



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: **GLOW NC, Inc.**
PROJECT: **GLOW Leadership Academy**
ADDRESS: **4100 Sunglow Drive**
PERMIT #: **2018037**
DATE: **8/23/2018**

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 Aug 23, 2028 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 8/23/2018.
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 23rd day of August, 2018

A handwritten signature in black ink, appearing to read 'Sterling Cheatham', is written over a horizontal line.

for Sterling Cheatham, City Manager
City of Wilmington



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* Unless otherwise noted
CITY OF WILMINGTON
NORTH CAROLINA

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.):

GLOW Leadership Academy

2. Location of Project (street address):

4100 Sunglow Drive

City: Wilmington County: New Hanover Zip: 28405

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

At the intersection of N Kerr Ave and Martin Luther King Parkway head South on N Kerr Ave and proceed

about .24 miles and turn right onto Sunglow Drive. The school site is at the end of the cul de sac.

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:

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: GLOW NC, Inc.

Signing Official & Title: Todd Gordon, CEO

- a. Contact information for Applicant / Signing Official:

Street Address: 606 S College Rd

City: Wilm State: NC Zip: 28403

Phone: 338-5258 Fax: . Email: tgordon@glwacareng.net

Mailing Address (if different than physical address): PO Box 7621

City: Wilm State: NC Zip: 28406

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

- 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: n/a

Signing Official & Title: _____

- a. Contact information for Property Owner:

Street Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ Email: _____

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: Kenneth Loring - CLH design, p.a.

Signing Official & Title: Project Engineer



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: kloring@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 four
proposed stormwater wetland SCMs.

2. Total Property Area: 1,338,635 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: 1,338,635 square feet.

6. Existing Impervious Surface within Property Area: 0 square feet

7. Existing Impervious Surface to be Removed/Demolished: 0 square feet

8. Existing Impervious Surface to Remain: 0 square feet

9. Total Onsite (within property boundary) Newly Constructed Impervious Surface (*in square feet*):

Buildings/Lots	76,278
Impervious Pavement	157,480
Pervious Pavement (adj. total, with % credit applied)	0
Impervious Sidewalks	37,160
Pervious Sidewalks (adj. total, with % credit applied)	0
Other (describe)	32,124
Future Development	21,978
Total Onsite Newly Constructed Impervious Surface	325,020

10. Total Onsite Impervious Surface

(Existing Impervious Surface to remain + Onsite Newly Constructed Impervious Surface) = 325,020 square feet

11. Project percent of impervious area: (Total Onsite Impervious Surface / Total Project Area) x100 = 24.3 %



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

Impervious Pavement	1,665
Pervious Pavement (adj. total, with % credit applied)	0
Impervious Sidewalks	535
Pervious Sidewalks (adj. total, with % credit applied)	0
Other (describe)	0
Total Offsite Newly Constructed Impervious Surface	2,200

13. Total Newly Constructed Impervious Surface

(Total Onsite + Offsite Newly Constructed Impervious Surface) = 327,220 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 # A1	BMP # A2	BMP # B1
Receiving Stream Name	Smith Creek	Smith Creek	Smith Creek
Receiving Stream Index Number	18-74-63	18-74-63	18-74-63
Stream Classification	C;Sw	C;Sw	C;Sw
Total Drainage Area (sf)	119,200	59,025	317,110
On-Site Drainage Area (sf)	119,200	59,025	317,110
Off-Site Drainage Area (sf)	0	0	0
Total Impervious Area (sf)	64,305	43,335	187,320
Buildings/Lots (sf)	24,853	0	51,425
Impervious Pavement (sf)	9,160	37,538	92,957
Pervious Pavement (sf)	0	0	0
Impervious Sidewalks (sf)	5,043	3,098	25,517
Pervious Sidewalks (sf)	0	0	0
Other (sf)	18,714	519	12,891
Future Development (sf)	6,535	2,180	4,530
Existing Impervious to remain (sf)	0	0	0
Offsite (sf)	0	0	0
Percent Impervious Area (%)	54	73	59

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

off-site areas bypass site SCMs.



