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: **New Hanover Board of Education**
PROJECT: **Blair Elementary School**
ADDRESS: **6510 Market St.**
PERMIT #: **2017010**
DATE: **3/30/2017**

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 3/30/2027 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 3/21/2017.

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.

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.

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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.

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.

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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.

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.

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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 30th day of March, 2017

for Sterling Cheatham, City Manager
City of Wilmington

2017010

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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.):

   Blair Elementary School

2. Location of Project (street address):

   6510 Market Street

   City: Wilmington County: New Hanover Zip: 28405

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

   At the intersection of Martin Luther King Jr. Parkway and Market Street (US 17 BUS) head east on Market Street (US 17 BUS) and proceed about 1.5 miles and turn right onto Blair School Drive. The elementary school site is on the left.

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: n/a State – NCDENR/DWQ: n/a

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: n/a State – NCDENR/DWQ: n/a

3. Additional Project Permit Requirements (check all applicable):
   CAMA Major (Sedimentation/Erosion Control)
   NPDES Industrial Stormwater 404/401 Permit: Proposed Impacts: n/a
   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:

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: New Hanover County Board of Education

   Signing Official & Title: DR. TIM MARKLEY, SUPERINTENDENT OF SCHOOLS

   a. Contact information for Applicant / Signing Official:

   Street Address: 6410 Carolina Beach Road

   City: Wilmington State: NC Zip: 28412

   Phone: 910-254-4325 Fax: 910-234-4226 Email: TIM.MARKLEY@NHCS.NET

   Mailing Address (if different than physical address): n/a

   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: New Hanover County Board of Education

   Signing Official & Title: DR. TIM MARKLEY, SUPERINTENDENT OF SCHOOLS

   a. Contact information for Property Owner:

   Street Address: 6410 Carolina Beach Road

   City: Wilmington State: NC Zip: 28412

   Phone: 910-254-4325 Fax: 910-234-4226 Email: TIM.MARKLEY@NHCS.NET

   Mailing Address (if different than physical address): n/a

   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: Matthew Barton - CLH design, p.a.

   Signing Official & Title: Project Designer

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

Street Address: 400 Regency Forest Drive - STE 120

City: Cary State: NC Zip: 27518

Phone: 919-319-6716 Fax: 919-319-7516 Email: mbarton@clhdesignpa.com

Mailing Address (if different than physical address): n/a

City: _____ State: _____ Zip: _____

IV. PROJECT INFORMATION

1. In the space provided below, briefly summarize how the stormwater runoff will be treated.

   The first 1.5" of rainfall from newly constructed impervious will be treated in the proposed constructed wetland BMP.

2. Total Property Area: 600,747 square feet
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: 600,747 square feet.
6. Existing Impervious Surface within Property Area: 183,092 square feet
7. Existing Impervious Surface to be Removed/Demolished: 155,442 square feet
8. Existing Impervious Surface to Remain: 27,650 square feet
9. Total Onsite (within property boundary) Newly Constructed Impervious Surface (*in square feet*):

Buildings/Lots	56,841
Impervious Pavement	138,859
Pervious Pavement (adj. total, with % credit applied)	0
Impervious Sidewalks	included in pavement
Pervious Sidewalks (adj. total, with % credit applied)	0
Other (describe)	0
Future Development	15,246
Total Onsite Newly Constructed Impervious Surface	204,412

10. Total Onsite Impervious Surface
    (Existing Impervious Surface to remain + Onsite Newly Constructed Impervious Surface) = 232,062 square feet
11. Project percent of impervious area: (Total Onsite Impervious Surface / Total Project Area) x100 = 38.6 %

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

~~Impervious Pavement~~	12,924 (Multi-use path)
~~Pervious Pavement (adj. total, with % credit applied)~~	1,795 (Driveway Aprons)
~~Impervious Sidewalks~~	4,678 (Road Improvements)
Pervious Sidewalks (adj. total, with % credit applied)	0
Other (describe)	0
Total Offsite Newly Constructed Impervious Surface	19,397

