



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: **Phillip R. Barker**
PROJECT: **Legacy Pointe**
ADDRESS: **2509 Shandy Lane**
PERMIT #: **2021011**
DATE: **April 30, 2021**

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 April 30, 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 March 15, 2021.
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 30th day of April, 2021.

Richard Christensen

for Sterling Cheatham, City Manager
City of Wilmington



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

I. GENERAL INFORMATION

- Project Name (subdivision, facility, or establishment name - should be consistent with project name on plans, specifications, letters, operation and maintenance agreements, etc.):
 Legacy Pointe
- Location of Project (street address):
 2509 Shandy Lane
 City: Wilmington County: New Hanover Zip: 28409

II. PERMIT INFORMATION

- 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: _____
- 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: _____
- Additional Project Permit Requirements (check all applicable):
 CAMA Major Sedimentation/Erosion Control 404/401 Permit

III. CONTACT INFORMATION

- Print Applicant / Signing Official's name and title (the developer, property owner, lessee, designated government official, individual, etc. who owns the project):
 Applicant / Organization: Phillip R. Barker & D. Christopher Boggs
 Signing Official & Title: Phillip R. Barker

a. Contact information for Applicant / Signing Official:

Address: 2005 Eastwood Rd., Suite 20

City: Wilmington State: NC Zip: 28403

Phone: 910-231-2020 Email: pbarker@bellsouth.net

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: Adam Grady, PE

Consulting Firm: Hanover Design Services, PA

a. Contact information for consultant listed above:

Mailing Address: 1123 Floral Parkway

City: Wilmington State: NC Zip: 28403

Phone: 910-343-8002 Email: agrady@hdsilm.com

IV. PROJECT INFORMATION

1. Total Property Area: _____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: _____ square feet.
5. Existing Impervious Surface within Project Area: _____square feet
6. Existing Impervious Surface to be Removed/Demolished: _____square feet
7. Existing Impervious Surface to Remain: _____square feet
8. Total Onsite (within property boundary) Newly Constructed Impervious Surface (in square feet):

Buildings/Lots	
Impervious Pavement	
Pervious Pavement (total area / adjusted area w credit applied)	/
Impervious Sidewalks	
Pervious Sidewalks (total area / adjusted area w credit applied)	/
Other	
Future Development	
Total Onsite Newly Constructed Impervious Surface	

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

Impervious Pavement	
Pervious Pavement (total area / adjusted area w credit applied)	/
Impervious Sidewalks	
Pervious Sidewalks (total area / adjusted area w credit applied)	/
Other	
Total Offsite Newly Constructed Impervious Surface	

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			
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)			
Total Impervious Area (sf)			
Percent Impervious Area (%)			

Basin Information			
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)			
Total Impervious Area (sf)			
Percent Impervious Area (%)			

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.

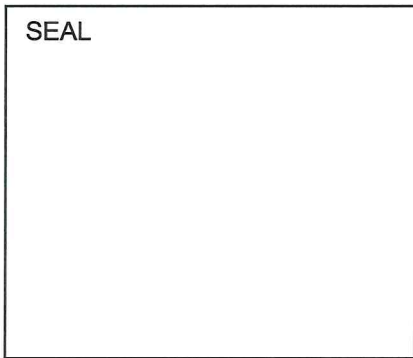
	Initials
1. One completed Stormwater Management Permit Application Form.	<u>AG</u>
2. One completed Supplement Form for each SCM proposed (signed, sealed and dated).	<u>AG</u>
3. One completed Operation & Maintenance agreement for each <u>type</u> of SCM.	<u>AG</u>
4. Proposed Deed Restrictions and Restrictive Covenants (for all subdivisions)	<u>AG</u>
5. Appropriate stormwater permit review fee.	<u>AG</u>
6. Minimum requirements identified on the Engineering Plan Review Checklist have been addressed.	<u>AG</u>
7. One set of calculations (sealed, signed and dated).	<u>AG</u>
8. A detailed narrative (one to two pages) describing the stormwater treatment/management system for the project.	<u>AG</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>AG</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>AG</u>
11. One full set of plans <u>folded to 8.5" x 14"</u> .	<u>AG</u>
12. A map delineating and labeling the drainage area for each SCM proposed.	<u>AG</u>
13. A map delineating and labeling the drainage area for each inlet and conveyance proposed.	<u>AG</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>AG</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: _____



