



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: **Summerlin Place, LLC**
PROJECT: **Wrightsville Landing**
ADDRESS: **5715 Wrightsville Avenue**
PERMIT #: **2020027**
DATE: **09/14/2020**

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 09/14/2030 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 09/14/2020.
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.



Public Services

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

6. A copy of the approved plans and specifications shall be maintained on file by the Permittee.
7. During construction, erosion shall be kept to a minimum and any eroded areas of the system will be repaired immediately.
8. If the stormwater system was used as an Erosion Control device, it must be restored to design condition prior to operation as a stormwater treatment device, and prior to issuance of any certificate of occupancy for the project.
9. All areas must be maintained in a permanently stabilized condition. If vegetated, permanent seeding requirements must follow the guidelines established in the North Carolina Erosion and Sediment Control Planning and Design Manual unless an alternative is specified and approved by the City of Wilmington.
10. All applicable operation & maintenance agreements and easements pertaining to each stormwater treatment system shall be referenced on the final plat and recorded with the Register of Deeds upon final plat approval. If no plat is recorded for the site the operation and maintenance agreements and easements shall be recorded with the Register of Deeds so as to appear in the chain of title of all subsequent purchasers under generally accepted searching standards.
11. The stormwater management system shall be constructed in its entirety, vegetated and operational for its intended use prior to the construction of any built-upon surface unless prior approval is obtained. City Staff must be notified of any deviation prior to construction of the built-upon surface. Any deviation request shall include justification and must propose an alternative timeline or construction sequence. Notification shall not constitute approval. Any alternative timeline approved by City staff shall become an enforceable component of this permit.
12. The permittee shall at all times provide the operation and maintenance necessary to assure the permitted stormwater system functions at optimum efficiency. The approved Operation and Maintenance Agreement must be followed in its entirety and maintenance must occur at the scheduled intervals including, but not limited to:
 - a. Scheduled inspections (interval noted on the agreement).
 - b. Sediment removal.
 - c. Mowing and revegetation of slopes and the vegetated areas.
 - d. Maintenance of landscape plants, including those within the landscape buffer and on the vegetated shelf.
 - e. Immediate repair of eroded areas, especially slopes.
 - f. Debris removal and unclogging of outlet structure, orifice device, flow spreader, catch basins and/or piping.
 - g. Access to the outlet structure must be available at all times.
13. Records of inspection, maintenance and repair for the permitted stormwater system must be kept by the permittee for at least 5 years from the date of record and made available upon request to authorized personnel of the City of Wilmington. The records will indicate the date, activity, name of person performing the work and what actions were taken.



14. Upon completion of construction, before a Certificate of Occupancy shall be granted, and prior to operation or intended use of this permitted facility, the applicant shall submit to the City of Wilmington as-built plans for all stormwater management facilities. The plans shall show the final design specifications and the field location, type, depth, invert and planted vegetation of all measures, controls and devices, as-installed. A certification shall be submitted, along with all supporting documentation that specifies, under seal that the as-built stormwater measures, controls and devices are in compliance with the approved stormwater management plans. A final inspection by City of Wilmington personnel will be required prior to issuance of a certificate of occupancy or operation of the permitted facility.
15. This permit is not transferable except after application and approval by the City of Wilmington. In the event of a change of ownership, name change or change of address the permittee must submit a completed Name/Ownership Change form to the City of Wilmington at least 30 days prior to the change. It shall be signed by all applicable parties, and be accompanied by all required supporting documentation. Submittal of a complete application shall not be construed as an approved application. The application will be reviewed on its own merits by the City of Wilmington and may or may not be approved. The project must be in compliance with the terms of this permit in order for the transfer request to be considered. The permittee is responsible for compliance with all permit conditions until such time as the City of Wilmington approves the transfer request. Neither the sale of the project nor the conveyance of common area to a third party should be considered as an approved transfer of the permit.
16. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to enforcement action by the City of Wilmington, in accordance with Sections 18-52 and 18-53 and any other applicable section of the Land Development Code.
17. The City of Wilmington may notify the permittee when the permitted site does not meet one or more of the minimum requirements of the permit. Within the time frame specified in the notice, the permittee shall submit a written time schedule to the City of Wilmington for modifying the site to meet minimum requirements. The permittee shall provide copies of revised plans and certification in writing to the City of Wilmington that the changes have been made.
18. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances, which may be imposed by other government agencies (local, state, and federal) having jurisdiction.
19. In the event that the facilities fail to perform satisfactorily, including the creation of nuisance conditions, the Permittee shall take immediate corrective action, including those as may be required by the City of Wilmington, such as the construction of additional or replacement stormwater management systems.
20. The permittee grants City of Wilmington Staff permission to enter the property during normal business hours for the purpose of inspecting all components of the permitted stormwater management facility.



