CITY OF WILMINGTON
NORTH CAROLINA

Public Services
Engineering
212 Operations Center Drive
Wilmington, NC 28412
910 341-7807
910 341-5881 fax
wilmingtonnc.gov
Dial 711 TTY/Voice

COMPREHENSIVE STORMWATER MANAGEMENT PERMIT

HIGH DENSITY DEVELOPMENT

SECTION 1 – APPROVAL

Having reviewed the application and all supporting materials, the City of Wilmington has determined that the application is complete and the proposed development meets the requirements of the City of Wilmington's Comprehensive Stormwater Ordinance.

PERMIT HOLDER: **Friends School of Wilmington**
PROJECT: **Friends School of Wilmington**
ADDRESS: **350 Peiffer Avenue**
PERMIT #: **2019028**
DATE: **May 15, 2019**

Therefore, the above referenced site is hereby approved and subject to all conditions set forth in Section 2 of this approval and all applicable provisions of the City of Wilmington Comprehensive Stormwater Management Ordinance.

This permit shall be effective from the date of issuance until May 15, 2029 and shall be subject to the following specified conditions and limitations:

Section 2 - CONDITIONS

1. This approval is valid only for the stormwater management system as proposed on the approved stormwater management plans dated May 15, 2019.

2. The project will be limited to the amount and type of built-upon area indicated in Section IV of the Stormwater Management Application Form submitted as part of the approved stormwater permit application package, and per the approved plans.

3. This permit shall become void unless the facilities are constructed in accordance with the approved stormwater management plans, specifications and supporting documentation, including information provided in the application and supplements.

4. The runoff from all built-upon area within any permitted drainage area must be directed into the permitted stormwater control system for that drainage area.

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5. The permittee shall submit a revised stormwater management application packet to the City of Wilmington and shall have received approval prior to construction, for any modification to the approved plans, including, but not limited to, those listed below:
    a. Any revision to any item shown on the approved plans, including the stormwater management measures, built-upon area, details, etc.
    b. Redesign or addition to the approved amount of built-upon area or to the drainage area.
    c. Further subdivision, acquisition, lease or sale of any part of the project area.
    d. Filling in, altering, or piping of any vegetative conveyance shown on the approved plan.
    e. Construction of any permitted future areas shown on the approved plans.

6. A copy of the approved plans and specifications shall be maintained on file by the Permittee.

7. During construction, erosion shall be kept to a minimum and any eroded areas of the system will be repaired immediately.

8. If the stormwater system was used as an Erosion Control device, it must be restored to design condition prior to operation as a stormwater treatment device, and prior to issuance of any certificate of occupancy for the project.

9. All areas must be maintained in a permanently stabilized condition. If vegetated, permanent seeding requirements must follow the guidelines established in the North Carolina Erosion and Sediment Control Planning and Design Manual unless an alternative is specified and approved by the City of Wilmington.

10. All applicable operation & maintenance agreements and easements pertaining to each stormwater treatment system shall be referenced on the final plat and recorded with the Register of Deeds upon final plat approval. If no plat is recorded for the site the operation and maintenance agreements and easements shall be recorded with the Register of Deeds so as to appear in the chain of title of all subsequent purchasers under generally accepted searching standards.

11. The stormwater management system shall be constructed in its entirety, vegetated and operational for its intended use prior to the construction of any built-upon surface unless prior approval is obtained. City Staff must be notified of any deviation prior to construction of the built-upon surface. Any deviation request shall include justification and must propose an alternative timeline or construction sequence. Notification shall not constitute approval. Any alternative timeline approved by City staff shall become an enforceable component of this permit.

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12. The permittee shall at all times provide the operation and maintenance necessary to assure the permitted stormwater system functions at optimum efficiency. The approved Operation and Maintenance Agreement must be followed in its entirety and maintenance must occur at the scheduled intervals including, but not limited to:
    a. Scheduled inspections (interval noted on the agreement).
    b. Sediment removal.
    c. Mowing and revegetation of slopes and the vegetated areas.
    d. Maintenance of landscape plants, including those within the landscape buffer and on the vegetated shelf.
    e. Immediate repair of eroded areas, especially slopes.
    f. Debris removal and unclogging of outlet structure, orifice device, flow spreader, catch basins and/or piping.
    g. Access to the outlet structure must be available at all times.

13. Records of inspection, maintenance and repair for the permitted stormwater system must be kept by the permittee for at least 5 years from the date of record and made available upon request to authorized personnel of the City of Wilmington. The records will indicate the date, activity, name of person performing the work and what actions were taken.