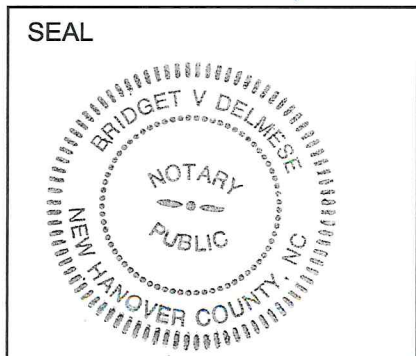
I, _____, a Notary Public for the State of _____, County of _____, do hereby certify that _____ personally appeared before me this day of _____, _____, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

My commission expires: _____

VII. APPLICANT'S CERTIFICATION

I, Phillip R. Barker 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 R. Barker Date: 12/30/20



I, Bridget V. Deshuse, a Notary Public for the State of NC, County of New Hanover, do hereby certify that Phillip R. Barker personally appeared before me this day of 30th Dec, 2020, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

Signature: Bridget V. Deshuse
My commission expires: 4-12-21

SUPPLEMENT-EZ COVER PAGE

FORMS LOADED

PROJECT INFORMATION

		Legacy Points
1	Project Name	
2	Project Area (ac)	5.78
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)	na
8	Will the vegetated setback remain vegetated?	N/A
9	If BUA is proposed in the setback, does it meet NCAC 02H.1003(4)(c-d)?	N/A
10	Is streambank stabilization proposed on this project?	No

NUMBER AND TYPE OF SCMs:

11	Infiltration System	5
12	Bioretention Cell	
13	Wet Pond	
14	Stormwater Wetland	
15	Permeable Pavement	1
16	Sand Filter	
17	Rainwater Harvesting (RWH)	
18	Green Roof	
19	Level Spreader-Filter Strip (LS-FS)	
20	Disconnected Impervious Surface (DIS)	
21	Treatment Swale	
22	Dry Pond	
23	StormFilter	
24	Silva Cell	
25	Bayfilter	
26	Filtterra	

FORMS LOADED

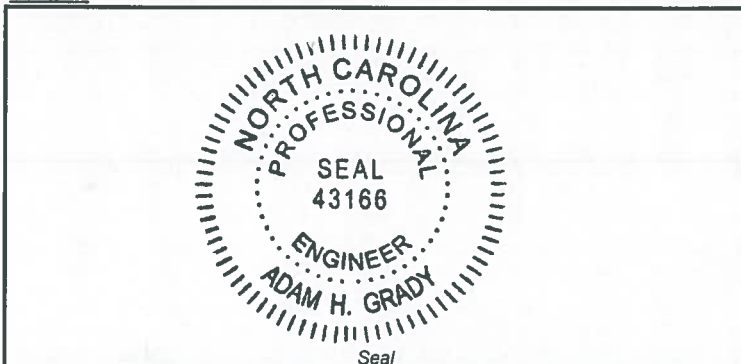
DESIGNER CERTIFICATION

27	Name and Title:	Adam Grady
28	Organization:	Hanover Design Services, PA
29	Street address:	1123 Floral Parkway
30	City, State, Zip:	Wilmington, NC 28403
31	Phone number(s):	910-343-8002
32	Email:	agrady@hdsilm.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



