Deel Engineering, PLLC
NC Firm License P-1045

October 22, 2026

Currituck County Planning
Currituck Historic Courthouse
153 Courthouse Road, Suite 302
Currituck, North Carolina 27929

Re: Stormwater Management Design Submittal
Major Stormwater Plan
Baxter Corner
Moyock, Currituck County, NC

On behalf of Benna Victor Holdings, LLC, we hereby submit for your review a Major Stormwater Plan application package for the stormwater management system design for the Baxter Corner commercial development.

The following items are included with and shall be considered part of this submittal package:

1. Major Stormwater Plan Form SW-002
2. NRCS Method Peak Flow Form SW-004 (pre-con & post-con)
3. Stormwater Management Plan Narrative / EPA SWMM Model report
4. 8.5" x 11" EPA SWMM Model Existing Conditions Schematic Plan (Appendix A of the Narrative)
5. 8.5" x 11" EPA SWMM Model Proposed Conditions Schematic Plan (Appendix A of the Narrative)

This package is being submitted electronically as part of a matching Construction Plans TRC Submittal. A copy of the NCDEQ Stormwater Permit Application Package is also included with the TRC Submittal.

At your earliest convenience, please review the attached information for compliance. If you have any questions, or if you require any additional information, please do not hesitate to contact me at (252) 202-3803.

Sincerely,

David A. Deel, P.E.
Encl: as stated

Major Stormwater Plan
Form SW-002

OFFICIAL USE ONLY:
Permit Number: _____
Date Filed: _____
Date Approved: _____

Contact Information

APPLICANT:
Name: Benna Victor Holdings, LLC dba Arsenal Acquisitions, Series 11
Address: 4445 Corporation Ln. Suite 151
Virginia Beach, VA 23462
Telephone: (757) 335-1144
E-Mail Address: sandy@bennavictor.com

PROPERTY OWNER:
Name: Same as Applicant
Address: _____
Telephone: _____
E-Mail Address: _____

Property Information

Physical Street Address: Caratoke Hwy. Moyock, NC 27958
Parcel Identification Number(s): 0009-000-025K-0000
FEMA Flood Zone Designation: X

Request

Project Description: Mixed Use Commercial
Total land disturbance activity: 103,232 sf
Calculated volume of BMPs: +/-20,756 cf sf
Maximum lot coverage: 64,434 sf
Proposed lot coverage: 60,780 sf

TYPE OF REQUEST

- ☐ Major subdivision (10-year, 24-hour rate)
- ■ Major site plan (5-year, 24-hour rate)

METHOD USED TO CALCULATE PEAK DISCHARGE

- ☐ Rational Method
- ☐ NRCS Method (TR-55 and TR-20)
- ☐ Simple volume calculation for small sites (less than 10 acres)
- ■ Alternative stormwater runoff storage analysis
- ☐ Downstream drainage capacity analysis

I hereby authorize county officials to enter my property for the purpose of determining compliance. All information submitted and required as part of this process shall become public record.

Applicant _____ Date 10.7.26

Property Owner(s) _____ Date 10.7.26

***NOTE: Form must be signed by the owner(s) of record, contract purchaser(s), or other person(s) having a recognized property interest. If there are multiple property owners/applicants a signature is required for each.**

NRCS Method Peak Flow
Form SW-004

Project Information

Project Location: Baxter Corner

Parcel Identification Number(s): 0009000025K0000

Check One: ☒ Pre-Development ☐ Post-Development

Calculations

Runoff Curve Number and Runoff

1. Runoff Curve Number (CN)

Soil Type	Cover Description	CN (Table 2-6)	Area (acres)	CN*A
		Totals		

See Appendix C in SWM Narrative

$CN_{Weighted} = \frac{SCN*A}{SA} =$ _____

Use CN =

2. Runoff

	Storm #1	Storm #2	Storm #3
Frequency. . . . . Yr			
Rainfall, P (24-hour) (Use Table 2-7). . . . . In			
Runoff, Q. . . . . In			

Time of Concentration (Tc)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments

Sheet flow	**(Applicable to T_c only)**							
	Segment ID		Pre			Post		
1.	Surface description							
2.	Manning's roughness coeff., n (Table 2-9)							
3.	Flow Length, L (total L<= 300 ft)	ft						
4.	24-hr rainfall, P	in	4.0			6.0		
5.	Land Slope, s	ft / ft						
6.	$T_t = 0.42(nL)^{0.8} / P_2^{0.5} s^{0.4}$			+			=	
Shallow concentrated flow								
	Segment ID							
7.	Surface Description: paved (P) or unpaved (U)?							
8.	Flow Length, L	ft						
9.	Watercourse slope, s	ft / ft						
10.	Average velocity, V (Table 2-8)	ft / sec						
11.	$T_t = L / V$	min		+			=	
Channel flow								
	Segment ID							
	Pipe (P) or Channel (C)?							
	If pipe, enter D (in):							
	If channel, enter bottom width:							
	If channel, enter side slopes (_:1):							
12.	Cross sectional flow area, a	sq ft						
13.	Wetted perimeter, w_p	ft						
14.	Hydraulic radius, $r = a / w_p$	ft						
15.	Channel slope, s	ft / ft						
16.	Manning's roughness coeff., n							
17.	$V = 1.49\ r^{0.67}\ s^{0.5} / n$	ft / sec						
18.	Flow length, L	ft						
19.	$T_t = L / 60V$	min		+			=	
20.	Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)						min	

See Calculations in SWM Narrative / EPA SWMM Narrative

Graphical Peak Discharge

1. Data:

   Drainage Area, Am = _____ sq mi (acres/640)

   Runoff Curve Number, CN = _____ (From Runoff Curve Number Worksheet)

   Time of Concentration, Tc = _____ hr (From Time of Concentration Worksheet)

   Rainfall Distribution = Type III

   Pond and swamp areas spread throughout watershed = _____ % of A_m (_____ acres covered)

See Calculations in SWM Narrative / EPA SWMM Narrative

					Storm #3
2.	Frequency				
3.	Rainfall, P (24-hour)				
4.	Initial abstraction, I_a . . . . . (Use CN)	in			
5.	Compute I_a/P				
6.	Unit peak discharge, q_u . . . . . (use T_c and I_a/P with Figure 2-9)	csm/in			
7.	Runoff, Q . . . . . (From Runoff Curve Number Worksheet)	in			
8.	Pond and swamp adjustment factor, F_p . . . . . (Use Table 2-10)				
9.	Peak discharge, Q_p . . . . . (Where $Q_p = q_u A_m Q F_p$)	cfs			

Applicant

Date

NRCS Method Peak Flow
Form SW-004

Project Information

Project Location: Baxter Corner

Parcel Identification Number(s): 0009000025K0000

Check One: ☐ Pre-Development ☒ Post-Development

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Soil Type	Cover Description	CN (Table 2-6)	Area (acres)	CN*A
		Totals		

See Appendix C in SWM Narrative

$CN_{Weighted} = \frac{SCN*A}{SA} =$ _____ **Use CN =**

2. Runoff

	Storm #1	Storm #2	Storm #3
Frequency. . . . . Yr			
Rainfall, P (24-hour) (Use Table 2-7). . . . . In			
Runoff, Q. . . . . In			

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5.	Land Slope, s	ft / ft						
6.	$T_t = 0.42(nL)^{0.8} / P_2^{0.5} s^{0.4}$			+			=	
Shallow concentrated flow								
	Segment ID							
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11.	$T_t = L / V$	min		+			=	
Channel flow								
	Segment ID							
	Pipe (P) or Channel (C)?							
	If pipe, enter D (in):							
	If channel, enter bottom width:							
	If channel, enter side slopes (_:1):							
12.	Cross sectional flow area, a	sq ft						
13.	Wetted perimeter, w_p	ft						
14.	Hydraulic radius, $r = a / w_p$	ft						
15.	Channel slope, s	ft / ft						
16.	Manning's roughness coeff., n							
17.	$V = 1.49\ r^{0.67}\ s^{0.5} / n$	ft / sec						
18.	Flow length, L	ft						
19.	$T_t = L / 60V$	min		+			=	
20.	Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)						min	

See Calculations in SWM Narrative / EPA SWMM Narrative

Graphical Peak Discharge

1. Data:

   Drainage Area, Am = _____ sq mi (acres/640)

   Runoff Curve Number, CN = _____ (From Runoff Curve Number Worksheet)

   Time of Concentration, Tc = _____ hr (From Time of Concentration Worksheet)

   Rainfall Distribution = Type III

   Pond and swamp areas spread throughout watershed = _____ % of A_m (_____ acres covered)

See Calculations in SWM Narrative / EPA SWMM Narrative

					Storm #3
2.	Frequency				
3.	Rainfall, P (24-hour)				
4.	Initial abstraction, I_a . . . . . (Use CN)	in			
5.	Compute I_a/P				
6.	Unit peak discharge, q_u . . . . . (use T_c and I_a/P with Figure 2-9)	csm/in			
7.	Runoff, Q . . . . . (From Runoff Curve Number Worksheet)	in			
8.	Pond and swamp adjustment factor, F_p . . . . . (Use Table 2-10)				
9.	Peak discharge, Q_p . . . . . (Where $Q_p = q_u A_m Q F_p$)	cfs			

Applicant

Date

Stormwater Management Plan Narrative

Baxter Commercial
Currituck County Submittal
10/22/2026



General

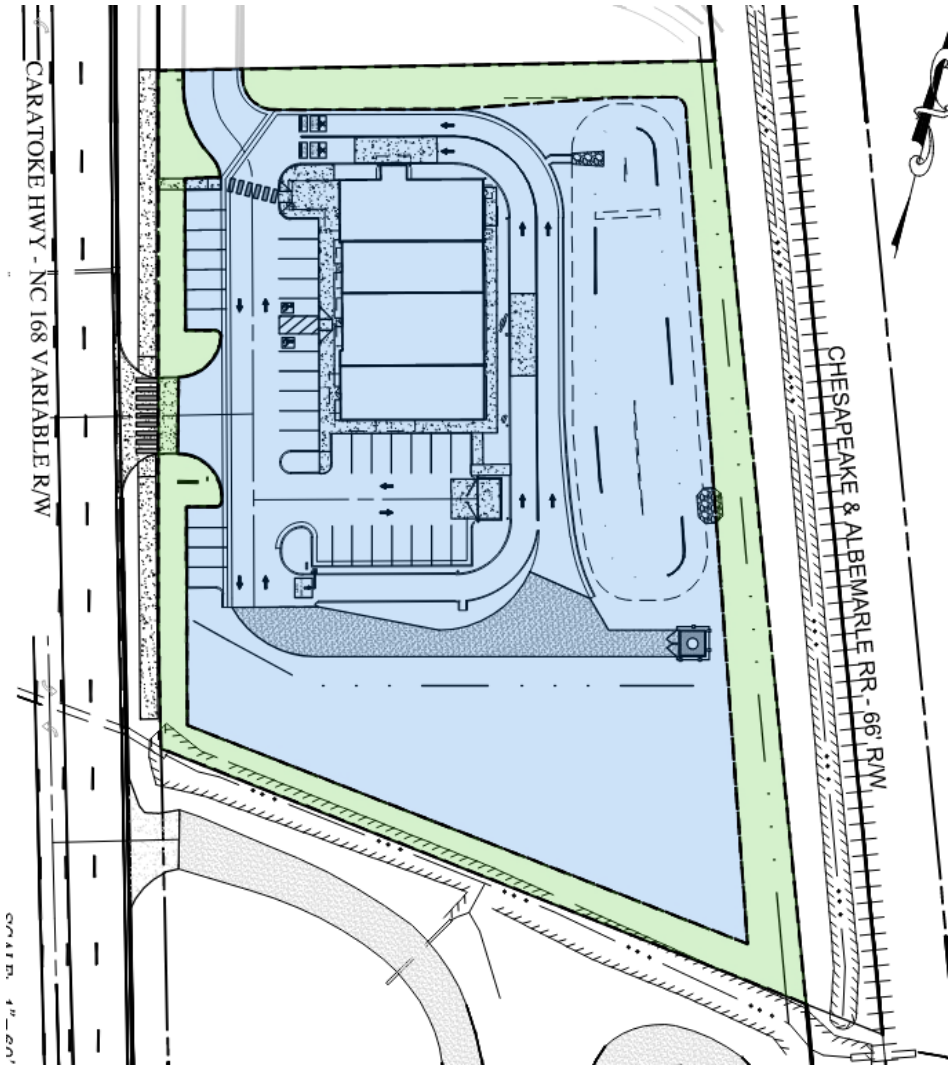
The following narrative will detail the proposed stormwater management plan for a proposed mixed-use commercial development to be placed on a 2.28 acre parcel in Moyock, NC. As per state regulations, a high density stormwater permit is being pursued, with water quality treatment provided in a stormwater wet basin. To meet Currituck County's peak flow mitigation requirements, the wet basin will be designed to also retain a peak flow mitigation volume which exceeds the State required water quality volume. The following narrative, application and calculations will demonstrate the parameters of this design in full compliance with Currituck County regulations.

Project Analysis Approach / Methodology

Currituck County's Stormwater Management Ordinance prescribes that for this project, stormwater control measures must be provided such that the post-construction runoff from the site for a 5yr, 24hr rainfall event must be equal to or less than the pre-construction runoff from a 2yr, 24hr rainfall event across a theoretically wooded site. In order to continue to accommodate off-site flows from the property to the north, a new ditch is proposed along the east side (rear) of the subject parcel to bypass the off-site flows around the proposed development. The proposed Built-Upon Area (BUA) will be isolated from all off-site flows via a berm around the perimeter and a Project Area for the pre-/post-construction analysis containing all of the proposed BUA (except a sliver of the NC 168 entrance) is defined utilizing the top of the proposed berm.

In accordance with the Currituck County ordinance, the Project Area is modeled and analyzed as a stand-alone site with a single total pre-construction peak flow and a single total post-construction peak flow. In order to generate comparative totals, pre-construction and post-construction conditions for the site are modeled in EPA SWMM, with the two pre-construction discharge points combined into a single theoretical link (Outfall Link) which totals the peak flow from the site. This Outfall Link provides the "Link of Interest" for comparison of pre-construction and post-construction peak flows. SCS Curve number methodology, as incorporated into EPA SWMM, is utilized to generate runoff curves for each drainage shed. For the subject Project Area, modeled post-construction runoff resulting from a 5-yr, 24 hr storm event will be retained and released at a peak flow rate which does not exceed the modeled 2-yr, 24 hr peak runoff rate for the site in a theoretical wooded pre-development condition. Additionally, post-construction runoff resulting from a 10-yr, 24 hr storm event will be retained and released at a peak flow rate which does not exceed the actual calculated pre-construction 10-yr, 24 hr peak runoff rate for the site.

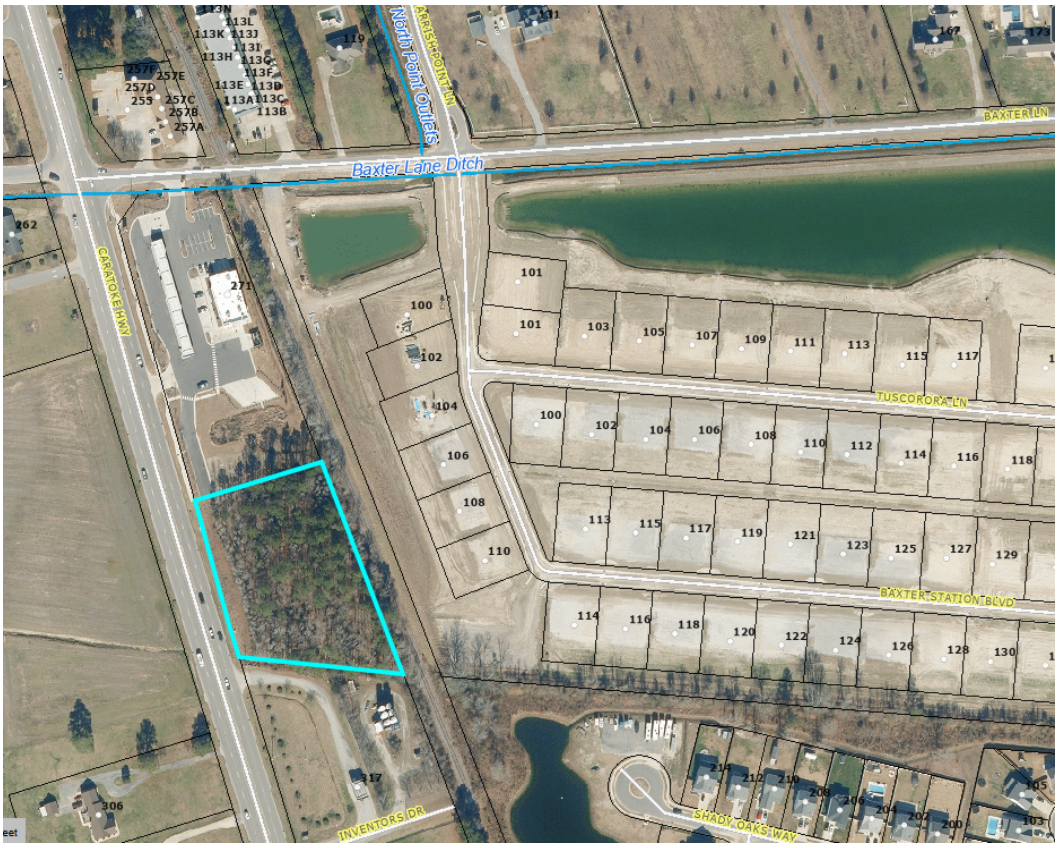
In order to meet this peak flow mitigation requirement, a wet basin is proposed along the rear of the property to accept runoff from the entirety of the Built-Upon Area (BUA) and to mitigate peak flows via storage & controlled release.



In the above graphic, the blue area is the “Project Area” and the green is the undeveloped portion of the site that cannot reasonably be conveyed to the proposed pond (outside the berm). In the pre-construction model, the blue area is assigned the 2-yr wooded conditions and the green area is assigned the 5-yr actual (wooded) condition. In the post-construction model, all areas are assigned their actual post-construction conditions and the 5-yr storm is applied across all areas.

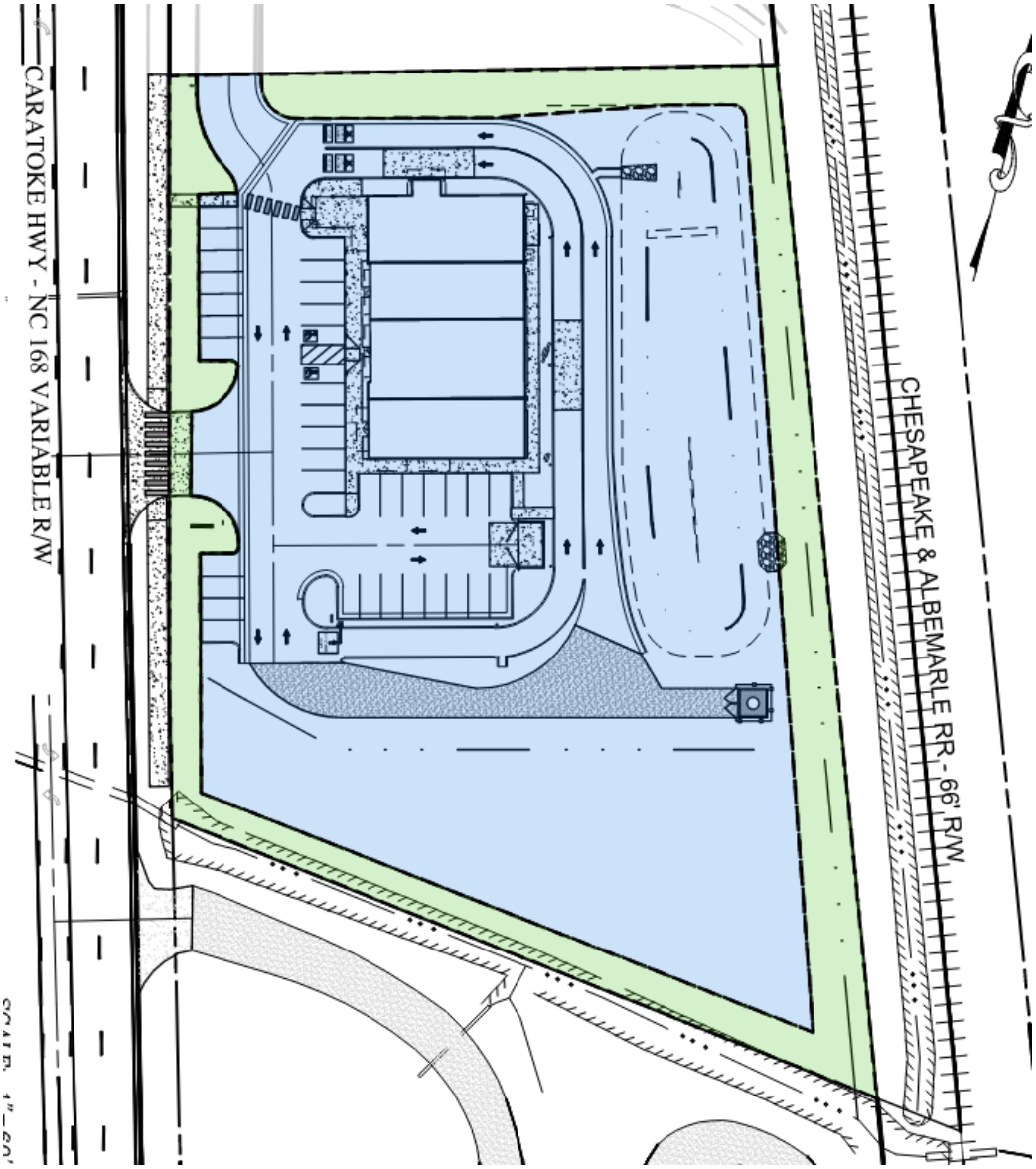
Summary of Existing Conditions

The subject parcel is located on the east side of NC 168 approximately 805 feet south of the intersection of NC 168 and Baxter Lane. The site is currently vacant and wooded. Two ditches running north-south bisect the site, carrying overflow runoff from the SCM's on the commercial site to the north, as well as carrying on-site runoff from the wooded parcel. These ditches flow to a collector ditch along the southern property line and to a ditch outfall located at the southeast corner of the site.



Summary of Proposed Conditions

In order to continue to accommodate the off-site flows from the property to the north, a new ditch is proposed along the east side (rear) of the subject parcel to convey the off-site flows around the proposed development. The proposed developed area BUA will be isolated from all off-site flows via a berm around the perimeter and a Project Area for analysis containing all of the proposed BUA (except a sliver of the NC 168 entrance) is defined utilizing the top of the proposed berm.



The proposed development consists of the construction of a coffee shop, a retail shop, and future allotment for additional commercial space on the site along with associated parking and utility infrastructure. Stormwater will be collected via a storm sewer system and conveyed to a wet basin located behind the proposed retail shop. Runoff from all developed areas will be collected and conveyed to the proposed wet basin.

A bypass ditch will be placed along the rear of the property to re-route the overflow runoff from the commercial site to the north along the back of the subject property instead of through the middle of it.

Stormwater Collection, Treatment, Storage and Disposal

The topography of the drainage area, existence of low permeability soils, clearance to groundwater, and storm HGL mitigation requirement indicate that a wet pond would be the preferable SCM to specify for this site.