13. Total Newly Constructed Impervious Surface
(Total Onsite + Offsite Newly Constructed Impervious Surface) = 223,809 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	Drainage Area ~~BMP~~ # A	Drainage Area ~~BMP~~ # A1	BMP #
Receiving Stream Name	Spring Branch	Spring Branch	
Receiving Stream Index Number	18-74-63-1	18-74-63-1	
Stream Classification	C;Sw	C;Sw	
Total Drainage Area (sf)	443,474	157,791	
On-Site Drainage Area (sf)	442,956	157,791	
Off-Site Drainage Area (sf)	518	0	
Total Impervious Area (sf)	219,855	20,536	
Buildings/Lots (sf)	56,841	0	
Impervious Pavement (sf)	133,279	5,580	
Pervious Pavement (sf)	0	0	
Impervious Sidewalks (sf)	0	0	
Pervious Sidewalks (sf)	0	0	
Other (sf)	0	0	
Future Development (sf)	15,246	0	
Existing Impervious to remain (sf)	14,489	13,161	
Offsite (sf)	0	1,795	
Percent Impervious Area (%)	49.6	13.0	

15. How was the off-site impervious area listed above determined? Provide documentation:

_____

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
   212 Operations Center Dr
   Wilmington, NC 28412

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: Kenneth Loring

   Consulting Firm: CLH design, p.a.

   a. Contact information for consultant listed above:

   Mailing Address: 400 Regency Forest Drive STE 120

   City: Cary State: NC Zip: 27518

   Phone: 919-319-6516 Fax: 919-319-7516 Email: kloring@clhdesignpa.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.

SEAL

Signature: _____

_____Date:_____

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: _____

VIII. APPLICANT'S CERTIFICATION

I, *(print or type name of person listed in Contact Information, item 1)*, DR. TIM MARKLEY 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.

SEAL

CRYSTAL M BUIE NOTARY PUBLIC NEW HANOVER COUNTY NC

Signature: _____

Date: 11-21-18

I, Crystal M Buie, a Notary Public for the State of North Carolina, County of New Hanover, do hereby certify that Dr. Tim Markley personally appeared before me this day of November 21, 2018, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

Crystal M Buie

My commission expires: 5/18/2019

NCDENR

DIVISION OF WATER QUALITY DWQ

STORMWATER MANAGEMENT PERMIT APPLICATION FORM
401 CERTIFICATION APPLICATION FORM

WETLAND SUPPLEMENT

This form must be filled out, printed and submitted.
The Required Items Checklist (Part III) must be printed, filled out and submitted along with all the required information.

I. PROJECT INFORMATION

Project name	Blair Elementary School
Contact name	Ken Loring
Phone number	919-319-6716
Date	November 9, 2016
Drainage area number	

II. DESIGN INFORMATION

Site Characteristics

Drainage area	443,474.00	ft^2	
Impervious area	219,855.00	ft^2	
Percent impervious	49.6%	%	
Design rainfall depth	1.50	inch	

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Peak Flow Calculations

1-yr, 24-hr rainfall depth	3.87	in	
1-yr, 24-hr intensity	6.28	in/hr	
Pre-development 1-yr, 24-hr runoff	0.05	ft^3/sec	
Post-development 1-yr, 24-hr runoff	0.25	ft^3/sec	
Pre/Post 1-yr, 24-hr peak control	0.20	ft^3/sec	

Storage Volume: Non-SA Waters

Minimum required volume	27,519.00	ft^3	
Volume provided (temporary pool volume)	33,714.00	ft^3	OK

Storage Volume: SA Waters Parameters

1.5" runoff volume		ft^3
Pre-development 1-yr, 24-hr runoff volume		ft^3
Post-development 1-yr, 24-hr runoff volume		ft^3
Minimum volume required		ft^3
Volume provided		ft^3