Signature of Designer

Date

DRAINAGE AREAS

1	Is this a high density project?	Yes
2	If so, number of drainage areas/SCMs	6
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
4	Type of SCM		INFILTRATION BASIN	INFILTRATION BASIN	INFILTRATION BASIN	INFILTRATION BASIN
5	Total drainage area (sq ft)	210066	20478	40000	20000	40000
6	Onsite drainage area (sq ft)	210066	20478	40000	20000	40000
7	Offsite drainage area (sq ft)					
8	Total BUA in project (sq ft)	56000 sf	7000 sf	14000 sf	7000 sf	14000 sf
9	New BUA on subdivided lots (subject to permitting) (sq ft)	56000 sf	7000 sf	14000 sf	7000 sf	14000 sf
10	New BUA not on subdivided lots (subject to permitting) (sf)					
11	Offsite BUA (sq ft)	343 sf				
12	Breakdown of new BUA not on subdivided lots:					
	- Parking (sq ft)	sf				
	- Sidewalk (sq ft)	sf				
	- Roof (sq ft)	sf				
	- Roadway (sq ft)	sf				
	- Future (sq ft)	56000 sf	7000 sf	14000 sf	7000 sf	14000 sf
	- Other, please specify in the comment box below (sq ft)					
13	New infiltrating permeable pavement on subdivided lots (sq ft)	3423 sf				
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)	7545 sf				2544 sf
18	Percent BUA	22%	34%	35%	35%	35%
19	Design storm (inches)	1-Year 24hr storm	1-Year 24hr storm	1-Year 24hr storm	1-Year 24hr storm	1-Year 24hr storm
20	Design volume of SCM (cu ft)	17938 cf	2290 cf	4575 cf	2414 cf	4017 cf
21	Calculation method for design volume	24 hr storm Pre/Post difference	24 hr storm Pre/Post difference	24 hr storm Pre/Post difference	24 hr storm Pre/Post difference	24 hr storm Pre/Post difference

ADDITIONAL INFORMATION	
22	Please use this space to provide any additional information about the drainage area(s): Pervious Concrete is located in an access easment.

DRAINAGE AREAS

1	Is this a high density project?	Yes
2	If so, number of drainage areas/SCMs	6
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	5	6
4	Type of SCM		INFILTRATION BASIN	Permeable Pavement
5	Total drainage area (sq ft)	210066	89588	3838
6	Onsite drainage area (sq ft)	210066	89588	3838
7	Offsite drainage area (sq ft)			
8	Total BUA in project (sq ft)	56000 sf	14000 sf	
9	New BUA on subdivided lots (subject to permitting) (sq ft)	56000 sf	14000 sf	
10	New BUA not on subdivided lots (subject to permitting) (sf)			
11	Offsite BUA (sq ft)	343 sf		
12	Breakdown of new BUA not on subdivided lots:			
	- Parking (sq ft)	sf		
	- Sidewalk (sq ft)	sf		
	- Roof (sq ft)	sf		
	- Roadway (sq ft)	sf		
	- Future (sq ft)	56000 sf	14000 sf	
	- Other, please specify in the comment box below (sq ft)			
13	New infiltrating permeable pavement on subdivided lots (sq ft)	3423 sf		3838 sf
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)	7545 sf	2931 sf	2070 sf
18	Percent BUA	22%	16%	0%
19	Design storm (inches)	1-Year 24hr storm	1-Year 24hr storm	1.5 in
20	Design volume of SCM (cu ft)	17938 cf	4162 cf	480 cf
21	Calculation method for design volume	24 hr storm Pre/Post difference	24 hr storm Pre/Post difference	1.5"

ADDITIONAL INFORMATION	
22	Please use this space to provide any additional information about the drainage area(s):
Pervious Concrete is located in an access easment.	