BMP Drainage area information (continued)

Basin Information	Stormwater Wetland BMP # B2	BMP #	BMP #
Receiving Stream Name	Smith Creek		
Receiving Stream Index Number	18-74-63		
Stream Classification	C; Sw		
Total Drainage Area (sf)	45660	0	0
On-Site Drainage Area (sf)	45660		
Off-Site Drainage Area (sf)	0		
Total Impervious Area (sf)	30060	0	0
Buildings/Lots (sf)	0		
Impervious Pavement (sf)	17825		
Pervious Pavement, 100 % credit (sf)			
Impervious Sidewalks (sf)	3502		
Pervious Sidewalks, % credit (sf)	0		
Other (sf)	0		
Future Development (sf)	8733		
Existing Impervious to remain (sf)	0		
Offsite (sf)	0		
Percent Impervious Area (%)	66.0%		
Basin Information	(Type of BMP) BMP #	(Type of BMP) BMP #	(Type of BMP) BMP #
Receiving Stream Name			
Receiving Stream Index Number			
Stream Classification			
Total Drainage Area (sf)	0	0	0
On-Site Drainage Area (sf)			
Off-Site Drainage Area (sf)			
Total Impervious Area (sf)	0	0	0
Buildings/Lots (sf)			
Impervious Pavement (sf)			
Pervious Pavement, % credit (sf)			
Impervious Sidewalks (sf)			
Pervious Sidewalks, % credit (sf)			
Other (sf)			
Future Development (sf)			
Existing Impervious to remain (sf)			
Offsite (sf)			
Percent Impervious Area (%)			

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

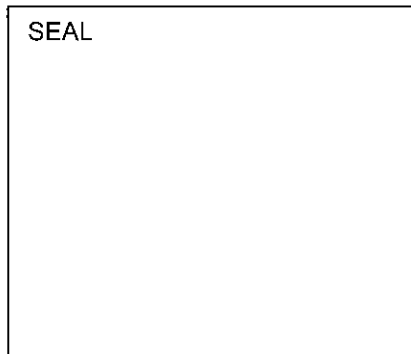
City: Cary State: NC Zip: 27518

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*) n/a-property owner & developer the same, 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*) n/a with (*print or type name of organization listed in Contact Information, item 1*) n/a 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: N/A - property owner & developer are the same.

Date: _____

I, _____, a Notary Public for the State of _____, County of _____, do hereby certify that _____ personally appeared before me this day of _____, _____.

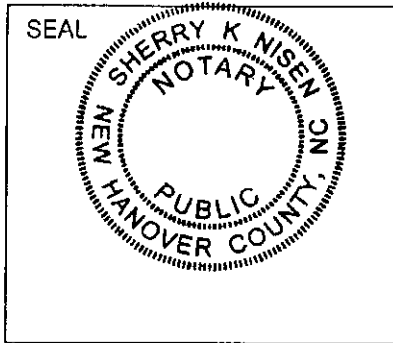
and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

SHERRY NISEN

My commission expires: _____

VIII. APPLICANT'S CERTIFICATION

I, (print or type name of person listed in Contact Information, item 1) Todd Godbey 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: [Handwritten Signature]

Date: 3.9.18

I, SHERRY NISEN, a Notary Public for the State of NORTH CAROLINA County of NEW HANOVER, do hereby certify that Todd Godbey personally appeared before me this day of MARCH 7, 2018 and acknowledge the due execution of the application for a stormwater

permit. Witness my hand and official seal,

Sherry Nisen

My commission expires: 1/24/2022

SUPPLEMENT-EZ FORM COVER PAGE

Please indicate the types, quantities and locations of SCMs that will be used on this project:

Quantity	Location(s)
4	On site. At project location address
Infiltration System Bioretention Cell Wet Pond Stormwater Wetland Permeable Pavement Sand Filter Rainwater Harvesting Green Roof Level Spreader-Filter Strip Disconnected Impervious Surface Treatment Swale Dry Pond	

Project Name:

G.L.O.W. New School Building

Address

4100 Sunglow Drive

City / Town

Wilmington, NC

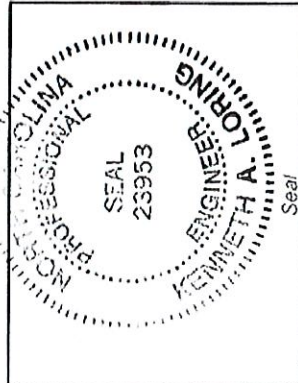
Designer information for this project:

Name and Title: Kenneth Loring, PE - Principal
 Organization: CLH Design
 Street address: 400 Regency Forest Dr. Suite 120
 City, State, Zip: Cary, NC 27518
 Phone number(s): 919-319-6716
 Email: kloring@clhdesignpa.com

Applicant:

Company: GLOW NC, Inc
 Contact: Todd Godbey, CEO
 Mailing Address: 606 S College Road
 City, State, Zip: Wilmington, NC 28403
 Phone number(s): 910-338-5258
 Email: tgcgbey@glowacademy.net

Designer

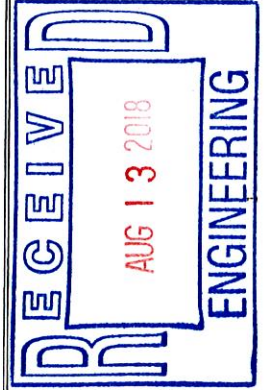


Kenneth A. Loring
 Signature of Designer

8-13-18
 Date

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.
 I am aware that there are significant penalties for submitting false information including the possibility of fines and imprisonment for knowing violations as well as a report being made to my professional board.



