

## 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: **HM Woodlands Phase II, LLC**  
PROJECT: **Hawthorne at the Pointe Phase II**  
ADDRESS: **4114 Echo Farms Boulevard**  
PERMIT #: **2023009**  
DATE: **2/24/2023**

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 2/24/2031 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 2/21/2023.
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.



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 stormwater treatment systems as well as access to nearest right-of-way must be located in recorded easements.
11. 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.
12. 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.
13. 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.
14. 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.



15. 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.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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.
21. 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.



**Public Services**

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

22. 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.
23. 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.
24. 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.
25. 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 24th day of February, 2023

A handwritten signature in blue ink, appearing to read "E. Caudle", is written over a horizontal line.

for Anthony Caudle, City Manager  
City of Wilmington

**RECEIVED**  
By Jeff Walton at 12:03 pm, Nov 02, 2022



**Public Services**  
Engineering  
212 Operations Center Dr  
Wilmington, NC 28412  
910 341-7807  
91 341-5881 fax  
wilmingtonnc.gov  
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**STORMWATER MANAGEMENT PERMIT APPLICATION FORM**  
(Form SWP 2.3)

**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.):  
**Hawthorne at the Pointe Phase II**

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- 2. Location of Project (street address):  
**4114 Echo Farms Boulevard located on the southwest side of Carolina Beach Road**  
City: Wilmington County: New Hanover Zip: 28412

**II. PERMIT INFORMATION**

- 1. Specify the type of project (check one):  Low Density  High Density  
 Offsite Stormwater System  Drainage Plan  Redevelopment  Other  
If the project drains to an Offsite System, list the Stormwater Permit Number(s):  
City of Wilmington: \_\_\_\_\_ State - NCDEQ/DEMLR: \_\_\_\_\_
- 2. Is the project currently covered (whole or in part) by an existing City or State (NCDEQ/DEMLR) Stormwater Permit?  Yes  No  
If yes, list all applicable Stormwater Permit Numbers:  
City of Wilmington: \_\_\_\_\_ State - NCDEQ/DEMLR: \_\_\_\_\_
- 3. Additional Project Permit Requirements (check all applicable):  
 CAMA Major  Sedimentation/Erosion Control  404/401 Permit

**III. CONTACT INFORMATION**

- 1. Print Applicant / Signing Official's name and title (the developer, property owner, lessee, designated government official, individual, etc. who owns the project):  
Applicant / Organization: HM Woodlands Phase II, LLC  
Signing Official & Title: Phillip Payonk, Managing Member

a. Contact information for Applicant / Signing Official:

Address: 806 Green Valley Road, Suite 311  
City: Greensboro State: NC Zip: 27408  
Phone: (336) 553-1700 Email: ppayonk@hprliving.com

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

- The property owner/Purchaser (Skip to item 3)
- Lessee (Attach a copy of the lease agreement and complete items 2 and 2a below)
- Developer (Complete items 2 and 2a below.)

2. Print Property Owner's name and title (if different from the applicant).

Property Owner / Organization: \_\_\_\_\_

Signing Official & Title: \_\_\_\_\_

a. Contact information for Property Owner:

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

3. (Optional) Other Contact name and title (such as a construction supervisor) who would like to be copied on all correspondence:

Other Contact Person / Organization: \_\_\_\_\_

Signing Official & Title: \_\_\_\_\_

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

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

4. Agent Authorization: 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: Tim G. Clinkscales, PE

Consulting Firm: Paramounte Engineering, Inc.

a. Contact information for consultant listed above:

Mailing Address: 122 Cinema Drive

City: Wilmington State: NC Zip: 28403

Phone: (910) 791-6707 Email: tclinkscales@paramounte-eng.com

**IV. PROJECT INFORMATION**

1. Total Property Area: 591,022 square feet
2. Total Coastal Wetlands Area: \_\_\_\_\_ square feet
3. Total Surface Water Area: \_\_\_\_\_ square feet
4. Total Property Area (1) – Total Coastal Wetlands Area (2) – Total Surface Water Area (3) = Total Project Area: 591,022 square feet.
5. Existing Impervious Surface within Project Area: 14,025 square feet
6. Existing Impervious Surface to be Removed/Demolished: 12,800 square feet
7. Existing Impervious Surface to Remain: 1,225 square feet
8. Total Onsite (within property boundary) Newly Constructed Impervious Surface (in square feet):

