Pender County

Agenda

Pender County Technical Review Committee Meeting
Thursday, September 7, 2023 @ 9:00 AM
Pender County Public Assembly Room

		Presenter	Page
1.	CALL TO ORDER		
2.	CASES		
2.1.	MDP 2023-58: Country Club (Carolina Creek EXT) MDP 2023-58 - Pdf		3 - 14
2.2.	MDP 2023-57 Point South MDP 2023-57 - Pdf		15 - 24
2.3.	SUBMAJ 2023.96 SUBMAJ 2023-96 - Pdf		25 - 69
2.4.	SUBMAJ 2023-97 Parcel I Preliminary Plat SUBMAJ 2023-97 - Pdf		71 - 109
3.	ADJOURNMENT		

Pender County
MDP 2023-58: Country Club (Carolina Creek EXT)

TO:	Technical Review Committee
FROM:	Justin Brantley
DATE:	September 7, 2023
SUBJECT:	MDP 2023-58: Country Club (Carolina Creek EXT)

SUMMARY:
Master Development Plan for the residential development of 52 single-family detached units and 74 townhome units. The subject property is zoned PD, Planned Development, consists of 29.63 acres, and may be further identified by Pender County PIN(s): 4203-25-5746-0000, 4203-35-3108-0000.

ACTION REQUESTED:
Case will be reviewed by the TRC.

ATTACHMENTS:
1. Application
2. Site Plan

DocuSign Envelope ID: 6DF2E6D1-4647-41FF-82E1-4B45538E06C5

Pender County
Planning and Community Development

805 S. Walker Street
PO Box 1519
Burgaw, NC 28425

Phone: 910-259-1202
Fax: 910-259-1295
www.pendercountync.gov

Planned Development & Residential Mixed Zoning Districts
Master Development Plan Submission

Applications will be considered for the Technical Review Committee hearing and reviewed by Staff only when deemed complete. The application will be regarded as incomplete until the following items are received by the Planning and Community Development Staff.

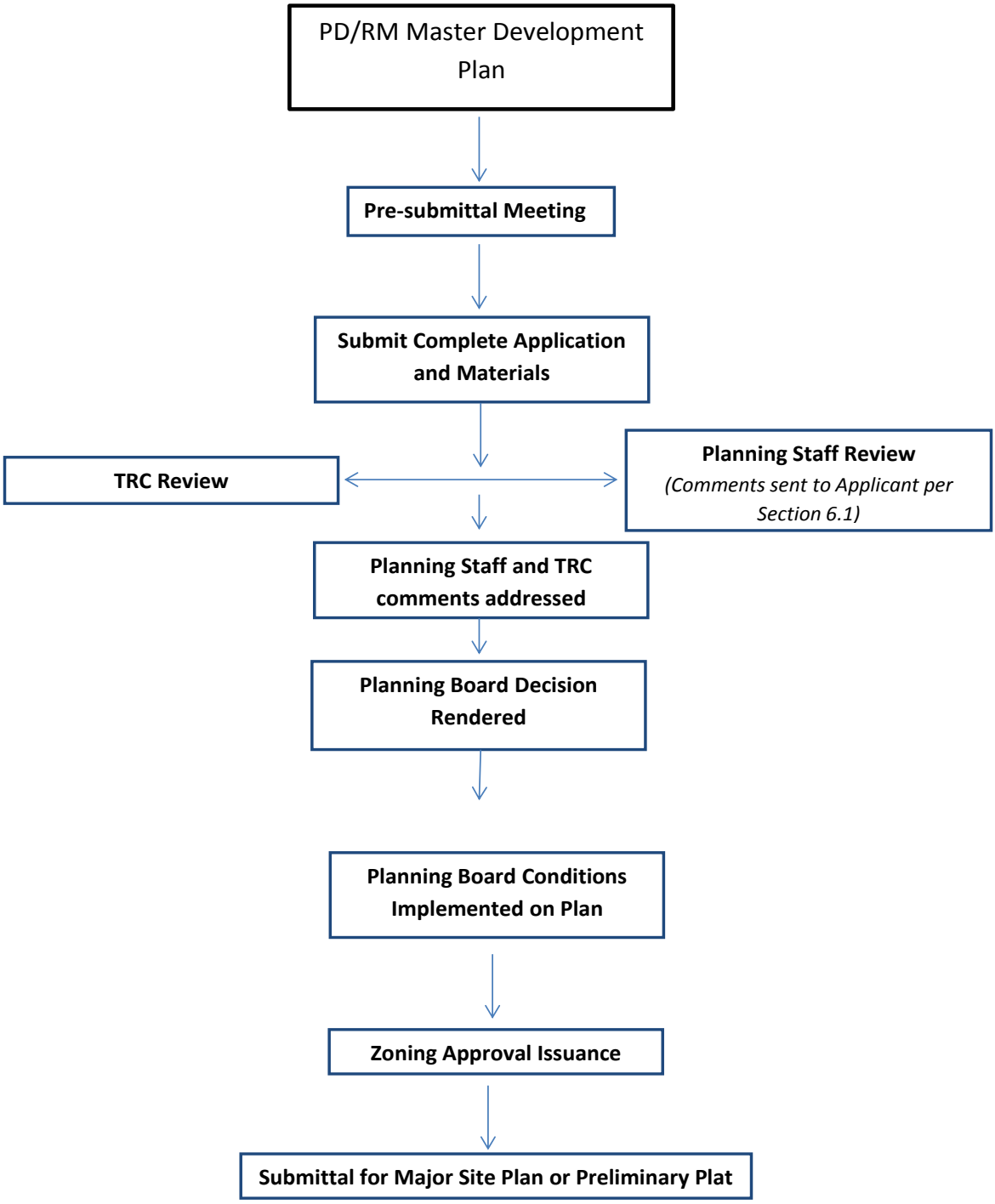
1. N/A — **Pre-submittal Meeting**
   Date of Meeting _____
2. X — **Signed Application**
3. X — **Payment**
   $500 plus $10 per acre for the first 100 acres, $5 per acre thereafter
4. X — **Paper Plan Sets**
   One (1) 24 x 36, Fifteen (15) 11 x 17
5. X — **Digital Submission**
   For all documents submitted in paper copy, bring a digital copy with paper submission.
6. X — **Adjacent Property List**
   A list of names and addresses, as obtained from the county tax listings and tax abstract, to the owners of all properties located within 500-feet of the of the perimeter of the project bounds.
7. X — **Adjacent Property Envelopes**
   The applicant shall provide a set of business envelopes addressed to each of the owners of all properties located within 500-feet of the perimeter of the project bounds and accompanied with the amount of postage required for first class postage.
8. N/A — **Permits**
   Please include any permits issued on the project including but not limited to: environmental, traffic analysis, utility, or other site specific conditions.
9. X — **Site Plan Requirements**
   A prepared site plan in accordance with the Unified Development Ordinance standards 6.1, Pender County Collector Street Plan, Pender County Transportation Plan, other approved State of Federal Transportation Improvement Plan, or any other adopted plan in Pender County.
   (See Master Development Plan Checklist)

I certify that all information presented in this application is accurate to the best of my knowledge.

Signature of Applicant: Adam G. Sosne (DocuSigned by: AB9D33404BDE429...) Date: 8/2/23

Printed Name: Adam G. Sosne, Manager
McAdams Homes, LLC

Staff Initials:	
Date:	


PD/RM Master Development Plan
Pre-submittal Meeting
Submit Complete Application and Materials
TRC Review
Planning Staff Review
(Comments sent to Applicant per Section 6.1)
Planning Staff and TRC comments addressed
Planning Board Decision Rendered
Planning Board Conditions Implemented on Plan
Zoning Approval Issuance
Submittal for Major Site Plan or Preliminary Plat

Specific requirements can be found in Section 6.1 of the Pender County Unified Development Ordinance

Master Development Plan – Mixed Use Districts Specific Requirements

1. Requirements

a. A land use plan
b. Boundaries of existing environmental features as defined
c. The proposed location of entrances to the development
d. Proposed parking areas.
e. The proposed location, arrangement, and right-of-way widths of roads and streets, including roads and streets -providing access to adjoining parcels
f. The use of adjoining parcels and the location of adjoining streets and utilities
g. The approximate location of sewer
h. Letter of intent for wastewater connection to package plant
i. The approximate location of water mains
j. Wastewater disposal method
k. Water source with statements
l. A conceptual plan for stormwater management
m. The proposed location and arrangement of all streets
n. Estimated AM and PM Peak Hour Trips per the Institute of Transportation Engineers Trip Generation Manual.
o. A Traffic Impact Analysis is required when the development generates 100 trips in the morning or peak hours or 1,000 trips per day. The Traffic Impact Analysis must state the dates and times the counts were conducted.
p. The location and treatment proposed for all historical structures
q. Timing of construction for all amenities

2. Roadways

a. Public roadways - Built to NCDOT Subdivision Roads Minimum Construction Standards
b. Private roadways - All designated private streets designed and constructed in compliance with the current NCDOT Subdivision Roads Minimum Construction Standards
c. Private streets will be subject to requirements to construct public collector streets under any of the following conditions (per Section 7.5.3.C)
    - Dimension of more than 5280 ft.
    - -Any street in the subdivision has the potential to serve more than 200 residential or commercial units
    - -Access to any lot or unit in the subdivision is more than 5280 ft. by a private street to a public street
    - -Existing public streets have been dedicated or constructed to the property line of the subdivision
    - -Access to adjacent properties will be hindered as a result of private streets being allowed in the subdivision

3. Access (per Section7.4)

a. All lots shall have direct or indirect access to a public street, private street, or private access easement.
b. Access must provide a reasonable means of ingress and egress for emergency vehicles as well as for all those likely to need or desire access to the property in its intended use.

4. Public and Private Street Design (per Section 7.5.1)

a. Adjoining street systems,
b. Existing, planned and proposed streets, topographic, drainage and other natural features of the property,
c. Continuity in existing streets and proposed streets,

Specific requirements can be found in Section 6.1 of the Pender County Unified Development Ordinance

d. Adequate right-of-way for collector streets
e. Reasonable access provided to adjacent properties for development
f. Street intersections are directly aligned if possible.
g. If not aligned not offset centerline to centerline by not less than 125 ft.
h. Intersect as nearly as possible at right angles
i. Permanent dead end streets (cul-de-sacs) or temporary dead end (stub) streets are longer than 1,000 ft.
j. Street name approval from the Pender County Addressing Coordinator.
k. Sight triangles as required in the NCDOT

5. Buffers (8.2 please refer to Section 4.15 of the Pender County UDO)

a. Along all boundaries adjacent to a street Buffer A
b. Along all boundaries adjacent to single family residential uses or residential lots with a parcel size of less than 1 acre and when a single family structure is within 50' of the boundary of the development Buffer C
c. Along all other boundaries Buffer B
d. -Boundaries and location of common open space, with the percentage of the total acreage of the site to be common open space.

6. Housing Types (per Section 4.15)

7. Residential Dimensional Requirements

a. Front Setbacks
b. Side Setback
c. Rear Setbacks
d. Corner Setbacks
e. Building Height
f. Structure Separation
g. Minimum Chord distance
h. Minimum lot width

8. Commercial Dimensional Requirements

a. Front Setbacks
b. Side Setback
c. Rear Setbacks
d. Corner Setbacks
e. Building Height
f. Structure Separation
g. Minimum Chord distance
h. Minimum lot width

9. Density

a. Non-Residential Acreage
b. Wetlands Acreage
c. Passive Open space Acreage
d. Active Open Space Acreage
e. Right of Way Acreage
f. Total Units
g. Developable Land
h. Net Density

10. Open Space Labeled Cleary with Acreages (per Section 7.6)

a. Open Space
b. Passive Open Space
c. Active Open Space

Pender County
Planning and Community Development

Planning Division
805 S. Walker Street
PO Box 1519
Burgaw, NC 28425

Phone: 910-259-1202
Fax: 910-259-1295
www.pendercountync.gov

MASTER DEVELOPMENT PLAN

Prior to submission of a preliminary master development plan for approval, the applicant shall request a pre-application review conference with the County staff.

1. The purpose of the pre-application conference shall be to discuss the proposal in relation to the requirements of the Land Use Plan and UDO and to obtain advice on the preparation of the master development plan.
2. At the pre-application conference, the applicant shall provide a land use plan describing the following:
    a. The general location of the site.
    b. The general location of proposed roads.
    c. The general location of proposed uses, environmental areas, housing types or open space.
    d. The uses on adjoining properties.
    e. Utility requirements.

The purpose of the master development plan (MDP) is to promote orderly and planned development of property within Pender County. It is the purpose of the MDP to ensure that such development occurs in a manner that suits the characteristics of the land, is harmonious with adjoining property, is in substantial compliance with the goals and policies of the adopted Land Use Plan, and is in the best interest of the general public. The MDP shall be used to illustrate the characteristics of the property proposed for development and of surrounding properties.

**See Figures 2 and 3 at the end of Section 3.4, Pender County UDO for an illustrative process*

1. The MDP shall at least include all contiguous land under single or common ownership in the above zoning districts.
2. A preliminary MDP may be submitted with an application for a conditional rezoning but shall not be considered binding until approval of a final MDP.

Waivers to MDP – Residential Districts

The Administrator may waive the requirements of a MDP in the Residential Districts if the proposed development contains all of the following criteria:

1. Contains ten (10) or less traditional detached single-family dwelling units;
2. Is not an integral portion of a property proposed or planned for future development or subdivision;
3. Is planned to be developed in a manner that is harmonious with surrounding properties and land uses; and
4. Does not substantially affect the purpose and intent of its zoning district and the intent of this article.

Waivers to MDP – Commercial and Industrial Districts

The Administrator may waive the requirement of a MDP in the Commercial and Industrial Districts if the proposed development contains all of the following criteria:

1. If the proposed subdivision or development is less than five (5) acres in size;
2. Includes no new streets, roads or rights-of-way, does not further extend any existing or dedicated street, road or rights-of-way and does not significantly change the layout of any existing or dedicated street, road or rights-of-way;
3. Is not an integral portion of a property proposed or planned for future development or subdivision;
4. That such development is limited to one individual parcel and one single use in accordance with Section 5.2.

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APPLICATION FOR MASTER DEVELOPMENT PLAN

THIS SECTION FOR OFFICE USE			
Application No.	MDP	**Date**	
Application Fee	$	**Invoice Number:**	
Pre-Application Conference		**Hearing Date**	

SECTION 1: APPLICANT INFORMATION			
Applicant's Name:	McAdams Homes, LLC	**Owner's Name:**	McAdams Homes, LLC
Applicant's Address:	6211 Gordon Rd, Suite C	**Owner's Address:**	6211 Gordon Rd, Suite C
City, State, & Zip	Wilmington, NC 28411	**City, State, & Zip**	Wilmington, NC 28411
Phone Number:		**Phone Number:**	
Email Address:	adam@mcadamshomes.net	**Email Address:**	adam@mcadamshomes.net
Legal relationship of applicant to land owner:			

SECTION 2: PROJECT INFORMATION				
Type of Master Development Plan	☒ **Residential** *RP, PD, RM MH District*	☐ **Commercial** *GB, OI, IT, GI District*	☐ **Mixed Use** *PD*	
Property Identification Number (PIN):	4203-25-5746-0000 4203-35-3108-0000	**Total property acreage:**		29.63 acres
Zoning Classification:	PD	**Acreage to be disturbed:**		
Water Provider	Pender County Engineering	**Wastewater Provider:**		Pluris of Hampstead, LLC
Project Address :	Country Club Drive, Hampstead, NC			
Description of Project Location:	+/-29.5 acres off Country Club Drive shown as Parcels 1 & 2 on Plat Book 65, Page 12			
Describe activities to be undertaken on project site:	construction of a residential neighborhood			

SECTION 3: SIGNATURES DocuSigned by:			
Applicant's Signature	Adam G. Sosne AB9D33404BDE429	**Date:**	8/2/23
Applicant's Printed Name	Adam G. Sosne, Manager	**Date:**	
Owner's Signature	Adam G. Sosne AB9D33404BDE429	**Date:**	8/2/23
Owner's Printed Name	Adam G. Sosne, Manager	**Date:**	

NOTICE TO APPLICANT

1. Applicant or agent authorized in writing must attend the public hearing.
2. Once the public hearing has been advertised, the case will be heard unless the applicant withdraws the application or unless the Planning Board or other authorized person agrees to table or delay the hearing.
3. All fees are non-refundable
4. A complete application packet must be submitted prior to the deadline in order to be placed on the next Planning Board Agenda

Office Use Only

☐	**MDP Fees: (***$500.00 plus $10/acre for the first 100 acres $5/acre thereafter)*	**Total Fee Calculation: $**

Attachments Included with Application: (Please include # of copies)

CD /other digital version	☐ Y ☐ N	Plan Sets	# of large	# of 11X17	Other documents/Reports	☐ Y ☐ N

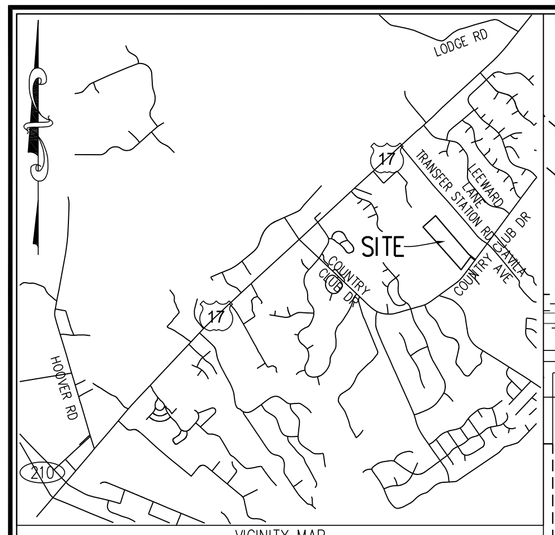
Payment Method:	**Cash :** ☐ **$**_____	**Credit Card:** ☐ Master Card ☐ Visa	**Check:** ☐ Check # _____

Application received by:		Date:
Application completeness approved by:		Date:
Date scheduled for public hearing:		

Contents of a Preliminary Master Development Plan – Residential Districts	
Site plans shall contain a conceptual plan, showing the location and functional relationship between all proposed housing types and land uses, including the following information:	
	A land use plan, showing the location, arrangement and approximate boundaries of all proposed land uses.
	The location and approximate boundaries of proposed housing types conceptually shown in accord and with other non-residential uses dimensional requirements.
	The proposed number of dwelling units of each type in each phase and in the total development accompanied by density calculation of the development.
	The location and approximate boundaries of existing environmental features as defined.
	The location of environmental protection land to be included in common open space.
	The approximate acreage in common open space, each use, housing type and in roads, streets or right-of-ways for each phase and the total development.
	The approximate boundaries and location of common open space, with the percentage of the total acreage of the site to be placed in common open space.
	The location and general configuration of recreational facilities, with a general statement of the types of recreational facilities to be provided if applicable.
	The location and extent of proposed buffers, with statements, profiles, cross sections or examples clearly specifying the screening to be provided if applicable.
	The proposed location, arrangement, and right-of-way widths of roads and streets, including roads and streets providing access to adjoining parcels.
	The location and arrangement of street entrances, driveways and parking areas.
	The use of adjoining parcels and the location of adjoining streets and utilities.
	Estimated AM and PM Peak Hour Trips per the Institute of Transportation Engineers Trip Generation Manual.
	Estimated Average Daily Trips created by the development at build-out per the Institute of Transportation Engineers Trip Generation Manual.
	Based on estimated traffic counts, a Traffic Impact Analysis may be required stating the dates and times counts were conducted for the proposed development.
	The approximate location of sewer and water mains, sewage disposal and water source with statements concerning the connection with and availability of existing facilities.
	A conceptual plan for stormwater management with the location of stormwater facilities designed to serve more than one lot.
	Calculations describing all proposed bonus factors with the location of and specifications for bonus improvements, when proposed.
	The location and treatment proposed for all historical structures and sites recognized as significant by the County Commissioners or as identified on any historical landmarks survey for Pender County.
	Location and timing of construction for all amenities.
	Landscaping and Buffer requirements per Article 8.
	All subdivided land and parcels shall comply with Section 7.2, Lot Design.
	Homeowners Association shall be required for all major residential subdivisions with privately maintained streets, open space, and other dedicated land as stated in Section 7.3, Homeowners Association Requirements.
	Street layout and access shall conform to Section 7.4, Access and Section 7.5, Street Design
	Calculated open space requirements shall adhere to Section 7.6, Open Space.

Contents of a Preliminary Master Development Plan – Commercial and Industrial Districts	
The site plan shall contain a conceptual plan, showing the location and functional relationship between streets and land uses, including the following:	
	A conceptual plan, showing the location and arrangement of proposed uses.
	The location and treatment proposed for all historical structures and sites recognized as significant by the County Commissioners or identified on any historical survey for Pender County.
	The location and extent of proposed buffers, with statements, profiles, cross sections or examples clearly specifying the screening to be provided. The location and approximate boundaries of existing environmental features as defined.
	Estimated AM and PM Peak Hour Trips per the Institute of Transportation Engineers Trip Generation Manual.
	Estimated Average Daily Trips created by the development at build-out per the Institute of Transportation Engineers Trip Generation Manual.
	Based on estimated traffic counts, a Traffic Impact Analysis may be required stating the dates and times counts were conducted for the proposed development.
	The proposed location of entrances to the development from existing public streets and proposed parking areas.
	The proposed location, arrangement, and right-of-way widths of roads and streets, including roads and streets providing access to adjoining parcels.
	Landscaping and Buffer requirements per Article 8.
	The use of adjoining parcels and the location of adjoining streets and utilities.
	The approximate location of sewer and water mains, sewage disposal and water source with statements concerning the connection with and availability of existing facilities.
	A conceptual plan for stormwater management and description and the location of all stormwater facilities designed to serve more than one parcel.
Contents of a Preliminary Master Development Plan – Mixed Use Districts	
Site plan shall contain a conceptual plan, showing the location and functional relationship between all proposed housing types	

and land uses, including the following information:	
	A land use plan, showing the location, arrangement and approximate boundaries of all proposed land uses.
	The location and approximate boundaries of existing environmental features as defined.
	The proposed location of entrances to the development from existing public streets and proposed parking areas.
	The approximate acreage in common open space, each use, housing type and in roads, streets or right-of-ways for each phase and the total development.
	The approximate boundaries and location of common open space, with the percentage of the total acreage of the site to be placed in common open space.
	The proposed location, arrangement, and right-of-way widths of roads and streets, including roads and streets providing access to adjoining parcels.
	The use of adjoining parcels and the location of adjoining streets and utilities.
	The approximate location of sewer and water mains, sewage disposal and water source with statements concerning the connection with and availability of existing facilities.
	A conceptual plan for stormwater management and description and the location of all stormwater facilities designed to serve more than one parcel.
	The proposed location and arrangement of all streets and utility systems.
	The location and extent of proposed buffers, with statements, profiles, cross sections or examples clearly specifying the screening to be provided if applicable.
	The location and approximate boundaries of proposed housing types conceptually shown in accord and with other non-residential uses dimensional requirements.
	The proposed number of dwelling units of each type in each phase and in the total development accompanied by density calculation of the development
	Estimated AM and PM Peak Hour Trips per the Institute of Transportation Engineers Trip Generation Manual.
	Estimated Average Daily Trips created by the development at build-out per the Institute of Transportation Engineers Trip Generation Manual.
	Based on estimated traffic counts, a Traffic Impact Analysis may be required stating the dates and times counts were conducted for the proposed development.
	The approximate location of sewer and water mains, sewage disposal and water source with statements concerning the connection with and availability of existing facilities.
	Calculations describing all proposed bonus factors with the location of and specifications for bonus improvements, when proposed.
	The location and treatment proposed for all historical structures and sites recognized as significant by the County Commissioners or as identified on any historical landmarks survey for Pender County.
	Location and timing of construction for all amenities.
	Landscaping and Buffer requirements per Article 8.
	All subdivided land and parcels shall comply with Section 7.2, Lot Design.
	Homeowners Association shall be required for all major residential subdivisions with privately maintained streets, open space, and other dedicated land as stated in Section 7.3, Homeowners Association Requirements.
	Street layout and access shall conform to Section 7.4, Access and Section 7.5, Street Design.
	Calculated open space requirements shall adhere to Section 7.6, Open Space.



VICINITY MAP
(NTS)

GENERAL NOTES:

1. OWNERSHIP REFERENCE: D.B. 4751 PG. 913
2. PROPERTY IS LOCATED IN PENDER COUNTY AND IS ZONED PLANNED DEVELOPMENT (PD).
3. A HOME OWNERS ASSOCIATION WILL BE FORMED TO GUARANTEE CONTINUAL MAINTENANCE OF THE COMMON AREAS AND OPEN SPACE.
4. ALL INTERIOR ROADWAYS ARE TO BE PRIVATE AND BUILT TO NCDOT SUBDIVISION ROADS MINIMUM CONSTRUCTION STANDARDS.
5. A HOME OWNERS ASSOCIATION WILL BE FORMED PRIOR TO THE SALE OF ANY LOTS AND MEMBERSHIP WILL BE AUTOMATIC UPON PURCHASE.
6. THE DEVELOPERS HAVE THE SOLE RIGHT TO MODIFY THIS PRELIMINARY PLAN IN ACCORDANCE WITH MARKET CONDITIONS OR OTHER CONDITIONS WHICH INDICATE A CHANGE IS DESIRED OR REQUIRED. ANY AND ALL CHANGES MUST BE REVIEWED BY THE PLANNING DEPARTMENT AND IN SOME INSTANCES MAY REQUIRE PLANNING BOARD APPROVAL.
7. WETLANDS IMPACTED WILL BE MITIGATED IN ACCORDANCE WITH ANY REQUIREMENTS OF APPLICABLE STATE AND FEDERAL PERMITS.
8. ALL LOTS SHALL MEET CURRENT PENDER COUNTY UNIFIED DEVELOPMENT ORDINANCE REGULATIONS.
9. ALL PROPOSED OPENSPACE/RECREATION AREAS ARE NON-BUILDABLE FOR ANY TYPE OF DEVELOPMENT EXCEPT AS RECREATIONAL FACILITIES.
10. ALL STREET SIGNS & STREET LIGHTING TO CONFORM WITH PENDER COUNTY UDO.
11. WATER FOR THIS DEVELOPMENT TO BE PROVIDED BY PENDER COUNTY UTILITIES AND SEWER TO BE PROVIDED BY PLURIS, INC.

TRIP GENERATION:
52 SINGLE FAMILY HOMES*:
38 DUPLEXES**:
36 TOWNHOMES***:
928 - TOTAL DAILY TRIPS
72 - AM PEAK HOUR
91 - PM PEAK HOUR
*PER ITE TRIP GENERATION MANUAL 8TH EDITION, ITE CODE 210
**PER ITE TRIP GENERATION MANUAL 8TH EDITION, ITE CODE 230
***PER ITE TRIP GENERATION MANUAL 8TH EDITION, ITE CODE 230

REQUIRED OPEN SPACE:
126 LOTS * 0.03 AC/LOT = 3.78 AC±

PROVIDED OPEN SPACE
13.81 AC.± TOTAL OPEN SPACE PROVIDED

NOTE: PROPOSED OPENSPACE/RECREATION SPACE AREAS ARE NOT FOR BUILDING OR STRUCTURAL DEVELOPMENT

DEVELOPMENT DATA:

PROJECT AREA: 1,290,821 SF = 29.63 AC.±
DENSITY - 126 UNITS/29.63 AC.
= 126/29.63 = 4.25 UNITS/AC.

PROPOSED BUA

SINGLE FAMILY LOTS/TH/DUPLEX LOTS -	286,900 S.F.
IMPERVIOUS PAVEMENT -	98,000 S.F.
IMPERVIOUS CONCRETE -	15,500 S.F.
OTHER -	63,000 S.F.
TOTAL -	463,400 S.F. (35.9%)

DEVELOPMENT NOTES:
1. ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE PENDER COUNTY UNIFIED DEVELOPMENT ORDINANCE.

2. PROJECT SHALL COMPLY WITH ALL CITY, STATE & FEDERAL REGULATIONS.

NOTE:
ALL DESIGN AND CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE PENDER COUNTY UNIFIED DEVELOPMENT ORDINANCE & THE STATE OF NORTH CAROLINA

SINGLE FAMILY DEVELOPMENT STANDARDS:

MINIMUM LOT DIMENSIONS:

AREA IN (S.F.)	3,000 SF
MAX USABLE LOT AREA (%)	95%
MIN LOT WIDTH (FT)	35'
MIN CHORD AT ROW (CUL-DE-SAC)	20'
MAX BLDG. HT. (FT)	38'

PROPOSED BUILDING SETBACKS:
FRONT - 10'
REAR - 15'
SIDE - ZERO LOT LINE (10' MAINTENANCE EASEMENT BETWEEN STRUCTURES, STRUCTURES TO BE A MINIMUM OF 5' FROM SIDE PROPERTY LINE)
CORNER - 10'
ANY PERIPHERAL PROPERTY LINE STRUCTURES - AS PER NORTH CAROLINA STATE BUILDING CODE

SINGLE FAMILY ATTACHED DEVELOPMENT STANDARDS:

MINIMUM LOT DIMENSIONS:

AREA IN (S.F.)	500 SF
MAX USABLE LOT AREA (%)	100%
MIN LOT WIDTH (FT)	20'
MAX BLDG. HT. (FT)	38'

PROPOSED BUILDING SETBACKS:
FRONT - 10'
REAR - 15'
SIDE* - ZERO LOT LINE (10' MAINTENANCE EASEMENT BETWEEN STRUCTURES)
CORNER - 10'
ANY PERIPHERAL PROPERTY LINE STRUCTURES - AS PER NORTH CAROLINA STATE BUILDING CODE
*TWO ATTACHED SINGLE FAMILY UNITS LOCATED ON ONE OR TWO LOTS THAT SHARE A COMMON WALL ALONG THE LOT LINE

GENERAL NOTES:
1. PENDER COUNTY PARCEL NO.: PIN 4203-25-5746-0000 & 4203-35-3108-0000
2. TOTAL TRACT AREA: 1,290,821 SF = 29.63 AC.±
3. ZONING: PLANNED DEVELOPMENT (PD).
4. THIS PROPERTY IS NOT WITHIN A SPECIAL FLOOD HAZARD ZONE PER FEMA FLOOD INSURANCE RATE MAP #3720420300J, EFFECTIVE DATE 2/16/2007.
5. THIS PROPERTY DOES CONTAIN 404 FEDERAL WETLANDS.

PRIVATE RIGHT OF WAY X-SECTION
N.T.S

NORTH CAROLINA PROFESSIONAL SEAL 031315 ENGINEER CHRISTY S. PAPE 08/04/2023

GRAPHIC SCALE
50 0 25 50 100
1 inch = 50 ft.

No.	Revision	Date	By

Designer: GSP	Scale: 1" = 50'
Drawn By: GSP	Date: August 2023
License #: P-0718	Job No.: 2023-0003

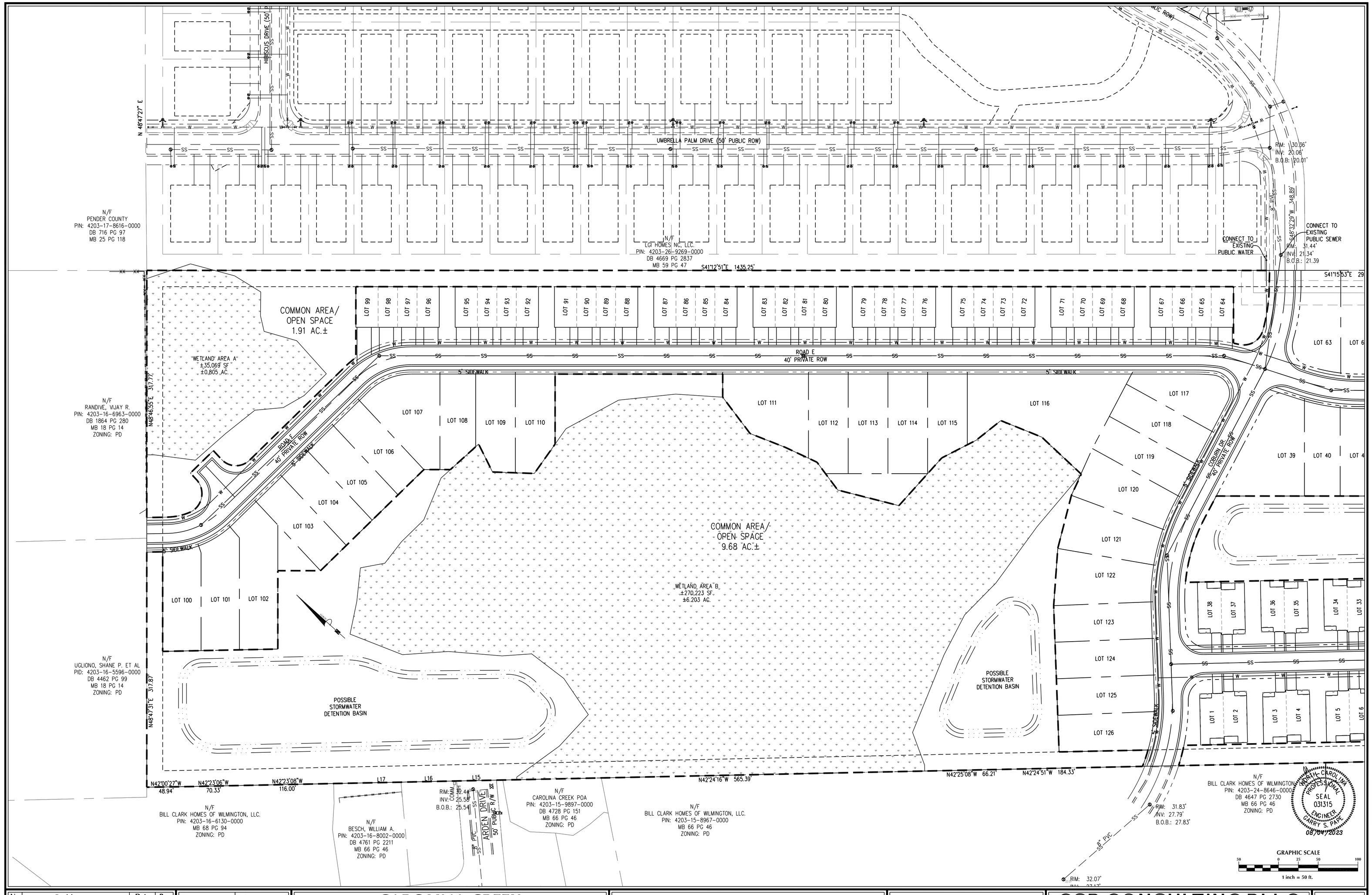
CAROLINA CREEK EXTENSION
Topsail Township | Pender County | North Carolina

MASTER DEVELOPMENT PLAN

PREPARED FOR:
McAdams Homes, LLC
6626-B Gordon Road
Wilmington, NC 28411
910-799-3006

GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No. C-1



No.	Revision	Date	By

Designer	GSP
Scale	1" = 50'
Drawn By	GSP
Date	August 2023
License #	P-0718
Job No.	2023-0003

CAROLINA CREEK EXTENSION

Topsail Township — Pender County — North Carolina

MASTER DEVELOPMENT PLAN

PREPARED FOR:
McAdams Homes, LLC
6626-B Gordon Road
Wilmington, NC 28411
910-799-3006

GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 tel: 910-442-7870 fax: 910-799-6659

Sheet No. **C-2**

Pender County
MDP 2023-57 Point South

TO:	Technical Review Committee
FROM:	Taylor Davis
DATE:	September 7, 2023
SUBJECT:	MDP 2023-57 Point South

SUMMARY:
Master Development Plan for a mixed-use project consisting of 219 single-family & townhome residential dwelling units (RDUs), 264 multi-family RDUs, and 9 commercial outparcels. The subject property is zoned PD, Planned Development, consists of approximately 78.5 acres, and can be further identified by Pender County PIN: 3271-43-5429-0000

ACTION REQUESTED:
Case will be reviewed by the TRC.

ATTACHMENTS:
1.Application
2. Site Plan

dotloop signature verification: dtlp.us/gs92-zUCQ-oYMl

Pender County
Planning and Community Development

Planning Division
805 S. Walker Street
PO Box 1519
Burgaw, NC 28425

Phone: 910-259-1202
Fax: 910-259-1295
www.pendercountync.gov

MASTER DEVELOPMENT PLAN

Prior to submission of a preliminary master development plan for approval, the applicant shall request a pre-application review conference with the County staff.

1. The purpose of the pre-application conference shall be to discuss the proposal in relation to the requirements of the Land Use Plan and UDO and to obtain advice on the preparation of the master development plan.
2. At the pre-application conference, the applicant shall provide a land use plan describing the following:
    a. The general location of the site.
    b. The general location of proposed roads.
    c. The general location of proposed uses, environmental areas, housing types or open space.
    d. The uses on adjoining properties.
    e. Utility requirements.

The purpose of the master development plan (MDP) is to promote orderly and planned development of property within Pender County. It is the purpose of the MDP to ensure that such development occurs in a manner that suits the characteristics of the land, is harmonious with adjoining property, is in substantial compliance with the goals and policies of the adopted Land Use Plan, and is in the best interest of the general public. The MDP shall be used to illustrate the characteristics of the property proposed for development and of surrounding properties.

**See Figures 2 and 3 at the end of Section 3.4, Pender County UDO for an illustrative process*

1. The MDP shall at least include all contiguous land under single or common ownership in the above zoning districts.
2. A preliminary MDP may be submitted with an application for a conditional rezoning but shall not be considered binding until approval of a final MDP.

Waivers to MDP – Residential Districts

The Administrator may waive the requirements of a MDP in the Residential Districts if the proposed development contains all of the following criteria:

1. Contains ten (10) or less traditional detached single-family dwelling units;
2. Is not an integral portion of a property proposed or planned for future development or subdivision;
3. Is planned to be developed in a manner that is harmonious with surrounding properties and land uses; and
4. Does not substantially affect the purpose and intent of its zoning district and the intent of this article.

Waivers to MDP – Commercial and Industrial Districts

The Administrator may waive the requirement of a MDP in the Commercial and Industrial Districts if the proposed development contains all of the following criteria:

1. If the proposed subdivision or development is less than five (5) acres in size;
2. Includes no new streets, roads or rights-of-way, does not further extend any existing or dedicated street, road or rights-of-way and does not significantly change the layout of any existing or dedicated street, road or rights-of-way;
3. Is not an integral portion of a property proposed or planned for future development or subdivision;
4. That such development is limited to one individual parcel and one single use in accordance with Section 5.2.

dotloop signature verification: dtlp.us/gs92-zUCQ-oYMI

APPLICATION FOR MASTER DEVELOPMENT PLAN

THIS SECTION FOR OFFICE USE			
Application No.	MDP 2023-57	**Date**	8/7/2023
Application Fee	$ 1285.00	**Invoice Number:**	00034983
Pre-Application Conference	N/A	**Hearing Date**	

SECTION 1: APPLICANT INFORMATION			
Applicant's Name:	McAdams Homes, LLC	**Owner's Name:**	Blakes of Scotts Hill, LLC
Applicant's Address:	6211 Gordon Rd, Suite C	**Owner's Address:**	2500 Scotts Hill Loop Rd
City, State, & Zip	Wilmington, NC 28411	**City, State, & Zip**	Wilmington, NC 28411
Phone Number:		**Phone Number:**	
Email Address:	adam@mcadamshomes.net	**Email Address:**	
Legal relationship of applicant to land owner:			

SECTION 2: PROJECT INFORMATION					
Type of Master Development Plan	**Residential** *RP, PD, RM MH District*	☐ **Commercial** *GB, OI, IT, GI District*	☒ **Mixed Use** *PD*		
Property Identification Number (PIN):	3271-43-5429-0000		**Total property acreage:**	78.5 acres	
Zoning Classification:	PD		**Acreage to be disturbed:**		
Water Provider	Pender County Engineering		**Wastewater Provider:**	Pluris of Hampstead, LLC	
Project Address :					
Description of Project Location:	+/-78.5 acres, US Hwy 17				
Describe activities to be undertaken on project site:	construction of a residential neighborhood with commercial				

SECTION 3: SIGNATURES			
Applicant's Signature	ADAM SOSNE dotloop verified 08/02/23 2:41 PM EDT ZC8L-9I1M-0SXD-FKLQ	**Date:**	
Applicant's Printed Name	Adam G. Sosne, Manager	**Date:**	
Owner's Signature	HENRY C. BLAKE, III dotloop verified 08/02/23 4:27 PM CDT SBYW-9UOT-3PAH-X0B7	**Date:**	
Owner's Printed Name	Henry C. Blake, III, Manager	**Date:**	

dotloop signature verification: dtlp.us/gs92-zUCQ-oYMI

NOTICE TO APPLICANT

1. Applicant or agent authorized in writing must attend the public hearing.
2. Once the public hearing has been advertised, the case will be heard unless the applicant withdraws the application or unless the Planning Board or other authorized person agrees to table or delay the hearing.
3. All fees are non-refundable
4. A complete application packet must be submitted prior to the deadline in order to be placed on the next Planning Board Agenda

Office Use Only

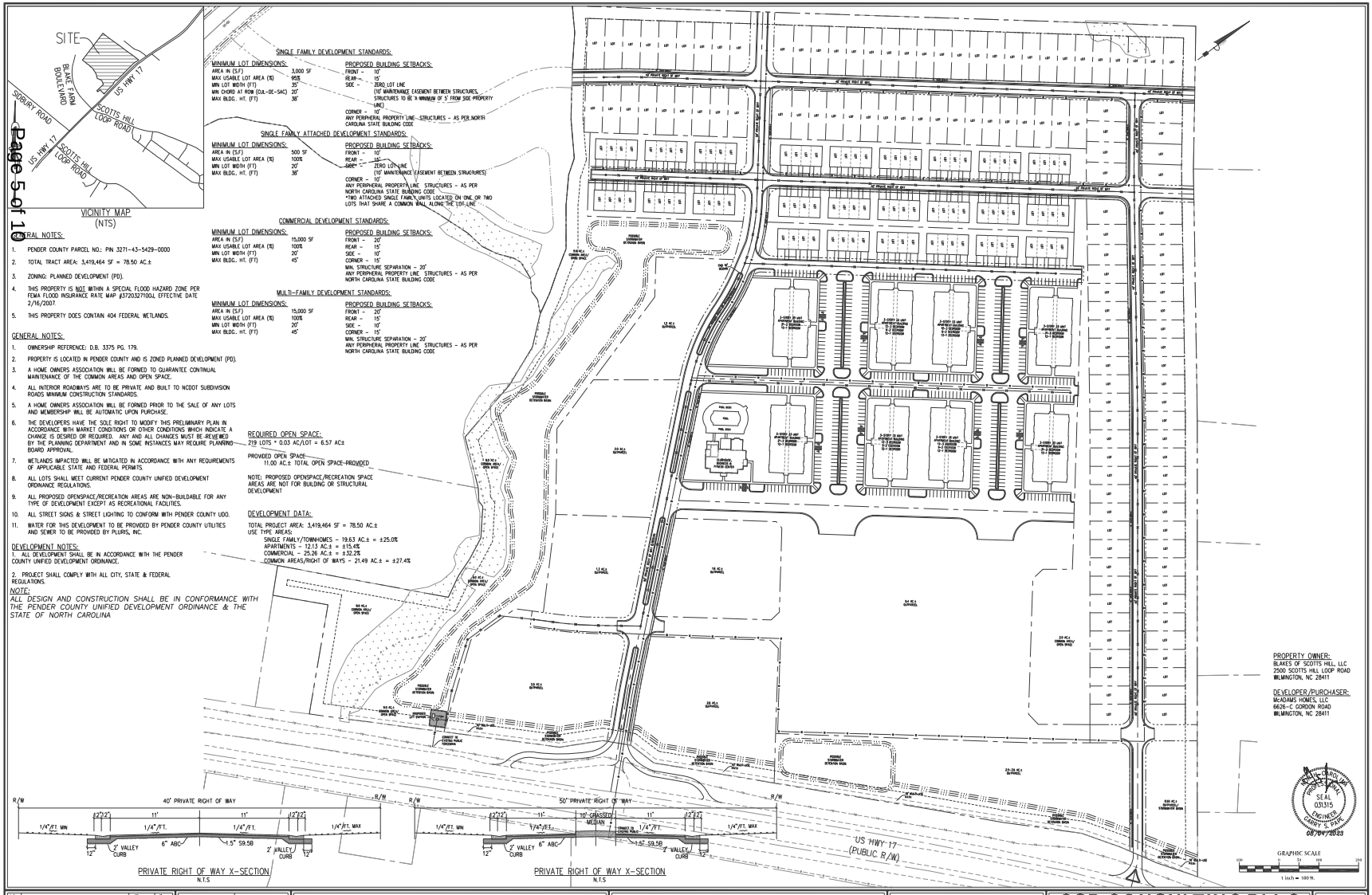
☐	**MDP Fees: (***$500.00 plus $10/acre for the first 100 acres $5/acre thereafter)*	**Total Fee Calculation: $**

Attachments Included with Application: (Please include # of copies)

CD /other digital version	☐ Y ☐ N	Plan Sets	# of large	# of 11X17	Other documents/Reports	☐ Y ☐ N

Payment Method:	**Cash :** ☐ **$**_____	**Credit Card:** ☐ Master Card ☐ Visa	**Check:** ☐ Check # _____

Application received by:	Taylor Davis	Date: 8/7/2023
Application completeness approved by:		Date:
Date scheduled for public hearing: Sept. 7th, 2023		



No.	Revision	Date	By

Designer	GSP
Drawn By	GSP
Licensure #	P-0718
Scale	1" = 100'
Date	August, 2023
Job No.	2023-0006

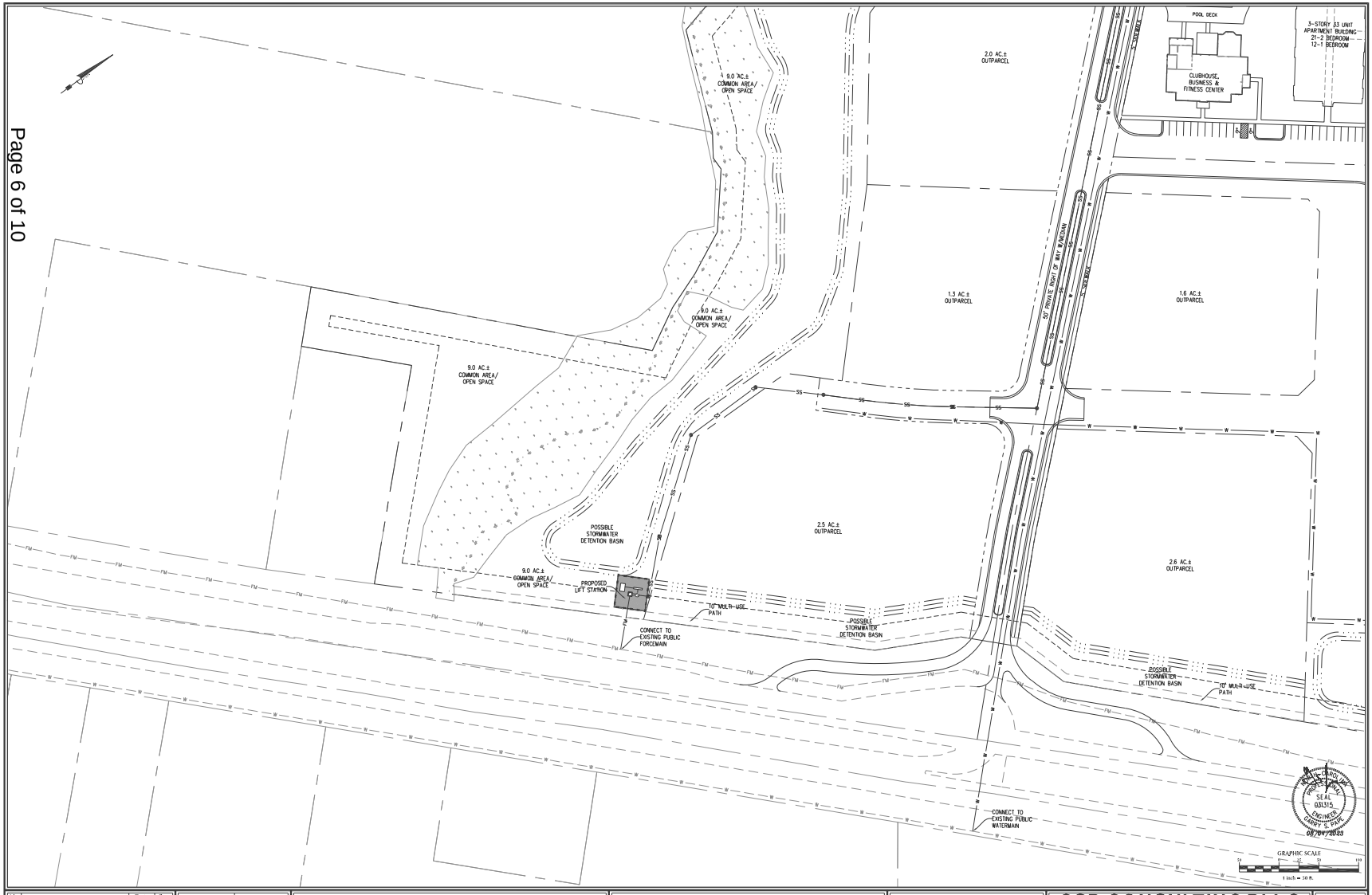
POINT SOUTH
Topsail Township Pender County North Carolina

MASTER DEVELOPMENT PLAN

PREPARED FOR:
McAdams Homes, LLC
6626-C Gordon Road
Wilmington, NC 28411
910-799-3008

GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 Tel: 910-442-7870 Fax: 910-799-6059

Sheet No.
C-0



No.	Revision	Date	By

Designer	GSP
Drawn By	GSP
License #	P-0718
Scale	1" = 50'
Date	August 2023
Job No.	2023-0006

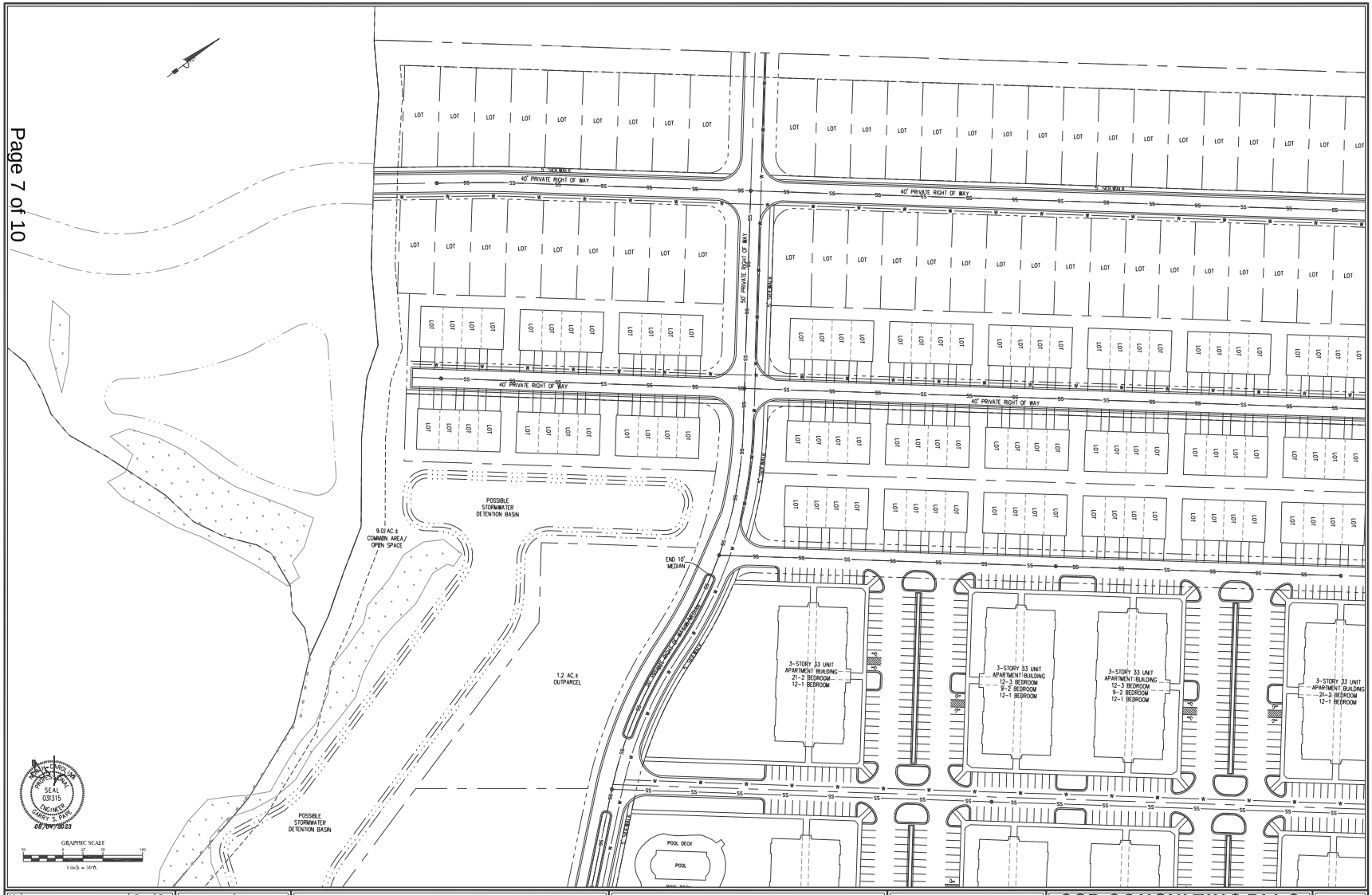
POINT SOUTH
Topsail Township Pender County North Carolina

MASTER DEVELOPMENT PLAN

PREPARED FOR:
McAdams Homes, LLC
6626-C Gordon Road
Wilmington, NC 28411
910-799-3008

GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 Tel: 910-442-7870 Fax: 910-799-6659

Sheet No.
C-1



No.	Revision	Date	By

Designer	GSP	Scale	1" = 50'
Drawn By	GSP	Date	August 2023
License #	P-0718	Job No.	2023-0006

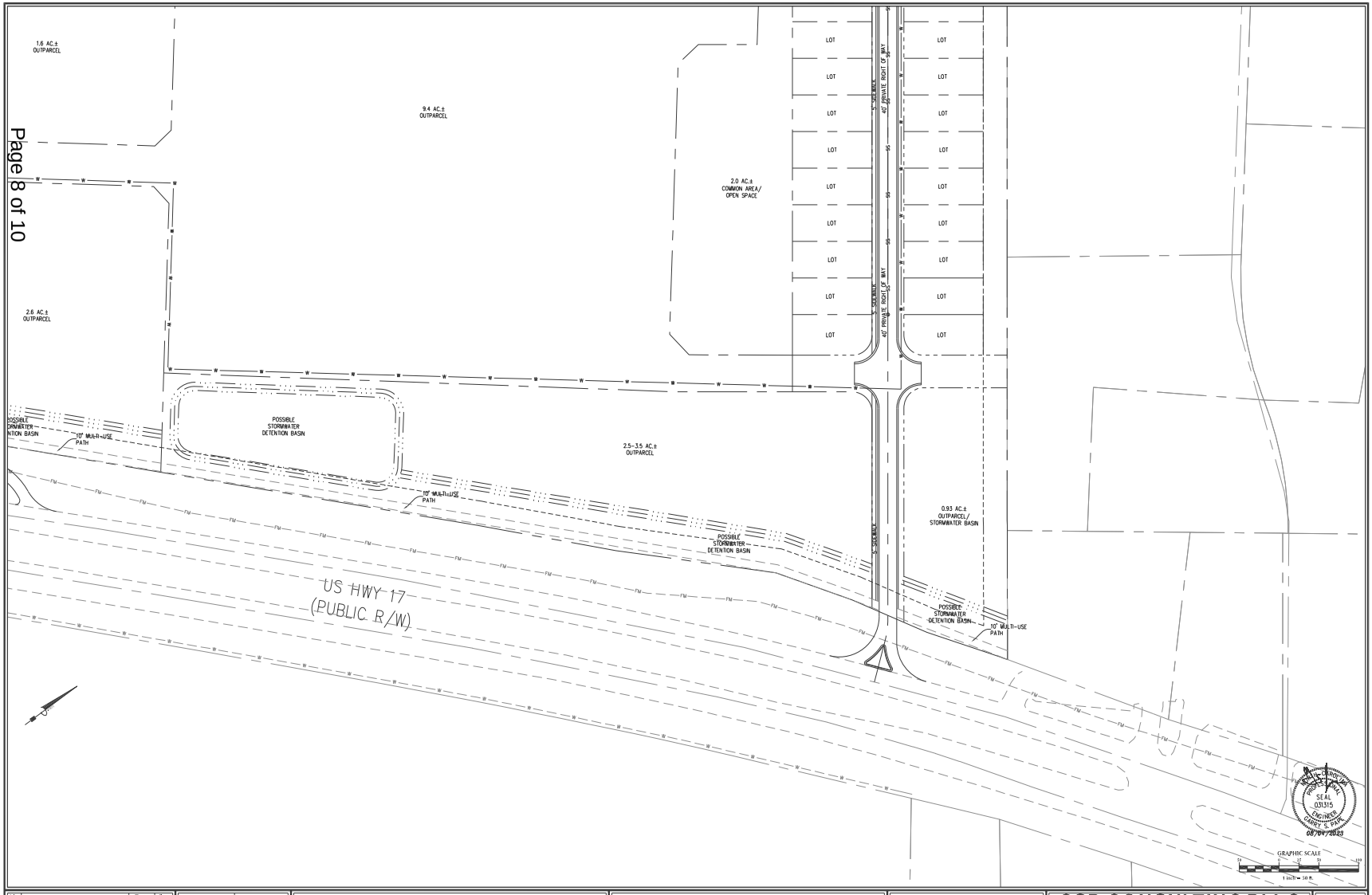
POINT SOUTH
Topsail Township Pender County North Carolina

MASTER DEVELOPMENT PLAN

PREPARED FOR:
McAdams Homes, LLC
6626-C Gordon Road
Wilmington, NC 28411
910-799-3006

GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 Tel: 910-442-7870 Fax: 910-799-6659

Sheet No.
C-2



No.	Revision	Date	By

Designer	GSP
Drawn By	GSP
License #	P-0718
Scale	1" = 50'
Date	August 2023
Job No.	2023-0006

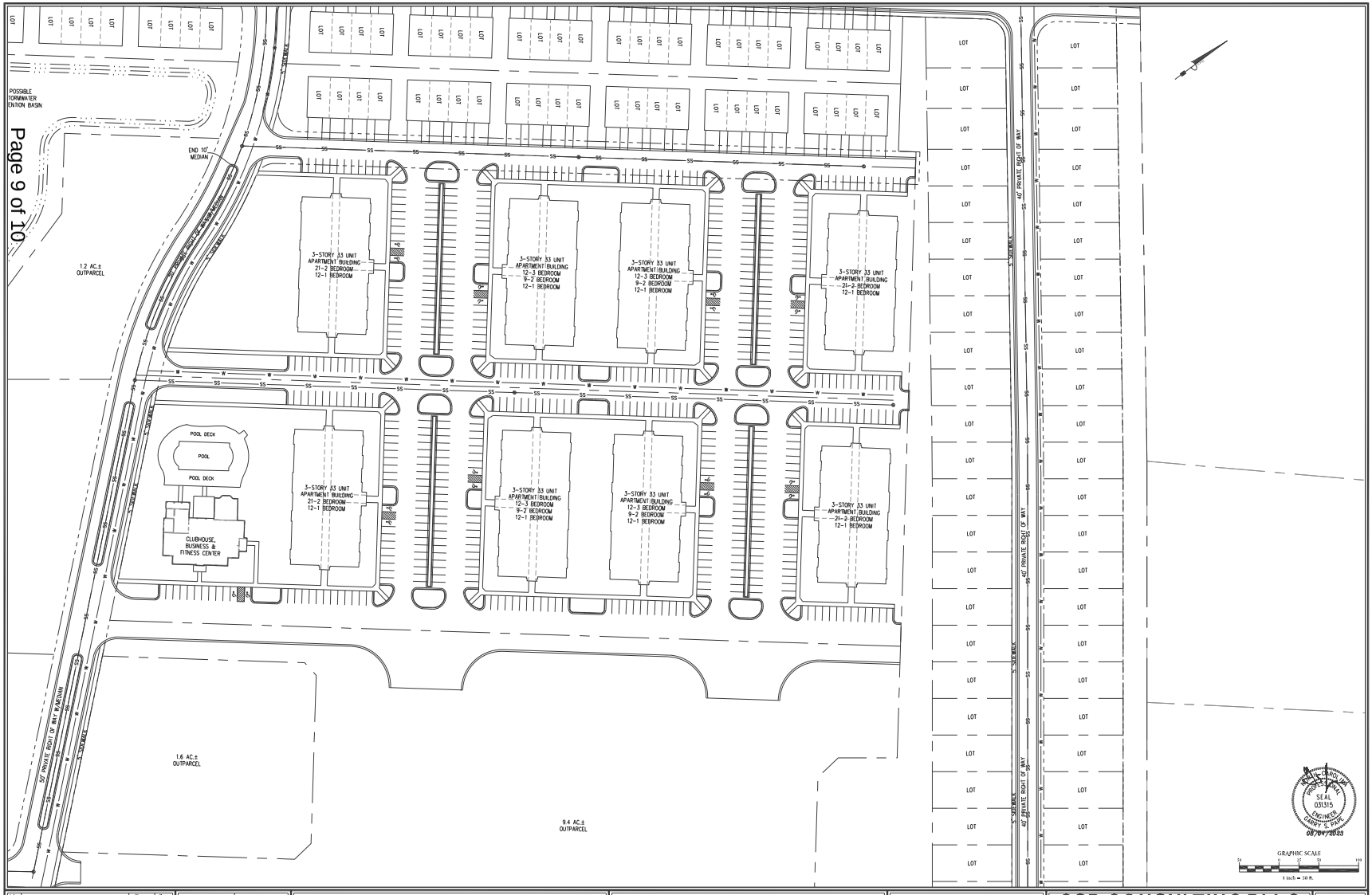
POINT SOUTH
Topsail Township Pender County North Carolina

MASTER DEVELOPMENT PLAN

PREPARED FOR:
McAdams Homes, LLC
6626-C Gordon Road
Wilmington, NC 28411
910-799-3006

GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 Tel: 910-442-7870 Fax: 910-799-6059

Sheet No.
C-3



No.	Revision	Date	By

Designer	GSP
Drawn By	GSP
License #	P-0718
Scale	1" = 50'
Date	August 2023
Job No.	2023-0006

POINT SOUTH

Topsail Township Pender County North Carolina

MASTER DEVELOPMENT PLAN

PREPARED FOR:
McAdams Homes, LLC
6626-C Gordon Road
Wilmington, NC 28411
910-799-3008

GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 Tel: 910-442-7870 Fax: 910-799-6059

Sheet No.
C-4



No.	Revision	Date	By

Designed	GSP
Drawn By	GSP
Licensed #	P-0718
Scale	1" = 50'
Date	August 2023
Job No.	2023-0006

POINT SOUTH

Topsail Township Pender County North Carolina

MASTER DEVELOPMENT PLAN

PREPARED FOR:
McAdams Homes, LLC
6626-C Gordon Road
Wilmington, NC 28411
910-799-3008

GSP CONSULTING, PLLC
ENGINEERING
6626 Gordon Road Unit C Wilmington, North Carolina 28411 Tel: 910-442-7870 Fax: 910-799-6059

Sheet No.
C-5

Pender County
SUBMAJ 2023-96

TO:	Technical Review Committee
FROM:	Daniel Adams
DATE:	September 7, 2023
SUBJECT:	SUBMAJ 2023.96

SUMMARY:
Major Subdivision Plan for residential development including 49 townhome units.
The subject property is zoned PD, Planned Development, consists of approximately 22 acres, and can be further identified by Pender County PIN(s): 3271-55-4396-0000, 3271-35-2761-0000

ACTION REQUESTED:
Case will be reviewed by TRC.

ATTACHMENTS:
1. Application
2. Site Plan

APPLICATION FOR SUBDIVISION

THIS SECTION FOR OFFICE USE			
Application No.	SUB	**Date**	
Application Fee	$	**Invoice Number:**	
Master Plan Hearing Date		**Preliminary Plat Hearing Date**	

SECTION 1: APPLICANT INFORMATION

Applicant's Name:	McKim & Creed, Inc.	**Owner's Name:**	D.R. Horton, Inc.
Applicant's Address:	243 North Front Street	**Owner's Address:**	131 Racine Dr., Suite 201
City, State, & Zip	Wilmington, NC 28451	**City, State, & Zip**	Wilmington, NC 28403
Phone Number:	910-343-1048	**Phone Number:**	910-515-9561
Email Address:	tlivick@mckimcreed.com	**Email Address:**	elshelton@drhorton.com

Legal relationship of applicant to landowner: CONSULTANT

SECTION 2: PROJECT INFORMATION

Preliminary Plat	☑ **Residential** *RP, PD, RM, MH District*	☐ **Mixed Use** *PD*	
Subdivision Type	☑ Major (11 lots or more)	☐ Minor (10 lots or less)	

Property Identification Number (PIN):	3271-55-4396-0000; 3271-35-2761-0000		
Zoning Classification:	PD	**Total property acreage:**	28.59
Number of Lots:	49	**Acreage to be disturbed:**	22.0
Water Provider:	PENDER COUNTY UTILITIES	**Wastewater Provider:**	PLURIS HAMPSTEAD

Additional Information:

2nd Owner: Pender 1164 LLC, 511 North Tejon Street, Suite 200, Colorado Springs, CO 80903

Contact Name: Michael D. Cook, P.C. Member, Ph: 719-632-1222, email: mike@mcooklaw.com

2nd Owner Signature:

SECTION 3: SIGNATURES

Applicant's Signature		**Date:**	
Applicant's Printed Name:	Trae Livick	**Date:**	
Owner's Signature		**Date:**	08/02/23
Owner's Printed Name:	IAN FLANNERY (FOR D.R. HORTON)	**Date:**	08/02/23

NOTICE TO APPLICANT

1. Applicant or agent authorized in writing must attend the public hearing.
2. Once the public hearing has been advertised, the case will be heard unless the applicant withdraws the application or unless the Planning Board or other authorized person agrees to table or delay the hearing.
3. All fees are non-refundable
4. A complete application packet must be submitted prior to the deadline in order to be placed on the next Planning Board Agenda

Office Use Only

☐	**Subdivision Fees:** *$500 + $10/lot-unit for the first 100 lots/units; $5/lot-unit thereafter (Major Subdivision) $150 + $10 per lot (Minor Subdivision)*	**Total Fee Calculation: $** $990.00 = ($500 + ($10 x 49 Lots))

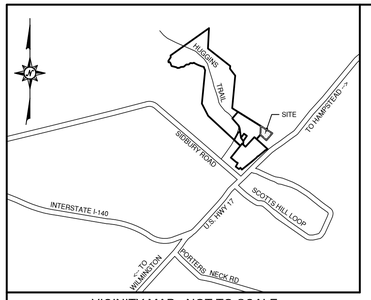
Attachments Included with Application: (Please include # of copies)

BLAKE FARM PARCEL H

PENDER COUNTY, NC

PENDER COUNTY TRC REVIEW SET
NOT FOR CONSTRUCTION

AUGUST 4, 2023



VICINITY MAP - NOT TO SCALE

COUNTY AND AGENCY CONTACTS

A. Pender County
Planning Department
805 S Walker Street
Burgaw, NC 28425
(910)341-3255
Contact: Justin Brantley
Email: jbrantley@pendercountync.gov

B. NCDENR
Sediment and Erosion Control
127 N Cardinal Dr.
Wilmington, NC 28405
(910) 796-7215
Contact: Dan Sams
Email: dan.sams@ncdenr.gov

C. Pender County Public Utilities
605 E Fremont St
Burgaw, NC 28425
(910) 259-0212
Contact: Katie Leubner
Email: kleubner@pendercountync.gov

D. NCDENR
Division of Environmental Health
Public Water Supply Section
1634 Mail Service Center
Raleigh, NC 27699-1634
(919) 707-9051

E. Pluris Hampstead, LLC
Sanitary Sewer
1095 NC-210
Sneads Ferry, NC 28460
(910) 328-6277
Contact: Nick Evans
Email: nevans@plurisusa.com

F. NCDOT Division 3 - District 1
299 Wilmington Hwy
Jacksonville, NC 28540
(910) 455-3777

G. NCDENR
Division of Water Quality
127 Cardinal Drive Ext.
Wilmington, NC 28405
(910) 796-7387
Contact: Tyler Benson
Email: Tyler.Benson@ncdenr.gov

H. FIRE MARSHALL - PENDER COUNTY
Mark Haraway
(910) 259-1441
(910) 512-0967
mharaway@pendercountync.gov

PROJECT DATA

NAME OF PROJECT:
BLAKE FARM PARCEL H
PENDER COUNTY, NORTH CAROLINA

OWNER / DEVELOPER:
D.R. HORTON
6752 PARKER FARM DRIVE, SUITE 210
WILMINGTON, NC 28405
PHONE: (910) 515 9561
CONTACT: ELIZABETH (LIBBY) SHELTON

PREPARED BY:
MCKIM & CREED, INC
243 NORTH FRONT ST
WILMINGTON, NC 28401
PHONE: (910)343-1048
FAX: (910)251-8282
CONTACT: TRAE LIVICK, PE
EMAIL: TLIVICK@MCKIMCREED.COM

BLAKE FARM DENSITY RECONCILIATION 08.04.2023
FOR DRH DEVELOPMENT

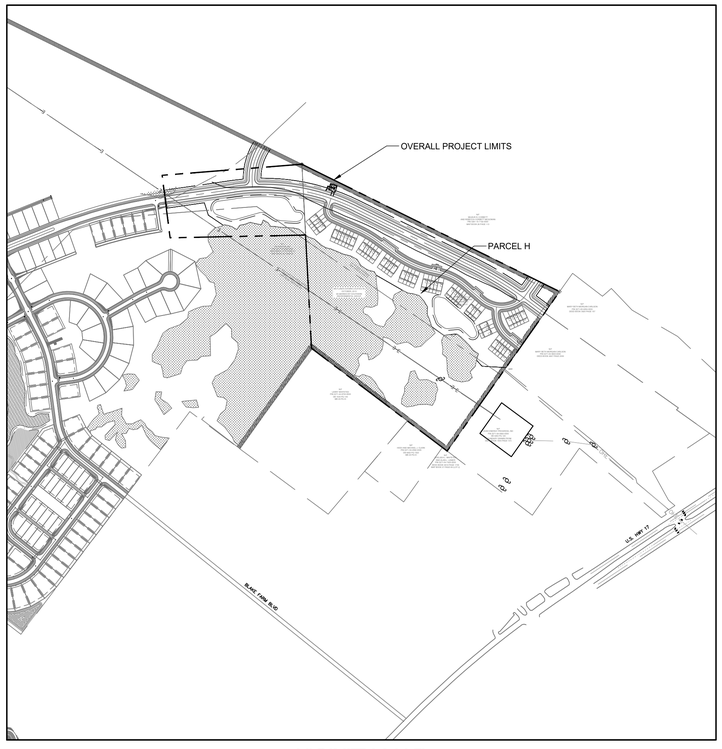
Parcel	Per Approved Master Plan		Approved/Under Construction/Existing		Units Remaining
	Land Use	Dwelling Units	Land Use	Dwelling Units	
H*	Residential	45	Residential	49	-4
I*	Residential	39	Residential	33	6
J*	Amenity	0	Amenity	0	0
K	Residential	141	Residential	136	5
L	Residential	130	Residential	119	11
M	Residential	498	Undeveloped	0	498
O	Residential	53	Undeveloped	0	53
P	Residential	379	Undeveloped	0	379
Q	Residential	256	Undeveloped	0	256
R	Residential	138	Undeveloped	0	138
S	Residential	237	Undeveloped	0	237
T	Residential	110	Undeveloped	0	110
U	Residential	205	Undeveloped	0	205
V	Residential	128	Undeveloped	0	128
W	Residential	89	Undeveloped	0	89
X	Residential	194	Undeveloped	0	194
Y	Residential	65	Undeveloped	0	65
		2707		337	2370

* In TRC Review

BLAKE FARM OPEN SPACE RECONCILIATION 08.04.2023
FOR DRH DEVELOPMENT

Parcel	Per Approved Master Plan		Required Open Space	Approved/Under Construction/Existing		Provided Open Space
	Land Use	Dwelling Units	Acres (.03 AC / UNIT)	Land Use	Dwelling Units	Acres
H*	Residential	45	1.35	Residential	49	1.95
I*	Residential	39	1.17	Residential	33	1.39
J*	Amenity	0	0	Amenity	0	
K	Residential	141	4.23	Residential	136	24.34
L	Residential	130	3.9	Residential	119	0
M	Residential	498	14.94	Undeveloped	0	
O	Residential	53	1.59	Undeveloped	0	
P	Residential	379	11.37	Undeveloped	0	
Q	Residential	256	7.68	Undeveloped	0	
R	Residential	138	4.14	Undeveloped	0	
S	Residential	237	7.11	Undeveloped	0	
T	Residential	110	3.3	Undeveloped	0	
U	Residential	205	6.15	Undeveloped	0	
V	Residential	128	3.84	Undeveloped	0	
W	Residential	89	2.67	Undeveloped	0	
X	Residential	194	5.82	Undeveloped	0	
Y	Residential	65	1.95	Undeveloped	0	
Total		2707	81.21		337	27.68

* In TRC Review



VICINITY MAP

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
C1.0	COVER
C1.1	NOTES
C2.0	EXISTING CONDITIONS
C2.1	SURVEY
C2.2	TREE REMOVAL PLAN
C3.0	SITE PLAN - OVERALL
C3.1	SITE PLAN ENLARGEMENTS
C3.2	SITE PLAN ENLARGEMENTS
C4.0	EROSION CONTROL PHASE 1 PLAN
C4.1	EROSION CONTROL PHASE 1 PLAN ENLARGEMENT
C4.2	EROSION CONTROL PHASE 1 PLAN ENLARGEMENT
C5.0	EROSION CONTROL PHASE 2 PLAN
C5.1	EROSION CONTROL PHASE 2 PLAN ENLARGEMENT
C5.2	EROSION CONTROL PHASE 2 PLAN ENLARGEMENT
C7.0	GRADING AND DRAINAGE PLAN
C7.1	GRADING AND DRAINAGE PLAN ENLARGEMENT
C7.2	GRADING AND DRAINAGE PLAN ENLARGEMENT
C8.0	UTILITY PLAN
C8.1	UTILITY PLAN ENLARGEMENT
C8.2	UTILITY PLAN ENLARGEMENT
C9.0	ROAD A UTILITY PLAN AND PROFILE STA 10+00 TO 20+00
C9.1	ROAD A UTILITY PLAN AND PROFILE STA 20+00 TO 30+00
C9.2	ROAD A UTILITY PLAN AND PROFILE STA 30+00 TO END
C9.3	ROAD B UTILITY PLAN AND PROFILE STA 10+00 TO 17+00
C9.4	ROAD B UTILITY PLAN AND PROFILE STA 17+00 TO END
C9.5	ROAD C UTILITY PLAN AND PROFILE STA 10+00 TO END
C9.6	TYPICAL STREET SECTIONS
C10.0	LANDSCAPE PLAN
C10.1	LANDSCAPE PLAN ENLARGEMENT
C10.2	LANDSCAPE PLAN ENLARGEMENT
C11.0	SITE DETAILS
C12.0	EROSION CONTROL DETAILS
C12.1	EROSION CONTROL DETAILS
C12.2	EROSION CONTROL DETAILS
C13.0	GRADING AND DRAINAGE DETAILS
C13.1	GRADING AND DRAINAGE DETAILS
C14.0	UTILITY DETAILS
C14.1	UTILITY DETAILS
C15.0	NCDOT DETAILS
C15.1	NCDOT DETAILS
C16.0	SCM WET POND 1 DETAILS
C16.1	SCM WET POND 2 DETAILS
C17.0	LANDSCAPE DETAILS

Certification of Submission
A copy of this plat has been submitted. Approval is subject to Review; this does not constitute an approval.

Pender County Utilities:_____Date:_____

Pender County Environmental Health:_____Date:_____

Pender County Addressing Coordinator:_____Date:_____

Pender County Fire Marshal:_____Date:_____

Certification of Preliminary Plat Approval
Preliminary Plat Approved by Pender County for a Period of two (2) years subject to the Pender County Unified Development Ordinance requirements and conditions of approval.

