

Director of
Planning and Inspections
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Building Inspector
MARTY SHAW
CHARLES THUMAN

Code Enforcement Officer
JORDAN BLYTHE



Assistant Director of
Planning and Inspections
CAMERON RAY

Senior Planner
RYAN LANG

Zoning Administrator
DONNA ELLIOTT

THE TOWN OF KILL DEVIL HILLS
NORTH CAROLINA

PLANNING DEPARTMENT

April 19, 2022

Memorandum

To: Planning Board

From: Ryan Lang, Senior Planner *RL*

Subject: **SITE PLAN REVIEW**—1900 N Croatan Highway in the Commercial Zone — Proposed Convenience Store and Gas Station

The proposed site plan, submitted by Arista Development LLC, calls for construction of a new 6000 sq. ft. WAWA Convenience Store, 8 gas pumps, canopy, 53 parking spaces, 2 underground storage tanks and associated site modifications. The proposed convenience store is a permitted use in the Commercial Zone (N) *Retail Business (convenience store)*. Attached you will find a commercial site plan application, proposed site plan, owners authorization, proposed architectural and floor plan of the convenience store, proposed architectural of the canopy, and applicant's response to Staff's Tech 1 comments.

The applicant has addressed most of staffs initial technical review comments; however, the following conditions remain to be addressed:

Planning

Site Plan

Sheet (CS101)

- a. Proposed landscaping fence on Western property line shall have the required landscaped area be located between the fence and the property line. Fence is shown on North West corner along property line. Fence and landscaping buffer shall be extended across the property line adjacent to the proposed interconnected drive aisle and parking on the adjacent parcel.
- b. Connection Agreement between WAWA and Truist Bank required.
 - i. Administrative approval and permit required separately.
 - ii. Provide written agreement of interconnection.

Landscaping

Sheet (CL101)

- a. Parking Lot Interior Green Space: Trees required at 1 per 10 Parking Spaces

- b. List number of shrubs provided for Parking Lot Interior Green Space.

Commercial Building Exterior

- a. Note Roof Height from top plate to ridge.
- b. Note Roof Overhang.
- c. Note Roof Slopes.
- d. Provide Glazing Calculations for US158 and 4th Street Elevations.

Lighting

- a. Canopy lighting shall be shielded and contained within the perimeter of the canopy as to not have glare onto US158, 4th Street, and adjacent properties.
- b. Revised average minimum/maximum on proposed canopy lighting to match footcandles produced.

Public Services

Streets

1. Public Services would like to see the curb and gutter on the west end of the south side lane taper terminate short of the residential driveway at a point that is in line with the eastern residential property line. The section of the turn lane taper between the residential driveway and the “projected” property line will be fine without curb and gutter.
2. We would like the asphalt pavement detail on sheet CS506 for sections requiring 5” of fill or more showing the existing asphalt being broken up with ABC grading and new asphalt section installed be revised to incorporate pavement wedging in lieu of pavement demolition and rebuild. Historically, in our area, we have seen paving contractors elect to wedge short sections like this with asphalt in lieu of mobilizing a milling machine, a grade crew for the ABC stone and following up with an asphalt crew. We also prefer the wedging process because it is much faster and will allow the road to be quickly reopened to traffic. Please revise the detail to show the pavement section to be wedged with asphalt in multiple lifts.
3. Provide required pavement overlay thickness in inches for the existing West Forth Street pavement section detail on Sheet CS506.
4. The proposed surface elevation at PVI station 11+95.81 on the West Fourth Street Profile on sheet CG103 appears to equal to the existing surface elevation. Please confirm that the pavement overlay thickness is accounted for in the profile and cross-sections.
5. Storm structures ST10 and ST10A shown on sheet CG101 are detailed as curb inlets and it looks like these should be revised to drop inlets and be placed behind the back of curb in the existing swale to receive stormwater draining from the west in the road side swales. Please review this drainage pattern and make accommodations to capture the stormwater draining from west to east in West Fourth Street and west of the road widening.
6. The driveways are included in the overall drainage area map, however, portions of the driveways south of the valley gutters at the asphalt transitions do not appear to be captured by the on-site drainage system. What accommodations can be made to capture the stormwater draining off the downward sloping driveways and retaining it on-site?
7. A NCDOT Access Permit for the proposed WEST Fourth Street roadway. Applicant has acknowledged this comment and will remain as a condition, no action required at this time.

Water System

1. Please confirm with NCDEQ PWS if the water main replacement requires a water main extension permit or not and copy Public Services with the written or emailed response from PWS. If required, a copy of the NCDEQ PWS water main extension permit will need to be provided prior to final building permit.
2. Add to the utility notes on Sheet CU101 that water main improvements are to be installed in accordance with the Town of Kill Devil Hills Standard Waterline Specifications.
3. The 6" D.I.P. main replacement is shown in the same location as the existing A.C. main in West Fourth Street. We typically abandon A.C. mains in place and install new main parallel with the A.C. main with approximately 3' separation, if available, to prevent a kick out of the A.C. main during construction. We recommend showing the proposed main 3 feet south of the existing main and connect to the existing main at the west end of the main replacement using an A.C. to D.I.P. transition coupling, short stick of D.I.P and a two 45-degree bend assembly. The east end of the new D.I.P. will need to connect to the future water main using a stainless steel tapping sleeve and valve. The new north to south main will be located approximately 3 feet east of the existing main. Please coordinate with American Engineering to incorporate the future main into the site plan.
4. The existing hydrant in the water main replacement zone will need to be replaced.
5. Water meters need to be moved to the property line and the reference to K-Copper can be removed as well since the town will be installing the meters and using CTS tubing.
6. Please confirm the response item 9.g in the Kimley Horn 4/5/22 comment response letter that *"Ten feet of horizontal separation is provided between the proposed water lines and sanitary sewer line."*

7. Anticipated fees associated with the proposed service based on the current rate schedule:

System Development 1.5" meter	=	\$10,500.00
1.5" Tap Fee	=	\$3,945.00
1.5" Surety	=	\$350.00
5/8"x3/4" Tap Fee (irrigation meter)	=	\$1,145.00
<u>5/8"x3/4" Surety</u>	=	<u>\$100.00</u>
Total	=	\$16,040.00

Applicant has acknowledged these fees and will remain for reference.

Wastewater

1. Site engineer advises that pump station and sewer fore main plans are being prepared by Michael W. Robinson, P.E. Wastewater force main extension plans need to be submitted and approved prior to final approval.
2. A Copy of the NCDEQ Wastewater Extension (Fast Track) permit will need to be provided prior to final building permit. Applicant has acknowledged this comment and will remain as a condition, no action required at this time.

3. A NCDOT Encroachment Agreement for the proposed sewer force main in US 158 is required prior to final building permit. Applicant has acknowledged this comment and will remain as a condition, no action required at this time.

Staff recommends that the Planning Board forward the plan to the Board of Commissioners with a favorable recommendation after the above listed conditions have been addressed.

Town of Kill Devil Hills Planning and Inspections
Commercial Site Plan Review Application*



FEB 20 2022

Planning & Inspections Department

Applicant

Name: Arista Development LLC C/O Doug Benoit

Address: 520 Providence Highway, Suite 9
Norwood, Ma 02062

Phone: (781) 769-5900

Fax: (781) 769-5959

Cell: (508) 641-7940

Property Owner

Name: Midtown Development Corporation

Address: 3200 Pacific Ave, Suite 100
Virginia Beach, VA 23451

Phone: (757) 754-8382

Fax: _____

Cell: _____

Property Location

Address: 1900 N Croatan Hwy (formerly 0 W Fourth St) Lot, Block: 029831000

Subdivision: Wright Shores Pin#: 988406288549

Zoning District: Commercial LI-1 LI-2 OIR

Total Lot Size: 101,099 Sq. Ft.

Disturbed Area: 130,323 Sq. Ft.

Contractor

Company Name: TBD

License Number: _____

Name: _____

Phone: _____

Address: _____

Cell: _____

Fax: _____

Town Privilege License Number: _____

Construction Information

Type of Construction: _____

- Assembly Business Educational Factory/Industrial High Hazard
- Institutional Mercantile Residential Storage Utility/Misc.
- New Construction Addition Repair/Replace Remodel Other: _____

Square Footage Proposed:

Interior Space: 6,049 Sq. Ft. Covered Deck(s): 0 Sq. Ft. Storage: 0 Sq. Ft.

Garage: 0 Sq. Ft. # of Bedrooms: N/A # of Open Deck(s): 0

Proposed Square Footage: 6,049 + Existing Square Footage: 0 = 6,049 Total Sq. Ft.

% Impervious Coverage: 65 + % Pervious Coverage: 35 = 100 Total % Coverage

of Parking Spaces: Existing: 0 Proposed: 53 Total: 53

Septic Tank Permit #: N/A (sewer) Construction Type: IV

Estimated Construction Cost (including labor and materials): TBD

Flood Information

Flood Zone: VE AE X

Base Flood Elevation: _____

Proposed First Floor Elevation: 9.5

Sq. Ft Below Base Flood Elevation: _____

**This form is designed as a guide for Commercial Site Plan Review.
Additional plans and information will be required prior to building permits.*

Project Description

The project consists of constructing a 1/2 6,000 WAWA C-STORE/MARKET with 8 gas pumps and 53 parking spaces.

Required Site Plan Information Checklist:

- Permit Application (Completed)
- Site Plan Including the following

- Submittal Requirements:

- Vicinity Map
- Building Plans are forthcoming 15 Copies of Site Plan & Building Plan Elevations – Front, Side, and Rear
- Forthcoming Tentative Health Department Approval
- Forthcoming Site Plan Development Review Fee Paid in Full

- Existing Conditions:

- Boundary of Entire Lot
- Width and Location of Existing Right of Ways
- Nature, Purpose, Locations, and Size of Existing Easements
- Iron Pins and Concrete Monuments
- Scale (1" = 50' Minimum)
- North Arrow
- Streets Including Width of Pavement
- All Underground Utilities, Gas/Propane Below or Above Grade
- Dare Co. Register of Deeds Map Book/Subdivision Ref.
- Street Address
- Present Recorded Owner, Developer, Engineer contacts
- Adjacent Property Owners, Adj. Use & Zone
- N/A Corp. of Engineers Report / Wetland Study
- NFIP Flood Zone (ref: Elevation Datum (NAVD 1988))
- Minimum, Lot Size indicated

- Proposed Improvements:

- Zoning Use Compliance/Setbacks labeled
- Landscaping Plan / Buffers / Screening (per section 153.073)
- Forthcoming Lighting Plan - photometric showing point output (section 153.074)
- Sedimentation & Erosion Control Plan including details
- Disturbed Areas delineated & areas calculated
- Location of Sidewalks on the Croatan Highway and Curbs
- Location of Sewer Facilities and Drain field
- Proposed Building Type, # of Floors and dimensions, floor area ratio, Height
- Existing and Finished Grades of Entire Site
- Storm Water Management Plan including calculations
- Total Units and Density per Acre (Multi-Family) or floor area ratio (in OIR)
- Lot Size and Lot Coverage Calculation
- Utility Plan indicating location & sizes of proposed improvements
- Water Service Sizing Checklist
- Layout, Size and Number of Parking Spaces including handicap w/ setbacks (Each Space Numbered)
- Fire Lane and Driveways
- Loading Zone (Commercial Sites)
- N/A Mail Delivery Cluster Sites (Multi-Family)

- Proposed First Floor Elevation
- Dumpster Pad Location
- Proposed Sign Location
- Sight triangle shown
- Forthcoming Commercial Building Plans showing architectural compliance
- Plans to N.C.D.O.T. (if required)
- NC Engineer/Land Surveyor Seal on Site Plan

*** The items listed in the Site Plan portion of the above checklist represent information that must be indicated on any site plan submitted for review by the Kill Devil Hills Planning Department, Planning Board, and Board of Commissioners. All of the above required documents shall be submitted on or before the 3rd Tuesday of each month. Upon completion of review, the Planning Board shall transmit its recommendations to the Board of Commissioners. The Board of Commissioners shall review site plans on the second Monday of each month.

Signature of Applicant:  (Date) 2/16/2022

Town of Kill Devil Hills



FEB 21 2022 TOWN OF KILL DEVIL HILLS, NORTH CAROLINA

OWNER AUTHORIZATION

Planning & Inspections Department

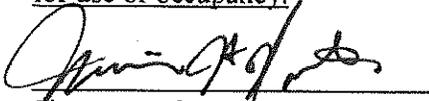
I, Midtown Development Corp., authorize Arista Development LLC
(Owner) (Agent/ Contractor)

to act as my agent for Site Plan Review Application
(Description)

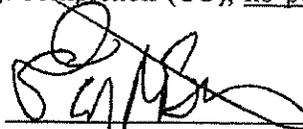
located at 1900 N Croatan Hwy (formally 0 W Fourth Street)
(Address)

I understand and accept responsibility to comply with all regulations and required inspections.

I further understand and acknowledge that until a final inspection has been performed and approved and this project has received a Certificate of Occupancy/Completion (CO), no portion of this project is authorized for use or occupancy.


Signature of Owner

2/9/22
Date

 Doug Benoit
Signature of Agent

2/9/2022
Date

520 Providence Highway, Suite 9
Norwood, Ma 02062

Address

(781) 769-5900

Telephone # (s)

OWNER AUTHORIZATION IS REQUIRED AT INITIAL SUBMITTAL

Please check with you Insurance Agent prior to construction. Your project may affect your flood insurance rates!

PO Box 1719 • Kill Devil Hills, NC 27948
252-449-5318 • 252-441-4102 (fax) • www.kdhnc.com

**KDHWTP, LLC
P.O. Box 3629
Kill Devil Hills, NC 27948
NCUC W-1160**

Willingness to Serve

March 31, 2022

Arista KDH, LLC
450 Station Avenue
S. Yarmouth, MA 02664

Re: WAWA 1900 N. Croatan Highway

To whom it may concern:

The Public Utility currently has sufficient sewer capacity available and we are Willing to Serve the above referenced property with 1800 gpd of sewer capacity.

My best regards,
Eddie Goodrich
Eddie Goodrich
Owner Manager



April 4, 2022

Ryan Lang
Senior Planner
Town of Kill Devil Hills Planning Department
102 Town Hall Drive
Kill Devil Hills, NC 27948

**RE: *2nd Site Plan Submittal for Wawa Croatan Highway
1900 North Croatan Highway
Kimley-Horn #116543032***

Dear Reviewer,

In response to the City's review of the above-referenced project received by Kimley-Horn from on 3/15/2022, we offer the following responses. Included in this re-submittal are the following items:

- Revised Site Plans
- Revised Calculations Package
- Willingness to Serve Letter
- Building Elevations & Floor Plan
- Canopy Elevations
- Lighting Fixture Cut Sheets

Planning Comments (Ryan Long)

1. General

- a. (CS101) Simplify Site Plan so that all plan is legible. Remove topography, utility, and easement lines.
 - All underground utilities, contours, and easements were removed from the site plan to make it more easily readable (CS101).
- b. (CA001): Add "Permitted Use (N) Retail Business Convenience Store"
 - The permitted use was added to the site development summary (CA001).
- c. (CA001): Add note for Maximum Building Height Allowed 50'. Note height of proposed canopy.
 - The maximum allowable building height, proposed building height, and proposed gasoline canopy height were added to the site development summary (CA001).

- d. (CA001): Provide total lot coverage%.
 - The total lot coverage was added to the site development summary (CA001).
 - e. (CA001): Revise Setbacks: Front Yard 30 FT (4th St Property Line), Side Street 15 FT (US 158 Property Line) Side Yard 10FT (West Property Line), Rear Yard 10 FT (North Property Line)
 - The setbacks were revised throughout the plan set (CA001, CS101).
 - f. (CA001): Sheet "CG203" is missing from plan set.
 - The sheet index was updated (CA001).
 - g. (CA001): (SV101): Add "Regulatory Flood Protection Elevation (RFPE) In Shaded X and X zones west of NC12, the RFPE is 8 feet NAVO 1988 Or the natural grade elevation if the natural grade is greater than 8 feet NAVO 1988"
 - The above note was added to the site development summary on the cover sheet (CA001) and to the bottom left corner of the survey (SV101).
 - h. (CS1010):
 - i. Building Setbacks, 30' front yard setback will be off the south property line, property line along US158 shall have a 15' side yard setback. Shall be updated on all respective sheets.
 - The setbacks were revised throughout the plan set (CA001, CS101).
 - ii. Dimension drive aisle distance between curbs north of proposed dumpsters.
 - The drive aisle north of the dumpster enclosure is 30' wide. A dimension is provided on the site plan (CS101).
 - iii. NC DOT Sight Triangle Dimensions (10'x70') are required for Sight Triangle at entrance of US158 and 4th Street.
 - A 10'x70' sight triangle is shown on the site plan (CS101).
 - i. (CS501): Handicap Parking Signage shall have reference to "GS 20-37.6"
 - A note was added to the parking signage detail which references "GS 20-37.6" (CS501).
 - j. Provide Willingness to Serve from KDHWTP
 - A willingness to serve letter is included with this submittal.
2. Sedimentation and Erosion Control:

- a. (CE101):
 - i. Add note to proposed construction entrance and silt fence "Reference sheet CS503 for details".
 - Callouts were added to the erosion and sediment control plan (CE101).
 - ii. Construction entrance shall be 20' wide and 50' deep.
 - The construction entrance dimensions were adjusted (CE101, CS503).
 - iii. Add note "Sidewalk along US-158 shall remain accessible as much as feasibly possible during construction."
 - The above note was added to the erosion and sediment control plan (CE101).
 - b. CE102: "Erosion and Sediment Control Measures, Construction Entrance" shall be NCDEQ instead of VESCH).
 - All references to Virginia were removed throughout the plan set.
 - c. (CS503):
 - i. Proposed Construction Entrance shall be 20' wide and 50' deep.
 - The construction entrance dimensions were adjusted (CE101, CS503).
 - ii. Silt Fencing shall be trenched and backfilled with compacted fil.
 - A note was added to the silt fence detail (CS503).
3. Landscaping (CL101):
- a. Provide Landscaping Detail for South Property Line
 - Landscaping is provided along the south property line which has been designated as the front yard.
 - b. List number of Trees provided for "Front Perimeter Yard"
 - The number of trees provided for the front perimeter yard have been added to the landscape calculations.
 - c. West Property Line shall have side yard landscaping requirements. A fence or dense vegetative screen shall be provided. If fence is utilized as a buffer, ornamental landscaping shall be provided. In all cases where a fence is constructed, the required landscaped area be located between the fence and the property line.
 - The west property line has had a fence added with ornamental landscaping between the property line and the fence.

- d. Confirm all species in plant schedule are salt and drought tolerant.
 - All plant materials are salt and draught tolerant or have been replaced with materials as such.
 - e. Please see Appendix A: Landscaping Guide in the Town Code: Landscaping Guide for turf grass, ground cover types, trees and shrubs.
 - Appendix A has been reviewed and landscaping has been coordinated with approved plant materials per the Appendix.
4. Lighting
- a. Provide proposed outdoor lighting plan produced by and engineer or architect licensed to practice in the State of North Carolina.
 - A lighting plan is included in the site plan set (PH101).
 - b. Note range of average footcandles. (4-7 average required)
 - The photometric designer is currently updating the lighting plan. This information will be included on future submittals.
 - c. Include note: "All light produced on-site shall be contained within the perimeter of the site by design, orientation or shielding of the light source."
 - The photometric designer is currently updating the lighting plan. This information will be included on future submittals.
 - d. Provide proposed lighting fixture cut sheet.
 - Lighting fixture cut sheets are included with this submittal.
5. Commercial Building Exterior
- a. Provide proposed architectural plans for the convenience store and canopy for compliance with 153.186 Commercial Building Exterior. Including elevations of each side. Include materials, roof height, glazing percentage, roof pitch, and roof overhang
 - Architectural elevations for the proposed building and canopy are included with this submittal. A full set of the building plans will be submitted separately as part of the building permit application.
 - b. Provide proposed floor plan of convenience store.
 - The proposed floor plan is included with this submittal.

Zoning Comments (Donna Elliot)

6. Sign permit will be required for all on site signage.

- Comment noted. A sign permit will be applied for separately.

Public Works Comments (Derek Dail)**7. Solid Waste**

- a. The proposed site dumpster layout does not conform to the standard for dumpsters serviced by the Town's Solid Waste Division. If the site is to be serviced by the Town's Solid Waste Division, the dumpster site will need to be modified to accommodate the Town's side loading commercial solid waste vehicles and in accordance with the attached "Three Dumpster Diagram". If the owner intends to contract refuse collection with a private hauler, indicate on the plan that the dumpster shall be serviced by a private hauler.
 - The dumpster shall be serviced by a private hauler. Note 11 was added to the site plan indicated that the dumpster will be privately serviced (CS101).

8. Streets

- a. Provide plan and profile section of West Fourth Street in the proposed street improvement area. The existing street area at the east entrance is low and needs to be analyzed to see if the street's vertical alignment needs to be adjusted up to improve the intersection approach and access to the site.
 - Plan and profile views of the proposed West Fourth Street alignment are included on sheet CG103. West Fourth Street will be raised to better match the existing elevation of Croatan Highway.
- b. Provide curb and gutter on the south side of the W. Fourth Street widening improvements. The curb and gutter should not be considered part of the travel lane width. The curb and gutter shown on the south return and US 158 extends into the travel lane. This should be pulled out of the travel lane with the addition of the curb and gutter on the south side of the W. Fourth Street road widening.
 - Curb and gutter is proposed along West Fourth Street and Croatan Highway. The curb and gutter is not included in the travel lane width (CS101).
- c. 4" Solid Yellow stripping between west bound and south bound lanes in W. Fourth Street need to be double yellow lines and all stripping material is to be thermoplastic in accordance with NCDOT standards. Site Note 5 on sheet CS101 references paint for marking material and should be updated to reflect the thermoplastic requirement.
 - 4" solid yellow striping is provided in West Fourth Street. Note #5 was added to the site plan stating that all striping in the right-of-way must be thermoplastic in accordance with NCDOT standards (CS101).
- d. Provide milled butt joints on existing pavements at overlay transitions.

- Note #10 was added to the site plan (CS101).
 - e. The sidewalk along US 158 should maintain a 5.0-foot buffer strip between the back of curb of the deceleration lane and the eastern edge of the sidewalk. This layout is consistent with portions of the existing sidewalk.
 - A 5' wide buffer is provided between the back of curb and sidewalk (CS101).
 - f. The sidewalk along W. Fourth Street needs to extend to the western property line.
 - Additional sidewalk is provided west of the western entrance off of West Fourth Street (CS101).
 - g. The proposed stormwater piping shown on the north side of the road on Sheet CU101 needs to connect to the existing storm piping system on the north side of the street along Lot 150 that adjoins the site to the west. This existing piping is missing from the predevelopment map.
 - The existing stormwater pipe was added to the demolition and erosion and sediment control plan (CE101). A curb inlet is proposed to connect to the existing stormwater pipe (CG101, CG102).
 - h. A NCDOT Access Permit for the proposed W. Fourth Street roadway improvements at US 158 is required prior to final building permit.
 - Comment noted.
 - i. Proposed drop inlets in the Town Right-of-Ways are required to have a pedestrian grate with $\frac{1}{2}$ inch maximum width openings. Capitol Foundary's 24"x36"PED is one satisfactory grate.
 - Note #11 was added to the grading plan (CG101).
 - j. Traffic Control on US 158 for work at the roadside shall be maintained in accordance with the NCDOT latest NCDOT Roadway Standard Drawings and Specifications.
 - A callout was added to the Erosion and Sediment Control sheet stating that the contractor must provide traffic control in accordance with the latest version of the NCDOT roadway standard drawings and specifications.
9. Water System
- a. Show exiting water mains, Dare County and Kill Devil Hills, in the US 158 and W. Fourth Street Right-of-Ways.
 - The existing water mains were added to the site plan set (CE101, CU101, CG101).

