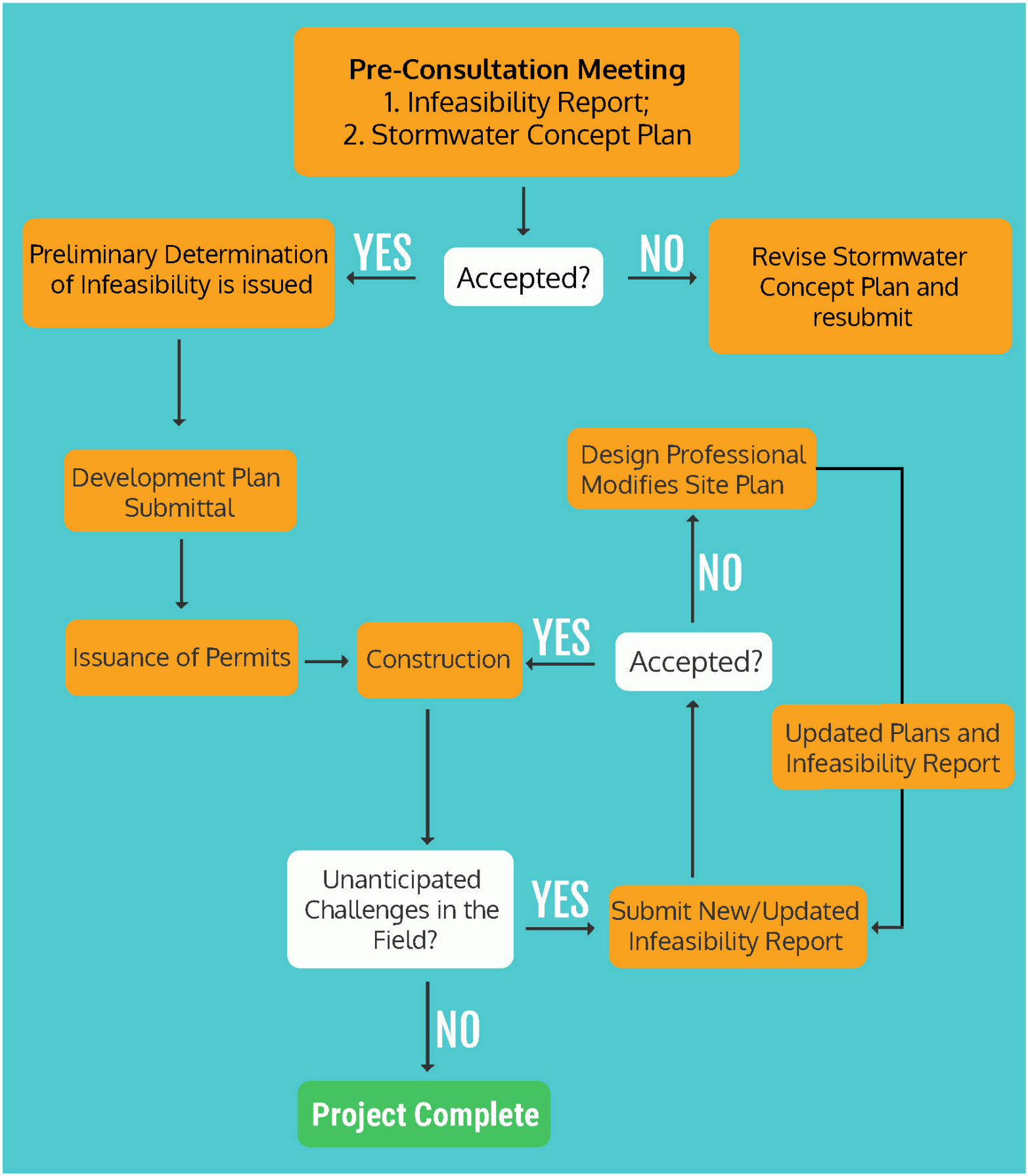
1) The design professional identifies conditions that limit using runoff reduction methods to retain 100% of the first 1.0 inch of rainfall onsite and initiates a pre-submittal meeting with the plan reviewer prior to submittal of the land development permit application. During the meeting, the following information will be reviewed:
   - Runoff Reduction Infeasibility Form to initiate the request and provide basic project information, confirmation that supporting documentation was submitted, and documentation of pre-submittal meeting outcomes.
   - Stormwater Concept Plan that has been developed based on site analysis, and natural resources inventory (including impracticability) in accordance with Section 2.4.2.5 of the GSMM.
2) The plan reviewer will evaluate the pre-submittal information on a case-by-case basis; coordinate with the design professional to understand site-specific issues; and (if possible) explore potential design strategies to achieve 100% $RR_v$ in compliance with the standards and specifications of the Post-Construction Stormwater Management Ordinance and GSMM.