Planning Staff:_____Date:_____

D·R·HORTON® DHI Listed NYSE
America's Builder
131 Racine Drive, Suite 201
Wilmington, North Carolina 28403
Phone: (843) 709-0752

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048
Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

811 Know what's below. Call before you dig.

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

BLAKE FARM PARCEL H

AUGUST 4, 2023

CONSTRUCTION NOTES

1. CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE NCDOT/PENDER COUNTY UTILITIES/PLURIS HAMPSTEAD, LLC STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING THE LOCATION OF EXISTING UTILITIES FROM THE APPROPRIATE PARTIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAGMEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
4. THESE DRAWINGS SHOW INFORMATION OBTAINED FROM THE AVAILABLE RECORDS REGARDING PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES AND CONDITIONS WHICH EXIST ALONG THE LINES OF WORK AND BELOW THE SURFACE OF THE GROUND. THE OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITIES FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION, AND SUCH INFORMATION IS BEING SHOWN ONLY FOR THE CONVENIENCE OF THE CONTRACTOR WHO MUST VERIFY THE INFORMATION TO HIS OWN SATISFACTION DURING THE BIDDING AND CONSTRUCTION PHASES. IF THE CONTRACTOR RELIES ON SAID INFORMATION, HE DOES SO AT HIS OWN RISK. THE GIVING OF THE INFORMATION ON THE CONTRACT DRAWINGS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO SUPPORT AND PROTECT ALL PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES, WHETHER ABOVE OR BELOW GRADE.
5. SHOULD ANY DAMAGE OCCUR TO EXISTING UTILITIES, IT SHALL BE REPAIRED SOLELY AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL VERIFY EXISTING INVERTS PRIOR TO CONSTRUCTION OF UNDERGROUND UTILITIES. TEST PITTING OF EXISTING LINES PRIOR TO CONSTRUCTION, IF NECESSARY, SHALL BE COORDINATED WITH THE OWNER.
7. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, PROJECT SPECIFICATIONS, AND LOCAL BUILDING CODES.
8. ALL DISTURBED AREAS SHALL BE SMOOTHLY GRADED TO PROMOTE POSITIVE DRAINAGE AND STABILIZED WITH TOPSOIL, SEED, AND MULCH. IF SETTLEMENT OCCURS, TOPSOIL, SEEDING, AND MULCH SHALL BE REPEATED UNTIL SETTLEMENT SUBSIDES. (SEE EROSION AND SEDIMENT CONTROL DETAILS AND SPECIFICATIONS.)
9. WATER MAINS WILL BE INSTALLED AT A DEPTH THAT WILL PROVIDE 36" COVER OVER THE PIPES BELOW PROPOSED GRADE UNLESS SHOWN OTHERWISE ON THESE PLANS OR DIRECTED OTHERWISE BY THE ENGINEER.
10. WHEREVER SEWER OR WATER MAINS CROSS ONE ANOTHER, A MINIMUM VERTICAL CLEARANCE OF 18" SHALL BE PROVIDED BETWEEN THE BOTTOM OF THE WATER PIPE AND THE TOP OF THE SEWER PIPE.
11. WHEREVER SEWER OR WATER MAINS RUN PARALLEL TO EACH OTHER, A MINIMUM HORIZONTAL SEPARATION OF 10' SHALL BE PROVIDED, OR 18" VERTICAL SEPARATION.
12. IF NEITHER OF THESE CONDITIONS (#10 OR #11 ABOVE) CAN BE MET, THEN THE SEWER SHALL BE CLASS 50 DIP, MINIMUM OF 20 LF CENTERED OVER THE CROSSING.
13. ALL WATER VALVES, BOXES, AND FIRE HYDRANT ASSEMBLES SHALL BE SET AND ADJUSTED TO FINISHED GRADE. SEE PENDER COUNTY UTILITY DETAIL SHEET C14.0
14. THE OWNER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, BOTH TEMPORARY AND PERMANENT.
15. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL SURVEY CONTROL PRIOR TO STAKING OUT CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
16. ANY PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE REPLACED SOLELY AT THE CONTRACTOR'S EXPENSE.
17. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS.
18. ALL SELECT AND BORROW MATERIAL SHALL MEET CRITERIA SET FORTH BY SECTIONS 1016 AND 1018 OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S STANDARDS AND SPECIFICATIONS FOR ROADS AND STRUCTURES. SEE SECTION FOR PLACEMENT AND COMPACTION INFORMATION.
19. THE ENGINEER AND THE CONTRACTOR SHALL INSPECT ALL EXISTING PIPES USED IN THE FINAL DRAINAGE SYSTEM AND AGREE ON THE CONDITION OF THE PIPES PRIOR TO CONSTRUCTION. IF DAMAGE OCCURS TO THESE PIPES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE PIPE(S).
20. EXISTING PAVING, CONCRETE, AND OTHER UNSUITABLE MATERIALS INCLUDING UNDERCUT EXCAVATION SHALL NOT BE USED AS FILL MATERIAL (UNLESS APPROVED BY THE GEOTECHNICAL ENGINEER) AND SHALL BE DISPOSED OF OUTSIDE THE PROJECT LIMITS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING AND FEES FOR DISPOSAL.
21. ALL TREES, STUMPS, ROOT MAT, ETC. SHALL BE ENTIRELY REMOVED REGARDLESS OF DEPTH. BURIAL OF ORGANIC MATERIAL WITHIN THE PROJECT LIMITS IS NOT PERMITTED. OPEN BURNING OF DOWNED TREES AND STUMPS IS NOT PERMITTED. CHIPPED MATERIALS MUST BE REMOVED PRIOR TO THE PLACEMENT OF EMBANKMENT OR TOPSOIL.
22. THE CONTRACTOR IS SOLELY RESPONSIBLE TO OBTAIN OFF-SITE SPOIL AREAS FOR DISPOSAL OF EXCESS AND/OR UNSUITABLE MATERIALS AS NECESSARY. OFF-SITE SPOIL AREAS MUST BE SUBMITTED TO THE ENGINEER AND APPLICABLE REGULATORY AGENCIES PRIOR TO UTILIZATION BY THE CONTRACTOR. NO AREAS DESIGNATED AS WETLANDS WILL BE PERMITTED FOR USE AS A DISPOSAL SITE. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER THAT NO WETLANDS WILL BE IMPACTED. THE ENGINEER WILL NOT CONSIDER ANY DELAYS OR MONETARY CLAIMS OF ANY NATURE RESULTING FROM THE CONTRACTOR'S FAILURE OR DIFFICULTY IN FINDING NECESSARY DISPOSAL SITES TO MEET THE TIME FRAMES AND CAPACITIES REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PLANS, PERMITS, EROSION AND SEDIMENT CONTROL MEASURES, ETC. REQUIRED BY THE APPROPRIATE REGULATORY AGENCIES FOR UTILIZING OFF-SITE SPOIL AREAS. THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED PRIOR TO UTILIZING THE OFF-SITE SPOIL AREAS. ALL COSTS FOR PROCURING AND UTILIZING THE OFF-SITE SPOIL AREAS ARE TO BE INCIDENTAL TO THE BASE BID.

DEMOLITION NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIARIZED WITH FIELD DEMOLITION CONDITIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL DEMOLISHED DEBRIS ASSOCIATED WITH THE PROJECT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. PIT BURNING IS PERMISSIBLE IF APPROVED THROUGH THE PENDER COUNTY FIRE MARSHALL.
3. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST GENERATED BY THE WORK, INCLUDING BUT NOT LIMITED TO DEMOLITION AND CONSTRUCTION ACTIVITIES, SITE VEHICULAR TRAFFIC AND RELATED OPERATIONS.
4. THE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL EXISTING UTILITIES LOCATED PRIOR TO BEGINNING ANY DEMOLITION. CONTRACTOR SHALL CONTACT NC ONE CALL AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED.
5. EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE AND ENGINEER IMMEDIATELY.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF DISCONNECTING AND ABANDONING ALL EXISTING UTILITIES WITH THE OWNER UNLESS OTHERWISE NOTED. ALL EXISTING UTILITIES AND ASSOCIATED PIPING, ETC. NOT IN USE ON THE SITE SHALL BE PROPERLY ABANDONED AND REMOVED AS REQUIRED. COORDINATE WITH THE OWNER.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ANY EXISTING UTILITIES THAT REMAIN IN SERVICE DURING DEMOLITION.
8. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS AND SLOPES ON AND OFF SITE IN ACCORDANCE WITH THE EROSION CONTROL MEASURES SPECIFIED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO DETERMINE WHO IS RESPONSIBLE FOR PROVIDING THE PERMANENT STABILIZATION MEASURES AND THE TYPE OF PERMANENT MEASURES PRIOR TO BEGINNING DEMOLITION AND CONSTRUCTION. THE PERMANENT STABILIZATION MEASURES SHALL BE IN PLACE AND ACCEPTABLE TO THE OWNER'S REPRESENTATIVE AND ENGINEER PRIOR TO PROJECT CLOSEOUT. COORDINATE INSPECTION WITH THE OWNER AND ENGINEER PRIOR TO PROJECT CLOSEOUT.
9. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND CONTACTING THE ENGINEER FOR THE REQUIRED INSPECTIONS ON THE PROJECT.
10. WETLANDS DO EXIST ON SITE AND ARE NOTED ON THE PLANS. UNLESS OTHERWISE INDICATED, THE WETLANDS SHALL NOT BE DISTURBED DURING CONSTRUCTION OF THIS PROJECT.

STORM DRAINAGE AND GRADING NOTES

1. IN ACCORDANCE WITH NC GENERAL STATUTES, NPDES REGULATIONS, AND NCDENR REQUIREMENTS, STORMWATER DISCHARGE OUTFALLS SHALL BE INSPECTED BY THE CONTRACTOR. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR AFTER EACH STORM EVENT OF 1/2 INCH OR GREATER, WITH ONE WEEKLY INSPECTION MINIMUM. NCDENR STANDARD INSPECTION REPORTS SHALL BE PREPARED AND SIGNED WITH COPIES PROVIDED TO THE OWNER, ARCHITECT, AND ENGINEER, BY THE CONTRACTOR.
2. OUTLET PROTECTION SHALL BE INSTALLED AROUND STORM DRAIN OUTFALLS. DEVICES SHALL BE CONSTRUCTED TO FINAL PROPOSED CONDITION UPON STABILIZATION OF CONTRIBUTING GROUND SURFACES AND REMOVAL OF SEDIMENT FROM STORM PIPES.
3. ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO CONTRACTOR FOR ANY WORK DONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
4. UNLESS OTHERWISE NOTED, GRADES AND SPOT ELEVATIONS NOTED ON PLANS INDICATE FINISHED GRADE OR PAVEMENT SURFACE. ALL DIMENSIONS ARE MEASURED TO THE FACE OF CURB UNLESS OTHERWISE INDICATED.
5. ALL STORM DRAINAGE PIPES 15" INSIDE DIAMETER OR LARGER SHALL BE:
   5.1. RCP CLASS III, OR
   5.2. HP STORM
6. STORM DRAIN PIPES LESS THAN 15" INSIDE DIAMETER SHALL BE HDPE, DOUBLE WALL, TYPE S WITH SOIL TIGHT JOINTS, OR APPROVED EQUAL.
7. STORM DRAINAGE PIPE AND STRUCTURE MATERIALS WITHIN IN NCDOT RIGHT OF WAY SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS AND SPECIFICATIONS, LATEST EDITION.
8. CONTRACTOR SHALL SUBMIT STORM DRAIN AND STRUCTURE MATERIALS SHOP DRAWING DOCUMENTS TO ENGINEER FOR REVIEW AND APPROVAL.

MATERIALS AND EASEMENT NOTES:

- ALL CATCH BASINS ARE NCDOT STD 840.02/840.03
- ALL DROP INLETS ARE NCDOT STD 840.16/840.16
- ALL STORM DRAINAGE PIPING TO BE CLASS III RCP, UNLESS OTHERWISE NOTED
- ALL SANITARY SEWER LINES AND WATERLINES SHALL BE C-900 PVC, UNLESS OTHERWISE NOTED AND MEET PLURIS HAMPSTEAD, LLC SPECIFICATIONS
- A PUBLIC UTILITY EASEMENT SHALL BE RESERVED WITHIN THE STREET RIGHT-OF-WAY. A 10' NON-MUNICIPAL EASEMENT SHALL BE RESERVED ALONG BOTH SIDES OF ALL STREETS
- WATER UTILITY IS PUBLIC - PENDER COUNTY PUBLIC UTILITIES
- SANITARY SEWER MAIN IS PRIVATE - PLURIS HAMPSTEAD, LLC

UTILITY NOTES

1. SCHEDULE A PRECONSTRUCTION MEETING WITH PENDER COUNTY PUBLIC UTILITIES AND PLURIS HAMPSTEAD, LLC 48 HOURS PRIOR TO CONSTRUCTION OF WATER AND SEWER LINES.
2. WATER AND SANITARY SEWER INFRASTRUCTURE ARE PRIVATE BEYOND THE PUBLIC STREET RIGHT-OF-WAY.
3. BACKFLOW PREVENTION AND METERS SHALL BE PROVIDED FOR DOMESTIC WATER SERVICE (RPZ). DOMESTIC SERVICE BACKFLOW PREVENTER WILL BE LOCATED AS SHOWN ON THE UTILITY PLANS. INSTALLER OF BACKFLOW PREVENTERS MUST CONTACT PCU PRIOR TO INSTALLING UNITS TO GIVE PCU THE OPTION TO VERIFY INSTALLATION PROCEDURES.

   3.1. REDUCED PRESSURE PRINCIPLE ASSEMBLY FOR DOMESTIC WATER SERVICE
4. IF THE CONTRACTOR DESIRES PCU WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
5. WATER: 1.5" & 2" PVC MAINS SHALL BE CONSTRUCTED USING ASTM D2241, IPS, GASKETED PIPE, SDR 21. 4"-12" PVC MAINS AND SERVICES SHALL BE CONSTRUCTED USING ASTM D1704, ASTM D2241 FOR SDR-21, CLASS 200 PVC MEETING.
6. SANITARY SEWER: FOR PIPE SIZES 4" AND 6" PIPE SHALL BE SCH 40 CONFORMING TO THE REQUIREMENTS OF ASTM D1785 WITH SOLVENT WELD JOINTS CONFORMING TO ASTM D2672.
7. WATER AND SEWER SERVICES CANNOT BE ACTIVATED ON NEW MAINS UNTIL ENGINEER'S CERTIFICATION AND AS-BUILTS ARE RECEIVED AND "FINAL APPROVAL" ISSUED BY PUBLIC WATER SUPPLY SECTION OF NCDENR AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY OF NCDENR.
   7.1. AMENITY CENTER PROJECT IS RELIANT ON SATISFACTORY COMPLETION OF PERMITS DIRECTLY ASSOCIATED WITH THE BLAKE FARM SF-1 PROJECT.
8. PVC WATER MAINS AND POLYETHYLENE SERVICES ARE TO BE MARKED WITH NO. 10 SINGLE STRAND INSULATED COPPER WIRE INSTALLED THE ENTIRE LENGTH AND STRAPPED TO THE PIPES WITH DUCT TAPE. THE INSULATED WIRE IS TO BE STRIPPED TO BARE WIRE AND SECURED TO ALL VALVES. THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
9. MAXIMUM BENDING RADIUS FOR 8" C-900 PVC WATER MAIN BENDS IS 380' (ONE-HALF MANUFACTURER'S RECOMMENDED ALLOWABLE LONGITUDINAL BENDING).
10. UNDERGROUND UTILITIES: ALL NEW UTILITIES SHALL BE INSTALLED UNDERGROUND, EXCEPT WHERE SUCH PLACEMENT IS PROHIBITED OR DEEMED IMPRACTICAL BY THE UTILITY PROVIDER. UNDERGROUND TERMINAL FACILITIES FOR STREET LIGHTING ALONG THE PUBLIC STREETS ABUTTING THE SUBJECT SITE SHALL BE INSTALLED BY THE DEVELOPER.
11. MINIMUM OF 36" COVERAGE ABOVE ALL WATERMAINS AND WATER SERVICES.
12. MINIMUM OF 36" VERTICAL SEPARATION BETWEEN WATERLINES AND STORMDRAIN CURB INLETS
13. A VARIANCE IS NOT ANTICIPATED FROM ANY NORTH CAROLINA DIVISION OF WATER QUALITY (DWQ) REQUIREMENT.
14. PLANS ARE IN COMPLIANCE WITH PENDER COUNTY PUBLIC UTILITIES TECHNICAL STANDARDS AND SPECIFICATIONS.

RELATION OF WATER MAINS TO SANITARY SEWERS:

1. LATERAL SEPARATION OF SANITARY SEWERS AND WATER MAINS: WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10 FOOT LATERAL SEPARATION, IN WHICH CASE:
   1.1. THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, OR
   1.2. THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND ABOVE THE TOP OF THE SEWER.
2. CROSSING A WATER MAIN OVER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 24 INCHES ABOVE THE TOP OF THE SEWER MAIN. UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION - IN WHICH CASE BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
3. CROSSING A WATER MAIN UNDER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. THE WATER MAIN SHALL BE C-900 PVC ENCASED WITHIN A STEEL SLEEVE. REFERENCE PCU STANDARD SPECS AND DETAILS.
4. CROSSING A SEWER MAIN/WATER MAIN OVER OR UNDER A STORM DRAIN: WHENEVER IT IS NECESSARY FOR A SEWER MAIN/WATER MAIN TO CROSS A STORM DRAIN PIPE, THE SEWER MAIN/WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE OUTSIDE OF THE SEWER MAIN/WATER MAIN NEAREST TO THE OUTSIDE OF THE STORM DRAIN PIPE SHALL MAINTAIN A 24 INCH CLEAR SEPARATION DISTANCE HORIZONTAL, OR THE SEWER MAIN SHALL EITHER BE CONSTRUCTED OF DUCTILE IRON PIPE OR ENCASED IN EITHER CONCRETE OR DUCTILE IRON PIPE FOR AT LEAST 5 FEET ON EITHER SIDE OF THE CROSSING. SEE NOTE 3 DIRECTLY ABOVE FOR WATER MAIN MATERIALS.

EXCAVATION, GRADING, AND BACKFILLING NOTES

1. ANY UNDERCUTTING IN GOOD SOIL SHALL BE REPLACED AND THE REPLACEMENT MATERIAL SHALL BE COMPACTED TO NINETY-FIVE (95) PERCENT OF MAXIMUM DENSITY OBTAINED AT OPTIMUM MOISTURE CONTENT, AS DETERMINED BY THE ASTM D 698 STANDARD PROCTOR TEST METHOD. IN THE EVENT THAT MATERIAL ENCOUNTERED AT PIPE GRADE, SUBGRADE OF PARKING OR ROADWAYS AND SUBGRADE OF BUILDING FOUNDATIONS IS FOUND TO BE SOFT, SPONGY, OR IN ANY OTHER WAY UNSUITABLE, THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER IMMEDIATELY. SUCH UNSUITABLE MATERIAL SHALL BE REMOVED TO A DEPTH AS SPECIFIED BY THE GEOTECHNICAL ENGINEER AND REPLACED WITH A MINIMUM OF SIX (6) INCHES OF STONE, OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
2. BEFORE BACKFILLING IS COMMENCED OVER PIPES AND OTHER INSTALLATIONS, EARTH FILL SHALL BE TAMPED SOLID AROUND AND ABOVE THE PIPE TO A DEPTH OF ONE (1) FOOT ABOVE THE TOP OF THE PIPE. CARE SHALL BE TAKEN TO PREVENT ANY DISTURBANCE TO THE PIPE OR DAMAGE TO NEWLY MADE JOINTS. THE FILLING OF THE TRENCH SHALL BE CARRIED OUT SIMULTANEOUSLY ON BOTH SIDES OF THE PIPES IN SUCH A MANNER THAT INJURIOUS SIDE PRESSURES DO NOT OCCUR.
3. THE MATERIAL FOR BACKFILLING SHALL BE FREE FROM ALL PERISHABLE AND OBJECTIONABLE MATERIALS. BEFORE PLACING ANY BACKFILL, ALL RUBBISH, FORM, BLOCKS, WIRES OR OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM EXCAVATION. THE BACK-FILLING OVER PIPES SHALL BE PLACED IN LAYERS NOT OVER SIX (6) INCHES THICK AND COMPACTED TO A MINIMUM DENSITY OF NINETY-FIVE (95) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST TO A DEPTH OF 12 INCHES BELOW FINISHED GRADE. THE LAST 12 INCHES OF BACKFILL SHALL BE PLACED IN LAYERS NOT OVER SIX (6) INCHES THICK AND COMPACTED TO A MINIMUM DENSITY OF NINETY-EIGHT (98) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST.

EROSION CONTROL NOTES

1. AMENITY CENTER SITE IS LOCATED WITHIN E&SC PERMIT ID: PENDE-2015-018 LIMITS OF DISTURBANCE. THIS PLAN SET INCLUDES A PLAN FOR STAGE 2 E&SC. STAGE 1 EROSION CONTROL IS ACCOUNTED FOR IN THE BLAKE FARM SF-1 PLAN SET.
2. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
3. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE. ANY BUILDER THAT ANTICIPATED THE DISTURBANCE OF MORE THAN ONE ACRE WILL BE REQUIRED TO GET AN EROSION CONTROL PERMIT FROM NCDENR - DLQ.
4. GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
5. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NCDENR - DLQ.
6. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
7. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
8. IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED.
9. WITHIN 24 HOURS FOLLOWING ANY RAIN EVENT, THE CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL MEASURES.
10. ALL ACTIVITY AND INSTALLATION OF EROSION CONTROL MATTING WILL BE COMPLETE PRIOR TO ANY RAIN EVENT.

EROSION CONTROL MAINTENANCE PLAN:

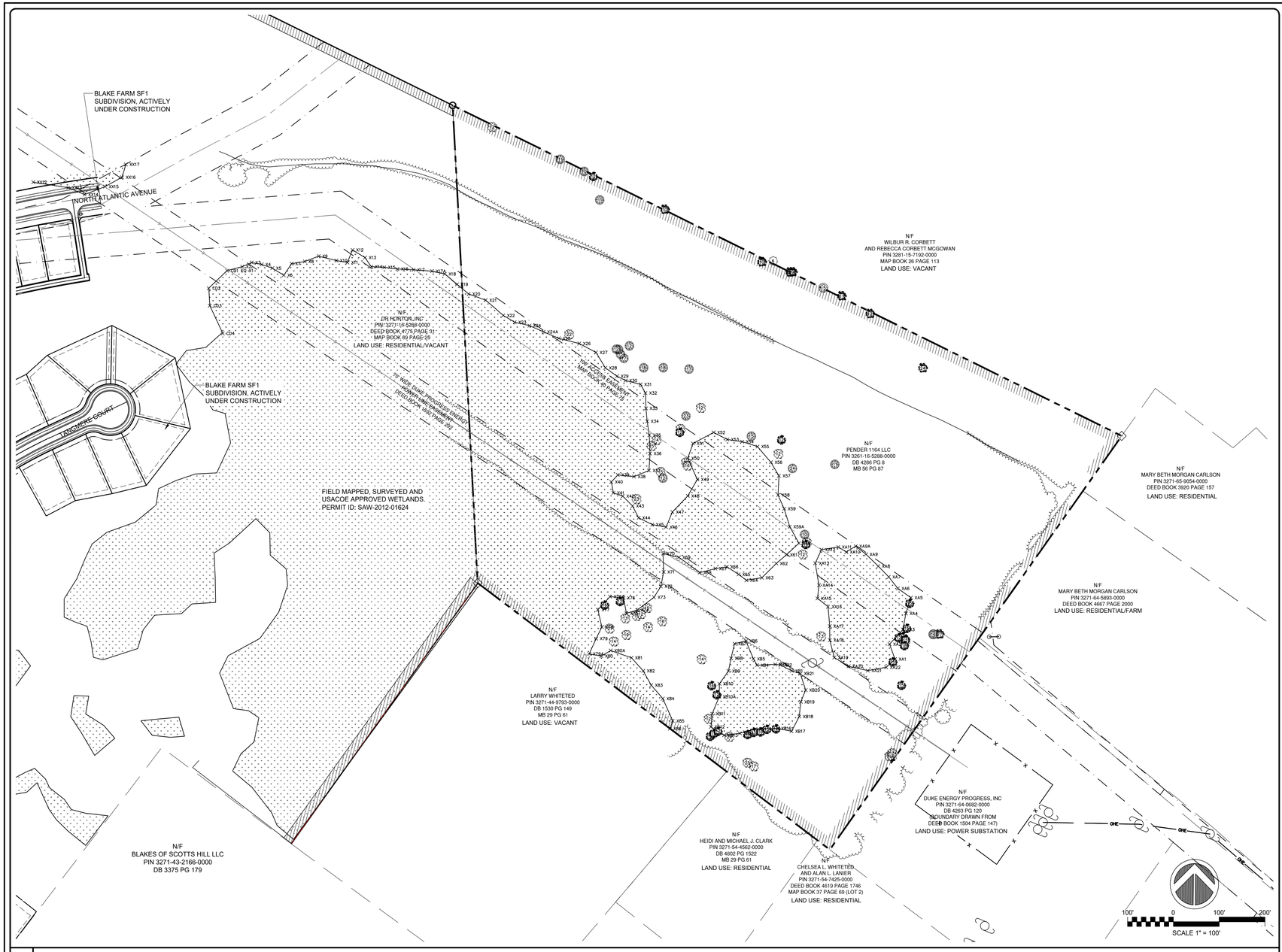
1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED, AS NECESSARY, EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF EVERY ONE-HALF (0.5) INCH OR GREATER RAINFALL.
2. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
3. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP. THE SEDIMENT FENCE WILL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
4. ALL AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
5. STONE CONSTRUCTION ENTRANCE TO BE CLEANED WHEN SEDIMENT ACCUMULATIONS ARE VISIBLE OR SEDIMENT IS TRACKED ON TO THE PAVEMENT. STONE WILL BE PERIODICALLY TOP DRESSED WITH 2 INCHES OF #4 STONE TO MAINTAIN 6 INCH DEPTH. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS REQUIRED.
6. INSPECT TEMPORARY DIVERSIONS AND CHECK DAMS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE AND CHECK DAM. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.
7. INSPECT TEMPORARY SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS.
8. CHECK THE SEDIMENT BASIN EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.
9. INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (0.5" OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED. INLET PROTECTION SHOULD BE CLEANED OUT WHEN IT IS HALF FULL.
10. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEAN OUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH. AFTER THE CONTRIBUTING DRAINAGE AREAS HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.
11. INSPECT THE SKIMMER FOR CLOGGING. PULL THE SKIMMER TO THE SIDE OF THE BASIN AND REMOVE ANY DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER AND THE ARM OR BARREL PIPE FOR CLOGGING; IF CLOGGED, REMOVE THE DEBRIS.

STANDARD NOTES

1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
3. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
4. ALL TRAFFIC CONTROL SIGNS AND MARKING OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
5. ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING SHALL BE REPLACED BY THE CONTRACTOR.
6. TACTILE WARNING MATS ARE TO BE INSTALLED ON ALL WHEELCHAIR RAMPS.
7. NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS.
8. IF UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.

FIRE PROTECTION NOTES

1. HYDRANT MUST BE WITHIN 100' OF THE FDC.
2. THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
3. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
4. ALL HYDRANTS MUST BE WITHIN 600 FEET.
5. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
6. COMBUSTIBLE MATERIALS MAY NOT BE STORED OR ERECTED ONSITE WITHOUT CITY FIRE INSPEC



2 EXISTING CONDITIONS

SITE DATA

PROJECT NAME	BLAKE FARM PARCEL H
PARCEL ID	3271-55-4396-0000 & PORTION OF 3271-35-2761-0000
DEED BOOK & PAGE	SEE PLAN
PROPERTY ADDRESS	NORTH ATLANTIC AVENUE
PROPERTY OWNER(S)	PENDER 1164 LLC / DR HORTON, INC.
CURRENT ZONING	PD (PLANNED DEVELOPMENT)
PROPOSED USE	TOWNHOMES
TOTAL PROPERTY ACREAGE	
NC BUILDING CODE CONSTRUCTION TYPE	
TYPICAL LOT SIZE	42' x100'
NUMBER OF LOTS	33

SYMBOLS LEGEND

CEDAR
CHERRY
CRAPE
DOGWOOD
BEECH
GUM
HOLLY
OAK
MAGNOLIA
MAPLE
MIMOSA
PECAN
PINE
POPLAR
SYCAMORE

LSA LANDSCAPE AREA
SPRINKLER
GROUND SHOT ELEVATION
CONCRETE

TELEPHONE PEDESTAL
FIRE HYDRANT
WV WATER VALVE
WM WATER METER
LP LIGHT POLE
POWER POLE
GW GUY WIRE
GV GAS VALVE
SANITARY SEWER MANHOLE
SANITARY SEWER VALVE
+CO CLEANOUT
SIGN
YARD INLET
STORM DRAIN MANHOLE
CURB INLET
YARD LIGHT
ELECTRIC HANDHOLE
MAILBOX
TELEPHONE MANHOLE

PROJECT LIMITS
CONTOUR LINE
COMPUTED PROPERTY LINE OR EASEMENT
SD STORM DRAIN LINE
W WATER LINE
OE OVER HEAD POWER LINE

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL H

EXISTING CONDITIONS

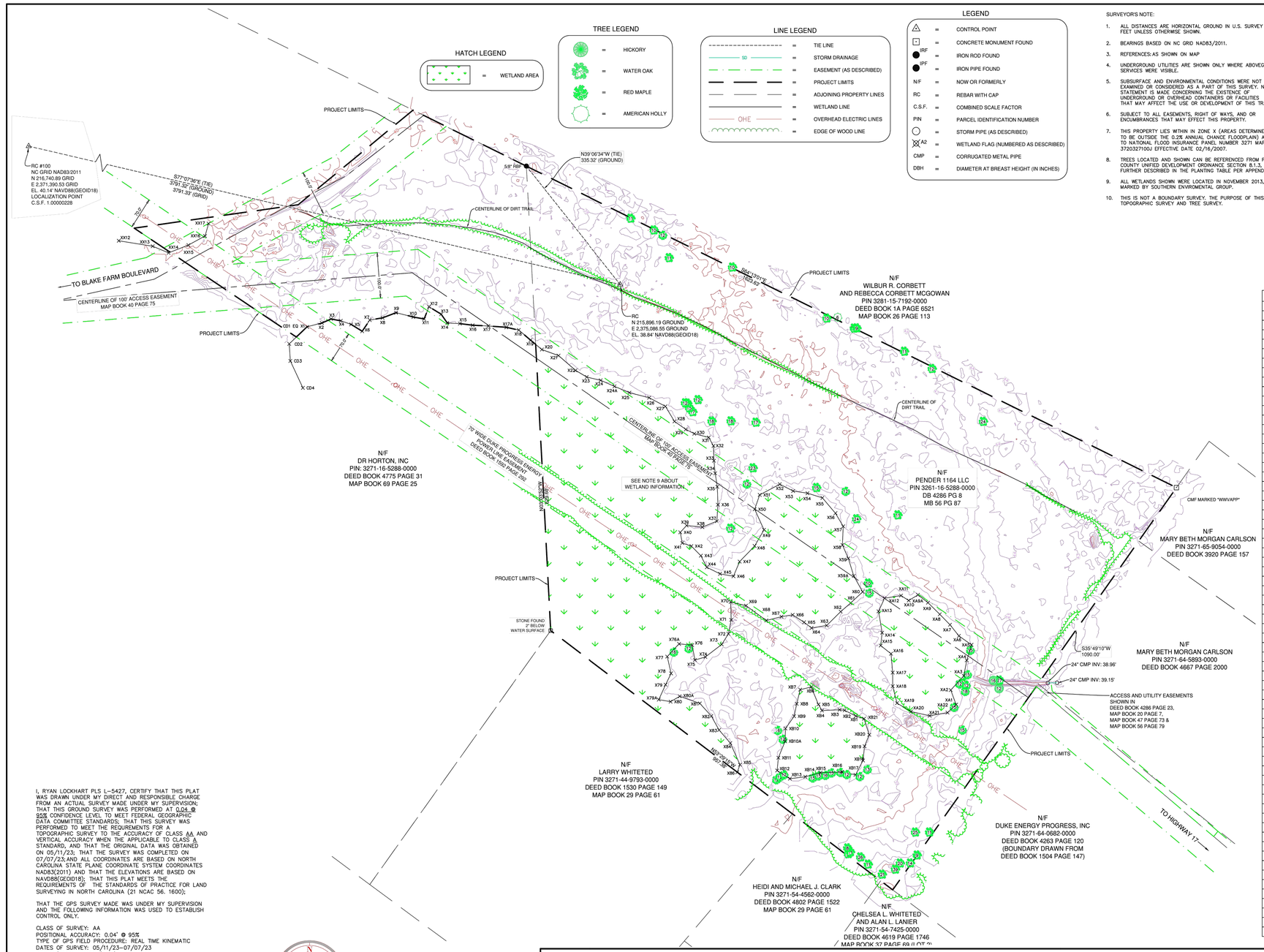
DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
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VERTICAL: N/A

C2.0
DRAWING NUMBER
0
REVISION

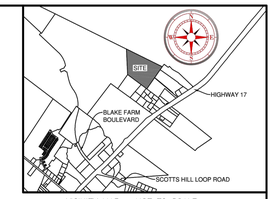
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SURVEYORS NOTE:

1. ALL DISTANCES ARE HORIZONTAL GROUND IN U.S. SURVEY FEET UNLESS OTHERWISE SHOWN.
2. BEARINGS BASED ON NC GRID NAD83/2011.
3. REFERENCES: AS SHOWN ON MAP
4. UNDERGROUND UTILITIES ARE SHOWN ONLY WHERE ABOVEGROUND SERVICES WERE VISIBLE.
5. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT.
6. SUBJECT TO ALL EASEMENTS, RIGHT OF WAYS, AND OR ENCUMBRANCES THAT MAY EFFECT THIS PROPERTY.
7. THIS PROPERTY LIES WITHIN IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO NATIONAL FLOOD INSURANCE PANEL NUMBER 3271 MAP NUMBER 3720327100J EFFECTIVE DATE 02/16/2007.
8. TREES LOCATED AND SHOWN CAN BE REFERENCED FROM PENDER COUNTY UNIFIED DEVELOPMENT ORDINANCE SECTION 8.1.3, AND FURTHER DESCRIBED IN THE PLANTING TABLE PER APPENDIX B.
9. ALL WETLANDS SHOWN WERE LOCATED IN NOVEMBER 2013, AS MARKED BY SOUTHERN ENVIROMENTAL GROUP.
10. THIS IS NOT A BOUNDARY SURVEY. THE PURPOSE OF THIS MAP IS A TOPOGRAPHIC SURVEY AND TREE SURVEY.



VICINITY MAP – NOT TO SCALE

SIGNIFICANT TREE COUNT	
AMERICAN HOLLY	1
HICKORY	2
RED MAPLE	27
WATER OAK	37
TOTAL	**67**

POINT NUMBER	NORTHING	EASTING	DBH	COMMON NAME
37088	215824	2375575	6	AMERICAN HOLLY (CLUSTER)
37193	215008	2375938	12	HICKORY
37096	215026	2375925	16	HICKORY (TWIN)
24010	216005	2375182	12	RED MAPLE
24035	215458	2375371	12	RED MAPLE
24098	215089	2375207	16	RED MAPLE
24099	215097	2375241	12	RED MAPLE
24123	214831	2375642	13	RED MAPLE
37097	215022	2375859	12	RED MAPLE
37098	215019	2375849	12	RED MAPLE
37099	215093	2375874	15	RED MAPLE
37100	215015	2375865	12	RED MAPLE
37102	215002	2375862	18	RED MAPLE
37103	215039	2375867	15	RED MAPLE
37104	214968	2375837	15	RED MAPLE
37105	214917	2375856	15	RED MAPLE
37108	215218	2375647	15	RED MAPLE
37111	214917	2375441	16	RED MAPLE
37114	214808	2375438	12	RED MAPLE
37115	214814	2375445	12	RED MAPLE
37116	214819	2375455	17	RED MAPLE
37120	214812	2375519	15	RED MAPLE
37121	214817	2375533	15	RED MAPLE
37122	214818	2375548	16	RED MAPLE
37123	214823	2375562	15	RED MAPLE
37189	214820	2375596	12	RED MAPLE
24048	215442	2375593	12	RED MAPLE (CLUSTER)
37112	214897	2375452	12	RED MAPLE (CLUSTER)
37124	214824	2375582	16	RED MAPLE (CLUSTER)
37190	214815	2375625	12	RED MAPLE (TWIN)
24003	216041	2375110	11	WATER OAK
24008	216015	2375162	10	WATER OAK
24025	215616	2375249	17	WATER OAK
24026	215625	2375242	15	WATER OAK
24027	215635	2375238	16	WATER OAK
24028	215636	2375233	12	WATER OAK
24029	215643	2375261	12	WATER OAK
24030	215596	2375292	18	WATER OAK
24031	215596	2375335	18	WATER OAK
24032	215593	2375391	17	WATER OAK
24033	215493	2375385	23	WATER OAK
24039	215360	2375334	12	WATER OAK
24044	215450	2375528	15	WATER OAK
24046	215381	2375618	24	WATER OAK
24047	215389	2375710	11	WATER OAK
24049	215240	2375644	10	WATER OAK
24110	214625	2375738	14	WATER OAK
24112	214611	2375705	39	WATER OAK
24113	214642	2375754	9	WATER OAK
24115	214638	2375626	26	WATER OAK
24116	214622	2375644	11	WATER OAK
24118	214600	2375675	21	WATER OAK
24119	214645	2375599	13	WATER OAK
24120	214649	2375604	11	WATER OAK
24121	214658	2375597	8	WATER OAK
27542	214693	2375781	11	WATER OAK
27543	214692	2375750	25	WATER OAK
37002	215954	2375196	11	WATER OAK
37086	215934	2375338	10	WATER OAK
37087	215822	2375551	10	WATER OAK
37089	215800	2375612	11	WATER OAK
37090	215800	2375618	9	WATER OAK
37092	215749	2375725	11	WATER OAK
37093	215711	2375787	12	WATER OAK
37094	215595	2375902	24	WATER OAK
37095	215026	2375939	27	WATER OAK
24111	214624	2375716	20	WATER OAK (TWIN)

I, RYAN LOCKHART PLS L–5427, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT THIS GROUND SURVEY WAS PERFORMED AT 0.04 @ 95% CONFIDENCE LEVEL TO MEET FEDERAL GEOGRAPHIC DATA COMMITTEE STANDARDS; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS FOR A TOPOGRAPHIC SURVEY TO THE ACCURACY OF CLASS AA AND VERTICAL ACCURACY WHEN THE APPLICABLE TO CLASS A STANDARD, AND THAT THE ORIGINAL DATA WAS OBTAINED ON 05/11/23; THAT THE SURVEY WAS COMPLETED ON 07/07/23; AND ALL COORDINATES ARE BASED ON NORTH CAROLINA STATE PLANE COORDINATE SYSTEM COORDINATES NAD83(2011) AND THAT THE ELEVATIONS ARE BASED ON NAVD88(GEOID18); THAT THIS PLAT MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56. 1600);

THAT THE GPS SURVEY MADE WAS UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO ESTABLISH CONTROL ONLY.

CLASS OF SURVEY: AA
POSITIONAL ACCURACY: 0.04' @ 95%
TYPE OF GPS FIELD PROCEDURE: REAL TIME KINEMATIC
DATES OF SURVEY: 05/11/23–07/07/23
DATUM/EPOCH: NAD83(2011)
PUBLISHED/FIXED–CONTROL USED: NC CORS
GEOID MODEL: GEOID 18
COMBINED GRID FACTOR: 1.00000228
UNITS: U.S. SURVEY FEET

WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER, AND SEAL THIS ____ DAY OF ____, A.D. ____

PRELIMINARY PLAT
NOT FOR RECORDATION, CONVEYANCES, OR SALES

RYAN LOCKHART
PROFESSIONAL LAND SURVEYOR L–5427

NC GRID NAD83/2011

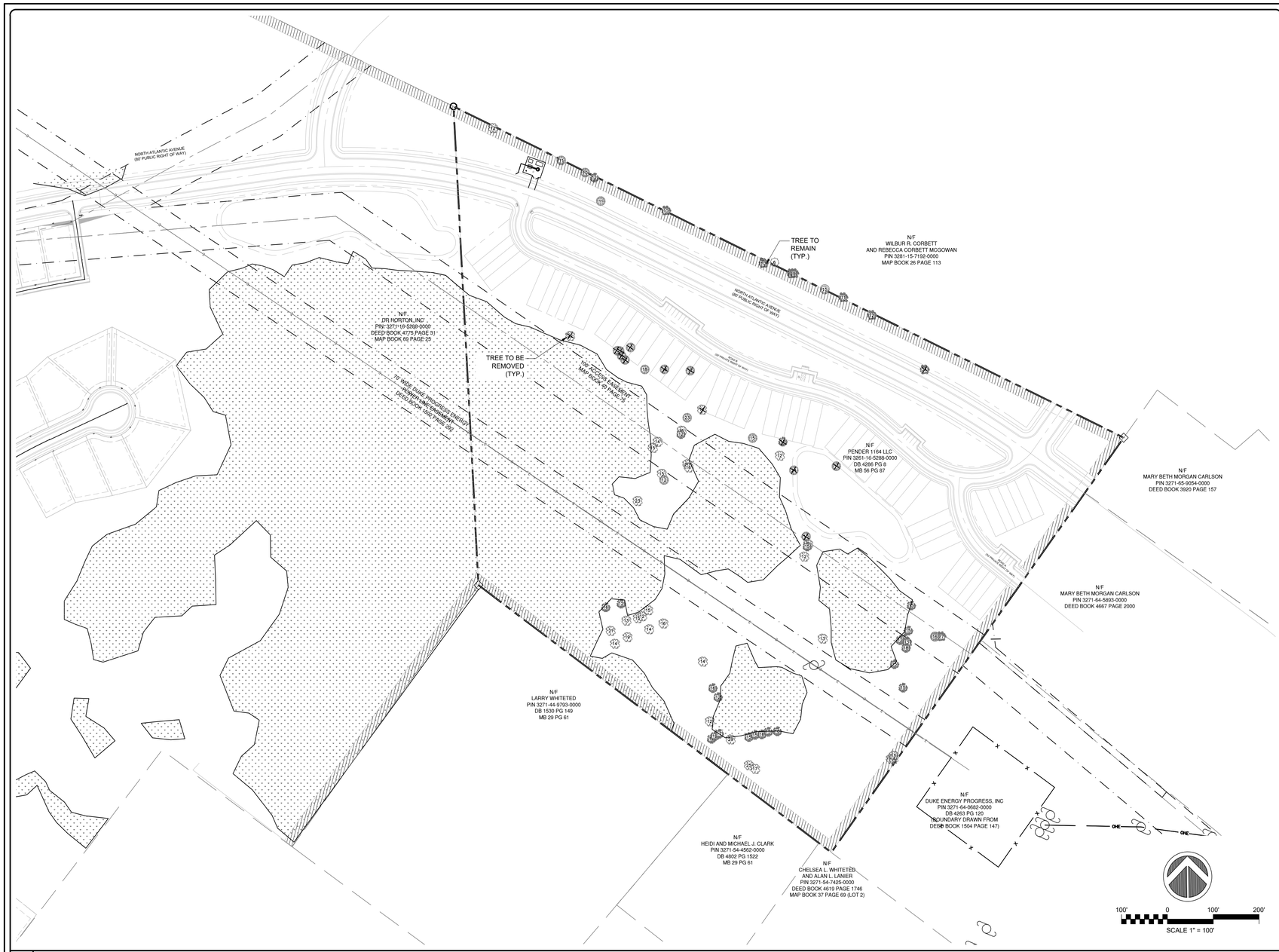
SCALE: 1" = 100'
0 50' 100' 200' 300'

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FAX: (910) 251-8282
NORTH CAROLINA FIRM LICENSE NUMBER: F-1222

TOPOGRAPHIC AND TREE SURVEY
FOR
PENDER 1164 LLC
DEED BOOK: 4286 PAGE: 8
PIN: 3261-16-5288-0000
TOPSAIL TOWNSHIP, PENDER COUNTY, NORTH CAROLINA
AUGUST 3, 2023

JOB NUMBER:	04245–0047
SCALE:	1" = 80'
CAD NUMBER:	VT–BF–PARCEL–H
PLS:	RL
PARTY CHIEF:	AM
CAD TECH:	CAH
FIELD BOOK/PAGE:	FB/PG
DRAWING NUMBER:	2023-073

SHEET 1 OF 1



2 TREE REMOVAL PLAN

SYMBOLS LEGEND

SYMBOL	TREE SPECIES
12	HICKORY
12	WATER OAK
12	RED MAPLE
12	AMERICAN HOLLY
12	TREES TO BE PRESERVED
12	TREES TO BE REMOVED

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL H

TREE REMOVAL PLAN

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

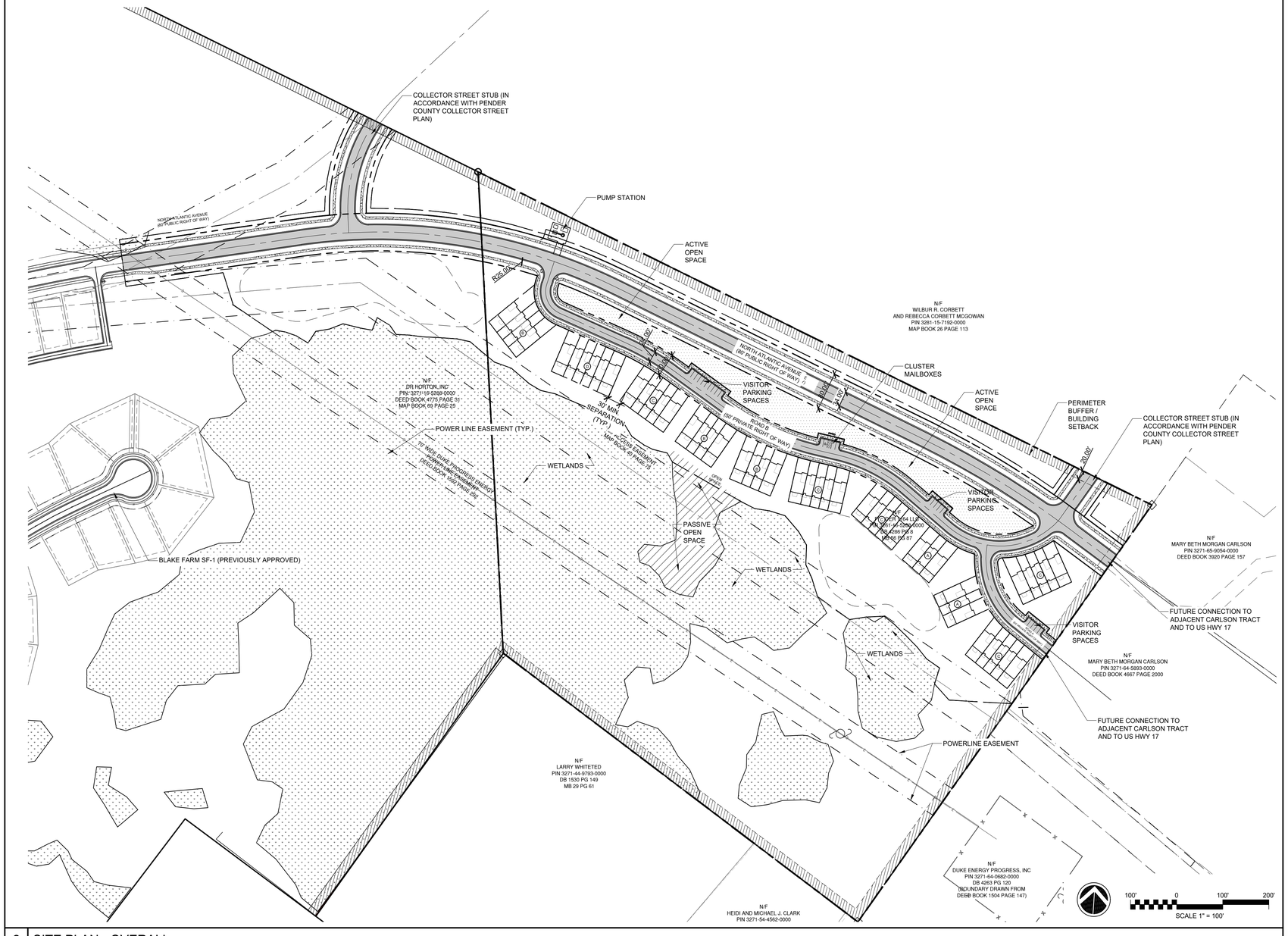
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VERTICAL: VSCALE

C2.2
DRAWING NUMBER

REVISION

STATUS: PRELIMINARY DESIGN

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2 SITE PLAN - OVERALL

SITE DATA

PROJECT NAME	BLAKE FARM PARCEL H	
PARCEL ID	3271-55-4396-0000	
DEED BOOK & PAGE	DB 4286 PG 8	
PROPERTY ADDRESS	NORTH ATLANTIC AVENUE	
PROPERTY DEVELOPER	PENDER 1164 LLC	
CURRENT ZONING	PD (PLANNED DEVELOPMENT)	
PROPOSED USE	TOWNHOMES	
TOTAL PROPERTY ACREAGE	±28.65 AC	
PROJECT AREA	±28.65 AC	
NC BUILDING CODE CONSTRUCTION TYPE		
TYPICAL LOT SIZE	20' x 100'	
TYPICAL END LOT SIZE	28' x 100'	
NUMBER OF LOTS	49	
DENSITY	ALLOWED	PROVIDED
SEE DENSITY CALCULATIONS CHART BELOW	-	3.63 DU/AC
BUILDING SETBACKS	REQUIRED	PROVIDED
FRONT	-	25'
REAR	-	25'
SIDE	-	0'
	REQUIRED	PROVIDED
OPEN SPACE .03 ACRE PER DWELLING UNIT (49 x 49 LOTS = 1.47 ACRE OPEN SPACE	1.47 AC	1.95 AC
ACTIVE OPEN SPACE ENHANCED DESIGN INCLUDING NOT LIMITED TO VILLAGE COMMONS, OUTDOOR RECREATION SPACE, CLUSTER MAILBOXES, PLAY AREAS	MIN. 50% OF OPEN SPACE (.5 ACRE)	1.25 AC (64%)
PASSIVE OPEN SPACE UNDISTURBED NATURAL AREAS INCLUDING NOT LIMITED TO WETLANDS, NATURAL HERITAGE AREAS	MAX. 50% OF OPEN SPACE (.5 ACRE)	0.7 AC (36%)

DENSITY CALCULATIONS

GENERAL INFORMATION	QUANTITY
PROPERTY ACREAGE	28.65 AC
A. NON-RESIDENTIAL ACREAGE	
B. WETLANDS ACREAGE	8.40 AC
C. RIGHT OF WAY / PARKING ACREAGE (PRIVATE RIGHTS OF WAY)	4.79 AC
D. TOTAL OPEN SPACE ACREAGE	1.96 AC
TOTAL NON-RESIDENTIAL ACREAGE	15.14 AC
DEVELOPABLE LAND	13.51 AC
TOTAL UNITS (TOWNHOME LOTS)	49
PARCEL H DENSITY	3.63 DU/AC

RESIDENTIAL BUILDING TYPE	NUMBER OF BUILDINGS	NUMBER OF UNITS
BUILDING A 3 UNITS PER BUILDING ± 45'x76'	2	6
BUILDING B 4 UNITS PER BUILDING ± 45'x96'	3	12
BUILDING C 5 UNITS PER BUILDING ±45'x116'	5	25
BUILDING D 6 UNITS PER BUILDING ±45'x136'	1	6
TOTAL NUMBER OF UNITS		49

SYMBOL LEGEND

- ASPHALT
- CONCRETE
- ACTIVE OPEN SPACE
- PASSIVE OPEN SPACE

1 NOTES

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BLAKE FARM PARCEL H

SITE PLAN - OVERALL

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

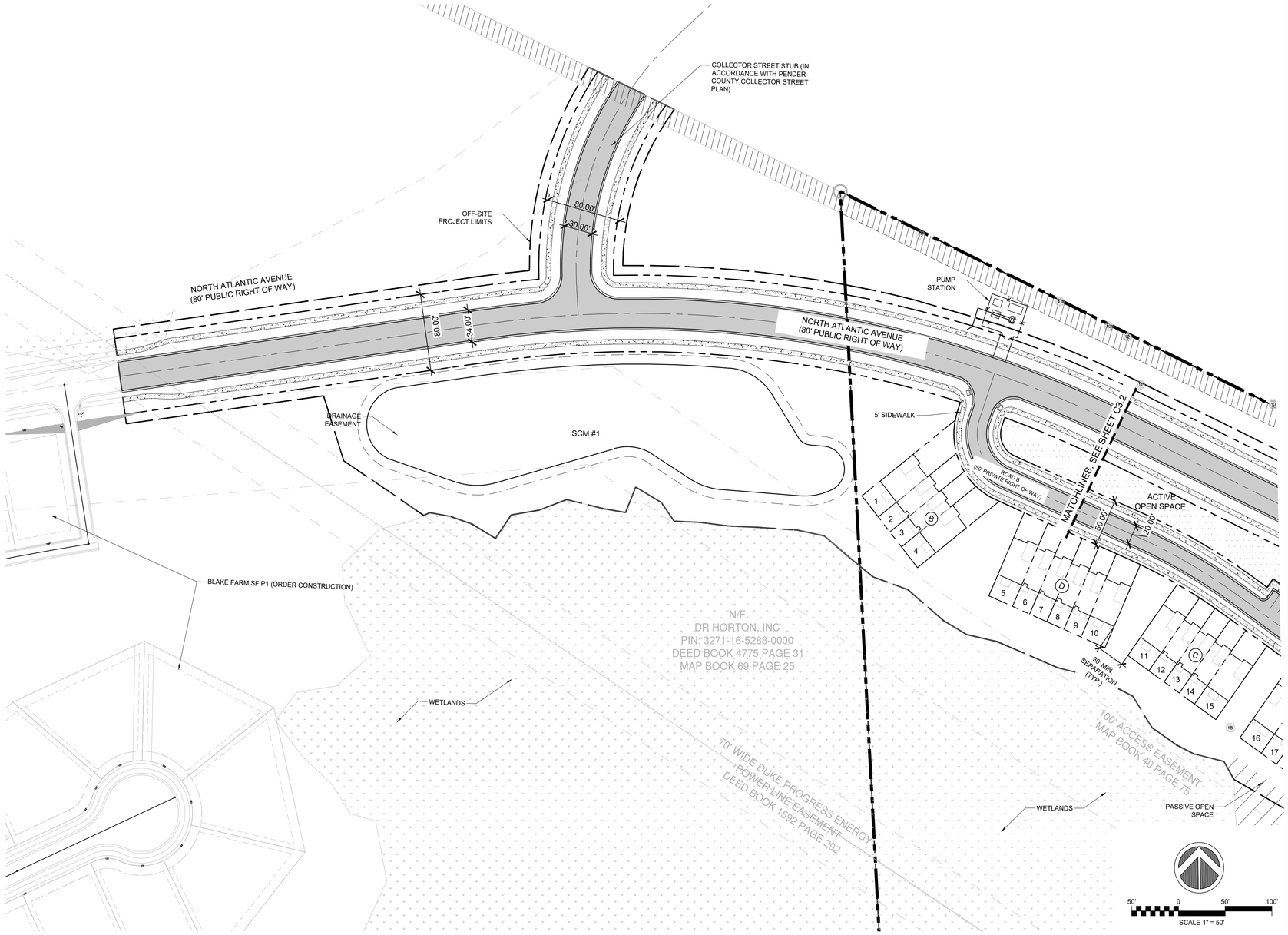
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C3.0
DRAWING NUMBER

REVISION

STATUS:
PRELIMINARY DESIGN

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SYMBOL LEGEND

- HEAVY-DUTY ASPHALT
- CONCRETE
- ACTIVE OPEN SPACE
- PASSIVE OPEN SPACE

2 SITE PLAN ENLARGEMENTS

1 NOTES

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BLAKE FARM PARCEL H

BLAKE FARM BOULEVARD & S. ATLANTIC AVENUE

SITE PLAN ENLARGEMENTS

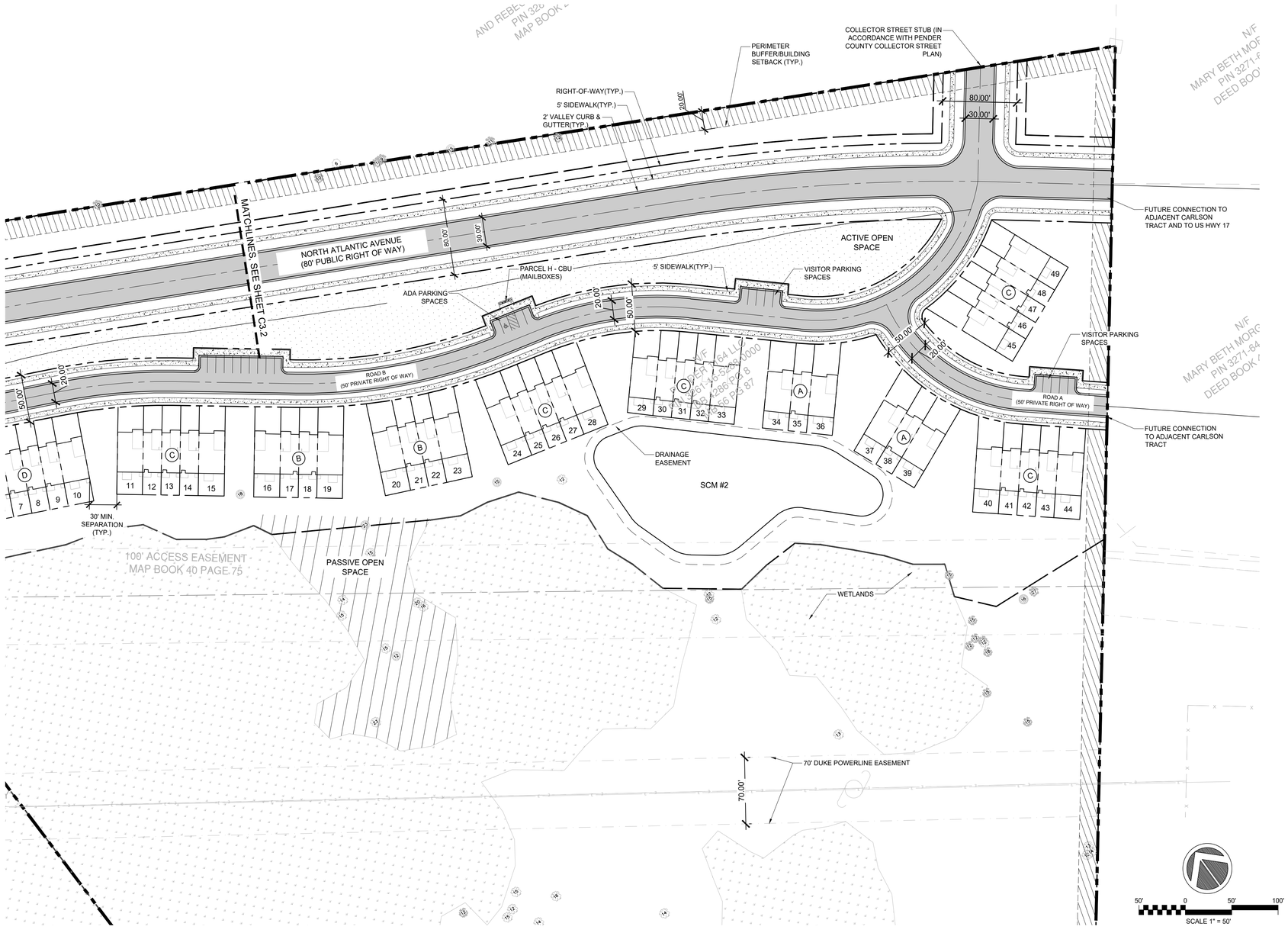
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DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

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C3.1
DRAWING NUMBER
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REVISION

STATUS: PRELIMINARY DESIGN

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SYMBOL LEGEND

- HEAVY-DUTY ASPHALT
- LIGHT-DUTY ASPHALT
- CONCRETE
- ACTIVE OPEN SPACE
- PASSIVE OPEN SPACE

2 SITE PLAN ENLARGEMENTS

1 NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL H

BLAKE FARM BOULEVARD & S. ATLANTIC AVENUE

SITE PLAN ENLARGEMENTS

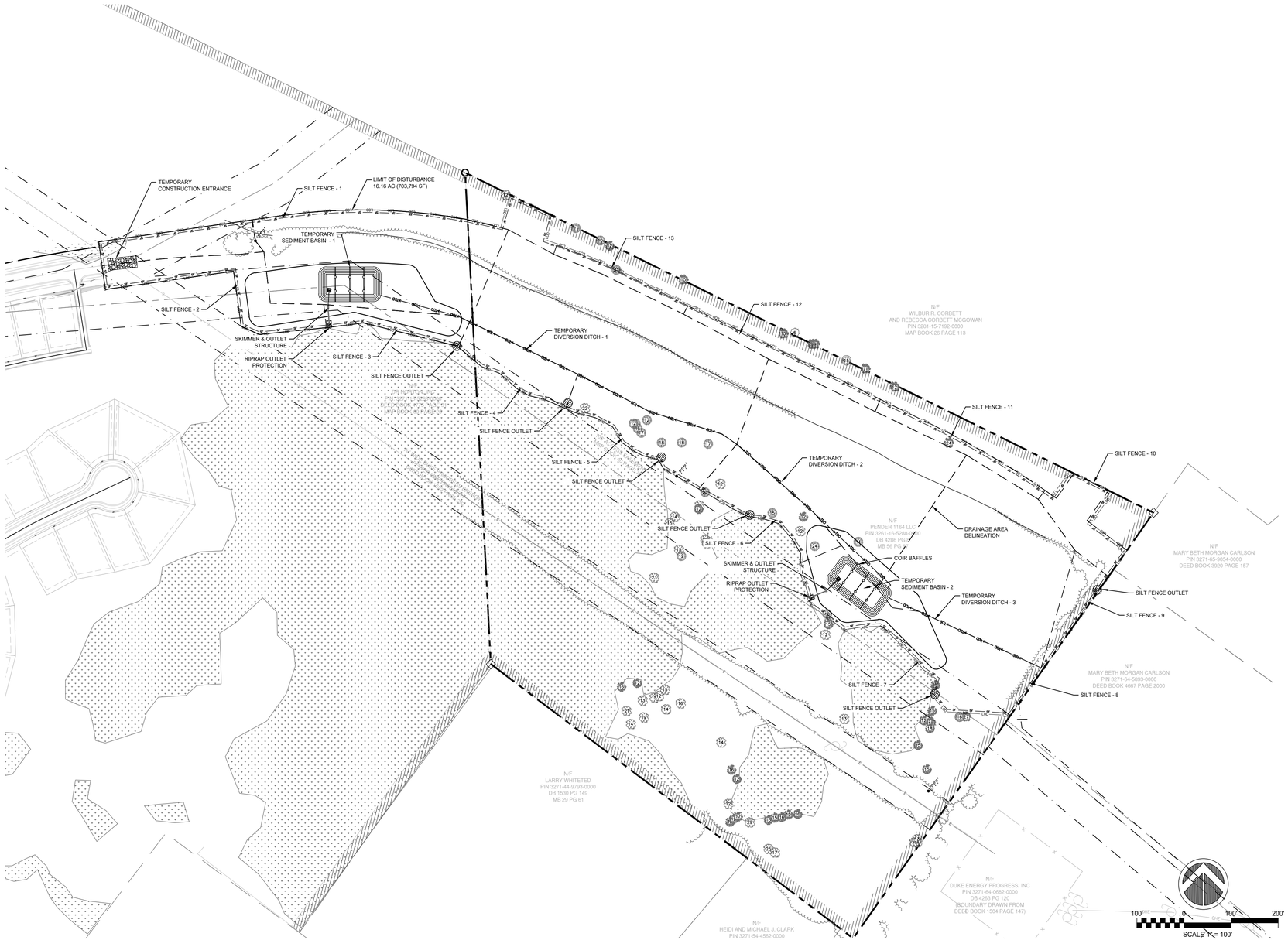
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DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

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HORIZONTAL: 1"=50'
VERTICAL: N/A

C3.2
DRAWING NUMBER
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REVISION

STATUS: PRELIMINARY DESIGN

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2 EROSION CONTROL PHASE 1 PLAN

EROSION CONTROL LEGEND

- SF SF — SILT FENCE
- LOD LOD — LIMITS OF DISTURBANCE
- DRAINAGE AREA DELINEATION
- 40 — EXISTING MAJOR CONTOUR
- 39 — EXISTING MINOR CONTOUR
- TEMPORARY SEDIMENT BASIN BAFFLE
- >TDD >TDD — TEMPORARY DIVERSION DITCH
- DANDY SACK INLET PROTECTION
- SILT FENCE OUTLET

PHASE 1 CONSTRUCTION. SEQUENCE NOTES

1. OBTAIN ALL NECESSARY PERMIT APPROVALS PRIOR TO ANY LAND DISTURBANCE ACTIVITY.
2. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL INSPECTOR, ENGINEER, AND CONTRACTOR SHALL BE IN ATTENDANCE.
3. ESTABLISH LIMITS OF DISTURBANCE AS SHOWN.
4. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES AS SHOWN. CONTRACTOR SHALL MAINTAIN A SUFFICIENT GRAVEL ENTRANCE UNTIL FINAL SUB-GRADE IS ESTABLISHED. IF DIRT/MUD GETS ON THE STREET, THEN A WASH RACK WILL NEED TO BE INSTALLED.
5. INSTALL TREE PROTECTION FENCING,SILT FENCING, AND SILT FENCE OUTLETS AS NOTED ON PLANS BEFORE COMMENCING ANY LAND DISTURBANCE ACTIVITY. ADDITIONAL TREE PROTECTION FENCING AND SILT FENCE MAY BE REQUIRED. SILT FENCE WILL BE INSTALLED INSIDE OF THE LIMITS OF DISTURBANCE LINE (SHOWN AS AN OFFSET FOR GRAPHIC CLARITY).
6. INSTALL TEMPORARY SKIMMER SEDIMENT BASIN (WITH FAIR CLOTH SKIMMERS) AND SEDIMENT TRAPS WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THE PLANS IN ORDER TO TREAT SEDIMENT LADEN WATER.
7. INSTALL TEMPORARY DIVERSION DITCHES AND CHECK DAMS AS SHOWN ON THE PLANS IN ORDER TO CONVEY RUNOFF INTO THE SEDIMENT BASINS/TRAPS.
8. COMMENCE CLEARING, GRUBBING, AND STRIPPING WITHIN THE LIMITS OF CONSTRUCTION. STRIP EXISTING GRADE TO A DEPTH OF 4" AND HAUL AWAY MATERIAL TO A LOCATION WITHIN THE DEVELOPMENT OR TO AN OFF-SITE PERMITTED LOCATION. COORDINATE LOCATION WITH PROJECT MANAGER.
9. COMMENCE ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE TO BRING THE SITE TO THE PROPOSED SUBGRADE LEVEL.
10. PROVIDE TEMPORARY STABILIZATION AND SEEDING AS NECESSARY TO PREVENT EROSION ONCE FINAL GRADES ARE ESTABLISHED. REFER TO DETAIL 9/C12.0 FOR GROUND STABILIZATION CRITERIA AND SEEDING SCHEDULE.

GENERAL EROSION CONTROL NOTES

1. SEE C12.2 - NCG01 GROUND STABILIZATION AND MATERIALS HANDLING FOR REQUIREMENT MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES
2. WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, ORANGE SILT FENCE AND SIGNAGE FOR TREE PROTECTION MAY BE USED INSTEAD OF DUPLICATE FENCING. SIGNAGE MUST MEET NCDEQ REQUIREMENTS FOR TREE PROTECTION DURING CONSTRUCTION.
3. SILT FENCE AND/OR TREE PROTECTION FENCE TO BE PLACED AT OR INSIDE LIMITS OF DISTURBANCE. THE PLANS ILLUSTRATE THE FENCING AS AN OFFSET FROM THE LIMITS OF DISTURBANCE FOR GRAPHIC CLARITY.
4. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE STATE EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
5. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE.
6. GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
7. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NCDEQ.
8. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
9. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
10. IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED.
11. WITHIN 24 HOURS FOLLOWING ANY RAIN EVENT, THE CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL MEASURES.
12. ALL ACTIVITY AND INSTALLATION OF EROSION CONTROL MATTING WILL BE COMPLETE PRIOR TO ANY RAIN EVENT.

LIMITS OF DISTURBANCE

AREA: 16.16 AC

1 NOTES

REV.NO.	DESCRIPTIONS	DATE
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BLAKE FARM PARCEL H

EROSION CONTROL PHASE 1 PLAN

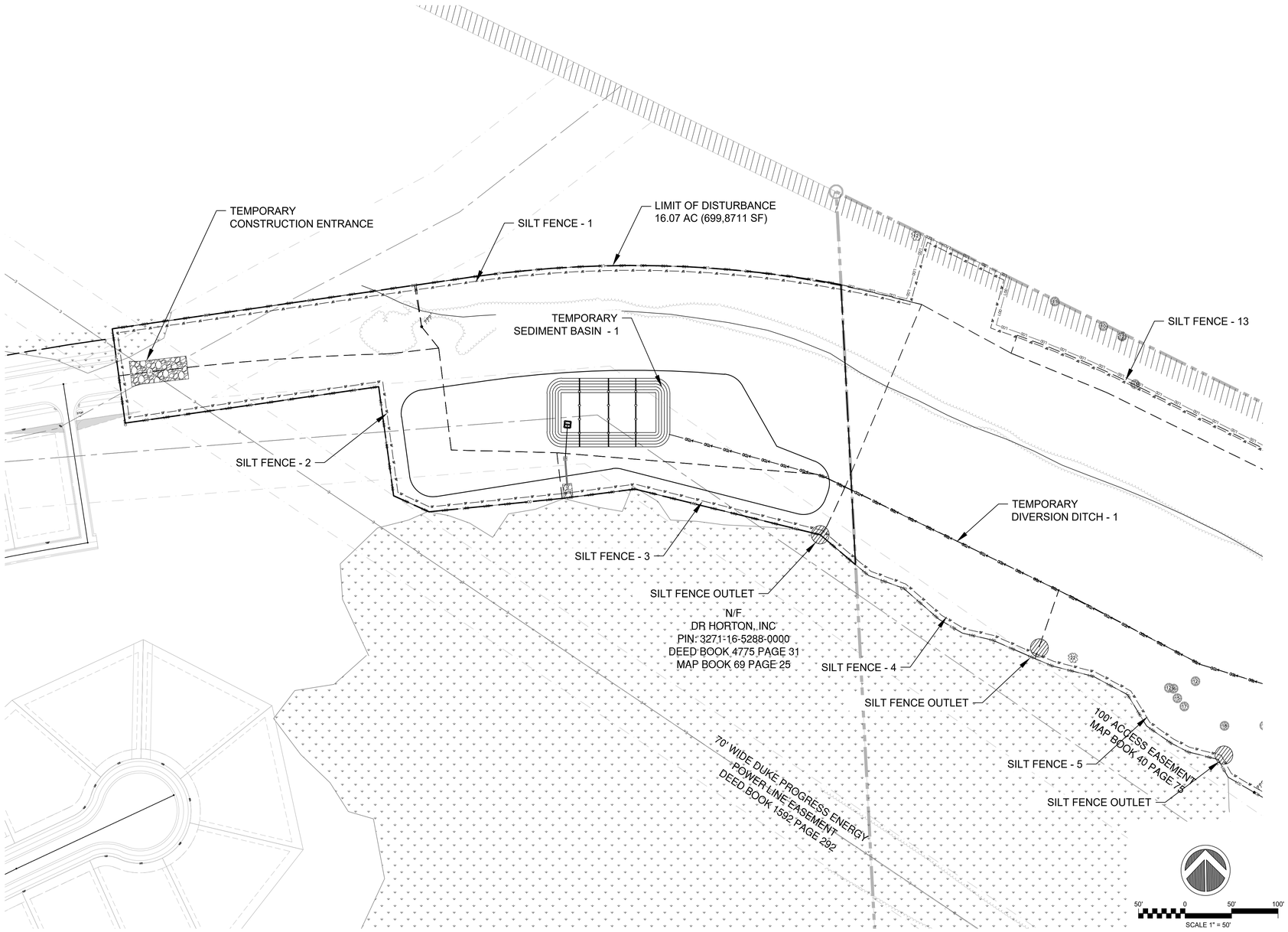
DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1"=100'
VERTICAL: N/A

C4.0
DRAWING NUMBER
0
REVISION

STATUS: PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C4.0 EROSION CONTROL PHASE 1 PLAN.DWG ---- 08/04/2023 09:47:26



2 EROSION CONTROL PHASE 1 PLAN ENLARGEMENT

EROSION CONTROL LEGEND

- SF SF — SILT FENCE
- LOD LOD — LIMITS OF DISTURBANCE
- — DRAINAGE AREA DELINEATION
- 40 — EXISTING MAJOR CONTOUR
- 39 — EXISTING MINOR CONTOUR
- — TEMPORARY SEDIMENT BASIN BAFFLE
- >TDD >TDD — TEMPORARY DIVERSION DITCH
- DANDY SACK INLET PROTECTION
- SILT FENCE OUTLET

PHASE 1 CONSTR. SEQUENCE NOTES

1. OBTAIN ALL NECESSARY PERMIT APPROVALS PRIOR TO ANY LAND DISTURBANCE ACTIVITY.
2. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL INSPECTOR, ENGINEER, AND CONTRACTOR SHALL BE IN ATTENDANCE.
3. ESTABLISH LIMITS OF DISTURBANCE AS SHOWN.
4. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES AS SHOWN. CONTRACTOR SHALL MAINTAIN A SUFFICIENT GRAVEL ENTRANCE UNTIL FINAL SUB-GRADE IS ESTABLISHED. IF DIRT/MUD GETS ON THE STREET, THEN A WASH RACK WILL NEED TO BE INSTALLED.
5. INSTALL TREE PROTECTION FENCING,SILT FENCING, AND SILT FENCE OUTLETS AS NOTED ON PLANS BEFORE COMMENCING ANY LAND DISTURBANCE ACTIVITY. ADDITIONAL TREE PROTECTION FENCING AND SILT FENCE MAY BE REQUIRED. SILT FENCE WILL BE INSTALLED INSIDE OF THE LIMITS OF DISTURBANCE LINE (SHOWN AS AN OFFSET FOR GRAPHIC CLARITY).
6. INSTALL TEMPORARY SKIMMER SEDIMENT BASIN (WITH FAIR CLOTH SKIMMERS) AND SEDIMENT TRAPS WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THE PLANS IN ORDER TO TREAT SEDIMENT LADEN WATER.
7. INSTALL TEMPORARY DIVERSION DITCHES AND CHECK DAMS AS SHOWN ON THE PLANS IN ORDER TO CONVEY RUNOFF INTO THE SEDIMENT BASINS/TRAPS.
8. COMMENCE CLEARING, GRUBBING, AND STRIPPING WITHIN THE LIMITS OF CONSTRUCTION. STRIP EXISTING GRADE TO A DEPTH OF 4" AND HAUL AWAY MATERIAL TO A LOCATION WITHIN THE DEVELOPMENT OR TO AN OFF-SITE PERMITTED LOCATION. COORDINATE LOCATION WITH PROJECT MANAGER.
9. COMMENCE ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE TO BRING THE SITE TO THE PROPOSED SUBGRADE LEVEL.
10. PROVIDE TEMPORARY STABILIZATION AND SEEDING AS NECESSARY TO PREVENT EROSION ONCE FINAL GRADES ARE ESTABLISHED. REFER TO DETAIL 9/C12.0 FOR GROUND STABILIZATION CRITERIA AND SEEDING SCHEDULE.

GENERAL EROSION CONTROL NOTES

1. SEE C12.2 - NCG01 GROUND STABILIZATION AND MATERIALS HANDLING FOR REQUIREMENT MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES
2. WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, ORANGE SILT FENCE AND SIGNAGE FOR TREE PROTECTION MAY BE USED INSTEAD OF DUPLICATE FENCING. SIGNAGE MUST MEET NCDEQ REQUIREMENTS FOR TREE PROTECTION DURING CONSTRUCTION.
3. SILT FENCE AND/OR TREE PROTECTION FENCE TO BE PLACED AT OR INSIDE LIMITS OF DISTURBANCE. THE PLANS ILLUSTRATE THE FENCING AS AN OFFSET FROM THE LIMITS OF DISTURBANCE FOR GRAPHIC CLARITY.
4. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE STATE EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
5. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE.
6. GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
7. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NCDEQ.
8. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
9. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
10. IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED.
11. WITHIN 24 HOURS FOLLOWING ANY RAIN EVENT, THE CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL MEASURES.
12. ALL ACTIVITY AND INSTALLATION OF EROSION CONTROL MATTING WILL BE COMPLETE PRIOR TO ANY RAIN EVENT.