- b. The existing water main in W. Fourth Street is asbestos cement pipe and is planned to be replaced with in the capital improvement plan but is not scheduled in the next few years. The asbestos cement pipe will need to be replaced with the road widening effort so the new road section will not have to be cut opened and compromised when it is time to replace the asbestos cement pipe in the entire street from US 158 to Bay drive. The Town generally installs ductile iron pipe under asphalt sections and C900 PVC outside the pavement sections.
 - The utility plan shows 292 linear feet of 6" ductile iron water main replacement (CE101, CU101).
- c. Plans reference that the contractor is to install the water service and tap. Please note that the Town's Water Systems Division will be installing all service taps and meters. The contractor is not permitted to tap the Town's water mains. The plan notes and details need to be updated or removed accordingly.
 - The callouts on the utility plan were updated to indicate that taps and meters should be installed by Town forces (CU101).
- d. The domestic meter and irrigation meter are shown connected to the water systems off a single 2" tap. The Town ordinance references that irrigation meters are to be on a separate water connection. The 1.5" domestic meter will be connected to the existing main via a 1.5" tap by the Town and the irrigation meter will be connected to the existing main with a separate tap by the Town.
 - Two separate taps are shown for the irrigation and domestic services (CU101).
- e. The irrigation meter is shown as ¾". Provide the design flow for the irrigation system so that we can verify that the irrigation service is adequately sized.
 - The design flow for the irrigation meter is 20 GPM.
- f. On sheet CU101, Utility Note 4, the facility's domestic RPZ is identified to be installed in the building. Kill Devil Hills requires them to be installed immediately downstream of the meter at or just outside the right-of-way. Plans need to be revised accordingly.
 - An external RPZ is proposed downstream of the domestic water meter (CU101).
- g. On sheet CU101, the proposed water service is shown approximately 5 feet from the proposed sanitary sewer. Water service location shown should be at least 10 horizontally from the sewer service.
 - Ten feet of horizontal separation is provided between the proposed water lines and sanitary sewer line (CU101).

10. Wastewater

- a. Provide willingness to serve letter from KDHHWTP
 - A willingness to serve letter is included with this submittal.
- b. A Copy of the NCDEQ Wastewater Extension (Fast Track) permit will need to be provided prior to final building permit.
 - Comment noted.
- c. A NCDOT Encroachment Agreement for the proposed sewer force main is US 158 is required prior to final building permit.
 - Comment noted.

Town Engineer Comments (Pete Burkheimer)**11. 1. Cover Sheet, CA001**

- a. SUMMARY TABLE-SANITARY SEWER SYSTEM: Change "Ultimate Owner" to KDHHWTP, LLC.
 - The ultimate owner was updated (CA001).
- b. PROJECT CONTACT LIST: Move "SURVEYOR" to top of 2"tl column
 - The project contact list was updated (CA001).
- c. Change "Miss Utility" reference to "North Carolina 811" and the telephone number to 1-800-632-4949
 - The Miss Utility reference was deleted and replaced with North Carolina 811 (CA001).
- d. PLAN REVISIONS, REMARKS: Change "CITY" to "TOWN."
 - The plan revision note was updated (CA001).

12. Survey Sheets, SV101 & SV102

- a. Adjust Match line B so that all of W Fourth St appears on one sheet.
 - The match line was revised (SV101, SV102).
- b. Add existing FH at the SW corner of the N Croatan/W Fourth intersection.
 - The survey is currently being updated to include the existing fire hydrant. The location of the fire hydrant is shown throughout the site plans, based on the West Third Street site plans by American Engineering. An updated survey will be included with future submittals (CE101, CG101, CU101).

13. Demolition/E&S Plan, CE101

- a. "CHILDREN AT PLAY" SIGN TO REMAIN: Change to. REMOVE "CHILDREN AT PLAY" SIGN
 - The sign is called out to be removed (CE101).
- b. Make sure E&S measures relating to work in roadside ditch in right of way of N Croatan Hwy and in West Fourth St are adjusted based on work scope changes resulting from these and other comments.
 - The erosion and sediment control measures were updated. Silt fence and culvert inlet protection are proposed (CE101).

14. E&S Narrative Sheet

- a. Make sure all references are to NC regulations and standards. See VESCH reference under TEMPORARY SEEDING.
 - All references to Virginia standards have been removed from the plans.
- b. Add elements of work in N Croatan Hwy and W Fourth St to the SEQUENCE OF CONSTRUCTION.
 - Steps 11 and 12 were added to the sequence of construction (CE501).

15. Site Plan, CS101

- a. PAVEMENT SECTIONS: Replace VDOT stone designations "21A, 21B" etc. to NCDOT "ABC". Check for any other stray VDOT references.
 - The pavement sections were updated (CS503). All references to Virginia standards have been removed from the plans.
- b. The entrance width and some of the radii exceed the provisions of KOH Town Code, §153.076.9(e); however, Town Engineer recommends that BOC grant a variance to allow these exceedances. Wider entrances and larger radii will expedite getting traffic-especially larger vehicles-off the street.
 - Comment noted. Please advise if additional documents must be submitted in support of the variance request.
- c. Increase the taper length of the 4' widening of the WBL of W Fourth Street to 100', extending beyond the W property line of the site. Adjust the W curb return of the W entrance northward accordingly, and add a HC ramp to that return to facilitate future extension of the sidewalk
 - The west bound West Fourth Street taper length was increased to 100 feet. A curb ramp was added west of the proposed entrance and extended to the western parcel line (CS101).

- d. Increase the taper length into the widening for the EBL; begin the taper at the E edge of the residential driveway.
 - The taper length was extended to the edge of the existing residential driveway (CS101).
 - e. W Fourth Street should be overlaid for the extent of the site, for a unified appearance and to provide a proper surface for marking the new lane pattern.
 - Several different paving methods are proposed in West Fourth Street. The pavement sections are detailed on sheet CS506.
 - f. Note all markings in the public street rights of way to be thermoplastic conforming to NC DOT standard specifications.
 - Note #5 was added to the site plan (CS101).
 - g. Provide a typical section through the West Third Street improvements. Per Public Services comments, provide curb and gutter, as roadside drainage cannot be reasonably accommodated in the RW remaining after the widening. See related comments on GRADING PLAN and DRAINAGE PLAN.
 - Profiles of Croatan Highway and West Fourth Street are provided on sheets CG103 and CG104.
 - h. Given that the adjacent section of N Croatan Highway is signed for 50 MPH, the Town will not concur in the relocated sidewalk being placed abutting the back of curb on the Deceleration/RT Lane. Keep at least the same separation from back of curb as is now provided, or 5', whichever is greater. This will be facilitated by comment 7.a below.
 - A 5' wide buffer is provided between the back of curb and sidewalk (CS101).
16. Grading Plan, CG102
- a. Per Comments 5.e above, 9.c below and others, the Wawa site is necessitating essentially a major reconstruction of the adjacent portion of W Fourth Street. Provide a profile of this work, in addition to the plan view and typical section mentioned elsewhere. The new storm drainage work and water main should be shown clearly in profile view. Also, given the anticipated major increase in the volume of traffic on W Fourth St, and the increase in long-wheelbase truck traffic, we require that the awkward vertical geometry of W Fourth St near the intersection be corrected. This will likely result in a short section where the abrupt grade change is mitigated by several overlay lifts. At a minimum, the resulting K value should be appropriate for a 30 mph design speed, as the road is 25 MPH.

- Plan and profile views of the proposed West Fourth Street alignment are included on sheet CG103. West Fourth Street will be raised to better match the existing elevation of Croatan Highway.
- b. Check Note 10, GRADING AND DRANAGE NOTES.
- i. Line 5, "THE" should be "TO."
 - ii. Last sentence is probably not appropriate; most utilities rely on NC 811 to do their marking through the mandatory 811 process. Suggest referring to that process instead.
- The note was removed from the plans (CG101).
- c. Please check all grading in W Fourth St and its intersection, for continuity, accuracy and coordination with the Drainage Plan. Further review will be required on resubmittal.
- The grading of West Fourth Street was revised (CG101).
17. Drainage Plan, CG102 (check sheet numbering vs Grading Plan; odd that both are CG102)
- a. Further coordination will be required as Town Engineer continues with its design of N Croatan Highway Drainage project for the Town. In lieu of a cost-participation arrangement discussed earlier, Town will install all 36" pipe in N Croatan Hwy, and Town's project will NOT be CMP, but 36" HDPE, perforated pipe wrapped in a drainage filter fabric.
- The 36" HDPE proposed with the Town site plans is shown on the grading plan (CG101).
- b. All HDPE pipe in public RW shall be smooth inner wall and with watertight joints (ADS, "N-12", "WT" joint or approved equal.
- Note #9 was added to the grading plan (CG101).
- c. Pipe in W Fourth St may be 15" HDPE and shallower than indicated; areas west of site drain westward and not into N Croatan Hwy system.
- 15" HDPE is proposed in West Fourth Street (CG101).
- d. Several Rim elevations are obviously wrong. Please check all within the public street RW. Further review on resubmittal.
- The drainage system was revised (CG101, CG102).
- e. Rim of ST-07 on S side of W Fourth Street may be tilted, with high side to MG with stone shoulder and low side set to pick up roadside swale.

- The drainage routing was revised – this comment is no longer applicable.
 - f. On-site drainage and grading are not reviewed in detail, but seem generally satisfactory, subject to comments on drainage calculations.
 - Comment noted.
 - g. On Emergency Spillway, specify an NCDOT standard for the rip-rap. Since the ditch will now be fully piped (see 7.a above), provide for a drop inlet to be installed on the 36" HDPE being installed BY OTHERS (KDH).
 - NCDOT rip rap is proposed at the emergency spillway. A detail is provided on sheet CS507.
 - h. Several aspects of the Wawa project and the Town's project will require coordination, as they may be occurring simultaneously, or nearly so. As we move through subsequent reviews, it may be appropriate to add coordination notes. Please keep us apprised as to your estimate construction time frame.
 - Comment noted. Construction is anticipated to begin in summer of 2022.
18. Drainage Narrative, CG 103 (maybe CG104?) and Calculations
- a. Change the 2nd sentence, first paragraph under STORMWATER MANAGEMENT (and any other similar references) to read: "Kill Devil Hills requires commercial development to implement sufficient structural or infiltrative controls to manage runoff from the 10-year, 2-hour rainfall event, which by ordinance it deems to be 4.3 inches of rainfall volume. This may be simulated by using the SO-year, 2 hour event or the 25-year, 3 hour event per NOAA's Precipitation Frequency Data Server." We decline to accept a dynamical model using the 10-year, 6-hour NOAA information as it results in a 2-hour volume of only 3.18 inches at this site. Since the entire 4.3" volume is being stored, the time-pattern of arrival matters little. But we want to be on record as insisting on the "4.3 inches in 2 hours" requirement. As a note of interest, we track actual rainfall events in KDH and the NOAA PFDS seems to be understating. Hurricane Matthew in 2016 delivered 13.7" in 18 hours, of which 13.0" fell in 6 hours.
 - The drainage narrative has been revised (CD102).
19. Utility Plan, CU101
- a. Move the PS callout so it doesn't obscure the FM routing.
 - The force main routing is still being designed by the utility engineer. This information will be added to the site plan set with future submittals.

- b. Provide a profile of the Force Main, showing all required separations, and full details of construction and restoration, when the "DESIGNED BY OTHERS" plan is submitted. That submittal and its review must happen before Site Plan approval.
 - The force main routing is still being designed by the utility engineer. This information will be added to the site plan set with future submittals.
- c. Indicate the existing 6" asbestos-cement water main in W Fourth Street to be replaced with 6" Ductile Iron Pipe. Note that this work is to be done in accordance with the Kill Devil Hills Waterline Specifications. Coordinate exact location and extent with KDH Public Services.
 - The utility plan shows 292 linear feet of 6" ductile iron water main replacement (CE101, CU101).

Fire Department Comments (John Riso)

20. Water test shall be performed to determined required water for fire suppression

- We are currently coordinating the water test. Our findings will be submitted separately once the water test is performed.

21. The drive lanes shall be able to support the weight of the fire apparatus. The ladder truck weighs 75,000 lbs. and the engine weighs 45,000 lbs.

- The proposed pavement section is designed to handle the proposed load (CS506).

22. Entrance/exit drive lanes shall be marked as NO PARKING FIRE LANE

- "No parking fire lane" pavement markings are provided at the entrance and exit drive aisles.

23. At the entrance, using a template looks to be very close for the fire truck to make a clean turn into the parking lot

- A fire truck turning template is provided on the utility plan (CU101).

24. Once the project is approved the contractor shall coordinate any testing with Fire Marshal and the building inspector for the tank and pump installation

- Comment noted.

Police Department Comments (Dana Harris)

25. Is there a right of way across BB& T/Truist to fifth St.? Or a written Agreement?

- a. Part of construction is on Truist/BB&T's property, the 7 parking spots? How wide is the path of the right of way or written agreement?

- There is a proposed cross access easement on the BB&T property. The exact dimensions and location of the easement is still being negotiated. The easement will be shown on future submittals.

26. If there is a right of way or written agreement path they are planning to use, would suggest signage and pavement makings showing route to US-158 North through/to Fifth Street Stop Light on property and right of way

- There is a proposed cross access easement on the BB&T property. The exact dimensions and location of the easement is still being negotiated. The easement will be shown on future submittals.

27. Mark Pedestrian Crosswalks across both Southern Entrance/exits.

- Pedestrian crosswalks are shown on the site plan (CS101).

28. Mark a Pedestrian crosswalk across Fourth St. to connect sidewalks along US-158

- A pedestrian crosswalk is shown on the site plan (CS101).

29. Install a Bike Parking Rack

- A bike parking rack is shown on the site plan (CS101).

Please contact me at (757) 213-8600 or jeremy.yee@kimley-horn.com should you have any questions or desire additional information.

Sincerely,
KIMLEY-HORN



Jeremy Yee
Senior Project Manager



CANOPY END ELEVATION

CANOPY SIDE ELEVATION



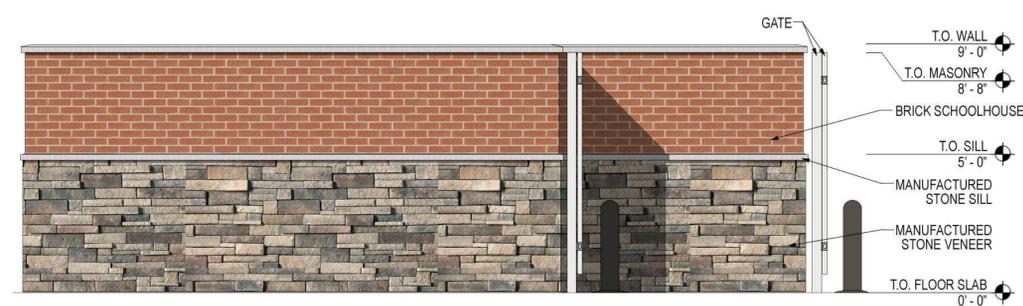
CANOPY PERSPECTIVE VIEW



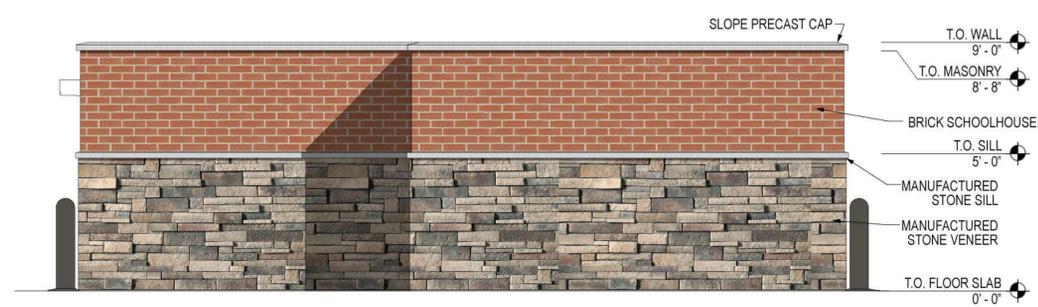
FRONT ELEVATION



RIGHT ELEVATION



LEFT ELEVATION



REAR ELEVATION



WAWA GAS CANOPY STRAIGHT 8 - TRASH COMPOUND MAOF 17-R

N. Croatan Hwy & W. 4th Street, Kill Devil Hills, NC • C&P Project #2220164 • 03-29-2022



RIGHT ELEVATION



FRONT ELEVATION, CROATAN HWY

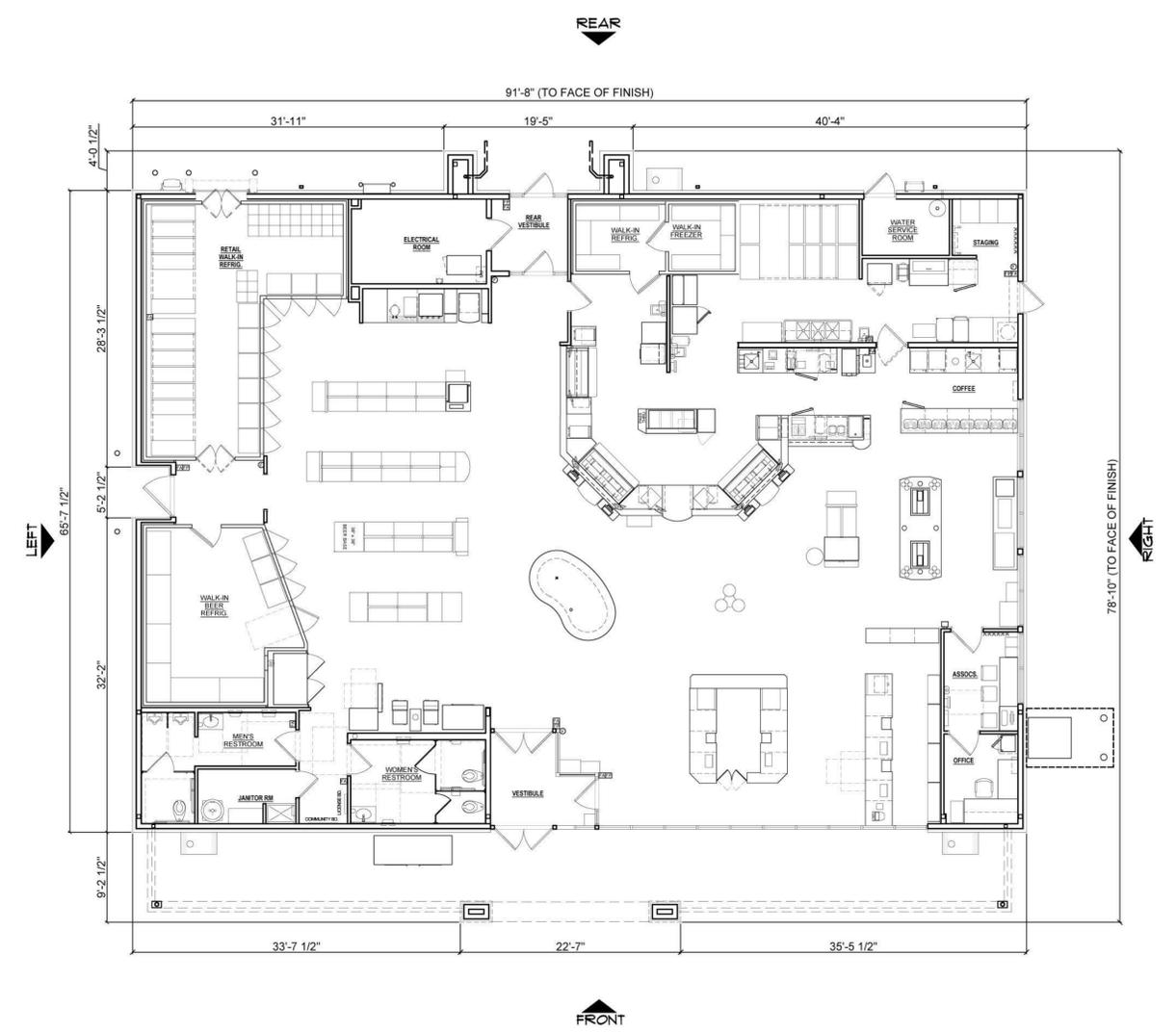


REAR ELEVATION

Roof/Parapet Cap Atas Aluminum Corp Slate Grey	Gutters/Porch/Soffits Atas Aluminum Corp Ascot White (10)
Metro Brick Fieldstone #105	Thin Brick Schoolhouse Red Metro Brick
Quality Stone Ohio Drystack Provence	Door / Frames White
Trim / Fascia White	Ice Storage SW2828 Colonial Revival Tan



LEFT ELEVATION, 4TH STREET

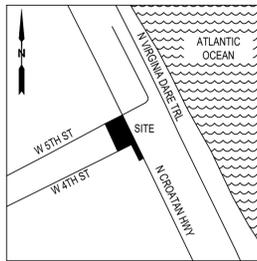


NOTE:
SIGNAGE IS SHOWN FOR REFERENCE ONLY
SEPARATE PERMIT REQUIRED

FLOOR PLAN



WAWA W50FB M VA v.21.1 - STORE #5900
N Croatan Hwy & W 4th St Kill Devil Hills, NC • C&P Project #2220164 • 03-29-2022



LOCATION MAP
SCALE: 1" = 2000'

HORIZONTAL DATUM	CITY OF KILL DEVIL HILLS, NC
DISK(S)	DURHAM
DATUM	NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NAD 83/NA2011 US SURVEY FOOT

VERTICAL DATA ESTABLISHED ON SITE VIA:
-LEVEL LOOP FROM CONTROL DISK LISTED BELOW

VERTICAL DATUM	CITY OF KILL DEVIL HILLS, NC
DISK(S)	DURHAM
DATUM	NAVD88
ELEV	9.09'

FLOOD INFORMATION INDICATED HEREON SHOULD NOT BE CONSTRUED AS A DETERMINATION OF THE NEED OR LACK OF NEED FOR FLOOD INSURANCE. PROPERTY OWNERS SHOULD CONTACT A LOCAL FLOOD OFFICIAL FOR MORE INFORMATION.
V = 1% CHANCE OF ANNUAL FLOOD WITH STORM INDUCED WAVES
AE = 1% CHANCE OF ANNUAL FLOOD
X-SHADED = 0.2% CHANCE OF ANNUAL FLOOD
X = MINIMAL FLOOD HAZARD AREA

THIS SITE APPEARS TO LIE IN FLOOD ZONE(S)	X
AS SHOWN ON F.I.R.M. MAP/PANEL #	3720988400K
PANEL DATE:	06/19/2020
NFIP COMMUNITY NAME	TOWN OF KILL DEVIL HILLS
NFIP COMMUNITY NUMBER	375393
FIRM INDEX DATE	06/19/2020

TAX ID	988406288549
OWNER(S)	MIDTOWN DEV CORP
DEED INSTRUMENT	D.B. 164, PG 169
DATED	01/26/1970
RECORDED	03/05/1970
LOCATION	DARE COUNTY REGISTER OF DEEDS
MAILING ADDRESS	3200 PACIFIC AVE STE 100, VIRGINIA BEACH, VA. 23451

MAS-LD DOES NOT CERTIFY AS TO THE ZONING DESIGNATION OF THIS SITE. FOR DETAILED ZONING INFORMATION, PLEASE CONTACT THE ZONING DEPARTMENT AT THE NUMBER LISTED BELOW

SOURCE	CITY OF DARE COUNTY GIS
ZONING DEPT. PHONE #	(252) 441-4102
FRONT SETBACK	15'
SIDE SETBACK (INTERIOR)	10'
REAR SETBACK	20'
SIDE SETBACK (CORNER)	15'

GENERAL SURVEY NOTES:

- THIS SURVEY WAS PRODUCED BY MID-ATLANTIC SURVEYING AND LAND DESIGN, INC FOR KIMLEY-HORN AND ASSOCIATES, INC.
- THIS SURVEY WAS BASED ON A COMMITMENT OF TITLE PROVIDED BY STEWART TITLE GUARANTY COMPANY. SAID STATUS OF TITLE HAVING THE FOLLOWING FILE AND DATE INFORMATION:
ORDER (COMMITMENT) NUMBER: 21000070139
EFFECTIVE DATE: 09/15/21, AT 5:00PM
- THE PROPERTY LINES SHOWN HEREON ARE BASED ON A CURRENT FIELD BOUNDARY SURVEY.
- THIS SURVEY IS NOT INTENDED TO SHOW ALL UNDERGROUND UTILITY FEATURES. IT IS THE RESPONSIBILITY OF THE OWNER OR CONTRACTOR TO CONTACT NC 811 BEFORE ANY EXCAVATION OR OTHER EARTH MOVING WORK.

SURVEY CERTIFICATION

I CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (PLAT DESCRIPTION RECORDED IN MAP BOOK 4, PAGE 33); THAT THE BOUNDARIES NOT SURVEYED ARE INDICATED AS DRAWN FROM INFORMATION IN MAP BOOK 6, PAGE 32; THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY IS >1:20,000; AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56. 1600)."

THIS 22TH DAY OF OCTOBER, 2021.