14. Upon completion of construction, before a Certificate of Occupancy shall be granted, and prior to operation or intended use of this permitted facility, the applicant shall submit to the City of Wilmington as-built plans for all stormwater management facilities. The plans shall show the final design specifications and the field location, type, depth, invert and planted vegetation of all measures, controls and devices, as-installed. A certification shall be submitted, along with all supporting documentation that specifies, under seal that the as-built stormwater measures, controls and devices are in compliance with the approved stormwater management plans. A final inspection by City of Wilmington personnel will be required prior to issuance of a certificate of occupancy or operation of the permitted facility.

15. This permit is not transferable except after application and approval by the City of Wilmington. In the event of a change of ownership, name change or change of address the permittee must submit a completed Name/Ownership Change form to the City of Wilmington at least 30 days prior to the change. It shall be signed by all applicable parties, and be accompanied by all required supporting documentation. Submittal of a complete application shall not be construed as an approved application. The application will be reviewed on its own merits by the City of Wilmington and may or may not be approved. The project must be in compliance with the terms of this permit in order for the transfer request to be considered. The permittee is responsible for compliance with all permit conditions until such time as the City of Wilmington approves the transfer request. Neither the sale of the project nor the conveyance of common area to a third party should be considered as an approved transfer of the permit.

16. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to enforcement action by the City of Wilmington, in accordance with Sections 18-52 and 18-53 and any other applicable section of the Land Development Code.

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17. The City of Wilmington may notify the permittee when the permitted site does not meet one or more of the minimum requirements of the permit. Within the time frame specified in the notice, the permittee shall submit a written time schedule to the City of Wilmington for modifying the site to meet minimum requirements. The permittee shall provide copies of revised plans and certification in writing to the City of Wilmington that the changes have been made.

18. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances, which may be imposed by other government agencies (local, state, and federal) having jurisdiction.

19. In the event that the facilities fail to perform satisfactorily, including the creation of nuisance conditions, the Permittee shall take immediate corrective action, including those as may be required by the City of Wilmington, such as the construction of additional or replacement stormwater management systems.

20. The permittee grants City of Wilmington Staff permission to enter the property during normal business hours for the purpose of inspecting all components of the permitted stormwater management facility.

21. The permit issued shall continue in force and effect until revoked or terminated by the City of Wilmington. The permit may be modified, revoked and reissued or terminated for cause. The filing of a request for a permit modification, revocation and re-issuance or termination does not stay any permit condition.

22. The approved stormwater management plans and all documentation submitted as part of the approved stormwater management permit application package for this project are incorporated by reference and are enforceable parts of the permit.

23. The permittee shall submit a renewal request with all required forms and documentation at least 180 days prior to the expiration date of this permit.

24. If any one or more of the conditions of this permit is found to be unenforceable or otherwise invalidated, all remaining conditions shall remain in full effect.

Stormwater Management Permit issued this the 15th day of May, 2019.

for Sterling Cheatham, City Manager
City of Wilmington

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STORMWATER MANAGEMENT PERMIT APPLICATION FORM
(Form SWP 2.2)

I. GENERAL INFORMATION

1. Project Name (subdivision, facility, or establishment name - should be consistent with project name on plans, specifications, letters, operation and maintenance agreements, etc.):

   Friends School of Wilmington

2. Location of Project (street address):

   350 Peiffer Avenue

   City: Wilmington County: New Hanover Zip: 28409

3. Directions to project (from nearest major intersection):

   From intersection of Oleander Drive / US 76 and Greenville Loop Road - travel 0.3 miles west to Peiffer Ave.

   Turn left onto Peiffer Ave. Site is located approximately 0.45 miles on the right.

II. PERMIT INFORMATION

1. Specify the type of project (check one): ☐ Low Density ☒ High Density
   ☐ Drains to an Offsite Stormwater System ☐ Drainage Plan ☐ Other
   If the project drains to an Offsite System, list the Stormwater Permit Number(s):

   City of Wilmington: 2007043 State – NCDENR/DWQ: _____

2. Is the project currently covered (whole or in part) by an existing City or State (NCDENR/DWQ) Stormwater Permit? ☒ Yes ☐ No
   If yes, list all applicable Stormwater Permit Numbers:

   City of Wilmington: _____ State – NCDENR/DWQ: SW8 060306

3. Additional Project Permit Requirements (check all applicable):
   ☐ CAMA Major ☒ Sedimentation/Erosion Control
   ☐ NPDES Industrial Stormwater ☐ 404/401 Permit: Proposed Impacts: _____
   If any of these permits have already been acquired please provide the Project Name, Project/Permit Number, issue date and the type of each permit:

   _____

CITY OF WILMINGTON ENGINEERING

III. CONTACT INFORMATION

1. Print Applicant / Signing Official's name and title (specifically the developer, property owner, lessee, designated government official, individual, etc. who owns the project):

   Applicant / Organization: Friends School of Wilmington

   Signing Official & Title: Brenda Esch

   a. Contact information for Applicant / Signing Official:

   Street Address: 350 Peiffer Avenue

   City: Wilmington State: NC Zip: 28409

   Phone: 910-792-1811 Fax: _____ Email: brenda@fsow.org

   Mailing Address (if different than physical address): _____

   City: _____ State: _____ Zip: _____

   b. Please check the appropriate box. The applicant listed above is:

   - [x] The property owner (Skip to item 3)
   - [ ] Lessee* (Attach a copy of the lease agreement and complete items 2 and 2a below)
   - [ ] Purchaser* (Attach a copy of the pending sales agreement and complete items 2 and 2a below)
   - [ ] Developer* (Complete items 2 and 2a below.)

2. Print Property Owner's name and title below, if you are the lessee, purchaser, or developer. (This is the person who owns the property that the project is on.)

   Property Owner / Organization: _____

   Signing Official & Title: _____

   a. Contact information for Property Owner:

   Street Address: _____

   City: _____ State: _____ Zip: _____

   Phone: _____ Fax: _____ Email: _____

   Mailing Address (if different than physical address): _____

   City: _____ State: _____ Zip: _____

3. (Optional) Print the name and title of another contact such as the project's construction supervisor or another person who can answer questions about the project:

   Other Contact Person / Organization: _____

   Signing Official & Title: _____

a. Contact information for person listed in item 3 above:

Street Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ Email: _____

Mailing Address (if different than physical address): _____

City: _____ State: _____ Zip: _____

IV. PROJECT INFORMATION

1. In the space provided below, briefly summarize how the stormwater runoff will be treated.
   Runoff will be collected by storm drain collection system and discharged into a wet pond.

2. Total Property Area: ~~316,636~~ 316,856 square feet 4/30/19 RAC

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3. Total Coastal Wetlands Area: 0 square feet
4. Total Surface Water Area: 0 square feet
5. Total Property Area (2) – Total Coastal Wetlands Area (3) – Total Surface Water Area (4) = Total Project Area: ~~316,636~~ 316,856 square feet.
6. Existing Impervious Surface within Property Area: 47,195 square feet
7. Existing Impervious Surface to be Removed/Demolished: 21,996 square feet
8. Existing Impervious Surface to Remain: 25,199 square feet
9. Total Onsite (within property boundary) Newly Constructed Impervious Surface (*in square feet*):

Buildings/Lots	26,662
Impervious Pavement	29,216
Pervious Pavement (adj. total, with % credit applied)	
Impervious Sidewalks	13,685
Pervious Sidewalks (adj. total, with % credit applied)	
Other (describe)	
Future Development	5,000
Total Onsite Newly Constructed Impervious Surface	74,563

10. Total Onsite Impervious Surface
    (Existing Impervious Surface to remain + Onsite Newly Constructed Impervious Surface) = 99,762 square feet
11. Project percent of impervious area: (Total Onsite Impervious Surface / Total Project Area) x100 = ~~32~~ 31.48 %

12. Total Offsite Newly Constructed Impervious Area (improvements made outside of property boundary, *in square feet*):

Impervious Pavement	13,215
Pervious Pavement (adj. total, with % credit applied)	
Impervious Sidewalks	2,841
Pervious Sidewalks (adj. total, with % credit applied)	
Other (describe)	
Total Offsite Newly Constructed Impervious Surface	16,056

13. Total Newly Constructed Impervious Surface
(Total Onsite + Offsite Newly Constructed Impervious Surface) = 90619 square feet

14. Complete the following information for each Stormwater BMP drainage area. If there are more than three drainage areas in the project, attach an additional sheet with the information for each area provided in the same format as below. Low Density projects may omit this section and skip to Section V.