LIMITS OF DISTURBANCE

AREA: 16.07 AC

1 NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL H

EROSION CONTROL PHASE 1 PLAN ENLARGEMENT

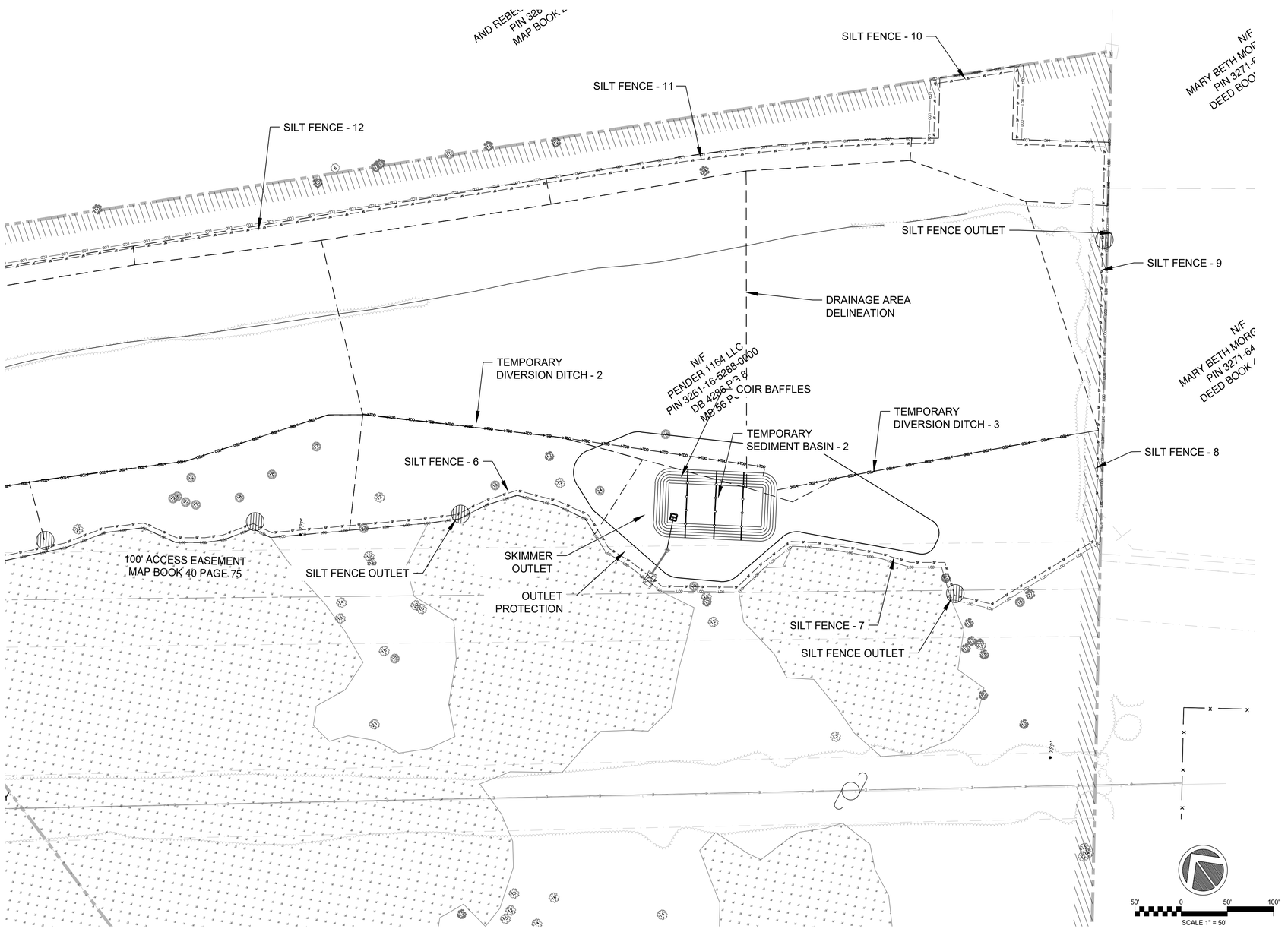
DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

C4.1
DRAWING NUMBER
0
REVISION

STATUS: PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C4.1 EROSION CONTROL PHASE 1 PLAN ENLARGEMENTS.DWG — 08/04/2023 09:48:49



2 EROSION CONTROL PHASE 1 PLAN ENLARGEMENT

EROSION CONTROL LEGEND

- SF SF — SILT FENCE
- LOD LOD — LIMITS OF DISTURBANCE
- DRAINAGE AREA DELINEATION
- 40 — EXISTING MAJOR CONTOUR
- 39 — EXISTING MINOR CONTOUR
- TEMPORARY SEDIMENT BASIN BAFFLE
- >TDD >TDD — TEMPORARY DIVERSION DITCH
- DANDY SACK INLET PROTECTION
- SILT FENCE OUTLET

PHASE 1 CONSTR. SEQUENCE NOTES

1. OBTAIN ALL NECESSARY PERMIT APPROVALS PRIOR TO ANY LAND DISTURBANCE ACTIVITY.
2. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL INSPECTOR, ENGINEER, AND CONTRACTOR SHALL BE IN ATTENDANCE.
3. ESTABLISH LIMITS OF DISTURBANCE AS SHOWN.
4. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES AS SHOWN. CONTRACTOR SHALL MAINTAIN A SUFFICIENT GRAVEL ENTRANCE UNTIL FINAL SUB-GRADE IS ESTABLISHED. IF DIRT/MUD GETS ON THE STREET, THEN A WASH RACK WILL NEED TO BE INSTALLED.
5. INSTALL TREE PROTECTION FENCING,SILT FENCING, AND SILT FENCE OUTLETS AS NOTED ON PLANS BEFORE COMMENCING ANY LAND DISTURBANCE ACTIVITY. ADDITIONAL TREE PROTECTION FENCING AND SILT FENCE MAY BE REQUIRED. SILT FENCE WILL BE INSTALLED INSIDE OF THE LIMITS OF DISTURBANCE LINE (SHOWN AS AN OFFSET FOR GRAPHIC CLARITY).
6. INSTALL TEMPORARY SKIMMER SEDIMENT BASIN (WITH FAIR CLOTH SKIMMERS) AND SEDIMENT TRAPS WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THE PLANS IN ORDER TO TREAT SEDIMENT LADEN WATER.
7. INSTALL TEMPORARY DIVERSION DITCHES AND CHECK DAMS AS SHOWN ON THE PLANS IN ORDER TO CONVEY RUNOFF INTO THE SEDIMENT BASINS/TRAPS.
8. COMMENCE CLEARING, GRUBBING, AND STRIPPING WITHIN THE LIMITS OF CONSTRUCTION. STRIP EXISTING GRADE TO A DEPTH OF 4" AND HAUL AWAY MATERIAL TO A LOCATION WITHIN THE DEVELOPMENT OR TO AN OFF-SITE PERMITTED LOCATION. COORDINATE LOCATION WITH PROJECT MANAGER.
9. COMMENCE ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE TO BRING THE SITE TO THE PROPOSED SUBGRADE LEVEL.
10. PROVIDE TEMPORARY STABILIZATION AND SEEDING AS NECESSARY TO PREVENT EROSION ONCE FINAL GRADES ARE ESTABLISHED. REFER TO DETAIL 9/C12.0 FOR GROUND STABILIZATION CRITERIA AND SEEDING SCHEDULE.

GENERAL EROSION CONTROL NOTES

1. SEE C12.2 - NCG01 GROUND STABILIZATION AND MATERIALS HANDLING FOR REQUIREMENT MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES
2. WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, ORANGE SILT FENCE AND SIGNAGE FOR TREE PROTECTION MAY BE USED INSTEAD OF DUPLICATE FENCING. SIGNAGE MUST MEET NCDEQ REQUIREMENTS FOR TREE PROTECTION DURING CONSTRUCTION.
3. SILT FENCE AND/OR TREE PROTECTION FENCE TO BE PLACED AT OR INSIDE LIMITS OF DISTURBANCE. THE PLANS ILLUSTRATE THE FENCING AS AN OFFSET FROM THE LIMITS OF DISTURBANCE FOR GRAPHIC CLARITY.
4. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE STATE EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
5. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE.
6. GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
7. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NCDEQ.
8. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
9. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
10. IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED.
11. WITHIN 24 HOURS FOLLOWING ANY RAIN EVENT, THE CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL MEASURES.
12. ALL ACTIVITY AND INSTALLATION OF EROSION CONTROL MATTING WILL BE COMPLETE PRIOR TO ANY RAIN EVENT.

LIMITS OF DISTURBANCE

AREA: 16.07 AC

1 NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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EROSION CONTROL PHASE 1 PLAN ENLARGEMENT

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

C4.2
DRAWING NUMBER
0
REVISION

STATUS: PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C4.1 EROSION CONTROL PHASE 1 PLAN ENLARGEMENTS.DWG ---- 08/04/2023 09:49:02



2 EROSION CONTROL PHASE 2 PLAN

EROSION CONTROL LEGEND

- SILT FENCE, DETAIL 1/C12.0 — SF — SF —
- LIMITS OF DISTURBANCE — LOD — LOD —
- CLEARING AND GRADING EXTENTS
- TEMPORARY SEDIMENT BASIN BAFFLE, DETAIL 1/C12.1
- TEMPORARY DIVERSION DITCH, DETAIL 2/C12.1
- DANDY SACK INLET PROTECTION, DETAIL 5/C12.1
- SILT FENCE OUTLET

PHASE 2 CONSTRUCTION SEQUENCE NOTES

1. BEGIN PHASE 2 SEDIMENT AND EROSION CONTROL UPON COMPLETION OF CLEARING, GRUBBING AND STRIPPING OPERATIONS, ROUGH GRADING OF THE SITE, INSTALLATION OF THE STORM WATER COLLECTION SYSTEM.
2. MAINTAIN EROSION CONTROL MEASURES FROM PHASE 1 INTO PHASE 2 AS INDICATED. THIS INCLUDES SILT FENCING, SILT FENCE OUTLETS, SKIMMER SEDIMENT BASINS AND CONSTRUCTION ENTRANCES.
3. REMOVE EROSION CONTROL MEASURES FROM PHASE 1 INTO PHASE 2 AS INDICATED. THIS INCLUDES TEMPORARY DIVERSIONS, EXISTING DRAINAGE DITCHES, CHECK DAMS AND TEMPORARY SEDIMENT TRAPS. STABILIZE THESE AREAS ACCORDING TO THE STABILIZATION MEASURES REQUIRED HEREIN.
4. INSTALL TEMPORARY GROUND STABILIZATION MEASURES, WHERE POSSIBLE, IN ALL AREAS OUTSIDE OF IMMEDIATE CONSTRUCTION ZONES.
5. INSTALL INLET PROTECTION AS INDICATED. SEE INLET PROTECTION DETAILS FOR MORE INFORMATION.
6. CONNECTION SKIMMERS TO RISER STRUCTURES FOR TEMPORARY SEDIMENT BASINS AT PERMANENT STORMWATER WET PONDS. BAFFLES MAY BE REMOVED ONCE INLET PROTECTION IS ESTABLISHED.
7. COMPLETE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
8. UPON COMPLETION OF CONSTRUCTION, ESTABLISH PERMANENT GROUND COVER AND OVERALL SITE STABILIZATION.
9. REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES.

EROSION CONTROL MAINTENANCE NOTES

1. THE FOLLOWING EROSION CONTROL MAINTENANCE NOTES SHALL BE ADHERED TO DURING THE ENTIRE CONSTRUCTION PERIOD. SEE ALSO, EROSION CONTROL DETAIL SHEETS C12.0 TO C12.2 FOR ADDITIONAL MAINTENANCE NOTES.
2. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED, AS NECESSARY, EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF EVERY ONE-HALF (0.5) INCH OR GREATER RAINFALL.
3. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
4. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP. THE SEDIMENT FENCE WILL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
5. ALL AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
6. STONE CONSTRUCTION ENTRANCE TO BE CLEANED WHEN SEDIMENT ACCUMULATIONS ARE VISIBLE OR SEDIMENT IS TRACKED ON TO THE PAVEMENT. STONE WILL BE PERIODICALLY TOP DRESSED WITH 2 INCHES OF #4 STONE TO MAINTAIN 6 INCH DEPTH. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS REQUIRED.
9. INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (0.5" OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED. INLET PROTECTION SHOULD BE CLEANED OUT WHEN IT IS HALF FULL.
10. INSPECT TEMPORARY SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS.
11. CHECK THE SEDIMENT BASIN EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.
12. INSPECT THE SKIMMER FOR CLOGGING. PULL THE SKIMMER TO THE SIDE OF THE BASIN AND REMOVE ANY DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER AND THE ARM OR BARREL PIPE FOR CLOGGING; IF CLOGGED, REMOVE THE DEBRIS.
13. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEAN OUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH. AFTER THE CONTRIBUTING DRAINAGE AREAS HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.
14. INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED.
15. INSPECT DANDY SACKS/GUTTERBUDDY WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/2 INCH OR GREATER). REMOVE ACCUMULATED SEDIMENT AND ANY DEBRIS. DANDY SACKS/WATTLES MUST BE REPLACED IF CLOGGED OR TORN. DANDY SACKS/GUTTERBUDDY NEEDS TO BE REINSTALLED IF UNDERMINED OR DISLODGED. DANDY SACKS/GUTTERBUDDY SHALL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY STABILIZED.
16. PER NCG-01, INSPECT SILT FENCE OUTLETS AT LEST ONCE A WEEK AND AFTER EACH 1/2 INCH OR GREATER RAINFALL EVENT. COMPLETE ANY REQUIRED REPAIRS IMMEDIATELY. FRESHEN STONE WHEN SEDIMENT ACCUMULATION EXCEEDS 6 INCHES. KEEP MESH FREE OF DEBRIS TO PROVIDE ADEQUATE FLOW. REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED. REPLACE STONE AS NEEDED TO FACILITATE DE-WATERING.

LIMITS OF DISTURBANCE

AREA: 16.07 AC

1 NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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EROSION CONTROL PHASE 2 PLAN

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

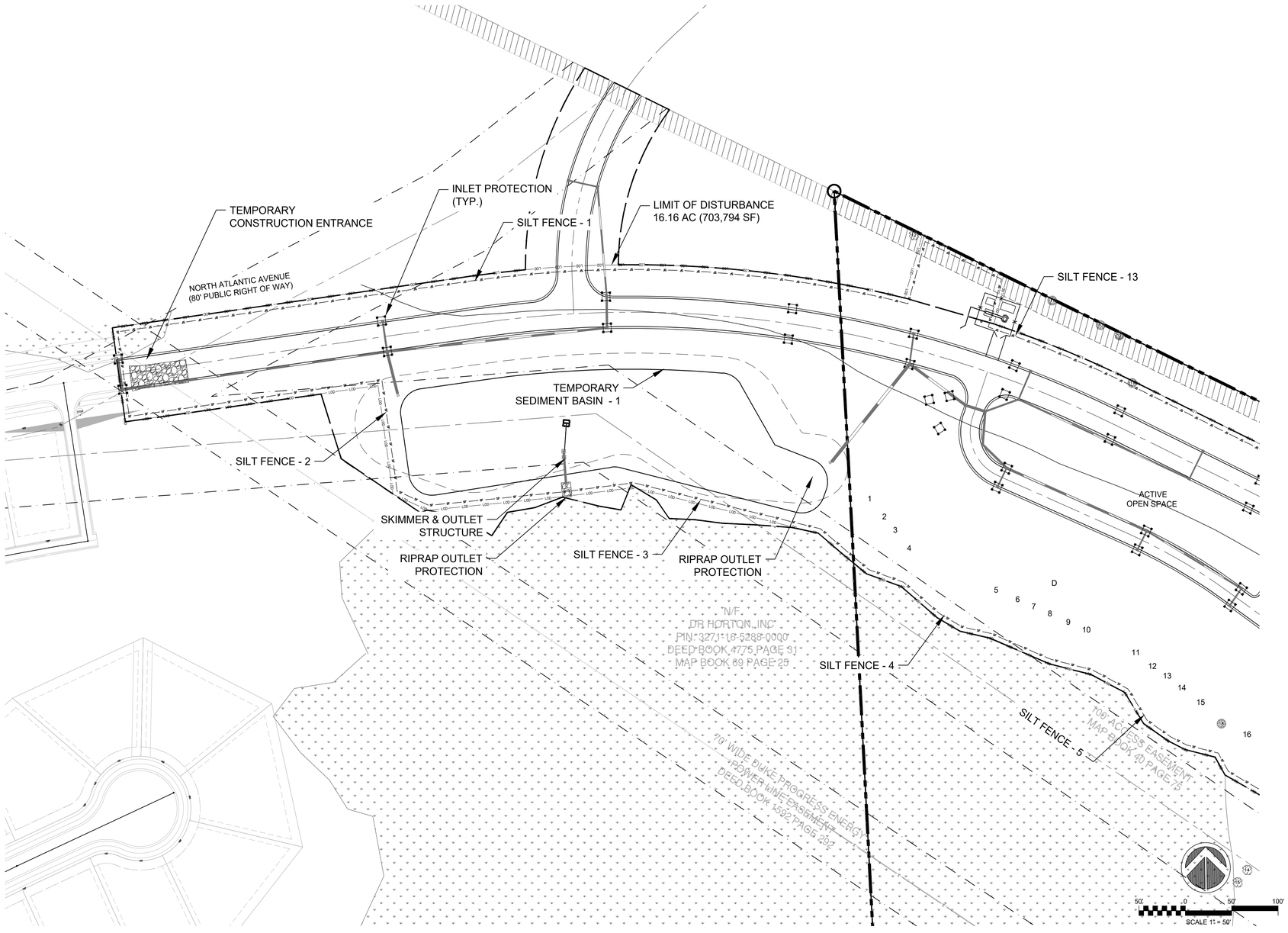
SCALE
HORIZONTAL: 1"=100'
VERTICAL: N/A

C5.0
DRAWING NUMBER

0
REVISION

STATUS: PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C5.0 EROSION CONTROL PHASE 2 PLAN.DWG — 08/04/2023 09:51:29



2 EROSION CONTROL PHASE 2 PLAN ENLARGEMENT

EROSION CONTROL LEGEND

- SILT FENCE, DETAIL 1/C12.0 — SF — SF —
- LIMITS OF DISTURBANCE — LOD — LOD —
- CLEARING AND GRADING EXTENTS
- TEMPORARY SEDIMENT BASIN BAFFLE, DETAIL 1/C12.1
- TEMPORARY DIVERSION DITCH, DETAIL 2/C12.1
- DANDY SACK INLET PROTECTION, DETAIL 5/C12.1
- SILT FENCE OUTLET

PHASE 2 CONSTRUCTION SEQUENCE NOTES

1. BEGIN PHASE 2 SEDIMENT AND EROSION CONTROL UPON COMPLETION OF CLEARING, GRUBBING AND STRIPPING OPERATIONS, ROUGH GRADING OF THE SITE, INSTALLATION OF THE STORM WATER COLLECTION SYSTEM.
2. MAINTAIN EROSION CONTROL MEASURES FROM PHASE 1 INTO PHASE 2 AS INDICATED. THIS INCLUDES SILT FENCING, SILT FENCE OUTLETS, SKIMMER SEDIMENT BASINS AND CONSTRUCTION ENTRANCES.
3. REMOVE EROSION CONTROL MEASURES FROM PHASE 1 INTO PHASE 2 AS INDICATED. THIS INCLUDES TEMPORARY DIVERSIONS, EXISTING DRAINAGE DITCHES, CHECK DAMS AND TEMPORARY SEDIMENT TRAPS. STABILIZE THESE AREAS ACCORDING TO THE STABILIZATION MEASURES REQUIRED HEREIN.
4. INSTALL TEMPORARY GROUND STABILIZATION MEASURES, WHERE POSSIBLE, IN ALL AREAS OUTSIDE OF IMMEDIATE CONSTRUCTION ZONES.
5. INSTALL INLET PROTECTION AS INDICATED. SEE INLET PROTECTION DETAILS FOR MORE INFORMATION.
6. CONNECTION SKIMMERS TO RISER STRUCTURES FOR TEMPORARY SEDIMENT BASINS AT PERMANENT STORMWATER WET PONDS. BAFFLES MAY BE REMOVED ONCE INLET PROTECTION IS ESTABLISHED.
7. COMPLETE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
8. UPON COMPLETION OF CONSTRUCTION, ESTABLISH PERMANENT GROUND COVER AND OVERALL SITE STABILIZATION.
9. REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES.

EROSION CONTROL MAINTENANCE NOTES

1. THE FOLLOWING EROSION CONTROL MAINTENANCE NOTES SHALL BE ADHERED TO DURING THE ENTIRE CONSTRUCTION PERIOD. SEE ALSO, EROSION CONTROL DETAIL SHEETS C12.0 TO C12.2 FOR ADDITIONAL MAINTENANCE NOTES.
2. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED, AS NECESSARY, EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF EVERY ONE-HALF (0.5) INCH OR GREATER RAINFALL.
3. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
4. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP. THE SEDIMENT FENCE WILL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
5. ALL AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
6. STONE CONSTRUCTION ENTRANCE TO BE CLEANED WHEN SEDIMENT ACCUMULATIONS ARE VISIBLE OR SEDIMENT IS TRACKED ON TO THE PAVEMENT. STONE WILL BE PERIODICALLY TOP DRESSED WITH 2 INCHES OF #4 STONE TO MAINTAIN 6 INCH DEPTH. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS REQUIRED.
9. INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (0.5" OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED. INLET PROTECTION SHOULD BE CLEANED OUT WHEN IT IS HALF FULL.
10. INSPECT TEMPORARY SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS
11. CHECK THE SEDIMENT BASIN EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.
12. INSPECT THE SKIMMER FOR CLOGGING. PULL THE SKIMMER TO THE SIDE OF THE BASIN AND REMOVE ANY DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER AND THE ARM OR BARREL PIPE FOR CLOGGING. IF CLOGGED, REMOVE THE DEBRIS.
13. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEAN OUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH. AFTER THE CONTRIBUTING DRAINAGE AREAS HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.
14. INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED.
15. INSPECT DANDY SACKS/GUTTERBUDDY WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/2 INCH OR GREATER). REMOVE ACCUMULATED SEDIMENT AND ANY DEBRIS. DANDY SACKS/WATTLES MUST BE REPLACED IF CLOGGED OR TORN. DANDY SACKS/GUTTERBUDDY NEEDS TO BE REINSTALLED IF UNDERMINED OR DISLODGED. DANDY SACKS/GUTTERBUDDY SHALL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY STABILIZED.
16. PER NCG-01, INSPECT SILT FENCE OUTLETS AT LEST ONCE A WEEK AND AFTER EACH 1/2 INCH OR GREATER RAINFALL EVENT. COMPLETE ANY REQUIRED REPAIRS IMMEDIATELY. FRESHEN STONE WHEN SEDIMENT ACCUMULATION EXCEEDS 6 INCHES. KEEP MESH FREE OF DEBRIS TO PROVIDE ADEQUATE FLOW. REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED. REPLACE STONE AS NEEDED TO FACILITATE DE-WATERING.

LIMITS OF DISTURBANCE

AREA: 16.16 AC

1 NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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EROSION CONTROL PHASE 2 PLAN ENLARGEMENT

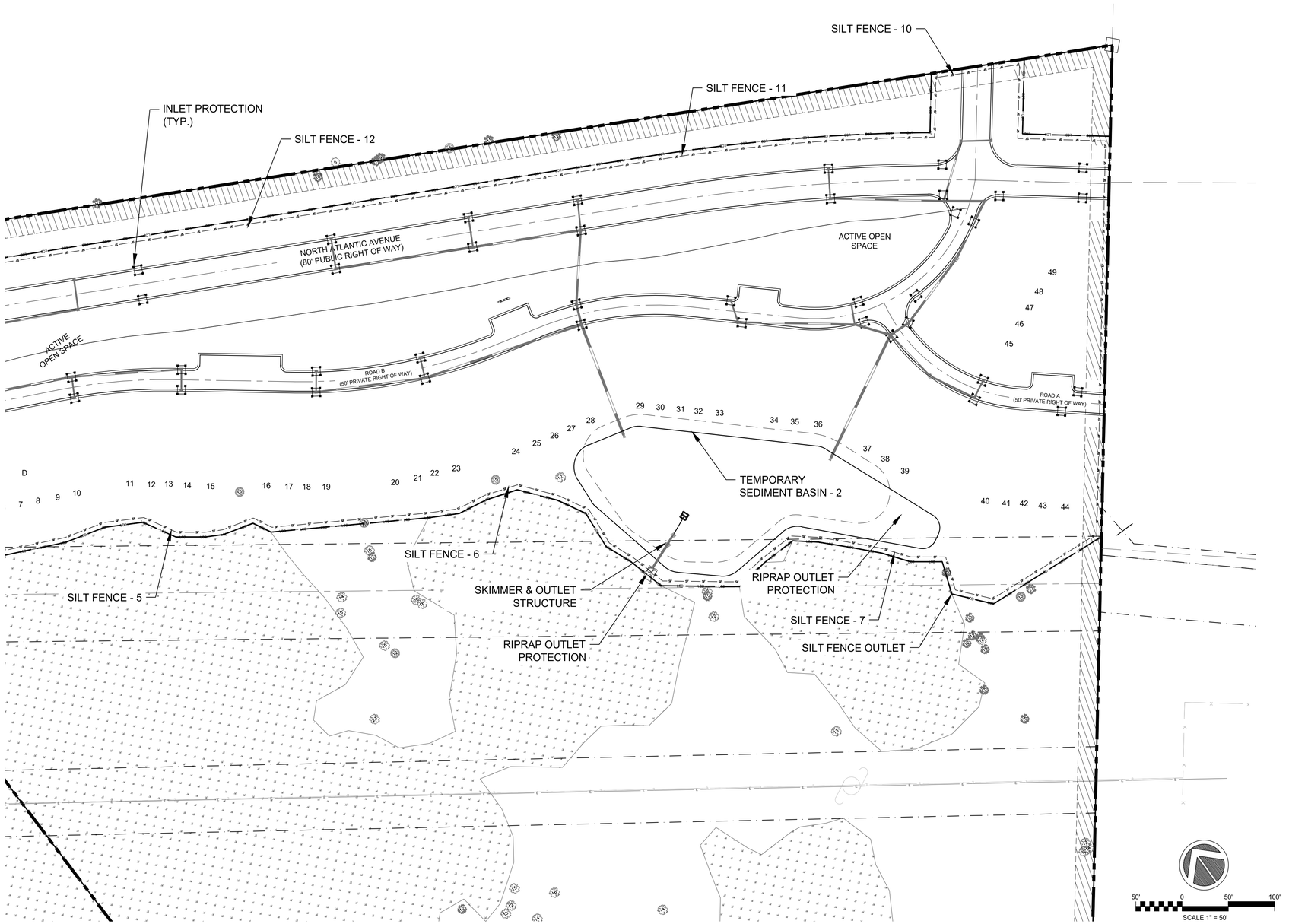
DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

C5.1
DRAWING NUMBER
0
REVISION

STATUS: PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C5.1 EROSION CONTROL PHASE 2 PLAN ENLARGEMENTS.DWG ---- 08/04/2023 09:53:52



EROSION CONTROL LEGEND

SILT FENCE, DETAIL 1/C12.0	SF SF
LIMITS OF DISTURBANCE	LOD LOD
CLEARING AND GRADING EXTENTS	
TEMPORARY SEDIMENT BASIN BAFFLE, DETAIL 1/C12.1	
TEMPORARY DIVERSION DITCH, DETAIL 2/C12.1	
DANDY SACK INLET PROTECTION, DETAIL 5/C12.1	
SILT FENCE OUTLET	

PHASE 2 CONSTRUCTION SEQUENCE NOTES

1. BEGIN PHASE 2 SEDIMENT AND EROSION CONTROL UPON COMPLETION OF CLEARING, GRUBBING AND STRIPPING OPERATIONS, ROUGH GRADING OF THE SITE, INSTALLATION OF THE STORM WATER COLLECTION SYSTEM.
2. MAINTAIN EROSION CONTROL MEASURES FROM PHASE 1 INTO PHASE 2 AS INDICATED. THIS INCLUDES SILT FENCING, SILT FENCE OUTLETS, SKIMMER SEDIMENT BASINS AND CONSTRUCTION ENTRANCES.
3. REMOVE EROSION CONTROL MEASURES FROM PHASE 1 INTO PHASE 2 AS INDICATED. THIS INCLUDES TEMPORARY DIVERSIONS, EXISTING DRAINAGE DITCHES, CHECK DAMS AND TEMPORARY SEDIMENT TRAPS. STABILIZE THESE AREAS ACCORDING TO THE STABILIZATION MEASURES REQUIRED HEREIN.
4. INSTALL TEMPORARY GROUND STABILIZATION MEASURES, WHERE POSSIBLE, IN ALL AREAS OUTSIDE OF IMMEDIATE CONSTRUCTION ZONES.
5. INSTALL INLET PROTECTION AS INDICATED. SEE INLET PROTECTION DETAILS FOR MORE INFORMATION.
6. CONNECTION SKIMMERS TO RISER STRUCTURES FOR TEMPORARY SEDIMENT BASINS AT PERMANENT STORMWATER WET PONDS. BAFFLES MAY BE REMOVED ONCE INLET PROTECTION IS ESTABLISHED.
7. COMPLETE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
8. UPON COMPLETION OF CONSTRUCTION, ESTABLISH PERMANENT GROUND COVER AND OVERALL SITE STABILIZATION.
9. REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES.

EROSION CONTROL MAINTENANCE NOTES

1. THE FOLLOWING EROSION CONTROL MAINTENANCE NOTES SHALL BE ADHERED TO DURING THE ENTIRE CONSTRUCTION PERIOD. SEE ALSO, EROSION CONTROL DETAIL SHEETS C12.0 TO C12.2 FOR ADDITIONAL MAINTENANCE NOTES.
2. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED, AS NECESSARY, EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF EVERY ONE-HALF (0.5) INCH OR GREATER RAINFALL.
3. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
4. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP. THE SEDIMENT FENCE WILL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
5. ALL AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
6. STONE CONSTRUCTION ENTRANCE TO BE CLEANED WHEN SEDIMENT ACCUMULATIONS ARE VISIBLE OR SEDIMENT IS TRACKED ON TO THE PAVEMENT. STONE WILL BE PERIODICALLY TOP DRESSED WITH 2 INCHES OF #4 STONE TO MAINTAIN 6 INCH DEPTH. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS REQUIRED.
9. INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (0.5" OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED. INLET PROTECTION SHOULD BE CLEANED OUT WHEN IT IS HALF FULL.
10. INSPECT TEMPORARY SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS.
11. CHECK THE SEDIMENT BASIN EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.
12. INSPECT THE SKIMMER FOR CLOGGING. PULL THE SKIMMER TO THE SIDE OF THE BASIN AND REMOVE ANY DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER AND THE ARM OR BARREL PIPE FOR CLOGGING; IF CLOGGED, REMOVE THE DEBRIS.
13. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEAN OUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH. AFTER THE CONTRIBUTING DRAINAGE AREAS HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.
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LIMITS OF DISTURBANCE

AREA: 16.16 AC

2 EROSION CONTROL PHASE 2 PLAN ENLARGEMENT

1 NOTES

REV.NO.	DESCRIPTIONS	DATE
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EROSION CONTROL PHASE 2 PLAN ENLARGEMENT

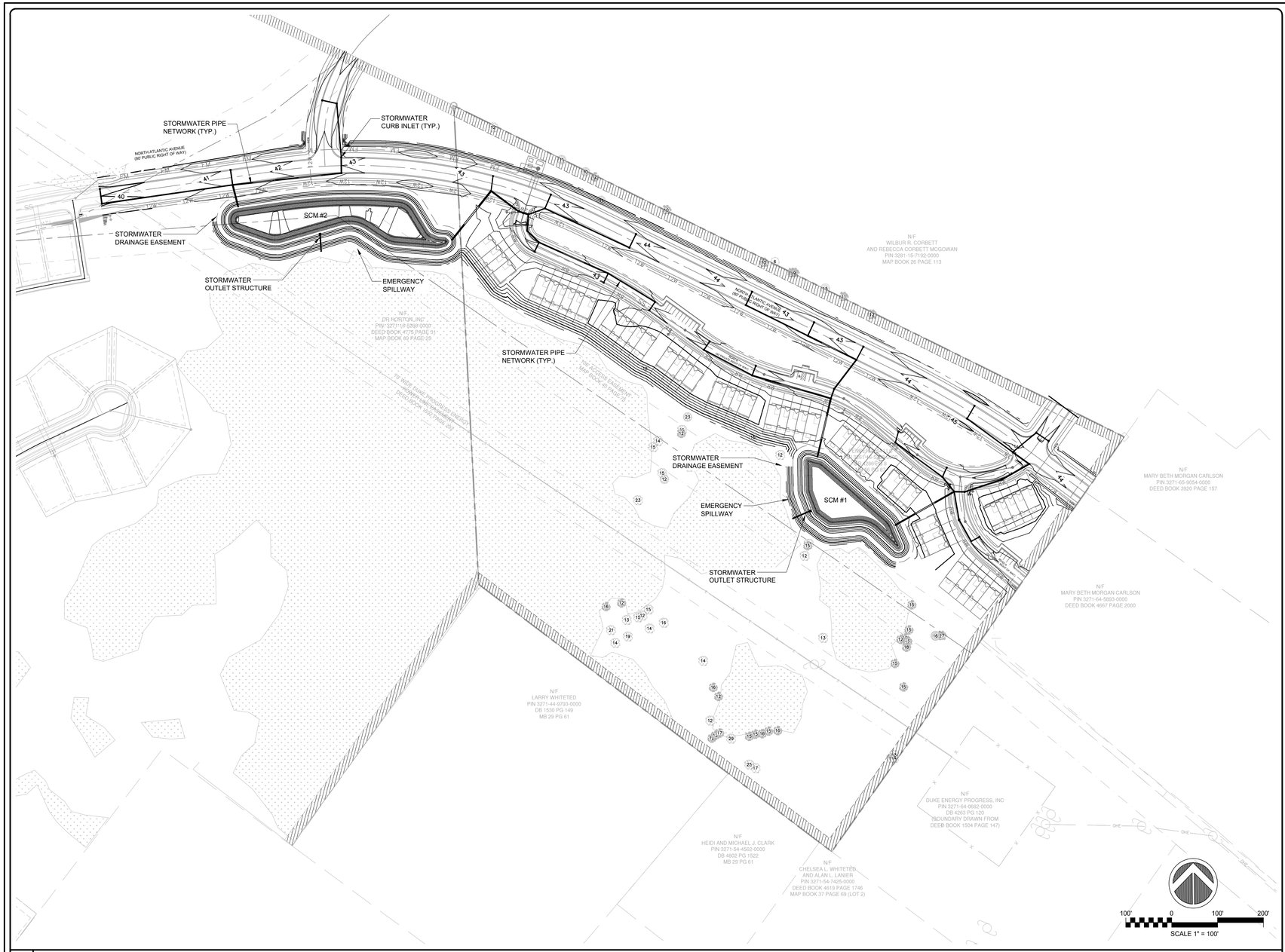
DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

C5.2
DRAWING NUMBER
0
REVISION

STATUS: PRELIMINARY DESIGN

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GENERAL NOTES:

1. INITIATE EROSION CONTROL SEQUENCE BEFORE BEGINNING CLEARING AND GRADING OPERATIONS.
2. CLEAR AREA WITHIN THE LOD AND ESSENTIAL SITE IMPROVEMENTS OF ALL VEGETATION. PROTECT VEGETATION BEYOND GRADING LIMITS.
3. STRIP TOPSOIL TO FULL DEPTH DESCRIBED IN THE EROSION CONTROL PLANS IN AREAS TO BE GRADED AND STOCKPILE.
4. COMPACT ALL STRUCTURAL FILL AREAS AND SLOPES TO 95% OF MAXIMUM DENSITY. AREAS LESS THAN 3.0 FEET OF FILL IN NON-STRUCTURAL AREAS MAY BE COMPACTED TO 90% OF MAXIMUM DENSITY.
5. ALL BANK AND SWALE SIDE SLOPES SHALL BE GRADED WITH NO GREATER THAN 3:1 SLOPES.
6. ALL DISTURBED AREAS SHALL BE SMOOTHLY GRADED TO PROMOTE POSITIVE DRAINAGE AND STABILIZED WITH TOPSOIL, SEED, AND MULCH. IF SETTLEMENT OCCURS, TOPSOIL, SEEDING, AND MULCH SHALL BE REPEATED UNTIL SETTLEMENT SUBSIDES. (SEE EROSION AND SEDIMENT CONTROL DETAILS AND SPECIFICATIONS.)
7. ALL AREAS ARE TO BE GRADED SO THAT NO AREAS OF STANDING WATER OCCUR.
8. OPERATOR SHALL FIELD VERIFY EXISTING TOPOGRAPHY IN RELATION TO THE PROPOSED GRADES TO ENSURE DRAINAGE IN THE DIRECTIONS INDICATED ON THE PLAN.
9. ALL SELECT AND BORROW MATERIAL SHALL MEET CRITERIA SET FORTH BY SECTIONS 1016 AND 1018 OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S STANDARDS AND SPECIFICATIONS FOR ROADS AND STRUCTURES.
10. THE ENGINEER AND THE CONTRACTOR SHALL INSPECT ALL EXISTING PIPES USED IN THE FINAL DRAINAGE SYSTEM AND AGREE ON THE CONDITION OF THE PIPES PRIOR TO CONSTRUCTION. IF DAMAGE OCCURS TO THESE PIPES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE PIPE(S).
11. EXISTING PAVING, CONCRETE, AND OTHER UNSUITABLE MATERIALS INCLUDING UNDERCUT EXCAVATION SHALL NOT BE USED AS FILL MATERIAL AND SHALL BE DISPOSED OF OUTSIDE THE PROJECT LIMITS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING AND FEES FOR DISPOSAL.
12. ALL PIPE BEDDING SHALL BE CLASS "C" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
13. ALL TREES, STUMPS, ROOT MAT, ETC. SHALL BE ENTIRELY REMOVED REGARDLESS OF DEPTH. BURIAL OF ORGANIC MATERIAL WITHIN THE PROJECT LIMITS IS NOT PERMITTED. OPEN BURNING OF DOWNED TREES AND STUMPS MAY BE PERMITTED AT A LOCATION APPROVED BY OWNER AND WITHIN REGULATIONS OF LOCAL MUNICIPALITY. CHIPPED MATERIALS MUST BE REMOVED PRIOR TO THE PLACEMENT OF EMBANKMENT OR TOPSOIL.
14. ALL STORM DRAINAGE PIPES SHALL BE RCP CLASS III UNLESS OTHERWISE NOTED ON THE PLANS. HP PIPE MAY BE USED IN LIEU OF CONCRETE PIPE OR ENGINEER APPROVED EQUAL. ALL STORMWATER OUTFALL PIPES MUST BE RING GASKET RCP.
15. THE CONTRACTOR IS SOLELY RESPONSIBLE TO OBTAIN OFF-SITE SPOIL AREAS FOR DISPOSAL OF EXCESS AND/OR UNSUITABLE MATERIALS AS NECESSARY. OFF-SITE SPOIL AREAS MUST BE SUBMITTED TO THE ENGINEER AND APPLICABLE REGULATORY AGENCIES PRIOR TO UTILIZATION BY THE CONTRACTOR. NO AREAS DESIGNATED AS WETLANDS WILL BE PERMITTED FOR USE AS A DISPOSAL SITE. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER THAT NO WETLANDS WILL BE IMPACTED, THE ENGINEER WILL NOT CONSIDER ANY DELAYS OR MONETARY CLAIMS OF ANY NATURE RESULTING FROM THE CONTRACTOR'S FAILURE OR DIFFICULTY IN FINDING NECESSARY DISPOSAL SITES TO MEET THE TIME FRAMES AND CAPACITIES REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PLANS, PERMITS, EROSION AND SEDIMENT CONTROL MEASURES, ETC. REQUIRED BY THE APPROPRIATE REGULATORY AGENCIES FOR UTILIZING OFF-SITE SPOIL AREAS. THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED PRIOR TO UTILIZING THE OFF-SITE SPOIL AREAS. ALL COSTS FOR PROCURING AND UTILIZING THE OFF-SITE SPOIL AREAS ARE TO BE INCIDENTAL TO THE BASE BID.
16. APPROVED COVERS TO PREVENT MATERIAL FROM LEAVING THE TRUCKS MUST BE INSTALLED OVER ALL LOADED TRUCKS HAULING BORROW, EXCAVATED MATERIAL AND/OR FINE AGGREGATES TO OR FROM THE PROJECT SITES OVER STATE MAINTAINED ROADS. ANY MATERIALS DELIVERED, TRANSPORTED, OR REMOVED IN UNCOVERED TRUCKS WILL BE INCORPORATED INTO THE PROJECT OR REMOVED FROM THE SITE WITH NO ADDITIONAL PAYMENT TO THE CONTRACTOR FOR FURNISHING, REMOVING, OR PLACING THE MATERIALS INVOLVED.
17. DEWATERING: THE CONTRACTOR SHALL AT ALL TIMES PROVIDE AND MAINTAIN AMPLE MEANS AND EQUIPMENT WITH WHICH TO REMOVE AND PROPERLY DISPOSE OF ANY AND ALL WATER ENTERING THE EXCAVATION OR OTHER PARTS OF THE WORK AND KEEP ALL EXCAVATIONS DRY UNTIL SUCH TIME AS PIPE LAYING AND GRADING IS COMPLETED. NO WATER SHALL BE ALLOWED TO RISE AROUND THE PIPE IN UNBACKFILLED TRENCHES NOR SHALL IT BE ALLOWED TO RISE OVER MASONRY UNTIL THE CONCRETE OR MORTAR HAS SET (MINIMUM 24 HOURS). ALL WATER PUMPED OR DRAINED FROM THE WORK SHALL BE DISPOSED OF IN SUCH A MANNER AS TO PREVENT SILTATION AND EROSION TO ADJACENT PROPERTY OR OTHER CONSTRUCTION.
18. DO NOT PLANT TREES WITHIN UTILITY AND DRAINAGE EASEMENTS.
19. CONTRACTOR TO CAREFULLY ROOT PRUNE TREES, CREATING CLEAN CUTS. NO ROUGH BREAKS OF ROOTS (TYPICALLY AS THE RESULT OF MECHANICAL EQUIPMENT) WILL BE IS ACCEPTABLE.

2 GRADING AND DRAINAGE PLAN

1 LEGEND AND NOTES

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GRADING AND DRAINAGE PLAN

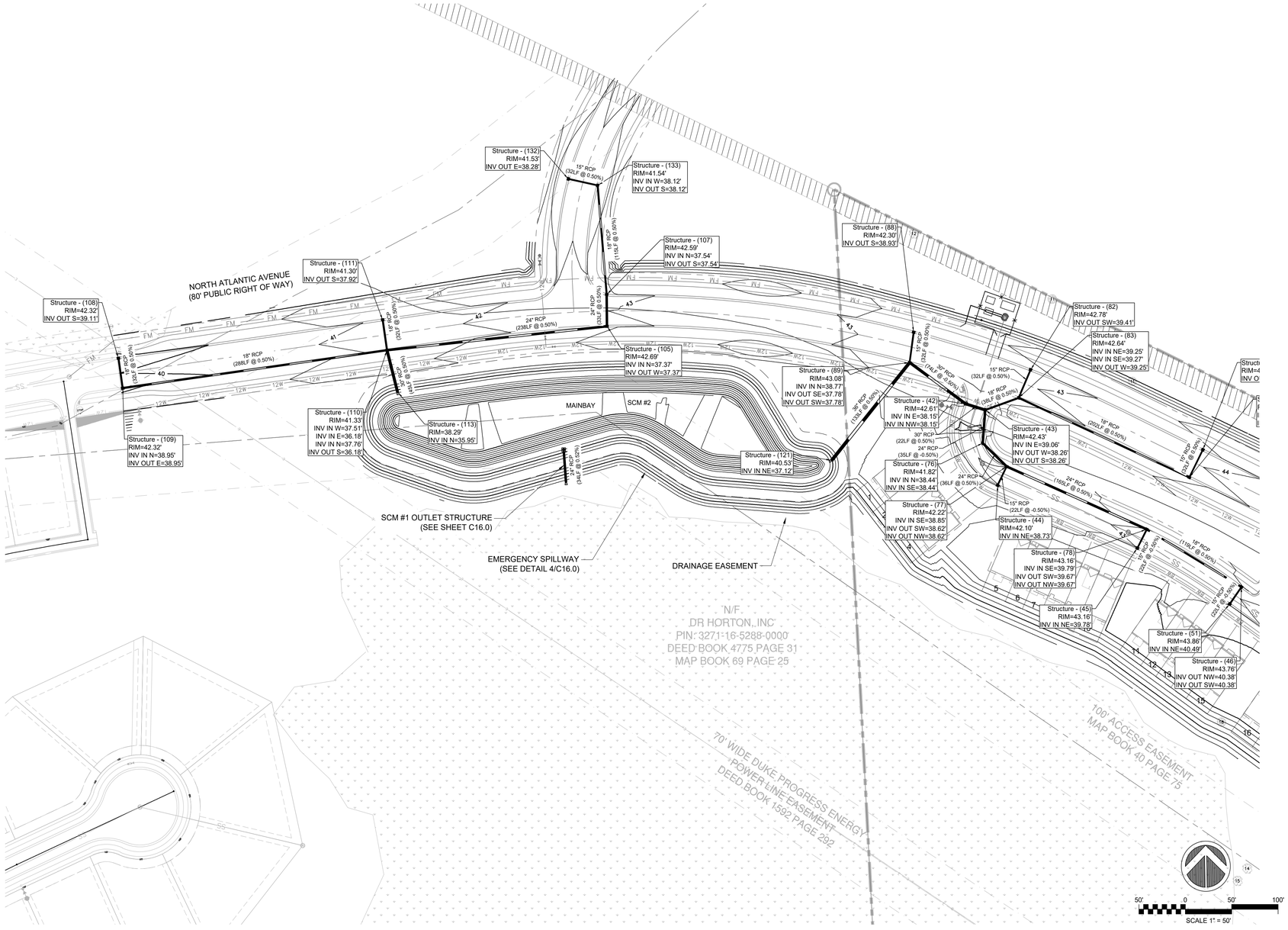
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MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1"=100'
VERTICAL: N/A

C7.0
DRAWING NUMBER
0
REVISION

STATUS: PRELIMINARY DESIGN

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SYMBOLS LEGEND

- SD — STORM DRAINAGE LINE
- SD — STORM DRAINAGE MANHOLE
- STORM DRAINAGE DROP INLET
- STORM DRAINAGE CURB INLET
- STORM DRAINAGE FLARED END SECTION
- FFE 20.1' — FINISH FLOOR ELEVATION
- 13STEPS / 18"TYP — STEP COUNT AND APPROX.
- WALL #1H3 — APPROX. WALL HEIGHT
- 40 — PROPOSED MAJOR CONTOUR
- 39 — PROPOSED MINOR CONTOUR
- 20 — EXISTING MAJOR CONTOUR
- 21 — EXISTING MINOR CONTOUR
- LOD — LIMITS OF DISTURBANCE

2 GRADING AND DRAINAGE PLAN ENLARGEMENT

1 NOTES

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GRADING AND DRAINAGE PLAN ENLARGEMENT

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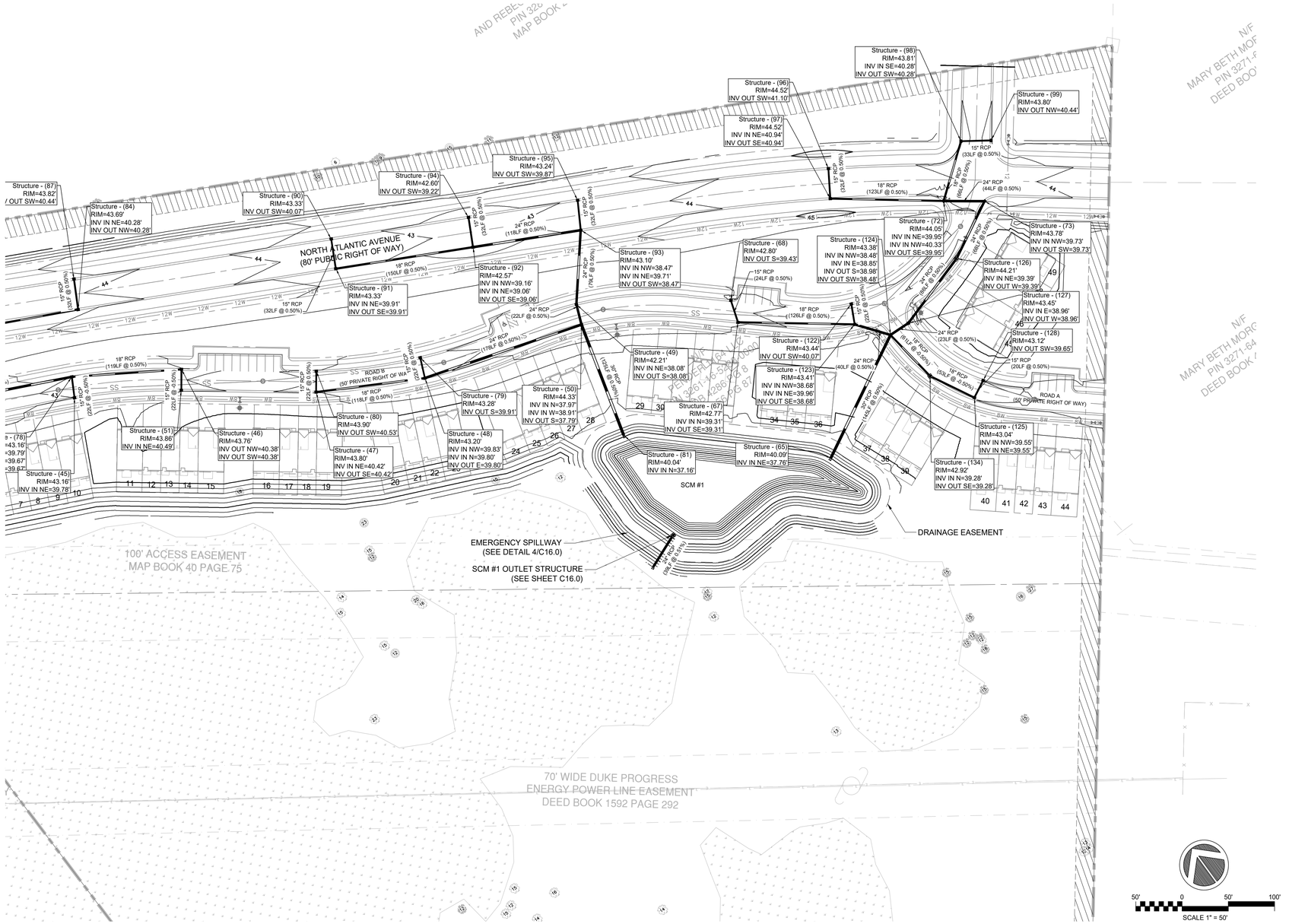
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VERTICAL: N/A

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DRAWING NUMBER

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REVISION

STATUS: PRELIMINARY DESIGN

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SYMBOLS LEGEND

- SD — STORM DRAINAGE LINE
- SD — STORM DRAINAGE MANHOLE
- STORM DRAINAGE DROP INLET
- STORM DRAINAGE CURB INLET
- STORM DRAINAGE FLARED END SECTION
- FFE 20.1' — FINISH FLOOR ELEVATION
- 3 STEPS 24" TYP. — STEP COUNT AND APPROX.
- WALL #123 — APPROX. WALL HEIGHT
- 40 — PROPOSED MAJOR CONTOUR
- 39 — PROPOSED MINOR CONTOUR
- 20 — EXISTING MAJOR CONTOUR
- 21 — EXISTING MINOR CONTOUR
- LOD — LIMITS OF DISTURBANCE

2 GRADING AND DRAINAGE PLAN ENLARGEMENT

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GRADING AND DRAINAGE PLAN ENLARGEMENT

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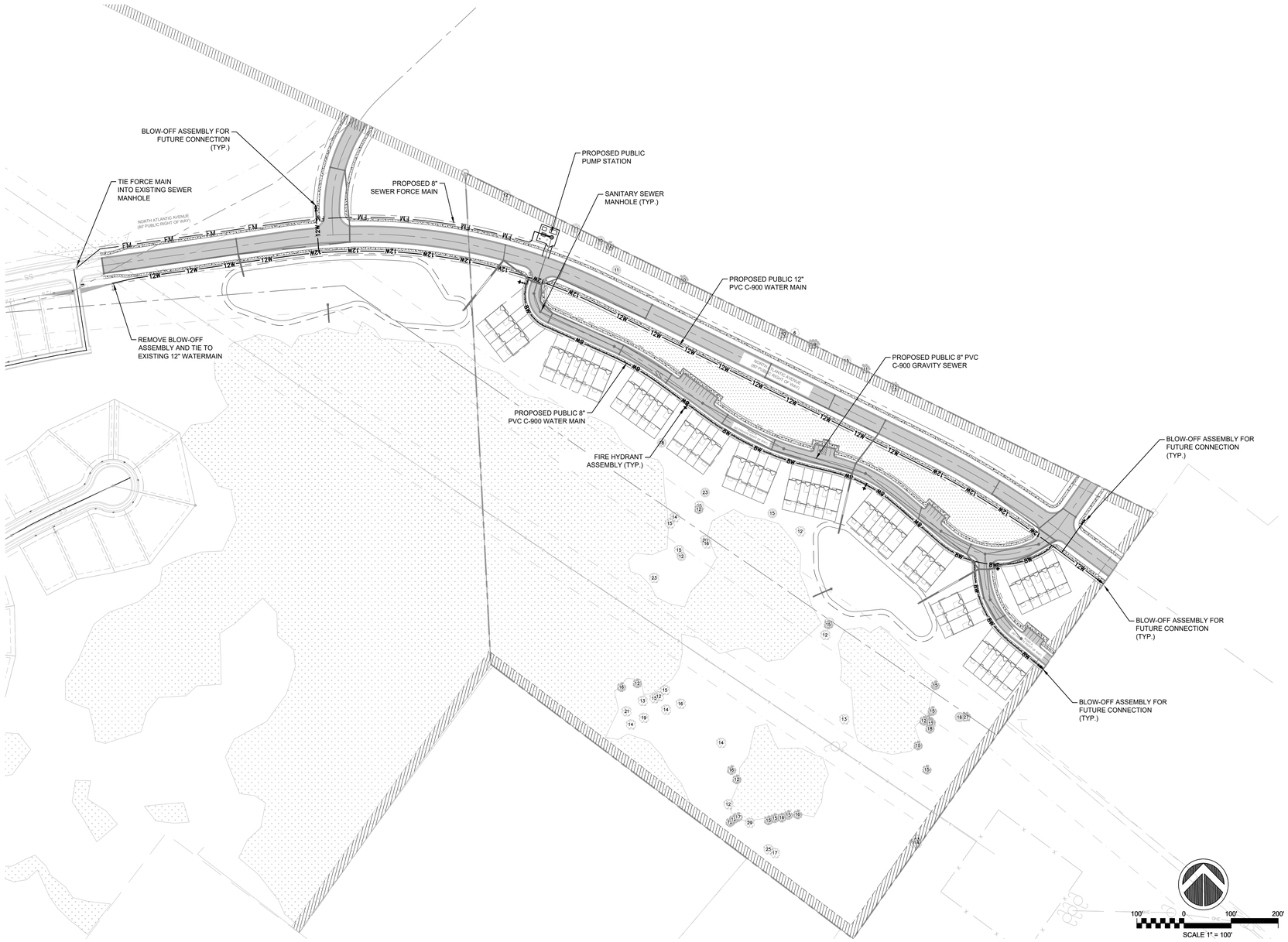
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REVISION

STATUS: PRELIMINARY DESIGN

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2 UTILITY PLAN

GENERAL UTILITY NOTES

1. ALL DISTANCES ARE GROUND HORIZONTAL.
2. WATER TO BE SERVED BY PENDER COUNTY UTILITES. SANITARY SEWER TO BE SERVED BY PLURIS, LLC.
3. ELECTRIC, CABLE T.V., AND TELEPHONE SERVICE IS TO BE INSTALLED UNDERGROUND.
4. UTILITIES IN THIS PROJECT SHALL BE A MIX OF PRIVATE AND PUBLIC AND ALL TO BE CONSTRUCTED IN ACCORDANCE WITH PENDER COUNTY UTILITIES AND PLURIS, LLC SPECIFICATIONS AND STANDARDS.
5. CONTRACTOR SHALL BE REQUIRED TO SET FINAL GRADES AT +/-0" OF FINAL GRADE BEFORE REQUESTING SUBSTANTIAL COMPLETION.
6. WHEREVER SEWER OR WATER MAINS CROSS ONE ANOTHER, A MINIMUM VERTICAL CLEARANCE OF 18" SHALL BE PROVIDED BETWEEN THE BOTTOM OF THE WATER PIPE AND THE TOP OF THE SEWER PIPE.
7. WHEREVER SEWER OR STORM CROSS ONE ANOTHER, A MINIMUM VERTICAL CLEARANCE OF 18" SHALL BE PROVIDED BETWEEN THE BOTTOM OF STORM AND TOP OF SEWER.
8. WHEREVER SEWER OR WATER MAINS RUN PARALLEL TO EACH OTHER, A MINIMUM HORIZONTAL SEPARATION OF 10' SHALL BE PROVIDED, IF A 10' HORIZONTAL SEPARATION CAN NOT BE MAINTAINED, A MINIMUM VERTICAL CLEARANCE OF 18" SHALL BE PROVIDED BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE SEWER MAIN. IF NEITHER OF THE CONDITIONS CAN BE MET, BOTH MAINS SHALL BE CONSTRUCTED WITH CLASS 50 DIP. DIPS SHALL BE A MINIMUM OF 20 LF CENTERED AT THE CROSSING. BOTH MAINS MUST BE CONSTRUCTED IN ACCORDANCE WITH PUBLIC WATER SUPPLY STANDARDS AND TESTED TO 150 PSI TO ASSURE A WATER TIGHT CONNECTION.
9. WHEREVER MINIMUM SEPARATIONS CANNOT BE ACHIEVED, STOP WORK AND CONTACT THE OWNER AND PROJECT ENGINEER IMMEDIATELY.
10. CONTRACTOR SHALL CONTACT PLURIS, LLC AND PENDER COUNTY UTILITIES TO SCHEDULE A INSPECTOR TO BE PRESENT ON-SITE DURING CONNECTION INSTALLATION TO EITHER PARTY'S SYSTEM. THE CONTRACTOR SHALL NOT MAKE ANY CONNECTION TO THE WATER OR SEWER SYSTEM WITHOUT A PENDER COUNTY UTILITIES INSPECTOR PRESENT.
11. SITE ELECTRICAL AND SITE LIGHTING SHALL BE COORDINATED WITH DUKE ENERGY

SANITARY SEWER NOTES

1. MANHOLE DIAMETERS:
   1. MINIMUM DIAMETER FOUR (4) FEET.
   2. INSIDE DROP MANHOLES: MINIMUM DIAMETER FIVE (5) FEET PER NCDEQ/DWQ RULES.
2. MAXIMUM MANHOLE SPACING: (400) FEET STANDARD – OTHER SPACING AS REQUESTED AND APPROVED BY COUNTY
3. ENGINEERING IN ACCORDANCE WITH NCDEQ/DWQ REGULATIONS.
4. MINIMAL ANGLE BETWEEN SEWER MAINS INTERSECTING AT MANHOLE: (90) DEGREES OR GREATER TO THE DOWNSTREAM
5. SIDE – VARIANCES ALLOWED BY APPROVAL OF COUNTY ENGINEERING.
6. MANHOLE TOP ELEVATIONS:
   1. SHALL BE AT OR ABOVE FINISHED GRADE ELEVATION.
   2. SET TO MATCH FINISHED PAVEMENT GRADE IF LOCATED IN PAVED AREAS.
7. ECCENTRIC MANHOLE CONES ON ALL MANHOLES WITH 24 INCH CLEAR OPENING ON THE RING AND COVER.
8. USE WATER TIGHT RING AND COVERS IN FLOOD PLAN AREAS OR AREAS SUBJECT TO FLOODING.
9. USE SHALLOW PRECAST MANHOLES WITH FLAT TOPS WHERE NECESSARY AND APPROVED BY COUNTY ENGINEERING.
10. PROVIDE 0.1-FOOT ELEVATION FALL THROUGH ALL MANHOLES EXCEPT STRAIGHT THROUGH MANHOLES.
11. CONCRETE MANHOLES SHALL BE COATED WITH COAL TAR EPOXY COATING MINIMUM 20 MILS THICK.
12. USE VENTED MANHOLES AS REQUIRED PER NCDEQ/DWQ REQUIREMENTS.
13. SANITARY SEWER MAINS ARE 8" C900 PVC.
14. ALL SANITARY SEWER MANHOLES WITH INVERT DIFFERENCES GREATER THAN 2.5' SHALL BE DROP MANHOLES. GRAVITY SEWER SHALL BE INSTALLED PER PENDER COUNTY UTILITIES STANDARD SPECIFICATIONS AND DETAILS.

WATER SYSTEM NOTES

1. WATER LINES SHALL BE C-900 WITH A MINIMUM DR-18 RATING.
2. VALVE LOCATIONS TO BE FIELD ADJUSTED TO AVOID PLACEMENT WITHIN HANDICAP RAMPS.
3. DOMESTIC AND FIRE WATER SUPPLY APPURTENANCES ARE TO BE LOCATED OUTSIDE OF FENCED IN YARD SPACES AND 1' CLEAR OF FENCE LINES.
4. ALL WATER MAINS AND SEWER MAINS SHALL HAVE A MIN. OF 3'-0" COVER AS MEASURED FROM FINISHED GRADE AT THE LOCATION WHERE INSTALLED, UNLESS FERROUS PIPE MATERIAL IS SPECIFIED. IF FERROUS MATERIAL IS SPECIFIED, PROPER BEDDING SHALL BE PROVIDED WHERE SEWER MAINS ARE SUBJECT TO TRAFFIC BEARING LOADS.
5. WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 10' HORIZONTAL SEPARATION FROM, OR 18" VERTICAL SEPARATION OVER SEWER MAINS IN A SEPARATE TRENCH. WATER MAINS MAY BE INSTALLED IN THE SAME TRENCH AS SEWER MAINS PROVIDED THAT THE WATER MAIN IS LOCATED ON ONE SIDE ON A BENCH OF UNDISTURBED EARTH AND THE ELEVATION OF THE BOTTOM OF THE WATER MAIN IS AT LEAST 18" ABOVE THE TOP OF THE SEWER MAIN. WATER MAINS SHALL BE INSTALLED PER PENDER COUNTY UTILITIES MANUAL OF STANDARDS, SPECIFICATIONS AND DETAILS.
6. IRRIGATION SYSTEM TO BE DESIGNED IN ACCORDANCE WITH IRRIGATION CONSULTANT. IRRIGATION METERS TO BE PROVIDED OFF THE PRIVATE DOMESTIC WATER SERVICE LINE. IRRIGATION CONSULTANT TO PROPOSE METER LOCATIONS AND SUBMIT TO OWNER AND PROJECT ENGINEER FOR APPROVAL.

1 NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL H

BLAKE FARM BOULEVARD & S. ATLANTIC AVENUE

UTILITY PLAN

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

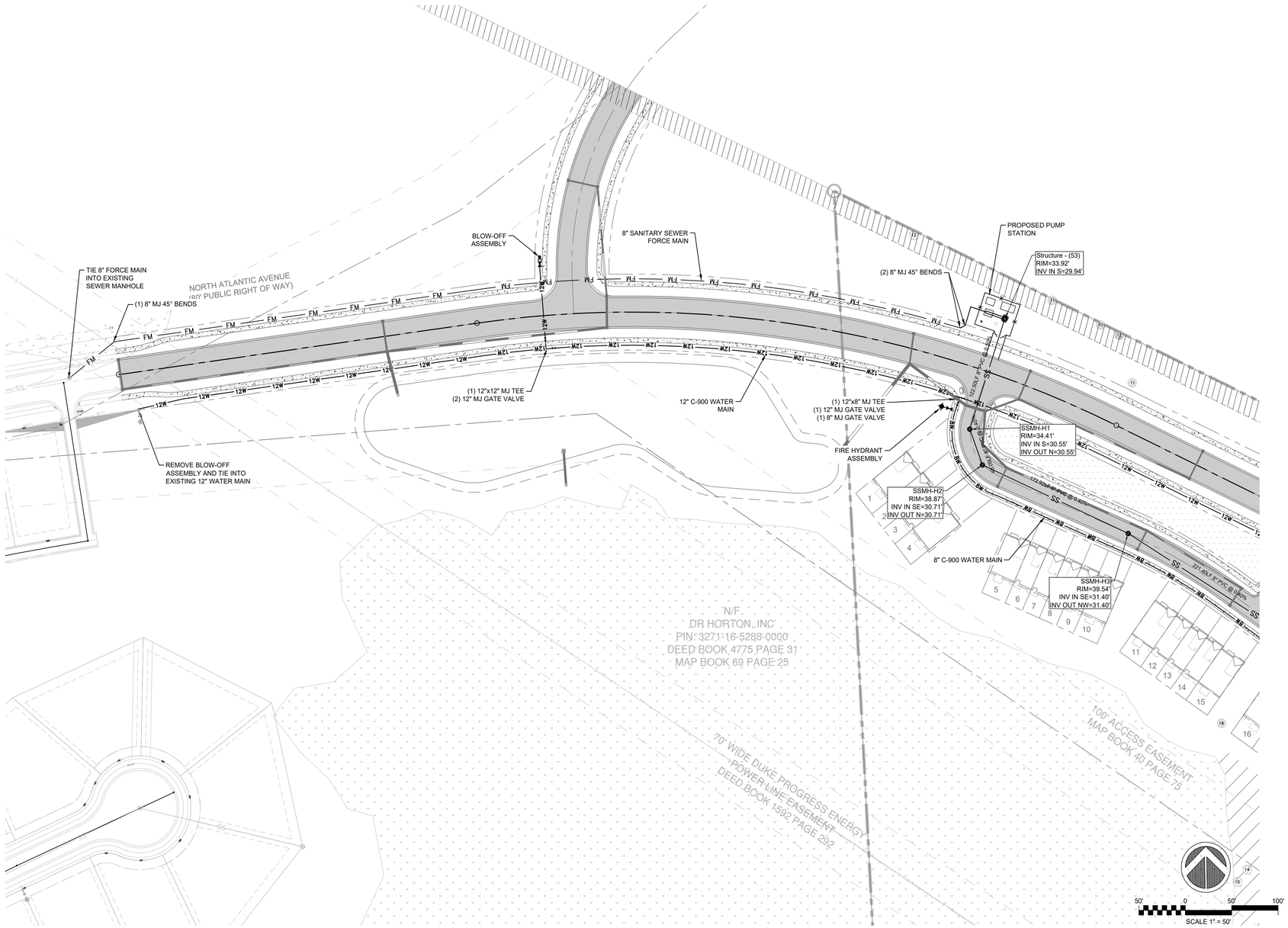
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VERTICAL: N/A

C8.0
DRAWING NUMBER

0
REVISION

STATUS:
PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C8.0 UTILITY PLAN.DWG ---- 08/04/2023 10:04:28



SYMBOLS LEGEND

- SS — SANITARY SEWER LINE
- SANITARY SEWER CLEANOUT
- SANITARY SEWER MANHOLE
- W — WATER LINE
- WATER METER
- BACKFLOW PREVENTER
- HYDRANT AND VALVE ASSEMBLY
- FIRE DEPARTMENT CONNECTION
- SD — STORM DRAINAGE LINE
- STORM DRAINAGE MANHOLE
- STORM DRAINAGE DROP INLET
- STORM DRAINAGE CURB INLET
- STORM DRAINAGE FLARED END SECTION

2 GRADING AND DRAINAGE PLAN ENLARGEMENT

1 NOTES

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BLAKE FARM PARCEL H

UTILITY PLAN ENLARGEMENT

DATE:	07/14/2023
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DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

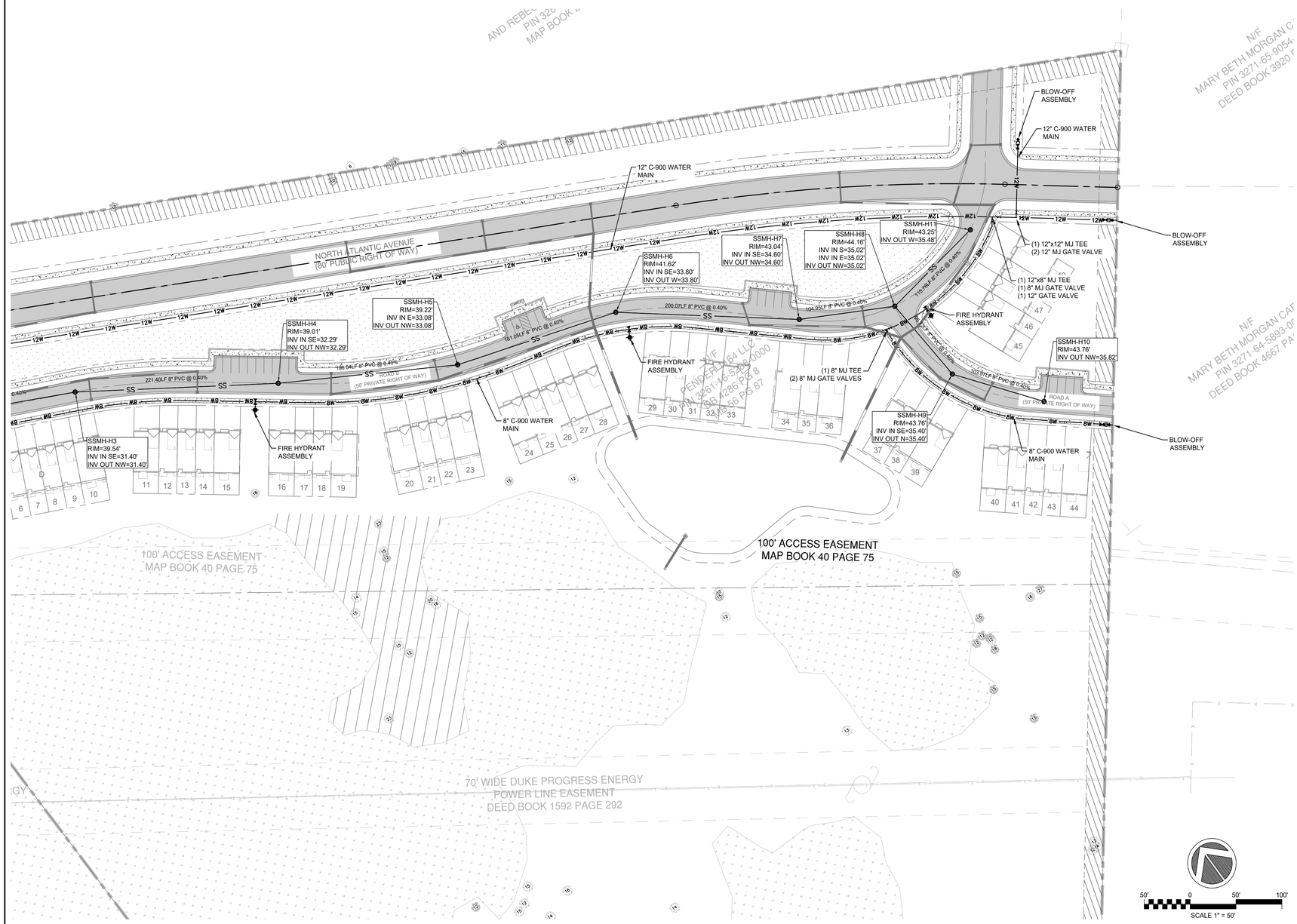
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VERTICAL: N/A

C8.1
DRAWING NUMBER

REVISION

STATUS: PRELIMINARY DESIGN

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SYMBOLS LEGEND

- SS — SANITARY SEWER LINE
- SANITARY SEWER CLEANOUT
- SANITARY SEWER MANHOLE
- W — WATER LINE
- WATER METER
- BACKFLOW PREVENTER
- HYDRANT AND VALVE ASSEMBLY
- FDC — FIRE DEPARTMENT CONNECTION
- SD — STORM DRAINAGE LINE
- STORM DRAINAGE MANHOLE
- STORM DRAINAGE DROP INLET
- STORM DRAINAGE CURB INLET
- STORM DRAINAGE FLARED END SECTION

2 UTILITY PLAN ENLARGEMENT

1 NOTES

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BLAKE FARM PARCEL H

UTILITY PLAN ENLARGEMENT

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DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

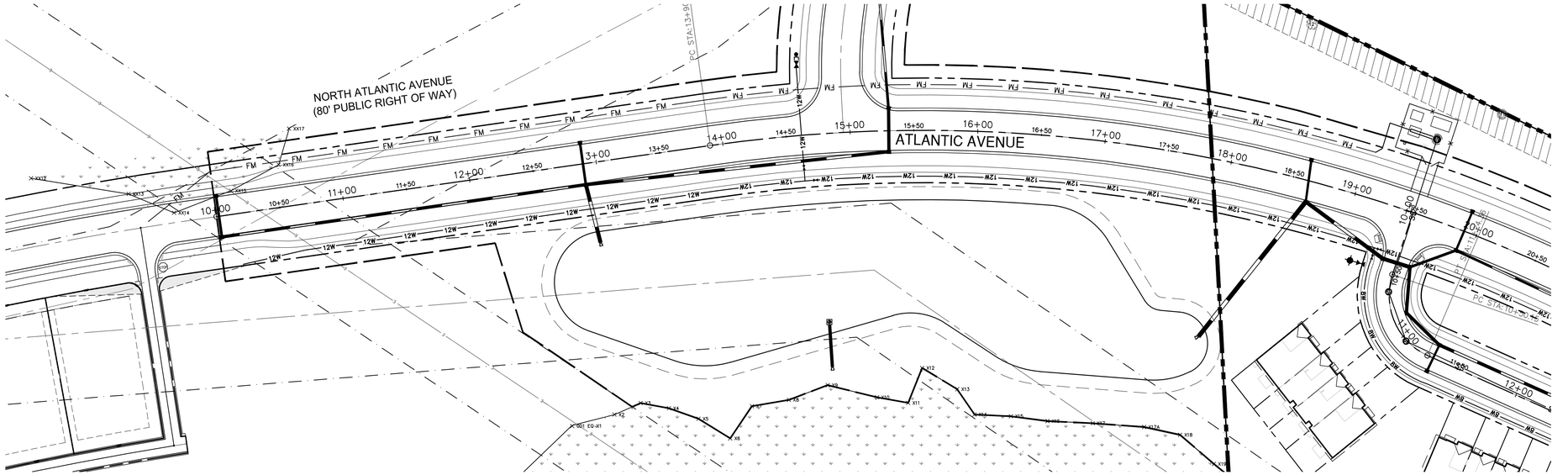
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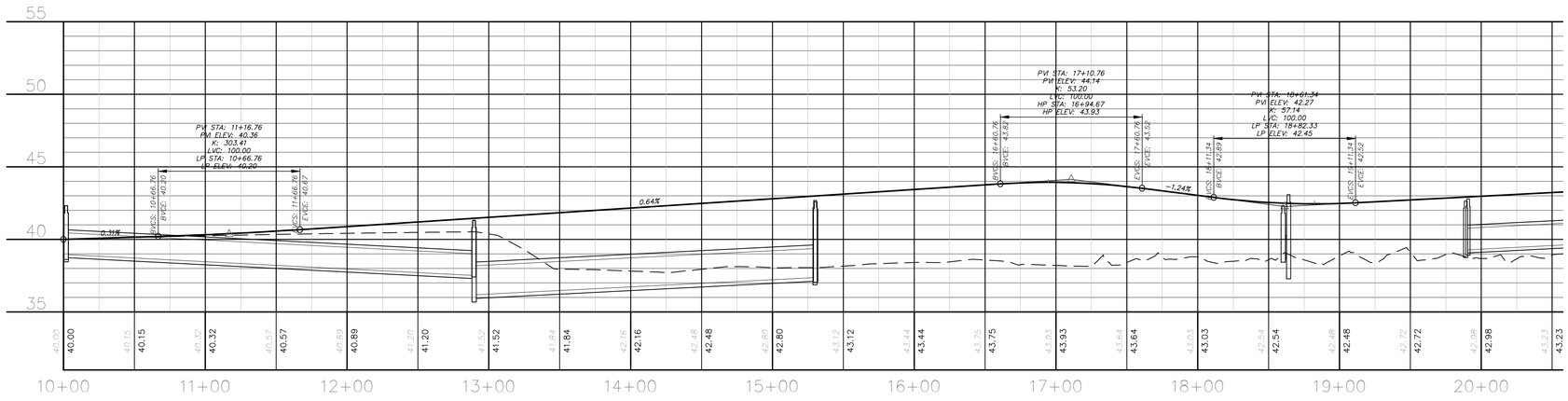
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DRAWING NUMBER