INFILTRATION SYSTEM

1	Drainage area number	1	2	3	4
2	Minimum required treatment volume (cu ft)	1975 cf	3950 cf	1975 cf	3950 cf

GENERAL MDC FROM 02H .1050

3	Is the SCM sized to treat the SW from all surfaces at build-out?	Yes	Yes	Yes	Yes
4	Is the SCM located away from contaminated soils?	Yes	Yes	Yes	Yes
5	What are the side slopes of the SCM (H:V or enter "Vertical" for trenches)?	3:1	3:1	3:1	3:1
6	Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No	No	No	No
7	Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes	Yes	Yes	Yes
8	Is there an overflow or bypass for inflow volume in excess of the design volume?	Yes	Yes	Yes	Yes
9	What is the method for dewatering the SCM for maintenance?	Pump (preferred)	Pump (preferred)	Pump (preferred)	Pump (preferred)
10	If applicable, will the SCM be cleaned out after construction?	Yes	Yes	Yes	Yes
11	Does the maintenance access comply with General MDC (8)?	Yes	Yes	Yes	Yes
12	Does the drainage easement comply with General MDC (9)?	Yes	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	Yes
14	Is there an O&M Agreement that complies with General MDC (11)?	Yes	Yes	Yes	Yes
15	Is there an O&M Plan that complies with General MDC (12)?	Yes	Yes	Yes	Yes
16	Does the SCM follow the device specific MDC?	Yes	Yes	Yes	Yes
17	Was the SCM designed by an NC licensed professional?	Yes	Yes	Yes	Yes

INFILTRATION SYSTEM MDC FROM 02H .1051

18	Proposed slope of the subgrade surface (%)	0-1%	0-1%	0-1%	0-1%
19	Are terraces or baffles provided?	No	No	No	No
20	Type of pretreatment:	Other	Other	Other	Other

Soils Data

21	Was the soil investigated in the footprint and at the elevation of the infiltration system?	No	No	No	Yes
22	SHWT elevation (fmsl)	6.63	6.63	7.16	6.09
23	Depth to SHWT per soils report (in)	30.00	30.00	62.04	24.00
24	Ground elevation at boring in soils report (fmsl)	9.13	9.13	12.33	8.09
25	Is a detailed hydrogeologic study attached if the separation is between 1 and 2 feet?	N/A	N/A	N/A	N/A
26	Soil infiltration rate (in/hr)	8.94	8.94	15.17	6.35
27	Factor of safety (FS) (2 is recommended):	2.00	2.00	2.00	2.00

Elevations

29	Bottom elevation (fmsl)	8.7 ft	9.0 ft	10.0 ft	8.1 ft
30	Storage elevation (fmsl)	10.5 ft	10.5 ft	12.5 ft	9.5 ft
31	Bypass elevation (fmsl)	10.5 ft	10.5 ft	12.5 ft	9.5 ft

For Basins Only

32	Bottom surface area (ft ²)	671 ft	855 ft	238 ft	1476 ft
33	Storage elevation surface area (ft ²)	2094. ft	5061. ft	2050. ft	4472. ft

For Trenches Only

34	Length (ft)				
35	Width (ft)				
36	Perforated pipe diameter, if applicable (inches)				
37	Number of laterals				
38	Total length of perforated piping				
39	Stone type, if applicable				
40	Stone porosity (%)				
41	Is stone free of fines?				
42	Is the stone wrapped in geotextile fabric?				
43	Has at least one inspection port been provided?				

Volumes/Drawdown

44	Design volume of SCM (cu ft)	2290 cf	4575 cf	2414 cf	4017 cf
45	Time to draw down (hours)	9 hrs	11 hrs	24 hrs	6 hrs

ADDITIONAL INFORMATION

46 Please use this space to provide any additional information about the infiltration system(s):

Systems are to be built separately on each lot as each lot is developed

INFILTRATION SYSTEM

1	Drainage area number	5
2	Minimum required treatment volume (cu ft)	3950 cf
GENERAL MDC FROM 02H .1050		
3	Is the SCM sized to treat the SW from all surfaces at build-out?	Yes
4	Is the SCM located away from contaminated soils?	Yes
5	What are the side slopes of the SCM (H:V or enter "Vertical" for trenches)?	3:1
6	Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No
7	Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes
8	Is there an overflow or bypass for inflow volume in excess of the design volume?	Yes
9	What is the method for dewatering the SCM for maintenance?	Pump (preferred)
10	If applicable, will the SCM be cleaned out after construction?	Yes
11	Does the maintenance access comply with General MDC (8)?	Yes
12	Does the drainage easement comply with General MDC (9)?	Yes
13	If the SCM is on a single family lot, does (will?) the plat comply with General MDC (10)?	Yes
14	Is there an O&M Agreement that complies with General MDC (11)?	Yes
15	Is there an O&M Plan that complies with General MDC (12)?	Yes
16	Does the SCM follow the device specific MDC?	Yes
17	Was the SCM designed by an NC licensed professional?	Yes

