Post-Construction Stormwater Regulations Administrative Manual

June 2023 Version

Effective Date June 5, 2023

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Contents

1. General Provisions

The City of Charlotte Post-Construction Stormwater Regulations Administrative Manual, referred to hereafter as Administrative Manual, has been developed by the City of Charlotte Storm Water Administrator for the purpose of providing guidance and clarity for implementation of the Post-Construction Stormwater Regulations within the City of Charlotte and its Extra-territorial Jurisdiction (ETJ). The Administrative Manual provides information such as applications, submittal checklists, maintenance agreements, inspection reports, maintenance schedules, application for appeals and variances, as well as other administrative activities.

Contact the City of Charlotte Storm Water Administrator for any additional information not provided in this manual or other questions concerning the Storm Water Management Permit Application.

A copy of this manual is available on the following website:
https://www.charlottenc.gov/Services/Stormwater/Stormwater-Regulations/

a. No Development or Redevelopment Until Compliance and Permit

No d*evelopment* or r*edevelopment* shall occur except in compliance with the provisions of the ordinance unless exempted. No d*evelopment* or redevelopment for which a Storm Water Management Permit, here after referred to as permit, is required pursuant to the regulations shall occur except in compliance with the provisions, conditions, and limitations of said permit.

While it is important to provide water quality and quantity treatment when a site is redeveloped (most existing stream impairments are caused by runoff from existing impervious surfaces), it is also necessary for property owners to be able to maintain and upgrade existing structures and other facilities. It is also recognized that other ordinances may impact a site, and it is not the intent of this ordinance to be part of a "domino effect" generated by improving a façade to make a property more attractive or marketable. The purpose of the explanations below and the table in Appendix 0 are to give guidance on what is considered development, redevelopment, or maintenance in determining applicability of the Post-Construction Stormwater Regulations.

Examples of development include the carrying out of any building activity that increases the amount of impervious area coverage (or BUA), such as the construction of buildings, parking areas or roads.

Redevelopment includes the demolition and reconstruction of a building, constructing a parking deck or other structure over an existing parking lot, or other exchange of existing impervious area with some other impervious area (or BUA). There are some situations where removing asphalt or other impervious surface may not be considered redevelopment but maintenance activities. Examples of maintenance activities include roof replacement, façade changes and pavement repair not associated with a larger redevelopment plan. Installation of underground utilities for existing developments and centers may be excluded from redevelopment requirements on a case-by-case basis.

A change in use of land or structure from a use within a specified category of use to another use in the same category or a change in the ownership or form of ownership of any parcel or

structure are not considered development or redevelopment. Work involving the maintenance, renewal, improvement, or alteration of any structure, if the work affects only the color or decoration of the exterior of the structure or interior alterations that do not change the use for which the structure was constructed also shall not be considered development or redevelopment.

b. Map

The Post-Construction Ordinance Map and the Post-Construction Stormwater Ordinance Watershed Matrix are included in Appendix 0.

2. Administration and Procedures

a. Review and Decision-Making Entities

i. Stormwater Administrator

Article 25.9 of the regulations makes provisions stated below for the Storm Water Administrator.

1. Designation

The Director of the City of Charlotte department responsible for management of the City's NPDES MS4 Stormwater permit has been designated as the Stormwater Administrator. The Stormwater Administrator is authorized to administer and enforce Article 25.

b. Powers and Duties of the Stormwater Advisory Committee

Section 2.0 of the ordinance makes provisions stated below for the Storm Water Advisory Committee (hereinafter referred to as SWAC), which shall have the following powers and duties:

i. Administrative Review

To hear and decide appeals according to the procedures set forth in this Section, where it is alleged there is an error in any order, decision, determination, and interpretation made by the Storm Water Administrator in the enforcement of this ordinance, including assessments of remedies and/or penalties.

ii. Variances

To grant variances in specific cases from the terms of the ordinance according to the standards and procedures therein.

c. Stormwater Management Permit & Plan

A Storm Water Management Permit is required for all proposed development and redevelopment unless exempt pursuant to the ordinance. For the purpose of the regulations, the final approved stormwater management plan as contained in the development or redevelopment plan shall constitute the Storm Water Management Permit.

A preliminary stormwater management plan developed in accordance with the specifications set forth in the ordinance, the Administrative Manual and the SCM Manual must be submitted to the planning staff or the Charlotte Development Center as part of the preliminary plan for development or redevelopment and will be reviewed in accordance with established procedures.

The general requirements for the content and form of the preliminary stormwater management plan are contained in Sections 6-9 of this manual. A fee shall accompany the submission of the preliminary storm water management plan. A list of land development review fees may be found at the following website: https://charlottenc.gov/DevelopmentCenter/Pages/default.aspx.

A preliminary Storm Water Management Plan will not be considered complete until it contains all elements required by the Storm Water Administrator, along with the appropriate fee. If the Storm Water Administrator finds that a preliminary storm water management plan is incomplete, the applicant shall be notified of the deficient elements and provided with an opportunity to correct the plan. No review of the Storm Water Management Plan will commence until the Storm Water Administrator has determined that the plan is complete.

3. Administrative Manual Amendment Process

The administrative manual may require updates from time to time. The Storm Water Administrator will update all amendments to this manual and provide notice to interested parties on the following website: https://www.charlottenc.gov/Services/Stormwater/Stormwater-Regulations. The most current version of this document is to be used for all new submittals.

It is the sole responsibility of the user to make sure the most current version of this manual is incorporated and followed in the design of a project being submitted to the City for approval. Any new project that has not been accepted for review prior to the most current revision date of this document is to follow the new requirements of this manual.

4. Charlotte-Mecklenburg SCM Design Manual

The latest version of the Charlotte-Mecklenburg Stormwater Control Measure Design Manual will be used to design and implement all features required by the Post-Construction Stormwater Regulations in the City of Charlotte and ETJ. The Storm Water Administrator will provide interpretation for the material found in the design manual and guidance on how to apply the design parameters for the required Stormwater Control Measures (SCMs)[1]. A summary of Post-Construction Stormwater Regulations standards by watershed district is provided in a matrix in the Appendix 0 (also found in the SCM Design Manual) provides a summary of approved SCMs, design values and pollutant efficiency. The SCM Design Manual provides a list of generalized storm water treatment train removal efficiencies.

A copy of the SCM Design Manual can be located on the following website: https://www.charlottenc.gov/Services/Stormwater/Stormwater-Regulations/SCM-Design-Manual.