REVISION

STATUS: PRELIMINARY DESIGN

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BLAKE FARM PARCEL H

ROAD A UTILITY PLAN AND PROFILE STA 10+00 TO 20+00

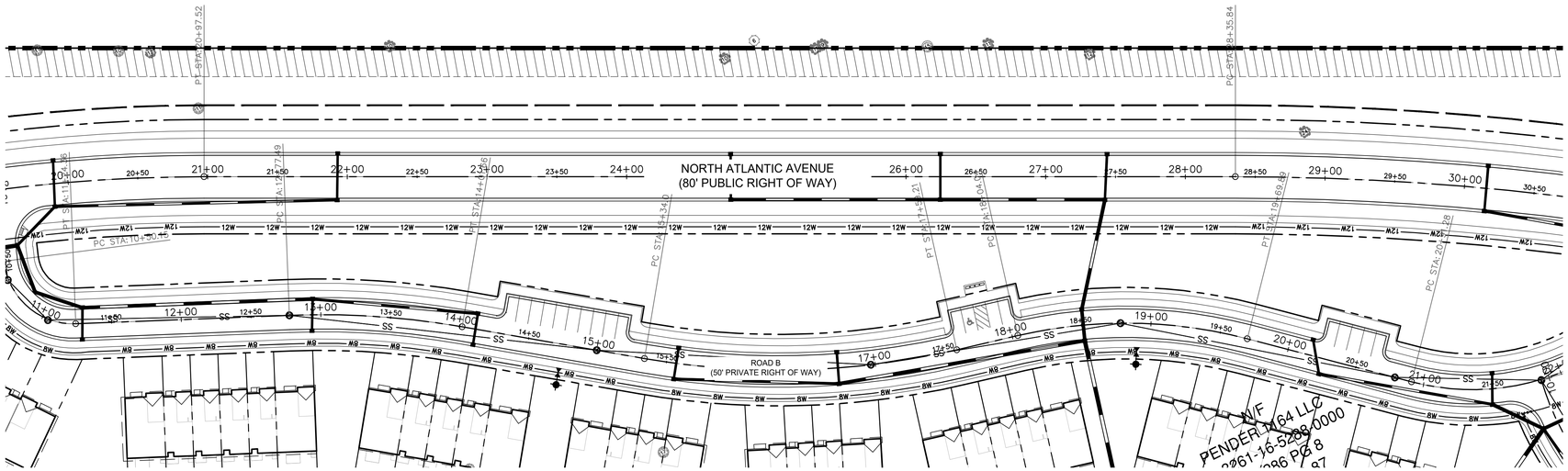
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DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

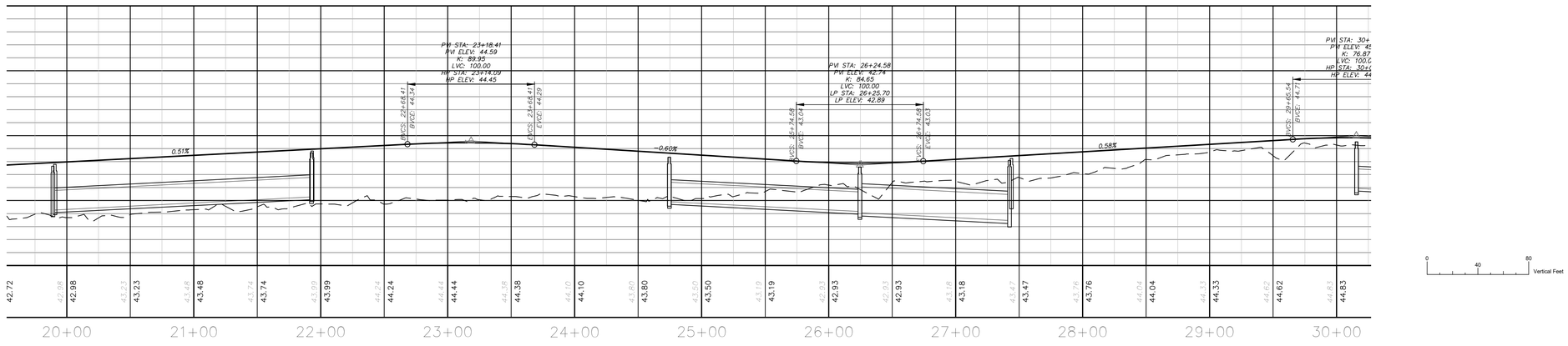
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C9.0
DRAWING NUMBER
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REVISION

STATUS:
PRELIMINARY DESIGN

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BLAKE FARM PARCEL H

ROAD A UTILITY PLAN AND PROFILE STA
20+00 TO 30+00

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

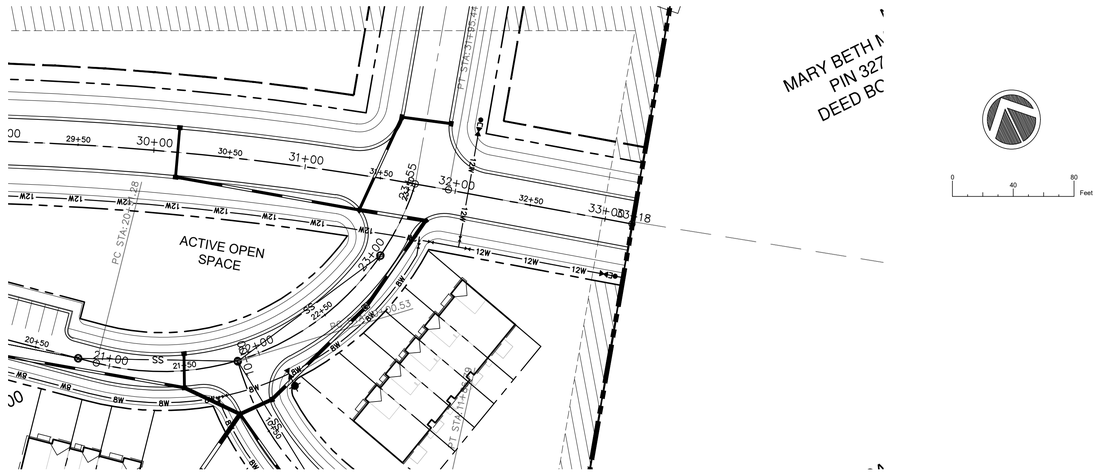
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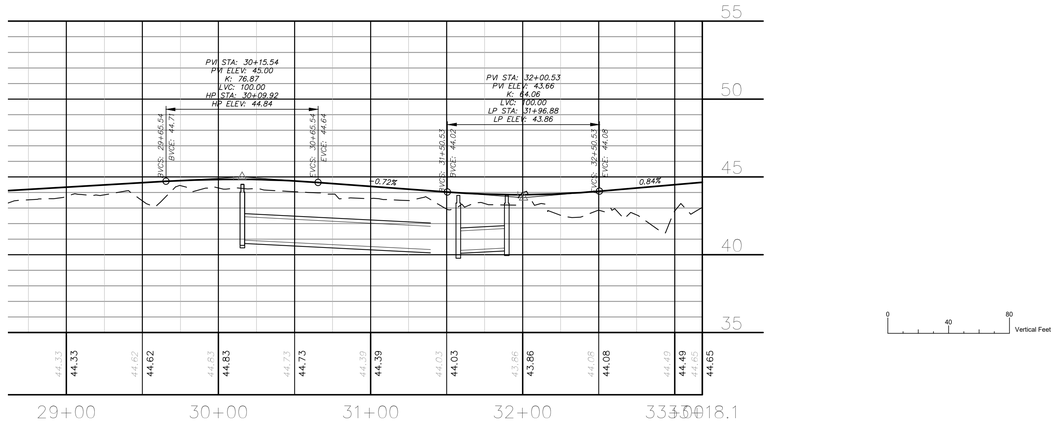
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REVISION

STATUS:
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BLAKE FARM PARCEL H

ROAD A UTILITY PLAN AND PROFILE STA 30+00 TO END

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

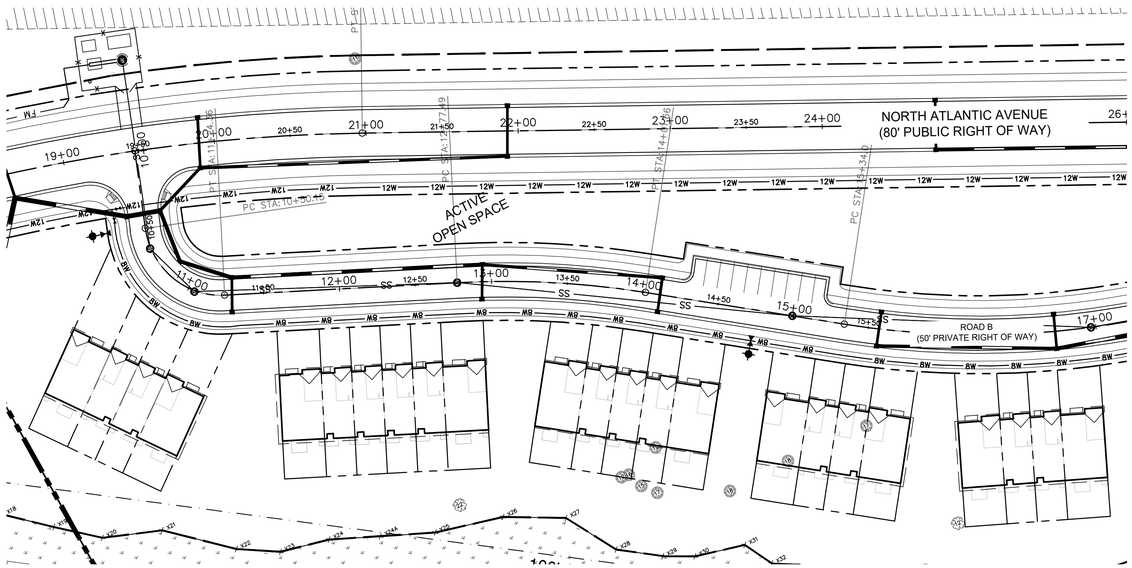
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C9.2
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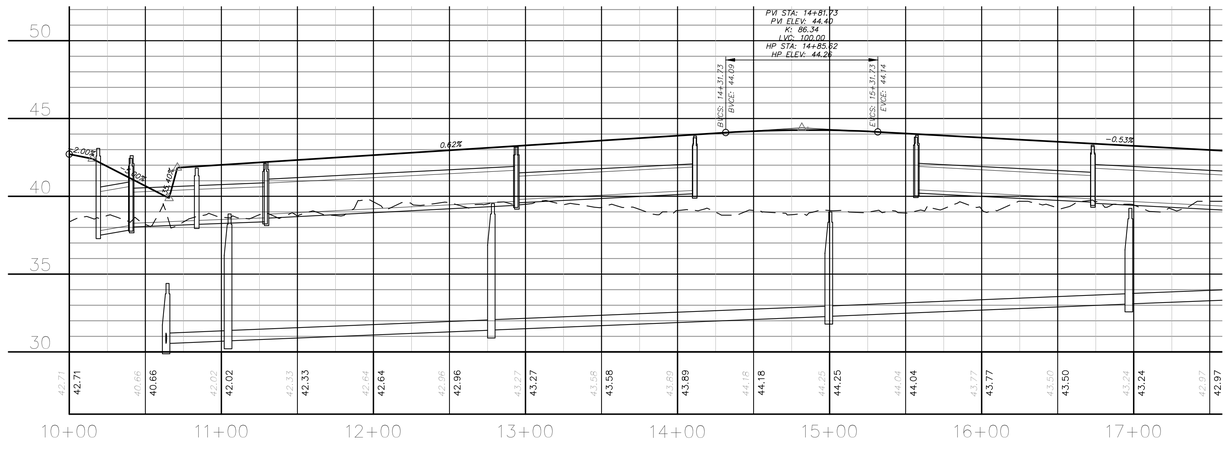
REVISION

STATUS: PRELIMINARY DESIGN

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0 40 80 Feet



0 40 80 Vertical Feet

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BLAKE FARM PARCEL H

ROAD B UTILITY PLAN AND PROFILE STA 10+00 TO 17+00

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

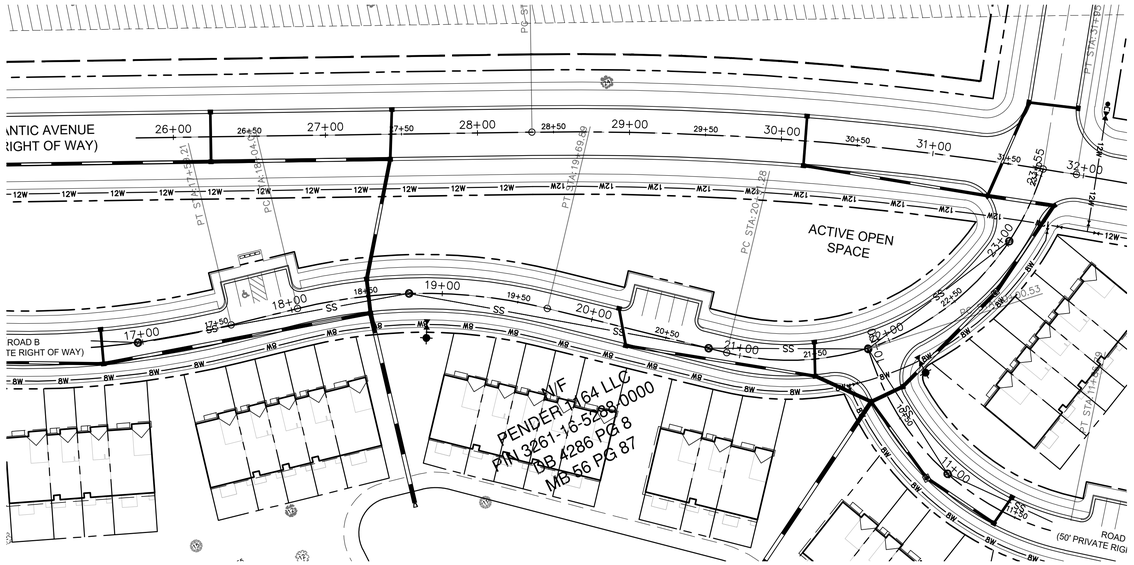
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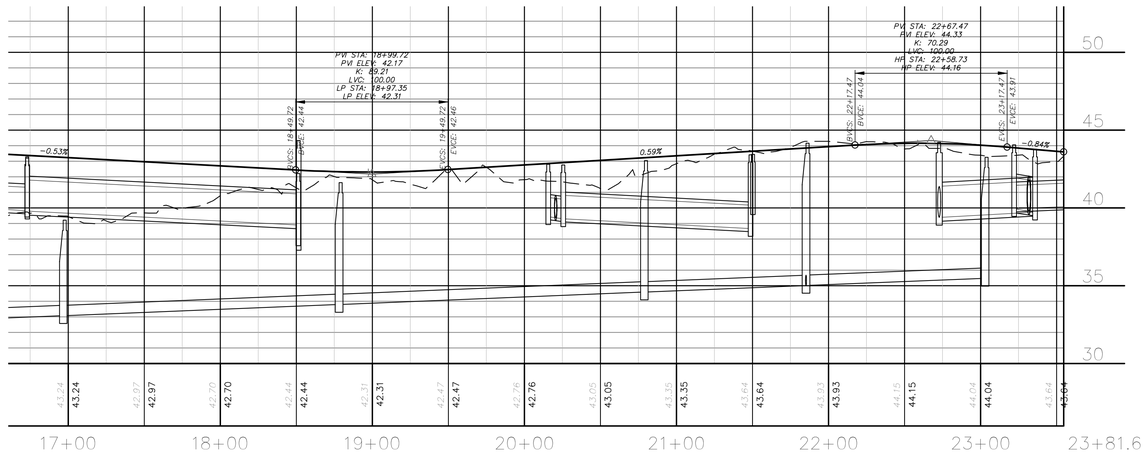
C9.3
DRAWING NUMBER

REVISION

STATUS: PRELIMINARY DESIGN

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BLAKE FARM PARCEL H

ROAD B UTILITY PLAN AND PROFILE STA 17+00 TO END

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

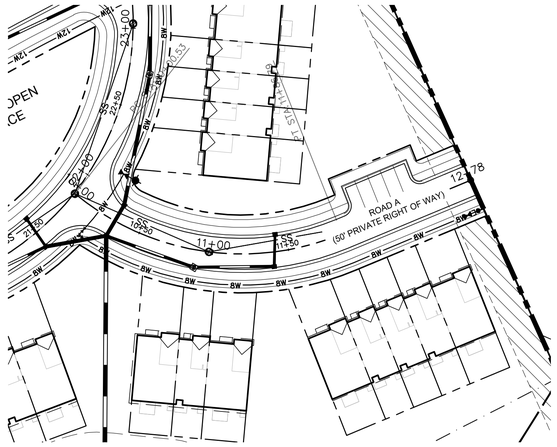
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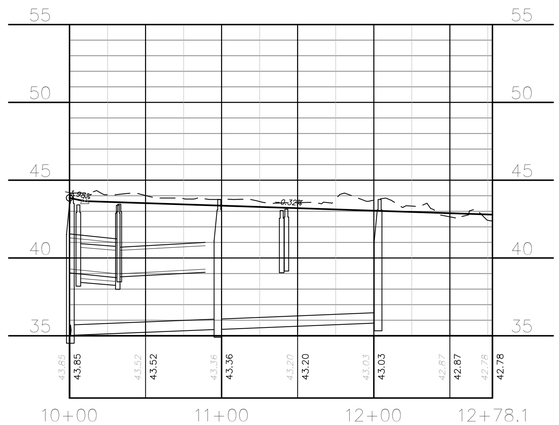
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DRAWING NUMBER

REVISION

STATUS:
PRELIMINARY DESIGN

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ROAD C UTILITY PLAN AND PROFILE STA 10+00 TO END

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
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VERTICAL: 1"=4'

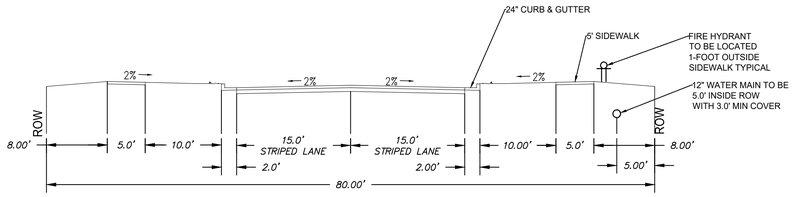
C9.5
DRAWING NUMBER

REVISION

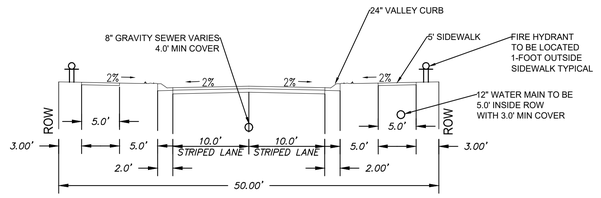
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ATLANTIC AVENUE
(NO MEDIAN)
80' R/W (PUBLIC)



RESIDENTIAL LOCAL
50' R/W (PRIVATE)



1 TYPICAL ROAD AND PAVEMENT SECTIONS

REV.NO.	DESCRIPTIONS	DATE
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BLAKE FARM PARCEL H

BLAKE FARM BOULEVARD & S. ATLANTIC AVENUE

TYPICAL STREET SECTIONS

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

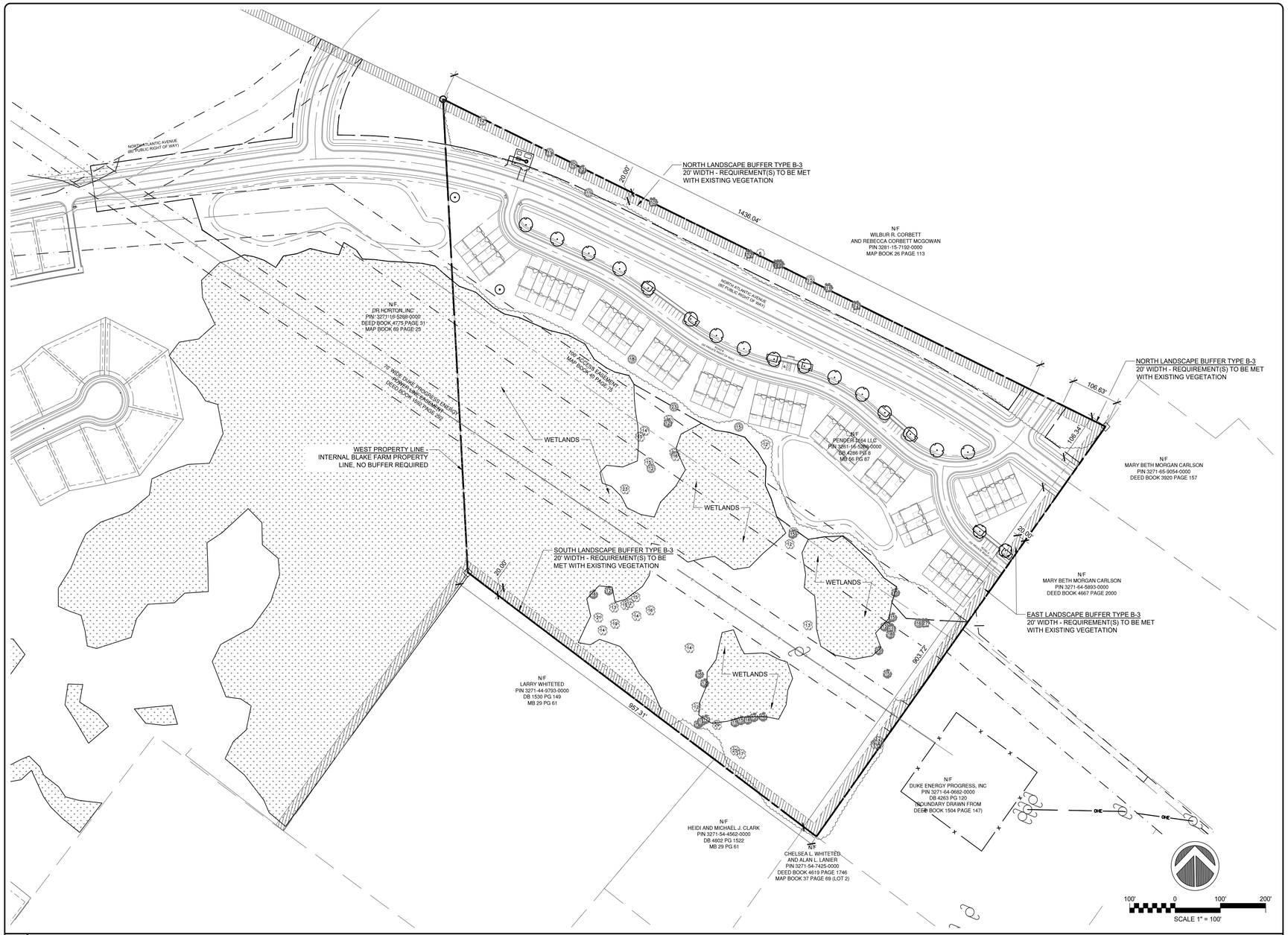
SCALE
HORIZONTAL: AS SHOWN
VERTICAL: N/A

C9.6
DRAWING NUMBER

REVISION

STATUS: PRELIMINARY DESIGN

I:\04245\0047-ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C9.5 TYPICAL STREET SECTIONS.DWG ---- 08/04/2023 10:12:49



LANDSCAPE DATA

REGULATION	REQUIRED	PROPOSED
ANY SIGNIFICANT TREE REMOVED SHALL BE MITIGATED BY PLANTING OF TWO (2) TREES OF THE SAME SPECIES WITH A MINIMUM CALIPER OF 2" OR GREATER 1 SIGNIFICANT MAPLES x 2 = 2 MAPLES 1 SIGNIFICANT WATER OAK X 2 = 2 WATER OAKS 8 SIGNIFICANT OAKS x 2 = 16 OAK	2 MAPLES 2 WATER OAKS 16 OAKS	2 MAPLES 2 WATER OAKS 16 OAKS
NOTE: REFER TO TREE REMOVAL TABLE FOR TREE REMOVAL LIST AND MITIGATION CALCULATIONS		
INTERIOR PARKING AREA LANDSCAPING		
LANDSCAPE ISLAND DIMENSIONS - MIN.12' MIN WIDTH - MIN. DISTANCE BETWEEN ISLANDS 120' - MIN. 300 SF PERVIOUS AREA - MIN. 600 SF PERVIOUS AREA (DOUBLE, TERMINAL ISLANDS)	YES	YES
LANDSCAPE ISLAND PLANTING - 1 CANOPY TREE PER ISLAND - 2' HIGH SCREENING SHRUBS ENTIRE LENGTH OF LANDSCAPE ISLAND	YES	YES
BUFFER YARD - PD BOUNDARY BUFFERS		
NORTH: B-3* 20' WIDE STRIP 1 CANOPY TREES, 2 UNDERSTORY TREES PER 100 LF 1,542 LF/100 = 15.42 15.42 x 1 = 15.42 = 16 CANOPY TREES 15.42 x 2 = 30.84 = 31 UNDERSTORY TREES	20' WIDTH 16 CANOPY 31 UNDERSTORY	20' WIDTH MET WITH EXISTING VEGETATION*
EAST: B-3* 20' WIDE STRIP 1 CANOPY TREES, 2 UNDERSTORY TREES PER 100 LF 1,010 LF/100 = 10.10 10.10 x 1 = 10.10 = 11 CANOPY TREES 10.10 x 2 = 20.20 = 21 UNDERSTORY TREES	20' WIDTH 11 CANOPY 21 UNDERSTORY	20' WIDTH MET WITH EXISTING VEGETATION*
SOUTH: B-3* 20' WIDE STRIP 1 CANOPY TREES, 2 UNDERSTORY TREES PER 100 LF 957 LF/100 = 9.57 9.57 x 1 = 9.57 = 10 CANOPY TREES 9.57 x 2 = 19.14 = 20 UNDERSTORY TREES	20' WIDTH 10 CANOPY 20 UNDERSTORY	20' WIDTH MET WITH EXISTING VEGETATION*
WEST: N/A	NO	N/A
*NOTE: BUFFERS REQUIREMENTS INTENDED TO UTILIZE EXISTING VEGETATION TO SATISFY TREE REQUIREMENTS. CLOSER TO TIME OF PROJECT COMPLETION, A SITE VISIT WITH LANDSCAPE ARCHITECT AND PENDER COUNTY PLANNING REPRESENTATIVE IS REQUESTED TO DETERMINE WHETHER SUPPLEMENTAL VEGETATION IS REQUIRED TO MEET INTENT OF ORDINANCE.		

2 LANDSCAPE PLAN

1 NOTES

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BLAKE FARM PARCEL H

LANDSCAPE PLAN

DATE:	07/14/2023
MCE PROJ. #	04245-0047
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PROJ. MGR.	TSM

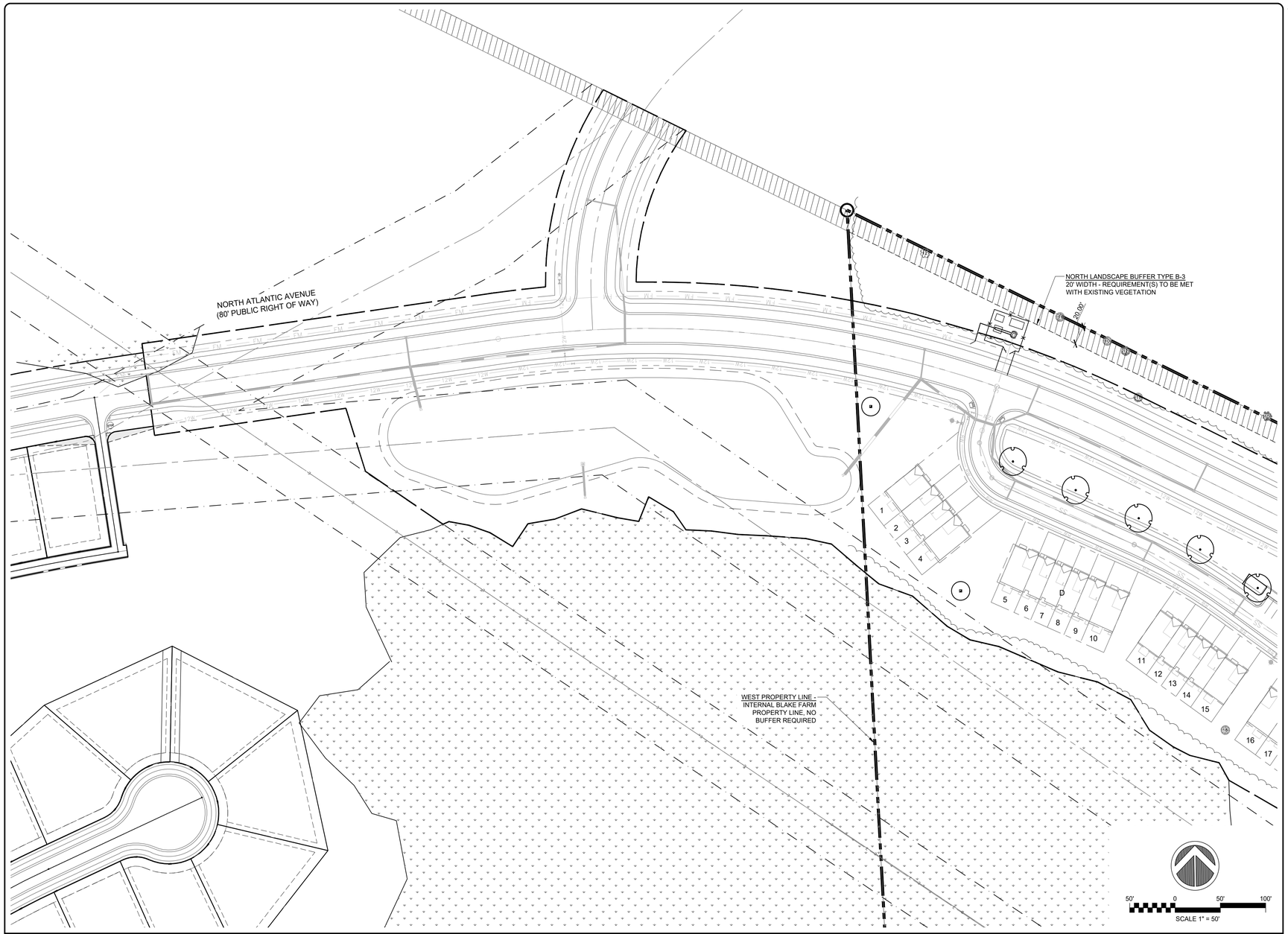
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C10.0
DRAWING NUMBER

0
REVISION

STATUS:
PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C10.0 LANDSCAPE PLAN.DWG — 08/04/2023 10:13:42



PLANT SCHEDULE

CANOPY TREE	BOTANICAL / COMMON NAME
	ACER RUBRUM `OCTOBER GLORY` TM OCTOBER GLORY MAPLE
	QUERCUS NIGRA WATER OAK
	QUERCUS VIRGINIANA SOUTHERN LIVE OAK

2 LANDSCAPE PLAN ENLARGEMENT

1 NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

SEAL

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D·R·HORTON® DHI Listed NYSE
America's Builder

BLAKE FARM PARCEL H

LANDSCAPE PLAN ENLARGEMENT

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

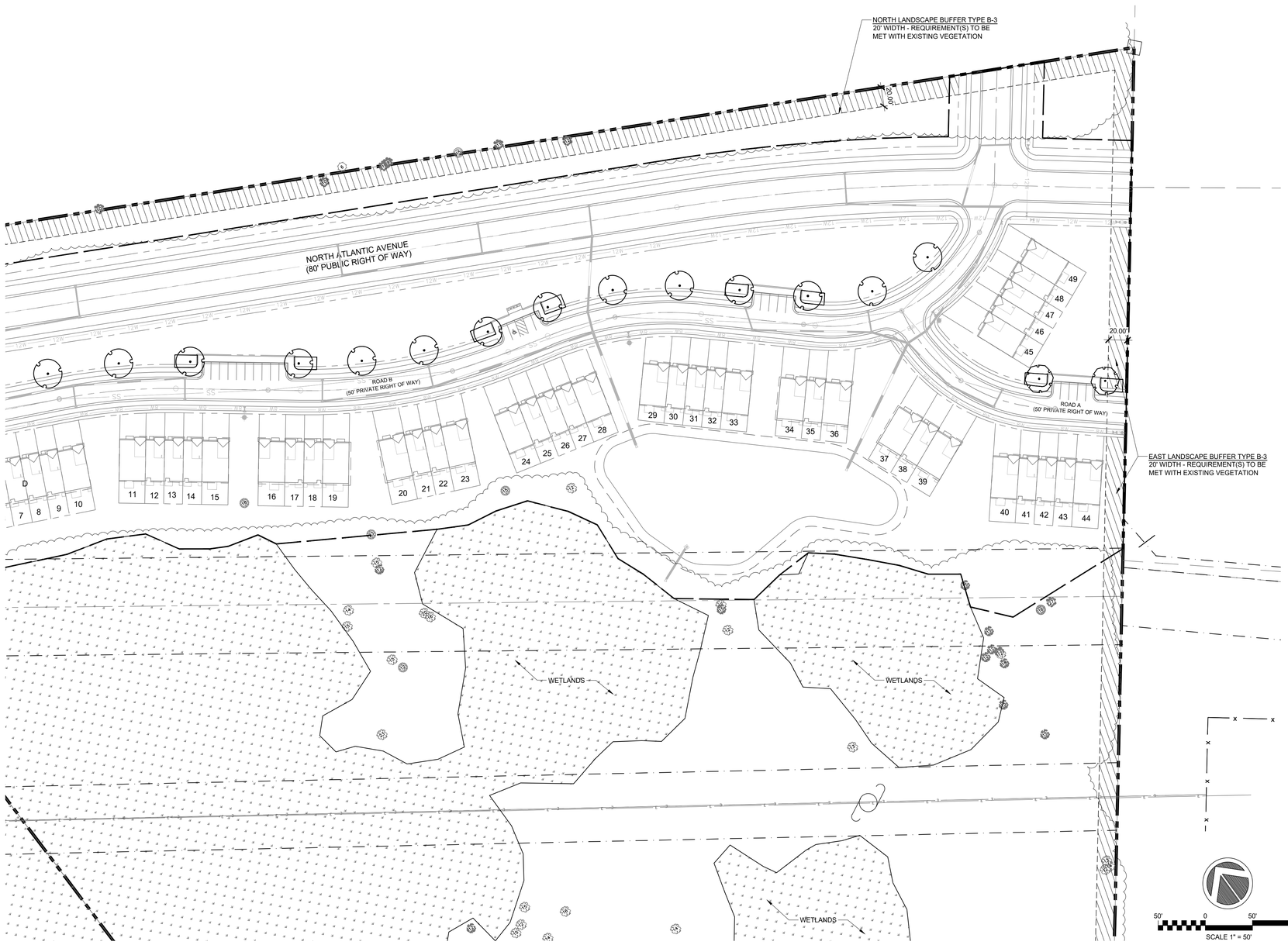
SCALE
HORIZONTAL:
VERTICAL:
VSCALE

C10.1
DRAWING NUMBER

REVISION

STATUS:
PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C10.1 LANDSCAPE PLAN ENLARGEMENTS.DWG ---- 08/04/2023 10:16:27



PLANT SCHEDULE

CANOPY TREE	BOTANICAL / COMMON NAME
	ACER RUBRUM `OCTOBER GLORY` TM OCTOBER GLORY MAPLE
	QUERCUS NIGRA WATER OAK
	QUERCUS VIRGINIANA SOUTHERN LIVE OAK

2 LANDSCAPE PLAN ENLARGEMENT

1 NOTES

REV NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL H

LANDSCAPE PLAN ENLARGEMENT

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1" = 50'
VERTICAL: VSCALE

C10.2
DRAWING NUMBER

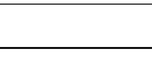
REVISION

STATUS:
PRELIMINARY DESIGN

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ASPHALT PAVEMENT SECTION
NORTH ATLANTIC AVENUE

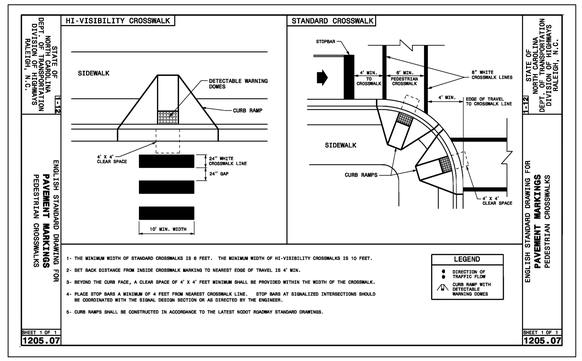


ASPHALT PAVEMENT SECTION
(LOCAL STREETS)

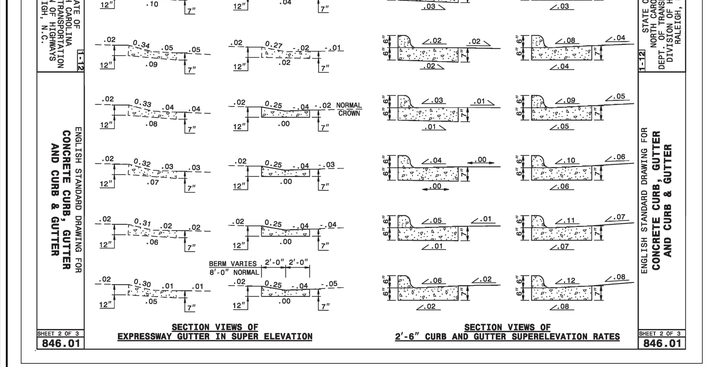
ASPHALT PAVEMENT SECTION
(ALLEY)

NOTE:
1) PAVEMENT SECTIONS ARE BASED UPON A SOILS REPORT PREPARED BY ECS CAROLINAS DATED JUNE 7, 2023.
2) NCDOT SUBDIVISION GUIDELINES FOR GROUP II, FAIR TO POOR SOILS ARE LESS CONSERVATIVE. SO THE ECS GUIDELINES WERE USED FOR BLAKE FARM.

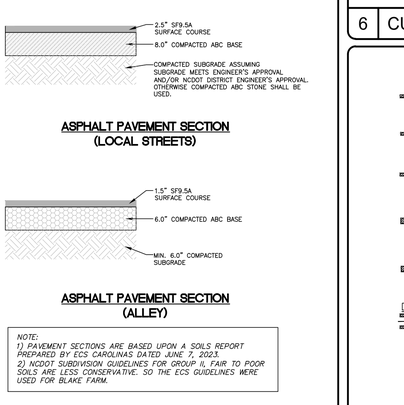
7 | ASPHALT PAVING



6 | CURB RAMP NTS



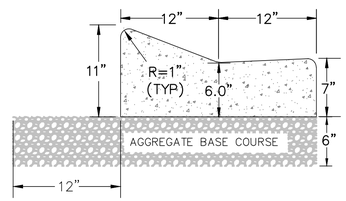
2 | CONCRETE CURB AND GUTTER NTS



PAVEMENT MARKING DETAIL

NOT TO SCALE

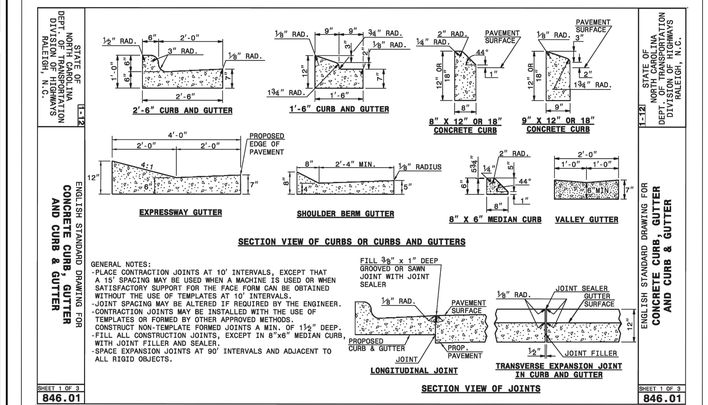
5 | PAVEMENT MARKINGS



STD. 24" VALLEY CURB
NOT TO SCALE

NOTES:
1. EXPANSION JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS
2. 50' MAX EXPANSION JOINT SPACING, 10' MAX CONTRACTION JOINT SPACING
3. INSTALLATION LENGTH IS 5 FT.
4. CONCRETE TO BE 3000 PSI MIN

4 | VALLEY CURB NTS



1 | CONCRETE CURB AND GUTTER NTS

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL H

SITE DETAILS

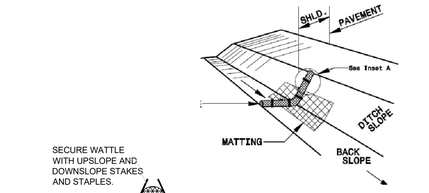
DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C11.0
DRAWING NUMBER
0
REVISION

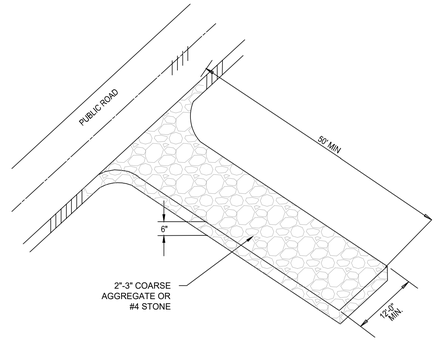
STATUS:
PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C11.0 SITE DETAILS.DWG ---- 08/04/2023 10:17:13

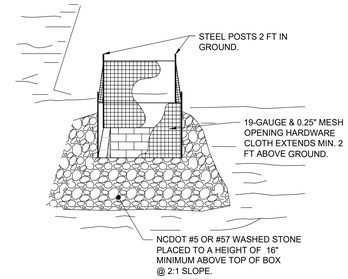


NOTES:
1. USE MINIMUM 18" DIA. EXCELSIOR WATTLE.
2. USE 2"x2" WOODEN STAKES 2-FT IN LENGTH ON THE UPSLOPE AND DOWNSLOPE AT AN ANGLE TO WEDGE THE WATTLE TO THE BOTTOM OF THE SWALE.
3. STAPLE EVERY 1 LF ON BOTH SIDES OF THE WATTLE TO SECURE IT TO THE BOTTOM OF THE SWALE.

5 TEMPORARY WATTLE / CHECK DAM



3 TEMPORARY CONSTRUCTION ENTRANCE



NOTES:
1. DRIVE 5-FOOT STEEL POSTS (1.25 lb/lf steel) 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
2. SURROUND THE POSTS WITH AT LEAST 19-GAUGE HARDWARE CLOTH WITH A 1/4-INCH MESH OPENING. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM FOR A MIN. 2 FEET ABOVE THE GROUND. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING AND REMOVAL IS RECOMMENDED.
3. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET. THE TOP ELEVATION OF THE STRUCTURE MUST BE AT LEAST 12-INCHES LOWER THAN THE SURROUNDING GROUND ELEVATION DOWNSLOPE FROM THE INLET TO ENSURE THAT STORM FLOWS GET INTO THE INTENDED INLET; UNLESS OTHER SEDIMENT-CONTROL DEVICES ARE INSTALLED TO PREVENT OFF-SITE SEDIMENT-RUNOFF.

2 TEMPORARY INLET PROTECTION

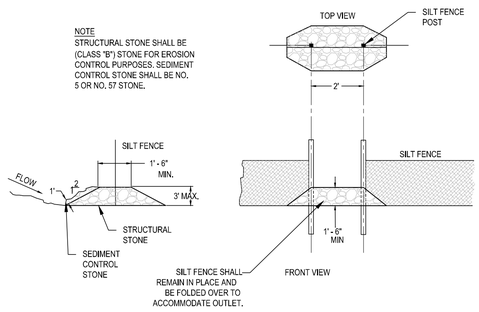
SEEDBED PREPARATION:

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTRANCE AREA TO 6 INCHES DEPTH.
3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW*).
5. CONTINUE TILLAGE UNTIL A WELL - PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
10. APPLY:
    AGRICULTURAL LIMESTONE - 2 TONS/ACRE
    FERTILIZER - 1000 LBS/ACRE (10-10-10)
    SUPERPHOSPHATE - 500 LBS/ACRE (20%)
    RYE SEED - 120LBS/ACRE
    GERMAN MILLET - 40LBS/ACRE
    ANNUAL LESPEDEZA (KOBE) SEED - 50 LBS/ACRE
    MULCH - 2 TONS/ACRE (SMALL GRAIN STRAW)

NOTE (G.S. 113A-57 (2))

THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

6 SEEDBED PREPARATION NTS

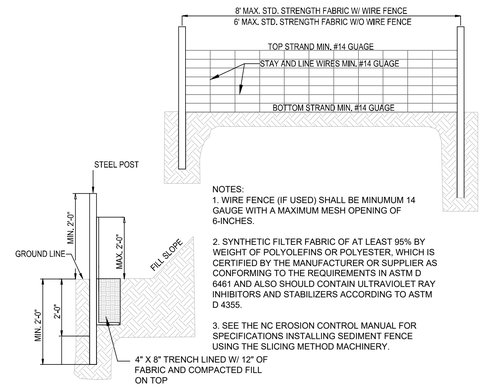


4 SILT FENCE OUTLET

SILT FENCE CALCULATION TABLE

SILT FENCE No.	Drainage Area ac	Length ft	Acre per 100 ft	0.25 Acre per 100 ft YES/NO
PHASE 1 SILT FENCE				
SF 1	0.35	289	0.12	YES
SF 2	0.48	362	0.13	YES
SF 3	0.37	305	0.12	YES
SF 4	0.69	452	0.15	YES
SF 5	0.58	397	0.15	YES
SF 6	0.57	311	0.18	YES
SF 7	0.58	387	0.15	YES
SF 8	0.14	382	0.04	YES
SF 9	0.30	375	0.08	YES
SF 10	0.57	348	0.16	YES
SF 11	0.09	486	0.02	YES
SF 12	0.32	237	0.13	YES
SF 13	0.37	267	0.14	YES
SF 14	0.38	320	0.12	YES
SF 15	0.74	602	0.12	YES
SF 16	0.38	372	0.10	YES
SF 17	0.23	266	0.09	YES
SF 18	0.30	321	0.09	YES
SF 19	0.43	217	0.20	YES

Note: Calculation taken from Table 6.62a of the NCDENR ESC



NOTES:
1. WIRE FENCE (IF USED) SHALL BE MINUMUM 14 GAUGE WITH A MAXIMUM MESH OPENING OF 6-INCHES.
2. SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461 AND ALSO SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS ACCORDING TO ASTM D 4355.
3. SEE THE NC EROSION CONTROL MANUAL FOR SPECIFICATIONS INSTALLING SEDIMENT FENCE USING THE SLICING METHOD MACHINERY.

1 TEMPORARY SILT FENCE

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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EROSION CONTROL DETAILS

DATE:	
MCE PROJ. #	
DRAWN	
DESIGNED	
CHECKED	
PROJ. MGR.	

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

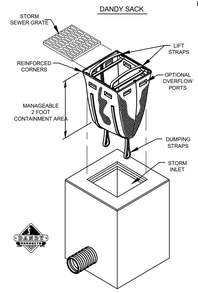
C12.0
DRAWING NUMBER
0
REVISION

STATUS:

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DANDY SACK™
SPECIFICATIONS

NOTE: THE DANDY SACK™ WILL BE **MANUFACTURED IN THE U.S.A.** FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:



REGULAR FLOW DANDY SACK™ (BLACK)

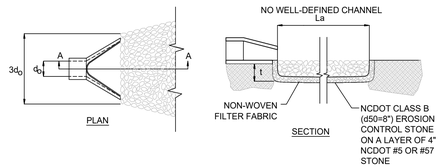
Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.78 (400) x 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	15 x 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.67 (150)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	5506 (800)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.67 (150) x 0.73 (165)
UV Resistence	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (.40)
Flow Rate	ASTM D 4491	l/min/m (gal/min/ft)	2852 (70)
Permittivity	ASTM D 4491	Sec-1	0.90

HI-FLOW DANDY SACK™ (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.62 (365) X 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.51 (115) X 0.33 (75)
UV Resistence	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (.40)
Flow Rate	ASTM D 4491	l/min/m (gal/min/ft)	5907 (145)
Permittivity	ASTM D 4491	Sec-1	2.1

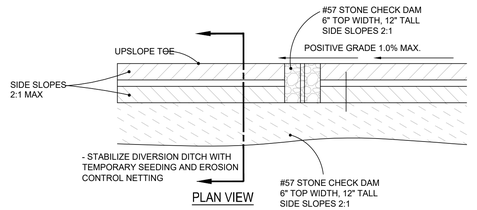
*Note: All Dandy Sacks™ can be ordered with our optional oil absorbent pillows

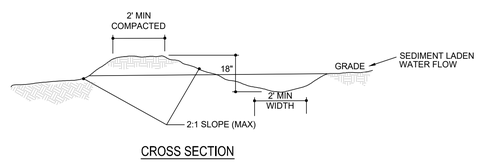
5 DANDY SACK INTLET PROTECTION NTS



Apron Length = 10.0 ft.
Apron Width = 7.5 ft.

4 RIPRAP OUTLET PROTECTION





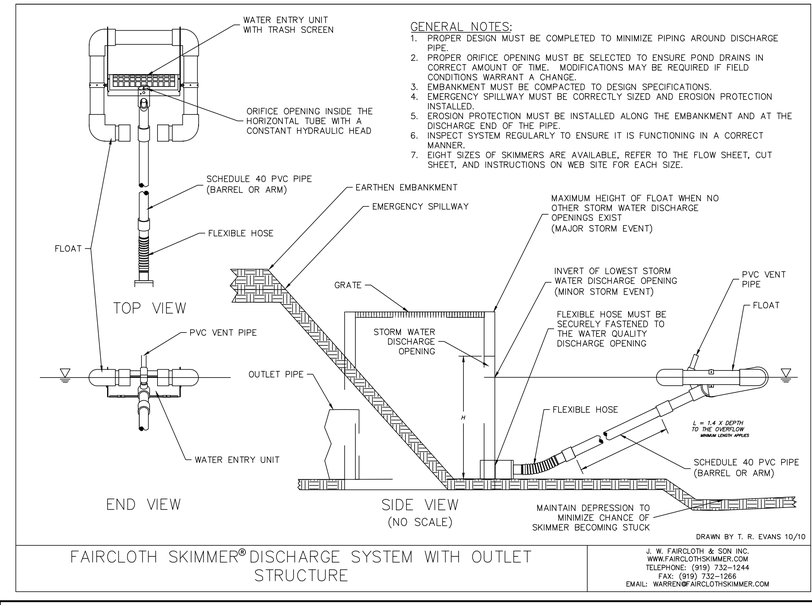
TEMPORARY DIVERSION DITCH CALCULATION TABLE

TDD NUMBER	DA (AC)	Q 10 (CFS)	LENGTH (FT)	HIGH (FT)	LOW (FT)	ELEVATION DIFF. (FT)	SLOPE (%)	INITIAL LINING	MANNING n	VELOCITY (FPS)	COMMENT
TDD 1	5.15	4.73	1078	39.29	38.10	1.19	0.11	BARE EARTH	0.020	2.07	LINING REQ
TDD 2	3.24	2.98	591	42.79	41.00	1.79	0.30	BARE EARTH	0.020	1.86	NO LINING
TDD 3	0.37	0.34	324	43.52	41.00	2.52	0.78	BARE EARTH	0.020	0.29	NO LINING
TDD 4	0.08	0.07	109	41.37	39.20	2.17	1.99	BARE EARTH	0.020	0.09	NO LINING

							TEMPORARY ROCK CHECK DAMS/WATTLES		
TDD NUMBER	SECONDARY LINING	MANNING n	VELOCITY (FPS)	COMMENT	WATER DEPTH (IN)	DITCH MIN. DEPTH (IN)	CHECK DAM SPACING (FT)	NUMBER REQUIRED	NUMBER PROVIDED
TDD 1	EXCELSIOR	0.035	1.37	EXCELSIOR OK	9.5	18	1812	1	1

Notes:
1. Q10 taken from Rational Method.
2. Manning n value for bare earth = 0.020 per NC ESC Manual Table 8.05f
3. Manning n value for excelsior (curled wood) matting = 0.035 per NC ESC Manual Table 8.05f
4. Depth Value taken from Software FHWA Hydraulic Toolbox.
5. Tractive Force (Shear Stress) was also evaluated and found to be sufficient for the proposed lining.

2 TEMPORARY DIVERSION DITCH



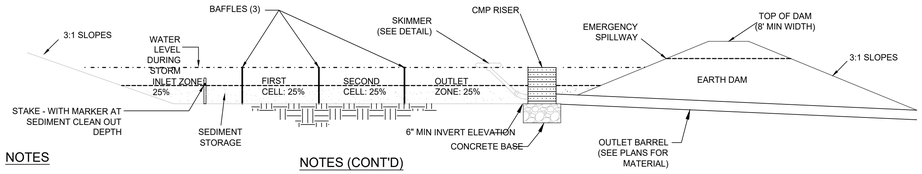
GENERAL NOTES:
1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE PIPE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS.
4. EMERGENCY SPILLWAY MUST BE CORRECTLY SIZED AND EROSION PROTECTION INSTALLED.
5. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.
6. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.
7. EIGHT SIZES OF SKIMMERS ARE AVAILABLE, REFER TO THE FLOW SHEET, CUT SHEET, AND INSTRUCTIONS ON WEB SITE FOR EACH SIZE.

DRAWN BY T. R. EVANS 10/10

FAIRCLOTH SKIMMER® DISCHARGE SYSTEM WITH OUTLET STRUCTURE

J. W. FAIRCLOTH & SON INC.
WWW.FAIRCLOTHSKIMMER.COM
TELEPHONE: (919) 732-1244
FAX: (919) 732-1266
EMAIL: WARREN@FAIRCLOTHSKIMMER.COM

3 FAIRCLOTH SKIMMER



NOTES

1. BAFFLE MATERIAL SHALL BE MATERIALS SUCH AS 700 G/M COIR EROSION BLANKET, COIR MESH, OR TREE PROTECTION FENCE FOLDED OVER TO REDUCE PORE SIZE.
2. THE BAFFLE MATERIAL NEEDS TO BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.

NOTES (CONT'D)

3. LOCATE THE EMERGENCY SPILLWAY ON NATURAL SOILS IF POSSIBLE AND AVOID PLACING IT THROUGH FILL MATERIAL WHEREVER POSSIBLE.
4. ALL RUNOFF MUST DISCHARGE TO THE INLET SIDE OF THE BASIN. DISCHARGE RUNOFF INTO THE BASIN IN A MANNER THAT MINIMIZES EROSION.

SKIMMER BASIN CALCULATION TABLE

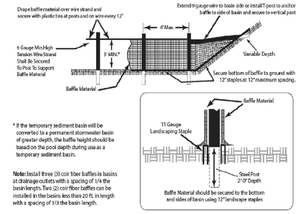
Skimmer No.	Drainage Area ac	Rational C Runoff Coeff.	I_{10} Intensity in/hr	Q_{10} Peak Flow cfs	Required SA (325 x Q_{10}) sf	Provided SA sf	Required Vol (1800cf/ac x DA) cf	Provided Vol cf	Storage Vol Drained cf	Weir Width ft
TSB-1	6.03	0.40	3.06	7.39	2,400	5,772	10,860	34,464	10,860	40.0
TSB-2	1.09	0.40	3.06	1.34	435	13,696	1,969	66,753	1,969	40.0
TSB-3	0.77	0.40	3.06	0.94	305	12,309	1,380	60,873	1,380	40.0
TSB-4	4.14	0.40	3.06	5.06	1,645	6,699	7,445	38,265	7,445	40.0

FAIRCLOTH SKIMMER SIZE CALCULATION

Skimmer No.	Dewatering Time (days)	Skimmer Outflow cf/day	Skimmer Size in	Orifice Diameter in	Orifice Radius in	Barrel Outflow gpm	Barrel Pipe in
TSB-1	3	3,620	2.0	2.1	1.1	18.8	4.0
TSB-2	3	656	1.5	0.9	0.4	3.4	4.0
TSB-3	3	460	1.5	0.7	0.3	2.4	4.0
TSB-4	3	2,482	1.5	1.5	0.8	12.9	4.0

OUTLET PARAMETERS

Skimmer Basin Bottom Elevation ft	Orifice Elevation ft	Temp. Emergency Spillway Elev ft
33.1	33.6	37.1
33.0	33.5	37.0
34.2	34.7	38.2
36.0	36.5	40.0



* If the temporary sediment basin still be converted to a permanent stormwater basin of greater depth, the baffle height should be based on the post depth during use as a temporary sediment basin.

Note: Install three (3) coir fiber baffles in basins at drainage outlets with a spacing of 1/4 the basin length. Two (2) coir fiber baffles can be installed in the basins less than 20 ft. in length with a spacing of 1/3 the basin length.

1 TEMPORARY SKIMMER SEDIMENT BASIN

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

SEAL

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EROSION CONTROL DETAILS

DATE:
MCE PROJ. #
DRAWN
DESIGNED
CHECKED
PROJ. MGR.

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C12.1
DRAWING NUMBER
0
REVISION

STATUS:

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling requirements of the NCG01 Construction General Permit. Failure to properly implement the permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply to every development and the conditions and site characteristics should be

SECTION E: GROUND STABILIZATION

Site Area Description	Required Ground Stabilization Timeframes Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	7 days for slopes greater than 50' in length and with slopes steeper than 4:1 7 days for perimeter dikes, swales, ditches, and perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	7 days for perimeter dikes, swales, ditches, and perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Soil Amendments: Apply lime and fertilizer according to soil test results. Test soil and apply the following if a soil test cannot be obtained:

Temporary Stabilization	Permanent Stabilization
• 1 ton/acre dolomitic limestone • 500 lbs/acre 10-10-10 fertilizer	• 2 tons/acre dolomitic limestone • 1,000 lbs/acre 10-10-10 fertilizer

Seeding: Seed and mulch according to the following:

Temporary Stabilization	Permanent Stabilization
• 1 temporary grass seed covered with straw or other mulches and tackifiers • hydroseeding • Rolled erosion control products with or without temporary seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniformly established ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

Select, implement, and monitor the controls being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.

1. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
2. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and not exceed the target dosage.
3. Provide ponding area for containment of treated Stormwater before discharging offsite.
4. Store flocculants in leak proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Perform routine maintenance to prevent discharge of fluids.
2. *Provide drip pans under any stored equipment.*
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem is corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (including covered receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless there is no other alternatives are reasonably available.
4. Locate waste containers on areas that do not drain directly to a storm drain, stream or wetland. In addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
5. Cover waste containers at the end of each workday and before storm events or construction wastes that may cause adverse impacts to water quality if scattered, dumped or discharged to the storm drain system or receiving surface waters. Liquid waste must be contained in watertight containers.
6. Anchor all lightweight items in waste containers during windy conditions.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose of waste at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint or other liquid wastes into storm drains, streams or wetlands. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available. At a minimum, contain liquid wastes in a controlled area.
2. Contain liquid wastes in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the environmental staff.
3. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drain inlets, streams or wetlands unless there is no alternatives are reasonably available. Locate toilets on a gravel pad and surround with sand bags.
2. Provide stabling or anchoring of portable toilets during periods of high winds or in high use areas.
3. Monitor portable toilets for leaking and properly dispose of leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets during periods of high winds or in high use areas.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen stockpiles and borrow areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed at least 5 feet from the toe of stockpile.
3. Provide additional sediment controls as needed to protect adjacent properties when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as any practice that contains the soil mass so that erosion and subsequent off-site deposition is accelerated. Examples of soil stabilization practices include temporary seeding, permanent seeding, mulching, matting, sodding, preservation of existing vegetation, and combinations of these measures. Soil stockpiles stabilization may also include temporary or permanent covers for soil stockpiles to restrain erosion.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible, near storm drains, creeks or wells. Prevent soil or less into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NORTH CAROLINA *Environmental Quality*

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

2 | NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

PART III

SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. Self-inspections shall be performed by the permittee or a qualified person properly trained personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inches in 24 hours is forecasted by the NOAA National Weather Service, inspections shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday, the permittee shall obtain rainfall amounts from the nearest weather station. Once the on-site rain gauge is made available, record the cumulative rain measurement for those unmonitored days. Days on which no rainfall occurred shall be recorded as a zero. Periods of missed inspections due to inclement weather shall be approved by the Division.
(2) E&SC measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Inspection date and time. 2. Name of person performing inspection. 3. A statement of compliance with the approved plan. 4. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Inspection date and time. 2. Name of person performing inspection. 3. Evidence of pollutant discharges and non-stormwater discharges such as oil sheen, flocking or suspended solids or obstructions. 4. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Inspection date and time. 2. Name of person performing inspection. 3. A statement of compliance with the approved plan. 4. Description, evidence, and date of corrective actions taken.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If a stream or wetland has increased turbidity from the construction activity, photographic documentation of the conditions shall be included in the inspection report. Provide photographs to the Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, demolition, construction, redevelopment, or activity; construction or redevelopment; permanent stabilization). 2. Documentation that the required ground stabilization measures have been initiated within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III

SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They reach surface waters, but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(b) Anticipated bypasses and unanticipated bypasses.

(c) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's 24 hour emergency response personnel at (800) 662-7956, (800) 858-0368 or (910) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee shall conduct turbidity monitoring, inspections or *apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the water quality standards in the receiving stream.*
(b) Oil spills and release of substances per Item (b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Bypasses and unanticipated bypasses (40 CFR 122.41(m)(3))	• ***A report at least ten days before the date of the bypass, if possible.*** The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses (40 CFR 122.41(m)(3))	• ***Within 24 hours***, an oral or electronic notification.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment (40 CFR 122.41(l)(6))	• ***Within 7 calendar days***, a report that contains a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate and prevent *reoccurrence of the noncompliance.* (40 CFR 122.41(l)(6)). • Division staff may waive the requirement for a written report on a case-by-case basis.

SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The permittee shall have the approved E&SC plan available on site during construction activities. The following items pertaining to the E&SC plan shall be documented in the manner described:

Item to Document
(a) Each E&SC Measure has been installed and is being maintained per the design specifications, dimensions and relative elevations shown on the approved E&SC Plan.
(b) A phase of grading has been completed.
(c) Ground cover is scabeo and installed in accordance with the approved E&SC Plan.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.
(e) Corrective actions have been taken to E&SC Measures.

2. Additional Documentation

In addition to the E&SC Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the permittee has requested specific exemption based on unique site conditions that make this requirement not practical:

(a) This general permit as well as the certificate of coverage, after it is received.

(b) Records of inspections made during the previous 30 days. The permittee shall record each inspection and make the records available upon request to the Division of Energy, Mineral and Land Resources or a local delegated authority. Records shall include all the required elements listed in Part III, Section A of this permit. Use of a similar inspection form that includes all the required elements is allowed. Use of electronically-available records in lieu of the required paper copies will be allowed if approved by the Division. Records shall be maintained with the Erosion and Sediment Control plan for the project. The most recent 30 days of inspections shall be shown to provide equal access and utility as the hard-copy records.

(c) All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. (40 CFR 122.41)

NORTH CAROLINA *Environmental Quality*

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

1 | NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

SEAL

SEAL

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EROSION CONTROL DETAILS

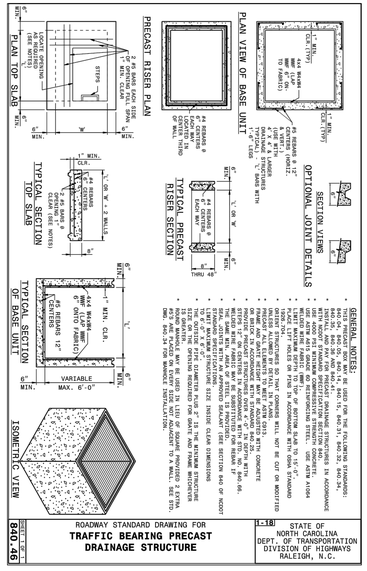
DATE:	
MCE PROJ. #	
DRAWN	
DESIGNED	
CHECKED	
PROJ. MGR.	

SCALE
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VERTICAL: N/A

C12.2
DRAWING NUMBER
0
REVISION

STATUS:

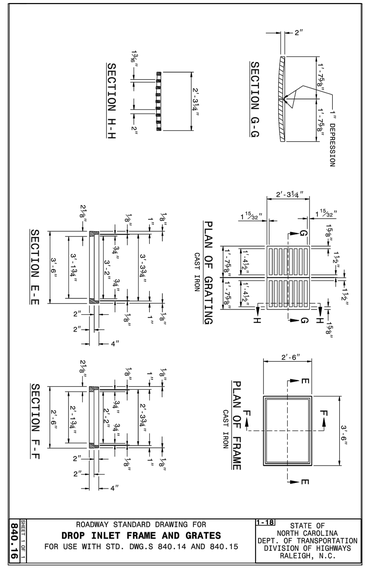
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ROADWAY STANDARD DRAWING FOR
TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE

840.49 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

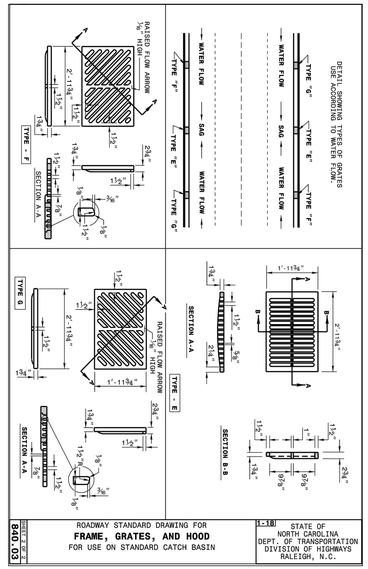
8 NTS



ROADWAY STANDARD DRAWING FOR
DROP INLET FRAME AND GRATES
FOR USE WITH STD. DWG.S 840.14 AND 840.15

840.16 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

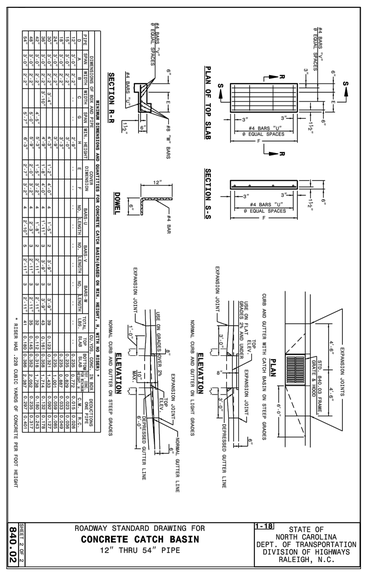
6 NTS



ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

840.03 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

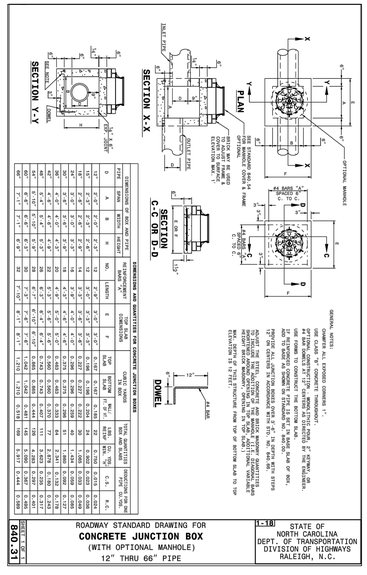
4 NTS



ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

840.02 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

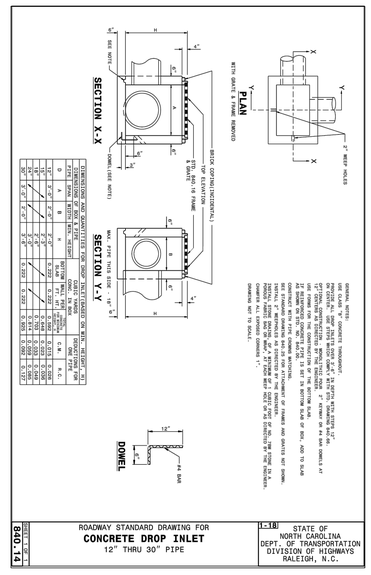
2 NTS



ROADWAY STANDARD DRAWING FOR
CONCRETE JUNCTION BOX
(WITH OPTIONAL MANHOLE)
12" THRU 66" PIPE

840.31 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

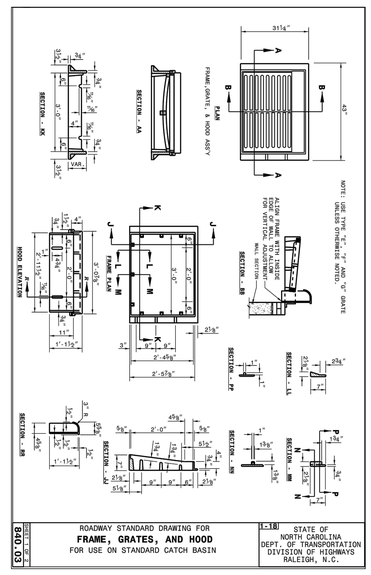
7 NTS



ROADWAY STANDARD DRAWING FOR
CONCRETE DROP INLET
12" THRU 30" PIPE

840.14 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

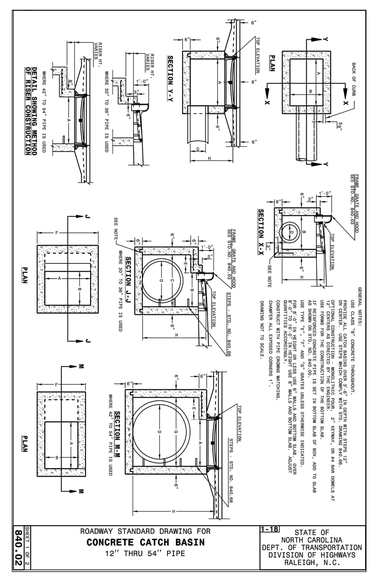
5 NTS



ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

840.03 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

3 NTS



ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

840.02 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1 NTS

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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GRADING AND DRAINAGE DETAILS

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

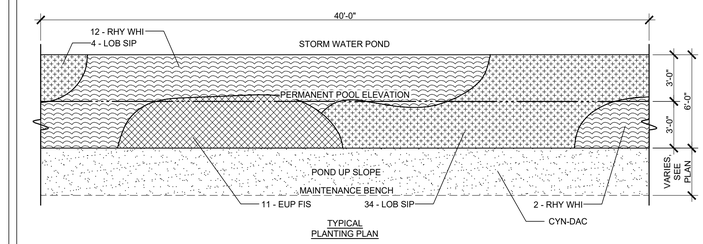
C13.0
DRAWING NUMBER
0
REVISION

STATUS:
PRELIMINARY DESIGN

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SCM ID	LENGTH OF VEGETATIVE SHELF (LF)
SCM 1	
SCM 2	

3 VEGETATIVE SHELF LENGTH BY SCM NTS

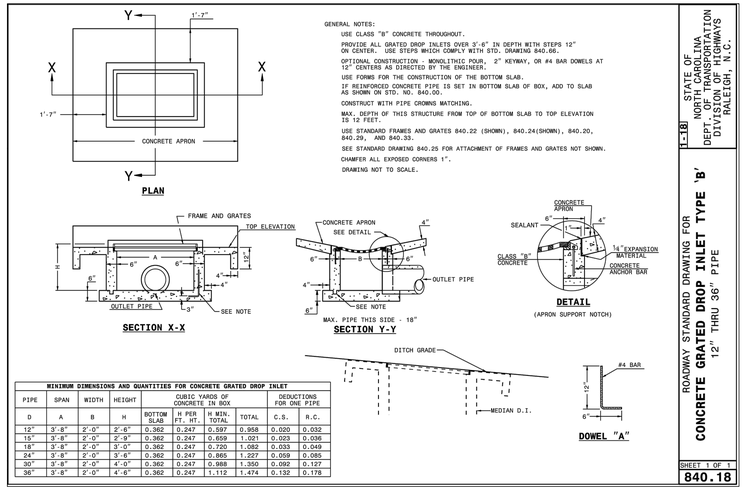


TYPICAL PLANTING PLAN

TYPICAL PLANTING SCHEDULE PER 40' LF

SUBMERSIBLE	CODE	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	QTY
	EUP FIS	EUPATORIADELPHUS FISTULOSUS	JOE PYE WEED	1 GAL.	18"-24" HT.	30" O.C.	11
	LOB SIP	LOBELIA SIPHILITICA	GREAT LOBELIA	5" DEEP PLUG	12"-18" HT.	18" O.C.	38
	RHY WHI	RHYNCHOSPORA COLORATA	STARRUSH WHITETOP	4" POT	12"-18" HT.	36" O.C.	14
GROUND COVERS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**SPACING**		**QTY**
	CYN DAC	CYNODON DACTYLON	BERMUDA GRASS	SEED	3 LBS / 1000 SF		SEE PLAN

2 VEGETATIVE SHELF PLANTING NTS



GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL GRATED DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.29, AND 840.33.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET

PIPE	SPAN	WIDTH	HEIGHT	CUBIC YARDS OF CONCRETE IN BOX				DEDUCTIONS FOR ONE PIPE	
D	A	B	H	BOTTOM SLAB	H PER FT. HT.	H MIN. TOTAL	TOTAL	C.S.	R.C.
12"	3'-8"	2'-0"	2'-6"	0.362	0.247	0.597	0.958	0.020	0.032
15"	3'-8"	2'-0"	2'-9"	0.362	0.247	0.659	1.021	0.023	0.036
18"	3'-8"	2'-0"	3'-0"	0.362	0.247	0.720	1.082	0.033	0.049
24"	3'-8"	2'-0"	3'-6"	0.362	0.247	0.865	1.227	0.059	0.085
30"	3'-8"	2'-0"	4'-0"	0.362	0.247	0.988	1.350	0.092	0.127
36"	3'-8"	2'-0"	4'-6"	0.362	0.247	1.112	1.474	0.132	0.178

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

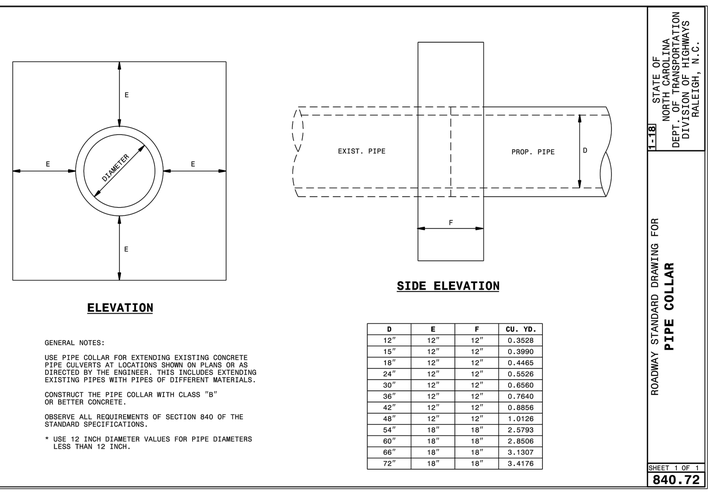
ROADWAY STANDARD DRAWING FOR

CONCRETE GRATED DROP INLET TYPE 'B'
12' THRU 36" PIPE

SHEET 1 OF 1

840.18

4 NTS



D	E	F	CU. YD.
12"	12"	12"	0.3528
15"	12"	12"	0.3990
18"	12"	12"	0.4465
24"	12"	12"	0.5526
30"	12"	12"	0.6560
36"	12"	12"	0.7640
42"	12"	12"	0.8856
48"	12"	12"	1.0126
54"	18"	18"	2.5793
60"	18"	18"	2.8506
66"	18"	18"	3.1307
72"	18"	18"	3.4176

GENERAL NOTES:

USE PIPE COLLAR FOR EXTENDING EXISTING CONCRETE PIPE CULVERTS AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. THIS INCLUDES EXTENDING EXISTING PIPES WITH PIPES OF DIFFERENT MATERIALS.

CONSTRUCT THE PIPE COLLAR WITH CLASS "B" OR BETTER CONCRETE.

OBSERVE ALL REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.

* USE 12 INCH DIAMETER VALUES FOR PIPE DIAMETERS LESS THAN 12 INCH.