STORMWATER WETLAND

G.L.O.W. New School Building

THE DRAINAGE AREA		1	
Drainage area number	A1	Break down of BUA in the drainage area (both new and existing):	
Total coastal wetlands area (sq ft)		- Parking / driveway (sq ft)	9160 sf
Total surface water area (sq ft)		- Sidewalk (sq ft)	5043 sf
Total drainage area (sq ft)	119200 sf	- Roof (sq ft)	24853 sf
BUA associated with existing development (sq ft)		- Roadway (sq ft)	
Proposed new BUA (sq ft)	64305 sf	- Other, please specify in the comment box below (sq ft)	25249 sf
Percent BUA of drainage area	54%	Total BUA (sq ft)	64305 sf
COMPLIANCE WITH THE APPLICABLE STORMWATER PROGRAM			
Stormwater program(s) that apply (please specify):			
City of Wilmington			
Design rainfall depth (in)			
Minimum volume required (cu ft)			
Design volume of SCM (cu ft)			
GENERAL MDC FROM 02H .1050			
#1 Is the SCM sized to treat the SW from all surfaces at build out?	Yes	#7 If applicable, with the SCM be cleaned out after construction?	Yes
#2 Is the SCM located on or near contaminated soils?	No	#8 Does the maintenance access comply with General MDC (8)?	Yes
#3 What are the side slopes of the SCM (H:V)?	3:1	#9 Does the drainage easement comply with General MDC (9)?	Yes
#4 Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No	#10 If the SCM is on a single family lot, does the plat comply with General MDC (10)?	Yes
#5 Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes	#11 Is there an O&M Agreement that complies with General MDC (11)?	Yes
#6 Is there a bypass for flows in excess of the design flow?	Yes	#12 Is there an O&M Plan that complies with General MDC (12)?	Yes
#7 What is the method for dewatering the SCM for maintenance?	Pump (preferred)	#13 Was the SCM designed by an NC licensed professional?	Yes
STORMWATER WETLAND MDC FROM 02H .1054			
#1 Permanent pool elevation (fms)	26.50 ft	#8 Total surface area of the shallow water zone at temporary pool (square feet)	3430 sf
#1 Temporary pool elevation (fms)	27.58 ft	#8 SW wetland surface area comprised of shallow water zone at temporary pool (%)	35%
#1 Ponding depth (inches)	13 in	#9 Depth of the shallow water zone below permanent pool (inches)	6 in
#2 Is the SW wetland designed for peak attenuation?	Yes	#8 Elevation of bottom of the shallow water zone (fms)	26.00 ft
#2 If so, peak attenuation depth (inches)	26.6 in	#9 Total surface area of the temporary inundation zone at temporary pool (square feet)	3690 sf
#3 Surface area of SW wetland at temporary pool (square feet)	9770 sf	#9 SW wetland surface area comprised of temp inundation zone at temp pool (%)	38%
#4 Depth of soil amendment (inches)	12 in	#9 Height of the temporary inundation zone above permanent pool (inches)	13 in
#4 Describe how the soil is being amended to promote plant growth:	Soils shall be uniform and free of stones, stumps and roots. The soil texture shall be a loamy sand, with no more than 10% clay, minimum organic content of 10%, and a pH between 5.3 and 7.0.		
#6 Are the inlet(s) and outlet located in a manner that avoids short-circuiting?	Yes	#10 Drawdown time for the temporary pool (hours)	26.50 ft
#6 Describe any measures, such as berms or baffles, that will be taken to improve the flow path:		#10 Does the orifice drawdown from below the top surface of the permanent pool?	91 hrs
Wetland has a 6:1 length to width ratio with inundation zones dispersed along flow path.		#11 Does the pond minimize impacts to the receiving channel from the 1-yr, 24-hr storm?	Yes
#6 Surface area of the forebay at temporary pool (square feet)	1310 sf	#12 Has a landscaping plan that meets SW Wetland MDC (12) been provided?	Yes
#6 Overall SW wetland surface area comprised of forebay at temporary pool (%)	13%	#13 Number of plants per 200 square feet (#) in the shallow water zone:	50
#6 Depth of forebay below permanent pool (inches)	24 in	#13 Describe the planting plan for the shallow water zone:	Peltandra virginiana, Pontederia Cordata, Sagittaria Lanciolla, Saururus Cernuus, Juncus Effusus
#6 Elevation of bottom of forebay (fms)	24.50 ft	#14 Does planting for the temporary inundation zone comply with SW Wetland MDC (14)?	Yes
#6 Will the forebay be cleaned out when depth is reduced to 15 inches or less?	Yes	#14 Describe the planting plan for the temporary inundation zone:	Carex Lurida, Asclepias incarnata, Iris Virginia, Lobelia Cardinalis, Cephalanthus Occidentalis, Sambucus Canadensis, Clethra Alnifolia, Itea Virginia, Aronia Arbutifolia
#7 Total surface area of the non-forebay deep pools at temporary pool (square feet)	1340 sf	#15 Are the dam structure and temporary fill slopes planted in non-clumping turfgrass?	Yes
#7 SW wetland surface area comprised of non-forebay deep pools at temporary pool (%)	14%	#16 Will cattails be planted in the wetland?	No
#7 Depth of non-forebay deep pools below permanent pool (inches)	24 in	#17 Is a trash rack or other device provided to protect the outlet system?	Yes
#7 Elevation of bottom of non-forebay deep pools (fms)	24.50 ft		
ADDITIONAL INFORMATION			
Please use this space to provide any information about this stormwater wetland that you think is relevant to the review.			
The BUA classified as other include grass pave frielene, mechanical equipment pads and 6535 sf of future impervious areas.			



