

## 5. Stormwater Element:

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### Section 1. Purpose & Applicability

Note regarding conflicts with existing references: All references, terms, and definitions mentioned in this Element refer specifically to Chatham Park unless otherwise specifically noted. Example: *Design Manual* in this document refers to the Chatham Park Stormwater Design Manual. If the intent is to reference the Town of Pittsboro Design Manual, the full name will be used.

#### Introduction:

BMPs for new development in Chatham Park will meet the following standards established by the Town's adoption of the Master Plan, to the extent of the Town's authority to require such standards:

1. Control and treat runoff generated from all surfaces by one inch (1") of rainfall.
2. Limit nitrogen and phosphorous loads not to exceed 3.8 pounds per acre per year for nitrogen and 1.43 pounds per acre per year for phosphorous.
3. Have a minimum of 85% average annual removal for Total Suspended Solids.
4. Control post-development stormwater runoff rates so that there is no increase in peak flow rates from the pre-development condition for the 1-year, 2-year, 5-year and 10-year 24-hour duration storm events for the applicable site. For regional BMPs, there shall be no increase in flow rates from the pre-development conditions from the contributing watershed for the same storm events. All analyses shall be based on full buildout conditions within the site or watershed.
5. Standards specified above are established as minimum standards.

In accordance with the Master Plan, the foregoing standards may be achieved by any BMP or combination of BMPs allowed by law, and may be achieved by a BMP on an individual parcel, a BMP that serves more than one parcel, or by a BMP or combinations of BMPs that serve a sub-watershed. This Element provides further details as to how the foregoing standards may be achieved in Chatham Park.

The Stormwater Program Manager shall oversee all components of the watershed protection and stormwater management in Chatham Park through implementation of the standards contained in

the Master Plan, this Element, the Design Manual, and applicable Town, State, and Federal stormwater regulations (together, the "Stormwater Standards").

References in this Element to departments or agencies of the State of North Carolina are intended to refer to the applicable department or agency, regardless of the name by which it is now.

#### Purpose:

The Master Plan committed to deliver a community of exceptional design and quality that protects critical environmental resources. To that end, this element is designed to meet Chatham Park's commitment to watershed stewardship using the following means:

1. Outlining the administrative relationship between the Stormwater Program Manager for Chatham Park and the Town Stormwater Administrator;
2. Defining the Chatham Park stormwater plan submittal and internal review process;
3. Establishing a sustainable program for long term operation and maintenance of stormwater control measures, stormwater systems, and stormwater treatment practices within Chatham Park (together referred to herein as "Best Management Practices" or "BMPs", with each separate stormwater control measure, system, or treatment practice being referred to herein as a BMP");
4. Developing a set of requirements to ensure that Chatham Park complies with applicable Chatham Park, Town, State, and Federal stormwater regulations;
5. Encouraging the use of non-structural stormwater devices and green infrastructure to protect watershed health, and
6. Establishing an evaluation process for development to determine compliance with the Stormwater Standards in both high and low density development areas.

#### Authority:

Design standards for BMPs in or serving Chatham Park shall be governed by the Chatham Park Stormwater Design Manual (Design Manual), which incorporates the Town of Pittsboro Design Manual and the North Carolina Department of Environmental Quality or "NCDEQ" (formerly known as North Carolina Department of Environment and Natural Resources or "NCDENR") Stormwater Design Manual. The Stormwater Program Manager shall oversee all components of the Stormwater Standards. The Design Manual may be revised from time to time as requested by the Stormwater Program Manager and approved by the Town Engineer, Town Stormwater Administrator, or other person authorized by the Town Board.

#### Applicability:

The Stormwater Standards apply to all development within Chatham Park, regardless of individual project size. The Stormwater Standards may be satisfied by individual development projects or at the sub-watershed level.