Collection

Runoff from all developed areas will be collected via site grading, curb & gutter, & storm sewer and conveyed to a stormwater wet pond located along the east side (rear) of the developed area.

Treatment

Runoff from the drainage area will enter the basin forebay primarily via the proposed storm sewer and a paved flume. Pre-treatment is provided via drop inlet grates, where large particulates and debris will gather. A small portion of the runoff will enter the basin via overland flow. Pre-treatment for these areas is provided via filtration through the overland vegetation.

Initial treatment will be provided within the Pond forebay, where particulates will settle out and filtration will occur as water passes over the vegetated forebay weir.

Primary and secondary treatment will be provided in the Wet Pond main pool, via settling of particulates, filtration within the vegetated shelf and grassed side-slopes, biological uptake of nutrients by the vegetated shelf and grassed side-slopes, and infiltration into the pond subsurface.

Storage

Currituck County's Stormwater Ordinance requires that the runoff rate from the 5-yr, 24-hr storm in the post-construction condition not exceed the runoff rate from the 2-yr, 24-hr storm in the pre-construction, theoretical fully wooded condition. Additionally, this design will retain post-construction runoff resulting from a 10-yr, 24 hr storm and release stored runoff at a peak flow rate which does not exceed the actual calculated pre-construction 10-yr, 24 hr peak runoff rate for the site. In order to generate comparative totals, pre-construction and post-construction conditions for the site are modeled in EPA SWMM, with the two pre-construction discharge points combined into a single theoretical link (Outfall Link) which totals the peak flow from the site. This Outfall Link provides the "Link of Interest" for comparison of pre-construction and post-construction peak flows. This model & peak mitigation design are discussed below.

Disposal

A small amount of the runoff will be infiltrated or be disposed of via infiltration and evapotranspiration. The primary source of disposal, however, will be via discharge to the Bypass Ditch via the Outlet Control Structure (orifice and weir).

Peak Flow Mitigation

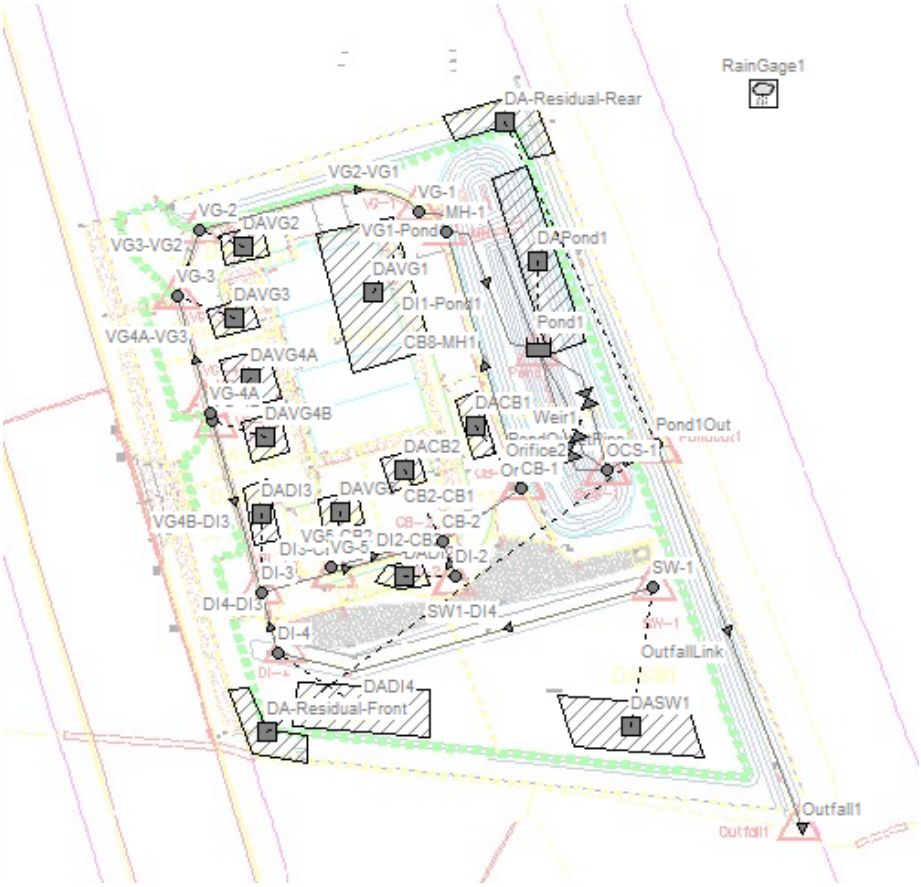
Currituck County's Stormwater Ordinance requires that the runoff rate from the Project area for the 5-yr, 24-hr storm in the post-construction condition not exceed the runoff rate from the 2-yr, 24-hr storm in the pre-construction, theoretical fully wooded condition.

As discussed above in "Project Analysis Approach / Methodology", SCS Curve Number methodology, as incorporated into EPA SWMM, was utilized to calculate runoff from each drainage sub-area within the Project Area and a node & link model of the existing and proposed on-site stormwater conveyances was built to produce total flows from the site in the pre-construction and post construction conditions.

The pre-construction model consists of a Project Area ("DA-BaxterPreCon" in the model), which is assigned the 2-yr rainfall and wooded conditions plus a residual area ("DA-Residual" in the model), which is assigned the 5-yr rainfall and actual (wooded) condition. Runoff from the drainage areas is collected and discharged through the "Outfall Link" (Link of Interest: note that the Outfall Link does not represent an actual physical on-site conveyance, but instead it is a link that is added into the models to provide a comparative link for comparing pre-construction and post-construction peak flows.):



The post-construction model reflects the entirety of the post-construction stormwater collection, conveyance (storm sewer), and storage (pond) system. Subareas draining to each stormwater collection point (drop inlets) are delineated and reflected in the model:



In order to generate comparative totals, pre-construction and post-construction conditions for the site are modeled in EPA SWMM, with runoff discharged into a single link (Outfall Link) which totals the peak flow from the site. This **Outfall Link** provides the "**Link of Interest**" for comparison of pre-construction and post-construction peak flows.

Naming Convention: **Drainage Areas are named for the node that they drain to** (for example, DADI4 drains to Node DI4, which is representative of Drop Inlet #4 on the plans). A designation of "DIx" or "CBx" directly references the proposed storm structure naming convention on the Permit / Construction Plans. A designation of "VGx" refers to a nodal location placed in a section of curb & gutter or valley gutter (these nodes were placed in order to evaluate the adequacy of the gutter sections).

Model Hydrology

Runoff was modeled utilizing the NRCS (SCS) Method for the 2-yr, 5-yr, 10-yr, and 100-yr, 24-hour storm events. NRCS standard Type III (coastal) rainfall distributions were utilized with total rainfall depths of:

2yr, 24hr Total Rainfall Depth = 3.74 in. (Currituck County Standard)
10yr, 24 hr Total Rainfall Depth = 5.74 in. (NOAA Atlas 14)
100yr, 24 hr Total Rainfall Depth = 9.54 in. (NOAA Atlas 14)

Runoff was routed through the model utilizing a Dynamic Wave method.

Model Tailwater

No FEMA off-site tailwater designation is provided for this area, so the outfall tailwater conditions in the EPA SWMM modeling was set to "Normal" (The model calculates normal tailwater depth based on the flows present in the Outfall Link).

Model Elements

Model Elements input data is included in the Appendix accompanying this narrative.

SCS Curve Numbers & Drainage Area Information

SCS Curve Numbers & Drainage Area Information utilized in the model is included in the Appendix accompanying this narrative.

Soils

Protocol Sampling Service, Inc. performed soils investigations of the site to evaluate the site for suitability of placement of the wet basin SCM. Information collected on site indicates that the soils found throughout this site are composed primarily of sandy loam and loamy sand. These soil types will have moderate permeability. These findings generally correlate with the description mapped and discussed in the United States Department of Agriculture, Soil Conservation Service, Soil Survey of Currituck County, North Carolina, which map the soil for this site as follows:

Ro – Roanoke fine sandy loam, Permeability is very low to moderately high
Ds – Dragston loamy fine sand, Permeability is high

The NRCS soils report has been included in the appendix of this narrative. Water levels in the proposed Wet Pond will be regulated via the weir structure.

Target Design Standards & Results

Post-construction runoff resulting from a 5-yr, 24 hr storm event will be retained and released at a peak flow rate which does not exceed the 2-yr, 24 hr peak runoff rate for the site in a theoretical wooded pre-development condition. Additionally, post-construction runoff resulting from a 10-yr, 24 hr storm event will be retained and released at a peak flow rate which does not exceed the actual calculated pre-construction 10-yr, 24 hr peak runoff rate for the site.

5-yr / 2-yr Results (Currituck County Req'mt)

2-Yr Pre-Con:	0.51	cfs
5-Yr Post-Con:	0.47	cfs

10--yr Results

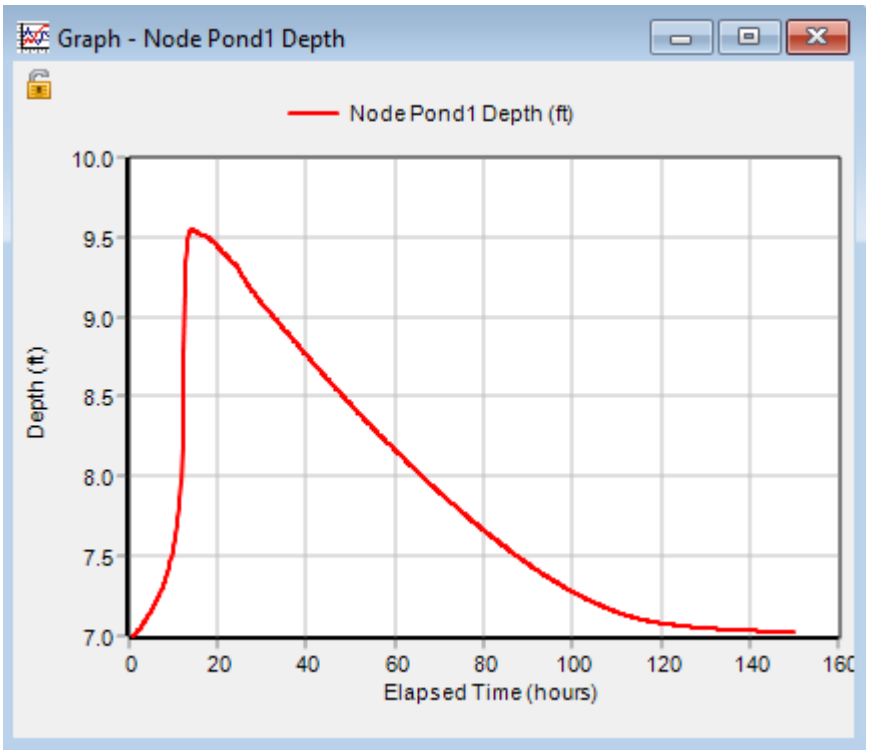
10-Yr Pre-Con:	2.91	cfs
10-Yr Post-Con:	0.74	cfs

Outlet Control Structure

Peak flows are mitigated via an outlet control structure located on the south end of the proposed wet basin. Within this outlet control structure, smaller storms and the permanent pool are controlled by a 1.5" diameter orifice set at an elevation of 7.0'. The 5-yr rainfall event is controlled by a combination of the first orifice and a 3" orifice set at an elevation of 9.1'. the 10-yr rainfall event and other larger storms are managed via a 10' wide weir placed at an elevation of 9.5'. An overflow weir is provided at the rear of the wet basin at an elevation of 10.0' and is placed there as an emergency outlet for the system.

System Drawdown

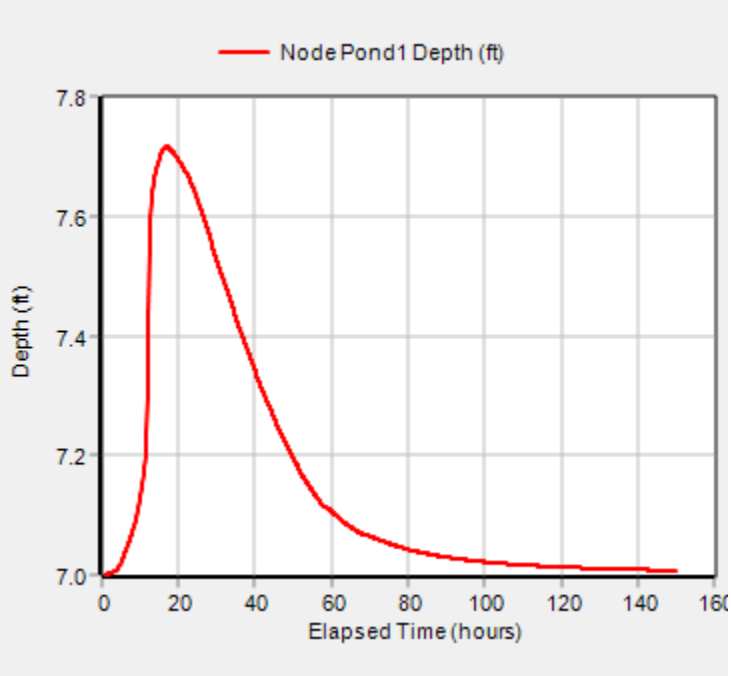
10-yr, 24hr Rainfall
Pond Discharge



Per the EPA SWMM Model, for the 10-yr rainfall event, roughly 95% of the pond volume is recovered within 5 days after the rainfall event.

Water Quality Volume (1.5 in):

Outflow of the water quality volume (WQV) for the pond is controlled via the 1.5" orifice in the Outlet Control Structure. Per the EPA SWMM model constructed for the entire system, the water quality volume for the entire system is achieved at a water surface elevation of 7.72' (permanent pool is at elevation 7.0').



Per the EPA SWMM Model, for the 1.5" rainfall event, roughly 100% of the pond volume is recovered within 5 days after the rainfall event (recovery to a pool elevation of 7.01').

Calculations / Tabulations

A set of Drainage Area Tabulations and Model HGL Results can be found within appendix portion of this narrative.

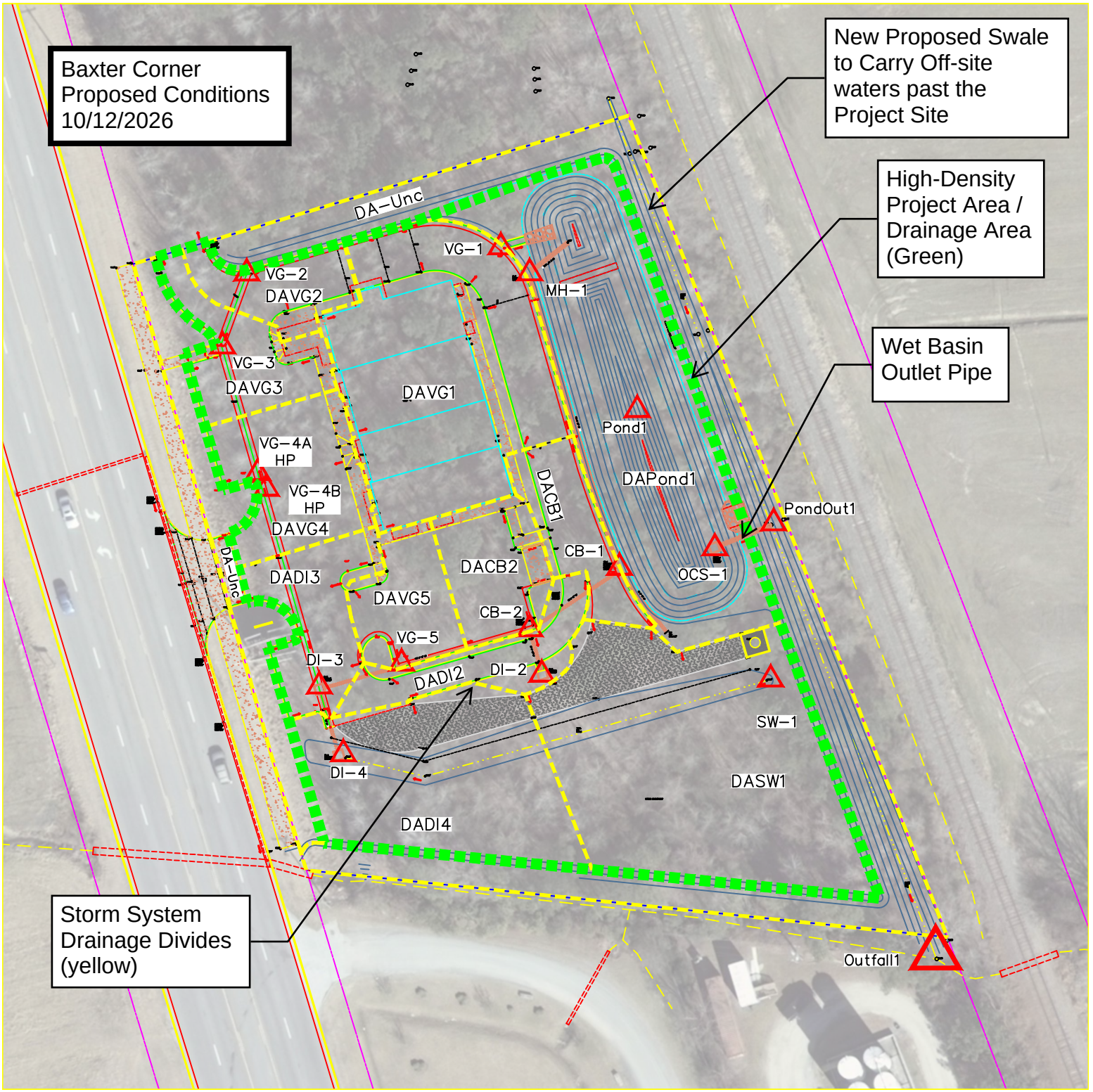
Conclusions

The proposed stormwater management plan for this site will handle the difference in runoff between the pre-development 2-yr, 24hr and the post-development 5-yr, 24 hr storm events, as prescribed in the Currituck County Stormwater Management Ordinance. Additionally, the design mitigates peak flows from the 10-yr, 24 hr storm events and provides treatment of the NCDEQ required water quality volume.

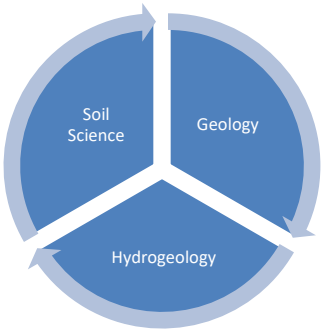
This proposed design will more than adequately serve the stormwater management requirements of this site.

APPENDIX A
Drainage Area Maps


Baxter Corner
Existing Conditions
10/12/2026
Project Boundary
High-Density
Project Area
Flow
Flow
Existing
Ditches
Flow


Baxter Corner
Proposed Conditions
10/12/2026
New Proposed Swale to Carry Off-site waters past the Project Site
High-Density Project Area / Drainage Area (Green)
Wet Basin Outlet Pipe
Storm System Drainage Divides (yellow)
DA-Unc
VG-1
VG-2
DAVG2
MH-1
VG-3
DAVG3
DAVG1
Pond1
VG-4A HP
VG-4B HP
DAPond1
DACB1
PondOut1
DAVG4
CB-1
DACB2
OCS-1
DADI3
DAVG5
CB-2
VG-5
DI-3
DADI2
DI-2
SW-1
DI-4
DASW1
DADI4
Outfall1

APPENDIX B
Soils Investigation &
SCS Soil Survey Excerpts



Protocol Sampling Service, Inc.
"Experts in Environmental Compliance"

4114 Laurel Ridge Drive
Raleigh, North Carolina 27612

(919) 210-6547

Protocolsampling@yahoo.com
Environmentalservicesnc.com

September 9, 2026

Mr. David Klebitz, P.E.
Bissell Professional Group, Inc.
Post Office Box 1068
Kitty Hawk, North Carolina 27949

Re: **BMP Soils Investigation**
Baxter Commercial Lot – 2.28 Acres
Baxter Lane and US Highway 168
Moyock, Currituck County, North Carolina
Protocol Project # 26-146

Dear Mr. Klebitz:

The following Site Evaluation is submitted to assist in the design of an onsite stormwater wet-detention pond for a commercial development, located near the intersection of Baxter Lane and US Highway 168 (Caratoke Highway) in Moyock, Currituck County, North Carolina.

SITE HISTORY AND PHYSICAL CHARACTERISTICS

The lot is irregular in shape and lies in between Baxter Lane, US Highway 168 and the Chesapeake & Albemarle Railroad. The surveyed ground surface elevation is 8.25'- msl on the eastern portion of the property where the wet-detention pond will be installed. The surrounding properties are developed as commercial properties, single-family home sites or are undeveloped farmland. Protocol Sampling Service, Inc. was hired to perform a soils investigation to identify seasonal high water table conditions in the vicinity of the wet-detention pond.

SOIL INVESTIGATION

The field survey was conducted on Wednesday, August 14, 2024 with the soil being wet from recent rains. Two (2) soil borings were made with a hand auger on the lot using the recently completed boundary survey as a guide. Soil texture, consistence, structure, and clay mineralogy was determined at each soil boring. Depth to seasonal high-water table (soil wetness) and any restrictive horizons, if present, was noted.

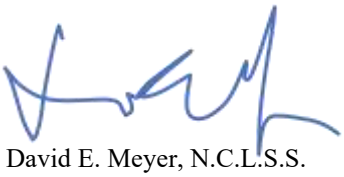
The soil was found to be poorly drained, very deep and matched the Gertie soil series with a soil wetness condition of 15 inches. The permeable portion of the soil profile was found at three-feet below land surface at an elevation of 5.25-feet msl. The layer exhibited excellent structure (granular to single grained), consistence (friable to loose) and texture (fine sand) and extended to 72-inches bls.

CONCLUSION

Excavating the wet-detention pond into the underlying permeable soil layer and discharging it to adjoining drainage improvements having invert elevations lower than 7.0 feet msl will support a design permanent pool elevation of 7.00 feet msl.

The findings presented herein are based on the site conditions observed during performance of the field survey on August 14, 2024.

Please call me at (919) 210-6547 if you have any questions or need further assistance.





David E. Meyer, N.C.L.S.S.
Soil Scientist/President

Soil Profile Description
Baxter Commercial – Profile 1

Ap 0 – 6 inches; very dark brown (10YR 2/2) silt loam; granular; friable.