Buildings/Lots	59,950
Impervious Pavement	76,120
Pervious Pavement (total area / adjusted area w credit applied)	/
Impervious Sidewalks	9,840
Pervious Sidewalks (total area / adjusted area w credit applied)	/
Other (Describe)	
Future Development	24,900
<b>Total Onsite Newly Constructed Impervious Surface</b>	<b>170,900</b>

9. Total Onsite Impervious Surface  
(Existing Impervious Surface to remain + Onsite Newly Constructed Impervious Surface) 172,125 square feet
10. Net Change in Onsite Impervious Surface (+ for net increase, - for net decrease) +170,900 square feet
11. Project percent of impervious area: (Total Onsite Impervious Surface / Total Project Area) x100 = 29.1 %
12. Total Offsite Newly Constructed Impervious Area (in square feet):

Impervious Pavement	2,950
Pervious Pavement (total area / adjusted area w credit applied)	/
Impervious Sidewalks	13,090
Pervious Sidewalks (total area / adjusted area w credit applied)	/
Other (Describe)	
<b>Total Offsite Newly Constructed Impervious Surface</b>	<b>16,040</b>

13. Complete the following information for each Stormwater SCM drainage area. Low Density and Drainage Plan projects (with no permeable pavements) may omit this section and skip to Section V.

Basin Information	Wet Pond #1	Wet Pond #2	Wet Pond #3
Receiving Stream Name	Barnards Creek	Barnards Creek	Barnards Creek
Receiving Stream Index Number	18-80	18-80	18-80
Stream Classification	C:Sw	C:Sw	C:Sw
Total Drainage Area (sf)	124000	165230	83350
On-Site Drainage Area (sf)	124000	165230	83350
Off-Site Drainage Area (sf)			
Buildings/Lots (sf)	16100	23850	20000
Impervious Pavement (sf)	32860	43350	
Pervious Pavement (total / adjusted) (sf)	/	/	/
Impervious Sidewalks (sf)	2700	5700	1440
Pervious Sidewalks (total / adjusted) (sf)	/	/	/
Other (sf)		2280	
Future Development (sf)	9000	13620	
Existing Impervious to remain (sf)			
Offsite (sf)			
<b>Total Impervious Area (sf)</b>	<b>60660</b>	<b>88800</b>	<b>21440</b>
<b>Percent Impervious Area (%)</b>	<b>48.9%</b>	<b>53.7%</b>	<b>25.7%</b>

Basin Information	Type of SCM SCM #	Type of SCM SCM #	Type of SCM SCM #
Receiving Stream Name			
Receiving Stream Index Number			
Stream Classification			
Total Drainage Area (sf)			
On-Site Drainage Area (sf)			
Off-Site Drainage Area (sf)			
Buildings/Lots (sf)			
Impervious Pavement (sf)			
Pervious Pavement (total / adjusted) (sf)	/	/	/
Impervious Sidewalks (sf)			
Pervious Sidewalks (total / adjusted) (sf)	/	/	/
Other (sf)			
Future Development (sf)			
Existing Impervious to remain (sf)			
Offsite (sf)			
<b>Total Impervious Area (sf)</b>			
<b>Percent Impervious Area (%)</b>			



**V. SUBMITTAL REQUIREMENTS**

Only complete application packages will be accepted and reviewed by the City. A complete package includes all of the items listed below. Copies of forms, deed restrictions, checklists as well as detailed instructions on how to complete this application form may be downloaded from the City of Wilmington Plan Review website below:

<https://www.wilmingtonnc.gov/departments/engineering/plan-review/stormwater-permits>

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

Please indicate that the following required information have been provided by initialing in the space provided for each item.