[1] Traditionally, Best Management Practices (BMPs) has been used to describe structural devices that control stormwater runoff. The term Stormwater Control Measure (SCM) is a more specific term to describe structural best management practices and is becoming the industry standard. For the purposes of this manual, the term Best Management Practice and Stormwater Control Measure may be used interchangeably in most cases.

5. Stormwater Management Plan

An overall Storm Water Management Plan sheet(s) will be included in the project plan submittal that shows all Post-Construction controls features (water quality and water quantity) on a separate sheet (at a minimum the entire project boundary) as described below.

SCMs will be located by NC Grid Coordinates (NAD 1983, US feet) and labeled.

Detailed drainage area map will be provided with contours shown and labeled at a verifiable scale for all onsite and offsite areas contributing to each SCM facility.

Each drainage boundary will be described by means of a table, included on the plan sheet for each area (includes acreages for all built upon units, impervious and pervious land use as well as percent of built upon area for the drainage boundaries).

The Post-Construction Stormwater Regulations (PCSR) reporting information, included in the Detention Worksheet and the SCM Inset Tables, will be completed in accordance with the final approved plan and shown on the Storm Water Management Plan Sheet (may be shown as a separate detail).

Approval will not be given to any plan submittal proposing mitigation until all required documentation has been provided and is deemed acceptable. This includes all offsite conservation easements, transfer of property with all easements recorded, mitigation payments in lieu or any other documentation necessary to convey the restriction of land use or ownership to the appropriate entity into perpetuity as required by the ordinance.

In addition to the plan sheet(s), a detail will be provided for each SCM facility as described below.

- Proposed grading contours shown at a reasonable scale (surface area and volume criteria provided),
- Maintenance access roads and easements clearly identified and labeled,
- Operation and Maintenance declaration,
- Construction sequence,
- Outlet structures, ditches, berms, planting plans, construction sequences, forebays, and outfalls, and
- Any other detailed information deemed appropriate by the Storm Water Administrator.

A detailed planting plan will accompany any SCM design that requires vegetation to be installed as a feature of that type of facility. This plan will show all planting zones with appropriate plant species identified with acceptable spacing (maybe shown and labeled as zones with planting descriptions identified).

The owner is encouraged to have a warranty and replacement guarantee from the vegetation contractor for all plantings in the SCM for protection of loss. This warranty or guarantee is to ensure vegetation establishment and maturity during the initial phase of the SCM life. Replacement of vegetation due to workmanship, plant quality, drought, or wildlife and water fowl destruction should be considered with the guarantee negotiation. It is important to remember that the owner will be held responsible for all SCM requirements including vegetation in regards to compliance with this ordinance including fines or penalties.

As part of the submittal process, the designer may be asked to provide an additional copy of all Storm Water Management Plans (matches final approved plan) described above, SCM worksheets, as-built plans with associated plats or as described on the Development Center gateway or review checklist. The information on these plans are required for purposes of tracking and reporting of Post-Construction controls information needed for future reference, maintenance and annual reporting. These requirements are to be met and provided to the City prior to approval of an as-built plan or certificate of occupancy (see As-Built Plan and SCM Construction Sections below). Failure to provide this material may delay the certificate of occupancy process.

a. Stormwater Management Plan Review and Submittal Process

A Storm Water Management Plan will be required for all new development or redevelopment projects within The City of Charlotte or ETJ unless exempt from the requirements of the ordinance. The preliminary storm water management plan shall be prepared by a North Carolina licensed professional engineer or North Carolina registered landscape architect. The engineer or registered landscape architect shall certify that the design of all storm management facilities and practices meets the requirements of these regulations.

The preliminary storm water management plan developed in accordance with the specifications set forth in this Administrative Manual, the SCM Design Manual, and the Charlotte Land Development Standards Manual must be submitted to the Planning staff or Land Development Division as part of the preliminary plan for Development or Redevelopment and will be reviewed in accordance with established procedures. For the purpose of the regulations, the final approved storm water management plan as contained in the Development and Redevelopment plan shall constitute the Storm Water Management Permit. The grading (Accela) project number assigned by the subdivision or commercial plan submittal process will become the Storm Water Management Permit tracking number.

All Storm Water Management plan requirements will be reviewed by a Land Development Review Engineer as a component of the grading, erosion control, subdivision or commercial plan submittal process or any other development activity that prompts a review by the City. The plan review process will not commence until the gateway checklist requirements have been completed and satisfied. See the applicable checklists on the following Charlotte Development Center website https://www.charlottenc.gov/Growth-and-Development/Getting-Started-on-Your-Project. If the Storm Water Administrator finds that a preliminary storm water management plan is incomplete, the applicant shall be notified of the deficient elements and provided with an opportunity to correct the plan.

No grading permit(s) will be issued for projects that are applicable to these regulations until all requirements set forth in these regulations, SCM Design Manual, Charlotte Land Development Standards Manual, and the Administrative Manual have been satisfied.

If the Storm Water Administrator finds that the storm water management plan complies with the requirements of these regulations, the Storm Water Administrator shall approve the storm water management plan, which approval shall constitute the issuance of the Permit. The Storm Water Administrator may impose conditions of approval as needed to ensure compliance with this ordinance. The conditions shall be included in the permit as part of the approval.

The Permit issued under the provisions of this chapter shall remain valid for a period of three years from the date of approval. If no work on the site in furtherance of the plan has commenced within the three-year period, the permit and plan approval will become null and void and a new application will be required to develop the site. If work on the site in furtherance of the plan has commenced that involves any utility installations or street improvements except grading, the permit and plan shall remain valid and in force and the project may be completed in accordance with the approved plan.