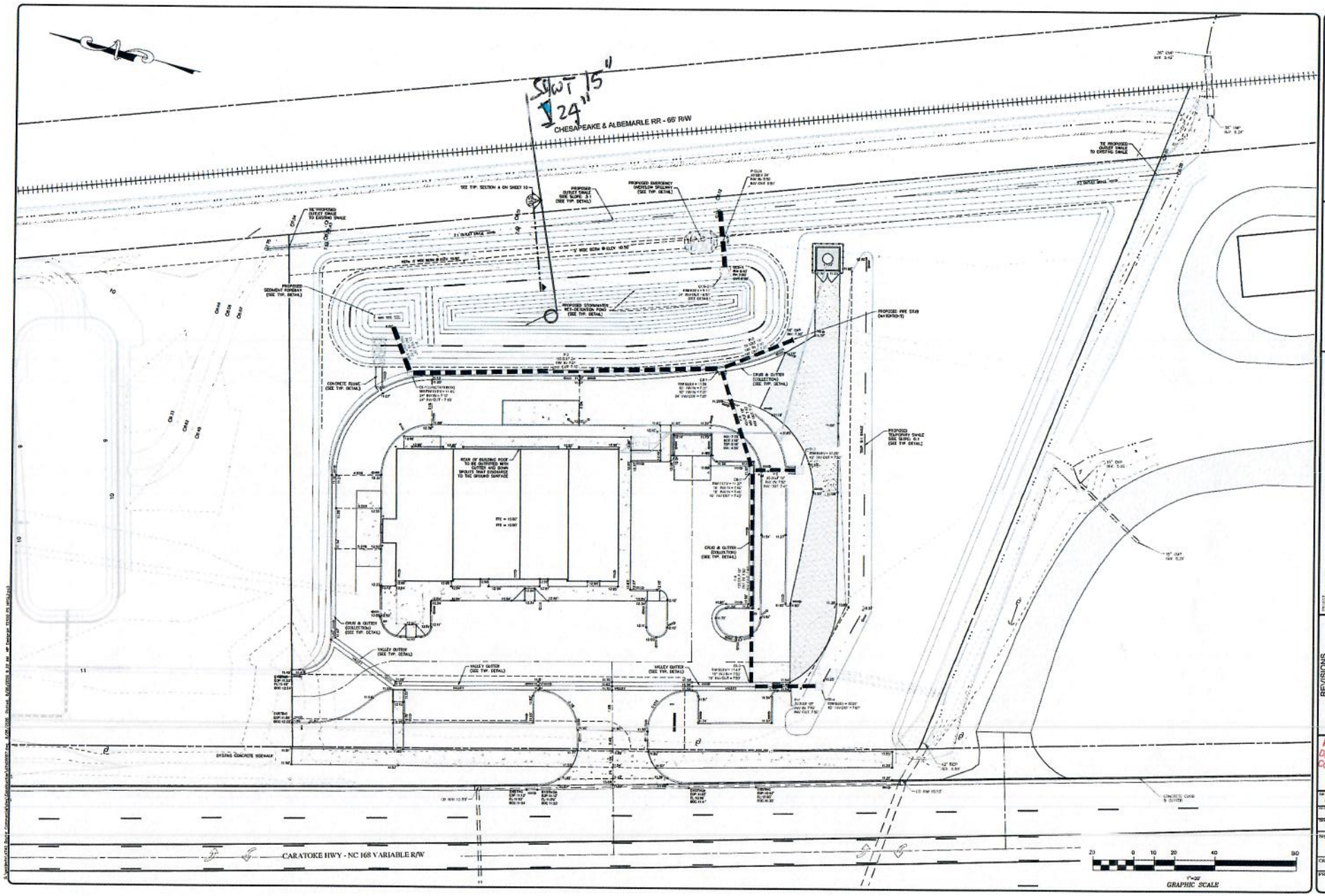
Ap2 6 – 15 inches; brown (10YR 4/3) sandy clay loam; subangular blocky; friable.

Ab 15 – 21 inches; dark brown (10YR 2/2) silt loam with many, prominent strong brown (7.5YR 5/6) concentrations; granular; friable.

Btg1 21 - 36 inches; light brownish gray (2.5Y 6/2) silty clay loam; subangular blocky; firm with many, prominent strong brown (7.5YR 5/6) concentrations.

C 36 – 60+ inches; light brownish gray (2.5Y 6/2) fine sand; single grained; loose.

Soil Series: Gertie
Landscape: Coastal Plain
Landform: flood plain, broad flats
Parent Material: Marine sediments
Drainage Class: Somewhat Poorly
Particle Size Class: loamy
Temperature Regime: thermic
Subgroup Classification: Typic Endoaquults
Examination Method: auger boring
Date: August 14, 2024
Weather: 75◦
Investigator: David Meyer
Shwt: 15” (elevation 7.00’-msl)
Measured water table depth: 22”



Russell Professional Group
Engineers, Planners, Surveyors and Environmental Specialists

GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN

PROJECT: ARSENAL ACQUISITIONS, SERIES 11
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

COMMERCIAL SITE DEVELOPMENT PLANS

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

DATE: 5/31/06	SCALE: 1" = 20'
DESIGNED: JEPD	CHECKED: JMSD
DRAWN: DRB,	APPROVED: [illegible]

SHEET: 4 of 16
CAP FILE: 474000B7
PROJECT NO: 4740

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Currituck County, North Carolina



August 19, 2024

Custom Soil Resource Report
Soil Map



Map Scale: 1:994 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 45 90 180 270

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

Currituck County, North Carolina

Ds—Dragston loamy fine sand

Map Unit Setting

National map unit symbol: 3rnm
Elevation: 0 to 20 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Dragston, drained, and similar soils: 45 percent
Dragston, undrained, and similar soils: 40 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dragston, Drained

Setting

Landform: Marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

A - 0 to 6 inches: loamy fine sand
E - 6 to 10 inches: loamy fine sand
Bt - 10 to 42 inches: sandy loam
2Cg - 42 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A/D
Ecological site: F153AY040NC - Moist Loamy Rises and Flats, F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

Description of Dragston, Undrained

Setting

Landform: Marine terraces

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

A - 0 to 6 inches: loamy fine sand
E - 6 to 10 inches: loamy fine sand
Bt - 10 to 42 inches: sandy loam
2Cg - 42 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: F153AY040NC - Moist Loamy Rises and Flats, F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Portsmouth, undrained

Percent of map unit: 3 percent
Landform: Depressions on marine terraces, flats on marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F153AY060NC - Wet Loamy Flats and Depressions, F153BY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Nimmo, undrained

Percent of map unit: 2 percent
Landform: Flats on marine terraces, depressions on marine terraces
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions, F153AY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Ro—Roanoke fine sandy loam

Map Unit Setting

National map unit symbol: 3rp1
Elevation: 0 to 20 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Roanoke, drained, and similar soils: 80 percent
Roanoke, undrained, and similar soils: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Roanoke, Drained

Setting

Landform: Flats on marine terraces, depressions on marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey marine deposits and/or fluviomarine deposits

Typical profile

Ap - 0 to 8 inches: silt loam
Btg - 8 to 58 inches: clay
Cg - 58 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F153BY090NC - Flooded Mineral Soil Floodplains and Terraces, F153AY065NC - Wet Clay Flats and Depressions
Hydric soil rating: Yes

Description of Roanoke, Undrained

Setting

Landform: Flats on marine terraces, depressions on marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey marine deposits and/or fluviomarine deposits

Typical profile

A - 0 to 8 inches: silt loam
Btg - 8 to 58 inches: clay
Cg - 58 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F153BY090NC - Flooded Mineral Soil Floodplains and Terraces, F153AY065NC - Wet Clay Flats and Depressions
Hydric soil rating: Yes

APPENDIX C
DA Info / Curve Number Tabulations

Land Use	CN
Wooded (Soils Type A)(Good Condition)	30
Wooded (Soils Type B)(Good Condition)	55
Wooded (Soils Type C)(Good Condition)	70
Wooded (Soils Type D)(Good Condition)	77
SR+CR Row Crop (Soils Type A)(Good Condi	64
SR+CR Row Crop (Soils Type B)(Good Condi	75
SR+CR Row Crop (Soils Type C)(Good Condi	82
Open Space (Soils Type A) (Good Condition)	39
Open Space (Soils Type B) (Good Condition)	61
Open Space (Soils Type C) (Good Condition)	74
Impervious	98

Existing Drainage Area Parameters - SCS Method

Baxter Commercial Ex. Conditions - Wooded-2yr & Actual Conditions

DA-Baxter Pre-Con Rev 10/7/2026

		CN	Area Ac.	Area SF	
Impervious - Disconnected		98	0.00	0	Weighted CN = 70
Woods	C Soils	70	1.81	78716	
Open Space	C Soils	74	0.00	0	
Farm Fields	C Soils	82	0.00	0	
	CN SubTotal		1.81	78716	

Connected Impervious:

Area Ac.	Area SF	% of DA
0.00	0	0.00

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
1.81	78716	78716

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	255	S=	4.3	Ia=	0.86	308.69
Elev Up	9	Lag =	0.2 Hours			
Elev Dn (Inv)	7.5	Tc =	0.3 Hours			
Slope % = Y	0.59	Tc =	18.5 Minutes			
CN =	70					

Existing Drainage Area Parameters - SCS Method

Baxter Commercial Ex. Conditions - Actual Conditions

DA-Residual Rev 10/7/2026

		CN	Area Ac.	Area SF	
Impervious - Disconnected		98	0.00	0	Weighted CN = 70
Woods	C Soils	70	0.47	20414	
Open Space	C Soils	74	0.00	0	
Farm Fields	C Soils	82	0.00	0	
	CN SubTotal		0.47	20414	

Connected Impervious:

Area Ac.	Area SF	% of DA
0.00	0	0.00

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.47	20414	20414

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	100	S=	4.3	Ia=	0.86	204.14
Elev Up	9	Lag =	0.1 Hours			
Elev Dn (Inv)	8	Tc =	0.1 Hours			
Slope % = Y	1.00	Tc =	6.7 Minutes			
CN =	70					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-Residual - Rear Rev 10/7/2026

		CN	Area Ac.	Area SF			
Impervious - Disconnected		98	0.00	0	Weighted CN =	74	
Woods	C Soils	70	0.00	0			
Open Space	C Soils	74	0.37	16063	Connected Impervious:		
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA
	CN SubTotal		0.37	16063	0.00	0	0.00

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:		
Area Ac	Area SF	
0.37	16063	16063

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	201	S=	3.5	Ia=	0.70	79.92
Elev Up	9	Lag =	0.1 Hours			
Elev Dn (Inv)	8	Tc =	0.2 Hours			
Slope % = Y	0.50	Tc =	14.9 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-VG2 Rev 10/7/2026

		CN	Area Ac.	Area SF			
Impervious - Disconnected		98	0.00	0	Weighted CN =	74	
Woods	C Soils	70	0.00	0			
Open Space	C Soils	74	0.00	112	Connected Impervious:		
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA
	CN SubTotal		0.00	112	0.05	2219	95.20

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:		
Area Ac	Area SF	
0.05	2331	2331

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	30	S=	3.5	Ia=	0.70	77.70
Elev Up	12	Lag =	0.0 Hours			
Elev Dn (Inv)	11.46	Tc =	0.0 Hours			
Slope % = Y	1.80	Tc =	1.7 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-VG3 Rev 10/7/2026

		CN	Area Ac.	Area SF				
Impervious - Disconnected		98	0.00	0	Weighted CN =	74		
Woods	C Soils	70	0.00	0				
Open Space	C Soils	74	0.00	10	Connected Impervious:			
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA	
	CN SubTotal		0.00	10	0.07	3218	99.69	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.07	3228	3228

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	32	S=	3.5	Ia=	0.70	100.88
Elev Up	12.3	Lag =	0.0 Hours			
Elev Dn (Inv)	11.7	Tc =	0.0 Hours			
Slope % = Y	1.88	Tc =	1.8 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-VG4A & 4B (Split 50/50) Rev 10/7/2026

		CN	Area Ac.	Area SF				
Impervious - Disconnected		98	0.00	0	Weighted CN =	74		
Woods	C Soils	70	0.00	0				
Open Space	C Soils	74	0.00	10	Connected Impervious:			
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA	
	CN SubTotal		0.00	10	0.10	4553	99.78	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.10	4563	4563

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	65	S=	3.5	Ia=	0.70	70.20
Elev Up	12.9	Lag =	0.0 Hours			
Elev Dn (Inv)	11.27	Tc =	0.0 Hours			
Slope % = Y	2.51	Tc =	2.7 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-DI3 Rev 10/7/2026

		CN	Area Ac.	Area SF	
Impervious - Disconnected		98	0.00	0	Weighted CN = 74
Woods	C Soils	70	0.00	0	
Open Space	C Soils	74	0.00	86	
Farm Fields	C Soils	82	0.00	0	
	CN SubTotal		0.00	86	

Connected Impervious:

Area Ac.	Area SF	% of DA
0.08	3470	97.58

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.08	3556	3556

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	100	S=	3.5	Ia=	0.70	35.56
Elev Up	12.9	Lag =	0.0 Hours			
Elev Dn (Inv)	11.27	Tc =	0.1 Hours			
Slope % = Y	1.63	Tc =	4.7 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-VG5

		CN	Area Ac.	Area SF	
Impervious - Disconnected		98	0.00	0	Weighted CN = 74
Woods	C Soils	70	0.00	0	
Open Space	C Soils	74	0.01	236	
Farm Fields	C Soils	82	0.00	0	
	CN SubTotal		0.01	236	

Connected Impervious:

Area Ac.	Area SF	% of DA
0.06	2578	91.61

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.06	2814	2814

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	70	S=	3.5	Ia=	0.70	40.20
Elev Up	12.9	Lag =	0.0 Hours			
Elev Dn (Inv)	11.3	Tc =	0.0 Hours			
Slope % = Y	2.29	Tc =	3.0 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-CB2

		CN	Area Ac.	Area SF				
Impervious - Disconnected		98	0.00	0	Weighted CN =	74		
Woods	C Soils	70	0.00	0				
Open Space	C Soils	74	0.01	390	Connected Impervious:			
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA	
	CN SubTotal		0.01	390	0.06	2721	87.46	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.07	3111	3111

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	70	S=	3.5	Ia=	0.70	44.44
Elev Up	12.9	Lag =	0.0 Hours			
Elev Dn (Inv)	11.3	Tc =	0.0 Hours			
Slope % = Y	2.29	Tc =	3.0 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-CB1

		CN	Area Ac.	Area SF				
Impervious - Disconnected		98	0.00	0	Weighted CN =	74		
Woods	C Soils	70	0.00	0				
Open Space	C Soils	74	0.01	399	Connected Impervious:			
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA	
	CN SubTotal		0.01	399	0.05	2359	85.53	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.06	2758	2758

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	72	S=	3.5	Ia=	0.70	38.31
Elev Up	12.9	Lag =	0.0 Hours			
Elev Dn (Inv)	11.1	Tc =	0.0 Hours			
Slope % = Y	2.50	Tc =	2.9 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-VG1	Rev 10/7/2026							
		CN	Area Ac.	Area SF				
Impervious - Disconnected		98	0.00	0	Weighted CN =	74		
Woods	C Soils	70	0.00	0				
Open Space	C Soils	74	0.02	708	Connected Impervious:			
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA	
	CN SubTotal		0.02	708	0.28	12097	94.47	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.29	12805	12805

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	113	S=	3.5	Ia=	0.70	113.32
Elev Up	12.9	Lag =	0.1 Hours			
Elev Dn (Inv)	11.1	Tc =	0.1 Hours			
Slope % = Y	1.59	Tc =	5.3 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-DI4 Rev 10/7/2026

		CN	Area Ac.	Area SF				
Impervious - Disconnected		98	0.00	0	Weighted CN =	74		
Woods	C Soils	70	0.00	0				
Open Space	C Soils	74	0.00	10	Connected Impervious:			
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA	
	CN SubTotal		0.00	10	0.21	9273	99.89	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:		
Area Ac	Area SF	
0.21	9283	9283

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	150	S=	3.5	Ia=	0.70	61.89
Elev Up	11.5	Lag =	0.1 Hours			
Elev Dn (Inv)	10.25	Tc =	0.2 Hours			
Slope % = Y	0.83	Tc =	9.1 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-DI2

		CN	Area Ac.	Area SF				
Impervious - Disconnected		98	0.00	0	Weighted CN =	74		
Woods	C Soils	70	0.00	0				
Open Space	C Soils	74	0.02	888	Connected Impervious:			
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA	
	CN SubTotal		0.02	888	0.04	1952	68.73	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:		
Area Ac	Area SF	
0.07	2840	2840

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	94	S=	3.5	Ia=	0.70	30.21
Elev Up	12.1	Lag =	0.1 Hours			
Elev Dn (Inv)	10.95	Tc =	0.1 Hours			
Slope % = Y	1.22	Tc =	5.2 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-SW1 Rev 10/7/2026

		CN	Area Ac.	Area SF				
Impervious - Disconnected		98	0.00	0	Weighted CN =	74		
Woods	C Soils	70	0.00	0				
Open Space	C Soils	74	0.00	10	Connected Impervious:			
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA	
	CN SubTotal		0.00	10	0.37	16009	99.94	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.37	16019	16019

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	94	S=	3.5	Ia=	0.70	170.41
Elev Up	12.1	Lag =	0.1 Hours			
Elev Dn (Inv)	10.95	Tc =	0.1 Hours			
Slope % = Y	1.22	Tc =	5.2 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-Pond1 Rev 10/7/2026

		CN	Area Ac.	Area SF				
Impervious - Disconnected		98	0.00	0	Weighted CN =	74		
Woods	C Soils	70	0.00	0				
Open Space	C Soils	74	0.35	15366	Connected Impervious:			
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA	
	CN SubTotal		0.35	15366	0.00	44	0.29	

Formula: Potential Max Retention S = (1000 / CN) - 10

Formula: Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)

Total Drainage Area:

Area Ac	Area SF	
0.35	15410	15410

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	90	S=	3.5	Ia=	0.70	171.22
Elev Up	12.5	Lag =	0.1 Hours			
Elev Dn (Inv)	11.7	Tc =	0.1 Hours			
Slope % = Y	0.89	Tc =	5.9 Minutes			
CN =	74					

Proposed Drainage Area Parameters - SCS Method

Baxter Commercial - Post-Con

DA-Residual - Front		Rev 10/21/2026						
		CN	Area Ac.	Area SF				
Impervious - Disconnected		98	0.00	60	Weighted CN =	74		
Woods	C Soils	70	0.00	0				
Open Space	C Soils	74	0.09	3975	Connected Impervious:			
Farm Fields	C Soils	82	0.00	0	Area Ac.	Area SF	% of DA	
	CN SubTotal		0.09	4035	0.01	315	7.24	

Formula: Potential Max Retention S = (1000 / CN) - 10

Total Drainage Area:

		Area Ac	Area SF	
Formula:	Lag = [(l^0.8) * (S+1)^0.7] / 1900* (Y^0.5)	0.10	4350	4350

Formula: Time of Concentration = 5 / 3 * Lag

						Width:
Length = l	210	S=	3.4	Ia=	0.69	19.21
Elev Up	9	Lag =	0.2 Hours			
Elev Dn (Inv)	8	Tc =	0.3 Hours			
Slope % = Y	0.48	Tc =	15.6 Minutes			
CN =	74					

APPENDIX D
Node HGL Results (Post-Con)

Baxter Commercial
EPA SWMM Node & link Results
10/14/2026

Link Flow:

2-yr Rainfall

Link	Type	Flow (cfs)	Velocity (fps)
PondOutletPipe	Pipe	0.09	0.68
DI1-Pond1	Pipe	2.73	0.87
VG3-VG2	Curb& Gutter	0.36	1.12
VG4A-VG3	Curb& Gutter	0.15	0.91
VG4B-DI3	Curb& Gutter	0.16	0.93
DI3-CB2	Pipe	2.13	1.9
VG5-CB2	Pipe	0.18	0.38
CB2-CB1	Pipe	2.64	2.66
CB8-MH1	Pipe	2.73	1.14
DI4-DI3	Pipe	1.74	1.54
DI2-CB2	Pipe	0.16	0.18
SW1-DI4	Swale	1.09	0.9
VG2-VG1	Curb& Gutter	0.49	1.21
VG1-Pond1	Conc Flume	1.37	0.83

10-yr Rainfall

Link	Flow (cfs)	Velocity (fps)
PondOutletPipe	0.55	1.44
DI1-Pond1	4.34	1.38
VG3-VG2	0.58	1.26
VG4A-VG3	0.24	1.01
VG4B-DI3	0.24	1.01
DI3-CB2	3.31	1.87
VG5-CB2	0.28	1.05
CB2-CB1	4.16	2.38
CB8-MH1	4.34	1.48
DI4-DI3	2.71	1.54
DI2-CB2	0.29	0.19
SW1-DI4	1.71	1.03
VG2-VG1	0.81	1.35
VG1-Pond1	2.19	0.91

Node HGL:

2-yr Rainfall	
Node	HGL (ft)
CB-1	8.91
CB-2	8.91
DI-2	8.91
DI-3	8.91
DI-4	8.91
MH-1	8.9
Pond1	8.9
SW-1	11.11
VG-1	11.06
VG-2	11.58
VG-3	11.68
VG-4A	11.81
VG-4B	11.85
VG-5	11.55

10-yr Rainfall	
Node	HGL (ft)
CB-1	9.54
CB-2	9.55
DI-2	9.55
DI-3	9.55
DI-4	9.55
MH-1	9.54
Pond1	9.54
SW-1	11.21
VG-1	11.08
VG-2	11.61
VG-3	11.7
VG-4A	11.82
VG-4B	11.86
VG-5	11.56

100-yr Rainfall	
Node	HGL (ft)
CB-1	10.16
CB-2	10.58
DI-2	10.58
DI-3	10.97
DI-4	11.12
MH-1	9.98
Pond1	9.9
SW-1	11.33
VG-1	11.1
VG-2	11.65
VG-3	11.71
VG-4A	11.84
VG-4B	11.88
VG-5	11.58

Currituck County Mainland Water
Capacity Availability Form

County Contact Information

Will Rumsey, Utilities Director
444 Maple Road
Maple, NC 27956

Phone: 252.232.2769
Fax: 252.453.3721

Website: https://co.currituck.nc.us/departments/water/

Request

This request is for:

- ☐ Single Family Residence
- ☐ Residential Development
- ▬ Non-residential

Owner Information

Name(s): Benna Victor Holdings, LLC dba Arsenal Acquisitions, Series 11

Mailing Address: 4445 Corporation Ln. Suite 151, Virginia Beach, VA 23462

E-Mail Address: sandy@bennavictor.com

Phone Number: (757) 335-1144

Applicant Information (if different from Owner)

Name(s): Same as Owner

Mailing Address: _____

E-Mail Address: _____

Phone Number: _____

Parcel Information

PIN(s): 0009-000-025K-0000

Street Address: Caratoke Hwy. Moyock, NC 27958

Project Information

Name of Project: Baxter Corner

Number of Units: 4 Projected Daily Project Demand (gpd): 7,000

Anticipated Water Access Date: May 2027

Applicant's Signature

I declare, that to the best of my knowledge, the information provided herein is true, correct, and complete.

Property Owner/Applicant Signature — Date: 10.7.26

Note: Water connection and/or developmental fees are due at building permit application. See the Currituck County Master Fee Schedule for rates.
https://co.currituck.nc.us/master-fee-schedule/

For Office Use Only

☒ Water capacity is available for this project.

☐ Water capacity is not available for this project.

Utilities Director — Date: 10/21/26

County Manager — Date: 10/28/2026

This capacity availability is valid for one year from approval date.

FINANCIAL RESPONSIBILITY/OWNERSHIP FORM
SEDIMENTATION POLLUTION CONTROL ACT

No person may initiate any land-disturbing activity on one or more acres as covered by the Act before this form and an acceptable erosion and sedimentation control plan have been completed and approved by the Land Quality Section, N.C. Department of Environmental Quality. Submit the completed form to the appropriate Regional Office. (Please type or print and, if the question is not applicable or the e-mail address or phone number is unavailable, place N/A in the blank.)

