

Proposed Street Name Review and Addition to Master Street List Form

To Be Completed By Applicant

Subdivision Name: BOSWOOD ESTATES
Subdivision Type: MAJOR
Applicant: PACIFIC BEACH CONSTRUCTION LLC
Address: PO BOX 116
BARCO, NC 27917
Phone: 252-435-2531 Fax: _____

Proposed Street Name(s):
DODSON DRIVE ✓ _____
MATHIAS LANE ✓ _____

Alternate Street Name(s): *Please provide at least one (1) alternate street name*

To Be Completed By County Staff

Proposed street names with a check mark have been approved. Proposed street names with an X mark have been denied.

Reviewed By: Hans P. Lee Date: 1/7/20

Add the following data to the Master Street List:
Street Name: _____
Address Range: _____
F&R #: _____
Community: _____
ZIP: _____
Location: _____
Plat Approval Date: _____
Plat Approved By: _____

ALBEMARLE REGIONAL HEALTH SERVICES

302850

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, NC 28036

Site Location:

LOT 1 DODSON DR
BARCO, NC 27917

GPD: 360 **LTAR:** 0.400 **Classification:** PS w/Fill

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

- * Fill Area 95 ft. by 50 ft. with 14 in. of Sand

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade. System to go towards rear of lot perpendicular to highway, middle to front of lot is unsuitable due to a depression

EHS: 
Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302852

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, NC 28036

Site Location:

LOT 2 DODSON DR
BARCO, NC 27917

GPD: 360 **LTAR:** 0.500 **Classification:** Provisionally Suitable


If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 26"

EHS: 
Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302854

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929 .

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 3 DODSON DR
BARCO, NC 27917

GPD: 360 LTAR: 0.500 Classification: Provisionally Suitable

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 44"

EHS:



Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302855

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 4 DODSON DR
BARCO, NC 27917

GPD: 360 **LTAR:** 0.400 **Classification:** Provisionally Suitable

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 30"

EHS: 
Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302856

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 5 DODSON DR
BARCO, NC 27917

GPD: 360 LTAR: 0.500 Classification: Provisionally Suitable

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 52"

EHS: 
Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302857

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 6 DODSON DR
BARCO, NC 27917

GPD: 360 LTAR: 0.500 Classification: Provisionally Suitable

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 60"

EHS: 
Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302858

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 7 DODSON DR
BARCO, NC 27917

GPD: 360 LTAR: 0.500 Classification: Provisionally Suitable


If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 48"

EHS: 
Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302859

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 8 DODSON DR
BARCO, NC 27917

GPD: 360 LTAR: 0.300 Classification: PS w/Fill

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

- * Fill Area 120 ft. by 50 ft. with 24 in. of Sand

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 12"

EHS:



Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302860

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 9 DODSON DR
BARCO, NC 27917

GPD: 360 LTAR: 0.300 Classification: PS w/Fill

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

- * Fill Area 120 ft. by 50 ft. with 24 in. of Sand

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 12"

EHS:



Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302862

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 10 DODSON DR
BARCO, NC 27917

GPD: 360 LTAR: 0.500 Classification: PS w/Fill

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):


- * Fill Area 80 ft. by 50 ft. with 14 in. of Sand

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 22"

EHS: 
Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302864

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 11 MATHIAS LN
BARCO, NC 27917

GPD: 360 **LTAR:** 0.500 **Classification:** PS w/Fill

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):


- * Fill Area 80 ft. by 50 ft. with 14 in. of Sand

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 22"

EHS: 
Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302865

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 12 DODSON DR
BARCO, NC 27917

GPD: 360 LTAR: 0.500 Classification: PS Shallow Placement

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):


- * Shallow Placement - Type II System

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 24"

EHS: 
Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

ALBEMARLE REGIONAL HEALTH SERVICES

302866

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 13 MATHIAS LN
BARCO, NC 27917

GPD: 360 LTAR: 0.500 Classification: Provisionally Suitable

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 30"

EHS: 
Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

Bertie (252) 794-5303 Camden (252) 338-4460 Chowan (252)482-1199 Currituck (252) 232-6603
Gates (252) 357-1380 Pasquotank (252) 338-4490 Perquimans (252) 426-2100

ALBEMARLE REGIONAL HEALTH SERVICES

302867

Applicant:

BOSWOOD ESTATES, LLC
PO BOX 100
CURRITUCK, NC 27929

Owner:

MATHIAS G DODSON
400 AVINGER LN VILLA 609
DAVIDSON, 28036

Site Location:

LOT 14 DODSON DR
BARCO, NC 27917

GPD: 360 LTAR: 0.500 Classification: PS Shallow Placement

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

- * Shallow Placement - Type II System

To obtain an Authorization to Construct:

- * Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
- * Pay permit fee of \$225

Comments:

Fill house pad higher than finished septic tank grade, Seasonal Soil Wetness @ 24"

EHS: _____



Carver, Kevin

Date: 03/24/2020

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

Bertie (252) 794-5303 Camden (252) 338-4460 Chowan (252) 482-1199 Currituck (252) 232-6603
Gates (252) 357-1380 Pasquotank (252) 338-4490 Perquimans (252) 426-2100

Certificate of Coverage

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES

GENERAL PERMIT NO. NCG010000

NC Reference No. NCG01-2021-1727
Certificate of Coverage No. NCC211727

STORMWATER DISCHARGES

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provision of North Carolina General Statute 143-215.1, other lawful standards and regulations promulgated and adopted by the North Carolina Environmental Management Commission, and the Federal Water Pollution Control Act, as amended,

Boswood Estates, LLC

is hereby authorized to discharge stormwater associated with CONSTRUCTION ACTIVITIES to surface waters of North Carolina from a site located at:

Boswood Estates
US Hwy 168
Barco
Currituck County

in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in N.C. General Permit No. NCG010000.

This Certificate of Coverage is affiliated with **E&SC Plan Project No.** Curri-2021-009

This Certificate of Coverage shall become effective 3/24/2021.

This Certificate of Coverage shall remain in effect until rescinded or expired.

This Certificate of Coverage will expire on the anniversary of its effective date unless it is renewed by payment of the annual administration and compliance fee.



for Brian Wrenn
Director, Division of Energy, Mineral, and Land Resources
By the Authority of the Environmental Management Commission

Currituck County

Public Services Department

Will Rumsey, Utilities Director



446 Maple Rd.
Maple NC 27956
Phone 252-232-6061
Fax 252-453-3721

Email: will.rumsey@CurrituckCountyNC.gov

April 21, 2020
Mr. Jason Mizelle PE.
Timmons Group
8466 Caratoke Hwy, Building 400
Powell's Point, NC 27966

Commitment to serve letter for 14 lot major subdivision located off Caratoke Highway South of Majors Island Road.

Mr. Mizelle,
The Currituck County Mainland Water System will commit to serve the 14 lot major subdivision after all fees are paid to the water system and the project final approval is given by the Currituck County Engineering Staff.

Sincerely,

A handwritten signature in black ink, appearing to read "Will Rumsey", written over a horizontal line.

Will Rumsey
Utilities Director
Currituck County

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

BRIAN WRENN
Director



March 2, 2021

LETTER OF APPROVAL WITH MODIFICATIONS

Boswood Estates, LLC
Attn: Mr. Stuart Innes, Member
P.O. Box 116
Barco, NC 27917

RE: Project Name: Boswood Estates
Project ID: Curri-2021-009
County: Currituck
City: Barco
Address: US Hwy 168
River Basin: Pasquotank
Date Received by LQS: February 1, 2021
Submitted By: Timmons Group
Plan Type: New

Acres Approved: 16.4

Dear Sir,

This office has reviewed the subject erosion and sedimentation control plan. We find the plan to be acceptable and hereby issue this Letter of Approval. The enclosed Certificate of Approval must be posted at the job site. This plan approval shall expire three (3) years following the date of approval, if no land-disturbing activity has been undertaken, as is required by Title 15A NCAC 4B .0129.

As of April 1, 2019, all new construction activities are required to complete and submit an electronic Notice of Intent (eNOI) form requesting a Certificate of Coverage (COC) under the NCG010000 Construction General Permit. After the form is reviewed and found to be complete, you will receive a link with payment instructions for the \$100 annual permit fee. After the fee is received, you will receive the COC via email. You MUST obtain the COC prior to commencement of any land disturbing activity. The eNOI form may be accessed at deq.nc.gov/NCG01. Please direct questions about the eNOI form to Annette Lucas at Annette.lucas@ncdenr.gov or Paul Clark at Paul.clark@ncdenr.gov. If the owner/operator of this project changes in the future, the new responsible party is required to apply for his/her own COC.

Title 15A NCAC 4B .0118(a) and the NCG01 permit require that the following documentation be kept on file at the job site:



North Carolina Department of Environmental Quality | Division of Energy, Mineral and Land Resources
Washington Regional Office | 943 Washington Square Mall | Washington, North Carolina 27889
252.946.6481

1. The approved E&SC plan as well as any approved deviation.
2. The NCG01 permit and the COC, once it is received.
3. Records of inspections made during the previous 30 days.

Also, this letter gives the notice required by G.S. 113A-61.1(a) of our right of periodic inspection to ensure compliance with the approved plan.

North Carolina's Sedimentation Pollution Control Act is performance-oriented, requiring protection of existing natural resources and adjoining properties. If, following the commencement of this project, the erosion and sedimentation control plan is inadequate to meet the requirements of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statute 113A-51 through 66), this office may require revisions to the plan and implementation of the revisions to insure compliance with the Act.

Acceptance and approval of this plan is conditioned upon your compliance with Federal and State water quality laws, regulations, and rules. In addition, local city or county ordinances or rules may also apply to this land-disturbing activity. This approval does not supersede any other permit or approval.

Please note that this approval is based in part on the accuracy of the information provided in the Financial Responsibility Form, which you provided. You are requested to file an amended form if there is any change in the information included on the form. In addition, it would be helpful if you notify this office of the proposed starting date for this project.

Sincerely,

A handwritten signature in blue ink, appearing to read "Samir Dumpor, PE". The signature is cursive and includes the letters "PE" and "Far" at the end.

Samir Dumpor, PE
Regional Engineer

cc w/o enc: Stuart Innes, Boswood Estates, LLC (email)
Kimberly D. Hamby, PE, Timmons Group (email)
WaRO Division of Water Resources (email)

1. The developer is responsible for the control of sediment on-site. If the approved erosion and sedimentation control measures prove insufficient, the developer must take those additional steps necessary to stop sediment from leaving this site (NCGS 113A-57(3)). Each sediment storage device must be inspected after each storm event (NCGS 113A-54.1(e)). Maintenance and/or clean out is necessary anytime the device is at 50% capacity. All sediment storage measures will remain on site and functional until all grading and final landscaping of the project is complete (15A NCAC 04B .0113).
2. The developer is responsible for obtaining all permits and approvals necessary for the development of this project prior to the commencement of this land disturbing activity. This could include our agency's Stormwater regulations and the Division of Water Resources' enforcement requirements within Section 401 of the Clean Water Act, the U.S. Army Corps of Engineers' jurisdiction of Section 404 of the Clean Water Act, the Division of Coastal Management's CAMA requirements, the Division of Solid Waste Management's landfill regulations, the Environmental Protection Agency and/or The U.S. Army Corps of Engineers jurisdiction of the Clean Water Act, local County or Municipalities' ordinances, or others that may be required. This approval cannot supersede any other permit or approval.
3. Adequate and appropriate measures must be properly installed downstream, within the limits of disturbance, of any land disturbing activity to prevent sediment from leaving the limits of disturbance, entering existing drainage systems, impacting an on-site natural watercourse or adjoining property. (NCGS 113A-57)

PROJECT INFORMATION SHEET

APPROVAL DATE: March 2, 2021

RESPONSIBLE PARTY: Boswood Estates, LLC

PROJECT NAME: Boswood Estates

COUNTY: Currituck NO.: Curri-2021-009

OFF-SITE BORROW
AND/OR DISPOSAL SITE: _____ NO.:

START-UP DATE: _____

CONTRACTOR: _____

ON-SITE CONTACT: _____

ON-SITE PHONE NO.: _____

OFFICE PHONE NO.: _____

**COMPLETE & RETURN THIS FORM
PRIOR TO THE START OF CONSTRUCTION TO:**

**N.C.D.E.Q.
LAND QUALITY SECTION
ATTN: *James Edwards*
943 WASHINGTON SQUARE MALL
WASHINGTON, NORTH CAROLINA 27889
james.edwards@ncdenr.gov**

CERTIFICATE OF PLAN APPROVAL



The posting of this certificate certifies that an erosion and sedimentation control plan has been approved for this project by the North Carolina Department of Environmental Quality in accordance with North Carolina General Statute 113A - 57 (4) and 113A - 54 (d) (4) and North Carolina Administrative Code, Title 15A, Chapter 4B.0107 (c). This certificate must be posted at the primary entrance of the job site before construction begins and until establishment of permanent groundcover as required by North Carolina Administrative Code, Title 15A, Chapter 4B.0127 (b).

Boswood Estates, US 168, Currituck County

Project Name and Location

3/2/21

Date of Plan Approval

Savit Jampor
Regional Engineer



Certificate of Coverage Number

Curri-2021-009





STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

March 9, 2021

Boswood Estates, LLC
PO Box 116,
Barco, NC 27917

-AND-

County of Currituck
153 Courthouse Road, Suite 204
Currituck, NC 27929

County: Currituck

Subject: Encroachment to allow you to connect to an existing watermain by means of wet tap.

Dear Applicant,

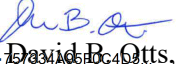
Attached for your records is a copy of the approved encroachment package to allow you to connect to an existing watermain by means of wet tap, to provide service to the proposed subdivision. **Any and all damages done to State Routes must be properly repaired.** This approval will expire on March 9, 2022, unless construction has started or been completed prior to that date.

The encroaching party's construction contractor must submit the NCDOT Workforce Safety Plan for Encroachment Activities: COVID-19 form to the District Engineer prior to construction.

Please feel free to contact the District Office at (252) 331-4737 if you have any questions.

Sincerely yours,

DocuSigned by:


David B. Ott, PE
District Engineer

Attachments

Cc: Division Engineer (W/Attachments)
County Maintenance Engineer (W/Attachments)



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

NC 168 CURRITUCK COUNTY

Pre-Construction Notices

- PCN 1** Approval may be rescinded upon failure to follow any of the provisions in this permit and may be considered a violation of the encroachment agreement.
- PCN 2** The Encroaching party or their contractor shall provide the following notices prior to construction activity within the NCDOT Right of Way:
- A) Three (3) business days advance phone call at telephone (252) 331-4737 to the District Engineer's office
- B) If the construction falls within the limits of an NCDOT managed construction project, five (5) business days advance phone call to the Resident Engineer, Mr. Tatum at (252) 331-4861
- Failure to provide these notifications prior to beginning construction is subject to the Division Engineer's discretion to cease construction activity for this encroachment. NCDOT reserves the right to cease any construction or maintenance work associated with this installation by the encroaching party until the construction or maintenance meets the satisfaction of the Division Engineer or their representative
- PCN 3** Prior to beginning work, it is the requirement of the Encroaching Party to contact the appropriate Utility Companies involved and make arrangements to adjust or relocate any utilities that conflict with the proposed work.
- PCN 4** It shall be the responsibility of the encroaching party to determine the location of utilities within the encroachment area. NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act requires underground utilities to be located by calling 811 prior to construction. The encroaching party shall be responsible for notifying other utility owners and providing protection and safeguards to prevent damage or interruption to existing facilities and maintain access to them.
- PCN 5** The encroaching party shall notify the appropriate municipal office prior to beginning any work within the municipality's limits of jurisdiction.
- PCN 7** Trenching, bore pits and/or other excavations shall not be left open or unsafe overnight.
- PCN 8** Excavation within 1000 feet of a signalized intersection will require notification by the encroaching party to the Division Traffic Engineer, Jason Davidson, at telephone number (252) 482-1857, no less than one week prior to beginning work. All traffic signal or detection cables must be located prior to excavation. Cost to replace or repair NCDOT signs, signals, pavement markings or associated equipment and facilities shall be the responsibility of the encroaching party.
- PCN 9** This agreement does not authorize installations within nor encroachment onto railroad rights of way. Permits for installations within railroad right of way must be obtained from the railroad and are the responsibility of the encroaching party.

Legal & Right-of-Way

- RW 1** This approval and associated plans and supporting documents shall not be interpreted to allow any design change or change in the intent of the design by the Owner, Design Engineer, or any of their representatives. Any revisions or changes to these approved plans or intent for construction must be obtained in writing from the Division Engineer's office or their representative prior to construction or during construction, if an issue arises during construction to warrant changes.



Encroachment General Provisions

Our mission is to safely and efficiently manage and facilitate as much as practicable the

NC 168 CURRITUCK COUNTY

- RW 2** NCDOT does not guarantee the right of way on this road, nor will it be responsible for any claim for damages brought about by any property owner by reason of this installation. It is the responsibility of the encroaching party to verify the right of way.
- RW 4** Encroaching party shall be responsible for obtaining all necessary permanent and/or temporary construction, drainage, utility and/or sight distance easements.
- RW 6** No commercial advertising shall be allowed within NCDOT Right of Way.
- RW 8** The installation within the Control of Access fence shall not adversely affect the design, construction, maintenance, stability, traffic safety or operation of the controlled access highway, and the utility must be serviced without access from the through-traffic roadways or ramps.

Work Zone Traffic Control

TC 2 WORK ZONE TRAFFIC CONTROL QUALIFICATIONS AND TRAINING PROGRAM

All personnel performing any activity inside the highway right of way are required to be familiar with the NCDOT Maintenance / Utility Traffic Control Guidelines (MUTCG). No specific training course or test is required for qualification in the Maintenance /Utility Traffic Control Guidelines (MUTCG).

All flagging, spotting, or operating Automated Flagger Assist Devices (AFAD) inside the highway right of way requires qualified and trained Work Zone Flaggers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

All personnel involved with the installation of Work Zone Traffic Control devices inside the highway right of way are required to be qualified and trained Work Zone Installers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

All personnel in charge of overseeing work zone Temporary Traffic Control operations and installations inside the highway right of way are required to be qualified and trained Work Zone Supervisors. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

For questions and/or additional information regarding this training program please refer to <https://connect.ncdot.gov/projects/WZTC/Pages/Training.aspx> or call the NCDOT Work Zone Traffic Control Section (919) 814-5000.

- TC 3** The party of the second part shall employ traffic control measures that are in accordance with the prevailing federal, state, local, and NCDOT policies, standards, and procedures. These policies, standards, and procedures include, but are not limited to the following:

- TC A)** Manual on Uniform Traffic Control Devices (MUTCD) – North Carolina has adopted the MUTCD to provide basic principles and guidelines for traffic control device design, application, installation, and maintenance. North Carolina uses the MUTCD as a minimum requirement where higher supplemental standards specific to North Carolina are not established. Use fundamental principles and best practices of MUTCD (Part 6, Temporary Traffic Control).



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- TC** B) NCDOT Maintenance / Utility Traffic Control Guidelines – This document enhances the fundamental principles and best practices established in MUTCD Part 6, Temporary Traffic Control, incorporating NCDOT-specific standards and details. It also covers important safety knowledge for a wide range of work zone job responsibilities.
- TC** 5 Ingress and egress shall be maintained to all businesses and dwellings affected by the project. Special attention shall be paid to police, EMS and fire stations, fire hydrants, secondary schools, and hospitals.
- TC** 7 Nighttime and weekend operations will NOT be allowed unless written approval is received from the District Engineer. If nighttime or weekend work is allowed or required, all signs must be retro-reflective, and a work zone lighting plan must be submitted for approval prior to construction.
- TC** 8 Two-way traffic shall be maintained at all times unless designated by the District Engineer. Traffic shall not be rerouted or detoured without the prior written approval from the District Engineer. No utility work will be allowed on state holidays from 7:00 PM the night before through 9:00 AM the day prior to, following or during local events without prior approval from the District Engineer. If the construction is within 1000 feet of a school location or on a designated bus route, the construction shall be coordinated with the school start and end times to avoid traffic delays.
- TC** 9 Work requiring lane or shoulder closures shall not be performed on both sides of the road simultaneously within the same area.
- TC** 10 Any work requiring equipment or personnel within 5 feet of the edge of any travel lane of an undivided facility and within 10 feet of the edge of any travel lane of a divided facility shall require a lane closure with appropriate tapers per current NCDOT Roadway Standard Drawings or MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- TC** 13 Any pavement markings that are damaged or obliterated shall be restored by the encroaching party at no expense to NCDOT.
- TC** 14 Sidewalk closures shall be installed as necessary. Pedestrian traffic shall be detoured around these closures and shall be signed appropriately and in accordance with The American with Disabilities Act Accessibility Guidelines. The encroaching party must adhere to the guidelines for accommodating pedestrians in encroachment work zones as described in the NCDOT Pedestrian Work Zone Accommodations Training found at <https://www.youtube.com/watch?v=AOuYa5IW3dg&feature=youtu.be>
- TC** 15 Parking and material storage shall not be allowed along the shoulders of any NCDOT roadways, any NCDOT roadways along the route and adjacent to the route.
- TC** 16 During periods of construction inactivity, place approved traffic control drums 3' minimum from the existing travel way.
- TC** 17 Any violation of the Traffic Control provisions will result in the termination of the encroachment agreement and liquidated damages in the amount of \$2,000 per hour or any portion thereof and will be assessed by the District Engineer's office.



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Environmental Regulations

- EC 1** The encroaching party shall comply with all applicable Federal, State and local environmental regulations and shall obtain all necessary Federal, State and local environmental permits, including but not limited to, those related to sediment control, stormwater, wetland, streams, endangered species and historical sites. Additional information can be obtained by contacting the NCDOT Roadside Environmental Engineer regarding the North Carolina Natural Heritage Program or the United States Fish and Wildlife Services. Contact the Division Roadside Environmental Engineer's Office at (252) 621-6310

- EC 2** When surface area in excess of one acre will be disturbed, the Encroacher shall submit a Sediment and Erosion Control Plan which has been approved by the appropriate regulatory agency or authority prior to beginning any work on the Right of Way. Failure to provide this information shall be grounds for suspension of operations. Proper temporary and permanent measures shall be used to control erosion and sedimentation in accordance with the approved sediment and erosion control plan.

- EC 4** All erosion control devices and measures shall be constructed, installed, maintained, and removed by the Encroacher in accordance with all applicable Federal, State, and Local laws, regulations, ordinances, and policies. Permanent vegetation shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer. All areas disturbed (shoulders, ditches, removed accesses, etc.) shall be graded and seeded in accordance with the latest NCDOT Standards Specifications for Roads and Structures and within 15 calendar days with an approved NCDOT seed mixture (all lawn type areas shall be maintained and reseeded as such). Seeding rates per acre shall be applied according to the Division Roadside Environmental Engineer. Any plant or vegetation in the NCDOT planted sites that is destroyed or damaged as a result of this encroachment shall be replaced with plants of like kind or similar shape.

- EC 5** No trees within NCDOT shall be cut without authorization from the Division Roadside Environmental Engineer. An inventory of trees measuring greater than 4 caliper inches (measured 6" above the ground) is required when trees within C/A right of way will be impacted by the encroachment installation. Mitigation is required and will be determined by the Division Roadside Environmental Engineer's Office.

- EC 6** Prior to installation, the Encroaching Party shall contact the District Engineer to discuss any environmental issues associated with the installation to address concerns related to the root system of trees impacted by boring or non-utility construction of sidewalk, roadway widening, etc.

- EC 7** The applicant is responsible for identifying project impacts to waters of the United States (wetlands, intermittent streams, perennial streams and ponds) located within the NCDOT right-of-way. The discharge of dredged or fill material into waters of the United States requires authorization from the United States Army Corps of Engineers (USACE) and certification from the North Carolina Division of Water Quality (NCDWQ). The applicant is required to obtain pertinent permits or certification from these regulatory agencies if construction of the project impacts waters of the United States within the NCDOT right-of-way. The applicant is responsible for complying with any river or stream Riparian Buffer Rule as regulated by the NCDWQ. The Rule regulates activity within a 50-foot buffer along perennial streams, intermittent streams and ponds. Additional information can be obtained by contacting the NCDWQ or the USACE.

- EC 8** The contractor shall not begin the construction until after the traffic control and erosion control devices have been installed to the satisfaction of the Division Engineer or their agent.



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- EC 10** Vegetative cover shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer.

General

- G 1** An executed copy of the encroachment agreement, provisions and approved plans shall be present at the construction site at all times. If safety or traffic conditions warrant such an action, NCDOT reserves the right to further limit, restrict or suspend operations within the right of way.
- G 2** The Encroaching Party and/or their Contractor shall comply with all OSHA requirements. If OSHA visits the work area associated with this encroachment, the District Office shall be notified by the encroaching party immediately if any violations are cited.
- G 3** Any REVISIONS marked in RED on the attached non-PE sealed plans shall be incorporated into and made part of the approved encroachment agreement.
- G 4** All disturbed areas are to be fully restored to current NCDOT minimum roadway standards or as directed by the Division Engineer or their representative. Disturbed areas within NCDOT Right-of-Way include, but not limited to, any excavation areas, pavement removal, drainage or other features.
- G 5** The encroaching party shall notify the Division Engineer or their representative immediately in the event any drainage structure is blocked, disturbed or damaged. All drainage structures disturbed, damaged or blocked shall be restored to its original condition as directed by the Division Engineer or their representative.
- G 6** A minimum of 5 feet clearance is required for utility installations beneath or near drainage pipes, headwalls, and a minimum of 2 feet clearance below the flowline of streams. If directional drilling, a minimum 10 feet clearance distance is required from drainage structures and a minimum of 5 feet below flowline of streams.
- G 7** At points where the utility is placed under existing storm drainage, the trench will be backfilled with excavatable flowable fill up to the outside diameter of the existing pipe.
- G 8** Unless specified otherwise, during non-working hours, equipment shall be located away from the job site or parked as close to the right of way line as possible and be properly barricaded in order not to have any equipment obstruction within the Clear Recovery Area. Also, during non-working hours, no parking or material storage shall be allowed along the shoulders of any state-maintained roadway.
- G 10** Guardrail removed or damaged during construction shall be replaced or repaired to its original condition, meeting current NCDOT standards or as directed by the Division Engineer or their representative.
- G 12** Right of Way monuments disturbed during construction shall be referenced by a registered Land Surveyor and reset after construction.
- G 13** All Traffic signs moved during construction shall be reinstalled as soon as possible to the satisfaction of the Division Engineer or their representative.
- G 14** Any utility markers, cabinets, pedestals, meter bases and services for meter reading required shall be as close to the Right of Way line as possible. If it is not feasible to install at or near Right of Way line, then written approval shall be obtained from NCDOT prior to installation.



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- G 15** Detection tape, where required by NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act, shall be buried in the trench approximately 1 foot above the installed facility. Where conduit is installed in the right of way and is not of ferrous material, locating tape or detection wire shall be installed with the conduit.
- G 16** All driveways disturbed during construction shall be returned to a state comparable with the condition of the driveways prior to construction.
- G 18** If the approved method of construction is unsuccessful and other means are required, prior approval must be obtained through the District Engineer before construction may continue.
- G 19** Open cut of pavements SHALL NOT be allowed without prior approval from the District Engineer. Boring shall be utilized. If allowed, appropriate traffic control, pavement protection measures, and pavement repair techniques as stated in these provisions, NCDOT manuals, and as directed by the District Engineer shall be utilized.
- G 20** Where an installation is by open cut, the pavement shall be neatly sawed or cut full depth. Patches must be regular, square or rectangular in width (4 straight sides), i.e. no irregular edges. The replacement base and surface shall extend a minimum of one foot beyond the excavated opening on each side. Pavement cuts shall be repaired with bituminous material the same day the cut is made. If the open cut is required for more than one day, the Encroaching party shall place a temporary bituminous patch at the close of each day's operations, and place the permanent repair immediately upon completion of the open cut operations. Concrete or aggregate repairs are prohibited for cuts in bituminous pavement surfaces.
- G 21** The proposed utility shall be placed at a minimum depth of 3' from finished ground for plowing or trenching installations.
- G 22** Strict compliance with the Policies and Procedures for Accommodating Utilities on Highway Rights of Way manual shall be required.
- G 23** The encroaching party may delegate the performance of certain provisions of this agreement to contractors or other parties. However, this shall not in any way release the encroaching party from its obligations to the terms and provisions of the encroachment.
- G 24** The encroaching party shall assume all responsibility, obligation, and liability for maintenance and operation of the installation permitted under this encroachment agreement. This condition shall be conveyed in any future buy, lease, sell or rental agreement. In the event that the encroaching party, or any future responsible party should fail to satisfy this condition, NCDOT reserves the right close or remove the installation at the encroaching party's expense.
- G 25** A one-year warranty shall be required on all work performed within the NCDOT right of way. It shall commence after District review and acceptance of the completed work associated with the encroachment.



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Engineering

- E 1 All traffic control, asphalt mixes, structures, construction, workmanship and construction methods, and materials shall be in compliance with the most-recent versions of the following resources: ASTM Standards, Manual on Uniform Traffic Control Devices, NCDOT Utilities Accommodations Manual, NCDOT Standard Specifications for Roads and Structures, NCDOT Roadway Standard Drawings, NCDOT Asphalt Quality Management System manual, and the approved plans.
- E 3 Regulator stations, metering stations, cathodic test stations, and anode beds are not permitted within NCDOT right of way. Header wires are permitted.
- L 1 All utility access points, such as manholes, vaults, handholes, splice boxes and junction boxes shall be located as close to the right of way line as possible and shall not be placed in the ditch line, side slopes of the ditches or in the pavement. All manholes, handholes, splice boxes, junction boxes and vaults and covers shall be flush with the ground when located within the vehicle clear zone. Slack loops for telecommunications in industry standard housing units shall be buried a minimum of 18 inches when buried or meet minimum NCDOT vertical and horizontal clearances when installed aerially.
- L 2 Fire Hydrants shall be of the breakaway type. Hydrants shall be placed near the right of way line. In curb and gutter sections with written approval from the District, the hydrants may be placed at 6' behind the back of the curb or minimum 2' back of sidewalk.

Excavation

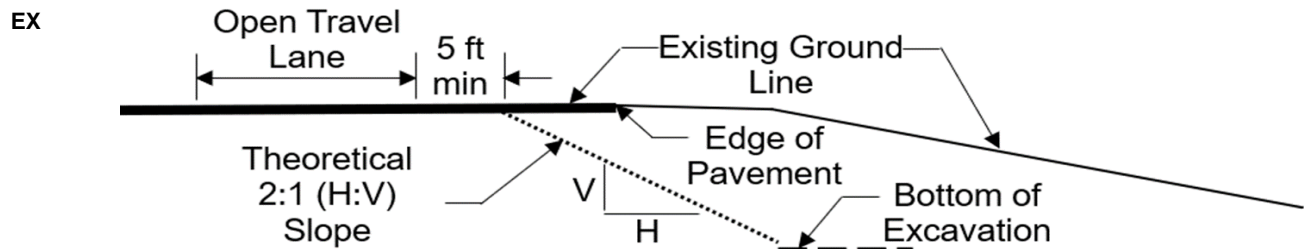
- EX 1 Excavation material shall not be placed on pavement.
- EX 2 It is the responsibility of the encroaching party or their contractor to prevent any mud/dirt from tracking onto the roadway. Any dirt which may collect on the roadway pavement from equipment and/or truck traffic on site shall be immediately removed to avoid any unsafe traffic conditions.
- EX 3 The utility shall be installed within 5 feet of the right of way line and outside the 5-foot minimum from travel lane plus theoretical 2:1 slope from the edge of pavement to the bottom of the nearest excavation wall for temporary shoring. If the 2:1 slope plus 5 feet requirement above is met for traffic, then temporary shoring is typically only necessary to protect roadways from damage when a theoretical 1:1 slope from the edge of pavement intersects the nearest excavation wall. This rule of thumb should be used with caution and does not apply to all subsurface conditions, surcharge loadings and excavation geometries. Situations where this 1:1 slope is not recommended include groundwater depth is above bottom of excavation or excavation is deeper than 10 feet or in Type B or C soils as defined by OSHA Technical Manual. Temporary shoring may be avoided by locating trenches, bore pits, and other excavations far enough away from the open travel lane, edge of pavement and any existing structure, support, utility, property, etc. to be protected. Temporary shoring is required when a theoretical 2:1 slope from the bottom of excavation will intersect the existing ground line less than 5 feet from the outside edge of an open travel lane as shown in the figure below or when a theoretical 2:1 slope from the bottom of excavation will intersect any existing structure, support, utility, property, etc. to be protected.