### Critical Environmental Resources:

For the purposes of this Element, critical environmental resources are the following:

- perennial streams and intermittent streams as defined in the Master Plan.
- wetlands that are Waters of the U.S. under the federal Clean Water Act.
- waterbodies that are Waters of the U.S. under the federal Clean Water Act.
- 100 year floodplains as delineated on the effective flood insurance rate maps for Chatham County, North Carolina
- regulated buffers and additional buffers, as those terms are defined in the Master Open Space Plan Additional Element
- tree canopy, in accordance with the Exceptional Design Evaluation (as defined in this Element)

### Section 2: Administration:

Chatham Park shall designate a Stormwater Program Manager to administer the Stormwater Standards in Chatham Park. The Stormwater Program Manager shall be a registered professional engineer or landscape architect in North Carolina, with specific knowledge of North Carolina stormwater practices, policies, and regulations.

#### Roles and Responsibilities:

The Stormwater Program Manager acts as a liaison between the property owners' association(s) in Chatham Park responsible for maintenance of BMPs (referred to herein as the “POA”) and the Town Engineer and Town Stormwater Administrator. The Stormwater Program Manager is charged with being the primary point of contact for all matters related to watershed protection and stormwater management within Chatham Park. The Stormwater Program Manager shall have the following responsibilities:

1. To serve on the Chatham Park Development Review Committee and conduct preliminary reviews of all development plans within Chatham Park for consistency with the requirements of the Stormwater Standards prior to submittal of those development plans to the Town;
2. To assist the Town Engineer and Town Stormwater Administrator with making determinations and interpretations of the requirements in the Stormwater Standards;
3. To periodically request revisions to the Design Manual in response to changing science or industry standards, or as deemed necessary to better coordinate Chatham Park’s commitment to protection of environmental resources with development activity; and
4. To produce and maintain records, maps, forms, and other documents related to the Stormwater Standards as required by this Element; and

### Section 3: Performance Standards:

Development and redevelopment projects in Chatham Park shall comply with the Stormwater Standards. Each proposed development plan shall show the BMPs and other information necessary to satisfy the requirements of this Element. The following Water Quality and Peak Flow Attenuation standards are part of the Stormwater Standards for Chatham Park.

#### Water Quality:

Prior to entering a regulated buffer, the runoff from developed areas in Chatham Park resulting from the first 1" of rainfall must be controlled and treated to remove 85% of the Total Suspended Solids by a properly sized BMP in accordance with the RBPO. The properly sized BMP may be comprised of a series of BMPs in a treatment train, or by a single BMP. Structural and non-structural BMPs may be used to comply with this requirement, and the applicant shall be responsible for documenting that the BMPs have been sized properly and meet the applicable design standards in the Design Manual.

The runoff must also meet the diffuse flow requirements of Section 7.E of the RBPO or comply with alternate standards for diffuse flow set forth by the NCDEQ unless disapproved by the Town Stormwater Administrator.

Where concentrated stormwater flows resulting from development in Chatham Park leave the Chatham Park zoning boundary in a channel that does not have a regulated buffer, the flow shall be discharged at a non-erosive velocity and in a manner which minimizes, to the extent reasonably practicable, potential adverse impacts to downstream property and habitat.

#### Peak Flow Attenuation:

Peak flow from developed areas must be controlled to limit the peak discharge during the 1-year, 2-year, 5-year, and 10-year 24-hour storm events to pre-development levels. At a minimum, compliance with peak flow standards shall be achieved at each analysis point as identified on the Watershed Map of Chatham Park.

### Section 4: Variances:

Variances from the Stormwater Standards may be requested pursuant to Section 308 of the Town's "Stormwater Management Ordinance for New Development and Redevelopment in the Jordan Lake Watershed", or equivalent section of subsequent Town stormwater ordinances (as applicable, the "Town Stormwater Ordinance").

### Section 5: Maintenance of BMPs:

**Private:** BMPs in Chatham Park shall be private and maintained by the POA, unless accepted for maintenance by the Town or other governmental entity.

**Function:** In order to maintain water quality performance and peak attenuation control, BMPs in Chatham Park shall be maintained substantially consistent with their original approved designs and shall be operated as designed, except where changes in maintenance, design, or operation are approved by the Town Stormwater Administrator or Town Engineer.