If the Storm Water Administrator disapproves the preliminary storm water management plan, the grounds for such disapproval will be stated in writing to the applicant. This disapproval may be in the form of redlined plans. After such disapproval, an appeal from that decision may be taken to SWAC in accordance with Section 25 of the ordinance. SWAC may approve, disapprove, in whole or in part, or otherwise modify the action of the Storm Water Administrator. A final stormwater management plan approved by SWAC, after appeal from the decision of the Storm Water Administrator, will qualify as the Permit.

b. SCM Calculations

All Storm Water Management Plan calculations will be performed per the SCM Design Manual and provided with the submittal prior to acceptance for review. All Storm Water Management SCM calculations will be submitted to Land Development Review staff through Accela (or other portal chosen by the Charlotte Development Center for plan review) and made available at the time of the submittal.

c. PCSR Summary Table, SCM Worksheets, & SCM Inset Tables

A completed PCSR Summary Table must be submitted for each project and included on development plans. A completed SCM design worksheet and BMP inset table will be submitted for each stormwater SCM designed for a site prior to acceptance by the Charlotte Development Center. The SCM design worksheet(s) can be incorporated into the design calculations packet. The SCM inset table for each SCM is to be included on the Stormwater Management Plan sheet(s) of the plan set. Failure to provide the completed PCSR Summary Table for the project or the SCM design worksheet and SCM inset table for each SCM will result in an incomplete submittal and will not be accepted for review. The PCSR Summary Table, SCM worksheets and SCM inset tables are available on the following Land Development Services Division website https://www.charlottenc.gov/Growth-and-Development/Getting-Started-on-Your-Project under Resources on the Design Professionals webpage.

d. Review Checklist

The Storm Water Management Plan review will be performed by a City Charlotte Development Center Engineer following the general guidelines of the section related to PCSR on the Site Review checklist(s). This checklist(s) can be obtained on the following City Land Development website. This checklist may be updated from time to time to address changes in the industry or environmental requirements. It is the responsibility of the design engineer to ensure that the site design meets the requirements of the most updated version of the checklist at the time of submittal.

6. Mitigation

Mitigation methods may be available for projects that are located in specific areas predetermined by the ordinance to allow flexibility for water quality features (see regulations). The Storm Water Administrator will evaluate the proposed mitigation to ensure that the guidelines have been applied appropriately. As outlined in the conceptual plan review meeting section, all projects proposing a mitigation option should schedule a conference with the Land Development Services Division prior to submitting an application. Mitigation options have been made available for site specific conditions and should only be used as a last resort in lieu of providing water quality features on site.

All mitigation payments are to be made to the Charlotte Development Center prior to plan approval and commencement of any grading activity. All Checks will be made payable to City of Charlotte, Storm Water Services and list the project number and Storm Water Management Permit Number.

a. Total Phosphorus Mitigation

There are two total phosphorous mitigation options available to Development and Redevelopment greater than or equal to 24% built-upon area, including off-site mitigation and a buy-down option. Both off-site and buy-down mitigation will result in the construction of retrofit SCMs in the same river basin (Catawba or Yadkin) as the mitigated site. In the Western Catawba District both forms of mitigation must occur in the watershed of the same named creek system for the purpose of ensuring a balance of total phosphorous loads to lake cove areas where phosphorous is a limiting pollutant with the exception that up to 30% of the total buy-down money can be spent outside the watershed of the same named creek. In addition, the buy-down option is available provided the City has projects and/or property available for mitigation. There is no total phosphorous requirement as yet in the Central Catawba District so the mitigation option is not necessary. The named creek systems referred to above include:

Western Catawba: Studman Branch, Porter Branch, Neal Branch, Stowe Branch, Beaverdam Creek, Little Paw Creek, Paw Creek, Long Creek, Gar Creek, and the Lower Mountain Island watershed.

Yadkin-Southeast Catawba: Six Mile Creek, Twelve Mile Creek, Caldwell Creek, McKee Creek, Reedy Creek, Fuda Creek, Back Creek, Mallard Creek, and Lower Clarke Creek.

i. Onsite (Buy-Down Option)

Total phosphorus mitigation is optional for all Development and Redevelopment on sites in all watershed districts except Six Mile Creek having a minimum of 24% built upon area or greater. The buy down option only applies for the project site treatment loads between 50% and 70%. The money shall be used by the City to construct SCM retrofit projects designed to achieve an equivalent or greater net mass removal of total phosphorous as would be achieved by removing 70% of the total phosphorous from the proposed site.

The Storm Water Administrator shall receive, review, approve, disapprove or approve with conditions an "Application for Total Phosphorous Buy-Down." This form is Appendix C. This application shall be submitted with the storm water management permit application and shall at a minimum contain calculations showing the total load buy-down and all cost calculations as described below.

The buy-down option shall not be approved by the Storm Water Administrator unless projects and/or properties are available for mitigation, including SCM construction, SCM maintenance, SCM rehabilitation and stream restoration. There is no time constraint for the City to spend mitigation money; however, the City shall strive to spend buy-down monies in a timely and efficient manner such that a net improvement in water quality results.

The total phosphorus load and buy down payment will be calculated by the Storm Water Administrator using the Storm Water Services total phosphorus buy-down spreadsheet. The amount of the buy-down will be determined on a site-by-site basis using the following criteria:

- Determine the total pounds of TP per year to be "bought-down" (Loading at 50% reduction minus loading at 70% reduction using loading rates given below) and multiply by 20 years (reasonable service life of SCM).
- Multiply the resulting total pounds of TP by $1000.00 per pound to obtain the buy-down payment (per pound value may be adjusted from time to time by the Storm Water Administrator).
- Add $4,400.00 per acre of changed land use to cover the operation and maintenance costs of the retrofit SCM.
- Add 12% to the overall buy down payment to cover administrative costs.

Phosphorus Loading Rates**

Land Use	P (lb/acre/year)
Multi-Family (40% impervious)	1.68
Multi-Family High (70% impervious)	1.83
Commercial – Low (45% impervious)	1.88
Commercial – High (85% impervious)	2.85
Office-Industrial Low (30% impervious)	1.24
Office-Industrial High (70% impervious)	1.86
Industrial (65% impervious)	2.39
Institutional (40% impervious)	1.39
Mixed Use (60% impervious)	2.24
High Density Mixed Use (70% impervious)	2.49
Ultra Mixed Use (90% impervious)	2.97

**Total Phosphorus loading rates taken from Tetra Tech Inc., 2005. *Post-Construction Ordinance Development Phase 1 Report*, Research Triangle Park, North Carolina.

ii. Off-site

The owner or designee of a proposed construction site that will include greater than or equal to 24% built-upon area shall construct a SCM retrofit project designed to achieve an equivalent or greater net mass removal of total phosphorous as would be achieved by removing 70% or the total phosphorous from the proposed site. Off-site mitigation is allowed only for total phosphorous

removal above 50% by use of an offsite facility located in the same named creek system. On-site SCMs shall be constructed to achieve 50% removal of total phosphorous from the total site.