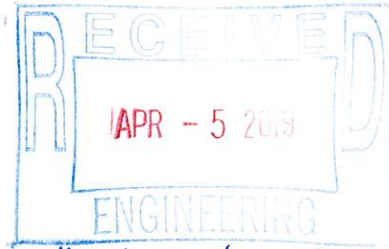
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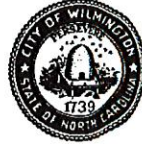
21. The permit issued shall continue in force and effect until revoked or terminated by the City of Wilmington. The permit may be modified, revoked and reissued or terminated for cause. The filing of a request for a permit modification, revocation and re-issuance or termination does not stay any permit condition.
22. The approved stormwater management plans and all documentation submitted as part of the approved stormwater management permit application package for this project are incorporated by reference and are enforceable parts of the permit.
23. The permittee shall submit a renewal request with all required forms and documentation at least 180 days prior to the expiration date of this permit.
24. If any one or more of the conditions of this permit is found to be unenforceable or otherwise invalidated, all remaining conditions shall remain in full effect.

Stormwater Management Permit issued this the 18th day of September, 2020

for Sterling Cheatham, City Manager
City of Wilmington



* Unless otherwise Noted



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STORMWATER MANAGEMENT PERMIT APPLICATION FORM
(Form SWP 2.2)

I. GENERAL INFORMATION

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

Wrightsville Landing

2. Location of Project (street address):

5715 Wrightsville Avenue

City: Wilmington County: New Hanover Zip: 28403

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

Project is located off Wrightsville Avenue adjacent to the Shell Road Village Development

II. PERMIT INFORMATION

1. Specify the type of project (check one): [] Low Density [X] High Density

[] Drains to an Offsite Stormwater System [] Drainage Plan [] Other

If the project drains to an Offsite System, list the Stormwater Permit Number(s):

City of Wilmington: State - NCDENR/DWQ:

2. Is the project currently covered (whole or in part) by an existing City or State (NCDENR/DWQ) Stormwater Permit? [] Yes [X] No

If yes, list all applicable Stormwater Permit Numbers:

City of Wilmington: State - NCDENR/DWQ:

3. Additional Project Permit Requirements (check all applicable):

[] CAMA Major [X] Sedimentation/Erosion Control

[] NPDES Industrial Stormwater [] 404/401 Permit: Proposed Impacts:

If any of these permits have already been acquired please provide the Project Name, Project/Permit Number, issue date and the type of each permit:

III. CONTACT INFORMATION

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

Applicant / Organization: Summerlin Place, LLC

Signing Official & Title: John R Lancaster - Member

- a. Contact information for Applicant / Signing Official:

Street Address: PO Box 381

City: Wrightsville Beach State: NC Zip: 28480

Phone: _____ Fax: _____ Email: jlancaster500@gmail.com

Mailing Address (if different than physical address): _____

City: _____ State: _____ Zip: _____

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

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

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

Property Owner / Organization: Herman I. Summerlin, Jr

Signing Official & Title: Herman I. Summerlin, Jr - Owner

- a. Contact information for Property Owner:

Street Address: 5449 Ridgewood Heights Drive

City: Wilmington State: NC Zip: 28403

Phone: _____ Fax: _____ Email: _____

Mailing Address (if different than physical address): _____

City: _____ State: _____ Zip: _____

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

Other Contact Person / Organization: _____

Signing Official & Title: _____

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

Street Address: _____
 City: _____ State: _____ Zip: _____
 Phone: _____ Fax: _____ Email: _____
 Mailing Address (if different than physical address): _____
 City: _____ State: _____ Zip: _____