INFILTRATION SYSTEM MDC FROM 02H .1051		
18	Proposed slope of the subgrade surface (%)	0-1%
19	Are terraces or baffles provided?	No
20	Type of pretreatment:	Other

Soils Data		
21	Was the soil investigated in the footprint and at the elevation of the infiltration system?	No
22	SHWT elevation (fmsl)	4.86
23	Depth to SHWT per soils report (in)	54.00
24	Ground elevation at boring in soils report (fmsl)	9.36
25	Is a detailed hydrogeologic study attached if the separation is between 1 and 2 feet?	N/A
26	Soil infiltration rate (in/hr)	13.89
27	Factor of safety (FS) (2 is recommended):	2.00

Elevations		
29	Bottom elevation (fmsl)	8.0 ft
30	Storage elevation (fmsl)	9.5 ft
31	Bypass elevation (fmsl)	9.5 ft

For Basins Only		
32	Bottom surface area (ft ²)	1240 ft
33	Storage elevation surface area (ft ²)	4450. ft

For Trenches Only		
34	Length (ft)	
35	Width (ft)	
36	Perforated pipe diameter, if applicable (inches)	
37	Number of laterals	
38	Total length of perforated piping	
39	Stone type, if applicable	
40	Stone porosity (%)	
41	Is stone free of fines?	
42	Is the stone wrapped in geotextile fabric?	
43	Has at least one inspection port been provided?	

Volumes/Drawdown		
44	Design volume of SCM (cu ft)	4162 cf
45	Time to draw down (hours)	6 hrs

ADDITIONAL INFORMATION		
46	Please use this space to provide any additional information about the infiltration system(s):	

Systems are to be built separately on each lot as each lot is developed

PERMEABLE PAVEMENT

1	Drainage area number	6
2	Minimum required treatment volume (cu ft)	480 cf
3	Area of permeable pavement to be installed (square feet)	3838 sf
4	Area of screened roof runoff that is directed to pavement (square feet)	sf
5	Area of additional built-upon area runoff that is directed to pavement (square feet)	sf
6	Area of incidental, unavoidable runoff from adjacent stable pervious areas (square feet)	sf

GENERAL MDC FROM 02H .1050

7	Is the SCM sized to treat the SW from all surfaces at build-out?	No
8	Is the SCM located away from contaminated soils?	Yes
9	What are the side slopes of the SCM (H:V)?	N/A
10	Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	No
11	Is there an overflow or bypass for inflow volume in excess of the design volume?	Yes
12	What is the method for dewatering the SCM for maintenance?	Other
13	If applicable, will the SCM be cleaned out after construction?	Yes
14	Does the maintenance access comply with General MDC (8)?	Yes
15	Does the drainage easement comply with General MDC (9)?	N/A
16	If the SCM is on a single family lot, does (will?) the plat comply with General MDC (10)?	Yes
17	Is there an O&M Agreement that complies with General MDC (11)?	No
18	Is there an O&M Plan that complies with General MDC (12)?	No
19	Does the SCM follow the device specific MDC?	Yes
20	Was the SCM designed by an NC licensed professional?	Yes

PERMEABLE PAVEMENT MDC FROM 02H .1055

21	Is this a detention or infiltration permeable pavement system?	Infiltration
22	Design volume of SCM (cu ft)	Infiltration
23	Proposed slope of the subgrade surface (%)	
24	Are terraces or baffles provided?	No
25	SHWT elevation (fmsl)	5.82
26	Storage elevation of the design rainfall depth (fmsl)	
27	Will toxic pollutants be stored or handled on or near the permeable pavement?	No
28	Does the proposed pavement surface comply with .1055(6)?	Yes
29	Will runoff from pervious surfaces be directed away from the pavement?	Yes
30	Maximum adjacent area directed to a single point onto the permeable pavement (sq ft)	sf
31	Has at least one observation well per terrace been provided at the low point(s)?	Yes
32	Have edge restraints been provided?	No
33	Will the subgrade be graded when dry?	Yes
34	Will the permeable pavement be protected from sediment during construction?	Yes
35	Will an in-situ permeability test be conducted after site stabilization?	Yes