STORMWATER WETLAND

G.L.O.W. New School Building

THE DRAINAGE AREA		A2	
Drainage area number			
Total coastal wetlands area (sq ft)			37536 sq ft
Total surface water area (sq ft)			3096 sq ft
Total drainage area (sq ft)	59025 sq ft		
BUA associated with existing development (sq ft)	43335 sq ft		2699 sq ft
Proposed new BUA (sq ft)	73%		43335 sq ft
Percent BUA of drainage area			
COMPLIANCE WITH THE APPLICABLE STORMWATER PROGRAM			
Stormwater program(s) that apply (please specify):			
City of Wilmington			
Design rainfall depth (in)			
Minimum volume required (cu ft)			
Design volume of SCM (cu ft)			
GENERAL MDC FROM 02H .1050			
#1 Is the SCM sized to treat the SW from all surfaces at build out?	Yes		Yes
#2 Is the SCM located on or near contaminated soils?	No		Yes
#3 What are the side slopes of the SCM (H:V)?	3:1		Yes
#4 Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No		Yes
#5 Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes		Yes
#6 Is there a bypass for flows in excess of the design flow?	Yes		Yes
#7 What is the method for dewatering the SCM for maintenance?	Pump (preferred)		Yes
STORMWATER WETLAND MDC FROM 02H .1054			
#1 Permanent pool elevation (fms)	26.0 ft		1880 sq ft
#2 Temporary pool elevation (fms)	27.25 ft		37%
#3 Ponding depth (inches)	15 in		6 in
#4 Is the SW wetland designed for peak attenuation?	Yes		25.50 ft
#5 If so, peak attenuation depth (inches)	22.8 in		1740 sq ft
#6 Surface area of SW wetland at temporary pool (square feet)	5060 sq ft		34%
#7 Depth of soil amendment (inches)	12 in		15 in
#8 Describe how the soil is being amended to promote plant growth:			86 hrs
Soils shall be uniform and free of stones, stumps and roots. The soil texture shall be a loamy sand, with no more than 10% clay, minimum organic content of 10%, and a pH between 5.5 and 7.0.			Yes
#9 Are the inlets and outlet located in a manner that avoids short-circuiting?	Yes		Yes
#10 Describe any measures, such as berms or baffles, that will be taken to improve the flow path:			Yes
Wetland has a 2:1 length to width ratio with inundation zones dispersed along flow path.			50
#11 Surface area of the forebay at temporary pool (square feet)	740 sq ft		
#12 Overall SW wetland surface area comprised of forebay at temporary pool (%)	15%		
#13 Depth of forebay below permanent pool (inches)	24 in		Yes
#14 Elevation of bottom of forebay (fms)	24.0 ft		
#15 Will the forebay be cleaned out when depth is reduced to 15 inches or less?	Yes		
#16 Total surface area of the non-forebay deep pools at temporary pool (square feet)	700 sq ft		
#17 SW wetland surface area comprised of non-forebay deep pools at temporary pool (%)	14%		Yes
#18 Depth of non-forebay deep pools below permanent pool (inches)	24 in		No
#19 Elevation of bottom of non-forebay deep pools (fms)	24.0 ft		Yes
ADDITIONAL INFORMATION			
Please use this space to provide any information about this stormwater wetland that you think is relevant to the review.			
The BUA classified as other include grass pave firelane, mechanical equipment pads and 2180 sq ft of future impervious areas.			