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- EX 4 Temporary shoring shall be designed and constructed in accordance with current NCDOT Standard Temporary Shoring provisions (refer to <https://connect.ncdot.gov/resources/Specifications/Pages/2018-Specifications-and-Special-Provisions.aspx> and see SP11 R002).

A) Temporary excavation shoring, such as sheet piling, shall be installed. The design of the shoring shall include the effects of traffic loads. The shoring system shall be designed and sealed by a licensed North Carolina Professional Engineer. Shoring plans and design calculations shall be submitted to the Division Engineer for review and approval prior to construction. (See NCDOT Utilities Accommodations Manual for more information on requirements for shoring plans and design calculations.) Trench boxes shall not be accepted as temporary shoring and will not be approved for use in instances where shoring is required to protect the highway, drainage structure, and/or supporting pavement or structure foundation.

B) All trench excavation inside the limits of the theoretical one-to-one slope, as defined by the policy, shall be completely backfilled and compacted at the end of each construction day. No portion of the trench shall be left open overnight. Any excavation that is not backfilled by the end of the workday must address any safety and traveling public concerns including accommodations for bicycles, pedestrians and persons with disabilities.

- EX 5 The trench backfill material shall meet the Statewide Borrow Criteria. The trench shall be backfilled in accordance with Section 300-7 of the latest NCDOT Standard Specifications for Roads and Structures, which basically requires the backfill material to be placed in layers not to exceed 6 inches loose and compacted to at least 95% of the density obtained by compacting a sample in accordance with AASHTO T99 as modified by DOT.

E) The length of parallel excavation shall be limited to the length necessary to install and backfill one joint of pipe at a time, not to exceed twenty-five (25) feet.

- 5 All material to a depth of 8 inches below the finished surface of the subgrade shall be compacted to a density equal to at least 100% of that obtained by compacting a sample of the material in accordance with AASHTO T99 as modified by the Department. The subgrade shall be compacted at a moisture content which is approximately that required to produce the maximum density indicated by the above test method. The contractor shall dry or add moisture to the subgrade when required to provide a uniformly compacted and acceptable subgrade. The option to backfill any trenches with dirt or either #57 stone or #78 stone with consolidation with a plate tamp and without a conventional density test may be pursued with the written consent of the District Engineer. If this option is exercised, then roadway ABC stone and asphalt repair as required will also be specified by the District Engineer.

- EX 6 All roadway sections, ditch lines and slopes, and shoulders affected by the operations under this encroachment shall be restored to the satisfaction of the District Engineer.

- B 1 Boring equipment will be provided of a type and size to facilitate boring in the local geologic conditions and shall be able to facilitate the encroachment work.



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B 2 When Horizontal Directional Drilling (HDD) is used, the following stipulations apply:

A) Use drilling fluids as appropriate for the type soils but use of water alone is prohibited. Pump drilling fluids only while drilling or reaming. Directional boring using jetting with a Bentonite (or equivalent material) slurry is recommended. Monitor flow rates to match the amount leaving the bore hole and do not increase pressure or flow to free stuck drill heads, reamers or piping. Open cutting to retrieve stuck drill heads is not allowed without prior permission from the District Engineer.

B) The minimum depth shall adhere to the table below for transverse (under non-controlled access, partial controlled access, or limited controlled access roadway) installations and refers to maximum diameter of hole drilled and not the dimension of the carrier or encasement pipe.

<u>Diameter of Drilled Hole</u> <u>(Back ream)</u>	<u>Minimum Depth of Cover</u>
2" to 6"	5 feet
>6" to 15"	12 times hole diameter (e.g. 6-inch hole means 6 feet minimum depth)
>15" to 36"	15 feet or greater

C) Under fully controlled access roadway installations, the minimum depth for transverse crossings shall be 15 feet under any pavement (ramps or thru lanes)

D) An overbore (backream diameter) shall not be more than 1.5 times the outside diameter of the pipe or encasement under any highway for pipes 12 inches in diameter or less. For pipes with outer diameter larger than 12 inches, the overbore may be no larger than outer diameter of pipe plus 6 inches. An overbore exceeding 1.5 times greater than the outside diameter of the pipe or encasement may be considered if the encroachment agreement includes a statement signed and sealed by a licensed North Carolina Professional Engineer indicating that an overbore in excess of 1.5 times the outside diameter of the pipe or encasement will appropriately arch and no damage will be done to the pavement or sub-grade.

E) Directional boring is allowed beneath embankment material in naturally occurring soil.

F) Any parallel installation utilizing the directional boring method shall be made at a minimum depth of three (3') feet (cover) below the ground surface and outside the theoretical 1:1 slope from the existing edge of pavement except where the parallel installation crosses a paved roadway.

G) All directional bores shall maintain ten (10) feet minimum (clear) distance from the nearest part of any structure, including but not limited to bridges, footings, pipe culverts or box culverts. Directional bores are not allowed beneath bridge footings, culvert wingwall footings, slope protection or retaining walls.

H) The tip of the drill string shall have a cutter head.

I) Detection wire shall be installed with non-ferrous material.

J) HDPE pipe installed by directional boring shall not be connected to existing pipe or fittings for one (1) week from the time of installation to allow tensional stresses to relax.



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- B 3** Multiple conduits may be directionally bored with the same bore as long as the diameter of the annular space and conduit is no greater than 6" or the annular space is no greater than 2" clear from carrier pipe whichever is less.
- B 4** All borings shall be made as perpendicular to the roadway as much as practicable. Any bore exceeding 6 inches shall be cased.
- B 5** All bores shall provide the following vertical clearances unless stipulated elsewhere: 3' from pavement subgrade, 3' from ditch line, 3' clear from culverts/conduit, otherwise 3' from finished grade.
- B 6** Pavement settlement, buckling, or heaving shall be repaired as directed by the District Engineer. This may include removal and replacement of pavement and subbase, associated overlay, pavement marking replacement, etc. as directed by the District Engineer. Any replacements shall be done with like or better materials as approved by the District Engineer.

Pavement Repair

- PR 4** The minimum pavement design for pavement repair shall be according to NCDOT Standard Drawing 654.01 (<https://connect.ncdot.gov/resources/Specifications/2018StandardRdwyDrawings/Division%206%20Asphalt%20Bases%20and%20Pavements.pdf>) and shall include a mechanical overlay extent to be a minimum of 25 feet each side of the pavement repair area OR as directed by the District Engineer.
- PR 5** Pavement cuts shall be repaired the same day the cuts are made unless an asphalt patch cannot be accomplished the same day due to material availability or time restrictions. When the asphalt patch is not feasible, the following apply:
 - A) The pavement cut shall be filled to the surface with ABC stone or Flowable Fill per NCDOT's Standard and Specifications.
 - B) Once the cut is filled, a minimum ¾-inch steel plate shall be placed and pinned to prevent moving. Plates shall be designed large enough to span a minimum of 1-foot on all sides on the pavement cut.
 - C) When flowable fill is used, it shall cure for 24 hours prior to any asphalt material placement. Flowable fill bleed water shall not be present during paving operations. Paving shall not cause damage (shoving, distortion, pumping, etc.) to the flowable fill.
 - D) Install and leave "BUMP" signs according to MUTCD until the steel plate has been removed. Once the flowable fill has cured, remove the steel plate, and mill/fill according to the directions of the District Engineer.
 - E) All pavement cuts must be sealed with NCDOT approved sealant to prevent future pavement separation or cracking.
- PR 6** Where an installation is by open cut, the pavement shall be neatly sawed or cut full depth. Patches must be regular, square or rectangular in width (4 straight sides), i.e. no irregular edges. The replacement base and surface shall extend a minimum of one foot beyond the excavated opening on each side. Pavement cuts shall be repaired with bituminous material the same day the cut is made. If the open cut is required for more than one day, the Encroaching party shall place a temporary bituminous patch at the close of each day's operations, and place the permanent repair immediately upon completion of the open cut operations. Concrete or aggregate repairs are prohibited for cuts in bituminous pavement surfaces.



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- PR 7 Any pavement damaged because of settlement of the pavement or damaged by equipment used to perform encroachment work, shall be re-surfaced to the satisfaction of the District Engineer. This may include the removal of pavement and a 50' mechanical overlay. All pavement work and pavement markings (temporary and final) are the responsibility of the Encroaching Party.

- I 1 The Encroaching party shall notify the District Engineer's office within 2 business days after construction is complete. The District Engineer may perform a construction inspection. Any deficiencies may be noted and reported to the encroaching party to make immediate repairs or resolve any issues to restore the right-of-way to a similar condition prior to construction, including pavement, signage, traffic signals, pavement markings, drainage, structures/pipes, or other highway design features.

ROUTE NC ~~US-168~~ (Caratoke) PROJECT Boswood Estates COUNTY OF Currituck STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

THREE PARTY RIGHT OF WAY

-AND-
Boswood Estates, LLC

ENCROACHMENT AGREEMENT ON
PRIMARY AND SECONDARY SYSTEM

PO Box 116, Barco, NC 27917

-AND-
Currituck County

THIS AGREEMENT, made and entered into this the 9 day of March, 2021, by and between the Department of Transportation, party of the first part; and Currituck County party of the second part; and _____ 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 NC Route(s) US-168, located Approximately 1/2-mile northwest of the Intersection of US 168 and US 158 in Barco, on the east side of the road

with the construction and/or erection of: Connection to existing watermain by means of wet tap to extend a new watermain
To provide service to a new 14 lot subdivision

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 POLICIES AND PROCEDURES FOR ACCOMMODATING UTILITIES ON HIGHWAY RIGHTS-OF-WAY, 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 Utility Agent 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.

WITNESS:

Kaitlin Brooks
Kaitlin Brooks
Timmons Group

WITNESS:

Currituck County

Leeann Walton, Clerk to the Board



DEPARTMENT OF TRANSPORTATION

BY:

[Signature]
DIVISION ENGINEER
DISTRICT ENGINEER

Boswood Estates, LLC

Stuart Innes, Member

Second Party

Currituck County

Ben Stikeleather, County Manager

Third Party

WORKFORCE SAFETY PLAN

FOR ENCROACHMENT ACTIVITIES: COVID-19

EFFORTS THE N.C. TRANSPORTATION INDUSTRY IS TAKING TO STOP THE SPREAD OF COVID-19

The North Carolina Department of Transportation (NCDOT) and their partners expect all parties involved in the delivery of transportation projects to abide by the guidelines issued from the Centers for Disease Control and Prevention (CDC) and the North Carolina Department of Health and Human Services (NCDHHS).

Response to COVID-19 is rapidly evolving; new information and guidelines may be issued from the CDC, NCDHHS, or other state or federal agencies. NCDOT and their partners should review the current CDC and NCDHHS guidance, including the resources listed at the end of this document, for up-to-date information on how to respond to COVID-19. Additional guidelines may be issued by state or federal agencies that should be followed in addition to the guidance included in this document.

Though certain Americans with Disabilities Act (ADA) requirements have been relaxed in response to the pandemic, employers must still maintain all information about employee illness as a confidential medical record in compliance with the ADA. If an employee is suspected of having or tests positive for COVID-19, it is essential that management keep the identity of the employee and details related to the employee's health confidential.

Below are precautions required by NCDOT and from encroaching parties and their contractors performing construction within NCDOT Rights of Way. The term employee refers to any person on a job site within NCDOT right of way for the purpose of constructing or inspecting the work related to construction of a facility under an approved encroachment agreement and where that employee may or may not be under employment by or under contract to NCDOT.

EMPLOYEE WELLNESS

- If an employee has not yet reported to work and develops any COVID-19 symptoms (i.e. fever, coughing, or shortness of breath) — STAY HOME and immediately:
 - Call a health care provider
 - Self-Isolate
 - Communicate with your supervisor
 - Remain calm and follow all instructions from your health care provider
- Employees who appear to have acute respiratory illness symptoms (i.e. cough, shortness of breath) upon arrival to work, or become sick during the day, should be separated from others and sent home immediately. The potentially affected employees should immediately follow the steps outlined above, which includes immediately contacting a health care provider.
- Should an employee show symptoms of acute respiratory illness or be diagnosed with COVID-19, all other employees who have worked in close proximity to the affected employee during the last 14

days and all encroachment points of contact indicated at the end of this plan should be notified of potential exposure to the disease without identifying the affected employee.

- Consideration should be given to employees at “High Risk” of severe illness from COVID-19, who, per NCDHHS, include employees:
 - Over 65 years of age, **OR**
 - With underlying health conditions including heart disease, lung disease, or diabetes, **OR**
 - With weakened immune system
- “High Risk” Employees should be given the opportunity to discuss alternate work arrangements/duties with their employer or take leave according to their company policies.
- For guidance on confirmed positive tests for COVID-19, refer to the most recent version of the “COVID-19 Guidance for Employees on Encroachment Job Sites within NCDOT Right of Way” located on last page of this plan.

PERSONAL HYGIENE

- Clean hands often by washing with soap and water for 20 seconds. If soap and water are not available and hands are not visibly dirty, an alcohol-based hand sanitizer that contains 60%-95% alcohol may be used.
- Avoid touching your eyes, nose, mouth, or other parts of your face.
- Do not breathe, cough, or sneeze on another person or into the open air. Employees should cover their noses and mouth with a tissue when coughing or sneezing (or an elbow or shoulder if no tissue is available).
- A facemask for covering nose and mouth is encouraged on the job site.
- Appropriate gloves are encouraged while performing functions of the job.

CLEANING/DISINFECTING

- Wash stations and/or hand sanitizer are encouraged on each project site.
- Appropriate cleaning staff should clean frequently touched surfaces and objects with disinfectants at a minimum of once per day.
 - Office/buildings: door knobs, light switches, phones, computers/keyboards, copy machines, elevator buttons, toilets, faucets, sinks, countertops, paper towel dispensers, desktops, handrails, folders, vending machines, counters, tables, cabinets/knobs, etc.
 - Shop Yard/Jobsite: vehicle/equipment door handles, keys, gear shifts, steering wheel/operator controls and levers, fuel pump dispensers, touch points on machinery, etc.
 - Electronic equipment: cell phones, computers, keyboards, etc.
- Appropriate cleaning staff should sanitize/disinfect facilities and work areas after persons suspected/confirmed to have COVID-19 have been in the facility or work area.

- It is recommended to close off access to areas used by the ill persons and wait as long as practical, 24 hours if possible, before beginning cleaning and disinfection to minimize potential for exposure to respiratory droplets. Open outside doors and windows to increase air circulation in the area if possible.
- Appropriate cleaning staff should clean and disinfect all areas used by the ill persons, focusing especially on frequently touched surfaces.

GENERAL

- Increase communication measures between all parties regarding schedule, daily activities, etc. to reduce/minimize worker exposure in accordance with but not limited to the requirements below.
- Minimize on-site personnel such as subcontractors, work crews, QC personnel, and inspection staff to those required for that day's activities. If work is postponed or cancelled, immediately notify appropriate parties.
- Practice "Social Distancing" whenever feasible. Social Distancing is designed to limit the spread of a disease by reducing the opportunities for close contact between people. All personnel have the responsibility to remind each other to stay 6 feet or more apart. Examples of Social Distancing include:
 - Reducing face-to-face exposure by using conference calls and video conferencing
 - If an in-person meeting is absolutely required and cannot be rescheduled or attended remotely, the meeting is limited to a maximum of 10 people while maintaining Social Distancing of 6 feet or more.
 - Avoiding unnecessary travel
- Do not congregate at lunch or breaks. Bringing your lunch is encouraged.
- No communal coolers or drink stations are allowed. Supervisors should confirm with employees prior to beginning work for appropriate hydration and nutrition availability to employees for the duration of the employee's shift and without direct contact with others on the job site.
- First line of communication should be by phone, rather than in-person.
- Do not shake hands.
- Do not share iPads, tablets, pens, or clipboards for signing or any other purpose. Take pictures as proof of attendance at meetings.
- Sharing of Personal Protective Equipment (PPE) is strictly prohibited.
- Vehicles, equipment, and tools
 - Limit the number of people riding in a vehicle together.
 - Wipe down and disinfect vehicles after each trip.
 - As much as possible, do not share tools or equipment. If a tool or piece of equipment must be shared, the parts of it that are touched should be sanitized between uses.

RETURN TO WORK

- The following criteria must be followed for an employee who is tested for Covid-19, or asked to self-quarantine by health officials, or has contact with another employee with a positive test result to return to work:
 - at least a 14-day quarantine; **OR**
 - release by a health care provider.
- In accordance with CDC guidance, the following criteria must be followed for an employee with a positive test result to return to work:
 - at least 14 days from positive test notification; **AND**
 - at least 3 days (72 hours) have passed since recovery defined as resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms (e.g., cough, shortness of breath); **AND**
 - at least 7 days have passed since symptoms first appeared.

NCDOT may require certification of fitness to work from a health care provider.

ADDITIONAL RESOURCES


NCDOT and their partners should review the CDC and NCDHHS resources listed below for up-to-date information on how to respond to COVID-19. Additional guidelines may be issued by state or federal agencies that should be followed in addition to the guidelines included in this document.

- NCDHHS COVID-19 Resources:
 - <https://www.ncdhhs.gov/divisions/public-health/coronavirus-disease-2019-covid-19-response-north-carolina>
- NIOSH Communicable Disease Emergency Policy
 - <https://oshr.nc.gov/policies-forms/workplace-wellness/communicable-disease-emergency>
- OSHA Guidance on Preparing Workplaces for COVID-19
 - <https://www.osha.gov/Publications/OSHA3990.pdf>
- CDC COVID-19 Resources:
 - <https://www.cdc.gov/coronavirus/2019-ncov/index.html>

AGREEMENT

The encroaching party shall adhere to the requirements of this plan in order to continue work under their approved encroachment agreement. Violations to this plan could result in the violating entity not being allowed to continue work or all work ceasing as determined by the NCDOT District Engineer or Resident Engineer.

PROJECT POINTS OF CONTACT

NCDOT
DocuSigned by:

757334A95F0C4D5...
Name: _____
Phone #: (252) 331-4737





Encroaching Party (Primary Contact)

Name: Stuart Innes (Boswood Estates LLC)
Phone #: 252-619-6919

**Primary Contractor to Encroaching Party
(Point of Contact)**

Name: _____
Phone #: _____

*Contractor has not yet been chosen. Project will be bid out and awarded after all required permits have been obtained by developer.

COVID-19 Guidance for Employees on Encroachment Job sites within NCDOT Right of Way				
Relationship to Confirmed POSITIVE Test		CONTACT GROUP		
		What YOU Should Do	What your CREW Should Do <i>Exposure within 6' and longer than 10 minutes</i>	What PROJECT SITE Personnel Should Do <i>No exposure within 6' and longer than 10 minutes</i>
Employee		<p>Notify your supervisor</p> <p>Self-quarantine for 14 days</p>	<p>Advise of POSITIVE test without identifying the affected employee*</p> <p>Directly exposed crew self-quarantine for 14 days</p> <p>Continue hygiene & disinfecting measures</p>	<p>Advise of POSITIVE test without identifying the affected employee*</p> <p>Site personnel without direct contact may continue onsite work or follow their company policy</p> <p>Continue hygiene & disinfecting measures</p>
Direct Contact <i>Interaction with an infected person within 6' and longer than 10 minutes</i>		<p>Self-quarantine for 14 days</p>	<p>Advise of POSITIVE test without identifying the affected employee*</p> <p>Crew may continue onsite work or follow their company policy</p> <p>Continue hygiene & disinfecting measures</p>	<p>Advise of POSITIVE test *</p> <p>Continue hygiene & disinfecting measures</p>
Secondary Contact		<p>You may continue onsite work or follow your company policy</p> <p>Continue hygiene & disinfecting measures</p>	<p>Continue hygiene & disinfecting measures</p>	<p>Continue hygiene & disinfecting measures</p>
Two or more Persons Removed from Contact		<p>Continue hygiene & disinfecting measures</p>	<p>Continue hygiene & disinfecting measures</p>	<p>Continue hygiene & disinfecting measures</p>
*Notification Protocol <i>(Comply with HIPAA & ADA confidentiality requirements)</i>	NCDOT employee / agent tests POSITIVE	<p>NCDOT District Engineer/Resident Engineer notifies Encroaching Party's primary point of contact and Contractor Point of Contact, CDC and, if Resident Engineer has oversight for the job site, FHWA any Consultant Firms working for NCDOT</p> <p>Encroaching party representative notifies other Contractors, Sub-Contractors and Suppliers with exposed Employees</p>		
	Encroaching Party or Contract crew member on job site tests POSITIVE	<p>Encroaching party representative or Contractor point of contact notifies appropriate NCDOT District Engineer or Resident Engineer and all other Contractors, Sub-Contractors and Suppliers with exposed Employees</p> <p>NCDOT notifies CDC, and as appropriate, FHWA and any Consultant Firms working for NCDOT</p>		



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

April 15, 2021

Driveway Permit ID:
D011-027-21-00010


Subject: Driveway Permit – Boswood Estates
County: Currituck

Pacific Beach Construction, LLC
P.O. Box 116
Barco, NC 27917

Dear Applicant,

Attached for your files is a copy of a Residential / Commercial Driveway Permit, which has been properly executed. Please note any comments, which may appear on the permit form.

Sincerely,

DocuSigned by:

757334A95F0C4D5...

David Otts, P.E.
District One Engineer

Attachments

Cc: Division Engineer (W/Attachments)
County Maintenance Engineer (W/Attachments)



Street and Driveway Access Permit General Provisions

Our mission is to safely and efficiently manage and facilitate, as much as practicable, the accommodation of street and driveway accesses along NCDOT Highways, while protecting our public infrastructure.

Pre-Construction Notices

- PCN 1** Approval may be rescinded upon failure to follow any of the provisions in this permit and may be considered a violation of the Street and Driveway Access Permit.
- PCN 2** Prior to beginning work, the Applicant shall contact the Road Maintenance Supervisor for the corresponding county, to provide or verify the proposed pipe diameter. Please see the last page of the General Provisions for Contact Information
- PCN 3** Prior to beginning work, it is the requirement of the Applicant to contact the appropriate Utility Companies involved and make arrangements to adjust or relocate any utilities that conflict with the proposed work.
- PCN 4** It shall be the responsibility of the Applicant to determine the location of utilities within the permitted area. NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act requires underground utilities to be located by calling 811 prior to construction. The Applicant shall be responsible for notifying other utility owners and providing protection and safeguards to prevent damage or interruption to existing facilities and maintain access to them.
- PCN 7** Trenching, bore pits and/or other excavations shall not be left open or unsafe overnight.

Legal & Right-of-Way

- RW 1** This approval and associated plans and supporting documents shall not be interpreted to allow any design change or change in the intent of the design by the Owner, Design Engineer, or any of their representatives. Any revisions or changes to these approved plans or intent for construction must be obtained in writing from the District Engineer's office or their representative prior to construction or during construction, if an issue arises during construction to warrant changes.
- RW 2** NCDOT does not guarantee the right of way on this road, nor will it be responsible for any claim for damages brought about by any property owner by reason of this installation. It is the responsibility of the Applicant to verify the right of way.
- RW 3** Prior to the approval of any privately maintained facility within NCDOT right of way which the State of North Carolina is not the fee simple owner, written permission that each and every property owner affected by the installation shall be provided to NCDOT by the Applicant. (See corresponding attachment.)
- RW 4** Applicant shall be responsible for obtaining all necessary permanent and/or temporary construction, drainage, utility and/or sight distance easements.
- RW 6** No commercial advertising shall be allowed within NCDOT Right of Way.



Street and Driveway Access Permit General Provisions

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Work Zone Traffic Control

TC 2 WORK ZONE TRAFFIC CONTROL QUALIFICATIONS AND TRAINING PROGRAM

All personnel performing any activity inside the highway right of way are required to be familiar with the NCDOT Maintenance / Utility Traffic Control Guidelines (MUTCG). No specific training course or test is required for qualification in the Maintenance /Utility Traffic Control Guidelines (MUTCG).

All flagging, spotting, or operating Automated Flagger Assist Devices (AFAD) inside the highway right of way requires qualified and trained Work Zone Flaggers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

All personnel involved with the installation of Work Zone Traffic Control devices inside the highway right of way are required to be qualified and trained Work Zone Installers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

All personnel in charge of overseeing work zone Temporary Traffic Control operations and installations inside the highway right of way are required to be qualified and trained Work Zone Supervisors. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

For questions and/or additional information regarding this training program please refer to <https://connect.ncdot.gov/projects/WZTC/Pages/Training.aspx> or call the NCDOT Work Zone Traffic Control Section (919) 814-5000.

TC 3 The party of the second part shall employ traffic control measures that are in accordance with the prevailing federal, state, local, and NCDOT policies, standards, and procedures. These policies, standards, and procedures include, but are not limited to the following:

A) Manual on Uniform Traffic Control Devices (MUTCD) – North Carolina has adopted the MUTCD to provide basic principles and guidelines for traffic control device design, application, installation, and maintenance. North Carolina uses the MUTCD as a minimum requirement where higher supplemental standards specific to North Carolina are not established. Use fundamental principles and best practices of MUTCD (Part 6, Temporary Traffic Control).

B) NCDOT Maintenance / Utility Traffic Control Guidelines – This document enhances the fundamental principles and best practices established in MUTCD Part 6, Temporary Traffic Control, incorporating NCDOT-specific standards and details. It also covers important safety knowledge for a wide range of work zone job responsibilities.

TC 4 If the Traffic Control Supervisor determines that portable concrete barrier (PCB) is required to shield a hazard within the clear zone, then PCB shall be designed and sealed by a licensed North Carolina Professional Engineer. PCB plans and design calculations shall be submitted to the District Engineer for review and approval prior to installation.

TC 5 Ingress and egress shall be maintained to all businesses and dwellings affected by the project. Special attention shall be paid to police, EMS and fire stations, fire hydrants, secondary schools, and hospitals.



Street and Driveway Access Permit General Provisions

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- TC 9** Work requiring lane or shoulder closures shall not be performed on both sides of the road simultaneously within the same area.
- TC 10** Any work requiring equipment or personnel within 5 feet of the edge of any travel lane of an undivided facility and within 10 feet of the edge of any travel lane of a divided facility shall require a lane closure with appropriate tapers per current NCDOT Roadway Standard Drawings or MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- TC 13** Any pavement markings that are damaged or obliterated shall be restored by the Applicant at no expense to NCDOT.
- TC 14** Sidewalk closures shall be installed as necessary. Pedestrian traffic shall be detoured around these closures and shall be signed appropriately and in accordance with The American with Disabilities Act Accessibility Guidelines. The Applicant must adhere to the guidelines for accommodating pedestrians in encroachment work zones as described in the NCDOT Pedestrian Work Zone Accommodations Training found at <https://www.youtube.com/watch?v=AOuYa5IW3dg&feature=youtu.be>
- TC 15** Parking and material storage shall not be allowed along the shoulders of any NCDOT roadways, any NCDOT roadways along the route and adjacent to the route.
- TC 16** During periods of construction inactivity, place approved traffic control drums 3' minimum from the existing travel way.
- TC 17** Any violation of the Traffic Control provisions will result in the termination of the permit application and liquidated damages in the amount of \$2,000 per hour or any portion thereof and will be assessed by the District Engineer's office.

Environmental Regulations

- EC 1** The Applicant shall comply with all applicable Federal, State and local environmental regulations and shall obtain all necessary Federal, State and local environmental permits, including but not limited to, those related to sediment control, stormwater, wetland, streams, endangered species and historical sites. Additional information can be obtained by contacting the NCDOT Roadside Environmental Engineer regarding the North Carolina Natural Heritage Program or the United States Fish and Wildlife Services. Contact the Division Roadside Environmental Engineer's Office at (252) 621-6310
- EC 2** When surface area in excess of one acre will be disturbed, the Applicant shall submit a Sediment and Erosion Control Plan which has been approved by the appropriate regulatory agency or authority prior to beginning any work on the Right of Way. Failure to provide this information shall be grounds for suspension of operations. Proper temporary and permanent measures shall be used to control erosion and sedimentation in accordance with the approved sediment and erosion control plan.



Street and Driveway Access Permit General Provisions

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- EC 3** The Verification of Compliance with Environmental Regulations (VCER-1) form is required for all non-utility permits or any utility permits when land disturbance within NCDOT right of way exceeds 1 acre. The VCER-1 form must be PE sealed by a NC registered professional engineer who has verified that all appropriate environmental permits (if applicable) have been obtained and all applicable environmental regulations have been followed.
- EC 4** All erosion control devices and measures shall be constructed, installed, maintained, and removed by the Applicant in accordance with all applicable Federal, State, and Local laws, regulations, ordinances, and policies. Permanent vegetation shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer. All areas disturbed (shoulders, ditches, removed accesses, etc.) shall be graded and seeded in accordance with the latest NCDOT Standards Specifications for Roads and Structures and within 15 calendar days with an approved NCDOT seed mixture (all lawn type areas shall be maintained and reseeded as such). Seeding rates per acre shall be applied according to the Division Roadside Environmental Engineer. Any plant or vegetation in the NCDOT planted sites that is destroyed or damaged as a result of this permit shall be replaced with plants of like kind or similar shape.
- EC 5** No trees within NCDOT shall be cut without authorization from the Division Roadside Environmental Engineer. An inventory of trees measuring greater than 4 caliper inches (measured 6" above the ground) is required when trees within C/A right of way will be impacted by the encroachment installation. Mitigation is required and will be determined by the Division Roadside Environmental Engineer's Office.
- EC 6** Prior to installation, the Applicant shall contact the District Engineer to discuss any environmental issues associated with the installation to address concerns related to the root system of trees impacted by boring or non-utility construction of sidewalk, roadway widening, etc.
- EC 7** The applicant is responsible for identifying project impacts to waters of the United States (wetlands, intermittent streams, perennial streams and ponds) located within the NCDOT right-of-way. The discharge of dredged or fill material into waters of the United States requires authorization from the United States Army Corps of Engineers (USACE) and certification from the North Carolina Division of Water Quality (NCDWQ). The applicant is required to obtain pertinent permits or certification from these regulatory agencies if construction of the project impacts waters of the United States within the NCDOT right-of-way. The applicant is responsible for complying with any river or stream Riparian Buffer Rule as regulated by the NCDWQ. The Rule regulates activity within a 50-foot buffer along perennial streams, intermittent streams and ponds. Additional information can be obtained by contacting the NCDWQ or the USACE.
- EC 8** The contractor shall not begin the construction until after the traffic control and erosion control devices have been installed to the satisfaction of the District Engineer or their agent.
- EC 9** The contractor shall perform all monitoring and record keeping and any required maintenance of erosion and sediment control measures to maintain compliance with stormwater regulations.
- EC 10** Vegetative cover shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer.



Street and Driveway Access Permit

General Provisions

Our mission is to safely and efficiently manage and facilitate, as much as practicable, the accommodation of street and driveway accesses along NCDOT Highways, while protecting our public infrastructure.

