



MEMORANDUM

Town of Nags Head

Planning & Development Department

To: Board of Commissioners
From: Kelly Wyatt, Planning Director
Joe Costello, Deputy Planning Director

Date: January 30, 2024

Subject: SUP/Site Plan Review, Lot 2A-1R, Charles Sineath Division, Trade Center

BACKGROUND INFORMATION

The initial Special Use/Site Plan review for the Trade Center was reviewed and approved by the Nags Head Board of Commissioners on November 2nd, 2022. This 2022 approval was not a vested right, so the site plan approval expired one (1) year from the date of approval, meaning the site plan approval expired on November 2nd, 2023. Section 4.15, Time Limits for Site Plan, Zoning Permits, & Building Permits, of the Unified Development Ordinance, sets forth the timeline for permitting following Board approval, and is included below for your review.

Section 4.15 - Time Limitations for Site Plans, Zoning Permits, & Building Permits.

The following provisions pertaining to time limitations to obtain building permits, and to commence, continue and complete construction, shall apply in all cases in which a site plan approval or development permit is required unless otherwise provided for in [Section 3.6](#), Establishment of Vested Rights.

4.15.1. Time Limitation to Obtain Building Permit.

Final approval of a site plan by the Board of Commissioners or approval of a zoning permit by the UDO Administrator shall be valid for twelve (12) months from date of approval. The Building Inspector may issue a building permit within twelve (12) months from the date of such approval, provided that all other requirements are met. If a building permit is not issued within twelve (12) months from the date of final approval of the site plan or zoning permit, the site plan or zoning permit shall expire and the applicant must submit a new site plan conforming to the then current provisions of this Ordinance for review by the Planning Board and Board of Commissioners or a new zoning permit application for review by the UDO Administrator and pay the applicable fees. Upon the issuance of a building permit, the approval of the underlying site plan or zoning permit shall remain valid as long as the corresponding building permit remains valid as provided for in this section.

Note that following site plan approval by the Board of Commissioners a building permit must be issued within twelve (12) months from the date of approval, or the site plan approval expires, and the applicant must then submit a new site plan review conforming with the current

provisions of the Unified Development Ordinance. Given that a development permit application has not been submitted and a building permit issued, the applicant is requesting re-consideration of the initial approved submittal. As such, the applicant has resubmitted their previously reviewed and approved Special Use/Site Plan Review application for the Planning Board and Board of Commissioners consideration. The staff report from the Board of Commissioners November 2nd, 2022 meeting has been provided below for consideration.

The Planning, Fire, Police, and Public Services Departments as well as the Town Engineer have reviewed the submittal and find it to be consistent, and still in compliance with the November 2, 2022 approved submittal. There have been no changes in the applicable codes for each respective department over the past year that would affect this submittal, therefore staff recommends approval of the Special Use/Site Plan Review application as submitted.

PLANNING BOARD RECOMMENDATION

At their December 19, 2023, meeting the Planning Board voted unanimously to recommend approval of the Special Use Permit/Site Plan Review as presented.

Pursuant to Section 3.8.4.6 of the Unified Development Ordinance the Board of Commissioners shall issue a Special Use Permit if it has evaluated an application through a quasi-judicial process and determined that:

1. The use will not materially endanger the public health and safety if located where proposed and developed according to the plan as submitted.
2. The use, as proposed, will not overburden the firefighting capabilities and the municipal water supply capacity of the Town as such facilities and capabilities will exist on the completion date of the conditional use for which application is made.
3. The conditional use will be in harmony with the existing development and uses within the area in which it is to be located.
4. Adequate utilities, access roads, drainage, parking, or necessary facilities have been or are being provided.
5. Adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.

Attachments: SUP/Site Plan Application, DCHD, Checklist Plan Set, Site Narrative.

STAFF REPORT FROM NOVEMBER 2ND, 2022 BOARD OF COMMISSIONERS MTG

GENERAL INFORMATION

Applicant: Quible & Associates, PC. & Beacon Architecture and Design, PLLC on behalf of Mazzi LLC.

Application Type: Special Use/Site Plan Review.

Purpose/Request: Construction of an 11,200 square foot building that includes 8 units operating as a "Trade Center", with parking and all associated site improvements.

Property Location: 2A-1R, Charles Sineath Division, 0 Satterfield Landing Rd, Nags Head.

Existing Land Use: Vacant.

Zoning Classification of Property: C-3, Commercial Services Zoning District.

Zoning Classification of Surrounding Properties: Property to the north, directly across Satterfield Landing Road is zoned C-2, General Commercial and developed commercially (OBX Bowling Center). Property to the south is zoned R-2, Medium Density Residential and it is undeveloped. Property to the west, is zoned C-3 Commercial Service and is developed commercially (Village Realty & Management Service). Property to the east is zoned C-2, General Commercial and developed commercially (TW's Bait & Tackle).

Flood Hazard Zone of Property: Property is located in an X Flood Zone, per the Town of Nags Head local ordinance, the property is subject to an RFPE/LES of 9 ft. The first floor of the trade center is proposed at 11 feet msl and is therefore compliant.

Land Use Plan Map/Policies: The 2017 Comprehensive Plan Future Land Use Map classifies this property as Commercial Services. This proposal is consistent with this land use classification and stated Land Use Policies.

SPECIFIC INFORMATION

Applicable Zoning Regulations:

- Use Regulations: Section 6.6, Table of Uses and Activities lists "Trade Center" as a Special Use within the C-3, Commercial Services District, with supplemental regulations set forth in Section 7.72 and included below.

Trade centers are permitted in accordance with [Section 6.6](#), Table of Uses and Activities, subject to other requirements of this UDO and provided that the following conditions are met:

***7.72.1.** Each individual unit may contain an office/sales area; however, this area shall not exceed twenty-five (25) percent of the gross floor area of the unit.*

***7.72.2.** Each individual unit shall at a minimum contain a commode, shower facility and lavatory.*

Distance from Fresh Pond	Maximum Permeable Pavement	Maximum Impermeable Surface	Minimum Open Space
0—500 feet	25%	30%	45%
Over 500 feet	25%	45%	30%

7.72.3. All work conducted on-site shall be entirely within the enclosed structure.

The proposal consists of eight (8) 1,400 square foot units. Approximately 14% of each unit is dedicated to office use and restroom facilities. The remaining area is dedicated to parking area and storage. Sheet A1.1 of the submittal package shows the floor plan for the units, note that a toilet and sink has been shown in each unit. With regard to the requirement for each unit to contain a “shower facility”, staff has reviewed the minutes from the Planning Board and Board of Commissioners meetings in 1988 in hopes of gaining insight on this requirement. Unfortunately, there was no discussion in the minutes related to the shower requirement. Given the nature of the trade center use, where one may be working with, exposed to, or come into contact with injurious corrosive materials it seems fitting that eye wash stations and safety showers would be required to allow for quick drenching and flushing of the eyes and body in emergency situations. Staff would add that while one proposed tenant of a trade center unit may not be working with materials that would necessitate shower facilities, a future tenant may so, as a matter of consistency in approval, each unit should provide a shower or emergency shower for safety purposes. A combination eye wash and shower station has been proposed and shown on sheet A1.2 of the plan set. Lastly, the applicant has noted in the site narrative included in the packet that there will be no outdoor display areas or storage of materials.

- **Lot Coverage:** Section 8.6.6.4 of the UDO sets forth allowable lot coverage within the C-3, Commercial Services district as it pertains to the developments distance from the Fresh Pond AEC. This property is not located within the Fresh Pond AEC.

Proposed impermeable surfaces on this site are 44.8% and therefore compliant. The proposed permeable surfaces on this site are 10.1% and therefore compliant. As proposed, over 44% of the site is retained in open space and therefore is compliant.

- **Height:** The maximum allowable building height within the Town is 35 feet; however, pursuant to Section 8.2.1, Dimensional requirements, total height may be increased to 42 feet with the use of an 8:12 roof pitch or greater. The applicant has proposed a structure with an overall height of 20'-5", therefore height is compliant.
- **Architecture Design Standards:** Section 10.82 of the UDO, Applicability, states that Commercial Design Standards shall not apply to projects located within the C-3, Commercial Services Zoning District.

- Parking: Pursuant to Article 10, Table 10-2, Required Parking by Use, Warehouse/Light Industrial, Trade Centers shall provide parking at one (1) parking space for each 750 gross square feet of floor area in each unit, but no less than 3 parking spaces per unit. With eight (8) units proposed, a total of 24 parking spaces is required. A total of 24 parking spaces has been proposed therefore parking is compliant. Note that the applicant has proposed 14 of the parking spaces to be interior to the trade center and as such the building will be designed to provide fire suppression.

With regard to the loading zone requirements, Section 10.17.1. sets forth the requirements for the number and type of loading zone required based upon the use. This section also states, "A loading space need not be necessarily a full berth but shall be sufficient to allow normal loading and unloading operations of a kind and magnitude appropriate to the use. The Town Engineer shall determine the sufficiency of loading space but in no case shall the use of such space hinder the free movement of vehicles and pedestrians over a street, sidewalk, parking lot or alley". The applicant has requested that consideration be given to a reduced loading and unloading zone. Based upon the anticipated use and building size, the applicant is requesting a 12' x 30' dedicated loading zone. The applicant anticipates limited product pick-up and delivery with deliveries expected to include UPS and FedEx.

Section 10.92.14.4 of the UDO, Surface Materials, requires a minimum of twenty (20) percent of the surface area of the parking area and drive aisles to be constructed of permeable surface material. The applicant has proposed developing approximately 40% of the exposed surface of the parking area in a permeable surface material.

- Buffering/Landscaping: Several sections of the Unified Development Ordinance speak to Buffering and Landscaping as it applies throughout this proposed site:
 - Section 10.92.6.2 of the UDO, Parking and Drive Aisle Setbacks, requires that where off-street parking is provided between the building and the street right-of-way line, a parking lot buffer of at least ten (10) feet in width shall be provided between the parking lot and the street right-of-way. Where the proposed parking along the northern boundary is adjacent to Satterfield Landing Road, the applicant has proposed a compliant 10-foot-wide buffer yard with the appropriate number of plantings.
 - Section 10.93.3.2 of the UDO, Commercial Transitional Protective Yards, requires increased landscaping to be provided and maintained when non-residential land uses are adjacent to a residential use or residential zoning district. Additionally, Section 10.93.3.3 lists "Trade Center" as a High Impact Use. Section 10.93.3.2.2. states that where a high impact use abuts a residential zoning district, a buffer strip of at least twenty-five (25) feet in width along the entire length of the lot shall be provided. The buffer yard shall consist of three rows of plant material. A compliant 25-foot-wide transitional protective yard has been proposed along the southern property line where this property abuts the R-2, Medium Density Residential Zoning District.
 - Section 10.93.3.7, Interior Parking Lot Landscaping and Section

10.93.3.8, Vegetation Preservation/Planting Requirements are not applicable to projects within C-3, Commercial Services District pursuant to Section 10.82, Applicability of Commercial Design Standards.

- Lighting: A lighting plan compliant with the requirements of Article 10.37.1 of the Unified Development Ordinance will be required prior to the issuance of any development permits. In addition, a light audit will be required prior to issuance of occupancy permits. Staff is currently reviewing the lighting information submitted with this Special Use application.
- Signage: No signage is being proposed at this time; however, any signage will need to be reviewed and approved prior to installation.

Water and Sewage Disposal: The Dare County Health Department has reviewed and approved the proposal as presented (DCHD Approval Email Attached).

Traffic Circulation: Traffic circulation has been reviewed and approved by the Town Engineer as presented.

Stormwater Management: Stormwater management has been reviewed and approved by the Town Engineer with a condition that the roadway swale on the west side of the proposed driveway apron be extended to the western property corner. See all engineering comments in the attached email correspondence dated September 16, 2022.

Fire: The project will be required to comply with all applicable NC Fire Prevention Code requirements as part of building permit application review and issuance. The building will be sprinkler protected and the structure design will meet the appropriate fire ratings as required.

Public Works: The Public Works Director has reviewed and approved the proposed site plan as presented.

ANALYSIS

Staff finds that the proposal is consistent with the applicable use and development standards, as well as relevant land use policies.

During the Sketch Plan Review for this Special Use/Site Plan application there were questions concerning the types of uses that would be permissible within the proposed units. As the property is located within the C-3, Commercial Services Zoning District, only those uses permitted within this district would be allowed. Furthermore, only uses that meet the intent of the Trade Center use would be permitted. The definition of Trade Center is provided below:

Trade center means a structure containing two or more individual units, primarily devoted to service and wholesale operations and the storage of materials for off-site work.

Reviewing Section 6.6, Table of Permitted Uses and Activities, the following are examples of uses allowed in the C-3 District within the use categories devoted to service and wholesale operations that are representative of the uses that would be permitted, this is not a comprehensive list: Carpet Installation, Fire Safety Equipment Services, Locksmiths, Real Estate Rental Management Facility, Security System Services, Wallpaper

Installation, Water Well Drillers Services, Assembly and Packaging of Articles, Canvas, Fabric and Upholstery, Electrical Equipment storage. Note, automobile repair is not permissible in the C-3 District and would not be permitted as part of the proposed "Trade Center" use.

STAFF RECOMMENDATION

Based upon Staff's review of the proposal and conditioned on the Town Engineer's requirement that the roadway swale on the west side of the proposed driveway apron be extended to the western property corner, staff recommends approval of the Special Use/Site Plan Review as presented.

PLANNING BOARD RECOMMENDATION

At their September 20, 2022, meeting the Planning Board voted unanimously to recommend approval of the Special Use Permit/Site Plan Review conditioned upon the Town Engineers request that the proposed driveway apron be extended to the western property corner.

The applicant has addressed the Town Engineers request that the driveway apron be extended to the western property corner in the submittal for Board of Commissioner consideration.

Pursuant to Section 3.8.4.6 of the Unified Development Ordinance the Board of Commissioners shall issue a Special Use Permit if it has evaluated an application through a quasi-judicial process and determined that:

1. The use will not materially endanger the public health and safety if located where proposed and developed according to the plan as submitted.
2. The use, as proposed, will not overburden the firefighting capabilities and the municipal water supply capacity of the Town as such facilities and capabilities will exist on the completion date of the conditional use for which application is made.
3. The conditional use will be in harmony with the existing development and uses within the area in which it is to be located.
4. Adequate utilities, access roads, drainage, parking, or necessary facilities have been or are being provided.
5. Adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.

Attachments: SUP/Site Plan Application, DCHD, and Checklist Plan Set, Site Narrative, September 16th engineering correspondence.



TOTAL PROPOSED SQUARE FOOTAGE _____ x .50 = \$ _____ +

CONDITIONAL USE (\$200.00)
(Optional) VESTED RIGHT (\$200.00)
(Optional) BOTH (\$300.00)
= TOTAL FEE DUE _____

TOWN OF NAGS HEAD

DATE RECEIVED _____

SITE PLAN REVIEW APPLICATION & CHECKLIST FOR CONDITIONAL USES

1. LOCATION AND ZONING INFORMATION

- A. PROJECT TITLE Trade Center Facility, Lot 2A-1R, Charles L. Sineath Division
- B. STREET ADDRESS 0 W Satterfield Landing Road, Nags Head, NC 27959
- C. SUBDIVISION _____
LOT(S) 2A-1R BLOCK n/a SECTION n/a
- D. PRESENT ZONING C-3
- E. PRESENT USE vacant
- F. EXISTING NONCONFORMITIES n/a
- G. ABUTTING PROPERTY ZONING R2, R2, C2, C3
- H. ABUTTING PROPERTY USE Vacant land, vacant land, retail, dance studio

2. CERTIFICATION AND STANDING

- A. As applicant of standing of the above named project, I certify that the information on this checklist and the site plan is complete and accurate.

[Signature]
OWNER AGENT CONTRACT
PURCHASER

- B. APPLICANT/DEVELOPER: NAME Mazzi, LLC
ADDRESS 114 West Oregon Ave Kill Devil Hills, NC 27948
TELEPHONE _____
- C. CONTACT PERSON: NAME Michael W Strader
ADDRESS 8466 Caratoke Hwy, Bldg 400 Powells Point, NC 27966
TELEPHONE 252-491-8147

3. ADJACENT OWNERSHIP INFORMATION (TO BE SHOWN ON SITE PLAN)

- NAME/ADDRESS (N) N/A (W Satterfield Blvd)
- NAME/ADDRESS (S) Santos Ventura Machado; 308 Sandpiper Drive, Kill Devil Hills, NC 27948
- NAME/ADDRESS (E) Bottom Rig, LLC; PO Box 279 27949
- NAME/ADDRESS (W) Village Realty and Management Services; PO Box 1807, Nags Head, NC 27959
(If additional space is needed, please attach separate sheets.)
- NAME/ADDRESS (S) Michael W. Kelly; PO Box 1089, Nags Head, NC 27959

4. SITE PLAN AND SITE PLAN ATTACHMENT DATA

A. Site plan preparer Quible & Associates, PC - Cathleen M. Saunders, P.E. Phone # 252.491.8147
 NC Registered Engineer Architect Surveyor. License # 043652

- B. The design for the attached Stormwater Management Plan includes:
 1.5", 2-hour rainfall: retained on-site.
 4.3", 2-hour rainfall: no important access or health-related impacts.
 5.0", 2-hour rainfall: no unapproved impacts.

Drainage calculations have been prepared YES NO ATTACHED YES NO

Note: Stormwater Management Plan MUST be approved by the Town Engineer prior to Planning Board review for all listed permitted uses in the zoning ordinance.

- C. Sewage disposal approval is being submitted in the form of:
 Attached tentative approval letter dated 8/9/2022
 Attached final permit dated _____
 State County

- D. Project involves condominium ownership.
 NO YES, Three copies of condominium documents attached.

- E. Amount of land-disturbing activity proposed 46,000 square feet.
 A Soil Erosion and Sedimentation Control Plan has been prepared. Will be prepared after sketch plan approval
 NO YES; (1) Copy attached, (2) Copy submitted to Dare County Soil Conservation Service, Manteo NC 27954.