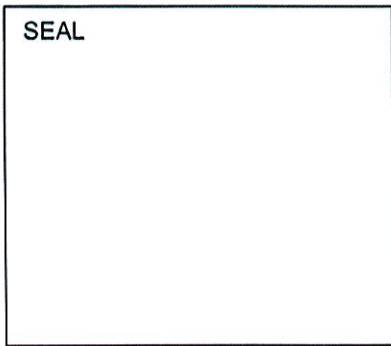
- |  | Initials  |
|--|-----------|
| 1. One completed Stormwater Management Permit Application Form.  | <u>AR</u> |
| 2. One completed Supplement Form for each SCM proposed (signed, sealed and dated).   | <u>AR</u> |
| 3. One completed Operation & Maintenance agreement for each <u>type</u> of SCM.  | <u>AR</u> |
| 4. Proposed Deed Restrictions and Restrictive Covenants (for all subdivisions)   | <u>AR</u> |
| 5. Appropriate stormwater permit review fee.   | <u>AR</u> |
| 6. Minimum requirements identified on the Engineering Plan Review Checklist have been addressed.   | <u>AR</u> |
| 7. One set of calculations (sealed, signed and dated).   | <u>AR</u> |
| 8. A detailed narrative (one to two pages) describing the stormwater treatment/management system for the project.  | <u>AR</u> |
| 9. A USGS map identifying the site location. If the receiving stream is reported as class SA or the receiving stream drains to class SA waters within ½ mile of the site boundary, include the ½ mile radius on the map. | <u>AR</u> |
| 10. A copy of the soils report, if applicable. Must meet NCDEQ SCM Manual and MDC requirements for the type of SCM proposed. The report must include boring logs and a map of boring locations.                          | <u>AR</u> |
| 11. One full set of plans <u>folded to 8.5" x 14"</u> .  | <u>AR</u> |
| 12. A map delineating and labeling the drainage area for each SCM proposed.  | <u>AR</u> |
| 13. A map delineating and labeling the drainage area for each inlet and conveyance proposed.   | <u>AR</u> |
| 14. A digital copy of the entire submittal package (can be submitted via flash drive, CD, email, dropbox or other file sharing system).  | <u>AR</u> |

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

I, \_\_\_\_\_, certify that I own the property identified in this permit application, and thus give permission to \_\_\_\_\_ with \_\_\_\_\_ 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 \_\_\_\_\_ 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: \_\_\_\_\_



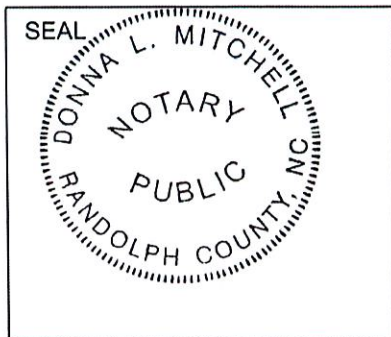
I, \_\_\_\_\_, a Notary Public for the State of \_\_\_\_\_, County of \_\_\_\_\_, do hereby certify that \_\_\_\_\_ personally appeared before me this day of \_\_\_\_\_, \_\_\_\_\_, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

My commission expires: \_\_\_\_\_

**VII. APPLICANT'S CERTIFICATION**

Phillip Payonk, Managing Member  
I, \_\_\_\_\_ with HM Woodlands Phase II, LLC \_\_\_\_\_ 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 rules under the City's Comprehensive Stormwater Ordinance.

Signature: *Phillip Payonk* Date: 10/28/20



I, Donna Mitchell, a Notary Public for the State of NC, County of Gurford, do hereby certify that Phillip Payonk personally appeared before me this day of October 28, 2020, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

*Donna Mitchell*  
My commission expires: July 5, 2025

**RECEIVED**  
By Jeff Walton at 12:02 pm, Nov 02, 2022

**High Density Residential Subdivisions**  
**Deed Restrictions & Protective Covenances**

In accordance with Article 14, Division III of the City of Wilmington Land Development Code, deed restrictions and protective covenants are required for High Density Residential Subdivisions where lots will be subdivided and sold and runoff will be treated in an engineered stormwater control facility. Deed restrictions and protective covenants are necessary to ensure that the development maintains a "built-upon" area consistent with the design criteria used to size the stormwater control facility.