Basin Information	BMP # 1	BMP #	(Type of BMP) BMP #
Receiving Stream Name	UT to Hewletts Creek		
Receiving Stream Index Number	18-87-26		
Stream Classification	SA/HQW		
Total Drainage Area (sf)	301808	0	0
On-Site Drainage Area (sf)	187793		
Off-Site Drainage Area (sf)	114015		
Total Impervious Area (sf)	158221	0	0
Buildings/Lots (sf)	26662		
Impervious Pavement (sf)	29216		
Pervious Pavement, % credit (sf)			
Impervious Sidewalks (sf)	13685		
Pervious Sidewalks, % credit (sf)			
Other (sf)			
Future Development (sf)	5000		
Existing Impervious to remain (sf)	25061		
Offsite (sf)	58597		
Percent Impervious Area (%)	52.5		

15. How was the off-site impervious area listed above determined? Provide documentation:
copied for existing NCDENR stormwater permit

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V. SUBMITTAL REQUIREMENTS

1. Supplemental and Operation & Maintenance Forms - One applicable City of Wilmington Stormwater BMP supplement form and checklist must be submitted for **each** BMP specified for this project. One applicable proposed operation and maintenance (O&M) form must be submitted for **each type** of stormwater BMP. Once approved, the operation and maintenance forms must be referenced on the final plat and recorded with the register of deeds office.

2. Deed Restrictions and Restrictive Covenants - For all subdivisions, outparcels, and future development, the appropriate property restrictions and protective covenants are required to be recorded prior to the sale of any lot. Due to variability in lot sizes or the proposed BUA allocations, a table listing each lot number, lot size, and the allowable built-upon area must be provided as an attachment to the completed and notarized deed restriction form. The appropriate deed restrictions and protective covenants forms can be downloaded at the link listed in section V (3). Download the latest versions for each submittal.

   In instances where the applicant is different than the property owner, it is the responsibility of the property owner to sign the deed restrictions and protective covenants form while the applicant is responsible for ensuring that the deed restrictions are recorded.

   By the notarized signature(s) below, the permit holder(s) certify that the recorded property restrictions and protective covenants for this project, if required, shall include all the items required in the permit and listed on the forms available on the website, that the covenants will be binding on all parties and persons claiming under them, that they will run with the land, that the required covenants cannot be changed or deleted without concurrence from the City of Wilmington, and that they will be recorded prior to the sale of any lot.

3. Only complete application packages will be accepted and reviewed by the City. A complete package includes all of the items listed on the City Engineering Plan Review Checklist, including the fee. Copies of the Engineering Plan Review Checklist, all Forms, Deed Restrictions as well as detailed instructions on how to complete this application form may be downloaded from:

   http://www.wilmingtonnc.gov/PublicServices/Engineering/PlanReview/StormwaterPermits.aspx

   The complete application package should be submitted to the following address:

   City of Wilmington – Engineering
   Plan Review Section
   414 Chestnut Street, Suite 200
   Wilmington, NC 28402

CITY OF WILMINGTON ENGINEERING

VI. CONSULTANT INFORMATION AND AUTHORIZATION

1. Applicant: Complete this section if you wish to designate authority to another individual and/or firm (such as a consulting engineer and /or firm) so that they may provide information on your behalf for this project (such as addressing requests for additional information).

   Consulting Engineer: Howard Resnik, PE

   Consulting Firm: CSD Engineering

   a. Contact information for consultant listed above:

   Mailing Address: PO BOX 4041

   City: Wilmington State: NC Zip: 28406

   Phone: 910-791-4441 Fax: 910-791-1501 Email: howard@csd-engineering.com

VII. PROPERTY OWNER AUTHORIZATION (If Section III(2) has been filled out, complete this section)

I, (*print or type name of person listed in Contact Information, item 2*)_____, certify that I own the property identified in this permit application, and thus give permission to (*print or type name of person listed in Contact Information, item 1*)_____ with (*print or type name of organization listed in Contact Information, item 1*) _____ to develop the project as currently proposed. A copy of the lease agreement or pending property sales contract has been provided with the submittal, which indicates the party responsible for the operation and maintenance of the stormwater system.

As the legal property owner I acknowledge, understand, and agree by my signature below, that if my designated agent (*entity listed in Contact Information, item 1*) dissolves their company and/or cancels or defaults on their lease agreement, or pending sale, responsibility for compliance with the City of Wilmington Stormwater Permit reverts back to me, the property owner. As the property owner, it is my responsibility to notify the City of Wilmington immediately and submit a completed Name/Ownership Change Form within 30 days; otherwise I will be operating a stormwater treatment facility without a valid permit. I understand that the operation of a stormwater treatment facility without a valid permit is a violation of the City of Wilmington Municipal Code of Ordinances and may result in appropriate enforcement including the assessment of civil penalties.

Signature: _____ Date:_____

SEAL

I, _____, a Notary Public for the State of _____, County of _____, do hereby certify that _____ personally appeared before me this day of _____, _____, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

_____

My commission expires: _____

CITY OF WILMINGTON ENGINEERING

VIII. APPLICANT'S CERTIFICATION

I, *(print or type name of person listed in Contact Information, item 1)* , Brenda Esch certify that the information included on this permit application form is, to the best of my knowledge, correct and that the project will be constructed in conformance with the approved plans, that the required deed restrictions and protective covenants will be recorded, and that the proposed project complies with the requirements of the applicable stormwater rules under.