- F. Coastal Area Management Act (CAMA) permit. YES NO

5. INFORMATION TO BE SHOWN ON SITE PLAN

Twelve (12) copies for Planning Board review

A. Property and ownership	YES	COMMENTS
1. Present recorded owner and map book/cabinet reference of the site property.	X	
2. Current PIN Number.	X	
3. Site Address.	X	
4. Owners' names, lot numbers or map book and page reference of all adjacent property owners.	X	
5. Boundary of the entire parcel by course and distance.	X	
6. Widths of the existing rights-of-way that abut the site.	X	
7. Nature or purpose, location and size of existing easements.	X	
8. At all lot corners, points of tangents and any angle point along a given course of the site, iron pins minimum 3/8-inch diameter or 4x4-inch concrete monuments.	X	
9. Plan to at least 1"=50' scale, showing north arrow and whether true or magnetic.	X	
10. Signature and seal of preparer.	N/A	
B. Existing features		
1. Streets, curbs, and sidewalks with type and width of pavement.	X	
2. Topographic features of site and existing grades for any streets, storm drainage system including existing grades at four corners of all structures.	X	

	YES	COMMENT
3. Flood zone(s) as determined by latest FEMA Flood Insurance Rate Map, with notation, "flood zone subject to change by FEMA."	X	
4. All underground utilities and facilities including gasoline tanks and existing septic facilities (including tanks and fields).	X	
5. If the lot is within an ocean hazard Area of Environmental Concern, the location of the first line of stable natural vegetation, the CAMA setback line, and contour lines at 2-foot intervals depicting any dunes located within an oceanfront AEC that are to be disturbed by construction.	N/A	
6. The location of any marsh areas or estuarine waters or US Army Corps of Engineers 404 wetlands within or abutting the lot.	N/A	
7. If the lot is within the small surface water supply watershed AEC (within 1,200 feet from the Fresh Water Pond), the distance between the pond and proposed septic or sewage treatment system.	N/A	
8. Percentage of site to be included in calculation for undisturbed vegetation preservation compliance in Section 48-371.	X	
C. Site improvements in accordance with regulations of state of North Carolina, Dare County, and Town of Nags Head		
1. Proposed building type (e.g., concrete or frame), number of floors and dimensions.	X	
2. Proposed building elevations of all sides of building labeled in accordance with proposed architectural design criteria of Section 48-370.	X	ARCHITECTURAL ELEVATIONS PROVIDED AT THIS TIME
3. Total height and number of stories of proposed structure(s). If increased height is being proposed in conjunction with increased setbacks, show increase allowed in tabular form on plan. Note definition of height in Section 48-7 of the Town Code of Ordinances.	X	
4. Existing and proposed ground elevations at the corners of proposed structure(s).	N/A	GRADING AND SANITARY CONNECTIONS TO BE DETERMINED ONCE SKETCH IS REVIEWED
5. Sanitary sewer facilities with connection to sewer system or septic tank.	N/A	
6. Approximate locations of proposed underground utilities and any necessary easements.	N/A	
7. Screened dumpster pad(s) accessible to left-side loaders and sized in accordance with the Town Code of Ordinances.	X	
8. Proposed fire hydrants and extensions of water distribution lines in accordance with size and density requirements found in Section 48-363 of the Town Code of Ordinances.	X	
9. Location and height of proposed free-standing signs. See requirements of Chapter 48-Article VIII of the Town Code of Ordinances.	N/A	SIGN PLACEMENT TO BE DETERMINED ONCE SKETCH IS REVIEWED
10. Location of all sidewalks, curbs, drives, and parking within the site and proposed finished elevations.	X	
11. Handicapped parking spaces, walks, ramps, and entrances in accordance with the NC State Building Code. Handicapped parking spaces to be 13 feet wide, marked with a free-standing handicapped sign.	X	
12. The Vegetative Buffer Yard areas have been identified and the proper buffer yard provision(s) have been identified (i.e. Buffer Yard A, B,C,D,E as outlined in Chapter 48 Article XIII of the Town Code of Ordinances.	X	
13. Layout of numbered stalls/loading zones in accordance with Chapter 48 Article V of the Town Code of Ordinances.	X	

Commercial <input checked="" type="checkbox"/>	Parking Spaces Required	Parking Spaces Shown	Loading Spaces
Residential <input type="checkbox"/>			
<u>1</u> STORIES			
BUILDING SQUARE FOOTAGE:			
PRINCIPAL <u>11,200</u> sf			
ACCESSORY <u>0</u> sf			
TOTAL <u>11,200</u> sf			
# EMPLOYEES <u>16</u>			
# DWELLING/LODGING UNITS <u>8</u> TRADE UNITS			

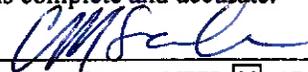
D. EXPLANATORY NOTES

1. Vicinity map.
2. Total square feet of land area to undergo land-disturbing activity.
3. The total required parking spaces versus the total parking spaces provided. Parking spaces to be numbered.
4. Cross-section details of all streets, roads, ditches, and parking lot improvements.
5. The number of dwelling/commercial units. If more than one use is proposed (e.g., large hotel with shops, etc.), show breakdown of units or square footage by building.
6. If additional height above 35 feet is being proposed, the additional height and increased setbacks shall be laid out in tabular form.
7. Total site coverage calculations. (Refer to Zoning Ordinance to calculate lot coverage for lots abutting ocean or sound).
8. Components of the lighting plan (pole location, pole height, type of fixture, wattage, source of illumination, etc.). See Chapter 48 Article IX of the Town Code of Ordinances.
9. A completed architectural points worksheet for commercial structures subject to residential design criteria.

6. PLAN AND ATTACHMENT PREPARER CERTIFICATION

A. I certify that all information for which I am responsible is complete and accurate.

8/9/22
DATE


SIGNATURE OF ENGINEER ARCHITECT SURVEYOR

B. The following individuals have contributed information or attachments to the plan:

Name	Phone #	Information provided
Chris Nason, Beacon Architecture	(252)441-6767	Building design

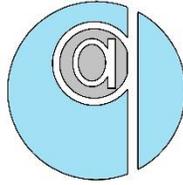
Site Specific Development Plan Option - Vested Right for Site Plans

Please be advised that as the owner, or agent for the owner, you have the opportunity to apply for and receive a Site Specific Development Plan that will establish a Vested Right for this project for a period of time not to exceed two (2) years from the date the Board of Commissioners approves the plan. You must secure a building permit for this project within two (2) years of the approval date or your Site Specific Development Plan will expire. If you elect not to apply for a Site Specific Development Plan, you must secure a building permit within six (6) months or else your site plan will expire.

If you choose the Site Specific Development Plan option, please keep in mind the following concerns:

1. Although your project may be classified as a permitted use, by requesting a Site Specific Development Plan your project will be processed as a Conditional Use for which a public hearing will be held, and an additional fee of \$200.00 will be charged to process your application.
2. Once your Site Specific Development Plan has been approved with vested rights status no modifications can be made to the plan.

If you wish to take advantage of the Vested Right process please check off the Vested Right box on page one. If you do not then leave the box blank.



SITE NARRATIVE
Trade Center Facility
0 W. Satterfield Landing Rd.
Nags Head, Dare County, North Carolina

Prepared for:
Mazzi, LLC
114 W. Oregon Ave
Kill Devil Hills, NC 27948

Prepared by:
Quible & Associates, P.C.
PO Drawer 870
Kitty Hawk, NC 27949

September 9, 2022
P05044.2



Overview

The subject property is located at PID 005618002 with an address of 0 W. Satterfield Landing Rd. Nags Head, NC 27959. The site is approximately 450 feet west of US 158 and W. Satterfield Landing Rd. intersection. The property is located along the south side of W. Satterfield Landing Rd in Nags Head, Dare County.

The site development proposes the construction of a 11,200 sq. ft. building that includes 8 units that will operate as trade centers. No outdoor display areas or storage of materials are proposed. The project development will include the associated parking, drainage, water, and wastewater improvements for the development of the 0.87-acre lot. The following narrative, application, and calculations will demonstrate the parameters of the proposed major site plan for the Town of Nags Head review. The site is zoned C-3 within the Town of Nags Head zoning districts. Trade centers are permitted uses within this zoning.

Coverages

The parcel has an overall acreage of approximately 0.87 acres. The zoning of C-3 will require the following coverages shown within Table 1 (a summary of the proposed coverages is also included):

	Allowable Coverage	Proposed Coverage
Impermeable surface (45%)	17,034.75 sq. ft.	16,964.0 sq. ft.
Minimum Landscaped Area (30%)	11,356.5 sq. ft.	17,039.0 sq. ft.
Permeable Surface (25%)	9,463.75 sq. ft.	3,820.0 sq. ft.

Access

The Trade Center will be accessed by a proposed entrance off W. Satterfield Landing. The proposed placement allows for approx. 200' and 230' (center to center) from the west and east existing drives, respectively. Driveway placement has been chosen to maximize separation.

We respectfully request a reduced loading and unloading zone be considered. Based on the anticipated use and building size, we are requesting a 12'x30' dedicated loading zone. Due to the anticipated use, deliveries are anticipated for limited product pick-up and delivery. Deliveries are anticipated to include UPS, Fedex, or refuse pick up.

Given the types of frequency of loading/unloading events, the developer proposes to provide a reduced loading berth of 12'x30'.

Parking

The number of proposed parking spaces for the site development is 24. The proposed building contains 11,200 sq. ft. gross square footage and 8 trade center units. Parking requirements are calculated using trade centers at 1 space per 750 sf of gross floor area or 3 spaces per unit minimum. A total of 24.0 spaces are required and 24 spaces have been provided (including 1 ADA accessible parking spaces). 14 parking spaces are provided interior to the trade center garage units, as such, the building will be designed to provide fire suppression.

The proposed drive aisle will be 22' wide and capable of withstanding 75,000 lbs, allowing for fire access to the site. Permeable pavements within the drive aisle shall be Belgard Pavers or

Permeable Concrete to meet strength requirements. Signage will be provided within the parking area to notify employees and visitors that the drive aisle is a provided fire lane.

Stormwater Management Plan

Stormwater to serve the proposed site improvements will be managed by an infiltration basin and permeable pavements. The proposed stormwater management facilities will be designed to provide above 4.3” of storage, which is in agreement with the Town ten-year two-hour storm (4.3”) requirement.

The USDA NRCS Soil Survey lists the soil in the vicinity of the stormwater infiltration basin as described below. Geotechnical reports for the site indicate the seasonal high-water table is approximately at elevation 6.65’.

- CoB – Corolla Fine Sand
This soil typically has 0 to 6 percent slopes. Corolla fine sand typically has a very high runoff rate and is moderately well drained. This soil is categorized in Hydrologic Soil Group: A

These stormwater management facilities will provide an adequate system to meet State and local requirements for stormwater storage. As the proposed impervious coverage exceeds 10,000 sq. ft., a high-density stormwater permit is required by NC DEQ DEMLR prior to construction.

The proposed infiltration basin, basin, extends along the south and east property lines and is designed to treat all stormwater on site.

Table 2: Above Grade Storage Calculations For Infiltration Basin

Elev (Ft.)	Area (Sf)	Avg Area (Sf)	Volume (Cf)	Cum Vol. (Cf)
8.00	3,681			
		5,123	5,123	
9.00	6,564			
				5,123 (Vg)

The above grade storage provided within the infiltration basin is approximately 5,123 cf. This exceeds the storage required by State regulations (2,680 cf). Based on Soils Boring Memo (attached) the anticipated drawdown is calculated at approximately 20 inches/hour or 0.6 hours.

Table 3: Below Grade Storage Calculations For Infiltration Basin 1

Storage Area (A) =	6,564.00 sf
Storage Elev. (E)	9.00 ft
Season High Water Table (Wt) =	6.65 ft
Soil Depth Above SWHT (Ds) = B-Wt	2.35 ft
Soil Volume (Sv) = A*Ds-Vg =	10,303 cf
Void Ratio (Vr)=	20%
Subsurface Void Vol. (Vss) = A*Ds*Vr=	2,061 cf

The below grade storage provided within the infiltration basin is approximately 2,061 cf. The total storage provided within the front infiltration basin is 7,183 cf.

The void space under the proposed permeable pavement contributes an additional 1,017 cf of storage. See the detailed calculations within the **Appendix** for a breakdown of storage within the aggregate base and soil under the permeable pavement.

The total storage within this drainage area is 8,200 cf. This exceeds the storage required by State regulations (2,680 cf) and Town of Nags Head requirements (7,683 cf).

The infiltration basin will provide an adequate system to meet State and local requirements for stormwater storage. As the proposed impervious coverage exceeds 10,000 sq. ft., a high-density stormwater permit is required by NC DEQ DEMLR prior to construction.

Utilities

The site is proposed to have one (1) meter and one (1) backflow preventer (fire suppression line). The existing water line adjacent to the site is provided by The Town of Nags Head and the proposed service size will be reviewed and confirmed during design of the building plans to determine an adequate size. A Public Water Supply permit is not required. The proposed water service shall be installed per Town of Nags Head standard water specifications and details.

The building will be sprinkler protected and the structure design will meet the appropriate fire ratings as required.

Buffers and Site Vegetation

A 25' landscape buffer is required adjacent to the residential properties to the south (zoned R-2). This buffer has been proposed to provide 3 rows of planting at 22 total canopy trees and 111 shrubs. A 10' bufferyard has been provided along Satterfield Landing Rd, which will include 7 canopy trees, 37 shrubs, and 74 ornamental grasses, meeting landscaping requirements for the site.

Town of Nags Head Stormwater Calculations

Storage Calculations

	DA #1	
	(sq.ft.)	(acre)
Drainage Area =	42,541	0.98
Open Space =	25,008	0.57
Permeable Walks/Parking =	3,852	0.09
Building =	11,200	0.26
Parking =	5,452	0.13
Walks =	965	0.02
Offsite Impervious =	0	0.00
Impervious =	21,469	0.49
Total Impervious =	21,469	0.49

Runoff generated by Rainfall Event (NCDEQ Simplified Method)

Ia = Impervious Percentage = Impervious Area/Drainage Area

Rv= Runoff Coefficient, 0.05+0.9Ia

Rd= Rain fall depth

V= Runoff Volume, 3630*Rd*Rv*A

	DA #1 (1.5")	DA #1 (4.3")
Ia =	50.5%	50.5%
Rv=	0.50	0.50
Rd (in.)=	1.5	4.3
A (ac.) =	0.98	0.98
V (cf.)=	2680	7683

Total Storage Required by NCDEQ = 2680 cf

Total Storage Required by Nags Head = 7683 cf

Infiltration Basin Stormwater Calculations for NCDEQ

Above Grade Storage Provided In Infiltration Basin

Infiltration Basin 1 (FRONT) - Above Grade Storage				
Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
8.00	3681			0
		5123	5123	
9.00	6564			5123

Above Grade Storage Provided = 5123 cf

Total Storage Provided (above & below) = 7183 cf

Total Storage Rainfall Equivalent Storage = 4.0 in

Infiltration Basin 1 (FRONT)- Below Grade Storage	
Storage Area (A) =	6564.00 sf
Storage Elev. (E) =	9.00 ft
Season High Water Table (Wt) =	6.65 ft
Soil Depth Above SWHT (Ds) = B-Wt	2.35 ft
Soil Volume (Sv) = A*Ds-Vg =	10303 cf
Void Ratio (Vr)=	20%
Subsurface Void Vol. (Vss) = A*Ds*Vr=	2061 cf

Below Grade (Voids) Storage Provided = 2061 cf

Permeable Pavement Storage	
Storage Area (A) =	3852.00 sf
Storage Elev. (E) =	11.00 ft
Season High Water Table (Wt) =	6.65 ft
Bedding Thickness (Ds) =	0.66 ft
Soil Volume (Sv) = A*Ds =	2542 cf
Void Ratio (Vr)=	40%
Subsurface Void Vol. (Vss) = A*Ds*Vr=	1017 cf

Bedding (Voids) Storage Provided = 1017 cf

Total Storage Provided (above & below) = 8200 cf

Total Storage Rainfall Equivalent Storage = 4.6 in

Infiltration Basin 1 Drawdown Calculations

Hydraulic Conductivity = 20 in/hr

Max Stored Depth = 12 in

Drawdown Time = Stored Depth / Hydraulic Conductivity

Drawdown Time = 0.60 hrs or 0.03 days



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

Custom Soil Resource Report for **Dare County, North Carolina**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

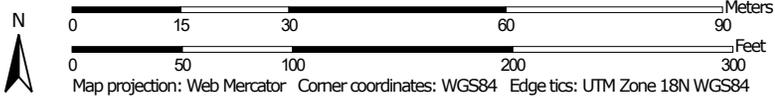
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:1,040 if printed on A landscape (11" x 8.5") sheet.



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

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Dare County, North Carolina
 Survey Area Data: Version 22, Jan 21, 2022

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

Date(s) aerial images were photographed: Data not available.

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CoB	Corolla fine sand, 0 to 6 percent slopes, rarely flooded	2.2	100.0%
Totals for Area of Interest		2.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Custom Soil Resource Report

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Dare County, North Carolina

CoB—Corolla fine sand, 0 to 6 percent slopes, rarely flooded

Map Unit Setting

National map unit symbol: 3qgs
Elevation: 0 to 10 feet
Mean annual precipitation: 42 to 58 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Corolla and similar soils: 85 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Corolla

Setting

Landform: Troughs on barrier islands
Landform position (two-dimensional): Backslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Eolian sands and/or beach sand

Typical profile

A - 0 to 3 inches: fine sand
C - 3 to 26 inches: fine sand
Ab - 26 to 32 inches: sand
Cg - 32 to 80 inches: sand

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 39.96 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: Rare
Frequency of ponding: None
Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Duckston

Percent of map unit: 5 percent

Landform: Depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Carteret, high

Percent of map unit: 2 percent

Landform: Tidal marshes

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

MEMORANDUM



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& Associates, P.C.

ENGINEERING * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING

Phone: (252) 261-3300

Fax: (252) 261-1260

Web: www.quible.com

To: Cathleen Saunders, P.E., Quible & Associates

From: Brian Rubino, P.G.

Date: June 30, 2022

Re: **P05044.2 Soil and Groundwater Investigation**
Lot 2A-1R, Charles L. Sineath Division

Cathleen,

On Wednesday June 29, 2022, representatives from Quible visited the Site to conduct shallow soil borings in the location of potential a future stormwater collection basin or infiltration area. The purpose of our evaluation was to understand lithologic conditions, to determine the depth and elevation of the Static Water Table (WT), Season High Water Table (SHWT), and to measure infiltration rates for Stormwater Management System design.