Part A.

1. Project Name Baxter Corner

2. Location of land-disturbing activity: County Moyock City or Township Currituck
   Highway/Street Caratoke Hwy. Latitude(decimal degrees) 36.538103 Longitude(decimal degrees) -76.186227

3. Approximate date land-disturbing activity will commence: January 2027

4. Purpose of development (residential, commercial, industrial, institutional, etc.): Commericial

5. Total acreage disturbed or uncovered (including off-site borrow and waste areas): 2.37

6. Amount of fee enclosed: $ 357.00. The application fee of $119.00 per acre (rounded up to the next acre) is assessed without a ceiling amount (Example: 8.10-acre application fee is $1,071). Checks should be addressed to NCDEQ.

7. Has an erosion and sediment control plan been filed? Yes ☐ Enclosed ☒ No ☐

8. Person to contact should erosion and sediment control issues arise during land-disturbing activity:
   Name Sanford M. Cohen E-mail Address sandy@bennavictor.com
   Phone: Office # _____ Mobile # 757-335-1144

9. Landowner(s) of Record (attach accompanied page to list additional owners):

Name	Phone: Office #	Mobile #
Benna Victor Holdings, LLC		757-335-1144

Current Mailing Address	City	State	Zip
4445 Corporation Ln. Suite 151	Virginia Beach	VA	23462

Current Street Address	City	State	Zip
4445 Corporation Ln. Suite 151	Virginia Beach	VA	23462

10. Deed Book No. 1706 Page No. 338 Provide a copy of the most current deed.

Part B.

1. Company(ies) who are financially responsible for the land-disturbing activity (Provide a comprehensive list of all responsible parties on accompanied page.) *If the company is a sole proprietorship or if the landowner(s) is an individual(s), the name(s) of the owner(s) may be listed as the financially responsible party(ies).*

Benna Victor Holdings, LLC	sandy@bennavictor.com
Company Name	E-mail Address
4445 Corporation Ln. Suite 151	4445 Corporation Ln. Suite 151
Current Mailing Address	Current Street Address
Virginia Beach VA 23462	Virginia Beach VA 23462
City State Zip	City State Zip
Phone: Office # _____	Mobile # 757-335-1144

Note: If the Financially Responsible Party is not the owner of the land to be disturbed, include with this form the landowner's signed and dated written consent for the applicant to submit a draft erosion and sedimentation control plan and to conduct the anticipated land disturbing activity.

2. (a) If the Financially Responsible Party is a domestic company registered on the NC Secretary of State business registry, give name and street address of the Registered Agent:

AshLee E. Unch	ash@alperinlaw.com
Name of Registered Agent	E-mail Address
120 Dallie Drive	120 Dallie Drive
Current Mailing Address	Current Street Address
Knotts Island NC 27950	Knotts Island NC 27950
City State Zip	City State Zip
Phone: Office # 757-490-3500	Mobile # _____
AshLee E. Unch	
Name of Individual to Contact (if Registered Agent is a company)	

(b) If the Financially Responsible Party is not a resident of North Carolina, give name and street address of the designated North Carolina agent who is registered on the NC Secretary of State business registry:

_____	_____
Name of Registered Agent	E-mail Address
_____	_____
Current Mailing Address	Current Street Address
_____	_____
City State Zip	City State Zip
Phone: Office # _____	Mobile # _____
_____	
Name of Individual to Contact (if Registered Agent is a company)	

(c) If the Financially Responsible Party is engaging in business under an assumed name, give name under which the company is Doing Business As. If the Financially Responsible Party is an individual, General Partnership, or other company not registered and doing business under an assumed name, **attach a copy of the Certificate of Assumed Name.**

Arsenal Acquisitions, Series 11

Company DBA Name

The above information is true and correct to the best of my knowledge and belief and was provided by me under oath. (This form must be signed by the Financially Responsible Person if an individual(s) or his attorney-in-fact, or if not an individual, by an officer, director, partner, or registered agent with the authority to execute instruments for the Financially Responsible Party). I agree to provide corrected information should there be any change in the information provided herein.

Sanford M. Cohen

Type or print name

Manager

Title or Authority

Signature

10.7.26

Date

I, _____, a Notary Public of the County of _____

State of ~~North Carolina~~ Virginia, hereby certify that Sanford Cohen appeared personally before me this day and being duly sworn acknowledged that the above form was executed by him/her.

Witness my hand and notarial seal, this 7th day of October, 20 26

Notary

Seal

My commission expires 6/30/2027

KRISTIN RAE MICHELS
NOTARY PUBLIC
REG. #8096708
MY COMMISSION EXPIRES
June 30, 2027
COMMONWEALTH OF VIRGINIA

October 15, 2026

Mr. Carl Dunn
NCDEQ
Division of Water Quality
943 Washington Square Mall
Washington, North Carolina 27889

Re: **Baxter Corner**
Proposed Mixed-Use Commercial Development
Moyock, Currituck County, North Carolina
High Density Stormwater Permit Application

Dear Mr. Dunn;

On behalf of Benna Victor Holdings, LLC, we hereby submit for review and approval a High-Density Stormwater Management permit application package for the aforementioned project. The following items are included with and shall be considered part of this submittal package:

1. Review Fee check in the amount of $1,056.00
2. Two (2) copies (one original signature) of the Stormwater Management Permit Application Form
3. Two (2) copies (original signature) of O&M Agreement (O&M EZ)
4. One (1) copy of the Wet Pond Supplement (original signature)
5. One (1) copy of Stormwater Management Plan Narrative with Calculations
6. (2) sets of the Grading & Drainage Plans (one 24x36 copy and one 11x17 copy)

Please review and approve the attached information. If you have any questions, or if you require any additional information, please do not hesitate to contact me at (252) 202-3803.

Sincerely,

David A. Deel, P.E.

Encl: as stated

DEMLR USE ONLY		
Date Received	Fee Paid	Permit Number
Applicable Rules: ☐ Coastal SW – 1995 ☐ Coastal SW – 2008 ☐ Ph II - Post Construction *(select all that apply)* ☐ Non-Coastal SW- HQW/ORW Waters ☐ Universal Stormwater Management Plan ☐ Other WQ Mgmt Plan: _____		

State of North Carolina
Department of Environmental Quality
Division of Energy, Mineral and Land Resources

POST-CONSTRUCTION STORMWATER MANAGEMENT PERMIT APPLICATION FORM

This form may be photocopied for use as an original.

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.):

   Baxter Corner

2. Location of Project (street address):

   Caratoke Hwy

   City:Moyock County:Currituck Zip:27958

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

   East side of Caratoke Hwy. (NC HWY 168) approx. 805' south of intersection with Baxter Lane (SR1229.)

4. Latitude:36° 32' 17.1460" N Longitude:-76° 11' 10.5438" W of the main entrance to the project.

II. PERMIT INFORMATION:

1.a. Specify whether project is (check one): ☒New ☐Modification ☐ Renewal w/ Modification†

†*Renewals with modifications also requires SWU-102 – Renewal Application Form*

b. If this application is being submitted as the result of a **modification** to an existing permit, list the existing permit number_____ , its issue date (if known)_____, and the status of construction: ☐Not Started ☐Partially Completed* ☐ Completed* **provide a designer's certification*

2. Specify the type of project:

   ☐Low Density ☒High Density ☐Drains to an Offsite Stormwater System ☐Other

3. If this application is being submitted as the result of a **previously returned application** or a **letter from DEMLR requesting a state stormwater management permit application**, list the stormwater project number, if assigned, _____ and the previous name of the project, if different than currently proposed, _____.

4.a. Additional Project Requirements (check applicable blanks; information on required state permits can be obtained by contacting the Customer Service Center at 1-877-623-6748):

   ☐CAMA Major ☒Sedimentation/Erosion Control: 2.37 ac of Disturbed Area

   ☐NPDES Industrial Stormwater ☐404/401 Permit: Proposed Impacts _____

b. 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:_____

5. Is the project located within 5 miles of a public airport? ☒No ☐Yes
   If yes, see S.L. 2012-200, Part VI: http://portal.ncdenr.org/web/lr/rules-and-regulations

III. CONTACT INFORMATION

1.a. 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: Benna Victor Holdings, LLC d.b.a. Arsenal Acquisitions, Series 11

Signing Official & Title: Sanford M. Cohen, Manager

b. Contact information for person listed in item 1a above:

Street Address: 4445 Corporation Ln. Suite 151,

City: Virginia Beach State: VA Zip: 23462

Mailing Address (*if applicable*): same

City: State: Zip:

Phone: (757) 335-1144 Fax: ( )

Email: sandy@bennavictor.com

c. Please check **(one)** the appropriate box. The applicant listed above is:

☒ The property owner (Skip to Contact Information, item 3a)
☐ Lessee* (Attach a copy of the lease agreement and complete Contact Information, item 2a and 2b below)
☐ Purchaser* (Attach a copy of the pending sales agreement and complete Contact Information, item 2a and 2b below)
☐ Developer* (Complete Contact Information, item 2a and 2b below.)

2.a. 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 located on):

Property Owner/Organization: Same as Applicant

Signing Official & Title:

b. Contact information for person listed in item 2a above:

Street Address:

City: State: Zip:

Mailing Address (*if applicable*):

City: State: Zip:

Phone: ( ) Fax: ( )

Email:

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

Other Contact Person/Organization: Spencer Cohen for Benna Victor Holdings, LLC

Signing Official & Title: Manager

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

Mailing Address: 4445 Corporation Ln. Suite 151,

City: Virgninia Beach State: VA Zip: 23462

Phone: (757) 477-2950 Fax: ( )

Email: spencer@bennavictor.com

4. Local jurisdiction for building permits: County of Currituck, North Carolina

Point of Contact: Stacey Smith Phone #: (252) 232-6027

Email: stacey.smith@currituckcountync.gov

IV. PROJECT INFORMATION

1. In the space provided below, briefly summarize how the stormwater runoff will be treated.
Stormwater runoff from the proposed development will be treated by an on-site wet detention pond

2.a. **If claiming vested rights**, identify the supporting documents provided and the date they were approved:
☐ Approval of a Site Specific Development Plan or PUD Approval Date: _____
☐ Valid Building Permit Issued Date: _____
☐ Other: _____ Date: _____

b. **If claiming vested rights**, identify the regulation(s) the project has been designed in accordance with:
☐ Coastal SW – 1995 ☐ Ph II – Post Construction

3. Stormwater runoff from this project drains to the Pasquotank River basin.

4. Total Property Area: 2.28 acres

5. Total Coastal Wetlands Area: 0.0 acres

6. Total Surface Water Area: 0.0 acres

7. Total Property Area (4) – Total Coastal Wetlands Area (5) – Total Surface Water Area (6) = Total Project Area+: 2.28 acres

+ *Total project area shall be calculated to exclude the following: the normal pool of impounded structures, the area between the banks of streams and rivers, the area below the Normal High Water (NHW) line or Mean High Water (MHW) line, and coastal wetlands landward from the NHW (or MHW) line. The resultant project area is used to calculate overall percent built upon area (BUA). Non-coastal wetlands landward of the NHW (or MHW) line may be included in the total project area.*

8. Project percent of impervious area: (Total Impervious Area / Total Project Area) X 100 = 61.3 %

9. How many drainage areas does the project have? 2 *(For high density, count 1 for each proposed SCM. For low density and other projects, use 1 for the whole property area. If there are multiple receiving streams, provide the drainage areas within the project area to each stream.)*

10. Complete the following information for each drainage area directed to an SCM or low density area identified in Project Information item 9. If there are more than four drainage areas in the project, attach an additional sheet with the information for each area provided in the same format as below.

Basin Information	Drainage Area 1	Drainage Area 2	Drainage Area __	Drainage Area __
Receiving Stream Name	Moyock Run	Moyock Run		
Stream Class *	C; Sw	C; Sw		
Stream Index Number *	30-1-2-2-1	30-1-2-2-1		
Total Drainage Area (sf)				
On-site Drainage Area (sf)				
Off-site Drainage Area (sf)				
Proposed Impervious Area** (sf)				
% Impervious Area** (total)				

Please See Attached Table

Impervious** Surface Area	Drainage Area 1	Drainage Area 2	Drainage Area __	Drainage Area __
On-site Buildings/Lots (sf)				
On-site Streets (sf)				
On-site Parking (sf)				
On-site Sidewalks (sf)				
Other on-site (sf)				
Future (sf)				
Off-site (sf)				
Existing BUA*** (sf)				
Total (sf):				

* *Stream Class and Index Number can be determined at: https://www.deq.nc.gov/about/divisions/water-resources/water-planning/classification-standards/classifications*

** *Impervious area is defined as the built upon area including, but not limited to, buildings, roads, parking areas, sidewalks, gravel areas, etc.*

11. How was the off-site impervious area listed the Section IV, 10 Tables determined? Provide documentation.
N/A

Projects in Union County: *Contact DEMLR Central Office staff to check if the project is located within a Threatened & Endangered Species watershed that may be subject to more stringent stormwater requirements as per 15A NCAC 02B .0600.*

V. SUPPLEMENT AND O&M FORMS

The applicable state stormwater management permit supplement and operation and maintenance (O&M) forms must be submitted for each SCM specified for this project. The latest versions of the forms can be downloaded from https://www.deq.nc.gov/about/divisions/energy-mineral-and-land-resources/stormwater/stormwater-program/stormwater-design-manual. For SCMs subject to older design standards or offsite projects, the archived supplement can be found from https://www.deq.nc.gov/about/divisions/energy-mineral-and-land-resources/stormwater/stormwater-program/stormwater-design-manual/archived-stormwater-design-manual-supplemental-forms

VI. CHECKLIST OF SUBMITTAL REQUIREMENTS FOR AN ADMINISTRATIVELY COMPLETE APPLICATION PACKAGE PER 15A NCAC 02H .1042(2)

Only complete application packages will be accepted and reviewed by the Division of Energy, Mineral and Land Resources (DEMLR). An administratively complete application package includes all of the items listed below. A detailed application instruction sheet and SCM checklists are available from https://www.deq.nc.gov/about/divisions/energy-mineral-and-land-resources/stormwater/post-construction-program/new-permits-permit-modifications**. The complete application package should be submitted to the appropriate DEMLR Office.** (The appropriate office may be found by locating project on the interactive online map at https://www.deq.nc.gov/about/divisions/energy-mineral-and-land-resources/stormwater/stormwater-program/post-construction-program.)

Please **indicate that the following required information have been provided by initialing** in the space provided for each item. All original documents MUST be signed and initialed in **blue ink**. **Download the latest versions for each submitted application package** from https://www.deq.nc.gov/about/divisions/energy-mineral-and-land-resources/stormwater/stormwater-program.

		Initials
1.	*Original and one copy* of the Stormwater Management Permit Application Form.	DAD
2.	*Original and one copy* of the signed and notarized Deed Restrictions & Protective Covenants Form or, for major modifications, a copy of the recorded deed restrictions and protective covenants limiting the built-upon area so that it does not exceed the capacity of the SCM(s) or the BUA thresholds. *(if required as per Part VII below)* Deed book: ____ Page No: _____ Relevant section:	N/A
3.	*Original* of the applicable Supplement Form(s) (sealed, signed and dated) **and** O&M agreement(s) for each SCM. *(please refer to Section V for more information)*	DAD
4.	Appropriate permit application processing fee per NCGS 143-215.3D(e)(2) *payable to NCDEQ*. A full list of fee adjustments is available on the DEQ website: https://www.deq.nc.gov/accessdeq/permit-fees-2025-updates (For an Express review, refer to: https://www.deq.nc.gov/accessdeq/express-permitting for information on the Express program and the associated fees. Contact the appropriate Coastal regional office Express Permit Coordinator for additional information and to schedule the required application meeting.)	DAD
5.	A detailed narrative (one to two pages) describing the stormwater treatment/management for the project. This is required in addition to the brief summary provided in the Project Information, item 1.	DAD
6.	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.	DAD
7.	Sealed, signed, and dated calculations (one copy).	DAD

8. Two sets of plans folded to 8.5" x 14" (sealed, signed, & dated), including: DAD
   a. Development/Project name.
   b. Engineer and firm.
   c. Location map with named streets and NCSR numbers.
   d. Legend.
   e. North arrow.
   f. Scale.
   g. Revision number and dates.
   h. Identify all surface waters on the plans by delineating the normal pool elevation of impounded structures, the banks of streams and rivers, the MHW or NHW line of tidal waters, and any coastal wetlands landward of the MHW or NHW lines.
      - Delineate the vegetated setback landward from the normal pool elevation of impounded structures, the banks of streams or rivers, and the MHW (or NHW) of tidal waters.
   i. Dimensioned property/project boundary with bearings & distances.
   j. Site Layout with all BUA identified and dimensioned.
   k. Existing contours, proposed contours, spot elevations, finished floor elevations.
   l. Details of roads, drainage features, collection systems, and stormwater control measures (including any applicable SCM planting plans).
   m. Wetlands delineated, or a note on the plans that none exist. (Must be delineated by a qualified person; identify the person who made the determination on the plans.
   n. Existing drainage (including off-site), drainage easements, pipe sizes, runoff calculations.
   o. Drainage areas delineated (included in the main set of plans, not as a separate document).
9. Copy of any applicable soils report with the associated SHWT elevations (Please identify elevations in addition to depths) as well as a map of the boring locations with the existing elevations and boring logs. Include an 8.5"x11" copy of the NRCS County Soils map with the project area clearly delineated. For projects with infiltration SCMs, the report should also include the soil type, expected infiltration rate, and the method of determining the infiltration rate. (**Infiltration Devices submitted to WiRO:** S*chedule a site visit for DEMLR to verify the SHWT Prior to submittal, (910) 796-7378.)* DAD
10. A copy of the most current property deed. Deed book: 1706 Page No: 338 DAD
11. For corporations and limited liability corporations (LLC): Provide documentation from the NC Secretary of State or other official documentation, which supports the titles and positions held by the persons listed in Contact Information, item 1a, 2a, and/or 3a per 15A NCAC 2H.1040(1). The corporation or LLC must be listed as an active corporation in good standing with the NC Secretary of State, otherwise the application will be returned. http://www.secretary.state.nc.us/Corporations/CSearch.aspx DAD
12. If the applicant is not the property owner, a copy of a lease agreement, affidavit, or other document showing that the applicant has obtained legal rights to submit a stormwater permit application within the proposed project area; N/A
13. If applicable, a copy of any recorded drainage, maintenance, or operation and maintenance easements demonstrating ownership interest sufficient to operate the SW system. Deed book: _____ Page No: _____ Relevant section: _____ N/A
14. If a modification to an existing permit:
    a. The applicant / permit holder will remain the same and permit has not and will not expire within the next 180 days. N/A
    b. Signed, sealed & dated Designer Certification Forms _____
    c. Copies of the following documents recorded with the County Register of Deeds
       i. Deed restrictions and protective covenants limiting the BUA so that it does not exceed the capacity of the SCM(s) or the BUA thresholds. _____
       ii. Drainage easements, when applicable. _____
       iii. Operation & Maintenance Agreement _____
       iv. Final subdivision plat referencing the Operation & Maintenance Agreement _____

VII. DEED RESTRICTIONS AND PROTECTIVE 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. If lot sizes vary significantly or the proposed BUA allocations vary, 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 from https://www.deq.nc.gov/about/divisions/energy-mineral-and-land-resources/stormwater/stormwater-program/post-construction-program/post-construction-forms. Download the latest versions for each submittal.

In the 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 NC DEMLR, and that they will be recorded prior to the sale of any lot.

VIII. CONSULTANT INFORMATION AND AUTHORIZATION

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: David M. Klebitz, P.E.

Consulting Firm: Bissell Professional Group

Mailing Address: P.O. Box 1068

City: Kitty Hawk State: NC Zip: 27949

Phone: (252) 261-3266 Fax: ( )

Email: davek@bissellprofessionalgroup.com

IX. PROPERTY OWNER AUTHORIZATION *(if Contact Information, item 2 has been filled out, complete this section)*

I, *(print or type name of person listed in Contact Information, item 2a)* _____, 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 1a)* _____ with *(print or type name of organization listed in Contact Information, item 1a)*_____ 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 DEMLR Stormwater permit reverts back to me, the property owner. As the property owner, it is my responsibility to notify DEMLR 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 NC General Statue 143-215.1 and may result in appropriate enforcement action including the assessment of civil penalties of up to $25,000 per day, pursuant to NCGS 143-215.6.

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,

_____

SEAL

My commission expires_____

X. APPLICANT'S CERTIFICATION

I, *(print or type name of person listed in Contact Information, item 1a)* *Sanford M. Cohen, Manager for Benna Victor Holdings, LLC d.b.a. Arsenal Acquisitions, Series 11*, 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 15A NCAC 2H .1000 and any other applicable state stormwater requirements.

Signature: _____ Date: 10.7.26

I, Kristin Michels, a Notary Public for the State of Virginia, County of Virginia Beach, do hereby certify that Sanford Cohen personally appeared before me this 7th day of October, 2026, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

_____

KRISTIN RAE MICHELS
NOTARY PUBLIC
REG. #8096708
MY COMMISSION EXPIRES
June 30, 2027
COMMONWEALTH OF VIRGINIA

SEAL

My commission expires_____

Baxter Corner
Lot Coverage Tabulations
10/13/2026

Basin Information	Drainage Area 1	Drainage Area 2 (Uncontolled)	Total
Receiving Stream Name	Moyock Run	Moyock Run	Moyock Run
Stream Class	C;Sw	C;Sw	C;Sw
Stream Index Number	**30-1-2-2-1**	**30-1-2-2-1**	**30-1-2-2-1**
Total Drainage Area (sf)	78,717	20,413	99,130
On-site Drainage Area (sf)	78,717	20,413	99,130
Off-site Drainage Area (sf)	-	0	-
Prop. Impervious Area (sf)	60,405	375	60,780
% Impervious Area (total)	76.7%	1.8%	61.3%

Impervious Surface Area	Drainage Area 1	Drainage Area 2 (Uncontolled)	Total	
On-site Buildings/Lots (sf)	7,950	0	7,950	
On-site Streets (sf)	3,807	0	3,807	*Gravel Drive
On-site Parking (sf)	25,157	315	25,472	
On-site sidewalks (sf)	2,072	60	2,132	
Other on-site (sf)	210	0	210	* Dumpster Pad
Future (sf)	21,209	0	21,209	
Off-site (sf)	0	0	0	
Existing BUA (sf)	0	-	0	
Total (sf)	60,405	375	60,780	

Operation & Maintenance Agreement

Project Name: Baxter Corner

Project Location: Caratoke Highway, Moyock, Currituck

Cover Page

Maintenance records shall be kept on the following SCM(s). This maintenance record shall 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).