General

- G 1** An executed copy of the Street and Driveway Access Permit, provisions and approved plans shall be present at the construction site at all times. If safety or traffic conditions warrant such an action, NCDOT reserves the right to further limit, restrict or suspend operations within the right of way.
- G 2** The Applicant and/or their Contractor shall comply with all OSHA requirements. If OSHA visits the work area associated with this permit, the District Office shall be notified by the encroaching party immediately if any violations are cited.
- G 3** Any REVISIONS marked in RED on the attached non-PE sealed plans shall be incorporated into and made part of the approved permit.
- G 4** All disturbed areas are to be fully restored to current NCDOT minimum roadway standards or as directed by the District Engineer or their representative. Disturbed areas within NCDOT Right-of-Way include, but not limited to, any excavation areas, pavement removal, drainage or other features.
- G 5** The Applicant shall notify the District Engineer or their representative immediately in the event any drainage structure is blocked, disturbed or damaged. All drainage structures disturbed, damaged or blocked shall be restored to its original condition as directed by the District Engineer or their representative.
- G 8** Unless specified otherwise, during non-working hours, equipment shall be located away from the job site or parked as close to the right of way line as possible and be properly barricaded in order not to have any equipment obstruction within the Clear Recovery Area. Also, during non-working hours, no parking or material storage shall be allowed along the shoulders of any state-maintained roadway.
- G 9** No access to the job site, parking or material storage shall be allowed along or from the Control of Access Roadway.
- G 10** Guardrail removed or damaged during construction shall be replaced or repaired to its original condition, meeting current NCDOT standards or as directed by the District Engineer or their representative.
- G 12** Right of Way monuments disturbed during construction shall be referenced by a registered Land Surveyor and reset after construction.
- G 13** All Traffic signs moved during construction shall be reinstalled as soon as possible to the satisfaction of the District Engineer or their representative.
- G 16** All driveways disturbed during construction shall be returned to a state comparable with the condition of the driveways prior to construction.
- G 17** Conformance with driveway permit review should be required in conjunction with this encroachment agreement. In the event there is a conflict between the driveway permit and the encroachment agreement, the District Engineer should resolve the conflict and notify the parties involved.



Street and Driveway Access Permit

General Provisions

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- G 18** If the approved method of construction is unsuccessful and other means are required, prior approval must be obtained through the District Engineer before construction may continue.
- G 22** Strict compliance with the Policy on Street and Driveway Access to North Carolina Highways manual shall be required.
- G 23** The Applicant may delegate the performance of certain provisions of this agreement to contractors or other parties. However, this shall not in any way release the Applicant from its obligations to the terms and provisions of the permit.

Engineering

- E 1** All traffic control, asphalt mixes, structures, construction, workmanship and construction methods, and materials shall be in compliance with the most-recent versions of the following resources: ASTM Standards, Manual on Uniform Traffic Control Devices, NCDOT Utilities Accommodations Manual, NCDOT Standard Specifications for Roads and Structures, NCDOT Roadway Standard Drawings, NCDOT Asphalt Quality Management System manual, and the approved plans.

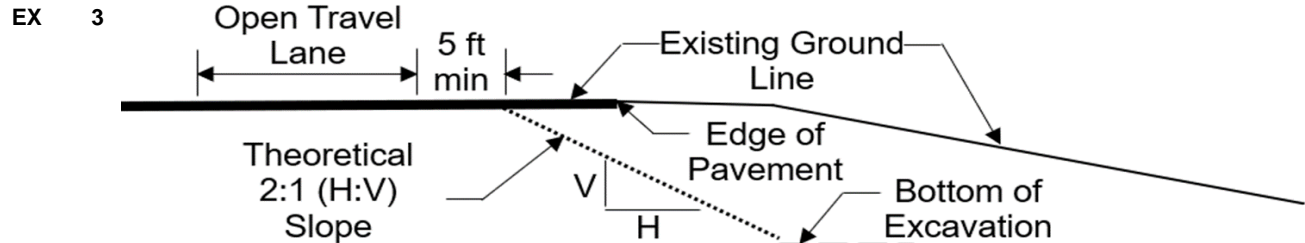
Excavation

- EX 1** Excavation material shall not be placed on pavement.
- EX 2** It is the responsibility of the applicant and their contractor to prevent any mud/dirt from tracking onto the roadway. Any dirt which may collect on the roadway pavement from equipment and/or truck traffic on site shall be immediately removed to avoid any unsafe traffic conditions.
- EX 3** The utility shall be installed within 5 feet of the right of way line and outside the 5-foot minimum from travel lane plus theoretical 2:1 slope from the edge of pavement to the bottom of the nearest excavation wall for temporary shoring. If the 2:1 slope plus 5 feet requirement above is met for traffic, then temporary shoring is typically only necessary to protect roadways from damage when a theoretical 1:1 slope from the edge of pavement intersects the nearest excavation wall. This rule of thumb should be used with caution and does not apply to all subsurface conditions, surcharge loadings and excavation geometries. Situations where this 1:1 slope is not recommended include groundwater depth is above bottom of excavation or excavation is deeper than 10 feet or in Type B or C soils as defined by OSHA Technical Manual. Temporary shoring may be avoided by locating trenches, bore pits, and other excavations far enough away from the open travel lane, edge of pavement and any existing structure, support, utility, property, etc. to be protected. Temporary shoring is required when a theoretical 2:1 slope from the bottom of excavation will intersect the existing ground line less than 5 feet from the outside edge of an open travel lane as shown in the figure below or when a theoretical 2:1 slope from the bottom of excavation will intersect any existing structure, support, utility, property, etc. to be protected.



Street and Driveway Access Permit General Provisions

Our mission is to safely and efficiently manage and facilitate, as much as practicable, the accommodation of street and driveway accesses along NCDOT Highways, while protecting our public infrastructure.



EX 4 Temporary shoring shall be designed and constructed in accordance with current NCDOT Standard Temporary Shoring provisions (refer to <https://connect.ncdot.gov/resources/Specifications/Pages/2018-Specifications-and-Special-Provisions.aspx> and see SP11 R002).

A) Temporary excavation shoring, such as sheet piling, shall be installed. The design of the shoring shall include the effects of traffic loads. The shoring system shall be designed and sealed by a licensed North Carolina Professional Engineer. Shoring plans and design calculations shall be submitted to the Division Engineer for review and approval prior to construction. (See NCDOT Utilities Accommodations Manual for more information on requirements for shoring plans and design calculations.) Trench boxes shall not be accepted as temporary shoring and will not be approved for use in instances where shoring is required to protect the highway, drainage structure, and/or supporting pavement or structure foundation.

B) All trench excavation inside the limits of the theoretical one-to-one slope, as defined by the policy, shall be completely backfilled and compacted at the end of each construction day. No portion of the trench shall be left open overnight. Any excavation that is not backfilled by the end of the workday must address any safety and traveling public concerns including accommodations for bicycles, pedestrians and persons with disabilities.

C) At the discretion of the District Engineer, a qualified NCDOT inspector shall be on the site at all times during construction. The applicant shall reimburse NCDOT for the cost of providing the inspector. If NCDOT cannot supply an inspector, the applicant (not the utility contractor) should make arrangements to have a qualified inspector, under the supervision of a licensed North Carolina Professional Engineer, on the site at all times. The Professional Registered Engineer shall certify that the utility was installed in accordance with the permit and that the backfill material meets the Statewide Borrow Criteria.

D) The length of parallel excavation shall be limited to the length necessary to install and backfill one joint of pipe at a time, not to exceed twenty-five (25) feet.



Street and Driveway Access Permit General Provisions

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- EX 5** The trench backfill material shall meet the Statewide Borrow Criteria. The trench shall be backfilled in accordance with Section 300-7 of the latest NCDOT Standard Specifications for Roads and Structures, which basically requires the backfill material to be placed in layers not to exceed 6 inches loose and compacted to at least 95% of the density obtained by compacting a sample in accordance with AASHTO T99 as modified by DOT.
- EX 6** All material to a depth of 8 inches below the finished surface of the subgrade shall be compacted to a density equal to at least 100% of that obtained by compacting a sample of the material in accordance with AASHTO T99 as modified by the Department. The subgrade shall be compacted at a moisture content which is approximately that required to produce the maximum density indicated by the above test method. The contractor shall dry or add moisture to the subgrade when required to provide a uniformly compacted and acceptable subgrade. The option to backfill any trenches with dirt or either #57 stone or #78 stone with consolidation with a plate tamp and without a conventional density test may be pursued with the written consent of the District Engineer. If this option is exercised, then roadway ABC stone and asphalt repair as required will also be specified by the District Engineer.
- EX 7** All roadway sections, ditch lines and slopes, and shoulders affected by the operations under this encroachment shall be restored to the satisfaction of the District Engineer.

Pavement Repair

- PR 7** Any pavement damaged because of settlement of the pavement or damaged by equipment used to perform the permitted work, shall be re-surfaced to the satisfaction of the District Engineer. This may include the removal of pavement and a 50' mechanical overlay. All pavement work and pavement markings (temporary and final) are the responsibility of the Applicant.



Street and Driveway Access Permit General Provisions

Our mission is to safely and efficiently manage and facilitate, as much as practicable, the accommodation of street and driveway accesses along NCDOT Highways, while protecting our public infrastructure.

Post-Construction

- I 1 The Applicant shall notify the Roadway Maintenance Supervisor's office within 2 business days after construction is complete. The Roadway Maintenance Supervisor may perform a construction inspection. Any deficiencies may be noted and reported to the Applicant to make immediate repairs or resolve any issues to restore the right-of-way to a similar condition prior to construction, including pavement, signage, traffic signals, pavement markings, drainage, structures/pipes, or other highway design features.

Roadway Maintenance Supervisor Contact Information by County:

Camden
Shelton James
(252) 331-4778

Currituck
Reggie Saunders
(252) 453-2721

Dare
Mark Gawlinski
(252) 473-2990

Gates
Michael Vann
(252) 357-0844

Pasquotank
Darrell Wilkins
(252) 331-4778

Perquimans
Kenny White
(252) 426-4170

APPLICATION IDENTIFICATION		N.C. DEPARTMENT OF TRANSPORTATION	
Driveway Permit No. D011-027-21-00010	Date of Application 4/15/21	STREET AND DRIVEWAY ACCESS	
County: Currituck		PERMIT APPLICATION	
Development Name: Boswood Estates			

LOCATION OF PROPERTY:

Route/Road: US 168 (Caratoke Highway)

Exact Distance 0.55 Miles N S E W
 Feet

From the Intersection of Route No. US 168 and Route No. US 158 Toward Moyock

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	Pacific Beach Construction, LLC	NAME	Kaitlin Brooks
SIGNATURE		SIGNATURE	
ADDRESS	PO Box 116	ADDRESS	1805 West City Dr., UNITE
	Barco, NC 27917 Phone No. 252-619-6919		Elizabeth City, NC 27909

AUTHORIZED AGENT		WITNESS	
COMPANY	Boswood Estates, LLC	NAME	Kaitlin Brooks
SIGNATURE		SIGNATURE	
ADDRESS	PO Box 116	ADDRESS	1805 West City Dr., UNITE
	Barco, NC 27917 Phone No. 252-619-6919		Elizabeth City, NC 27909

APPROVALS

APPLICATION RECEIVED BY DISTRICT ENGINEER

SIGNATURE DATE

APPLICATION APPROVED BY LOCAL GOVERNMENTAL AUTHORITY (when required)

SIGNATURE TITLE DATE

APPLICATION APPROVED BY NCDOT

DocuSigned by:

District Engineer

4/15/2021

SIGNATURE

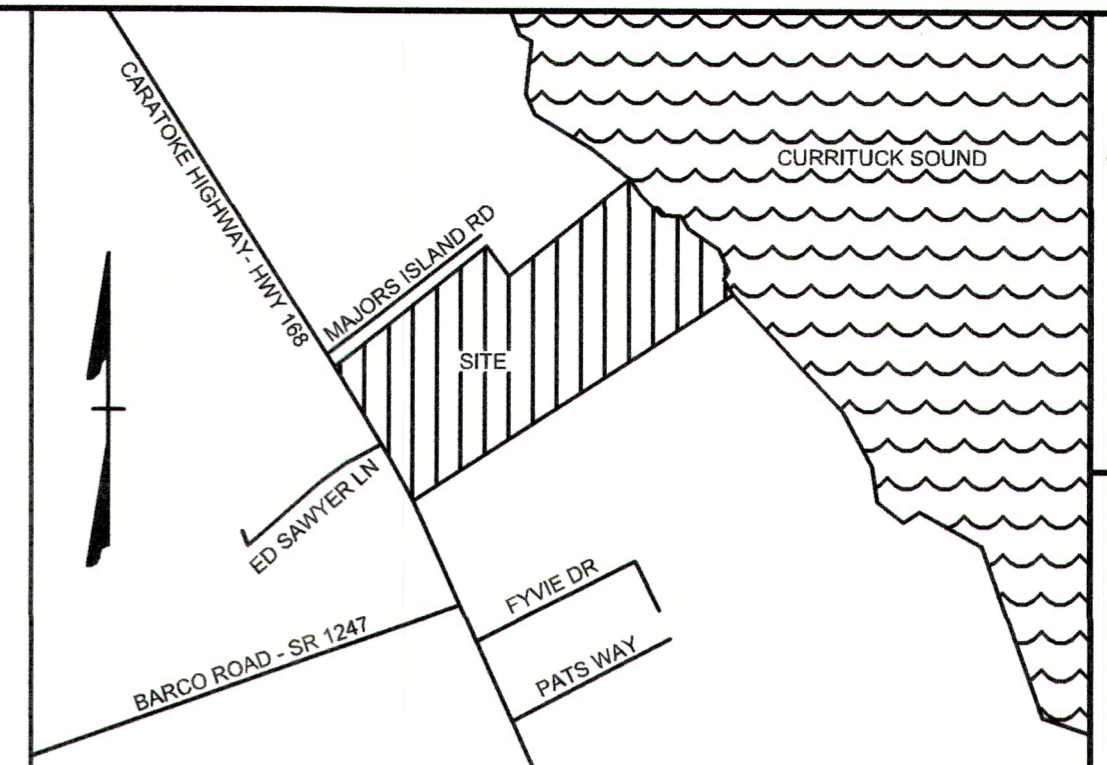
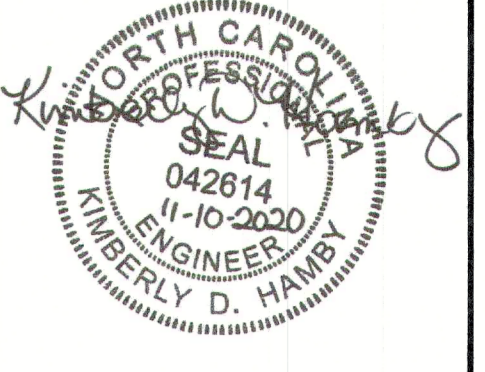
TITLE

DATE

INSPECTION BY NCDOT

SIGNATURE TITLE DATE

COMMENTS:



VICINITY MAP
NO SCALE

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REVISION DESCRIPTION	DATE
	11/10/2020

DRAWN BY: **BCD**
DESIGNED BY: **KDH**
CHECKED BY: **KDH**
SCALE: **1" = 60'**

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-16552

BOSWOOD ESTATES CONSTRUCTION DRAWINGS
CRAWFORD TOWNSHIP - CURRITUCK COUNTY - NORTH CAROLINA

GRADING & DRAINAGE PLAN

JOB NO. **44845**
SHEET NO. **C3.0**

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NOTE: IF PROJECT IS CONSTRUCTED IN TWO PHASES AS PROPOSED, GRADING AND DRAINAGE WITHIN SHADED AREA SHALL NOT BE CONSTRUCTED WITH PHASE 1. SIDEWALK AND ROADWAYS SHALL TERMINATE AS INDICATED FOR PHASE 1.

CONTRACTOR SHALL PROVIDE CONNECTION FROM FILL DITCH TO PROPOSED SWALE @ INV = 3.75
INV 1.31

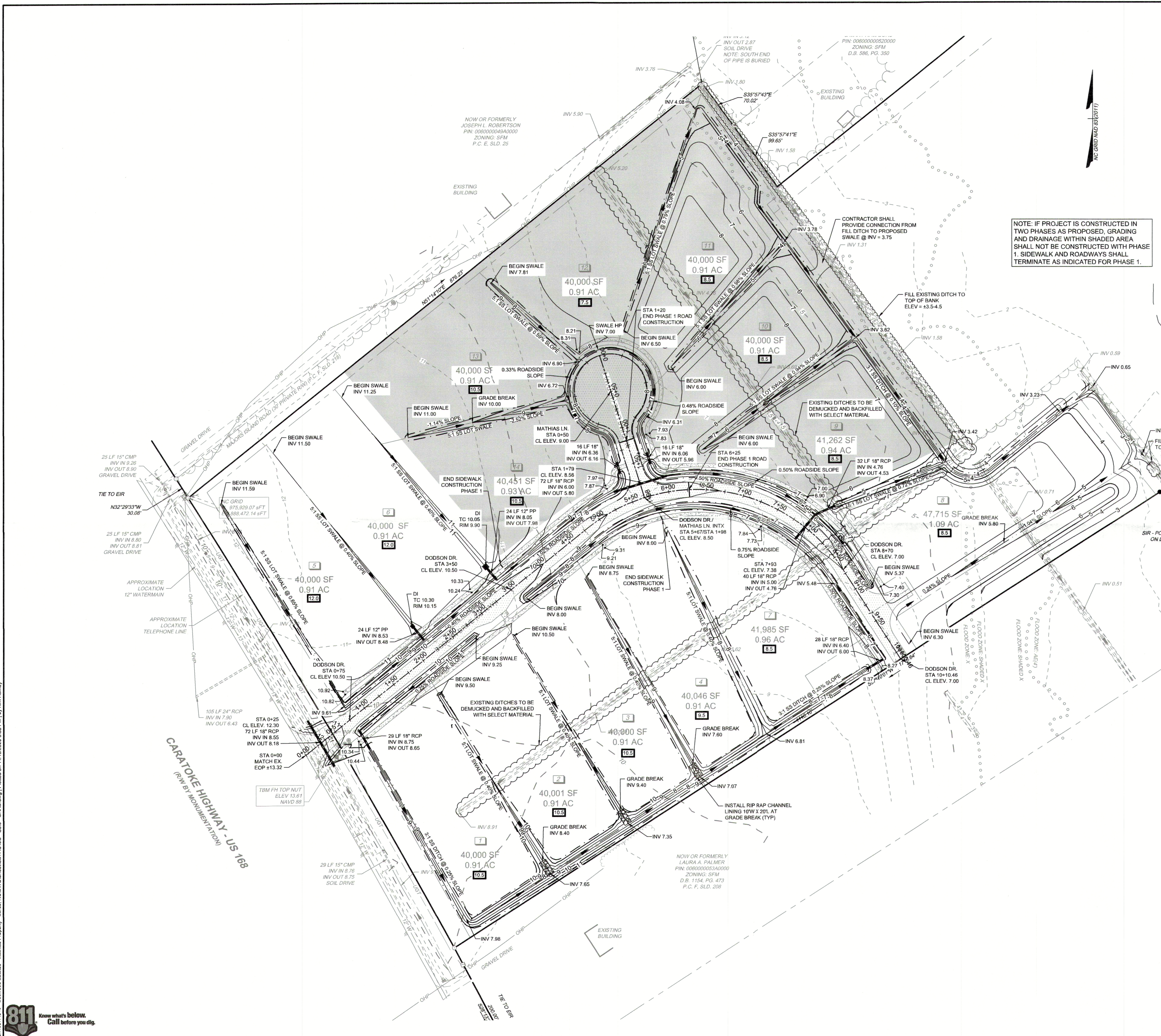
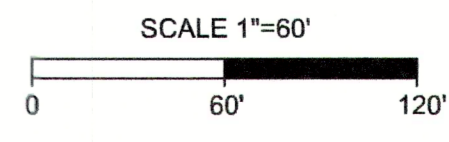
FILL EXISTING DITCH TO TOP OF BANK
ELEV = 43.5-4.5

EXISTING DITCHES TO BE DEMUCKED AND BACKFILLED WITH SELECT MATERIAL

FILL 10' OF DITCH TO TOP OF BANK

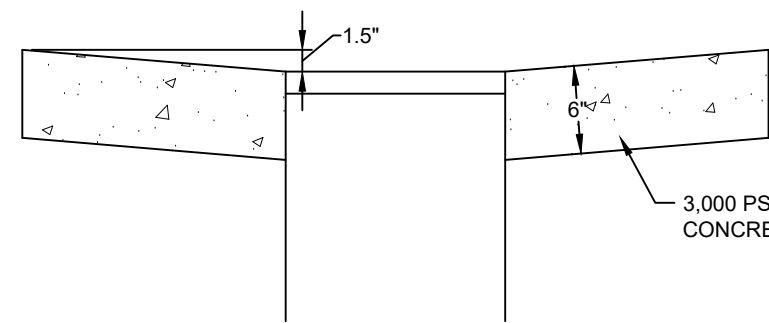
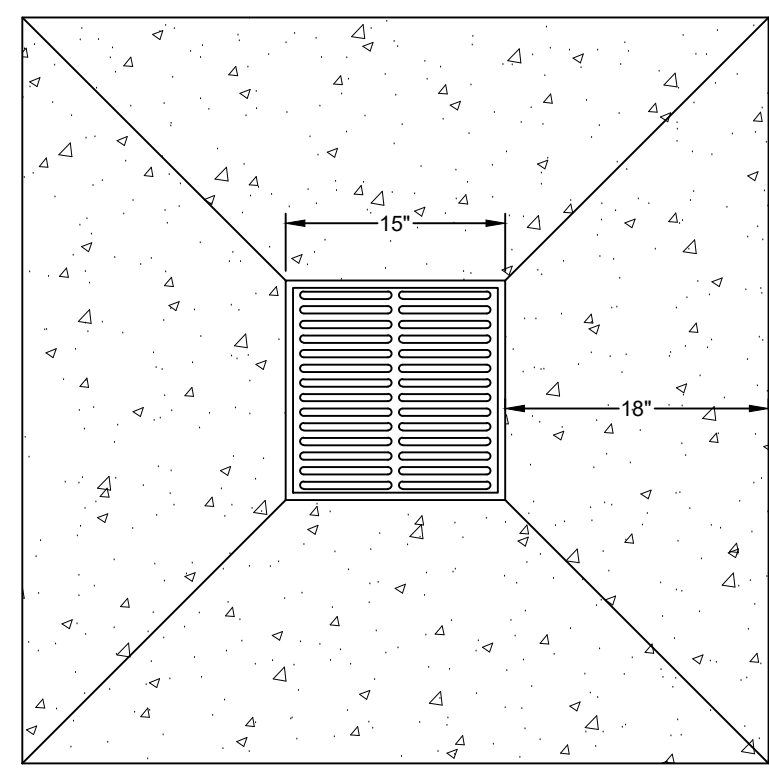
LEGEND

- BENCHMARK
- EXISTING IRON PIPE (EIP)
- EXISTING IRON REBAR (EIR)
- SET IRON REBAR (SIR)
- CALCULATED POINT
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING SIGN / MARKER
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- EXISTING TELEPHONE PEDESTAL
- EXISTING MAILBOX
- EXISTING BOLLARD
- PROPERTY BOUNDARY LINES
- PROPERTY EXTENSION LINES
- RIGHT OF WAY LINES
- EXISTING EDGE OF PAVEMENT
- EXISTING TELEPHONE LINE
- 12" W
- EXISTING WATERLINE
- EXISTING OVERHEAD POWER
- EXISTING CENTER OF DITCH
- EXISTING TOP OF BANK
- EXISTING STORM PIPE
- EXISTING APPROXIMATE SHORELINE
- EXISTING FENCE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- FEMA FLOOD ZONE
- 404 WETLAND LINE
- CAMA LINE
- TREELINE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED TOP OF BANK LINE
- PROPOSED DITCH CENTERLINE
- PROPOSED STORM PIPE
- HOUSE PAD ELEVATION
- PHASE 2 DRAINAGE WORK

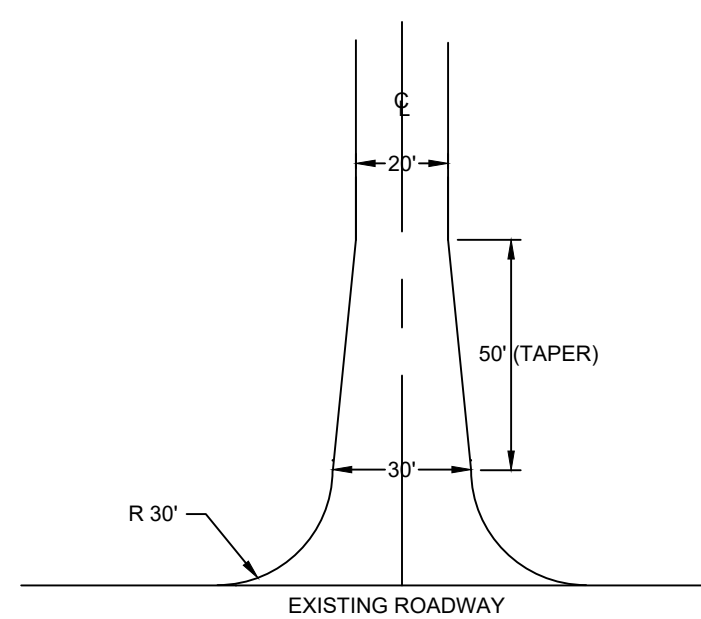


S:\10944845 - Boswood Estates - Mathias Property - Barco, NC\DWG\Sheet\C3.0 - GRAD.dwg | Plotted on 11/10/2020 3:38 PM | by Kim Hamby



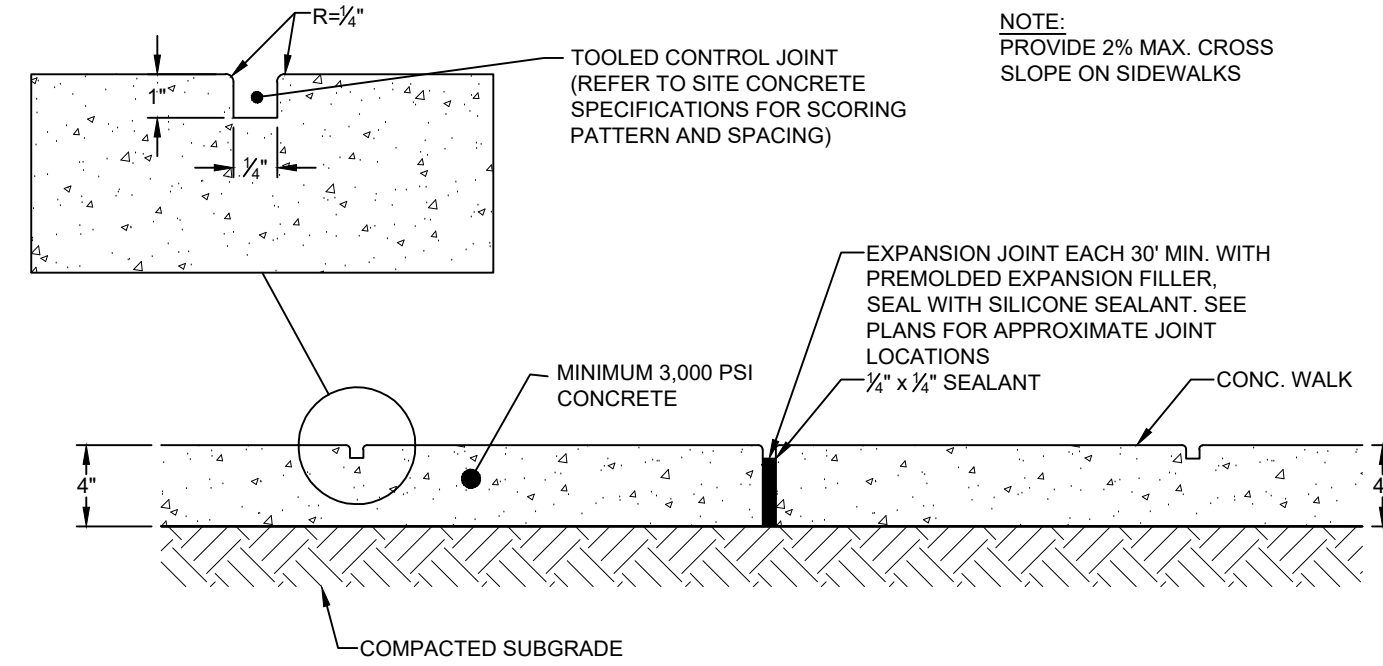
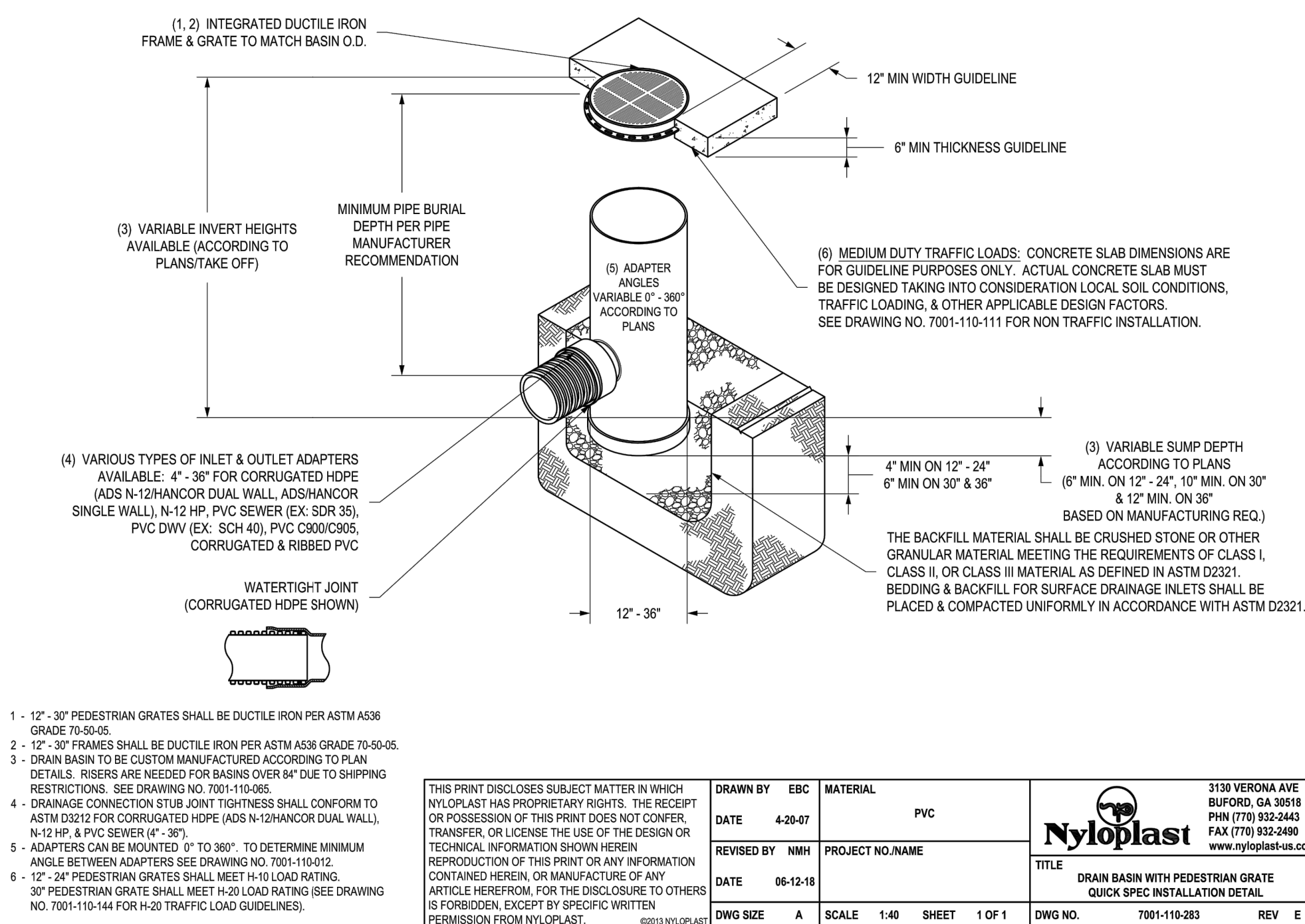