Soils consisted of:

- 0-3" bgs: dry, semi-decomposed organic topsoil beneath pine straw
- 3-26" bgs: clean, dry, fine-medium grained sand (10 YR 5/3)
- 26-36" bgs: clean, dry, fine-coarse grained sand (10 YR 5/4)
- 36-48" bgs: medium-coarse grained sand (10YR 5/2)

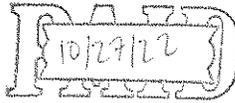
A summary of elevation data collected and observed is as follows:

Soil Boring	Ground Elevation (ft); (NAVD 88)	Groundwater Elevation (ft); (NAVD 88)	Approx. Elevation of SHWT (ft); (NAVD 88)	Measured infiltration Rates (in/hr.)
SB-1	9.74'	6.35'	6.65'	24

Ground elevation data was collected on the date of the soil borings using an RTK GPS system. A temporary piezometer, using a two-inch .010 slot pvc well screen was installed at the boring locations and was allowed to recover for a period of at least 1 hour before the depth to groundwater was measured using an electronic water level checker.

Infiltration rate field testing of the in-situ soils in the immediate vicinity of the soils boring location was conducted using a double ringed infiltrometer (12-inch inner diameter and 24-inch outer diameter). This procedure measures the natural downward movement of water to the groundwater table which can be relied upon to design Site stormwater collection, storage and treatment systems in the area tested. Prior to measuring the infiltration rates, water was added to the rings to saturate underlying soils until a constant infiltration rate was obtained. Duplicate 15-minute infiltration tests were conducted and the results were averaged (see table above). As expected, based on the clean (beach-type) sand conditions, infiltration rates exceed 20 inches/hr.

Improvement Permit
 County of Dare
 PO Box 669
 Manteo NC 27954



EH
 Copy

S4-13393

Phone: (252) 475-5080

DARE COUNTY DEPARTMENT OF PUBLIC HEALTH

An Improvement Permit (IP) issued pursuant to this application is not affected by change in ownership provided the site and wastewater characteristics remain unchanged. An IP issued with a plat is valid without expiration. An IP issued with a site plan is valid for 60 months from the date of issuance.

Parcel: 005618002	LOT: 2A-1R BLK: SEC:	Permit: S4-13393
Location:	W SATTERFIELD LANDING RD – NAGS HEAD	
Subdivision:	CHARLES L SINEATH DIVISION	
Owner Name:	MAZZI LLC	Permit Date: 09/26/2022
Owner Address:	4638 S BLUE MARLIN WAY	Permit Type: WW COMMERCIAL NEW
NAGS HEAD, NC 27959		

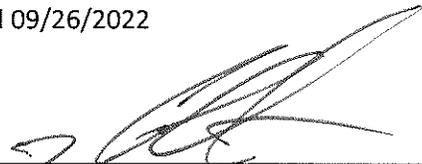
Number of bedrooms:	0	Gallons per day:	480
Occupancy:	0	Tank type:	PRECAST
Water Supply:	PUBLIC	Tank size:	1000
Nitrific field size sqft:	192	Pump tank size:	1150
Number of lines:	3	Grease trap size:	0
Trench length (feet):	64	Septic type:	LPP System < 3000 gpd
Trench width (inches):	18	Septic code:	COMMERCIAL
Trench depth (inches):	18	Distribution:	LOW PRESSURE PIPE
Gravel depth (inches):	12	Distance from building:	5
Rock Under (inches):	6	Distance from water supply:	10
Rock Above (inches):	2	Distance from property line:	10
Bed system dimensions:	N/A	Distance from open water:	50

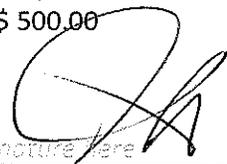
Design Specifications:

– CLEAR VEGETATION AND FILL AREA 74'X25'X18" WITH 1:3 SIDE SLOPES. MUST CALL FOR FILL INSPECTION AND APPROVAL BEFORE CONSTRUCTION AUTHORIZATION IS ISSUED. SYSTEM TO BE INSTALL EXACTLY AS DESIGNED BY QUIBLE AND ASSOCIATES, P.E. 100% REPAIR AREA SHOWN. MUST MAINTAIN 10' FROM PROPERTY LINES. ALL WATER LINES MUST BE 10' FROM SYSTEM.

Note: This Permit is subject to all provisions of the 15A NCAC .1900 rules governing the installation of septic systems. The person making the installation must notify the Health Department when the septic tank system is ready for inspection. If any septic tank system or part thereof is covered before being inspected and approved, it shall be uncovered at the direction of the Health Officer at the expense of the one responsible for making the installation.
 Issued 09/26/2022

Permit Fee: \$ 500.00


 Environmental Health Specialist


 Applicant Signature: QUIBLE & ASSOCIATES, P.C.

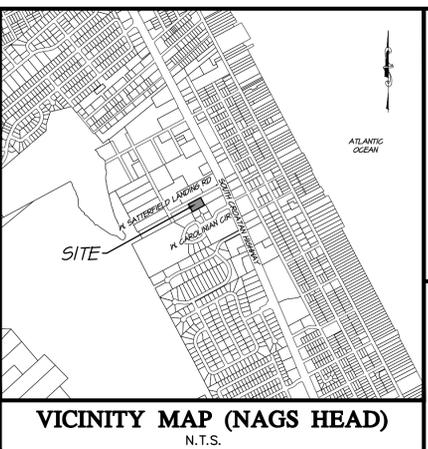
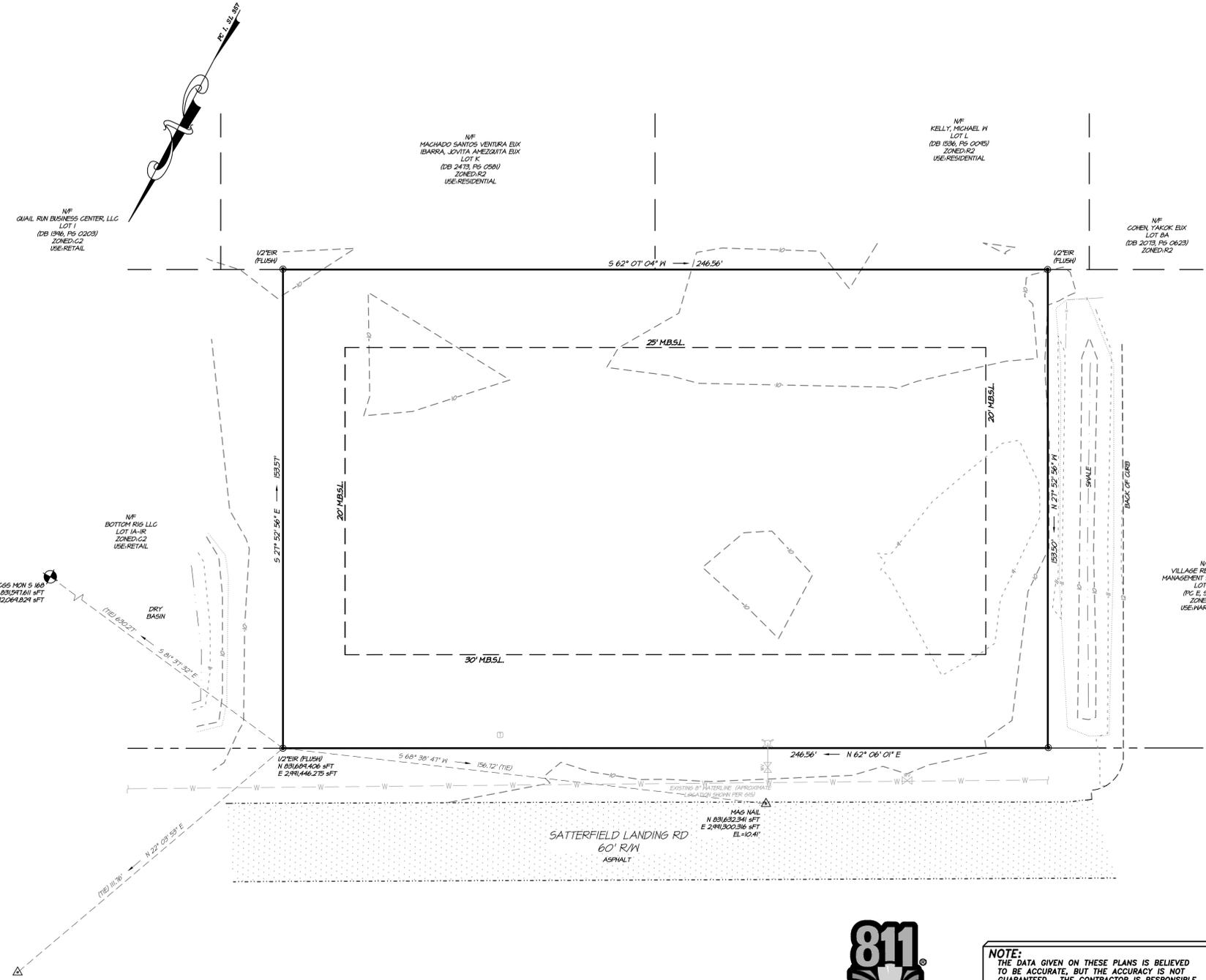
SHEET INDEX

- 1 EXISTING CONDITIONS
- 2 UTILITY PLAN
- 3 GRADING PLAN
- 4 SOIL EROSION SEDIMENT CONTROL PLAN
- 5 SITE & LANDSCAPING PLAN
- 6 SITE & UTILITY DETAILS
- 7 SITE & STORM DETAILS
- 8 SESC DETAILS

NOTES:

1. CURRENT OWNER: MAZZI, LLC
105A ASCENSION DRIVE
KITTY HAWK, NC 27959
2. PROPERTY IDENTIFICATION: PIN / PID: (LOT 2A-1R) 989317113533 / 005618002
3. LOT AREA = 37,855 SF / 0.87 AC (AREAS BY COORDINATE METHOD.)
4. ZONING: GENERAL COMMERCIAL DISTRICT (C-3)
5. SUBJECT REFERENCES: (LOT 2A-1R PARCELS) DB 1651, PG 0001; PC I, SL 357
6. FIELD SURVEY BY QUILBE & ASSOCIATES, P.C. DATES: 06-02-2022 (HORIZONTAL GROUND DISTANCES)
7. VERTICAL DATUM NAVD 1988 / HORIZONTAL DATUM NAD 1983 (2012)
8. PROPERTY IS LOCATED IN NFP FLOOD ZONE "X" AND SUBJECT TO CHANGES, BASED ON COMMUNITY CID NO. 375356; PANEL 9893; SUFFIX K. (MAP NUMBER 3720989300K) EFFECTIVE DATE: 06/19/2020.
9. SETBACKS SHOWN ARE PER TOWN OF NAGS HEAD AND DO NOT REFLECT ANY RESTRICTIVE COVENANTS THAT MAY EXIST.
10. PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF EIGHT 1,500 SQ.FT. WAREHOUSE UNITS WITH ASSOCIATED PARKING AND APPURTENANCES.
11. WATER SUPPLY PER TOWN OF NAGS HEAD. WATER CONNECTION MUST BE MADE IN ACCORDANCE WITH TOWN OF NAGS HEAD SPECIFICATIONS AND SHALL BE PERFORMED BY A LICENSED WATER UTILITY CONTRACTOR. NOTIFY TOWN PRIOR TO INSTALLATION.
12. ALL UTILITIES TO BE PLACED UNDERGROUND UNLESS OTHERWISE NOTED
13. LANDSCAPING AND BUFFERYARDS TO BE IN ACCORDANCE WITH ARTICLE 10 OF THE TOWN OF NAGS HEAD UNIFORM DEVELOPMENT ORDINANCES.
14. SITE WILL BE LIGHTED IN ACCORDANCE WITH ARTICLE 10, PART IV "OUTDOOR LIGHTING" OF THE TOWN OF NAGS HEAD CODE OF ORDINANCES.
15. PRIOR TO LAND DISTURBANCE, A TOWN APPROVED SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS REQUIRED.
16. NO U.S.A.C.O.E. SECTION 404 JURISDICTIONAL WETLANDS EXIST ON SITE.
17. EXISTING VEGETATION TO BE PRESERVED WHERE POSSIBLE.
18. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.
19. ALL WORK WITHIN THE NC DOT RIGHT-OF-WAY REQUIRES AN APPROVED NC DOT RIGHT-OF-WAY ENCROACHMENT AGREEMENT.
20. A STATE HIGH DENSITY STORMWATER PERMIT IS REQUIRED IN ADVANCE OF ANY ONSITE DISTURBANCE. RECEIVING STREAM: ATLANTIC OCEAN (SB)
21. THIS PLAN SET TO BE UTILIZED FOR THE INSTALLATION OF SITE LAYOUT IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO, GRADING & DRAINAGE, INSTALLATION OF SEDIMENT CONTROL MEASURES, WATER SYSTEM AND WASTEWATER CONNECTION. FOR BUILDING DESIGN AND ASSOCIATED PLUMBING, SEE APPROPRIATE SEPARATE PLANS.

- #### DEMOLITION NOTES:
1. CONTRACTOR SHALL LOCATE EXISTING UNDERGROUND SERVICES - TO INCLUDE BUT NOT LIMITED TO ELECTRIC, CABLE, TELEPHONE, GAS, SANITARY SEWER AND WATER - AND SHALL COORDINATE PROPER PROTECTION AND/OR RELOCATE WITH APPROPRIATE OWNER/UTILITY COMPANY.
 2. CONTRACTOR SHALL WALK THE SITE AND BE FAMILIAR WITH THE SCOPE OF DEMOLITION REQUIRED. ALL DEMOLITION WORK REQUIRED TO CONSTRUCT NEW IMPROVEMENTS WILL BE PERFORMED BY THE CONTRACTOR AND BE UNCLASSIFIED EXCAVATION.
 3. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE CURBS AND GUTTERS, BITUMINOUS CONCRETE PAVEMENTS, BOLLIDERS AND ALL MATERIALS OR VEGETATION CLEARED AND STRIPPED TO THE EXTENT NECESSARY FOR THE INSTALLATION OF NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING AND GRADING. COORDINATE WITH APPROPRIATE DRAWINGS.
 4. THE CONTRACTOR SHALL PROTECT ALL PROPERTY AND STRUCTURES AND UTILITIES ON THE PROPERTY NOT TO BE DEMOLISHED. DAMAGE TO THE PROPERTY DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST TO THE OWNER.
 5. ALL EXISTING IMPROVEMENTS INDICATED OR REQUIRED TO BE DEMOLISHED SHALL INCLUDE REMOVAL FROM PROJECT AREA.
 6. EXISTING PAVEMENT, CURB AND GUTTER, LIGHTS, FENCES, TREE/VEGETATION AND UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED, AND UNDISTURBED DURING DEMOLITION. CONTRACTOR SHALL COORDINATE THE REMOVAL OF BITUMINOUS CONCRETE PAVEMENTS AND CURB AND GUTTER WITH THE SITE PLAN.
 7. SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND GUTTERS TO BE DEMOLISHED SHALL BE PROVIDED.
 8. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS AS WELL AS OSHA REGULATIONS.
 9. CONTRACTOR'S ACTIVITIES SHALL NOT IMPEDE USAGE OR INGRESS/EGRESS TO ADJACENT PROPERTIES. COORDINATE WITH OWNER MAINTENANCE OF TRAFFIC/PEDESTRIAN CIRCULATION DURING CONSTRUCTION.
 10. MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDINGS AT ALL TIMES DURING DEMOLITION.
 11. DEMOLITION SHALL NOT BEGIN UNTIL WRITTEN AUTHORIZATION IS RECEIVED FROM THE OWNER AND CONTRACTOR HAS OBTAINED THE REQUIRED PERMITS FROM ALL LOCAL, STATE, AND FEDERAL AGENCIES HAVING JURISDICTION TO AUTHORIZE DEMOLITION WORK.
 12. DEMOLITION PLAN DOES NOT PURPORT TO SHOW ALL OBJECTS OR UTILITIES EXISTING ON THE SITE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UTILITIES AND IMPROVEMENTS WITHIN THE LIMITS OF WORK. CONTRACTOR SHALL COORDINATE ALL UTILITY DISCONNECTION, (I.E. SANITARY SEWER, WATER, GAS, TELEPHONE, ELECTRIC, ETC.) TO BUILDINGS, STRUCTURES AND OTHER CONNECTIONS AS NECESSARY FOR DEMOLITION WITH THEIR RESPECTIVE UTILITY PROVIDER. ALL UTILITIES, ABOVE, ON OR BELOW GROUND SHALL BE REMOVED AS DENOTED ON THE PLAN AND SHALL MEET ALL REQUIREMENTS OF UTILITY OWNERS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING EACH UTILITY COMPANY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO BEGINNING OF WORK. BEFORE ANY DEMOLITION, THE CONTRACTOR SHALL CALL NORTH CAROLINA ONE-CALL 1-800-632-4949 TO HAVE ALL UNDERGROUND UTILITIES LOCATED ON AND NEAR THE VICINITY OF THE SITE.
 13. EXISTING WATER METERS, ELECTRICAL TRANSFORMERS, TELECOMMUNICATION TERMINALS, ETC. ARE THE PROPERTY OF THE UTILITY COMPANIES SERVICING THE SITE AND CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH UTILITY OWNERS THE REMOVAL, TRANSPORTATION, AND STORAGE OF THE SAME.
 14. WHERE BUILDING FOUNDATION WALLS, FOOTINGS, CONCRETE SLABS, STOODS, PAVEMENTS, SIDEWALKS, CURB, OR CURB AND GUTTER ARE INDICATED TO BE REMOVED CONTRACTOR SHALL INCLUDE THE REMOVAL OF BASE MATERIAL DOWN TO SUB-GRADE.
 15. DEMOLITION PLAN DOES NOT GUARANTEE THE ACCURACY OR QUANTITIES OF THE DEMOLITION STRUCTURES AND MATERIALS. IT WAS DEVELOPED TO ASSIST THE CONTRACTOR. IT IS EXPRESSLY STATED HEREON THAT THE OWNER OR ENGINEER WILL NOT BE RESPONSIBLE FOR INTERPRETATIONS OR CONCLUSIONS DRAWN THEREFROM BY THE CONTRACTOR.
 16. ALL WASTE MATERIALS SHALL BE REMOVED FROM THE SITE DAILY IN A MANNER WHICH PREVENTS INJURY OR DAMAGE TO PERSONS, PRIVATE PROPERTY, AND/OR PUBLIC RIGHTS-OF-WAY. CONTRACTOR SHALL LEGALLY DISPOSE OF ALL DESIGNATED DEMOLITION DEBRIS FROM THE PROJECT SITE TO A DISPOSAL SITE APPROVED BY ALL AUTHORITIES HAVING JURISDICTION.