3) Based on the pre-submittal information and meeting, the plan reviewer will provide one of the following determinations to the design professional:
   - Approval – preliminary Determination of Infeasibility issued
   - Approval with conditions – preliminary Determination of Infeasibility issued with conditions to incorporate plan reviewer comments into the Stormwater Concept Plan
   - Denial - revise the Stormwater Concept Plan to obtain 100% $RR_v$
4) Design professional may either:
   - Submit the land development application with the Stormwater Management Plan and preliminary Determination of Infeasibility (as applicable).
   - Appeal the "denial" or "conditions" following the appeals process outlined in the local jurisdiction's regulations.

## During Construction

1) During the development process, the owner encounters a site condition that would prevent building stormwater BMPs as specified in the Stormwater Management Plan. The design professional will complete a Runoff Reduction Infeasibility Form and initiate a meeting with the local jurisdiction plan reviewer to discuss the findings. The designer must evaluate modifications to the proposed BMPs or installation of alternative BMPs that will provide some or all $RR_v$ in an alternative method.
2) The plan reviewer will evaluate the Runoff Reduction Infeasibility Form on a case-by-case basis; coordinate with the design professional to understand site-specific issues; and (if possible) explore potential design strategies to keep the stormwater BMPs identified in the Stormwater Management Plan.
3) Based on the Runoff Reduction Infeasibility Form and meeting, the plan reviewer will provide one of the following determinations to the design professional:
   - Approval – Determination of Infeasibility is issued and attached to the land development permit
   - Approval with conditions – preliminary Determination of Infeasibility issued with conditions to either:
     i) Revise the design of runoff reduction methods (e.g. adding soil amendments or an underdrain to maximize runoff reduction volume) to retain the first 1.0 inch of rainfall onsite.
     ii) Meet the stormwater runoff quality/reduction standard through a combination of Runoff Reduction and Water Quality.
4) Design professional may either:
   - Continue construction as outlined modified Stormwater Management Plan under the Permit Revision with approved Determination of Infeasibility.
   - Appeal the "conditions" following the appeals process as outlined in the local jurisdiction regulations.

# Determination of Infeasibility Process



# APPENDIX B: TEMPLATE FOR A RUNOFF REDUCTION INFEASIBILITY FORM

Date (submitted):_____

**MACON WATER AUTHORITY**

**Runoff Reduction Infeasibility (RRI) Form for**

**Determination of Infeasibility**

Design Professional Primary Contact (Name/Email/Phone): _____

_____

Description of Site/Land Development Application Number: _____

Address: _____

Size (acres): _____

Maximum Practicable Runoff Reduction Volume*: _____

**If any of the stormwater runoff volume generated by the first 1.0" of rainfall cannot be reduced or retained on the site, due to site characteristics or constraints, the remaining volume shall be increased by a multiplier of 1.2 and shall be intercepted and treated in one or more best management practices that provide at least an 80 percent reduction in total suspended solids.*

---

**GENERAL SUPPORTING DOCUMENTATION**

All General Supporting Documentation must be included with this RRI Form for the submittal for a Determination of Infeasibility to be considered complete. Please check each item below to confirm it has been included in the submittal package.

- ☐ Stormwater Concept Plan that has been developed based on site analysis, and natural resources inventory (including impracticability) in accordance with Section 2.4.2.5 of the GSMM
- ☐ GSMM Stormwater Quality Site Development Review Tool for the Stormwater Concept Plan
- ☐ Please include justification that the site cannot accommodate best management practices that rely on evapotranspiration and reuse such as rainwater harvesting or green roofs

---

**SITE CONDITION APPLICABILITY**

(descriptions are in *Policy on Practicability Analysis for Runoff Reduction*)

Please check each applicable item below and confirm the supporting documentation has been included in the submittal for a Determination of Infeasibility.