Outlet Design

Depth of temporary pool/ponding depth (D_{Plants})	15.00	in	Insufficient depth of temp. pool.
Drawdown time	3.10	days	OK
Diameter of orifice	2.50	in	OK
Coefficient of discharge (C_D) used in orifice diameter calculation	0.60	(unitless)	
Driving head (H_o) used in the orifice diameter calculation	1.25	ft	OK

NORTH CAROLINA PROFESSIONAL SEAL 23948 ENGINEER KENNETH A. LORING

Surface Areas of Wetland Zones

Surface Area of Entire Wetland	30,848.00 ft^2	OK
Shallow Land	11,208.00 ft^2	OK
The shallow land percentage is:	36% %	
Shallow Water	12,217.00 ft^2	OK
The shallow water percentage is:	40% %	
Deep Pool		
Forebay portion of deep pool (pretreatment)	4,248.00 ft^2	OK
The forebay surface area percentage is:	14% %	
Non-forebay portion of deep pool	3,175.00 ft^2	OK
The non-forebay deep pool surface area percentage is:	10% %	
Total of wetland zone areas	30,848.00 ft^2	OK
Add or subtract the following area from the zones	0.00 ft^2	

Topographic Zone Elevations

Temporary Pool Elevation (TPE)		
Shallow Land (top)	41.00 ft amsl	
Permanent Pool Elevation (PPE)		
Shallow Water/Deep Pool (top)	40.00 ft amsl	
Shallow Water bottom	39.50 ft amsl	
Most shallow point of deep pool's bottom	37.00 ft amsl	
Deepest point of deep pool's bottom	37.00 ft amsl	
Design must meet one of the following two options:		
This design meets Option #1, Top of PPE is within 6" of SHWT, If yes:	Y (Y or N)	
SHWT (Seasonally High Water Table)	42.00 ft amsl	PPE Not Within 6 in of SHWT, Must Use Option #2
This design meets Option #2, Wetland has liner with permeability < 0.01 in/hr, If yes:	Y (Y or N)	
Depth of topsoil above impermeable liner	4.00 in	OK

Topographic Zone Depths

Temporary Pool		
Shallow Land	12.00 in	OK
Permanent Pool		
Shallow Water	6.00 in	OK
Deep Pool (shallowest)	36.00 in	OK
Deep Pool (deepest)	36.00 in	OK

Planting Plan

Are cattails included in the planting plan?	N (Y or N)		OK	We included 223 shrubs in order to meet the Shallow Land Planting requirements.
Number of Plants recommended in Shallow Water Area:				1 shrub = 6.25 herbaceous plants. (2,650/454)
Herbaceous (4^+ cubic-inch container)	3,100			223 shrubs x 6.25 = 1,393 herbaceous
Number of Plants recommended in Shallow Land Area:				1,259 Herbaceous + 1,393 Herbaceous = 2,652 Herb.
Herbaceous (4^+ cubic-inch container), **OR**	2,850			Required Herbaceous 2,650
Shrubs (1 gallon or larger), **OR**	456			Provided Herbaceous 2,652
Trees (3 gallon or larger) **and** Herbaceous (4+ cubic-inch)	57	**and**	2,280	
Number of Plants provided in Shallow Water Area:				
Herbaceous (4^+ cubic-inch container)	3,100		OK	
Number of Plants provided in Shallow Land Area:				
Herbaceous (4^+ cubic-inch container)	1,259			More required if not planting shrubs or trees.
Shrubs (1 gallon or larger)	223			More required if not planting herb. and/or trees.
Trees (3 gallon or larger) **and** Grass-like Herbaceous (4+ cubic-inch)	0			More required if not planting herb. and/or shrubs.