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

Infiltration Basin	Quantity:		Location(s):	
Infiltration Trench	Quantity:		Location(s):	
Bioretention Cell	Quantity:		Location(s):	
Wet Pond	Quantity:	1	Location(s):	Rear of Site
Stormwater Wetland	Quantity:		Location(s):	
Permeable Pavement	Quantity:		Location(s):	
Sand Filter	Quantity:		Location(s):	
Rainwater Harvesting	Quantity:		Location(s):	
Green Roof	Quantity:		Location(s):	
Level Spreader - Filter Strip	Quantity:		Location(s):	
Proprietary System	Quantity:		Location(s):	
Treatment Swale	Quantity:		Location(s):	
Dry Pond	Quantity:		Location(s):	
Disconnected Impervious Surface	Present:	No	Location(s):	
User Defined SCM	Present:	No	Location(s):	
Low Density	Present:	No	Type:	

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

Responsible Party:	**Benna Victor Holdings, LLC d.b.a. Arsenal Acquisitions, Series 11**
Title & Organization:	**Sanford M. Cohen, Manager**
Street address:	**4445 Corporation Ln. Suite 151**
City, state, zip:	**Virginia Beach, VA 23462**
Phone number(s):	**757-335-1144**
Email:	~~sandy@bennavictr.com~~ sandy@bennavictor.com

Signature: _____ Date: 10.7.26

I, Kristin Michels, a Notary Public for the State of Virginia

County of Virginia Beach, do hereby certify that Sanford Cohen

personally appeared before me this 7th day of October and

acknowledge the due execution of the Operations and Maintenance Agreement

Witness my hand and official seal, _____

KRISTIN RAE MICHELS NOTARY PUBLIC REG. #8096708 MY COMMISSION EXPIRES June 30, 2027 COMMONWEALTH OF VIRGINIA

Seal

My commission expires _____

Wet Pond Maintenance Requirements

Important operation and maintenance procedur

- 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 pond should be fertilized after the initial fertilization that is required to establish the plants on the vegetated shelf.
- Stable groundcover will be maintained in the drainage area to reduce the sediment load to the wet pond.
- If the pond must be drained for an emergency or to perform maintenance, the flushing of sediment through the emergency drain will be minimized as much as
- At least once annually, a dam safety expert will inspect the embankment. Any problems that are found will be repaired immediately.
- 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

After the wet pond is established, it will be inspected **quarterly 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 shall be kept in a known set location and shall be available upon request

ion 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 wet pond	Trash/debris is present	Remove the trash/debris.
The perimeter of the wet pond	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary to remove the gully, plant ground cover and water until it is established. Provide lime and a one-time fertilizer application.
The inlet device	The inlet pipe is clogged (if	Unclog the pipe. Dispose of the sediment off-site.
	The inlet pipe is cracked or otherwise damaged (if applicable)	Repair or replace the pipe.
	Erosion is occurring in the swale (if applicable).	Regrade the swale if necessary and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion.
The forebay	Sediment has accumulated to a depth greater than the original design depth for sediment	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than

Wet Pond Maintenance Requirements (Continued)		
SCM element:	**Potential problem:**	**How to remediate the problem:**
The main treatment area	Sediment has accumulated to a depth greater than the original design sediment storage	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
	Algal growth covers over 50% of the	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 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
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than
The embankment	Shrubs have started to grow on the embankment.	Remove shrubs immediately.
	Evidence of muskrat or beaver activity is	Consult a professional to remove muskrats or beavers and repair any holes or erosion.
	A tree has started to grow on the	Consult a dam safety specialist to remove the tree.
	An annual inspection by an appropriate professional shows that the embankment needs repair.	Make all needed repairs immediately.
The outlet device	Clogging has occurred.	Clean out the outlet device and dispose of any sediment in a location where it will not cause impacts to streams or the SCM.
	The outlet device is damaged.	Repair or replace the outlet device.
Floating wetland island (if applicable)	Weeds or volunteer trees are growing on	Remove the weeds or trees.
	The anchor cable is damaged, disconnected or missing	Restore the anchor cable to its design state.

Wet Pond Maintenance Requirements (Continued)

SCM element:	Potential problem:	How to remediate the problem:
	Erosion or other signs of damage have occurred at the outlet	Repair the damage and improve the flow dissipation structure.
The receiving water	Discharges from the wet pond are causing erosion or sedimentation in the receiving water.	Contact the local NCDEQ Regional Office.

Wet Detention Pond Design Summary

Wet Pond Diagram

WET POND ID	Wet-Detention Pon
Pretreatment other than Has Veg. Filter?	No
	No

FOREBAY	
Permanent Pool El.	7
Temporary Pool El:	8.03
Clean Out Depth:	3.5
Sediment Removal	3.5
Bottom Elevation:	2.5

MAIN POND	
Permanent Pool El.	7
Temporary Pool El:	8.03
Clean Out Depth:	6
Sediment Removal	1
Bottom Elevation:	0.5

ATTACH ADDITIONAL SHEETS IF NECESSARY

SUPPLEMENT-EZ COVER PAGE

FORMS LOADED

PROJECT INFORMATION		
1	Project Name	**Baxter Corner**
2	Project Area (ac)	2.28
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)	N/A
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

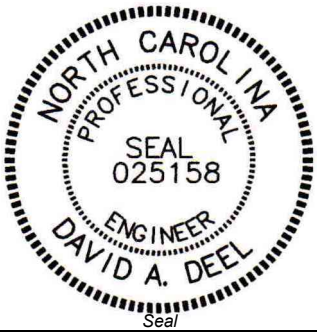
NUMBER AND TYPE OF SCMs:		
11	Infiltration System	
12	Bioretention Cell	
13	Wet Pond	1
14	Stormwater Wetland	
15	Permeable Pavement	
16	Sand Filter	
17	Rainwater Harvesting (RWH)	
18	Green Roof	
19	Level Spreader-Filter Strip (LS-FS)	
20	Disconnected Impervious Surface (DIS)	
21	Treatment Swale	
22	Dry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

FORMS LOADED

DESIGNER CERTIFICATION		
27	Name and Title:	David A. Deel, P.E.
28	Organization:	Deel Engineering, PLLC
29	Street address:	322 West Wilkinson Street
30	City, State, Zip:	Kill Devil Hills, NC 27948
31	Phone number(s):	252-202-3803
32	Email:	dadeeleng@gmail.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



Seal

Signature of Designer

Date

DRAINAGE AREAS

1	Is this a high density project?	Yes
2	If so, number of drainage areas/SCMs	1
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
4	Type of SCM	Wet Pond	Wet Pond
5	Total drainage area (sq ft)	2.28	1.81
6	Onsite drainage area (sq ft)	2.28	1.81
7	Offsite drainage area (sq ft)	0	0
8	Total BUA in project (sq ft)	60780 sf	60405 sf
9	New BUA on subdivided lots (subject to permitting) (sq ft)	n/a	n/a
10	New BUA not on subdivided lots (subject to permitting) (sf)	60780 sf	60405 sf
11	Offsite BUA (sq ft)	n/a	n/a
12	Breakdown of new BUA not on subdivided lots:		
	- Parking (sq ft)	25472 sf	25157 sf
	- Sidewalk (sq ft)	2132 sf	2072 sf
	- Roof (sq ft)	7950 sf	7950 sf
	- Roadway (sq ft)	3807 sf	3807 sf
	- Future (sq ft)	21209 sf	21209 sf
	- Other, please specify in the comment box below (sq ft)	210 sf	210 sf
13	New infiltrating permeable pavement on subdivided lots (sq ft)	n/a	n/a
14	New infiltrating permeable pavement not on subdivided lots (sq ft)	n/a	n/a
15	Existing BUA that will remain (not subject to permitting) (sq ft)	n/a	n/a
16	Existing BUA that is already permitted (sq ft)	n/a	n/a
17	Existing BUA that will be removed (sq ft)	n/a	n/a
18	Percent BUA	61%	77%
19	Design storm (inches)	1.5 in	1.5 in
20	Design volume of SCM (cu ft)	7288 cf	7288 cf
21	Calculation method for design volume	Simple	Simple

	ADDITIONAL INFORMATION
22	Please use this space to provide any additional information about the drainage area(s):

Item #28: BUA is associated with the dumpster pad.

WET POND

1	Drainage area number	1
2	Minimum required treatment volume (cu ft)	7288 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)?	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)?	N/A
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
WET POND MDC FROM 02H .1053		
18	Sizing method used	SA/DA
19	Has a stage/storage table been provided in the calculations?	Yes
20	Elevation of the excavated main pool depth (bottom of sediment removal) (fmsl)	0.50
21	Elevation of the main pool bottom (top of sediment removal) (fmsl)	1.00
22	Elevation of the bottom of the vegetated shelf (fmsl)	6.00
23	Elevation of the permanent pool (fmsl)	7.00
24	Elevation of the top of the vegetated shelf (fmsl)	7.00
25	Elevation of the temporary pool (fmsl)	8.03
26	Surface area of the main permanent pool (square feet)	5428
27	Volume of the main permanent pool (cubic feet)	13079 cf
28	Average depth of the main pool (feet)	3.61 ft
29	Average depth equation used	Equation 3
30	If using equation 3, main pool perimeter (feet)	380.0 ft
31	If using equation 3, width of submerged veg. shelf (feet)	6.0 ft
32	Volume of the forebay (cubic feet)	1990 cf
33	Is this 15-20% of the volume in the main pool?	Yes
34	Clean-out depth for forebay (inches)	42 in
35	Design volume of SCM (cu ft)	7288 cf
36	Is the outlet an orifice or a weir?	Orifice
37	If orifice, orifice diameter (inches)	2 in
38	If weir, weir height (inches)	

WET POND

39	If weir, weir length (inches)	
40	Drawdown time for the temporary pool (days)	2.44
41	Are the inlet(s) and outlet located in a manner that avoids short-circuiting?	Yes
42	Are berms or baffles provided to improve the flow path?	No
43	Depth of forebay at entrance (inches)	48 in
44	Depth of forebay at exit (inches)	54 in
45	Does water flow out of the forebay in a non-erosive manner?	Yes
46	Width of the vegetated shelf (feet)	6 ft
47	Slope of vegetated shelf (H:V)	6:1
48	Does the orifice drawdown from below the top surface of the permanent pool?	Yes
49	Does the pond minimize impacts to the receiving channel from the 1-yr, 24-hr storm?	Yes
50	Are fountains proposed? (If Y, please provide documentation that MDC(9) is met.)	No
51	Is a trash rack or other device provided to protect the outlet system?	Yes
52	Are the dam and embankment planted in non-clumping turf grass?	Yes
53	Species of turf that will be used on the dam and embankment	Bermuda
54	Has a planting plan been provided for the vegetated shelf?	Yes

ADDITIONAL INFORMATION	
55	Please use this space to provide any additional information about the wet pond(s):

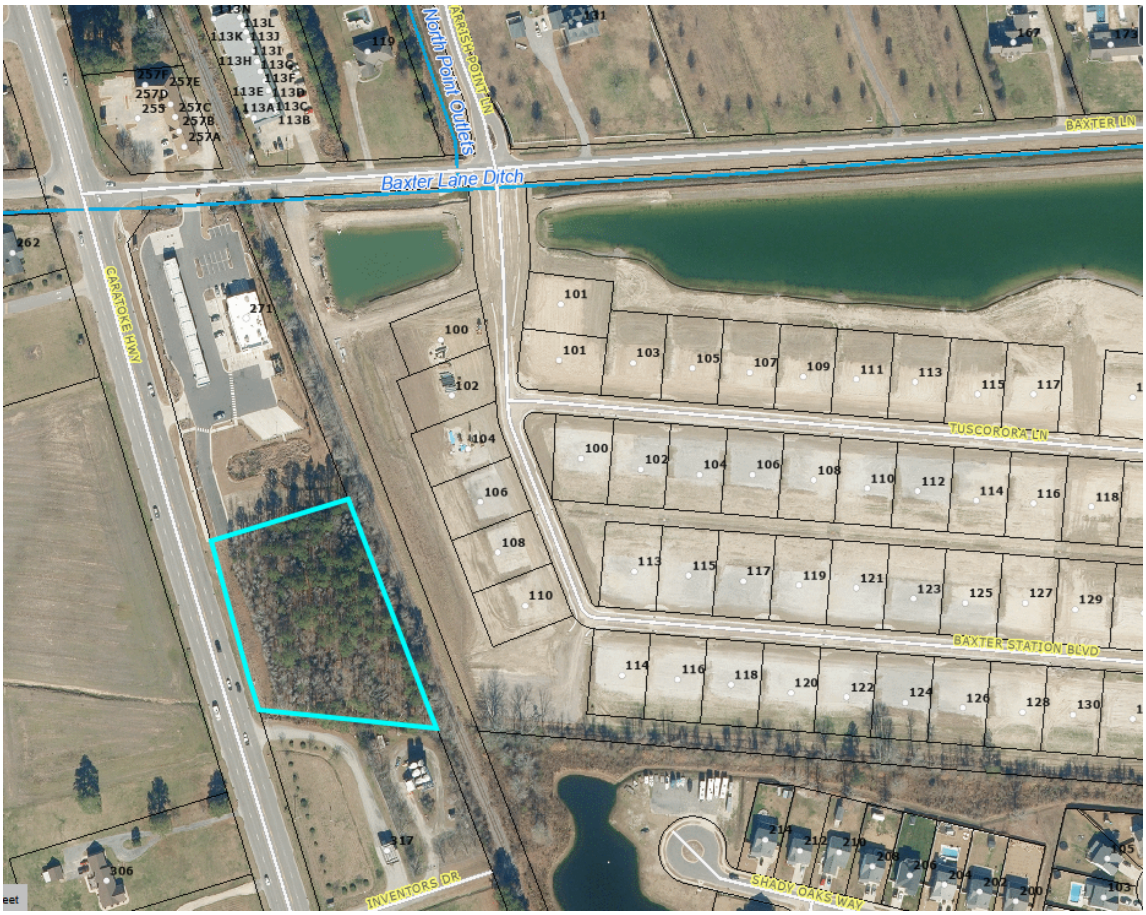
Stormwater Management Plan Narrative

Baxter Corner
High-Density NCDEQ Submittal
10/13/2026



General

The Baxter Corner project is a proposed mixed-use commercial development to be located on a 2.28 acre parcel in Moyock, NC. As per state regulations, a high-density stormwater permit is being pursued, with water quality treatment provided in a stormwater wet basin. The project is located on the east side of NC 168, approximately 805' south of the intersection of NC 168 and Baxter Lane.



The following narrative will detail the stormwater management plan for the proposed development. A single Project Area has been delineated containing the bulk of the proposed Built-Upon Area (BUA), and the entirety of this Project Area is proposed to be served by a single oversized Wet Pond SCM along the eastern edge of the Project Area. The pond is oversized in order to meet Currituck County Peak Flow Mitigation requirements, and water quality volume will be orifice controlled from a single orifice structure. The wet pond will have the ability to "stack" multiple 1.5" water quality volumes within the pond without overflow, resulting in enhanced treatment. As per State regulations, a High Density Permit is being pursued to address stormwater treatment within the Project Area.

Summary of Existing Conditions

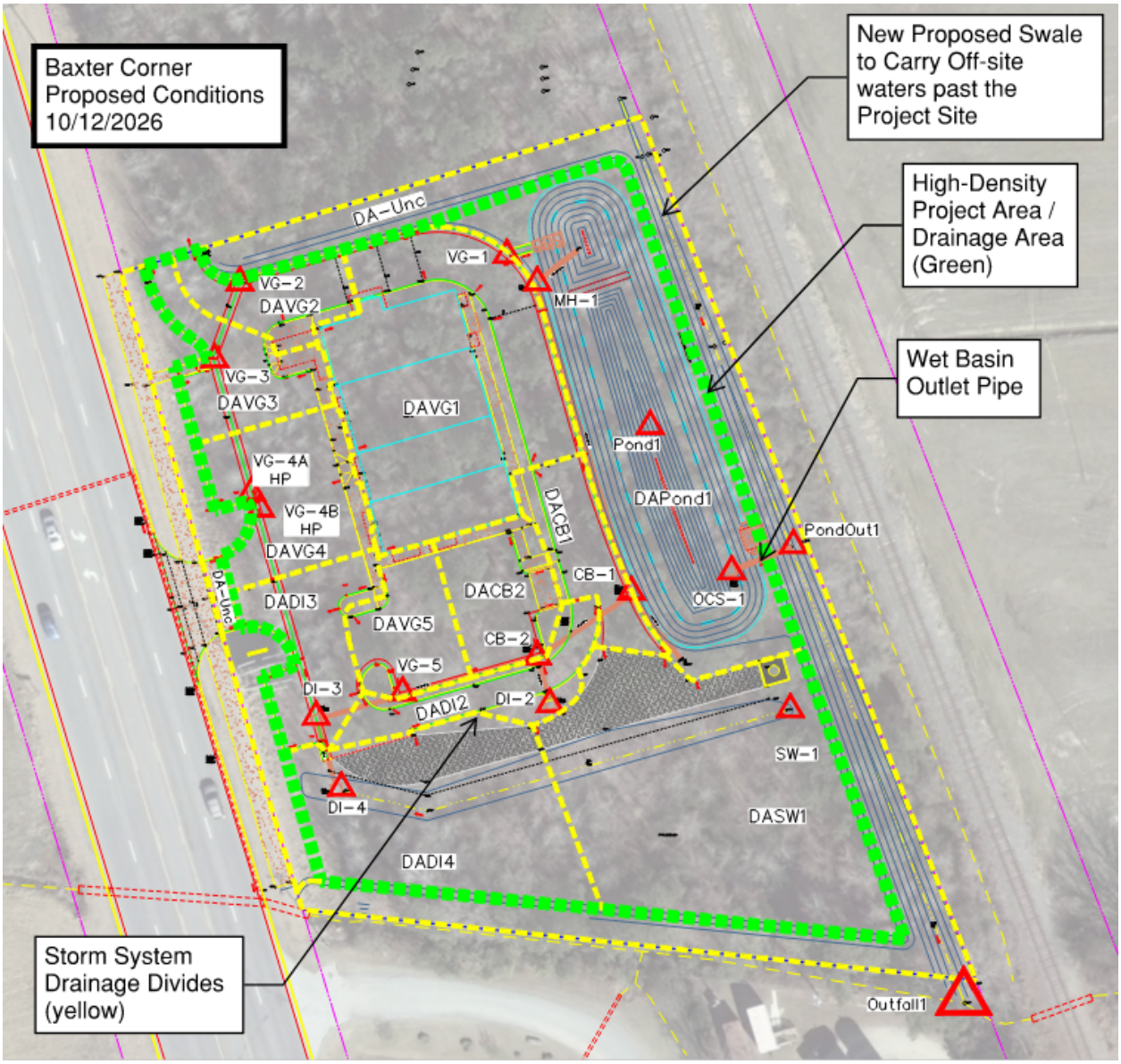
The subject parcel is located on the east side of NC 168 approximately 805 feet south of the intersection of NC 168 and Baxter Lane. The site is currently vacant and wooded. Two ditches running north-south bisect the site, carrying overflow runoff from the SCM's on the commercial site to the north, as well as carrying on-site runoff from the wooded parcel. These ditches flow to a collector ditch along the southern property line and to a ditch outfall located at the southeast corner of the site.



Information collected on site indicates that the soils found throughout this site are composed primarily of sandy loam and loamy sand.

Summary of Proposed Conditions

In order to continue to accommodate the off-site flows from the property to the north, a new ditch is proposed along the east side (rear) of the subject parcel to convey the off-site flows around the proposed development. The proposed developed area BUA will be isolated from all off-site flows via a berm around the perimeter and a drainage area for a proposed wet basin SCM is defined utilizing the top of the proposed berm.



The proposed development consists of the construction of a coffee shop, a retail shop, and future allotment for additional commercial space on the site along with associated parking and utility infrastructure. Stormwater will be collected via a storm sewer system and conveyed to a wet basin located behind the proposed retail shop. Runoff from all developed areas will be collected and conveyed to the proposed wet basin.

A bypass ditch will be placed along the rear of the property to re-route the overflow runoff from the commercial site to the north along the back of the subject property instead of through the middle of it.

Stormwater Collection, Treatment, Storage and Disposal

DA Pond 1

Collection

Stormwater runoff will be collected via site grading, swales, curb & gutter, drop inlets, and storm sewer. Runoff will be conveyed to a Wet Pond SCM located in the west edge of the Project Area.

Treatment & Storage

The Wet Pond will offer several methods of stormwater runoff treatment prior to release. Runoff from the drainage area will enter the basin primarily via the proposed storm sewer. Pre-treatment is provided via drop inlet grates, where large particulates and debris will gather. A small portion of the runoff will enter the basin via overland flow. Pre-treatment for these areas is provided via filtration through the overland vegetation.

Initial treatment will be provided within the Pond forebay, where particulates will settle out and filtration will occur as water passes over the vegetated forebay weir.

Primary and secondary treatment will be provided in the Wet Pond main pool, via settling of particulates, filtration within the vegetated shelf and grassed side-slopes, biological uptake of nutrients by the vegetated shelf and grassed side-slopes, and infiltration into the pond subsurface.

The runoff generated by a 1.5 inch rainfall event will require 7,288 ft^3 of storage. Per the pond Stage/Storage Tabulations included in the Appendix to this narrative, this volume is achieved at a water surface elevation of 8.03' (permanent pool is at 7.0').

Disposal

Outflow of the water quality volume is controlled via an orifice structure located in the southeast corner of the wet basin SCM. Discharge through this orifice is the primary source of disposal. A secondary source of disposal will be via infiltration and evaporation of stored runoff. Storms which exceed the capacity of the system are conveyed to the existing off-site drainage outfall via (first) weirs built into the Outlet Control Structure, and then an emergency overflow weir.

System Drawdown

Per the Orifice Sizing Calculations contained in the Appendix to this Narrative, the proposed 1.5" orifice, set at an elevation of 7.0' will draw-down the WQV in 2.43 days after a 1.5" rainfall event.

Soils

Protocol Sampling Service, Inc. performed soils investigations of the site to evaluate the site for suitability of placement of the wet basin SCM. Information collected on site indicates that the soils found throughout this site are composed primarily of sandy loam and loamy sand. These soil types will have moderate permeability. These findings generally correlate with the description mapped and discussed in the United States Department of Agriculture, Soil Conservation Service, Soil Survey of Currituck County, North Carolina, which map the soil for this site as follows:

Ro – Roanoke fine sandy loam, Permeability is very low to moderately high
Ds – Dragston loamy fine sand, Permeability is high

The NRCS soils report and Protocol Sampling Services, Inc. soils report have been included in the appendix of this narrative. Water levels in the proposed Wet Pond will be regulated via the weir structure.

Calculations

A proposed Coverage Table, Wet Pond Sizing Calculations, and Stage-Storage Tabulations are provided in the Appendix to this Narrative.

Conclusions

The proposed stormwater management system provides storage, treatment, and disposal of the runoff generated by the 1.5" rainfall event over all surfaces within the drainage area. Furthermore, the pond system is oversized relative to NCDEQ requirements, providing additional treatment of storms significantly larger than the design storm. This proposed design will more than adequately serve the stormwater management requirements of this site.

Compliance Analysis: General MDC's

GENERAL MDC 1. SIZING.
The design volume of SCMs shall take into account the runoff at build out from all surfaces draining to the system. Drainage from off-site areas may be bypassed. The combined design volume of all SCMs on the project shall be sufficient to handle the required storm depth.

Complies. As described in the Stormwater Narrative and documented in the stormwater calculations, all SCMs are designed to take into account all runoff from developed areas at build-out for the design storm.

GENERAL MDC 2: CONTAMINATED SOILS.
SCMs that allow stormwater to infiltrate shall not be located on or in areas with contaminated soils.