DRAIN BASIN COLLAR
NO SCALE

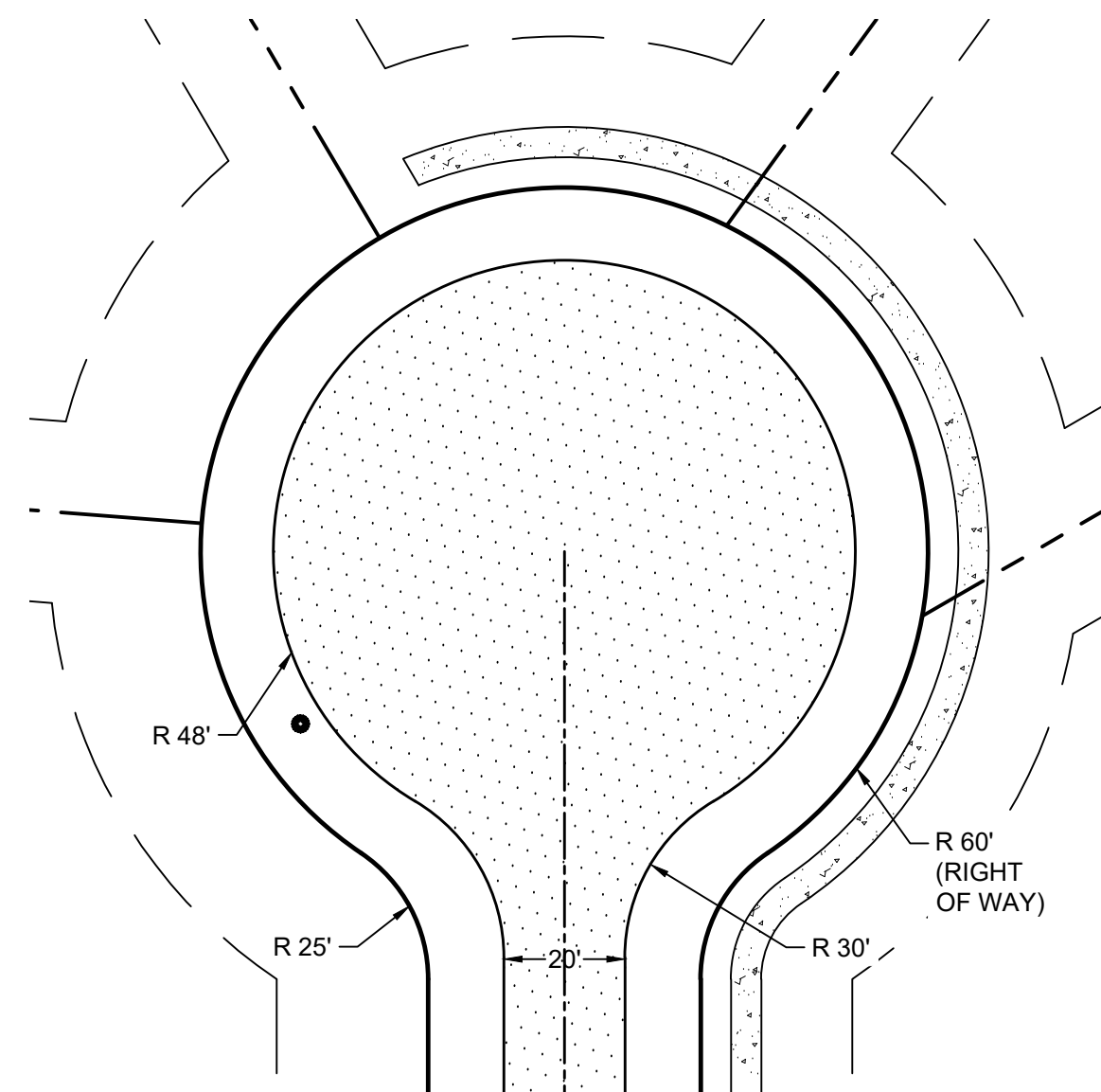


ENTRANCE ROAD DETAIL
NO SCALE

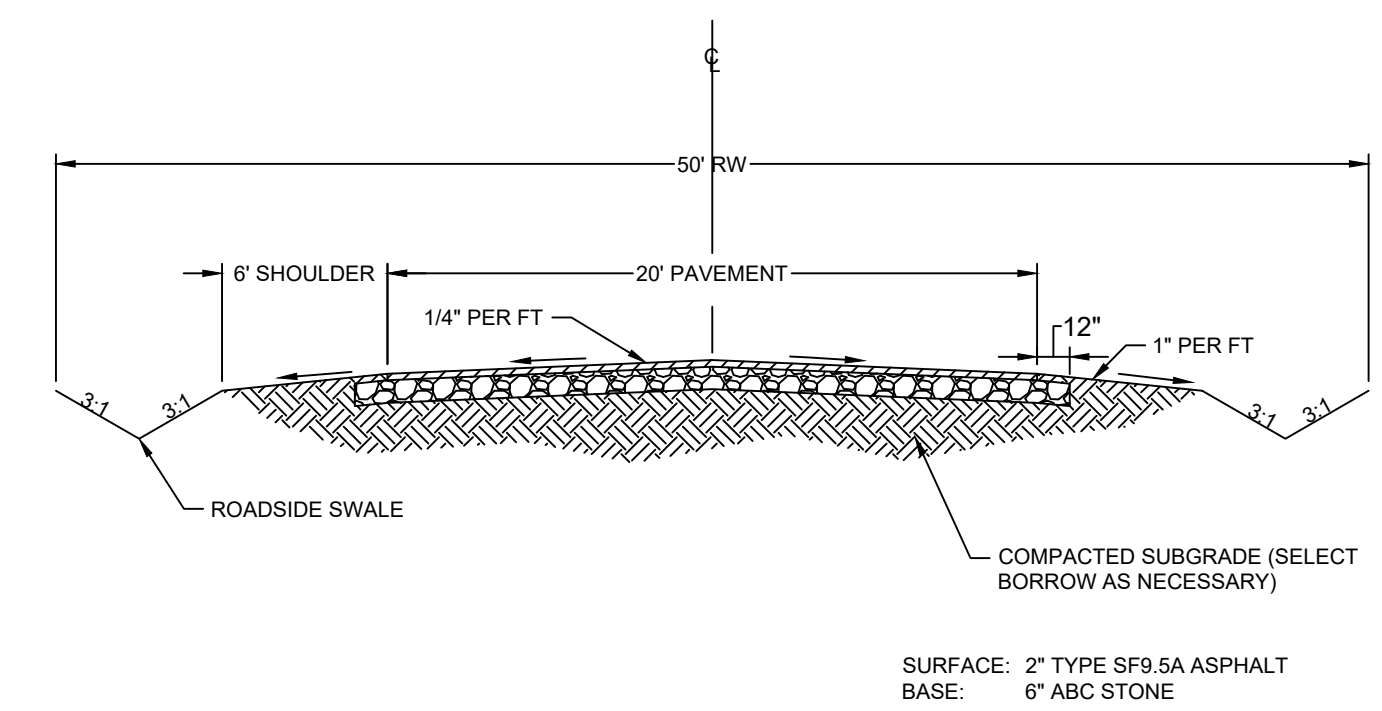
NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE



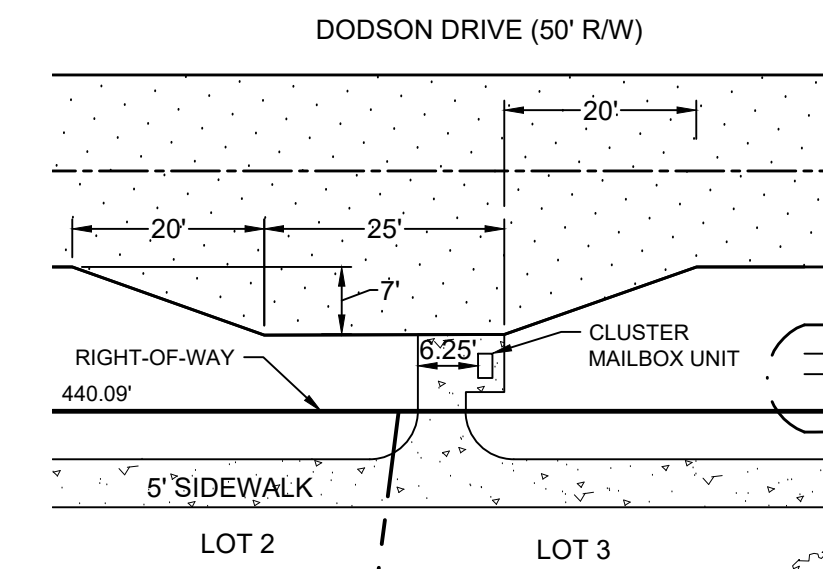
CONCRETE SIDEWALKS
NO SCALE



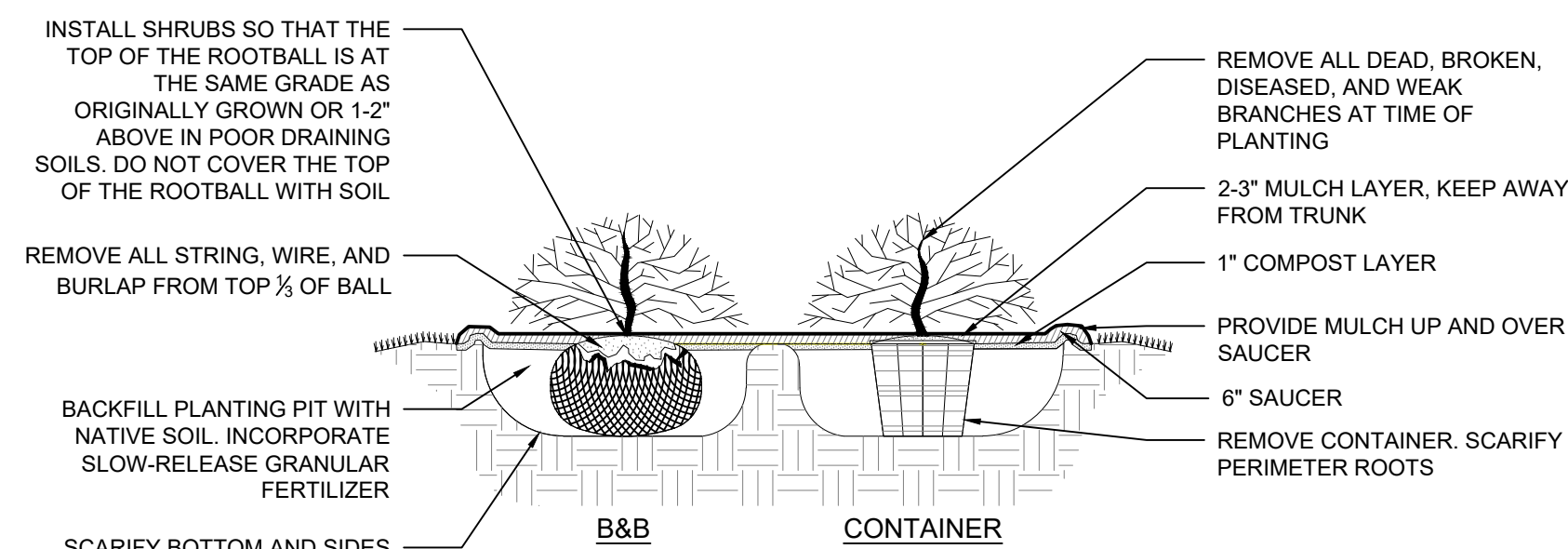
CUL-DE-SAC DETAIL
SCALE: 1"=30'



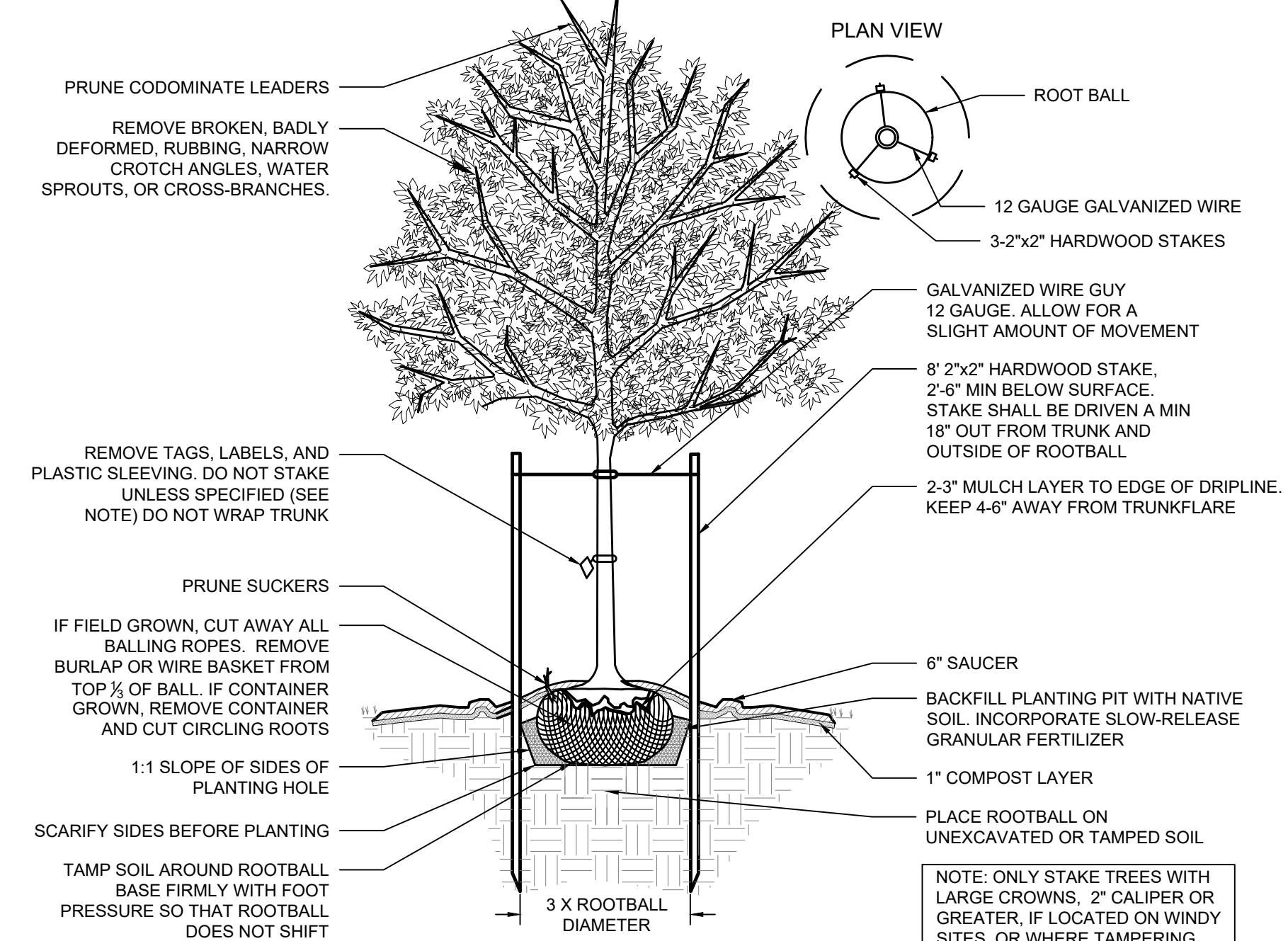
STREET SECTION
NO SCALE



CLUSTER MAILBOX DETAIL
SCALE: 1"=20'



SHRUB DETAIL
NO SCALE



CANOPY TREE DETAIL
NO SCALE



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REVISION DESCRIPTION	DATE
	11/10/2020

DESIGNED BY
BCD

CHECKED BY
KDH

SCALE
NO SCALE

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

BOSWOOD ESTATES CONSTRUCTION DRAWINGS
CRAWFORD TOWNSHIP - CURRITUCK COUNTY - NORTH CAROLINA

JOB NO.	44845
SHEET NO.	C5.0

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1805 West City Drive
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www.timmons.com

February 1, 2021

Ms. Caitlin Spear, Asst. District Engineer
N. C. Department of Transportation
1929 North Road Street
Elizabeth City, NC 27909

RE: Driveway Permit
Boswood Estates
Project No. 44845

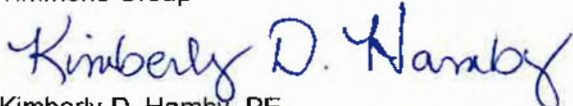
Dear Ms. Spear:

Enclosed for your review and approval, please find the following items associated with the development of the Boswood Estates residential subdivision:

1. The original and Three (3) copies of the executed Street and Driveway Access Permit Application.
2. One (1) complete set of plans.
3. Four (4) copies of sheets C3.0 showing the grading of the proposed driveway.

Thank you for your attention to this project. If you have any questions concerning this submission, please do not hesitate to contact me at (252) 621-5029.

Sincerely,
Timmons Group


Kimberly D. Hamby, PE
Sr. Project Manager

cc: file
Mr. Stuart Innes

BOSWOOD ESTATES
CRAWFORD TOWNSHIP, CURRITUCK COUNTY, NORTH CAROLINA

DRAINAGE NARRATIVE

OCTOBER 30, 2020

PREPARED BY:



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Drainage Narrative – Boswood Estates

Boswood Estates is a proposed residential subdivision containing 14 one-acre lots. The site is currently vacant agricultural land and wooded wetlands. The overall tract is 26.94 acres. There are 10.66 acres of wooded wetlands. Of the 10.66 acres, 6.75 acres is considered to be Coastal Wetlands and the remaining 3.91 acres are 404 Jurisdictional Wetlands. An area containing 9.51 acres of wetlands will be dedicated to a non-profit leaving 17.43 acres for the subdivision.

The site is bounded by US 168 (Caratoke Highway) on the west, several residential properties and agricultural land to the north and south, and a single residence and the Coinjock Bay to the east. The site will be served by public water and sanitary sewer will be provided by individual on-site septic systems.

Construction activities for development of the subdivision will include roadway construction with sidewalks, a watermain extension, and construction of an on-site drainage network.

The existing site topography provides for good surface runoff as a ridge near the highway frontage ranging from elevation 10 to elevation 12 falls toward the east, or the rear of the property, where the field grades drop below elevation 5. One west to east field ditch drains to the east and intersects with a ditch draining from north to south approximately 200' off the woods line. The ditch continues to the east where it connects to the existing ditch along the woods line. This existing ditch has been dug to drain to the south; however, ditch inverts are so low that the ditch is holding water. All of these ditches will be filled as part of the grading for the site. Another ditch parallel to the wetlands in the southeast corner where the field steps east approximately 200' has also been over-dug and is holding water to its banks with inverts that drop below elevation zero and top of bank elevations at approximately elevation 2. This ditch will be plugged before it leaves the site and will receive all runoff from the new development. The plug in the ditch will cause the eastern ditch bank to act as a level spreader as stormwater will top the low bank along the wetland limits and sheet flow into the wooded wetlands at non-erosive rates. Maximum discharge through the wetlands during a 10-year storm is estimated to be 11.85 cfs at a velocity of only 0.06 fps. This estimate is based on a stormwater model developed for the subdivision using PCSWMM software.

Drainage within the subdivision has been designed in accordance with the Currituck County Stormwater Manual and NCDEQ regulations. Swales on lot lines will be constructed with 5:1 side slopes and the ditches along the rear of the lots and the roadside will have 3:1 side slopes. The lot line swales for the lots on the north side of the entrance road (Lots 5, 6, 13 & 14), where elevations are higher, will drain toward the roadside ditch. Where sidewalks are located between the swales and the roadside ditch, drainage structures and pipes will be used to convey the runoff under the sidewalk. The roadside ditches will drain to the east and along the north side of lot 8 into the ditch that will overtop and discharge into the wetlands. The lots on the east side of the cul-de-sac and south side of the entrance road will all drain to ditches along the rear of the lots that ultimately drain to the same discharge point.

The Currituck County Stormwater Manual requires that residential developments limit discharge of the 10-year, 24-hour storm in the post-development condition to the level of discharge from the 2-year, 24-hour storm on the vacant site as if the site is wooded. The Manual does allow for an Alternative Stormwater Runoff Storage Analysis and Downstream Drainage Capacity Analysis when the discharge capacity of the receiving channel can accept the additional runoff without creating a rise in water surface elevations of more than 0.01'. As this project is directly adjacent to the Coinjock Bay, which is open to the expansive Currituck Sound, no rise is anticipated in the receiving water body. This conclusion is supported by the use of Hydraflow Hydrographs to estimate the pre and post

development runoff volumes for each of the required storms. The pre-development, as wooded, 2-year storm runoff is estimated to be only 836 cubic feet. The post-development, 10-year runoff volume is estimated to be 51,825 cubic feet. The difference of 50,989 cf would equal 0.01' of increased water surface elevation if applied to 117 acres or less. The area of Coinjock Bay well exceeds 3,000 acres.

Impervious coverage for the project will include 31,016 sf of roadway, 10,178 sf of concrete sidewalk and cluster mailbox station, and 8,000 sf of allowable coverage per lot. The resulting impervious area is 153,194 sf or 20.18% of the 17.43 acres being subdivided.

The disturbed area for the entire project will not exceed 16.4 acres. A small portion of the disturbed area adjacent to the highway right-of-way will sheet flow into the existing NCDOT roadside ditch. The ditch will be protected by silt fence along the top of bank of the ditch. The rest of the disturbed area will drain to a skimmer basin sized to accommodate construction of the subdivision in a single phase; however, the developer is reserving the right to develop in two phases. Appropriate notes are shown on the plan to address phased construction. Other erosion control measures include silt fence, gravel construction entrance, inlet protection and stone check dams.

Appendix A

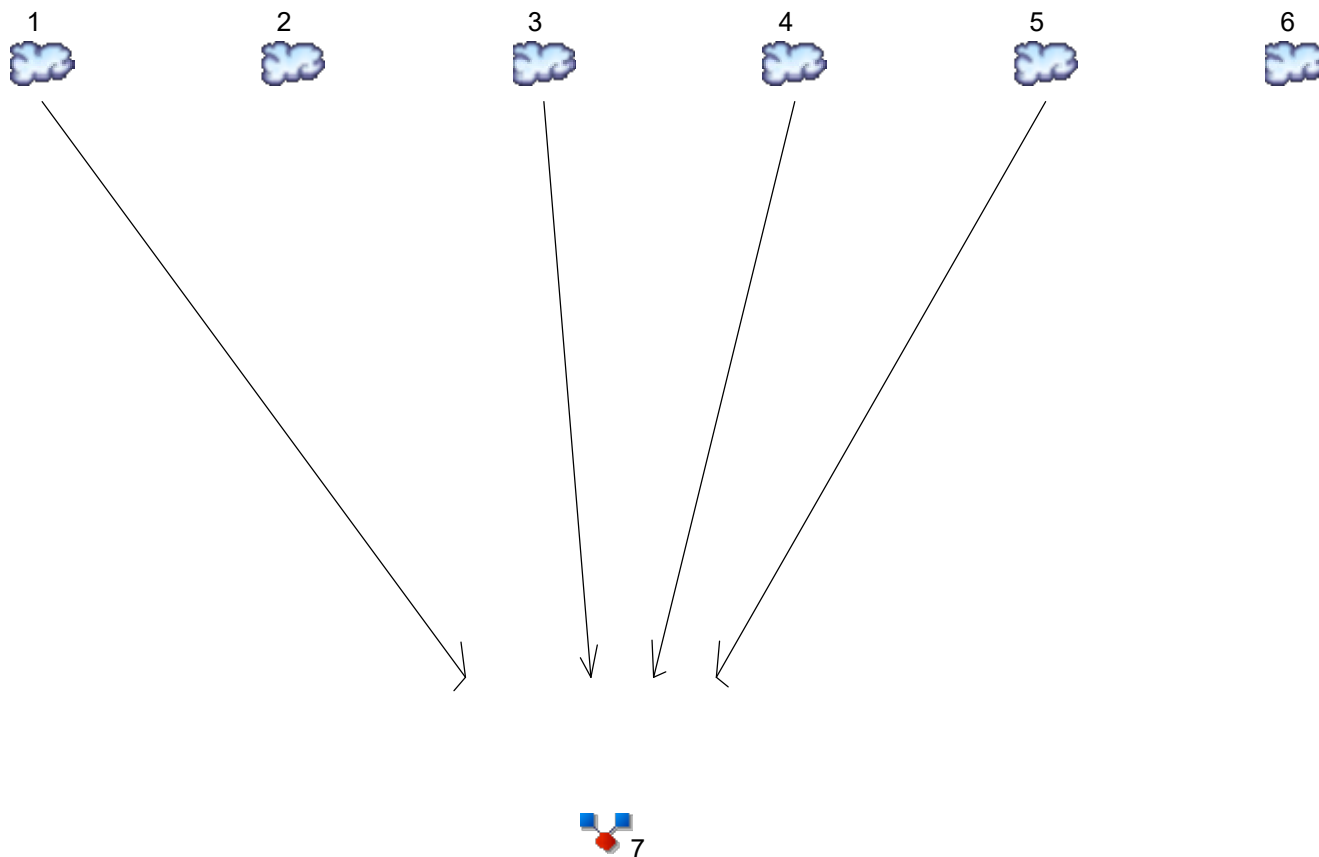
Stormwater & Erosion Control Calculations

- Hydraflow Results
- Curve Number Calculations
- PCSwmm Results
- Skimmer Basin Calculations



Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019



Legend

<u>Hyd.</u>	<u>Origin</u>	<u>Description</u>
1	SCS Runoff	S1
2	SCS Runoff	S2
3	SCS Runoff	S3
4	SCS Runoff	S\$
5	SCS Runoff	S5
6	SCS Runoff	S6
7	Combine	Combined_S1_S3_S4_S5

Hydrograph Return Period Recap

Hydroflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	----	----	1.297	----	----	----	----	----	----	S1
2	SCS Runoff	----	----	0.394	----	----	----	----	----	----	S2
3	SCS Runoff	----	----	0.267	----	----	----	----	----	----	S3
4	SCS Runoff	----	----	0.322	----	----	----	----	----	----	S4
5	SCS Runoff	----	----	0.248	----	----	----	----	----	----	S5
6	SCS Runoff	----	----	0.100	----	----	----	----	----	----	S6
7	Combine	1, 3, 4, 5,	----	1.612	----	----	----	----	----	----	Combined_S1_S3_S4_S5

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	SCS Runoff	1.297	6	774	15,799	----	----	----	S1	
2	SCS Runoff	0.394	6	762	3,913	----	----	----	S2	
3	SCS Runoff	0.267	6	744	1,918	----	----	----	S3	
4	SCS Runoff	0.322	6	744	2,317	----	----	----	S4	
5	SCS Runoff	0.248	6	744	1,784	----	----	----	S5	
6	SCS Runoff	0.100	6	750	836	----	----	----	S6	
7	Combine	1.612	6	768	21,818	1, 3, 4, 5,	----	----	Combined_S1_S3_S4_S5	
Boswood PRE.gpw					Return Period: 2 Year			Tuesday, 09 / 8 / 2020		

Hydrograph Report

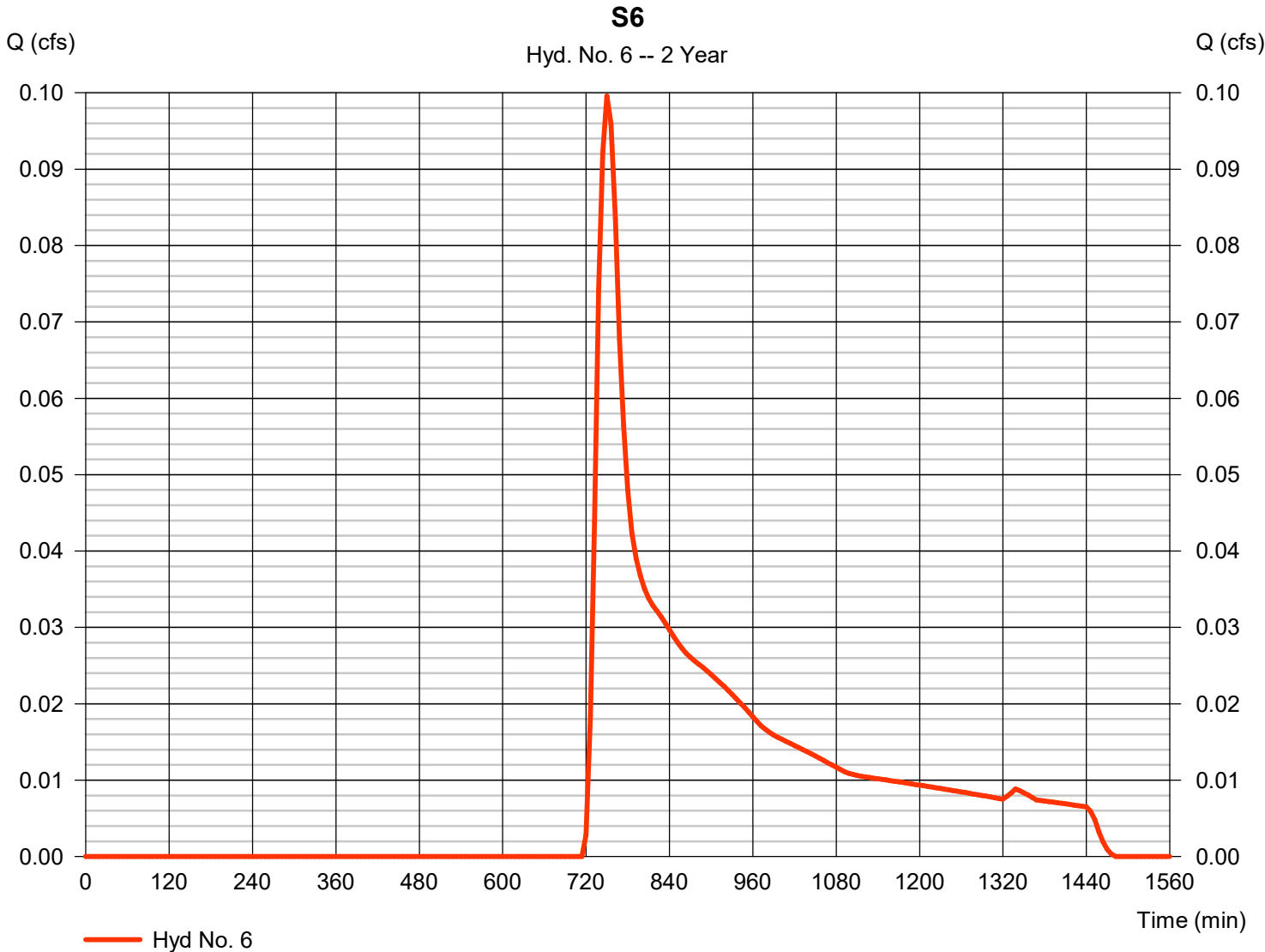
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019

Tuesday, 09 / 8 / 2020

Hyd. No. 6

S6

Hydrograph type	= SCS Runoff	Peak discharge	= 0.100 cfs
Storm frequency	= 2 yrs	Time to peak	= 750 min
Time interval	= 6 min	Hyd. volume	= 836 cuft
Drainage area	= 0.527 ac	Curve number	= 55
Basin Slope	= 0.8 %	Hydraulic length	= 251 ft
Tc method	= LAG	Time of conc. (Tc)	= 23.43 min
Total precip.	= 3.76 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydraflow Rainfall Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019

Tuesday, 09 / 8 / 2020

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	-----
2	69.8703	13.1000	0.8658	-----
3	0.0000	0.0000	0.0000	-----
5	79.2597	14.6000	0.8369	-----
10	88.2351	15.5000	0.8279	-----
25	102.6072	16.5000	0.8217	-----
50	114.8193	17.2000	0.8199	-----
100	127.1596	17.8000	0.8186	-----

File name: SampleFHA.idf

$$\text{Intensity} = B / (T_c + D)^E$$

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.69	4.61	3.89	3.38	2.99	2.69	2.44	2.24	2.07	1.93	1.81	1.70
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.57	5.43	4.65	4.08	3.65	3.30	3.02	2.79	2.59	2.42	2.27	2.15
10	7.24	6.04	5.21	4.59	4.12	3.74	3.43	3.17	2.95	2.77	2.60	2.46
25	8.25	6.95	6.03	5.34	4.80	4.38	4.02	3.73	3.48	3.26	3.07	2.91
50	9.04	7.65	6.66	5.92	5.34	4.87	4.49	4.16	3.88	3.65	3.44	3.25
100	9.83	8.36	7.30	6.50	5.87	5.36	4.94	4.59	4.29	4.03	3.80	3.60

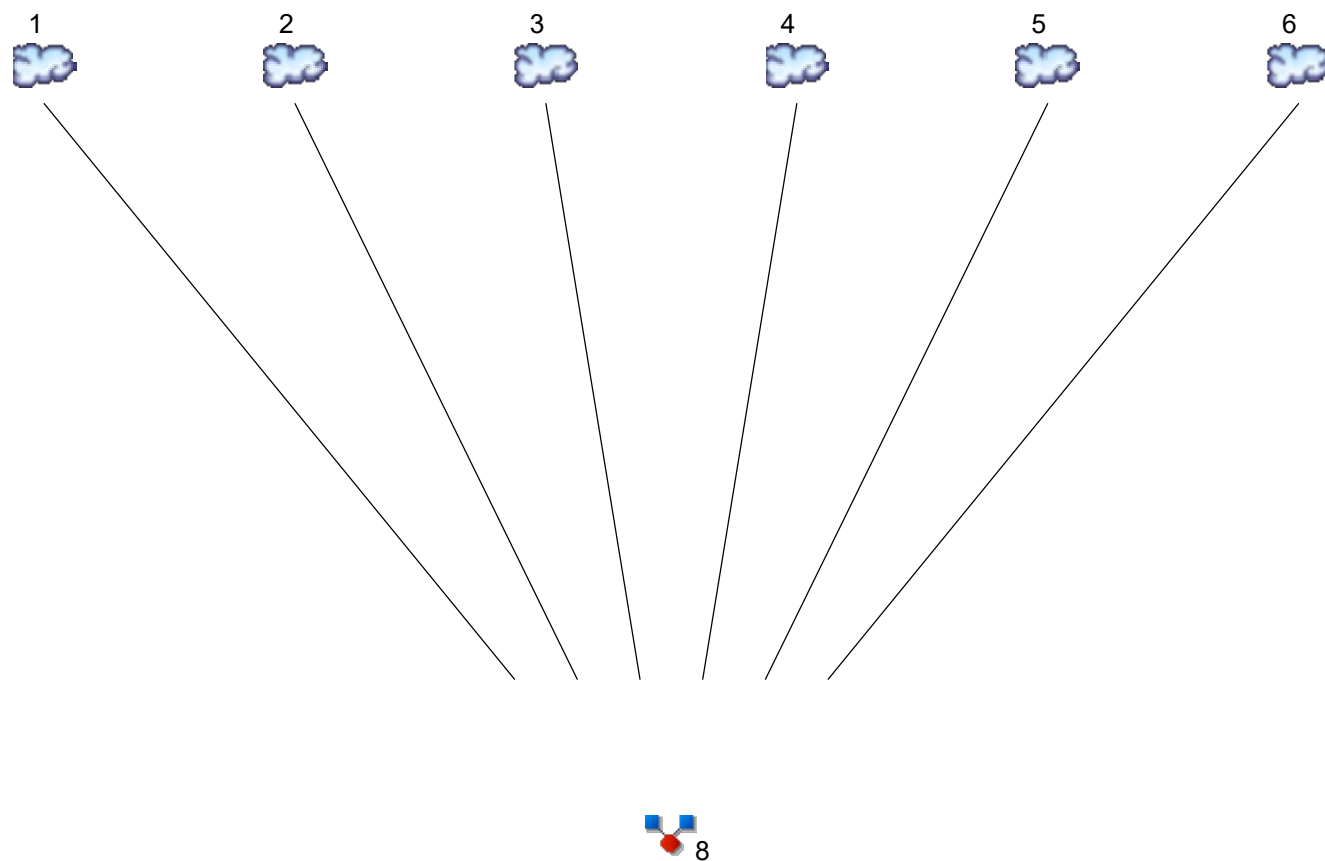
T_c = time in minutes. Values may exceed 60.