IV. PROJECT INFORMATION

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

The Stormwater for this project will be treated by 2 wet detention basins

- 2. Total Property Area: 230,253 square feet
- 3. Total Coastal Wetlands Area: _____ square feet
- 4. Total Surface Water Area: _____ square feet
- 5. Total Property Area (2) – Total Coastal Wetlands Area (3) – Total Surface Water Area (4) = Total Project Area: 230,253 square feet.
- 6. Existing Impervious Surface within Property Area: 21,119 square feet
- 7. Existing Impervious Surface to be Removed/Demolished: 21,119 square feet
- 8. Existing Impervious Surface to Remain: _____ square feet
- 9. Total Onsite (within property boundary) Newly Constructed Impervious Surface (*in square feet*):

Buildings/Lots	31,813
Impervious Pavement	31,130
Pervious Pavement (adj. total, with % credit applied)	
Impervious Sidewalks	7,800
Pervious Sidewalks (adj. total, with % credit applied)	
Other (describe) -	
Future Development	
Total Onsite Newly Constructed Impervious Surface	70,743

10. Total Onsite Impervious Surface
 (Existing Impervious Surface to remain + Onsite Newly Constructed Impervious Surface) = 70,743 square feet

11. Project percent of impervious area: (Total Onsite Impervious Surface / Total Project Area) x100 = 30.7 %

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

Impervious Pavement	427
Pervious Pavement (adj. total, with % credit applied)	
Impervious Sidewalks	836
Pervious Sidewalks (adj. total, with % credit applied)	
Other (describe)	
Total Offsite Newly Constructed Impervious Surface	1,263

13. Total Newly Constructed Impervious Surface

(Total Onsite + Offsite Newly Constructed Impervious Surface) = 72,006 square feet

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

Basin Information	BMP #1	BMP #2	BMP #
Receiving Stream Name	UT to Bradley Creek	UT to Bradley Creek	
Receiving Stream Index Number	18-87-24-4-(1)	18-87-24-4-(1)	
Stream Classification	SC	SC	
Total Drainage Area (sf)	40,630	76,604	
On-Site Drainage Area (sf)			
Off-Site Drainage Area (sf)			
Total Impervious Area (sf)	21,592	49,151	
Buildings/Lots (sf)	4,667	27,146	
Impervious Pavement (sf)	12,725	18,405	
Pervious Pavement (sf)			
Impervious Sidewalks (sf)	4,200	3,600	
Pervious Sidewalks (sf)			
Other (sf) -			
Future Development (sf)			
Existing Impervious to remain (sf)			
Offsite (sf)			
Percent Impervious Area (%)	53.1	64.2	

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

Site entrance & sidewalk in Right of Way

V. SUBMITTAL REQUIREMENTS

1. Supplemental and Operation & Maintenance Forms - One applicable City of Wilmington Stormwater BMP supplement form and checklist must be submitted for **each** BMP specified for this project. One applicable proposed operation and maintenance (O&M) form must be submitted for **each type** of stormwater BMP. Once approved, the operation and maintenance forms must be referenced on the final plat and recorded with the register of deeds office.
2. Deed Restrictions and Restrictive Covenants - For all subdivisions, outparcels, and future development, the appropriate property restrictions and protective covenants are required to be recorded prior to the sale of any lot. Due to variability in lot sizes or the proposed BUA allocations, a table listing each lot number, lot size, and the allowable built-upon area must be provided as an attachment to the completed and notarized deed restriction form. The appropriate deed restrictions and protective covenants forms can be downloaded at the link listed in section V (3). Download the latest versions for each submittal.

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

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

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

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

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

City of Wilmington – Engineering
Plan Review Section
212 Operations Center Dr
Wilmington, NC 28412

VI. CONSULTANT INFORMATION AND AUTHORIZATION

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

Consulting Engineer: Garry S. Pape, P.E.

Consulting Firm: GSP CONSULTING, PLLC.