SEAL
PROFESSIONAL LAND SURVEYOR PLS # L-4629

ALTA CERTIFICATION

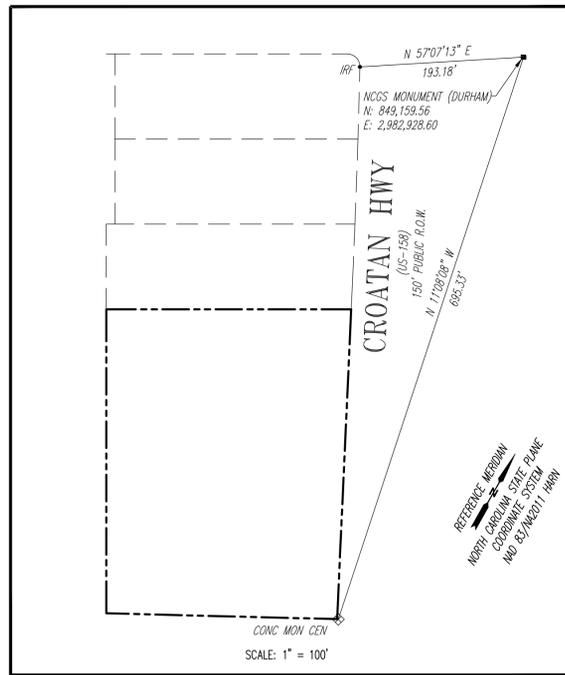
TO KIMLEY-HORN AND ASSOCIATES, STEWART TITLE GUARANTY COMPANY ARISTA KDH LLC AND WAWA, INC:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS: 1,2,3,4,6(A),6(B),7(A),8,9,10,13,16,19

OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 10-06-2021.

DATE: 10-22-2021

TIMOTHY CAMPBELL, PLS # L-4629



ABBREVIATIONS

- APPROX APPROXIMATELY
- BLDG BUILDING
- CONC CONCRETE
- D.B. DEED BOOK
- GPIN GEOREFERENCED PARCEL IDENTIFICATION NUMBER
- HARN HIGH ACCURACY REFERENCE NETWORK
- INST. INSTRUMENT
- INV INVERT
- M.B. MAP BOOK
- NF NAIL FOUND
- N/F NOW OR FORMERLY
- PG. PAGE
- PIN PARCEL IDENTIFICATION NUMBER
- S.F. SQUARE FEET

COMMUNICATIONS

- CMHH COMMUNICATIONS: HAND HOLE
- CPED COMMUNICATIONS: PEDESTAL
- CMHH COMMUNICATIONS: MANHOLE
- COMMUNICATIONS: UNDERGROUND

POWER

- LP POWER: LIGHT POLE
- LP POWER: CONDUIT
- LP POWER: LIGHT POLE: SINGLE ARM
- LP POWER: LIGHT POLE: SINGLE BOX
- EP POWER: TRANSFORMER
- EP POWER: ELECTRIC PEDESTAL
- EP POWER: GUY WIRE
- UP POWER: UTILITY POLE
- UP POWER: UTILITY POLE WITH LIGHT
- EHH POWER: ELECTRIC HANDHOLE
- EH POWER: OVERHEAD LINES
- EH POWER: UNDERGROUND

GRADE LEGEND

- CENTERLINE
- FACE OF CURB
- FLOWLINE
- TOP OF BANK
- TOP OF CURB
- TOE OF SLOPE

PROPERTY

- DHF PROPERTY: DRILL HOLE FOUND
- DHS PROPERTY: DRILL HOLE SET
- IRS PROPERTY: IRON ROD FOUND
- IRS PROPERTY: IRON ROD SET
- NF PROPERTY: NAIL FOUND
- IPF PROPERTY: IRON PIPE FOUND
- PPF PROPERTY: PINCHED PIPE FOUND
- VDH PROPERTY: VDOT MONUMENT
- PROPERTY: BOUNDARY
- PROPERTY: ADJACENT BOUNDARY
- PROPERTY: EASEMENT

FENCES

- FENCE: SILT FENCE
- FENCE: VINYL
- FENCE: WOODEN
- FENCE: METAL

LINES

- BUILDING: OVERHANG
- BUILDING: WALLS
- CONTOUR (1 FOOT INTERVALS)
- DITCH: CENTERLINE
- DITCH: TOP OF BANK
- DITCH: TOE OF SLOPE
- FLOOD ZONE LINE
- LANDSCAPING: EDGE
- PAVEMENT: ASPHALT EDGE
- PAVEMENT: GRAVEL
- VEGETATION: DRIFLINE

WATER

- WV WATER: VALVE
- WM WATER: METER
- IRR WATER: IRRIGATION
- FH WATER: FIRE HYDRANT
- SPIGOT WATER: SPIGOT
- FDC WATER: FIRE DEPARTMENT CONNECTION
- PIV WATER: POST INDICATOR VALVE
- WATER: UNDERGROUND PIPES

GAS

- GM GAS: METER
- GV GAS: VALVE
- GAS: UNDERGROUND PIPES

SCHEDULE B PART II EXCEPTIONS

- ANY DEFECT, LIEN, ENCUMBRANCE, ADVERSE CLAIM, OR OTHER MATTER THAT APPEARS FOR THE FIRST TIME IN THE PUBLIC RECORDS OR IS CREATED, ATTACHES, OR IS DISCLOSED BETWEEN THE COMMITMENT DATE AND THE DATE ON WHICH ALL OF THE SCHEDULE B, PART I REQUIREMENTS ARE MET. *NOT SURVEY RELATED.*
- STANDARD EXCEPTIONS:
 - RIGHTS OR CLAIMS OF PARTIES IN POSSESSION NOT SHOWN BY THE PUBLIC RECORDS. *NOT SURVEY RELATED.*
 - ENCROACHMENTS, OVERLAPS, BOUNDARY LINE DISPUTES OR OTHER MATTERS WHICH WOULD BE DISCLOSED BY AN ACCURATE SURVEY AND INSPECTION OF THE PREMISES. *BLANKET IN NATURE.*
 - EASEMENTS, OR CLAIMS OF EASEMENTS, NOT SHOWN BY THE PUBLIC RECORDS. *BLANKET IN NATURE.*
 - ANY LIEN, OR RIGHT TO A LIEN, FOR SERVICES, LABOR, OR MATERIAL HERETO OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY THE PUBLIC RECORDS. *NOT SURVEY RELATED.*
 - ANY TITLES OR RIGHTS ASSERTED BY ANYONE INCLUDING BUT NOT LIMITED TO, PERSONS, CORPORATIONS, GOVERNMENTS OR OTHER ENTITIES, TO TIDE LANDS, OR LANDS COMPRISING THE SHORES OR BOTTOMS OF NAVIGABLE RIVERS, LAKES, BAYS, OCEANS OR GULF, OR LANDS BEYOND THE LINE OF THE HARBOR OR BULKHEAD LINES AS ESTABLISHED OR CHANGED BY THE UNITED STATES GOVERNMENT OR WATER RIGHTS, IF ANY. *NOT SURVEY RELATED.*
 - TAXES OR SPECIAL ASSESSMENTS WHICH ARE NOT SHOWN AS EXISTING LIENS BY THE PUBLIC RECORDS. *NOT SURVEY RELATED.*

SPECIAL EXCEPTIONS:

- TAXES FOR THE YEAR 2021, WHICH ARE CURRENTLY DUE AND PAYABLE BUT NOT YET DELINQUENT, AND SUBSEQUENT YEARS. *NOT SURVEY RELATED.*
- RIGHTS OF TENANTS IN POSSESSION UNDER UNRECORDED LEASES. *NOT SURVEY RELATED.*
- ANY INACCURACY IN THE AREA, SQUARE FOOTAGE OR ACREAGE OF THE LAND OR ATTACHED PLAT, IF ANY. THE COMPANY DOES NOT INSURE THE AREA, SQUARE FOOTAGE OR ACREAGE OF THE LAND. *BLANKET IN NATURE.*
- RIGHTS OF THE PUBLIC, COUNTY, STATE OR MUNICIPALITY IN AND TO THAT PORTION OF THE LAND TAKEN OR USED FOR ROAD PURPOSES. *NOT SURVEY RELATED.*
- ANY TRUST, RIGHT, INTEREST OR CLAIM THAT MAY EXIST, ARISE OR BE ASSERTED AGAINST THE TITLE UNDER OR PURSUANT TO THE PERISHABLE AGRICULTURAL COMMODITIES ACT OF 1930, AS AMENDED, 7 U.S.C. §499A, ET SEQ., OR ANY SIMILAR STATE OR FEDERAL LAW. *NOT SURVEY RELATED.*
- ANY TRUST, RIGHT, INTEREST OR CLAIM THAT MAY EXIST, ARISE, OR BE ASSERTED AGAINST THE TITLE UNDER OR PURSUANT TO THE PACKERS AND STOCKYARD ACT OF 1921, AS AMENDED, 7 U.S.C. §181, ET SEQ., OR ANY SIMILAR STATE OR FEDERAL LAW. *NOT SURVEY RELATED.*
- MINERALS OF WHATSOEVER KIND, SUBSURFACE AND SURFACE SUBSTANCES, INCLUDING BUT NOT LIMITED TO COAL, LIGNITE, OIL, GAS, URANIUM, CLAY, ROCK, SAND AND GRAVEL IN, ON, UNDER AND THAT MAY BE PRODUCED FROM THE LAND, TOGETHER WITH ALL RIGHTS, PRIVILEGES, AND IMMUNITIES RELATING THERETO, WHETHER OR NOT APPEARING IN THE PUBLIC RECORDS OR LISTED IN SCHEDULE B. THE COMPANY MAKES NO REPRESENTATION AS TO THE PRESENT OWNERSHIP OF ANY SUCH INTERESTS. THERE MAY BE LEASES, GRANTS, EXCEPTIONS OR RESERVATIONS OF INTERESTS THAT ARE NOT LISTED. *NOT SURVEY RELATED.*
- EASEMENTS, SETBACK LINES, AND ANY OTHER MATTERS SHOWN ON PLAT(S) RECORDED IN MAP BOOK 4, PAGES 33A, 33B, & 33C; PLAT CABINET C, SLIDE 120C; AND MAP BOOK 6, PAGES 32, 32A, 32B, AND 32C, DARE COUNTY REGISTRY. *SEE ITEM 10 ON SURVEY.*
- EASEMENT AGREEMENT WITH VIRGINIA ELECTRIC AND POWER, RECORDED IN BOOK 72, PAGE 225, DARE COUNTY REGISTRY. *DOES NOT AFFECT SUBJECT PARCEL.*
- RIGHT OF WAY AGREEMENT WITH THE STATE HIGHWAY COMMISSION, RECORDED IN BOOK 84, PAGE 273, DARE COUNTY REGISTRY. *NOT SURVEY RELATED.*
- RIGHT OF WAY AGREEMENT WITH THE NORFOLK & CAROLINA TELEPHONE & TELEGRAPH COMPANY, RECORDED IN BOOK 194, PAGE 183, DARE COUNTY REGISTRY. *BLANKET IN NATURE.*
- INTENTIONALLY DELETED.
- EASEMENT AGREEMENT WITH OUTER BANKS VIDEO, INC., RECORDED IN BOOK 243, PAGE 148, DARE COUNTY REGISTRY. *SEE ITEM 15 ON SURVEY.*
- INTENTIONALLY DELETED.

NOTE: A METES AND BOUNDS DESCRIPTION OF THE PROPERTY TO BE INSURED, DRAWN PURSUANT TO A CURRENT AND ACCURATE SURVEY OF THE PROPERTY TO BE INSURED, MUST BE PROVIDED TO THE COMPANY BY A LICENSED SURVEYOR AND DEPICTED ON AN ALTA/NSPS SURVEY PRIOR TO CONSUMMATION OF TRANSACTION.

REGULATORY FLOOD PROTECTION ELEVATION (RFPE) IN SHADED X AND X ZONES WEST OF NC12, THE RFPE IS 8 FEET NAVD 1988 OR THE NATURAL GRADE ELEVATION IF THE NATURAL GRADE IS GREATER THAN 8 FEET NAVD 1988.

P.L.L.C.
T SURVEYING
301 AMBERLEY ROAD
VIRGINIA BEACH, VA 23462
PHONE: 757-606-0800 FAX: 757-557-6776



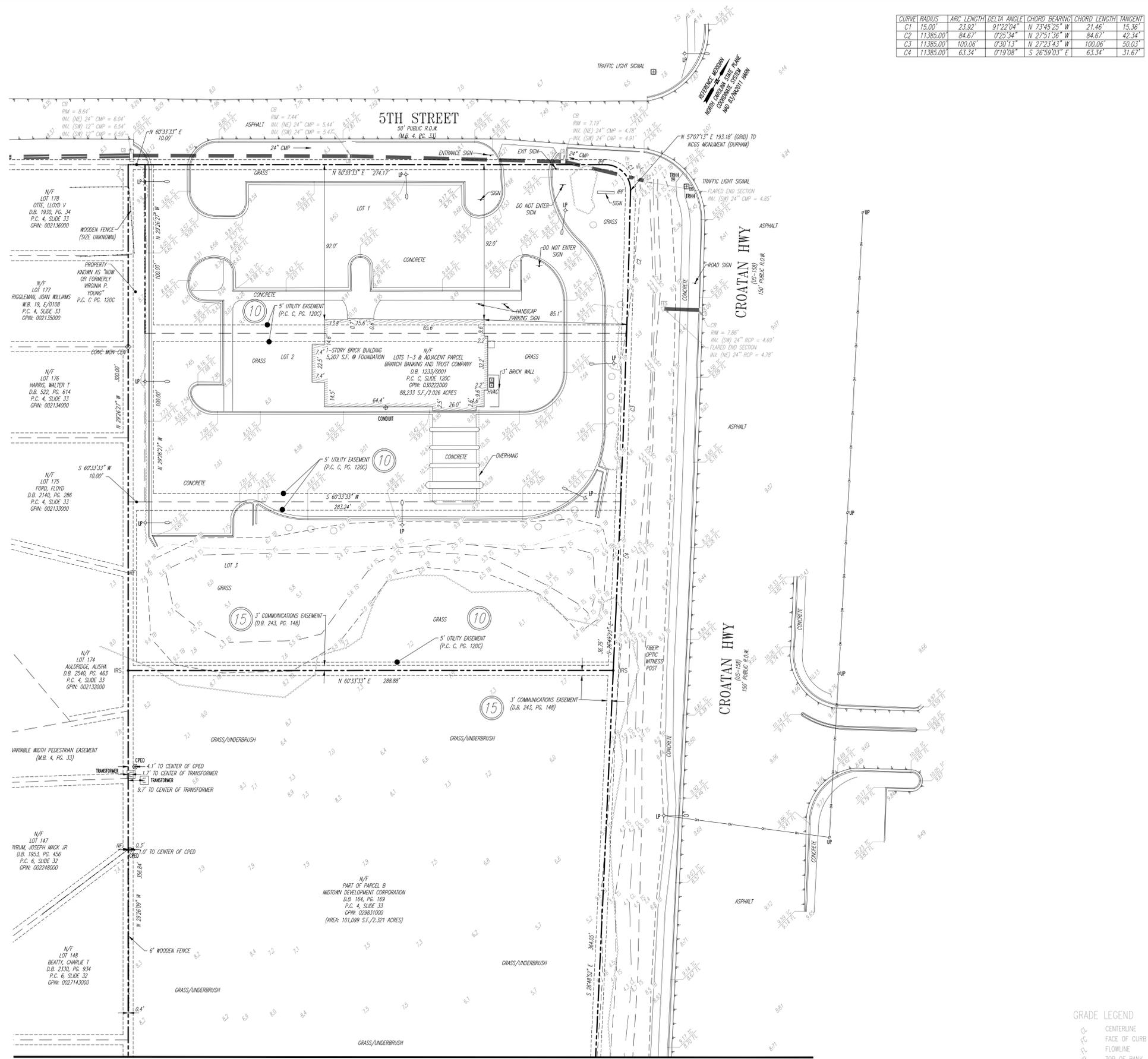
ALTA/NSPS LAND TITLE SURVEY OF PARCEL B TRACT 2 (M.B. 4, PG. 33) FOR KIMLEY-HORN AND ASSOCIATES, INC. KILL DEVIL HILLS, NORTH CAROLINA 10/22/21

PROJECT #	21239.0
FIELD BY:	MKS/JJK
FIELD DATE:	10/14/21
DRAWN BY:	NJL
CHECKED BY:	BAC

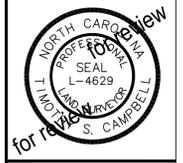
REVISIONS	BY	DATE	COMMENTS

SCALE: N/A
SHEET
1 of 3

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD LENGTH	TANGENT
C1	15.00'	23.92'	91°22'04"	N 73°45'25" W	21.46'	15.36'
C2	11385.00'	84.67'	0°25'34"	N 27°51'36" W	84.67'	42.34'
C3	11385.00'	100.06'	0°30'13"	N 27°23'43" W	100.06'	50.03'
C4	11385.00'	63.34'	0°19'08"	S 26°59'03" E	63.34'	31.67'



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 - CMH COMMUNICATIONS: MANHOLE
 - COMMUNICATIONS: UNDERGROUND
- CONTROL**
- TBM CONTROL: TRAVERSE POINT
 - CONTROL: TEMPORARY BENCHMARK
- FENCES**
- FENCE: SILT FENCE
 - FENCE: VINYL
 - FENCE: WOODEN
 - FENCE: METAL
- GAS**
- GM GAS: METER
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 - GAS: UNDERGROUND PIPES
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 - POWER: UNDERGROUND
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 - DHS PROPERTY: DRILL HOLE SET
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 - IRS PROPERTY: IRON ROD SET
 - NF PROPERTY: NAIL FOUND
 - IPF PROPERTY: IRON PIPE FOUND
 - PPF PROPERTY: PINCHED PIPE FOUND
 - VDH PROPERTY: VDOT MONUMENT
 - PROPERTY: BOUNDARY
 - PROPERTY: ADJACENT BOUNDARY
 - PROPERTY: EASEMENT
- SANITARY**
- SMH SANITARY: MANHOLE
 - CO SANITARY: CLEANOUT
 - SANITARY: PIPES
- SITE**
- SIGN SIGN
 - BOLLARD BOLLARD
- STORM**
- SMH STORM: MANHOLE
 - CDI STORM: CURB DROP INLET
 - CB STORM: CATCH BASIN
 - RD STORM: ROOF DRAIN
 - STORM: PIPES
- TRAFFIC**
- TRHH TRAFFIC: BOX
 - TRPED TRAFFIC: PEDESTAL
 - TRM TRAFFIC: MANHOLE
- WATER**
- WV WATER: VALVE
 - WM WATER: METER
 - IRR WATER: IRRIGATION
 - FH WATER: FIRE HYDRANT
 - WATER: SPIGOT
 - FDC WATER: FIRE DEPARTMENT CONNECTION
 - WATER: POST INDICATOR VALVE
 - WATER: UNDERGROUND PIPES
- LINES**
- BUILDING: OVERHANG
 - BUILDING: WALLS
 - CONTOUR (1 FOOT INTERVALS)
 - DITCH: CENTERLINE
 - DITCH: TOP OF BANK
 - DITCH: TOE OF SLOPE
 - FLOOD ZONE LINE
 - LANDSCAPING: EDGE
 - PAVEMENT: ASPHALT EDGE
 - PAVEMENT: GRAVEL
 - VEGETATION: DRIFLINE
- GRADE LEGEND**
- CENTERLINE
 - FACE OF CURB
 - FLOWLINE
 - TOP OF BANK
 - TOP OF CURB
 - TOE OF SLOPE



ALTAIRNSPS LAND TITLE SURVEY
 OF
 PARCEL B TRACT 2 (M.B. 4, PG. 33)
 FOR
 KIMLEY-HORN AND ASSOCIATES, INC.
 KILL DEVIL HILLS, NORTH CAROLINA
 10/22/21

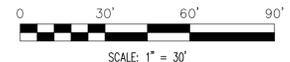
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FIELD DATE:	10/4/21
DRAWN BY:	NJL
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REVISIONS	NO.	DATE	COMMENTS

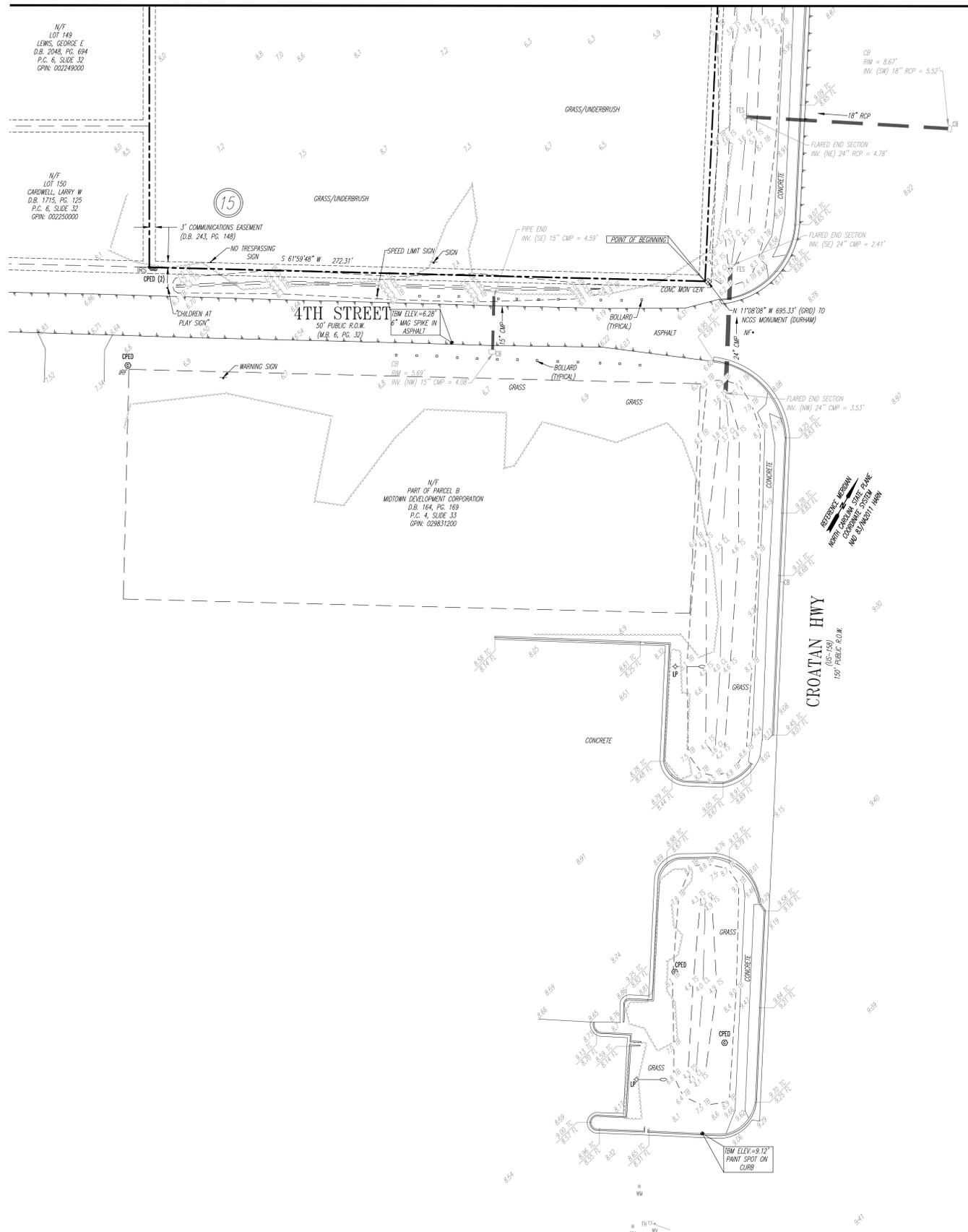
SCALE: 1" = 30'

SHEET
2 of 3

MATCHLINE A (SEE SHEET 1)



MATCHLINE A (SEE SHEET 1)



ABBREVIATIONS

- | | |
|--------|--|
| APPROX | APPROXIMATELY |
| BLDG | BUILDING |
| CONC | CONCRETE |
| D.B. | DEED BOOK |
| GPIN | GEOREFERENCED PARCEL IDENTIFICATION NUMBER |
| HARN | HIGH ACCURACY REFERENCE NETWORK |
| INST. | INSTRUMENT |
| INV | INVERT |
| M.B. | MAP BOOK |
| NF | NAIL FOUND |
| N/F | NOW OR FORMERLY |
| PG. | PAGE |
| FIN | PARCEL IDENTIFICATION NUMBER |
| S.F. | SQUARE FEET |