Precip. file name: Sample.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	3.76	0.00	3.30	6.39	5.77	6.80	12.00
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	2.75	0.00	5.38	6.50	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	2.80	0.00	5.25	6.00	0.00

Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019



Legend

<u>Hyd.</u>	<u>Origin</u>	<u>Description</u>
1	SCS Runoff	S1
2	SCS Runoff	S2
3	SCS Runoff	S3
4	SCS Runoff	S4
5	SCS Runoff	S5
6	SCS Runoff	S6
8	Combine	Combined

Hydrograph Return Period Recap

Hydroflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	----	----	----	----	----	8.399	----	----	----	S1
2	SCS Runoff	----	----	----	----	----	1.492	----	----	----	S2
3	SCS Runoff	----	----	----	----	----	5.671	----	----	----	S3
4	SCS Runoff	----	----	----	----	----	1.409	----	----	----	S4
5	SCS Runoff	----	----	----	----	----	4.629	----	----	----	S5
6	SCS Runoff	----	----	----	----	----	3.321	----	----	----	S6
8	Combine	1, 2, 3, 4, 5, 6,	----	----	----	----	21.98	----	----	----	Combined

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019

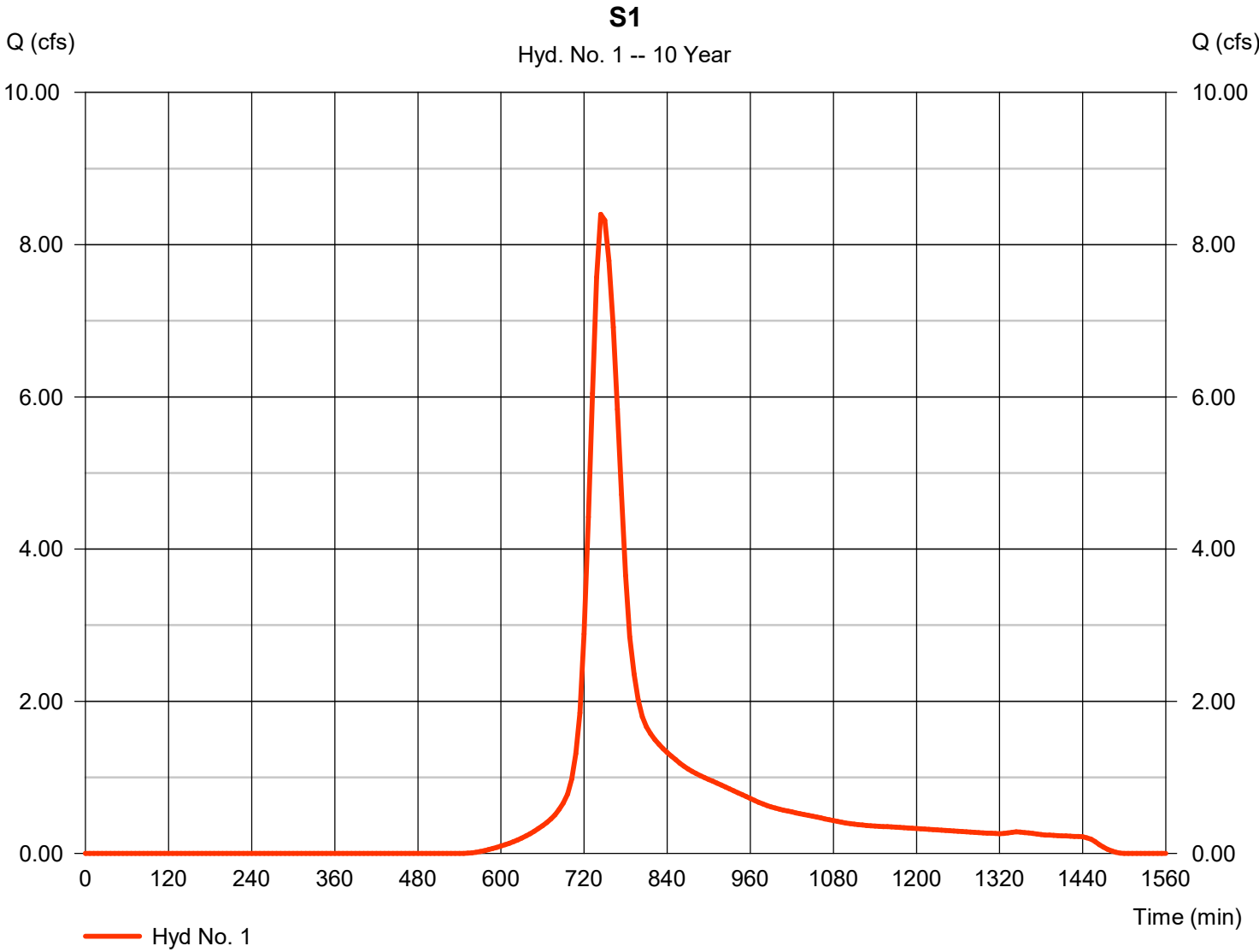
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	SCS Runoff	8.399	6	744	51,825	-----	-----	-----	S1	
2	SCS Runoff	1.492	6	732	6,386	-----	-----	-----	S2	
3	SCS Runoff	5.671	6	762	43,765	-----	-----	-----	S3	
4	SCS Runoff	1.409	6	732	6,031	-----	-----	-----	S4	
5	SCS Runoff	4.629	6	762	35,601	-----	-----	-----	S5	
6	SCS Runoff	3.321	6	738	17,577	-----	-----	-----	S6	
8	Combine	21.98	6	750	161,185	1, 2, 3, 4, 5, 6,	-----	-----	Combined	
Boswood POST.gpw					Return Period: 10 Year			Tuesday, 09 / 8 / 2020		

Hydrograph Report

Hyd. No. 1

S1

Hydrograph type	= SCS Runoff	Peak discharge	= 8.399 cfs
Storm frequency	= 10 yrs	Time to peak	= 744 min
Time interval	= 6 min	Hyd. volume	= 51,825 cuft
Drainage area	= 5.100 ac	Curve number	= 71
Basin Slope	= 1.0 %	Hydraulic length	= 725 ft
Tc method	= LAG	Time of conc. (Tc)	= 31.97 min
Total precip.	= 5.77 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

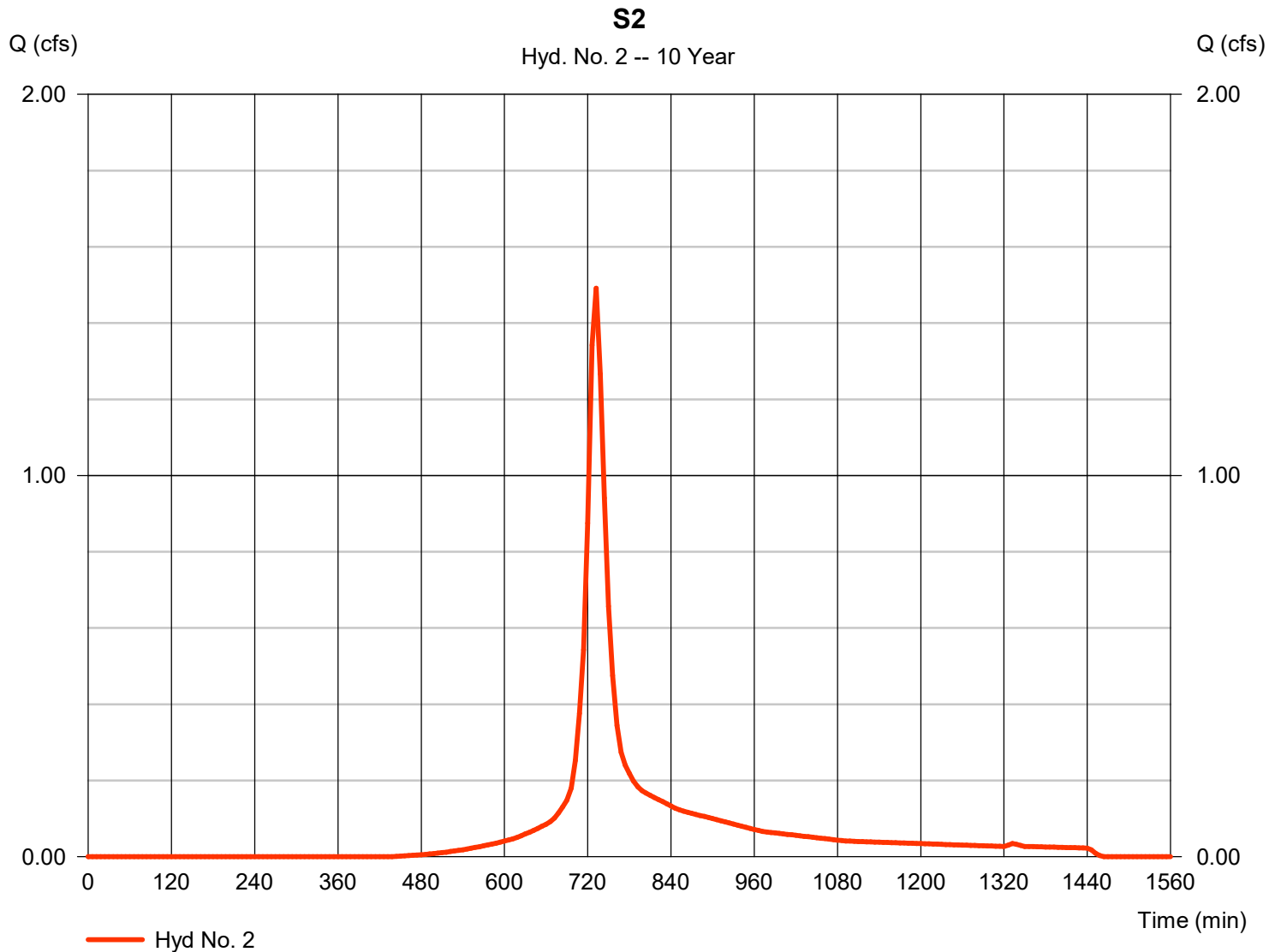
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019

Tuesday, 09 / 8 / 2020

Hyd. No. 2

S2

Hydrograph type	= SCS Runoff	Peak discharge	= 1.492 cfs
Storm frequency	= 10 yrs	Time to peak	= 732 min
Time interval	= 6 min	Hyd. volume	= 6,386 cuft
Drainage area	= 0.540 ac	Curve number	= 79
Basin Slope	= 1.2 %	Hydraulic length	= 456 ft
Tc method	= LAG	Time of conc. (Tc)	= 15.93 min
Total precip.	= 5.77 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

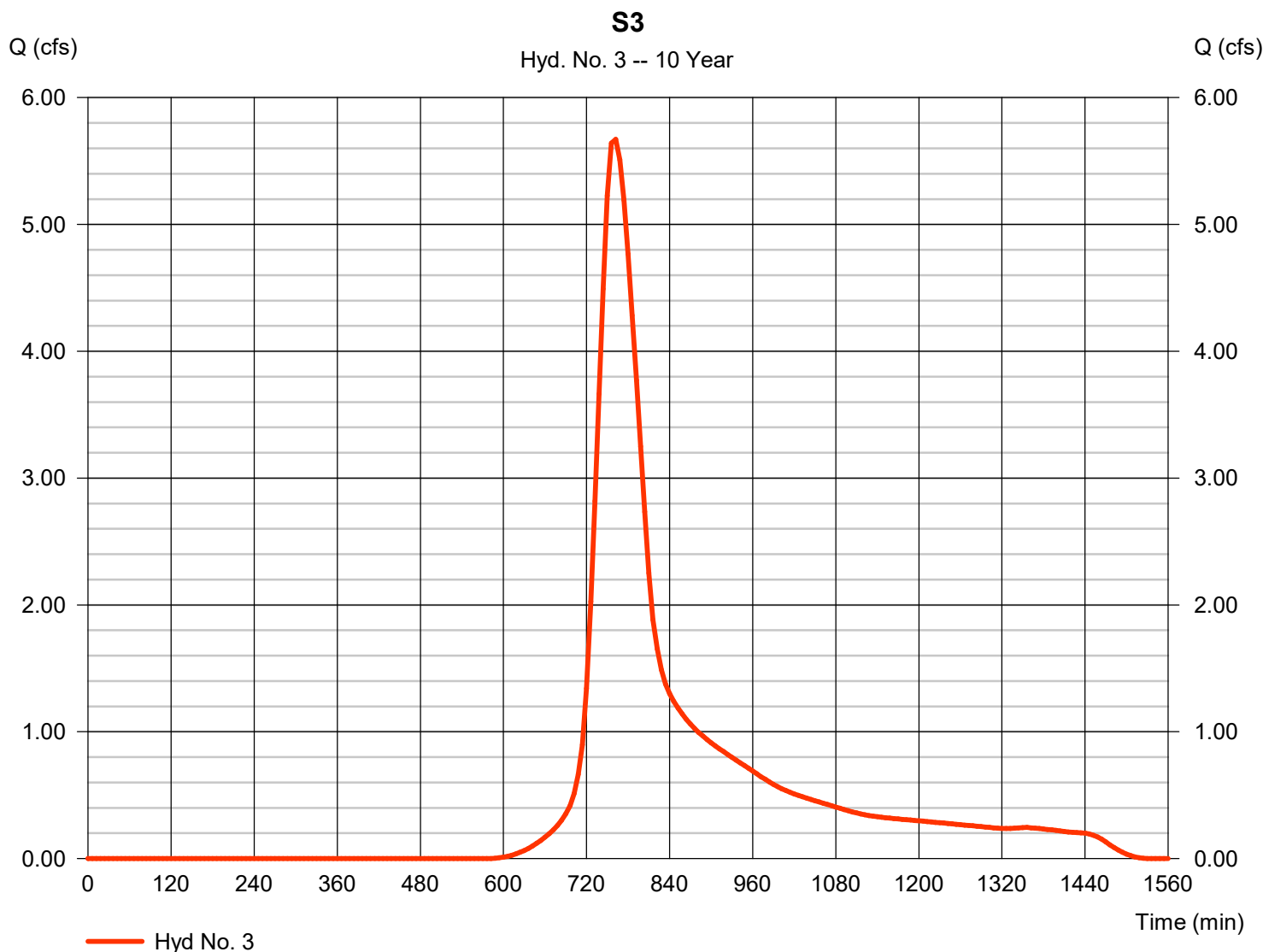
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019

Tuesday, 09 / 8 / 2020

Hyd. No. 3

S3

Hydrograph type	= SCS Runoff	Peak discharge	= 5.671 cfs
Storm frequency	= 10 yrs	Time to peak	= 762 min
Time interval	= 6 min	Hyd. volume	= 43,765 cuft
Drainage area	= 4.930 ac	Curve number	= 68
Basin Slope	= 0.5 %	Hydraulic length	= 962 ft
Tc method	= LAG	Time of conc. (Tc)	= 59.14 min
Total precip.	= 5.77 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

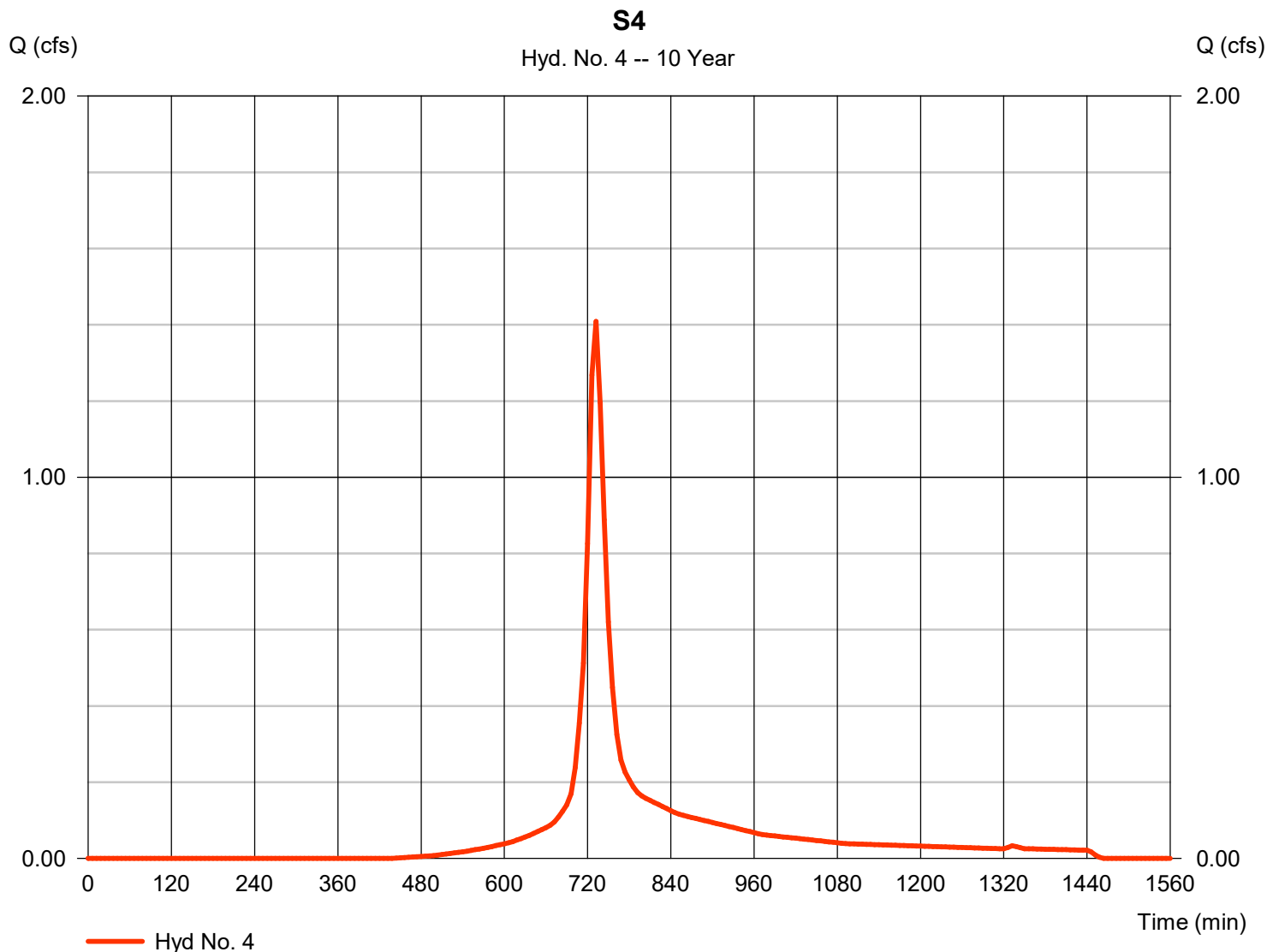
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019

Tuesday, 09 / 8 / 2020

Hyd. No. 4

S4

Hydrograph type	= SCS Runoff	Peak discharge	= 1.409 cfs
Storm frequency	= 10 yrs	Time to peak	= 732 min
Time interval	= 6 min	Hyd. volume	= 6,031 cuft
Drainage area	= 0.510 ac	Curve number	= 79
Basin Slope	= 1.2 %	Hydraulic length	= 362 ft
Tc method	= LAG	Time of conc. (Tc)	= 13.47 min
Total precip.	= 5.77 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

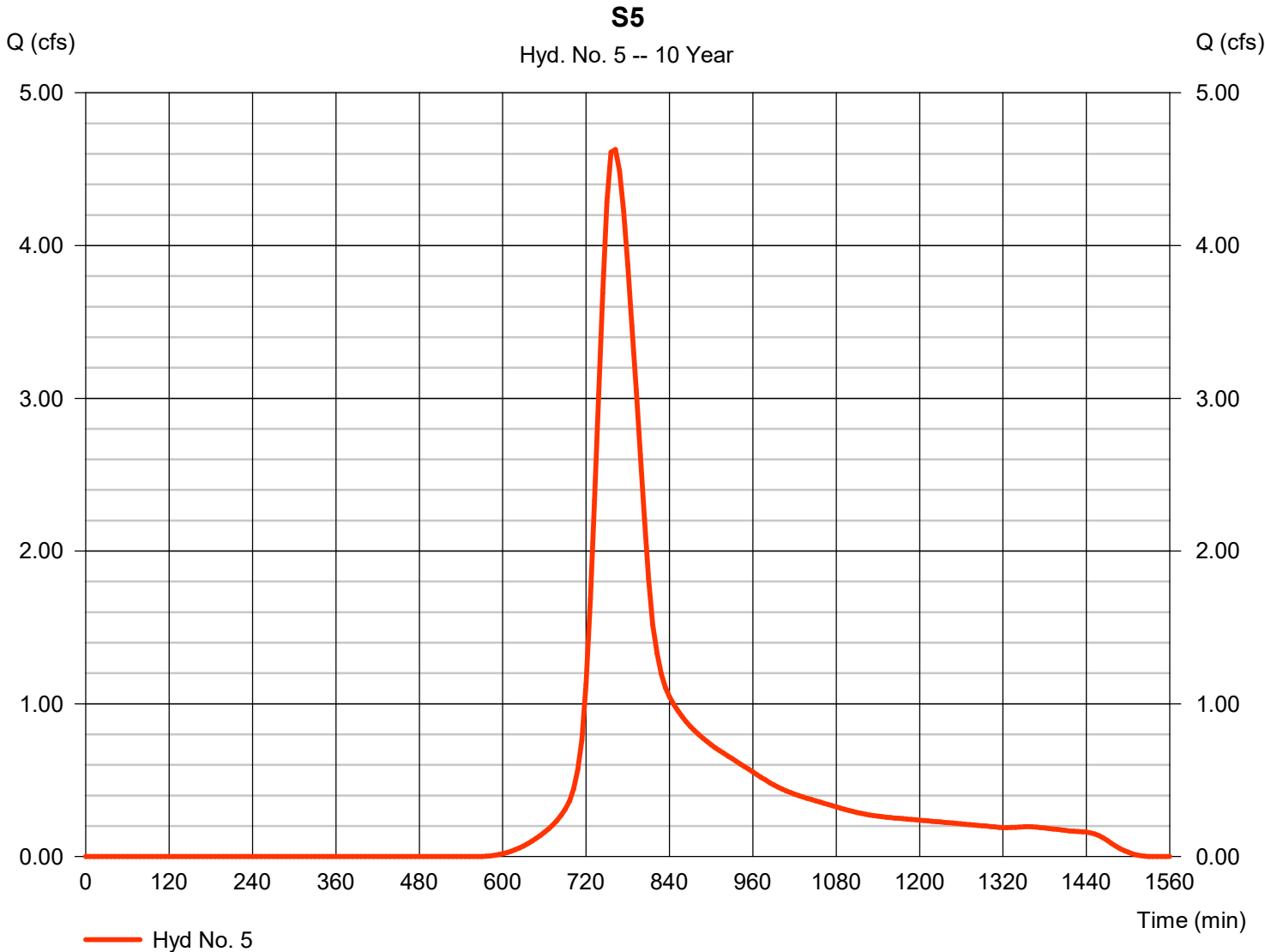


Hydrograph Report

Hyd. No. 5

S5

Hydrograph type	= SCS Runoff	Peak discharge	= 4.629 cfs
Storm frequency	= 10 yrs	Time to peak	= 762 min
Time interval	= 6 min	Hyd. volume	= 35,601 cuft
Drainage area	= 3.870 ac	Curve number	= 69
Basin Slope	= 0.6 %	Hydraulic length	= 906 ft
Tc method	= LAG	Time of conc. (Tc)	= 52.51 min
Total precip.	= 5.77 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

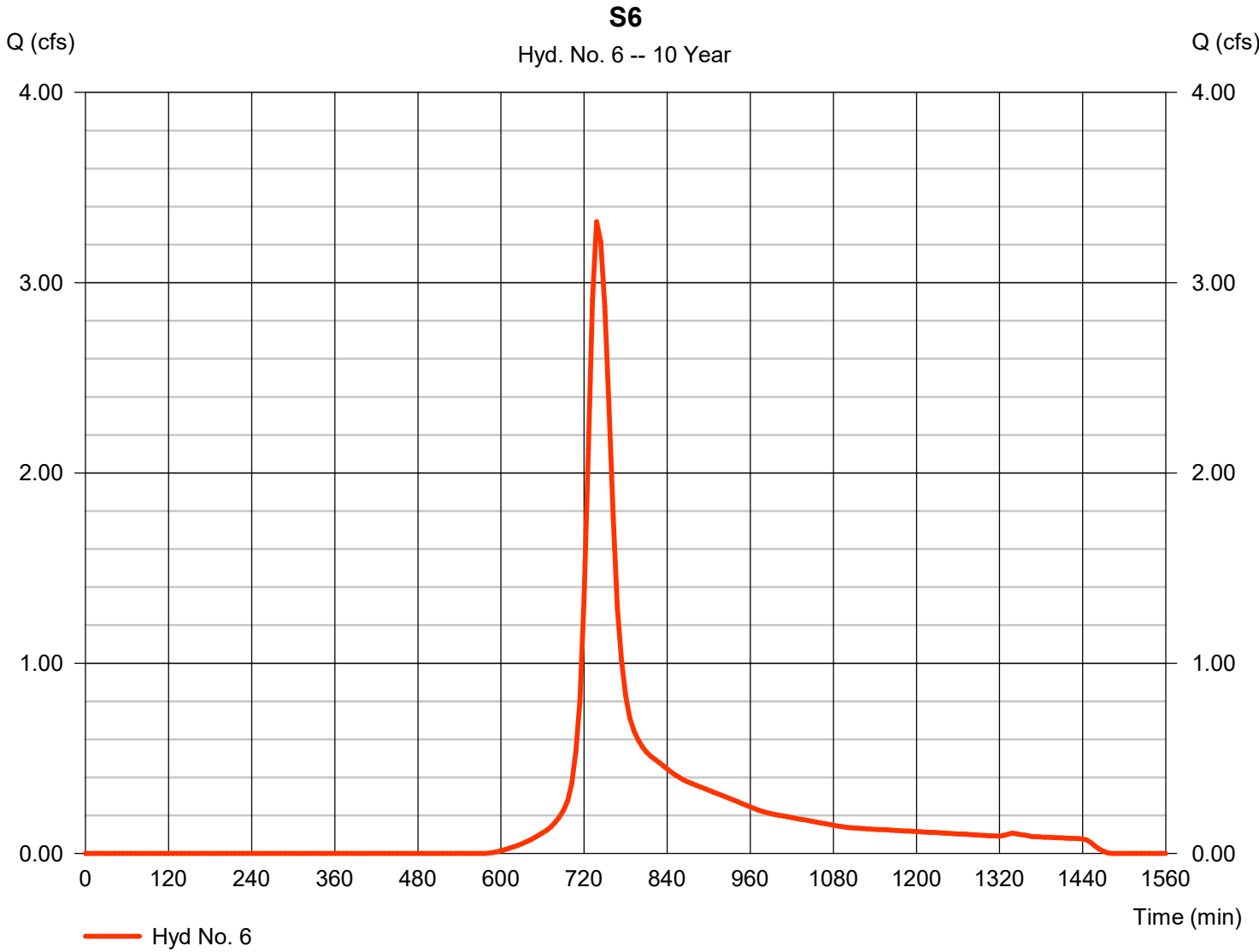


Hydrograph Report

Hyd. No. 6

S6

Hydrograph type	= SCS Runoff	Peak discharge	= 3.321 cfs
Storm frequency	= 10 yrs	Time to peak	= 738 min
Time interval	= 6 min	Hyd. volume	= 17,577 cuft
Drainage area	= 1.980 ac	Curve number	= 68
Basin Slope	= 1.1 %	Hydraulic length	= 388 ft
Tc method	= LAG	Time of conc. (Tc)	= 20.13 min
Total precip.	= 5.77 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019