- a. Contact information for consultant listed above:

Mailing Address: 6626-C Gordon Road

City: Wilmington State: NC Zip: 28411

Phone: 910-442-7870 Fax: 910-799-6659 Email: gpape@gsp-consulting.com

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

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

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

Signature: [Signature] Date: 11/30/19


I, Melinda S. Faulk, a Notary Public for the State of North Carolina County of New Hanover, do hereby certify that Herman I. Summerlin, Jr., personally appeared before me this 30, day of January, 2019, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal, Melinda S. Faulk



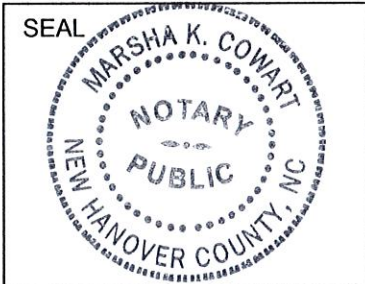
My commission expires: 11/20/20

VIII. APPLICANT'S CERTIFICATION

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

Signature:  Date: 1-28-19

I, Marsha K. Cowart, a Notary Public for the State of NC, County of New Hanover, do hereby certify that John R. Lancaster, personally appeared before me this 28th day of January, 2019, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal, Marsha K Cowart



My commission expires: 5-25-2019

SUPPLEMENT-EZ FORM COVER PAGE

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

Type	Quantity	Location(s)
Infiltration System		
Bioretention Cell		
Wet Pond	2	Pond #1 Front of Site, Ponds #2 Middle of Site
Stormwater Wetland		
Permeable Pavement		
Sand Filter		
Rainwater Harvesting		
Green Roof		
Level Spreader-Filter Strip		
Disconnected Impervious Surface		
Treatment Swale		
Dry Pond		

Designer Information for this project:

Name and Title: Garry S. Pape, P.E.
 Organization: GSP Consulting, PLLC
 Street address: 6626 Gordon Road, Unit C
 City, State, Zip: Wilmington, NC 28411
 Phone number(s): 910-442-7870
 Email: gpape@gsp-consulting.com

Applicant:

Company: Summerlin Place, LLC
 Contact: John Lancaster
 Mailing Address: PO Box 381
 City, State, Zip: Wrightsville Beach, NC 28480
 Phone number(s):
 Email:

Project Name:

Wrightsville Landing

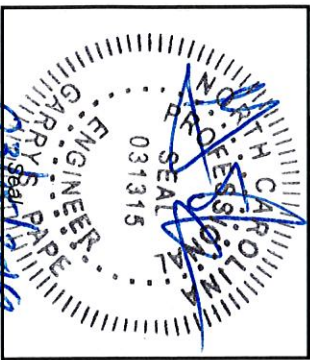
Address

5715 Wrightsville Avenue

City / Town

Wilmington

Designer



Signature of Designer

Date

03/15/2019

Certification Statement:

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

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



*Unless Otherwise Noted

WET POND

Wrightsville Landing - Pond #1

THE DRAINAGE AREA

Drainage area number	1	Break down of BUA in the drainage area (both new and existing):	
Total coastal wetlands area (sq ft)		- Parking / driveway (sq ft)	4,200 sf
Total surface water area (sq ft)		- Sidewalk (sq ft)	4,667 sf
Total drainage area (sq ft)	40,630 sf	- Roof (sq ft)	12,725 sf
BUA associated with existing development (sq ft)		- Roadway (sq ft)	
Proposed new BUA (sq ft)	21,592 sf	- Other, please specify in the comment box below (sq ft) - Amenity Area	
Percent BUA of drainage area	53.1%	Total BUA (sq ft)	21,592 sf

COMPLIANCE WITH THE APPLICABLE STORMWATER PROGRAM

Stormwater program(s) that apply (please specify):		Design rainfall depth (in)	1.5 in
		Minimum volume required (cu ft)	2,697 sf
		Design volume of SCM (cu ft)	2,697 sf