The Storm Water Administrator shall receive, review, approve, disapprove or approve with conditions an "Application for Off-Site Total Phosphorous Mitigation." This form is Appendix X. This application shall be submitted with the storm water management permit application and shall at a minimum contain a description of the SCM(s) to be constructed, including their type and size as well as the pollutant removal efficiencies to be achieved. The location of the site where the SCM(s) are to be constructed shall be described, including the size of the drainage are to be treated and percentage and type of existing built-upon area. The application must also include the pounds of total phosphorous being mitigated for and the pounds of total phosphorous reduced with the retrofit SCM(s). A legally valid instrument shall be submitted with the application to demonstrate that the applicant has land rights to perform the SCM retrofit on the property.

The criteria for approval of off-site total phosphorous mitigation by the Storm Water Administrator include, but are not limited to:

- SCM(s) must be constructed in accordance with 15A NCAC 2H.1008(c), as explained in the SCM Design Manual.
- SCM(s) must be sized for the corresponding watershed area according to the SCM Design Manual.
- SCM(s) must be inspected by the Storm Water Administrator and found to be in compliance with all approved plans and specifications prior to the release of occupancy permits for the mitigated site.
- Following approval from the Storm Water Administrator, SCM(s) may be installed and credits obtained for pounds of total phosphorous removed that can be applied to future projects. These credits can be accumulated or "banked" for a period of time as specified by the Storm water Administrator.
- All off-site mitigation SCMs shall be subject to the maintenance requirements as well as installation and maintenance performance securities specified in Article 25.7 of the ordinance.

The applicant will provide with the plan submittal a recorded plat for the proposed site parcel that shows permanent easements for the SCM facility and runoff conveyance to the SCM, and a maintenance agreement. The plat must demonstrate clear approval from the landowner of the project site to be used for total phosphorus treatment purposes. The recorded easements will be prepared the same as onsite easements which preserve the facility in perpetuity for uses as defined in the project Storm Water Management Plan. Design calculations will be required to document the treatment capabilities of the offsite facility and will be reviewed by the Land Development review engineer prior to approval of the project plan.

7. Final Stormwater Management Plat(s)

All SCM facilities will be located within a Post-Construction Controls Easement (PCCE) which encompasses the entire facility to ensure quality performance, and provide access for maintenance and inspection. All SCM facilities will be platted and recorded with the Mecklenburg County Register of Deeds. All SCM Plats will be recorded prior to approval of any as-built plan. Any publicly maintained SCM facility that is not adjacent to public right-of-way shall include a minimum (20) twenty foot wide PCCE extending to the nearest public rights-of-way to provide for maintenance and inspection practices or an executed unrestricted right of entry for maintenance activities and inspection to internal SCM facilities.

A copy of the final approved plat that includes a SCM facility will be created by the designer and provided to the Storm Water Administrator prior to the as-built plan approval or release of certificate of occupancy (other than single family subdivision projects).

The following notes will be provided on all plats submitted to the City of Charlotte that include a storm water SCM facility, maintenance access or PCSR stream buffer measured landward from the stream bank and at the applicable width required based on the ordinance:

Post-Construction Controls Easement

"*The purpose of the Post-Construction Controls Easement (PCCE) is to provide storm water conveyance and control and treatment of storm water runoff. Buildings or any other objects which impede storm water flow, system performance or system maintenance are prohibited. This easement also provides for unrestricted access for inspection and maintenance purposes to be performed on the SCM facility as required by the City of Charlotte Post-Construction Stormwater Regulations. "*

Post-Construction Controls Stream Buffer Line

"The purpose of the Post-Construction Stream Buffer Line (PCSL) is to restrict all Built-Upon Area and define uses as described in the City of Charlotte Post-Construction Stormwater Regulations."

8. Operation & Maintenance Declaration

An operation & maintenance (O&M) declaration(s) for all projects will be recorded for all SCM facilities prior to the release of a certificate of occupancy. For phased projects, the O&M declaration will be recorded with the initial plat of each phase for that SCM within the drainage area of that initial plat. The O&M declaration will run with the land ownership, except single family subdivisions being maintained by the City, as described in the O&M declaration provided in the appendix of this manual. Prior to the transfer of ownership, the Property Owner will provide to the transferee a Declaration of Transfer of Maintenance form, found on the Stormwater Regulations web page to be completed and filed within 30 days following the transfer of ownership with the Storm Water Administrator. The purpose of the Declaration of Transfer of Maintenance form is to insure that the Property Owner has appropriately informed the transferee of maintenance obligations and responsibilities for all SCM facilities

As stated in the regulations, all SCM facilities shall be maintained by the Property Owner and will be inspected annually. Should any SCM facility not be in compliance with these regulations due to unacceptable maintenance, the Property Owner will be notified and expected to bring the SCM facility back into compliance as outlined in the Notice of Violation. Failure to comply with this requirement may result in penalties and or fines.

9. As-Built Plan Requirements

a. As-Built Plan Requirements

The purpose of the as-built plan is to certify that the construction of the SCM facility has been completed and is acceptable. Land Development will review and validate the as-built plan and forward an approved copy along with a digital copy to the Storm Water Administrator for processing.

An as-built plan will be provided by the project design professional for all storm systems and SCM facilities within a residential subdivision submittal. In addition to the as-built plan, a compliant inspection report with photographs must also be submitted for review showing the current state of the SCM. Photographs must show all major system elements including but not limited to: inlet(s), outlet(s), berms, forebay(s), system outfall, and vegetation (if applicable). The approved as-built plan information will be made available for public viewing via a Storm Water Services website. The official drawing will be a pdf copy with a Professional Land Surveyor signed and sealed certification that all storm system infrastructure information shown has been verified in the field and meets all City requirements. A supplemental digital file is needed for City records and will be provided in an AutoCAD format shown with the layer configurations described below. The digital file does not need to be sealed but will be verified to match the official approved copy. Failure to provide a correct digital copy of the as-built drawing may delay the approval process.

The digital as-built plan will be provided to the City and will be made available with the information, layers and line compositions as described below or per the review checklist. All as-built plans will be based on NAD 83/1986 and tied to the North Carolina State Plan Coordinates System (NC GRID) with all SCMs shown and located by x and y coordinates.

Once the complete set of as-built information is passed from Land Development to Storm Water Services, the appropriate "sign-off" in the Land Development permit tracking software will be made by Storm Water Services.

b. Residential Subdivision As-Built Drawings

All as-built information submitted for review and approval will be accompanied by an approved plat for the same area of interest. All associated stormwater easements will be shown on the as-built plat which agrees with the same easements shown on the approved plat. All stormwater system information shown on the as-built drawing, including SCM facilities will be tied to NC Grid (NAD 83/1986), as described in more detail below for GIS purposes of tracking storm sewers and SCM facilities as per the NPDES Permit requirements.