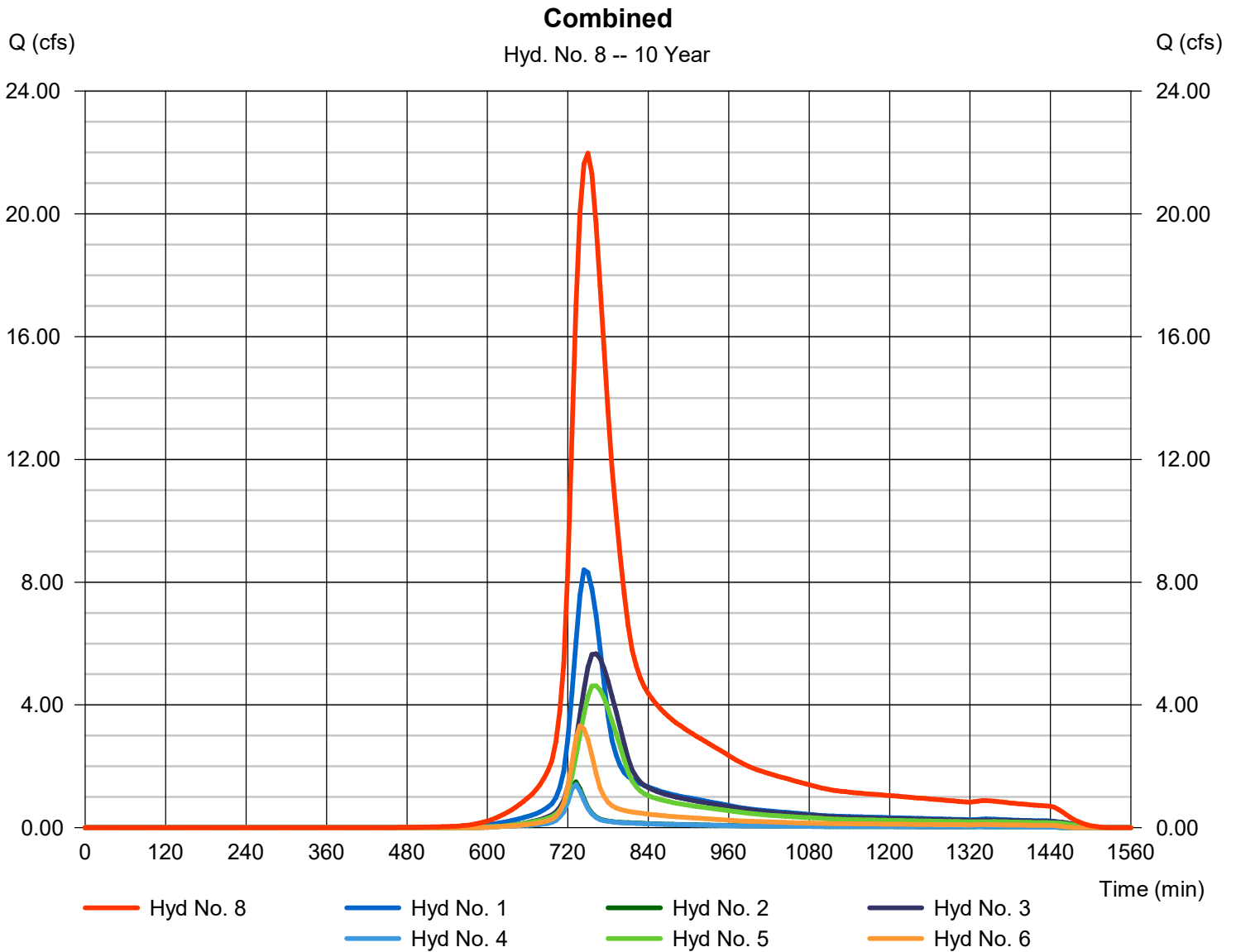
Tuesday, 09 / 8 / 2020

Hyd. No. 8

Combined

Hydrograph type = Combine
 Storm frequency = 10 yrs
 Time interval = 6 min
 Inflow hyds. = 1, 2, 3, 4, 5, 6

Peak discharge = 21.98 cfs
 Time to peak = 750 min
 Hyd. volume = 161,185 cuft
 Contrib. drain. area = 16.930 ac



Hydraflow Rainfall Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2019

Tuesday, 09 / 8 / 2020

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	-----
2	69.8703	13.1000	0.8658	-----
3	0.0000	0.0000	0.0000	-----
5	79.2597	14.6000	0.8369	-----
10	88.2351	15.5000	0.8279	-----
25	102.6072	16.5000	0.8217	-----
50	114.8193	17.2000	0.8199	-----
100	127.1596	17.8000	0.8186	-----

File name: SampleFHA.idf

$$\text{Intensity} = B / (T_c + D)^E$$

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.69	4.61	3.89	3.38	2.99	2.69	2.44	2.24	2.07	1.93	1.81	1.70
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.57	5.43	4.65	4.08	3.65	3.30	3.02	2.79	2.59	2.42	2.27	2.15
10	7.24	6.04	5.21	4.59	4.12	3.74	3.43	3.17	2.95	2.77	2.60	2.46
25	8.25	6.95	6.03	5.34	4.80	4.38	4.02	3.73	3.48	3.26	3.07	2.91
50	9.04	7.65	6.66	5.92	5.34	4.87	4.49	4.16	3.88	3.65	3.44	3.25
100	9.83	8.36	7.30	6.50	5.87	5.36	4.94	4.59	4.29	4.03	3.80	3.60

T_c = time in minutes. Values may exceed 60.

Precip. file name: Sample.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	3.74	0.00	3.30	5.77	5.77	6.80	12.00
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	2.75	0.00	5.38	6.50	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	2.80	0.00	5.25	6.00	0.00

Area and Curve Number Computations

Stormwater Quantity Analysis
Post-Development



Project Name: Boswood Estates
Timmons Group Project No. 44845
Date: 10-30-2020
Calculated By: Ben Drew
Checked By: Kim Hamby

Areas and Curve Numbers (NRCS TR-55)

Analysis Point	Area (SF)	Area (AC)	Paved; open ditches				Residential - 1 acre				Weighted CN	Ia - Dstore Perv
			HSG	SF	Acres	CN ^[1]	HSG	SF	Acres	CN ^[1]		
S1	222,145	5.10	A			83.5	A			51	71	0.83
			B	38,211	0.877	83.5	B	183,934	4.22	68		
			C			83.5	C			79		
			D			83.5	D			84		
S2	23,311	0.54	A			83.5	A			51	79	0.52
			B	16,860	0.39	83.5	B	6,451	0.15	68		
			C			83.5	C			79		
			D			83.5	D			84		
S3	214,647	4.93	A			83.5	A			51	68	0.92
			B	6,787	0.156	83.5	B	207,860	4.77	68		
			C			83.5	C			79		
			D			83.5	D			84		
S4	22,266	0.51	A			83.5	A			51	79	0.52
			B	16,407	0.377	83.5	B	5,859	0.13	68		
			C			83.5	C			79		
			D			83.5	D			84		
S5	168,746	3.87	A			83.5	A			51	69	0.91
			B	8,647	0.20	83.5	B	160,099	3.68	68		
			C			83.5	C			79		
			D			83.5	D			84		
S6	86,187	1.98	A			83.5	A			51	68	0.92
			B	2,375	0.055	83.5	B	83,812	1.92	68		
			C			83.5	C			79		
			D			83.5	D			84		

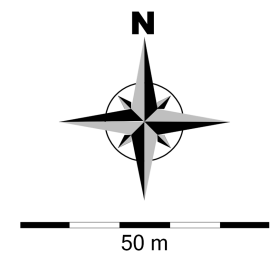
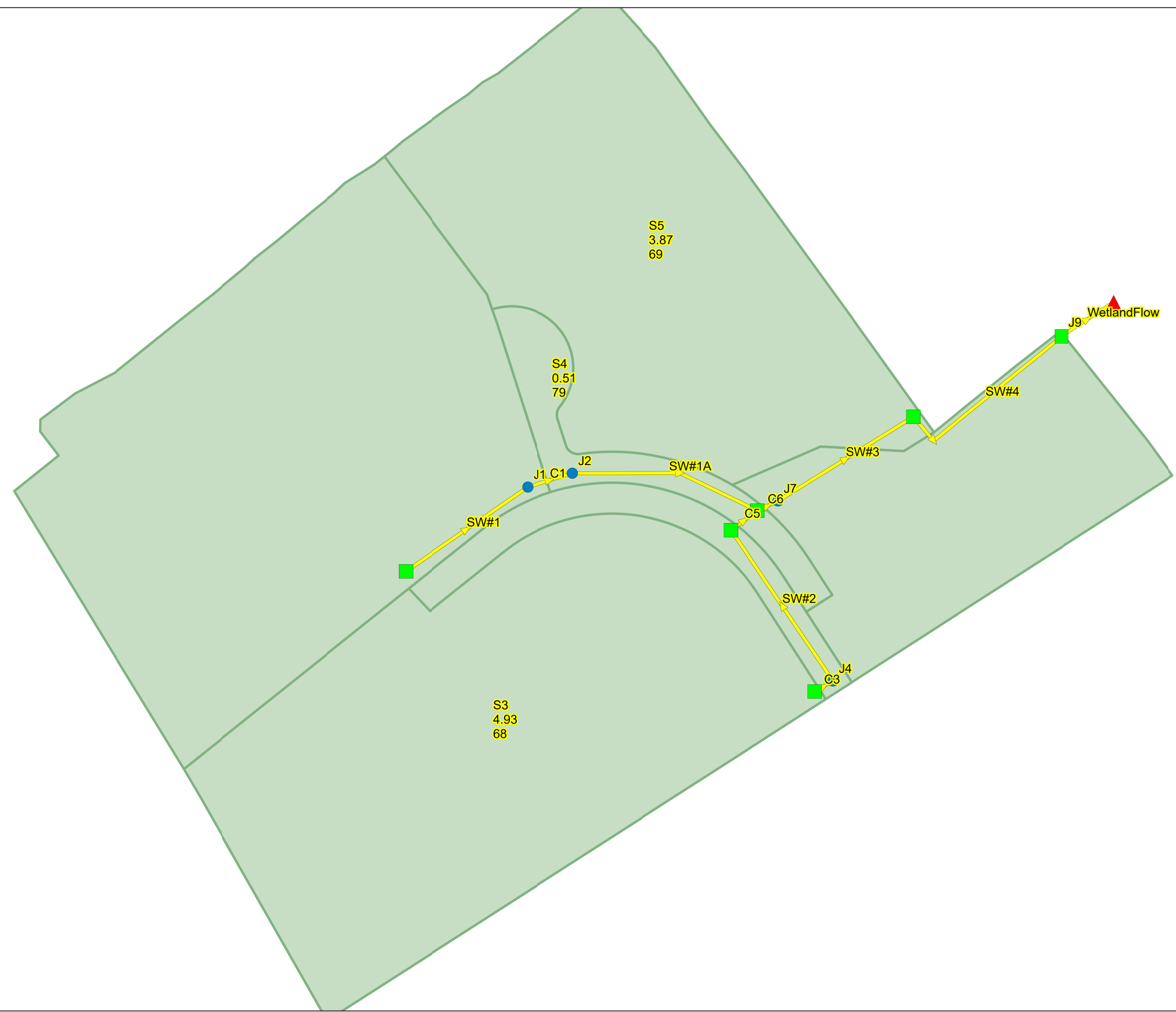
737,302

*CN 83.5 based on 49.37% of R/W area covered by road surface (CN 98) and 50.63% of fair grass (CN 69) both in B soils

*Per the Currituck County Stormwater Manual, existing conditions are to be based on the site as wooded regardless of actual site conditions.

Legend

- Junctions
- ▲ Outfalls
- Storages
- Conduits
- Subcatchments





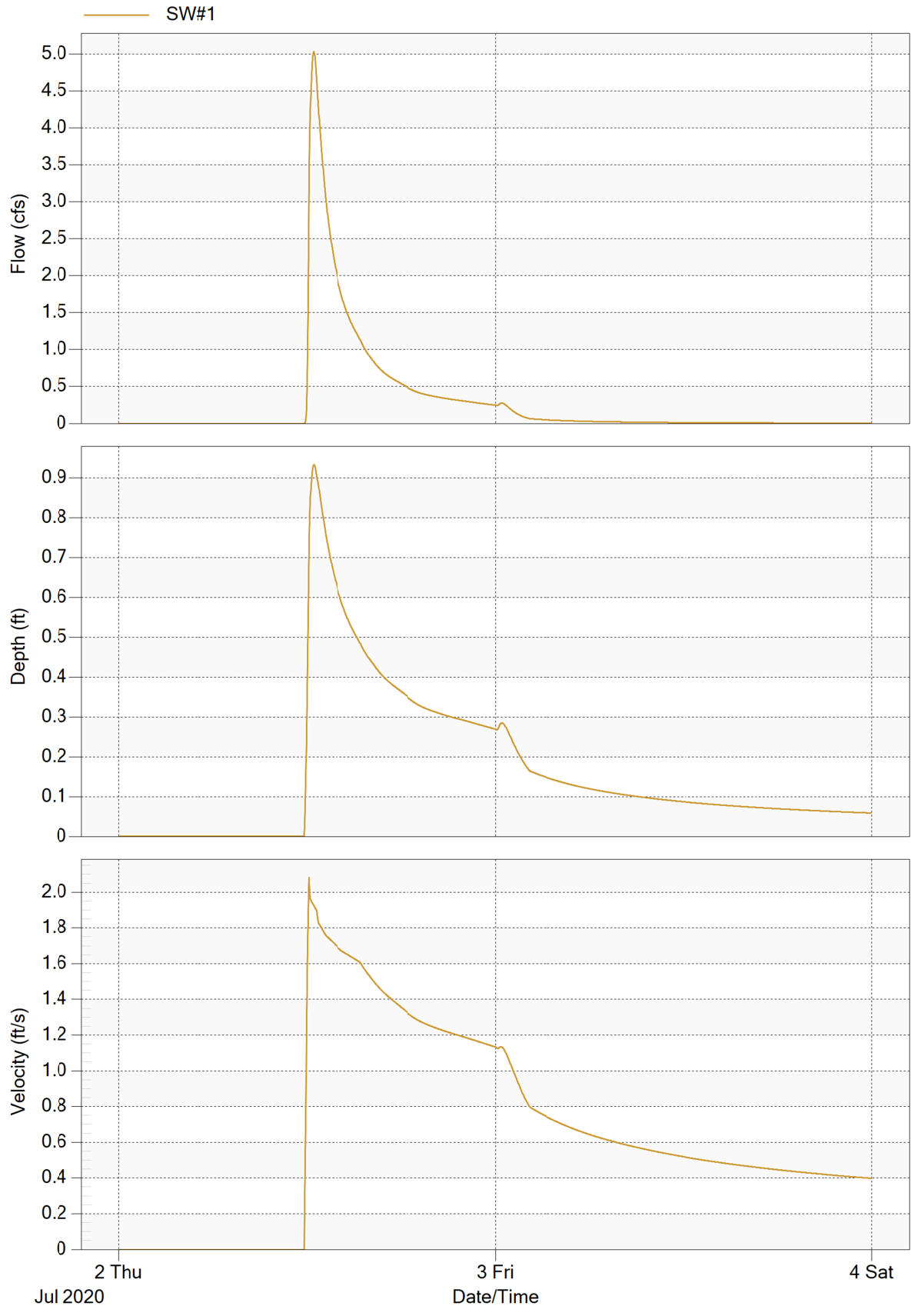
- Simulation Options
- Climatology
 - Rain Gages
 - Curves
 - Time Series

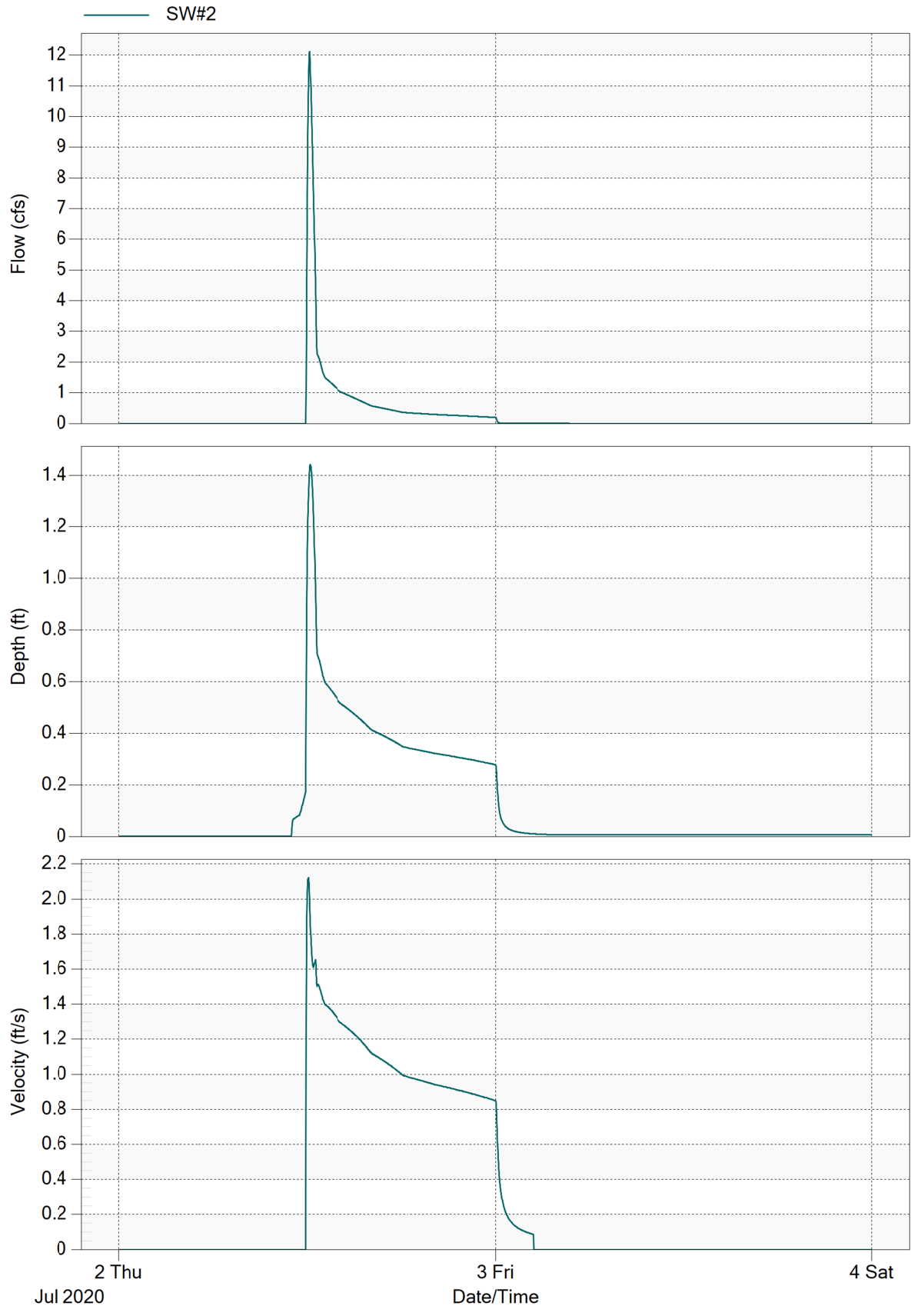
- Layers
- Junctions
 - Outfalls
 - Dividers
 - Storages
 - Conduits
 - Pumps
 - Orifices
 - Weirs
 - Outlets
 - Subcatchments
- None

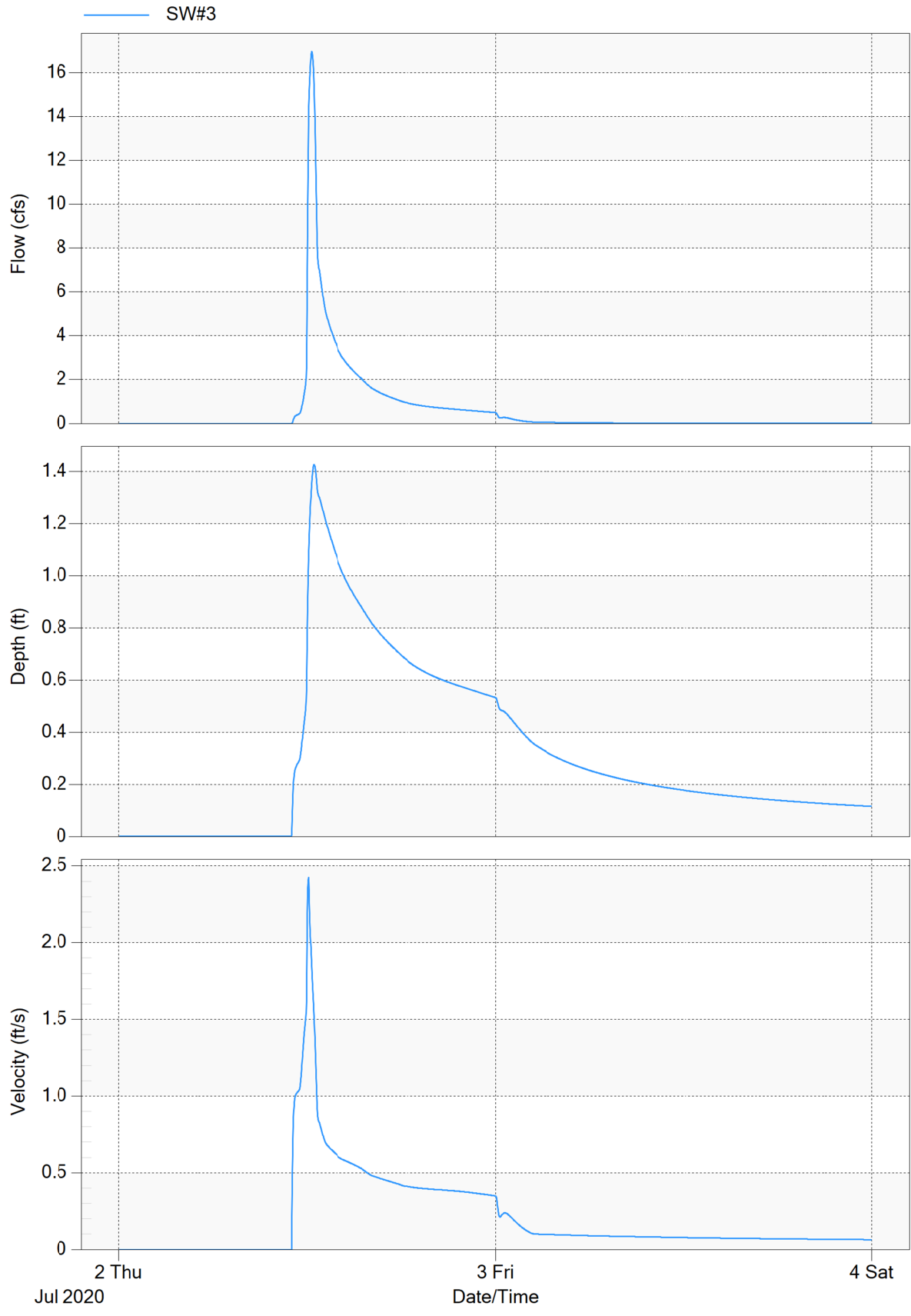


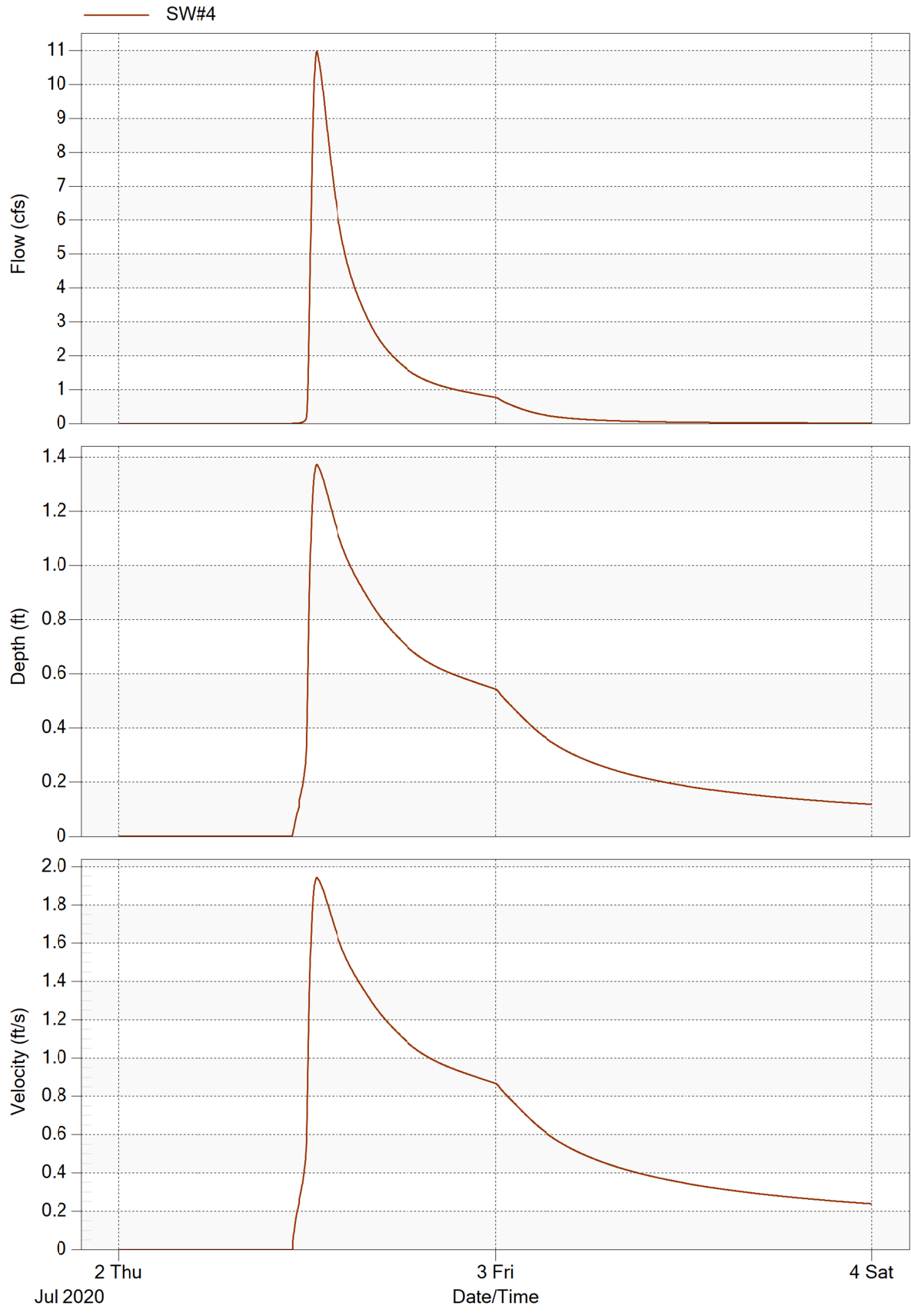
Project Notes

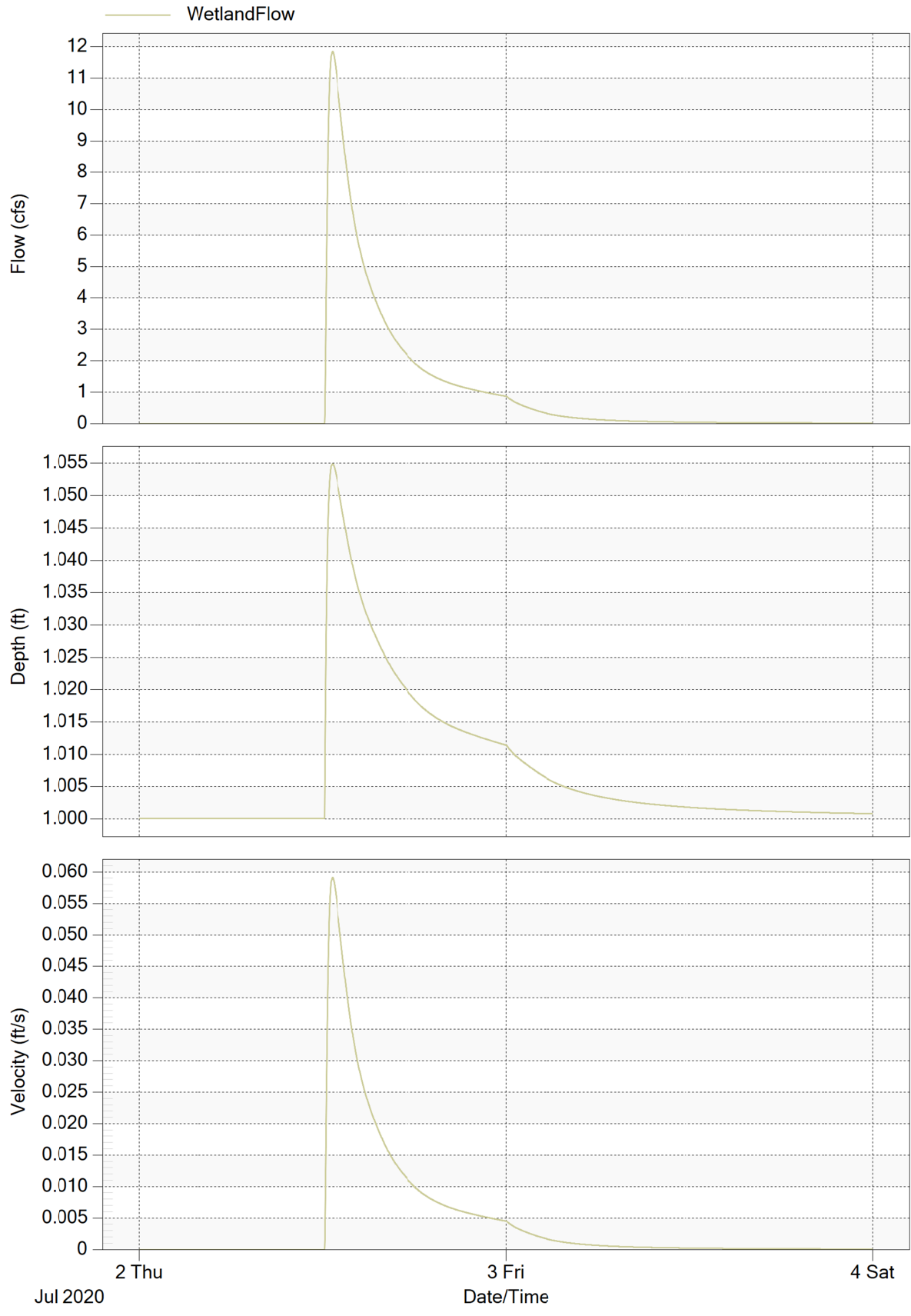
Description











Skimmer Basin

Okay

16.2 Disturbed Area (Acres)
 10.97 Peak Flow from 10-year Storm (cfs)

29160 Required Volume ft³
 3565 Required Surface Area ft²
 42.2 Suggested Width ft
 84.4 Suggested Length ft

65 Trial Top Width at Spillway Invert ft
 259 Trial Top Length at Spillway Invert ft
 3 Trial Side Slope Ratio Z:1
 2 Trial Depth ft (2 to 3.5 feet above grade)

53 Bottom Width ft
 247 Bottom Length ft
 13091 Bottom Area ft²
 29878 Actual Volume ft³
 16835 Actual Surface Area ft²

Okay

Okay

5 Trial Weir 1 Length ft
 1 Trial Depth of Flow ft
 0 Trial Weir 2 Length ft
 0 Trial Depth of Flow ft

15.0 Spillway Capacity cfs

Okay

4 Skimmer Size (inches)
 0.333 Head on Skimmer (feet)
 3.25 Orifice Size (1/4 inch increments)
 2.12 Dewatering Time (days)
 Dewatering Time should be 2-5 days