**Annual Maintenance and Inspection Report:** Under the direction and control of the Stormwater Program Manager, each BMP within Chatham Park shall be inspected annually by a qualified professional approved by the Stormwater Program Manager and the Town Engineer, Town Stormwater Administrator, or other person authorized by the Town Board. The costs associated with performing and documenting the annual inspections shall be funded by the POA. The Stormwater Program Manager shall be responsible for enforcing the annual inspection program for BMPs within Chatham Park, and shall collect and keep on file copies of the most recent five (5) inspection reports for each BMP. Each inspection report shall meet the requirements outlined in Section 401 (B) of the Town Stormwater Ordinance.

**Annual Summary Report and Record Keeping:** On or before March 31 each year, the Stormwater Program Manager shall prepare and submit to the Town Stormwater Administrator a "BMPs Summary Report" for the previous calendar year. At a minimum, the BMP Summary Report shall include the following items:

1. The number of each type of BMP used within Chatham Park;
2. An updated map showing the location of each BMP used in Chatham Park;
3. A description of corrective actions taken to address any BMP which failed an inspection, including the location of that BMP;
4. A summary of ongoing major repair activities at the time of the report and of major repair activities completed during the previous calendar year; and
5. A statement attesting to the completeness and accuracy of the report signed and sealed by the Stormwater Program Manager.

Town staff shall have the right to perform audits of the inspection and maintenance records to determine compliance with the Stormwater Standards. The Town, at Town expense, may conduct independent inspections of BMPs within Chatham Park.

**Operation and Maintenance of BMPs:** Operation and Maintenance of BMPs within Chatham Park shall be provided by the POA. Responsibility for day to day maintenance shall be determined at the time of permitting. Costs of inspection, maintenance, and administration of the Chatham Park BMPs maintenance and inspection program shall be funded by the owners of lots in Chatham Park through assessments paid to the POA.

**Operation and Maintenance Agreement:** The Town and the POA shall enter into a "Master BMPs Operations and Maintenance Agreement" to address operation and maintenance of all types of BMPs in Chatham Park, which may be amended from time to time as agreed upon by the POA and the Town Engineer. Individual development projects within Chatham Park shall prepare a BMP Operation and Maintenance Manual to be submitted concurrently with the

Application for Stormwater Discharge Permit. The Manual shall be reviewed and approved by the Chatham Park Development Review Committee prior to submittal to the Town.

**BMP Access:** Each BMP in Chatham Park shall be accessible either directly from a public street right of way or over an access easement shown on a plat or document recorded in the office of the Register of Deeds for Chatham County. The Stormwater Program Manager shall maintain a map showing the location of all permitted BMPs and associated easements in Chatham Park. The Town shall have authority to inspect any BMP and to determine compliance with the Stormwater Standards and other requirements of this Element.

**Maintenance Security:** To ensure long term operation of each BMP, the POA will establish and maintain a major repairs perpetual escrow account ("Escrow Account") to be used for major repair, reconstruction, and/or replacement of BMPs in Chatham Park. A "major repair" is a repair to be paid for by funds in the Escrow Account, as determined by the Stormwater Program Manager and the Town Engineer or Town Stormwater Administrator. An amount equal to 15% of the original construction costs of each BMP shall be deposited into the Escrow Account on or before the date that is five (5) years immediately following the end of the calendar year in which the first certificate of occupancy is issued for a residential dwelling or other building on the lot(s) or development parcel(s) served by the BMP. The initial funding of the Escrow Account for each BMP shall be provided by the developer and/or owners of the lot(s) or development parcel(s) served by the BMP. To establish the obligation for initial funding of the Escrow Account for BMPs located in public street rights of way, the Stormwater Program Manager shall determine the lot(s) or development parcel(s) that are served by those BMPs. Funds in an Escrow Account may be disbursed only for major repair, reconstruction, and/or replacement of a BMP, including payment of associated engineering and surveying fees and administrative costs.

No funds from an Escrow Account shall be used to pay for inspection and minor maintenance of a BMP or required inspection and reporting requirements.

Funds disbursed from an Escrow Account shall be replaced within five (5) years following the end of the calendar year in which the disbursement is made by assessments paid to the POA by the owners of all lots and development parcels in Chatham Park, unless otherwise exempt from payment of assessments under applicable restrictive covenants. On or before March 31 each year, the POA shall provide a report to the Town Stormwater Administrator documenting all receipts and disbursements from the Escrow Account for the immediately preceding calendar year, current balance in the Escrow Account, and the proposed time period for returning the balance in the Escrow Account to the required minimum amount.