Project Name: Hawthorne at the Pointe Phase II *\*Single Family Lots 1-4 Only*  
Owner / Developer: HM Woodlands Phase II, LLC

- The following covenants are intended to ensure ongoing compliance with the City of Wilmington Stormwater Management Permit Number 2023009, as issued by the City of Wilmington/Engineering.*
- The City of Wilmington is made a beneficiary of these covenants to the extent necessary to maintain compliance with the stormwater management permit.*
- These covenants are to run with the land and be binding on all persons and parties claiming under them.*
- The covenants pertaining to stormwater may not be altered or rescinded without the express written consent of the City of Wilmington.*
- Alteration of the drainage as shown on the approved plan may not take place without the concurrence of the City of Wilmington.*
- The maximum allowable built-upon area per lot is 5,000 square feet. This allotted amount includes any built-upon area constructed within the lot property boundaries, and that portion of the right-of-way between the front lot line and the edge of the pavement. Built upon area includes, but is not limited to, structures, asphalt, concrete, compacted gravel, brick, stone, slate, coquina, and parking areas, but does not include raised open wood decking, washed gravel excluding fines, or the water surface of swimming pools. Note: sidewalk improvements allocated as right-of-way BUA shall not count against deeded lot restricted BUA.*

**OR, if the proposed built-upon areas per lot will vary, please REPLACE #6 above with the following:**  
*The maximum built-upon area per lot, in square feet, is as listed below:*

<i>Lot #</i>	<i>BUA</i>	<i>Lot #</i>	<i>BUA</i>	<i>Lot #</i>	<i>BUA</i>	<i>Lot #</i>	<i>BUA*</i>
_____	_____	_____	_____	_____	_____	_____	_____

Check        Yes or        No if additional lot BUA information has been attached.  
\* If additional space is needed please attach lot BUA spreadsheet.

*This allotted amount includes any built-upon area constructed within the lot property boundaries, and that portion of the right-of-way between the front lot line and the edge of the pavement. Built upon area includes, but is not limited to, structures, asphalt, concrete, compacted gravel, brick, stone, slate, coquina, and parking areas, but does not include raised open wood decking, washed gravel excluding fines, or the water surface of swimming pools. Note: sidewalk improvements allocated as right-of-way BUA shall not count against deeded lot restricted BUA.*

- All runoff from the built-upon areas on the lot must drain into the permitted system. This may be accomplished through a variety of means including roof drain gutters which drain to the street, grading the lot to drain toward the street, or grading perimeter swales to collect the lot runoff and directing them into a component of the stormwater collection system. Lots that will naturally drain into the system are not required to provide these additional measures.*

I acknowledge, affirm and agree by my signature below, that I will cause the following deed restrictions and covenants to be recorded prior to the sale of any lot:

Signature: *Phil Payonk*  
6C0EEF9C686642F...

Date: 11/2/2022

Print Name: Philip M. Payonk

# SUPPLEMENT-EZ COVER PAGE

**RECEIVED**

By Jeff Walton at 12:03 pm, Nov 02, 2022

FORMS LOADED

PROJECT INFORMATION		
1	Project Name	Hawthorne at the Pointe Phase II
2	Project Area (ac)	13.57
3	Coastal Wetland Area (ac)	0
4	Surface Water Area (ac)	0
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)	50
8	Will the vegetated setback remain vegetated?	Yes
9	If BUA is proposed in the setback, does it meet NCAC 02H.1003(4)(c-d)?	Yes
10	Is streambank stabilization proposed on this project?	No

NUMBER AND TYPE OF SCMs:		
11	Infiltration System	0
12	Bioretention Cell	0
13	Wet Pond	3
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

