



**Town of Shallotte Storm Water Permit  
Certification Form  
(Form SW-001)**



Name of Owner (Applicant) \_\_\_\_\_  
 Name of Contact Person: \_\_\_\_\_  
 Phone Number/Cell Number: \_\_\_\_\_  
 Email Address: \_\_\_\_\_  
 Name of Development: \_\_\_\_\_  
 Tax Parcel Number: \_\_\_\_\_  
 Location of Development: \_\_\_\_\_

Who will legally be responsible for or own the development after construction?

Name: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_  
 Phone Number/Cell Number: \_\_\_\_\_  
 Email Address: \_\_\_\_\_

- 1) Total area disturbed by development does not exceed \_\_\_\_\_ acres.
- 2) Is the development Commercial?
  - Yes – File this form along with General Storm Water Permit Application Form (SW-003).
  - No – Continue to Question 3
- 3) Is the disturbed area of development equal to or greater than 1 acre (43,560 square feet)?
  - Yes – File this form along with a Storm Water Permit Application (SW-002 or SW-003).
  - No – Continue to Question 4.
- 4) Will the site be graded, filled, or excavated and thereby change the elevation of any location by an amount exceeding four (4) inches?
  - Yes – File this form along with Storm Water a Permit Application (SW-002 or SW-003).
  - No – Continue to Question 5.
- 5) Is the development or any related disturbance within the limits of a Riparian Buffer (within 30 feet of the banks of a natural stream or water body)?
  - Yes- File this form along with General Storm Water Permit Application Form (SW-003).
  - No – If you answered “NO’ to question 2 through 5 then this development does not require a Town of Shallotte Storm Water Permit.

Certification

Engineering SEAL

I, \_\_\_\_\_ (print name) hereby certify the information included on this and attached pages are true and correct to the best of my knowledge.

Engineering Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Official Use Only: Storm Water Permit No. _____ Date Approved: _____
--



**Application Form**  
**(Form SW-002, must be accompanied by completed Form SW-001)**

Name of Developer: \_\_\_\_\_

Name of Contact Person: \_\_\_\_\_

Phone Number/Cell Number: \_\_\_\_\_

Name of Development: \_\_\_\_\_

- 1) Is the development solely residential?
- Yes – This is the correct form, go on to next question.
  - No – You cannot use this form, go to the Non-residential Storm Water Permit Application Form (Form SW-003)
- 2) What kind of residential development is this?
- Single lot with one single-family residential structure
  - Single-family residential subdivision with multiple lots
  - Multi-family residential
  - Mobile home development
  - Assisted living/congregate care facility
  - Other \_\_\_\_\_ -
- 3) Calculate pre- and post-development Storm Water runoff from the development for the 1-year, 24-hour storm with one of the approved methods specified in the Town of Shallotte Storm Water Management Manual.
- Pre-development peak runoff \_\_\_\_\_ cfs (1-year, 24-hour storm)  
Post-development peak runoff \_\_\_\_\_ cfs (1-year, 24-hour storm)
- 4) Does the post-development peak flow exceed the pre-development peak flow? (1-year, 24-hour storm)
- Yes-Implementation of an approved flow control Best Management Practice (BMP) is required to reduce peak flow to pre-development peak before continuing to next question.
  - No-A flow control BMP is not required for this development. Continue to next question.
- 5) Does the development meet one or both of the following criteria: 1) the post-development peak runoff is less than the pre-development peak runoff (for the 1 year, 24-hour storm) or 2) the overall impervious surface is less than fifteen percent and the remaining pervious portions of the site are utilized to the maximum extent practical to convey and control the Storm Water runoff?
- Yes-A flow control BMP is not required for this development but the Town of Shallotte Storm Water Administrator must approve a variance. Continue to next question.
  - No-Implementation of an approved flow control Best management Practice (BMP) is required to reduce peak flow to no more than 105% of the pre-development peak before continuing to next question.
- 6). Calculate pre- and post-development Storm Water runoff from the development for the 10-year, 24-hour storm with one of the approved methods specified in the Town of Shallotte Storm Water Management Manual.
- Pre-development peak runoff \_\_\_\_\_ cfs (10-year, 24-hour storm)  
Post-development peak runoff \_\_\_\_\_ cfs (10-year, 24-hour storm)

7) Does the post-development peak flow exceed 105% of the pre-development peak flow? (10-year, 24-hour storm)

Yes-Implementation of an approved flow control Best Management Practice (BMP) may be required to reduce the peak flow. Continue to the next question.