| Site Condition | Supporting Documentation |
|---|---|
| ☐ Soil Infiltration Rate | Infiltration test(s), Soil Boring Log(s), and Report of results as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia |
| ☐ Water Table | Soil Boring Log(s) and Report with results of the seasonal high-water table assessment as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia |
| ☐ Bedrock | Soil Boring Log(s) and Report with results of the shallow bedrock assessment as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia |
| ☐ Extreme Topography | Site survey showing 50% of the site is steeper than 3:1 slopes as interpreted by a Professional Engineer or Land Surveyor licensed in Georgia AND Stormwater Concept Plan showing the proposed post-development condition will not change from the site survey |
| ☐ Karst Topography | Report developed by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia |
| ☐ Hotspots/ Contamination | Phase I Environmental Assessment Report |
| ☐ Historic Resources | Documentation of the NAHRGIS listing<br>OR<br>Report of assessment from a Preservation Professional (including Archaeologist, Architectural Historian, Historian, Historic Preservationist, or Historic Preservation Planner) |
| ☐ Site Constraints | Site Plan identifying all development requirements (e.g. zoning side/front setbacks, build-to-lines, stream buffers, floodplains, septic fields) that are creating irreconcilable conflicts with on-site runoff reduction |
| ☐ Economic Hardship* | An estimated cost comparison of proposed runoff reduction practices compared to the proposed water quality practices must be included to demonstrate an economic hardship and must show the cost of providing runoff reduction is a minimum of three times greater than the cost of providing water quality practices |

** Note: A Determination of Infeasibility cannot be granted solely for economic hardship and must be present with another site condition. Additionally, a Determination of Infeasibility for economic hardship may only be allowed for up to 50% runoff reduction volume.*

**STORMWATER RUNOFF QUALITY/ REDUCTION SUMMARY**

Maximum Practicable Runoff Reduction Volume*: _____

Remainder of Volume treated by Water Quality Best Management Practice: _____

**If any of the stormwater runoff volume generated by the first 1.0" of rainfall cannot be reduced or retained on the site, due to site characteristics or constraints, the remaining volume shall be increased by a multiplier of 1.2 and shall be intercepted and treated in one or more best management practices that provide at least an 80 percent reduction in total suspended solids.*

---

Design Professional Printed Name_____

Design Professional Signature _____

**FOR MACON WATER AUTHORITY USE ONLY**

☐ APPROVED

☐ APPROVED with conditions _____

☐ DENIED _____

**Reviewer:** _____

(Print Name) (Signature) (Date)

# EXPLANATION OF THE MAINTENANCE AGREEMENT

The Agreement of Stormwater Management is an agreement between a property owner and MWA that lays out the legally binding terms and conditions to which the property owner agrees. The fifteen sections of the agreement are summarized below. These summaries do not serve as replacements to what is written in a maintenance agreement and do not serve as a part of any maintenance agreement. Information pertaining to each section of the agreement may have been omitted from this summary for brevity. The full maintenance agreement is available in Appendix C.

The maintenance agreement states that the property owner, its administrators, executors, successors, heirs, and assigns shall:

1. Construct stormwater management measures including GI/LID Inspection and Maintenance Procedures (IMPs) in accordance with the plans and specifications for the development as submitted to and approved by the Macon Water Authority.
2. Keep all aspects of the stormwater management measures including GI/LID IMPs in good working condition that are acceptable to MWA and in accordance with the development specific IMPs to ensure the control measures are functioning as designed.
3. Establish a dedicated source of funding to cover all maintenance and inspection costs associated with stormwater maintenance measures.
4. Provide records of all inspections, maintenance, and repairs of stormwater management measures to MWA on an annual basis.
5. Grant permission to MWA to enter the property for regular inspections, periodic investigations, observations, measurements, enforcements, and sampling and testing of stormwater management measures whenever MWA deems necessary.
6. Notify MWA of failure to maintain the stormwater management measures according to the approved maintenance and inspection schedules.
7. Remove sediment accumulation and other waste materials resulting from the operation of the stormwater management measures and IMPs.
8. [Upon sell/transfer of property to a new owner, the new owner shall] provide a Declaration of Transfer of Inspection and Maintenance Responsibilities to MWA.
9. Indemnify and hold harmless MWA and it authorized agents and employees from any and all damages, accidents, casualties, occurrences or claims which may arise or be asserted against MWA from the construction, presence, existence or maintenance of the stormwater management measures by the property owner or MWA, except to the extent caused by the gross negligence or willful misconduct of MWA or its authorized agents and employees.

The maintenance agreement:

1. Shall be recorded among the deed records of Macon-Bibb County and shall constitute a covenant running with the land shall be binding on the property owner.
2. May be enforced by proceedings at law.
3. Will not be affected by the invalidation of any subset of provisions of the agreement.
4. Requires the property owner to comply with all Macon-Bibb County ordinances, including obtaining all required permits and submitting all required plans related to the construction, inspection, and maintenance of the stormwater management measures.
5. May include additional provides when necessary for a specific site plan.