VICINITY MAP (NAGS HEAD)
N.T.S.

LEGEND

	EXISTING ASPHALT PAVEMENT
	EXISTING CONCRETE
	PROPOSED DEMOLITION
	EX. IRON ROD
	EX. DRILL HOLE
	EX. MAG NAIL
	EX. UTILITY POLE
	EX. FIRE HYDRANT
	EX. WATER VALVE
	EX. SEWER MANHOLE
	EX. WATER METER
	EX. ELECTRICAL CONNECTION
	EX. EXTERIOR LIGHT
	EX. LIGHT POLE
	EXISTING CONTOUR
	EXISTING SPOT GRADE

NC License # C-028
SINCE 1959

Quible & Associates, P.C.
ENGINEERING, ARCHITECTURE, SURVEYING
ENVIRONMENTAL SCIENCES & SURVEYING**
ENGINEERING/SURVEYING NOT OFFERED AT BLACK Mtn. OFFICE

8446 CAROLINE HWY
BLACK MOUNTAIN, NC 28711
Phone: (828) 685-9127
FAX: (828) 685-9128
WWW.QA-NC.COM

CERTIFICATION

NO.	DATE	REVISIONS
1	06/19/22	ISSUED FOR WASTEWATER PERMITTING
2	08/21/22	REVISED PER TOWN COMMENTS
3	10/11/22	ISSUED FOR STORMWATER PERMITTING
4	06/21/23	UPDATE LANDSCAPING TABLE
5	10/14/23	UPDATE PER ARCHITECTURAL PLANS

EXISTING CONDITIONS

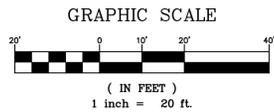
TRADE CENTER FACILITY
LOT 2A-1R, CHARLES L. SINEATH DIVISION

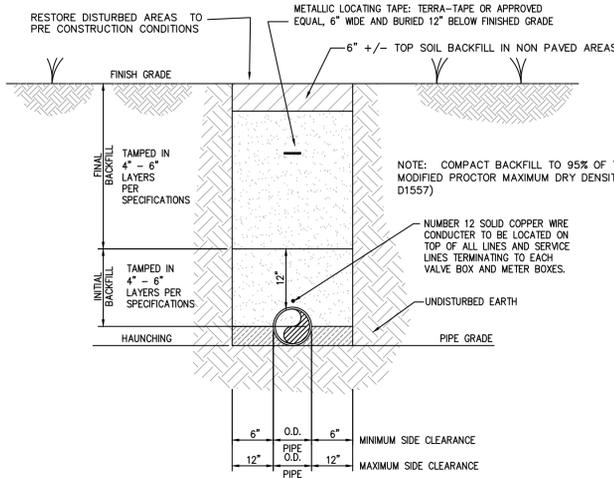
TOWN OF NAGS HEAD
DARE COUNTY
NORTH CAROLINA

PROJECT NO.	P05044.2
DESIGNED BY	CMS
DRAWN BY	CMS/CMT
CHECKED BY	MWS
ISSUE DATE	09/12/22
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OF 8 SHEETS	

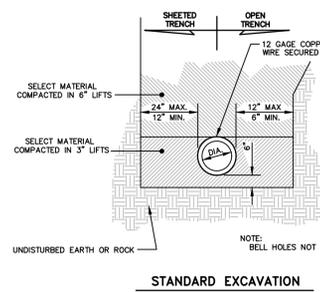


NOTE:
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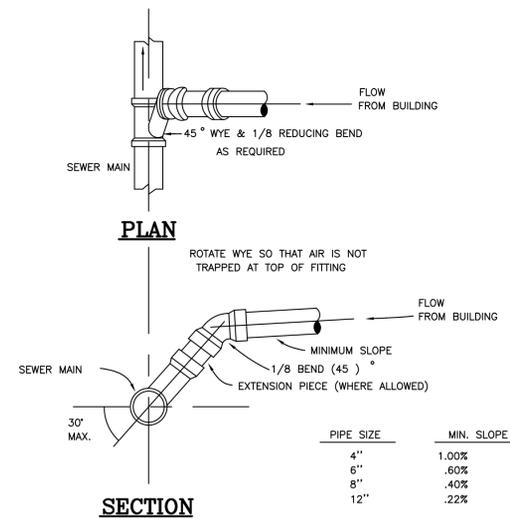
TYPICAL SEWER CLEAN-OUT
N.T.S.



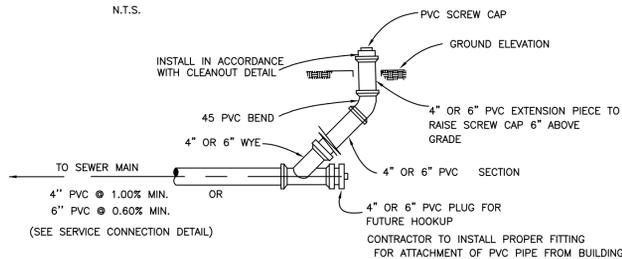
TYPICAL SANITARY SEWER TRENCHING
N.T.S.

- NOTES:**
- FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
 - NO ROCKS OR BOULDERS 4" AND LARGER SHALL BE USED IN INITIAL BACKFILL AREA.
 - ALL BACKFILL MATERIAL SHALL BE SATISFACTORY SOIL MATERIALS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER. (SATISFACTORY SOIL SHALL CONSIST OF SAND OR GRAVEL CONTAINING LESS THAN 20% BY WEIGHT OF FINES [SW, SP, SPT-SM, SM] HAVING A LIQUID LIMIT LESS THAN 20 AND PLASTIC LIMIT LESS THAN 6, AND FREE OF RUBBLE, ORGANICS, CLAY, DEBRIS, AND OTHER UNSUITABLE MATERIAL.)

TYPICAL WATERLINE BACKFILLING REQUIREMENTS AND TRENCH BOTTOM DIMENSIONS
N.T.S.



SERVICE CONNECTION
N.T.S.



SECTION A
PLAN VIEW
SINGLE SERVICE LATERAL CONNECTION
N.T.S.

WASTEWATER NOTES:

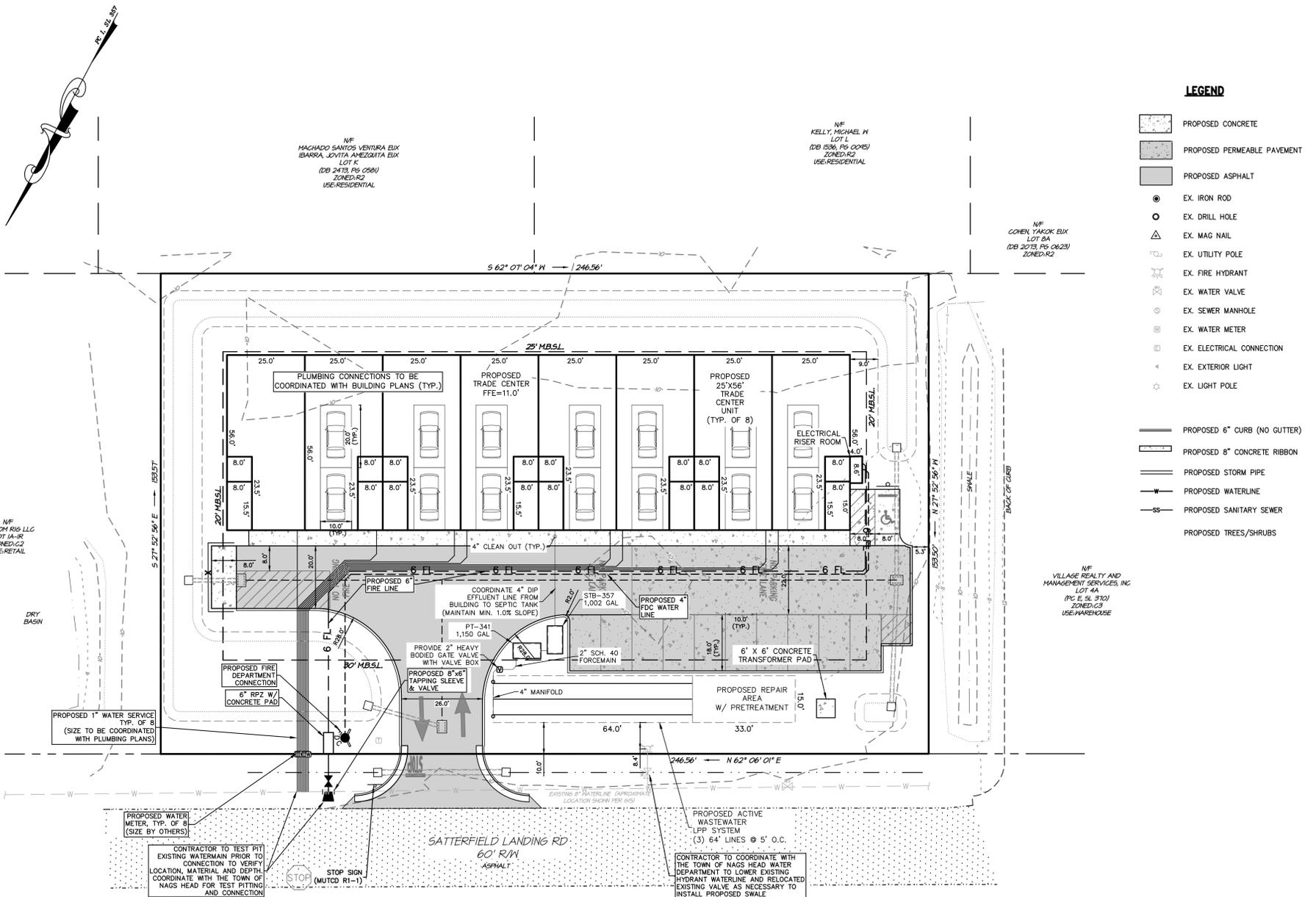
- CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UNDERGROUND UTILITIES IN AREAS OF WORK PRIOR TO ANY WORK. PROVIDE ADEQUATE MEANS OF SUPPORT AND PROTECTION IF UTILITIES ARE TO REMAIN IN PLACE.
- REMOVE TREES, GRASSES, SHRUBS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH INSTALLATION OF NEW CONSTRUCTION UNLESS NOTED OTHERWISE.
- NEW WASTEWATER SYSTEM DESIGN PARAMETERS:
DESIGN FLOW: 480 GPD (ALLOWS FOR UP TO 19 EMPLOYEES AT 25 GPD/EMPLOYEE)
ACTIVE: LONG TERM APPLICATION RATE (LTAR) 0.5 GPD/SQ.FT.
480 GPD/0.5 = 960 SQ.FT.
960 SQ.FT./5 FT. TRENCH = 192 LN. FT.
(3) 6" LATERALS @ 5' O.C.
REPAIR: LONG TERM APPLICATION RATE (LTAR) 1.0 GPD/SQ.FT. (TS-II PRE-TREATMENT)
480 GPD/1.0 = 480 SQ.FT.
480 SQ.FT./5 FT. TRENCH = 96 LN. FT.
480 SQ.FT. REPAIR AREA SHOWN
- UNLESS OTHERWISE INDICATED ON THE PLAN, CONSTRUCTION OF SEWAGE COLLECTION, TREATMENT AND DISPOSAL SYSTEM IS TO CONFORM WITH SECTION 1900 "LAWS AND RULES FOR SEWAGE TREATMENT AND DISPOSAL SYSTEMS" OF NORTH CAROLINA ADMINISTRATIVE CODE, DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH, ON-SITE WASTEWATER SECTION (15 NCAC 18A.1900).
- CONSTRUCTION OF SEWAGE COLLECTION SYSTEM, TREATMENT AND DISPOSAL SYSTEM IS TO CONFORM WITH ANY CONDITIONS IMPOSED BY THE LOCAL HEALTH DEPARTMENT.
- MATERIAL USED FOR COLLECTION AND DISPOSAL SYSTEM SHALL CONFORM WITH SAME REQUIREMENTS AS #4 ABOVE.
- FILL MATERIAL SHALL HAVE SUCH SOIL TEXTURE TO BE CLASSIFIED AS SAND OR LOAMY SAND (SOIL GROUP I) UP TO THE TOP OF THE NITRIFICATION TRENCHES. THE FINAL SIX INCHES OF FILL USED TO COVER THE SYSTEM SHALL HAVE A FINER TEXTURE (SUCH AS GROUP II, III) FOR THE ESTABLISHMENT OF A VEGETATIVE COVER. THE FILL MATERIAL AND THE EXISTING SOIL SHALL BE MIXED TO A DEPTH OF SIX INCHES BELOW THE INTERFACE. HEAVY VEGETATIVE COVER OR ORGANIC LITTER SHALL BE REMOVED BEFORE THE FILL MATERIAL IS INCORPORATED.
- ALL SURFACE RUNOFF SHALL BE DIVERTED AROUND AND AWAY FROM THE DRAINFIELD AREA. FINISH GRADE SHALL BE LANDSCAPED TO PREVENT PONDING OF SURFACE WATER. VEGETATE DRAINFIELD AREA AS SPECIFIED IN LANDSCAPE PLAN.

NOTES:

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106A ASCENSION DRIVE
KITTY HAWK, NC 27959
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- ALL UTILITIES TO BE PLACED UNDERGROUND UNLESS OTHERWISE NOTED

LEGEND

- PROPOSED CONCRETE
- PROPOSED PERMEABLE PAVEMENT
- PROPOSED ASPHALT
- EX. IRON ROD
- EX. DRILL HOLE
- EX. MAG NAIL
- EX. UTILITY POLE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. SEWER MANHOLE
- EX. WATER METER
- EX. ELECTRICAL CONNECTION
- EX. EXTERIOR LIGHT
- EX. LIGHT POLE
- PROPOSED 6" CURB (NO GUTTER)
- PROPOSED 8" CONCRETE RIBBON
- PROPOSED STORM PIPE
- PROPOSED WATERLINE
- PROPOSED SANITARY SEWER
- PROPOSED TREES/SHRUBS



NC License # C-0208
SINCE 1959
Quible & Associates, P.C.
ENGINEERING & SURVEYING
ENVIRONMENTAL SCIENCES SURVEYING
1000 W. HARRIS STREET
BLACK MOUNTAIN, NC 27686
PHONE: (828) 689-9447
FAX: (828) 689-9448

PROFESSIONAL SEAL
QUIBLE & ASSOCIATES, P.C.
REGISTERED PROFESSIONAL ENGINEER
NO. 10000
STATE OF NORTH CAROLINA
CIVIL ENGINEERING

PROFESSIONAL SEAL
QUIBLE & ASSOCIATES, P.C.
REGISTERED PROFESSIONAL SURVEYOR
NO. 10000
STATE OF NORTH CAROLINA
SURVEYING

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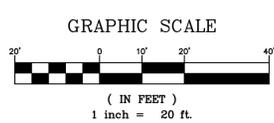
UTILITY PLAN
TRADE CENTER FACILITY
LOT 2A-1R, CHARLES L. SINEATH DIVISION
TOWN OF NAGS HEAD DARE COUNTY NORTH CAROLINA

PROJECT NO.	P05044.2
DESIGNED BY	CMS
DRAWN BY	CMS/CMT
CHECKED BY	MWS
ISSUE DATE	09/12/22

SHEET NO.
2
OF 8 SHEETS



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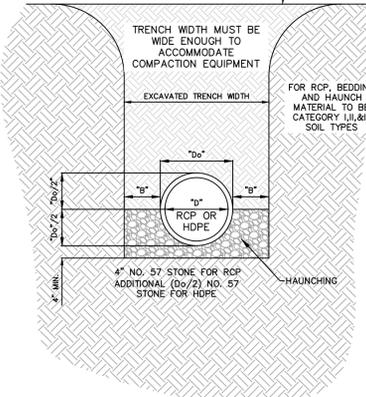


- HDPE NOTES:**
- ALL PIPE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THESE SPECIFICATIONS OR AS MODIFIED BY THE OWNER.
 - TRENCH BOX OR OTHER SHORING METHODS SHALL NOT DISTURB THE PIPE BEDDING AND BACKFILL MATERIAL AFTER THEIR COMPACTION.
 - WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH INDICATED ON THE DRAWING OR AS DIRECTED BY THE OWNER AND REPLACE WITH BEDDING MATERIAL.
 - BEDDING MATERIAL SHALL BE CRUSHED STONE OR WASHED #67 STONE, UNLESS OTHERWISE NOTE ON THE DRAWINGS OR REQUIRED BY THE OWNER. MINIMUM BEDDING THICKNESS SHALL BE 6-INCHES.
 - BACKFILL MATERIAL SHALL CONFORM TO THE FOLLOWING:
 - INITIAL BACKFILL: AGGREGATE NO. 25, 26, 21A, OR 21 B; AS INDICATED ON THE DRAWINGS OR AS DIRECTED BY THE OWNER, SHALL BE INSTALLED AS INITIAL BACKFILL IN THE PIPE ZONE EXTENDING NOT LESS THAN 12-INCHES ABOVE THE CROWN OF PIPE. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
 - FINAL BACKFILL: FINAL BACKFILL MATERIALS SHALL BE THE SAME AS THE INITIAL BACKFILL UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR DIRECTED BY THE OWNER.
 - MINIMUM COVER:
 - TRAFFIC APPLICATIONS - MINIMUM COVER SHALL BE 24", MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF FLEXIBLE PAVEMENT OR TO THE TOP OF RIGID PAVEMENT.
 - NON-TRAFFIC APPLICATIONS - MINIMUM COVER IN GRASS OR LANDSCAPE AREA IS 12-INCHES FROM THE TOP OF THE PIPE TO GROUND SURFACE.

- NOTES:**
- SELECT MATERIAL PIPE COVER SHALL BE 12" (MINIMUM) DEEP OVER TOP OF PIPE.
 - SELECT MATERIAL BACKFILL SHALL BE CBR 20 COMPACTED TO 95% DENSITY. BACKFILL COMPACTED IN 12" LIFTS.