No- A flow control BMP is not required for this development. Continue to next question.

8) Where the requirement that the 10-year, 24-hour storm post-development peak flow not exceed the pre-development peak flow places an undue hardship upon a property owner, variances from the requirement may be granted by the Storm Water Administrator if the development meets the following requirement: The proposed new development appropriately uses the parcel's total remaining total impervious area to the extent practical to convey and control the Storm Water runoff, and it is demonstrated, to the satisfaction of the Storm Water Administrator, that no damage to public or private properties, including to the Town's Storm Water facilities and to the quality of the public waters, will be caused by granting of the variance. Is this requirement met for the proposed development?

Yes- A flow control BMP is not required for this development but the Town of Shallotte Storm Water Administrator must approve a variance. Continue to next question.

No- Implementation of an approved flow control Best management Practice (BMP) is required to reduce peak flow to pre-development peak before continuing to next question.

9) Are the number of building footprints and sizes for the entire development, to the ultimate built out condition of the development, known?

Yes-Use Method 2, Form SW-005 for total pollutant export calculations.

No-Use Method 1, Form SW-004 for total pollutant export calculations.

Submit the completed Total Pollutant Export Calculations Forms with this application.

FEES

The Developer must pay the Standard Storm Water fee plus any additional fees for Review of Structural BMP designs and any offset fees to the Town. A fee schedule is available from the Office of the Town's Storm Water Program Administrator.

- 1). Standard Fee \$ \_\_\_\_\_
- 2). Structural BMP Review fee: \_\_\_\_\_ structural BMPs x \$ \_\_\_\_\_ per BMP = \$ \_\_\_\_\_
- 3). Town Mitigation fee:  
 (\_\_\_\_lb/ac/yr total pollutant export - ??? lb/ac/yr) x \_\_\_\_\_ acres x \$??\$/lb/yr = \$ \_\_\_\_\_
- TOTAL FEES: \$ \_\_\_\_\_

Is an application being submitted to the State of North Carolina Division of Land Quality for an Erosion and Sediment Control Permit for this development?

Yes – Approval of a town of Shallotte Storm Water permit is contingent upon approval of the State of North Carolina's Erosion and Sediment Control Permit.

No- What is the reason?

Is development <1 acre?

Yes – The Town of Shallotte Storm Water Permit is still required if the disturbed area of the development is greater than 1/2 acre.

No- Both the Town of Shallotte Storm Water Permit and a State Erosion and Sediment Control Permit are required.

Other Reason: \_\_\_\_\_



**TOWN OF SHALLOTTE GENERAL STORM WATER PERMIT  
APPLICATION FORM  
(Form SW-003, must be accompanied by completed Form SW-001)**

Name of Developer \_\_\_\_\_  
Name of Contact Person \_\_\_\_\_  
Phone Number/Cell Number \_\_\_\_\_  
Name of Development \_\_\_\_\_

1) Is the development solely residential?

- Yes – You may use the Residential Application Form (Form SW-002)  
 No – this is the correct form. Go to the next question.

2) What kind of development is this?

- Commercial  Multi-Family residential  
 Industrial  Mobile home development  
 Single lot with one single-family residential structure  Assisted living/congregate care facility  
 Single family residential subdivision with multiple lots  Multi Use (residential and Commercial).  
 Other \_\_\_\_\_

3) Calculate pre- and post- development Storm Water runoff from the development for the 1-year, 24-hour storm with one of the approved methods specified in the Town of Shallotte Storm Water management Manual.

Pre-development peak runoff \_\_\_\_\_ cfs (1-year, 24-hour storm)  
Post-development peak runoff \_\_\_\_\_ cfs (1-year, 24-hour storm)

4) Does the post-development peak flow exceed the pre-development peak flow? (1-year, 24-hour storm)

- Yes – Implementation of an approved flow control Best Management Practice (BMP) may be required to reduce peak flow to pre-development peak before continuing to next question.  
 No-A flow control BMP is not required for this development. Continue to next question.