1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR

PIPE COLLAR

SHEET 1 OF 1

840.72

1 NTS

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL H

GRADING AND DRAINAGE DETAILS

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

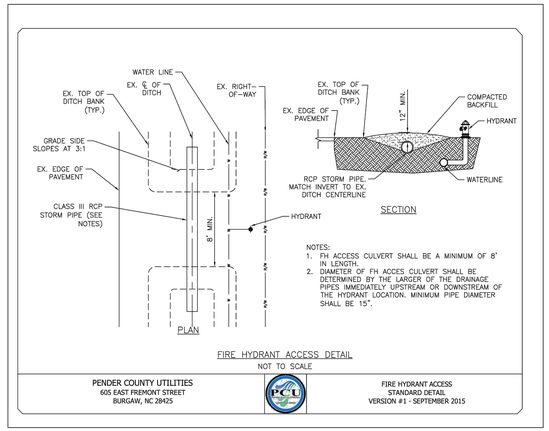
SCALE
HORIZONTAL: N/A
VERTICAL: VSCALE

C13.1
DRAWING NUMBER

REVISION

STATUS: PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\60-DRAWINGS\61_PRODUCTION_SHEETS\2_WORKING_DWGS\C13.0 GRADING AND DRAINAGE DETAILS.DWG — 08/04/2023 10:18:02



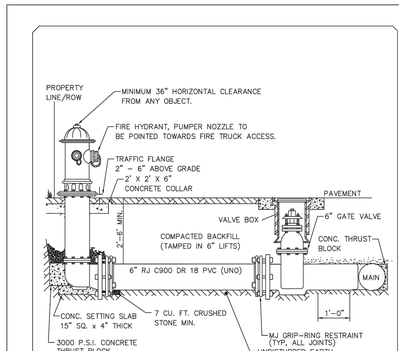
NOTES:
1. FH ACCESS CULVERT SHALL BE A MINIMUM OF 8' IN LENGTH.
2. DIAMETER OF FH ACCES CULVERT SHALL BE DETERMINED BY THE LARGER OF THE DRAINAGE PIPES IMMEDIATELY UPSTREAM OR DOWNSTREAM OF THE HYDRANT LOCATION. MINIMUM PIPE DIAMETER SHALL BE 15".

FIRE HYDRANT ACCESS DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

FIRE HYDRANT ACCESS
STANDARD DETAIL
VERSION #1 - SEPTEMBER 2015

6 NTS



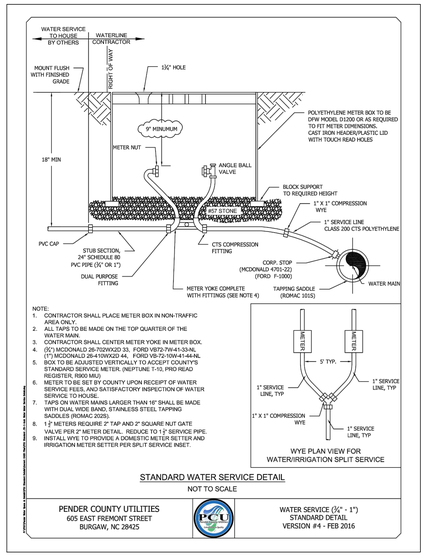
NOTES:
1. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION.
2. FIRE HYDRANTS TO BE LOCATED IN RIGHT-OF-WAY.
3. INSTALL WITH BURY LINE FLUSH TO FINAL GRADE.
4. HYDRANTS TO BE AVK SERIES 2780, MUELLER SUPER CENTURION A423 W/PENDER CO. OPTIONS 981, OR CLOW MEDALLION WITH STAINLESS STEEL STEMS. HYDRANTS SHALL BE NOSTALGIC STYLE DRY BARREL.
5. HYDRANTS TO BE RED WITH SILVER CAPS AND BONNET.

FIRE HYDRANT ASSEMBLY DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

FIRE HYDRANT ASSEMBLY
STANDARD DETAIL
VERSION #2 - APRIL 2016

4 NTS



NOTE:
1. CONTRACTOR SHALL PLACE METER BOX IN NON-TRAFFIC AREA ONLY.
2. ALL TAPS TO BE MADE ON THE TOP QUARTER OF THE WATER MAIN.
3. CONTRACTOR SHALL CENTER METER YOKE IN METER BOX.
4. (¾") MCDONALD 26-702WXD2D 33, FORD VBT2-7W-41-33-NL (1") MCDONALD 26-410WXD2D 44, FORD VB-72-10W-41-44-NL
5. BOX TO BE ADJUSTED VERTICALLY TO ACCEPT COUNTY'S STANDARD SERVICE METER, (NEPTUNE T-10, PRO HEAD REGISTER, R900 MIU)
6. METER TO BE SET BY COUNTY UPON RECEIPT OF WATER SERVICE FEES, AND SATISFACTORY INSPECTION OF WATER SERVICE TO HOUSE.
7. TAPS ON WATER MAINS LARGER THAN 16" SHALL BE MADE WITH DUAL WIDE BAND, STAINLESS STEEL TAPPING SADDLES (ROMAC 202S).
8. 1-½" METERS REQUIRE 2" TAP AND 2" SQUARE NUT GATE VALVE PER 2" METER DETAIL. REDUCE TO 1-½" SERVICE PIPE.
9. INSTALL WYE/LT TO PROVIDE A DOMESTIC METER SETTER AND IRRIGATION METER SETTER PER SPLIT SERVICE INSET.

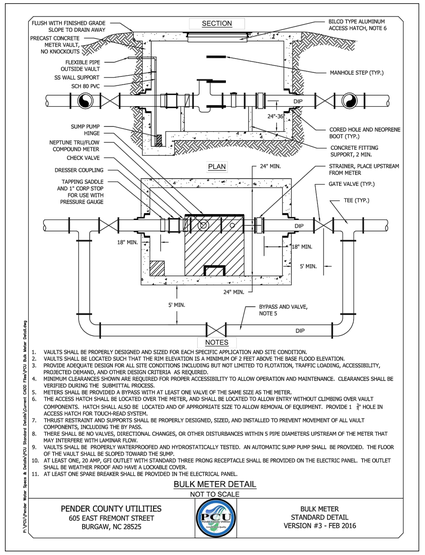
WYE PLAN VIEW FOR WATER/IRRIGATION SPLIT SERVICE

STANDARD WATER SERVICE DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

WATER SERVICE (¾" - 1")
STANDARD DETAIL
VERSION #4 - FEB 2016

2 NTS



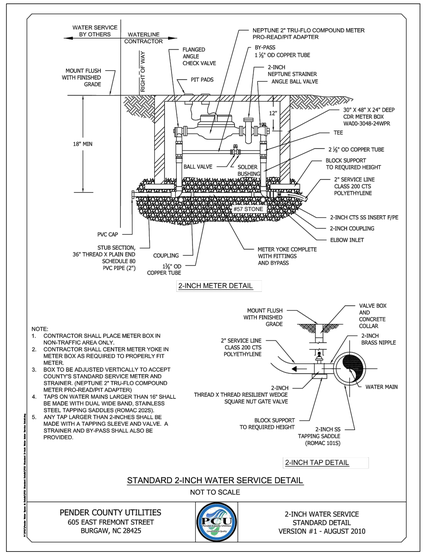
NOTES
1. VAULTS SHALL BE PROPERLY DESIGNED AND SIZED FOR EACH SPECIFIC APPLICATION AND SITE CONDITION.
2. VAULTS SHALL BE LOCATED SUCH THAT THE RIM ELEVATION IS A MINIMUM OF 2 FEET ABOVE THE BASE FLOOD ELEVATION.
3. PROVIDE ADEQUATE DESIGN FOR ALL SITE CONDITIONS INCLUDING BUT NOT LIMITED TO FLOTATION, TRAFFIC LOADING, ACCESSIBILITY, PROJECTED DEMAND, AND OTHER DESIGN CRITERIA AS REQUIRED.
4. MINIMUM CLEARANCES SHOWN ARE REQUIRED FOR PROPER ACCESSIBILITY TO ALLOW OPERATION AND MAINTENANCE. CLEARANCES SHALL BE VERIFIED DURING THE SUBMITTAL PROCESS.
5. METERS SHALL BE PROVIDED A BYPASS WITH AT LEAST ONE VALVE OF THE SAME SIZE AS THE METER.
6. THE ACCESS HATCH SHALL BE LOCATED OVER THE METER, AND SHALL BE LOCATED TO ALLOW ENTRY WITHOUT CLIMBING OVER VAULT COMPONENTS. HATCH SHALL ALSO BE LOCATED AND OF APPROPRIATE SIZE TO ALLOW REMOVAL OF EQUIPMENT. PROVIDE 1 ½" HOLE IN ACCESS HATCH FOR TOUCH-READ SYSTEM.
7. THRUST RESTRAINT AND SUPPORTS SHALL BE PROPERLY DESIGNED, SIZED, AND INSTALLED TO PREVENT MOVEMENT OF ALL VAULT COMPONENTS, INCLUDING THE BY PASS.
8. THERE SHALL BE NO VALVES, DIRECTIONAL CHANGES, OR OTHER DISTURBANCES WITHIN 5 PIPE DIAMETERS UPSTREAM OF THE METER THAT MAY INTERFERE WITH LAMINAR FLOW.
9. VAULTS SHALL BE PROPERLY WATERPROOFED AND HYDROSTATICALLY TESTED. AN AUTOMATIC SUMP PUMP SHALL BE PROVIDED. THE FLOOR OF THE VAULT SHALL BE SLOPED TOWARD THE SUMP.
10. AT LEAST ONE, 20 AMP, GFI OUTLET WITH STANDARD THREE PRONG RECEPTACLE SHALL BE PROVIDED ON THE ELECTRIC PANEL. THE OUTLET SHALL BE WEATHER PROOF AND HAVE A LOCKABLE COVER.
11. AT LEAST ONE SPARE BREAKER SHALL BE PROVIDED IN THE ELECTRICAL PANEL.

BULK METER DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28525

BULK METER
STANDARD DETAIL
VERSION #3 - FEB 2016

5 NTS



2-INCH METER DETAIL

2-INCH TAP DETAIL

NOTE:
1. CONTRACTOR SHALL PLACE METER BOX IN NON-TRAFFIC AREA ONLY.
2. CONTRACTOR SHALL CENTER METER YOKE IN METER BOX AS REQUIRED TO PROPERLY FIT METER.
3. BOX TO BE ADJUSTED VERTICALLY TO ACCEPT COUNTY'S STANDARD SERVICE METER AND STRAINER. (NEPTUNE 2" TRU-FLO COMPOUND METER PRO-READY/T ADAPTER)
4. TAPS ON WATER MAINS LARGER THAN 16" SHALL BE MADE WITH DUAL WIDE BAND, STAINLESS STEEL TAPPING SADDLES (ROMAC 202S).
5. ANY TAP LARGER THAN 2-INCHES SHALL BE MADE WITH A TAPPING SLEEVE AND VALVE. A STRAINER AND BY-PASS SHALL ALSO BE PROVIDED.

STANDARD 2-INCH WATER SERVICE DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

2-INCH WATER SERVICE
STANDARD DETAIL
VERSION #1 - AUGUST 2010

3 NTS

PCU STANDARD NOTES

1. A PRE-CONSTRUCTION MEETING IS REQUIRED BEFORE BEGINNING WORK. THE MEETING MUST BE SCHEDULED WITH PENDER COUNTY UTILITIES (PCU) AT LEAST ONE WEEK IN ADVANCE. ATTENDEES MUST INCLUDE PCU, THE UTILITY CONTRACTOR'S SUPERINTENDENT, THE SUPPLIER, AND THE CONSULTING ENGINEER.
2. ALL MATERIALS USED SHALL CONFORM TO PENDER COUNTY UTILITIES REQUIREMENTS. NON-CONFORMING MATERIAL WILL NOT BE ACCEPTED FOR FINAL CERTIFICATION.
3. ALL PIPE SHALL BE C900 DR18 PVC, UNLESS OTHERWISE NOTED (SEE PCU STANDARD DETAIL). PVC PIPE TO BE SDR 21 WHERE C900 IS UNAVAILABLE. THE USE OF DUCTILE IRON PIPE (DIP) IS REQUIRED UNDER PAVED AREAS. PCU MUST APPROVE THE USE OF DIP IN THE FIELD BEFORE INSTALLATION IN OTHER LOCATIONS.
4. PCU STANDARD WATERLINE PIPE RESTRAINING METHOD IS MJ GRIP RINGS. AT A MINIMUM ALL FITTINGS, VALVES, ETC. MUST BE RESTRAINED (SEE PCU STANDARD DETAIL).
5. PCU MUST INSPECT CASING INSTALLATIONS PRIOR TO BACKFILL. PCU MUST WITNESS PRESSURE TESTS, AND WITHDRAWAL OF BACTERIOLOGICAL SAMPLES. CONTACT PCU UTILITIES INSPECTOR TO SCHEDULE.
6. CLOSE-OUT DOCUMENTS WHICH MUST BE RECEIVED PRIOR TO PCU SIGNING THE NCDEQ PWSS APPLICANT CERTIFICATION INCLUDE: BACTERIOLOGICAL TESTS, PRESSURE TESTS, DEED OF DEDICATION, AFFIDAVIT/RELEASE OF LIENS, WARRANTY, AND RECORD DRAWINGS (PDF & CAD).
7. AN 18-MONTH WARRANTY PERIOD APPLIES TO ALL WATERLINE CONSTRUCTION. THIS WARRANTY PERIOD DOES NOT BEGIN UNTIL FINAL APPROVAL OF THE SYSTEM HAS BEEN RECEIVED FROM NCDEQ PWSS.

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
PO BOX 995, BURGAW, NC 28425

STANDARD NOTES
PCU WATER SYSTEMS
VERSION #3 - APRIL 2022

1 NTS

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	REVISIONS	

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UTILITY DETAILS

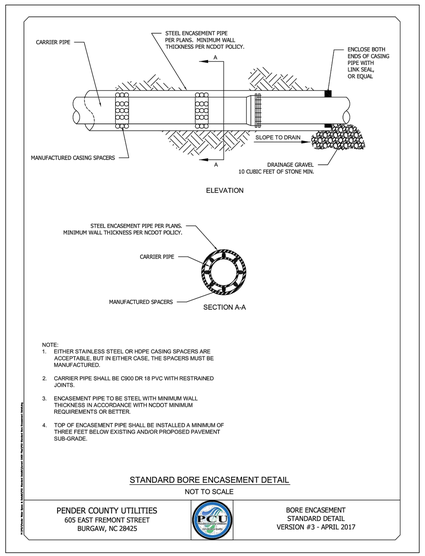
DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C14.0
DRAWING NUMBER
0
REVISION

STATUS: PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C14.0 UTILITY DETAILS.DWG — 08/04/2023 10:18:22



NOTE:
1. EITHER STAINLESS STEEL OR HDPE CASING SPACERS ARE ACCEPTABLE, BUT IN EITHER CASE, THE SPACERS MUST BE MANUFACTURED.
2. CARRIER PIPE SHALL BE C900 DR 18 PVC WITH RESTRAINED JOINTS.
3. ENCASEMENT PIPE TO BE STEEL WITH MINIMUM WALL THICKNESS IN ACCORDANCE WITH NCDOT MINIMUM REQUIREMENTS OR BETTER.
4. TOP OF ENCASEMENT PIPE SHALL BE INSTALLED A MINIMUM OF THREE FEET BELOW EXISTING AND/OR PROPOSED PAVEMENT SUB-GRADE.

STANDARD BORE ENCASEMENT DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

BORE ENCASEMENT
STANDARD DETAIL
VERSION #3 - APRIL 2017

7 NTS

Restrained Length In Feet Each Side of Fitting Joint

PIPE DIAMETER (INCHES)	D. I. P.				P. V. C.			
	90°	45°	22 ½°	11 ¼°	90°	45°	22 ½°	11 ¼°
3"	30'	10'	10'	5'	40'	20'	10'	5'
4"	35'	15'	10'	5'	50'	25'	15'	10'
6"	55'	25'	10'	5'	80'	35'	20'	10'
8"	65'	30'	15'	10'	90'	40'	20'	10'
10"	90'	30'	20'	10'	110'	50'	25'	15'
12"	95	40'	20'	10'	130'	55'	30'	15'
16"	120'	50'	25'	15'	165'	70'	35'	20'
20"	150'	65'	30'	15'	200'	85'	40'	20'
24"	180'	70'	35'	20'	210'	90'	45'	25'
30"	190'	80'	40'	20'	260'	105'	50'	25'
36"	220'	95'	45'	25'	0	0	0	0
42"	240'	100'	50'	25'	0	0	0	0
48"	260'	120'	60'	30'	0	0	0	0

Restrained lengths for valves, dead ends and branches from tees shall be the same as for 90° (degree) bends

Restrained Length In Feet For Reducer

PIPE DIAMETER (INCHES)	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
3"	0	0	0	0	0	0	0	0	0	0
4"	40'	0	0	0	0	0	0	0	0	0
6"	50'	45'	0	0	0	0	0	0	0	0
8"	75'	70'	40'	0	0	0	0	0	0	0
10"	90'	90'	70'	40'	0	0	0	0	0	0
12"	120'	115'	100'	75'	40'	0	0	0	0	0
16"	160'	155'	140'	125'	100'	70'	0	0	0	0
20"	200'	195'	185'	170'	150'	130'	70'	0	0	0
24"	190'	185'	170'	160'	140'	135'	120'	90'	50'	0
30"	195'	190'	185'	180'	170'	160'	130'	105'	70'	0
36"	225'	220'	215'	210'	205'	195'	180'	150'	125'	70'
42"	245'	240'	235'	230'	225'	220'	205'	180'	150'	105'
48"	255'	250'	245'	240'	235'	230'	215'	195'	170'	125'

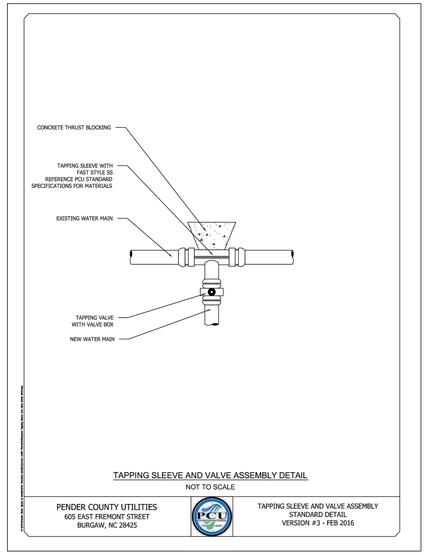
Length of restrained joint for larger diameter pipe

NOTES:
1. PENDER COUNTY STANDARD RESTRAINT METHOD IS MJ "GRIP RING" TYPE. ALL RJ TO BE MJ "GRIP RING" TYPE, UNLESS SPECIFICALLY APPROVED BY PCU IN WRITING.
2. ALL FITTINGS AND JOINTS SHALL BE RESTRAINED JOINT.
3. "L" ABOVE IS GIVEN IN FEET FROM FITTING JOINT.

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

RESTRAINED JOINT TABLE
STANDARD DETAIL
VERSION #1 - OCTOBER 2015

5 NTS

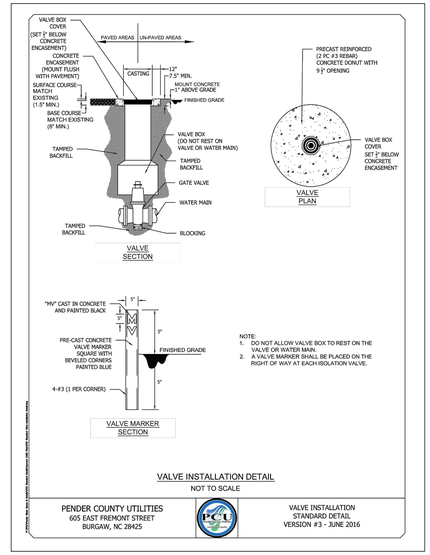


TAPPING SLEEVE AND VALVE ASSEMBLY DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

TAPPING SLEEVE AND VALVE ASSEMBLY
STANDARD DETAIL
VERSION #3 - FEB 2016

3 NTS



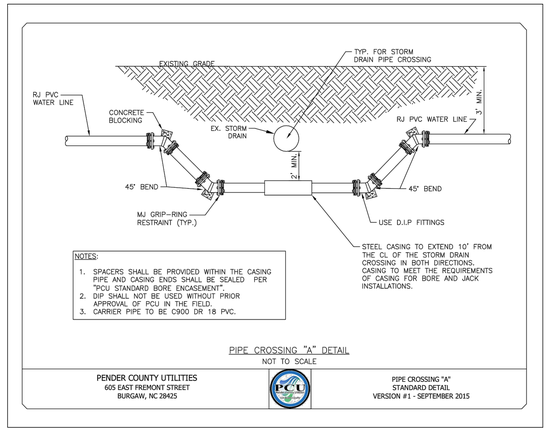
NOTE:
1. DO NOT ALLOW VALVE BOX TO REST ON THE VALVE OR WATER MAIN.
2. A VALVE MARKER SHALL BE PLACED ON THE RIGHT OF WAY AT EACH ISOLATION VALVE.

VALVE INSTALLATION DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

VALVE INSTALLATION
STANDARD DETAIL
VERSION #3 - JUNE 2016

2 NTS



NOTES:
1. SPACERS SHALL BE PROVIDED WITHIN THE CASING PIPE AND CASING ENDS SHALL BE SEALED PER "PCU STANDARD BORE ENCASEMENT".
2. DIP SHALL NOT BE USED WITHOUT PRIOR APPROVAL OF PCU IN THE FIELD.
3. CARRIER PIPE TO BE C900 DR 18 PVC.

PIPE CROSSING "A" DETAIL
NOT TO SCALE

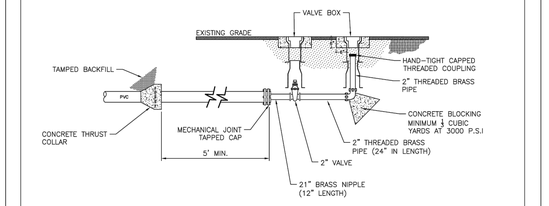
PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

PIPE CROSSING "A"
STANDARD DETAIL
VERSION #1 - SEPTEMBER 2015

6 NTS

NOTE:
1. A BLOW OFF MARKER SHALL BE PLACED ON THE RIGHT OF WAY AT EACH BLOW.
2. BLOW OFF MARKER TO BE SAME DESIGN AS VALVE MARKER EXCEPT DENOTE "BO" ON MARKER RATHER THAN "MV"

NOTES:
1. ALL PVC SHALL BE RESTRAINED PER THE RESTRAINED LENGTH SCHEDULE PROVIDED ELSEWHERE.



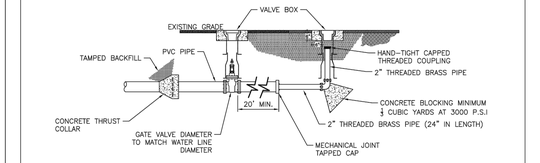
PERMANENT BLOW-OFF ASSEMBLY DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

PERMANENT BLOW-OFF ASSEMBLY
STANDARD DETAIL
VERSION #1 - SEPTEMBER 2015

4 NTS

NOTE:
1. ALL PVC SHALL BE RESTRAINED PER THE RESTRAINED LENGTH SCHEDULE PROVIDED ELSEWHERE.
2. A BLOW OFF MARKER SHALL BE PLACED ON THE RIGHT OF WAY AT EACH BLOW.
3. BLOW OFF MARKER TO BE SAME DESIGN AS VALVE MARKER EXCEPT DENOTE "BO" ON MARKER RATHER THAN "MV"



TEMPORARY BLOW-OFF ASSEMBLY DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

TEMPORARY BLOW-OFF ASSEMBLY
STANDARD DETAIL
VERSION #1 - SEPTEMBER 2015

1 NTS

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL H

UTILITY DETAILS

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: N/A
VERTICAL: VSCALE

C14.1
DRAWING NUMBER

REVISION

STATUS: PRELIMINARY DESIGN

I:\04245\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C14.0 UTILITY DETAILS.DWG — 08/04/2023 10:18:27

THERMOPLASTIC PAVEMENT MARKING MATERIALS

PAVEMENT MARKING LINES

---------- THERMOPLASTIC (4", 90 mils)

---------- THERMOPLASTIC (4", 90 mils)

T4 - 3 FT. - 9FT. /SP WHITE MINISKIP

T2 - WHITE SOLID LANE LINE

T13 - YELLOW DOUBLE CENTER LINE

---------- THERMOPLASTIC (4", 90 mils)

T42 - YELLOW DIAGONAL

---------- THERMOPLASTIC (8", 90 mils)

T61 - WHITE STOP BAR

PAVEMENT MARKING SYMBOLS

---------- THERMOPLASTIC (90 mils)

T70 - LEFT TURN ARROW

T71 - RIGHT TURN ARROW

T72 - STRAIGHT ARROW

T74 - COMBO. RIGHT/STRAIGHT ARROW

CRYSTAL / RED PAVEMENT MARKER NCDOT 1253.01 (SNOWPLOWABLE)

NOTES:

PAVEMENT MARKINGS:
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS. PAVEMENT MARKINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL HAVE THE PAVEMENT MARKINGS PRE-MARKED, INSPECTED, AND APPROVED BY NCDOT PERSONNEL PRIOR TO THE PLACEMENT OF FINAL PAVEMENT MARKINGS.

SIGNING:
ALL TRAFFIC SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). SIGN POST INSTALLATION SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS.

TRAFFIC CONTROL:
TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS AND THE TRAFFIC CONTROL PLANS INCLUDED HEREIN.

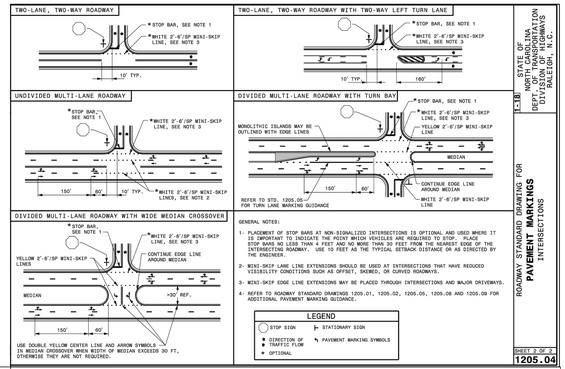
NOTES:

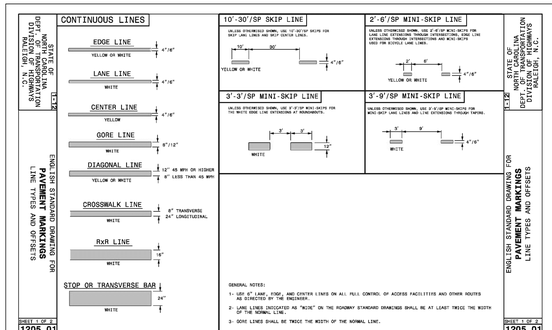
1. NC HIGHWAY 130 (HOLDEN BEACH ROAD) SPEED LIMIT IS 55 MPH.
2. PAVEMENT SECTION FOR TURN LANE SHALL BE 5.5" B25.0C, 3" I 19.0C, AND 1.5" SF9.5C.

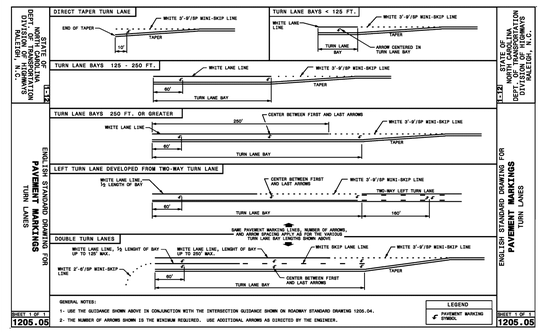
EXISTING TRAFFIC LANE DIRECTIONAL ARROW (i.e. LEFT, THRU, RIGHT)

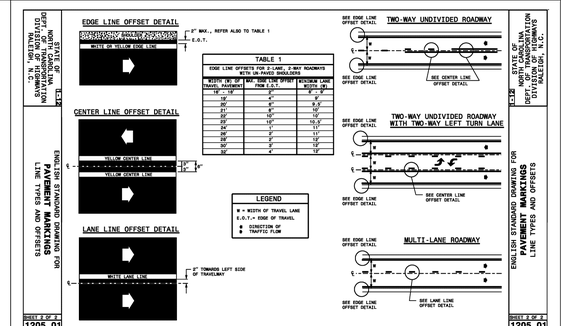
PROPOSED TRAFFIC LANE DIRECTIONAL ARROW (i.e. LEFT, THRU, RIGHT)

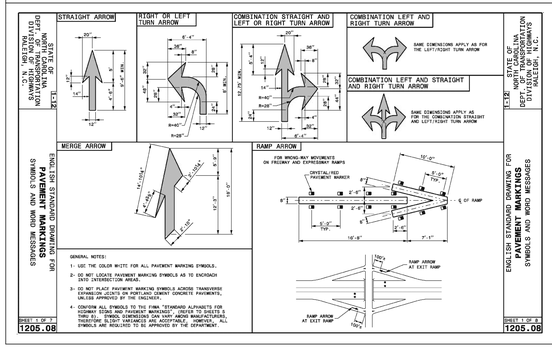
TEMPORARY LANE CLOSURE VALUES	
MINIMUM "L"	660'
SIGHT STOPPING DISTANCE	495'
BUFFER	290'
BARRIER FLARE	12:1
WARNING SIGN SPACING	500'

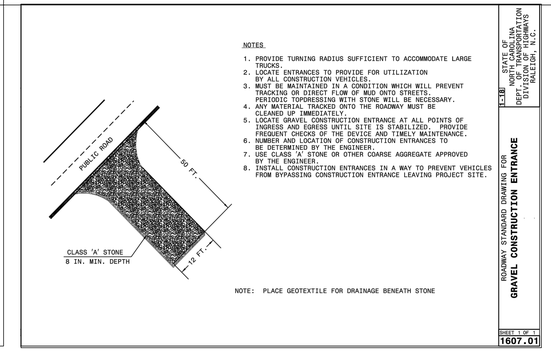


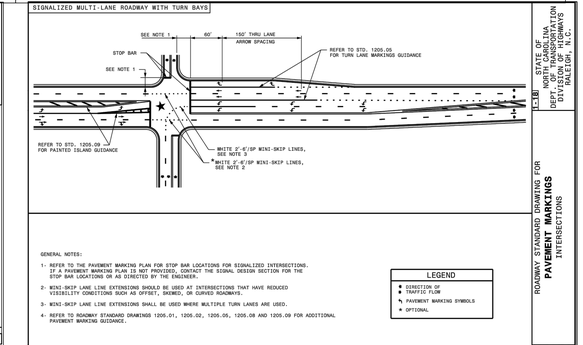












1	NCDOT DETAILS	NTS

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

SEAL

SEAL

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

D·R·HORTON® DHI Listed NYSE
America's Builder

BLAKE FARM PARCEL H

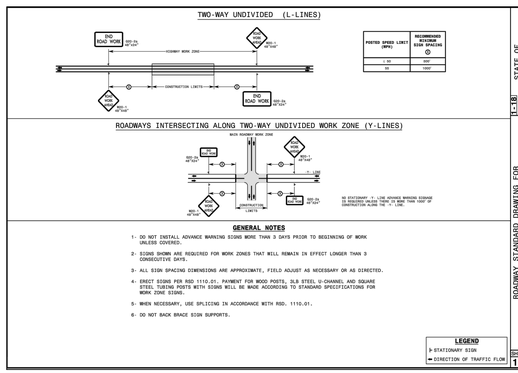
NCDOT DETAILS

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C15.0
DRAWING NUMBER
0
REVISION

STATUS:
PRELIMINARY DESIGN



POSTED SPEED LIMIT (MPH)	RECOMMENDED SPACING OF SIGN SPACING D
≤ 35	350'
40	500'

NO STATIONARY Y-LINE ADVANCE WARNING SIGNAGE IS REQUIRED UNLESS THERE IS MORE THAN 1000' OF UNPROTECTED ROAD THE Y-LINE.

GENERAL NOTES

1- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

2- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT LONGER THAN 3 CONSECUTIVE DAYS.

3- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.

4- ERECT SIGNS PER RSD 1110.01. PAVMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATIONS FOR WORK ZONE SIGNS.

5- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH RSD. 1110.01.

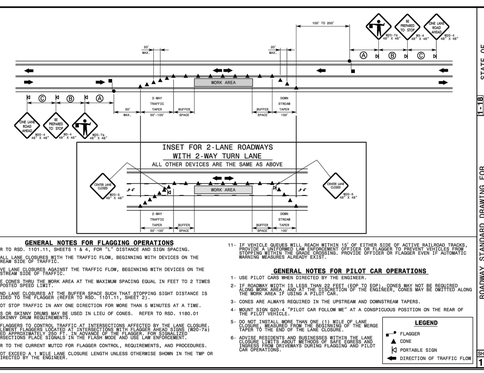
6- DO NOT BACK BRACE SIGN SUPPORTS.

LEGEND
▶ STATIONARY SIGN
⟵ DIRECTION OF TRAFFIC FLOW

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ROADWAY STANDARD DRAWING FOR
WORK ZONE ADVANCE WARNING SIGNS FOR TWO WAY UNDIVIDED FACILITIES

SHEET 3 OF 3
1101.01



GENERAL NOTES FOR FLAGGING OPERATIONS

1- REFER TO RSD. 1101.11, SHEETS 1 & 4, FOR "L" DISTANCE AND SIGN SPACING.

2- INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.

3- REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.

4- PLACE SIGNS TURN THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.

5- EXTEND THE BUFFER SPACE AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO FLAGGER (REFER TO RSD. 1101.11, SHEET 2).

6- DO NOT STOP TRAFFIC IN ANY ONE DIRECTION FOR MORE THAN 5 MINUTES AT A TIME.

7- SIGNS ON PORTABLE STANDS MAY BE USED IN LIEU OF CONES. REFER TO RSD. 1180.01 FOR SKINNY DRUM SPECIFICATIONS.

8- USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE. PLACE ADVANCE FLAGGER LOCATED AT INTERSECTIONS WITH FLAGGER AHEAD SIGNS (W20-7A) SO THAT THEY ARE VISIBLE TO ALL APPROACHING TRAFFIC. FLAGGERS AT INTERSECTIONS PLACE HIMSELF IN "ON PLANE MODE AND USE LAW ENFORCEMENT.

9- REFER TO THE CURRENT MUTCD FOR FLAGGER CONTROL, REQUIREMENTS, AND PROCEDURES.

10- DO NOT EXCEED A 1 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

11- IF VEHICLE QUEUED WILL REACH WITHIN 1/2 OF EITHER SIDE OF ACTIVE RAILROAD TRACKS CROSSING, CONTACT THE RAILROAD COMPANY TO REQUEST FLAGGERS BE PLACED AT THE CROSSING WITHIN THE WORK ZONE. PROVIDE DIVISION OR FLAGGER EVAL IF "ACTIVATED" WARNING MEASURES ALREADY EXIST.

GENERAL NOTES FOR PILOT CAR OPERATIONS

1- USE PILOT CARS WHEN DIRECTED BY THE ENGINEER.

2- IF ADVISORY SPEED 15 MPH SIGNS OF LESS (SEE "D" DISTANCE) ARE NOT BE REQUIRED. IF ADVISORY SPEED 15 MPH SIGNS OF LESS ARE REQUIRED, SPEEDS MAY BE RESTRICTED ALONG THE WORK AREA TO USING A PILOT CAR.

3- CONES ARE ALWAYS REQUIRED IN THE UPSTREAM AND DOWNSTREAM TAPERS.

4- MOUNT SIGN W20-6 "PILOT CAR FOLLOW ME" AT A CONSPICUOUS POSITION ON THE REAR OF THE PILOT VEHICLE.

5- DO NOT INSTALL MORE THAN ONE (1) MILE OF LANE CLOSURE BEFORE THE TAPER AT THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

6- ADVISE MOTORISTS AND BICYCLISTS TO DISMOUNT AND WALK THROUGH THE WORK AREA WITHOUT PILOT CAR. FLAGGERS ARE TO ASSIST BICYCLISTS DURING FLAGGING AND PILOT CAR OPERATIONS.

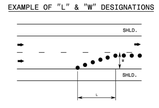
LEGEND
▶◀ FLAGGER
▲ CONE
▭ PORTABLE SIGN
⟵ DIRECTION OF TRAFFIC FLOW

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ROADWAY STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
2-LANE, 2-WAY ROADWAY-1 LANE CLOSED

SHEET 1 OF 14
1101.02

EXAMPLE OF "L" & "W" DESIGNATIONS



TAPER LENGTH CRITERIA FOR
CHANNELIZING DEVICES IN WORK ZONES

TYPES OF TAPERS (DEVICE USED)	TAPER LENGTH
ONE LANE SHIFTING TAPER	½ L MINIMUM
SHOULDER TAPER	⅓ L MINIMUM
TWO-WAY TRAFFIC TAPER	.50 - 100 FOOT MAXIMUM
CONSECTIVE TAPER	100 FOOT MAXIMUM

DO NOT INTRODUCE A MERGING OR SHIFTING TAPER WITHIN A CURVE OF THE ROADWAY

QUICK REFERENCE - "L" DISTANCE TABLE

MINIMUM LONGITUDINAL DISTANCE "L" (FEET) TRAVERSE TAPERING

POSTED SPEED (MPH)	LATERAL WIDTH "W" (FEET) 1	2	3	4	5	6	7	8	9	10	11	12
30	10	15	20	30	35	40	50	55	60	70	75	80
35	15	25	35	45	55	65	75	85	95	105	115	125
40	15	30	45	60	75	90	105	120	135	150	165	180
45	20	45	65	90	110	135	155	180	200	225	245	270
50	30	50	80	110	135	165	190	220	245	275	300	330
55	45	90	135	180	225	270	315	360	405	450	495	540
60	60	120	180	240	300	360	420	480	540	600	660	720
65	65	130	195	260	325	390	455	520	585	650	715	780
70	70	140	210	280	350	420	490	560	630	700	770	840

GENERAL NOTES

1- TABLE FOR "L" DISTANCE IS BASED ON CHANNELIZATION TAPER FORMULA FROM THE MUTCD. WHERE:

SPEED LIMIT	FORMULA
40 MPH OR LESS	$L_{min} = \frac{W \times S^2}{60}$
45 MPH OR GREATER	$L_{min} = W \times S$

L = MINIMUM TAPER LENGTH IN FEET (LONGITUDINAL DISTANCE)
W = WIDTH OF OFFSET IN FEET (LATERAL DISTANCE)
S = SPEED LIMIT IN MPH OR 85TH PERCENTILE SPEED IN MPH PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH

2- "L" DISTANCE IS FOR APPLICATION WITH CHANNELIZING DEVICE AND PAVEMENT MARKING TAPERS AND TRANSITIONS. CHANNELIZING DEVICES INCLUDE DRUMS, CONES, TUBULAR MARKERS, BARRICADES, RAISED ASPHALT ISLANDS, AND VERTICAL PANELS.

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ROADWAY STANDARD DRAWING FOR
TRAFFIC CONTROL DESIGN TABLES
"L" DISTANCE AND CHANNELIZING DEVICE TAPER CRITERIA

SHEET 1 OF 4
1101.11

DESIGN SPEED (MPH)	MINIMUM SIGHT DISTANCE: STOPPING SIGHT DISTANCE (FEET)	MINIMUM SIGHT DISTANCE: PASSING SIGHT DISTANCE (FEET)	MINIMUM LONGITUDINAL BUFFER SPACE (FEET)
30	200	1090	85
35	250	1090	120
40	305	1470	155
45	360	1625	195
50	425	1835	240
55	495	1965	290
60	570	2135	345
65	645	2285	405
70	730	2490	470
75	820	2580	540
80	910	2680	615

GENERAL NOTES

1- TABLES ARE BASED ON THE AASHTO GREEN BOOK "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". MINIMUM SIGHT DISTANCE VALUES ARE FOR PASSENGER CAR VEHICLES ON WET AND LEVEL ROADWAYS. CONSULT THE AASHTO GREEN BOOK TO MAKE FINAL DETERMINATION OF STOPPING SIGHT DISTANCE REQUIREMENTS.

2- BUFFER SPACE TABLE IS BASED ON THE BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS.

3- USE OF STOPPING SIGHT DISTANCE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE FOR TRAFFIC APPROACHING A LANE CLOSURE. PROVIDE 2-LANE, 2-WAY ROADWAYS STOPPING SIGHT DISTANCE TO THE FLAGGER. FOR LANE CLOSURES ON MULTILANE ROADWAYS PROVIDE STOPPING SIGHT DISTANCE TO THE BEGINNING OF THE LANE CLOSURE MERGE TAPER, OR FLASHING ARROW BOARD. EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED.

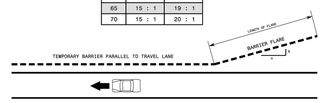
4- USE OF MINIMUM PASSING SIGHT DISTANCE TABLE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE REQUIREMENTS FOR PLACEMENT OF PAVEMENT MARKING PASSING/NO-PASSING ZONES FOR 2-LANE, 2-WAY ROADWAYS.

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ROADWAY STANDARD DRAWING FOR
TRAFFIC CONTROL DESIGN TABLES
BUFFER SPACE & SIGHT DISTANCE

SHEET 2 OF 4
1101.11

TEMPORARY BARRIER FLARE RATES		
POSTED SPEED LIMIT (MPH)	UNANCHORED (A:B)	ANCHORED (A:B)
≤ 30	7 : 1	8 : 1
35	8 : 1	9 : 1
40	8 : 1	10 : 1
45	10 : 1	12 : 1
50	11 : 1	14 : 1
55	12 : 1	16 : 1
60	14 : 1	18 : 1
65	15 : 1	19 : 1
70	15 : 1	20 : 1



GENERAL NOTES

1- REFER TO THE 2011 ROADSIDE DESIGN GUIDE OR THE LATEST EDITION.

2- A BARRIER IS CONSIDERED FLARED WHEN IT IS NOT PARALLEL TO THE EDGE OF THE TRAVELWAY.

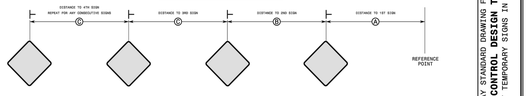
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ROADWAY STANDARD DRAWING FOR
TRAFFIC CONTROL DESIGN TABLES
TEMPORARY BARRIER FLARE RATES

SHEET 3 OF 4
1101.11

ADVANCE WARNING SIGN SPACING CHART			
POSTED SPEED LIMIT (MPH)	RECOMMENDED DISTANCE BETWEEN SIGNS (FEET) A	B	C
≤ 35	350	350	350
40-50	350	350	500
55	350	350	500
CONTROLLED ACCESS ROADS (≥ 55)	1350	1500	2700

STATIONARY OR PORTABLE SIGNS



GENERAL NOTES

1- REFER TO 2009 MUTCD OR THE LATEST EDITION.

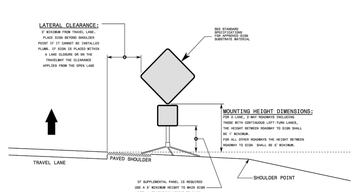
2- USE THIS STANDARD DRAWING IN CONJUNCTION WITH OTHER TRAFFIC CONTROL ROADWAY STANDARD DRAWINGS WHERE SIGN SPACING DISTANCES A, B, C, ARE SPECIFIED.

3- APPLY THE ADVANCE WARNING SIGN SPACING CHART WHERE A SERIES OF 2 OR MORE SIGNS ARE USED. ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE. FIELD ADJUST AS VARIOUS CONDITIONS OCCUR, SUCH AS LIMITED SIGHT DISTANCE, OBSTRUCTION INTERFERENCE, ETC.

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ROADWAY STANDARD DRAWING FOR
TRAFFIC CONTROL DESIGN TABLES
SPACING OF TEMPORARY SIGNS IN SERIES

SHEET 4 OF 4
1101.11



GENERAL NOTES

1- DIMENSIONS SHOWN ARE MINIMUM VALUES. MOUNT SIGNS SO THEY WILL BE CLEARLY VISIBLE TO APPROACHING TRAFFIC EVEN WHEN SIGNS ARE MOUNTED BEHIND TRAFFIC CONTROL DEVICES SUCH AS DRUMS, BARRIER, OR OTHER OBJECTS.

2- ALL PORTABLE SIGNS AND STANDS MUST MEET OR EXCEED THE REQUIREMENTS OF NCHRP 350 FOR CATEGORY II DEVICES. USE PORTABLE WORK ZONE SIGNS AND STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER.

3- ALL PORTABLE WORK ZONE SIGNS AND STANDS MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCTS LIST.

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ROADWAY STANDARD DRAWING FOR
PORTABLE WORK ZONE SIGNS
MOUNTING HEIGHT & LATERAL CLEARANCE

SHEET 1 OF 1
1110.02

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER OR NCDOT.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER OR NCDOT.

PROJECT NOTES

A. DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

B. REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.

C. WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

D. WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

E. WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITH THE CLOSED TRAVEL LANE.

F. DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

G. BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER.

H. DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 350 FEET IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

SIGNING

I. INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

J. ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

K. INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 100 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

L. INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION, PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET TEMPORARY BARRIER UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

I INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

M. PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS:

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45-50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

MISCELLANEOUS

N. NCDOT ROADS ONLY: PRIOR TO OPENING ANY LANE OF TRAFFIC THE ROAD SHALL BE REPAIRED TO NCDOT STANDARDS. THIS WILL INCLUDE, BUT IS NOT LIMITED TO:
-- NCDOT APPROVED PRODUCTS AND MATERIALS.
-- PROPER COMPACTION OF MATERIALS.
-- REPAIR ASPHALT PER NCDOT STANDARD DRAWING 654.01.
-- ANY DAMAGE CAUSED AS A RESULT TO THE CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE APPLICANT/DEVELOPER TO RESOLVE.

TRAFFIC PATTERN ALTERATIONS

O. NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

TRAFFIC CONTROL DEVICES

P. SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. WHEN LANE CLOSURES ARE NOT IN EFFECT WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.

Q. PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

R. PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES (DRUMS, CONES OR SKINNY DRUMS) PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

S. ONLY UNIFORMED POLICE OFFICERS SHALL DIRECT TRAFFIC THROUGH SIGNALIZED INTERSECTIONS. THE TRAFFIC SIGNAL MAY BE PUT INTO FLASHING OPERATION OR MAY REMAIL IN NORMAL OPERATION AT THE DISCRETION OF THE OFFICER.

OFFICERS SHALL BE PROPERLY ATTIRED AND SHALL DIRECT TRAFFIC WITH HAND MOTIONS. FLASHLIGHTS WITH RED CONES SHOULD BE USED AT NIGHT. OFFICERS MAY ALSO USE A WHISTLE TO SIGNAL WHEN THEY ARE CHANGING THE DIRECTION OF THE RIGHT OF WAY.

STANDARDS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

- 903.10 - GROUND MOUNTED SIGN SUPPORTS
- 904.10 - ORIENTATION OF GROUND MOUNTED SIGNS
- 940.50 - MOUNTING OF TYPE "D", "E", AND "F" SIGNS ON "U" CHANNEL POSTS
- 1101.01 - WORK ZONE WARNING SIGNS
- 1101.02 - TEMPORARY LANE CLOSURES
- 1101.04 - TEMPORARY SHOULDER CLOSURES
- 1101.11 - TRAFFIC CONTROL DESIGN TABLES
- 1110.01 - STATIONARY WORK ZONE SIGNS
- 1110.02 - PORTABLE WORK ZONE SIGNS
- 1130.01 - DRUMS
- 1135.01 - CONES
- 1150.01 - FLAGGING DEVICES
- 1180.01 - SKINNY - DRUM

1 NCDOT DETAILS NTS

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL H

NCDOT DETAILS

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

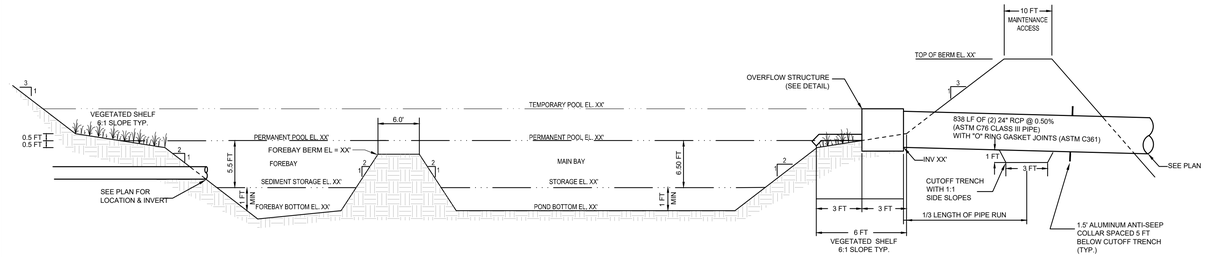
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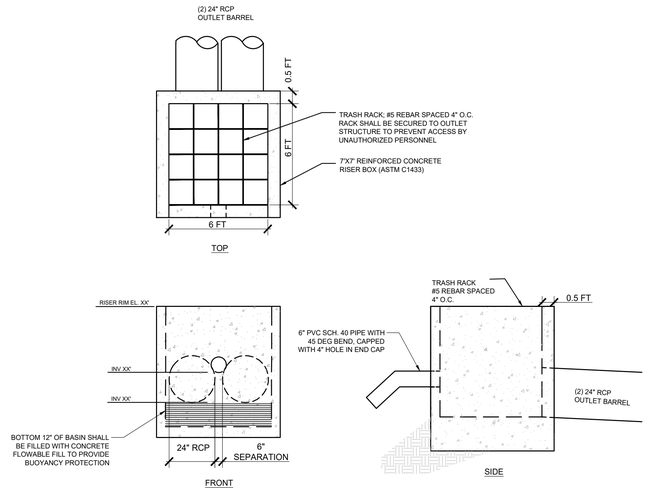
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STATUS: PRELIMINARY DESIGN

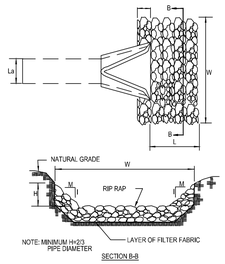
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2 FOREBAY AND STORAGE POND SECTION NTS



3 OUTLET STRUCTURE NTS



NOTES

1. SEE OUTLET PROTECTION TABLE BELOW FOR RIP-RAP DIMENSIONS AND CLASSES.
2. RIP-RAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.
3. THERE SHALL BE NO OVERFLOW FROM THE END OF THE APRON TO THE SURFACE OF THE RECEIVING CHANNEL. THE AREA TO BE PAVED OR RIPRAPPED SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL. THE APRON SHALL HAVE A CUTOFF OR TOE WALL AT THE DOWNSTREAM END.
4. THE WIDTH OF THE END OF THE APRON SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL. MAXIMUM TAPER TO RECEIVING CHANNEL 5:1
5. ALL SUBGRADE FOR STRUCTURE TO BE COMPACTED TO 95% OR GREATER.
6. THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.
7. NO BENDS OR CURVES IN THE HORIZONTAL ALIGNMENT OF THE APRON WILL BE PERMITTED.
8. **RIP RAP IS SIZED FOR THE 25-YEAR STORM EVENT.**

4 RIPRAP APRON OUTLET NTS

STORM ELEVATIONS

WET POND

1.5" STORM = XX'

DESIGN STORM

1-YEAR = XX'

10-YEAR = XX'

25-YEAR = XX'

100-YEAR = XX'



1 SCM 1 PLAN VIEW 1" = 50'

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SCM WET POND 1 DETAILS

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

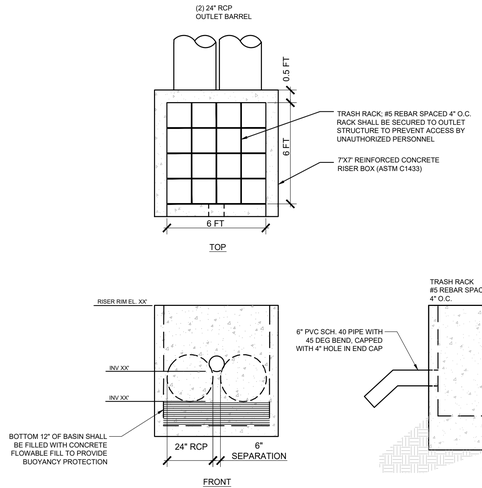
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HORIZONTAL: 1"=100'
VERTICAL: VSCALE

C16.0
DRAWING NUMBER

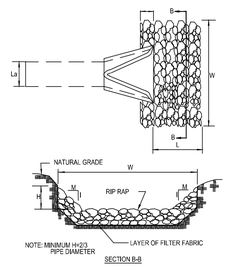
REVISION

STATUS: PRELIMINARY DESIGN

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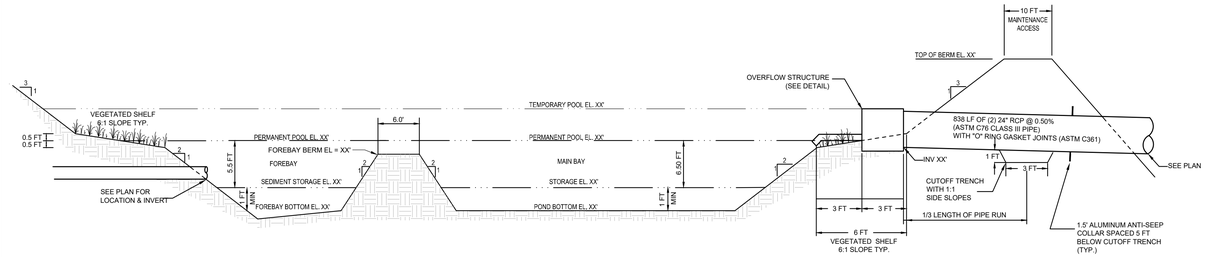
3 | OUTLET STRUCTURE | NTS



NOTES

1. SEE OUTLET PROTECTION TABLE BELOW FOR RIP-RAP DIMENSIONS AND CLASSES.
2. RIP-RAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.
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6. THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.
7. NO BENDS OR CURVES IN THE HORIZONTAL ALIGNMENT OF THE APRON WILL BE PERMITTED.
8. **RIP RAP IS SIZED FOR THE 25-YEAR STORM EVENT.**

4 | RIPRAP APRON OUTLET | NTS



2 | FOREBAY AND STORAGE POND SECTION | NTS

STORM ELEVATIONS

WET POND

1.5" STORM = XX'

DESIGN STORM

1-YEAR = XX'

10-YEAR = XX'

25-YEAR = XX'

100-YEAR = XX'



1 | SCM 2 PLAN VIEW | 1" = 30'

REV NO.	DESCRIPTIONS	DATE

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SCM WET POND 2 DETAILS

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1"=100'
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C16.1
DRAWING NUMBER

REVISION

STATUS: PRELIMINARY DESIGN

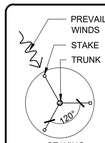
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1. ALL EXISTING VEGETATION THAT IS USED TO MEET LANDSCAPING REQUIREMENTS, ALL REQUIRED PLANTED LIVING MATERIAL, AND ALL REQUIRED BERMS SHALL BE MAINTAINED BY THE OWNER OF THE PROPERTY ON A CONTINUING BASIS. ANY PLANTED MATERIAL WHICH BECOMES DAMAGED OR DISEASED OR DIES SHALL BE REPLACED BY THE OWNER WITHIN 60 DAYS OF THE OCCURRENCE OF SUCH CONDITION. IF, IN THE OPINION OF THE ZONING ADMINISTRATOR THERE ARE SEASONAL CONDITIONS WHICH WILL NOT PERMIT THE TIMELY REPLACEMENT OF THE VEGETATION (E.G. TOO HOT OR TOO COOL FOR SUCCESSFUL REPLANTING) THIS REQUIREMENT MAY BE ADMINISTRATIVELY WAIVED UNTIL A TIME CERTAIN WHEN THE REPLANTING WOULD BE SUCCESSFUL.
2. VERIFICATION OF TOTAL LANDSCAPE MATERIAL QUANTITIES AS SHOWN ON THE LANDSCAPE PLANS AND IN THE PLANT SCHEDULE SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR. THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO FINAL BIDDING OR INSTALLATION.
3. ALL PLANTING TYPES SHALL COMPLY WITH LOCAL GOVERNING CODES AND REGULATIONS, CONFORM TO REQUIREMENTS OF PLANT LIST AND TO THE AMERICAN ASSOCIATION OF NURSERYMEN "AMERICAN STANDARD OF NURSERY STOCK" AND "HORTICULTURAL STANDARDS" AS TO SPECIES, AGE, SIZE, AND PLANTING RECOMMENDATIONS.
4. LANDSCAPE MATERIAL PLACED IN PREPARED HOLES SHALL BE PROPERLY BACKFILLED PRIOR TO THE END OF THE WORKING DAY.
5. ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
6. LANDSCAPE ARCHITECT SHALL APPROVE ANY ON-SITE PLANT STORAGE AREA FOR ACCESSIBILITY, SHADE CONDITIONS, HEALING-IN MULCH MATERIAL AND TEMPORARY WATERING METHODS.
7. ALL ROPE AND WRAPPING TWINE SHALL BE CUT AND REMOVED FROM AROUND THE UPPER PARTS OF THE ROOT BALL. METAL BASKET WIRES AND BURLAP SHALL BE PULLED BACK AND TUCKED UNDER THE EDGES OF THE SAUCER RINGS ON ALL TREES AND LARGE SHRUBS. ALL SYNTHETIC BURLAP SHALL BE REMOVED FROM PLANT BALLS PRIOR TO BACK FILLING.
8. ALL PLANT BEDS OR RAISED SAUCER RINGS SHALL BE EDGED WITH SMOOTH, CONTINUOUS CURVES.
9. ALL PLANT MATERIAL SHALL BE PLANTED AT HEIGHTS AND WIDTHS AS ILLUSTRATED IN PLANTING DETAILS.
10. TREE GUYING SHALL BE PERFORMED WITHIN A WEEK OF PLANTING. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TREE GUYING STRAPPING AND STAKES AFTER THE FIRST FULL GROWING SEASON OR ONE YEAR, WHICH EVER COMES FIRST.
11. CONTRACTOR SHALL VERIFY LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO PLANTING.
12. ANY EXPOSED OR UNCOVERED LINES SHALL BE SHOWN TO GENERAL CONTRACTOR PRIOR TO BACKFILLING.
13. ALL PLANT BEDS AND RAISED SAUCER RINGS SHALL BE GRADED TO PROVIDE ADEQUATE DRAINAGE AND SHALL BE MULCHED AS SPECIFIED.
14. ALL MATERIALS, PLANTING AND LANDSCAPE WORK SHALL CONFORM TO THE CURRENT MUNICIPAL AUTHORITIES STANDARD SPECIFICATIONS AND DETAILS.
15. ALL LANDSCAPE AREAS THAT ARE NOT PLANTED, MULCHED OR PAVED SHALL BE SEEDED OR SODDED.
16. FIRST YEAR PRUNING OF TREE CROWN SHALL BE LIMITED TO REMOVAL OF DEAD & DAMAGED WOOD.
17. TREE PROTECTION FENCE SHALL BE INSTALLED, INSPECTED AND APPROVED PRIOR TO CLEARING, GRADING AND CONSTRUCTION ACTIVITY OR ISSUANCE OF ANY RELATED PERMITS. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
18. MULCH LINE SHALL CONSIST OF SMOOTH CONTINUOUS CURVES.
19. ALL TREES NOT WITHIN A PLANT BED SHALL BE TREATED WITH A 6' DIAMETER MULCH RING TYPICAL, UNLESS OTHERWISE INDICATED ON THE PLANTING PLANS.
20. TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.
21. SUBSTITUTIONS OF PLANT MATERIALS SPECIFIED CAN ONLY OCCUR WITH PRIOR APPROVAL BY LANDSCAPE ARCHITECT.
22. ESTABLISH PLANT BED CONFIGURATION. LANDSCAPE ARCHITECT TO APPROVE BED LAYOUT IN FIELD.
23. AREAS DAMAGED BY ACTIVITIES OF CONTRACTOR SHALL BE RE-ESTABLISHED TO PRE-DISTURBANCE CONDITION AT NO ADDITIONAL COST TO THE OWNER.
24. USE HERBICIDES, PESTICIDES, AND FERTILIZER IN A MANNER CONSISTENT WITH THE FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT AND IN ACCORDANCE WITH LABEL RESTRICTIONS.
25. CONTRACTOR SHALL INSURE THAT ALL PLANT MATERIAL IS FREE OF FIRE ANTS PRIOR TO INSTALLATION.
26. LANDSCAPE ARCHITECT OR OWNER SHALL APPROVE PLACEMENT OF TREES PRIOR TO PLANTING.
27. STREET TREES SHALL BE MAINTAINED TO PROVIDE 13'-6" CLEAR HEIGHT FOR THE PORTION OF THE TREE CANOPY THAT EXTENDS OVER THE VEHICULAR NETWORK.
28. TREES SHALL BE LOCATED A MINIMUM OF 15 FEET FROM STREETLIGHTS.
29. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
30. DEEPROOT ROOT BARRIER OR APPROVED EQUAL SHALL BE INSTALLED AT ANY TREE LOCATIONS AND WHERE A TREE IS WITHIN 10' OF A UTILITY OR HARDSCAPE. THE ROOT BARRIER SHALL BE INSTALLED ACCORDING TO MANUFACTURER RECOMMENDATION.
31. LANDSCAPE CONTRACTOR SHALL PROVIDE IRRIGATION DESIGN AND INSTALL IRRIGATION SYSTEM.
32. MULCH SHALL BE SHREDDED HARDWOOD, SPREAD AT THICKNESS OF 3" DEEP ACROSS PLANTING AREAS.

4 GENERAL LANDSCAPE NOTES

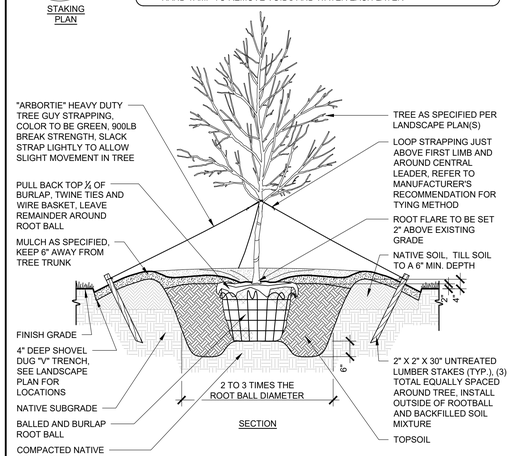
PLANT SCHEDULE					
CANOPY TREE	SIZE	CALIPER	HEIGHT	QTY	REMARKS
ACER RUBRUM 'OCTOBER GLORY' TM OCTOBER GLORY MAPLE	B & B	2" CAL.	10'-12' HT.	2	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED
QUERCUS NIGRA WATER OAK	B & B	2" CAL.	10'-12' HT.	2	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED
QUERCUS VIRGINIANA SOUTHERN LIVE OAK	B & B	2" CAL.	10'-12' HT.	16	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED

5 PLANT LEGEND



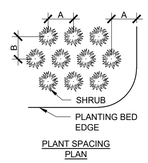
STAKING PLAN

GENERAL NOTES:
A. TREE TO BE STRAIGHTENED PRIOR TO BACKFILL AND GUYING
B. SCARIFY BOTTOM AND SIDES OF PLANT PIT.
C. STAKE AND GUY TREES 3" CALIPER OR GREATER, OR TREES IN WINDING LOCATIONS AS DIRECTED BY LANDSCAPE ARCHITECT.
D. DO NOT WRAP TREE TRUNK.
E. MARK NORTH SIDE OF TREE AT NURSERY AND PLANT WITH MARKING FACING NORTH.
F. BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, PACK SOIL AROUND BASE OF ROOTBALL TO STABILIZE, INSTALL REMAINDER IN 9" LAYERS, HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER



SECTION

3 TYPICAL TREE PLANTING

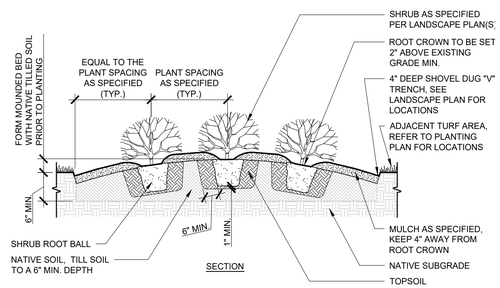


PLANT SPACING PLAN

PLANT SPACING CHART

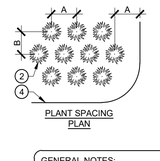
SPACING (A)	ROW OFFSET (B)	SPACING (A)	ROW OFFSET (B)
1'-0" O.C.	10" O.C.	5'-0" O.C.	4'-4" O.C.
1'-6" O.C.	1'-4" O.C.	6'-0" O.C.	5'-2" O.C.
2'-0" O.C.	1'-9" O.C.	7'-0" O.C.	6'-1" O.C.
2'-6" O.C.	2'-2" O.C.	8'-0" O.C.	6'-11" O.C.
3'-0" O.C.	2'-7" O.C.	9'-0" O.C.	7'-10" O.C.
3'-6" O.C.	3'-0" O.C.	10'-0" O.C.	8'-8" O.C.
4'-0" O.C.	3'-6" O.C.		

GENERAL NOTES:
A. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.
B. THE BOTTOM OF SHRUB ROOT BALLS SHALL NOT PROJECT INTO THE NATIVE SUBGRADE . LARGER PLANTS WILL REQUIRE ADDITIONAL TOPSOIL DEPTH.
C. BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, INSTALL IN 6" LAYERS, HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER
D. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED BY HAND PRIOR TO PLACEMENT AND BACKFILLING WITH PREPARED SOILS. HAND TOOLS SHALL NOT BE USED TO SCARIFY ROOT BALLS.



SECTION

2 TYPICAL SHRUB PLANTING

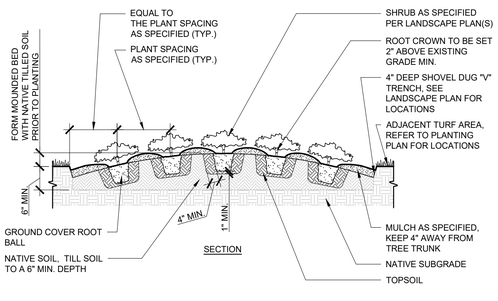


PLANT SPACING PLAN

PLANT SPACING CHART

SPACING (A)	ROW OFFSET (B)	SPACING (A)	ROW OFFSET (B)
6" O.C.	5" O.C.	24" O.C.	1'-9" O.C.
8" O.C.	7" O.C.	36" O.C.	2'-7" O.C.
12" O.C.	10" O.C.	4'-0" O.C.	3'-6" O.C.
15" O.C.	1'-1" O.C.	5'-0" O.C.	4'-4" O.C.
18" O.C.	1'-4" O.C.	6'-0" O.C.	5'-2" O.C.

GENERAL NOTES:
A. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.
B. THE BOTTOM OF GROUND COVER ROOT BALLS SHALL NOT PROJECT INTO THE NATIVE SUBGRADE . LARGER PLANTS WILL REQUIRE ADDITIONAL TOPSOIL DEPTH.
C. BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, INSTALL IN 6" LAYERS, HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER
D. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED BY HAND PRIOR TO PLACEMENT AND BACKFILLING WITH PREPARED SOILS. HAND TOOLS SHALL NOT BE USED TO SCARIFY ROOT BALLS.



SECTION

1 TYPICAL GROUND COVER PLANTING

REV.NO.	DESCRIPTIONS	DATE
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BLAKE FARM PARCEL H

LANDSCAPE DETAILS

DATE:	07/14/2023
MCE PROJ. #	04245-0047
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM
PROJ. MGR.	TSM

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C17.0
DRAWING NUMBER
0
REVISION

STATUS: PRELIMINARY DESIGN

I:\0424\0047\ENG - PARCEL H\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C17.0 LANDSCAPE DETAILS.DWG ---- 08/04/2023 10:20:10

Pender County
SUBMAJ 2023-97 Parcel I Preliminary Plat

TO:	Technical Review Committee
FROM:	Daniel Adams
DATE:	September 7, 2023
SUBJECT:	SUBMAJ 2023-97 Parcel I Preliminary Plat

SUMMARY:
Major Subdivision plan for residential development including 33 single-family units. The subject property is zoned PD, Planned Development, consists of 4 acres, and may be further identified by Pender County PIN(s): 3271-06-1762-0000, 3271-35-2761-0000.

ACTION REQUESTED:
Case will be reviewed by the TRC.

ATTACHMENTS:
1. Application
2. Site Plan

APPLICATION FOR SUBDIVISION

THIS SECTION FOR OFFICE USE			
Application No.	**SUB**	**Date**	
Application Fee	$	**Invoice Number:**	
Master Plan Hearing Date		**Preliminary Plat Hearing Date**	

SECTION 1: APPLICANT INFORMATION

Applicant's Name:	McKim & Creed, Inc.	**Owner's Name:**	D.R. Horton, Inc.
Applicant's Address:	243 North Front Street	**Owner's Address:**	131 Racine Dr., Suite 201
City, State, & Zip	Wilmington, NC 28451	**City, State, & Zip**	Wilmington, NC 28403
Phone Number:	910-343-1048	**Phone Number:**	910-515-9561
Email Address:	tlivick@mckimcreed.com	**Email Address:**	elshelton@drhorton.com

Legal relationship of applicant to landowner: CONSULTANT

SECTION 2: PROJECT INFORMATION

Preliminary Plat	☑ **Residential** *RP, PD, RM, MH District*	☐ **Mixed Use** *PD*	
Subdivision Type	☑ Major (11 lots or more)	☐ Minor (10 lots or less)	

Property Identification Number (PIN):	3271-06-1762-0000; 3271-35-2761-0000		
Zoning Classification:	PD	**Total property acreage:**	270.12
Number of Lots:	33	**Acreage to be disturbed:**	14.0
Water Provider:	PENDER COUNTY UTILITIES	**Wastewater Provider:**	PLURIS HAMPSTEAD

Additional Information:

2nd Owner: Pender 1164 LLC, 511 North Tejon Street, Suite 200, Colorado Springs, CO 80903
Contact Name: Michael O. Cook, P.C., Member, Ph: 719-632-1222, email: mike@mcooklaw.com
2nd Owner Signature: [signature] MANAGER

SECTION 3: SIGNATURES

Applicant's Signature		**Date:**	
Applicant's Printed Name:	Trae Livick	**Date:**	
Owner's Signature	[signature]	**Date:**	08/02/23
Owner's Printed Name:	IAN FLANNERY (for DR HORTON, INC.)	**Date:**	08/02/23

NOTICE TO APPLICANT

1. Applicant or agent authorized in writing must attend the public hearing.
2. Once the public hearing has been advertised, the case will be heard unless the applicant withdraws the application or unless the Planning Board or other authorized person agrees to table or delay the hearing.
3. All fees are non-refundable
4. A complete application packet must be submitted prior to the deadline in order to be placed on the next Planning Board Agenda

Office Use Only

☐	**Subdivision Fees:** *$500 + $10/lot-unit for the first 100 lots/units; $5/lot-unit thereafter (Major Subdivision) $150 + $10 per lot (Minor Subdivision)*	**Total Fee Calculation: $** $830.00 = ($500 + ($10 x 33 Lots))

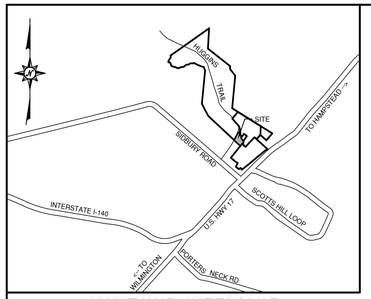
Attachments Included with Application: (Please include # of copies)

BLAKE FARM PARCEL I

PENDER COUNTY, NC

PENDER COUNTY TRC REVIEW SET
NOT FOR CONSTRUCTION

AUGUST 4, 2023



VICINITY MAP - NOT TO SCALE

COUNTY AND AGENCY CONTACTS

A. Pender County
Planning Department
805 S Walker Street
Burgaw, NC 28425
(910)341-3255
Contact: Justin Brantley
Email: jbrantley@pendercountync.gov

B. NCDENR
Sediment and Erosion Control
127 N Cardinal Dr.
Wilmington, NC 28405
(910) 796-7215
Contact: Dan Sams
Email: dan.sams@ncdenr.gov

C. Pender County Public Utilities
605 E Fremont St
Burgaw, NC 28425
(910) 259-0212
Contact: Katie Leubner
Email: kleubner@pendercountync.gov

D. NCDENR
Division of Environmental Health
Public Water Supply Section
1634 Mail Service Center
Raleigh, NC 27699-1634
(919) 707-9051

E. Pluris Hampstead, LLC
Sanitary Sewer
1095 NC-210
Sneads Ferry, NC 28460
(910) 328-6277
Contact: Nick Evans
Email: nevans@plurisusa.com

F. NCDOT Division 3 - District 1
299 Wilmington Hwy
Jacksonville, NC 28540
(910) 455-3777

G. NCDENR
Division of Water Quality
127 Cardinal Drive Ext.
Wilmington, NC 28405
(910) 796-7387
Contact: Tyler Benson
Email: Tyler.Benson@ncdenr.gov

H. FIRE MARSHALL - PENDER COUNTY
Mark Haraway
(910) 259-1441
(910) 512-0967
mharaway@pendercountync.gov

PROJECT DATA

NAME OF PROJECT:
BLAKE FARM PARCEL I
PENDER COUNTY, NORTH CAROLINA

OWNER / DEVELOPER:
D.R. HORTON
6752 PARKER FARM DRIVE, SUITE 210
WILMINGTON, NC 28405
PHONE: (910) 515 9561
CONTACT: ELIZABETH (LIBBY) SHELTON

PREPARED BY:
MCKIM & CREED, INC
243 NORTH FRONT ST
WILMINGTON, NC 28401
PHONE: (910)343-1048
FAX: (910)251-8282
CONTACT: TRAE LIVICK, PE
EMAIL: TLIVICK@MCKIMCREED.COM

BLAKE FARM DENSITY RECONCILIATION 08.04.2023
FOR DRH DEVELOPMENT

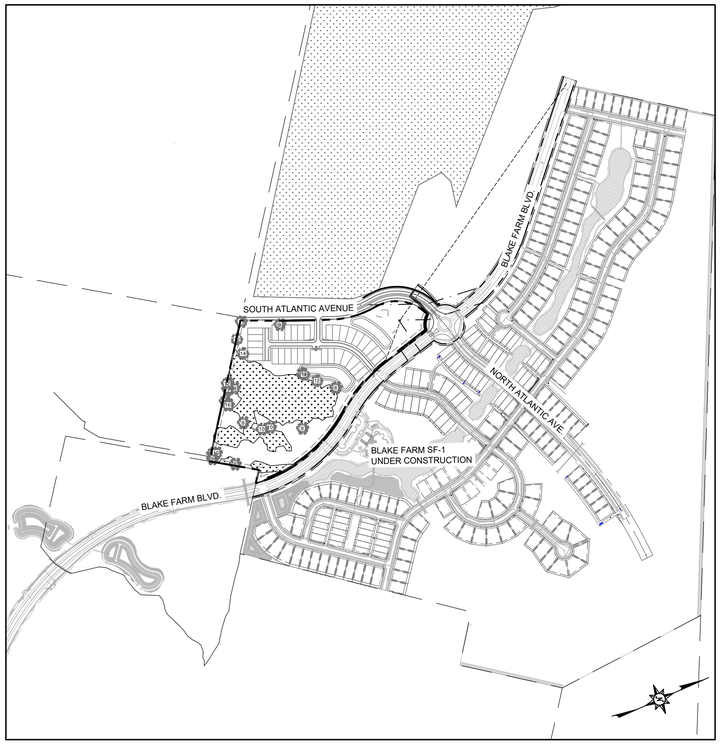
Parcel	Per Approved Master Plan		Approved/Under Construction/Existing		Units Remaining
	Land Use	Dwelling Units	Land Use	Dwelling Units	
H*	Residential	45	Residential	49	-4
I*	Residential	39	Residential	33	6
J*	Amenity	0	Amenity	0	0
K	Residential	141	Residential	136	5
L	Residential	130	Residential	119	11
M	Residential	498	Undeveloped	0	498
O	Residential	53	Undeveloped	0	53
P	Residential	379	Undeveloped	0	379
Q	Residential	256	Undeveloped	0	256
R	Residential	138	Undeveloped	0	138
S	Residential	237	Undeveloped	0	237
T	Residential	110	Undeveloped	0	110
U	Residential	205	Undeveloped	0	205
V	Residential	128	Undeveloped	0	128
W	Residential	89	Undeveloped	0	89
X	Residential	194	Undeveloped	0	194
Y	Residential	65	Undeveloped	0	65
		2707		337	2370

* In TRC Review

BLAKE FARM OPEN SPACE RECONCILIATION 08.04.2023
FOR DRH DEVELOPMENT

Parcel	Per Approved Master Plan		Required Open Space	Approved/Under Construction/Existing		Provided Open Space
	Land Use	Dwelling Units	Acres (.03 AC / UNIT)	Land Use	Dwelling Units	Acres
H*	Residential	45	1.35	Residential	49	1.95
I*	Residential	39	1.17	Residential	33	1.39
J*	Amenity	0	0	Amenity	0	
K	Residential	141	4.23	Residential	136	24.34
L	Residential	130	3.9	Residential	119	0
M	Residential	498	14.94	Undeveloped	0	
O	Residential	53	1.59	Undeveloped	0	
P	Residential	379	11.37	Undeveloped	0	
Q	Residential	256	7.68	Undeveloped	0	
R	Residential	138	4.14	Undeveloped	0	
S	Residential	237	7.11	Undeveloped	0	
T	Residential	110	3.3	Undeveloped	0	
U	Residential	205	6.15	Undeveloped	0	
V	Residential	128	3.84	Undeveloped	0	
W	Residential	89	2.67	Undeveloped	0	
X	Residential	194	5.82	Undeveloped	0	
Y	Residential	65	1.95	Undeveloped	0	
Total		2707	81.21		337	27.68

* In TRC Review



VICINITY MAP
SCALE: 1" = 400'

SHEET LIST TABLE	
SHEET NUMBER	SHEET DESCRIPTION
C1.0	COVER
C1.1	GENERAL NOTES
C2.0	EXISTING CONDITIONS
C2.1	SURVEY
C2.2	TREE REMOVAL PLAN
C3.0	SITE PLAN
C3.1	SITE PLAN ENLARGEMENT
C3.2	SITE PLAN ENLARGEMENT
C4.0	EROSION CONTROL PHASE 1 PLAN
C4.1	EROSION CONTROL PHASE 1 ENLARGEMENT
C4.2	EROSION CONTROL PHASE 1 ENLARGEMENT
C7.0	GRADING AND DRAINAGE - ESC STAGE 2 - OVERALL PLAN
C7.1	GRADING AND DRAINAGE - ESC STG 2 ENLARGEMENT
C7.2	GRADING AND DRAINAGE - ESC STG 2 ENLARGEMENT
C8.0	UTILITY PLAN
C8.1	UTILITY PLAN ENLARGEMENT
C8.2	UTILITY PLAN ENLARGEMENT
C9.0	ROAD B PLAN AND PROFILE STA 10+00 TO END
C9.1	ROAD A AND C PLAN AND PROFILE STA 10+00 TO END
C9.2	ROAD D PLAN AND PROFILE STA 10+00 TO 18+00
C9.3	ROAD D PLAN AND PROFILE STA 18+00 TO END
C9.5	TYPICAL STREET SECTIONS
C10.0	LANDSCAPE PLAN
C10.1	LANDSCAPE PLAN ENLARGEMENT
C10.2	LANDSCAPE PLAN ENLARGMENT
C11.0	SITE DETAILS
C12.0	EROSION CONTROL DETAILS
C12.1	EROSION CONTROL DETAILS
C12.2	EROSION CONTROL DETAILS
C12.3	EROSION CONTROL DETAILS
C13.0	GRADING AND DRAINAGE DETAILS
C13.1	GRADING AND DRAINAGE DETAILS
C14.0	UTILITY DETAILS
C14.1	UTILITY DETAILS
C15.0	NCDOT DETAILS
C15.1	NCDOT DETAILS
C17.0	LANDSCAPE DETAILS

Certification of Submission
A copy of this plat has been submitted. Approval is subject to Review; this does not constitute an approval.