Complies. The project is not located within a brownfield area and soils investigations have not identified any contaminated soils.

GENERAL MDC 3: SIDE SLOPES.
Side slopes of SCMs stabilized with vegetated cover shall be no steeper than 3:1 (horizontal to vertical). Retaining walls, gabion walls, and other engineered surfaces may be steeper than 3:1. Steeper vegetated slopes may be considered on a case-by-case basis if the applicant demonstrates that the soils and vegetation shall remain stable.

Complies. Per the plan details, side slopes of proposed SCMs are specified to be no steeper than 3:1 max.

GENERAL MDC 4: EROSION PROTECTION.
The inlets SCMs shall be designed to protect the SCM from erosion resulting from stormwater discharges. The outlets of SCMs shall be designed so that they do not cause erosion immediately downslope of the discharge point during the peak flow from the 10-year storm event as shown by engineering calculations.

Complies. Discharge from the storm pipe will enter the basin via submerged outlet within the forebay. Where necessary, system outlets are protected via structural conveyances and aprons.

GENERAL MDC 5: EXCESS FLOWS.
SCMs shall include an overflow or bypass device for inflow volumes in excess of the treatment volume, or, if applicable, the peak attenuation volume.

Complies. In the event that the capacity of the SCM is exceeded, runoff will overflow the system via a weir system and be discharged to the existing outfall.

GENERAL MDC 6: DEWATERING.
SCMs shall have a method to draw down any standing water to facilitate maintenance and inspection.

Complies. Systems draw-down, if ever needed, shall be via portable pump.

GENERAL MDC 7: CLEAN OUT AFTER CONSTRUCTION.
Every SCM impacted by sedimentation and erosion control during the construction phase shall be cleaned out and converted to its approved design state.

Complies. This is specified in the "BMP Construction Sequence Notes" on the wet pond detail on Sheet 10 of the Plan Set

GENERAL MDC 8: MAINTENANCE ACCESS.
Every SCM installed pursuant to this Section shall be made accessible for maintenance and repair. Maintenance accesses shall:
(a) have a minimum width of ten feet;
(b) not include lateral or incline slopes that exceed 3:1 (horizontal to vertical); and
(c) extend to the nearest public right-of-way.

Complies. A proposed drainage easement is specified on Overview Sheet 3 and Stormwater Sheet 4. The easement includes a 12' wide access extending along the northern P/L from NC 168 R/W to rear that then opens out to include the entire wet-detention pond.

GENERAL MDC 9: EASEMENTS.
All SCMs and associated maintenance accesses on privately owned land except for those located on single family residential lots shall be located in permanent recorded easements. The SCM shall be shown and labeled within the easement. These easements shall be granted in favor of the party responsible for enforcing the stormwater program under which the SCMs were approved.

Complies. A proposed drainage easement is specified on Overview Sheet 3 and Stormwater Sheet 4. The easement includes a 12' wide access extending along the northern P/L from NC 168 R/W to rear that then opens out to include the entire wet-detention pond.

GENERAL MDC 10: SINGLE FAMILY RESIDENTIAL LOTS.
Plats for residential lots that contain an SCM shall include:
(a) the specific location of the SCM on the lot;
(b) a typical detail for SCM to be used; and
(c) a note that the SCM on the property has been required to meet stormwater regulations and that the property owner may be subject to enforcement actions if the SCM is removed, relocated, or altered without prior approval.

Does not apply. Project is a commercial development.

GENERAL MDC 11: OPERATION AND MAINTENANCE AGREEMENT.
The owner of the SCMs shall enter into a binding Operation and Maintenance (O&M) Agreement with the party responsible for implementing the stormwater program under which the SCMs were approved. The O&M Agreement shall require the owner to maintain, repair, or reconstruct the SCMs in accordance with the approved design plans and the O&M Plan. The O&M Agreement shall be referenced on the final plat and shall be recorded with the county Register of Deeds upon final plat approval. If no subdivision plat is recorded for the site, then the O&M Agreement shall be recorded with the county Register of Deeds so as to appear in the chain of title of all subsequent purchasers.

Complies. An O&M EZ form specific to this project, is included with the stormwater permit application package. The requirements outlined on the form will be incorporated into the recorded community documents.

GENERAL MDC 12: OPERATION AND MAINTENANCE PLAN.
There shall be an O&M Plan for every project subject to this Rule. The O&M Plan shall specify all operation and maintenance work necessary for the function of all SCM components, including the stormwater conveyance system, perimeter of the device, inlet(s), pretreatment measures, main treatment area, outlet, vegetation, and discharge point. The O&M plan shall specify methods to be used to maintain or restore the SCMs to design specifications in the event of failure. O&M plans shall be signed by the owner and notarized. The owner shall keep maintenance records and these shall be available upon request by the party responsible for enforcing the stormwater program under which the SCMs were approved.

Complies. An O&M EZ form specific to this project, is included with the stormwater permit application package.

GENERAL MDC 13: SCM SPECIFIC MINIMUM DESIGN CRITERIA (MDC).
Every SCM shall follow the applicable device specific MDC pursuant to Rules .1051 through .1062 of this Section.

Complies. Wet Pond MDC's have been complied with and an analysis of that compliance is included as a part of this Narrative.

GENERAL MDC 14: SCM DESIGNER QUALIFICATIONS FOR THE FAST-TRACK PERMITTING PROCESS.
For the fast-track permitting process as set forth in Rules .1043 and .1044 of this Section, SCMs and components of SCMs shall be designed by persons licensed under Chapters 89A, 89C, 89E, or 89F of the General Statutes.

Complies. All SCM's have been designed by a Licensed North Carolina Professional Engineer.

Compliance Analysis: Wet Pond MDC's

MDC 1. MAIN POOL SURFACE AREA AND VOLUME.
The main pool of the wet pond shall be sized using either:
(a) The Hydraulic Retention Time (HRT) Method; or
(b) The SA/DA and Average Depth Method.

Complies. The SA/DA Method was utilized.

MDC 2: MAIN POOL DEPTH.
The average depth of the main pool shall be three to eight feet below the permanent pool elevation. The applicant shall have the option of excluding the submerged portion of the vegetated shelf from the calculation of average depth.

Complies. Actual calculated Average Depth is included in the tabulation is Appendix G.

MDC 3: SEDIMENT STORAGE.
The forebay and main pool shall have a minimum sediment storage depth of six inches.

Complies. Forebay and main pool are being constructed with a sediment storage depth of 0.5' - 1.0'

MDC 4: LOCATION OF INLET(S) AND OUTLET.
The inlet(s) and outlet shall be located in a manner that avoids short circuiting.

Complies. WQ Volume outlets will be located remote to the bulk of the incoming runoff. All concentrated runoff will enter the pond via the forebay at protected inlets.

MDC 5: FOREBAY.
A forebay that meets the following specifications shall be included:
(a) Forebay volume shall be 15 to 20 percent of the volume in the main pool;
(b) The forebay entrance shall be deeper than the forebay exit;
(c) The water flowing over or through the structure that separates the forebay from the main pool shall flow at a nonerosive velocity; and
(d) If sediment accumulates in the forebay in a manner that reduces its depth to less than 75 percent of its design depth, then the forebay shall be cleaned out and returned to its design state.

a) Complies. See Calculations.
b) Complies. See detail, Sheet 10
c) Complies. See Calculations.
d) Complies. This requirement is addressed in the O&M Agreement.

MDC 6: VEGETATED SHELF.
The main pool shall be equipped with a vegetative shelf around its perimeter. The minimum width of the vegetated shelf shall be six feet and the slope shall be no steeper than 6:1 (horizontal to vertical).

Complies.

MDC 7: DRAWDOWN TIME.
The design volume shall draw down to the permanent pool level between two and five days.

Complies. Draw-down calculations are presented in the Narrative Appendix.

MDC 8: PROTECTION OF THE RECEIVING STREAM.
The wet pond shall discharge the runoff from the one-year, 24-hour storm in a manner that minimizes hydrologic impacts to the receiving channel.

Complies. Flows to the outfalls from the system are reduced in the post-construction condition.

MDC 9: FOUNTAINS.
If fountains are proposed, then documentation shall be provided that they will not resuspend sediment or cause erosion in the pond.

Does not apply. No fountain is proposed.

MDC 10: TRASH RACK.
A trash rack or other device shall be provided to prevent large debris from entering the outlet system.

Complies. See details sheet (Sheet 10).

MDC 11: VEGETATION.
The following criteria apply to vegetation in and around the wet pond:
(a) The dam structure, including front and back embankment slopes, of the pond shall be vegetated with non-clumping turf grass; trees and woody shrubs shall not be allowed; and
(b) The vegetated shelf shall be planted with a minimum of three diverse species of herbaceous, native vegetation at a minimum density of 50 plants per 200 square feet of shelf area.

a) Complies. Pond embankments will be seeded and maintained in grass.
b) Complies. Vegetated shelf to be planted in accordance with planting schedule on the plans.

APPENDIX A

Drainage Area Tabulations

Baxter Corner
Lot Coverage Tabulations
10/13/2026

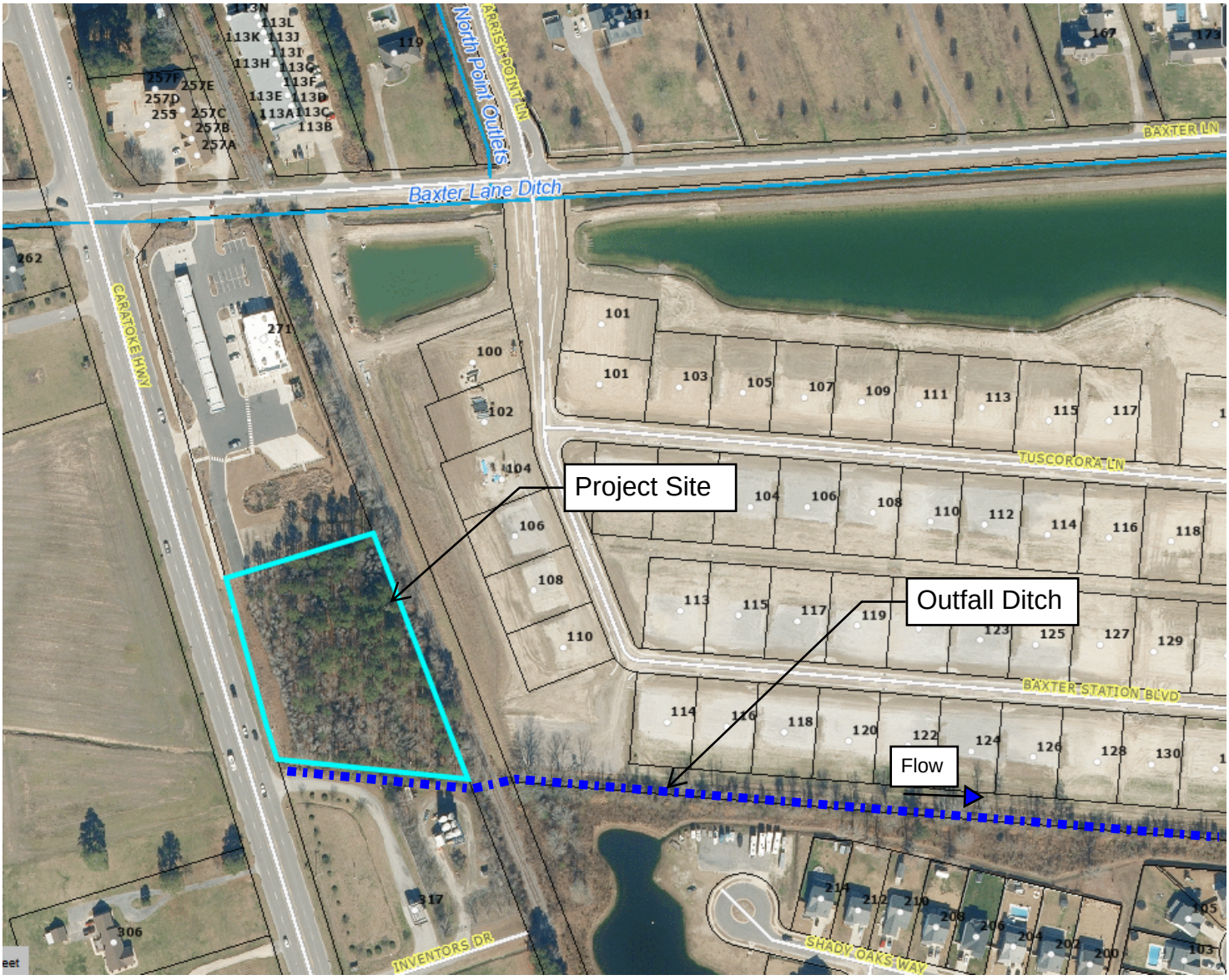
Basin Information	Drainage Area 1	Drainage Area 2 (Uncontolled)	Total
Receiving Stream Name	Moyock Run	Moyock Run	Moyock Run
Stream Class	C;Sw	C;Sw	C;Sw
Stream Index Number	**30-1-2-2-1**	**30-1-2-2-1**	**30-1-2-2-1**
Total Drainage Area (sf)	78,717	20,413	99,130
On-site Drainage Area (sf)	78,717	20,413	99,130
Off-site Drainage Area (sf)	-	0	-
Prop. Impervious Area (sf)	60,405	375	60,780
% Impervious Area (total)	76.7%	1.8%	61.3%

Impervious Surface Area	Drainage Area 1	Drainage Area 2 (Uncontolled)	Total	
On-site Buildings/Lots (sf)	7,950	0	7,950	
On-site Streets (sf)	3,807	0	3,807	*Gravel Drive
On-site Parking (sf)	25,157	315	25,472	
On-site sidewalks (sf)	2,072	60	2,132	
Other on-site (sf)	210	0	210	* Dumpster Pad
Future (sf)	21,209	0	21,209	
Off-site (sf)	0	0	0	
Existing BUA (sf)	0	-	0	
Total (sf)	60,405	375	60,780	

APPENDIX B

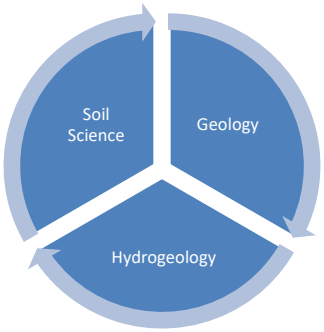
Aerial Imagery - GIS

Baxter Corner
GIS Aerial



APPENDIX C

Protocol Sampling Service, inc. Soils Report
NRCS Soils Map & Soils Data



Protocol Sampling Service, Inc.
"Experts in Environmental Compliance"

4114 Laurel Ridge Drive
Raleigh, North Carolina 27612

(919) 210-6547

Protocolsampling@yahoo.com
Environmentalservicesnc.com

September 9, 2026

Mr. David Klebitz, P.E.
Bissell Professional Group, Inc.
Post Office Box 1068
Kitty Hawk, North Carolina 27949

Re: **BMP Soils Investigation**
Baxter Commercial Lot – 2.28 Acres
Baxter Lane and US Highway 168
Moyock, Currituck County, North Carolina
Protocol Project # 26-146

Dear Mr. Klebitz:

The following Site Evaluation is submitted to assist in the design of an onsite stormwater wet-detention pond for a commercial development, located near the intersection of Baxter Lane and US Highway 168 (Caratoke Highway) in Moyock, Currituck County, North Carolina.

SITE HISTORY AND PHYSICAL CHARACTERISTICS

The lot is irregular in shape and lies in between Baxter Lane, US Highway 168 and the Chesapeake & Albemarle Railroad. The surveyed ground surface elevation is 8.25'- msl on the eastern portion of the property where the wet-detention pond will be installed. The surrounding properties are developed as commercial properties, single-family home sites or are undeveloped farmland. Protocol Sampling Service, Inc. was hired to perform a soils investigation to identify seasonal high water table conditions in the vicinity of the wet-detention pond.

SOIL INVESTIGATION

The field survey was conducted on Wednesday, August 14, 2024 with the soil being wet from recent rains. Two (2) soil borings were made with a hand auger on the lot using the recently completed boundary survey as a guide. Soil texture, consistence, structure, and clay mineralogy was determined at each soil boring. Depth to seasonal high-water table (soil wetness) and any restrictive horizons, if present, was noted.

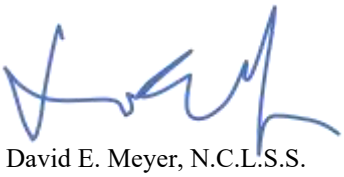
The soil was found to be poorly drained, very deep and matched the Gertie soil series with a soil wetness condition of 15 inches. The permeable portion of the soil profile was found at three-feet below land surface at an elevation of 5.25-feet msl. The layer exhibited excellent structure (granular to single grained), consistence (friable to loose) and texture (fine sand) and extended to 72-inches bls.

CONCLUSION

Excavating the wet-detention pond into the underlying permeable soil layer and discharging it to adjoining drainage improvements having invert elevations lower than 7.0 feet msl will support a design permanent pool elevation of 7.00 feet msl.

The findings presented herein are based on the site conditions observed during performance of the field survey on August 14, 2024.

Please call me at (919) 210-6547 if you have any questions or need further assistance.





David E. Meyer, N.C.L.S.S.
Soil Scientist/President

Soil Profile Description
Baxter Commercial – Profile 1

Ap 0 – 6 inches; very dark brown (10YR 2/2) silt loam; granular; friable.

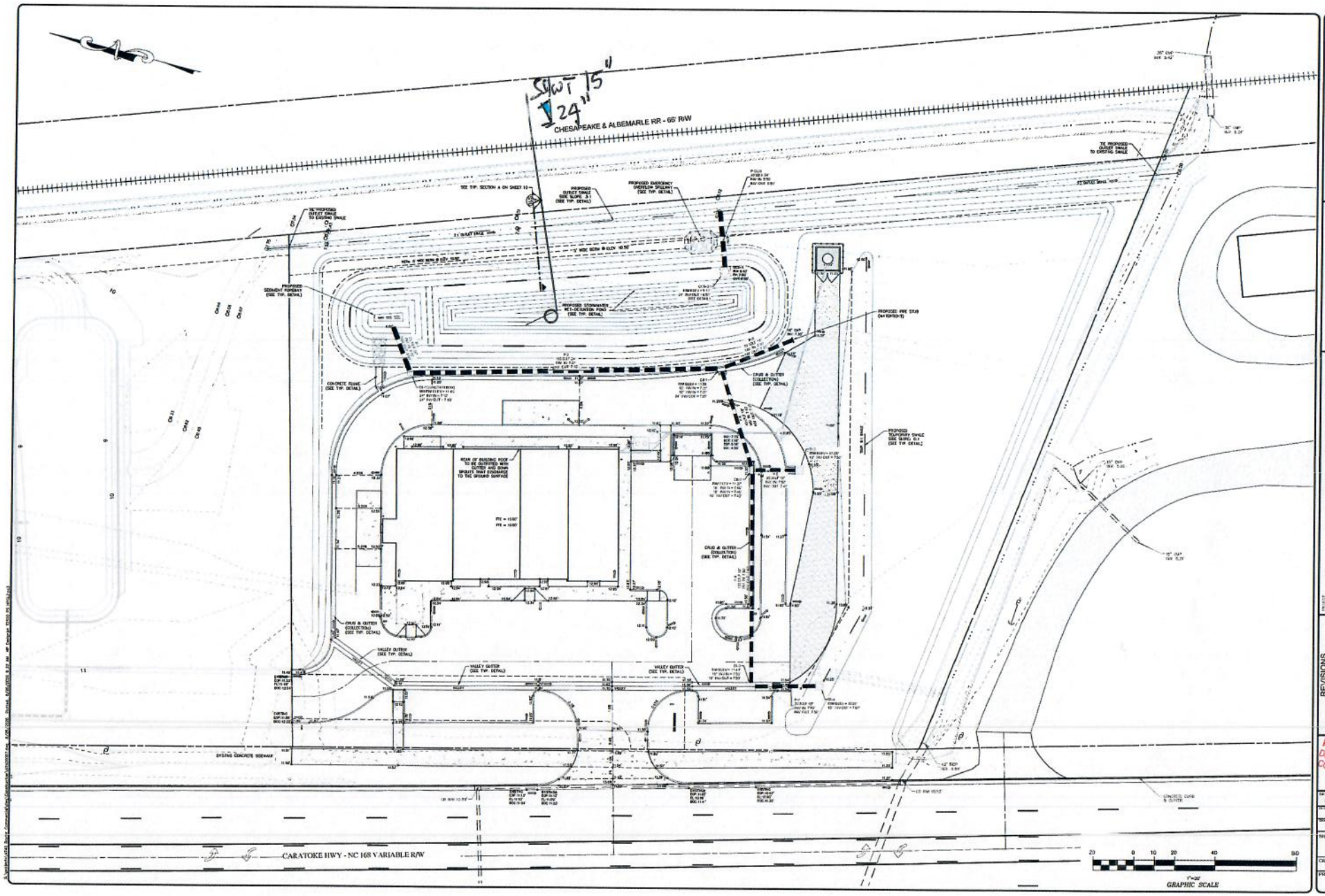
Ap2 6 – 15 inches; brown (10YR 4/3) sandy clay loam; subangular blocky; friable.

Ab 15 – 21 inches; dark brown (10YR 2/2) silt loam with many, prominent strong brown (7.5YR 5/6) concentrations; granular; friable.

Btg1 21 - 36 inches; light brownish gray (2.5Y 6/2) silty clay loam; subangular blocky; firm with many, prominent strong brown (7.5YR 5/6) concentrations.

C 36 – 60+ inches; light brownish gray (2.5Y 6/2) fine sand; single grained; loose.