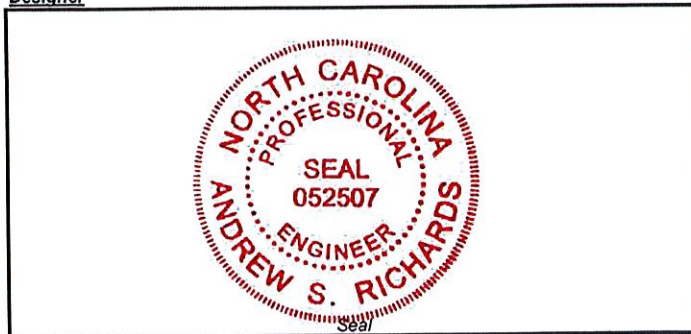
FORMS LOADED

DESIGNER CERTIFICATION		
27	Name and Title:	Andrew Richards, PE
28	Organization:	Paramounte Engineering, Inc.
29	Street address:	122 Cinema Drive
30	City, State, Zip:	Wilmington, NC 28403
31	Phone number(s):	910-791-6707
32	Email:	arichards@paramounte-eng.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**



*[Handwritten Signature]*  
 \_\_\_\_\_  
 Signature of Designer

11/2/22  
 \_\_\_\_\_  
 Date

# DRAINAGE AREAS

1	Is this a high density project?	Yes
2	If so, number of drainage areas/SCMs	3
3	Does this project have low density areas?	No
4	If so, number of low density drainage areas	0
5	Is all/part of this project subject to previous rule versions?	No

[FORMS LOADED](#)

DRAINAGE AREA INFORMATION		Entire Site	1	2	3
4	Type of SCM		Wet Pond	Wet Pond	Wet Pond
5	Total drainage area (sq ft)		124000	165230	83350
6	Onsite drainage area (sq ft)		124000	165230	83350
7	Offsite drainage area (sq ft)				
8	Total BUA in project (sq ft)		60660 sf	88800 sf	21440 sf
9	New BUA on subdivided lots (subject to permitting) (sq ft)				20000 sf
10	New BUA not on subdivided lots (subject to permitting) (sf)		60660 sf	88800 sf	1440 sf
11	Offsite BUA (sq ft)				
12	Breakdown of new BUA not on subdivided lots:				
	- Parking (sq ft)		8700 sf	14600 sf	
	- Sidewalk (sq ft)		2700 sf	5700 sf	1440 sf
	- Roof (sq ft)		16100 sf	23850 sf	
	- Roadway (sq ft)		24160 sf	28750 sf	
	- Future (sq ft)		9000 sf	13620 sf	
	- 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 not on subdivided lots (sq ft)				
15	Existing 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		49%	54%	26%
19	Design storm (inches)		1.5 in	1.5 in	1.5 in
20	Design volume of SCM (cu ft)		9795 cf	13623 cf	3568 cf
21	Calculation method for design volume		scs	scs	scs

ADDITIONAL INFORMATION	
22	Please use this space to provide any additional information about the drainage area(s):
Other BUA is for pump station grounds.	