STORMWATER WETLAND

G.L.O.W. New School Building

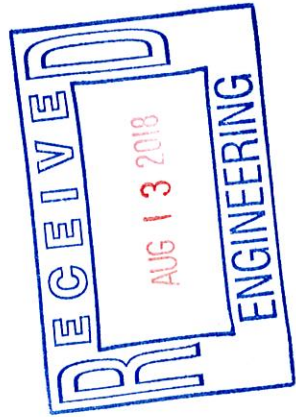
THE DRAINAGE AREA		3	
Drainage area number	B1	Break down of BUA in the drainage area (both new and existing):	
Total coastal wetlands area (sq ft)		- Parking / driveway (sq ft)	92957 sf
Total surface water area (sq ft)		- Sidewalk (sq ft)	25517 sf
Total drainage area (sq ft)	317110 sf	- Roof (sq ft)	51425 sf
BUA associated with existing development (sq ft)		- Roadway (sq ft)	17421 sf
Proposed new BUA (sq ft)	187310 sf	- Other, please specify in the comment box below (sq ft)	187320 sf
Percent BUA of drainage area	59%	Total BUA (sq ft)	
COMPLIANCE WITH THE APPLICABLE STORMWATER PROGRAM			
Stormwater program(s) that apply (please specify):			
City of Wilmington			
GENERAL MDC FROM 02H_1050			
#1 Is the SCM sized to treat the SW from all surfaces at build out?	Yes	#7 If applicable, with the SCM be cleaned out after construction?	Yes
#2 Is the SCM located on or near contaminated soils?	No	#8 Does the maintenance access comply with General MDC (8)?	Yes
#3 What are the side slopes of the SCM (H:V)?	3:1	#9 Does the drainage easement comply with General MDC (9)?	Yes
#4 Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No	#10 If the SCM is on a single family lot, does the lot comply with General MDC (10)?	Yes
#5 Are the inlets, outlets, and receiving stream protected from erosion (10 year storm)?	Yes	#11 Is there an O&M Agreement that complies with General MDC (11)?	Yes
#6 Is there a bypass for flows in excess of the design flow?	Yes	#12 Is there an O&M Plan that complies with General MDC (12)?	Yes
#6 What is the method for dewatering the SCM for maintenance?	Pump (preferred)	#13 Was the SCM designed by an NC licensed professional?	Yes
STORMWATER WETLAND MDC FROM 02H_1054			
#1 Permanent pool elevation (fmsl)	26.70 ft	#8 Total surface area of the shallow water zone at temporary pool (square feet)	8130 sf
#1 Temporary pool elevation (fmsl)	27.95 ft	#8 SW wetland surface area comprised of shallow water zone at temporary pool (%)	36%
#1 Ponding depth (inches)	15 in	#8 Depth of the shallow water zone below permanent pool (inches)	6 in
#2 Is the SW wetland designed for peak attenuation?	Yes	#8 Elevation of bottom of the shallow water zone (fmsl)	26.2 ft
#2 If so, peak attenuation depth (inches)	33.8 in	#9 Total surface area of the temporary inundation zone at temporary pool (square feet)	9540 sf
#3 Surface area of SW wetland at temporary pool (square feet)	22420 sf	#9 SW wetland surface area comprised of temp inundation zone at temp pool (%)	43%
#4 Depth of soil amendment (inches)	12 in	#9 Height of the temporary inundation zone above permanent pool (inches)	15 in
#4 Describe how the soil is being amended to promote plant growth:	Soils shall be uniform and free of stones, stumps and roots. The soil texture shall be a loamy sand, with no more than 10% clay, minimum organic content of 10%, and a pH between 5.5 and 7.0.		
#5 Are the inlets) and outlet located in a manner that avoids short circuiting?	Yes	#10 Drawdown time for the temporary pool (hours)	26.7 ft
#5 Describe any measures, such as berms or barriers, that will be taken to improve the flow path:	Welland has a 3:1 length to width ratio with inundation zones dispersed along flow path.		
#6 Surface area of the forebay at temporary pool (square feet)	2860 sf	#11 Does the pond minimize impacts to the receiving channel from the 1-yr, 24-hr storm?	Yes
#6 Overall SW wetland surface area comprised of forebay at temporary pool (%)	13%	#12 Has a landscaping plan that meets SW Wetland MDC (12) been provided?	Yes
#6 Depth of forebay below permanent pool (inches)	32 in	#13 Number of plants per 200 square feet (P) in the shallow water zone:	50
#6 Elevation of bottom of forebay (fmsl)	24.0 ft	Pelandra virginiana, Pontederia Cordata, Sagittaria Lancifolia, Saururus Cernuus, Juncus Effusus	
#6 Will the forebay be cleaned out when depth is reduced to 15 inches or less?	Yes	#14 Does planting for the temporary inundation zone comply with SW Wetland MDC (14)?	Yes
#7 Total surface area of the non-forebay deep pools at temporary pool (square feet)	1790 sf	#14 Describe the planting plan for the temporary inundation zone:	Carex Lurida, Asclepias incarnata, Iris Virginia, Lobelia Cardinalis, Cephalanthus Occidentalis, Sambucus Canadensis, Clethra Alnifolia, Itea Virginia, Aronia Arbutifolia
#7 SW wetland surface area comprised of non-forebay deep pools at temporary pool (%)	8%	#15 Are the dam structure and temporary fill slopes planted in non-clumping turfgrass?	Yes
#7 Depth of non-forebay deep pools below permanent pool (inches)	32 in	#16 Will cattails be planted in the wetland?	No
#7 Elevation of bottom of non-forebay deep pools (fmsl)	24.0 ft	#17 Is a trash rack or other device provided to protect the outlet system?	Yes
ADDITIONAL INFORMATION			
Please use this space to provide any information about this stormwater wetland that you think is relevant to the review.			
The BUA classified as other include grass pave firelane, mechanical equipment pads and 4500 sf of future impervious areas.			