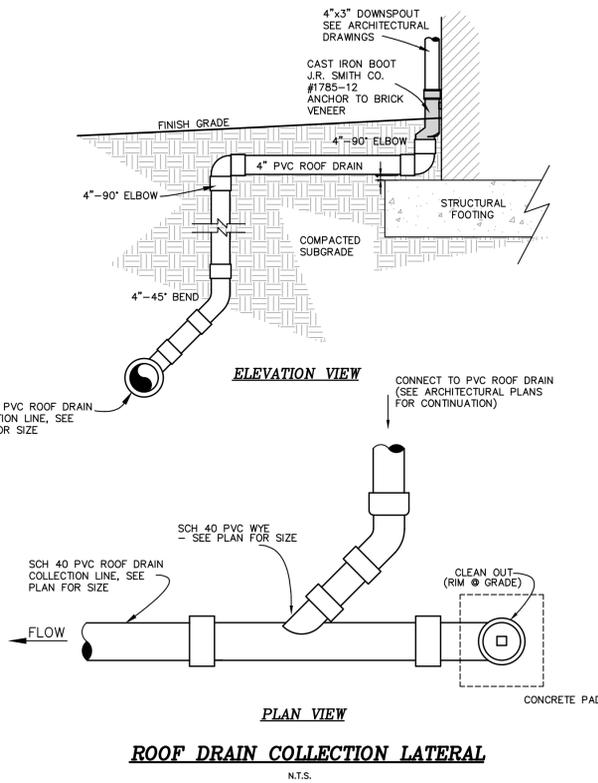
RCP PIPE DIA. "D"	"B"
2"-15"	8"
18"-24"	10"
30"-48"	18"

TRENCH SHALL BE BACKFILLED WITH CLEAN SAND AND TOPPED WITH TOP SOIL IF LOCATED IN PAVEMENT. PAVE PER "SAW CUT" CONSTRUCTION PATCH DETAIL



- NOTES:**
- ALL PIPE JOINTS SHALL BE WRAPPED WITH NCDOT TYPE II GEOTEXTILE OR APPROVED EQUIVALENT.

STORM PIPE TRENCH SECTION
N.T.S.

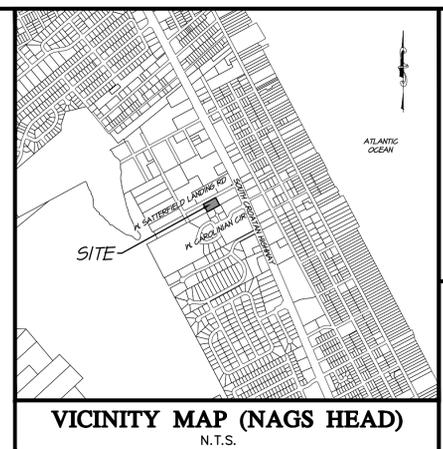


ROOF DRAIN COLLECTION LATERAL
N.T.S.

NOTES:

- CURRENT OWNER: MAZZI, LLC
106A ASCENSION DRIVE
KITTY HAWK, NC 27959
- PROPERTY IDENTIFICATION: PIN / PID: (LOT 2A-1R) 989317113533 / 005618002
- LOT AREA = 37,855 SF / 0.87 AC (AREAS BY COORDINATE METHOD.)
- ZONING: GENERAL COMMERCIAL DISTRICT (C-3)
- SUBJECT REFERENCES: (LOT 2A-1R PARCELS) DB 1651, PG 0001; PC I, SL 357
- FIELD SURVEY BY QUIBLE & ASSOCIATES, P.C. DATES: 06-02-2022 (HORIZONTAL GROUND DISTANCES)
- VERTICAL DATUM NAVD 1988 / HORIZONTAL DATUM NAD 1983 (2012)
- PROPERTY IS LOCATED IN NFIP FLOOD ZONE "X" AND SUBJECT TO CHANGES, BASED ON COMMUNITY CID NO. 375356; PANEL 9893; SUFFIX K. (MAP NUMBER 3720989300K) EFFECTIVE DATE: 06/19/2020.
- SETBACKS SHOWN ARE PER TOWN OF NAGS HEAD AND DO NOT REFLECT ANY RESTRICTIVE COVENANTS THAT MAY EXIST.
- PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF EIGHT 1,500 SQ.FT. WAREHOUSE UNITS WITH ASSOCIATED PARKING AND APPURTENANCES.
- SETBACKS SHOWN ARE PER TOWN OF NAGS HEAD AND DO NOT REFLECT ANY RESTRICTIVE COVENANTS THAT MAY EXIST.
- HANDICAP PARKING SPACES SHALL NOT EXCEED 2% GRADE.
- AREAS OF FILL SHALL BE EXCAVATED TO COMPACTED SUBGRADE AND BACKFILLED IN 6" LIFTS.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS, APPLICABLE TOWN OF NAGS HEAD CODES AND ORDINANCES, AND NCDCE DIVISION OF ENERGY, MINERAL AND LAND RESOURCES REGULATIONS.
- THE LOCATION, DIMENSIONS, AND ELEVATION OF EXISTING UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE DATA AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD PRIOR TO CONSTRUCTION. TO HIS/HER OWN SATISFACTION, THE CONTRACTOR SHALL PERFORM ANY TEST PIT WORK OR PROWIDE LOCATION SERVICES AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES. CONTACT NORTH CAROLINA ONE-CALL AT TELEPHONE NO. 1-800-632-4949, 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.

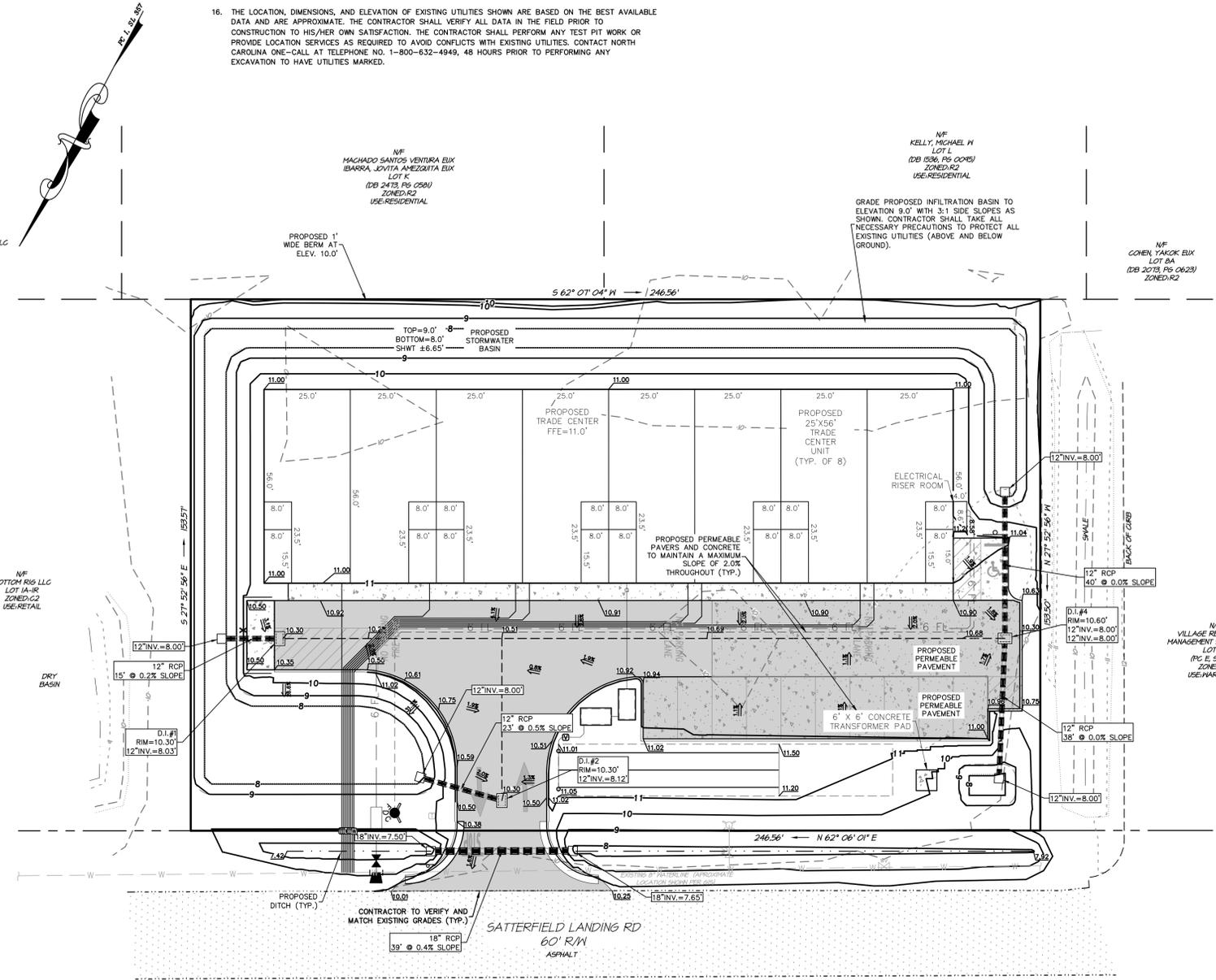
- THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.
- THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT.
- ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
- PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.
- ALL PORTIONS OF ROOF DRAIN COLLECTION SYSTEM WITH LESS THAN 36" OF COVER IN TRAFFIC RATED CONDITIONS SHALL BE DUCTILE IRON PIPE.
- TEMPORARY CONSTRUCTION EASEMENT MUST BE OBTAINED PRIOR TO ANY WORK ON ADJACENT PROPERTIES.
- A STATE HIGH DENSITY STORMWATER PERMIT IS REQUIRED IN ADVANCE OF ANY ONSITE DISTURBANCE.
- ALL STORMWATER CONTROL MEASURES (SCM'S) ASSOCIATED WITH THE SITE MUST BE PERMITTED WITH THE STATE OF NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY'S (NCDCE) DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES. THE PERMITTED SOM FOOTPRINT, PLUS AN ADDITIONAL TEN FEET, SHALL BE ENCOMPASSED BY AN ACCESS AND MAINTENANCE EASEMENT FOR THE BENEFIT OF NCDCE AND MAINTENANCE PERSONNEL. THE ACCESS AND MAINTENANCE EASEMENT SHALL ALSO INCLUDE THE SIDE SLOPES, EMBANKMENT, AND EMERGENCY SPILLWAY OF ALL SOM'S SHOWN ON THE PLAN.
- CONTRACTOR SHALL PROVIDE SMOOTH TRANSITION BETWEEN SPOT ELEVATION GRADES AND MAINTAIN POSITIVE DRAINAGE.
- ALL PIPES TO BE CLASS IV REINFORCED CONCRETE, UNLESS OTHERWISE NOTED.
- ALL REINFORCED CONCRETE PIPES (RCP) TO HAVE END TREATMENTS, EITHER FLARED END SECTIONS (FES) OR END WALLS. END WALLS TO BE CONSTRUCTED AS PER NCDOT STANDARD 838.01.



VICINITY MAP (NAGS HEAD)
N.T.S.

LEGEND

- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- PROPOSED RIP RAP
- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE (TOP OF ASPHALT/FLOW LINE UNLESS OTHERWISE NOTED)
- PROPOSED TOP OF CONCRETE ELEV.
- PROPOSED FLOW DIRECTION AND SLOPE
- EX. IRON ROD
- EX. DRILL HOLE
- EX. MAG NAIL
- EX. UTILITY POLE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. SEWER MANHOLE
- EX. WATER METER
- EX. ELECTRICAL CONNECTION
- EX. EXTERIOR LIGHT
- EX. LIGHT POLE



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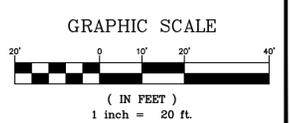
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- 06/21/23 UPDATE LANDSCAPING TABLE
- 10/14/23 UPDATE PER ARCHITECTURAL PLANS

GRADING PLAN
TRADE CENTER FACILITY
LOT 2A-1R, CHARLES L. SINEATH DIVISION
TOWN OF NAGS HEAD DARE COUNTY NORTH CAROLINA

PROJECT NO. P05044.2
DESIGNED BY CMS
DRAWN BY CMS/CMT
CHECKED BY MWS
ISSUE DATE 09/12/22
SHEET NO. 3 OF 8 SHEETS



NOTE:
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- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.

SOIL EROSION & SEDIMENTATION CONTROL PLAN NOTES:

- AREA TO BE DISTURBED: ±42,083.2 SQ.FT. (±0.96 ACRES)
- PROVIDE A GROUND COVER STABILIZATION (TEMPORARY OR PERMANENT) ON ALL DENUDED DOWNSTREAM SURFACES FOLLOWING THE COMPLETION OF LAND DISTURBING ACTIVITIES PER THE CRITERIA LISTED BELOW:
 - PERIMETER DIKES, BERMS, SWALES, DITCHES AND SLOPES SHALL BE STABILIZED IN 7 DAYS.
 - HIGH QUALITY WATER (HQW) ZONES SHALL BE STABILIZED IN 7 DAYS.
 - DOWNSTREAM SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED IN 7 DAYS. IF SLOPES ARE 10' OR LESS AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
 - DOWNSTREAM SLOPES 3:1 OR FLATTER AND LESS THAN 50' IN LENGTH SHALL BE STABILIZED IN 14 DAYS. SLOPES 3:1 OR FLATTER EXCEEDING 50' IN LENGTH SHALL BE STABILIZED IN 7 DAYS.
 - ALL OTHER DOWNSTREAM AREAS WITH SLOPES 4:1 OR FLATTER SHALL BE STABILIZED WITHIN 14 DAYS.
 - GROUND COVER SHALL BE PROVIDED ON CUT AND FOR FILL SLOPES WITHIN 21 CALENDAR DAYS AFTER COMPLETION OF ANY PHASE OF GRADING. GROUND COVER OVER OTHER AREAS SHALL BE PROVIDED WITHIN SHORTER OF 15 WORKING OR 90 CALENDAR DAYS (60 DAYS IN HQW ZONES) OF COMPLETION OF CONSTRUCTION OF DEVELOPMENT.
- IF LAND DISTURBING ACTIVITIES OCCUR OUTSIDE THE PERMANENT VEGETATION SEEDING DATES (APR. 1 - SEP. 30) THEN TEMPORARY VEGETATION SEEDING SPECIFICATIONS SHALL BE FOLLOWED FOR PLANTING UNTIL THE NEXT APPROPRIATE PERMANENT SEEDING PERIOD, AT WHICH TIME PERMANENT VEGETATION SHALL BE ESTABLISHED ACCORDING TO PERMANENT VEGETATION SEEDING SPECIFICATIONS (SEE PERM. & TEMP. SEEDING SPECIFICATIONS).
- IF EXCESSIVE WIND EROSION OR STORMWATER RUNOFF EROSION DEVELOPS DURING TIME OF CONSTRUCTION ANY LOCATION ON THE PROJECT SITE, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED IMMEDIATELY AS DIRECTED BY THE ENGINEER TO ADDRESS THE PROBLEM AREA AND PREVENT DAMAGE TO ADJACENT PROPERTIES.
- SOIL EROSION AND SEDIMENTATION CONTROLS TO BE INSPECTED, MAINTAINED AND REPAIRED AS NECESSARY UNTIL PERMANENT CONTROLS ARE ESTABLISHED.
 - A RAIN GAUGE MUST BE KEPT ON SITE.
 - DEDICATED DEMOLITION AND OTHER WASTE AREAS AND EARTHEN MATERIAL STOCKPILES MUST BE LOCATED AT LEAST 50 FEET FROM DRAINS OR STREAMS UNLESS NO ALTERNATIVE IS FEASIBLE.
 - ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSPECTED AT LEAST ONCE A WEEK AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN A HALF INCH (DURING A 24 HOUR PERIOD). IMMEDIATE CORRECTIVE ACTION MUST BE TAKEN FOR ANY DEVICE FAILURE.
 - INSPECT ALL OUTLETS WHERE RUNOFF LEAVES SITE AND EVALUATE EFFECT ON NEARBY STREAMS. TAKE CORRECTIVE ACTION IF NECESSARY.
 - MAINTAIN RECORDS OF INSPECTIONS AND CORRECTIVE ACTIONS.

CONSTRUCTION SEQUENCE:

- PRECONSTRUCTION:**
- OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
 - FLAG AND/OR ROUGH STAKE WORK LIMITS.
 - FLAG EXISTING VEGETATION TO REMAIN/PROTECT.
 - HOLD PRECONSTRUCTION CONFERENCE (OWNER, CONTRACTOR, ENGINEER, AND APPROPRIATE GOVERNMENT OFFICIALS) AT LEAST ONE WEEK PRIOR TO START OF CONSTRUCTION ACTIVITIES.
- CONSTRUCTION:**
- INSTALL SILT FENCING AT LOCATIONS SHOWN ON PLAN
 - COMPLETE CLEARING, GRUBBING AND DEMOLITION PROCEDURES.
 - GRADE SITE ACCORDING TO PLAN AND BEGIN CONSTRUCTION OF PROPOSED IMPROVEMENTS, INCLUDING UTILITY RECONNECTIONS.
 - INSTALL CONTRIBUTING STORM CONVEYANCES AND ASSOCIATED EROSION CONTROLS.
 - ALL EROSION & SEDIMENTATION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER HEAVY RAINFALL EVENT. NEEDED REPAIRS AND MAINTENANCE WILL BE MADE IMMEDIATELY. FURTHERMORE, IF ANY WIND OR STORMWATER RUNOFF EROSION DEVELOPS DURING THE CONSTRUCTION OF THE PROJECT, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO ADDRESS THE PROBLEM AREA.
 - ONCE THE SITE CONSTRUCTION IS COMPLETE AND DENUDED SURFACES ARE FULLY STABILIZED; ALL STORMWATER CONVEYANCES, STRUCTURES AND PIPING SHALL BE CLEANED OF ALL SILT/DEBRIS WHICH MAY HAVE ACCUMULATED DURING CONSTRUCTION. CONTRACTOR SHALL VERIFY DESIGN GRADES OF ALL STORMWATER CONVEYANCES AND RESTORE TO DESIGN SPECIFICATIONS AS NECESSARY.
 - UPON THE REMOVAL OF ACCUMULATED SEDIMENTS AND SITE STABILIZATION, ALL REMAINING EROSION CONTROLS MAY BE REMOVED FROM THE DEVELOPMENT. ALL DOWNSTREAM EROSION CONTROLS SHALL REMAIN IN PLACE UNTIL THE COMPLETION OF ALL OTHER DEVELOPMENT CONSTRUCTION ACTIVITIES.