Pender County Utilities:_____Date:_____

Pender County Environmental Health:_____Date:_____

Pender County Addressing Coordinator:_____Date:_____

Pender County Fire Marshal:_____Date:_____

Certification of Preliminary Plat Approval
Preliminary Plat Approved by Pender County for a Period of two (2) years subject to the Pender County Unified Development Ordinance requirements and conditions of approval.

Planning Staff:_____Date:_____

D·R·HORTON® DHI Listed NYSE
America's Builder
131 Racine Drive, Suite 201
Wilmington, North Carolina 28403
Phone: (843) 709-0752

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048
Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

811 Know what's below. Call before you dig.

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

BLAKE FARM PARCEL I

AUGUST 4, 2023

I:\04245\004\ENG - Parcel I\80-Drawings\81_Production_Sheets\2_Working_Dwgs\C1.0 COVER.dwg, 8/4/2023 11:00:35 AM, DWG To PDF.pc3

CONSTRUCTION NOTES

1. CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE NCDOT/PENDER COUNTY UTILITIES/PLURIS HAMPSTEAD, LLC STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING THE LOCATION OF EXISTING UTILITIES FROM THE APPROPRIATE PARTIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAGMEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
4. THESE DRAWINGS SHOW INFORMATION OBTAINED FROM THE AVAILABLE RECORDS REGARDING PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES AND CONDITIONS WHICH EXIST ALONG THE LINES OF WORK AND BELOW THE SURFACE OF THE GROUND. THE OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITIES FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION, AND SUCH INFORMATION IS BEING SHOWN ONLY FOR THE CONVENIENCE OF THE CONTRACTOR WHO MUST VERIFY THE INFORMATION TO HIS OWN SATISFACTION DURING THE BIDDING AND CONSTRUCTION PHASES. IF THE CONTRACTOR RELIES ON SAID INFORMATION, HE DOES SO AT HIS OWN RISK. THE GIVING OF THE INFORMATION ON THE CONTRACT DRAWINGS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO SUPPORT AND PROTECT ALL PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES, WHETHER ABOVE OR BELOW GRADE.
5. SHOULD ANY DAMAGE OCCUR TO EXISTING UTILITIES, IT SHALL BE REPAIRED SOLELY AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL VERIFY EXISTING INVERTS PRIOR TO CONSTRUCTION OF UNDERGROUND UTILITIES. TEST PITTING OF EXISTING LINES PRIOR TO CONSTRUCTION, IF NECESSARY, SHALL BE COORDINATED WITH THE OWNER.
7. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, PROJECT SPECIFICATIONS, AND LOCAL BUILDING CODES.
8. ALL DISTURBED AREAS SHALL BE SMOOTHLY GRADED TO PROMOTE POSITIVE DRAINAGE AND STABILIZED WITH TOPSOIL, SEED, AND MULCH. IF SETTLEMENT OCCURS, TOPSOIL, SEEDING, AND MULCH SHALL BE REPEATED UNTIL SETTLEMENT SUBSIDES. (SEE EROSION AND SEDIMENT CONTROL DETAILS AND SPECIFICATIONS.)
9. WATER MAINS WILL BE INSTALLED AT A DEPTH THAT WILL PROVIDE 36" COVER OVER THE PIPES BELOW PROPOSED GRADE UNLESS SHOWN OTHERWISE ON THESE PLANS OR DIRECTED OTHERWISE BY THE ENGINEER.
10. WHEREVER SEWER OR WATER MAINS CROSS ONE ANOTHER, A MINIMUM VERTICAL CLEARANCE OF 18" SHALL BE PROVIDED BETWEEN THE BOTTOM OF THE WATER PIPE AND THE TOP OF THE SEWER PIPE.
11. WHEREVER SEWER OR WATER MAINS RUN PARALLEL TO EACH OTHER, A MINIMUM HORIZONTAL SEPARATION OF 10' SHALL BE PROVIDED, OR 18" VERTICAL SEPARATION.
12. IF NEITHER OF THESE CONDITIONS (#10 OR #11 ABOVE) CAN BE MET, THEN THE SEWER SHALL BE CLASS 50 DIP, MINIMUM OF 20 LF CENTERED OVER THE CROSSING.
13. ALL WATER VALVES, BOXES, AND FIRE HYDRANT ASSEMBLES SHALL BE SET AND ADJUSTED TO FINISHED GRADE. SEE PENDER COUNTY UTILITY DETAIL SHEET C14.0
14. THE OWNER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, BOTH TEMPORARY AND PERMANENT.
15. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL SURVEY CONTROL PRIOR TO STAKING OUT CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
16. ANY PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE REPLACED SOLELY AT THE CONTRACTOR'S EXPENSE.
17. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS.
18. ALL SELECT AND BORROW MATERIAL SHALL MEET CRITERIA SET FORTH BY SECTIONS 1016 AND 1018 OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S STANDARDS AND SPECIFICATIONS FOR ROADS AND STRUCTURES. SEE SECTION FOR PLACEMENT AND COMPACTION INFORMATION.
19. THE ENGINEER AND THE CONTRACTOR SHALL INSPECT ALL EXISTING PIPES USED IN THE FINAL DRAINAGE SYSTEM AND AGREE ON THE CONDITION OF THE PIPES PRIOR TO CONSTRUCTION. IF DAMAGE OCCURS TO THESE PIPES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE PIPE(S).
20. EXISTING PAVING, CONCRETE, AND OTHER UNSUITABLE MATERIALS INCLUDING UNDERCUT EXCAVATION SHALL NOT BE USED AS FILL MATERIAL (UNLESS APPROVED BY THE GEOTECHNICAL ENGINEER) AND SHALL BE DISPOSED OF OUTSIDE THE PROJECT LIMITS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING AND FEES FOR DISPOSAL.
21. ALL TREES, STUMPS, ROOT MAT, ETC. SHALL BE ENTIRELY REMOVED REGARDLESS OF DEPTH. BURIAL OF ORGANIC MATERIAL WITHIN THE PROJECT LIMITS IS NOT PERMITTED. OPEN BURNING OF DOWNED TREES AND STUMPS IS NOT PERMITTED. CHIPPED MATERIALS MUST BE REMOVED PRIOR TO THE PLACEMENT OF EMBANKMENT OR TOPSOIL.
22. THE CONTRACTOR IS SOLELY RESPONSIBLE TO OBTAIN OFF-SITE SPOIL AREAS FOR DISPOSAL OF EXCESS AND/OR UNSUITABLE MATERIALS AS NECESSARY. OFF-SITE SPOIL AREAS MUST BE SUBMITTED TO THE ENGINEER AND APPLICABLE REGULATORY AGENCIES PRIOR TO UTILIZATION BY THE CONTRACTOR. NO AREAS DESIGNATED AS WETLANDS WILL BE PERMITTED FOR USE AS A DISPOSAL SITE. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER THAT NO WETLANDS WILL BE IMPACTED. THE ENGINEER WILL NOT CONSIDER ANY DELAYS OR MONETARY CLAIMS OF ANY NATURE RESULTING FROM THE CONTRACTOR'S FAILURE OR DIFFICULTY IN FINDING NECESSARY DISPOSAL SITES TO MEET THE TIME FRAMES AND CAPACITIES REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PLANS, PERMITS, EROSION AND SEDIMENT CONTROL MEASURES, ETC. REQUIRED BY THE APPROPRIATE REGULATORY AGENCIES FOR UTILIZING OFF-SITE SPOIL AREAS. THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED PRIOR TO UTILIZING THE OFF-SITE SPOIL AREAS. ALL COSTS FOR PROCURING AND UTILIZING THE OFF-SITE SPOIL AREAS ARE TO BE INCIDENTAL TO THE BASE BID.

DEMOLITION NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIARIZED WITH FIELD DEMOLITION CONDITIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL DEMOLISHED DEBRIS ASSOCIATED WITH THE PROJECT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. PIT BURNING IS PERMISSIBLE IF APPROVED THROUGH THE PENDER COUNTY FIRE MARSHALL.
3. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST GENERATED BY THE WORK, INCLUDING BUT NOT LIMITED TO DEMOLITION AND CONSTRUCTION ACTIVITIES, SITE VEHICULAR TRAFFIC AND RELATED OPERATIONS.
4. THE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL EXISTING UTILITIES LOCATED PRIOR TO BEGINNING ANY DEMOLITION. CONTRACTOR SHALL CONTACT NC ONE CALL AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED.
5. EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE AND ENGINEER IMMEDIATELY.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF DISCONNECTING AND ABANDONING ALL EXISTING UTILITIES WITH THE OWNER UNLESS OTHERWISE NOTED. ALL EXISTING UTILITIES AND ASSOCIATED PIPING, ETC. NOT IN USE ON THE SITE SHALL BE PROPERLY ABANDONED AND REMOVED AS REQUIRED. COORDINATE WITH THE OWNER.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ANY EXISTING UTILITIES THAT REMAIN IN SERVICE DURING DEMOLITION.
8. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS AND SLOPES ON AND OFF SITE IN ACCORDANCE WITH THE EROSION CONTROL MEASURES SPECIFIED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO DETERMINE WHO IS RESPONSIBLE FOR PROVIDING THE PERMANENT STABILIZATION MEASURES AND THE TYPE OF PERMANENT MEASURES PRIOR TO BEGINNING DEMOLITION AND CONSTRUCTION. THE PERMANENT STABILIZATION MEASURES SHALL BE IN PLACE AND ACCEPTABLE TO THE OWNER'S REPRESENTATIVE AND ENGINEER PRIOR TO PROJECT CLOSEOUT. COORDINATE INSPECTION WITH THE OWNER AND ENGINEER PRIOR TO PROJECT CLOSEOUT.
9. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND CONTACTING THE ENGINEER FOR THE REQUIRED INSPECTIONS ON THE PROJECT.
10. WETLANDS DO EXIST ON SITE AND ARE NOTED ON THE PLANS. UNLESS OTHERWISE INDICATED, THE WETLANDS SHALL NOT BE DISTURBED DURING CONSTRUCTION OF THIS PROJECT.

STORM DRAINAGE AND GRADING NOTES

1. IN ACCORDANCE WITH NC GENERAL STATUTES, NPDES REGULATIONS, AND NCDENR REQUIREMENTS, STORMWATER DISCHARGE OUTFALLS SHALL BE INSPECTED BY THE CONTRACTOR. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR AFTER EACH STORM EVENT OF 1/2 INCH OR GREATER, WITH ONE WEEKLY INSPECTION MINIMUM. NCDENR STANDARD INSPECTION REPORTS SHALL BE PREPARED AND SIGNED WITH COPIES PROVIDED TO THE OWNER, ARCHITECT, AND ENGINEER, BY THE CONTRACTOR.
2. OUTLET PROTECTION SHALL BE INSTALLED AROUND STORM DRAIN OUTFALLS. DEVICES SHALL BE CONSTRUCTED TO FINAL PROPOSED CONDITION UPON STABILIZATION OF CONTRIBUTING GROUND SURFACES AND REMOVAL OF SEDIMENT FROM STORM PIPES.
3. ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO CONTRACTOR FOR ANY WORK DONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
4. UNLESS OTHERWISE NOTED, GRADES AND SPOT ELEVATIONS NOTED ON PLANS INDICATE FINISHED GRADE OR PAVEMENT SURFACE. ALL DIMENSIONS ARE MEASURED TO THE FACE OF CURB UNLESS OTHERWISE INDICATED.
5. ALL STORM DRAINAGE PIPES 15" INSIDE DIAMETER OR LARGER SHALL BE:
   5.1. RCP CLASS III, OR
   5.2. HP STORM
6. STORM DRAIN PIPES LESS THAN 15" INSIDE DIAMETER SHALL BE HDPE, DOUBLE WALL, TYPE S WITH SOIL TIGHT JOINTS, OR APPROVED EQUAL.
7. STORM DRAINAGE PIPE AND STRUCTURE MATERIALS WITHIN IN NCDOT RIGHT OF WAY SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS AND SPECIFICATIONS, LATEST EDITION.
8. CONTRACTOR SHALL SUBMIT STORM DRAIN AND STRUCTURE MATERIALS SHOP DRAWING DOCUMENTS TO ENGINEER FOR REVIEW AND APPROVAL.

MATERIALS AND EASEMENT NOTES:

- ALL CATCH BASINS ARE NCDOT STD 840.02/840.03
- ALL DROP INLETS ARE NCDOT STD 840.16/840.16
- ALL STORM DRAINAGE PIPING TO BE CLASS III RCP, UNLESS OTHERWISE NOTED
- ALL SANITARY SEWER LINES AND WATERLINES SHALL BE C-900 PVC, UNLESS OTHERWISE NOTED AND MEET PLURIS HAMPSTEAD, LLC SPECIFICATIONS
- A PUBLIC UTILITY EASEMENT SHALL BE RESERVED WITHIN THE STREET RIGHT-OF-WAY. A 10' NON-MUNICIPAL EASEMENT SHALL BE RESERVED ALONG BOTH SIDES OF ALL STREETS
- WATER UTILITY IS PUBLIC - PENDER COUNTY PUBLIC UTILITIES
- SANITARY SEWER MAIN IS PRIVATE - PLURIS HAMPSTEAD, LLC

UTILITY NOTES

1. SCHEDULE A PRECONSTRUCTION MEETING WITH PENDER COUNTY PUBLIC UTILITIES AND PLURIS HAMPSTEAD, LLC 48 HOURS PRIOR TO CONSTRUCTION OF WATER AND SEWER LINES.
2. WATER AND SANITARY SEWER INFRASTRUCTURE ARE PRIVATE BEYOND THE PUBLIC STREET RIGHT-OF-WAY.
3. BACKFLOW PREVENTION AND METERS SHALL BE PROVIDED FOR DOMESTIC WATER SERVICE (RPZ). DOMESTIC SERVICE BACKFLOW PREVENTER WILL BE LOCATED AS SHOWN ON THE UTILITY PLANS. INSTALLER OF BACKFLOW PREVENTERS MUST CONTACT PCU PRIOR TO INSTALLING UNITS TO GIVE PCU THE OPTION TO VERIFY INSTALLATION PROCEDURES.

   3.1. REDUCED PRESSURE PRINCIPLE ASSEMBLY FOR DOMESTIC WATER SERVICE
4. IF THE CONTRACTOR DESIRES PCU WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
5. WATER: 1.5" & 2" PVC MAINS SHALL BE CONSTRUCTED USING ASTM D2241, IPS, GASKETED PIPE, SDR 21. 4"-12" PVC MAINS AND SERVICES SHALL BE CONSTRUCTED USING ASTM D1704, ASTM D2241 FOR SDR-21, CLASS 200 PVC MEETING.
6. SANITARY SEWER: FOR PIPE SIZES 4" AND 6" PIPE SHALL BE SCH 40 CONFORMING TO THE REQUIREMENTS OF ASTM D1785 WITH SOLVENT WELD JOINTS CONFORMING TO ASTM D2672.
7. WATER AND SEWER SERVICES CANNOT BE ACTIVATED ON NEW MAINS UNTIL ENGINEER'S CERTIFICATION AND AS-BUILTS ARE RECEIVED AND "FINAL APPROVAL" ISSUED BY PUBLIC WATER SUPPLY SECTION OF NCDENR AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY OF NCDENR.
   7.1. AMENITY CENTER PROJECT IS RELIANT ON SATISFACTORY COMPLETION OF PERMITS DIRECTLY ASSOCIATED WITH THE BLAKE FARM SF-1 PROJECT.
8. PVC WATER MAINS AND POLYETHYLENE SERVICES ARE TO BE MARKED WITH NO. 10 SINGLE STRAND INSULATED COPPER WIRE INSTALLED THE ENTIRE LENGTH AND STRAPPED TO THE PIPES WITH DUCT TAPE. THE INSULATED WIRE IS TO BE STRIPPED TO BARE WIRE AND SECURED TO ALL VALVES. THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
9. MAXIMUM BENDING RADIUS FOR 8" C-900 PVC WATER MAIN BENDS IS 380' (ONE-HALF MANUFACTURER'S RECOMMENDED ALLOWABLE LONGITUDINAL BENDING).
10. UNDERGROUND UTILITIES: ALL NEW UTILITIES SHALL BE INSTALLED UNDERGROUND, EXCEPT WHERE SUCH PLACEMENT IS PROHIBITED OR DEEMED IMPRACTICAL BY THE UTILITY PROVIDER. UNDERGROUND TERMINAL FACILITIES FOR STREET LIGHTING ALONG THE PUBLIC STREETS ABUTTING THE SUBJECT SITE SHALL BE INSTALLED BY THE DEVELOPER.
11. MINIMUM OF 36" COVERAGE ABOVE ALL WATERMAINS AND WATER SERVICES.
12. MINIMUM OF 36" VERTICAL SEPARATION BETWEEN WATERLINES AND STORMDRAIN CURB INLETS
13. A VARIANCE IS NOT ANTICIPATED FROM ANY NORTH CAROLINA DIVISION OF WATER QUALITY (DWQ) REQUIREMENT.
14. PLANS ARE IN COMPLIANCE WITH PENDER COUNTY PUBLIC UTILITIES TECHNICAL STANDARDS AND SPECIFICATIONS.

RELATION OF WATER MAINS TO SANITARY SEWERS:

1. LATERAL SEPARATION OF SANITARY SEWERS AND WATER MAINS: WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10 FOOT LATERAL SEPARATION, IN WHICH CASE:
   1.1. THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, OR
   1.2. THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND ABOVE THE TOP OF THE SEWER.
2. CROSSING A WATER MAIN OVER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 24 INCHES ABOVE THE TOP OF THE SEWER MAIN. UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION - IN WHICH CASE BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
3. CROSSING A WATER MAIN UNDER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. THE WATER MAIN SHALL BE C-900 PVC ENCASED WITHIN A STEEL SLEEVE. REFERENCE PCU STANDARD SPECS AND DETAILS.
4. CROSSING A SEWER MAIN/WATER MAIN OVER OR UNDER A STORM DRAIN: WHENEVER IT IS NECESSARY FOR A SEWER MAIN/WATER MAIN TO CROSS A STORM DRAIN PIPE, THE SEWER MAIN/WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE OUTSIDE OF THE SEWER MAIN/WATER MAIN NEAREST TO THE OUTSIDE OF THE STORM DRAIN PIPE SHALL MAINTAIN A 24 INCH CLEAR SEPARATION DISTANCE HORIZONTAL, OR THE SEWER MAIN SHALL EITHER BE CONSTRUCTED OF DUCTILE IRON PIPE OR ENCASED IN EITHER CONCRETE OR DUCTILE IRON PIPE FOR AT LEAST 5 FEET ON EITHER SIDE OF THE CROSSING. SEE NOTE 3 DIRECTLY ABOVE FOR WATER MAIN MATERIALS.

EXCAVATION, GRADING, AND BACKFILLING NOTES

1. ANY UNDERCUTTING IN GOOD SOIL SHALL BE REPLACED AND THE REPLACEMENT MATERIAL SHALL BE COMPACTED TO NINETY-FIVE (95) PERCENT OF MAXIMUM DENSITY OBTAINED AT OPTIMUM MOISTURE CONTENT, AS DETERMINED BY THE ASTM D 698 STANDARD PROCTOR TEST METHOD. IN THE EVENT THAT MATERIAL ENCOUNTERED AT PIPE GRADE, SUBGRADE OF PARKING OR ROADWAYS AND SUBGRADE OF BUILDING FOUNDATIONS IS FOUND TO BE SOFT, SPONGY, OR IN ANY OTHER WAY UNSUITABLE, THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER IMMEDIATELY. SUCH UNSUITABLE MATERIAL SHALL BE REMOVED TO A DEPTH AS SPECIFIED BY THE GEOTECHNICAL ENGINEER AND REPLACED WITH A MINIMUM OF SIX (6) INCHES OF STONE, OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
2. BEFORE BACKFILLING IS COMMENCED OVER PIPES AND OTHER INSTALLATIONS, EARTH FILL SHALL BE TAMPED SOLID AROUND AND ABOVE THE PIPE TO A DEPTH OF ONE (1) FOOT ABOVE THE TOP OF THE PIPE. CARE SHALL BE TAKEN TO PREVENT ANY DISTURBANCE TO THE PIPE OR DAMAGE TO NEWLY MADE JOINTS. THE FILLING OF THE TRENCH SHALL BE CARRIED OUT SIMULTANEOUSLY ON BOTH SIDES OF THE PIPES IN SUCH A MANNER THAT INJURIOUS SIDE PRESSURES DO NOT OCCUR.
3. THE MATERIAL FOR BACKFILLING SHALL BE FREE FROM ALL PERISHABLE AND OBJECTIONABLE MATERIALS. BEFORE PLACING ANY BACKFILL, ALL RUBBISH, FORM, BLOCKS, WIRES OR OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM EXCAVATION. THE BACK-FILLING OVER PIPES SHALL BE PLACED IN LAYERS NOT OVER SIX (6) INCHES THICK AND COMPACTED TO A MINIMUM DENSITY OF NINETY-FIVE (95) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST TO A DEPTH OF 12 INCHES BELOW FINISHED GRADE. THE LAST 12 INCHES OF BACKFILL SHALL BE PLACED IN LAYERS NOT OVER SIX (6) INCHES THICK AND COMPACTED TO A MINIMUM DENSITY OF NINETY-EIGHT (98) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST.

EROSION CONTROL NOTES

1. AMENITY CENTER SITE IS LOCATED WITHIN E&SC PERMIT ID: PENDE-2015-018 LIMITS OF DISTURBANCE. THIS PLAN SET INCLUDES A PLAN FOR STAGE 2 E&SC. STAGE 1 EROSION CONTROL IS ACCOUNTED FOR IN THE BLAKE FARM SF-1 PLAN SET.
2. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
3. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE. ANY BUILDER THAT ANTICIPATED THE DISTURBANCE OF MORE THAN ONE ACRE WILL BE REQUIRED TO GET AN EROSION CONTROL PERMIT FROM NCDENR - DLQ.
4. GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
5. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NCDENR - DLQ.
6. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
7. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
8. IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED.
9. WITHIN 24 HOURS FOLLOWING ANY RAIN EVENT, THE CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL MEASURES.
10. ALL ACTIVITY AND INSTALLATION OF EROSION CONTROL MATTING WILL BE COMPLETE PRIOR TO ANY RAIN EVENT.

EROSION CONTROL MAINTENANCE PLAN:

1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED, AS NECESSARY, EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF EVERY ONE-HALF (0.5) INCH OR GREATER RAINFALL.
2. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
3. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP. THE SEDIMENT FENCE WILL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
4. ALL AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
5. STONE CONSTRUCTION ENTRANCE TO BE CLEANED WHEN SEDIMENT ACCUMULATIONS ARE VISIBLE OR SEDIMENT IS TRACKED ON TO THE PAVEMENT. STONE WILL BE PERIODICALLY TOP DRESSED WITH 2 INCHES OF #4 STONE TO MAINTAIN 6 INCH DEPTH. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS REQUIRED.
6. INSPECT TEMPORARY DIVERSIONS AND CHECK DAMS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE AND CHECK DAM. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.
7. INSPECT TEMPORARY SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS.
8. CHECK THE SEDIMENT BASIN EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.
9. INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (0.5" OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED. INLET PROTECTION SHOULD BE CLEANED OUT WHEN IT IS HALF FULL.
10. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEAN OUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH. AFTER THE CONTRIBUTING DRAINAGE AREAS HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.
11. INSPECT THE SKIMMER FOR CLOGGING. PULL THE SKIMMER TO THE SIDE OF THE BASIN AND REMOVE ANY DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER AND THE ARM OR BARREL PIPE FOR CLOGGING; IF CLOGGED, REMOVE THE DEBRIS.

STANDARD NOTES

1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
3. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
4. ALL TRAFFIC CONTROL SIGNS AND MARKING OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
5. ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING SHALL BE REPLACED BY THE CONTRACTOR.
6. TACTILE WARNING MATS ARE TO BE INSTALLED ON ALL WHEELCHAIR RAMPS.
7. NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS.
8. IF UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.

FIRE PROTECTION NOTES

1. HYDRANT MUST BE WITHIN 100' OF THE FDC.
2. THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
3. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
4. ALL HYDRANTS MUST BE WITHIN 600 FEET.
5. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
6. COMBUSTIBLE MATERIALS MAY NOT BE STORED OR ERECTED ONSITE WITHOUT CITY FIRE INSPEC



2 EXISTING CONDITIONS

SITE DATA

PROJECT NAME	BLAKE FARM PARCEL I
PARCEL ID	3271-06-1762-0000
DEED BOOK & PAGE	NA
PLAT REFERENCE	0056/0087
PROPERTY ADDRESS	BLAKE FARM BOULEVARD & SOUTH ATLANTIC AVENUE
PROPERTY DEVELOPER	PENDER 1164 LLC
CURRENT ZONING	PD (PLANNED DEVELOPMENT)
PROPOSED USE	SINGLE FAMILY RESIDENTIAL
TOTAL PROPERTY ACREAGE	±18.51 AC
NC BUILDING CODE CONSTRUCTION TYPE	
TYPICAL LOT SIZE	42' x100'
NUMBER OF LOTS	33

SYMBOLS LEGEND

- CEDAR
- CHERRY
- CRAPE
- DOGWOOD
- BEECH
- GUM
- HOLLY
- OAK
- MAGNOLIA
- MAPLE
- MIMOSA
- PECAN
- PINE
- POPLAR
- SYCAMORE

- LSA LANDSCAPE AREA
- SPRINKLER
- GROUND SHOT ELEVATION
- CONCRETE
- TELEPHONE PEDESTAL
- FIRE HYDRANT
- WV WATER VALVE
- WM WATER METER
- LP LIGHT POLE
- POWER POLE
- GW GUY WIRE
- GV GAS VALVE
- SANITARY SEWER MANHOLE
- SANITARY SEWER VALVE
- +CO CLEANOUT
- SIGN
- YARD INLET
- STORM DRAIN MANHOLE
- CURB INLET
- YARD LIGHT
- ELECTRIC HANDHOLE
- MAILBOX
- TELEPHONE MANHOLE

- PROJECT LIMITS
- CONTOUR LINE
- COMPUTED PROPERTY LINE OR EASEMENT
- SD STORM DRAIN LINE
- W WATER LINE
- OE OVER HEAD POWER LINE

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

SEAL

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BLAKE FARM PARCEL I

EXISTING CONDITIONS

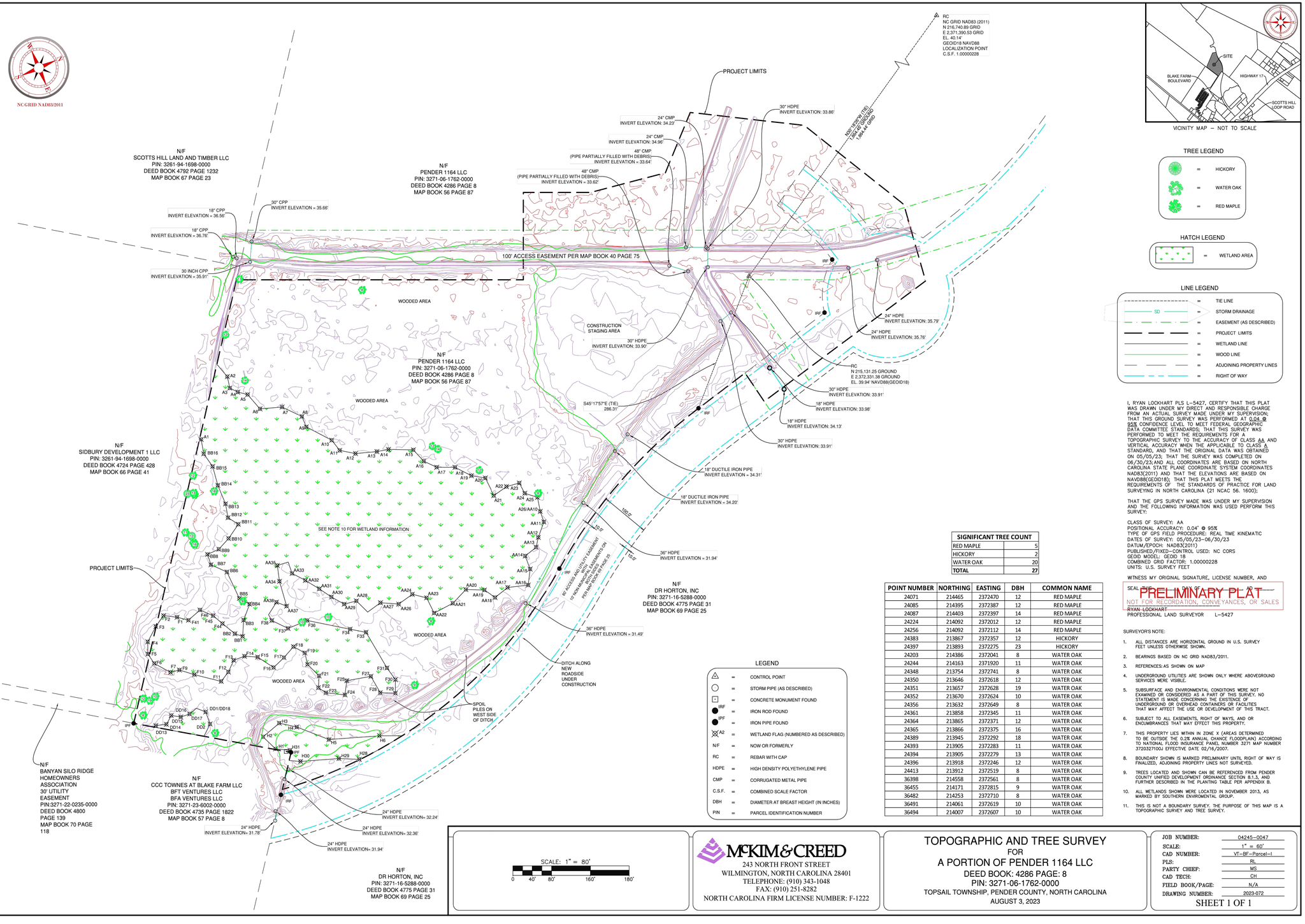
DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1"=80'
VERTICAL: N/A

C2.0
DRAWING NUMBER
0
REVISION

STATUS:
PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL I\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C2.0 EXISTING CONDITIONS.DWG — 08/04/2023 10:02:31



VICINITY MAP – NOT TO SCALE

TREE LEGEND

	=	HICKORY
	=	WATER OAK
	=	RED MAPLE

HATCH LEGEND

	=	WETLAND AREA

LINE LEGEND

	=	TIE LINE
SD	=	STORM DRAINAGE
	=	EASEMENT (AS DESCRIBED)
	=	PROJECT LIMITS
	=	WETLAND LINE
	=	WOOD LINE
	=	ADJOINING PROPERTY LINES
	=	RIGHT OF WAY

LEGEND

△	=	CONTROL POINT
○	=	STORM PIPE (AS DESCRIBED)
⊡	=	CONCRETE MONUMENT FOUND
IRF	=	IRON ROD FOUND
IPF	=	IRON PIPE FOUND
A2	=	WETLAND FLAG (NUMBERED AS DESCRIBED)
N/F	=	NOW OR FORMERLY
RC	=	REBAR WITH CAP
HDPE	=	HIGH DENSITY POLYETHYLENE PIPE
CMP	=	CORRUGATED METAL PIPE
C.S.F.	=	COMBINED SCALE FACTOR
DBH	=	DIAMETER AT BREAST HEIGHT (IN INCHES)
PIN	=	PARCEL IDENTIFICATION NUMBER

SIGNIFICANT TREE COUNT

RED MAPLE	5
HICKORY	2
WATER OAK	20
TOTAL	**27**

POINT NUMBER	NORTHING	EASTING	DBH	COMMON NAME
24071	214465	2372470	12	RED MAPLE
24085	214395	2372387	12	RED MAPLE
24087	214403	2372397	14	RED MAPLE
24224	214092	2372012	12	RED MAPLE
24256	214092	2372112	14	RED MAPLE
24383	213867	2372357	12	HICKORY
24397	213893	2372275	23	HICKORY
24203	214386	2372041	8	WATER OAK
24244	214163	2371920	11	WATER OAK
24348	213754	2372741	8	WATER OAK
24350	213646	2372618	12	WATER OAK
24351	213657	2372628	19	WATER OAK
24352	213670	2372624	10	WATER OAK
24356	213632	2372649	8	WATER OAK
24361	213858	2372345	11	WATER OAK
24364	213865	2372371	12	WATER OAK
24365	213866	2372375	16	WATER OAK
24389	213945	2372292	18	WATER OAK
24393	213905	2372283	11	WATER OAK
24394	213905	2372279	13	WATER OAK
24396	213918	2372246	12	WATER OAK
24413	213912	2372519	8	WATER OAK
36398	214558	2372561	8	WATER OAK
36455	214171	2372815	9	WATER OAK
36482	214253	2372710	8	WATER OAK
36491	214061	2372619	10	WATER OAK
36494	214007	2372607	10	WATER OAK

I, RYAN LOCKHART PLS L-5427, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT THIS GROUND SURVEY WAS PERFORMED AT 0.04 @ 95% CONFIDENCE LEVEL TO MEET FEDERAL GEOGRAPHIC DATA COMMITTEE STANDARDS; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS FOR A TOPOGRAPHIC SURVEY TO THE ACCURACY OF CLASS AA AND VERTICAL ACCURACY WHEN THE APPLICABLE TO CLASS A STANDARD, AND THAT THE ORIGINAL DATA WAS OBTAINED ON 05/05/23; THAT THE SURVEY WAS COMPLETED ON 06/30/23;AND ALL COORDINATES ARE BASED ON NORTH CAROLINA STATE PLANE COORDINATE SYSTEM COORDINATES NAD83(2011) AND THAT THE ELEVATIONS ARE BASED ON NAVD88(GEOID18); THAT THIS PLAT MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56. 1600);

THAT THE GPS SURVEY MADE WAS UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED PERFORM THIS SURVEY:

CLASS OF SURVEY: AA
POSITIONAL ACCURACY: 0.04' @ 95%
TYPE OF GPS FIELD PROCEDURE: REAL TIME KINEMATIC
DATES OF SURVEY: 05/05/23-06/30/23
DATUM/EPOCH: NAD83(2011)
PUBLISHED/FIXED-CONTROL USED: NC CORS
GEOID MODEL: GEOID 18
COMBINED GRID FACTOR: 1.00000228
UNITS: U.S. SURVEY FEET

WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER, AND SEAL THIS 3RD DAY OF AUGUST, 2023

PRELIMINARY PLAT
NOT FOR RECORDATION, CONVEYANCES, OR SALES

RYAN LOCKHART
PROFESSIONAL LAND SURVEYOR L-5427

SURVEYOR'S NOTE:

1. ALL DISTANCES ARE HORIZONTAL GROUND IN U.S. SURVEY FEET UNLESS OTHERWISE SHOWN.
2. BEARINGS BASED ON NC GRID NAD83/2011.
3. REFERENCES AS SHOWN ON MAP
4. UNDERGROUND UTILITIES ARE SHOWN ONLY WHERE ABOVEGROUND SERVICES WERE VISIBLE.
5. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT.
6. SUBJECT TO ALL EASEMENTS, RIGHT OF WAYS, AND OR ENCUMBRANCES THAT MAY EFFECT THIS PROPERTY.
7. THIS PROPERTY LIES WITHIN IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO NATIONAL FLOOD INSURANCE PANEL NUMBER 3271 MAP NUMBER 3720327100J EFFECTIVE DATE 02/16/2007.
8. BOUNDARY SHOWN IS MARKED PRELIMINARY UNTIL RIGHT OF WAY IS FINALIZED, ADJOINING PROPERTY LINES NOT SURVEYED.
9. TREES LOCATED AND SHOWN CAN BE REFERENCED FROM PENDER COUNTY UNIFIED DEVELOPMENT ORDINANCE SECTION 8.1.3, AND FURTHER DESCRIBED IN THE PLANTING TABLE PER APPENDIX B.
10. ALL WETLANDS SHOWN WERE LOCATED IN NOVEMBER 2013, AS MARKED BY SOUTHERN ENVIROMENTAL GROUP.
11. THIS IS NOT A BOUNDARY SURVEY. THE PURPOSE OF THIS MAP IS A TOPOGRAPHIC SURVEY AND TREE SURVEY.

McKIM&CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 343-1048
FAX: (910) 251-8282
NORTH CAROLINA FIRM LICENSE NUMBER: F-1222

TOPOGRAPHIC AND TREE SURVEY
FOR
A PORTION OF PENDER 1164 LLC
DEED BOOK: 4286 PAGE: 8
PIN: 3271-06-1762-0000
TOPSAIL TOWNSHIP, PENDER COUNTY, NORTH CAROLINA
AUGUST 3, 2023

JOB NUMBER:	04245-0047
SCALE:	1" = 60'
CAD NUMBER:	VT-BF-Parcel-I
PLS:	RL
PARTY CHIEF:	MS
CAD TECH:	CH
FIELD BOOK/PAGE:	N/A
DRAWING NUMBER:	2023-072

SHEET 1 OF 1



SYMBOLS LEGEND

SYMBOL	TREE SPECIES
	HICKORY
	WATER OAK
	RED MAPLE
	TREES TO BE PRESERVED
	TREES TO BE REMOVED

2 TREE REMOVAL PLAN

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

SEAL

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BLAKE FARM PARCEL I

TREE REMOVAL PLAN

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

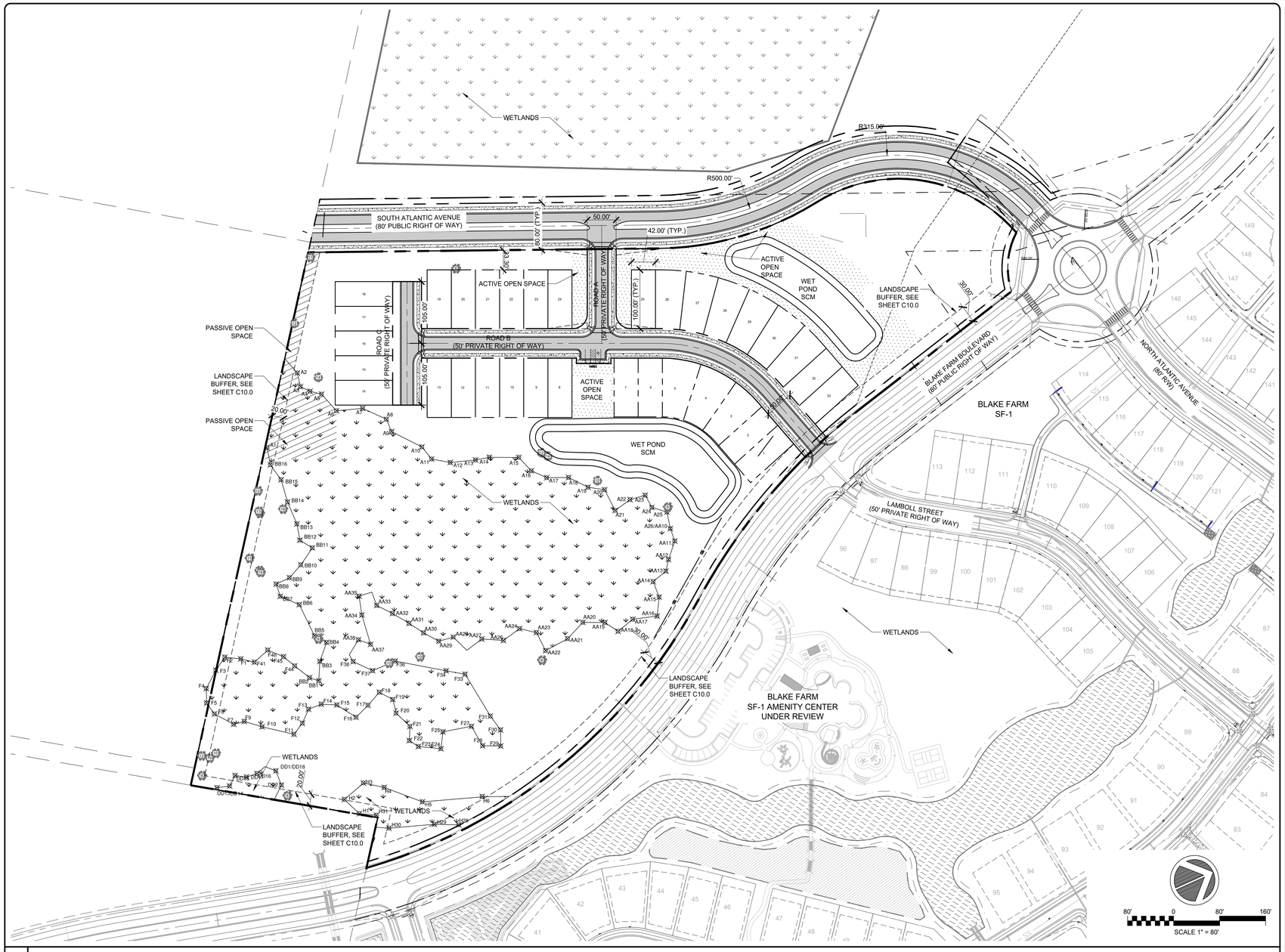
SCALE
HORIZONTAL: 1" = 80'-0"
VERTICAL: N/A

C2.2
DRAWING NUMBER

REVISION

STATUS:
PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL I\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C2.2 TREE REMOVAL PLAN.DWG --- 08/04/2023 10:05:13



2 SITE PLAN

SITE DATA

PROJECT NAME	BLAKE FARM PARCEL I	
PARCEL ID	3271-06-1762-0000	
DEED BOOK & PAGE	MB 56; PG 87	
PROPERTY ADDRESS	BLAKE FARM BOULEVARD & SOUTH ATLANTIC AVENUE	
PROPERTY DEVELOPER	PENDER 1164 LLC	
CURRENT ZONING	PD (PLANNED DEVELOPMENT)	
PROPOSED USE	SINGLE FAMILY RESIDENTIAL	
TOTAL PROPERTY ACREAGE	±270.12 AC	
PROJECT AREA	±20.79 AC	
NC BUILDING CODE CONSTRUCTION TYPE		
TYPICAL LOT SIZE	42' x100'	
NUMBER OF LOTS	33	
DENSITY	ALLOWED	PROVIDED
SEE DENSITY CALCULATIONS CHART BELOW		2.73 DU/AC
BUILDING SETBACKS ON INDIVIDUAL LOTS	REQUIRED	PROVIDED
FRONT	-	10'
REAR	-	10'
SIDE	-	5'
SIDE (CORNER)	-	10'
	REQUIRED	PROVIDED
OPEN SPACE .03 ACRE PER DWELLING UNIT (33 x 33 LOTS = 1 ACRE OPEN SPACE	1 AC	1.39 AC
ACTIVE OPEN SPACE ENHANCED DESIGN INCLUDING NOT LIMITED TO VILLAGE COMMONS, OUTDOOR RECREATION SPACE, CLUSTER MAILBOXES, PLAY AREAS	MIN. 50% OF OPEN SPACE (.5 ACRE)	.97 AC (70%)
PASSIVE OPEN SPACE UNDISTURBED NATURAL AREAS INCLUDING NOT LIMITED TO WETLANDS, NATURAL HERITAGE AREAS	MAX. 50% OF OPEN SPACE (.5 ACRE)	.42 AC (30%)
IMPERVIOUS AREA	EXISTING	PROPOSED
LOTS	00,000 SF	84,480 SF
ASPHALT	00,000 SF	73,714 SF
SIDEWALK	00,000 SF	23,071 SF
TOTAL IMPERVIOUS	00,000 SF	181,265 SF
PERCENT IMPERVIOUS COVERAGE	0%	18%

DENSITY CALCULATIONS

GENERAL INFORMATION	QUANTITY
PROPERTY ACREAGE	20.79 AC
A. NON-RESIDENTIAL ACREAGE	
B. WETLANDS ACREAGE	6.00 AC
C. RIGHT OF WAY / PARKING ACREAGE (PRIVATE RIGHTS OF WAY)	1.30 AC
D. TOTAL OPEN SPACE ACREAGE	1.39 AC
TOTAL NON-RESIDENTIAL ACREAGE	8.69 AC
TOTAL UNITS (SINGLE FAMILY LOTS)	33
DEVELOPABLE LAND	12.10 AC
PARCEL I DENSITY	2.73 DU/AC

SYMBOL LEGEND

- ASPHALT
- CONCRETE
- ACTIVE OPEN SPACE
- PASSIVE OPEN SPACE

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL I

SITE PLAN

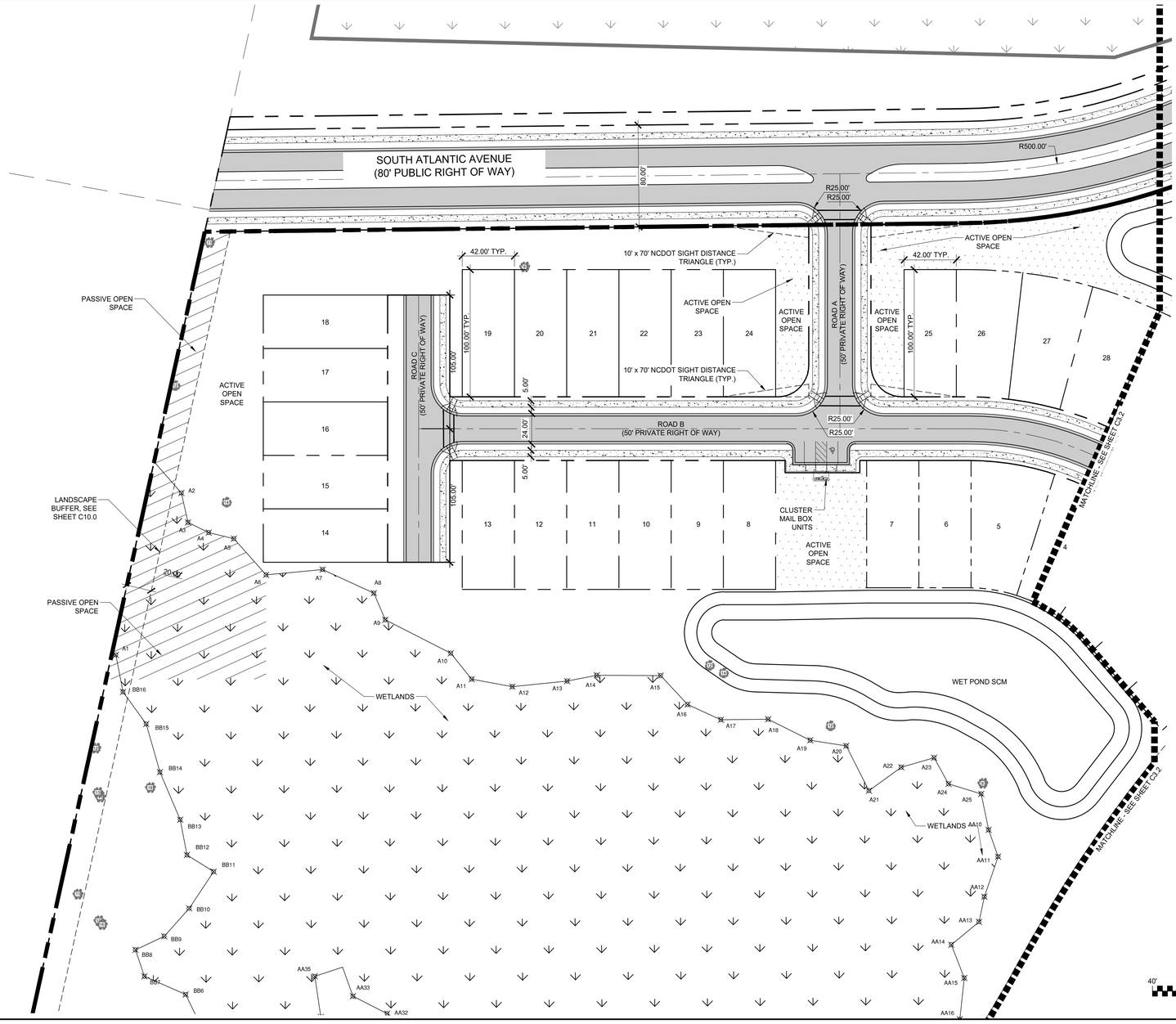
DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1" = 80'-0"
VERTICAL: N/A

C3.0
DRAWING NUMBER
0
REVISION

STATUS:
PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL I\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C3.0 SITE PLAN.DWG ---- 08/04/2023 10:08:08



2 | SITE PLAN ENLARGEMENT — SCALE: 1" = 40'-0"

SYMBOL LEGEND

- ASPHALT
- CONCRETE
- ACTIVE OPEN SPACE
- PASSIVE OPEN SPACE

1 | LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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SITE PLAN ENLARGEMENT

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

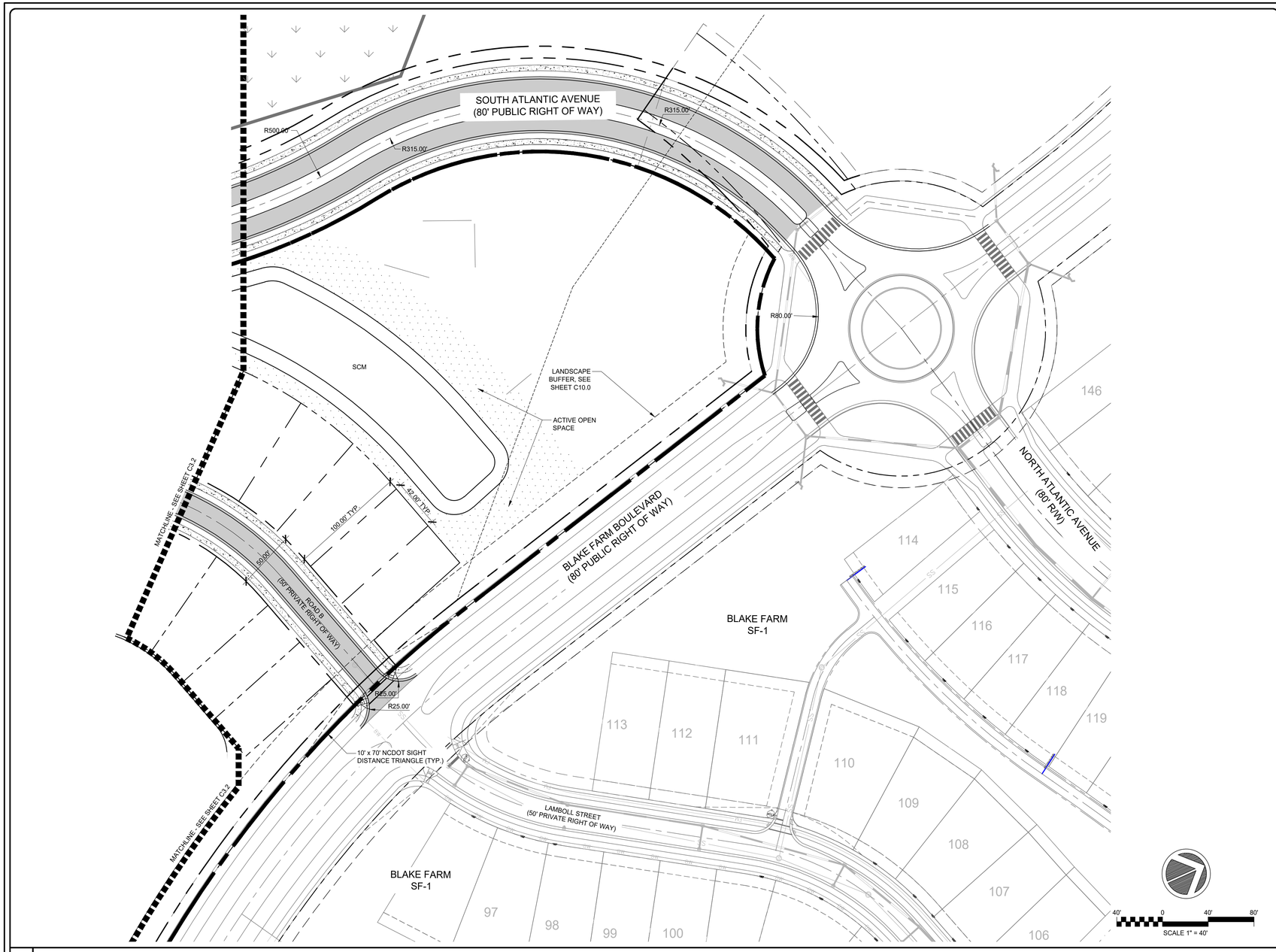
SCALE
HORIZONTAL: 1" = 40'-0"
VERTICAL: N/A

C3.1
DRAWING NUMBER

REVISION

STATUS:
PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL I\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C3.1 SITE PLAN ENLARGEMENT.DWG --- 08/04/2023 10:11:15



SYMBOL LEGEND

- HEAVY-DUTY ASPHALT
- CONCRETE
- ACTIVE OPEN SPACE
- PASSIVE OPEN SPACE

2 SITE PLAN ENLARGEMENT — SCALE: 1" = 40'-0"

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL I

SITE PLAN ENLARGEMENT

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

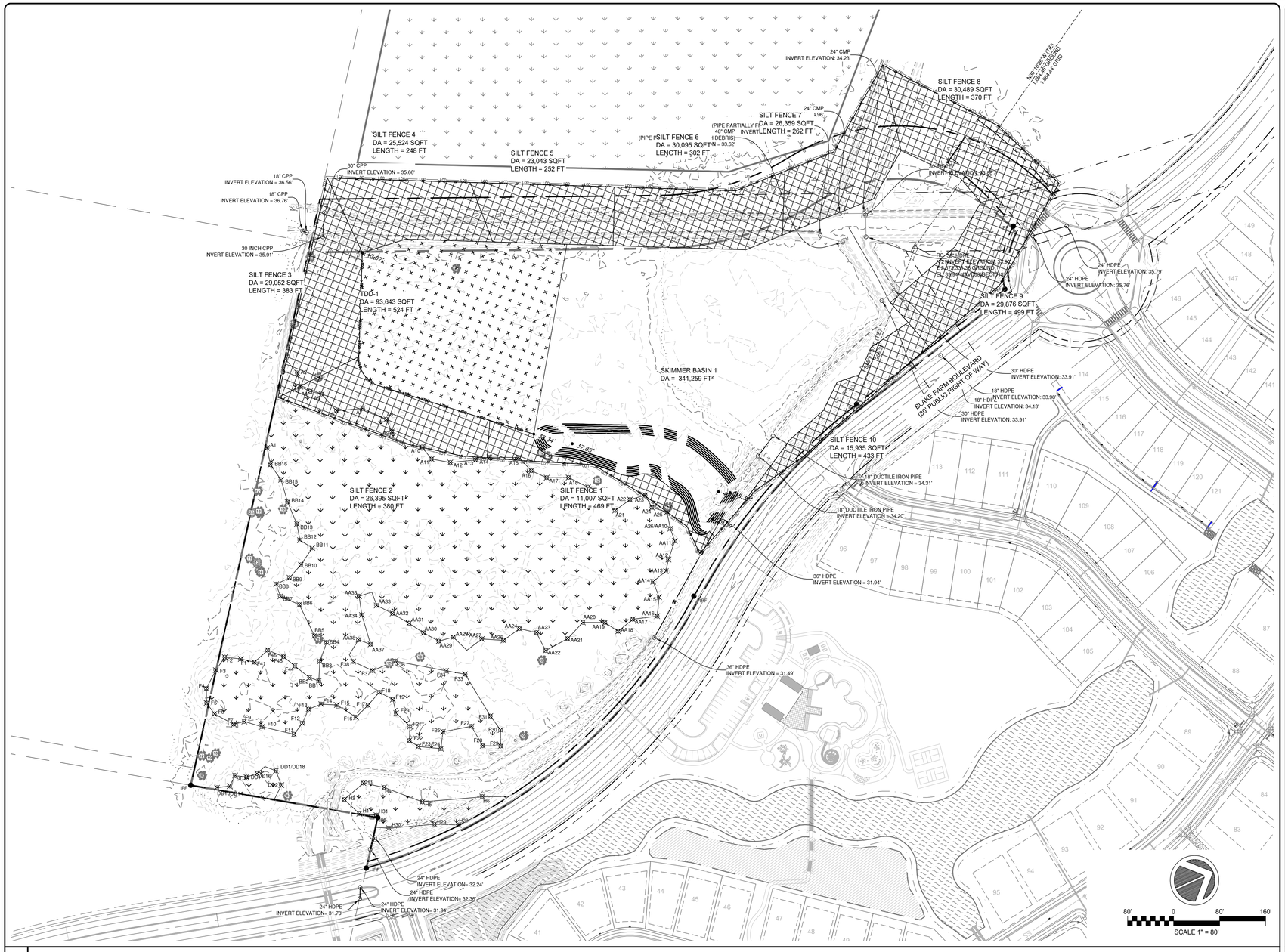
SCALE
HORIZONTAL: 1" = 40'-0"
VERTICAL: N/A

C3.2
DRAWING NUMBER

REVISION

STATUS:
PENDER COUNTY TRC REVIEW

t:\04245\0047\ENG - PARCEL I\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C3.1 SITE PLAN ENLARGEMENT.DWG ---- 08/04/2023 10:11:21



2 EROSION CONTROL PHASE 1 PLAN

DRAINAGE AREAS LEGEND

- SILT FENCE
- TEMP. DIVERSION DITCH
- TEMP. SEDIMENT TRAP/SKIMMER BASIN

EROSION CONTROL LEGEND

- SF SF — SILT FENCE
- LOD LOD — LIMITS OF DISTURBANCE
- TP TP — TREE PROTECTION FENCING
- 40 — EXISTING MAJOR CONTOUR
- 39 — EXISTING MINOR CONTOUR
- TEMPORARY SEDIMENT BASIN BAFFLE
- >TDD >TDD — TEMPORARY DIVERSION DITCH
- DANDY SACK INLET PROTECTION
- SILT FENCE OUTLET

PHASE 1 CONSTR. SEQUENCE NOTES

1. OBTAIN ALL NECESSARY PERMIT APPROVALS PRIOR TO ANY LAND DISTURBANCE ACTIVITY.
2. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL INSPECTOR, ENGINEER, AND CONTRACTOR SHALL BE IN ATTENDANCE.
3. ESTABLISH LIMITS OF DISTURBANCE AS SHOWN.
4. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES AS SHOWN. CONTRACTOR SHALL MAINTAIN A SUFFICIENT GRAVEL ENTRANCE UNTIL FINAL SUB-GRADE IS ESTABLISHED. IF DIRT/MUD GETS ON THE STREET, THEN A WASH RACK WILL NEED TO BE INSTALLED.
5. INSTALL TREE PROTECTION FENCING,SILT FENCING, AND SILT FENCE OUTLETS AS NOTED ON PLANS BEFORE COMMENCING ANY LAND DISTURBANCE ACTIVITY. ADDITIONAL TREE PROTECTION FENCING AND SILT FENCE MAY BE REQUIRED. SILT FENCE WILL BE INSTALLED INSIDE OF THE LIMITS OF DISTURBANCE LINE (SHOWN AS AN OFFSET FOR GRAPHIC CLARITY).
6. INSTALL TEMPORARY SKIMMER SEDIMENT BASIN (WITH FAIR CLOTH SKIMMERS) AND SEDIMENT TRAPS WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THE PLANS IN ORDER TO TREAT SEDIMENT LADEN WATER.
7. INSTALL TEMPORARY DIVERSION DITCHES AND CHECK DAMS AS SHOWN ON THE PLANS IN ORDER TO CONVEY RUNOFF INTO THE SEDIMENT BASINS/TRAPS.
8. COMMENCE CLEARING, GRUBBING, AND STRIPPING WITHIN THE LIMITS OF CONSTRUCTION. STRIP EXISTING GRADE TO A DEPTH OF 4" AND HAUL AWAY MATERIAL TO A LOCATION WITHIN THE DEVELOPMENT OR TO AN OFF-SITE PERMITTED LOCATION. COORDINATE LOCATION WITH PROJECT MANAGER.
9. COMMENCE ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE TO BRING THE SITE TO THE PROPOSED SUBGRADE LEVEL.
10. PROVIDE TEMPORARY STABILIZATION AND SEEDING AS NECESSARY TO PREVENT EROSION ONCE FINAL GRADES ARE ESTABLISHED. REFER TO DETAIL S/C12.0 FOR GROUND STABILIZATION CRITERIA AND SEEDING SCHEDULE.

GENERAL EROSION CONTROL NOTES

1. SEE C12.2 - NCG01 GROUND STABILIZATION AND MATERIALS HANDLING FOR REQUIREMENT MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES
2. WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, ORANGE SILT FENCE AND SIGNAGE FOR TREE PROTECTION MAY BE USED INSTEAD OF DUPLICATE FENCING. SIGNAGE MUST MEET NCDEQ REQUIREMENTS FOR TREE PROTECTION DURING CONSTRUCTION.
3. SILT FENCE AND/OR TREE PROTECTION FENCE TO BE PLACED AT OR INSIDE LIMITS OF DISTURBANCE. THE PLANS ILLUSTRATE THE FENCING AS AN OFFSET FROM THE LIMITS OF DISTURBANCE FOR GRAPHIC CLARITY.
4. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE STATE EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
5. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE.
6. GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
7. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NCDEQ.
8. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
9. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
10. IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED.
11. WITHIN 24 HOURS FOLLOWING ANY RAIN EVENT, THE CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL MEASURES.
12. ALL ACTIVITY AND INSTALLATION OF EROSION CONTROL MATTING WILL BE COMPLETE PRIOR TO ANY RAIN EVENT.

LIMITS OF DISTURBANCE

AREA:22.00 AC
LAT: 34°20'13.45"N
LONG: 77°45'41.03"W

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL I

EROSION CONTROL PHASE 1 PLAN

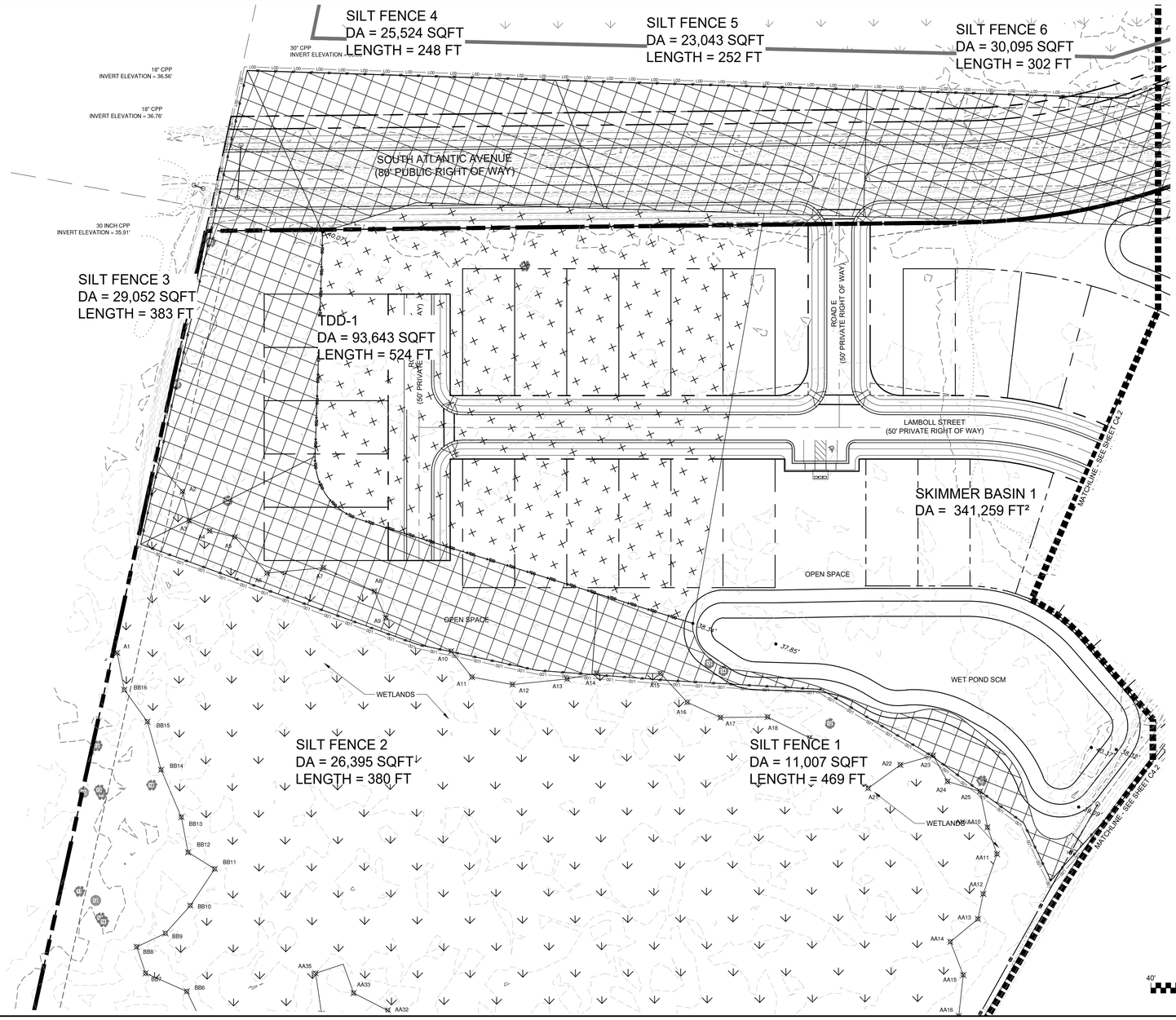
DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1" = 80'-0"
VERTICAL: N/A

C4.0
DRAWING NUMBER
0
REVISION

STATUS:
PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL I\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C4.0 EROSION CONTROL PHASE 1 PLAN.DWG — 08/04/2023 10:14:28



DRAINAGE AREAS LEGEND

- SILT FENCE
- TEMP. DIVERSION DITCH
- TEMP. SEDIMENT TRAP/SKIMMER BASIN

2 | EROSION CONTROL PHASE 1 ENLARGEMENT — SCALE: 1" = 40'-0"

1 | LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL I

EROSION CONTROL PHASE 1 ENLARGEMENT

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DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

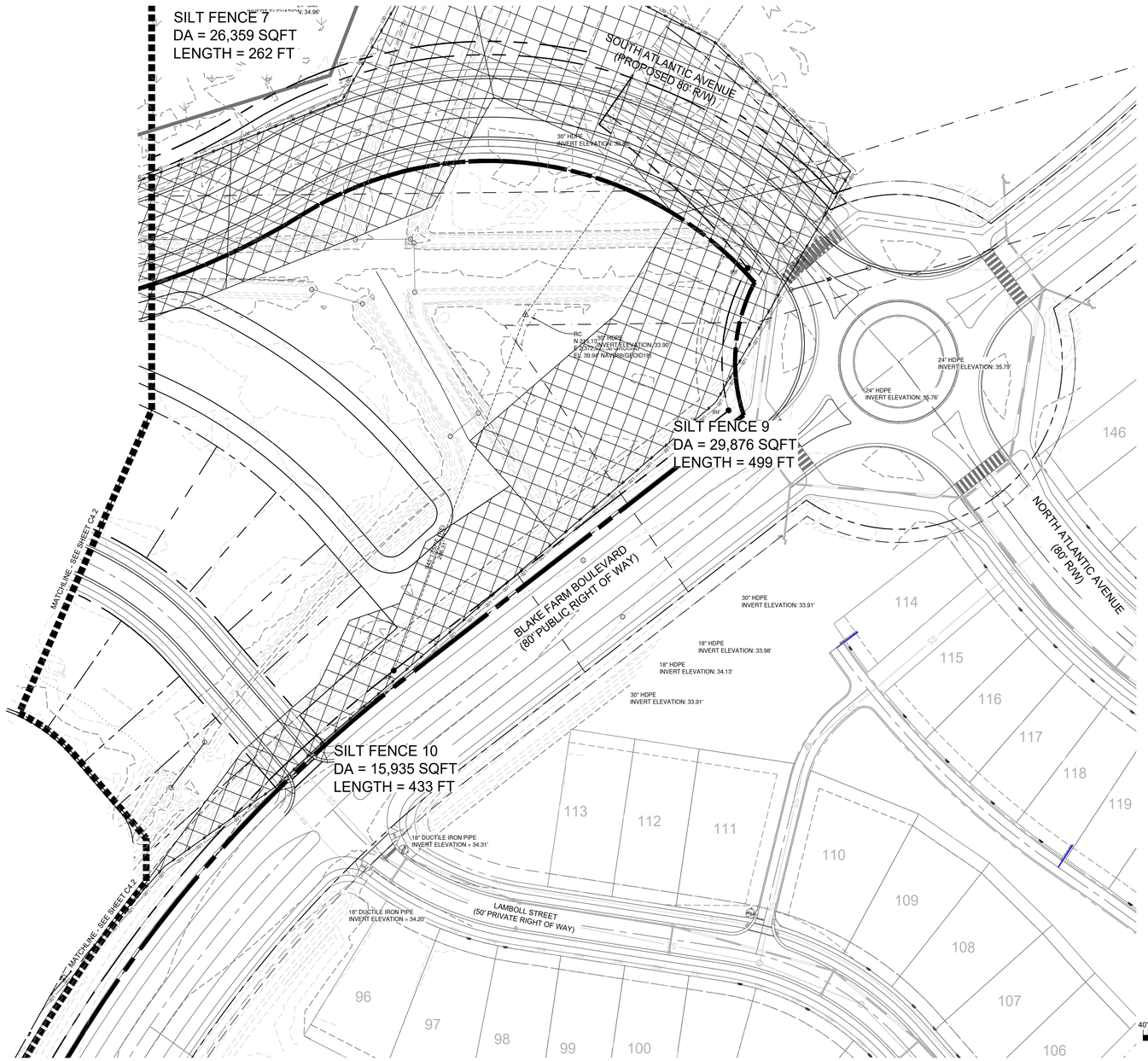
SCALE
HORIZONTAL: 1" = 40'-0"
VERTICAL: N/A

C4.1
DRAWING NUMBER

REVISION

STATUS:
PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL I\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C4.1 EROSION CONTROL PHASE 1 ENLARGEMENT.DWG ---- 08/04/2023 10:18:04



DRAINAGE AREAS LEGEND

- SILT FENCE
- TEMP. DIVERSION DITCH
- TEMP. SEDIMENT TRAP/SKIMMER BASIN

2 EROSION CONTROL PHASE 1 ENLARGEMENT — SCALE: 1" = 40'-0"

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
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EROSION CONTROL PHASE 1 ENLARGEMENT

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

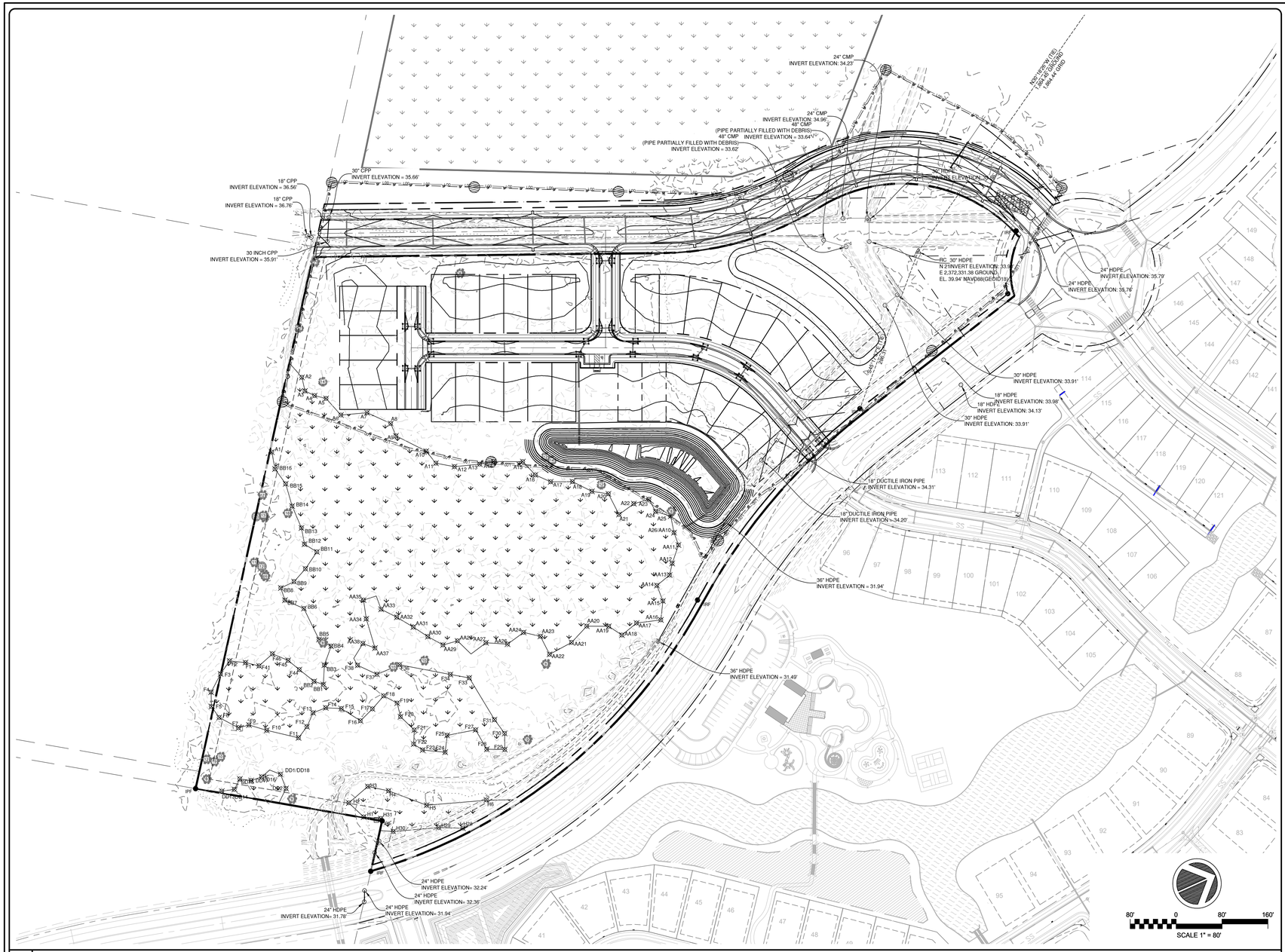
SCALE
HORIZONTAL: 1" = 40'-0"
VERTICAL: N/A