5) Does the development meet one or both of the following criteria: 1). The post-development peak runoff is less than 5 percent greater than the pre-development peak runoff (for the 1year, 24-hour storm) or 2) the overall impervious surface is less than fifteen percent and the remaining pervious portions of the site are utilized to the maximum extent practical to convey and control the Storm Water runoff?

- Yes-A flow control BMP is not required for this development but the Town of Shallotte Storm Water Administrator must approve a variance. Continue to next question.  
 No- Implementation of an approved flow control Best Management Practice (BMP) is required to reduce peak flow to no more than 105% of the pre-development peak before continuing to next question.

6) Calculate pre- and post-development Storm Water runoff from the development for the 10-year, 24-hour storm with one of the approved methods specified in the Town of Shallotte Storm Water Management Manual.

Pre-development peak runoff \_\_\_\_\_ cfs (10-year, 24-hour storm)  
Post-development peak runoff \_\_\_\_\_ cfs (10-year, 24-hour storm)

7). Does the post-development peak flow exceed 105% of the pre-development peak flow? (10-year, 24-hour storm)

Yes-Implementation of an approved flow control Best Management Practice (BMP) may be required to reduce the peak flow. Continue to the next question.

No-A flow control BMP is not required for this development. Continue to question 9.

8) Where the requirement that the 10-year, 24-hour storm post-development peak flow not exceed the pre-development peak flow places an undue hardship upon a property owner, variances from the requirement may be granted by the Storm Water Administrator if the development meets the following requirement: The proposed new development appropriately uses the parcel's total remaining total impervious area to the extent practical to convey and control the Storm Water runoff, and if is demonstrated, to the satisfaction of the Storm Water Administrator, that no damage to public water, will be caused by granting of the variance. Is this requirement met for the proposed development?

Yes- A flow control BMP is not required for this development but the Town of Shallotte Storm Water Administrator must approve a variance. Continue to next question.

No- Implementation of an approved flow control Best Management Practice (BMP) is required to reduce peak flow to no more than 105% of the pre-development peak before continuing to next question.

9). Use Method 2, Form SW-005 for Total Pollutant Export Calculations. Submit the completed pollutant export calculation form with this application.

FEES

The Development must pay the Standard Storm Water fee plus any additional fees for Technical Review of Structural BMP designs and nay offset fees to the Town of Shallotte. A fee schedule is available from the Office of the Town of Shallotte Storm Water Program Administrator.

- 1) Standard fee: \$ \_\_\_\_\_
  - 2). Structural BMP Review Board fee: \_\_\_\_\_ structural BMPs x \$ \_\_\_\_ per BMP \$ \_\_\_\_\_
  - 3). Town Mitigation fee:  
 (\_\_\_\_\_lb/ac/yr Total Pollutant Export - ??? lb/ac/yr) x \_\_\_\_\_ acres x \$??\$/lb/yr=\$ \_\_\_\_\_
- TOTAL FEE \$ \_\_\_\_\_

Is an application being submitted to the State of North Carolina Division of Land Quality for an Erosion and Sediment Control Permit for this development?

Yes-Approval of the Town of Shallotte Storm Water Permit is still required if the disturbed area of the development is grater than 1/2 acre.

No-What is the reason?

Is the development <1 acre?

Yes-The Town of Shallotte Storm Water Permit is still required if the disturbed area of the development is greater than 1/2 acre.

No-Both the Town of Shallotte Storm Water Permit and a State Erosion and Sediment Control Permit are required.

Other Reason: \_\_\_\_\_



**Pollutant Export Calculations  
Pre-Development Conditions Form (SW-004)**

Step 1: Determine appropriate codes for each type of land use and management from Table 6.1 and enter in Column 1.

Step 2: Determine the area for each type of land use and management and enter in Column 2.

Step 3: Enter the pollutant export coefficients from Table 6.1 for each land use type in columns 3, 5, 7, and 9.

Step 4: Multiply each area in Column 2 by the export coefficients and enter in columns 4, 6, 8, and 10.

Step 5: Sum columns 4, 6, 8, and 10.