# WET POND

1	Drainage area number	1	2	3
2	Minimum required treatment volume (cu ft)	7599 cf	11023 cf	2933 cf
<b>GENERAL MDC FROM 02H .1050</b>				
3	Is the SCM sized to treat the SW from all surfaces at build-out?	Yes	Yes	Yes
4	Is the SCM located away from contaminated soils?	Yes	Yes	Yes
5	What are the side slopes of the SCM (H:V)?	3:1	3:1	3:1
6	Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No	No	No
7	Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes	Yes	Yes
8	Is there an overflow or bypass for inflow volume in excess of the design volume?	Yes	Yes	Yes
9	What is the method for dewatering the SCM for maintenance?	Pump (preferred)	Pump (preferred)	Pump (preferred)
10	If applicable, will the SCM be cleaned out after construction?	Yes	Yes	Yes
11	Does the maintenance access comply with General MDC (8)?	Yes	Yes	Yes
12	Does the drainage easement comply with General MDC (9)?	Yes	Yes	Yes
13	If the SCM is on a single family lot, does (will?) the plat comply with General MDC (10)?	Yes	Yes	Yes
14	Is there an O&M Agreement that complies with General MDC (11)?	Yes	Yes	Yes
15	Is there an O&M Plan that complies with General MDC (12)?	Yes	Yes	Yes
16	Does the SCM follow the device specific MDC?	Yes	Yes	Yes
17	Was the SCM designed by an NC licensed professional?	Yes	Yes	Yes
<b>WET POND MDC FROM 02H .1053</b>				
18	Sizing method used	SA/DA	SA/DA	SA/DA
19	Has a stage/storage table been provided in the calculations?	Yes	Yes	Yes
20	Elevation of the excavated main pool depth (bottom of sediment removal) (fmsl)	6.00	5.00	3.00
21	Elevation of the main pool bottom (top of sediment removal) (fmsl)	7.00	6.00	4.00
22	Elevation of the bottom of the vegetated shelf (fmsl)	11.00	10.00	8.00
23	Elevation of the permanent pool (fmsl)	12.00	11.00	9.00
24	Elevation of the top of the vegetated shelf (fmsl)	12.00	11.00	9.00
25	Elevation of the temporary pool (fmsl)	13.00	12.50	9.80
26	Surface area of the main permanent pool (square feet)	6542	5501	2943
27	Volume of the main permanent pool (cubic feet)	18706 cf	14374 cf	6822 cf
28	Average depth of the main pool (feet)	4.80 ft	5.10 ft	3.70 ft
29	Average depth equation used	Equation 3	Equation 3	Equation 3
30	If using equation 3, main pool perimeter (feet)	514.0 ft	423.0 ft	165.0 ft
31	If using equation 3, width of submerged veg. shelf (feet)	6.0 ft	6.0 ft	6.0 ft
32	Volume of the forebay (cubic feet)	3019 cf	1590 cf	1218 cf
33	Is this 15-20% of the volume in the main pool?	Yes	Yes	Yes
34	Clean-out depth for forebay (inches)	12 in	12 in	12 in
35	Design volume of SCM (cu ft)	9795 cf	13623 cf	3568 cf
36	Is the outlet an orifice or a weir?	Orifice	Orifice	Orifice
37	If orifice, orifice diameter (inches)	2 in	2 in	1 in
38	If weir, weir height (inches)			
39	If weir, weir length (inches)			
40	Drawdown time for the temporary pool (days)	3.43	3.85	3.13
41	Are the inlet(s) and outlet located in a manner that avoids short-circuiting?	Yes	Yes	Yes
42	Are berms or baffles provided to improve the flow path?	No	No	No
43	Depth of forebay at entrance (inches)	36 in	36 & 48	36 in
44	Depth of forebay at exit (inches)	12 in	12 in	12 in
45	Does water flow out of the forebay in a non-erosive manner?	Yes	Yes	Yes
46	Width of the vegetated shelf (feet)	6 ft	6 ft	6 ft
47	Slope of vegetated shelf (H:V)	6:1	6:1	6:1
48	Does the orifice drawdown from below the top surface of the permanent pool?	Yes	Yes	Yes
49	Does the pond minimize impacts to the receiving channel from the 1-yr, 24-hr storm?	Yes	Yes	Yes
50	Are fountains proposed? (If Y, please provide documentation that MDC(9) is met.)	No	No	No
51	Is a trash rack or other device provided to protect the outlet system?	Yes	Yes	Yes
52	Are the dam and embankment planted in non-clumping turf grass?	Yes	Yes	Yes
53	Species of turf that will be used on the dam and embankment	bermuda/centi.	bermuda/centi.	bermuda/centi.
54	Has a planting plan been provided for the vegetated shelf?	Yes	Yes	Yes
<b>ADDITIONAL INFORMATION</b>				
55	Please use this space to provide any additional information about the wet pond(s):			

Permit Number: 2023009  
(to be provided by City of Wilmington)  
SCM Drainage Basin #: 1, 2, + 3

### Wet Detention Basin Operation and Maintenance Agreement

I will keep a maintenance record on this SCM. This maintenance record will be kept in a log in a known set location. Any deficient SCM 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 SCM.