- All storm system structures identified and labeled the same as the approved plan. All structure elevations are to include an invert elevation, a grate of top (at grade) elevation and any opening elevations used for storm water intake purposes (NAVD 88). All data is to be verified to the closest hundredth of a foot (0.01).
- All storm system pipes identified and labeled the same as the approved plan with upstream and downstream invert elevations (NAVD 88), the total length of the pipe run from end to end, with the calculated slope. All data is to be verified to the closest hundredth of a foot (0.01).

- Name, location, size and elevation (NAVD 88) of the SCM actually constructed (includes contours with in the SCM easement at no greater than two foot separation).
- As-built SCM Inset Table (provides area computations for all contours used for storage of runoff and freeboard
- Location and elevation (NAVD 88) of SCM storm water infrastructure inlets, outlets and locations of sizes of pipes and culverts within the facility.
- S.W.I.M. Buffers drawn with closed polygons and acreages labeled for all Stream Buffer areas.

c. Commercial, Multi-family, and all other projects other than Residential

All as-built information submitted for review and approval will be accompanied by an approved plat for the same area of interest. All associated storm water easements will be shown on the as-built plat which carries public runoff and has been captured in a public drainage easement which agrees with the same easements shown on the approved plat, as well as all required Post-Construction Controls Easements.. All storm water system information shown on the as-built drawing, including SCM facilities will be tied to NC Grid (NAD 83), as described in more detail below for GIS purposes of tracking storm sewers and SCM facilities as per the NPDES Permit requirements.

- All storm system structures identified and labeled the same as the approved plan. All structure elevations are to include an invert elevation, a grate of top (at grade) elevation and any opening elevations used for storm water intake purposes (NAVD 88). All data is to be verified to the closest hundredth of a foot (0.01).
- All storm system pipes identified and labeled the same as the approved plan with upstream and downstream invert elevations (NAVD 88), the total length of the pipe run from end to end, pipe material, pipe dimension (height, length or diameter), with the calculated slope All data is to be verified to the closest hundredth of a foot (0.01).
- Name, location, size and elevation (NAVD 88) of the SCM actually constructed (includes contours within the SCM easement at no greater than two foot separation).
- As-built SCM Inset Table (provides area computations for all contours used for storage of runoff and freeboard
- Location and elevation (NAVD 88) of SCM storm water infrastructure inlets, outlets and locations of sizes of pipes and culverts within the facility.
- S.W.I.M. Buffers drawn with closed polygons and acreages labeled for all Stream Buffer areas.

d. As-Built Drawing Digital Layers

The following listed layers are needed to capture and transfer associated project information to the City GIS tracking platform from the as-built (AutoCAD) drawing. Should the designer use unique labels to show the following information on the digital file, then it would be acceptable to

provide corresponding table to describe and link the used layer name that is associated with the layers below in lieu of creating a new layer.

LAYERS

- Structures
- Structures Text
- Pipe
- Pipe Text
- Channels
- Channels Text
- Stream Buffer Area
- Stream Buffer Text
- Storm Water Drainage Easements
- Post-Construction Controls Easements
- Lot lines (Parcel Boundary)
- Rights-of-way (with Centerline)
- Addresses

10. SCM Construction

SCMs should not be constructed until the drainage area to that SCM has been stabilized or adequate provisions have been implemented to prevent runoff from entering the facility. Should a SCM be constructed prior to adequate provisions being implemented, the responsibility of reconstruction, replanting or replacement of any contaminated amended soils is the responsibility of the owner/contractor. No certificate of occupancy will be released until all SCMs for a project are in compliance with these provisions, unless authorized otherwise by the Storm Water Administrator. Should one year pass since lot stabilization with no structural construction evident, the Storm Water Administrator may require the SCM to be constructed and put into operation within a specific time period. Additional provisions may be required by the Storm Water Administrator to address erosion and sedimentation control measures necessary during the interim time that the project is not complete.

SCM facilities for Residential Single Family Subdivisions are to be constructed once the drainage area to that SCM has been determined to be in a stable condition and has met at least one of the following provisions:

- Issuance of certificates of occupancy for seventy-five percent (75%) of all construction which might reasonably be anticipated to be built within the area which drains into the structural SCM allowing credit for improvements completed prior to the submission of the final plat, or
- One year has passed since lot stabilization with no structural construction in progress, or
- As otherwise deemed necessary by the Storm Water Administrator to address water quality provisions.

When structural SCM's are required under the high density option for subdivisions (single family residential use), the approval of the high density development permit will be subject to the owner filing a surety bond or letter of credit or making other financial arrangements which are acceptable to the Storm Water Administrator in an amount to be determined by the Storm Water Administrator, in a form which is satisfactory to the city attorney, guaranteeing the installation and maintenance of the required structural SCM prior to approval of the initial plat for the subdivision. The surety amount for the SCM will be held in full until such time the SCM has been constructed appropriately as determined by the Storm Water Administrator (some provisions may be allowed based on seasonal constraints) and successfully meets the standard for final inspection or in cases that seasonally restrictions limit the completion of the facility (plantings) at which time the Storm Water Administrator may allow a bond reduction until all deficiencies have been corrected and the final inspection requirements have been satisfied.

All SCMs for Development and Redevelopment, other than single family subdivision, will be constructed and achieve final inspection acceptance prior to the issuance of a certificate of occupancy. In cases where multiple certificates of occupancy are provided within the same development, the Storm Water Administrator may at his discretion hold a specific certificate of occupancy for a single address for the developer until such time all of the SCM requirements have been achieved and the developer will need to submit a letter of intent (LOI) approved by the Storm Water Administrator and the City Attorney, which clearly holds that responsible party liable for all construction, repairs or corrections for all deficiencies as a result of the SCM not being functional (form accepted to be determined by the Storm Water Administrator based on site specific

constraints) or complete. In any case, the responsible party will be held liable for all erosion control practices and other pollutant removal practices to be maintained on the project site until such time the Storm Water Administrator instructs the responsible party to remove such devices and comply with the Post-Construction Stormwater Ordinance. It may also be necessary for the owner to implement additional erosion control practices as determined by the Land Development Division to protect the SCM from damages or downstream pollution.