Signature: Brenda Esch Date: 11/02/18

SEAL

I, MARIANNE NUTT, a Notary Public for the State of North Carolina, County of NEW HANOVER, do hereby certify that Brenda Esch personally appeared before me this day of November 2, 2018, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

Marianne Nutt

My commission expires: February 4, 2022

SUPPLEMENT-EZ COVER PAGE

FORMS LOADED

PROJECT INFORMATION		
1	Project Name	**Friends School of Wilmington**
2	Project Area (ac)	7.8
3	Coastal Wetland Area (ac)	
4	Surface Water Area (ac)	
5	Is this project High or Low Density?	High
6	Does this project use an off-site SCM?	No

COMPLIANCE WITH 02H .1003(4)		
7	Width of vegetated setbacks provided (feet)	
8	Will the vegetated setback remain vegetated?	
9	Is BUA other that as listed in .1003(4)(c-d) out of the setback?	
10	Is streambank stabilization proposed on this project?	

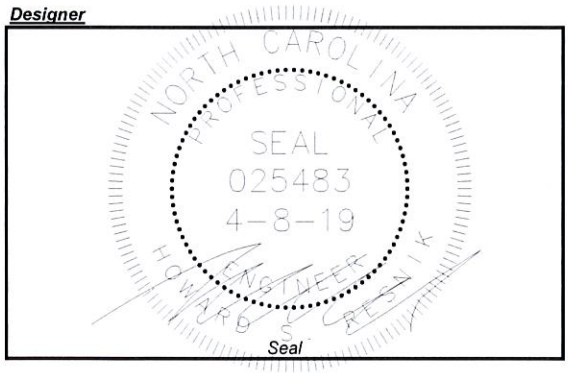
NUMBER AND TYPE OF SCMs:		
11	Infiltration System	0
12	Bioretention Cell	0
13	Wet Pond	1
14	Stormwater Wetland	0
15	Permeable Pavement	0
16	Sand Filter	0
17	Rainwater Harvesting (RWH)	0
18	Green Roof	0
19	Level Spreader-Filter Strip (LS-FS)	0
20	Disconnected Impervious Surface (DIS)	0
21	Treatment Swale	0
22	Dry Pond	0
23	StormFilter	0
24	Silva Cell	0
25	Bayfilter	0
26	Filterra	0

FORMS LOADED

DESIGNER CERTIFICATION		
27	Name and Title:	Howard Resnik, PE
28	Organization:	CSD Engineering
29	Street address:	PO BOX 4041
30	City, State, Zip:	Wilmington, NC 28406
31	Phone number(s):	910-791-4441
32	Email:	howard@csd-engineering.com

Certification Statement:
I certify, under penalty of law that this Supplement-EZ form and all supporting information were prepared under my direction or supervision; that the information provided in the form is, to the best of my knowledge and belief, true, accurate, and complete; and that the engineering plans, specifications, operation and maintenance agreements and other supporting information are consistent with the information provided here.

Designer

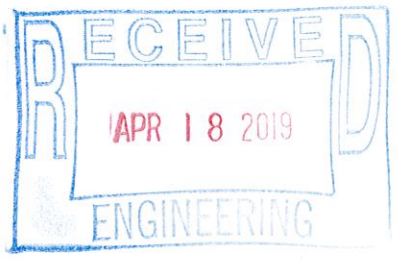


Seal

Signature of Designer

4-8-19

Date



DRAINAGE AREAS

1	Is this a high density project?	Yes
2	If so, number of drainage areas/SCMs	1
3	Is all/part of this project subject to previous rule versions?	No

FORMS LOADED

DRAINAGE AREA INFORMATION		Entire Site	1
4	Type of SCM	pond	pond
5	Total BUA in project (sq ft)	99624 sf ✓	
6	New BUA on subdivided lots (subject to permitting) (sq ft)		
7	New BUA outside of subdivided lots (subject to permitting) (sf)		
8	Offsite - total area (sq ft)	114015 sf ✓	
9	Offsite BUA (sq ft)	58597 sf ✓	
10	Breakdown of new BUA outside subdivided lots:		
	- Parking (sq ft)	29216 sf ✓	
	- Sidewalk (sq ft)	13685 sf ✓	
	- Roof (sq ft)	26662 sf ✓	
	- Roadway (sq ft)		
	- Future (sq ft)	5000 sf ✓	
	- Other, please specify in the comment box below (sq ft)		
11	New infiltrating permeable pavement on subdivided lots (sq ft)		
12	New infiltrating permeable pavement outside of subdivided lots (sq ft)		
13	Exisitng BUA that will remain (not subject to permitting) (sq ft)		
14	Existing BUA that is already permitted (sq ft)	25061 sf ✓	
15	Existing BUA that will be removed (sq ft)		
16	Percent BUA		
17	Design storm (inches)	1.5 in ✓	
18	Design volume of SCM (cu ft)	19702 cf ✓	
19	Calculation method for design volume	simple ✓	