GENERAL MDC FROM 02H .1050

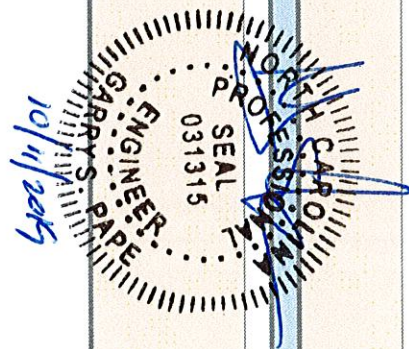
#1 Is the SCM sized to treat the SW from all surfaces at build-out?	Yes	#7 If applicable, with the SCM be cleaned out after construction?	Yes
#2 Is the SCM located on or near contaminated soils?	No	#8 Does the maintenance access comply with General MDC (8)?	Yes
#3 What are the side slopes of the SCM (H:V)?	2:1	#9 Does the drainage easement comply with General MDC (9)?	Yes
#4 Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No	#10 If the SCM is on a single family lot, does the plat comply with General MDC (10)?	N/A
#5 Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes	#11 Is there an O&M Agreement that complies with General MDC (11)?	Yes
#6 Is there a bypass for flows in excess of the design flow?	Yes	#12 Is there an O&M Plan that complies with General MDC (12)?	Yes
#6 What is the method for dewatering the SCM for maintenance?	Pump (preferred)	#13 Was the SCM designed by an NC licensed professional?	Yes

WET POND MDC FROM 02H .1053

#1 Method used	S/A/D/A	#6 Width of the vegetated shelf (feet)	6 ft
#1 Surface area of the main permanent pool (square feet)	4,899 sf	#6 Location of vegetated shelf	Above Normal Pool
#1 Volume of the main permanent pool (cubic feet)	12,668 sf	#6 Elevation of top of shelf (fmsl)	11.5 ft
#2 Average depth of the main pool (feet)	3.0 ft	#6 Elevation of bottom of shelf (fmsl)	10.5 ft
#2 Was the vegetated shelf included in the calculation of average depth?	Yes	#6 Slope of vegetated shelf (H:V)	6:1
#2 Elevation of the bottom of the permanent pool (fmsl)	6.0 ft	#7 Diameter of drawdown orifice (inches)	1.25 in
#2 Elevation of the top of the permanent pool (fmsl)	11.0 ft	#7 Drawdown time for the temporary pool (hours)	48.8 hrs
#2 Elevation of the top of the temporary pool (fmsl)	11.42 ft	#7 Does the orifice drawdown from below the top surface of the permanent pool?	Yes
#3 Depth provided for sediment storage (inches)	12 in	#8 Does the pond minimize impacts to the receiving channel from the 1-yr, 24-hr storm?	Yes
#4 Are the inlet(s) and outlet located in a manner that avoids short-circuiting?	Yes	#9 Are fountains proposed?	No
#4 Describe any measures, such as berms or baffles, that will be taken to improve the flow path:		#9 If yes, is documentation provided per Wet Pond MDC (9)?	
#5 Volume of the forebay (cubic feet)	2,175	#10 Is a trash rack or other device provided to protect the outlet system?	Yes
#5 Is this 15-20% of the volume in the main pool?	Yes	#11 Are the dam and embankment planted in non-clumping turf grass?	Yes
#5 Depth of forebay at entrance (inches)	60 in	#11 Species of turf that will be used on the dam and embankment	Centipede
#5 Depth of forebay at exit (inches)	36 in	#11 Describe the planting plan for the vegetated shelf:	See Plans
#5 Does water flow out of the forebay in a non-erosive manner?	Yes		
#5 Clean-out depth for forebay (inches)	12 in		
#5 Will the forebay be cleaned out when the depth is reduced to less than the above?	Yes		

ADDITIONAL INFORMATION

Please use this space to provide any additional information about this wet pond that you think is relevant to the review.