C4.2
DRAWING NUMBER

REVISION

STATUS:
PENDER COUNTY TRC REVIEW

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2 | GRADING AND DRAINAGE - ESC STAGE 2 - OVERALL PLAN

SYMBOLS LEGEND

- SD — STORM DRAINAGE LINE
- STORM DRAINAGE MANHOLE
- STORM DRAINAGE DROP INLET
- STORM DRAINAGE CURB INLET
- STORM DRAINAGE FLARED END SECTION
- FFE 20.1' — FINISH FLOOR ELEVATION
- STEP COUNT AND APPROX. 48 LF EA
- RW1 4'H.A. — APPROX. WALL HEIGHT
- 40 — PROPOSED MAJOR CONTOUR
- 39 — PROPOSED MINOR CONTOUR
- 20 — EXISTING MAJOR CONTOUR
- 21 — EXISTING MINOR CONTOUR
- LOD — LIMITS OF DISTURBANCE

1 | LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL I

GRADING AND DRAINAGE - ESC STAGE 2 - OVERALL PLAN

DATE:	08/04/2023
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DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1" = 80'-0"
VERTICAL: N/A

C7.0
DRAWING NUMBER

REVISION

STATUS:
PENDER COUNTY TRC REVIEW

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2 | GRADING AND DRAINAGE - ESC STG 2 ENLARGEMENT

SCALE: 1" = 40'-0"

SYMBOLS LEGEND

- SD — STORM DRAINAGE LINE
- SD — STORM DRAINAGE MANHOLE
- STORM DRAINAGE DROP INLET
- STORM DRAINAGE CURB INLET
- STORM DRAINAGE FLARED END SECTION
- FFE 20.1' — FINISH FLOOR ELEVATION
- 2 STEPS / ±0.1' EA — STEP COUNT AND APPROX.
- WALL ±1.0' — APPROX. WALL HEIGHT
- 40 — PROPOSED MAJOR CONTOUR
- 39 — PROPOSED MINOR CONTOUR
- 20 — EXISTING MAJOR CONTOUR
- 21 — EXISTING MINOR CONTOUR
- LOD — LIMITS OF DISTURBANCE

1 | LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL I

GRADING AND DRAINAGE - ESC STG 2 ENLARGEMENT

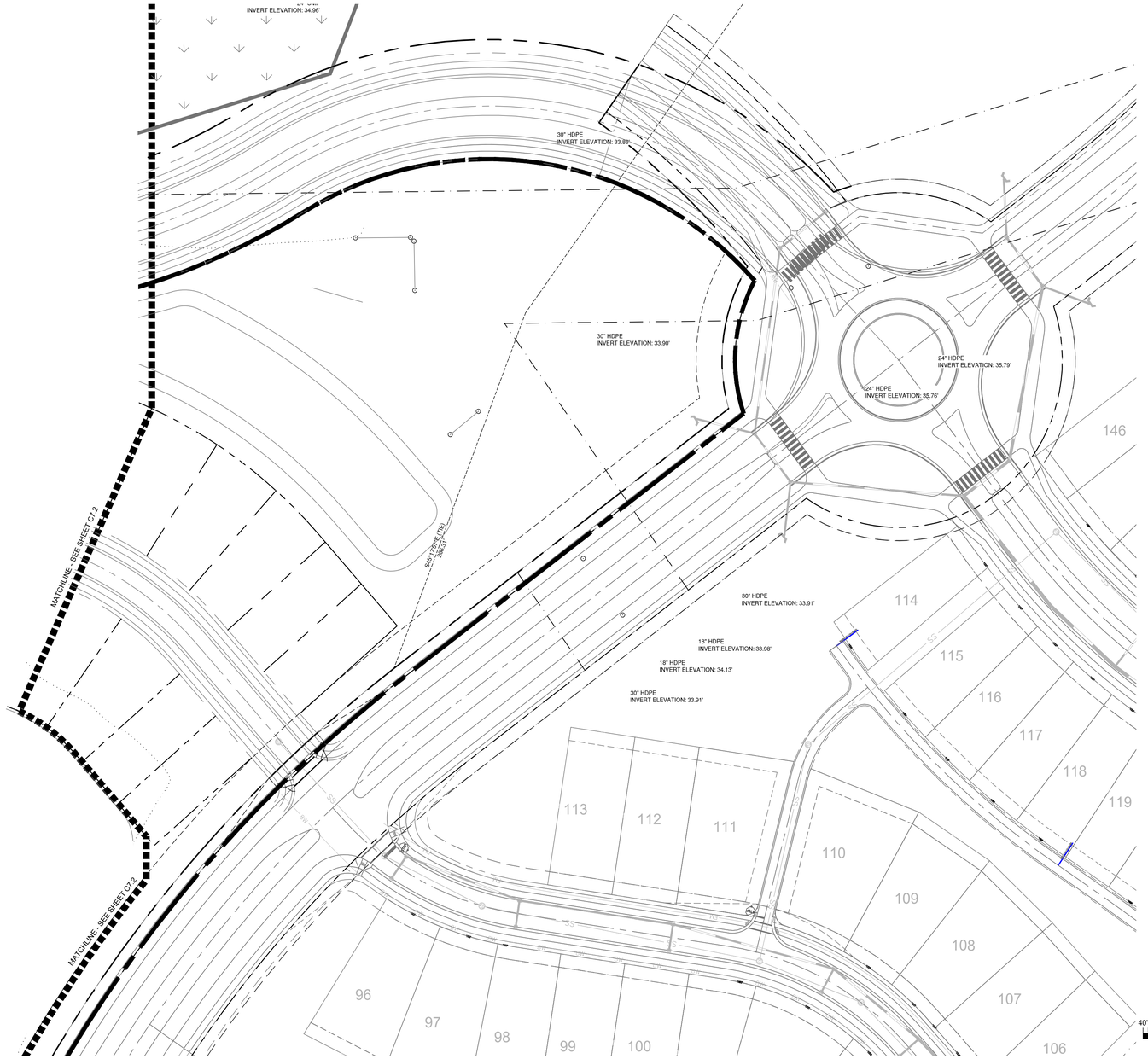
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MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1" = 40'-0"
VERTICAL: N/A

C7.1
DRAWING NUMBER

REVISION

STATUS:
PENDER COUNTY TRC REVIEW



2 GRADING AND DRAINAGE - ESC STG 2 ENLARGEMENT

SCALE: 1" = 40'-0"

SYMBOLS LEGEND

- SD — STORM DRAINAGE LINE
- SD — STORM DRAINAGE MANHOLE
- STORM DRAINAGE DROP INLET
- STORM DRAINAGE CURB INLET
- STORM DRAINAGE FLARED END SECTION
- FFE 20.1' — FINISH FLOOR ELEVATION
- 13 STEPS at 7.2' — STEP COUNT AND APPROX.
- W0.5 at 0.5' — APPROX. WALL HEIGHT
- 40 — PROPOSED MAJOR CONTOUR
- 39 — PROPOSED MINOR CONTOUR
- 20 — EXISTING MAJOR CONTOUR
- 21 — EXISTING MINOR CONTOUR
- LOD — LIMITS OF DISTURBANCE

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL I

GRADING AND DRAINAGE - ESC STG 2 ENLARGEMENT

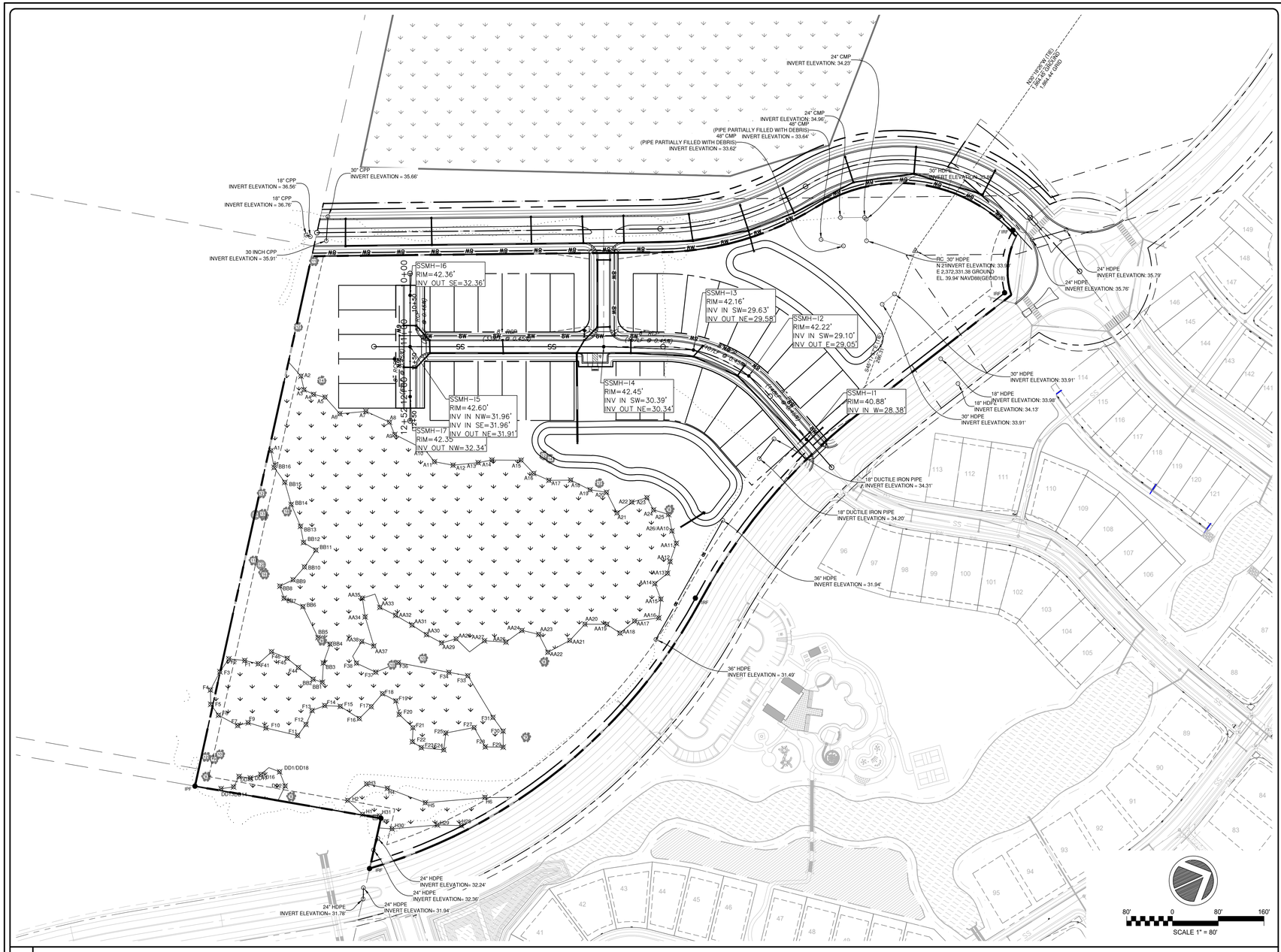
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MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1" = 40'-0"
VERTICAL: N/A

C7.2
DRAWING NUMBER

REVISION

STATUS:
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2 UTILITY PLAN

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL I

UTILITY PLAN

DATE:	08/04/2023
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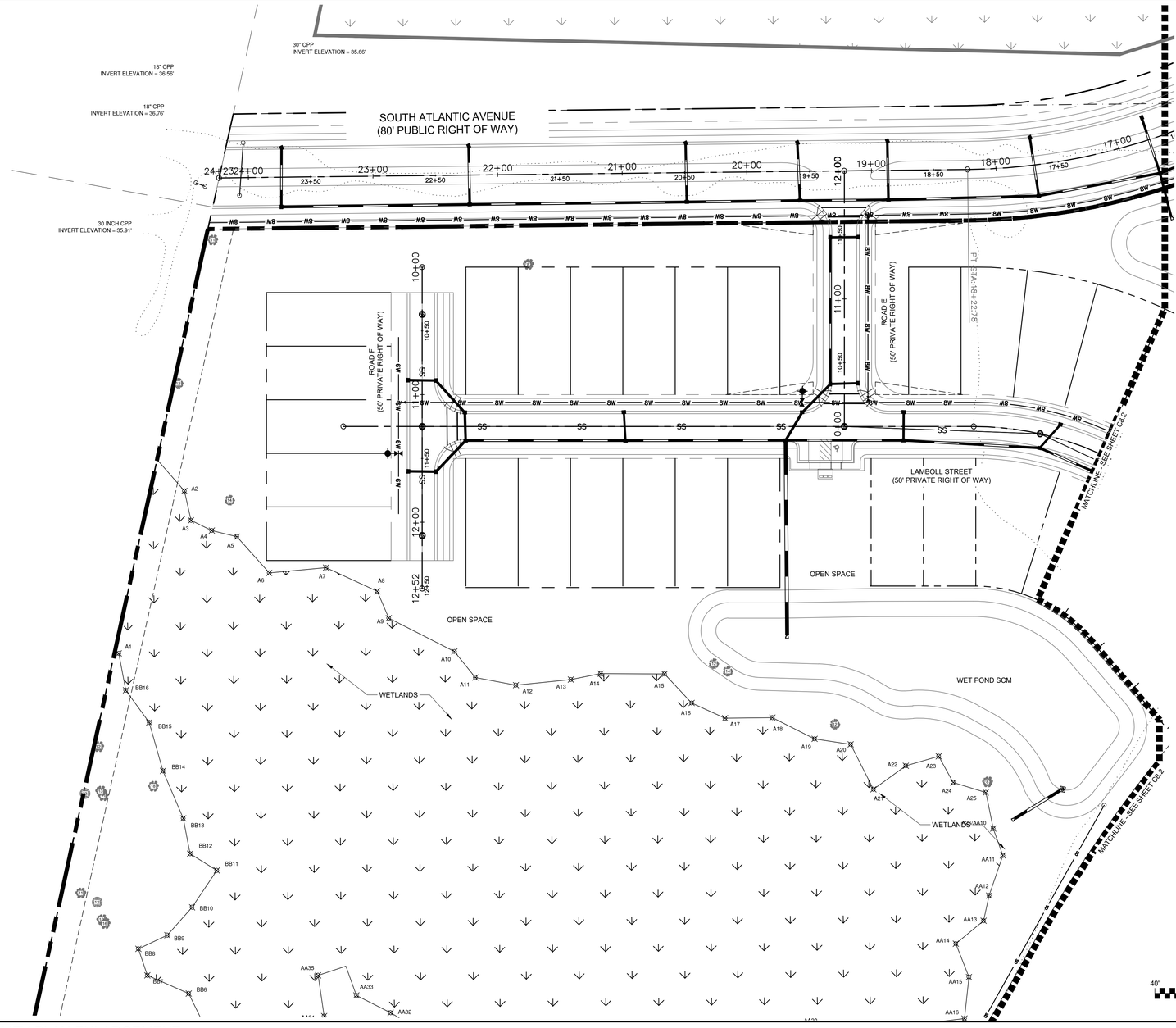
SCALE
HORIZONTAL: VALUE
VERTICAL: N/A

C8.0
DRAWING NUMBER

0
REVISION

STATUS:
PENDER COUNTY TRC REVIEW

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SYMBOLS LEGEND

- SS — SANITARY SEWER LINE
- SANITARY SEWER CLEANOUT
- SANITARY SEWER MANHOLE
- W — WATER LINE
- WATER METER
- BACKFLOW PREVENTER
- HYDRANT AND VALVE ASSEMBLY
- FDC — FIRE DEPARTMENT CONNECTION
- SD — STORM DRAINAGE LINE
- STORM DRAINAGE MANHOLE
- STORM DRAINAGE DROP INLET
- STORM DRAINAGE CURB INLET
- STORM DRAINAGE FLARED END SECTION

2 UTILITY PLAN ENLARGEMENT — SCALE: 1" = 40'-0"

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL I

UTILITY PLAN ENLARGEMENT

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PROJ. MGR.	TSM

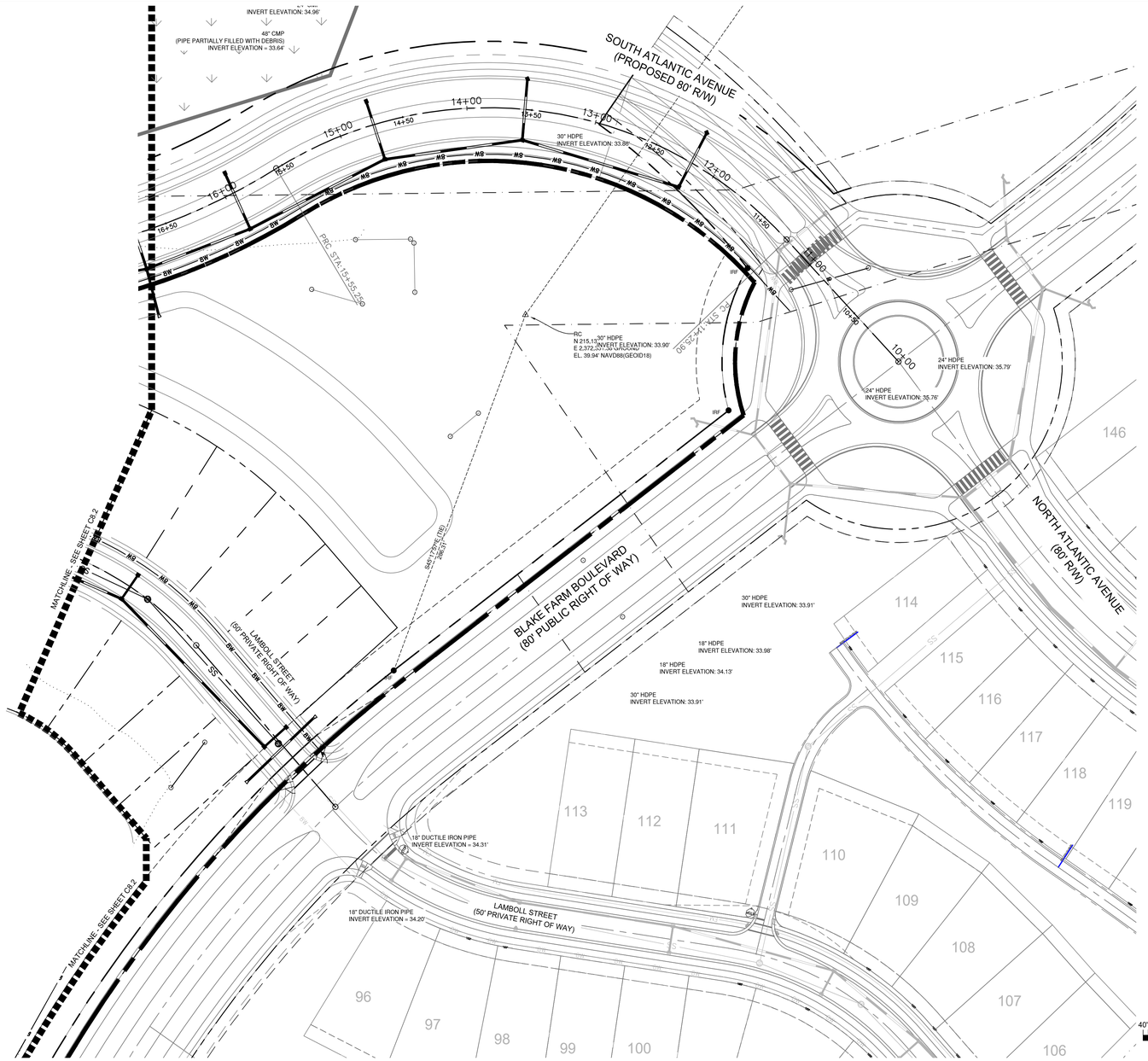
SCALE
HORIZONTAL: 1" = 40'-0"
VERTICAL: N/A

C8.1
DRAWING NUMBER

REVISION

STATUS:
PENDER COUNTY TRC REVIEW

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2 UTILITY PLAN ENLARGEMENT — SCALE: 1" = 40'-0"

SYMBOLS LEGEND

- SS — SANITARY SEWER LINE
- SANITARY SEWER CLEANOUT
- SANITARY SEWER MANHOLE
- W — WATER LINE
- WATER METER
- BACKFLOW PREVENTER
- HYDRANT AND VALVE ASSEMBLY
- FDC — FIRE DEPARTMENT CONNECTION
- SD — STORM DRAINAGE LINE
- STORM DRAINAGE MANHOLE
- STORM DRAINAGE DROP INLET
- STORM DRAINAGE CURB INLET
- STORM DRAINAGE FLARED END SECTION

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
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BLAKE FARM PARCEL I

UTILITY PLAN ENLARGEMENT

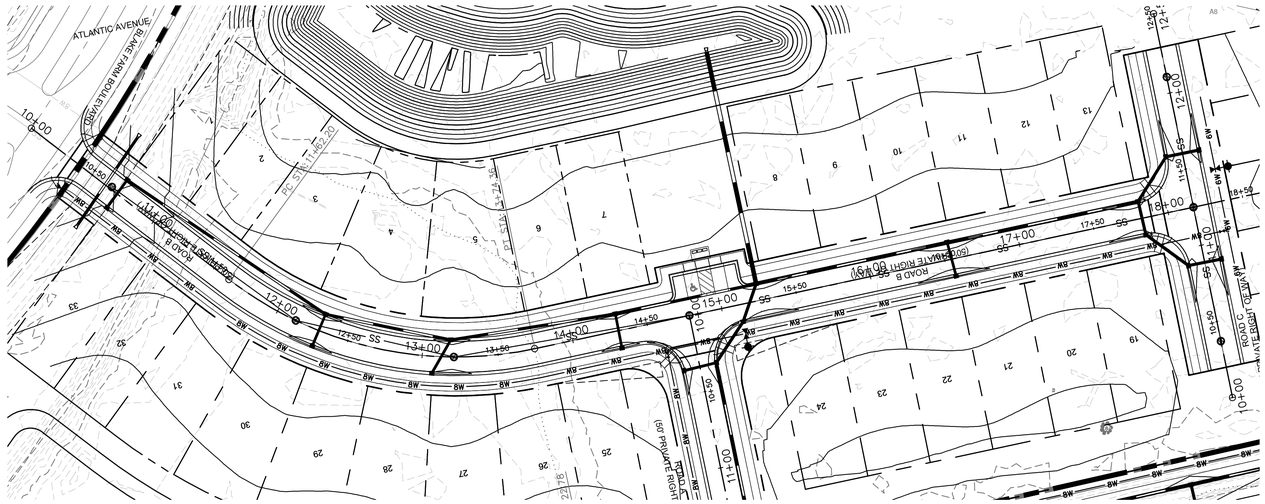
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MCE PROJ. #	04245-0047B
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DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

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VERTICAL: N/A

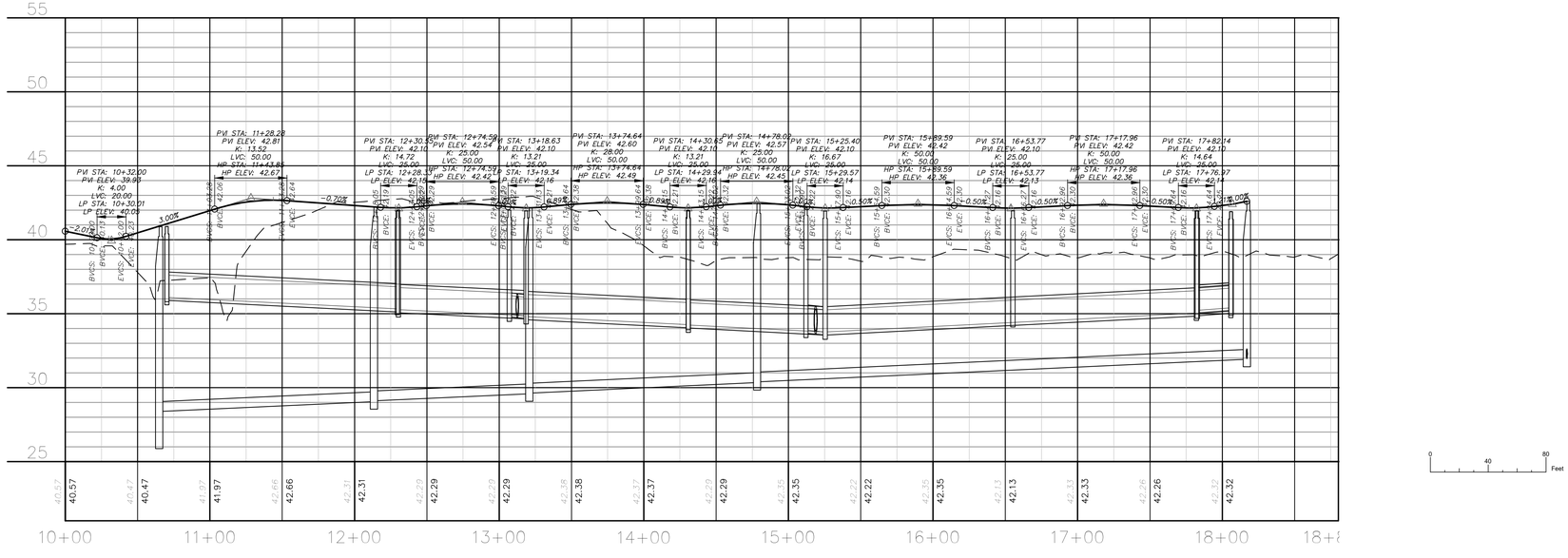
C8.2 DRAWING NUMBER

---- REVISION

STATUS: PENDER COUNTY TRC REVIEW



ROAD B PLAN VIEW



ROAD B PROFILE VIEW

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL I

ROAD B PLAN AND PROFILE STA 10+00 TO END

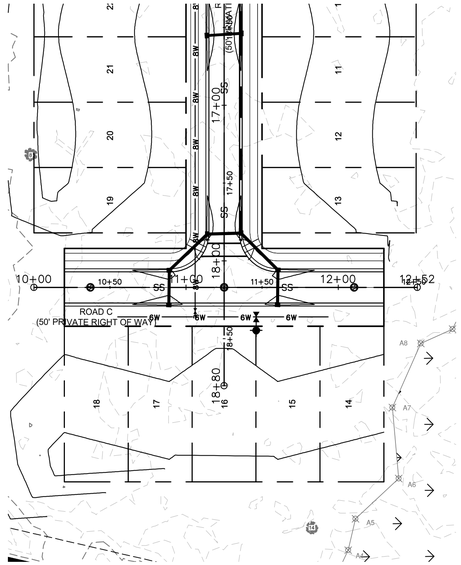
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MCE PROJ. #	04245-0047B
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DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
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VERTICAL: 1"=4'

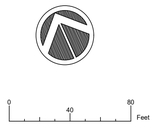
C9.0
DRAWING NUMBER
0
REVISION

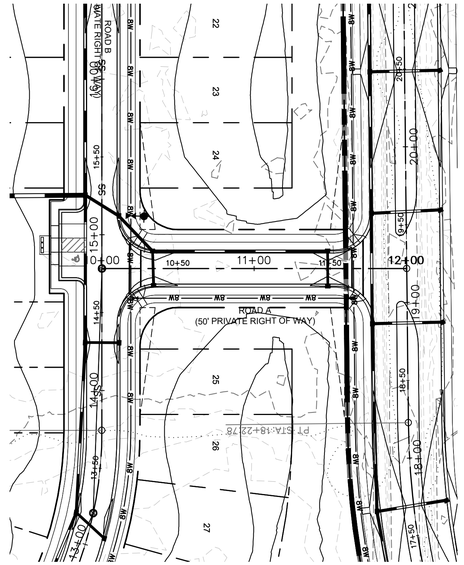
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PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL I\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C9.0 PLAN AND PROFILES.DWG ---- 08/04/2023 10:42:33

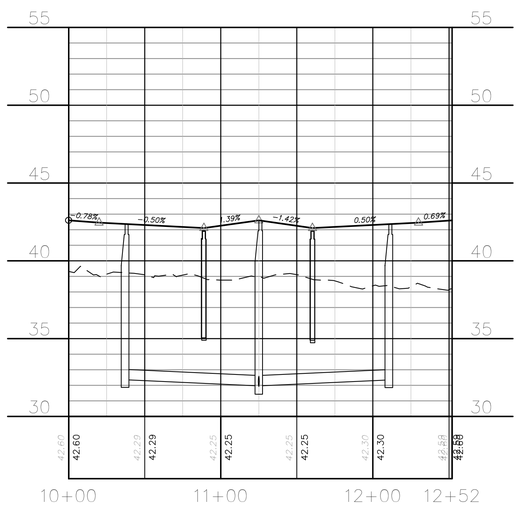


ROAD C PLAN VIEW



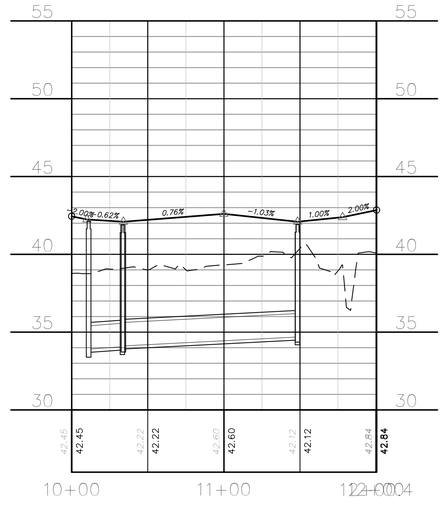


ROAD A PLAN VIEW



ROAD C PROFILE VIEW





ROAD A PROFILE VIEW

REV.NO.	DESCRIPTIONS	DATE
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BLAKE FARM PARCEL I

ROAD A AND C PLAN AND PROFILE STA 10+00 TO END

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

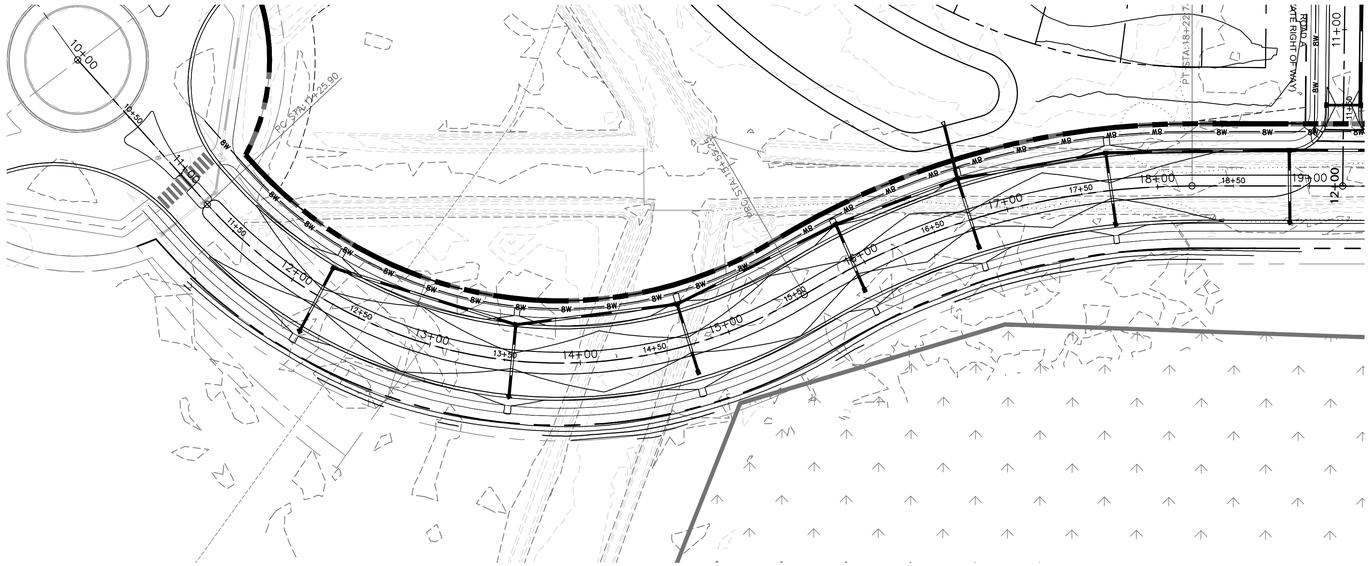
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VERTICAL: 1"=4'

C9.1
DRAWING NUMBER

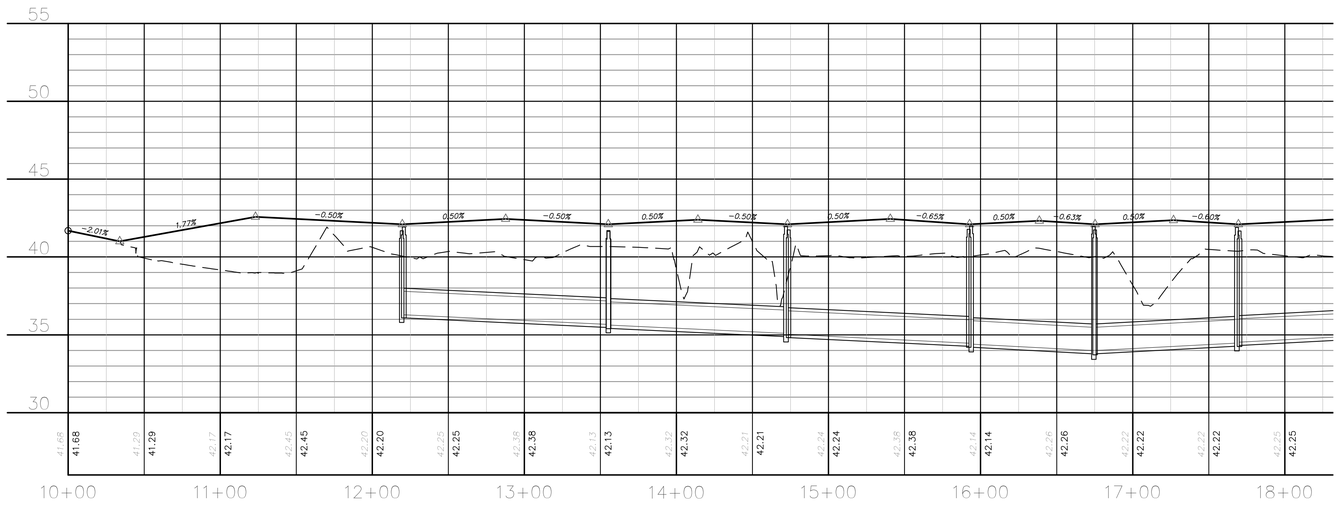
REVISION

STATUS:
PENDER COUNTY TRC REVIEW

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ATLANTIC AVENUE PLAN VIEW



ATLANTIC AVENUE PROFILE VIEW

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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BLAKE FARM PARCEL I

ROAD D PLAN AND PROFILE STA 10+00 TO 18+00

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

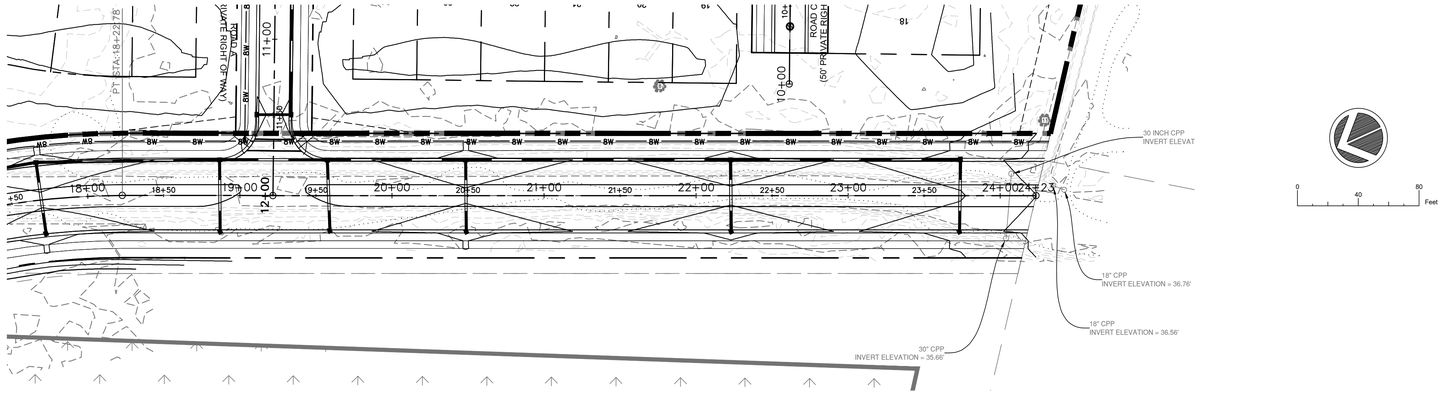
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C9.2
DRAWING NUMBER

REVISION

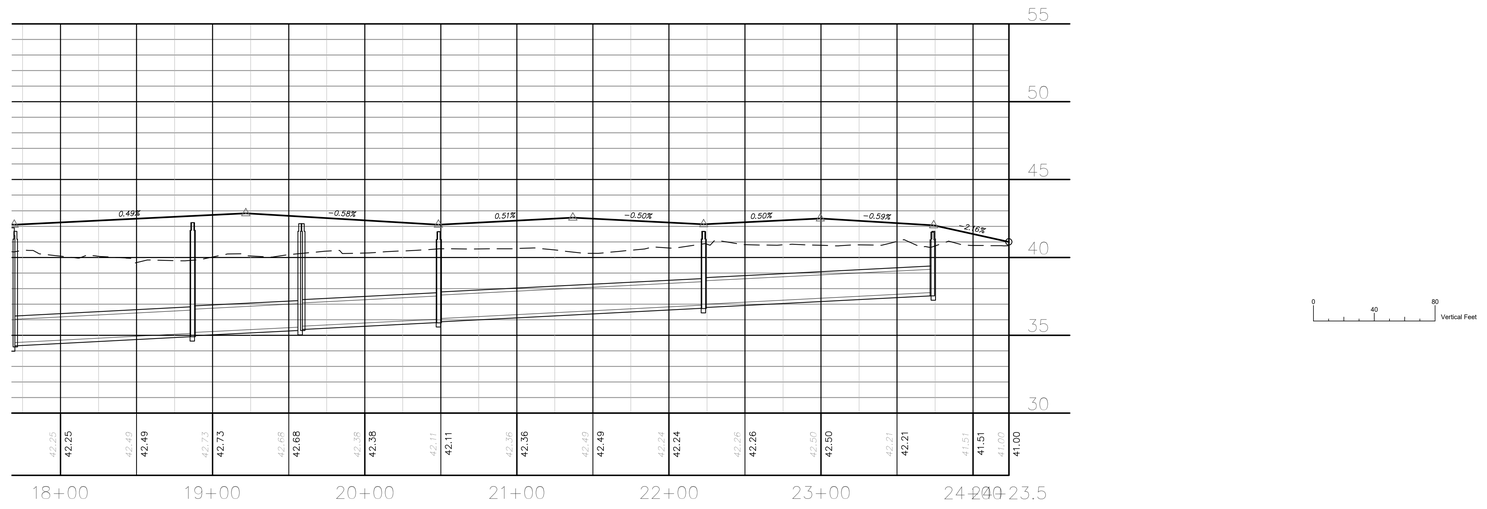
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0 40 80 Feet

ATLANTIC AVENUE PLAN VIEW



0 40 80 Vertical Feet

ATLANTIC AVENUE PROFILE VIEW

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BLAKE FARM PARCEL I

ROAD D PLAN AND PROFILE STA 18+00 TO END

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: 1"=40'
VERTICAL: 1"=4'

C9.3
DRAWING NUMBER

REVISION

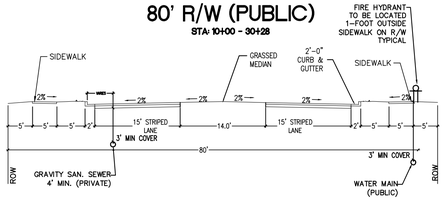
STATUS:
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ATLANTIC AVENUE COLLECTOR

80' R/W (PUBLIC)

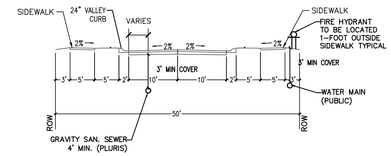
STA: 10+00 - 30+28



2 | ATLANTIC AVENUE ROAD SECTION

RESIDENTIAL LOCAL

50' R/W (PUBLIC)



1 | 50' ROW ROAD SECTION

REV.NO.	DESCRIPTIONS	DATE
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BLAKE FARM PARCEL I

TYPICAL STREET SECTIONS

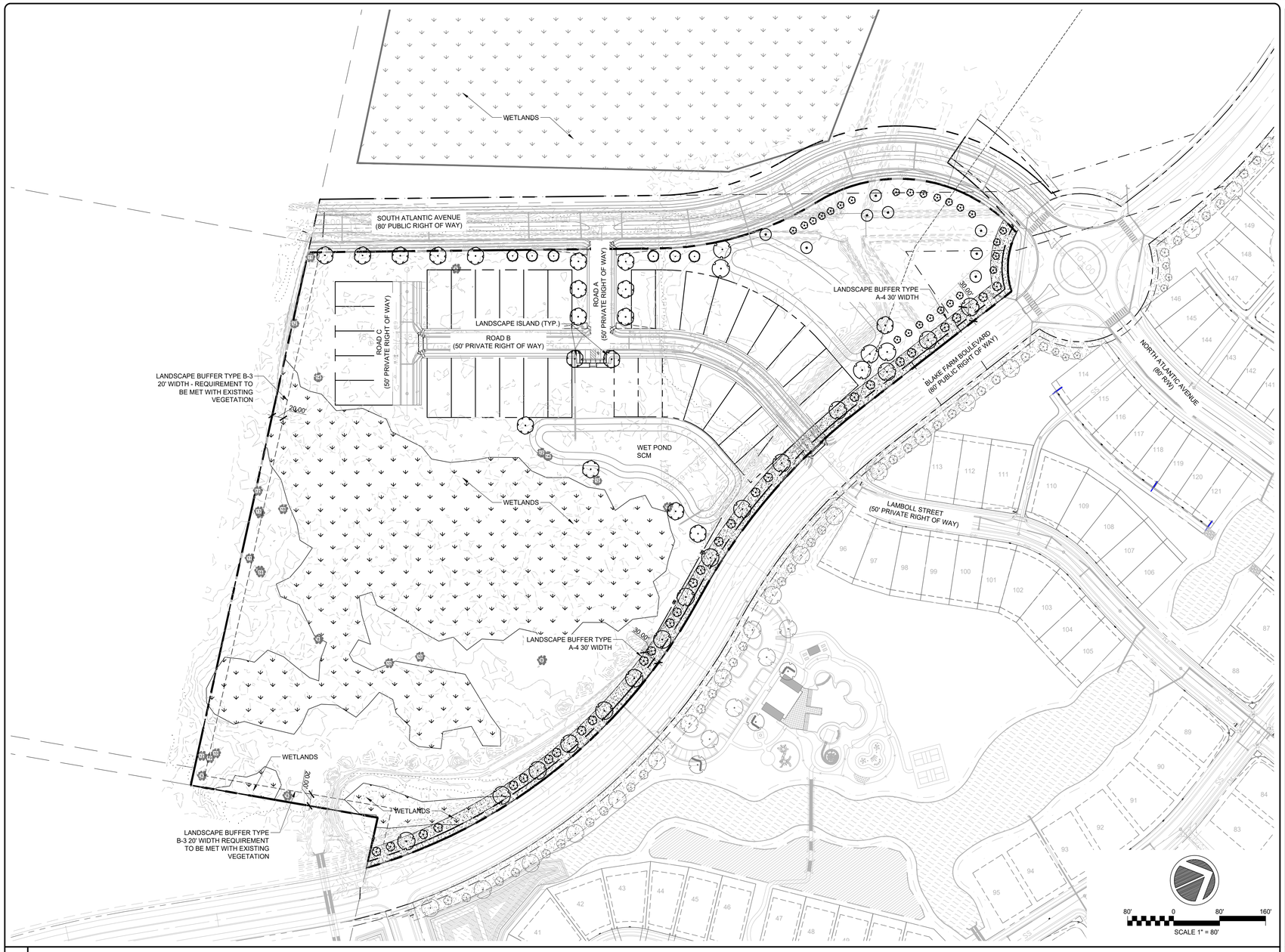
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MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: N/A

C9.5
DRAWING NUMBER

REVISION

STATUS:
PENDER COUNTY TRC REVIEW



LANDSCAPE DATA

REGULATION	REQUIRED	PROPOSED
MITIGATION		
ANY SIGNIFICANT TREE REMOVED SHALL BE MITIGATED BY PLANTING OF TWO (2) TREES OF THE SAME SPECIES WITH A MINIMUM CALIPER OF 2" OR GREATER 3 SIGNIFICANT MAPLES x 2 = 6 MAPLES 1 SIGNIFICANT WATER OAK X 2 = 2 WATER OAKS	6 MAPLES 2 WATER OAKS	6 MAPLES 2 WATER OAKS
THE FOLLOWING MITIGATION TREES ARE PLANTED FOR MITIGATION OF TREE REMOVALS AT BLAKE FARM POND 3 AMERICAN HOLLIES x 2 = 6 HOLLIES 6 SIGNIFICANT MAPLES x 2 = 12 MAPLES 10 SIGNIFICANT WATER OAK X 2 = 20 WATER OAKS	6 HOLLIES 12 MAPLES 20 WATER OAKS	6 HOLLIES 12 MAPLES 20 WATER OAKS
NOTE: REFER TO TREE REMOVAL TABLE FOR TREE REMOVAL LIST AND MITIGATION CALCULATIONS		
INTERIOR PARKING AREA LANDSCAPING		
LANDSCAPE ISLAND DIMENSIONS - MIN.12' MIN WIDTH - MIN. DISTANCE BETWEEN ISLANDS 120' - MIN. 300 SF PERVIOUS AREA - MIN. 600 SF PERVIOUS AREA (DOUBLE, TERMINAL ISLANDS)	YES	YES
LANDSCAPE ISLAND PLANTING - 1 CANOPY TREE PER ISLAND - 2' HIGH SCREENING SHRUBS ENTIRE LENGTH OF LANDSCAPE ISLAND	YES	YES
BUFFER YARD - PD BOUNDARY BUFFERS		
SOUTH: B-3* 20' WIDE STRIP 1 CANOPY TREES, 2 UNDERSTORY TREES PER 100 LF 913 LF/100 = 9.13 9.13 x 1 = 9.13 = 10 CANOPY TREES 9.13 x 2 = 18.26 = 19 UNDERSTORY TREES	20' WIDTH 10 CANOPY TREES 19 UNDERSTORY TREES	20' WIDTH MET WITH EXISTING VEGETATION*
EAST: B-3* 20' WIDE STRIP 1 CANOPY TREES, 2 UNDERSTORY TREES PER 100 LF 393 LF/100 = 3.93 3.93 x 1 = 3.93 = 4 CANOPY TREES 3.93 x 2 = 7.86 = 8 UNDERSTORY TREES	20' WIDTH 4 CANOPY TREES 8 UNDERSTORY TREES	20' WIDTH MET WITH EXISTING VEGETATION*
*NOTE: BUFFERS REQUIREMENTS INTENDED TO UTILIZE EXISTING VEGETATION TO SATISFY TREE REQUIREMENTS. CLOSER TO TIME OF PROJECT COMPLETION, A SITE VISIT WITH LANDSCAPE ARCHITECT AND PENDER COUNTY PLANNING REPRESENTATIVE IS REQUESTED TO DETERMINE WHETHER SUPPLEMENTAL VEGETATION IS REQUIRED TO MEET INTENT OF ORDINANCE.		
BUFFER YARD - ALONG BLAKE FARM BOULEVARD		
BLAKE FARM BOULEVARD: A-4 30' WIDE STRIP 1 CANOPY TREE, 2 UNDERSTORY TREES AND EITHER A GRASS OR OTHER APPROVED VEGETATIVE GROUND COVER OF AT LEAST 98% COVERAGE (EXCEPT WITHIN 4' OF THE BASE OF ANY TREE OR SHRUB) OR 32 SHRUBS PER 100 LINEAR FEET WILL BE APPLIED ALONG MAIN STREET. 1 CANOPY TREE, 2 UNDERSTORY TREES PER 100 LF 1,560 LF / 100 = 15.60 15.60 x 1 = 15.60 = 16 CANOPY TREES 15.60 x 2 = 31.20 = 32 UNDERSTORY TREES	30' WIDTH 16 CANOPY TREES 32 UNDERSTORY TREES	30' WIDTH 16 CANOPY TREES 32 UNDERSTORY TREES

PLANT SCHEDULE OVERALL

CANOPY TREE	BOTANICAL / COMMON NAME
	ACER RUBRUM `OCTOBER GLORY` TM OCTOBER GLORY MAPLE
	ILEX OPACA AMERICAN HOLLY
	QUERCUS NIGRA WATER OAK
	QUERCUS VIRGINIANA SOUTHERN LIVE OAK
UNDERSTORY TREES	**BOTANICAL / COMMON NAME**
	MAGNOLIA GRANDIFLORA `LITTLE GEM` DWARF SOUTHERN MAGNOLIA
	PRUNUS SERRULATA `KWANZAN` FLOWERING CHERRY

PLANT SCHEDULE OVERALL

GROUND COVERS	BOTANICAL / COMMON NAME
	CYNODON DACTYLON BERMUDA GRASS

2 LANDSCAPE PLAN

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
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BLAKE FARM PARCEL I

LANDSCAPE PLAN

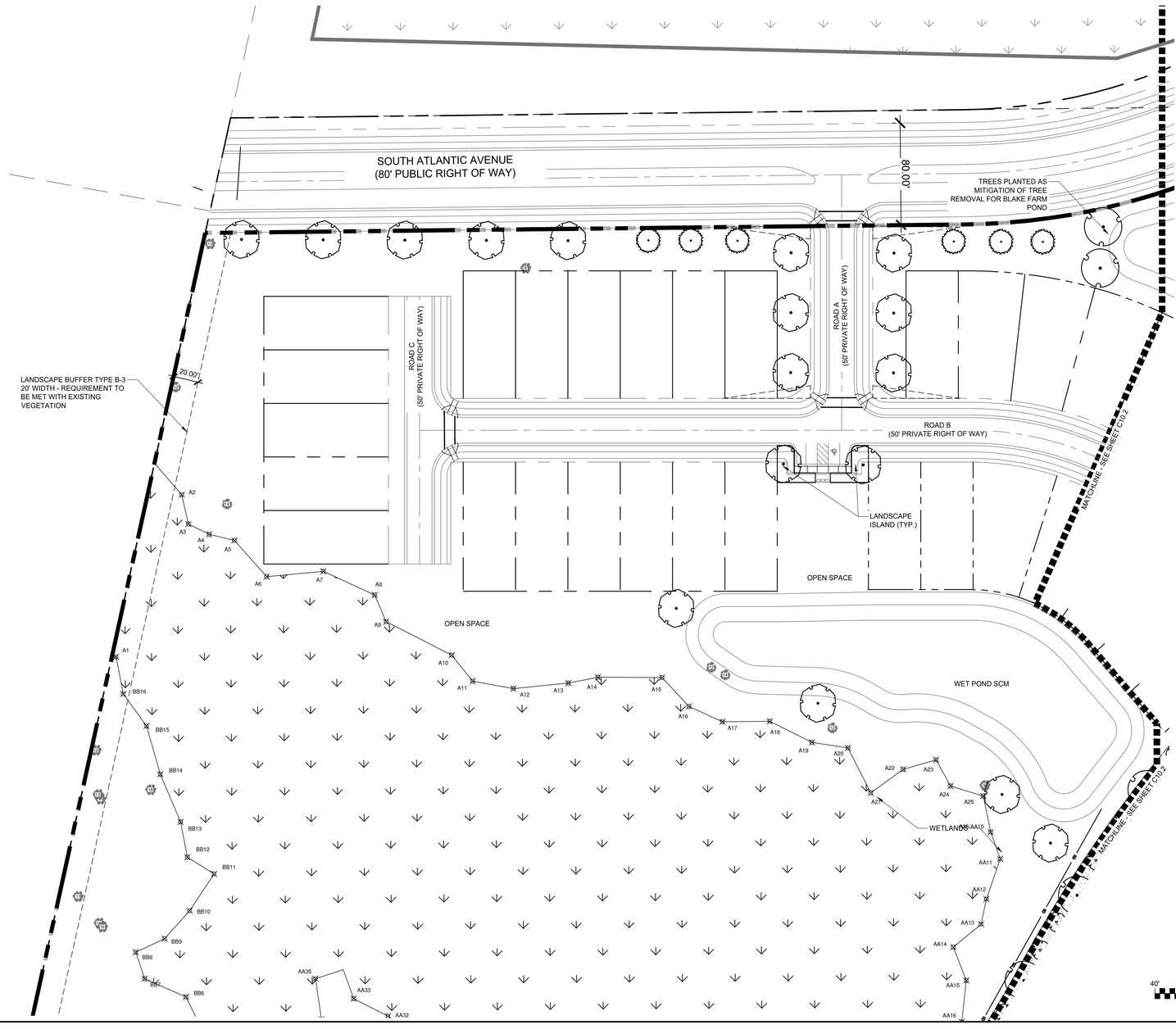
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MCE PROJ. #	04245-0047B
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: VALUE
VERTICAL: VALUE

C10.0
DRAWING NUMBER
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REVISION

STATUS:
PENDER COUNTY TRC REVIEW

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PLANT SCHEDULE OVERALL

CANOPY TREE	BOTANICAL / COMMON NAME
	ACER RUBRUM `OCTOBER GLORY` TM OCTOBER GLORY MAPLE
	ILEX OPACA AMERICAN HOLLY
	QUERCUS NIGRA WATER OAK
	QUERCUS VIRGINIANA SOUTHERN LIVE OAK
UNDERSTORY TREES	**BOTANICAL / COMMON NAME**
	MAGNOLIA GRANDIFLORA `LITTLE GEM` DWARF SOUTHERN MAGNOLIA
	PRUNUS SERRULATA `KWANZAN` FLOWERING CHERRY

PLANT SCHEDULE OVERALL

GROUND COVERS	BOTANICAL / COMMON NAME
	CYNODON DACTYLON BERMUDA GRASS

2 LANDSCAPE PLAN ENLARGEMENT — SCALE: 1" = 40'-0"

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
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BLAKE FARM PARCEL I

LANDSCAPE PLAN ENLARGEMENT

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

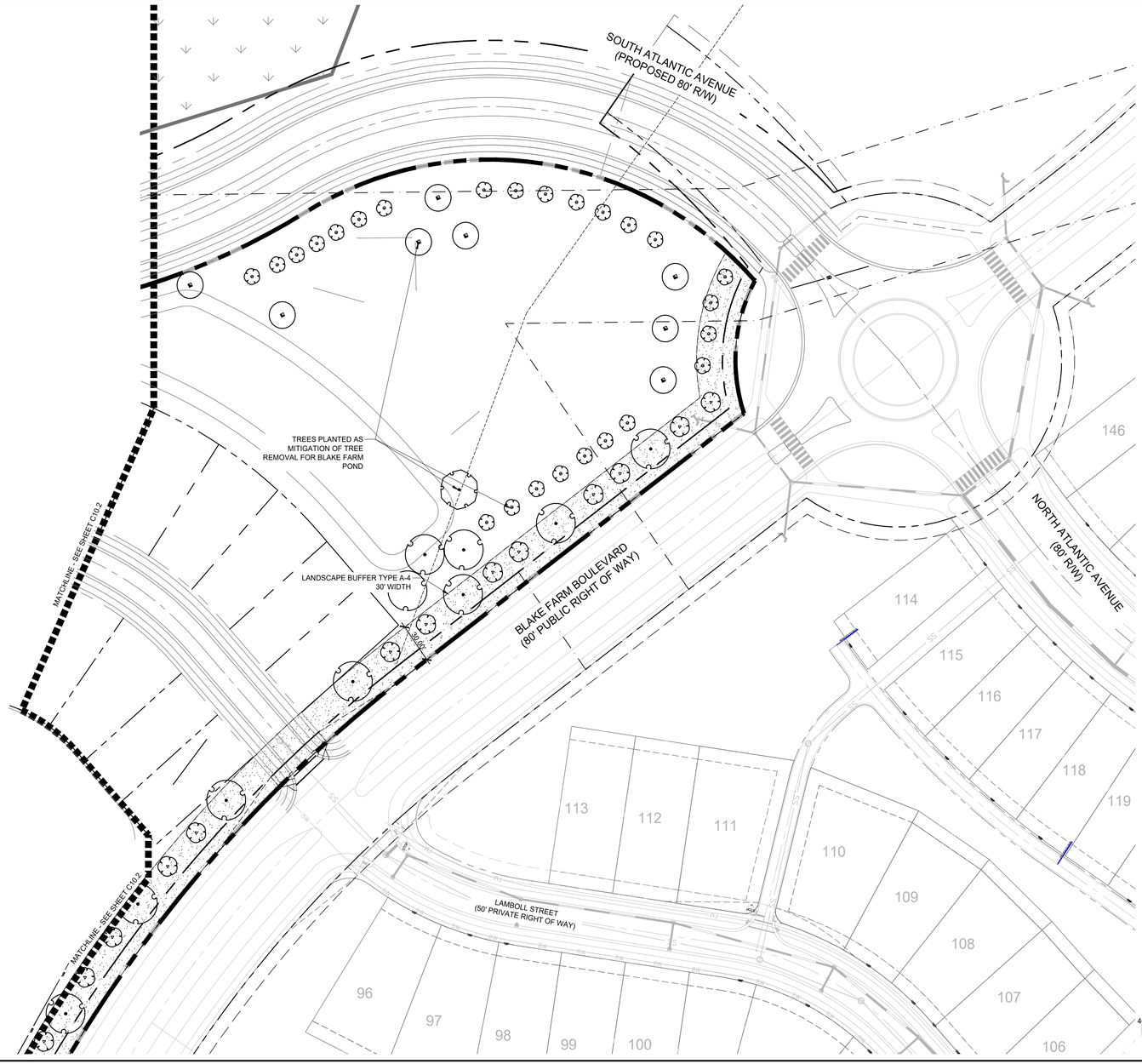
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DRAWING NUMBER

REVISION

STATUS:
PENDER COUNTY TRC REVIEW

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2 LANDSCAPE PLAN ENLARGEMENT

SCALE: 1" = 40'-0"

PLANT SCHEDULE OVERALL

CANOPY TREE	BOTANICAL / COMMON NAME
	ACER RUBRUM `OCTOBER GLORY` TM OCTOBER GLORY MAPLE
	ILEX OPACA AMERICAN HOLLY
	QUERCUS NIGRA WATER OAK
	QUERCUS VIRGINIANA SOUTHERN LIVE OAK
UNDERSTORY TREES	**BOTANICAL / COMMON NAME**
	MAGNOLIA GRANDIFLORA `LITTLE GEM` DWARF SOUTHERN MAGNOLIA
	PRUNUS SERRULATA `KWANZAN` FLOWERING CHERRY

PLANT SCHEDULE OVERALL

GROUND COVERS	BOTANICAL / COMMON NAME
	CYNODON DACTYLON BERMUDA GRASS

1 LEGEND AND NOTES

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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LANDSCAPE PLAN ENLARGEMENT

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	ALM/BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

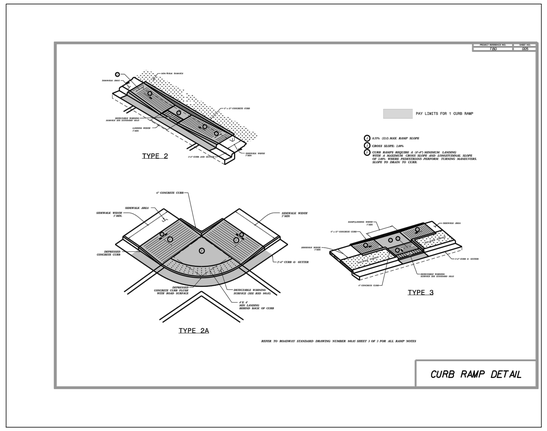
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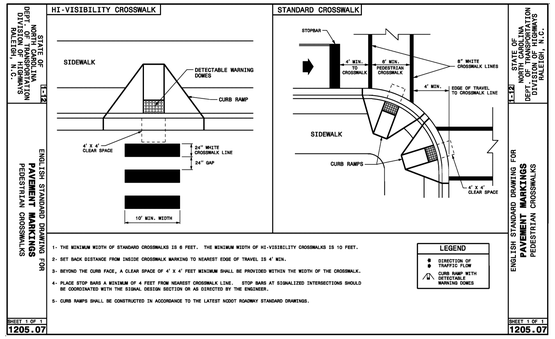
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STATUS:
PENDER COUNTY TRC REVIEW

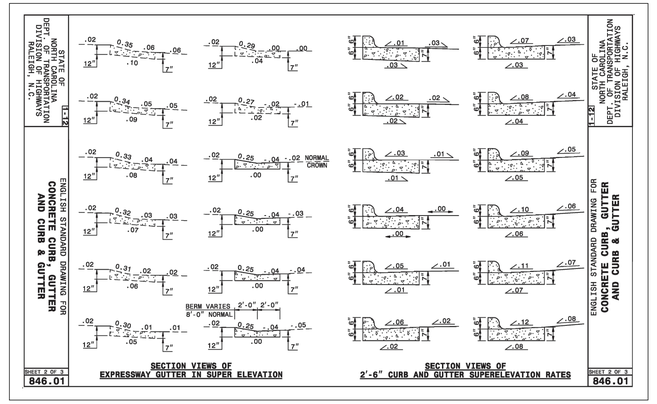
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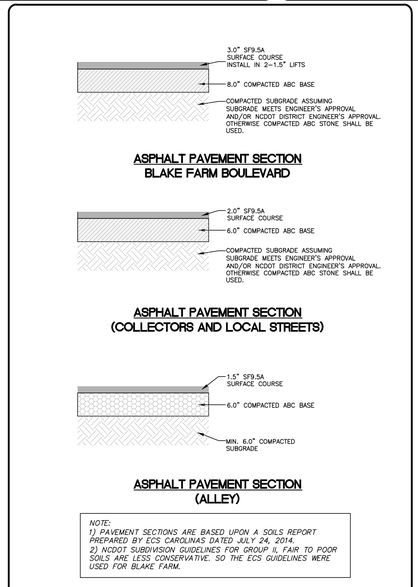
6 CURB RAMP NTS



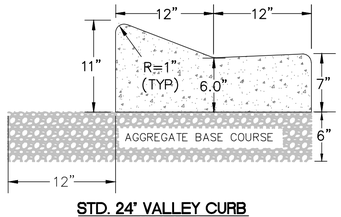
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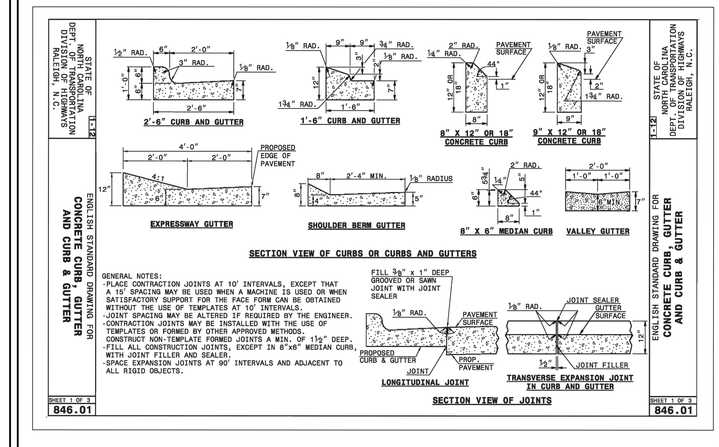
2 CONCRETE CURB AND GUTTER NTS



4 ASPHALT PAVING



3 VALLEY CURB NTS



1 CONCRETE CURB AND GUTTER NTS

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SITE DETAILS

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: AS SHOWN

C11.0
DRAWING NUMBER
0
REVISION

STATUS:
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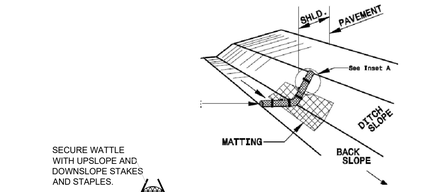
SEEDBED PREPARATION:

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTRANCE AREA TO 6 INCHES DEPTH.
3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW*).
5. CONTINUE TILLAGE UNTIL A WELL - PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
10. APPLY:
    AGRICULTURAL LIMESTONE - 2 TONS/ACRE
    FERTILIZER - 1000 LBS/ACRE (10-10-10)
    SUPERPHOSPHATE - 500 LBS/ACRE (20%)
    RYE SEED - 120LBS/ACRE
    GERMAN MILLET - 40LBS/ACRE
    ANNUAL LESPEDEZA (KOBE) SEED - 50 LBS/ACRE
    MULCH - 2 TONS/ACRE (SMALL GRAIN STRAW)

NOTE (G.S. 113A-57 (2))

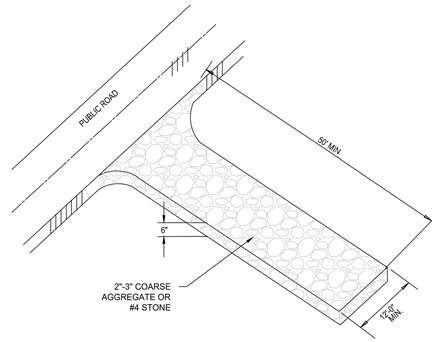
THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

7 SEEDBED PREPARATION NTS

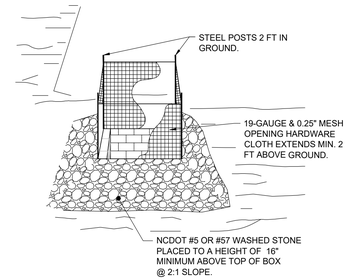


NOTES:
1. USE MINIMUM 18" DIA. EXCELSIOR WATTLE.
2. USE 2"x2" WOODEN STAKES 2-FT IN LENGTH ON THE UPSLOPE AND DOWNSLOPE AT AN ANGLE TO WEDGE THE WATTLE TO THE BOTTOM OF THE SWALE.
3. STAPLE EVERY 1 LF ON BOTH SIDES OF THE WATTLE TO SECURE IT TO THE BOTTOM OF THE SWALE.

5 TEMPORARY WATTLE / CHECK DAM

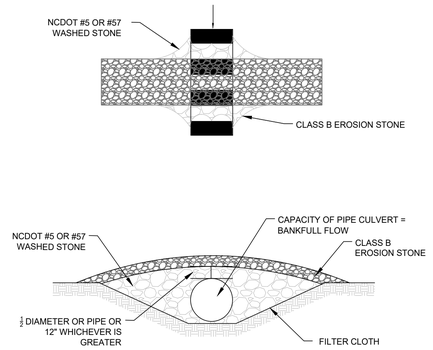


3 TEMPORARY CONSTRUCTION ENTRANCE

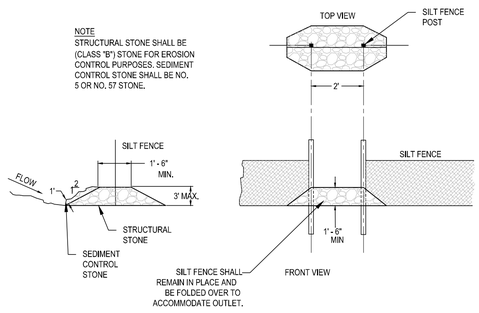


NOTES:
1. DRIVE 5-FOOT STEEL POSTS (1.25 lb/lf steel) 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
2. SURROUND THE POSTS WITH AT LEAST 19-GAUGE HARDWARE CLOTH WITH A 1/4-INCH MESH OPENING. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM FOR A MIN. 2 FEET ABOVE THE GROUND. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING AND REMOVAL IS RECOMMENDED.
3. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET. THE TOP ELEVATION OF THE STRUCTURE MUST BE AT LEAST 12-INCHES LOWER THAN THE SURROUNDING GROUND ELEVATION DOWNSLOPE FROM THE INLET TO ENSURE THAT STORM FLOWS GET INTO THE INTENDED INLET; UNLESS OTHER SEDIMENT-CONTROL DEVICES ARE INSTALLED TO PREVENT OFF-SITE SEDIMENT-RUNOFF.

2 TEMPORARY INLET PROTECTION



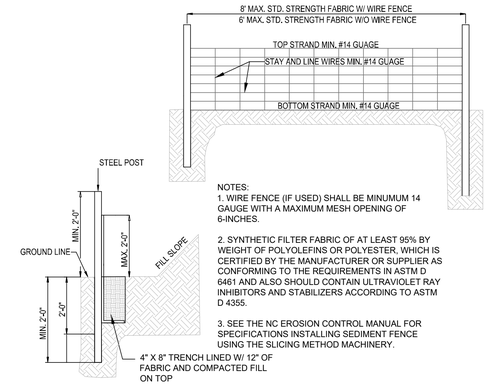
6 TEMPORARY DITCH CROSSING



4 SILT FENCE OUTLET

SILT FENCE CALCULATION TABLE				
SILT FENCE No.	Drainage Area ac	Length ft	Acre per 100 ft	0.25 Acre per 100 ft YES/NO
PHASE 1 SILT FENCE				
SF 1	0.25	469	0.05	YES
SF 2	0.61	380	0.16	YES
SF 3	0.67	383	0.17	YES
SF 4	0.59	248	0.24	YES
SF 5	0.53	252	0.21	YES
SF 6	0.69	302	0.23	YES
SF 7	0.61	262	0.23	YES
SF 8	0.70	370	0.19	YES
SF 9	0.69	499	0.14	YES
SF 10	0.37	433	0.08	YES

Note: Calculation taken from Table 6.62a of the NCDENR ESC.



NOTES:
1. WIRE FENCE (IF USED) SHALL BE MINUMUM 14 GAUGE WITH A MAXIMUM MESH OPENING OF 6-INCHES.
2. SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461 AND ALSO SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS ACCORDING TO ASTM D 4355.
3. SEE THE NC EROSION CONTROL MANUAL FOR SPECIFICATIONS INSTALLING SEDIMENT FENCE USING THE SLICING METHOD MACHINERY.

1 TEMPORARY SILT FENCE

REV.NO.	DESCRIPTIONS	DATE
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SEAL

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BLAKE FARM PARCEL I

EROSION CONTROL DETAILS

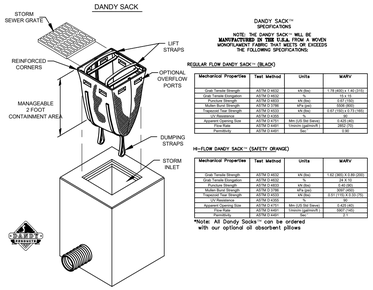
DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: AS SHOWN

C12.0
DRAWING NUMBER
0
REVISION

STATUS: PENDER COUNTY TRC REVIEW

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DANDY SACK™ SPECIFICATIONS

NOTE: THE DANDY SACK™ WILL BE MANUFACTURED IN THE U.S.A. FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

REGULAR FLOW DANDY SACK™ (BLACK)

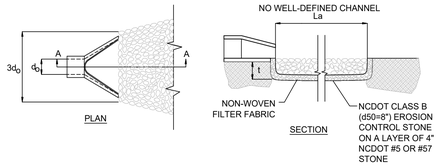
Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.78 (400) x 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	50 x 15
Puncture Strength	ASTM D 4833	kN (lbs)	0.67 (150)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.67 (150)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.67 (150) x 0.53 (120)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Sieve)	0.43 (40)
Flow Rate	ASTM D 4491	l/min/m² (gpm/ft²)	4882 (100)
Permittivity	ASTM D 4491	Sec⁻¹	0.80

HI-FLOW DANDY SACK™ (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.40 (315) x 1.00 (225)
Grab Tensile Elongation	ASTM D 4632	%	50 x 15
Puncture Strength	ASTM D 4833	kN (lbs)	0.45 (101)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.45 (101)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.53 (120) x 0.34 (76)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Sieve)	0.43 (40)
Flow Rate	ASTM D 4491	l/min/m² (gpm/ft²)	4882 (100)
Permittivity	ASTM D 4491	Sec⁻¹	0.8

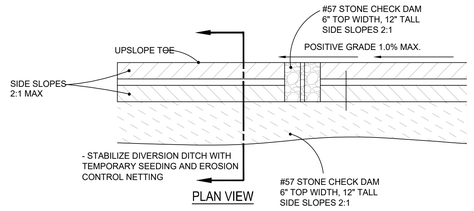
*Note: All Dandy Sacks™ can be ordered with our optional oil absorbant pillows

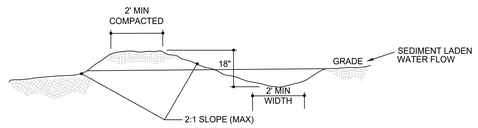
5 | DANDY SACK INTLET PROTECTION | NTS



Apron Length = 10.0 ft.
Apron Width = 7.5 ft.

4 | RIPRAP OUTLET PROTECTION





CROSS SECTION

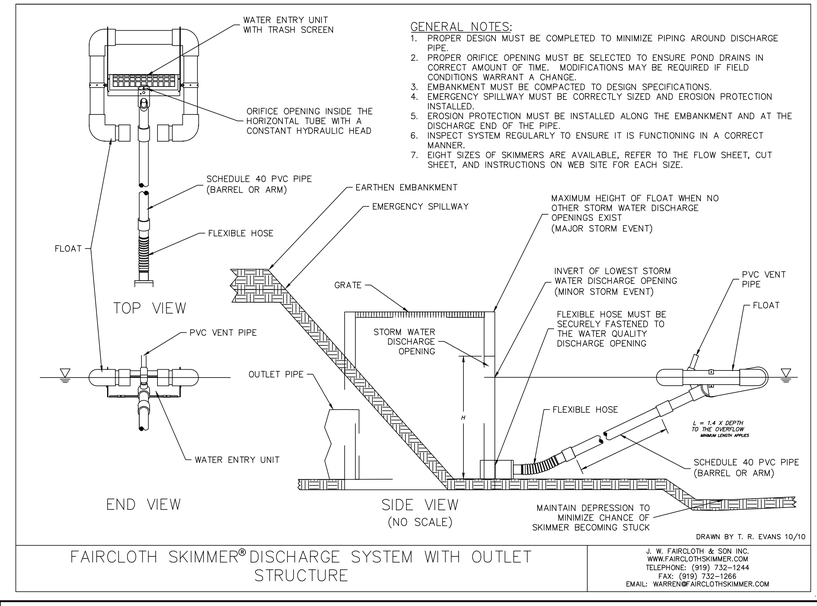
TEMPORARY DIVERSION DITCH CALCULATION TABLE

TDD NUMBER	DA (AC)	Q 10 (CFS)	LENGTH (FT)	HIGH (FT)	LOW (FT)	ELEVATION DIFF. (FT)	SLOPE (%)	INITIAL LINING	MANNING n	VELOCITY (FPS)	COMMENT
TDD 1	2.15	1.97	524	40.71	38.32	2.39	0.46	BARE EARTH	0.020	1.44	NO LINING

TDD NUMBER	SECONDARY LINING	MANNING n	VELOCITY (FPS)	COMMENT	WATER DEPTH (IN)	DITCH MIN. DEPTH (IN)	*TEMPORARY ROCK CHECK DAMS/WATTLES* CHECK DAM SPACING (FT)	NUMBER REQUIRED	NUMBER PROVIDED

Notes:
1. Q10 taken from Rational Method.
2. Manning n value for bare earth = 0.020 per NC ESC Manual Table 8.05f
3. Manning n value for excelsior (curled wood) matting = 0.035 per NC ESC Manual Table 8.05f
4. Depth Value taken from Software FHWA Hydraulic Toolbox.
5. Tractive Force (Shear Stress) was also evaluated and found to be sufficient for the proposed lining.

2 | TEMPORARY DIVERSION DITCH



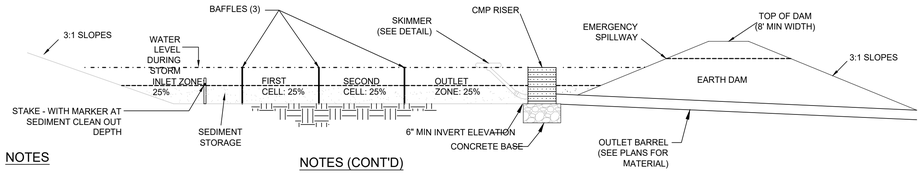
GENERAL NOTES:
1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE PIPE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS.
4. EMERGENCY SPILLWAY MUST BE CORRECTLY SIZED AND EROSION PROTECTION INSTALLED.
5. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.
6. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.
7. EIGHT SIZES OF SKIMMERS ARE AVAILABLE, REFER TO THE FLOW SHEET, CUT SHEET, AND INSTRUCTIONS ON WEB SITE FOR EACH SIZE.

DRAWN BY T. R. EVANS 10/10

FAIRCLOTH SKIMMER® DISCHARGE SYSTEM WITH OUTLET STRUCTURE

J. W. FAIRCLOTH & SON INC.
WWW.FAIRCLOTHSKIMMER.COM
TELEPHONE: (919) 732-1244
FAX: (919) 732-1266
EMAIL: WARREN@FAIRCLOTHSKIMMER.COM

3 | FAIRCLOTH SKIMMER



NOTES

1. BAFFLE MATERIAL SHALL BE MATERIALS SUCH AS 700 G/M COIR EROSION BLANKET, COIR MESH, OR TREE PROTECTION FENCE FOLDED OVER TO REDUCE PORE SIZE.
2. THE BAFFLE MATERIAL NEEDS TO BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.