STORMWATER WETLAND

G.L.O.W. New School Building

THE DRAINAGE AREA		4
Break down of BUA in the drainage area (both new and existing): - Parking / driveway (sq ft) 17825 sf - Sidewalk (sq ft) 3502 sf - Roof (sq ft) 45660 sf - Roadway (sq ft) 30060 sf - Other, please specify in the comment box below (sq ft) 8733 sf Total BUA (sq ft) 30060 sf		
Design rainfall depth (in) 1.5 in Minimum volume required (cu ft) 3697 cf Design volume of SCM (cu ft) 3740 cf		
GENERAL MDC FROM 02H_1050		
#1 Is the SCM sized to treat the SW from all surfaces at build out?	Yes	Yes
#2 Is the SCM located on or near contaminated soils?	No	Yes
#3 What are the side slopes of the SCM (H:V)?	3:1	Yes
#4 Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No	Yes
#5 Are the inlets, outlets, and receiving stream protected from erosion (10 year storm)?	Yes	Yes
#6 Is there a bypass for flows in excess of the design flow?	Yes	Yes
#7 What is the method for devaluing the SCM for maintenance?	Pump (preferred)	Yes
STORMWATER WETLAND MDC FROM 02H_1054		
#1 Permanent pool elevation (fmsl)	27.0 ft	1570 sf
#2 Temporary pool elevation (fmsl)	28.0 ft	35%
#3 Ponding depth (inches)	12 in	6 in
#4 Is the SW wetland designed for peak attenuation?	Yes	26.5 ft
#5 II so, peak attenuation depth (inches)	18.2 in	1670 sf
#6 Surface area of SW wetland at temporary pool (square feet)	4470 sf	37%
#7 Depth of soil amendment (inches)	12 in	12 in
#8 Describe how the soil is being amended to promote plant growth. Soils shall be uniform and free of stones, stumps and roots. The soil texture shall be a loamy sand, with no more than 10% clay, minimum organic content of 10%, and a pH between 5.5 and 7.0.		27 ft
#9 Are the inlets and outlet located in a manner that avoids short circuiting?	No	Yes
#10 Describe any measures, such as berms or barriers, that will be taken to improve the flow path: Wetland has a 1:5:1 length to width ratio		Yes
#11 Surface area of the forebay at temporary pool (square feet)	630 sf	50
#12 Overall SW wetland surface area comprised of forebay at temporary pool (%)	14%	
#13 Depth of forebay below permanent pool (inches)	18 in	Yes
#14 Elevation of bottom of forebay (fmsl)	25.5 ft	
#15 Will the forebay be cleaned out when depth is reduced to 15 inches or less?	Yes	
#16 Total surface area of the non-forebay deep pools at temporary pool (square feet)	600 sf	
#17 SW wetland surface area comprised of non-forebay deep pools at temporary pool (%)	13%	Yes
#18 Depth of non-forebay deep pools below permanent pool (inches)	24 in	No
#19 Elevation of bottom of non-forebay deep pools (fmsl)	25.0 ft	Yes
ADDITIONAL INFORMATION Please use this space to provide any information about this stormwater wetland that you think is relevant to the review. The BUA classified as other include 8733 sf of future impervious areas.		