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.

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.

SCM element:	Potential problem:	How to remediate the problem:
The entire SCM	Trash/debris is present.	Remove the trash/debris.
The perimeter of the SCM	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.

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 (to be provided by City of Wilmington)  
 SCM Drainage Basin #: 1, 2, + 3

SCM element:	Potential problem:	How to remediate the problem:
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.
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 SCM.
	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
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
	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 SCM.



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 SCM Drainage Basin #: 1

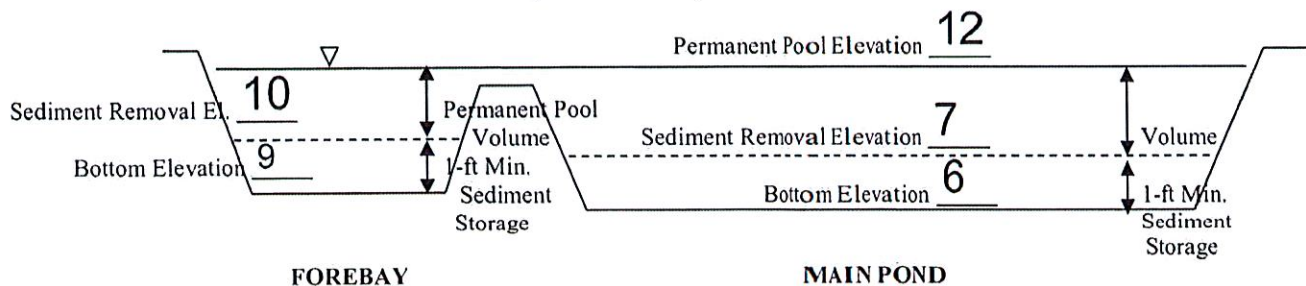
SCM element:	Potential problem:	How I will remediate the problem:
The main treatment area (continued)	Algal growth covers over 25% of the area.	Consult a professional to remove and control the algal growth.
	Cattails, phragmites or other invasive plants cover 50% of the basin surface.	Remove the plants by wiping them with pesticide (do not spray).
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 Department of Environment and Natural Resources regional Office.

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 5.0 feet in the main pond, the sediment shall be removed.

When the permanent pool depth reads 2.0 feet in the forebay, the sediment shall be removed.

**BASIN DIAGRAM**  
 (fill in the blanks)



Permit Number: 2023009  
 (to be provided by City of Wilmington)  
 SCM Drainage Basin #: 2

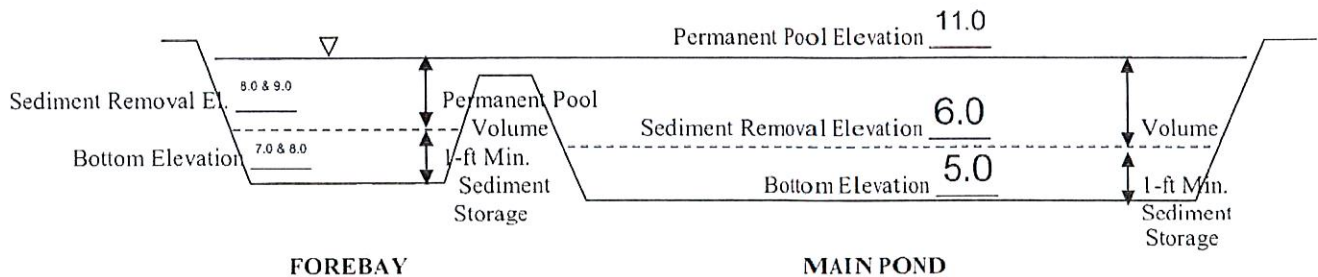
SCM element:	Potential problem:	How I will remediate the problem:
The main treatment area (continued)	Algal growth covers over 25% of the area.	Consult a professional to remove and control the algal growth.
	Cattails, phragmites or other invasive plants cover 50% of the basin surface.	Remove the plants by wiping them with pesticide (do not spray).
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 Department of Environment and Natural Resources regional Office.