# APPENDIX C: AGREEMENT OF STORMWATER MANAGEMENT

STATE OF GEORGIA

MACON WATER AUTHORITY

AGREEMENT OF STORMWATER MANAGEMENT
STORMWATER FACILITY AND GREEN INFRASTRUCTURE/LOW IMPACT DEVELOPMENT
INTEGRATED MANAGEMENT PRACTICES (GI/LID IMPs) INSPECTION AND MAINTENANCE

WHEREAS, the property owner, recognizes that the storm drain structures, pipes, ***(Development Entity or Owner Name)*** water quality integrated management practices and all aspects of a stormwater management facility (hereinafter "stormwater management measures") must be maintained for the development called of [CITY NAME], Georgia, ***(Development Name)*** [COUNTY NAME] County, Georgia, being more particularly described by the legal description in Exhibit "A" attached hereto and made a part hereof; and,

WHEREAS, the property owner, , is the owner of the real property more particularly described ***(Development Entity or Owner Name)*** on the attached Exhibit "B" - Development Plan (hereinafter referred to as "the property"), and,

WHEREAS, , whose title is , is the person responsible for ***(Authorized Representative Name)*** carrying out all requirements of this Declaration and of the [CITY OR COUNTY NAME], Georgia Code and Area-wide MS4 stormwater management plan for the inspection and maintenance of the stormwater management measures on the property identified in Exhibit "B", and,

WHEREAS, the property owner, its administrators, executors, successors, heirs and assigns, agree that the health, safety and welfare of the citizens of the city require that stormwater management measures be constructed and maintained on the property to function as designed, and,

WHEREAS, the Stormwater Facility and GI/LID IMPs Inspection and Maintenance agreement(s) for the development called be recorded with , of [CITY NAME], Georgia, [COUNTYNAME] County, Georgia, shall ***(Development Name)*** the [COUNTY NAME] County Clerk of Court and a copy of recorded agreement(s) provided to [CITY OF COUNTY DEPARTMENT NAME] prior to the release of a Certificate of Occupancy, and

WHEREAS, the [CITY OR COUNTY NAME], Georgia Code and Area-wide MS4 permit require that the stormwater management measures, as shown on the approved development plans and specifications, be constructed and maintained by the property owner, its administrators, executors, successors, heirs and assigns.

NOW, THEREFORE, in consideration of the foregoing premises and following terms and conditions, the undersigned agrees as follows:

SECTION 1.

The stormwater management measures including GI/LID IMPs shall be constructed by the property owner in accordance with the plans and specifications for the development as submitted to and approved by the [ENTER CITY OF COUNTY NAME], Georgia (hereinafter "City OR County").

SECTION 2.

The property owner, its administrators, executors, successors, heirs and assigns shall maintain all aspects of the stormwater management measures including GI/LID IMPs in good working condition acceptable to the City and in accordance with the development specific Inspection and Maintenance Procedures (as defined below) to ensure the control measures functioning as designed. A schedule of long term maintenance activities, including how often routine inspection and maintenance will occur, shall be in accordance with the attached Exhibit "C" (collectively, the "Inspection and Maintenance Procedures"). Such Schedule shall also include plans for annual inspections by a qualified inspector, as determined by the [CITY OR COUNTY DEPARTMENT NAME], to ensure proper performance of the facility between scheduled maintenance and remedies for the default thereof.

SECTION 3.

The property owner shall establish a dedicated source of funding that will allow for a budget capable of covering the costs associated with maintenance, staff, equipment, and the repair and replacement of stormwater management measures including GI/LID IMPs components as necessary and helps to ensure the continued functioning of IMPs as designed. The Property owner shall submit a copy of financial documentation (in form and substance as mutually agreed upon by the Property owner and the City OR County) confirming established dedicated source of funding to [CITY OF COUNTY DEPARTMENT NAME], if requested or prior to the release of a Certificate of Occupancy.

SECTION 4.

The property owner, its administrators, executors, successors, heirs and assigns shall provide records of all inspections, maintenance and repairs of the stormwater management measures to the [CITY OF COUNTY DEPARTMENT NAME] on an annual basis, if requested. Such records include items inspected and details of maintenance and repairs performed.

SECTION 5.

The property owner, its administrators, executors, successors, heirs and assigns hereby grants permission to the City OR County, its authorized agents and employees, to enter upon the property for regular inspections, periodic investigations, observation, measurement, enforcement, and sampling and testing of the stormwater management measures whenever the City deems necessary. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in stormwater management measures; and evaluating the condition of the stormwater management measures and practices. The City OR County, its authorized agents and employees, shall duly notify the owner of the property or the representative on site prior to such entry, except in the case of an emergency.

SECTION 6.