If currently a residential development enter average lot size: \_\_\_\_\_

(1) Type of Land Cover	(2) Area (acres)	(3) TN Export Coeff.	(4) TN Export (#/yr)	(5) TP Export Coeff.	(6) TP Export (#/yr)	(7) TSS Export Coeff.	(8) TSS Export (#/yr)	(9) Coliform Coeff.	(10) Coliform Export
Totals									



**Post-Development Conditions Form (SW-005)**

- Step 1: Determine appropriate codes for each type of land use and management from Table 6.1 and enter in Column 1.
- Step 2: Determine the area for each type of land use and management and enter in Column 2.
- Step 3: Enter the pollutant export coefficients from Table 6.1 for each land use type in columns 3, 5, 7, and 9.
- Step 4: Multiply each area in Column 2 by the export coefficients and enter in columns 4, 6, 8, and 10.
- Step 5: Sum columns 4, 6, 8, and 10.

If currently a residential development enter average lot size: \_\_\_\_\_

(1) Type of Land Cover	(2) Area (acres)	(3) TN Export Coeff.	(4) TN Export (#/yr)	(5) TP Export Coeff.	(6) TP Export (#/yr)	(7) TSS Export Coeff.	(8) TSS Esport (#/yr)	(9) Coliform Coeff.	(10) Coliform Export
Totals									



## Rational Method Peak Flow Calculation Form (SW-006)

The Rational Method may only be used for single-family residential developments where the final built-out development will impact less than 10 acres.

Location: \_\_\_\_\_  
 Drainage area (A): \_\_\_\_\_ acres  
 Average slope: \_\_\_\_\_ percent  
 Maximum Slope Length: \_\_\_\_\_ feet

### Pre-Development Conditions

Type of Land Use	C	Area (acre)	C x A
<b>Total</b>			

Area-weighted C: \_\_\_\_\_  
 Height of most remote outlet: \_\_\_\_\_ feet  
 Maximum Length of travel: \_\_\_\_\_ feet  
 TC: \_\_\_\_\_ min.  
 Intensity (i) for 1-yr, 24-hr storm: \_\_\_\_\_ in/hr  
 Intensity (i) for 10-yr, 24-hr storm: \_\_\_\_\_ in/hr

Pre-dev. Peak flow for 1-year, 24-hour storm:  
 $q=CiA =$  \_\_\_\_\_ cfs  
 Pre-dev. Peak flow for 10-year, 24-hour storm:  
 $q=CiA =$  \_\_\_\_\_ cfs

### Post-Development Conditions

Type of Land Use	C	Area (acre)	C x A
<b>Total</b>			

Area-weighted C: \_\_\_\_\_  
 Height of most remote outlet: \_\_\_\_\_ feet  
 Maximum Length of travel: \_\_\_\_\_ feet  
 TC: \_\_\_\_\_ min.  
 Intensity (i) for 1-yr, 24-hr storm: \_\_\_\_\_ in/hr  
 Intensity (i) for 10-yr, 24-hr storm: \_\_\_\_\_ in/hr

Post-dev. Peak flow for 1-year, 24-hour storm:  
 $q=CiA =$  \_\_\_\_\_ cfs  
 Post-dev. Peak flow for 10-year, 24-hour storm:  
 $q=CiA =$  \_\_\_\_\_ cfs

Engineering SEAL

### Certification

I, \_\_\_\_\_ (print name) hereby certify the information included on this and attached pages is true and correct to the best of my knowledge.

Engineering Signature: \_\_\_\_\_ Date: \_\_\_\_\_



## SCS Method Peak Flow Calculation Form (SW-007)

The SCS Method may be used for any development.

Location: \_\_\_\_\_  
 Drainage area (A): \_\_\_\_\_ acres  
 Average slope: \_\_\_\_\_ percent  
 Maximum Slope Length: \_\_\_\_\_ feet

**Pre-Development Conditions**

Type of Land Use	CN	% Imp.	Area (acre)	CN x A	Imp x A
<b>Total</b>					

Area-weighted CN: \_\_\_\_\_  
 Overall % Impervious: \_\_\_\_\_ inches  
 Design rainfall for 1-year storm, P1: \_\_\_\_\_ inches  
 Design rainfall for 10-yr storm, P10: \_\_\_\_\_ inches  
 Runoff depth Q1: \_\_\_\_\_ inches  
 Runoff depth Q10: \_\_\_\_\_ inches  
 Equivalent Drainage area: \_\_\_\_\_ acres  
 Peak runoff rate: \_\_\_\_\_ cfs/inch  
 Peak flow for 1-year, 24-hour storm: \_\_\_\_\_ cfs  
 Peak flow for 10-yr , 24-hour storm: \_\_\_\_\_ cfs

Adjustments for percent impervious surfaces, improved channels, average watershed slope, ponding, and swampy areas may be necessary. Refer to the North Carolina Cooperative Extension Service, North Carolina State University, and North Carolina Department of Agriculture, Soil Conservation Service (USDA-SCS) – Technical Release 55 for details.