ADDITIONAL INFORMATION	
20	Please use this space to provide any additional information about the drainage area(s):

DRAINAGE AREA INFORMATION		Entire Site	1
4	Type of SCM	N/A	
5	**Total BUA from project (sq ft)**		99624 sf
6	1995 rules		
	SL 2006-246		
	2008 rules		
	2017 rules		
7	**New BUA on subdivided lots (subject to permitting) (sq ft)**		
	1995 rules		
	SL 2006-246		
	2008 rules		
	2017 rules		
8	**New BUA outside of subdivided lots (subject to permitting) (sf)**		
	1995 rules		
	SL 2006-246		
	2008 rules		
	2017 rules		
9	**Offsite - total area (sq ft)**		
	1995 rules		
	SL 2006-246		
	2008 rules		
	2017 rules		
10	**Offsite BUA (sq ft)**		
	1995 rules		
	SL 2006-246		
	2008 rules		
	2017 rules		
11	**Design storm (inches)**		1.5 in

	1995 rules		
	SL 2006-246		
	2008 rules		
	2017 rules		
12	**Breakdown of new BUA:**		
	- Parking (sq ft)		
	- Sidewalk (sq ft)		
	- Roof (sq ft)		
	- Roadway (sq ft)		
	- Future (sq ft)		
	- Other, please specify in the comment box below (sq ft)		
13	New infiltrating permeable pavement on subdivided lots (sq ft)		
14	New infiltrating permeable pavement outside of subdivided lots (sq ft)		
15	Exisitng BUA that will remain (not subject to permitting) (sq ft)		
16	Existing BUA that is already permitted (sq ft)		
17	Existing BUA that will be removed (sq ft)		
18	Percent BUA		
19	Design volume of SCM (cu ft)		
20	Calculation method for design volume		

ADDITIONAL INFORMATION	
21	Please use this space to provide any additional information about the drainage area(s):

WET POND

1	Drainage area number	1
2	Design volume of SCM (cu ft)	19702 cf
	GENERAL MDC FROM 02H .1050	
3	Is the SCM sized to treat the SW from all surfaces at build-out?	~~Yes~~
4	Is the SCM located away from contaminated soils?	Yes
5	What are the side slopes of the SCM (H:V)?	3:1
6	Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No
7	Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes
8	Is there an overflow or bypass for inflow volume in excess of the design volume?	Yes
9	What is the method for dewatering the SCM for maintenance?	Pump (preferred)
10	If applicable, will the SCM be cleaned out after construction?	Yes
11	Does the maintenance access comply with General MDC (8)?	Yes
12	Does the drainage easement comply with General MDC (9)?	Yes
13	If the SCM is on a single family lot, does (will?) the plat comply with General MDC (10)?	Yes
14	Is there an O&M Agreement that complies with General MDC (11)?	Yes
15	Is there an O&M Plan that complies with General MDC (12)?	Yes
16	Does the SCM follow the device specific MDC?	Yes
17	Was the SCM designed by an NC licensed professional?	Yes
	WET POND MDC FROM 02H .1053	
18	Method used	SA/DA
19	Has a stage/storage table been provided in the calculations?	Yes
20	Elevation of the excavated main pool depth (bottom of sediment removal) (fmsl)	13.00
21	Elevation of the main pool bottom-(top of sediment removal) (fmsl)	14.00
22	Elevation of the bottom of the vegetated shelf (fmsl)	19.00
23	Elevation of the permanent pool (fmsl)	19.50
24	Elevation of the top of the vegetated shelf (fmsl)	20.00
25	Elevation of the temporary pool (fmsl)	20.80
26	Surface area of the main permanent pool (square feet)	9925:1
27	Volume of the main permanent pool (cubic feet)	33340 cf
28	Average depth of the main pool (feet)	3.84 ft
29	Average depth equation used	Equation 3
30	If using equation 3, main pool perimeter (feet)	451.0 ft
31	If using equation 3, width of submerged veg. shelf (feet)	3.0 ft
32	Volume of the forebay (cubic feet)	5086 cf
33	Is this 15-20% of the volume in the main pool?	Yes
34	Clean-out depth for forebay (inches)	12 in
35	Design volume of SCM (cu ft)	19702 cf
36	Is the outlet an orifice or a weir?	Orifice
37	If orifice, orifice diameter (inches)	2 in
38	If weir, weir height (inches)	
39	If weir, weir length (inches)	
40	Drawdown time for the temporary pool (days)	2
41	Are the inlet(s) and outlet located in a manner that avoids short-circuiting?	Yes
42	Are berms or baffles provided to improve the flow path?	Yes
43	Depth of forebay at entrance (inches)	48 in
44	Depth of forebay at exit (inches)	12 in
45	Does water flow out of the forebay in a non-erosive manner?	Yes
46	Width of the vegetated shelf (feet)	6 ft
47	Slope of vegetated shelf (H:V)	6:1
48	Does the orifice drawdown from below the top surface of the permanent pool?	Yes
49	Does the pond minimize impacts to the receiving channel from the 1-yr, 24-hr storm?	Yes
50	Are fountains proposed? (If Y, please provide documentation that MDC(9) is met.)	No
51	Is a trash rack or other device provided to protect the outlet system?	Yes
52	Are the dam and embankment planted in non-clumping turf grass?	Yes
53	Species of turf that will be used on the dam and embankment	centipede
54	Has a planting plan been provided for the vegetated shelf?	Yes