COMMUNICATIONS

- | | |
|------|-----------------------------|
| CMH | COMMUNICATIONS: HAND HOLE |
| CPED | COMMUNICATIONS: PEDESTAL |
| CMH | COMMUNICATIONS: MANHOLE |
| | COMMUNICATIONS: UNDERGROUND |

CONTROL

- | | |
|-----|------------------------------|
| TBM | CONTROL: TRAVERSE POINT |
| | CONTROL: TEMPORARY BENCHMARK |

FENCES

- | | |
|--|-------------------|
| | FENCE: SILT FENCE |
| | FENCE: VINYL |
| | FENCE: WOODEN |
| | FENCE: METAL |

GAS

- | | |
|----|------------------------|
| GM | GAS: METER |
| GV | GAS: VALVE |
| | GAS: UNDERGROUND PIPES |

POWER

- | | |
|------|--------------------------------|
| LP | POWER: LIGHT POLE |
| | POWER: CONDUIT |
| LP | POWER: LIGHT POLE: SINGLE ARM |
| LP | POWER: LIGHT POLE: SINGLE BOX |
| EP | POWER: TRANSFORMER |
| | POWER: ELECTRIC PEDESTAL |
| | POWER: GUY WIRE |
| UP | POWER: UTILITY POLE |
| UPLT | POWER: UTILITY POLE WITH LIGHT |
| EHW | POWER: ELECTRIC HANDHOLE |
| | POWER: OVERHEAD LINES |
| | POWER: UNDERGROUND |

PROPERTY

- | | |
|-----|------------------------------|
| DHF | PROPERTY: DRILL HOLE FOUND |
| DHS | PROPERTY: DRILL HOLE SET |
| IRF | PROPERTY: IRON ROD FOUND |
| IRS | PROPERTY: IRON ROD SET |
| NF | PROPERTY: NAIL FOUND |
| IPF | PROPERTY: IRON PIPE FOUND |
| PPF | PROPERTY: PINCHED PIPE FOUND |
| VDH | PROPERTY: VDOT MONUMENT |
| | PROPERTY: BOUNDARY |
| | PROPERTY: ADJACENT BOUNDARY |
| | PROPERTY: EASEMENT |

SANITARY

- | | |
|-----|--------------------|
| SMH | SANITARY: MANHOLE |
| CO | SANITARY: CLEANOUT |
| | SANITARY: PIPES |

SITE

- | | |
|--|---------|
| | SIGN |
| | BOLLARD |

STORM

- | | |
|-----|------------------------|
| SMH | STORM: MANHOLE |
| CD | STORM: CURB DROP INLET |
| CB | STORM: CATCH BASIN |
| RD | STORM: ROOF DRAIN |
| | STORM: PIPES |

TRAFFIC

- | | |
|------|-------------------|
| TRH | TRAFFIC: BOX |
| TRPD | TRAFFIC: PEDESTAL |
| TRM | TRAFFIC: MANHOLE |

WATER

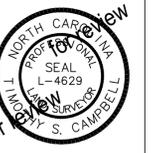
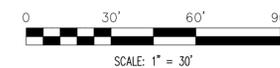
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|--------|-----------------------------------|
| WV | WATER: VALVE |
| WM | WATER: METER |
| IRR | WATER: IRRIGATION |
| FH | WATER: FIRE HYDRANT |
| SPIGOT | WATER: SPIGOT |
| FDC | WATER: FIRE DEPARTMENT CONNECTION |
| PV | WATER: POST INDICATOR VALVE |
| | WATER: UNDERGROUND PIPES |

LINES

- | | |
|--|----------------------------|
| | BUILDING: OVERHANG |
| | BUILDING: WALLS |
| | CONTOUR (1 FOOT INTERVALS) |
| | DITCH: CENTERLINE |
| | DITCH: TOP OF BANK |
| | DITCH: TOE OF SLOPE |
| | FLOOD ZONE LINE |
| | LANDSCAPING: EDGE |
| | PAVEMENT: ASPHALT EDGE |
| | PAVEMENT: GRAVEL |
| | VEGETATION: DRIPLINE |

GRADE LEGEND

- | | |
|--|--------------|
| | CENTERLINE |
| | FACE OF CURB |
| | FLOWLINE |
| | TOP OF BANK |
| | TOP OF CURB |
| | TOE OF SLOPE |



ALTANSPS LAND TITLE SURVEY
OF
PARCEL B TRACT 2 (M.B. 4, PG. 33)
FOR
KIMLEY-HORN AND ASSOCIATES, INC.
KILL DEVIL HILLS, NORTH CAROLINA
102221

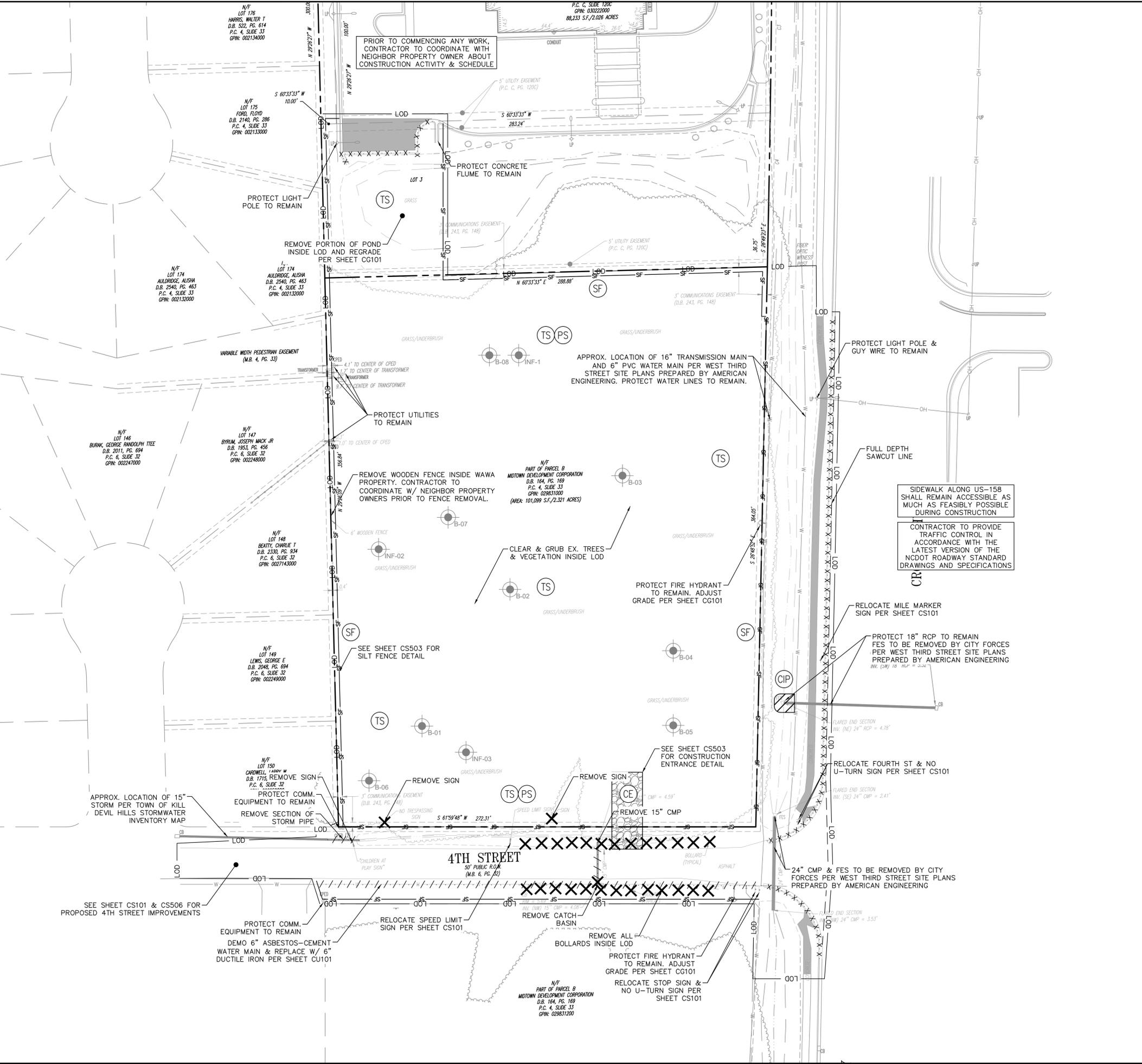
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FIELD DATES:	10/4-6-21
DRAWN BY:	NJL
CHECKED BY:	BAC

REVISIONS	NO.	DATE	COMMENTS

SCALE: 1" = 30'

SHEET
3 of 3

Plotted By: Shovelw. Nodden - Sheet: Kill Devil Hills - Layout: CE101 - April 05, 2022 11:13:28am - K:\VAD-Civil\WAWA\16543032 - Wawa - n. creation & w. 4th CAD\plan\sheet\CE101 - DEMOLITION AND E&S PLAN.dwg
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- ### DEMOLITION AND E&S NOTES
1. THE DEMOLITION AND EROSION CONTROL PLAN IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION AND FOR THE DEMOLITION, REMOVAL, OR RELOCATIONS OF ITEMS IN CONFLICT WITH THE PROPOSED CONSTRUCTION.
 2. REMOVE ALL EXISTING ITEMS WITHIN THE LIMITS OF DISTURBANCE UNLESS OTHERWISE INDICATED INCLUDING UNDERGROUND UTILITIES, PAVING, UNDERGROUND STORAGE TANKS, AND ANY OTHER EXISTING IMPROVEMENTS.
 3. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES REGARDING REMOVAL/DISCONNECTION OF UTILITY LINES TO ENSURE SERVICES TO OTHER PROPERTIES ARE NOT INTERRUPTED. CONTRACTOR TO FOLLOW UTILITY SAFETY AND OSHA REGULATIONS.
 4. CONTRACTOR SHALL MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING THE COURSE OF CONSTRUCTION.
 5. THE CONTRACTOR SHALL APPLY PERMANENT SOIL STABILIZATION TO ALL DENUDED OR DISTURBED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY STABILIZATION SHALL BE APPLIED TO ANY DISTURBED AREAS WHICH MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 14 DAYS. SOIL STABILIZATION MEASURES INCLUDE VEGETATIVE ESTABLISHMENT AND MULCHING.
 6. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH, AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND/OR FEDERAL REGULATIONS GOVERNING SUCH REGULATIONS.
 7. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
 8. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48-HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

DEMOLITION AND E&S LEGEND

STD. & SPEC	MEASURE	CALLOUT	SYMBOL
6.06	CONSTRUCTION ENTRANCE	CE	
6.62	SILT FENCE	SF	
6.55	CULVERT INLET PROTECTION	CIP	
6.10	TEMPORARY SEEDING	TS	
6.11	PERMANENT SEEDING	PS	

WAWA - KILL DEVIL HILLS
 PREPARED FOR
**ARISTA DEVELOPMENT,
 LLC**

KILL DEVIL HILLS
 NORTH CAROLINA

**DEMOLITION &
 EROSION AND
 SEDIMENT CONTROL**

KHA PROJECT
 116673001

DATE
 04/05/2022

SCALE
 AS SHOWN

DESIGNED BY
 AMBIE

DRAWN BY
 AMBIE

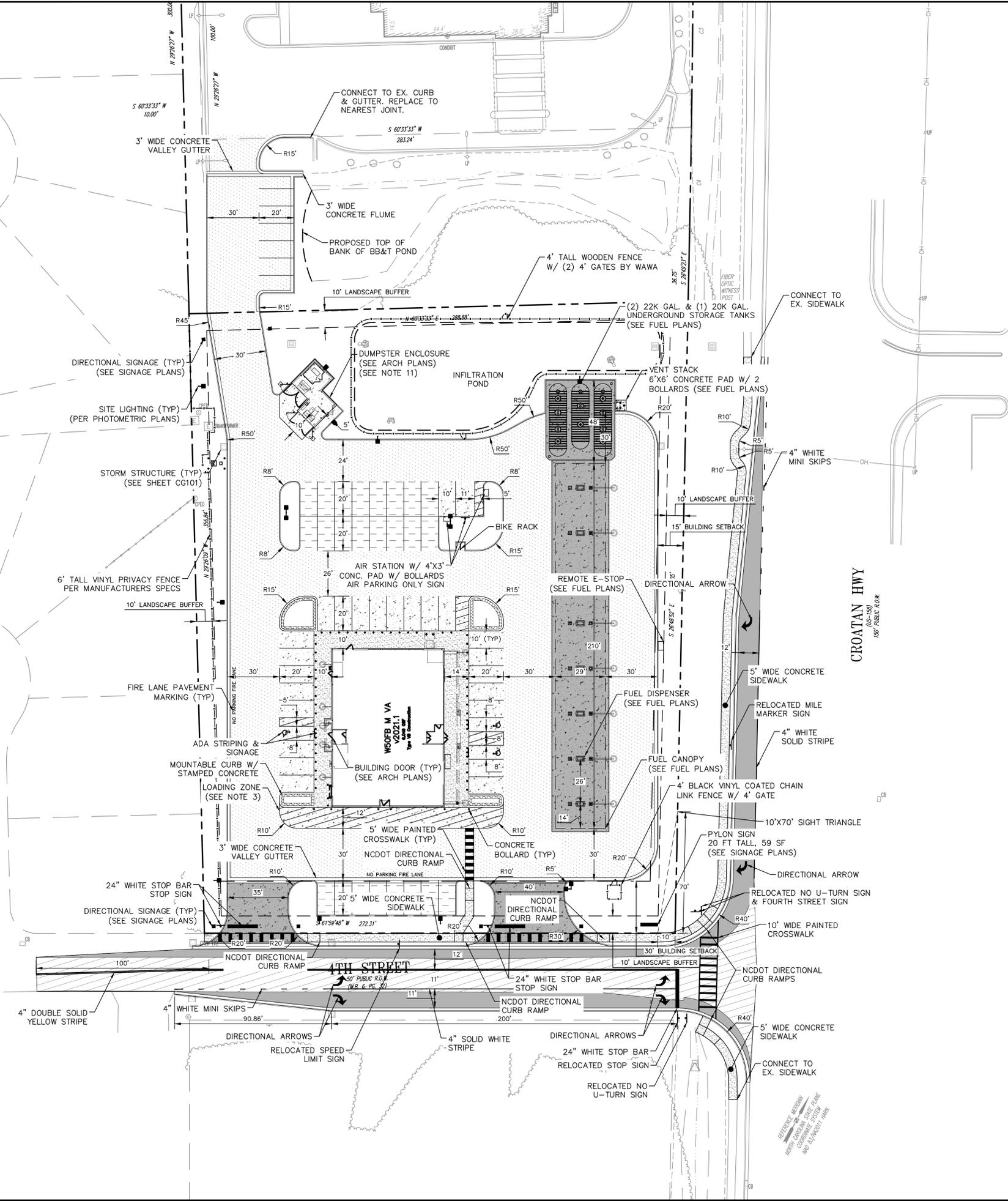
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 JYUJ

SHEET NUMBER
CE101

GRAPHIC SCALE IN FEET

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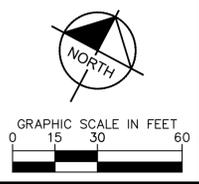
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- ### SITE NOTES
- ALL CURB RADII ARE 3.0' UNLESS OTHERWISE NOTED.
 - ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 - LOADING ZONE STRIPING SHALL BE PAINTED 4" SINGLE YELLOW SOLID LINE AT 2'-0" O.C. 45° TO THE DRIVE AISLE.
 - TWO COATS YELLOW TRAFFIC PAINT (4" MIN. WIDTH) REQUIRED FOR ONSITE PAVEMENT STRIPING EXCEPT TWO COATS BLUE TRAFFIC PAINT SHALL BE USED FOR ACCESSIBLE PARKING AREA (18" LETTERS, 2" PAINT STROKE).
 - ALL STRIPING IN RIGHT-OF-WAY TO BE THERMOPLASTIC IN ACCORDANCE WITH NCDOT STANDARDS.
 - PROPOSED CONCRETE PADS TO HAVE 2 FT X 2 FT CHAMFERED CORNERS.
 - ALL LIGHTING TO BE INSTALLED 5' BEHIND CURB AND CENTERED ON PAVEMENT STRIPING UNLESS OTHERWISE NOTED.
 - TYING TO EXISTING CURB/GUTTER: THE EXISTING PAVEMENT SHALL BE NEATLY SAWCUT AND REMOVED FOR A DISTANCE OF 2'-0" FROM THE FACE OF CURB AND 2'-0" FROM THE EDGE OF CURB AND GUTTER AND THE SUBGRADE, BASE COURSE, AND PAVING REPLACED WITH NEW PRODUCTS.
 - REFER TO SHEETS CS501 - CS502 FOR WAWA STANDARD DETAILS. SEE SHEETS CS503 - CS507 FOR CONSTRUCTION DETAILS.
 - PROVIDE MILLED BUTT JOINTS ON EXISTING PAVEMENTS AT OVERLAY TRANSITIONS.
 - DUMPSTER SHALL BE SERVICED BY A PRIVATE HAULER.

SITE LEGEND

WAWA ASPHALT PAVEMENT (SEE SHEET CS506)	
STANDARD DUTY CONCRETE PAVEMENT (SEE SHEET CS506)	
HEAVY DUTY CONCRETE PAVEMENT (SEE SHEET CS506)	
CONCRETE SIDEWALK (SEE SHEET CS502 FOR ONSITE, CS506 FOR OFFSITE)	
PERVIOUS CONCRETE PAVEMENT (SEE SHEET CS506)	
ASPHALT PAVEMENT IN RIGHT-OF-WAY (SEE SHEET CS506)	
FOURTH ST IMPROVEMENTS (SEE SHEET CS506 FOR SECTIONS)	
2'-6" CURB & GUTTER (SEE SHEET CG101 FOR REVERSE VS REGULAR)	
6" CURB	
PROPERTY LINE	



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 WWW.KIMLEY-HORN.COM

DATE: _____ BY: _____
 REVISIONS: _____
 No. _____

KHA PROJECT: 1166573001
 DATE: 04/05/2022
 SCALE: AS SHOWN
 DESIGNED BY: AMBIE
 DRAWN BY: AMBIE
 CHECKED BY: JYUJ

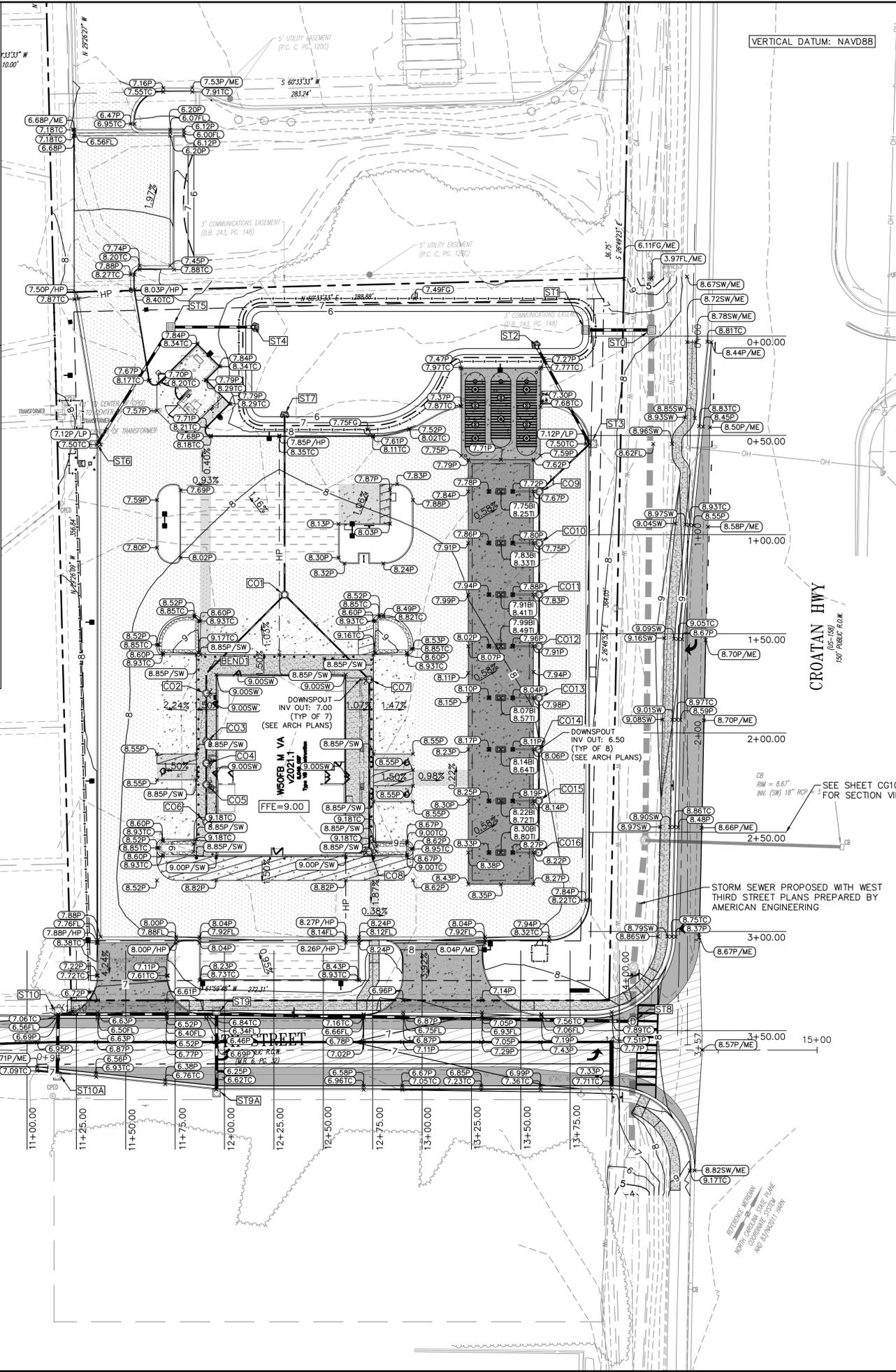
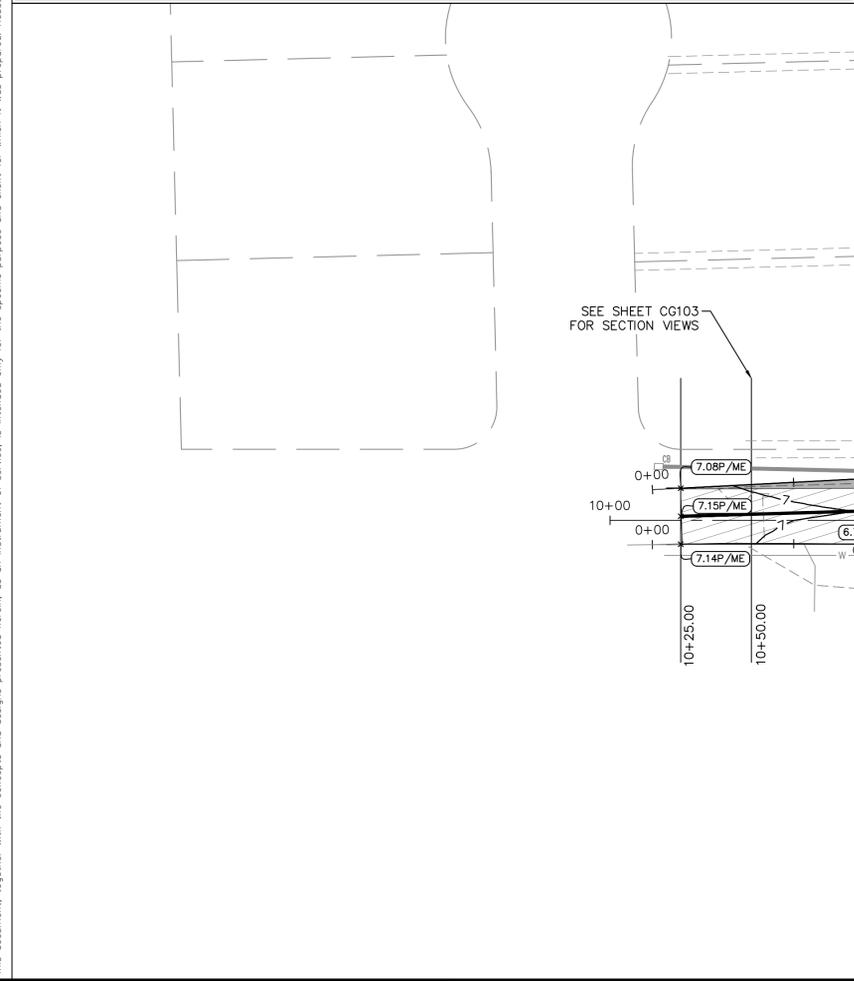
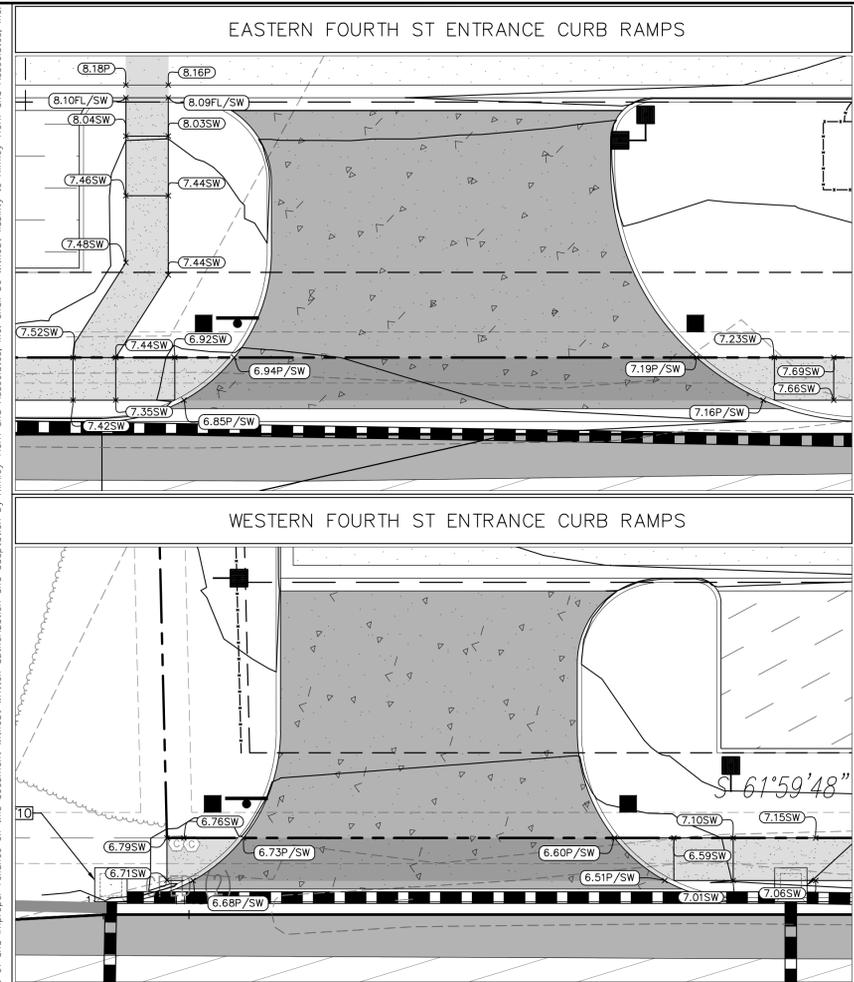
SITE PLAN