Adjusted Peak Flow for percent impervious surfaces and improved channels.  
 Peak flow: 1-yr, 24-hr storm: \_\_\_\_\_ cfs      10-yr, 24-hr storm: \_\_\_\_\_ cfs

Adjusted Peak Flow for average watershed slope.  
 Peak flow: 1-yr, 24-hr storm: \_\_\_\_\_ cfs      10-yr, 24-hr storm: \_\_\_\_\_ cfs

Adjusted Peak Flow for ponding and swampy areas  
 Peak flow: 1-yr, 24-hr storm: \_\_\_\_\_ cfs      10-yr, 24-hr storm: \_\_\_\_\_ cfs

Repeat the calculations for Post-Development Conditions.

Post-Development Conditions

Type of Land Use	CN	% Imp.	Area (acre)	CN x A	Imp x A
<b>Total</b>					

Area-weighted CN: \_\_\_\_\_  
 Overall % Impervious: \_\_\_\_\_ inches  
 Design rainfall for 1-year storm, P1: \_\_\_\_\_ inches  
 Design rainfall for 10-yr storm, P10: \_\_\_\_\_ inches  
 Runoff depth Q1: \_\_\_\_\_ inches  
 Runoff depth Q10: \_\_\_\_\_ inches  
 Equivalent Drainage area: \_\_\_\_\_ acres  
 Peak runoff rate: \_\_\_\_\_ cfs/inch  
 Peak flow for 1-year, 24-hour storm: \_\_\_\_\_ cfs  
 Peak flow for 10-yr , 24-hour storm: \_\_\_\_\_ cfs

Adjustments for percent impervious surfaces, improved channels, average watershed slope, ponding, and swampy areas may be necessary. Refer to the North Carolina Cooperative Extension Service, North Carolina State University, and North Carolina Department of Agriculture, Soil Conservation Service (USDA-SCS) – Technical Release 55 for details.

Adjusted Peak Flow for percent impervious surfaces and improved channels.  
 Peak flow: 1-yr, 24-hr storm: \_\_\_\_\_ cfs      10-yr, 24-hr storm: \_\_\_\_\_ cfs

Adjusted Peak Flow for average watershed slope.  
 Peak flow: 1-yr, 24-hr storm: \_\_\_\_\_ cfs      10-yr, 24-hr storm: \_\_\_\_\_ cfs

Adjusted Peak Flow for ponding and swampy areas  
 Peak flow: 1-yr, 24-hr storm: \_\_\_\_\_ cfs      10-yr, 24-hr storm: \_\_\_\_\_ cfs

Engineering SEAL

Certification

I, \_\_\_\_\_ (print name) hereby certify the information included on this and attached pages is true and correct to the best of my knowledge.

Engineering Signature \_\_\_\_\_ Date \_\_\_\_\_



**TOWN OF SHALLOTTE STORM WATER PERMIT  
(FORM SW-010)**

Development \_\_\_\_\_

Owner or Contact Person \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

**Date Issued:**

\_\_\_\_\_

This permit is provided under the Town of Shallotte Storm Water Ordinance and covers construction activities as submitted on the Storm Water management Plan and accompanying drawings, calculations and other documentation for the period ending \_\_\_\_\_ ( 1 year from date issued)

**Inspection Requirement**

Each structural component (Best Management Practice or BMP) constructed under this permit requires a final, as-built inspection prior to the use of the property as described in the Storm Water Management Plan. You must call the Town of Shallotte Storm Water Administrator's office to schedule that inspection. Failure to arrange for the required inspection prior to beginning the intended use of the property shall void this permit.