Skimmer Size
(Inches)
1.5
2
2.5
3
4
5
6
8

Basin Bottom Elev = 2.0

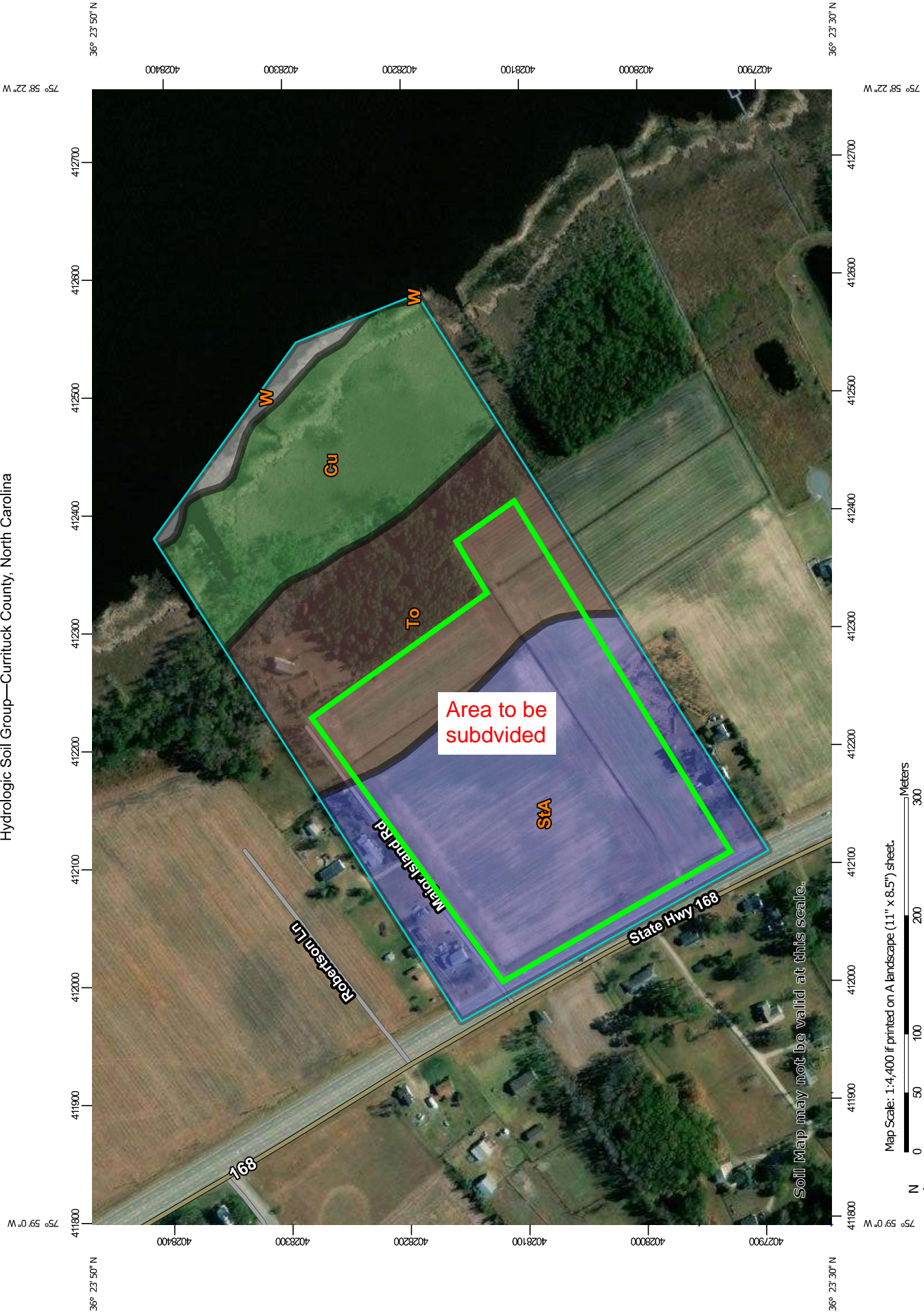
Weir Elev = 4.0

TOB Elev = 5.5

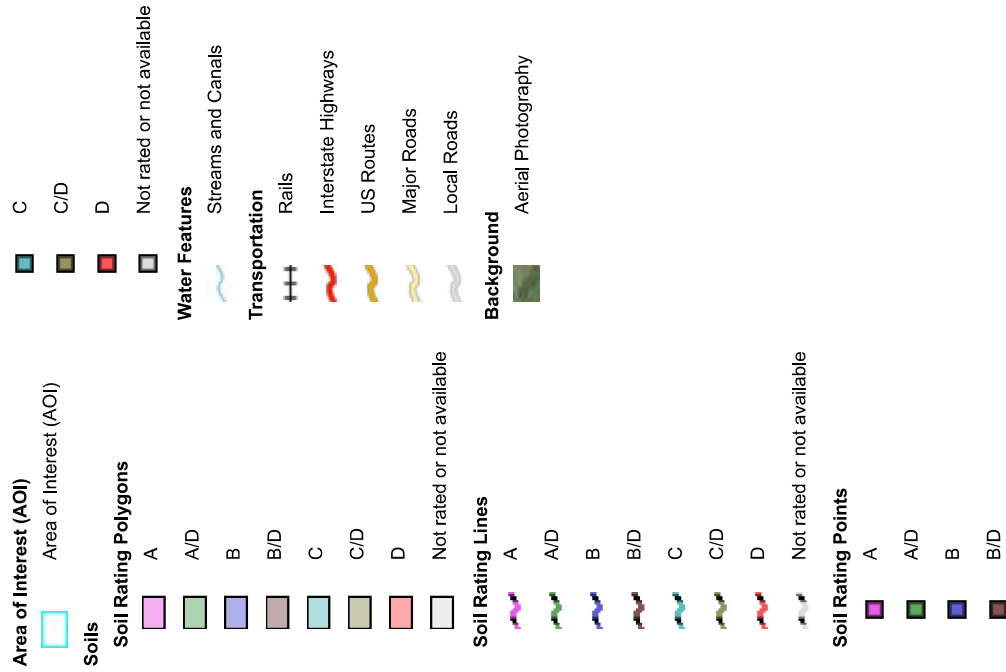
Appendix B

WEB Soil Survey





MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Currituck County, North Carolina
 Survey Area Data: Version 18, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Oct 4, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Cu	Currituck mucky peat	A/D	9.5	23.8%
StA	State fine sandy loam, 0 to 2 percent slopes	B	17.6	43.9%
To	Tomotley fine sandy loam	B/D	11.9	29.8%
W	Water		1.0	2.4%
Totals for Area of Interest			40.0	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix C

Precipitation Data





NOAA Atlas 14, Volume 2, Version 3
Location name: Barco, North Carolina, USA*
Latitude: 36.3942°, Longitude: -75.9795°
Elevation: 9.3 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley
 NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.436 (0.396-0.481)	0.508 (0.460-0.561)	0.572 (0.518-0.632)	0.658 (0.594-0.727)	0.741 (0.666-0.818)	0.818 (0.733-0.902)	0.886 (0.791-0.978)	0.954 (0.846-1.05)	1.03 (0.909-1.14)	1.11 (0.972-1.23)
10-min	0.696 (0.632-0.768)	0.812 (0.735-0.898)	0.915 (0.829-1.01)	1.05 (0.950-1.16)	1.18 (1.06-1.30)	1.30 (1.17-1.44)	1.41 (1.26-1.55)	1.51 (1.34-1.67)	1.63 (1.44-1.81)	1.75 (1.53-1.94)
15-min	0.870 (0.790-0.960)	1.02 (0.924-1.13)	1.16 (1.05-1.28)	1.33 (1.20-1.47)	1.50 (1.35-1.65)	1.65 (1.48-1.82)	1.78 (1.59-1.96)	1.91 (1.69-2.10)	2.06 (1.81-2.27)	2.20 (1.92-2.43)
30-min	1.19 (1.08-1.32)	1.41 (1.28-1.56)	1.65 (1.49-1.82)	1.93 (1.74-2.13)	2.22 (1.99-2.45)	2.49 (2.23-2.74)	2.73 (2.43-3.01)	2.97 (2.64-3.28)	3.27 (2.88-3.62)	3.56 (3.11-3.94)
60-min	1.49 (1.35-1.64)	1.77 (1.60-1.96)	2.11 (1.91-2.33)	2.51 (2.27-2.78)	2.95 (2.65-3.26)	3.37 (3.02-3.71)	3.76 (3.35-4.14)	4.16 (3.70-4.59)	4.70 (4.13-5.19)	5.20 (4.54-5.76)
2-hr	1.74 (1.57-1.94)	2.08 (1.87-2.31)	2.52 (2.27-2.81)	3.06 (2.75-3.40)	3.68 (3.29-4.07)	4.27 (3.79-4.72)	4.84 (4.28-5.36)	5.45 (4.80-6.04)	6.27 (5.47-6.95)	7.06 (6.10-7.82)
3-hr	1.86 (1.68-2.08)	2.22 (1.99-2.48)	2.70 (2.43-3.02)	3.30 (2.96-3.69)	4.01 (3.57-4.46)	4.70 (4.16-5.22)	5.39 (4.74-5.98)	6.14 (5.36-6.80)	7.16 (6.19-7.94)	8.15 (6.98-9.05)
6-hr	2.21 (1.99-2.46)	2.62 (2.36-2.94)	3.20 (2.88-3.58)	3.92 (3.50-4.38)	4.77 (4.24-5.31)	5.61 (4.96-6.23)	6.46 (5.67-7.16)	7.38 (6.43-8.17)	8.65 (7.45-9.57)	9.90 (8.43-11.0)
12-hr	2.60 (2.34-2.91)	3.09 (2.76-3.48)	3.78 (3.38-4.25)	4.65 (4.14-5.21)	5.70 (5.05-6.37)	6.76 (5.94-7.53)	7.84 (6.83-8.72)	9.03 (7.79-10.0)	10.7 (9.08-11.9)	12.3 (10.3-13.7)
24-hr	3.09 (2.84-3.38)	3.76 (3.45-4.12)	4.85 (4.45-5.32)	5.77 (5.28-6.31)	7.13 (6.47-7.77)	8.30 (7.47-9.04)	9.58 (8.54-10.4)	11.0 (9.69-12.0)	13.1 (11.3-14.3)	14.9 (12.7-16.3)
2-day	3.57 (3.28-3.91)	4.32 (3.98-4.74)	5.55 (5.09-6.07)	6.60 (6.03-7.21)	8.18 (7.42-8.91)	9.54 (8.58-10.4)	11.1 (9.84-12.1)	12.8 (11.2-13.9)	15.3 (13.2-16.8)	17.5 (14.8-19.3)
3-day	3.80 (3.50-4.14)	4.60 (4.25-5.02)	5.87 (5.41-6.40)	6.95 (6.38-7.56)	8.54 (7.78-9.28)	9.89 (8.94-10.7)	11.4 (10.2-12.4)	13.0 (11.5-14.2)	15.5 (13.4-16.9)	17.7 (15.1-19.5)
4-day	4.02 (3.73-4.38)	4.87 (4.51-5.30)	6.20 (5.73-6.73)	7.30 (6.72-7.91)	8.90 (8.14-9.64)	10.2 (9.31-11.1)	11.7 (10.5-12.7)	13.3 (11.8-14.4)	15.6 (13.7-17.1)	17.9 (15.4-19.6)
7-day	4.70 (4.37-5.09)	5.67 (5.27-6.14)	7.12 (6.60-7.70)	8.31 (7.68-8.98)	10.0 (9.22-10.8)	11.5 (10.5-12.4)	13.0 (11.8-14.1)	14.7 (13.1-15.9)	17.0 (15.0-18.6)	19.0 (16.5-20.8)
10-day	5.29 (4.95-5.68)	6.35 (5.94-6.81)	7.86 (7.34-8.43)	9.11 (8.49-9.76)	10.9 (10.1-11.7)	12.4 (11.4-13.3)	14.0 (12.8-15.0)	15.7 (14.2-16.9)	18.1 (16.1-19.6)	20.1 (17.6-21.9)
20-day	7.20 (6.76-7.67)	8.57 (8.06-9.14)	10.4 (9.78-11.1)	11.9 (11.2-12.7)	14.1 (13.1-15.0)	15.9 (14.7-16.9)	17.7 (16.2-18.9)	19.6 (17.9-21.1)	22.4 (20.1-24.1)	24.6 (21.8-26.7)
30-day	8.87 (8.36-9.42)	10.5 (9.94-11.2)	12.7 (11.9-13.5)	14.4 (13.5-15.3)	16.7 (15.7-17.8)	18.6 (17.3-19.8)	20.5 (19.0-21.9)	22.5 (20.7-24.1)	25.2 (23.0-27.1)	27.4 (24.7-29.5)
45-day	11.0 (10.4-11.7)	13.0 (12.3-13.8)	15.5 (14.6-16.5)	17.6 (16.6-18.7)	20.6 (19.3-21.9)	23.0 (21.4-24.4)	25.5 (23.6-27.1)	28.1 (25.8-30.0)	31.7 (28.8-34.0)	34.6 (31.1-37.3)
60-day	13.2 (12.5-14.0)	15.6 (14.7-16.5)	18.4 (17.4-19.5)	20.6 (19.5-21.8)	23.7 (22.3-25.1)	26.2 (24.5-27.7)	28.7 (26.7-30.4)	31.2 (28.9-33.2)	34.6 (31.7-37.0)	37.2 (33.9-40.0)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical

Appendix D

Quad Map





USGS QUAD MAP EXHIBIT

BARCO, NC

2019



THIS DRAWING PREPARED AT THE ELIZABETH CITY OFFICE 1805 West City Drive, Unit E Elizabeth City, NC 27909 TEL 252.621.5030 FAX 252.562.6974 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS.	CRAWFORD TOWNSHIP	CURRITUCK COUNTY
		Date: 12/19/2019	Scale: 1"=1000'
		Sheet 1 of 1	J.N.: 44845
		Drawn by: BCD	Checked by: KDH

TIMMONS GROUP

Appendix E

Flood Map



National Flood Hazard Layer FIRMette



36°23'52.60"N

75°58'5.94"W



USGS The National Map: Orthoimagery. Data refreshed April, 2019.



75°58'28.48"W

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, A99
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*

OTHER AREAS OF FLOOD HAZARD

- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/6/2019 at 12:39:40 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix F

Current Property Deed Secretary of State printout



UNOFFICIAL DOCUMENT

Tax Collector Certification That No Delinquent Taxes
Are Due, Date 10-6-20 By DJ: Certification
expires Jan. 6th of the year following certification date



Doc No: 355943
Recorded: 10/08/2020 02:40:55 PM
Fee Amt: \$26.00 Page 1 of 3
Excise Tax: \$750.00
Currituck County North Carolina
Denise A. Hall, Register of Deeds
BK 1566 PG 783 - 785 (3)

TRANSFER TAX AMOUNT 3750.00
DATE/COLLECTOR 10.6.2020 NJ

Excise Tax:

Recording Time, Book and Page:

Parcel No: 0060-000-0536-0000

Mail after recording to: **Innes & Innes, PLLC**

This instrument was prepared by: **William Brumsey, III/seo** File No: 20B55817

Brief Description for Index:

Caratoke Hwy

NORTH CAROLINA GENERAL WARRANTY DEED

This DEED, made this 20th day of July 2020 by and between

GRANTOR

**G. DODSON MATHIAS and wife,
MARVOURLEEN W. MATHIAS**

GRANTEE

PACIFIC BEACH CONSTRUCTION, LLC

**P.O. Box 116
Barco, NC 27917**

Enter in appropriate block for each party: name, address, and, if appropriate, character of entity, e.q. corporation or partnership.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of all of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the said Grantees in fee simple, all that certain lot or parcel of land situated in **Crawford Township, Currituck County, North Carolina**, more particularly described as follows:

See Exhibit A attached hereto and made a part hereof for a more complete description.

All or a portion of the property herein conveyed ___ includes or X does not include the primary residence of a Grantor.

UNOFFICIAL DOCUMENT

The property hereinabove described was acquired by Grantor by instrument recorded in Book 211 Page 466

A map showing the above described property is recorded in Plat Cabinet R Page 36

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to Grantees in fee simple.

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever except for the exceptions hereinafter stated.

Title to the property hereinabove described is subject to the following exceptions:

Reservations, restrictions and easements of record.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year first above written.

G. Dodson Mathias (SEAL)
G. DODSON MATHIAS

By _____
(Corporate Name)

President

Marvourleen W. Mathias (SEAL)
MARVOURLEEN W. MATHIAS

ATTEST: _____ (SEAL)

Secretary (Corporate Seal) _____ (SEAL)

STATE OF NORTH CAROLINA, COUNTY/CITY OF Mecklenburg

I, Lisa P. Carter a Notary Public do hereby certify

that **G. DODSON MATHIAS and MARVOURLEEN W. MATHIAS** personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes therein expressed.

Witness my hand and official stamp or seal this 4th day of August 2020.

Lisa P. Carter
Notary Public
Cabarrus County, NC
My Commission Expires August 29, 2020

AFFIX SEAL

Lisa P. Carter (SEAL)
Notary Public

My commission expires: 08/29/2020

Exhibit A

(Pacific Beach Construction, LLC - Mathias Tract, Barco)

Legal Description:

All that certain tract or parcel of land situate in Crawford Township, Currituck County, North Carolina, and more particularly described as follows:

That certain tract or parcel of land lying on the East side of Caratoke Hwy. - US 168; beginning at a point on the eastern side of said Hwy. being the northwest corner of the subject parcel and being at a point on NC GRID N 975,929.07 sFT, E 2,888,472.14 sFT; and from said point of beginning N. 51 deg. 14' 10" E. 876.23' to an existing iron pin; thence turning south and running S. 35 deg. 57' 43" E. 70.02' to a point; thence running S 35 deg. 57' 41" E. 99.65' to a point; thence turning east and running N. 51 deg. 14' 33" E. 702.41' to a point in Coinjock Bay (identified on the hereinafter referenced plat as 'Currituck Sound'); turning and running south S. 35 deg. 14' 56" E. 86.94' to a point; thence S. 44 deg. 07' 08" E. 127.28' to a point; thence S. 86 deg. 53' 14" E. 89.78'; thence S. 29 deg. 54' 15" E. 68.08'; thence S. 56 deg. 38' 08" E. 162.82' to a point; thence S. 24 deg. 43' 13" E. 109.59' to a point; thence S. 33 deg. 28'.24" W. 42.84'; thence S. 33 deg. 02' 07" E. 81.68' to the southeast corner of the subject property; thence turning and running S. 57 deg. 10' 01" W. 1,716.64' to a point on the eastern edge of US 168; the same being identified as NC Grid N 975,329.75 sFT and E 2,888,825.45 sFT; thence turning and running north along the eastern edge of US 168 along a radius of 11539.16', tangent of 347.99', delta of 3 deg. 27' 17", chord bearing of N. 30 deg. 31' 05" W. a length of 695.78' and chord of 695.67' to the point and place of beginning. The aforesaid tract or parcel of land is more particularly delineated on that certain plat entitled in part, "Boundary Survey For G. Dodson Mathias," recorded in the Currituck County Register of Deeds, North Carolina, at Plat Cabinet R, Slide 36; and which is incorporated herein by reference for a more particular description of the parcel or tract described herein.

• File an Annual Report/Amend an Annual Report • Upload a PDF Filing • Order a Document Online • Add Entity to My Email Notification List • View Filings • Print a Pre-Populated Annual Report form • Print an Amended a Annual Report form

Limited Liability Company

Legal Name

Pacific Beach Construction, LLC

Information

SosId: 0911735

Status: Current-Active ⓘ

Date Formed: 5/4/2007

Citizenship: Domestic

Annual Report Due Date: April 15th

Registered Agent: Innes, Stuart

Addresses

Mailing	Principal Office	Reg Office	Reg Mailing
136 Pat's Way Barco, NC 27917-9563	136 Pat's Way Barco, NC 27917-9563	136 Pat's Way Barco, NC 27917-9563	136 Pat's Way Barco, NC 27917-9563

Company Officials

All LLCs are managed by their managers pursuant to N.C.G.S. 57D-3-20.

Manager

Stuart Innes
P.O. Box 116
Barco NC 27917

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

BRIAN WRENN
Director



NORTH CAROLINA
Environmental Quality

March 2, 2021

Boswood Estates, LLC
Attn: Mr. Stuart Innes
PO Box 116
Barco, NC 27917

**Subject: State Stormwater Permit No. SW7210201
Boswood Estates Subdivision
Low Density Subdivision Project
Currituck County**

Dear Mr. Innes:

The Washington Regional Office received a complete, State Stormwater Management Permit Application for the subject project on February 1, 2021. Staff review of the plans and specifications has determined that the project, as proposed, complies with the Stormwater Regulations set forth in 15A NCAC 2H.1000 amended on January 1, 2017 (2017 Rules). We are hereby forwarding Permit No. SW7210201 dated March 2, 2021, for the construction of the built-upon areas (BUA) and vegetated conveyances associated with the subject project.

This permit shall be effective from the date of issuance until rescinded and the project shall be subject to the conditions and limitations as specified therein and does not supersede any other agency permit that may be required. Failure to comply with these requirements will result in future compliance problems. Please note that this permit is not transferable except after notice to and approval by the Division. This cover letter, attachments, and all documents on file with DEMLR shall be considered part of this permit and is herein incorporated by reference.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing by filing a written petition with the Office of Administrative Hearings (OAH). The written petition must conform to Chapter 150B of the North Carolina General Statutes and must be filed with the OAH within thirty (30) days of receipt of this permit. You should contact the OAH with all questions regarding the filing fee (if a filing fee is required) and/or the details of the filing process at 6714 Mail Service Center, Raleigh, NC 27699-6714, or via telephone at 919-431-3000, or visit their website at www.NCOAH.com. Unless such demands are made this permit shall be final and binding.

If you have any questions concerning this permit, please contact the Washington Regional Office, at (252) 946-6481.

Sincerely,

Samir Dumpor, PE
Regional Engineer

Enclosures: Attachment A – Designer's Certification Form
Attachment B – Built-Upon Area Allocation

cc: WARO
stuartinnes1@gmail.com
kim.hamby@timmons.com



STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF ENERGY, MINERAL AND LAND RESOURCES

STATE STORMWATER MANAGEMENT PERMIT
LOW DENSITY SUBDIVISION DEVELOPMENT

In compliance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations promulgated and adopted by the North Carolina Environmental Management Commission, including 15A NCAC 02H.1000 amended on January 1, 2017 (2017 Rules), the "stormwater rules"),

PERMISSION IS HEREBY GRANTED TO

Boswood Estates, LLC

Mr. Stuart Innes

Currituck County

FOR THE

construction, management, operation and maintenance of built-upon area (BUA) for a 24% low density subdivision project (the "low density area") located adjacent to Caratoke Highway in Barco, NC, and discharging to Coinjock Bay, Class SC waters, as outlined in the application, approved stormwater management plans, supplements, calculations, operation and maintenance agreement, recorded documents, specifications, and other supporting data (the "approved plans and specifications") as attached and/or on file with and approved by the Division of Energy, Mineral and Land Resources (the "Division" or "DEMLR"). The project shall be constructed, operated and maintained in accordance with these approved plans and specifications. The approved plans and specifications are incorporated by reference and are enforceable parts of this permit.

This permit shall be effective from the date of issuance until rescinded and shall be subject to the following specified conditions and limitations. The permit shall continue in force and effect until the permittee files a request with the Division for a permit modification, transfer, or rescission; however, these actions do not stay any condition. The issuance of this permit does not prohibit the Director from reopening and modifying the permit, revoking and reissuing the permit, or terminating the permit for cause as allowed by the laws, rules, and regulations contained in 15A NCAC 2H.1000 and NCGS 143-215.1 et.al.

1. **BUA REQUIREMENTS.** The maximum amount of BUA allowed for the entire project is 153,194 square feet. The BUA requirements and allocations for this project are as follows:

- a. **LOW DENSITY AREA BUA LIMITS.** The low density area, in the approved plans and specifications, must not exceed 24% per the requirements of the stormwater rules. Within this low density area, this permit approves a percent BUA of 24% and the construction of a total of 153,194 square feet of BUA. This permit does not provide any allocation of BUA for future development within this low density area.
 - b. **BUA FOR INDIVIDUAL LOTS.** Each of the (14) lots are limited to a maximum of 8,000 square feet of BUA, as indicated in the approved plans and specifications. **The maximum BUA assigned to each lot via this permit and the recorded deed restrictions and protective covenants may not be increased or decreased by either the individual lot owner or the permittee unless and until the permittee notifies the Division and obtains written approval from the Division.**
2. **PERVIOUS AREA IMPROVEMENTS.** At this time, none of the pervious area improvements listed in G.S. 143-214.7(b2) or the Stormwater Design Manual have been proposed for this project. Pervious area improvements will be allowed in this project if documentation is provided demonstrating those improvements meet the requirements of the stormwater rule.
3. **LOW DENSITY AREA REQUIREMENTS.** The low density area requirements for this project are as follows:
 - a. **LOW DENSITY AND CONVEYANCE DESIGN.** The low density area is permitted based on the design criteria presented in the sealed, signed and dated supplement and as shown in the approved plans and specifications. This low density area and conveyances must be provided and maintained at the design condition.
 - b. **PIPING.** Only minimal amounts of piping under driveways and roads are allowed within the low density area. No additional piping is allowed.
 - c. **DISPERSED FLOW.** The low density area has maximized dispersed flow of stormwater runoff through vegetated areas and minimized the channelization of flow.
 - d. **VEGETATED CONVEYANCES.** Stormwater runoff that could not be released as dispersed flow may be transported by vegetated conveyances with minimum side slopes of 3:1 (H:V). Swales shall be designed for the peak flow from the 10-year storm event as defined in the stormwater rules and approved by the Division.
4. **VEGETATED SETBACKS.** A 50-foot wide vegetative setback must be provided and maintained in grass or other vegetation adjacent to all surface waters as shown on the approved plans. The setbacks are measured horizontally from the normal pool elevation of impounded structures, from the top of bank of each side of streams or rivers, and from the mean high waterline of tidal waters, perpendicular to the shoreline.

- a. **RELEASE OF STORMWATER NOT TREATED IN A STORMWATER CONTROL MEASURE (SCM).** Stormwater that is not treated in an SCM, such as in the low density area (including roof drains), must be released at the edge of the vegetated setback and allowed to flow through the setback as dispersed flow.
5. **RECORDED DOCUMENT REQUIREMENTS.** The stormwater rules require the following documents to be recorded with the Office of the Register of Deeds prior to the sale of individual lots or groups of lots:
- a. **ACCESS AND/OR EASEMENTS.** The entire stormwater conveyance system and maintenance accesses must be located in public rights-of-way, dedicated common areas that extend to the nearest public right-of-way, and/or permanent recorded easements that extend to the nearest public right-of-way for the purpose of inspection, operation, maintenance, and repair.
 - b. **OPERATION AND MAINTENANCE AGREEMENT.** The operation and maintenance agreement must be recorded with the Office of the Register of Deeds.
 - c. **FINAL PLATS.** The final recorded plats must reference the operation and maintenance agreement and must also show all public rights-of-way, dedicated common areas, and/or permanent drainage easements, in accordance with the approved plans.
 - d. **DEED RESTRICTIONS AND PROTECTIVE COVENANTS.** Recorded deed restrictions and protective covenants must include, at a minimum, the following statements related to stormwater management:
 - i. The following covenants are intended to ensure ongoing compliance with State Stormwater Management Permit Number SW7210201, as issued by the Division of Energy, Mineral and Land Resources (the "Division") under 15A NCAC 02H.1000, effective January 1, 2017.
 - ii. The State of North Carolina is made a beneficiary of these covenants to the extent necessary to maintain compliance with the Stormwater Management Permit.
 - iii. These covenants are to run with the land and be binding on all persons and parties claiming under them.
 - iv. The covenants pertaining to stormwater may not be altered or rescinded without the express written consent of the Division.
 - v. Alteration of the drainage as shown on the approved plans may not take place without the concurrence of the Division.
 - vi. The maximum built-upon area (BUA) per lot is 8,000 square feet. This allotted amount includes any BUA constructed within the lot property boundaries, and that portion of the right-of-way between the front lot line and the edge of the pavement not shown on the approved plans. BUA has the same meaning as G.S. 143-214.7, as amended.
 - vii. The maximum allowable BUA shall not be exceeded on any lot until the permit is modified to ensure compliance with the stormwater rules, permit, and the approved plans and specifications.
 - viii. Filling in, piping or altering any vegetated conveyances (ditches, swales, etc.) associated with the development, except for average driveway crossings, is prohibited by any persons.
 - ix. A 50-foot wide vegetative setback must be provided and maintained adjacent to all surface waters in accordance with 15A NCAC 02H.1003(4) and the approved plans.

- x. All roof drains shall be released no closer than at the edge of the 50-foot wide vegetated setback and allowed to flow through the setback as dispersed flow. At no time shall stormwater runoff be piped into or through the setback.
 - xi. Any individual or entity found to be in noncompliance with the provisions of a stormwater management permit or the requirements of the stormwater rules is subject to enforcement procedures as set forth in NCGS 143, Article 21.
- e. DEEDS FOR INDIVIDUAL LOTS. The permittee shall record deed restrictions and protective covenants prior to the issuance of a certificate of occupancy to ensure the permit conditions and the approved plans and specifications are maintained in perpetuity.
6. CONSTRUCTION. During construction, erosion shall be kept to a minimum and any eroded areas of the on-site stormwater system will be repaired immediately.
- a. PROJECT CONSTRUCTION, OPERATION AND MAINTNEANCE. During construction, all operation and maintenance for the project and stormwater system shall follow the Erosion Control Plan requirements until the Sediment-Erosion Control devices are no longer needed.
 - b. FINAL GRADING. The vegetated areas and vegetated conveyances shall be entirely constructed and vegetated. Once the final grading is completed and the site is stabilized, the permittee shall provide and perform the operation and maintenance as outlined in the applicable section below.
7. MODIFICATIONS. No person or entity, including the permittee, shall alter any component shown in the approved plans and specifications, except for minimum driveway crossings. Prior to the construction of any modification to the approved plans, the permittee shall submit to the Director, and shall have received approval for modified plans, specifications, and calculations including, but not limited to, those listed below. For changes to the project that impact the certifications, a new or updated certification(s), as applicable, will be required and a copy must be submitted to the appropriate DEQ regional office upon completion of the modification.
- a. Any modification to the approved plans and specifications, regardless of size including the BUA, details, etc.
 - b. Redesign or addition to the approved amount of BUA.
 - c. Further development, subdivision, acquisition, lease or sale of any, all or part of the project and/or property area as reported in the approved plans and specifications.

- d. The construction of any permeable pavement, #57 stone area, public trails, or landscaping material within the common areas to be considered a permeable surface that were not included in the approved plans and specifications.
 - e. Altering, modifying, removing, relocating, redirecting, regrading, or resizing of any component of the approved stormwater collection system and/or vegetative conveyance shown on the approved plan, except for minimum driveway crossings within the low density area.
 - f. The construction of any allocated future BUA.
 - g. Adding the option to use permeable pavement or #57 stone within the lots as a permeable surface. The request may require a proposed amendment to the deed restrictions and protective covenants for the subdivision to be submitted and recorded.
 - h. Other modifications as determined by the Director.
8. DESIGNER'S CERTIFICATION. Upon completion of the project, the permittee shall determine if the project is in compliance with the approved plans and take the necessary following actions:
- a. If the permittee determines that the project is in compliance with the approved plans, then within 45 days of completion, the permittee shall submit to the Division one hard copy and one electronic copy of the following:
 - i. The completed and signed Designer's Certification provided in Attachment A noting any deviations from the approved plans and specifications. Deviations may require approval from the Division;
 - ii. A copy of the recorded operation and maintenance agreement;
 - iii. Unless already provided, a copy of the recorded deed restrictions and protective covenants; and
 - iv. A copy of the recorded plat delineating the public rights-of-way, dedicated common areas and/or permanent recorded easements, when applicable.
 - b. If the permittee determines that the project is not in compliance with the approved plans, the permittee shall submit an application to modify the permit within 30 days of completion of the project or provide a plan of action, with a timeline, to bring the site into compliance.
9. OPERATION AND MAINTENANCE. The permittee shall provide and perform the operation and maintenance necessary, as listed in the signed operation and maintenance agreement to assure that all components of the permitted on-site stormwater system are maintained at the approved design condition. The approved operation and maintenance agreement must be followed in its entirety and maintenance must occur at the scheduled intervals.