## Section 6: Watershed Map:

The Stormwater Program Manager shall maintain a map showing all sub-watersheds in Chatham Park that have been delineated by the Stormwater Program Manager and approved by the Town Engineer or Town Stormwater Administrator (the "Watershed Map"). A copy of the most current Watershed Map shall be filed with the Town Engineer or the Town Stormwater Administrator.

The Stormwater Program Manager shall update the Watershed Map annually to provide the information required by this Element.

The Watershed Map will identify and label sub-watershed boundaries and will include numbered analysis points where streams with regulated buffers leave the Chatham Park PDD boundary. These analysis points may be used as regional points of compliance when documenting adherence to the performance standards outlined in the Stormwater Standards. The map will include information directly pertaining to the Exceptional Design Evaluation described in Section 8 of this Element and the Stormwater Design Manual. At a minimum, the Watershed Map shall include topography, aerial photography, watershed boundaries, analysis point locations, and a summary of the evaluation score. Individual development sites which meet the required Stormwater Standards onsite shall be identified on the Watershed Map.

### Section 7: Chatham Park Stormwater Design Manual:

The Design Manual shall include technical design standards, calculation methodology, watershed/sub-watershed evaluation criteria, and BMP maintenance standards for BMPs and sub-watersheds within Chatham Park. A copy of the initial Design Manual is attached to this Element as “Appendix A”. The criteria, information, specifications, and technical standards in the Design Manual shall serve as the basis for documenting compliance with the requirements of the Stormwater Standards.

The Design Manual also shall include the following:

1. A description of the BMPs specific to Chatham Park, which may include, without limitation, approved BMPs in the Town of Pittsboro Design Manual, NCDEQ Stormwater Design Manual (or subsequent updates published by NCDEQ or successor State agency), and the North Carolina Department of Transportation (“NCDOT”) BMP Toolbox (for NCDOT maintained roadways within Chatham Park). BMPs within Chatham Park must be constructed or installed in accordance with the major design elements outlined in the Design Manual and reference documents;
2. Items required to be included with each submittal of an Application for Stormwater Discharge Permit;
3. Documentation and standards for the Exceptional Design Evaluation defined in Section 8 of this Element;
4. Documentation used to show compliance with the Stormwater Standards; and
5. Standards for operation, periodic inspection, and maintenance of BMPs in Chatham Park.

The Design Manual may be revised by the Stormwater Program Manager, subject to the approval of the Town Engineer, Town Stormwater Administrator, or other person authorized by the Town Board. As innovative BMP standards, or alternate designs for BMPs are adopted or approved for use within Chatham Park, they will be added to the Design Manual. Any conflicts of design standards or other information in the Design Manual shall be resolved by the Stormwater Program

Manager and the Town Engineer, Town Stormwater Administrator, or other person authorized by the Town Board.

### Section 8: Exceptional Design:

In addition to the minimum stormwater performance standards outlined in the Master Plan and applicable Town regulations, each development project in Chatham Park will be designed to be consistent with Chatham Park's commitment to exceptional design for protection of critical environmental resources. The Design Manual shall include an explanation of the "Exceptional Design Evaluation" for development projects in Chatham Park, which shall quantify through a scoring system the balance between impacts to critical environmental resources and environmental uplift measures deployed within the built environment. The Exceptional Design Evaluation may be modified from time to time as determined by the Stormwater Program Manager and the Town Engineer or Town Stormwater Administrator.

All development projects within Chatham Park shall complete an Exceptional Design Evaluation, submit it with the application for development plan approval, and provide a copy to the Stormwater Program Manager. The Stormwater Program Manager shall document and update the evaluation score for each sub-watershed upon receipt of applicable Exceptional Design Evaluations and shall provide a copy of such documentation and update to the Town Stormwater Administrator or Town Engineer. All sub-watersheds shown on the Watershed Map shall maintain the minimum evaluation score required by the Design Manual.