All vegetative plantings should be installed and inspected prior to issuance of a certificate of occupancy unless seasonal constraints prohibit. In the case that the Storm Water Administrator has determined the required plantings for a SCM should be delayed due to seasonal planting restrictions, a letter of intent from the developer is to be issued to the Storm Water Administrator to guarantee that activity is to be completed by a specified date provided by the Storm Water Administrator. Should the planting requirement not be completed within the specified time, then the site will be considered to be out of compliance with this ordinance and violations are to be forth coming in the amount stated in the ordinance.

11. Fee Schedule

City Charlotte Development Center will post and administer any Storm Water Management Fees associated with the review and inspection costs as part of the City's fee schedule. These fees may be adjusted by the Storm Water Administrator and approved by City Council as needed to address reimbursement of costs associated with those tasks. All adjustments to fee schedules will be made available to the public prior to implementation and will apply to any submittal received on or after that applicable date. A list of the current fees may be found on the City Land Development website (CLT Development Center - City of Charlotte (charlottenc.gov))

12. Annual Inspections

SCM facilities constructed as a PCSR requirement will require the owner to submit an annual inspection report to the Storm Water Administrator which provides documentation of the condition of each SCM prior to each (no earlier than 30 days) anniversary date (beginning on the final construction inspection approval date) into perpetuity. All annual inspection reports are to be completed by a Professional Engineer or Registered Landscape Architect, or other qualified individual that has completed the certification program approved by the City.

a. Professional Qualifications

All professionals preparing and submitting inspection reports to the City are required to attend a certification training session to perform these duties. As noted above, the qualifications to provide an inspection report to the City are as follows:

- Must be a current licensed Professional Engineer or Registered Landscape Architect with the State of North Carolina, or hold a SCM inspection and maintenance certification.
- Be competent to inspect, evaluate and recognize SCM deficiencies in accordance with the City's Post-Construction Stormwater Ordinance and SCM Design Manual.
- Must understand the functionality of SCMs and be able to provide corrective actions for SCM deficiencies necessary to restore compliance in a safe manner that does not jeopardize water quality, safety, health and property.

b. Annual Inspection Criteria

The City will provide inspection and maintenance guidelines for the professional to follow in making annual inspections. The purpose of the inspection is necessary to confirm that appropriate maintenance is being performed and to ensure that the SCM condition, as well as water quality is discharged in compliance with the City's regulations.

c. Annual Inspection Report

The SCM annual inspection report required will be originated from the Storm Water Services website and be completed for each SCM by a Professional Engineer, Registered Landscape Architect, or certified SCM inspector, and submitted to the City prior to the anniversary date (no earlier than 30 days) of the SCM. The report will provide basic information about the condition of the SCM and additional comments to describe site specific deficiencies and corrective action to return the SCM into compliance with the ordinance.

It is the responsibility of the owner to provide the report on or before the anniversary date to avoid fines (no earlier than 30 days from the anniversary date). All follow up corrections and inspections will be the responsibility of the owner. All SCM deficiencies identified during the annual inspection are to be corrected promptly. The professional will submit a plan of action to correct all deficiencies to the Storm Water Administrator for review and comment prior to the anniversary date. The Storm Water Administrator will notify the professional of an acceptable plan of action and any deficiencies that are not completed in a timely manner may be subject to fines and penalties as defined in the ordinance.

The annual report will be accompanied by sufficient photographs to document the current condition and appearance of each SCM. The photographs should capture several angles of the SCM,

as well as sediment/trash storage area(s)and vegetation (if required by plan). Surface facilities will need to show all forebay(s), cleanouts and media (if applicable), interior and exterior of outlet structure(s), outfall(s), back side of the dam, and all dissipator pad(s). Photographs of underground systems should show forebay(s) (if applicable) and any evidence of sediment accumulation in the system, media bed (if applicable), cleanout(s) (if applicable), both sides of the outlet weir wall, and outlet pipe and dissipator (if applicable). It is recommended that photographs of underground facilities are taken by professionals with confined space entry training as this may provide better quality photos and a more thorough inspection of the facility. The photographs must be adequate to document vegetation condition and location, sedimentation accumulation, erosion and other information to show that maintenance requirements have been performed. Photographs also must be labeled or include a description of the component in the photograph. All photographs will be submitted digitally and become part of the annual report documentation to be made available to the public for future inspection purposes.

d. Inspection Report Violation

Any owner that does not provide the required annual inspection report by the scheduled due date will be subject to penalties and fines as described in the ordinance. The City may take appropriate action to enter the property, perform the inspection, correct any deficiencies, and seek payment for all costs associated with the inspection and repairs or any additional work that is deemed necessary by the City to bring the facility into compliance with this ordinance. The owner may be subject to addition penalties and fines permissible by law for violation of this provision in addition to all costs associated with repairs.

13. Variances

Unified Development Ordinance Advisory Committee (UAC) hears all variance requests for PCSR. Applications and forms for the variance process can be obtained on the City of Charlotte website.

14. Post-Construction Stormwater Regulations

A digital copy of the PCSR can be obtained from the included link
https://publicinput.com/charlotteudo

15. Penalty Assessment

The Storm Water Administrator or designee will administer violations as outlined in Article 39 of the ordinance.

The Storm Water Administrator will evaluate all violations based on the severity of the impact to the Health and Safety of the Public. SCM facilities that are found to have general conditions that are in violation of the ordinance will be issued a written notice to correct all deficiencies within a reasonable time period as determined by the Storm Water Administrator. Violations which pose negative impacts to the Health and Safety of the Environment or the Public will be dealt with on a more urgent manor, such as, a Notice of Violation Penalty and assessed fines and repair costs incurred by the City to restore compliance with the ordinance.