In the event the property owner, its administrators, executors, successors, heirs and assigns fail to maintain the stormwater management measures according to the approved plans and the Maintenance and Inspection Schedule, the City OR County shall notify by certified mail the person specified herein as the person responsible for carrying out the maintenance plan. Such notice shall specify the measures necessary to comply with the site plans and the maintenance schedule and shall specify the amount of time (but in event less than thirty (30) days) within which such measures shall be completed. If the responsible person fails or refuses to meet the requirements of this Declaration, the City OR County, thirty (30) days (or the time set forth in the violation notice, whichever is greater) after the written notice is sent (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient), may enter the property to correct a violation of the design standards or maintenance requirements by performing necessary work to place the facility or practice in proper working condition. The City OR County will assess the property owner or grantor for the cost of repair work. It is expressly understood that the City OR County is under no obligation to maintain or repair the stormwater management measures and in no event shall this Declaration be construed to impose any such obligation on the City OR County.

SECTION 7.

It is the intent of this Declaration to ensure the proper maintenance of the stormwater management measures including GI/LID IMPs by the property owner; provided, however, that this Declaration shall not be deemed to

create or affect any additional liability on the property owner for damage alleged to result from or caused by storm water runoff in addition to any such liability otherwise existing under applicable law.

SECTION 8.

Sediment accumulation and other waste materials resulting from the operation of the stormwater management measures including IMPs shall be removed by the property owner. The property owner shall make arrangements at the property owner's expense for the removal and off-site disposal of all accumulated sediments and other waste materials.

SECTION 9.

In the event the property owner sells or transfers the property, the transferring property owner shall provide to the [CITY OF COUNTY DEPARTMENT NAME], a Declaration of Transfer of Inspection and Maintenance Responsibilities of stormwater management measures including GI/LID IMPs signed by the transferring property owner and the transferee and witnessed by a public notary to document that all inspections and maintenance, and related financial responsibilities have been transferred and communicated to such transferee. Upon such transfer or conveyance of the property by the transferring property owner, all obligations of the transferring property owner hereunder shall automatically be transferred and assigned to, and assumed by transferee and such transferee shall and become the property owner under this Agreement.

SECTION 10.

The property owner, its administrators, executors, successors, heirs and assigns hereby indemnifies and holds harmless the City OR County and its authorized agents and employees for any and all damages, accidents, casualties, occurrences or claims which may arise or be asserted against the City from the construction, presence, existence or maintenance of the stormwater management measures by the property owner or the City OR County, except to the extent caused by the gross negligence or willful misconduct of the City OR County or its authorized agents and employees. In the event a claim is asserted against the City OR County, its authorized agents or employees, the City OR County shall promptly notify the property owner and the property owner shall defend at its own expense any suit based on such claim, except as set forth in the foregoing sentence.

SECTION 11.

This Agreement shall be recorded among the deed records of [COUNTY NAME] County and shall constitute a covenant running with the land shall be binding on the property owner. The City OR County will not release the Certificate of Occupancy for the property until such time that this agreement has been recorded with the [COUNTY NAME] County Clerk of Court.

SECTION 12.

This Agreement may be enforced by proceedings at law or in equity by or against the undersigned and their respective successors in interest.

SECTION 13.

Invalidation of anyone of the provisions of this Agreement shall in no way effect any other provision and all other provisions shall remain in full force and effect.

SECTION 14.

This Agreement complies with the provisions of the City OR COUNTY of [City OR County Name] Code of Ordinances, Article [Article NUMBER AND TITLE] and [City OR County Name] MS4 Permit, Part 3, 3.3.10, and the property owner, its administrators, executors, successors, heirs and assigns acknowledge that it must obtain all required permits, submit all required plans and follow all provisions of Article [Article NUMBER AND TITLE]. Since under Article [Article NUMBER AND TITLE] the responsibility for the operation and maintenance of the stormwater management measures passes to any successor owner, this Declaration shall be binding on all subsequent owners of the property.

SECTION 15.

Additional provisions that relate directly to the individual needs and requirements of this specific site plan as identified in Exhibit “A” and Exhibit “B” are attached hereto and made a part hereof. Such additional provisions have been discussed with and presented to the Authority.

IN WITNESS WHEREOF, the Declarant has executed this Declaration on the day of , 20 .

Declarant:

Property Owner:

*(Development Entity or Owner Name)*

Signed and Sealed (Seal)

By:

Witness Title

:

Corporate Seal

Notary Public

EXHIBIT “A” Property legal description

EXHIBIT “B” Approved Development Plan

EXHIBIT “C” Stormwater Management Measures Inspection and Maintenance Schedule