WAWA - KILL DEVIL HILLS
 PREPARED FOR
ARISTA DEVELOPMENT, LLC

NORTH CAROLINA
 KILL DEVIL HILLS

SHEET NUMBER
CS101

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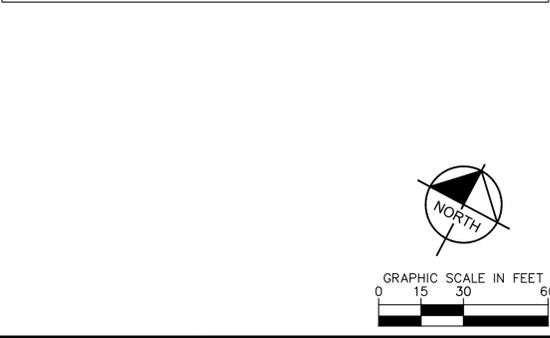


- ### GRADING AND DRAINAGE NOTES
1. ADA ACCESSIBLE SPACES SHALL HAVE A MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS.
 2. ALL PROPOSED SIDEWALKS AROUND THE BUILDING AND ALONG THE PROPERTY FRONTAGES SHALL HAVE A MAXIMUM 2.0% CROSS SLOPE AND 5.0% LONG SLOPE.
 3. PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
 4. CONTRACTOR TO VERIFY DEPTH OF EXISTING UNDERGROUND UTILITIES AND NOTIFY KIMLEY-HORN IF ANY CONFLICTS EXIST.
 5. LIMITS OF WORK BETWEEN WAWA AND OWNER PER DIVISION OF WORK.
 6. ALL CLEANOUTS ARE TO BE TRAFFIC RATED.
 7. COUNTER SLOPE AT GUTTER PAN ALONG RAMPS NOT TO EXCEED 5%.
 8. ALL DOORS ARE REQUIRED TO HAVE ADA COMPLIANT ACCESS.
 9. ALL HDPE PIPE IN PUBLIC RIGHT-OF-WAY SHALL BE SMOOTH INNER WALL AND WITH WATERTIGHT JOINTS (ADS, N-12, WT OR APPROVAL EQUAL).
 10. APPROXIMATELY 4,090 CF OF FILL PROPOSED. QUANTITY IS ESTIMATED AND NOT TO BE USED FOR BIDDING.
 11. ALL PROPOSED DROP INLETS LOCATED IN THE TOWN RIGHT-OF-WAY SHALL HAVE CAPITOL FOUNDARY 24"X36" PED PEDESTRIAN GRATE WITH 3" MAXIMUM OPENING.

GRADING AND DRAINAGE LEGEND

PROPOSED CONTOUR	---
EXISTING CONTOUR	- - - -
FLOW LINE	→ → → →
HIGH POINT	--- HP ---
PAVEMENT ELEVATION	P
FLOWLINE ELEVATION	FL
TOP OF CURB ELEVATION	TC
FINISHED FLOOR ELEVATION	FFE
SIDEWALK ELEVATION	SW
FINISHED GROUND ELEVATION	FG
TOP OF ISLAND ELEVATION	TI
RIM ELEVATION	RIM
INVERT ELEVATION	INV
ADA ACCESSIBLE AREAS (FOR REFERENCE ONLY)	[Shaded Box]
WAWA LIMITS OF WORK (SEE NOTE 5)	~~~~~

- ### INFILTRATION POND MAINTENANCE PLAN
1. THE DRAINAGE AREA SHALL BE CAREFULLY MANAGED TO REDUCE THE SEDIMENT LOAD TO THE INFILTRATION BASIN.
 2. NO PORTION OF THE INFILTRATION BASIN SHALL BE FERTILIZED AFTER THE INITIAL FERTILIZATION THAT IS REQUIRED TO ESTABLISH THE VEGETATION. LIME MAY BE ALLOWED IF VEGETATION IS PLANTED ON THE SURFACE OF THE INFILTRATION SYSTEM AND A SOIL TEST SHOWS THAT IT IS NEEDED.
 3. THE OWNER IS TO ENSURE THE VEGETATION IN AND AROUND BASIN IS MAINTAINED AT A HEIGHT OF FOUR TO SIX INCHES.
 4. AFTER THE INFILTRATION BASIN IS ESTABLISHED, THE OWNER IS RESPONSIBLE FOR INSPECTING IT ONCE A QUARTER AND WITHIN 24 HOURS AFTER EVERY STORM EVENT GREATER THAN 1.5 INCHES. RECORDS OF OPERATION AND MAINTENANCE MUST BE KEPT IN A KNOWN LOCATION AND SHALL BE AVAILABLE UPON REQUEST.
 5. THE OWNER IS RESPONSIBLE FOR ENSURING THAT INSPECTION ACTIVITIES ARE PERFORMED IN ACCORDANCE WITH TABLE 2 OF THE NCDQ STORMWATER DESIGN MANUAL CHAPTER C-1 INFILTRATION SYSTEMS. THE OWNER SHALL ENSURE THAT ANY PROBLEMS THAT ARE FOUND MUST BE REPAIRED IMMEDIATELY.



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PREPARED FOR
ARISTA DEVELOPMENT,
LLC

KILL DEVIL HILLS
NORTH CAROLINA

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0 15 30 60

SHEET NUMBER
CG101

Plotted By: Shovelis, Nadsen Sheet Set: WAWA - KILL DEVIL HILLS - Layout: CG102 April 05, 2022 11:14:35am K:\vab-civil\WAWA\116543032 - wawa - n. craction & w. 4th\CADD\plansheets\CG102 - GRADING AND DRAINAGE PLAN.dwg
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STORM DRAIN STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
BEND1	45 DEG BEND INV IN: 6.24 INV OUT: 6.24	FROM C02, 6" PVC INV IN: 6.24 @ 0.50%	TO C01, 6" PVC INV OUT: 6.24 @ 0.50%
C01	6" STORM CO RIM: 8.57 INV IN: 5.96 INV IN: 5.96 INV OUT: 5.96	FROM BEND1, 6" PVC INV IN: 5.96 @ 0.50% FROM C07, 6" PVC INV IN: 5.96 @ 0.50%	TO ST7, 6" PVC INV OUT: 5.96 @ 0.50%
C02	6" STORM CO RIM: 8.93 INV IN: 6.29 INV OUT: 6.29	FROM C03, 6" PVC INV IN: 6.29 @ 0.50%	TO BEND1, 6" PVC INV OUT: 6.29 @ 0.50%
C03	6" STORM CO RIM: 8.93 INV IN: 6.41 INV OUT: 6.41	FROM C04, 6" PVC INV IN: 6.41 @ 0.50%	TO C02, 6" PVC INV OUT: 6.41 @ 0.50%
C04	6" STORM CO RIM: 8.92 INV IN: 6.46 INV OUT: 6.46	FROM C05, 6" PVC INV IN: 6.46 @ 0.50%	TO C03, 6" PVC INV OUT: 6.46 @ 0.50%
C05	6" STORM CO RIM: 8.92 INV IN: 6.52 INV OUT: 6.52	FROM C06, 6" PVC INV IN: 6.52 @ 0.50%	TO C04, 6" PVC INV OUT: 6.52 @ 0.50%
C06	6" STORM CO RIM: 8.93 INV OUT: 6.61		TO C05, 6" PVC INV OUT: 6.61 @ 0.50%
C07	6" STORM CO RIM: 8.87 INV IN: 6.26 INV OUT: 6.26	FROM C08, 6" PVC INV IN: 6.26 @ 0.50%	TO C01, 6" PVC INV OUT: 6.26 @ 0.50%
C08	6" STORM CO RIM: 9.10 INV OUT: 6.69		TO C07, 6" PVC INV OUT: 6.69 @ 0.50%
C09	6" STORM CO RIM: 7.62 INV IN: 5.77 INV OUT: 5.77	FROM C010, 6" PVC INV IN: 5.77 @ 0.30%	TO ST3, 6" PVC INV OUT: 5.77 @ 0.30%
C010	6" STORM CO RIM: 7.70 INV IN: 5.85 INV OUT: 5.85	FROM C011, 6" PVC INV IN: 5.85 @ 0.30%	TO C09, 6" PVC INV OUT: 5.85 @ 0.30%
C011	6" STORM CO RIM: 7.78 INV IN: 5.93 INV OUT: 5.93	FROM C012, 6" PVC INV IN: 5.93 @ 0.30%	TO C010, 6" PVC INV OUT: 5.93 @ 0.30%
C012	6" STORM CO RIM: 7.86 INV IN: 6.01 INV OUT: 6.01	FROM C013, 6" PVC INV IN: 6.01 @ 0.30%	TO C011, 6" PVC INV OUT: 6.01 @ 0.30%
C013	6" STORM CO RIM: 7.94 INV IN: 6.09 INV OUT: 6.09	FROM C014, 6" PVC INV IN: 6.09 @ 0.30%	TO C012, 6" PVC INV OUT: 6.09 @ 0.30%
C014	6" STORM CO RIM: 8.01 INV IN: 6.16 INV OUT: 6.16	FROM C015, 6" PVC INV IN: 6.16 @ 0.30%	TO C013, 6" PVC INV OUT: 6.16 @ 0.30%
C015	6" STORM CO RIM: 8.09 INV IN: 6.24 INV OUT: 6.24	FROM C016, 6" PVC INV IN: 6.24 @ 0.30%	TO C014, 6" PVC INV OUT: 6.24 @ 0.30%
C016	6" STORM CO RIM: 8.17 INV OUT: 6.32		TO C015, 6" PVC INV OUT: 6.32 @ 0.30%
ST0	DROP INLET RIM: 7.71 INV IN: 3.90	FROM ST1, 15" HDPE INV IN: 3.90 @ 0.30%	
ST1	DROP INLET RIM: 6.75 INV OUT: 4.00		TO ST0, 15" HDPE INV OUT: 4.00 @ 0.30%
ST2	12" FES INV IN: 5.50	FROM ST3, 12" HDPE INV IN: 5.50 @ 0.30%	

STORM DRAIN STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
ST3	CURB INLET RIM: 7.50 INV IN: 5.67 INV OUT: 5.67	FROM C09, 6" PVC INV IN: 5.67 @ 0.30%	TO ST2, 12" HDPE INV OUT: 5.67 @ 0.30%
ST4	12" FES INV IN: 5.50	FROM ST5, 12" HDPE INV IN: 5.50 @ 0.30%	
ST5	12" NYLOPLAST DRAIN BASIN RIM: 8.23 INV IN: 5.63 INV OUT: 5.63	FROM ST6, 12" HDPE INV IN: 5.63 @ 0.30%	TO ST4, 12" HDPE INV OUT: 5.63 @ 0.30%
ST6	CURB INLET RIM: 7.50 INV OUT: 5.84		TO ST5, 12" HDPE INV OUT: 5.84 @ 0.30%
ST7	PIPE END INV IN: 5.50	FROM C01, 6" PVC INV IN: 5.50 @ 0.50%	
ST8	MANHOLE RIM: 7.69 INV IN: 2.72	FROM ST9, 15" HDPE INV IN: 2.72 @ 0.30%	
ST9	CURB INLET RIM: 6.86 INV IN: 3.35 INV IN: 3.35 INV OUT: 3.35	FROM ST10, 15" HDPE INV IN: 3.35 @ 0.30% FROM ST9A, 15" HDPE INV IN: 3.35 @ 0.30%	TO ST8, 15" HDPE INV OUT: 3.35 @ 0.30%
ST9A	CURB INLET RIM: 6.62 INV OUT: 3.47		TO ST9, 15" HDPE INV OUT: 3.47 @ 0.30%
ST10	CURB INLET INV OUT: 4.64 (ME) RIM: 7.06 INV IN: 3.59 INV OUT: 3.59	FROM ST10A, 15" HDPE INV IN: 3.59 @ 0.30%	TO ST9, 15" HDPE INV OUT: 3.59 @ 0.30%
ST10A	CURB INLET RIM: 7.03 INV OUT: 3.68		TO ST10, 15" HDPE INV OUT: 3.68 @ 0.30%

STORM DRAIN PIPE TABLE

START STRUCTURE	END STRUCTURE	SIZE	LENGTH	SLOPE	MATERIAL
C02	BEND1	6"	10'	0.50%	PVC
C07	C01	6"	61'	0.50%	PVC
BEND1	C01	6"	56'	0.50%	PVC
C03	C02	6"	24'	0.50%	PVC
C04	C03	6"	11'	0.50%	PVC
C05	C04	6"	11'	0.50%	PVC
C06	C05	6"	19'	0.50%	PVC
C08	C07	6"	87'	0.50%	PVC
C010	C09	6"	26'	0.30%	PVC
C011	C010	6"	26'	0.30%	PVC
C012	C011	6"	26'	0.30%	PVC
C013	C012	6"	26'	0.30%	PVC
C014	C013	6"	26'	0.30%	PVC
C015	C014	6"	26'	0.30%	PVC
C016	C015	6"	26'	0.30%	PVC
ST1	ST0	15"	33'	0.30%	HDPE
ST3	ST2	12"	56'	0.30%	HDPE
C09	ST3	6"	35'	0.30%	PVC
ST5	ST4	12"	42'	0.30%	HDPE
ST6	ST5	12"	70'	0.30%	HDPE

STORM DRAIN PIPE TABLE

START STRUCTURE	END STRUCTURE	SIZE	LENGTH	SLOPE	MATERIAL
C01	ST7	6"	91'	0.50%	PVC
ST9	ST8	15"	211'	0.30%	HDPE
ST9A	ST9	15"	38'	0.30%	HDPE
ST10	ST9	15"	80'	0.30%	HDPE
ST10A	ST10	15"	30'	0.30%	HDPE

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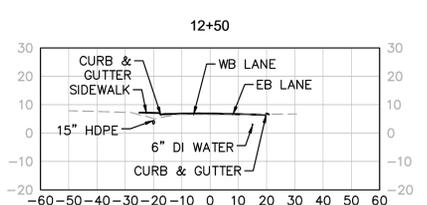
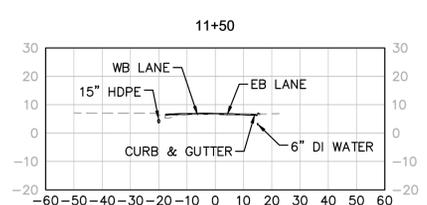
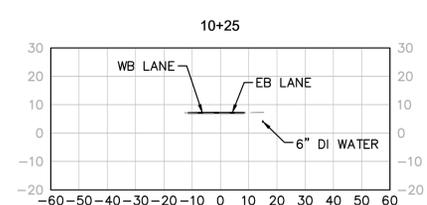
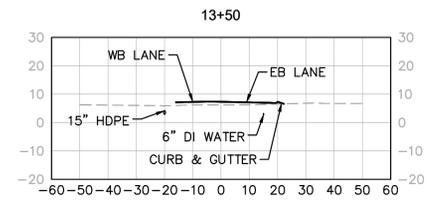
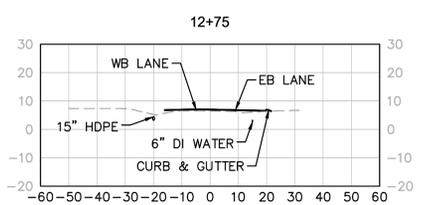
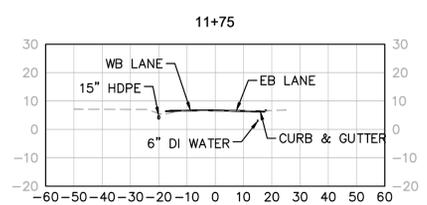
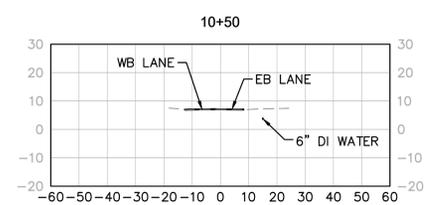
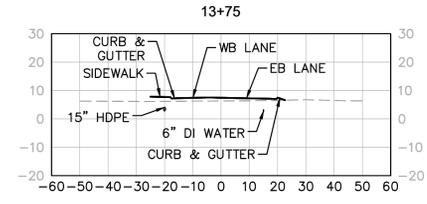
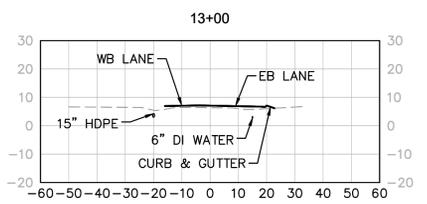
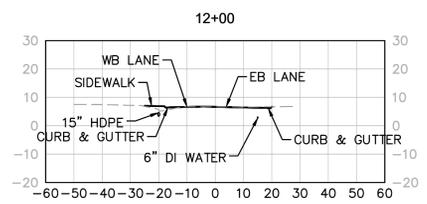
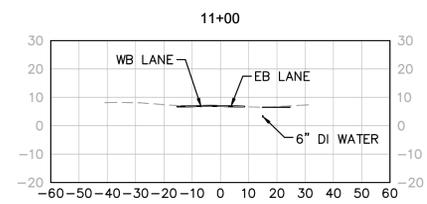
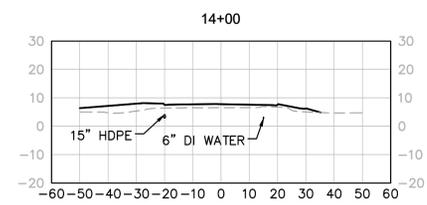
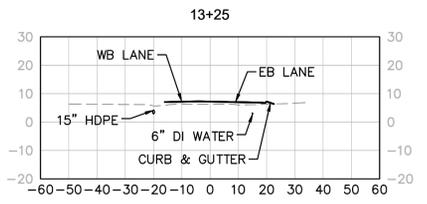
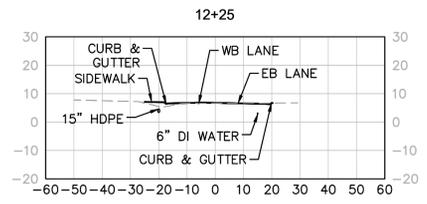
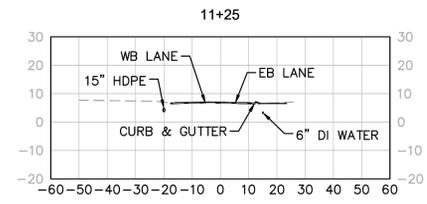


KHA PROJECT
 116573001
 DATE
 04/05/2022
 SCALE AS SHOWN
 DESIGNED BY AMBIE
 DRAWN BY AMBIE
 CHECKED BY JYU

**STORMWATER
 CONVEYANCE PLAN**

WAWA - KILL DEVIL HILLS
 PREPARED FOR
ARISTA DEVELOPMENT, LLC
 KILL DEVIL HILLS NORTH CAROLINA

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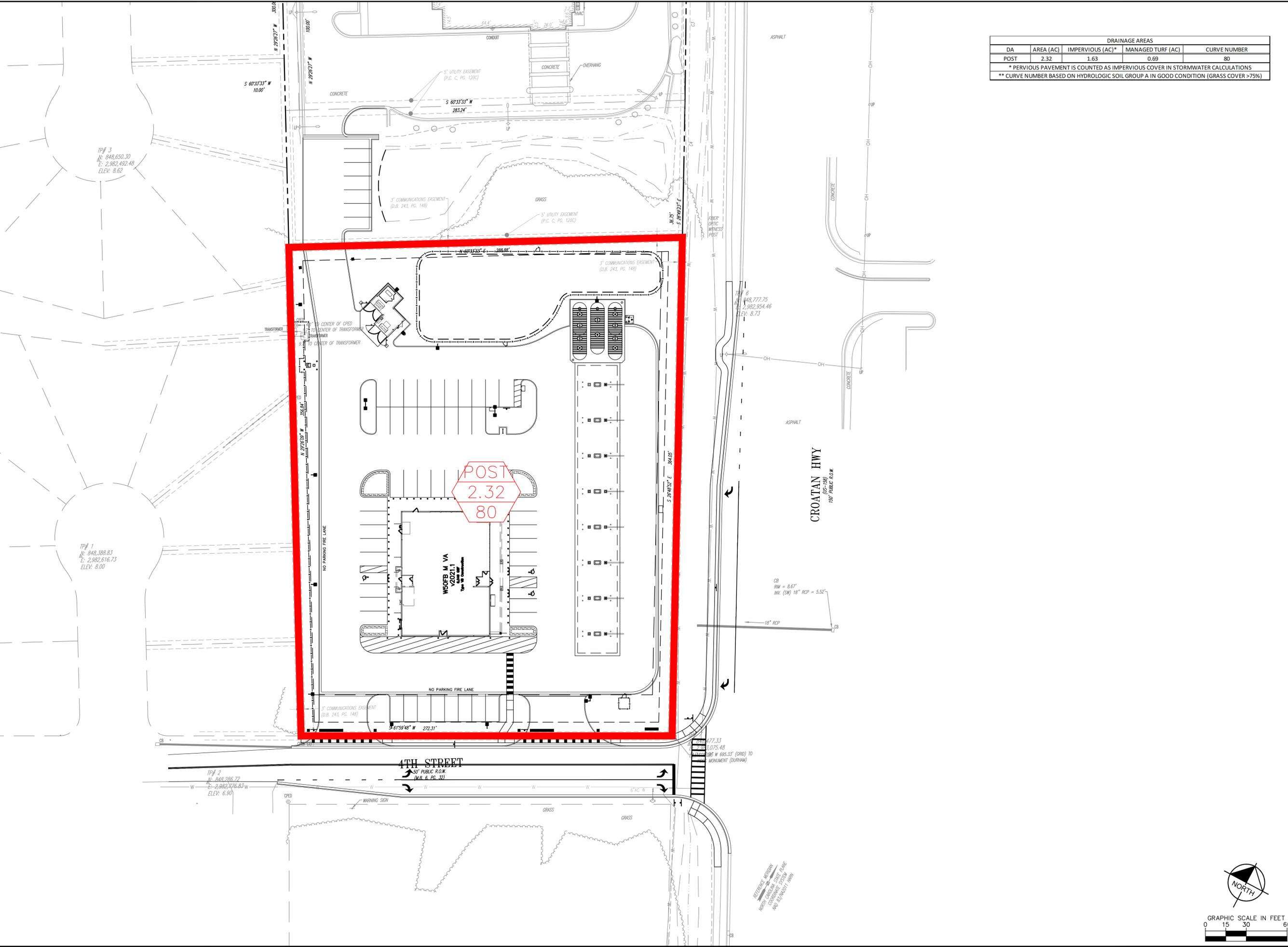