WET POND

Wrightsville Landing - Pond #2

THE DRAINAGE AREA

Drainage area number	2	Break down of BUA in the drainage area (both new and existing):	0 sf
Total coastal wetlands area (sq ft)		- Parking / driveway (sq ft)	3,600 sf
Total surface water area (sq ft)		- Sidewalk (sq ft)	27,146 sf
Total drainage area (sq ft)	76,604 sf	- Roof (sq ft)	18,405 sf
BUA associated with existing development (sq ft)		- Roadway (sq ft)	0 sf
Proposed new BUA (sq ft)	49,151 sf	- Other, please specify in the comment box below (sq ft)	49,151 sf
Percent BUA of drainage area	64.2%	Total BUA (sq ft)	

COMPLIANCE WITH THE APPLICABLE STORMWATER PROGRAM

Stormwater program(s) that apply (please specify):		Design rainfall depth (in)	1.5 in
2017		Minimum volume required (cu ft)	6,008 sf
		Design volume of SCM (cu ft)	6,332 sf

GENERAL MDC FROM 02H .1050

#1 Is the SCM sized to treat the SW from all surfaces at build-out?	Yes	#7 If applicable, with the SCM be cleaned out after construction?	Yes
#2 Is the SCM located on or near contaminated soils?	No	#8 Does the maintenance access comply with General MDC (8)?	Yes
#3 What are the side slopes of the SCM (H:V)?	3:1	#9 Does the drainage easement comply with General MDC (9)?	Yes
#4 Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	No	#10 If the SCM is on a single family lot, does the plat comply with General MDC (10)?	N/A
#5 Is there a bypass for flows in excess of the design flow?	Yes	#11 Is there an O&M Agreement that complies with General MDC (11)?	Yes
#6 What is the method for dewatering the SCM for maintenance?	Pump (preferred)	#12 Is there an O&M Plan that complies with General MDC (12)?	Yes
		#13 Was the SCM designed by an NC licensed professional?	Yes

WET POND MDC FROM 02H .1053

#1 Method used	SADA	#6 Width of the vegetated shelf (feet)	6 ft
#1 Surface area of the main permanent pool (square feet)	3,770 sf	#6 Location of vegetated shelf	Above Normal Pool
#1 Volume of the main permanent pool (cubic feet)	10,477 sf	#5 Elevation of top of shelf (fmsl)	9.5 ft
#2 Average depth of the main pool (feet)	3.5 ft	#6 Elevation of bottom of shelf (fmsl)	8.5 ft
#2 Was the vegetated shelf included in the calculation of average depth?	Yes	#6 Slope of vegetated shelf (H:V)	6:1
#2 Elevation of the bottom of the permanent pool (fmsl)	2.0 ft	#7 Diameter of drawdown orifice (inches)	1.5 in
#2 Elevation of the top of the permanent pool (fmsl)	9.0 ft	#7 Drawdown time for the temporary pool (hours)	49.2 hrs
#3 Depth provided for sediment storage (inches)	10.1 ft	#7 Does the office drawdown from below the top surface of the permanent pool?	Yes
#4 Are the inlet(s) and outlet located in a manner that avoids short-circuiting?	Yes	#8 Does the pond minimize impacts to the receiving channel from the 1-yr, 24-hr storm?	Yes
#4 Describe any measures, such as berms or baffles, that will be taken to improve the flow path.		#9 Are fountains proposed?	No
#5 Volume of the forebay (cubic feet)	1,730	#9 If yes, is documentation provided per Wet Pond MDC (9)?	Yes
#5 Is this 15-20% of the volume in the main pool?	Yes	#10 Is a trash rack or other device provided to protect the outlet system?	Yes
#5 Depth of forebay at entrance (inches)	60 in	#11 Are the dam and embankment planted in non-clumping turf grass?	Yes
#5 Depth of forebay at exit (inches)	36 in	#11 Species of turf that will be used on the dam and embankment	Centipede
#5 Does water flow out of the forebay in a non-erosive manner?	Yes	#11 Describe the planting plan for the vegetated shelf:	See Plans
#5 Clean-out depth for forebay (inches)	12 in		
#5 Will the forebay be cleaned out when the depth is reduced to less than the above?	Yes		

ADDITIONAL INFORMATION

Please use this space to provide any additional information about this wet pond that you think is relevant to the review.