SEEDBED PREPARATION:
LOOSEN SOILS TO A DEPTH OF 6-8 INCHES USING A RIPPER, HARROW, OR CHISEL PLOW. BREAK UP CLODS, REMOVE UNACCEPTABLE GROWTH (STICKS, ROOTS, STONES (>3"), AND OTHER MATERIALS, AND WORK THE TOP 3-4 INCHES OF THE SOIL INTO A SEEDBED. THE AREA TO BE SEEDBED SHALL BE RE-COMPACTED UTILIZING A CULTIPACKER ROLLER AND A SMOOTH EVEN SOIL SURFACE WITH A LOOSE, UNIFORM FINE TEXTURE SHALL BE THE FINISHED GRADE.

SOIL AMENDMENTS:
OBTAIN A SOIL TEST TO DETERMINE APPLICATION RATES AND FOLLOW RECOMMENDATIONS OF SOIL TESTS. WHEN A SOIL TEST IS NOT POSSIBLE, APPLY 3,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 STARTER FERTILIZER.

MULCHING:
APPLY 4,000 LB/ACRE GRASS STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, ROVING OR BY CRIMPING WITH A MULCH ANCHORING TOOL.

MAINTENANCE:
SATISFACTORY STABILIZATION AND EROSION CONTROL REQUIRES A COMPLETE VEGETATIVE COVER. EVEN SMALL BREACHES IN VEGETATIVE COVER CAN EXPAND RAPIDLY AND, IF LEFT UNATTENDED, CAN ALLOW SERIOUS SOIL LOSS FROM AN OTHERWISE STABLE SURFACE. A SINGLE HEAVY RAIN IS OFTEN SUFFICIENT TO GREATLY ENLARGE BARE SPOTS, AND THE LONGER REPAIRS ARE DELAYED, THE MORE COSTLY THEY BECOME. PROMPT ACTION WILL KEEP SEDIMENT LOSS AND REPAIR COST DOWN. NEW SEEDLINGS SHOULD BE INSPECTED FREQUENTLY AND MAINTENANCE PERFORMED AS NEEDED. IF RILLS AND GULLIES DEVELOP, THEY MUST BE FILLED IN, RE-SEED, AND MULCHED AS SOON AS POSSIBLE. DIVERSIONS MAY BE REQUIRED UNTIL NEW PLANTS TAKE HOLD.

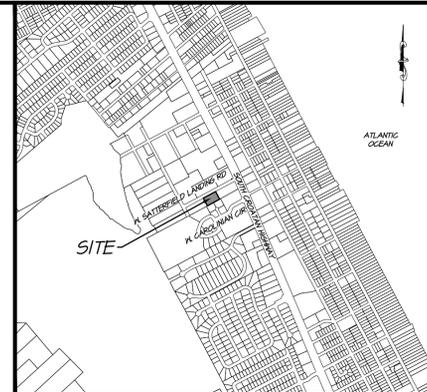
MAINTENANCE REQUIREMENTS EXTEND BEYOND THE SEEDING PHASE. (COMPLETE VEGETATIVE COVER IS REQUIRED REGARDLESS OF COUNTY ISSUANCE OF A CERTIFICATE OF OCCUPANCY AND FINAL PAYMENT WILL NOT BE AWARDED UNTIL COMPLETE ESTABLISHMENT OF VEGETATIVE COVER.)
WEAK OR DAMAGED SPOTS MUST BE REIMED, FERTILIZED, MULCHED, AND RESEED AS PROMPTLY AS POSSIBLE. REFERTILIZATION MAY BE NEEDED TO MAINTAIN PRODUCTIVE STANDS.

PERMANENT VEGETATION

SEEDING DATES:	SEED MIXTURE	APPLICATION RATES/ACRE
APRIL 1 - AUGUST 31:	REBEL II FESCUE	130 LBS.
	COMMON BERMUDA 'SAHARA' (HULLED)	215 LBS.
SEPT. 1 - MARCH 31:	REBEL II FESCUE	250 LBS.
	COMMON BERMUDA 'SAHARA' (UNHULLED)	215 LBS.

TEMPORARY VEGETATION

SEEDING DATES:	SEED MIXTURE	APPLICATION RATES/ACRE
AUG. 16 - APRIL 15:	RYE GRAIN	120 LBS.
APRIL 16 - AUG. 15:	GERMAN MILLET	40 LBS.



VICINITY MAP (NAGS HEAD)
N.T.S.

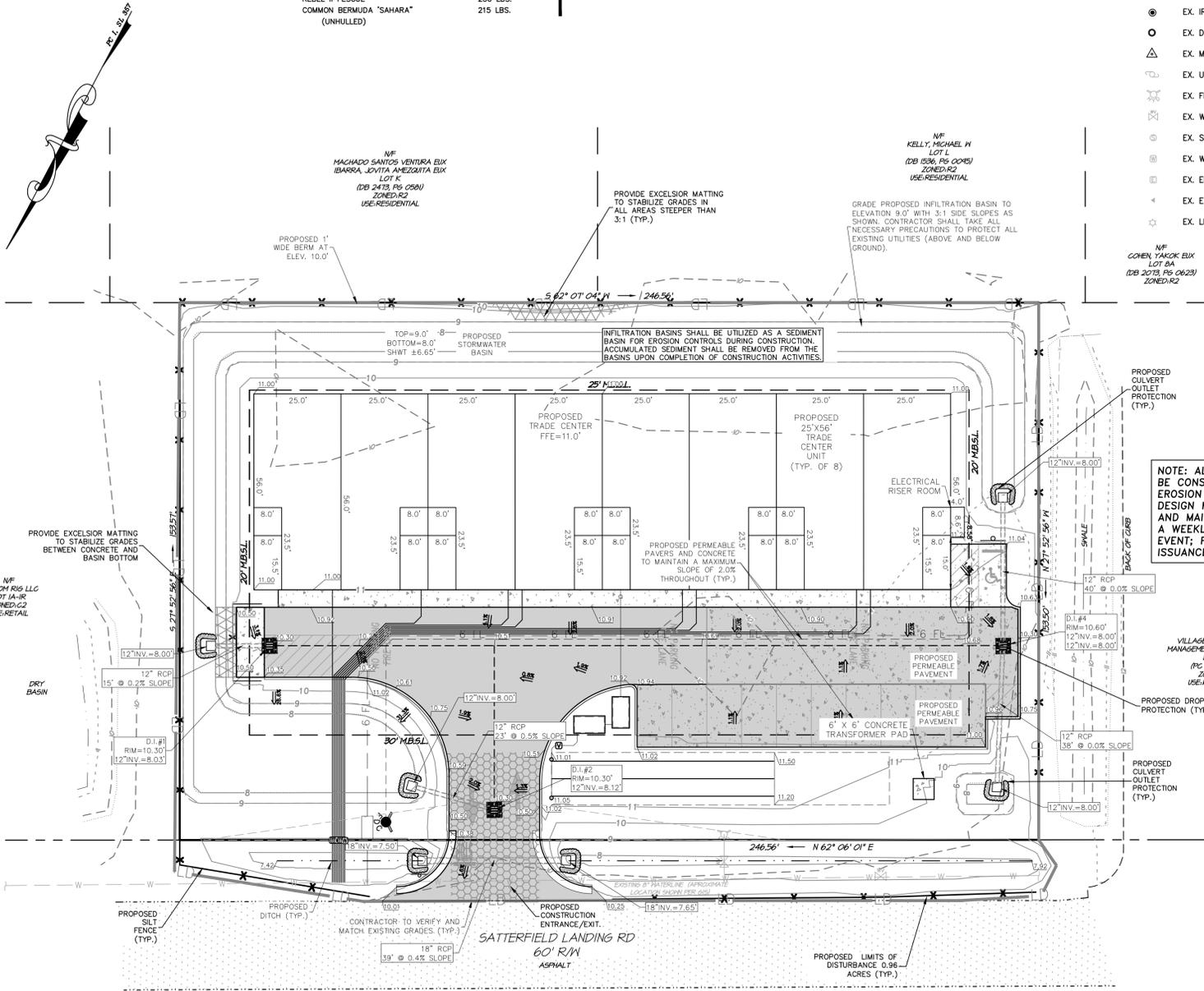
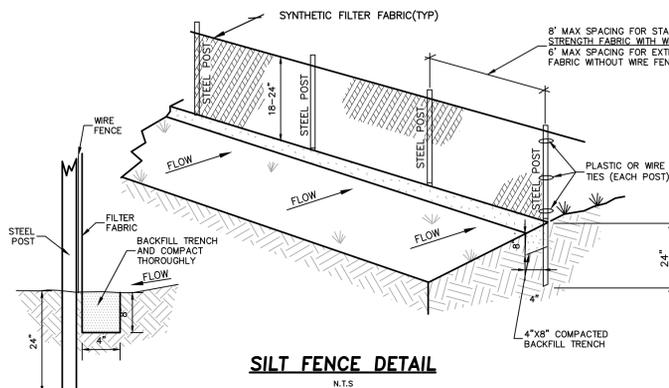
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REVISIONS

SOIL EROSION SEDIMENT CONTROL PLAN
TRADE CENTER FACILITY
LOT 2A-1R, CHARLES L. SINEATH DIVISION
TOWN OF NAGS HEAD DARE COUNTY NORTH CAROLINA

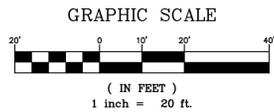
PROJECT NO. P05044.2
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DRAWN BY CMS/CMT
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SHEET NO. 4 OF 8 SHEETS



NOTE: ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION CONTROL DEVICES ON A WEEKLY BASIS AND AFTER EACH MAJOR STORM EVENT; FAILURE TO KEEP ORDER MAY RESULT IN ISSUANCE OF A STOP WORK ORDER.



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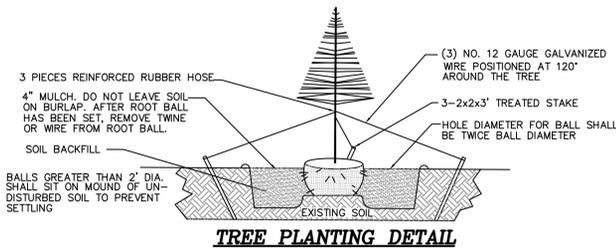


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- PROPOSED LOT COVERAGE:

COMMERCIAL BUILDING	11,200.0 SF
DUMPSTER PAD	300.0 SF
ASPHALT DRIVE	5,464.0 SF
PERMEABLE PAVEMENT	3,852.0 SF (COUNTED AS SEPARATE LOT COVERAGE)
TOTAL IMPERMEABLE COVERAGE	16,964.0 SF (44.8%)
TOTAL PERMEABLE PAVEMENT COVERAGE	3,852.0 SF (3.9%)
- MAXIMUM ALLOWABLE COVERAGE:

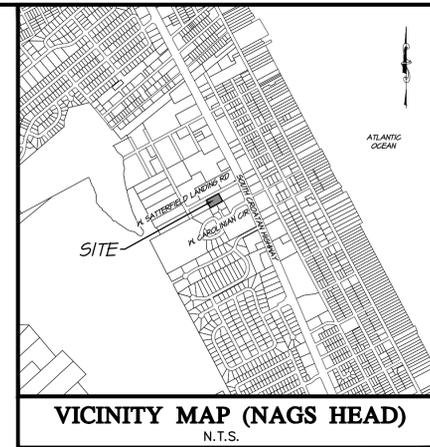
IMPERMEABLE SURFACE	17,034.75 SF (45%)
PERMEABLE SURFACE	9,463.75 SF (25%)
MINIMUM OPEN SPACE	11,356.5 SF (30%)
- REQUIRED PARKING: ONE PARKING SPACE FOR EACH 750 GROSS SQ. FT., BUT NO LESS THAN 3 SPACES PER UNIT.
8 UNITS X 3 = 24 SPACES REQUIRED
PROPOSED PARKING: 24 SPACES PROVIDED (1 ADA SPACE)
- ALL UTILITIES TO BE PLACED UNDERGROUND UNLESS OTHERWISE NOTED
- LANDSCAPING AND BUFFERYARDS TO BE IN ACCORDANCE WITH ARTICLE 10 OF THE TOWN OF NAGS HEAD UNIFORM DEVELOPMENT ORDINANCES.
- SITE WILL BE LIGHTED IN ACCORDANCE WITH ARTICLE 10, PART IV "OUTDOOR LIGHTING" OF THE TOWN OF NAGS HEAD CODE OF ORDINANCES.
- PRIOR TO LAND DISTURBANCE, A TOWN APPROVED SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS REQUIRED.
- NO U.S.A.C.O.E. SECTION 404 JURISDICTIONAL WETLANDS EXIST ON SITE.
- EXISTING VEGETATION TO BE PRESERVED WHERE POSSIBLE.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.
- ALL WORK WITHIN THE NC DOT RIGHT-OF-WAY REQUIRES AN APPROVED NC DOT RIGHT-OF-WAY ENCROACHMENT AGREEMENT.
- A STATE HIGH DENSITY STORMWATER PERMIT IS REQUIRED IN ADVANCE OF ANY ONSITE DISTURBANCE.
- THE ENTIRE SITE WILL BE IN FULL COMPLIANCE WITH ALL APPLICABLE NFPA REGULATIONS PERTAINING TO FIRE PROTECTION INCLUDING BUT NOT LIMITED TO NFPA 30 AS WELL AS VOLUME V OF THE NC STATE BUILDING CODE.
- ALL BUILDING SIGNAGE SHALL BE IN ACCORDANCE WITH ARTICLE VIII SECTION 48-284 OF THE TOWN OF NAGS HEAD CODE OF ORDINANCES.
- THIS PLAN SHALL COMPLY WITH VOLUME 1C OF THE NC BUILDING CODE.
- THE PROPOSED BUILDING SHALL COMPLY WITH CHAPTER 10 OF THE TOWN OF NAGS HEAD CODE OF ORDINANCES.
- BUILDING CONSTRUCTION TO CONFORM TO 2018 NC FIRE PREVENTION CODE OR LATEST EDITION.
- THE LOCATION, DIMENSIONS, AND ELEVATION OF EXISTING UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE DATA AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD PRIOR TO CONSTRUCTION TO HIS/HER OWN SATISFACTION. THE CONTRACTOR SHALL PERFORM ANY TEST PIT WORK OR PROVIDE LOCATION SERVICES AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES. CONTACT NORTH CAROLINA ONE-CALL AT TELEPHONE NO. 1-800-632-4849, 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.
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- ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
- PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.



LANDSCAPING NOTES

SYMBOL	QUANTITY	COMMON NAME	HEIGHT	SPREAD	MIN. SIZE @ PLANTING
	148	INDIAN HAWTHORN	4' - 5' HT.	3' O.C.	1.5 FT HT.
	29	MUSKOGEE CRAPE MYRTLE	15' - 20' HT.	5' O.C.	5 FT HT. / 1" CALIPER
	74	PINK MUHLY GRASS	3' - 5' HT.	3' O.C.	1.5 FT HT.

* COORDINATE INSTALLATION WITH OWNER. ORNAMENTAL SHRUB/GRASS SPECIES MAY BE SUBSTITUTED AS APPROVED BY THE TOWN OF NAGS HEAD



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SINCE 1959

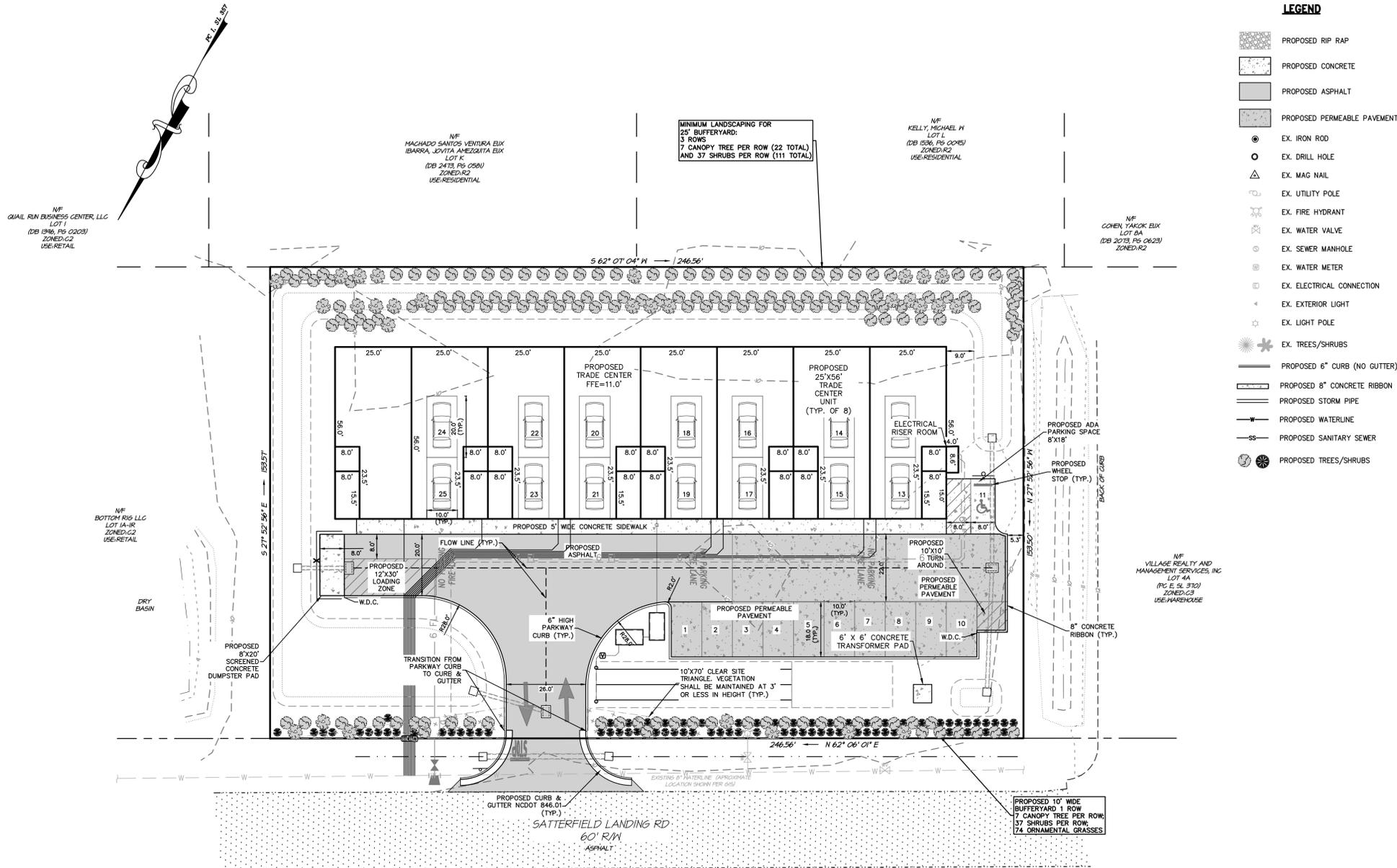
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CERTIFICATION



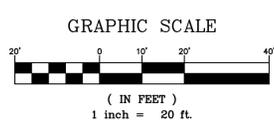
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TRADE CENTER FACILITY
LOT 2A-1R, CHARLES L. SINEATH DIVISION

TOWN OF NAGS HEAD
DARE COUNTY
NORTH CAROLINA



NOTE:
THE DATA GIVEN ON THESE PLANS IS BELIEVED TO BE ACCURATE, BUT THE ACCURACY IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL LEVELS, LOCATIONS, TYPES, AND DIMENSIONS OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF A DISCREPANCY IS FOUND, WORK SHALL CEASE AND THE ENGINEER NOTIFIED. WORK MAY CONTINUE UPON ENGINEERS NOTICE TO PROCEED.