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DESIGNED BY	AMBIE
DRAWN BY	AMBIE
CHECKED BY	JYUY

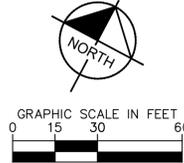
**WEST FOURTH
STREET PROFILES**

WAWA - KILL DEVIL HILLS
 PREPARED FOR
ARISTA DEVELOPMENT, LLC
 KILL DEVIL HILLS NORTH CAROLINA

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DRAINAGE AREAS				
DA	AREA (AC)	IMPERVIOUS (AC)*	MANAGED TURF (AC)	CURVE NUMBER
POST	2.32	1.63	0.69	80
* PERVIOUS PAVEMENT IS COUNTED AS IMPERVIOUS COVER IN STORMWATER CALCULATIONS				
** CURVE NUMBER BASED ON HYDROLOGIC SOIL GROUP A IN GOOD CONDITION (GRASS COVER >75%)				



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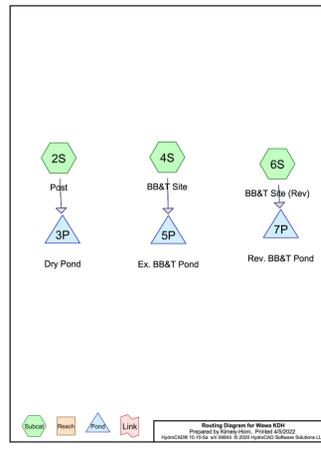
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DRAWN BY	AMBIE
CHECKED BY	JYUJ

WATER QUANTITY DRAINAGE AREA MAP

WAWA - KILL DEVIL HILLS
 PREPARED FOR
ARISTA DEVELOPMENT, LLC
 KILL DEVIL HILLS NORTH CAROLINA

SHEET NUMBER
CD101

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Wawa KDH
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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (Hours)	Intensity (in/hr)	Depth (inches)	AMC
1	10yr 2hr	Type II	6-hr	Default	6.00	1	4.30	2

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Area Listing (all nodes)

Area	CN	Description
2,320	80	HSG A
2,000	69	HSG B
2,140	74	HSG C
0,000		HSG D
6,460	75	TOTAL AREA

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Soil Listing (all nodes)

Area	Soil	Substment
0,000	HSG A	
0,000	HSG B	
0,000	HSG C	
0,000	HSG D	
6,460	Other	25, 45, 65
6,460	TOTAL AREA	

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Ground Covers (all nodes)

HSG-A	HSG-B	HSG-C	HSG-D	Clear	Total	Substment
0,000	0,000	0,000	0,000	6,460	6,460	25, 45, 65
0,000	0,000	0,000	0,000	6,460	6,460	TOTAL AREA

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Time spanned: 00:24:00 hrs, dt=0.01 hrs, 2401 points

Runoff by SCS TR-20 method, LHM/SCL, Weighted-CN, Time Span=0.00-24.00 hrs, dt=0.01 hrs
 Runoff by Dyn-Stor-Ind method - Field routing by Dyn-Stor-Ind method

Subcatchment2S: Post
 Runoff Area=2,320 ac @ 0.00% Impervious, Runoff Depth=2.29"
 Tc=5.0 min Ch=80 Runoff=14.11 cfs @ 0.443 af

Subcatchment4S: BB&T Site
 Runoff Area=2,000 ac @ 0.00% Impervious, Runoff Depth=1.47"
 Tc=5.0 min Ch=69 Runoff=8.06 cfs @ 0.247 af

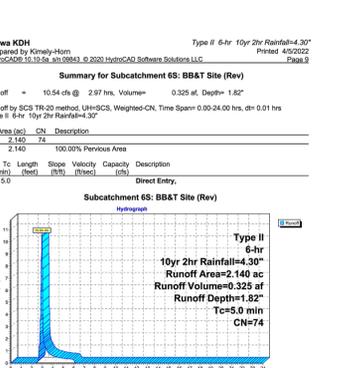
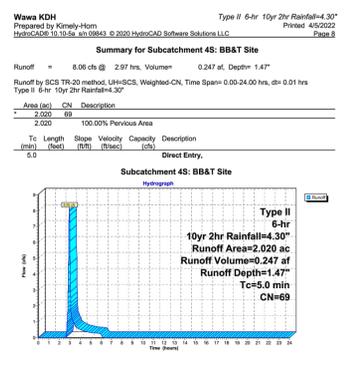
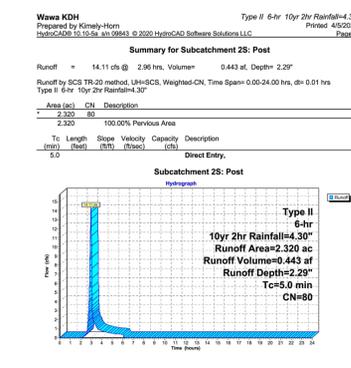
Subcatchment6S: BB&T Site (Rev)
 Runoff Area=2,140 ac @ 0.00% Impervious, Runoff Depth=1.82"
 Tc=5.0 min Ch=74 Runoff=10.54 cfs @ 0.325 af

Pond 3P: Dry Pond
 Peak Elev=7.12' Storage=6,462 cf Inflow=14.11 cfs @ 0.443 af
 Discharge=1.04 cfs @ 0.247 af Primary=1.07 cfs @ 0.102 af Outflow=12.81 cfs @ 0.443 af

Pond 5P: Ex. BB&T Pond
 Peak Elev=7.17' Storage=10,747 cf Inflow=10.54 cfs @ 0.325 af
 Outflow=0.00 cfs @ 0.000 af

Pond 7P: Rev. BB&T Pond
 Peak Elev=7.60' Storage=10,865 cf Inflow=10.54 cfs @ 0.325 af
 Outflow=0.00 cfs @ 0.000 af

Total Runoff Area = 6,460 ac Runoff Volume = 1,014 af Average Runoff Depth = 1.88"
100.00% Pervious = 6,460 ac 0.00% Impervious = 0.00 ac



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Summary for Pond 3P: Dry Pond

Inflow Area = 2,320 ac, 0.00% Impervious, Inflow Depth = 2.29" for 10yr 2hr event
 Inflow = 14.11 cfs @ 2.96 hrs, Volume = 0.443 af
 Outflow = 12.81 cfs @ 3.00 hrs, Volume = 0.426 af, Atten= 11%, Lag= 2.0 min
 Discharge = 1.04 cfs @ 3.00 hrs, Volume = 0.343 af
 Primary = 11.57 cfs @ 3.00 hrs, Volume = 0.182 af

Routing by Dyn-Stor-Ind method, Time Span=0.00-24.00 hrs, dt=0.01 hrs
 Peak Elev=7.12' @ 3.00 hrs, Surf Area=6,462 af, Storage=6,462 cf

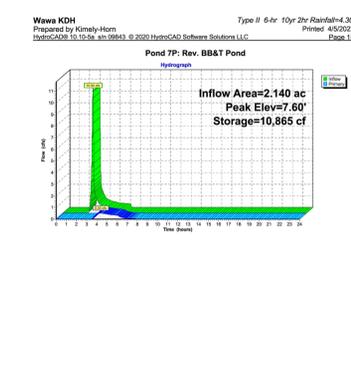
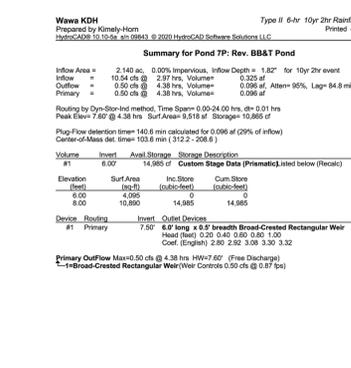
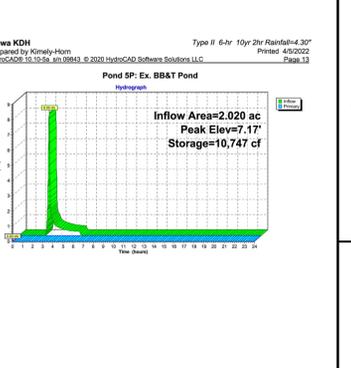
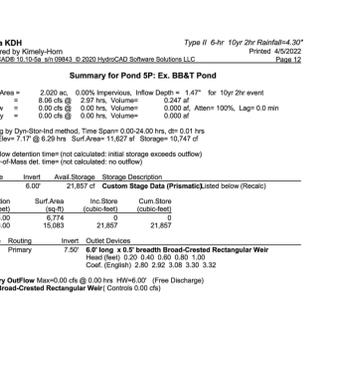
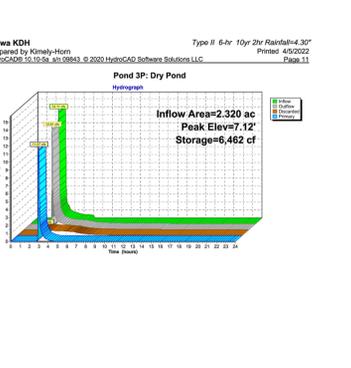
Plug-Flow detention timer: 98.3 min calculated for 0.426 af (96% of inflow)
 Center-of-Mass det. timer: 92.5 min (298.8 - 204.3)

Volume	Invert	Avail. Storage	Storage Description
#1 5,507	8,000 ft	Custom Stage Data (Prismatic), listed below	
Elevation (feet)	Surf Area (sq-ft)	Inc. Store (cu-ft/ft)	Cum. Store (cu-ft/ft)
8.50	0	0	0
7.50	8,000	8,000	8,000

Device Routing Invert Outlet Devices
 #1 Discharge 5.50' 11,968 w/in Exfiltration over Surface area above 5.00'
 Conductivity to Groundwater Elevation = 5.00'
 Exposed Surface area = 0' of Pervious 5.00'
 #2 Primary 6.75' 48.8' x 48.8' Horiz. Orifice/Grate
 C=0.60 to 0.45 (7' x 48.8' Grate, 100% open area)
 Limited to weir flow at low heads

Discarded Outflow Max=1.04 cfs @ 3.00 hrs HW=7.11' (Free Discharge)
 -=Exfiltration (Control: 0.04 cfs)

Primary Outflow Max=11.53 cfs @ 3.00 hrs HW=7.11' (Free Discharge)
 -=Orifice/Grate (Weir Control: 11.53 cfs @ 1.97 fps)



DRAINAGE NARRATIVE

STORMWATER MANAGEMENT

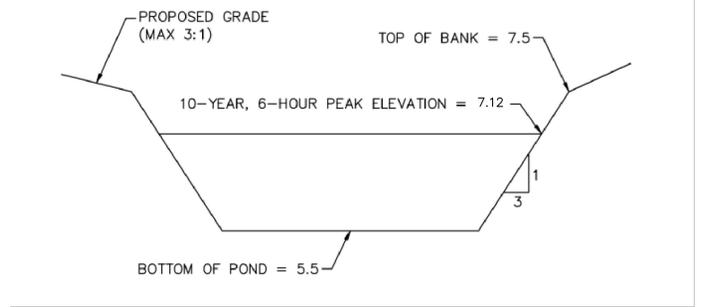
STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED IN COMPLIANCE WITH KILL DEVIL HILLS STORMWATER MANAGEMENT PLAN (2010). KILL DEVIL HILLS REQUIRES COMMERCIAL DEVELOPMENT TO IMPLEMENT SUFFICIENT STRUCTURAL CONTROLS TO RETAIN RUNOFF FROM THE 10-YEAR, 2-HOUR RAINFALL EVENT, WHICH BY ORDINANCE IT DEEMS TO BE 4.3 INCHES OF RAINFALL VOLUME. THIS MAY BE SIMULATED BY USING THE 50-YEAR, 2-HOUR EVENT OR THE 25-YEAR, 3-HOUR EVENT PER NOAA'S PRECIPITATION FREQUENCY DATA SERVER.

AN ONSITE STORMWATER INFILTRATION POND IS PROPOSED TO RETAIN STORMWATER RUNOFF FOR THE SITE. HYDROCAD SOFTWARE WAS UTILIZED TO MODEL AND SIZE THE POND FOR THE 10-YEAR, 2-HOUR RAINFALL EVENT. THE PEAK ELEVATION FOR THE 10-YEAR, 2-HOUR RAINFALL EVENT IS 7.12'. THE TOP OF BANK OF THE POND IS 7.50 WITH A POND OUTFALL RIM AT 6.75. THEREFORE, RUNOFF FROM THE 10-YEAR, 2-HOUR RAINFALL EVENT WILL NOT EXCEED THE TOP OF BANK OF THE PROPOSED POND.

REVISIONS TO EXISTING BB&T INFILTRATION POND

THE EXISTING BB&T POND PROVED COMPLIANCE TO THE KILL DEVIL HILLS STORMWATER REGULATIONS BY DETAINING THE 10-YEAR, 2-HOUR RAINFALL EVENT FROM THE SITE'S PROPOSED IMPERVIOUS AREA. THE EXISTING POND HAS A STORAGE VOLUME OF APPROXIMATELY 15,770 SF WITH THE TOP OF BANK BEING HELD AT ELEVATION 8. THE POND IS TO BE DECREASED IN VOLUME BY APPROXIMATELY 5,150 SF TO ACCOMMODATE ADDITIONAL PARKING AREA. A SUMMARY OF THE EXISTING AND REVISED POND DETAILS CAN BE FOUND BELOW:

	EXISTING	PROPOSED
DRAINAGE AREA (AC)	2.02	2.14
IMPERVIOUS AREA	1.03	1.27
PERVIOUS AREA	0.99	0.87
CURVE NUMBER	69	74
STORAGE (CF)	10,747	10,865
PEAK ELEVATION	7.17	7.6
WEIR ELEVATION	7.5	7.5
TOP OF BANK	8.0	8.0



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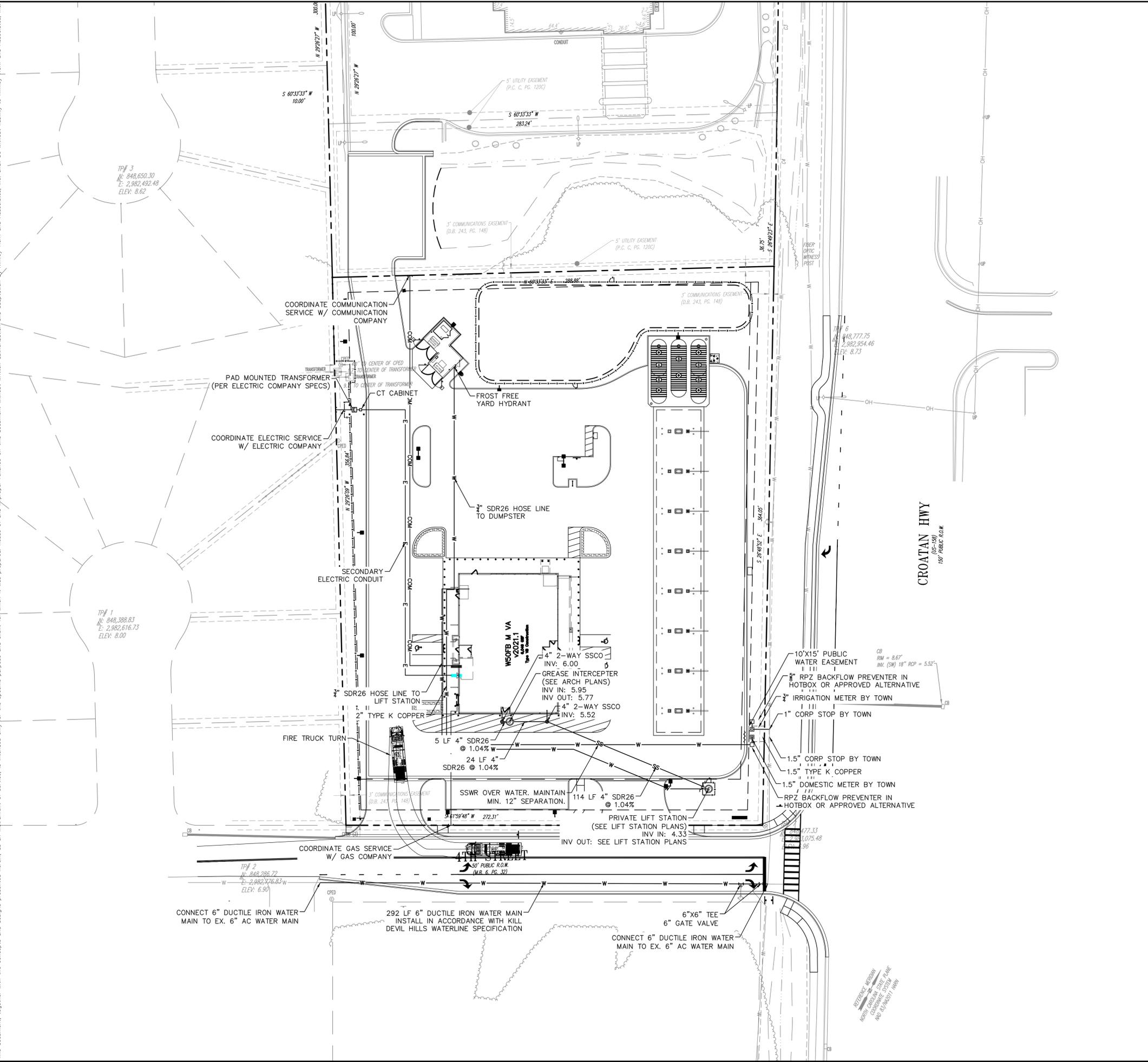


KHA PROJECT 116573001	DATE 04/05/2022	SCALE AS SHOWN	DESIGNED BY AMBIB	DRAWN BY AMBIB	CHECKED BY JYUJ
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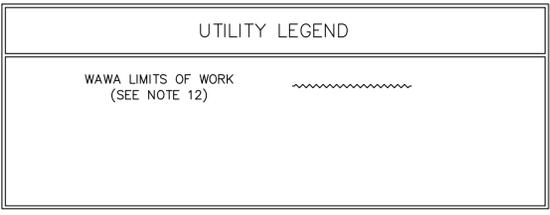
WATER QUANTITY CALCULATIONS

WAWA - KILL DEVIL HILLS
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ARISTA DEVELOPMENT, LLC
 NORTH CAROLINA

Plotted By: Showells, Noidson - Sheet Set: WAWA - KILL DEVIL HILLS - Layout: CU101 - April 05, 2022 11:15:14am - K:\vab_eva\WAWA\116543032 - wawa - n_croatan & w_4th\CADD\plansheets\CU101 - UTILITY PLAN.dwg
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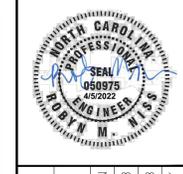


- ### UTILITY NOTES
1. WAWA DOMESTIC WATER SERVICE PIPE SHALL BE TYPE K COPPER PIPE ON BOTH SIDES OF THE METER.
 2. ALL NON-METALLIC PIPE SHALL BE INSTALLED WITH TRACER WIRE.
 3. TRACER WIRE SHALL BE INSTALLED ALONG THE ENTIRE LENGTH OF THE PROPOSED SANITARY SEWER LATERAL.
 4. ALL SANITARY SEWER CLEANOUTS ARE TO BE TRAFFIC RATED.
 5. CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES AT START OF CONSTRUCTION AND NOTIFY KIMLEY-HORN IN ORDER TO VERIFY ADEQUATE SEPARATION BETWEEN UTILITIES CAN BE ACHIEVED AND NO CONFLICTS EXIST.
 6. ALL NEW UTILITY SERVICES FOR ELECTRICITY, TELEPHONE, AND CABLE SHALL BE INSTALLED UNDERGROUND. NO NEW ABOVE GROUND UTILITIES ARE PERMITTED.
 7. ADJUST ALL APPURTENANCES TO PROPOSED GRADE.
 8. ALL WATERMAIN SHALL BE DUCTILE IRON AND TO BE COMPLETELY RESTRAINED.
 9. ALL SANITARY SEWER SHALL BE PVC SDR26.
 10. CONDUIT TO BE INSTALLED BETWEEN IRRIGATION METER AND BUILDING FOR BAS MONITORING PER WAWA STANDARD.
 11. ALL DUCTILE IRON WATER PIPING SHALL BE AWWA CLASS C-150 DUCTILE IRON PIPE.
 12. LIMITS OF WORK BETWEEN WAWA AND OWNER PER DIVISION OF WORK.
 13. TOWN OF KILL DEVIL HILLS WATER SYSTEMS DIVISION WILL INSTALL ALL SERVICE TAPS AND METERS.



No.	REVISIONS	DATE	BY

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 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA 23462
 PHONE: 757-213-8600 FAX: 757-213-8601
 WWW.KIMLEY-HORN.COM

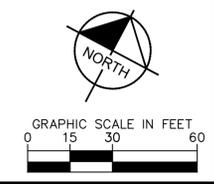


KHA PROJECT	116573001
DATE	04/05/2022
SCALE	AS SHOWN
DESIGNED BY	AMBIE
DRAWN BY	AMBIE
CHECKED BY	JYUY

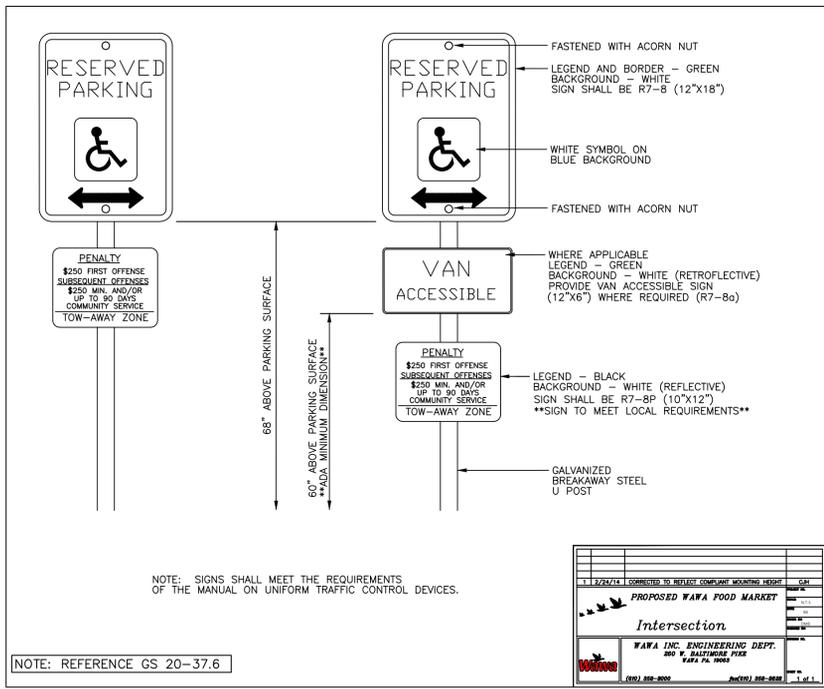
UTILITY PLAN

WAWA - KILL DEVIL HILLS
 PREPARED FOR
ARISTA DEVELOPMENT, LLC
 KILL DEVIL HILLS NORTH CAROLINA

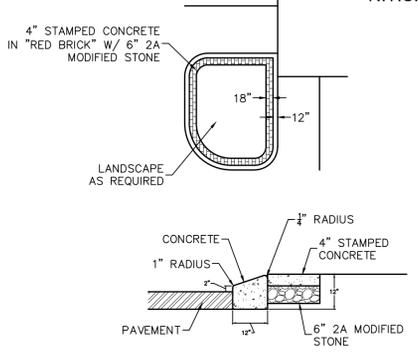
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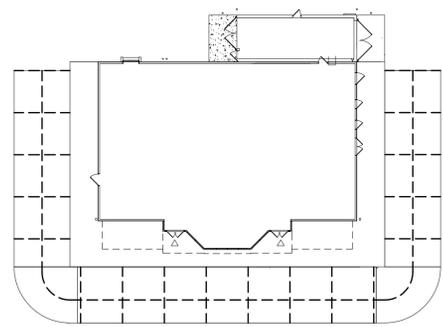
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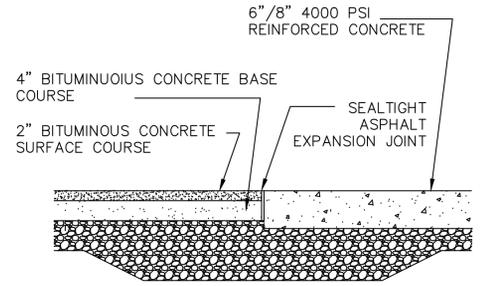
ADA PARKING SIGN DETAIL
N.T.S.