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 5.0 feet in the main pond, the sediment shall be removed.

When the permanent pool depth reads 2 & 3 feet in the forebay, the sediment shall be removed.

**BASIN DIAGRAM**  
 (fill in the blanks)



Permit Number: 2023009  
 (to be provided by City of Wilmington)  
 SCM Drainage Basin #: 3

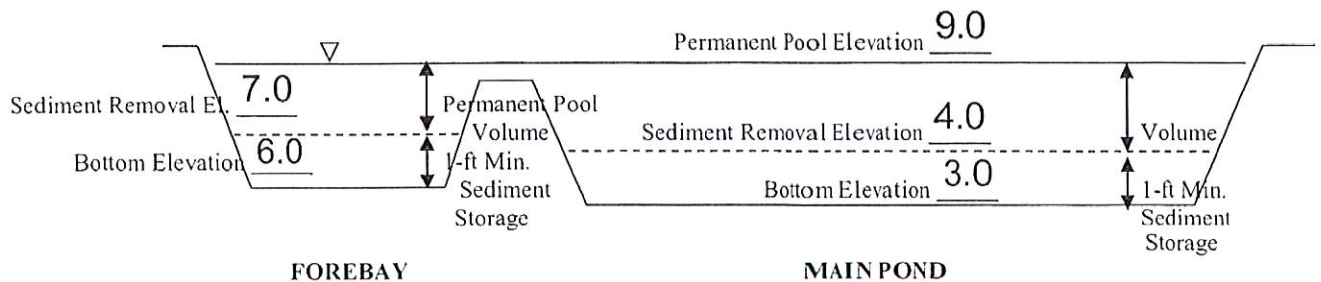
SCM element:	Potential problem:	How I will remediate the problem:
The main treatment area (continued)	Algal growth covers over 25% of the area.	Consult a professional to remove and control the algal growth.
	Cattails, phragmites or other invasive plants cover 50% of the basin surface.	Remove the plants by wiping them with pesticide (do not spray).
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 Department of Environment and Natural Resources regional Office.

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 5.0 feet in the main pond, the sediment shall be removed.

When the permanent pool depth reads 2.0 feet in the forebay, the sediment shall be removed.

**BASIN DIAGRAM**  
 (fill in the blanks)



Permit Number: 2023009  
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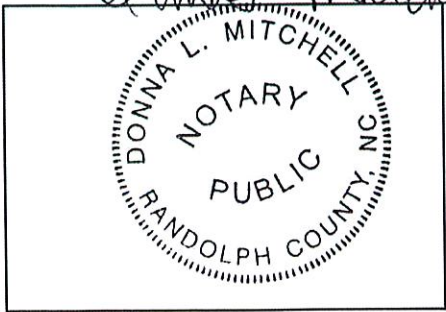
I acknowledge and agree by my signature below that I am responsible for the performance of the maintenance procedures listed above. I agree to notify the City of Wilmington of any problems with the system or prior to any changes to the system or responsible party.

Project name: Hawthorne at the Pointe Phase II  
SCM drainage basin number: Pond 1, 2, + 3

Print name: Phillip Payonk for HM Woodlands Phase II, LLC  
Title: Managing Member  
Address: 806 Green Valley Road, Suite 311, Greensboro, NC 27408  
Phone: (336) 553-1700  
Signature: [Handwritten Signature]  
Date: 10/24/22

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, Donna Mitchell, a Notary Public for the State of NC, County of Guilford, do hereby certify that Phillip Payonk personally appeared before me this 24th day of October 24, 2022, and acknowledge the due execution of the forgoing wet detention basin maintenance requirements. Witness my hand and official seal, [Handwritten Signature]



SEAL

My commission expires July 5, 2025