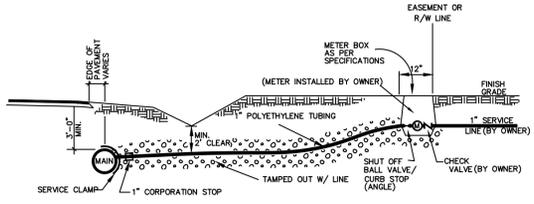
SITE & LANDSCAPING PLAN

TRADE CENTER FACILITY
LOT 2A-1R, CHARLES L. SINEATH DIVISION

TOWN OF NAGS HEAD
DARE COUNTY
NORTH CAROLINA

PROJECT NO. P05044.2
DESIGNED BY CMS
DRAWN BY CMS/CMT
CHECKED BY MWS
ISSUE DATE 09/12/22

SHEET NO. **5**
OF 8 SHEETS



STANDARD 1" SERVICE LINE AND METER BOX INSTALLATION

N.T.S.

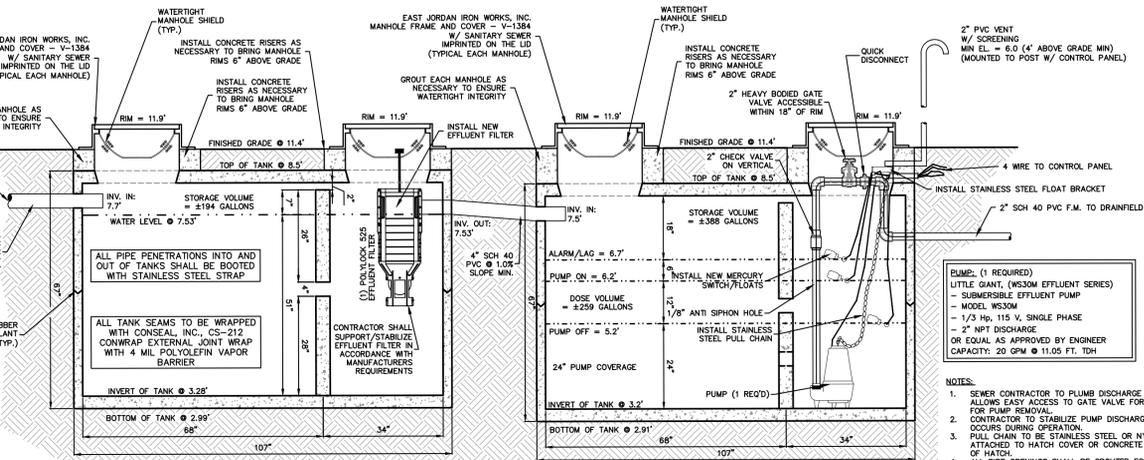
NOMINAL PIPE SIZE	SLEEVE O.D. RANGE (INCHES)	CATALOG NUMBER			APPROX. WEIGHT (LBS)
		SLEEVE NUMBER	BY	BRANCH SIZE	
4"	4.50 - 4.55	331 - 4.50	X	3" F.L.G.	28
	4.55 - 4.60	331 - 4.55	X	4" F.L.G.	30
	4.60 - 4.65	331 - 4.60	X	5" F.L.G.	32
6"	6.00 - 6.05	331 - 6.00	X	3" F.L.G.	34
	6.05 - 6.10	331 - 6.05	X	4" F.L.G.	36
	6.10 - 6.15	331 - 6.10	X	5" F.L.G.	38
8"	8.00 - 8.05	331 - 8.00	X	3" F.L.G.	42
	8.05 - 8.10	331 - 8.05	X	4" F.L.G.	44
	8.10 - 8.15	331 - 8.10	X	5" F.L.G.	46

TYPICAL TAPPING SLEEVE DETAIL

DIMENSION	VALVE SIZE			
	4"	6"	8"	12"
A	13-5/8	16-3/4	20-3/16	24-1/8
B	4.000" ± .031	4.984	6.984	10.984
C	2.016	.188	.250	.250
D	4-1/2	5-1/4	5-3/4	6-1/2
E (FLANGED END)	5-3/8	6	6-7/8	7-3/8
F	2-1/2	2-1/2	2-1/2	2-1/2
NO. OF TURNS TO OPEN	13	19	26	32
MAX. CUTTER DIAMETER	3-3/4	5-3/4	7-3/4	9-3/4

- CONTRACTOR TO CONSULT WITH OWNER'S WATER SYSTEM MANAGING ENTITY AND OWNER'S ENGINEER PRIOR TO ORDERING METER BOX AND SHUT OFF BALL VALVE/ CURB STOP TO MAKE SURE THEY MEET THEIR REQUIREMENTS.
- NOTE: CONTRACTOR TO CONSULT WITH OWNER'S WATER SYSTEM MANAGING ENTITY AND OWNER'S ENGINEER PRIOR TO ORDERING METER BOX AND SHUT OFF BALL VALVE/ CURB STOP TO MAKE SURE THEY MEET THEIR REQUIREMENTS.
- DO NOT EXCEED THE RECOMMENDED TAPPING MACHINE CUTTER DIAMETER LISTED IN THE TABLE. FAILURE TO DO SO MAY RESULT IN DAMAGE TO THE SEALING SURFACES OF THE VALVE.
 - VALVE MEETS OR EXCEEDS APPLICABLE REQUIREMENTS OF ANSI/AWWA C509 WITH WALL THICKNESS WHICH EXCEEDS THE MINIMUM REQUIREMENTS OF ANSI/AWWA C153/A21.53.
 - UL LISTED FM APPROVED. VALVE MUST BE ORDERED IN CONFIGURATIONS WHICH ARE UL LISTED AND FM APPROVED AND HAVE PERMANENT UL/FM MARKINGS.
 - 250 PSI RATED WORKING PRESSURE.
 - FUSION BONDED EPOXY COATING MEETS OR EXCEEDS REQUIREMENTS OF AWWA C550.
 - MECHANICAL JOINT ENDS ARE IN ACCORDANCE WITH ANSI/AWWA C111/A21.11.
 - BOLT PATTERNS OF FLANGED ENDS ARE IN ACCORDANCE WITH ANSI/AWWA C110/A21.10 (ANSI B16.1, CLASS 125).
 - RAISED PLOT DIMENSIONS OF FLANGED ENDS ON TAPPING VALVES ARE IN ACCORDANCE WITH MSS SP-40.

UNDER NORMAL CONDITIONS WITH LIQUID LEVEL IN SEPTIC TANK AT OUTLET TEE ELEVATION, TANK SHOULD NOT FLOAT. SEPTIC SYSTEM MANAGING ENTITY AND SEPTAGE PUMP & HAULER SHALL TAKE PRE-CAUTIONS AGAINST SEPTIC TANK FLOATING WHEN BEING PUMPED OUT.



SECTION 1.002 GAL. SEPTIC TANK

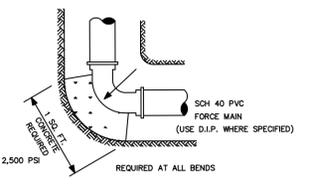
N.T.S.

SECTION 1.150 GAL. PUMP TANK

N.T.S.

TYPICAL TAPPING VALVE DETAIL

AMERICAN FLOW CONTROL SERIES 2500 RESILIENT WEDGE VALVE



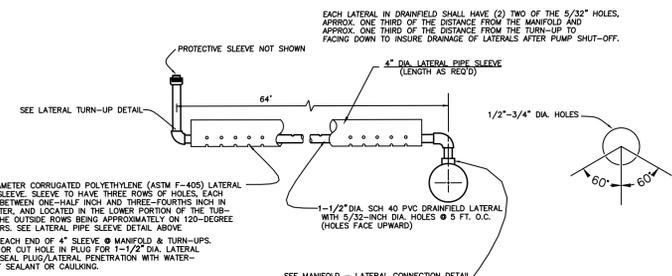
FORCE MAIN THRUST BLOCKS @ BENDS

N.T.S.

IN FIELD PIPE OPENINGS

N.T.S.

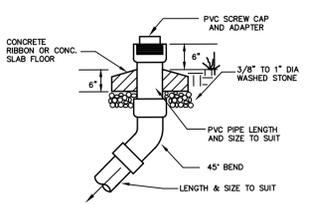
- THIS APPLIES TO ALL PIPES 6" DIAMETER OR LESS UNLESS OTHERWISE SPECIFIED.
- CLOSE WITH NON-SHRINK GROUT AFTER PIPE INSTALLATION.



LOW-PRESSURE PIPE DRAINFIELD CROSS SECTION

N.T.S.

NOTE: HOLE SPACING IS 5 FEET ON CENTERS



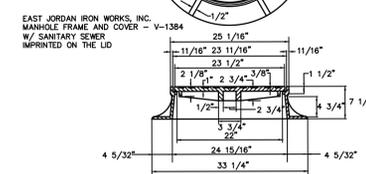
TYPICAL SEWER CLEAN-OUT

N.T.S.

BOOTED PIPE OPENINGS

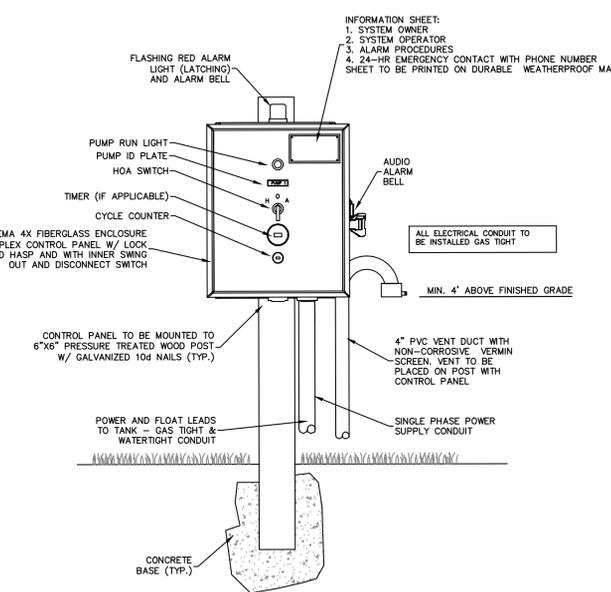
N.T.S.

- PIPE TO MANHOLE CONNECTION TO CONFORM TO LATEST ASTM C-478 SPECIFICATION.
- PSX FLEXIBLE BOOT CONNECTOR TO CONFORM TO LATEST ASTM C-923 SPECIFICATION.
- BOOT CONNECTOR IS MANUFACTURED BY THE PRESS SEAL GASKET CORP. FORT WORTH, TX.
- SEE MANUFACTURER LITERATURE FOR FURTHER INFORMATION AND DETAIL.



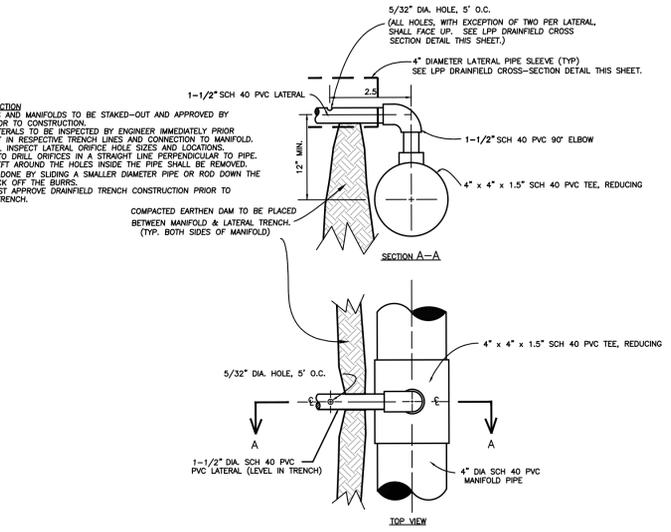
TYPICAL MANHOLE RING & COVER DETAILS

N.T.S.



SIMPLEX CONTROL PANEL & VENT MOUNTING

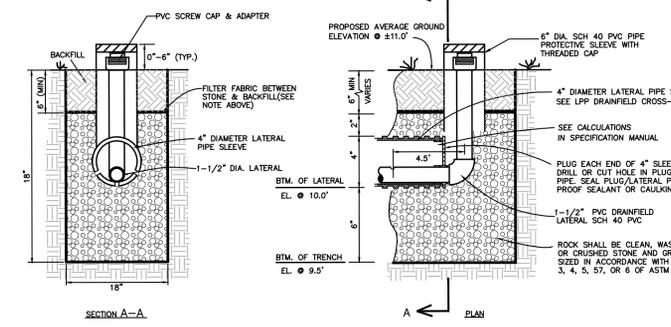
N.T.S.



MANIFOLD-LATERAL CONNECTION

N.T.S.

NOTE: 1-1/2" DIA. SCH40 PVC LATERAL SIZE
NOTE: HOLE SPACING IS 5 FEET ON CENTERS



DRAINFIELD LATERAL TURN-UP & TRENCH X-SECTION

N.T.S.

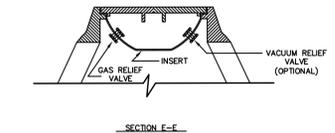
NOTE: MINIMUM 18" FILL REQUIRED

- ACTIVE DRAINFIELD AREA SHALL BE GRADED SO THAT STORMWATER RUNOFF DOES NOT POND ON DRAINFIELD AREA.
- VEGETATE DRAINFIELD AND REPAIR AREAS AS PER SEEDING SPECIFICATION.
- FILTER FABRIC SHALL BE TREVIRA SPUNBOND TYPE 1112 ENGINEERING FABRIC OR EQUAL AS APPROVED BY ENGINEER.
- ALL TRENCHES, LATERALS, AND MANIFOLDS SHALL BE INSTALLED LEVEL.

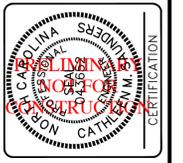
NOTE: HOLE SPACING IS 5 FEET ON CENTERS

WATERTIGHT MANHOLE INSERT

N.T.S.



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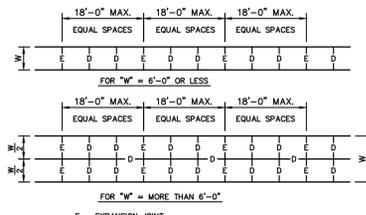


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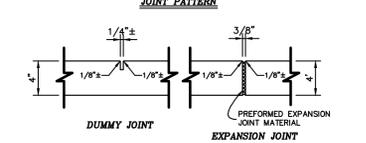
TRADE CENTER FACILITY
LOT 2A-1R, CHARLES L. SINEATH DIVISION
NORTH CAROLINA
DARE COUNTY
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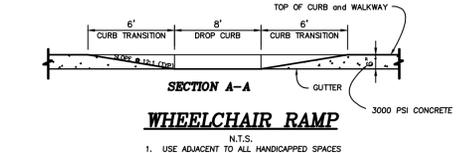
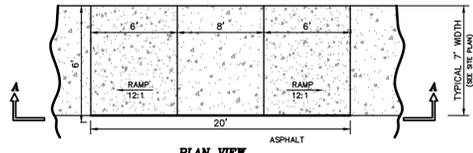
SHEET NO.
6
OF 8 SHEETS



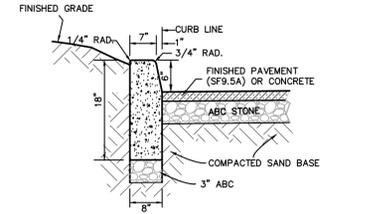
NOTES:
EXCEPT WHERE SHOWN IN THE PLAN, ALL NEW CONC. WALKS SHALL HAVE JOINTS SPACED AS SHOWN IN THESE DETAILS.
AN EXPANSION JOINT SHALL BE USED TO SEPARATE THE NEW CONC. WALK FROM OTHER NEW OR EXISTING CONCRETE CONSTRUCTION.



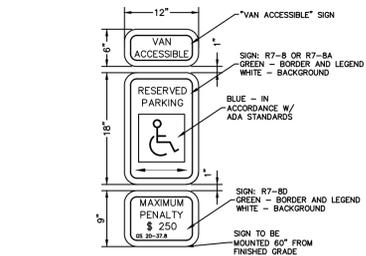
SIDEWALK JOINTS
N.T.S.



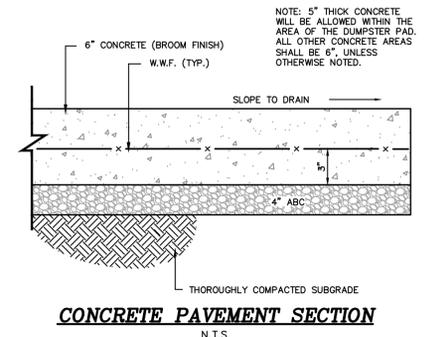
1. USE ADJACENT TO ALL HANDICAPPED SPACES



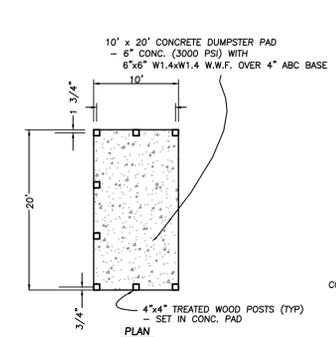
PARKWAY CURB
N.T.S.



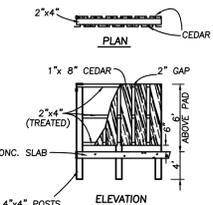
ADA RESERVED PARKING SIGN DETAIL
N.T.S.