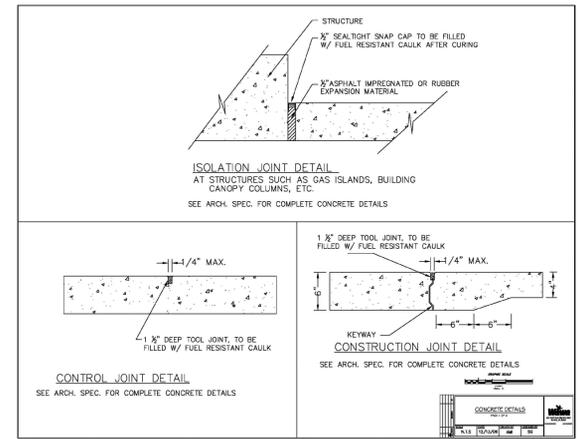
MOUNTABLE CURB/ISLAND AND STAMPED CONCRETE DETAIL



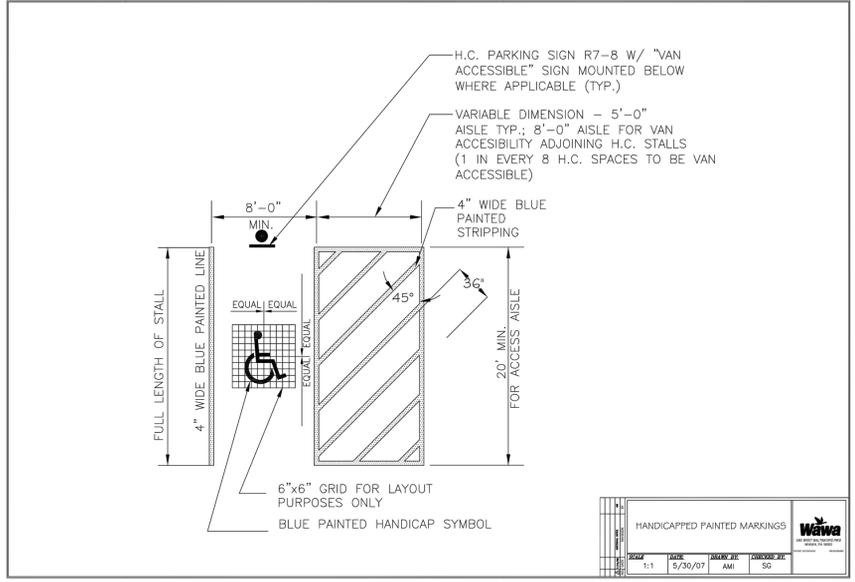
TYPICAL CONCRETE JOINT PLAN



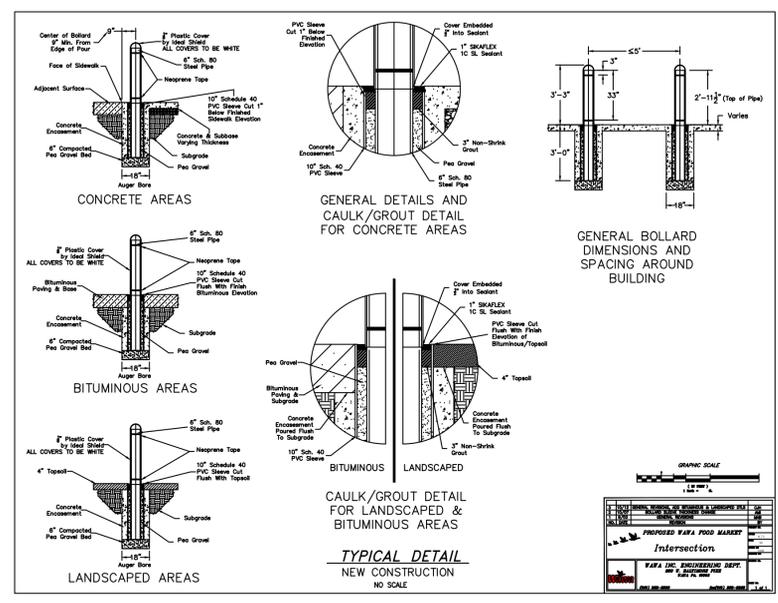
CONCRETE TO ASPHALT TRANSITION DETAIL
 SEE ARCH. SPEC. FOR COMPLETE DETAILS
 *REFER TO PAVEMENT PLAN FOR PAVEMENT SECTION THICKNESS



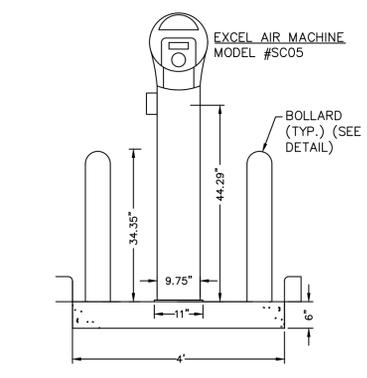
ISOLATION JOINT DETAIL
CONTROL JOINT DETAIL



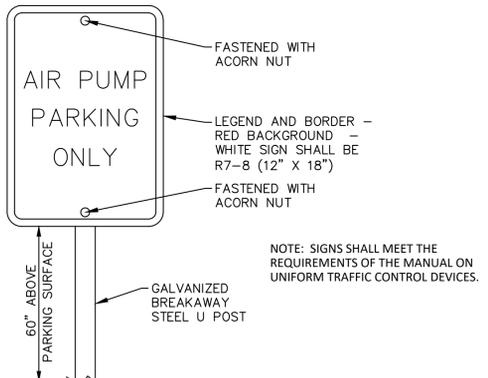
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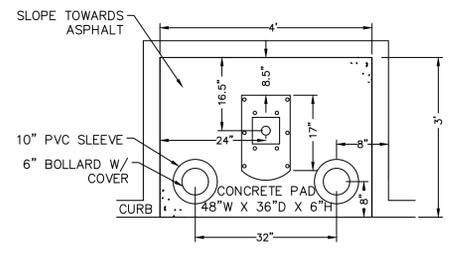
TYPICAL DETAIL



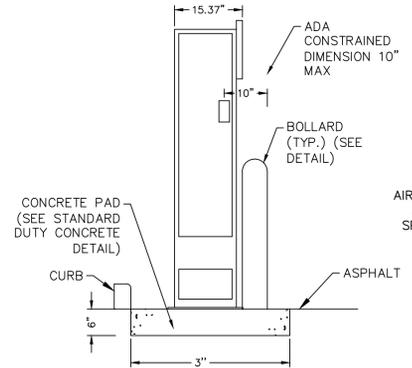
AIR PUMP FRONT ELEVATION
N.T.S.



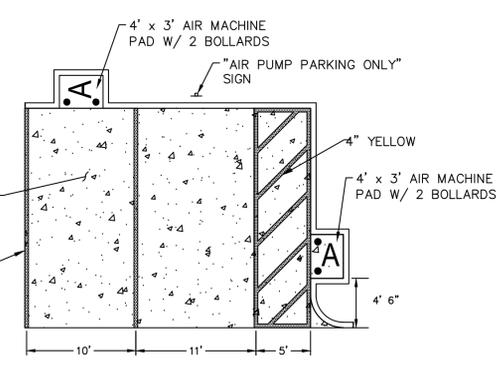
AIR PUMP PARKING SIGN DETAIL
N.T.S.



AIR PUMP PLAN VIEW DETAIL
N.T.S.



AIR PUMP SIDE ELEVATION
N.T.S.



AIR PUMP PARKING DETAIL
N.T.S.

NO.	REVISIONS	DATE

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 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA 23462
 PHONE: 757-213-8600 FAX: 757-213-8601
 WWW.KIMLEY-HORN.COM



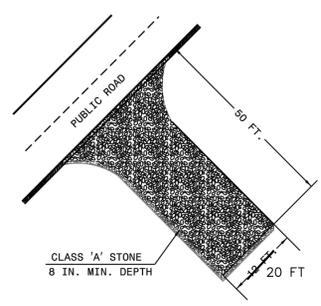
KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
116573001	04/05/2022	AS SHOWN	AMB	AMB	JY

WAWA STANDARD DETAILS

WAWA - KILL DEVIL HILLS
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ARISTA DEVELOPMENT, LLC
 NORTH CAROLINA

SHEET NUMBER
CS501

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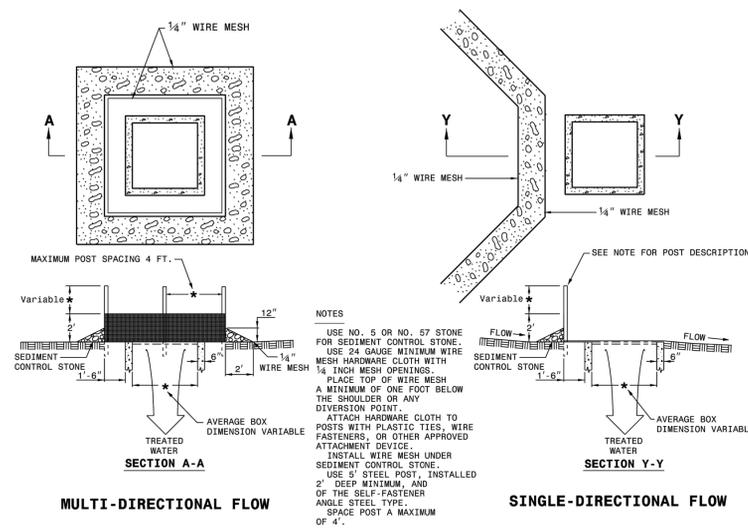


- NOTES**
1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
 2. LOCATE ENTRANCES TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
 3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS.
 4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
 5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
 6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
 7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.
 8. INSTALL CONSTRUCTION ENTRANCES IN A WAY TO PREVENT VEHICLES FROM BYPASSING CONSTRUCTION ENTRANCE LEAVING PROJECT SITE.

NOTE: PLACE GEOTEXTILE FOR DRAINAGE BENEATH STONE

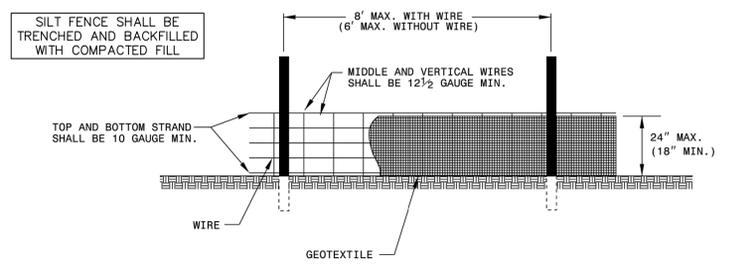
MODIFIED SHEET 1 OF 1
1607.01

ROADWAY STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.



ROADWAY STANDARD DRAWING FOR
ROCK INLET SEDIMENT TRAP TYPE C
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

SHEET 1 OF 1
1632.03

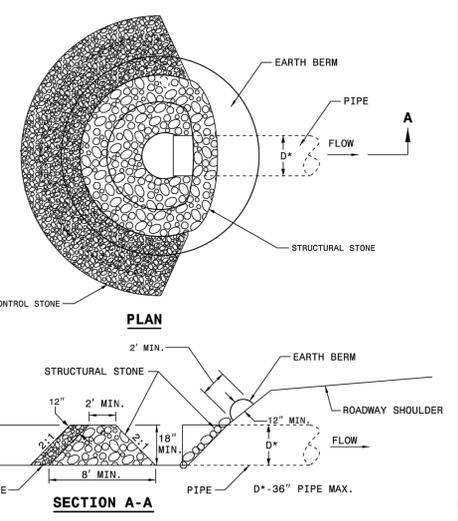


- NOTES**
- USE GEOTEXTILE A MINIMUM OF 36" IN WIDTH AND FASTEN ADEQUATELY TO THE POSTS AND WIRE AS DIRECTED.
 - USE WIRE A MINIMUM OF 32" IN WIDTH AND WITH A MINIMUM OF 5 LINE WIRES WITH 12" VERTICAL SPACING.
 - PROVIDE 5'-0" STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.
 - FOR MECHANICAL SLICING METHOD INSTALLATION, GEOTEXTILE SHALL BE A MAXIMUM OF 18" ABOVE GROUND SURFACE.

ROADWAY STANDARD DRAWING FOR
TEMPORARY SILT FENCE
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

SHEET 1 OF 1
1605.01

- NOTES**
- USE CLASS B EROSION CONTROL STONE FOR STRUCTURAL STONE.
 - USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.
 - CONSTRUCT TOP OF BERM A MINIMUM OF ONE FOOT BELOW THE SHOULDER OR DIVERSION POINT.
 - PROVIDE A TOTAL SEDIMENT TRAP VOLUME OF 3600± CUBIC FEET PER ACRE OF DISTURBED AREA. SOME OF THE REQUIRED VOLUME MAY BE PROVIDED BY UP OR DOWNSTREAM CONTROLS.
 - DO NOT INSTALL WHEN VEHICLES WILL BE WITHIN 30 FEET OF VEHICULAR TRAVEL LANE.



ROADWAY STANDARD DRAWING FOR
ROCK PIPE INLET SEDIMENT TRAP TYPE A
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

SHEET 1 OF 1
1635.01

Table 6.10a
Temporary Seeding Recommendations for Late Winter and Early Spring

Seeding mixture Species	Rate (lb/acre)
Rye (grain)	120
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

Seeding dates
Mountains—Above 2500 feet: Feb. 15 - May 15
Below 2500 feet: Feb. 1 - May 1
Piedmont—Jan. 1 - May 1
Coastal Plain—Dec. 1 - Apr. 15

Soil amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Referfertilize if growth is not fully adequate. Reseed, referfertilize and mulch immediately following erosion or other damage.

Table 6.10b
Temporary Seeding Recommendations for Summer

Seeding mixture Species	Rate (lb/acre)
German millet	40

In the Piedmont and Mountains, a small-stemmed Sudangrass may be substituted at a rate of 50 lb/acre.

Seeding dates
Mountains—May 15 - Aug. 15
Piedmont—May 1 - Aug. 15
Coastal Plain—Apr. 15 - Aug. 15

Soil amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Referfertilize if growth is not fully adequate. Reseed, referfertilize and mulch immediately following erosion or other damage.

Table 6.10c
Temporary Seeding Recommendations for Fall

Seeding mixture Species	Rate (lb/acre)
Rye (grain)	120

Seeding dates
Mountains—Aug. 15 - Dec. 15
Coastal Plain and Piedmont—Aug. 15 - Dec. 30

Soil amendments
Follow soil tests or apply 2,000 lb/acre ground agricultural limestone and 1,000 lb/acre 10-10-10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Repair and referfertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extent temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Plain) or Korean (Mountains) lespedeza in late February or early March.

WAWA - KILL DEVIL HILLS
PREPARED FOR
ARISTA DEVELOPMENT, LLC

**CONSTRUCTION
DETAILS**



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SHEET NUMBER
CS503

KILL DEVIL HILLS NORTH CAROLINA

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

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

SECTION E: GROUND STABILIZATION

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

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

GROUND STABILIZATION SPECIFICATION

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

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Rolled erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

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

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

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

PAINT AND OTHER LIQUID WASTE

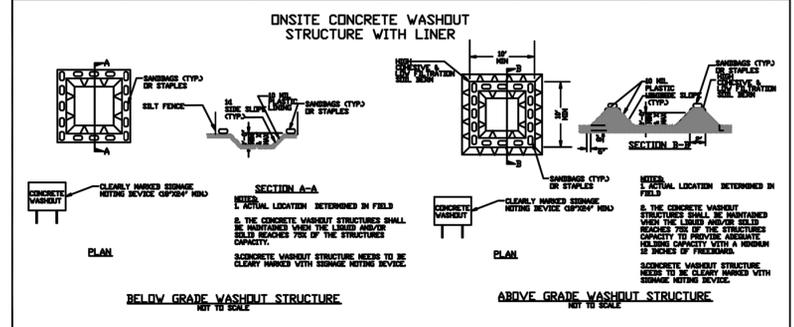
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled,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

PORTABLE TOILETS

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

EARTHEN STOCKPILE MANAGEMENT

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



CONCRETE WASHOUTS

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

HERBICIDES, PESTICIDES AND RODENTICIDES

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

HAZARDOUS AND TOXIC WASTE

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

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING **EFFECTIVE: 04/01/19**

NO.
REVISIONS
DATE

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4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA 23462
PHONE: 757-213-8600 FAX: 757-213-8601
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CONSTRUCTION
DETAILS

NORTH CAROLINA
PROFESSIONAL
SEAL
050975
AS-0222
CIVIL ENGINEER

KHA PROJECT
116573001
DATE
04/05/2022
SCALE AS SHOWN
DESIGNED BY AMB
DRAWN BY AMB
CHECKED BY JY

NORTH CAROLINA

SHEET NUMBER
CS504

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**PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

SECTION A: SELF-INSPECTION

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

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

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

**PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

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

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

2. Additional Documentation

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

- (a) This general permit as well as the certificate of coverage, after it is received.
- (b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
- (c) All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

SECTION C: REPORTING

1. Occurrences that must be reported

- Permittees shall report the following occurrences:
- (a) Visible sediment deposition in a stream or wetland.
 - (b) Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
 - (a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
 - (b) Anticipated bypasses and unanticipated bypasses.
 - (c) Noncompliance with the conditions of this permit that may endanger health or the environment.

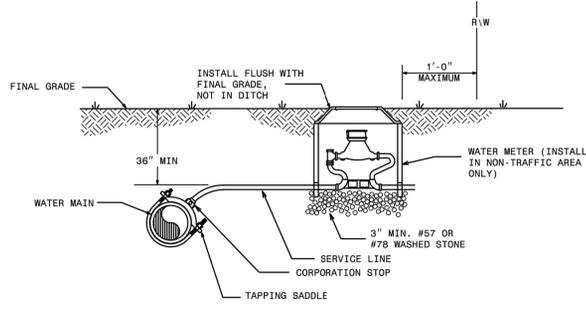
2. Reporting Timeframes and Other Requirements

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

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6)]. • Division staff may waive the requirement for a written report on a case-by-case basis.

 <small>© 2022 KIMLEY-HORN AND ASSOCIATES, INC. 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA 23462 PHONE: 757-213-8600 FAX: 757-213-8601 WWW.KIMLEY-HORN.COM</small>	 <small>DESIGNED BY: AMB DRAWN BY: AMB CHECKED BY: JY</small>
<p>CONSTRUCTION DETAILS</p>	<p>WAWA - KILL DEVIL HILLS PREPARED FOR ARISTA DEVELOPMENT, LLC</p> <p><small>KILL DEVIL HILLS NORTH CAROLINA</small></p>
<p><small>KHA PROJECT 116573001</small></p> <p><small>DATE 04/05/2022</small></p> <p><small>SCALE AS SHOWN</small></p>	<p><small>NO. _____</small></p> <p><small>REVISIONS _____</small></p> <p><small>DATE _____</small></p>
<p><small>SHEET NUMBER CS505</small></p>	

Plotted By: Shovelis, Nadsen. Sheet: Set: WAWA - KILL DEVIL HILLS - CONSTRUCTION DETAILS - April 05, 2022 - 11:16:00am. K:\web-civil\WAWA 116543032 - wawa - n-croston & w. 4th\CADD\plansheets\CS501 - WAWA STANDARDS DETAILS.dwg
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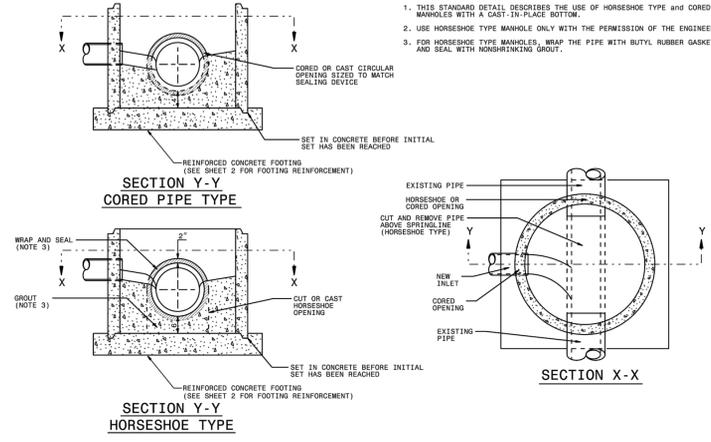


- NOTES:
1. THIS DETAIL SHOWS THE TYPICAL FINAL WATER METER CONFIGURATION AFTER INSTALLATION OF A PROPOSED WATER METER, RECONNECTION OF AN EXISTING WATER METER, OR RELOCATION OF A WATER METER.

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

ROADWAY STANDARD DRAWING FOR
WATER METER

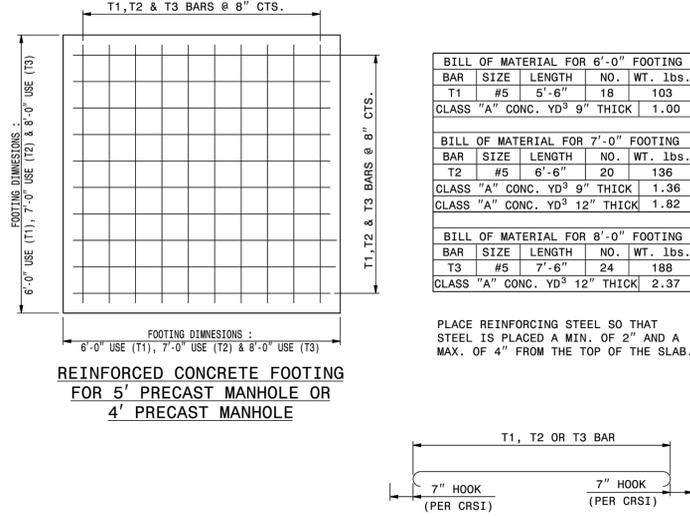
SHEET 1 OF 1
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STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
PRECAST CONCRETE SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BOTTOM

SHEET 1 OF 2
1525.06



BILL OF MATERIAL FOR 6'-0" FOOTING			
BAR	SIZE	LENGTH	NO. WT. lbs.
T1	#5	5'-6"	18 103
CLASS "A" CONC. YD ³ 9" THICK 1.00			
BILL OF MATERIAL FOR 7'-0" FOOTING			
BAR	SIZE	LENGTH	NO. WT. lbs.
T2	#5	6'-6"	20 136
CLASS "A" CONC. YD ³ 9" THICK 1.36			
CLASS "A" CONC. YD ³ 12" THICK 1.82			
BILL OF MATERIAL FOR 8'-0" FOOTING			
BAR	SIZE	LENGTH	NO. WT. lbs.
T3	#5	7'-6"	24 188
CLASS "A" CONC. YD ³ 12" THICK 2.37			

PLACE REINFORCING STEEL SO THAT STEEL IS PLACED A MIN. OF 2" AND A MAX. OF 4" FROM THE TOP OF THE SLAB.