ADDITIONAL INFORMATION	
55	Please use this space to provide any additional information about the wet pond(s):

Permit Number:_____
(to be provided by City of Wilmington)
BMP Drainage Basin #:_____

Wet Detention Basin Operation and Maintenance Agreement

I will keep a maintenance record on this BMP. This maintenance record will be kept in a log in a known set location. Any deficient BMP elements noted in the inspection will be corrected, repaired or replaced immediately. These deficiencies can affect the integrity of structures, safety of the public, and the removal efficiency of the BMP.

The wet detention basin system is defined as the wet detention basin, pretreatment including forebays and the vegetated filter if one is provided.

This system (*check one*):
☐ **does** ☒ **does not** **incorporate a vegetated filter at the outlet.**

This system (*check one*):
☐ **does** ☒ **does not** **incorporate pretreatment other than a forebay.**

Important maintenance procedures:

- Immediately after the wet detention basin is established, the plants on the vegetated shelf and perimeter of the basin should be watered twice weekly if needed, until the plants become established (commonly six weeks).
- No portion of the wet detention pond should be fertilized after the first initial fertilization that is required to establish the plants on the vegetated shelf.
- Stable groundcover should be maintained in the drainage area to reduce the sediment load to the wet detention basin.
- If the basin must be drained for an emergency or to perform maintenance, the flushing of sediment through the emergency drain should be minimized to the maximum extent practical.
- Once a year, a dam safety expert should inspect the embankment.

After the wet detention pond is established, it should be inspected **once a month and within 24 hours after every storm event greater than 1.5 inches**. Records of operation and maintenance should be kept in a known set location and must be available upon request.Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

BMP element:	Potential problem:	How I will remediate the problem:
The entire BMP	Trash/debris is present.	Remove the trash/debris.
The side slopes of the wet detention basin	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application.
	Vegetation is too short or too long.	Maintain vegetation at a height of approximately six inches.

Permit Number:_____
(to be provided by City of Wilmington)
BMP Drainage Basin #:_____

BMP element:	Potential problem:	How I will remediate the problem:
The inlet device: pipe or swale	The pipe is clogged.	Unclog the pipe. Dispose of the sediment off-site.
	The pipe is cracked or otherwise damaged.	Replace the pipe.
	Erosion is occurring in the swale.	Regrade the swale if necessary to smooth it over and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion.
The forebay	Sediment has accumulated to a depth greater than the original design depth for sediment storage.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the BMP.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
The vegetated shelf	Best professional practices show that pruning is needed to maintain optimal plant health.	Prune according to best professional practices
	The plant community and coverage is significantly (>25%) different from approved landscape plan.	Restore plant vegetation to approved condition. If landscape plan needs to be adjusted to specify vegetation more appropriate for site conditions, contact City Stormwater or Engineering Staff.
	Cattails or other invasive plants cover >25% of the veg't shelf. A monculture of plants must be avoided)	Remove all invasives by physical removal or by wiping them with pesticide (do not spray) – consult a professional.
	Plants are dead, diseased or dying.	Determine the source of the problem: soils, hydrology, disease, etc. Remedy the problem and replace plants. Provide a one-time fertilizer application to establish the ground cover if a soil test indicates it is necessary.
The main treatment area	Sediment has accumulated to a depth greater than the original design sediment storage depth.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the BMP.