Soil Series: Gertie
Landscape: Coastal Plain
Landform: flood plain, broad flats
Parent Material: Marine sediments
Drainage Class: Somewhat Poorly
Particle Size Class: loamy
Temperature Regime: thermic
Subgroup Classification: Typic Endoaquults
Examination Method: auger boring
Date: August 14, 2024
Weather: 75◦
Investigator: David Meyer
Shwt: 15” (elevation 7.00’-msl)
Measured water table depth: 22”



Russell Professional Group
Engineers, Planners, Surveyors and Environmental Specialists

GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN

PROJECT: ARSENAL ACQUISITIONS, SERIES 11
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

COMMERCIAL SITE DEVELOPMENT PLANS

REVISIONS

NO.	DATE	DESCRIPTION	BY

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

DATE: 5/31/06	SCALE: 1" = 20'
DESIGNED: JEPD	CHECKED: JMSD
DRAWN: DRB,	APPROVED: [illegible]

SHEET: 4 of 16
CAP FILE: 474000B7
PROJECT NO: 4740

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Currituck County, North Carolina



August 19, 2024

Custom Soil Resource Report
Soil Map



Map Scale: 1:994 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 45 90 180 270

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

Currituck County, North Carolina

Ds—Dragston loamy fine sand

Map Unit Setting

National map unit symbol: 3rnm
Elevation: 0 to 20 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Dragston, drained, and similar soils: 45 percent
Dragston, undrained, and similar soils: 40 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dragston, Drained

Setting

Landform: Marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

A - 0 to 6 inches: loamy fine sand
E - 6 to 10 inches: loamy fine sand
Bt - 10 to 42 inches: sandy loam
2Cg - 42 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A/D
Ecological site: F153AY040NC - Moist Loamy Rises and Flats, F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

Description of Dragston, Undrained

Setting

Landform: Marine terraces

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy fluviomarine deposits and/or marine deposits

Typical profile

A - 0 to 6 inches: loamy fine sand
E - 6 to 10 inches: loamy fine sand
Bt - 10 to 42 inches: sandy loam
2Cg - 42 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: F153AY040NC - Moist Loamy Rises and Flats, F153BY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Portsmouth, undrained

Percent of map unit: 3 percent
Landform: Depressions on marine terraces, flats on marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F153AY060NC - Wet Loamy Flats and Depressions, F153BY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Nimmo, undrained

Percent of map unit: 2 percent
Landform: Flats on marine terraces, depressions on marine terraces
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F153BY060NC - Wet Loamy Flats and Depressions, F153AY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Ro—Roanoke fine sandy loam

Map Unit Setting

National map unit symbol: 3rp1
Elevation: 0 to 20 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Roanoke, drained, and similar soils: 80 percent
Roanoke, undrained, and similar soils: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Roanoke, Drained

Setting

Landform: Flats on marine terraces, depressions on marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey marine deposits and/or fluviomarine deposits

Typical profile

Ap - 0 to 8 inches: silt loam
Btg - 8 to 58 inches: clay
Cg - 58 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F153BY090NC - Flooded Mineral Soil Floodplains and Terraces, F153AY065NC - Wet Clay Flats and Depressions
Hydric soil rating: Yes

Description of Roanoke, Undrained

Setting

Landform: Flats on marine terraces, depressions on marine terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey marine deposits and/or fluviomarine deposits

Typical profile

A - 0 to 8 inches: silt loam
Btg - 8 to 58 inches: clay
Cg - 58 to 80 inches: fine sand

Properties and qualities

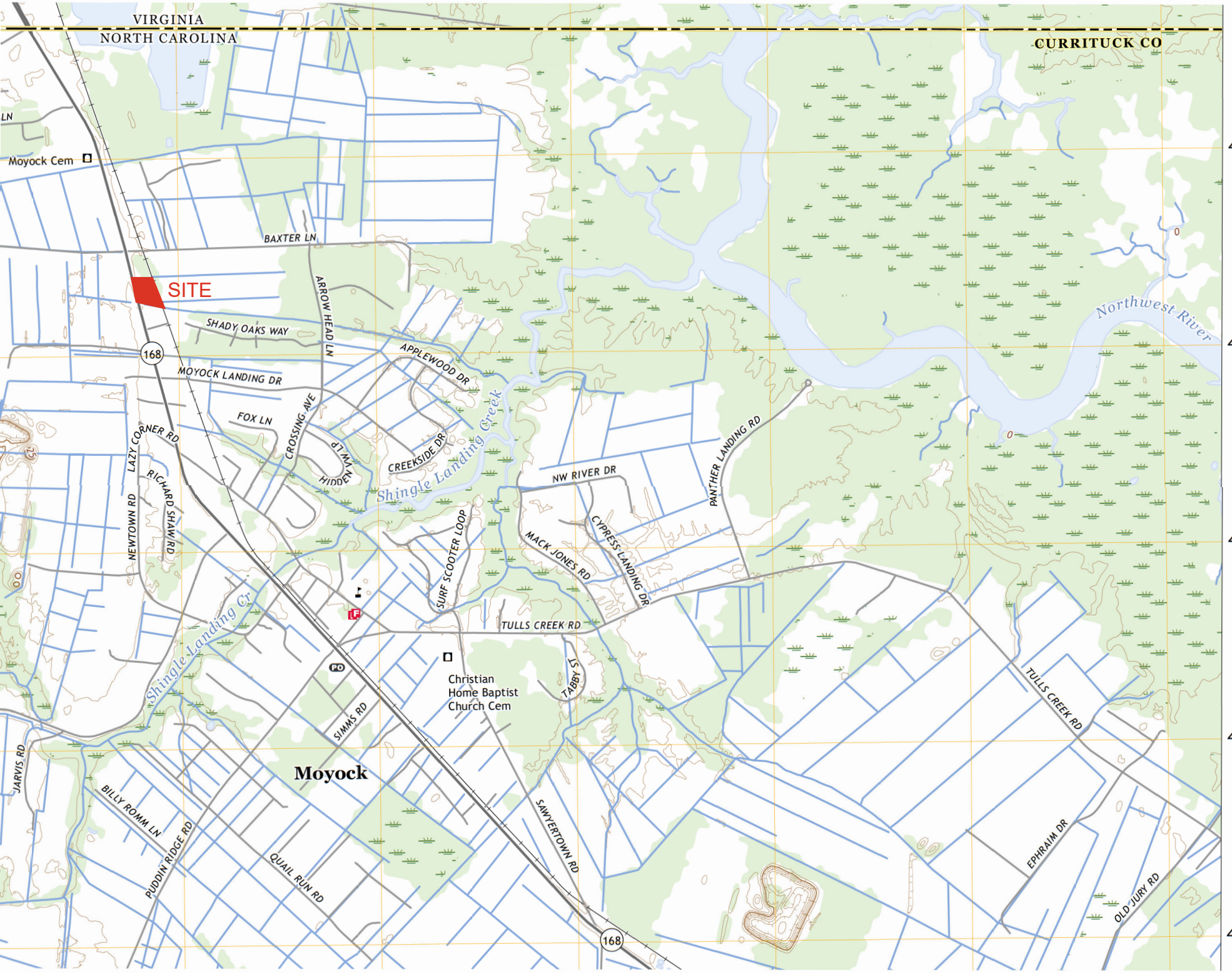
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F153BY090NC - Flooded Mineral Soil Floodplains and Terraces, F153AY065NC - Wet Clay Flats and Depressions
Hydric soil rating: Yes

APPENDIX D

USGS Map Excerpt


VIRGINIA
NORTH CAROLINA
CURRITUCK CO
Moyock Cem
SITE
BAXTER LN
SHADY OAKS WAY
ARROW HEAD LN
APPLEWOOD DR
MOYOCK LANDING DR
168
FOX LN
CROSSING AVE
HIDDEN LN
CREEKSIDE DR
Shingle Landing Creek
NW RIVER DR
PANTHER LANDING RD
Northwest River
LAZY CORNER RD
NEWTOWN RD
RICHARD SHAW RD
SURF SCOOTER LOOP
MACK JONES RD
CYPRESS LANDING DR
Shingle Landing Cr
TULLS CREEK RD
PO
Christian
Home Baptist
Church Cem
TABBY ST
SIMMS RD
JARVIS RD
Moyock
BILLY ROMM LN
PUDDIN RIDGE RD
QUAIL RUN RD
SAWYERTOWN RD
EPHRAIM DR
OLD JURY RD
45
44
43
42
41

APPENDIX E

Property Deeds
DB 1706, PG 338

BK 1706 PG 338 - 340 (3) DOC# 378005
This Document eRecorded: 08/12/2022 11:16:16 AM
Tax: $0.00 Fee: $26.00
Currituck County, North Carolina
Denise A. Hall, Register of Deeds

Unofficial Document

This certifies that there are no delinquent taxes which the Currituck County Tax Collector is charged with collecting, that are lien on the property described in this deed, as of the date of this certification.
Date: 08/12/2022 Tax Collector/Deputy/Clerk: Judy Jones

Currituck County Land Transfer Tax: 0.00 County Excise Tax: 1985 Sessions Law Chapter 670 (HB 215)

Excise Tax: $0.00
Prepared by and return to:
Alperin Law PLLC
500 Viking Drive, Suite 202
Virginia Beach, VA 23452

PIN: 0009000025K0000
Global Pin: 8022-66-7556

Brief Description for the index: Parcel A2 NON-RESIDENTIAL MINOR SUBD OF PARCEL A

NORTH CAROLINA
CURRITUCK COUNTY

Unofficial Document

DEED OF GIFT

THIS DEED OF GIFT, made on August 2, 2022, by and between **BENNA VICTOR HOLDINGS, LLC, c/o Benna Victor Development, LLC, a Delaware Series limited liability company, Grantor**, and **ARSENAL ACQUISITIONS, SERIES 11, a SEPARATE SERIES of BENNA VICTOR HOLDINGS, LLC, a Delaware Series limited liability company**, Grantee, with mailing address 4445 Corporation Lane, Suite 131, Virginia Beach, Virginia, 23462.

WITNESSETH:

For business planning purposes and no monetary consideration, the said Grantors do hereby grant and convey, with General Warranty and English Covenants of Title, unto the said Grantee, in fee simple, that certain lot or parcel of land situated in or near Moyock Mainland Currituck County, North Carolina and more particularly described as follows:

Unofficial Document

Submitted electronically by "Alperin Law PLLC"
in compliance with North Carolina statutes governing recordable documents
and the terms of the submitter agreement with the Currituck County Register of Deeds.

Unofficial Document

PARCEL A2 (2.276 ACRES) as depicted on plat entitled "NON-RESIDENTIAL MINOR SUBDIVISION PLAT OF PARCEL A (P.B. R, PG. 150) FOR CREIGHTON COMMERCIAL DEVELOPMENT - MOYOCK, CURRITUCK, N.C.02/03/22", prepared by TC P.L.L.C. SURVEYING, and recorded in Plat Book R at pages 211-213 in the office of the Currituck County Register of Deeds.

IT BEING a portion of the same property conveyed to the Grantors herein by deed from Jarvis Harvest, LLC, a North Carolina limited liability company dated March 2, 2022 and recorded in Book 1682 at page 853.

This conveyance is made expressly subject to the conditions, restrictions, reservations and easements, if any of record, constituting constructive notice.

Unofficial Document

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Unofficial Document

Unofficial Document

WITNESS the following signatures and seals:

BENNA VICTOR HOLDINGS, LLC
a Delaware Series limited liability company

_____(SEAL)
Sanford M. Cohen, Manager

COMMONWEALTH OF Virginia
CITY OF Virginia Beach, to-wit:

I, Lindsey Herrera, a Notary Public of the above-referenced jurisdiction, do hereby certify that Sanford M. Cohen, Manager of BENNA VICTOR HOLDINGS, LLC a Delaware Series limited liability company, hereby appeared before me and acknowledged the due execution of the aforesaid instrument, on 08 · 02 · 2022. These persons are ___ personally known to me, or X I examined the following type of identification: Drivers License

LINDSEY HERRERA
NOTARY PUBLIC
REG. #7695540
MY COMMISSION EXPIRES
04/30/2024
COMMONWEALTH OF VIRGINIA

SEAL/STAMP

_____
Notary Public

THIS DEED WAS PREPARED AT THE REQUEST OF THE GRANTORS HEREIN WITHOUT BENEFIT OF A TITLE EXAMINATION.

Unofficial Document

APPENDIX F

Benna Victor Holdings, LLC Corporation Information (Owner & Applicant)

Arsenal Acquisitions Assumed Name Certificate (Benna Victor Holdings dba Arsenal Acquisitions)

NORTH CAROLINA
Department of the Secretary of State

To all whom these presents shall come, Greetings:

I, ELAINE F. MARSHALL, Secretary of State of the State of North Carolina, do hereby certify the following and hereto attached to be a true copy of

APPLICATION FOR CERTIFICATE OF AUTHORITY

OF

BENNA VICTOR HOLDINGS, LLC

the original of which was filed in this office on the 28th day of September, 2026.

Scan to verify online.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal at the City of Raleigh, this 28th day of September, 2026.

Elaine F. Marshall

Secretary of State

State of North Carolina
Department of the Secretary of State

SOSID: 3394478
Date Filed: 9/28/2026 5:03:00 PM
Elaine F. Marshall
North Carolina Secretary of State
C2023 193 01233

APPLICATION FOR CERTIFICATE OF AUTHORITY FOR LIMITED LIABILITY COMPANY

Pursuant to §57D-7-03 of the General Statutes of North Carolina, the undersigned limited liability company hereby applies for a Certificate of Authority to transact business in the State of North Carolina, and for that purpose submits the following:

1. The name of the limited liability company is BENNA VICTOR HOLDINGS, LLC;

   and if the limited liability company name is unavailable for use in the State of North Carolina, the name the limited liability company wishes to use is _____.

2. The state or country under whose laws the limited liability company was formed is Delaware.

3. Principal office information: (*Select either a or b.*)

   a. ☒ The limited liability company has a principal office.

   The principal office telephone number: 757-335-1144.

   The street address and county of the principal office of the limited liability company is:

   Number and Street: 4445 Corporation Ln Ste 151

   City: Virginia Beach State: VA Zip Code: 23462 County: Virginia Beach

   The mailing address, ***if different from the street address***, of the principal office of the corporation is:

   Number and Street: _____

   City: _____ State: _____ Zip Code: _____ County: _____

   b. ☐ The limited liability company does not have a principal office.

4. The name of the registered agent in the State of North Carolina is: AshLee E Unch.

5. The street address and county of the registered agent's office in the State of North Carolina is:

   Number and Street: 120 Dallie Drive

   City: Knotts Island State: NC Zip Code: 27950 County: Currituck

6. The North Carolina mailing address, ***if different from the street address,*** of the registered agent's office in the State of North Carolina is:

   Number and Street: _____

   City: _____ State: NC Zip Code: _____ County: _____

7. The names, titles, and usual business addresses of the current company officials of the limited liability company are: *(use attachment if necessary) (This document must be signed by a person listed in item 7.)*

Name and Title	***Business Address***
Sanford Cohen, Manager	4445 Corporation Ln Ste 151, Virginia Beach, VA, 23462
Spencer Cohen, Manager	4445 Corporation Ln Ste 151, Virginia Beach, VA, 23462

8. Attached is a certificate of existence (or document of similar import), duly authenticated by the secretary of state or other official having custody of limited liability company records in the state or country of formation. **The Certificate of Existence must be less than six months old. A photocopy of the certification cannot be accepted.**

9. If the limited liability company is required to use a fictitious name in order to transact business in this State, a copy of the resolution of its managers adopting the fictitious name is attached.

10. (Optional): Please provide a business e-mail address: Privacy Redaction. The Secretary of State's Office will e-mail the business automatically at the address provided above at no cost when a document is filed. The e-mail provided **will not** be viewable on the website. For more information on why this service is offered, please see the instructions for this document.

11. This application will be effective upon filing, unless a delayed date and/or time is specified: _____.

This the 8th day of September, 20 26

BENNA VICTOR HOLDINGS, LLC
Name of Limited Liability Company

Sanford M. Cohen
Signature of Company Official

Sanford M. Cohen, Manager
Type or Print Name and Title

Notes:
1. **Filing fee is $250**. This document must be filed with the Secretary of State.

Delaware

The First State

I, CHARUNI PATIBANDA-SANCHEZ, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "BENNA VICTOR HOLDINGS, LLC" IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE FIFTEENTH DAY OF SEPTEMBER, A.D. 2026.

AND I DO HEREBY FURTHER CERTIFY THAT THE AFORESAID "BENNA VICTOR HOLDINGS, LLC" IS A SERIES LIMITED LIABILITY COMPANY.

AND I DO HEREBY FURTHER CERTIFY THAT THE SAID "BENNA VICTOR HOLDINGS, LLC" WAS FORMED ON THE FOURTH DAY OF JANUARY, A.D. 2019.

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL TAXES HAVE BEEN PAID TO DATE.

C. P. Sanchez

Charuni Patibanda-Sanchez, Secretary of State

7223165 8300E

SR# 20264396002

Authentication: 205134746

Date: 09-15-26

You may verify this certificate online at corp.delaware.gov/authver.shtml

BK 1875 PG 229 - 229 (1) DOC# 405865
This Document eRecorded: 09/29/2026 09:34:41 AM
Tax: $0.00 Fee: $26.00
Currituck County, North Carolina
Natalie R. Twiddy, Register of Deeds

ASSUMED BUSINESS NAME CERTIFICATE (NCGS §66-71.5)

Please print legibly.

1. The assumed business name is:
ARSENAL ACQUISITIONS, SERIES 11, a SEPARATE SERIES of
BENNA VICTOR HOLDINGS, LLC
(You may include no more than five (5) assumed business names on this form.)

2. The real name of the person or entity engaging in business under the assumed business name is:
BENNA VICTOR HOLDINGS, LLC Sosid: 3394478
(Corporations, LLC's, limited partnerships must provide the exact name registered with the NC Secretary of State's office and the SOSID number assigned at the time of formation. Go to sosnc.gov Business Search to look up your information; full URL below.)

3. The nature/type of the business is: developing a project in North Carolina which requires permits

4. The street address of the principal place of business is: (PO Boxes are not acceptable)
4445 Corporation Ln Ste 151, Virginia Beach, 23462

5. The mailing address, if different from the street address, is:

6. The counties where the assumed business name will be used to engage in business are:
■ All 100 North Carolina counties

This certificate is signed by the owner/legal representative of the person or entity named above, this 29 day of September, 2026.

Signature: Sanford M. Cohen

Printed/Typed Name: Sanford Cohen

Title: Manager
(See instructions for who must sign for various business entity types.)

Submitted electronically by "Alperin Law PLLC"
in compliance with North Carolina statutes governing recordable documents
and the terms of the submitter agreement with the Currituck County Register of Deeds.

7.25

APPENDIX G

Calculations



Baxter Corner
Lot Coverage Tabulations
10/13/2026

Basin Information	Drainage Area 1	Drainage Area 2 (Uncontolled)	Total
Receiving Stream Name	Moyock Run	Moyock Run	Moyock Run
Stream Class	C;Sw	C;Sw	C;Sw
Stream Index Number	**30-1-2-2-1**	**30-1-2-2-1**	**30-1-2-2-1**
Total Drainage Area (sf)	78,717	20,413	99,130
On-site Drainage Area (sf)	78,717	20,413	99,130
Off-site Drainage Area (sf)	-	0	-
Prop. Impervious Area (sf)	60,405	375	60,780
% Impervious Area (total)	76.7%	1.8%	61.3%

Impervious Surface Area	Drainage Area 1	Drainage Area 2 (Uncontolled)	Total	
On-site Buildings/Lots (sf)	7,950	0	7,950	
On-site Streets (sf)	3,807	0	3,807	*Gravel Drive
On-site Parking (sf)	25,157	315	25,472	
On-site sidewalks (sf)	2,072	60	2,132	
Other on-site (sf)	210	0	210	* Dumpster Pad
Future (sf)	21,209	0	21,209	
Off-site (sf)	0	0	0	
Existing BUA (sf)	0	-	0	
Total (sf)	60,405	375	60,780	

Baxter Corner
High Density Wet Pond Calculations
10/13/2026

Pond 1 **Single Inlet**			
	(sf)	(ac)	
Drainage Area, A	78,717	1.81	
Impervious Area, Imp	60,405	1.39	
Calculate Design Volume:			
Impervious Fraction, Ia	0.767	(Imp/A)	
Runoff Coefficient Rv	0.741	(0.05+0.9*Ia)	
Rainfall Depth Rd	1.5	(in)	
Design Volume Dv (cf)	7,288	(3630*Rd*Rv*A)	
Calculate Avg Depth for Main Pool		(Equation 3)	
Vol Perm Pool Vpp (cf)	13,080		
Area Perm Pool App (sf)	5,428		
Area Bottom Veg Shelf (sf)	3,329		
Vol over Veg Shelf (cf)	1,050		
Average Depth Davg (ft)	3.61		
Calculate Minimum Volume of Main Pool using SA/DA Table			
Average Depth Davg (ft)	3.61		
Percent BUA (%)	76.7%		
SA/DA req'd (%)	4.87	(from SCM Manual, C-3, Table 2: Coastal SA/DA Table)	
Min Perm Pool SA Req'd (sf)	3,833	(DA*(SA/DA req'd)	
Perm Pool SA Provided (sf)	5,428		
Calculate Min. Forebay Volume			
Min. Forebay Volume (cf)	1,962		
Forebay Volume Provided	1,990		
Forebay Vol % of Main Pool	15.2%		
Calculate Orifice Size			

Orifice Dia (in):	1.5					
Orifice Elevation (ft):	7					
Storage Elevation (ft):	8.03					
Storage Volume (cf):	7,288					
Orifice Area (sf):	0.012271846					
Driving Head, H/3 (ft):	0.343333333					
Orifice Flow Q (cfs) =	0.034622791					
Drawdown (days)=	2.436157464					
Check Velocity across Forebay Shelf to Main Bay						
Peak Inflow to Pond, Q (cfs)	1.3	(per EPA SWMM Model, 1.5" rainfall event)				
Length of shelf (ft)	29	(length perpindicular to flow direction)				
Flow Depth (H)(ft)	0.06	(Analyze as broad-crested weir, Q=CLH^3/2)				
Flow Area, A (sf)	1.76	(Flow Depth x Length of shelf)				
Flow Velocity (fps)	0.74	V=Q/A, less than 2.0 fps = non-erosive				

Pond Volume Tabulations
Baxter Corner
10/13/2026

Pond 1

Forebay Volume	
Perm Pool @:	7
Sed Storage Elev:	3
Bottom Pond @:	2.5

Elev:	Area (sf)	Avg Area	Vol	Sum Vol (cf)	
3.0	52			0	
		123	123		
4.0	193			123	
		623	1868		
7.0	1052			**1990**	(Total)

Main Bay Volume	
Perm Pool @:	7
Sed Storage Elev:	1
Bottom Pond @:	0.5

Elev:	Area (sf)	Avg Area	Vol	Sum Vol (cf)	
1.0	31			0	
		421	421		
2.0	811			421	
		2070	8280		
6.0	3329			8701	
		4378.5	4378.5		
7.0	5428			**13079.5**	(Total)

Forebay Volume as % of Main Pool:	**15.2%**

Temporary Storage Volume	
Perm Pool @:	7
Top Storage @:	10
Top Berm @:	10.5

Elev:	Area (sf)	Avg Area	Vol	Sum Vol (cf)	
7.0	6523			0	
		7214	7214		
8.0	7904			7214	
		8623	8623		
9.0	9341			15836	
		10089	10089		
10.0	10836			**25,925**	(Total)

Temporary Storage Required (cf):	**7,288**	(Achieved at Approx. Elev = 8.03')

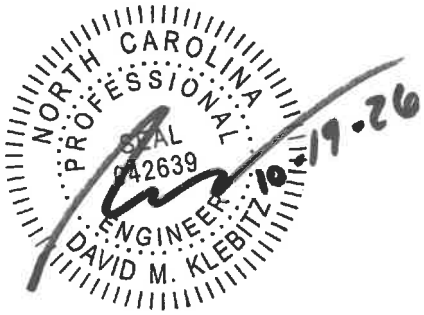
APPENDIX G

Erosion & Sedimentation Flow & Velocity Check

APPENDIX – SEDIMENTATION & EROSION CONTROL CALCULATIONS

Calculations Include the Following:

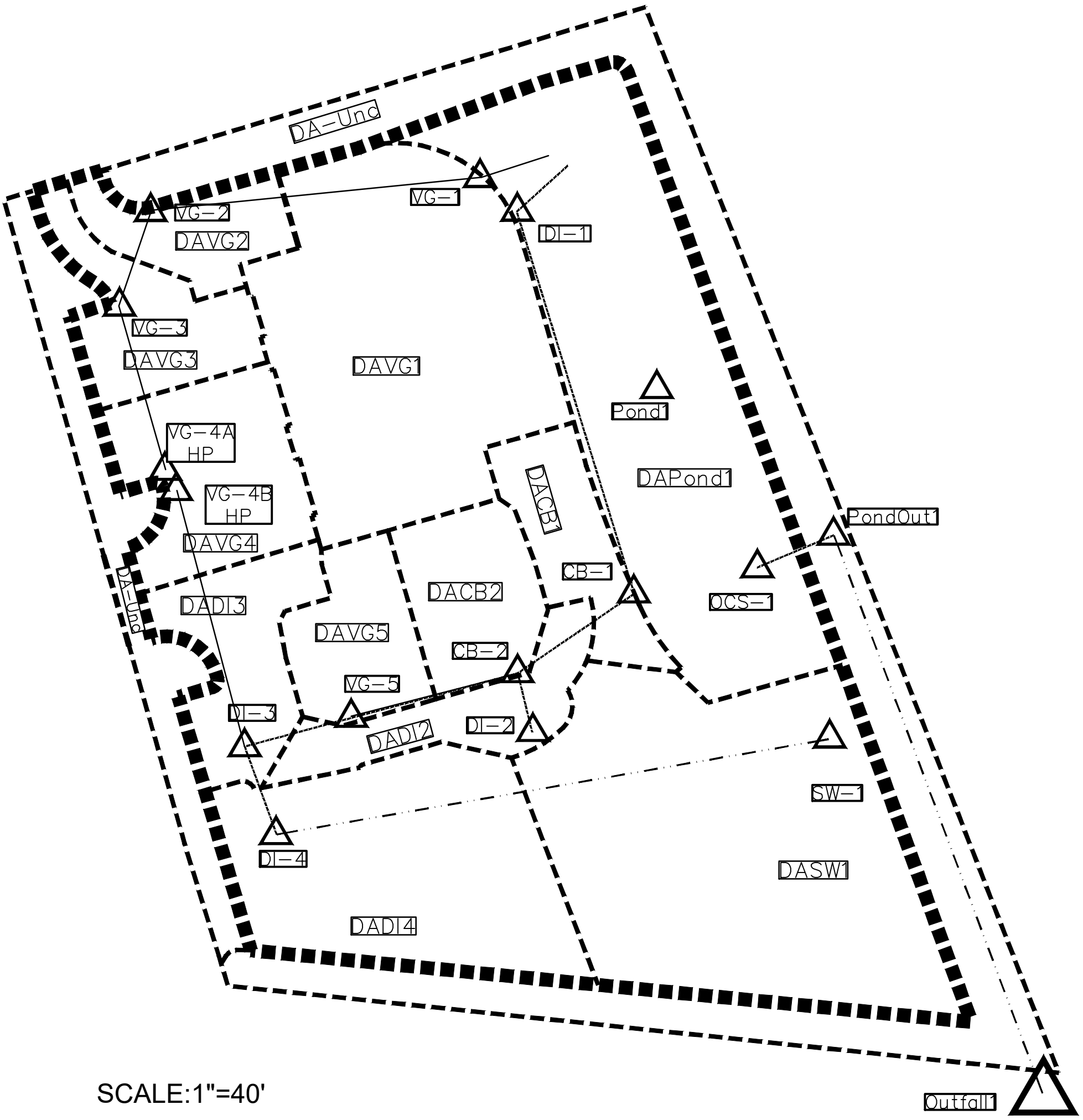
- **EPA SWMM -POST DEVELOPMENT - LINK & NODE MAP**
- **EROSIVE VELOCITY CHECKS**
- **SEDIMENT BASIN CALCULATIONS**
- **EROSION CONTROL SKIMMER CALCULATIONS**



EPA SWMM -POST DEVELOPMENT - LINK & NODE MAP

BAXTER CORNER

EPA SWMM POST DEVELOPMENT - LINK & NODE MAP



SCALE:1"=40'

EROSIVE VELOCITY CHECK

Calculations Include the Following:

- 2 Year, Bare Soil Condition; 2 fps Max Velocity
- 10 Year, Vegetated Condition; 4 fps Max Velocity

Note:
This check is performed by highlighting respective summaries of conveyances that exceed maximum permissible velocities as determined by EPA SWMM modeling performed by Deel Engineering, PLLC.

2 YEAR, BARE SOIL CONDITION; 2 FPS MAX VELOCITY

Link Flow and Velocity - 2yr				Velocity Check
Link	Type	Flow (cfs)	Velocity (fps)	Bare Soil > 2 fps
PondOutletPipe	Pipe	0.09	0.68	ok
DI1-Pond1	Pipe	2.73	0.87	ok
VG3-VG2	Curb& Gutter	0.36	1.12	ok
VG4A-VG3	Curb& Gutter	0.15	0.91	ok
VG4B-DI3	Curb& Gutter	0.16	0.93	ok
DI3-CB2	Pipe	2.13	1.90	ok
VG5-CB2	Pipe	0.18	0.38	ok
CB2-CB1	Pipe	2.64	2.66	ok, pipe
CB8-MH1	Pipe	2.73	1.14	ok
DI4-DI3	Pipe	1.74	1.54	ok
DI2-CB2	Pipe	0.16	0.18	ok
SW1-DI4	Swale	1.09	0.90	ok
VG2-VG1	Curb& Gutter	0.49	1.21	ok
VG1-Pond1	Conc Flume	1.37	0.83	ok

*Estimated peak flows and velocities per EPA SWMM calculations prepared by Deel Engineering, PLLC.

10 YEAR, VEGETATED CONDITION; 4 FPS MAX VELOCITY

Link Flow and Velocity - 10yr			
Link	Type	Flow (cfs)	Velocity (fps)
PondOutletPipe	Pipe	0.55	1.44
DI1-Pond1	Pipe	4.34	1.38
VG3-VG2	Curb& Gutter	0.58	1.26
VG4A-VG3	Curb& Gutter	0.24	1.01
VG4B-DI3	Curb& Gutter	0.24	1.01
DI3-CB2	Pipe	3.31	1.87
VG5-CB2	Pipe	0.28	1.05
CB2-CB1	Pipe	4.16	2.38
CB8-MH1	Pipe	4.34	1.48
DI4-DI3	Pipe	2.71	1.54
DI2-CB2	Pipe	0.29	0.19
SW1-DI4	Swale	1.71	1.03
VG2-VG1	Curb& Gutter	0.81	1.35
VG1-Pond1	Conc Flume	2.19	0.91

Velocity Check
Vegetated > 4 fps
ok
ok
ok
ok
ok
ok
ok
ok
ok
ok
ok
ok
ok
ok

*Estimated peak flows and velocities per EPA SWMM calculations prepared by Deel Engineering, PLLC.

SEDIMENT BASIN CALCULATIONS

Sediment Basin - Wet-Detention Pond

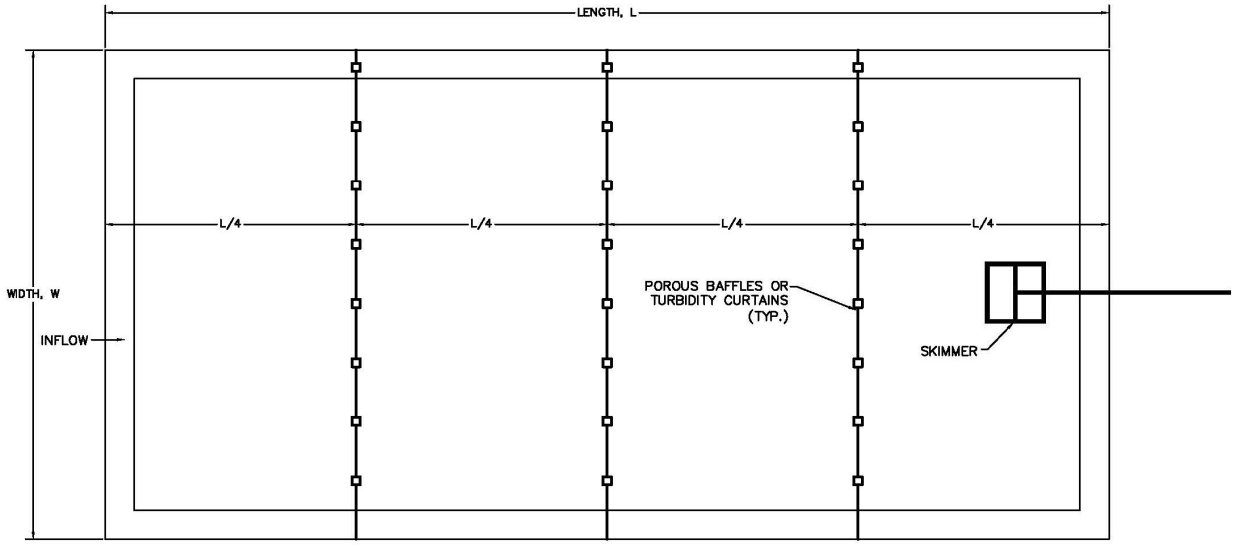
Requirements			
*Tributary Disturbed Area**	1.80	*acres*	
Min. Required Storage Volume	3,240	*ft³*	*(1,800 ft³/acre)*
*Estimated 10 year peak inflow***	6.23	*cfs*	
Min. Required Surface Area	2,710	*ft²*	*(435 ft²/cfs)*
Design			
Choose Avg. Storage Depth	2.00	*ft*	
Necessary Storage Surface Area	1,620	*ft²*	
Is Necessary Surface Area > Required	NO		
Choose Storage Width, W	30	*ft*	
Choose Storage Length, L	91	*ft*	
Length to Width Ratio	**3.0**	***OK***	
Surface Area Provided	**2,730**	*ft²*	*1.0* ***times required***
Is Surface Area Provided > Required	YES		
Storage Volume Provided	**7,056**	*ft³*	
Is Storage Volume Provided > Required	YES		*2.2* ***times required***

The above calculations determine minimum required sediment basin dimensions as detailed below. During construction, the stormwater management pond will be used as an oversized sediment basin providing the following actual area and volume:

Actual Pond Surface Area Provided	**6,523**	*ft²*	2.4 ***times required***
Actual Pond Volume Provided	**23,798**	*ft³*	7.3 ***times required***

Porous Baffles or Turbidity Curtains shall be installed within the stormwater pond at the spacing dimensioned below and as illustrated on the Erosion and Sediment Control Plan

* Tributary Disturbed Area from Autocad
** Estimated 10 year peak flows per EPA SWMM calculations prepared by Deel Engineering, PLLC.



Typical Sediment Basin Detail and Minimum Dimensions

EROSION CONTROL SKIMMER CALCULATIONS

Baxter Corner | **Erosion Control Skimmer Calculations** | **10/19/2026**

Sediment Basin - Skimmer

Drawdown Period [t_d]	2.00	*days*		
**Drawdown Volume [V]*	3,240	*ft^3*		
Drawdown Discharge Rate [Q_d]	1,620	*ft^3/day*	*0.02*	*cfs*
Choose Skimmer Body Diameter	2.0	*in.*	*0.86*	*fps*
Head on Orifice from Table [H]	0.167	*ft.*		
Resulting Orifice Diameter [D]	**1.3**	*in.*		
Is Orifice Diameter < Skimmer Body Diameter	**YES**			

**Drawdown volume based on min. required volume per separate Sediment Basin Calculations.*

Head on orifice of various skimmer sizes

Skimmer Size (in.)	Head on Orifice (ft.)
1.5	0.125
2	0.167
2.5	0.208
3	0.250
4	*0.333*
5	*0.333*
6	*0.417*
8	*0.500*

Table 6.64a NC Erosion Control Manual

Equations:

$Q_d = V / t_d$ (ft^3/day)

$D = \sqrt{[Q_d/(2310*\sqrt{H})]}$ (inches)

APPLICATION IDENTIFICATION		N.C. DEPARTMENT OF TRANSPORTATION
Driveway Permit No.	Date of Application 10-5-26	**STREET AND DRIVEWAY ACCESS PERMIT APPLICATION**
County: Currituck		
Development Name: Baxter Corner		

LOCATION OF PROPERTY:

Route/Road: NC HWY 168 Caratoke Hwy.

Exact Distance 806 ☐ Miles ☒ Feet N ☐ S ☒ E ☐ W ☐

From the Intersection of Route No. SR 1229 and Route No. NC HWY 12 Toward Currituck

Property Will Be Used For: ☐ Residential /Subdivision ☒ Commercial ☐ Educational Facilities ☐ TND ☐ Emergency Services ☐ Other

Property: ☒ is ☐ is not within Currituck County City Zoning Area.

AGREEMENT

- I, the undersigned property owner, request access and permission to construct driveway(s) or street(s) on public right-of-way at the above location.
- I agree to construct and maintain driveway(s) or street entrance(s) in absolute conformance with the current "Policy on Street and Driveway Access to North Carolina Highways" as adopted by the North Carolina Department of Transportation.
- I agree that no signs or objects will be placed on or over the public right-of-way other than those approved by NCDOT.
- I agree that the driveway(s) or street(s) will be constructed as shown on the attached plans.
- I agree that that driveway(s) or street(s) as used in this agreement include any approach tapers, storage lanes or speed change lanes as deemed necessary.
- I agree that if any future improvements to the roadway become necessary, the portion of driveway(s) or street(s) located on public right-of-way will be considered the property of the North Carolina Department of Transportation, and I will not be entitled to reimbursement or have any claim for present expenditures for driveway or street construction.
- I agree that this permit becomes void if construction of driveway(s) or street(s) is not completed within the time specified by the "Policy on Street and Driveway Access to North Carolina Highways".
- I agree to pay a $50 construction inspection fee. Make checks payable to NCDOT. This fee will be reimbursed if application is denied.
- I agree to construct and maintain the driveway(s) or street(s) in a safe manner so as not to interfere with or endanger the public travel.
- I agree to provide during and following construction proper signs, signal lights, flaggers and other warning devices for the protection of traffic in conformance with the current "Manual on Uniform Traffic Control Devices for Streets and Highways" and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the District Engineer.
- I agree to indemnify and save harmless the North Carolina Department of Transportation from all damages and claims for damage that may arise by reason of this construction.
- I agree that the North Carolina Department of Transportation will assume no responsibility for any damages that may be caused to such facilities, within the highway right-of-way limits, in carrying out its construction.
- I agree to provide a Performance and Indemnity Bond in the amount specified by the Division of Highways for any construction proposed on the State Highway system.
- The granting of this permit is subject to the regulatory powers of the NC Department of Transportation as provided by law and as set forth in the N.C. Policy on Driveways and shall not be construed as a contract access point.
- I agree that the entire cost of constructing and maintaining an approved private street or driveway access connection and conditions of this permit will be borne by the property owner, the applicant, and their grantees, successors, and assignees.
- **I AGREE TO NOTIFY THE DISTRICT ENGINEER WHEN THE PROPOSED WORK BEGINS AND WHEN IT IS COMPLETED.**

SIGNATURES OF APPLICANT

PROPERTY OWNER (APPLICANT)		WITNESS	
COMPANY	Benna Victor Holdings, LLC d.b.a. Arsenal Acquisitions, Series 11	NAME	Spencer Cohen
SIGNATURE		SIGNATURE	
ADDRESS	4445 Corporation Ln., Suite 151 Virginia Beach, VA 23462 Phone No. 757-335-1144	ADDRESS	4445 Corporation Ln, Suite 227 VA Beach VA 23462

AUTHORIZED AGENT		WITNESS	
COMPANY	Bissell Professional Group	NAME	Marcie Respass
SIGNATURE		SIGNATURE	Marcie Respass
ADDRESS	3512 N. Croatan Highway Kitty Hawk, NC 27949 Phone No. 252-261-3266	ADDRESS	PO Box 1068 Kitty Hawk, NC 27949

APPROVALS

APPLICATION RECEIVED BY DISTRICT ENGINEER

SIGNATURE DATE

APPLICATION APPROVED BY LOCAL GOVERNMENTAL AUTHORITY (when required)

SIGNATURE TITLE DATE

APPLICATION APPROVED BY NCDOT

SIGNATURE TITLE DATE

INSPECTION BY NCDOT

SIGNATURE TITLE DATE

COMMENTS:

ROUTE NC HWY 168 PROJECT Baxter Corner COUNTY OF Currituck STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

-AND-

Benna Victor Holdings, LLC d.b.a. Arsenal Acquisitions, Series 11

4445 Corporation Ln., Suite 151, Virginia Beach, VA 23462

-AND-

County of Currituck, North Carolina

153 Courthouse Rd., Currituck, NC 27929

THREE PARTY RIGHT OF WAY ENCROACHMENT AGREEMENT ON PRIMARY AND SECONDARY SYSTEM

THIS AGREEMENT, made and entered into this the _____ day of _____, 20 _____, by and between the Department of Transportation, party of the first part; and Benna Victor Holdings, LLC d.b.a. Arsenal Acquisitions, Series 11 party of the second part; and County of Currituck, North Carolina party of the third part,

WITNESSETH

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) NC Hwy 168 (Caratoke Hwy.), located approx. 845 feet south from the intersection with SR 1229 (Baxter Lane) towards Currituck

with the construction and/or erection of: Installation of a fire hydrant, domestic water service line tap and roadway crossing and sanitary sewer force main tap to serve a proposed commercial development

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the installation, operation, and maintenance of the above described facility will be accomplished in accordance with the party of the first part's latest UTILITIES ACCOMMODATIONS MANUAL, and such revisions and amendments thereto as may be in effect at the date of this agreement. Information as to these policies and procedures may be obtained from the Division Engineer or State Utilities Manager of the party of the first part.

That the said party of the second part binds and obligates himself to install and maintain the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway, nor obstruct nor interfere with the proper maintenance thereof, to reimburse the party of the first part for the cost incurred for any repairs or maintenance to its roadways and structures necessary due to installation and existence of the facilities of the party of the second part, and if at any time the party of the first part shall require the removal of or changes in the location of the said facilities, that the said party of the second part binds himself, his successors and assigns, to promptly remove or alter the said facilities, in order to conform to the said requirement, without any cost to the party of the first part.

That the party of the second part agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

That the party of the second part agrees to restore all areas disturbed during installation and maintenance to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any installation or maintenance operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the construction site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

During the performance of this contract, the second party, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

a. Compliance with Regulations: The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the U. S. Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

b. Nondiscrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

c. Solicitations for Subcontracts, including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

d. Information and Reports: The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

e. Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to,

(1) withholding of payments to the contractor under the contract until the contractor complies, and/or
(2) cancellation, termination or suspension of the contract, in whole or in part.

f. Incorporation of Provisions: The contractor shall include the provisions of paragraphs "a" through "f" in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Department of Transportation to enter into such litigation to protect the interests of the State, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

That when title to the subject that constitutes the aforesaid encroachment passes from the party of the second part and vests in the party of the third part, the party of the third part agrees to assume all responsibilities and rights and to perform all obligations as agreed to herein by the party of the second part.

R/W (166) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (166) incorporating all revisions to date.

IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

BY: _____
DIVISION ENGINEER

WITNESS:

Spencer Cohn

Benna Victor Holdings, LLC

d.b.a. Arsenal Acquisitions, Series 11

Second Party

WITNESS:

Currituck County

Jessica Timmons

County of Currituck, North Carolina

Rebecca L Gay

Third Party

CURRITUCK COUNTY 1668

STATE OF NORTH CAROLINA

ROUTE NC HWY 168 PROJECT Baxter Corner COUNTY OF Currituck

DEPARTMENT OF TRANSPORTATION

-AND-

Benna Victor Holdings, LLC d.b.a. Arsenal Acquisitions, Series 11

4445 Corporation Ln., Suite 151

Virginia Beach, VA 23462

RIGHT OF WAY ENCROACHMENT AGREEMENT FOR NON-UTILITY ENCROACHMENTS ON PRIMARY AND SECONDARY HIGHWAYS

THIS AGREEMENT, made and entered into this the _____ day of _____ , 20 _____ , by and between the Department of Transportation, party of the first part; and Benna Victor Holdings, LLC d.b.a. Arsenal Acquisitions, Series 11 party of the second part,

W I T N E S S E T H

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) NC HWY 168 (Caratoke Hwy.) , located in Moyock Township, Currituck County, NC

with the construction and/or erection of: +/- 260 LF of 8' wide sidewalk extension along the eastern side of NC HWY 168

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the said party of the second part binds and obligates himself to install and maintain the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway, nor obstruct nor interfere with the proper maintenance thereof, to reimburse the party of the first part for the cost incurred for any repairs or maintenance to its roadways and structures necessary due to the installation and existence of the facilities of the party of the second part, and if at any time the party of the first part shall require the removal of or changes in the location of the said facilities, that the said party of the second part binds himself, his successors and assigns, to promptly remove or alter the said facilities, in order to conform to the said requirement, without any cost to the party of the first part.

That the party of the second part agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first part.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

It is clearly understood by the party of the second part that the party of the first part will assume no responsibility for any damage that may be caused to such facilities, within the highway rights of way limits, in carrying out its construction and maintenance operations.

That the party of the second part agrees to restore all areas disturbed during installation and maintenance to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any installation or maintenance operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the encroaching site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

R/W (161A) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (161A) incorporating all revisions to date.

IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

BY: _____
DIVISION ENGINEER

ATTEST OR WITNESS:

Spencer Cohn

Benna Victor Holdings, LLC

d.b.a. Arsenal Acquisitions, Series 11

Second Party

INSTRUCTIONS

When the applicant is a corporation or a municipality, this agreement must have the corporate seal and be attested by the corporation secretary or by the empowered city official, unless a waiver of corporate seal and attestation by the secretary or by the empowered City official is on file in the Raleigh office of the State Utilities Manager. In the space provided in this agreement for execution, the name of the corporation or municipality shall be typed above the name, and title of all persons signing the agreement should be typed directly below their signature.

When the applicant is not a corporation, then his signature must be witnessed by one person. The address should be included in this agreement and the names of all persons signing the agreement should be typed directly below their signature.

This agreement must be accompanied, in the form of an attachment, by plans or drawings showing the following applicable information:

1. All roadways and ramps.
2. Right of way lines and where applicable, the control of access lines.
3. Location of the proposed encroachment.
4. Length and type of encroachment.
5. Location by highway survey station number. If station number cannot be obtained, location should be shown by distance from some identifiable point, such as a bridge, road, intersection, etc. (To assist in preparation of the encroachment plan, the Department's roadway plans may be seen at the various Highway Division Offices, or at the Raleigh office.)
6. Drainage structures or bridges if affected by encroachment.
7. Typical section indicating the pavement design and width, and the slopes, widths and details for either a curb and gutter or a shoulder and ditch section, whichever is applicable.
8. Horizontal alignment indicating general curve data, where applicable.
9. Vertical alignment indicated by percent grade, P.I. station and vertical curve length, where applicable.
10. Amount of material to be removed and/or placed on NCDOT right of way, if applicable.
11. Cross-sections of all grading operations, indicating slope ratio and reference by station where applicable.
12. All pertinent drainage structures proposed. Include all hydraulic data, pipe sizes, structure details and other related information.
13. Erosion and sediment control.
14. Any special provisions or specifications as to the performance of the work or the method of construction that may be required by the Department must be shown on a separate sheet attached to encroachment agreement provided that such information cannot be shown on plans or drawings.
15. The Department's Division Engineer should be given notice by the applicant prior to actual starting of installation included in this agreement.
16. Method of handling traffic during construction where applicable.
17. Scale of plans, north arrow, etc.