For Infiltrating Pavement Systems

36	Was the soil investigated in the footprint and at the elevation of the subgrade?	Yes
37	Soil infiltration rate (in/hr)	7.25 in/hr
38	Is a detailed hydrogeologic study attached if the separation is between 1 and 2 feet?	No
39	Is additional media being added to the soil profile?	No
40	Proposed slope of the subgrade surface (%)	<2%
41	Top of the subgrade (bottom of the aggregate) (fmsl)	10.6 TO 14
42	Drawdown time (hours)	1 hrs

For Detention Pavement Systems

43	Drawdown time (hours)	
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Aggregate

44	Aggregate depth (in)	6 in
45	Aggregate porosity (%)	30
46	Size of aggregate to be used in the subbase	3/4"
47	Will the aggregate be washed?	Yes

ADDITIONAL INFORMATION

48 Please use this space to provide any additional information about the permeable pavement system(s):

36. To test were taken in the direct vicinity of the system and both had similar attributes. 37. 7.25 in/hr is shown here which is half the lowest rate found.

Infiltration 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.

Important maintenance procedures:

- The drainage area will be carefully managed to reduce the sediment load to the infiltration basin.
- Immediately after the infiltration basin is established, the vegetation will be watered twice weekly if needed until the plants become established (commonly six weeks).
- No portion of the infiltration basin will be fertilized after the initial fertilization that is required to establish the vegetation.
- The vegetation in and around the basin will be maintained at a height of approximately six inches.

After the infiltration basin is established, it will be inspected **once a quarter and within 24 hours after every storm event greater than 1.5 inches**. Records of operation and maintenance will be kept in a known set location and will be available upon request.

Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

SCM element:	Potential problem:	How to remediate the problem:
The entire SCM	Trash/debris is present.	Remove the trash/debris.
The perimeter of the infiltration basin	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary, to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application.
The inlet device: pipe or swale	The pipe is clogged (if applicable).	Unclog the pipe. Dispose of the sediment off-site.
	The pipe is cracked or otherwise damaged (if applicable).	Replace the pipe.
	Erosion is occurring in the swale (if applicable).	Regrade the swale if necessary, to smooth it over and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion.

SCM element:	Potential problem:	How to remediate the problem:
The forebay	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 SCM. Replace any media that was removed in the process. Revegetate disturbed areas immediately.
	Erosion has occurred or riprap is displaced.	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 pesticides are used, wipe them on the plants rather than spraying.
The main treatment area	A visible layer of sediment has accumulated.	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. Replace any media that was removed in the process. Revegetate disturbed areas immediately.
	Water is standing more than 5 days after a storm event.	Replace the top few inches of filter media and see if this corrects the standing water problem. If so, revegetate immediately. If not, consult an appropriate professional for a more extensive repair.
	Weeds and noxious plants are growing in the main treatment area.	Remove the plants by hand or by wiping them with pesticide (do not spray).
The embankment	Shrubs or trees have started to grow on the embankment.	Remove shrubs or trees immediately.
	An annual inspection by an appropriate professional shows that the embankment needs repair.	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.