Additional Information

Can the design volume be contained?	Y	(Y or N)	OK
Does project drain to SA waters? If yes,	N	(Y or N)	Excess volume must pass through filter.
What is the length of the vegetated filter?		ft	
Are calculations for supporting the design volume provided in the application?	Y	(Y or N)	OK
Is BMP sized to handle all runoff from ultimate build-out?	Y	(Y or N)	OK
Is the BMP located in a recorded drainage easement with a recorded access easement to a public Right of Way (ROW)?	Y	(Y or N)	OK
The length to width ratio is:	2.45	:1	OK
Approximate wetland length	270.00	ft	
Approximate wetland width	110.00	ft	
Approximate surface area using length and width provided	29,700.00	ft^2	This approx. surface area is within this number of square feet of the entire wetland surface area reported above:
Will the wetland be stabilized within 14 days of construction?	Y	(Y or N)	OK

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

BMP Drainage Basin #:_____

Stormwater Wetland 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.

Important maintenance procedures:

- Immediately following construction of the stormwater wetland, bi-weekly inspections will be conducted and wetland plants will be watered bi-weekly until vegetation becomes established (commonly six weeks).
- No portion of the stormwater wetland will be fertilized after the first initial fertilization that is required to establish the wetland plants.
- Stable groundcover will be maintained in the drainage area to reduce the sediment load to the wetland.
- Once a year, a dam safety expert should inspect the embankment.

After the stormwater wetland is established, I will inspect it **monthly and within 24 hours after every storm event greater than 1.5 inches**. Records of operation and maintenance will be kept in a known set location and will 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:
Entire BMP	Trash/debris is present.	Remove the trash/debris.
Perimeter of wetland	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 an appropriate height.
Inlet device: pipe or swale	The pipe is clogged (if applicable).	Unclog the pipe. Dispose of the sediment offsite.
	The pipe is cracked or otherwise damaged (if applicable).	Replace the pipe.
	Erosion is occurring in the swale (if applicable).	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.

BMP element:	Potential problem:	How I will remediate the problem:
Forebay	Sediment has accumulated in the forebay to a depth that inhibits the forebay from functioning well.	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 a pesticide is used, wipe it on the plants rather than spraying.
	Shallow land remains flooded more than 5 days after a storm event.	Unclog the outlet device immediately.
	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 necessary.
	Sediment has accumulated and reduced the depth to 75% of the original design depth of the deep pools.	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.
Embankment	A tree has started to grow on the embankment.	Consult a dam safety specialist to remove the tree.
	An annual inspection by appropriate professional shows that the embankment needs repair.	Make all needed repairs.
	Evidence of muskrat or beaver activity is present.	Consult a professional to remove muskrats or beavers.
Wetland Vegetation	Algal growth covers over 50% of the deep pool and shallow water areas.	Consult a professional to remove and control the algal growth.
	Cattails or other invasive plants cover >25% of the deep pool and shallow water areas (a mono-culture of plants must be avoided)	Remove all invasives by physical removal or by wiping them with pesticide (do not spray) – consult a professional.
	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.
	Best professional practices show that pruning is needed to maintain optimal plant health.	Prune according to best professional practices.
	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 necessary.

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

BMP element:	Potential problem:	How I will remediate the problem:
Micropool	Sediment has accumulated and reduced the depth to 75% of the original design 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.
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.
Receiving water	Erosion or other signs of damage have occurred at the outlet.	Contact the NC Division of Water Quality 401 Oversight Unit at 919-733-1786.

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:Blair Elementary School

BMP drainage basin number:A

Print name:New Hanover Board of Education

Title: Director, Facility Planning

Address:6410 Carolina Beach Road, Wilmington, NC 28412

Phone:910-254-4325

Signature: Eddie Anderson

Date: 8/31/16

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, Kimberly H. Joye, a Notary Public for the State of NORTH CAROLINA, County of NEW HANOVER, do hereby certify that Eddie Anderson personally appeared before me this 31st day of August, 2016, and acknowledge the due execution of the forgoing stormwater wetland maintenance requirements. Witness my hand and official seal,

KIMBERLY H. JOYE
Notary Public
New Hanover County, NC

SEAL

My commission expires 11-24-2017