Permit Number:_____
(to be provided by City of Wilmington)
BMP Drainage Basin #:_____

BMP element:	Potential problem:	How I will remediate the problem:
The main treatment area (continued)	Algal growth covers over 25% of the area.	Consult a professional to remove and control the algal growth.
	Cattails or other invasive plants cover >25% of the veg't shelf. A monculture of plants must be avoided)	Remove all invasives by physical removal or by wiping them with pesticide (do not spray) – consult a professional.
The embankment	Shrubs have started to grow on the embankment.	Remove shrubs immediately.
	Evidence of muskrat or beaver activity is present.	Use traps to remove muskrats and consult a professional to remove beavers.
	A tree has started to grow on the embankment.	Consult a dam safety specialist to remove the tree.
	An annual inspection by an appropriate professional shows that the embankment needs repair. (if applicable)	Make all needed repairs.
The outlet device	Clogging has occurred.	Clean out the outlet device. Dispose of the sediment off-site.
	The outlet device is damaged	Repair or replace the outlet device.
The receiving water	Erosion or other signs of damage have occurred at the outlet.	Contact the local NC Division of Water Quality Regional Office, or the 401 Oversight Unit at 919-733-1786.

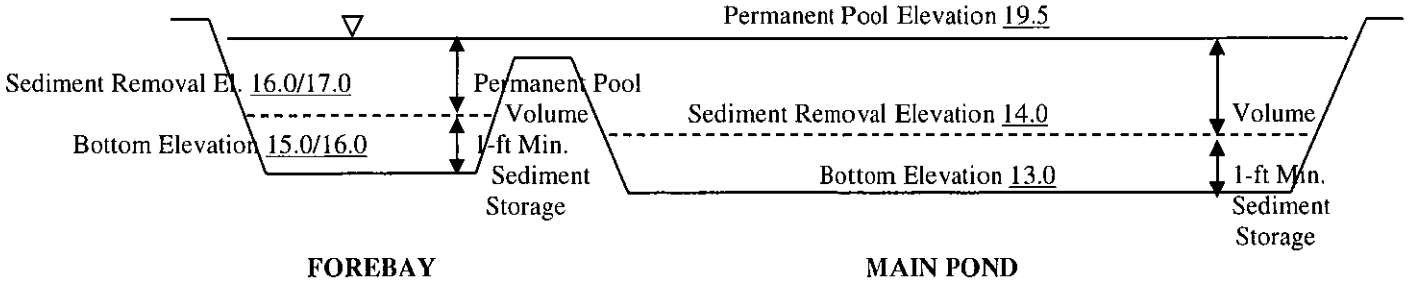
The measuring device used to determine the sediment elevation shall be such that it will give an accurate depth reading and not readily penetrate into accumulated sediments.

When the permanent pool depth reads _5.5_ feet in the main pond, the sediment shall be removed.

When the permanent pool depth reads _3.5/2.5_ feet in the forebay, the sediment shall be removed.

BASIN DIAGRAM

(fill in the blanks)



Permit Number:_____
(to be provided by City of Wilmington)

I acknowledge and agree by my signature below that I am responsible for the performance of the maintenance procedures listed above. I agree to notify the City of Wilmington of any problems with the system or prior to any changes to the system or responsible party.

Project name:Friends School of Wilmington

BMP drainage basin number:1

Print name:Brenda Esch

Title:Head of School

Address:350 Peiffer Avenue Wilmington NC 28409

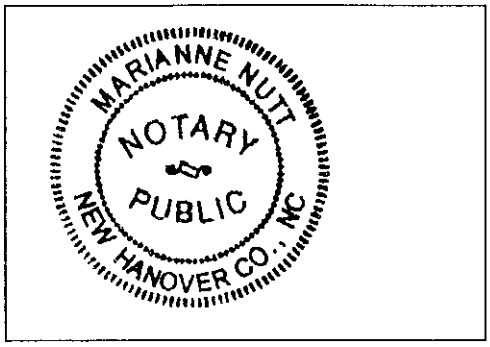
Phone:910-792-1811

Signature: Brenda Esch

Date: Feb. 1, 2019

Note: The legally responsible party should not be a homeowners association unless more than 50% of the lots have been sold and a resident of the subdivision has been named the president.

I, MARIANNE NUTT, a Notary Public for the State of NORTH CAROLINA, County of NEW HANOVER, do hereby certify that BRENDA ESCH personally appeared before me this 1ST day of February, 2019, and acknowledge the due execution of the forgoing wet detention basin maintenance requirements. Witness my hand and official seal,



SEAL

My commission expires February 4, 2022