Operation & Maintenance Agreement

Project Name: Glow New School Building
Project Location: 4100 Sunglow Drive, Wilmington, NC 28405

Cover Page

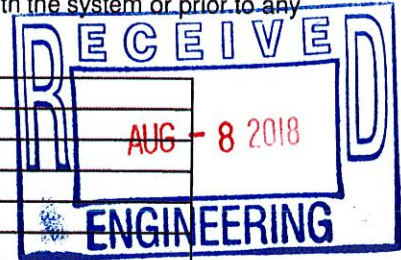
Maintenance records shall be kept on the following BMP(s). This maintenance record shall be kept in a log in a known set location. Any deficient BMP elements noted in the inspection will be corrected, repaired, or replaced immediately. These deficiencies can affect the integrity of structures, safety of the public, and the pollutant removal efficiency of the BMP(s).

The BMP(s) on this project include (check all that apply & corresponding O&M tables will be added automatically):

Bioretention Cell	Quantity:		Location(s):	
Dry Detention Basin	Quantity:		Location(s):	
Grassed Swale	Quantity:		Location(s):	
Green Roof	Quantity:		Location(s):	
Infiltration Basin	Quantity:		Location(s):	
Infiltration Trench	Quantity:		Location(s):	
Level Spreader/VFS	Quantity:		Location(s):	
Permeable Pavement	Quantity:		Location(s):	
Proprietary System	Quantity:		Location(s):	
Rainwater Harvesting	Quantity:		Location(s):	
Sand Filter	Quantity:		Location(s):	
Stormwater Wetland	Quantity:	4	Location(s):	On site. At project location noted above.
Wet Detention Basin	Quantity:		Location(s):	
Disconnected Impervious Area	Present:	No	Location(s):	
User Defined BMP	Present:	No	Location(s):	

I acknowledge and agree by my signature below that I am responsible for the performance of the maintenance procedures listed for each BMP above, and attached O&M tables. I agree to notify NCDENR of any problems with the system or prior to any changes to the system or responsible party.

* Responsible Party: TODD Godbey
 Title & Organization: CEO, GLOW NC, INC.
 Street address: 606 S College Road
 City, state, zip: Wilmington, NC 28403
 Phone number(s): 910-338.5258
 Email: tgodbey@glowacademy.net

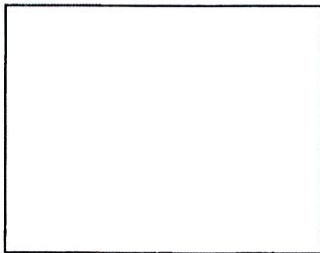


Signature: [Handwritten Signature]

Date: 8.8.18

I, SHERRY NISEN, a Notary Public for the State of NORTH CAROLINA
 County of NEW HANOVER, do hereby certify that Todd Godbey
 personally appeared before me this 8th day of AUGUST and
 acknowledge the due execution of the Operations and Maintenance Agreement.

Witness my hand and official seal, Sherry K Nisen



My commission expires

O&M Manual

1/24/2022

Stormwater Wetland Maintenance Requirements

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, it shall be inspected **monthly and within 24 hours after every storm event greater than 1.0 inches (or 1.5 inches if in a Coastal County)**. 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.
The perimeter of the BMP	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.
Forebay	Sediment has accumulated in the forebay to a depth that inhibits the forebay from	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.
The inlet device	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.
	Stone verge is clogged or covered in sediment (if applicable).	Remove sediment and replace with clean stone.



Stormwater Wetland Maintenance Requirements (Continued)

Deep pool, shallow water and shallow land areas	Algal growth covers over 50% of the deep pool and shallow water areas.	Consult a professional to remove and control the algal growth.
	Cattails, phragmites or other invasive plants cover 50% of the deep pool and shallow	Remove invasives by physical removal or by wiping them with pesticide (do not spray) – consult a professional.
	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.
	Best professional practices show that pruning is needed to maintain optimal plant	Prune according to best professional practices.
	Sediment has accumulated and reduced the depth to 75% of the original design depth of	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	Make all needed repairs.
	Evidence of muskrat or beaver activity is present.	Consult a professional to remove muskrats or beavers.
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.
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 Department of Environment and Natural Resources Regional Office.