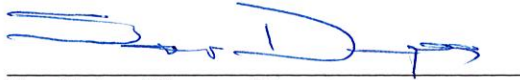
- a. **CORRECTIVE ACTIONS REQUIRED.** In the event that the low density area fails to meet the requirements of low density, the permittee shall take immediate corrective actions. This includes actions required by the Division and the stormwater rules such as the construction of additional or replacement on-site stormwater systems. These additional or replacement measures shall receive a permit from the Division prior to construction.
 - b. **MAINTENANCE RECORDS.** Records of maintenance activities must be kept and made available upon request to authorized personnel of the Division. The records will indicate the date, activity, name of person performing the work and what actions were taken.
10. **CURRENT PERMITTEE NAME OR ADDRESS CHANGES.** The permittee shall submit a completed Permit Information Update Application Form to the Division within 30 days to making any one or more of the following changes:
 - a. A name change of the current permittee;
 - b. A name change of the project;
 - c. A mailing address change of the permittee.
11. **TRANSFER.** This permit is not transferable to any person or entity except after notice to and approval by the Director. Neither the sale of the project and/or property, in whole or in part, nor the conveyance of common area to a third party constitutes an approved transfer of the permit.
 - a. **TRANSFER REQUEST.** The transfer request must include the appropriate application, documentation and the processing fee as outlined in 15A NCAC 02H.1045(2) and must be submitted upon occurrence of any one or more of the following events:
 - i. The sale or conveyance of the project and/or property area in whole or in part, except in the case of an individual residential lot sale that is made subject to the recorded deed restrictions and protective covenants;
 - ii. The assignment of declarant rights to another individual or entity;
 - iii. The sale or conveyance of the common areas to a Homeowner's or Property Owner's Association, subject to the requirements of NCGS 143-214.7(c2);
 - iv. Dissolution of the partnership, corporate, or LLC entity, subject to NCGS 55-14-05 or NCGS 57D-6-07 and 08;
 - v. Bankruptcy;
 - vi. Foreclosure, subject to the requirements of Session Law 2013-121;
 - b. **TRANSFER INSPECTION.** Prior to transfer of the permit, a file review and site inspection will be conducted by Division personnel to ensure the permit conditions have been met and that the project and the on-site stormwater system complies with the permit conditions. Records of maintenance activities performed to date may be requested. Projects not in compliance with the permit will not be transferred until all permit and/or general statute conditions are met.

12. COMPLIANCE. The permittee is responsible for complying with the terms and conditions of this permit and the approved plans and specifications until the Division approves the transfer request.
 - a. REVIEWING AND MONITORING EACH LOT FOR COMPLIANCE. The permittee is responsible for verifying that the proposed BUA on each individual lot, within each drainage area and for the entire project does not exceed the maximum amount allowed by this permit. The permittee shall review all individual lot plans for new construction and all subsequent modifications and additions for compliance. The plans reviewed must include all proposed BUA, grading, and driveway pipe placement. The permittee shall not approve any lot plans where the maximum allowed BUA limit has been exceeded or where modifications are proposed to the grading and/or to the stormwater collection system and/or to the vegetated conveyance unless and until a permit modification has been approved by the Division. The permittee shall review and routinely monitor the project and each lot to ensure continued compliance with the conditions of the permit, the approved plans and specifications, and the recorded deed restrictions and protective covenants. The permittee shall notify any lot owner that is found to be in noncompliance with the conditions of this permit in writing and shall require timely resolution.
 - b. ARCHITECTURAL REVIEW BOARD (ARB) OR COMMITTEE (ARC). The permittee may establish an ARB or ARC to conduct individual lot reviews. However, any approval given by the ARB or ARC on behalf of the permittee does not relieve the permittee of the responsibility to maintain compliance with the conditions of the permit and the approved plans and specifications.
 - c. APPROVED PLANS AND SPECIFICATIONS. A copy of this permit, approved plans, application, supplements, operation and maintenance agreement, all applicable recorded documents, and specifications shall be maintained on file by the permittee at all times.
 - d. DIVISION ACCESS. The permittee grants Division Staff permission to enter the property during normal business hours to inspect all components of the permitted project.
 - e. ENFORCEMENT. Any individual or entity found to be in noncompliance with the provisions of a stormwater management permit or the requirements of the stormwater rules is subject to enforcement procedures as set forth in NCGS 143 Article 21.
 - f. OBTAINING COMPLIANCE. The Director may notify the permittee when the permitted site does not meet one or more of the minimum requirements of the permit. Within the time frame specified in the notice, the permittee shall submit a written time schedule to the Director for modifying the site to meet minimum requirements. The permittee shall provide copies of modified plans and certification in writing to the Director that the changes have been made.

- g. OTHER PERMITS. The issuance of this permit does not preclude the permittee from obtaining and complying with any and all other permits or approvals that are required for this development to take place, as required by any statutes, rules, regulations, or ordinances, which are imposed by any other Local, State or Federal government agency having jurisdiction. Any activities undertaken at this site that cause a water quality violation or undertaken prior to receipt of the necessary permits or approvals to do so are considered violations of NCGS 143-215.1, and subject to enforcement procedures pursuant to NCGS 143-215.6.

Permit issued this the 2nd day of March 2021.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION



For Brian Wrenn, Director
Division of Energy, Mineral and Land Resources
By Authority of the Environmental Management Commission

Permit Number SW7210201

Attachment A

Certification Forms

The following blank Designer Certification forms are included and specific for this project:

- As-Built Permittee Certification
- As-Built Designer's Certification for Low Density Projects

A separate certification is required for each SCM. These blank certification forms may be copied and used, as needed, for each SCM and/or as a partial certification to address a section or phase of the project.

AS-BUILT PERMITTEE CERTIFICATION

I hereby state that I am the current permittee for the project named above, and I certify by my signature below, that the project meets the below listed Final Submittal Requirements found in NCAC 02H.1042(4) and the terms, conditions and provisions listed in the permit documents, plans and specifications on file with or provided to the Division.

- Check here if this is a partial certification. Section/phase/SCM #? _____
 Check here if this is part of a Fast Track As-built Package Submittal.

Printed Name _____ Signature _____

I, _____, a Notary Public in the State of _____

County of _____, do hereby certify that _____

personally appeared before me this _____ day of _____, 20_____

and acknowledge the due execution of this as-built certification. (SEAL)

Witness my hand and official seal

 My commission expires _____

Permittee's Certification NCAC .1042(4)	Completed / Provided	N/A
A. DEED RESTRICTIONS / BUA RECORDS		
1. The deed restrictions and protective covenants have been recorded and contain the necessary language to ensure that the project is maintained consistent with the stormwater regulations and with the permit conditions.	Y or N	
2. A copy of the recorded deed restrictions and protective covenants has been provided to the Division.	Y or N	
3. Records which track the BUA on each lot are being kept. (See Note 1)	Y or N	
B. MAINTENANCE ACCESS		
1. The SCMs are accessible for inspection, maintenance and repair.	Y or N	
2. The access is a minimum of 10 feet wide.	Y or N	
3. The access extends to the nearest public right-of-way.	Y or N	
C. EASEMENTS		
1. The SCMs and the components of the runoff collection / conveyance system are located in recorded drainage easements.	Y or N	
2. A copy of the recorded plat(s) is provided.	Y or N	
D. SINGLE FAMILY RESIDENTIAL LOTS - Plats for residential lots that have an SCM include the following:	Y or N	
1. The specific location of the SCM on the lot.	Y or N	
2. A typical detail for the SCM.	Y or N	
3. A note that the SCM is required to meet stormwater regulations and that the lot owner is subject to enforcement action as set forth in NCGS 143 Article 21 if the SCM is removed, relocated or altered without prior approval.	Y or N	

E. OPERATION AND MAINTENANCE AGREEMENT	Y or N	
1. The O&M Agreement is referenced on the final recorded plat.	Y or N	
2. The O&M Agreement is recorded with the Register of Deeds and appears in the chain of title.	Y or N	
F. OPERATION AND MAINTENANCE PLAN - maintenance records are being kept in a known set location for each SCM and are available for review.	Y or N	
G. DESIGNER'S CERTIFICATION FORM - has been provided to the Division.	Y or N	

Note 1- Acceptable records include ARC approvals, as-built surveys, and county tax records.

Provide an explanation for every requirement that was not met, and for every "N/A" below. Attach additional sheets as needed.

AS-BUILT DESIGNER'S CERTIFICATION FOR LOW DENSITY PROJECTS

I hereby state that I am a licensed professional and I certify by my signature and seal below, that I have observed the construction of the project named above to the best of my abilities with all due care and diligence, and that the project meets all of the MDC found in 15A NCAC 02H.1003, in accordance with the permit documents, plans and specifications on file with or provided to the Division, except as noted on the "AS-BUILT" drawings, such that the intent of the stormwater rules and the general statutes has been preserved.

- Check here if this is a partial certification. Section or phase _____
- Check here if this is part of a Fast-Track As-Built Package Submittal per 15A NCAC 02H .1044(3).
- Check here if the Designer did not observe the construction but is certifying the project.
- Check here if pictures of the project are provided.

Printed Name _____ Signature _____

NC Registration Number _____ Date _____

SEAL:

Consultant's Mailing Address:

 City: _____ State: _____
 Zip: _____
 Phone: (____) _____
 Consultant's Email address:

- ① Circle N if the as-built value differs from the Plan/permit. If N is circled, provide an explanation on page 3.
- ② N/E = Not Evaluated (provide explanation on page 2). ③ N/A = Not Applicable to this project/plan.

Consultant's Certification (MDC 15A NCAC 02H .1003)			
Project Density and Built-Upon Area	①As-built	②N/E	③N/A
1. The project has areas of high density based on natural drainage area boundaries, variations in land use or construction phasing.	Y or N		
2. The project's built-upon area does not exceed the maximum limit specified in the permit.	Y or N		
Dispersed Flow	①As-built	②N/E	③N/A
1. The project maximizes dispersed flow through vegetated areas and minimizes channelized flow.	Y or N		

Vegetated Conveyances	①As-built	②N/E	③N/A
1. Stormwater that is not released as dispersed flow is transported by vegetated conveyances.	Y or N		
2. The project has a minimal amount of non-vegetated conveyances to reduce erosion.	Y or N		
3. Other than minimal piping under driveways and roads, no piping has been added beyond what is shown on the approved plans.	Y or N		
4. Side slopes are no steeper than 3H:1V.	Y or N		
5. The conveyance does not erode in response to the peak flow from the 10-year storm.	Y or N		
Curb outlet systems (if applicable)	①As-built	②N/E	③N/A
1. The swale or vegetated area can carry the peak flow from the 10-year storm at a non-erosive velocity.	Y or N		
2. The longitudinal slope of the swale or vegetated areas does not exceed 5%.	Y or N		
3. The swale has a trapezoidal cross-section and a minimum bottom width of two feet.	Y or N		
4. The minimum length of the swale or vegetated area is 100 feet.	Y or N		
5. Side slopes are no steeper than 3H:1V.	Y or N		
6. The project utilizes treatment swales designed per Section 1061 in lieu of the curb outlet system requirements.	Y or N		
Vegetated Setbacks (if applicable)	①As-built	②N/E	③N/A
1. The width of the vegetated setback is at least 50'.	Y or N		
2. The width of the vegetated setback has been measured from the normal pool of impounded waters, the MHW line of tidal waters, or the top of bank of each side of rivers or streams.	Y or N		
3. The vegetated setback is maintained in grass or other vegetation.	Y or N		
4. BUA that meets the requirements of NCGS 143-214.7(b2) (2) is located in the setback.	Y or N		
5. BUA that does NOT meet the requirements of NCGS 143-214.7(b2) (2) located within the setback and is limited to: <ul style="list-style-type: none"> • Publicly-funded linear projects (road, greenway, or sidewalk) • Water dependent structures • Minimal footprint uses such as poles, signs, utility appurtenances, and security lights. 	Y or N		

6. The amount of BUA within the setback is minimized, and channeling of the runoff from the BUA has been avoided.	Y or N		
7. Stormwater is not discharged (via swale or pipe) through a vegetated setback. Stormwater is released at the edge of the setback and allowed to flow through the setback as dispersed flow.	Y or N		
Outlets	①As-built	②N/E	③N/A
1. Stormwater outlets do not cause erosion downslope of the discharge point during the peak flow from the 10-year storm.	Y or N		
Variations	①As-built	②N/E	③N/A
1. The project has variations from the MDC that were not previously approved. (Modification may be required.)	Y or N		
Deed restrictions (if applicable)	①As-built	②N/E	③N/A
1. Deed restrictions are recorded and ensure that the project and the BUA will be maintained in perpetuity consistent with the permit, approved plans, and specifications.	Y or N		
For Subdivisions Only (Residential or Commercial)	①As-built	②N/E	③N/A
1. The number of platted lots is consistent with the approved plans.	Y or N		
2. The project area is consistent with the approved plans.	Y or N		
3. The layout of the lots and streets is consistent with the approved plan.	Y or N		
4. The width / radius of streets, paved accesses, cul-de-sacs and sidewalk is consistent with the approved plan.	Y or N		
5. No piping, other than those minimum amounts needed under a driveway or under a road, has been added.	Y or N		
6. The lot grading, road grading, vegetated conveyances, piping, inverts, and elevations are consistent with the approved plans.	Y or N		

Provide an explanation below for every MDC that was not met, and for every item marked "N/A" or "N/E." Attach additional pages as needed.

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

Action Id. SAW-2020-00073 County: Currituck County U.S.G.S. Quad: Barco

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Applicant: Dodson Mathias
Address: 400 Avinger Lane
Villa 609
Davidson, NC, 28036

Size (acres)	<u>29.64</u>	Nearest Town	<u>Barco</u>
Nearest Waterway	<u>Currituck Sound</u>	River Basin	<u>Albemarle-Chowan</u>
USGS HUC	<u>03010205</u>	Coordinates	Latitude: <u>36.394244</u> Longitude: <u>-75.978563</u>

Location description: Property is located at 3860 Caratoke Highway, 0.5 miles north of Shortcut Road and Caratoke Highway intersection, near the town of Barco, Currituck County, North Carolina. Property can be identified by Parcel Index Number 0060000053A0000 and is currently in both agricultural and forested abutting the Currituck Sound.

Indicate Which of the Following Apply:

A. Preliminary Determination

- There are waters, including wetlands, on the above described property, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). The waters, including wetlands, have been delineated, and the delineation has been verified by the Corps to be sufficiently accurate and reliable. Therefore this preliminary jurisdiction determination may be used in the permit evaluation process, including determining compensatory mitigation. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a preliminary JD will treat all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). However, you may request an approved JD, which is an appealable action, by contacting the Corps district for further instruction.
- There are wetlands on the above described property, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). However, since the waters, including wetlands, have not been properly delineated, this preliminary jurisdiction determination may not be used in the permit evaluation process. Without a verified wetland delineation, this preliminary determination is merely an effective presumption of CWA/RHA jurisdiction over all of the waters, including wetlands, at the project area, which is not sufficiently accurate and reliable to support an enforceable permit decision. We recommend that you have the waters of the U.S. on your property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.

B. Approved Determination

- There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403) and Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- There are waters of the U.S., including wetlands, on the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA) (33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- We recommend you have the waters of the U.S. on your property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.

SAW-2020-00073

The waters of the U.S., including wetlands, on your project area have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

The waters of the U.S., including wetlands, have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

There are no waters of the U.S., to include wetlands, present on the above described project area which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Elizabeth City, NC, at (252) 264-3901 to determine their requirements.

Placement of dredged or fill material within waters of the US, including wetlands, without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). Placement of dredged or fill material, construction or placement of structures, or work within navigable waters of the United States without a Department of the Army permit may constitute a violation of Sections 9 and/or 10 of the Rivers and Harbors Act (33 USC § 401 and/or 403). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **Krystynka Stygar at (910) 251-4619 or Krystynka.B.Stygar@usace.army.mil.**

C. Basis For Determination: This property exhibits wetland criteria as described in the 1987 Corps Wetland Delineation Manual and the Atlantic and Gulf Coast Regional Supplement. The Section 404 wetlands are directly abutting the Currituck Sound a Traditional Navigable Water.

D. Remarks:

E. Attention USDA Program Participants

This delineation/determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

F. Appeals Information for Approved Jurisdiction Determinations (as indicated in Section B. above)

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

US Army Corps of Engineers
South Atlantic Division
Attn: Philip Shannin, Appeal Review Officer
60 Forsyth Street SW, Room 10M15
Atlanta, Georgia 30303-8801

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by NA.

It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: _____

Krystynka Stygar

SAW-2020-00073

Date: **March 25, 2020** Expiration Date: NA

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Copy Furnished

Doug Dorman
PO Box 3266
Kitty Hawk, NC 27949

dougdaec@gmail.com

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: **Dodson Mathias**File Number: **SAW-2020-00073**Date: **March 25, 2020**

Attached is:

See Section below

<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input checked="" type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:
District Engineer, Wilmington Regulatory Division,
Attn: Krystynka Stygar
2407 West 5th Street
Washington, NC 27889

If you only have questions regarding the appeal process you may also contact:
 Mr. Philip Shannin, Administrative Appeal Review Officer
 CESAD-PDO
 U.S. Army Corps of Engineers, South Atlantic Division
 60 Forsyth Street, Room 10M15
 Atlanta, Georgia 30303-8801
 Phone: (404) 562-5137

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

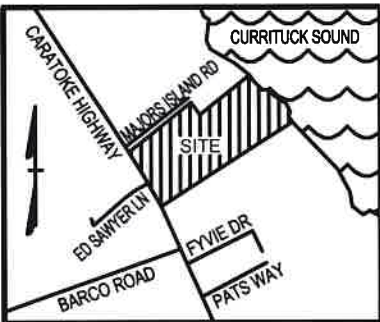
_____ Signature of appellant or agent.	Date:	Telephone number:
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For appeals on Initial Proffered Permits send this form to:

District Engineer, Wilmington Regulatory Division, Attn: Krystynka Stygar, 2407 West 5th Street, Washington, NC 27889

For Permit denials, Proffered Permits and approved Jurisdictional Determinations send this form to:

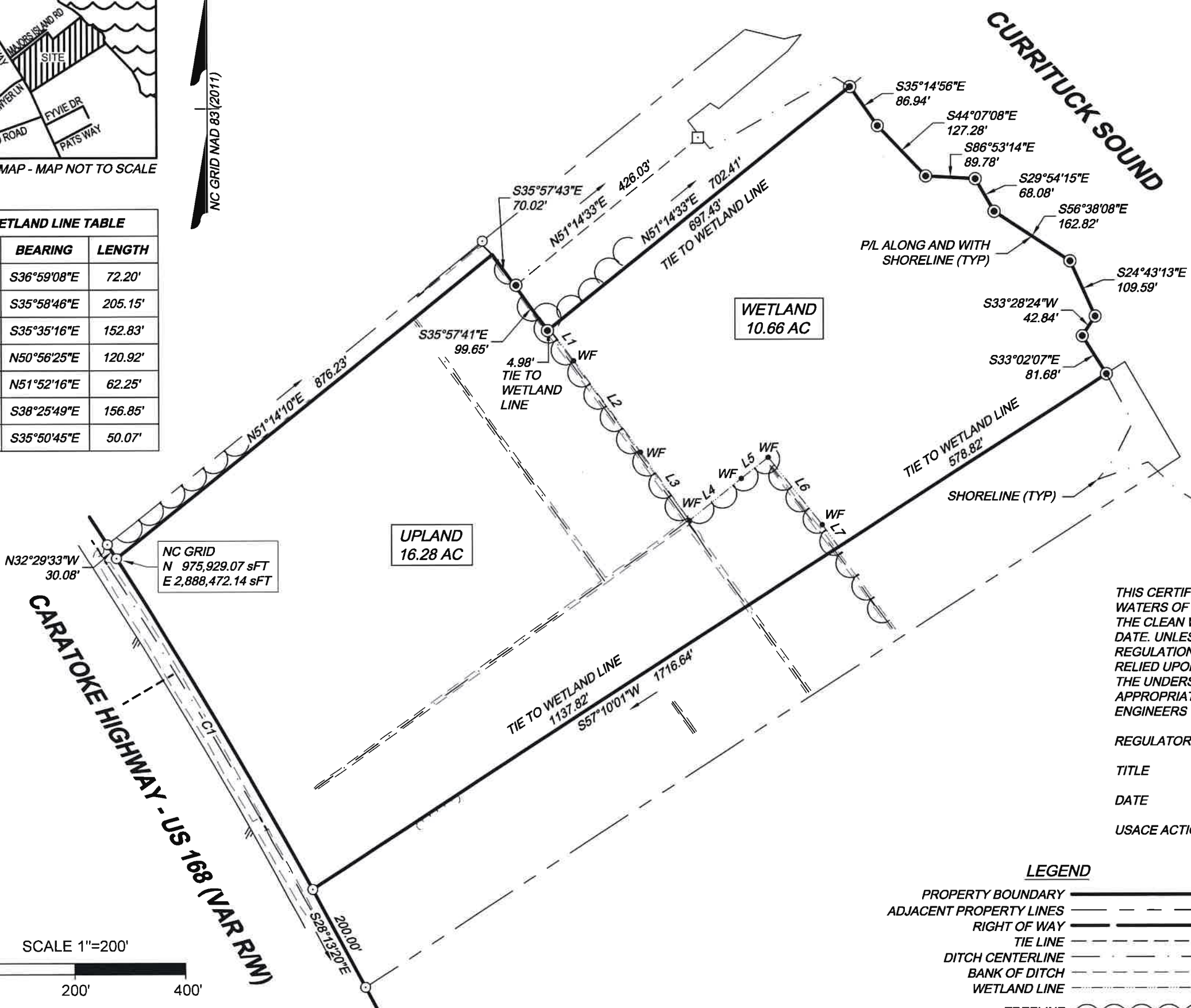
Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Philip Shannin, Administrative Appeal Officer, CESAD-PDO, 60 Forsyth Street, Room 10M15, Atlanta, Georgia 30303-8801 Phone: (404) 562-5137



VICINITY MAP - MAP NOT TO SCALE

NC GRID NAD 83 (2011)

WETLAND LINE TABLE		
LINE	BEARING	LENGTH
L1	S36°59'08"E	72.20'
L2	S35°58'46"E	205.15'
L3	S35°35'16"E	152.83'
L4	N50°56'25"E	120.92'
L5	N51°52'16"E	62.25'
L6	S38°25'49"E	156.85'
L7	S35°50'45"E	50.07'



I CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION FROM DEED DESCRIPTION RECORDED IN BOOK 211, PAGE 466; THAT THE BOUNDARIES NOT SURVEYED ARE INDICATED AS DRAWN; THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY IS 1:10,000±; AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA 21 NCAC 56. 1600. THAT THIS MAP WAS PREPARED IN ACCORDANCE WITH BOARD RULES.

WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER, AND SEAL, THIS 9TH DAY OF MARCH, 2020.

Jason A. Mizelle
 JASON A. MIZELLE, PLS L-4719



THIS CERTIFIES THAT THIS COPY OF THIS PLAT IDENTIFIES ALL AREAS OF WATERS OF THE UNITED STATES REGULATED PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT AS DETERMINED BY THE UNDERSIGNED ON THIS DATE. UNLESS THERE IS CHANGE IN THE LAW OR OUR PUBLISHED REGULATIONS, THIS DETERMINATION OF SECTION 404 JURISDICTION MAY BE RELIED UPON FOR A PERIOD NOT TO EXCEED FIVE YEARS FROM THIS DATE. THE UNDERSIGNED COMPLETED THIS DETERMINATION UTILIZING THE APPROPRIATE REGIONAL SUPPLEMENT TO THE 1987 U.S. ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL.

REGULATORY OFFICIAL _____
 TITLE _____
 DATE _____
 USACE ACTION ID NO.: _____

- LEGEND**
- PROPERTY BOUNDARY ————
 - ADJACENT PROPERTY LINES - - - -
 - RIGHT OF WAY ————
 - TIE LINE - - - -
 - DITCH CENTERLINE ————
 - BANK OF DITCH - - - -
 - WETLAND LINE - - - -
 - TREELINE
 - EXISTING IRON ROD (EIR)
 - CONCRETE MONUMENT
 - CALCULATED POINTS
 - CULVERT PIPE
 - DELINEATED WETLAND POINTS



CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD BEARING	CHORD
C1	11539.16'	695.78'	347.99'	3°27'17"	N30°31'05"W	695.67'

TOTAL PARCEL AREA: 26.94 ACRES
 PROJECT REVIEW BOUNDARY: 26.94 ACRES
 WETLANDS WITHIN PROJECT BOUNDARY: 10.66 ACRES

WETLAND SURVEY FOR
G. DODSON MATHIAS
 PROPERTY DESCRIBED IN
DEED BOOK 211, PAGE 466

Crawford Township	Currituck County, NC
DATE: March 9, 2020	SCALE: 1" = 200'
SHEET 1 OF 1	J.N.: 44845
DRAWN BY: J. Sawyer	CHECK BY: J. Mizelle
REVISIONS:	

S:\10944845 - Boswood Estates - Mathias Property - Barco, NCDWMG44845_V_404 wetlands.dwg | Plotted on 3/9/2020 1:39 PM | by John Sawyer

THIS DRAWING PREPARED AT THE
 ELIZABETH CITY OFFICE
 1805 West City Drive, Unit E | Elizabeth City, NC 27909
 TEL: 252.621.5030 FAX: 252.562.6974 www.timmons.com
 North Carolina License No. C-1652

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP



NORTH CAROLINA
Environmental Quality

February 15, 2021

ROY COOPER

Governor

MICHAEL S. REGAN

Secretary

S. DANIEL SMITH

Director

Currituck County
Attention: Ben Stikeleather, County Manager
153 Courthouse Road
Currituck, North Carolina 27929

Re: Engineering Plans Approval
Distribution Extension
Boswood Estates
Currituck County Water System
Water System No.: NC0427010, Currituck County
Serial No.: 21-00102

Dear Applicant:

Enclosed please find one copy of the "Application for Approval..." together with one copy of the referenced engineering plans bearing the Division of Water Resources stamp of approval for the referenced project. These engineering plans are approved under Division of Water Resources Serial Number 21-00102, dated February 15, 2021.

Engineering plans prepared by Kimberly D. Hamby, P.E., call for the installation of approximately 1,020 feet of 8-inch water main, 330 feet of 4-inch water main, a fire hydrant, valves, and associated appurtenances along Dodson Drive and Mathias Court to serve 14 residential lots within Boswood Estates subdivision located off Caratoke Highway (US 168) across from Ed Sawyer Lane in Barco, Currituck County, NC. The proposed 8-inch water main will connect to an existing 12-inch water main along Caratoke Highway (US 168) at its intersection with Dodson Drive. The proposed project will be completed in two phases (Phase 1: lots 1-6; Phase 2: lots 7-14). Construction of this project must be in accordance with Currituck County Water System's standard specifications.

Please note that in accordance with 15A NCAC 18C .0309(a), no construction, alteration, or expansion of a water system shall be placed into service or made available for human consumption until the Public Water Supply Section has issued Final Approval. Final Approval will be issued and mailed to the applicant upon receipt of both an Engineer's Certification and an Applicant's Certification submitted in accordance with 15A NCAC 18C .0303 (a) and (c).

These plans in the foregoing application are approved insofar as the protection of public health is concerned as provided in the rules, standards and criteria adopted under the authority of Chapter 130A-317 of the General Statutes. This approval does not constitute a warranty of the design, construction, or future operation of the water system.



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1634 Mail Service Center | Raleigh, North Carolina 27699-1634
919.707.9100

One copy of the "Application for Approval..." and a copy of the plans with a seal of approval from the Department are enclosed. One copy of the approved documents in a digital format (CD) is being forwarded to our Washington Regional Office. The second copy of the CD is being retained in our office.

If the Public Water Supply Section can be of further service, please call (919) 707-9100.

Sincerely,

Monti Hassan /for

Robert W. Midgette, P.E.
Chief, Public Water Supply Section
Division of Water Resources

RWM/MH

Enclosures: Approval Documents

cc: Jamie Midgette, P.E., Washington Regional Office
Currituck County Health Department
Timmons Group



**NORTH CAROLINA
Environmental Quality**

February 15, 2021

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
S. DANIEL SMITH
Director

CURRITUCK COUNTY
ATTN: BEN STIKELEATHER
153 COURTHOUSE RC, SUITE 204
CURRITUCK, NC 27929

Re: **Authorization to Construct (This is not a Final Approval)**
Issue Date: February 15, 2021
BOSWOOD ESTATES
Serial No.: 21-00102 Water System No.: NC0427010
Currituck County

Dear Applicant:

This letter is to confirm that a complete Engineer's Report and a Water System Management Plan have been received, and that engineering plans and specifications have been approved by the Department for **BOSWOOD ESTATES, Serial No.: 21-00102.**

The "Authorization to Construct" is valid for 36 months from the issue date. Authorization to construct may be extended if the Rules Governing Public Water Supplies and site conditions have not changed (see Rule .0305). The "Authorization to Construct" and the engineering plans and specifications approval letter shall be posted at the primary entrance of the job site before and during construction.

Upon completion of the construction or modification, **and prior to placing the new construction or modification into service**, the applicant must submit an Engineer's Certification and Applicant's Certification to the Public Water Supply Section.

- **Engineer's Certification:** in accordance with Rule .0303 (a), the applicant shall submit a certification statement signed and sealed by a registered professional engineer stating that construction was completed in accordance with approved engineering plans and specifications, including any provisions stipulated in the Department's engineering plan and specification approval letter.
- **Applicant's Certification:** in accordance with Rule .0303 (c), the applicant shall submit a signed certification statement indicating that the requirements for an Operation and Maintenance Plan and Emergency Management Plan have been satisfied in accordance with Rule .0307 (d) and (e) and that the system has a certified operator in accordance with Rule .1300. The "Applicant's Certification" form is available at <http://www.ncwater.org/> (click on Public Water Supply Section, Plan Review, Plan Review Forms).

Certifications can be sent by mail, fax (919-715-4374), or attachment to an e-mail message to **PWSSection.PlanReview@ncdenr.gov**.

If this "Authorization to Construct" is for a new public water system, the owner must submit a completed **application for an Operating Permit** and the appropriate fee. For a copy of the application for an Operating Permit please call (919) 707-9085.

Once the certifications and permit application and fee (if applicable) are received and determined adequate, the Department will issue a Final Approval letter to the applicant. In accordance with Rule .0309 (a), **no portion of this project shall be placed into service until the Department has issued Final Approval.**

Please contact us at (919) 707-9100 if you have any questions or need additional information.

Sincerely,

Robert W. Midgette, P.E.
Chief, Public Water Supply Section

cc: JAMIE MIDGETTE, P.E., Regional Engineer
TIMMONS GROUP



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1634 Mail Service Center | Raleigh, North Carolina 27699-1634
919.707.9100

North Carolina Department of Environmental Quality
Division of Water Resources

Authorization to Construct

Project Applicant:	CURRITUCK COUNTY
Public Water System Name and Water System No.:	CURRITUCK COUNTY WATER SYSTEM NC0427010
Project Name:	BOSWOOD ESTATES
Serial No.:	21-00102
Issue Date:	February 15, 2021
Expiration Date:	36 Months after Issue Date

In accordance with NCAC 18C .0305, this Authorization to Construct must be posted
at the primary entrance to the job site during construction.