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

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

Project name: Legacy Pointe

SCM drainage basin number: 1

Print name: Phillip R. Barker

Title: Owner

Address: 2005 Eastwood Rd Suite 201; Wilmington, NC 28403

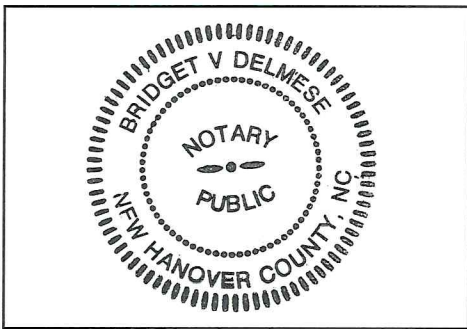
Phone: 910-231-2020

Signature: Phillip R. Barker

Date: 12/30/20

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, Budget V. Delmese, a Notary Public for the State of NC, County of New Hanover, do hereby certify that Phillip R. Barker personally appeared before me this 30th day of Dec, 2020, and acknowledge the due execution of the forgoing infiltration basin maintenance requirements. Witness my hand and official seal,



SEAL

My commission expires 4-12-21

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

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

Project name: Legacy Pointe

SCM drainage basin number: 2

Print name: Phillip R. Barker

Title: Owner

Address: 2005 Eastwood Rd Suite 201; Wilmington, NC 28403

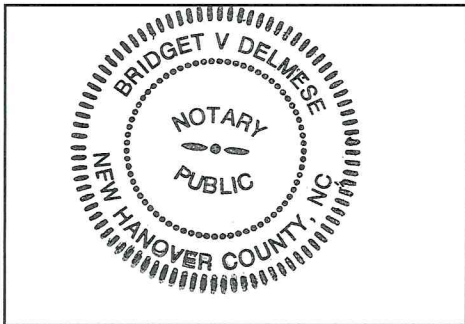
Phone: 910-231-2020

Signature: Phillip R. Barker

Date: 12/30/20

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, Bridget V. Delmese, a Notary Public for the State of NC, County of New Hanover, do hereby certify that Phillip R. Barker personally appeared before me this _____ day of 30th Dec, 2020, and acknowledge the due execution of the foregoing infiltration basin maintenance requirements. Witness my hand and official seal,



SEAL

My commission expires 4-12-21

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

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

Project name: Legacy Pointe

SCM drainage basin number: 3

Print name: Phillip R. Barker

Title: Owner

Address: 2005 Eastwood Rd Suite 201; Wilmington, NC 28403

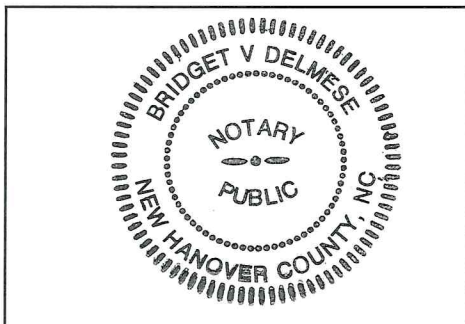
Phone: 910-231-2020

Signature: Phillip R. Barker

Date: 12/30/20

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, Bridget V. Delmese, a Notary Public for the State of NC, County of New Hanover, do hereby certify that Phillip R. Barker personally appeared before me this _____ day of 30th Dec, 2020 and acknowledge the due execution of the foregoing infiltration basin maintenance requirements. Witness my hand and official seal,



SEAL

My commission expires 4-12-21

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

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

Project name: Legacy Pointe

SCM drainage basin number: 4

Print name: Phillip R. Barker

Title: Owner

Address: 2005 Eastwood Rd Suite 201; Wilmington, NC 28403

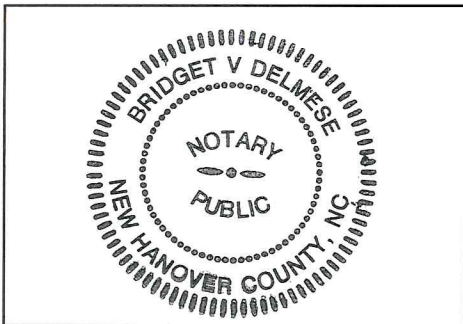
Phone: 910-231-2020

Signature: Phillip R. Barker

Date: 12/30/20

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, Bridget V Delmese, a Notary Public for the State of NC, County of New Hanover, do hereby certify that Phillip R. Barker personally appeared before me this 30th Dec, 2020, and acknowledge the due execution of the foregoing infiltration basin maintenance requirements. Witness my hand and official seal,