**No Modifications**

There shall be no modifications to the drainage patterns, structures, operation and maintenance, or other features approved in the Storm Water Management Plan without the prior approval of the Storm Water Administrator.

**Additional Requirements**

Additional requirements, conditions, variances, and approvals are included as part of this permit as attached and here referenced: \_\_\_\_\_

Please keep a copy of this Storm Water Permit at your site. This permit does not supersede any other permit requirements or approvals required for you development. Your cooperation is appreciated.

Sincerely,

Robert J. Lewis  
Storm Water Representative for the Town of Shallotte

Official Use Only: Storm Water Permit Number. _____ Date _____
--



**Structural BMP Inspection Report  
(Form SW-015)**

Reporter Name	Development Name	Date & Time	Date/Time of Last Rainfall

Site Description (Attach map if required)

Address	GPS Location	Type of BMP	Dominant Land Use

Visual Observations (Use as required. Attach photos if available)

Forebay Condition	Clarity of Detained Water (clear, turbid, milky)
Vegetation (healthy, dead, sparse, rich)	Floating Material (dead fish, debris, plastic)
Outfall Structural Condition (broken, rusty)	Current Inflow and Outflow Estimates (cfs)
Drainage Modifications Found? Describe	Other

Maintenance Record Review

Records reviewed? (YES/NO)	If NO, why not?
Entries contemporaneously made?	Special Modifications or Conditions

Storm Water Plan Review

Drainage areas on plan and from site inspection (SQ. FT. or ACRES)	Outlet agrees with Storm Water Plan Specifications?

Make additional notes and list additional maintenance requirements and dates on this page.

---



---



---



---



## **Town of Shallotte Storm Water Program Drawing Requirements**

Submit one paper 8.5" x 11" copy of final site plan to the Town of Shallotte Storm Water Administrator prior to the regularly scheduled meeting of the Planning Board Members.

### **The final drawings must contain the following information.**

#### **General Information**

- Name of Project
- Date
- Name of Developer and contact information

#### **Location Information**

- Project Location
- North Arrow
- Scale
- All Paved Roads
- Adjoining lakes, streams, or other drainage ways.

#### **Site Features**

- All dimensions should be to the nearest 0.1 foot and angles to the nearest minute.
- Accurate location of all monuments and markers
- Names and locations of all adjoining streets and ownership of adjoining property
- Zoning classification
- Reservations, easements, alleys, and any other areas to be dedicated to public use, conservation or other purposes.
- Restricted access easement on limited access streets
- Boundaries of total tract
- Property lines
- Lot numbers and postal addresses, building numbers
- Lot owners' names
- Sufficient data to determine readily and reproduce on the ground, the location, bearing and length of every street, block line, building line, whether curved or straight, and including true north. Include the radius, central angle, and tangent distance for the center line of curved streets and curved property lines that are not the boundary of curved streets.
- Existing and proposed water mains, sanitary sewers, storm sewers, transmission lines, and other relevant utilities.
- Site plan of existing conditions including wooded areas, marshes, wetlands, Neuse Riparian Buffer limits
- Existing topographic contours, one foot intervals based on sea level data.
- Limit and acreage of disturbed area
- Planned and existing buildings location and elevations
- Planned and existing roads location and elevations.
- Land use of surrounding areas
- Rock outcrops
- Wetland limits – Written approval by Corps of Engineers with reference to wetlands, if applicable.
- Streams, lakes, ponds, drainage ways, dams, seeps and springs
- Borrow and/or waste areas
- Stockpiled topsoil or subsoil location

- Location of structural Best Management Practice (BMP's) and their associated maintenance easements.

### **Site Drainage Features**

- Existing and planned drainage patterns (include off-site areas that drain through project)
- Size of areas (acreage)
- Size of location of culverts and sewers
- Soils information(type, special characteristics), including below culvert and storm sewer outlets.
- Name of receiving watercourse or name of municipal operator (only where Storm Water discharges are to occur)

### **Erosion Control Measures**

- Legend
- Location of temporary and permanent measures
- Construction drawings and details for temporary and permanent measures
- Maintenance requirements during and after construction

### **Vegetative Stabilization**

- Areas and acreage to be vegetative stabilized
- Layout of planned vegetation with details of plants, seed, mulch and fertilizer

### **Appropriate certificates and signatures**