NOTES (CONT'D)

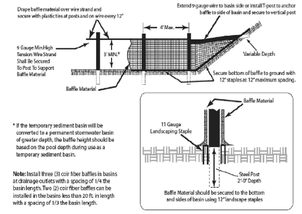
3. LOCATE THE EMERGENCY SPILLWAY ON NATURAL SOILS IF POSSIBLE AND AVOID PLACING IT THROUGH FILL MATERIAL WHEREVER POSSIBLE.
4. ALL RUNOFF MUST DISCHARGE TO THE INLET SIDE OF THE BASIN. DISCHARGE RUNOFF INTO THE BASIN IN A MANNER THAT MINIMIZES EROSION.

SKIMMER BASIN CALCULATION TABLE

Skimmer No.	Drainage Area ac	Rational C Runoff Coeff.	I_{10} Intensity in/hr	Q_{10} Peak Flow cfs	Required SA ($325 \times Q_{10}$) sf	Provided SA sf	Required Vol (1800cf/ac x DA) cf	Provided Vol cf	Storage Vol Drained cf	Weir Width ft
TSB-1	6.73	0.40	3.07	8.26	2,685	16,928	12,109	87,299	12,109	40.0

FAIRCLOTH SKIMMER SIZE CALCULATION / OUTLET PARAMETERS

Skimmer No.	Dewatering Time (days)	Skimmer Outflow cf/day	Skimmer Size in	Orifice Diameter in	Orifice Radius in	Barrel Outflow gpm	Barrel Pipe in	Skimmer Basin Bottom Elevation ft	Orifice Elevation ft	Temp. Emergency Spillway Elev ft
TSB-1	3	4,036	2.5	2.2	1.1	21.0	4.0	33.3	33.8	37.3



* If the temporary sediment basin still be converted to a permanent stormwater basin of greater depth, the baffle height should be based on the pool depth during use as a temporary sediment basin.

Note: Install three (3) coir fiber baffles in basins at drainage outlets with a spacing of 1/4 the basin length. Two (2) coir fiber baffles can be installed in the basins less than 20 ft. in length with a spacing of 1/3 the basin length.

1 | TEMPORARY SKIMMER SEDIMENT BASIN

REV.NO.	DESCRIPTIONS	DATE
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BLAKE FARM PARCEL I

EROSION CONTROL DETAILS

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
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VERTICAL: AS SHOWN

C12.1
DRAWING NUMBER
0
REVISION

STATUS:
PENDER COUNTY TRC REVIEW

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PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation

In addition to the E&SC Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This general permit as well as the certificate of coverage, after it is received.

(b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

(c) All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(b) Anticipated bypasses and unanticipated bypasses.

(c) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

NORTH CAROLINA
Environmental Quality

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING | EFFECTIVE: 04/01/19

1 | NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

SEAL

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BLAKE FARM PARCEL I

EROSION CONTROL DETAILS

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: AS SHOWN

C12.2
DRAWING NUMBER

0
REVISION

STATUS:
PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL I\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C12.0 EROSION CONTROL DETAILS.DWG ---- 08/04/2023 10:54:38

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

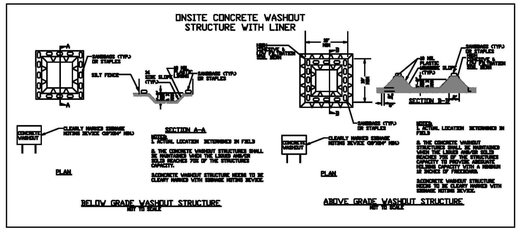
PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

NORTH CAROLINA *Environmental Quality*



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

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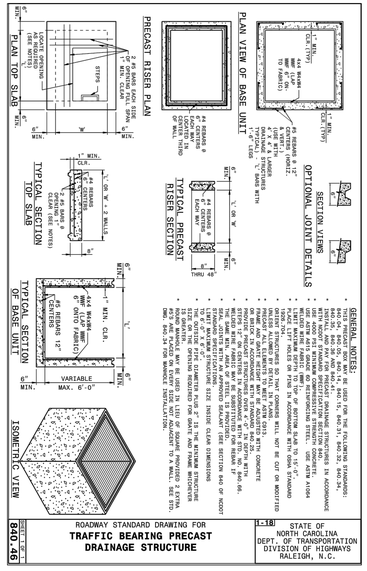
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PROJ. MGR.	TSM

SCALE
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C12.3
DRAWING NUMBER
0
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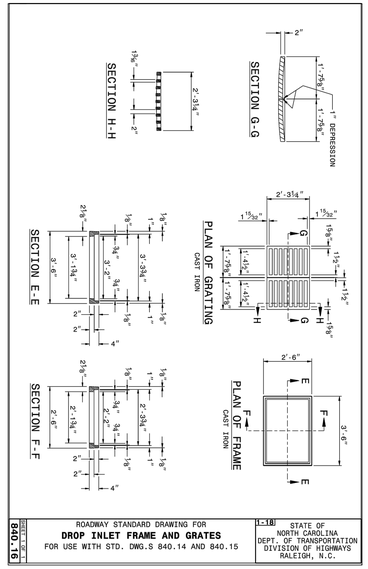
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ROADWAY STANDARD DRAWING FOR
TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE

840.46 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

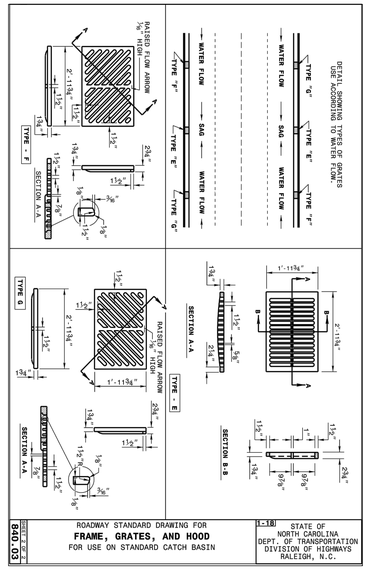
8 NTS



ROADWAY STANDARD DRAWING FOR
DROP INLET FRAME AND GRATES
FOR USE WITH STD. DWG.S 840.14 AND 840.15

840.16 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

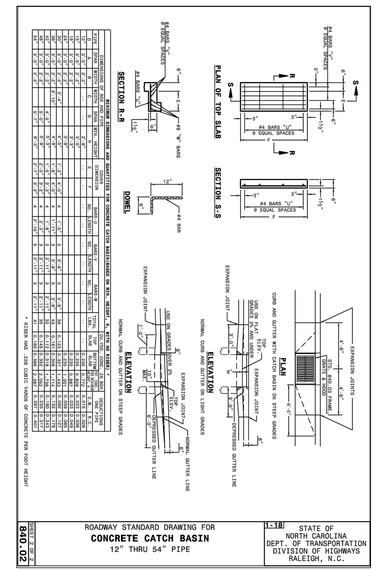
6 NTS



ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

840.03 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

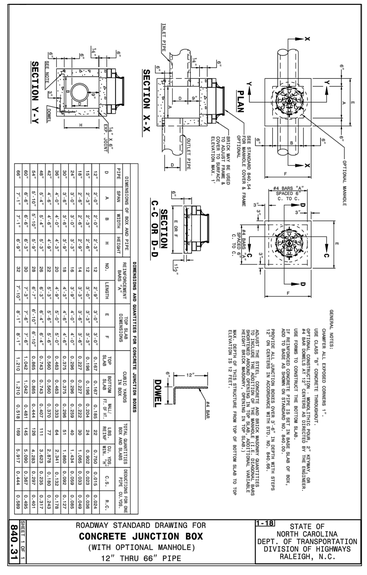
4 NTS



ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

840.02 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

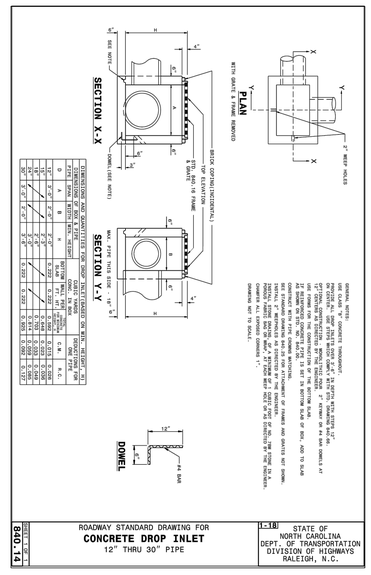
2 NTS



ROADWAY STANDARD DRAWING FOR
CONCRETE JUNCTION BOX
(WITH OPTIONAL MANHOLE)
12" THRU 66" PIPE

840.31 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

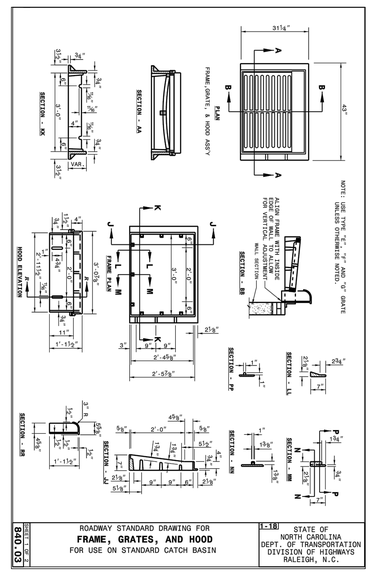
7 NTS



ROADWAY STANDARD DRAWING FOR
CONCRETE DROP INLET
12" THRU 30" PIPE

840.14 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

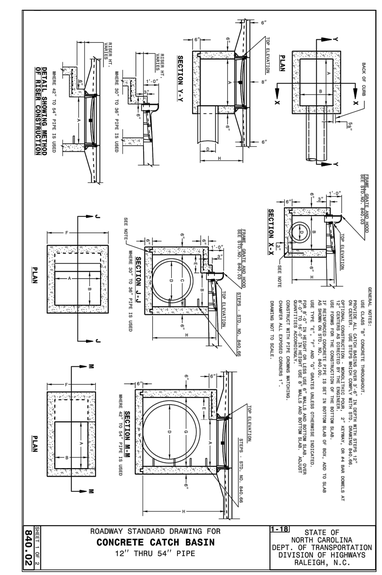
5 NTS



ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

840.03 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

3 NTS



ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

840.02 | 1-18 | STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1 NTS

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BLAKE FARM PARCEL I

GRADING AND DRAINAGE DETAILS

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
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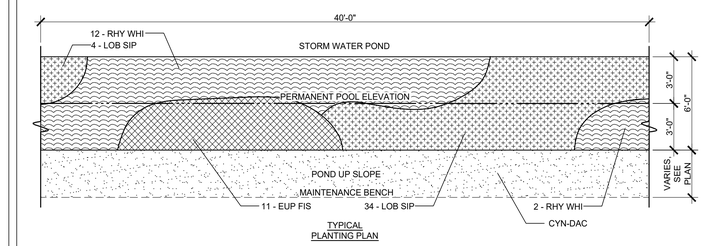
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VERTICAL: N/A

C13.0
DRAWING NUMBER
0
REVISION

STATUS:
PENDER COUNTY TRC REVIEW

SCM ID	LENGTH OF VEGETATIVE SHELF (LF)
SCM 1	899
SCM 2	721

3 VEGETATIVE SHELF LENGTH BY SCM NTS

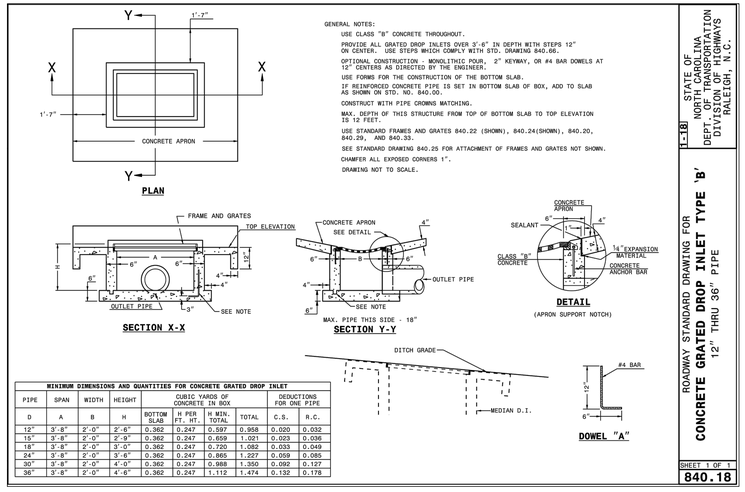


TYPICAL PLANTING PLAN

TYPICAL PLANTING SCHEDULE PER 40' LF

SUBMERSIBLE	CODE	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	QTY
	EUP FIS	EUPATORIADELPHUS FISTULOSUS	JOE PYE WEED	1 GAL.	18"-24" HT.	30" O.C.	11
	LOB SIP	LOBELIA SIPHILITICA	GREAT LOBELIA	5" DEEP PLUG	12"-18" HT.	18" O.C.	38
	RHY WHI	RHYNCHOSPORA COLORATA	STARRUSH WHITETOP	4" POT	12"-18" HT.	36" O.C.	14
GROUND COVERS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**SPACING**		**QTY**
	CYN DAC	CYNODON DACTYLON	BERMUDA GRASS	SEED	3 LBS / 1000 SF		SEE PLAN

2 VEGETATIVE SHELF PLANTING NTS



GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL GRATED DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.29, AND 840.33.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET

PIPE	SPAN	WIDTH	HEIGHT	CUBIC YARDS OF CONCRETE IN BOX				DEDUCTIONS FOR ONE PIPE	
D	A	B	H	BOTTOM SLAB	H PER FT. HT.	H MIN. TOTAL	TOTAL	C.S.	R.C.
12"	3'-8"	2'-0"	2'-6"	0.362	0.247	0.597	0.958	0.020	0.032
15"	3'-8"	2'-0"	2'-9"	0.362	0.247	0.659	1.021	0.023	0.036
18"	3'-8"	2'-0"	3'-0"	0.362	0.247	0.720	1.082	0.033	0.049
24"	3'-8"	2'-0"	3'-6"	0.362	0.247	0.865	1.227	0.059	0.085
30"	3'-8"	2'-0"	4'-0"	0.362	0.247	0.988	1.350	0.092	0.127
36"	3'-8"	2'-0"	4'-6"	0.362	0.247	1.112	1.474	0.132	0.178

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

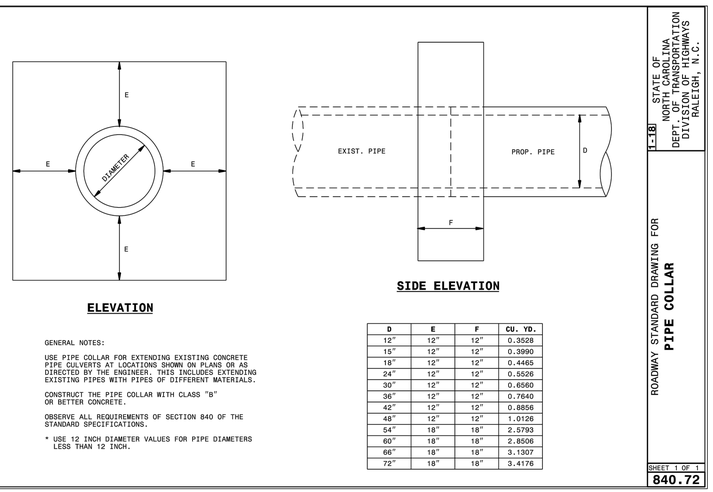
ROADWAY STANDARD DRAWING FOR

CONCRETE GRATED DROP INLET TYPE 'B'
12" THRU 36" PIPE

SHEET 1 OF 1

840.18

4 NTS



GENERAL NOTES:

USE PIPE COLLAR FOR EXTENDING EXISTING CONCRETE PIPE CULVERTS AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. THIS INCLUDES EXTENDING EXISTING PIPES WITH PIPES OF DIFFERENT MATERIALS.

CONSTRUCT THE PIPE COLLAR WITH CLASS "B" OR BETTER CONCRETE.

OBSERVE ALL REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.

* USE 12 INCH DIAMETER VALUES FOR PIPE DIAMETERS LESS THAN 12 INCH.

D	E	F	CU. YD.
12"	12"	12"	0.3528
15"	12"	12"	0.3990
18"	12"	12"	0.4465
24"	12"	12"	0.5526
30"	12"	12"	0.6560
36"	12"	12"	0.7640
42"	12"	12"	0.8856
48"	12"	12"	1.0126
54"	18"	18"	2.5793
60"	18"	18"	2.8506
66"	18"	18"	3.1307
72"	18"	18"	3.4176

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

PIPE COLLAR

SHEET 1 OF 1

840.72

1 NTS

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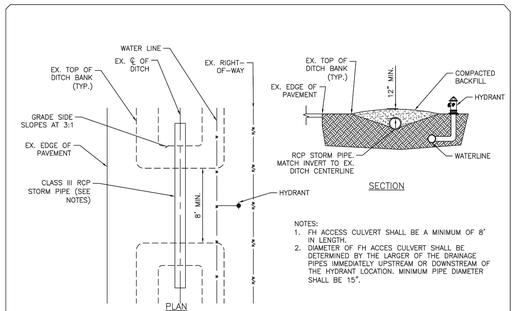
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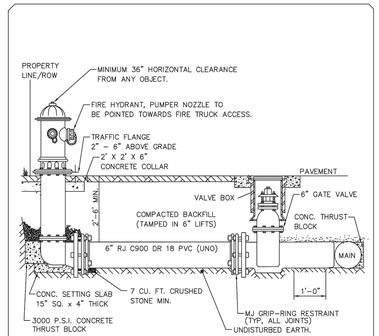
NOTES:
1. FH ACCESS CULVERT SHALL BE A MINIMUM OF 8' IN LENGTH.
2. DIAMETER OF FH ACCES CULVERT SHALL BE DETERMINED BY THE LARGER OF THE DRAINAGE PIPES IMMEDIATELY UPSTREAM OR DOWNSTREAM OF THE HYDRANT LOCATION. MINIMUM PIPE DIAMETER SHALL BE 15".

FIRE HYDRANT ACCESS DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

FIRE HYDRANT ACCESS
STANDARD DETAIL
VERSION #1 - SEPTEMBER 2015

6 | FIRE HYDRANT ACCESS DETAIL | NTS



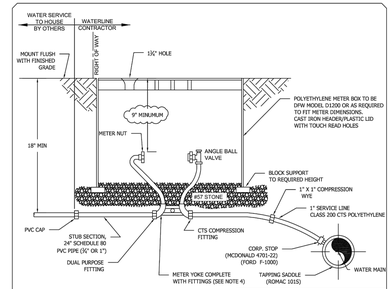
NOTES:
1. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION.
2. FIRE HYDRANTS TO BE LOCATED IN RIGHT-OF-WAY.
3. INSTALL WITH BURY LINE FLUSH TO FINAL GRADE.
4. HYDRANTS TO BE AVK SERIES 2780, MUELLER SUPER CENTURION A423 W/PENDER CO. OPTIONS 981, OR CLOW MEDALLION WITH STAINLESS STEEL STEMS. HYDRANTS SHALL BE NOSTALGIC STYLE DRY BARREL.
5. HYDRANTS TO BE RED WITH SILVER CAPS AND BONNET.

FIRE HYDRANT ASSEMBLY DETAIL
NOT TO SCALE

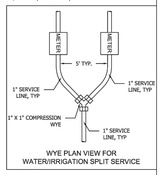
PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

FIRE HYDRANT ASSEMBLY
STANDARD DETAIL
VERSION #2 - APRIL 2016

4 | FIRE HYDRANT DETAIL | NTS



NOTE:
1. CONTRACTOR SHALL PLACE METER BOX IN NON-TRAFFIC AREA ONLY.
2. ALL TAPS TO BE MADE ON THE TOP QUARTER OF THE WATER MAIN.
3. CONTRACTOR SHALL CENTER METER YOKE IN METER BOX.
4. (5⁄8") MCDONALD 25-7Q2WX3D 33. FORD VS72-7W-41-33-NL (1") MCDONALD 25-4-10WX2D 44. FORD VS-72-10W-41-44-NL
5. BOX TO BE ADJUSTED VERTICALLY TO ACCEPT COUNTY'S STANDARD SERVICE METER. (NEPTUNE T-10, PRO READ REGISTER, R900 MIU)
6. METER TO BE SET BY COUNTY UPON RECEIPT OF WATER SERVICE FEES, AND SATISFACTORY INSPECTION OF WATER SERVICE TO HOUSE.
7. TAPS ON WATER MAINS LARGER THAN 16" SHALL BE MADE WITH DUAL WIDE BAND, STAINLESS STEEL TAPPING SADDLES (ROMAC 202S).
8. 1 2⁄ METERS REQUIRE 2" TAP AND 2" SQUARE NUT GATE VALVE PER 2" METER DETAIL. REDUCE TO 1 2" SERVICE PIPE.
9. INSTALL WYE TO PROVIDE A DOMESTIC METER BETTER AND IRRIGATION METER BETTER PER SPLIT SERVICE INSET.

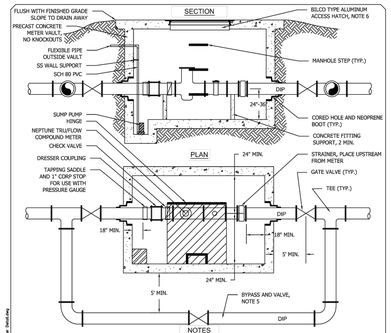


STANDARD WATER SERVICE DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

WATER SERVICE (3⁄4" - 1")
STANDARD DETAIL
VERSION #4 - FEB 2016

2 | 1" WATER SERVICE DETAIL | NTS



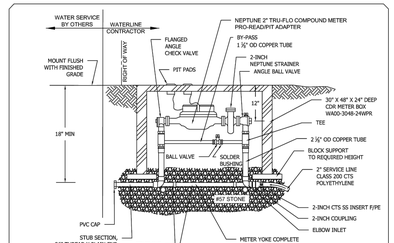
1. VAULTS SHALL BE PROPERLY DESIGNED AND SIZED FOR EACH SPECIFIC APPLICATION AND SITE CONDITION.
2. VAULTS SHALL BE LOCATED SUCH THAT THE ROW ELEVATION IS A MINIMUM OF 2 FEET ABOVE THE BASE FLOOD ELEVATION.
3. PROVIDE ADEQUATE DESIGN FOR ALL SITE CONDITIONS INCLUDING BUT NOT LIMITED TO FLOTATION, TRAFFIC LOADING, ACCESSIBILITY, PROJECTED DEMAND, AND OTHER DESIGN CRITERIA AS REQUIRED.
4. MINIMUM CLEARANCES SHOWN ARE REQUIRED FOR PROPER ACCESSIBILITY TO ALLOW OPERATION AND MAINTENANCE. CLEARANCES SHALL BE VERIFIED DURING THE SUBMITTAL PROCESS.
5. METERS SHALL BE PROVIDED A BYPASS WITH AT LEAST ONE VALVE OF THE SAME SIZE AS THE METER.
6. THE ACCESS HATCH SHALL BE LOCATED OVER THE METER, AND SHALL BE LOCATED TO ALLOW ENTRY WITHOUT CLIMBING OVER VAULT COMPONENTS. HATCH SHALL ALSO BE LOCATED AND OF APPROPRIATE SIZE TO ALLOW REMOVAL OF EQUIPMENT. PROVIDE 1 2" HOLE IN ACCESS HATCH FOR TOUCH-READ SYSTEM.
7. THRUST RESTRAINT AND SUPPORTS SHALL BE PROPERLY DESIGNED, SIZED, AND INSTALLED TO PREVENT MOVEMENT OF ALL VAULT COMPONENTS, INCLUDING THE BY PASS.
8. THERE SHALL BE NO VALVES, DIRECTIONAL CHANGES, OR OTHER DISTURBANCES WITHIN 5 PIPE DIAMETERS UPSTREAM OF THE METER THAT MAY ENTERFERE WITH LAMINAR FLOW.
9. VAULTS SHALL BE PROPERLY WATERPROOFED AND HYDROSTATICALLY TESTED. AN AUTOMATIC SUMP PUMP SHALL BE PROVIDED. THE FLOOR OF THE VAULT SHALL BE SLOPED TOWARD THE SUMP.
10. AT LEAST ONE, 20 AMP, GFI OUTLET WITH STANDARD THREE PRONG RECEPTACLE SHALL BE PROVIDED ON THE ELECTRIC PANEL. THE OUTLET SHALL BE WEATHER PROOF AND HAVE A LOCKABLE COVER.
11. AT LEAST ONE SPARE BREAKER SHALL BE PROVIDED IN THE ELECTRICAL PANEL.

BULK METER DETAIL
NOT TO SCALE

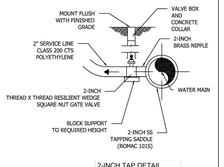
PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

BULK METER
STANDARD DETAIL
VERSION #3 - FEB 2016

5 | BULK METER DETAIL | NTS



2-INCH METER DETAIL



2-INCH TAP DETAIL

NOTE:
1. CONTRACTOR SHALL PLACE METER BOX IN NON-TRAFFIC AREA ONLY.
2. CONTRACTOR SHALL CENTER METER YOKE IN METER BOX AS REQUIRED TO PROPERLY FIT METER.
3. BOX TO BE ADJUSTED VERTICALLY TO ACCEPT COUNTY'S STANDARD SERVICE METER AND STRAINER. (NEPTUNE 2" TRU-FLO COMPOUND METER PRO-READ/PIT ADAPTER).
4. TAPS ON WATER MAINS LARGER THAN 16" SHALL BE MADE WITH DUAL WIDE BAND, STAINLESS STEEL, TAPPING SADDLES (ROMAC 202S).
5. ANY TAP LARGER THAN 2-INCHES SHALL BE MADE WITH A TAPPING SLEEVE AND VALVE. A STRAINER AND BY-PASS SHALL ALSO BE PROVIDED.

STANDARD 2-INCH WATER SERVICE DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

2-INCH WATER SERVICE
STANDARD DETAIL
VERSION #1 - AUGUST 2010

3 | 2" WATER SERVICE DETAIL | NTS

PCU STANDARD NOTES

1. A PRE-CONSTRUCTION MEETING IS REQUIRED BEFORE BEGINNING WORK. THE MEETING MUST BE SCHEDULED WITH PENDER COUNTY UTILITIES (PCU) AT LEAST ONE WEEK IN ADVANCE. ATTENDEES MUST INCLUDE PCU, THE UTILITY CONTRACTOR'S SUPERINTENDENT, THE SUPPLIER, AND THE CONSULTING ENGINEER.
2. ALL MATERIALS USED SHALL CONFORM TO PENDER COUNTY UTILITIES REQUIREMENTS. NON-CONFORMING MATERIAL WILL NOT BE ACCEPTED FOR FINAL CERTIFICATION.
3. ALL PIPE SHALL BE C900 DR18 PVC, UNLESS OTHERWISE NOTED (SEE PCU STANDARD DETAIL). PVC PIPE TO BE SDR 21 WHERE C900 IS UNAVAILABLE. THE USE OF DUCTILE IRON PIPE (DIP) IS REQUIRED UNDER PAVED AREAS. PCU MUST APPROVE THE USE OF DIP IN THE FIELD BEFORE INSTALLATION IN OTHER LOCATIONS.
4. PCU STANDARD WATERLINE PIPE RESTRAINING METHOD IS MJ GRIP RINGS. AT A MINIMUM ALL FITTINGS, VALVES, ETC. MUST BE RESTRAINED (SEE PCU STANDARD DETAIL).
5. PCU MUST INSPECT CASING INSTALLATIONS PRIOR TO BACKFILL. PCU MUST WITNESS PRESSURE TESTS, AND WITHDRAWAL OF BACTERIOLOGICAL SAMPLES. CONTACT PCU UTILITIES INSPECTOR TO SCHEDULE.
6. CLOSE-OUT DOCUMENTS WHICH MUST BE RECEIVED PRIOR TO PCU SIGNING THE NCDEQ PWSS APPLICANT CERTIFICATION INCLUDE: BACTERIOLOGICAL TESTS, PRESSURE TESTS, DEED OF DEDICATION, AFFIDAVIT/RELEASE OF LIENS, WARRANTY, AND RECORD DRAWINGS (PDF & CAD).
7. AN 18-MONTH WARRANTY PERIOD APPLIES TO ALL WATERLINE CONSTRUCTION. THIS WARRANTY PERIOD DOES NOT BEGIN UNTIL FINAL APPROVAL OF THE SYSTEM HAS BEEN RECEIVED FROM NCDEQ PWSS.

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
PO BOX 995, BURGAW, NC 28425

STANDARD NOTES
PCU WATER SYSTEMS
VERSION #3 - APRIL 2022

1 | STANDARD NOTES | NTS

REV.NO.	DESCRIPTIONS	DATE
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BLAKE FARM PARCEL I

UTILITY DETAILS

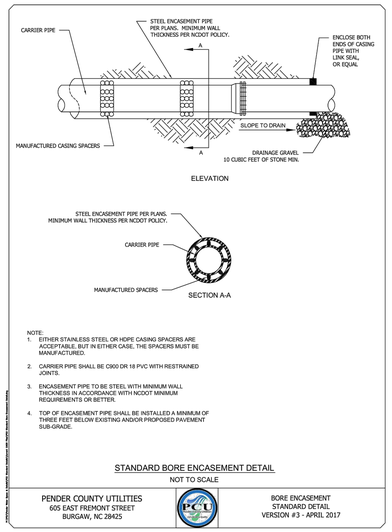
DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: AS SHOWN

C14.0
DRAWING NUMBER
0
REVISION

STATUS:
PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL 1\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C14.0 UTILITY DETAILS.DWG — 08/04/2023 10:55:05



NOTE:
1. EITHER STAINLESS STEEL OR HDPE CASING SPACERS ARE ACCEPTABLE, BUT IN EITHER CASE, THE SPACERS MUST BE MANUFACTURED.
2. CARRIER PIPE SHALL BE C900 DR 18 PVC WITH RESTRAINED JOINTS.
3. ENCASEMENT PIPE TO BE STEEL WITH MINIMUM WALL THICKNESS IN ACCORDANCE WITH NCDOT MINIMUM REQUIREMENTS OR BETTER.
4. TOP OF ENCASEMENT PIPE SHALL BE INSTALLED A MINIMUM OF THREE FEET BELOW EXISTING AND/OR PROPOSED PAVEMENT SUB-GRADE.

STANDARD BORE ENCASEMENT DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

BORE ENCASEMENT
STANDARD DETAIL
VERSION #3 - APRIL 2017

7 | BORE ENCASEMENT | NTS

Restrained Length In Feet Each Side of Fitting Joint

PIPE DIAMETER (INCHES)	D. I. P.				P. V. C.			
	90°	45°	22 ½°	11 ¼°	90°	45°	22 ½°	11 ¼°
3"	30'	15'	10'	5'	40'	20'	10'	5'
4"	35'	15'	10'	5'	50'	25'	15'	10'
6"	55'	25'	10'	5'	80'	35'	20'	10'
8"	65'	30'	15'	10'	90'	40'	20'	10'
10"	90'	30'	20'	10'	110'	50'	25'	15'
12"	95	40'	20'	10'	130'	55'	30'	15'
16"	120'	50'	25'	15'	165'	70'	35'	20'
20"	150'	65'	30'	15'	200'	85'	40'	20'
24"	180'	70'	35'	20'	210'	90'	45'	25'
30"	190'	80'	40'	20'	260'	105'	50'	25'
36"	220'	95'	45'	25'	0	0	0	0
42"	240'	100'	50'	25'	0	0	0	0
48"	260'	120'	60'	30'	0	0	0	0

Restrained lengths for valves, dead ends and branches from tees shall be the same as for 90° (degree) bends

Restrained Length In Feet For Reducer

PIPE DIAMETER (INCHES)	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
3"	0	0	0	0	0	0	0	0	0	0
4"	40'	0	0	0	0	0	0	0	0	0
6"	50'	45'	0	0	0	0	0	0	0	0
8"	75'	70'	40'	0	0	0	0	0	0	0
10"	90'	90'	70'	40'	0	0	0	0	0	0
12"	120'	115'	100'	75'	40'	0	0	0	0	0
16"	160'	155'	140'	125'	100'	70'	0	0	0	0
20"	200'	195'	185'	170'	150'	130'	70'	0	0	0
24"	190'	185'	175'	160'	140'	135'	120'	90'	50'	0
30"	195'	190'	185'	180'	170'	160'	130'	105'	70'	0
36"	225'	220'	215'	210'	205'	195'	180'	150'	125'	70'
42"	245'	240'	235'	230'	225'	220'	205'	180'	155'	105'
48"	255'	250'	245'	240'	235'	230'	215'	195'	175'	125'

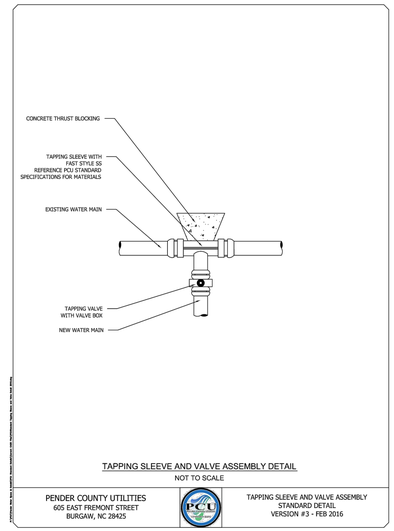
Length of restrained joint for larger diameter pipe

NOTES:
1. PENDER COUNTY STANDARD RESTRAINT METHOD IS MJ "GRIP RING" TYPE. ALL RJ TO BE MJ "GRIP RING" TYPE, UNLESS SPECIFICALLY APPROVED BY PCU IN WRITING.
2. ALL FITTINGS AND JOINTS SHALL BE RESTRAINED JOINT.
3. "L" ABOVE IS GIVEN IN FEET FROM FITTING JOINT.

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

RESTRAINED JOINT TABLE
STANDARD DETAIL
VERSION #1 - OCTOBER 2015

5 | RESTRAINED JOINT TABLE | NTS

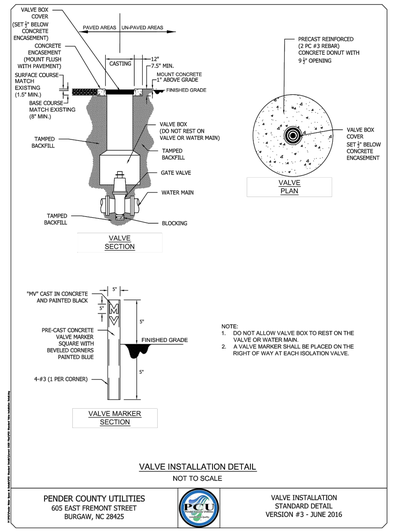


TAPPING SLEEVE AND VALVE ASSEMBLY DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

TAPPING SLEEVE AND VALVE ASSEMBLY
STANDARD DETAIL
VERSION #3 - FEB 2016

3 | TAPPING SLEEVE AND VALVE ASSEMBLY | NTS



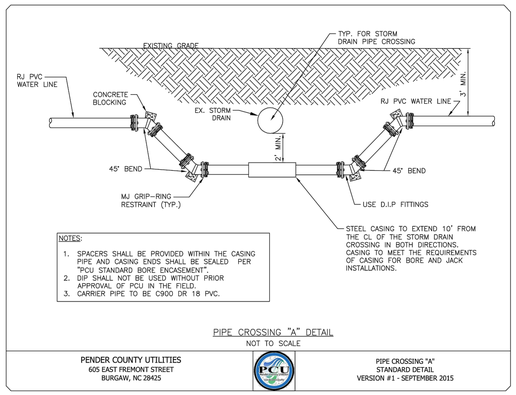
NOTE:
1. DO NOT ALLOW VALVE BOX TO REST ON THE VALVE OR WATER MAIN.
2. A VALVE MARKER SHALL BE PLACED ON THE RIGHT OF WAY AT EACH ISOLATION VALVE.

VALVE INSTALLATION DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

VALVE INSTALLATION
STANDARD DETAIL
VERSION #3 - JUNE 2016

2 | VALVE INSTALLATION | NTS



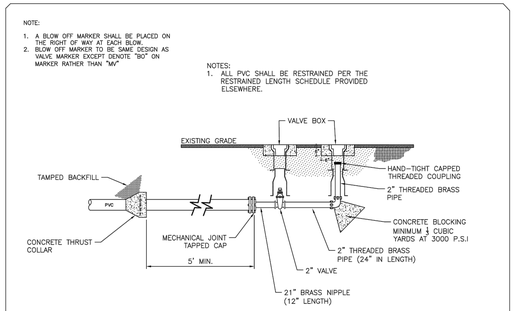
NOTES:
1. SPACERS SHALL BE PROVIDED WITHIN THE CASING PIPE AND CASING ENDS SHALL BE SEALED PER "PCU STANDARD BORE ENCASEMENT".
2. DIP SHALL NOT BE USED WITHOUT PRIOR APPROVAL OF PCU IN THE FIELD.
3. CARRIER PIPE TO BE C900 DR 18 PVC.

PIPE CROSSING "A" DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

PIPE CROSSING "A"
STANDARD DETAIL
VERSION #1 - SEPTEMBER 2015

6 | PIPE CROSSING | NTS

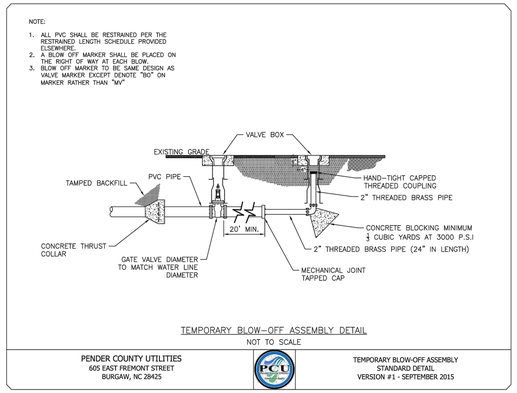


PERMANENT BLOW-OFF ASSEMBLY DETAIL
NOT TO SCALE

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605 EAST FREMONT STREET
BURGAW, NC 28425

PERMANENT BLOW-OFF ASSEMBLY
STANDARD DETAIL
VERSION #1 - SEPTEMBER 2015

4 | PERMANENT BLOW OFF ASSEMBLY | NTS



TEMPORARY BLOW-OFF ASSEMBLY DETAIL
NOT TO SCALE

PENDER COUNTY UTILITIES
605 EAST FREMONT STREET
BURGAW, NC 28425

TEMPORARY BLOW-OFF ASSEMBLY
STANDARD DETAIL
VERSION #1 - SEPTEMBER 2015

1 | TEMPORARY BLOW OFF ASSEMBLY | NTS

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UTILITY DETAILS

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: AS SHOWN

C14.1
DRAWING NUMBER

REVISION

STATUS:
PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL I\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C14.0 UTILITY DETAILS.DWG — 08/04/2023 10:55:07

THERMOPLASTIC PAVEMENT MARKING MATERIALS

PAVEMENT MARKING LINES

---------- THERMOPLASTIC (4", 90 mils)

---------- THERMOPLASTIC (4", 90 mils)

T4 - 3 FT. - 9FT. /SP WHITE MINISKIP

T2 - WHITE SOLID LANE LINE

T13 - YELLOW DOUBLE CENTER LINE

---------- THERMOPLASTIC (4", 90 mils)

T42 - YELLOW DIAGONAL

---------- THERMOPLASTIC (8", 90 mils)

T61 - WHITE STOP BAR

PAVEMENT MARKING SYMBOLS

---------- THERMOPLASTIC (90 mils)

T70 - LEFT TURN ARROW

T71 - RIGHT TURN ARROW

T72 - STRAIGHT ARROW

T74 - COMBO. RIGHT/STRAIGHT ARROW

CRYSTAL / RED PAVEMENT MARKER NCDOT 1253.01 (SNOWPLOWABLE)

NOTES:

PAVEMENT MARKINGS:
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS. PAVEMENT MARKINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL HAVE THE PAVEMENT MARKINGS PRE-MARKED, INSPECTED, AND APPROVED BY NCDOT PERSONNEL PRIOR TO THE PLACEMENT OF FINAL PAVEMENT MARKINGS.

SIGNING:
ALL TRAFFIC SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). SIGN POST INSTALLATION SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS.

TRAFFIC CONTROL:
TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS AND THE TRAFFIC CONTROL PLANS INCLUDED HEREIN.

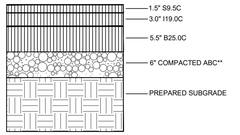
NOTES:

1. NC HIGHWAY 130 (HOLDEN BEACH ROAD) SPEED LIMIT IS 55 MPH.
2. PAVEMENT SECTION FOR TURN LANE SHALL BE 5.5" B25.0C, 3" I 19.0C, AND 1.5" SF9.5C.

EXISTING TRAFFIC LANE DIRECTIONAL ARROW (i.e. LEFT, THRU, RIGHT)

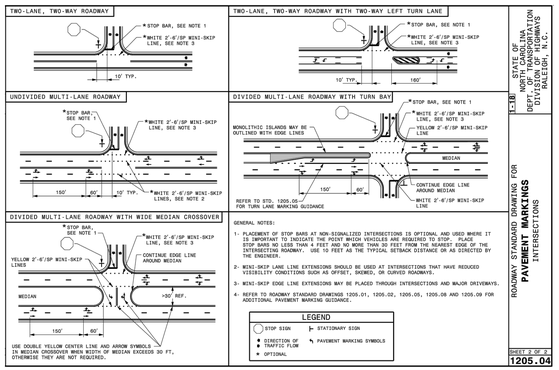
PROPOSED TRAFFIC LANE DIRECTIONAL ARROW (i.e. LEFT, THRU, RIGHT)

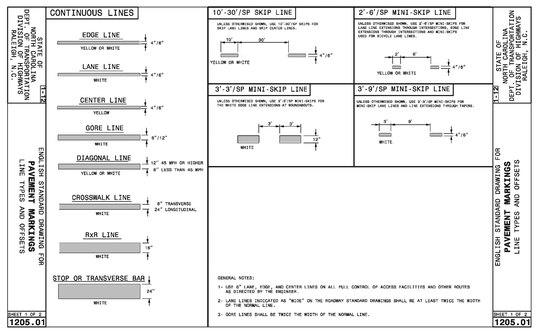
TEMPORARY LANE CLOSURE VALUES	
MINIMUM "L"	660'
SIGHT STOPPING DISTANCE	495'
BUFFER	290'
BARRIER FLARE	12:1
WARNING SIGN SPACING	500'

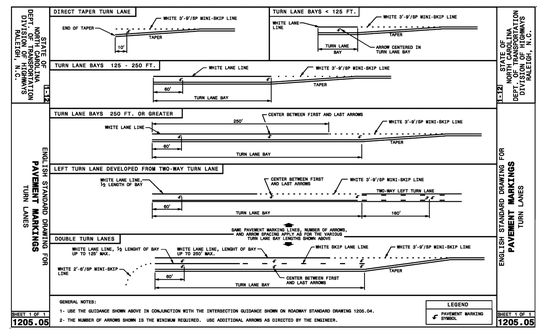


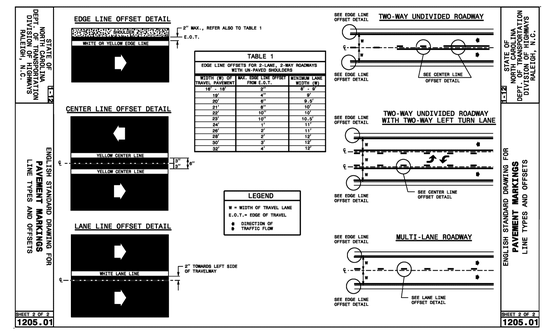
ROADWAY PAVEMENT SECTION
(ALL PAVEMENT WITHIN RIGHT OF WAY)

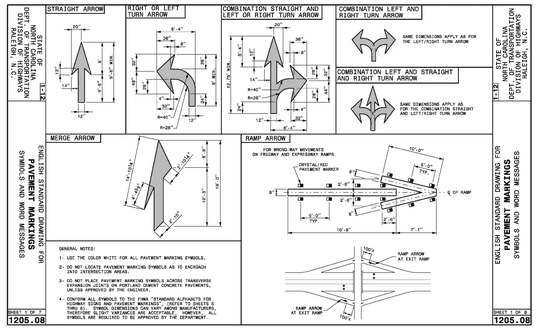
** COMPACTED ABC NOTE-1:
COMPACTED ABC MUST MEET THE NCDOT STANDARD SPECIFICATION GRADATION. REFER TO NCDOT STD SPECS (JAN 2018 EDITION) SECTION 520, AND SECTIONS 1005, 1006, AND 1010 FOR ALL OF THE MATERIAL GRADATION AND SPECIFICATIONS.

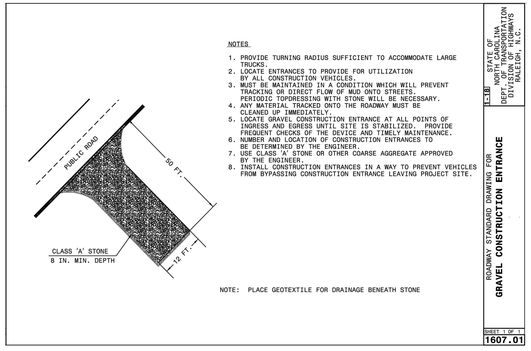


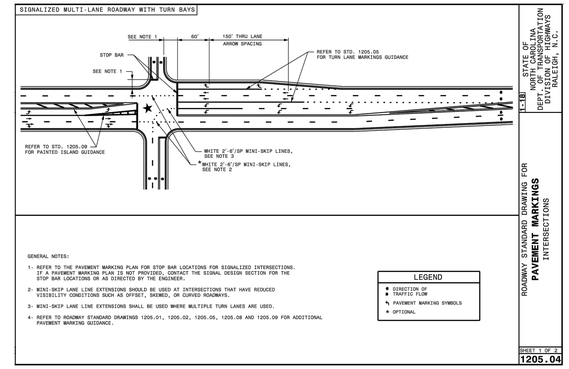












1 | NCDOT DETAILS | NTS

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BLAKE FARM PARCEL I

NCDOT DETAILS

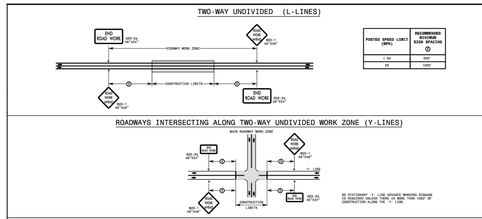
DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: VALUE
VERTICAL: N/A

C15.0
DRAWING NUMBER
0
REVISION

STATUS:
PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL I\60-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C15.0 NCDOT DETAILS.DWG ---- 08/04/2023 10:55:20



POSTED SPEED LIMIT (MPH)	RECOMMENDED SPACING (D)
≤ 35	350'
40	1000'

GENERAL NOTES

1- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

2- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT LONGER THAN 3 CONSECUTIVE DAYS.

3- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.

4- ERECT SIGNS PER RSD 1110.01. PAVMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATIONS FOR WORK ZONE SIGNS.

5- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH RSD. 1110.01.

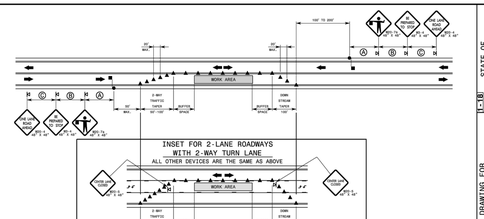
6- DO NOT BACK BRACE SIGN SUPPORTS.

LEGEND
▶ STATIONARY SIGN
⟵ DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-30

ROADWAY STANDARD DRAWING FOR
WORK ZONE ADVANCE WARNING SIGNS FOR TWO WAY UNDIVIDED FACILITIES

SHEET 3 OF 3
1101.01



GENERAL NOTES FOR FLAGGING OPERATIONS

1- REFER TO RSD. 1101.11, SHEETS 1 & 4, FOR "L" DISTANCE AND SIGN SPACING.

2- INSTALL L-SIZE CLOSINGS WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TAPER.

3- REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TAPER.

4- PLACE CONES ALONG THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.

5- EXTEND THE BUFFER SPACE AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO FLAGGER (REFER TO RSD. 1101.11, SHEET 2).

6- DO NOT STOP TRAFFIC IN ANY ONE DIRECTION FOR MORE THAN 5 MINUTES AT A TIME.

7- SIGNS ON PORTABLE STANDS MAY BE USED IN LIEU OF CONES. REFER TO RSD. 1180.01 FOR SKINNY DRUM SPECIFICATIONS.

8- USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE. PLACE SUPPLEMENTAL FLAGGER LOCATED AT INTERSECTIONS WITH FLAGGER AHEAD SIGNS (W20-7A) AND STOP SIGNS (R1-1) ON THE SIDE ROAD. AT SIGNALIZED INTERSECTIONS PLACE HIGHWAY IS ON FLASH MODE AND USE LAW ENFORCEMENT.

9- REFER TO THE CURRENT MUTCD FOR FLAGGER CONTROL, REQUIREMENTS, AND PROCEDURES.

10- DO NOT EXCEED A 1 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

11- IF VEHICLE QUEUED WILL REACH WITHIN 1/2 OF EITHER SIDE OF ACTIVE RAILROAD TRACKS CROSSING, CONTACT RAILROAD COMPANY TO DETERMINE IF ADDITIONAL MEASURES ARE NEEDED TO ESTABLISH WITHIN THE SPACE EXISTING. PROVIDE OFFICER OR FLAGGER EVEN IF AUTOMATIC WARNING MEASURES ALREADY EXIST.

GENERAL NOTES FOR PILOT CAR OPERATIONS

1- USE PILOT CARS WHEN DIRECTED BY THE ENGINEER.

2- IF ADVISORY SPEED IS LESS THAN OR EQUAL TO 35 MPH, SIGNAGE MAY NOT BE REQUIRED. IF ADVISORY SPEED IS GREATER THAN 35 MPH, SIGNAGE MAY BE REQUIRED AND SHALL BE POSITIONED ALONG THE WORK AREA TO USING A PILOT CAR.

3- CONES ARE ALWAYS REQUIRED IN THE UPSTREAM AND DOWNSTREAM TAPERS.

4- MOUNT SIGN W20-4 "PILOT CAR FOLLOW ME" AT A CONSPICUOUS POSITION ON THE REAR OF THE PILOT VEHICLE.

5- PLACE VERTICAL PANEL TWAS ONE (1) MTD OF LANE CLOSURE, INSTALLED NEXT TO THE SHOULDER AT THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

6- ADVISE MOTORISTS AND BICYCLISTS WITHIN THE LANE CLOSURE THEY MUST METHODS OF SAFE PASSING AND FOLLOWING THE HIGHWAY DURING FLAGGING AND PILOT CAR OPERATIONS.

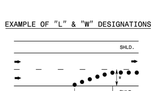
LEGEND
▶◀ FLAGGER
▲ CONE
▯ PORTABLE SIGN
⟵ DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-30

ROADWAY STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
2-LANE, 2-WAY ROADWAY-1 LANE CLOSED

SHEET 1 OF 14
1101.02

EXAMPLE OF "L" & "W" DESIGNATIONS



TAPER LENGTH CRITERIA FOR CHANNELIZING DEVICES IN WORK ZONES

TYPES OF TAPERS (DEVICE TYPE)	TAPER LENGTH
MERGING TAPER	½ L MINIMUM
SHIFTING TAPER	½ L MINIMUM
SHOULDER TAPER	⅓ L MINIMUM
TWO-WAY TRAFFIC TAPER	50 - 100 FOOT MINIMUM
CONSECTIVE TAPER	100 FOOT MINIMUM

DO NOT INTRODUCE A MERGING OR SHIFTING TAPER WITHIN A CURVE OF THE ROADWAY

QUICK REFERENCE - "L" DISTANCE TABLE

POSTED SPEED (MPH)	MINIMUM LONGITUDINAL DISTANCE "L" (FEET) TRAVERSE TAPERS: LATERAL WIDTH "W" (FEET) 1	2	3	4	5	6	7	8	9	10	11	12
30	10	15	20	30	35	40	50	55	60	70	75	80
35	15	25	35	45	55	65	75	85	95	105	115	125
40	15	30	45	60	75	90	105	120	135	150	165	180
45	20	45	65	90	110	135	155	180	200	225	245	270
50	30	50	80	110	135	165	190	220	245	275	300	330
55	45	90	135	180	225	270	315	360	405	450	495	540
60	60	120	180	240	300	360	420	480	540	600	660	720
65	65	130	195	260	325	390	455	520	585	650	715	780
70	70	140	210	280	350	420	490	560	630	700	770	840

GENERAL NOTES

1- TABLE FOR "L" DISTANCE IS BASED ON CHANNELIZATION TAPER FORMULA FROM THE MUTCD. WHERE:

SPEED LIMIT	FORMULA
40 MPH OR LESS	$L_{min} = \frac{W \times S^2}{60}$
45 MPH OR GREATER	$L_{min} = W \times S$

L = MINIMUM TAPER LENGTH IN FEET (LONGITUDINAL DISTANCE)
W = WIDTH OF OFFSET IN FEET (LATERAL DISTANCE)
S = 85TH PERCENTILE SPEED OR POSTED OR REGULATORY SPEED IN MPH PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH

2- "L" DISTANCE IS FOR APPLICATION WITH CHANNELIZING DEVICE AND PAVEMENT MARKING TAPERS AND TRANSITIONS. CHANNELIZING DEVICES INCLUDE DRUMS, CONES, TUBULAR MARKERS, BARRICADES, RAISED ASPHALT ISLANDS, AND VERTICAL PANELS.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
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ROADWAY STANDARD DRAWING FOR
TRAFFIC CONTROL DESIGN TABLES
"L" DISTANCE AND CHANNELIZING DEVICE TAPER CRITERIA

SHEET 1 OF 4
1101.11

DESIGN SPEED (MPH)	MINIMUM SIGHT DISTANCE: STOPPING SIGHT DISTANCE (FEET)	PASSING SIGHT DISTANCE (FEET)	MINIMUM LONGITUDINAL BUFFER SPACE (FEET)
30	200	1090	85
35	250	1280	120
40	305	1470	155
45	360	1625	195
50	425	1835	240
55	495	1985	290
60	570	2135	345
65	645	2285	405
70	730	2480	470
75	820	2580	540
80	910	2680	615

GENERAL NOTES

1- TABLES ARE BASED ON THE AASHTO GREEN BOOK "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". MINIMUM SIGHT DISTANCE VALUES ARE FOR PASSENGER CAR VEHICLES ON WET AND LEVEL ROADWAYS. CONSULT THE AASHTO GREEN BOOK TO MAKE FINAL DETERMINATION OF STOPPING SIGHT DISTANCE REQUIREMENTS.

2- BUFFER SPACE TABLE IS BASED ON THE BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS.

3- USE OF STOPPING SIGHT DISTANCE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE FOR TRAFFIC APPROACHING A LANE CLOSURE. PROVIDE 2-LANE, 2-WAY ROADWAYS STOPPING SIGHT DISTANCE TO THE FLAGGER. FOR LANE CLOSURES ON MULTILANE ROADWAYS PROVIDE STOPPING SIGHT DISTANCE TO THE BEGINNING OF THE LANE CLOSURE MERGE TAPER, OR FLASHING ARROW BOARD. EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED.

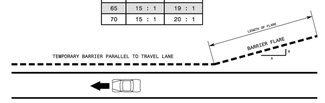
4- USE OF MINIMUM PASSING SIGHT DISTANCE TABLE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE REQUIREMENTS FOR PLACEMENT OF PAVEMENT MARKING PASSING/NO-PASSING ZONES FOR 2-LANE, 2-WAY ROADWAYS.

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DIVISION OF HIGHWAYS
RALEIGH, N.C.
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ROADWAY STANDARD DRAWING FOR
TRAFFIC CONTROL DESIGN TABLES
BUFFER SPACE & SIGHT DISTANCE

SHEET 2 OF 4
1101.11

TEMPORARY BARRIER FLARE RATES		
POSTED SPEED LIMIT (MPH)	UNANCHORED (A:S)	ANCHORED (A:S)
≤ 30	7 : 1	8 : 1
35	8 : 1	9 : 1
40	8 : 1	10 : 1
45	10 : 1	12 : 1
50	11 : 1	14 : 1
55	12 : 1	16 : 1
60	14 : 1	18 : 1
65	15 : 1	19 : 1
70	15 : 1	20 : 1



GENERAL NOTES

1- REFER TO THE 2011 ROADSIDE DESIGN GUIDE OR THE LATEST EDITION.

2- A BARRIER IS CONSIDERED FLARED WHEN IT IS NOT PARALLEL TO THE EDGE OF THE TRAVELWAY.

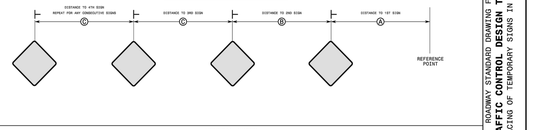
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-30

ROADWAY STANDARD DRAWING FOR
TRAFFIC CONTROL DESIGN TABLES
TEMPORARY BARRIER FLARE RATES

SHEET 3 OF 4
1101.11

ADVANCE WARNING SIGN SPACING CHART			
POSTED SPEED LIMIT (MPH)	RECOMMENDED DISTANCE BETWEEN SIGNS (FEET) A	B	C
≤ 35	350	350	350
40-50	350	350	500
55	350	350	500
CONTROLLED ACCESS ROADS (≥ 55)	1350	1600	2700

STATIONARY OR PORTABLE SIGNS



GENERAL NOTES

1- REFER TO 2009 MUTCD OR THE LATEST EDITION.

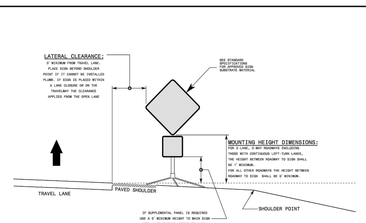
2- USE THIS STANDARD DRAWING IN CONJUNCTION WITH OTHER TRAFFIC CONTROL ROADWAY STANDARD DRAWINGS WHERE SIGN SPACING DISTANCES A, B, C, ARE SPECIFIED.

3- APPLY THE ADVANCE WARNING SIGN SPACING CHART WHERE A SERIES OF 2 OR MORE SIGNS ARE USED. ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE. FIELD ADJUST AS VARIOUS CONDITIONS OCCUR, SUCH AS LIMITED SIGHT DISTANCE, OBSTRUCTION INTERFERENCE, ETC.

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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
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ROADWAY STANDARD DRAWING FOR
TRAFFIC CONTROL DESIGN TABLES
SPACING OF TEMPORARY SIGNS IN SERIES

SHEET 4 OF 4
1101.11



GENERAL NOTES

1- DIMENSIONS SHOWN ARE MINIMUM VALUES. MOUNT SIGNS SO THEY WILL BE CLEARLY VISIBLE TO APPROACHING TRAFFIC EVEN WHEN SIGNS ARE MOUNTED BEHIND TRAFFIC CONTROL DEVICES SUCH AS DRUMS, BARRIER, OR OTHER OBJECTS.

2- ALL PORTABLE SIGNS AND STANDS MUST MEET OR EXCEED THE REQUIREMENTS OF NCHRP 350 FOR CATEGORY II DEVICES. USE PORTABLE WORK ZONE SIGNS AND STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER.

3- ALL PORTABLE WORK ZONE SIGNS AND STANDS MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCTS LIST.

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RALEIGH, N.C.
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ROADWAY STANDARD DRAWING FOR
PORTABLE WORK ZONE SIGNS
MOUNTING HEIGHT & LATERAL CLEARANCE

SHEET 1 OF 1
1110.02

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER OR NCDOT.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER OR NCDOT.

PROJECT NOTES

A. DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

B. REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.

C. WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

D. WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

E. WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITH THE CLOSED TRAVEL LANE.

F. DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

G. BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER.

H. DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 350 FEET IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

SIGNING

I. INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

J. ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

K. INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 100 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

L. INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION, PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET TEMPORARY BARRIER UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

I INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

M. PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS:

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45-50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

MISCELLANEOUS

N. NCDOT ROADS ONLY: PRIOR TO OPENING ANY LANE OF TRAFFIC THE ROAD SHALL BE REPAIRED TO NCDOT STANDARDS. THIS WILL INCLUDE, BUT IS NOT LIMITED TO:
-- NCDOT APPROVED PRODUCTS AND MATERIALS.
-- PROPER COMPACTION OF MATERIALS.
-- REPAIR ASPHALT PER NCDOT STANDARD DRAWING 654.01.
-- ANY DAMAGE CAUSED AS A RESULT TO THE CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE APPLICANT/DEVELOPER TO RESOLVE.

TRAFFIC PATTERN ALTERATIONS

O. NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

TRAFFIC CONTROL DEVICES

P. SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. WHEN LANE CLOSURES ARE NOT IN EFFECT WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.

Q. PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

R. PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES (DRUMS, CONES OR SKINNY DRUMS) PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

S. ONLY UNIFORMED POLICE OFFICERS SHALL DIRECT TRAFFIC THROUGH SIGNALIZED INTERSECTIONS. THE TRAFFIC SIGNAL MAY BE PUT INTO FLASHING OPERATION OR MAY REMAIL IN NORMAL OPERATION AT THE DISCRETION OF THE OFFICER.

OFFICERS SHALL BE PROPERLY ATTIRED AND SHALL DIRECT TRAFFIC WITH HAND MOTIONS. FLASHLIGHTS WITH RED CONES SHOULD BE USED AT NIGHT. OFFICERS MAY ALSO USE A WHISTLE TO SIGNAL WHEN THEY ARE CHANGING THE DIRECTION OF THE RIGHT OF WAY.

STANDARDS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

- **903.10 - GROUND MOUNTED SIGN SUPPORTS**
- **904.10 - ORIENTATION OF GROUND MOUNTED SIGNS**
- **940.50 - MOUNTING OF TYPE "D", "E", AND "F" SIGNS ON "U" CHANNEL POSTS**
- **1101.01 - WORK ZONE WARNING SIGNS**
- **1101.02 - TEMPORARY LANE CLOSURES**
- **1101.04 - TEMPORARY SHOULDER CLOSURES**
- **1101.11 - TRAFFIC CONTROL DESIGN TABLES**
- **1110.01 - STATIONARY WORK ZONE SIGNS**
- **1110.02 - PORTABLE WORK ZONE SIGNS**
- **1130.01 - DRUMS**
- **1135.01 - CONES**
- **1150.01 - FLAGGING DEVICES**
- **1180.01 - SKINNY - DRUM**

1 NCDOT DETAILS NTS

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

SEAL

SEAL

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Phone: (910)343-1048, Fax: (910)251-8282
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BLAKE FARM PARCEL I

NCDOT DETAILS

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	BMJ
DESIGNED	THL
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: AS SHOWN

C15.1
DRAWING NUMBER

REVISION

STATUS: PENDER COUNTY TRC REVIEW

I:\04245\0047\ENG - PARCEL I\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C15.0 NCDOT DETAILS.DWG — 08/04/2023 10:55:22

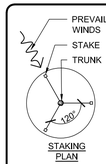
1. ALL EXISTING VEGETATION THAT IS USED TO MEET LANDSCAPING REQUIREMENTS, ALL REQUIRED PLANTED LIVING MATERIAL, AND ALL REQUIRED BERMS SHALL BE MAINTAINED BY THE OWNER OF THE PROPERTY ON A CONTINUING BASIS. ANY PLANTED MATERIAL WHICH BECOMES DAMAGED OR DISEASED OR DIES SHALL BE REPLACED BY THE OWNER WITHIN 60 DAYS OF THE OCCURRENCE OF SUCH CONDITION. IF, IN THE OPINION OF THE ZONING ADMINISTRATOR THERE ARE SEASONAL CONDITIONS WHICH WILL NOT PERMIT THE TIMELY REPLACEMENT OF THE VEGETATION (E.G. TOO HOT OR TOO COOL FOR SUCCESSFUL REPLANTING) THIS REQUIREMENT MAY BE ADMINISTRATIVELY WAIVED UNTIL A TIME CERTAIN WHEN THE REPLANTING WOULD BE SUCCESSFUL.
2. VERIFICATION OF TOTAL LANDSCAPE MATERIAL QUANTITIES AS SHOWN ON THE LANDSCAPE PLANS AND IN THE PLANT SCHEDULE SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO FINAL BIDDING OR INSTALLATION.
3. ALL PLANTING TYPES SHALL COMPLY WITH LOCAL GOVERNING CODES AND REGULATIONS, CONFORM TO REQUIREMENTS OF PLANT LIST AND TO THE AMERICAN ASSOCIATION OF NURSERYMEN "AMERICAN STANDARD OF NURSERY STOCK" AND "HORTICULTURAL STANDARDS" AS TO SPECIES, AGE, SIZE, AND PLANTING RECOMMENDATIONS.
4. LANDSCAPE MATERIAL PLACED IN PREPARED HOLES SHALL BE PROPERLY BACKFILLED PRIOR TO THE END OF THE WORKING DAY.
5. ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
6. LANDSCAPE ARCHITECT SHALL APPROVE ANY ON-SITE PLANT STORAGE AREA FOR ACCESSIBILITY, SHADE CONDITIONS, HEALING-IN MULCH MATERIAL AND TEMPORARY WATERING METHODS.
7. ALL ROPE AND WRAPPING TWINE SHALL BE CUT AND REMOVED FROM AROUND THE UPPER PARTS OF THE ROOT BALL. METAL BASKET WIRES AND BURLAP SHALL BE PULLED BACK AND TUCKED UNDER THE EDGES OF THE SAUCER RINGS ON ALL TREES AND LARGE SHRUBS. ALL SYNTHETIC BURLAP SHALL BE REMOVED FROM PLANT BALLS PRIOR TO BACK FILLING.
8. ALL PLANT BEDS OR RAISED SAUCER RINGS SHALL BE EDGED WITH SMOOTH, CONTINUOUS CURVES.
9. ALL PLANT MATERIAL SHALL BE PLANTED AT HEIGHTS AND WIDTHS AS ILLUSTRATED IN PLANTING DETAILS.
10. TREE GUYING SHALL BE PERFORMED WITHIN A WEEK OF PLANTING. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TREE GUYING STRAPPING AND STAKES AFTER THE FIRST FULL GROWING SEASON OR ONE YEAR, WHICH EVER COMES FIRST.
11. CONTRACTOR SHALL VERIFY LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO PLANTING.
12. ANY EXPOSED OR UNCOVERED LINES SHALL BE SHOWN TO GENERAL CONTRACTOR PRIOR TO BACKFILLING.
13. ALL PLANT BEDS AND RAISED SAUCER RINGS SHALL BE GRADED TO PROVIDE ADEQUATE DRAINAGE AND SHALL BE MULCHED AS SPECIFIED.
14. ALL MATERIALS, PLANTING AND LANDSCAPE WORK SHALL CONFORM TO THE CURRENT MUNICIPAL AUTHORITIES STANDARD SPECIFICATIONS AND DETAILS.
15. ALL LANDSCAPE AREAS THAT ARE NOT PLANTED, MULCHED OR PAVED SHALL BE SEEDED OR SODDED.
16. FIRST YEAR PRUNING OF TREE CROWN SHALL BE LIMITED TO REMOVAL OF DEAD & DAMAGED WOOD.
17. TREE PROTECTION FENCE SHALL BE INSTALLED, INSPECTED AND APPROVED PRIOR TO CLEARING, GRADING AND CONSTRUCTION ACTIVITY OR ISSUANCE OF ANY RELATED PERMITS. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
18. MULCH LINE SHALL CONSIST OF SMOOTH CONTINUOUS CURVES.
19. ALL TREES NOT WITHIN A PLANT BED SHALL BE TREATED WITH A 6' DIAMETER MULCH RING TYPICAL, UNLESS OTHERWISE INDICATED ON THE PLANTING PLANS.
20. TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.
21. SUBSTITUTIONS OF PLANT MATERIALS SPECIFIED CAN ONLY OCCUR WITH PRIOR APPROVAL BY LANDSCAPE ARCHITECT.
22. ESTABLISH PLANT BED CONFIGURATION. LANDSCAPE ARCHITECT TO APPROVE BED LAYOUT IN FIELD.
23. AREAS DAMAGED BY ACTIVITIES OF CONTRACTOR SHALL BE RE-ESTABLISHED TO PRE-DISTURBANCE CONDITION AT NO ADDITIONAL COST TO THE OWNER.
24. USE HERBICIDES, PESTICIDES, AND FERTILIZER IN A MANNER CONSISTENT WITH THE FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT AND IN ACCORDANCE WITH LABEL RESTRICTIONS.
25. CONTRACTOR SHALL INSURE THAT ALL PLANT MATERIAL IS FREE OF FIRE ANTS PRIOR TO INSTALLATION.
26. LANDSCAPE ARCHITECT OR OWNER SHALL APPROVE PLACEMENT OF TREES PRIOR TO PLANTING.
27. STREET TREES SHALL BE MAINTAINED TO PROVIDE 13'-6" CLEAR HEIGHT FOR THE PORTION OF THE TREE CANOPY THAT EXTENDS OVER THE VEHICULAR NETWORK.
28. TREES SHALL BE LOCATED A MINIMUM OF 15 FEET FROM STREETLIGHTS.
29. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
30. DEEPROOT ROOT BARRIER OR APPROVED EQUAL SHALL BE INSTALLED AT ANY TREE LOCATIONS AND WHERE A TREE IS WITHIN 10' OF A UTILITY OR HARDSCAPE. THE ROOT BARRIER SHALL BE INSTALLED ACCORDING TO MANUFACTURER RECOMMENDATION.
31. LANDSCAPE CONTRACTOR SHALL PROVIDE IRRIGATION DESIGN AND INSTALL IRRIGATION SYSTEM.
32. MULCH SHALL BE SHREDDED HARDWOOD, SPREAD AT THICKNESS OF 3" DEEP ACROSS PLANTING AREAS.

4 GENERAL LANDSCAPE NOTES

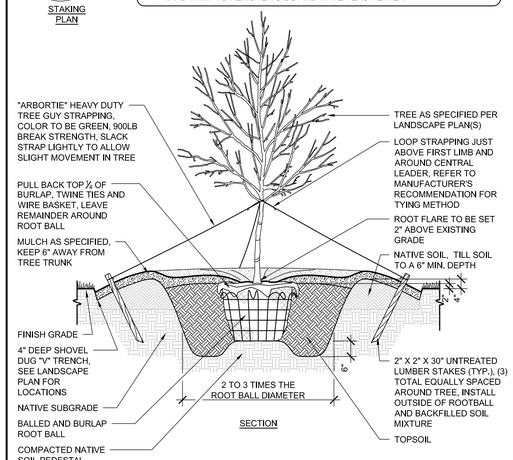
TREE SCHEDULE OVERALL					
CANOPY TREE	SIZE	CALIPER	HEIGHT	QTY	REMARKS
ACER RUBRUM `OCTOBER GLORY` TM OCTOBER GLORY MAPLE	B & B	2" CAL.	10`-12` HT.	18	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED
ILEX OPACA AMERICAN HOLLY	B & B	2" CAL.	8`-10` HT.	6	SINGLE DOMINANT LEADER, UNIFORM CANOPY AND MATCHED.
QUERCUS NIGRA WATER OAK	B & B	2" CAL.	8`-10` HT.	8	SINGLE DOMINANT LEADER, UNIFORM CANOPY AND MATCHED.
QUERCUS VIRGINIANA SOUTHERN LIVE OAK	B & B	2" CAL.	10`-12` HT.	20	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED
UNDERSTORY TREES	SIZE	CALIPER	HEIGHT	QTY	REMARKS
MAGNOLIA GRANDIFLORA `LITTLE GEM` DWARF SOUTHERN MAGNOLIA	B & B		6`-8` HT.	25	SINGLE DOMINANT LEADER, UNIFORM CANOPY, FULL TO GROUND & MATCHED
PRUNUS SERRULATA `KWANZAN` FLOWERING CHERRY	B & B	2" CAL.	10`-12` HT.	28	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED

GROUND COVER SCHEDULE OVERALL					
GROUND COVERS	SIZE	SPACING	SPACING	QTY	REMARKS
CYNODON DACTYLON BERMUDA GRASS	SEED	3 LBS / 1000 SF		48,048 SF	

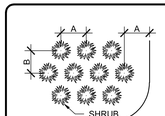
5 PLANT LEGEND



GENERAL NOTES:
A. TREE TO BE STRAIGHTENED PRIOR TO BACKFILL AND GUYING
B. SCARIFY BOTTOM AND SIDES OF PLANT PIT.
C. STAKE AND GUY TREES 3" CALIPER OR GREATER, OR TREES IN WINDING LOCATIONS AS DIRECTED BY LANDSCAPE ARCHITECT.
D. DO NOT WRAP TREE TRUNK.
E. MARK NORTH SIDE OF TREE AT NURSERY AND PLANT WITH MARKING FACING NORTH.
F. BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, PACK SOIL AROUND BASE OF ROOTBALL TO STABILIZE, INSTALL REMAINDER IN 9" LAYERS, HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER



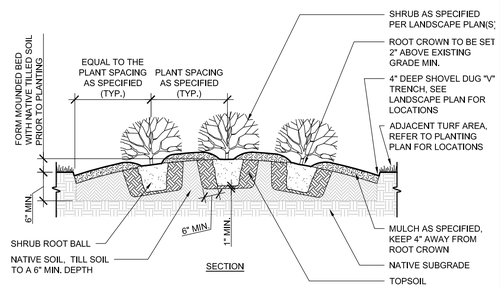
3 TYPICAL TREE PLANTING



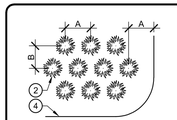
PLANT SPACING CHART

SPACING (A)	ROW OFFSET (B)	SPACING (A)	ROW OFFSET (B)
1'-0" O.C.	10" O.C.	5'-0" O.C.	4'-4" O.C.
1'-6" O.C.	1'-4" O.C.	6'-0" O.C.	5'-2" O.C.
2'-0" O.C.	1'-9" O.C.	7'-0" O.C.	6'-1" O.C.
2'-6" O.C.	2'-2" O.C.	8'-0" O.C.	6'-11" O.C.
3'-0" O.C.	2'-7" O.C.	9'-0" O.C.	7'-10" O.C.
3'-6" O.C.	3'-0" O.C.	10'-0" O.C.	8'-8" O.C.
4'-0" O.C.	3'-6" O.C.		

GENERAL NOTES:
A. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.
B. THE BOTTOM OF SHRUB ROOT BALLS SHALL NOT PROJECT INTO THE NATIVE SUBGRADE . LARGER PLANTS WILL REQUIRE ADDITIONAL TOPSOIL DEPTH.
C. BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, INSTALL IN 6" LAYERS, HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER
D. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED BY HAND PRIOR TO PLACEMENT AND BACKFILLING WITH PREPARED SOILS. HAND TOOLS SHALL NOT BE USED TO SCARIFY ROOT BALLS.



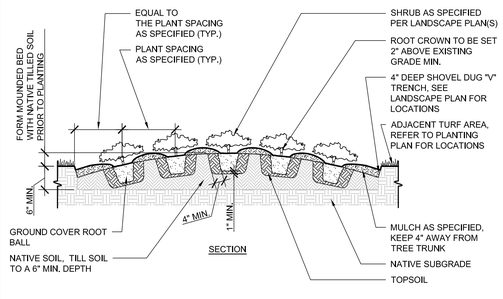
2 TYPICAL SHRUB PLANTING



PLANT SPACING CHART

SPACING (A)	ROW OFFSET (B)	SPACING (A)	ROW OFFSET (B)
6" O.C.	5" O.C.	24" O.C.	1'-9" O.C.
8" O.C.	7" O.C.	36" O.C.	2'-7" O.C.
12" O.C.	10" O.C.	4'-0" O.C.	3'-6" O.C.
15" O.C.	1'-1" O.C.	5'-0" O.C.	4'-4" O.C.
18" O.C.	1'-4" O.C.	6'-0" O.C.	5'-2" O.C.

GENERAL NOTES:
A. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.
B. THE BOTTOM OF GROUND COVER ROOT BALLS SHALL NOT PROJECT INTO THE NATIVE SUBGRADE . LARGER PLANTS WILL REQUIRE ADDITIONAL TOPSOIL DEPTH.
C. BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, INSTALL IN 6" LAYERS, HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER
D. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED BY HAND PRIOR TO PLACEMENT AND BACKFILLING WITH PREPARED SOILS. HAND TOOLS SHALL NOT BE USED TO SCARIFY ROOT BALLS.



1 TYPICAL GROUND COVER PLANTING

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

SEAL

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BLAKE FARM PARCEL I

LANDSCAPE DETAILS

DATE:	08/04/2023
MCE PROJ. #	04245-0047B
DRAWN	ALM/BMJ
DESIGNED	ALM
CHECKED	TSM/THL
PROJ. MGR.	TSM

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: N/A

C17.0 DRAWING NUMBER

0 REVISION

STATUS: PENDER COUNTY TRC REVIEW

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