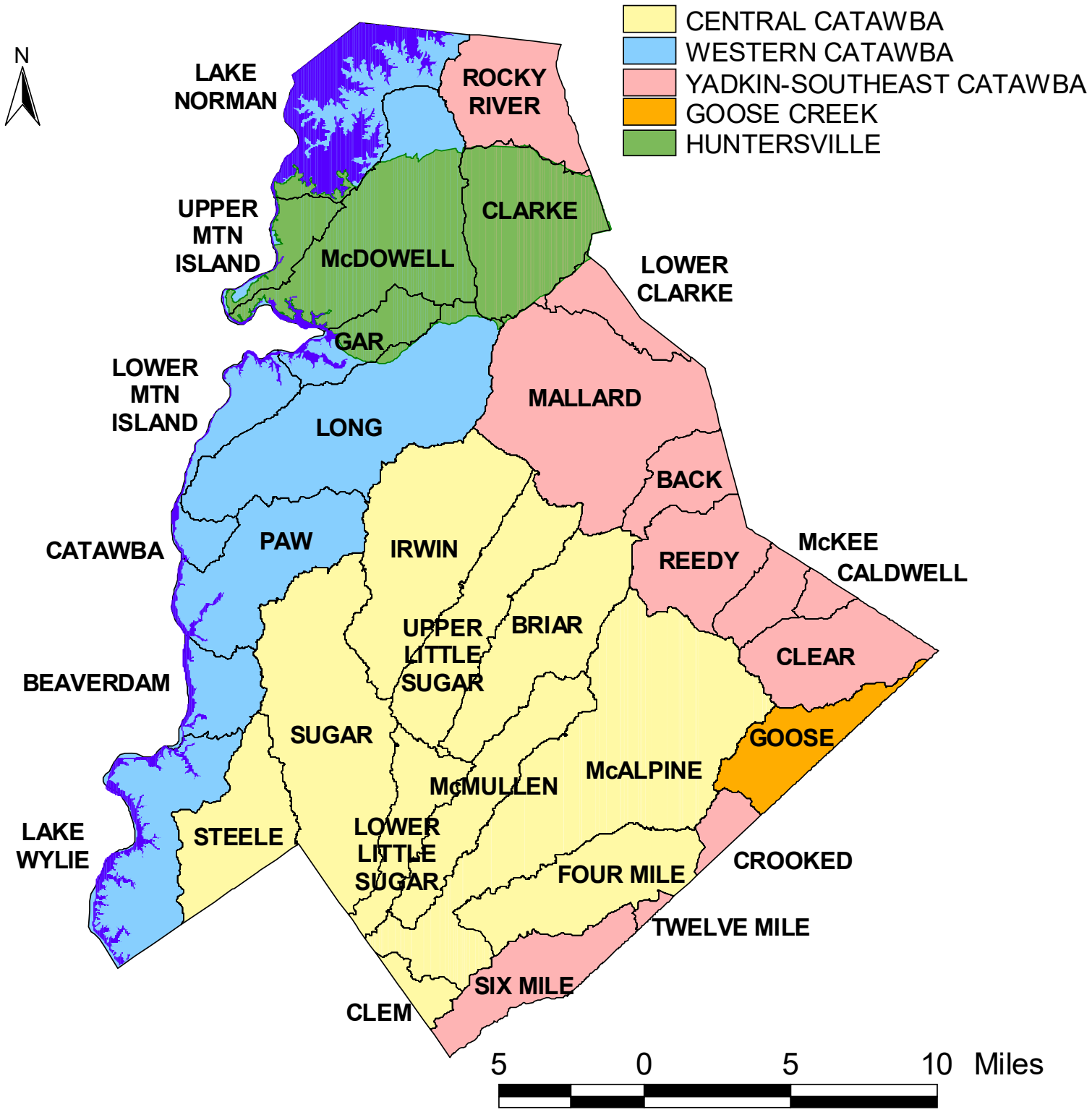
Appendices

A. Post-Construction Stormwater Ordinance Watershed Matrix

Watershed District	Structural Water Quality SCMs	Buffers	Volume & Peak Control
Central Catawba	>5000 SF BUA requires 85% TSS removal for runoff from 1st inch of rainfall; LID optional. <5000 SF BUA requires vegetated conveyances to the maximum extent practicable and buffers.	30 ft. vegetated, no build zone on all intermittent and perennial streams draining less than 50 acres, including a 10 foot zone adjacent to bank. If this zone is disturbed, it must be revegetated and the banks stabilized with approved bioengineering techniques. 35 ft. (2 zones) on intermittent and perennial streams draining ≥50 and <300 acres. 50 ft (3 zones) on streams draining ≥300 and <640 acres 100 ft + 50% of floodfringe on streams draining ≥640 acres	Volume (Commercial & Residential): >5000 SF BUA control entire volume for 1-yr, 24-hr storm. Drawdown shall be between 48 and 120 hours. Peak for Residential: >5000 SF BUA perform a downstream flood analysis to determine whether peak control is needed and if so, for what level of storm frequency (i.e., 10, 25, 50 or 100-yr, 6-hr) **OR** if a downstream analysis is not performed control the peak for the 10-yr and 25-yr, 6-hr storms Peak for Commercial: >5000 SF BUA control the peak for the 10-yr, 6-hr storm **AND** perform a downstream flood analysis to determine whether additional peak control is needed and if so, for what level of storm frequency (i.e., 25, 50 or 100-yr, 6-hr) **OR** if a downstream analysis is not performed control the peak for the 10-yr and 25-yr, 6-hr storms **Special note**: For low-density development and redevelopment placing 20,000 square feet or more of BUA, peak control shall be provided for the 2-year, 6-hour storm and 10-year, 6-hour storm..

Watershed District	Structural Water Quality SCMs	Buffers	Volume & Peak Control
Western Catawba	>5000 SF BUA requires 85% TSS and 70% TP removal** for runoff from 1st inch of rainfall; LID optional; BUA area caps apply in water supply watersheds <5000 SF BUA requires vegetated conveyances to the maximum extent practicable and buffers. ** - 5000 SF BUA is eligible for Total Phosphorous Mitigation per Section 307	30 ft. vegetated, no build zone on all intermittent and perennial streams draining less than 50 acres, including a 10 foot zone adjacent to bank. If this zone is disturbed, it must be revegetated and the banks stabilized with approved bioengineering techniques. 35 ft. (2 zones) on intermittent and perennial streams draining ≥50 and <300 acres. 50 ft (3 zones) on streams draining ≥300 and <640 acres 100 ft + 50% of floodfringe on streams draining ≥640 acres	Volume (Commercial & Residential): >5000 SF BUA control entire volume for 1-yr, 24-hr storm. Drawdown shall be between 48 and 120 hours. Peak for Residential: >5000 SF BUA perform a downstream flood analysis to determine whether peak control is needed and if so, for what level of storm frequency (i.e., 10, 25, 50 or 100-yr, 6-hr) **OR** if a downstream analysis is not performed control the peak for the 10-yr and 25-yr, 6-hr storms Peak for Commercial: >5000 SF BUA control the peak for the 10-yr, 6-hr storm **AND** perform a downstream flood analysis to determine whether additional peak control is needed and if so, for what level of storm frequency (i.e., 25, 50 or 100-yr, 6-hr) **OR** if a downstream analysis is not performed control the peak for the 10-yr and 25-yr, 6-hr storms **Special note**: For low-density development and redevelopment placing 20,000 square feet or more of BUA, peak control shall be provided for the 2-year, 6-hour storm and 10-year, 6-hour storm.