Operation & Maintenance Agreement

Project Name: Wrightsville Landing
Project Location: 5715 Wrightsville Avenue

Cover Page


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

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

Bioretention Cell	Quantity:		Location(s):
Dry Detention Basin	Quantity:		Location(s):
Grassed Swale	Quantity:		Location(s):
Green Roof	Quantity:		Location(s):
Infiltration Basin	Quantity:		Location(s):
Infiltration Trench	Quantity:		Location(s):
Level Spreader/VFS	Quantity:		Location(s):
Permeable Pavement	Quantity:		Location(s):
Proprietary System	Quantity:		Location(s):
Rainwater Harvesting	Quantity:		Location(s):
Sand Filter	Quantity:		Location(s):
Stormwater Wetland	Quantity:		Location(s):
Wet Detention Basin	Quantity:	2	Location(s): <u>Middle of Site</u>
Disconnected Impervious Area	Present:	No	Location(s):
User Defined BMP	Present:	No	Location(s):

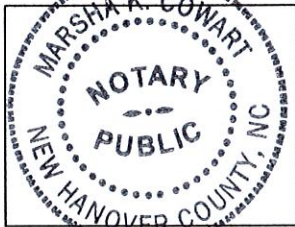
I acknowledge and agree by my signature below that I am responsible for the performance of the maintenance procedures listed for each BMP above, and attached O&M tables. I agree to notify NCDENR of any problems with the system or prior to any changes to the system or responsible party.

* Responsible Party:	<u>John R Lancaster</u>
Title & Organization:	<u>Member - Summerlin Place, LLC</u>
Street address:	<u>PO Box 381</u>
City, state, zip:	<u>Wrightsville Beach, NC 28480</u>
Phone number(s):	
Email:	<u>jlancaster500@gmail.com</u>

Signature:  Date: 1-28-19

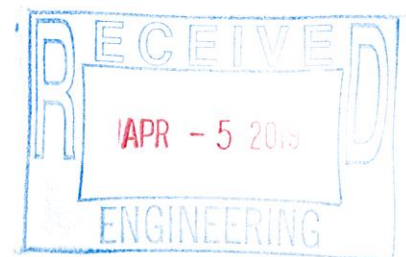
I, Marsha K. Cowart, a Notary Public for the State of NC
 County of New Hanover, do hereby certify that John R. Lancaster
 personally appeared before me this 28th day of January 2019 and
 acknowledge the due execution of the Operations and Maintenance Agreement.

Witness my hand and official seal, Marsha K. Cowart



Seal

My commission expires: 5-25-2019



Wet Detention Pond Maintenance Requirements

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

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 1.0 inches (or 1.5 inches if in a Coastal County)**. Records of operation and maintenance should be kept in a known set location and must be available upon request.

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

BMP element:	Potential problem:	How I will remediate the problem:
The entire BMP	Trash/debris is present.	Remove the trash/debris.
The perimeter of the BMP	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application.
	Vegetation is too short or too long.	Maintain vegetation at a height of approximately six inches.
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 BMP.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
The vegetated shelf	Best professional practices show that pruning is needed to maintain optimal plant health.	Prune according to best professional practices
	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.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.

Wet Detention Pond Maintenance Requirements (Continued)

The main treatment area	Sediment has accumulated to a depth greater than the original design sediment storage depth.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the BMP.
	Algal growth covers over 50% 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.		

Wet Detention Pond Design Summary

Wet Pond Diagram

WET POND ID		FOREBAY		MAIN POND	
1		Permanent Pool El.	11.0	Permanent Pool El.	11.0
		Temporary Pool El:	11.42	Temporary Pool El:	11.42
Pretreatment other than forebay?	No	Clean Out Depth:	5.0	Clean Out Depth:	5.0
Has Veg. Filter?	No	Sediment Removal El:	6.0	Sediment Removal El:	6.0
		Bottom Elevation:	5.0	Bottom Elevation:	5.0
WET POND ID		FOREBAY		MAIN POND	
2		Permanent Pool El.	9.0	Permanent Pool El.	9.0
		Temporary Pool El:	10.1	Temporary Pool El:	10.1
Pretreatment other than forebay?	No	Clean Out Depth:	4.0	Clean Out Depth:	7.0
Has Veg. Filter?	No	Sediment Removal El:	5.0	Sediment Removal El:	2.0
		Bottom Elevation:	4.0	Bottom Elevation:	1.0