CONCRETE PAVEMENT SECTION
N.T.S.

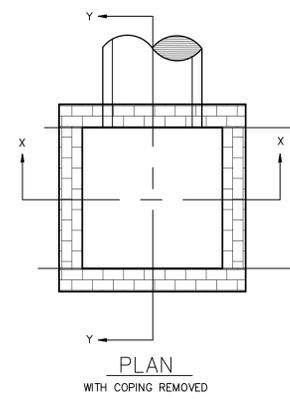


DUMPSTER PAD

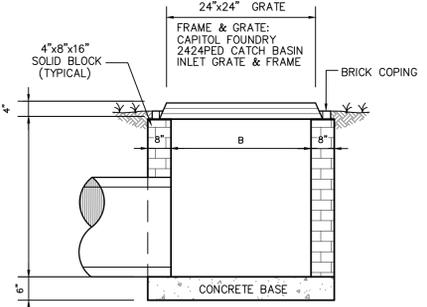
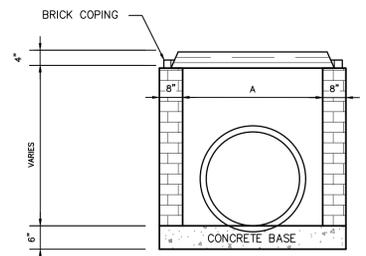


ENCLOSURE

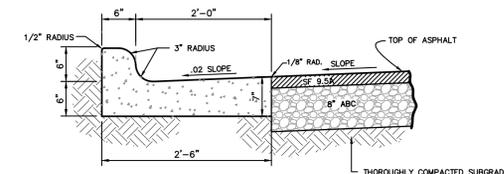
CONCRETE DUMPSTER PAD AND ENCLOSURE
N.T.S.
(NOTE: DUMPSTER PAD DRAIN NOT SHOWN)



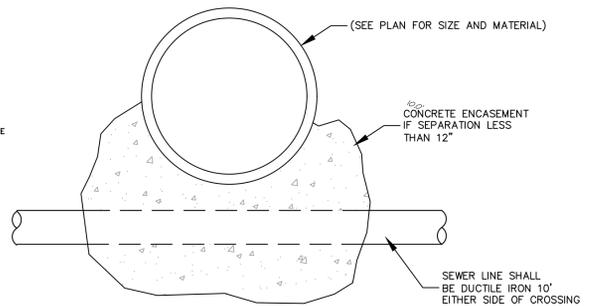
MIN. DIMENSIONS FOR CATCH BASIN (NCDOT 840.05)			
PIPE	SPAN	WIDTH	HEIGHT
D	A	B	H
12"	3'-6"	2'-3"	1'-10"
15"	3'-6"	2'-3"	2'-1"
18"	4'-0"	2'-8"	2'-4"



STORM INLET DETAIL
N.T.S.



2'-6" CURB and GUTTER
REF. NCDOT STD. 846.01
N.T.S.

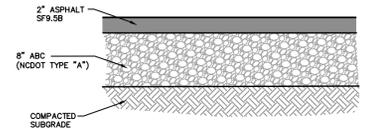


STORM SEWER AND SANITARY SEWER CROSSING
N.T.S.

TYPICAL SPECIFICATIONS

SPECIFICATIONS FOR SIDEWALKS, CURBS, ALLEYS, CONCRETE PAVEMENT
ALL REINFORCING STEEL SHALL BE GRADE 60 (ASTM A615)
ALL WELDED WIRE FABRIC SHALL BE 6 x 6, W1.4 x W1.4 (ASTM A185)
A 1-1/2" CLEAR CONCRETE COVER SHALL BE MAINTAINED ON ALL REINFORCEMENT
ALL CONCRETE SHALL BE 3000 PSI FIBER MESH UNLESS OTHERWISE NOTED
SPECIFICATIONS OF ASPHALT
ALL ABC STONE SHALL BE COMPACTED TO 100% OF STANDARD PROCTOR (ASTM D698)
ASPHALT SHALL BE 2" SF9.5A

SPECIFICATIONS FOR SUBBASE
ALL SUBBASE SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR (ASTM D698)



TYPICAL ASPHALT SECTION
N.T.S.

COMPACTION NOTES:
1. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.
2. COMPACT BACKFILL AND SUBGRADE TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557) ALL BACKFILL MATERIAL SHALL BE SELECT BACKFILL UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. SELECT FILL SHALL CONSIST OF SAND OR GRAVEL CONTAINING LESS THAN 20% BY WEIGHT OF FINES (S₂₀₀, S₄₀, S₆₀, GP, GW) HAVING A LIQUID LIMIT LESS THAN 20 AND PLASTIC LIMIT LESS THAN 6, AND FREE OF RUBBLE, ORGANICS, CLAY, DEBRIS, AND OTHER UNSUITABLE MATERIAL.

COMPACTION NOTES

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BLACK MOUNTAIN, NC 28711
PHONE: (252) 891-8447 FAX: (252) 891-8448
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CAPITOL FOUNDRY
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CERTIFICATION

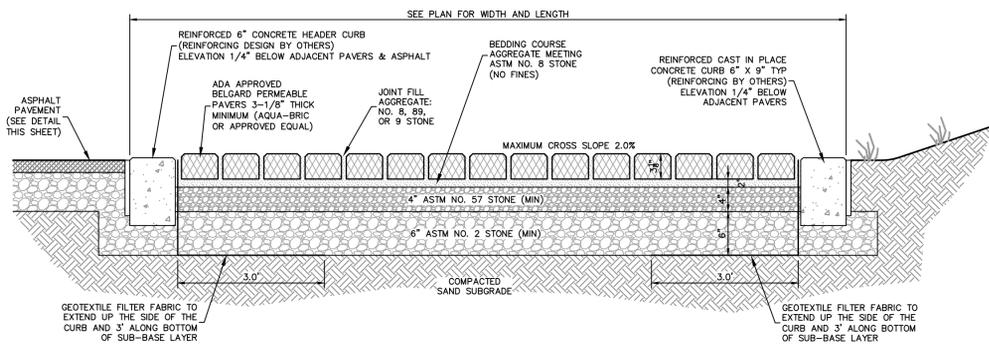
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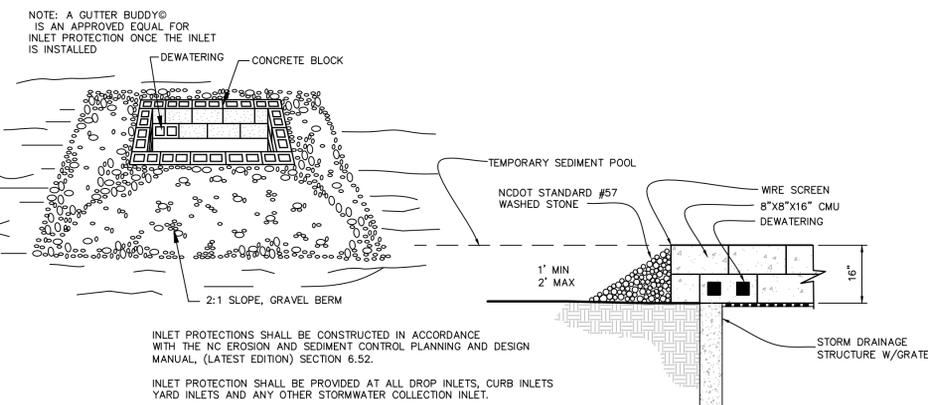
SITE & STORM DETAILS
TRADE CENTER FACILITY
LOT 2A-1R, CHARLES L. SINEATH DIVISION
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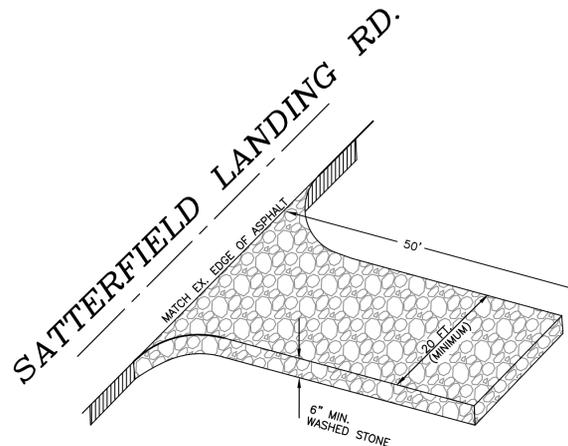
SHEET NO.
7
OF 8 SHEETS



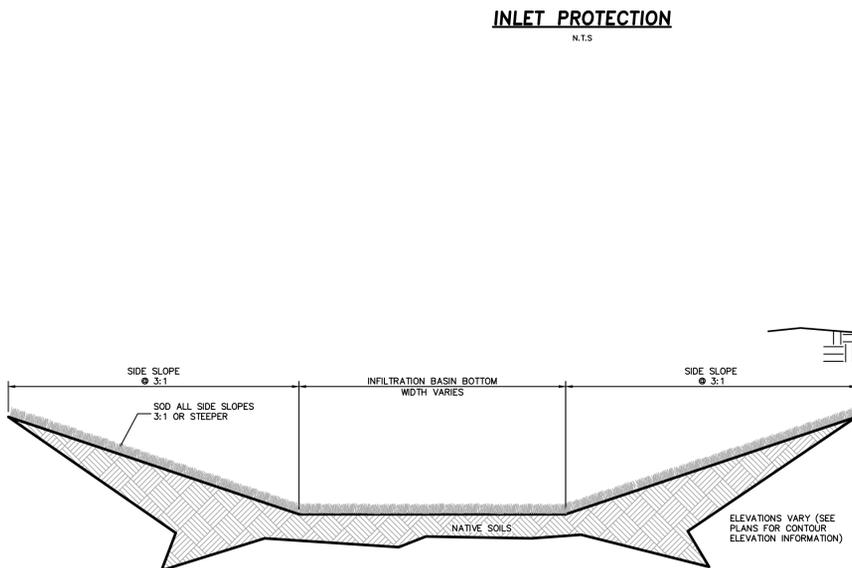
TYPICAL BELGARD® PERMEABLE PAVER INSTALLATION DETAIL
N.T.S.



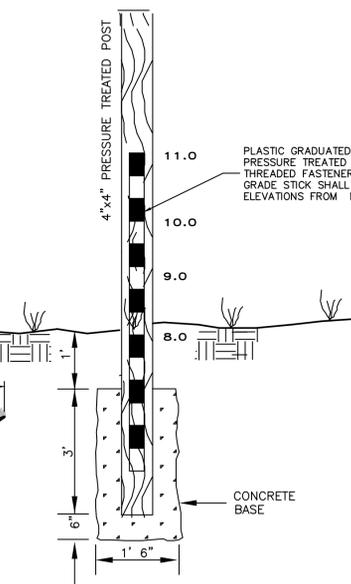
INLET PROTECTION
N.T.S.



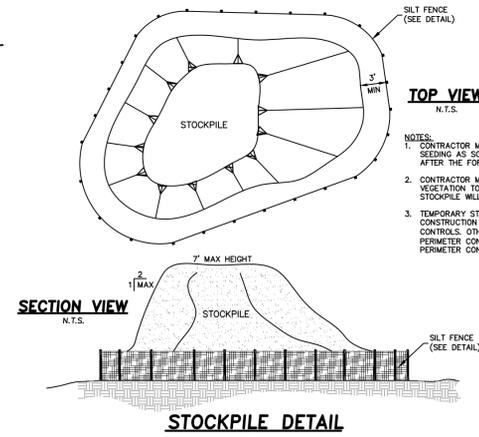
GRAVEL CONSTRUCTION ENTRANCE/EXIT DETAIL
N.T.S.



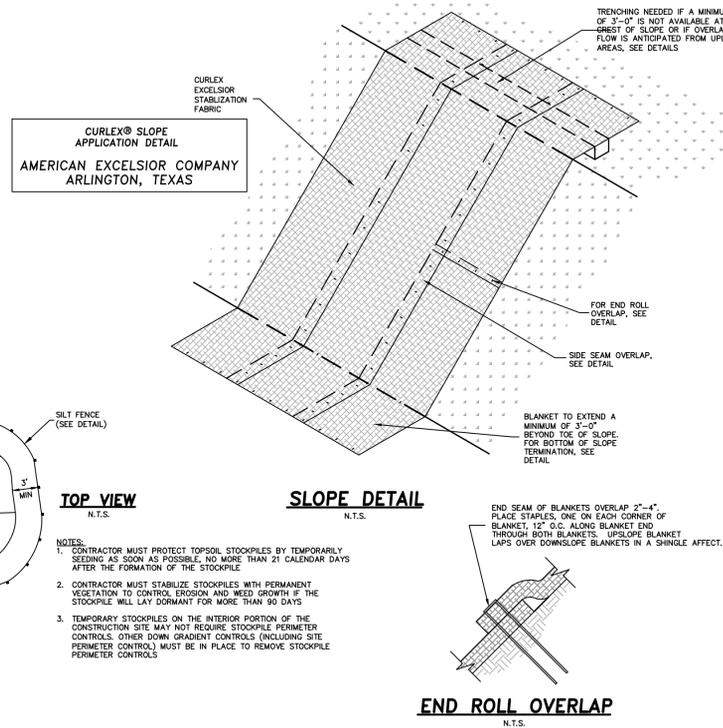
TYPICAL INFILTRATION BASIN CROSS-SECTION DETAIL
N.T.S.



DEPTH BENCHMARK
N.T.S.

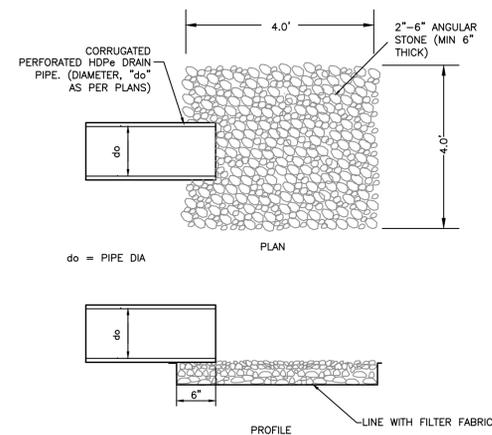
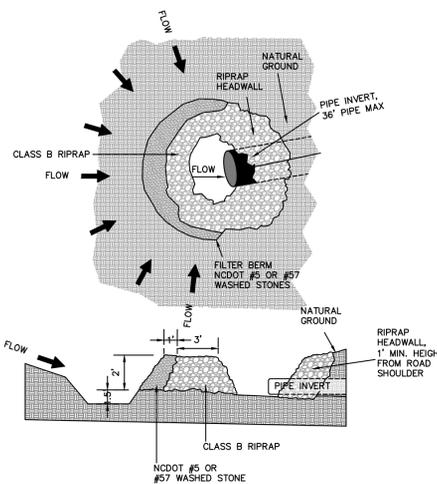


STOCKPILE DETAIL
N.T.S.

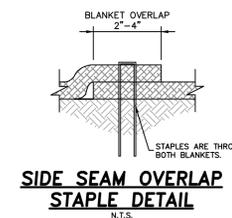
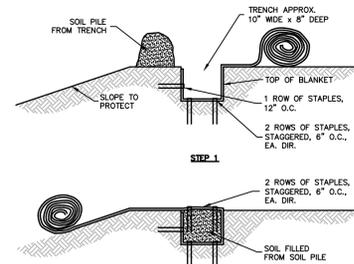
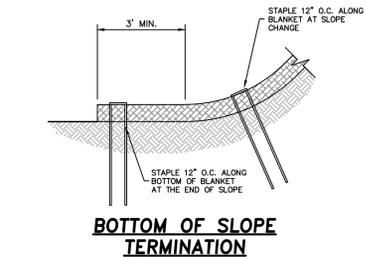


END ROLL OVERLAP
N.T.S.

CULVERT INLET PROTECTION
N.T.S.



DRAIN PIPE OUTLET DETAIL
N.T.S.



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REGISTERED PROFESSIONAL ENGINEER
REGISTERED PROFESSIONAL ARCHITECT
REGISTERED PROFESSIONAL SURVEYOR

REVISIONS

NO.	DATE	REVISIONS
1	06/19/22	ISSUED FOR WASTEWATER PERMITTING
2	09/21/22	REVISED PER TOWN COMMENTS
3	10/13/22	ISSUED FOR STORMWATER PERMITTING
4	06/21/23	UPDATE LANDSCAPING TABLE
5	10/14/23	UPDATE PER ARCHITECTURAL PLANS

PROJECT NO. P05044.2
DESIGNED BY CMS
DRAWN BY CMS/CMT
CHECKED BY MWS
ISSUE DATE 09/12/22

SHEET NO. 8 OF 8 SHEETS

SOIL EROSION SEDIMENT CONTROL DETAILS

TRADE CENTER FACILITY

LOT 2A-1R, CHARLES L. SINEATH DIVISION

TOWN OF NAGS HEAD DARE COUNTY NORTH CAROLINA

From: [David Ryan](#)
To: [Kelly Wyatt](#)
Subject: Trade Center Review
Date: Friday, September 16, 2022 8:48:14 AM
Attachments: [image001.png](#)

Comments from Engineering:

- Internal traffic circulation approved as submitted
- Loading berth- pursuant to Section 10.17.1 of the Unified Development Ordinance a loading berth has been provided for this application. A loading space need not be necessarily a full berth but shall be sufficient to allow normal loading and unloading operations of a kind and magnitude appropriate to the use. Based on the submitted plan and narrative information provided by the applicant, the loading berth dimensions are appropriate for this particular use.
- Stormwater Management: The applicant has provided on-site capacity to manage and treat a 4.3 inch rainfall event.
- In accordance with Sec. 36-4(g) of the Town Code of Ordinances, it is recommended the roadway swale on the west side of the proposed driveway apron be extended to the wester property corner.
- A state high-density stormwater permit will be required for this application and be required to be submitted in advance of the issuance of a building permit.
- A copy of the as-built improved conditions shall be submitted to the Town for review in advance of the issuance of a certificate of occupancy.
- A copy of the engineer's certification for the stormwater management system shall be submitted to the Town in advance of the issuance of a certificate of occupancy.
- The stormwater management approval shall be conditioned on the extension of the roadway swale noted above.
- Sedimentation & Erosion Control: a pre-construction conference is requested on-site with the contractor, engineer & Town staff prior to land disturbing activities occurring.

Thank you.

David M. Ryan, P.E.

Town of Nags Head

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