Watershed District	Structural Water Quality SCMs	Buffers	Volume & Peak Control
Yadkin-Southeast Catawba (Includes Six Mile Creek Watershed)	>5000 SF BUA requires 85% TSS and 70% TP removal** for runoff from 1st inch of rainfall. LID optional <5000 SF BUA requires vegetated conveyances to the maximum extent practicable and buffers. ** - ≥ 5000 SF BUA is eligible for Total Phosphorous Mitigation per Section 307	50 ft undisturbed forested buffer on all intermittent and perennial streams draining less than 50 acres 100 ft undisturbed forested buffers plus entire floodplain on all intermittent and perennial streams draining ≥50 acres **Six Mile Creek Watershed Only:** 100 ft. undisturbed forested buffer on all intermittent and perennial streams draining less than 50 acres 200 ft. undisturbed forested buffer plus entire floodplain on all intermittent and perennial streams draining ≥50 acres	Volume (Commercial & Residential): >5000 SF BUA control entire volume for 1-yr, 24-hr storm. Drawdown shall be between 48 and 120 hours. Peak for Residential: >5000 SF BUA perform a downstream flood analysis to determine whether peak control is needed and if so, for what level of storm frequency (i.e., 10, 25, 50 or 100-yr, 6-hr) **OR** if a downstream analysis is not performed control the peak for the 10-yr and 25-yr, 6-hr storms Peak for Commercial: >5000 SF BUA control the peak for the 10-yr, 6-hr storm **AND** perform a downstream flood analysis to determine whether additional peak control is needed and if so, for what level of storm frequency (i.e., 25, 50 or 100-yr, 6-hr) **OR** if a downstream analysis is not performed control the peak for the 10-yr and 25-yr, 6-hr storms **Special note**: For low-density development and redevelopment placing 20,000 square feet or more of BUA, peak control shall be provided for the 2-year, 6-hour storm and 10-year, 6-hour storm.


CENTRAL CATAWBA
WESTERN CATAWBA
YADKIN-SOUTHEAST CATAWBA
GOOSE CREEK
HUNTERSVILLE
N
LAKE NORMAN
ROCKY RIVER
UPPER MTN ISLAND
McDOWELL
CLARKE
LOWER CLARKE
GAR
LOWER MTN ISLAND
LONG
MALLARD
BACK
CATAWBA
PAW
IRWIN
REEDY
McKEE
CALDWELL
UPPER LITTLE SUGAR
BRIAR
CLEAR
BEAVERDAM
SUGAR
GOOSE
McALPINE
McMULLEN
LAKE WYLIE
STEELE
LOWER LITTLE SUGAR
FOUR MILE
CROOKED
TWELVE MILE
SIX MILE
CLEM
5 0 5 10 Miles

B. Transit Station and Distressed Business District Maps

Charlotte Explorer

Click on Map Content in the window to the left.

Distressed Business District is in the Neighborhood section. Click in the Economic Development box. Then click in the Business Corridor Revitalization Geography box.

Transit Station Areas are in the Planning section. Click in the Planning box. Then click in the Transit Station Regulatory Area box.

C. Total Phosphorus Mitigation Form

D. Built-Upon Area Guidance

Built-Upon-Area Guidance				
Is it considered New Built-Upon-Area (BUA), Routine Maintenance Activity, or Exempt?				
Information in this table is based on interpretations made by Storm Water Administrator and/or PCCO Tech Team and is only to be used as a guide.				
	Exempt from PCCO? (no treatment req'd)	Considered a routine maintenance activity? (no treatment req'd)	Considered New BUA? (Requires Treatment)	Notes
Site				
Proposed impervious area on existing undeveloped site			NEW BUA	
Expansion of an existing impervious area			NEW BUA	
New gravel areas			NEW BUA	
Complete removal of existing impervious surface and replacement with BUA in same location on site			NEW BUA	
Complete removal of impervious surface and placement of BUA in other location (same amount or less impervious placed somewhere else on site)			NEW BUA	
Parking				
Parking lot reconfiguration required due to compliance with Tree Ordinance for parking lot due to façade changes to a building, no other changes	EXEMPT			No increase in Built-Upon-Area
Gravel parking area being converted to asphalt with no removal of existing gravel and no increase in parking area size		MAINTENANCE		Note: Must be evaluated for applicability of Zoning Ordinance Stormwater Detention Provisions
Removal of pavement and replacement of pavement for underground utility placement		MAINTENANCE		
Removal of pavement and replacement for existing underground storage tank replacement or removal		MAINTENANCE		
Milling of asphalt course only and repaving of existing parking lot		MAINTENANCE		
Milling of asphalt to stone base and paving of existing parking lot		MAINTENANCE		If gravel base below existing asphalt is unknown, include note on plans to call site inspector prior to installation of any new pavement for limits of stone verification. Selective base course repairs allowed.
Wedging of new asphalt over existing asphalt to replace deteriorated or damaged asphalt and re-establish drainage patterns as originally intended		MAINTENANCE		
Complete removal and replacement of a parking lot in conjunction with building redevelopment			NEW BUA	
Surface parking lot being converted to parking deck or building			NEW BUA	
Permeable Pavers, concrete grid pavers, porous concrete, porous asphalt, or plastic turf reinforcing			NEW BUA	Credit for Peak Attenuation and Volume Capture is possible
Building				
Façade changes on building, no other major changes to building or site. Internal upfits allowed.	EXEMPT			Note: Façade Renovations may trigger Tree Ordinance requirements
Roof removal and replacement		MAINTENANCE		
Building removal and replacement for purpose of replacement due to accident or disaster		MAINTENANCE		Example --> Fast Food restaurant destroyed by fire was replaced with the same restaurant. Minor reconfiguration is allowable on case by case basis to replace old design with current mass-produced design.
Building removal and replacement for purpose of redeveloping (new pad)			NEW BUA	See Zoning Ordinance definition of "redevelopment"
Building removal and replacement for purpose of redeveloping (same pad)			NEW BUA	See Zoning Ordinance definition of "redevelopment"
Recreation Facilities				
Grass multi-use fields	EXEMPT			
Wooden Slatted Deck	EXEMPT			
Water area of a swimming pool	EXEMPT			
Synthetic turf with an underdrain system designed to enhance displacement of runoff			NEW BUA	
Tennis courts (including clay courts)			NEW BUA	