SEAL

My commission expires 4-12-21

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

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

Project name: Legacy Pointe

SCM drainage basin number: 5

Print name: Phillip R. Barker

Title: Owner

Address: 2005 Eastwood Rd Suite 201; Wilmington, NC 28403

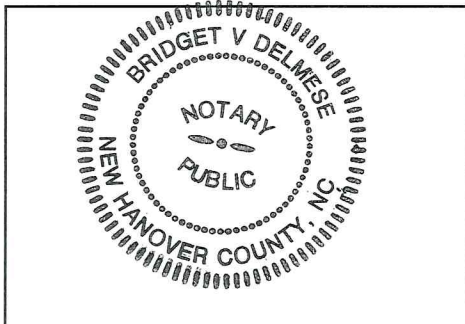
Phone: 910-231-2020

Signature: Phillip R. Barker

Date: 12/30/20

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, Bridget V. Delmese, a Notary Public for the State of NC, County of New Hanover, do hereby certify that Phillip R. Barker personally appeared before me this _____ day of 30th Dec., 2020, and acknowledge the due execution of the foregoing infiltration basin maintenance requirements. Witness my hand and official seal,



SEAL

My commission expires 4-12-21

Permeable Pavement 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(s).

Important maintenance procedures:

At all times, the permeable pavement shall be kept free of:

- Debris and particulate matter through frequent blowing that removes such debris, particularly during the fall and spring.
- Piles of soil, sand, mulch, building materials or other materials that could deposit particulates on the permeable pavement.
- Piles of snow and ice.
- Chemicals of all kinds, including deicers.

The permeable pavement will be inspected **once a quarter**. 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.

SCM element:	Potential problem:	How to remediate the problem:
The entire SCM	Trash/debris is present.	Remove the trash/debris.
The perimeter of the permeable pavement	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary, to remove the gully, then plant ground cover and water until established.
	A vegetated area drains toward the pavement.	Regrade the area so that it drains away from the pavement, then plant ground cover and water until established.
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.

SCM element:	Potential problem:	How to remediate the problem:
The surface of the permeable pavement	Trash/debris present.	Remove the trash/debris.
	Weeds.	Do not pull the weeds (may pull out media as well). Spray them with a systemic herbicide such as glyphosate and then return within the week to remove them by hand. (Another option is to pour boiling water on them or steam them.)
	Sediment.	Vacuum sweep the pavement.
	Rutting, cracking or slumping or damaged structure.	Consult an appropriate professional.
Observation well	Water present more than five days after a storm event.	Clean out clogged underdrain pipes. Consult an appropriate professional for clogged soil subgrade.
Educational sign	Missing or is damaged.	Replace the sign.
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 NC Department of Environment and Natural Resources Regional Office.

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

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

Project name: Legacy Pointe

SCM drainage basin number: 6

Print name: Phillip R. Barker

Title: Owner

Address: 2005 Eastwood Rd Suite 201; Wilmington, NC 28403

Phone: 910-231-2020

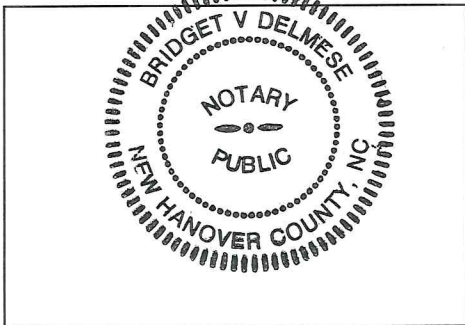
Signature: Phillip R. Barker

Date: 2/19/21

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, Bridget V. Delmese, a Notary Public for the State of North Carolina, County of New Hanover, do hereby certify that Phillip R. Barker personally appeared before me this _____ day of February 19, 2021, and acknowledge the due execution of the forgoing filter strip, riparian buffer, and/or level spreader maintenance requirements.

Witness my hand and official seal,



SEAL

My commission expires 4-12-21