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

ROADWAY STANDARD DRAWING FOR
PRECAST CONCRETE SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BOTTOM

SHEET 2 OF 2
1525.06

KHA PROJECT
 116573001

DATE
 04/05/2022

SCALE AS SHOWN

DESIGNED BY AMB

DRAWN BY AMB

CHECKED BY JY

CONSTRUCTION DETAILS

WAWA - KILL DEVIL HILLS
 PREPARED FOR
 ARISTA DEVELOPMENT, LLC

KILL DEVIL HILLS NORTH CAROLINA

SHEET NUMBER
CS508

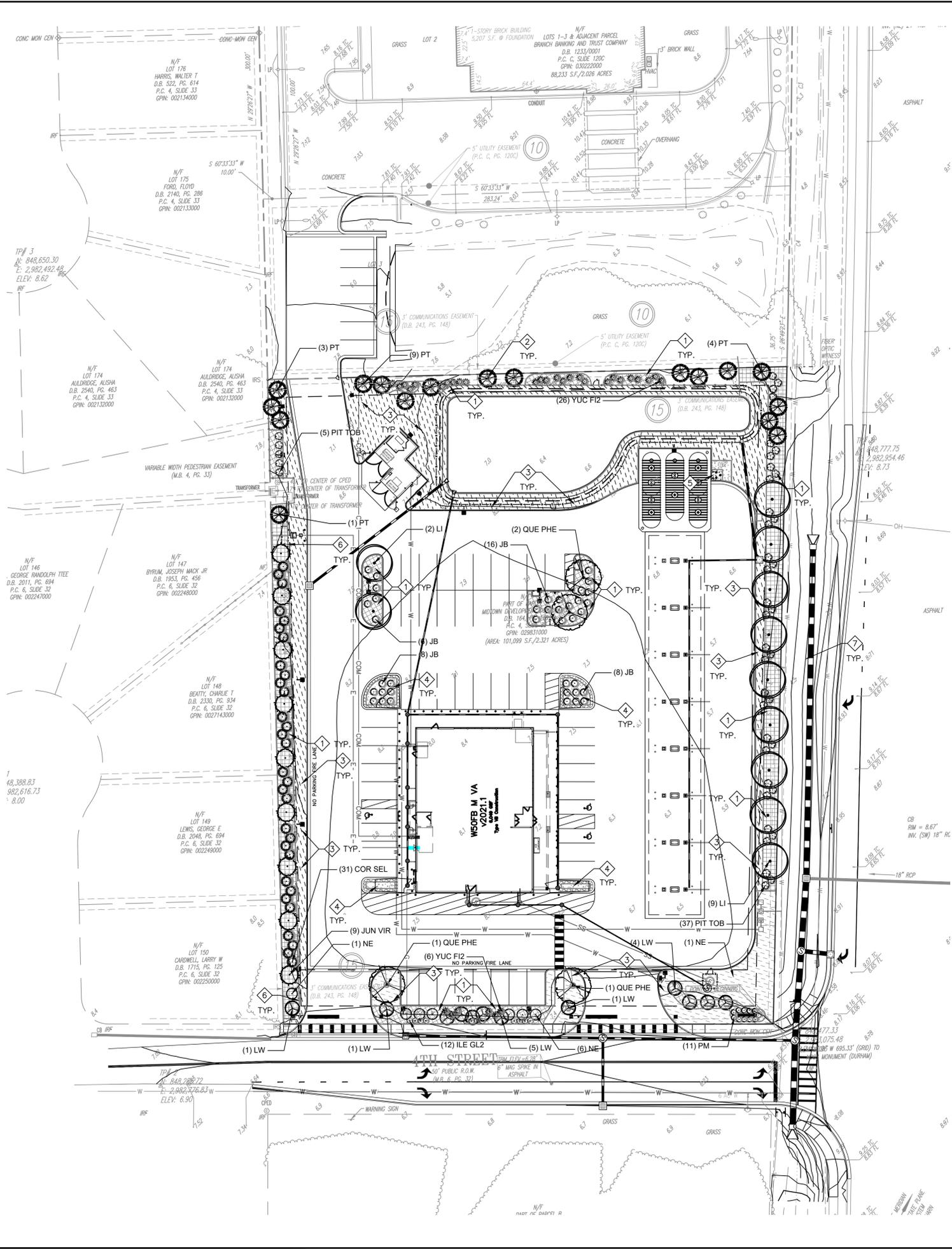
NO.	REVISIONS	DATE	BY

Kimley»Horn

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 PHONE: 757-213-8600 FAX: 757-213-8601
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Plotted By: Shovelers, Noiden - Sheet: WAWA - KILL DEVIL HILLS - Landscape Plan - April 05, 2022 - 11:16:32am - K:\web-ctail\WAWA\116543032 - wawa - a croston & w. 4th\CADD\plansheets\CP101 - LANDSCAPE PLAN.dwg
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PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	CAL.	HT.
	JUN VIR	9	JUNIPERUS VIRGINIANA MATCHED, STRAIGHT CENTRAL LEADER, FULL CANOPY	EASTERN RED CEDAR	B & B	2" CAL. MIN.	8' HT. MIN.
	LW	12	LAGERSTROEMIA INDICA 'WHIT II' TM	DYNAMITE CRAPE MYRTLE	B & B	2" CAL. MIN.	
	LI	11	LAGERSTROEMIA INDICA X FAURIEI 'TUSCARORA'	TUSCARORA CRAPE MYRTLE	B & B	2" CAL. MIN.	
	NE	7	NERIUM OLEANDER RED	OLEANDER	B & B		5' HT.
	PT	17	PINUS THUNBERGII	JAPANESE BLACK PINE	B & B		8' HT. MIN.
	QUE PHE	4	QUERCUS PHELLOS 'HIGHTOWER'	WILLOW OAK	B & B	2" CAL. MIN.	8' HT. MIN.
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	CAL/HT	
	COR SEL	31	CORTADERIA SELLOANA 'PUMILA'	DWARF PAMPAS GRASS	CONT.	18" HT. MIN.	
	ILE GL2	12	ILEX GLABRA 'SHAMROCK' FULL, DENSE FOLIAGE	INKBERRY	3 GAL. MIN.	18" HT. MIN.	
	JB	38	JUNIPERUS CONFERTA 'BLUE PACIFIC'	BLUE PACIFIC SHORE JUNIPER	3 GAL. MIN.		
	PM	11	PITTIOSPORUM TOBIRA 'CNI THREE' TM	MOJO JAPANESE PITTIOSPORUM	CONT.	12" SP. MIN.	
	PIT TOB	42	PITTIOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED MOCK ORANGE	CONT.	18" HT. MIN.	
	YUC FI2	32	YUCCA FILAMENTOSA	ADAM'S NEEDLE	CONT.	18" HT. MIN.	
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	SPACING	
	HAR MUL	8,766 SF	HARDWOOD MULCH	SHREDDED HARDWOOD MULCH	NONE		
	R8	601 SF	ROCK MULCH --		BULK		
SOD/SEED	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	SPACING	
	SOD	12,832 SF	PERMANENT LAWN GRASS OR EQUAL	SOD	SOD		

- KEY NOTES:**
- MULCH ALL SHRUB BEDS IN THEIR ENTIRETY WITH 3" OF SHREDDED HARDWOOD MULCH AND PROVIDE SHOVEL EDGING AROUND THE ENTIRE PERIMETER OF THE MULCH BED. (TYP.) SEE DETAILS SHEET CP50. SHOVEL EDGING NOT REQUIRED AGAINST CURBS AND WALKS.
 - PROVIDE MULCH RING ACCORDING TO THE DETAILS ON SHEET CP501 AROUND THE BASE OF ALL ISOLATED, NEW TREES. MULCH IS NOT TO BE PILED UP AROUND THE TRUNK OF THE TREE AND SHALL NOT COME WITHIN 6" OF THE TREE TRUNK.
 - SOD WITH PERMANENT LAWN GRASS.
 - MULCH ENTIRE ISLAND WITH 1"-3" RIVER ROCK. SEE NOTES SHEET CP501.
 - MULCH AREA AROUND VENT STACKS WITH 1"-3" RIVER ROCK MULCH AND EDGE WITH PERMALOCK ALUMINUM EDGING AROUND VENT STACK ROCK MULCH BED ONLY
 - FENCE. SEE SHEET CS101.
 - SEE NOTE 2 BELOW.
- LANDSCAPE NOTES**
- SEE SHEET LP-501 FOR WAWA STANDARD LANDSCAPE NOTES.
 - ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE NOT OTHERWISE INDICATED ON THE PLANS TO BE COVERED BY MULCHED PLANT BEDS, PAVEMENTS, BUILDINGS, PERMANENT LAWN, ETC. SHALL BE PERMANENTLY STABILIZED WITH LAWN GRASS. SEE SHEET CP501 FOR SEEDING NOTES.

- IRRIGATION NOTES:**
- CONTRACTOR TO OBTAIN IRRIGATION PLAN FROM A QUALIFIED IRRIGATION DESIGNER TO PROVIDE 100 PERCENT COVERAGE OF LANDSCAPE AREAS.
 - GENERAL CONTRACTOR SHALL PROVIDE IRRIGATION SLEEVING ACCORDING TO THE IRRIGATION PLANS SIZED ACCORDINGLY TO PROVIDE IRRIGATION SYSTEM COMPONENTS TO BE INSTALLED ACCORDING TO IRRIGATION PLANS.
 - GENERAL CONTRACTOR TO COORDINATE IRRIGATION SLEEVES INSTALLATION WITH OTHER DISCIPLINES AND INSTALL PRIOR TO THE INSTALLATION OF BASE AND PAVING MATERIALS.

KILL DEVIL HILLS N.C. LANDSCAPE REQUIREMENTS

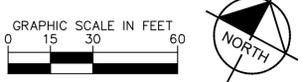
FRONT PERIMETER YARD	4TH AVE.	REQUIRED	PROVIDED
LINEAR FEET ALONG FRONTAGE	171 L.F.		
TREES REQUIRED at 1 per 10 LF		18	18
SHRUBS REQUIRED at 1 per 10 LF		18	18

SIDE PERIMETER YARD	US 158 CROATAN HWY.	REQUIRED	PROVIDED
LINEAR FEET ALONG PROPERTY LINE	364 L.F.		
TREES REQUIRED at 1 per 30 LF		13	13
SHRUBS REQUIRED at 1 per 10 LF		37	37

SIDE PERIMETER YARD	WESTERN PROPERTY LINE	REQUIRED	PROVIDED
LINEAR FEET ALONG PROPERTY LINE	364 L.F.		
FENCE WITH ORNAMENTAL LANDSCAPING OR HEAVY LANDSCAPING			FENCE WITH ORNAMENTAL LANDSCAPING
ORNAMENTAL LANDSCAPING REQUIRED IF FENCE IS PROVIDED			
TREES REQUIRED at 1 per 30 LF		13	13
SHRUBS REQUIRED at 1 per 10 LF		37	37

REAR PERIMETER YARD	Northern property Line	REQUIRED	PROVIDED
LINEAR FEET ALONG FRONTAGE	259 L.F.		
TREES REQUIRED at 1 per 30 LF		9	9
SHRUBS REQUIRED at 1 per 10 LF		26	26

PARKING LOT INTERIOR GREEN SPACE		REQUIRED	PROVIDED
Total Parking Spaces	52 SPACES		
Parking Lot Area	52,458 S.F.		
(Interior green area required = 10% OF PARKING LOT)			
TREES REQUIRED at 1 per 30 LF		6	6
PARKING LOT GREEN SPACE	5,246 SF		5,673 SF



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LANDSCAPING PLAN

WAWA - KILL DEVIL HILLS
 PREPARED FOR
ARISTA DEVELOPMENT, LLC

KILL DEVIL HILLS NORTH CAROLINA

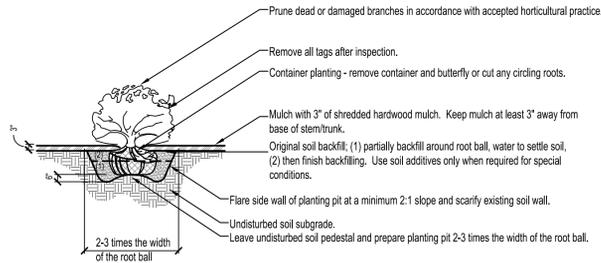
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KHA PROJECT 116673001
 DATE 04/05/2022
 SCALE AS SHOWN
 DESIGNED BY AMB
 DRAWN BY AMB
 CHECKED BY JY

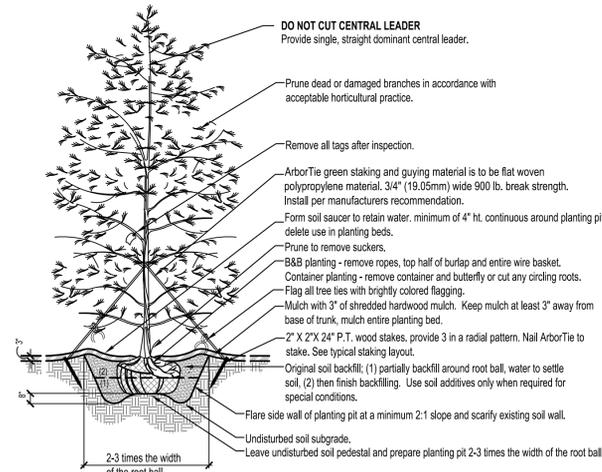
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 APR 04/05/2022
 JOSEPH A. MATTHEWS

Plotted By: Shovelers, Nacaden - Sheet: Sect.WAWA - KILL DEVIL HILLS - layout:CL501 - LANDSCAPE NOTES AND DETAILS - April 05, 2022 - 11:16:33am - K:\web-ctail\WAWA\116543032 - wawa - n - crosston & # 4th\CADD\plansheets\CPI01 - LANDSCAPE PLAN.dwg
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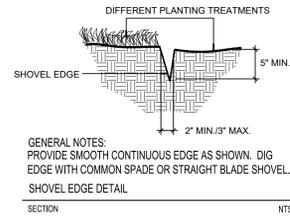


GENERAL NOTES:
 THIS DETAIL IS THE MINIMUM PLANTING STANDARD FOR CONTAINER SHRUBS LESS THAN 48" IN HEIGHT AT INSTALLATION.
 ALL SHRUBS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT COLLAR IS AT THE SAME GRADE, OR SLIGHTLY HIGHER, THAN EXISTING GRADE IN ACCORDANCE WITH ACCEPTED HORTICULTURAL PRACTICE.

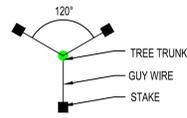
SHRUB PLANTING DETAIL
 SECTION SCALE: N.T.S.



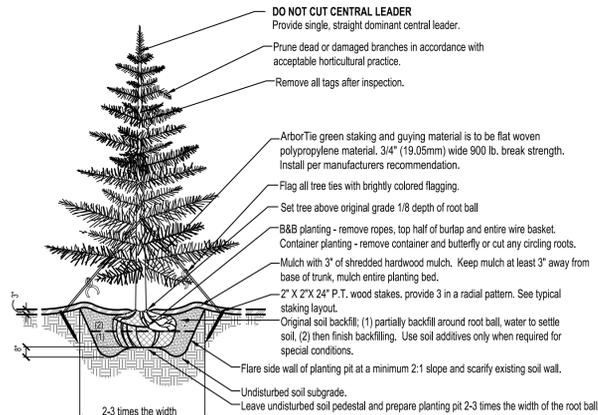
TREE PLANTING DETAIL
 SECTION SCALE: N.T.S.



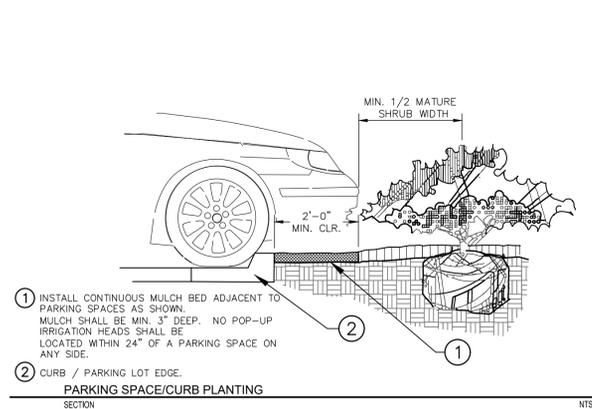
GENERAL NOTES:
 PROVIDE SMOOTH CONTINUOUS EDGE AS SHOWN. DIG EDGE WITH COMMON SPADE OR STRAIGHT BLADE SHOVEL.
SHOVEL EDGE DETAIL
 SECTION N.T.S.



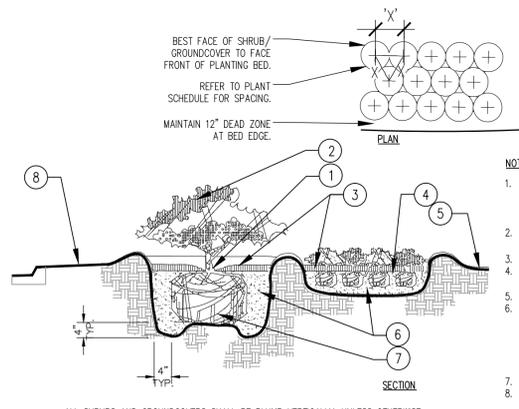
TREE STAKING PLAN VIEW
 SECTION SCALE: N.T.S.



Evergreen Tree Planting
 SECTION N.T.S.



PARKING SPACE/CURB PLANTING
 SECTION N.T.S.



SHRUB/GROUND COVER PLANTING
 PLAN SECTION N.T.S.

WAWA STANDARD LANDSCAPING SPECIFICATIONS:

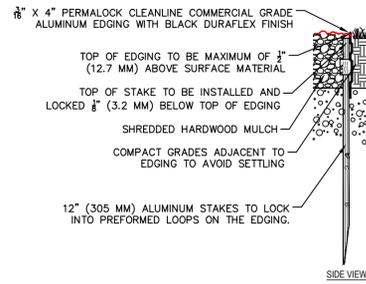
- ALL TOPSOIL SHALL BE A MINIMUM OF 4" IN ALL SOD AREAS AND 8" IN TREE, SHRUB AND GROUND COVER BEDS, INCLUDING PARKING LOT ISLAND BEDS. IT SHALL BE APPROVED BY A WAWA CONSTRUCTION REPRESENTATIVE, PRIOR TO INSTALLATION.
- PLANTING BEHIND PERPENDICULAR PARKING IS TO BE LOCATED A MINIMUM OF 5' BEHIND THE CURB LINE.
- ALL LANDSCAPE AND GRASS AREAS ARE TO BE HAND RAKED AND LEFT CLEAR OF ALL STONES, ROCK, CONSTRUCTION DEBRIS AND ANY UNSUITABLE MATERIALS.
- ALL LANDSCAPE AND GRASS AREAS ARE TO BE IRRIGATED BY AUTOMATIC SPRINKLER SYSTEM. (SEE IRRIGATION SPECIFICATION.)
- LANDSCAPE CONTRACTOR WILL LOCATE ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION AND PLANTING INSTALLATION.
- ALL AREAS TO BE LANDSCAPED OR COVERED WITH STONE MUST BE TREATED WITH A PRE-EMERGENCE HERBICIDE (SURFLAN, DACTAL OR APPROVED EQUAL) IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE REGULATIONS AND THE MANUFACTURER'S INSTRUCTIONS.
- RIVER ROCK MULCHED AREA ADJACENT TO THE TANK CENT STACK IS TO BE DELINEATED WITH 5 1/2" ALUMINUM LANDSCAPE EDGING, STACKED AT 3' INTERVALS. ALUMINUM EDGING IS TO BE CLEANLINE 3/16" X 5 1/2" X 16' BY PERMALOC. (800-356-9660, /WWW.PERMALOC.COM.) FOLLOW MANUFACTURERS INSTALLATION DIRECTIONS INCLUDED AT THE END OF THIS SECTION. ALL OTHER LANDSCAPE BED EDGING SHALL BE ACCORDING TO THE TYPICAL EDGING DETAIL AS SHOWN ON THIS SHEET.
- LANDSCAPE CONTRACTOR TO SUPPLY AND INSTALL A PERVIOUS WEED BARRIER (DEWITT, DUPONT OR APPROVED EQUAL) IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS WITHIN ALL LANDSCAPES, INCLUDING STONE AND MULCH BEDS. ALL WEED BARRIER WILL BE OVERLAPPED A MINIMUM OF 6" AT ALL SEAMS. AT PLANT LOCATIONS, BARRIER SHOULD BE CUT IN AN "X" PATTERN SO TO ACCOMMODATE ROOT BALL AND REPLACED AFTER PLANT HAS BEEN INSTALLED.
- WEED BARRIER SHALL NOT BE VISIBLE IN AREAS DESIGNATED FOR STONE MULCH. WHEN STONE IS CALLED FOR ADJACENT TO CURB OR SIDEWALKS, IT SHALL BE FEATHERED DOWN TO CURB LEVEL FROM A DISTANCE 24" FROM THE CURB.
- ALL PROPOSED LANDSCAPING TO BE NURSERY GROWN, TYPICAL OF THEIR SPECIES OR VARIETY. THEY ARE TO HAVE NORMAL VIGOROUS ROOT SYSTEMS, FREE FROM DEFECTS AND INFECTIONS AND IN ACCORDANCE WITH ANSI Z60.1.
- ALL PROPOSED PLANTINGS SHOULD BE INSTALLED PER STANDARDS OF THE "AMERICAN ASSOCIATION OF NURSERYMEN" AND STATE NURSERY/LANDSCAPE ASSOCIATIONS WITH REGARD TO PLANTING, PIT SIZE, BACKFILL MIXTURE, STAKING AND GUYING.
- ALL PLANTING CONTAINERS AND BASKETS SHALL BE REMOVED DURING PLANTING. ALL PLANTS SHALL BE SET PLUMB AND POSITIONED SO THAT THE TOP OF THE ROOT COLLAR MATCHES, OR IS NO MORE THAN TWO (2) INCHES ABOVE, FINISHED GRADE. REPAIR EXTENDED BACKFILL IN 6-INCH LAYERS AND COMPACT BACKFILL TO ELIMINATE VOIDS. CONTRACTOR SHALL PROVIDE A FOUR-INCH HIGH EARTHEN WATERING SAUCER ALONG THE PERIMETER OF EACH PLANTING PIT. CONTRACTOR SHALL WATER NEWLY PLANTED VEGETATION PRIOR TO MULCHING PLANTING PIT. ALL VOIDS SHALL BE FILLED AND SETTLING MITIGATED AS REQUIRED. ALUMINUM EDGING SHALL BE INSTALLED AROUND ALL PLANTING AREAS TO DELINEATE BETWEEN DIFFERENT LANDSCAPE MATERIALS.
- AFTER INITIAL WATERING AND PRIOR TO MULCHING, CONTRACTOR SHALL APPLY HERBICIDES AND PRE-EMERGENT HERBICIDES AS REQUIRED TO ELIMINATE ANY WEED SEEDS OR PLANTS PRESENT ON ROOT BALL.
- ALL PLANTING BEDS AND PITS EXCEPT FOR LANDSCAPE ISLANDS ADJACENT TO THE BUILDING AND DESIGNATED AREA AT THE FUEL VENT STACKS, SHALL BE MULCHED WITH DOUBLE GROUND HARDWOOD MULCH AT A MINIMUM DEPTH OF 3". LANDSCAPE ISLANDS ADJACENT TO DESIGNATED AREA AT FUEL STACKS SHALL BE MULCHED WITH 1"-3" "RIVER STONE" MULCH. FOR LANDSCAPES ADJACENT TO BUILDING, CONTACT PROJECT ENGINEER.
- SEEDBED PREPARATION
 - APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS OR FERTILIZER MAY BE APPLIED AT THE RATE OF 260 POUNDS PER ACRE OR 6 POUNDS PER 1000 SQUARE FEET USING 10-20-10 OR EQUIVALENT. IN ADDITION, 300 POUNDS 4-1-2 PER ACRE OR EQUIVALENT OF SLOW RELEASE NITROGEN MAY BE USED IN LIEU OF TOPDRESSING.
 - WORK LIME AND FERTILIZER INTO THE SOIL AS PRACTICAL TO A DEPTH OF 4-INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD PARALLEL TO THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.
 - INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS OUTLINED BELOW.
 - GRASS SEEDING MIXTURE AND APPLICATION RATE:

TYPE OF GRASS	SEEDING RATE	SEEDING DATE
HYBRID BERMUDA	2 LBS./1000 SQ. FT. (HULLED SEED)	SPRING SEEDING: MAY 15 - JUNE
	7 LBS./1000 SQ. FT. (UNHULLED BERMUDA SEED)	FALL SEEDING: ALL
- IN AREAS DESIGNATED AS SOD, SOD AS SPECIFIED BELOW IS TO BE INSTALLED ON MINIMUM 4" TOPSOIL. AREAS TO BE SODDED ARE TO BE PREPARED AS NOTED FOR ABOVE SEEDED AREAS.
- PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETENESS. THE CONTRACTOR SHALL REPLACE PLANTS, DEAD, UNHEALTHY, DYING OR DAMAGED THROUGH LOSS OF BRANCHES AND/OR FOLIAGE. LAWNS THAT ARE NOT IN GOOD CONDITION AT THE END OF THE GUARANTEE PERIOD SHALL BE REPAIRED UNTIL A GOOD LAWN RESULTS. IT IS UNDERSTOOD THAT THE OWNER SHALL ASSUME RESPONSIBILITY FOR WATERING ALL PLANT MATERIAL AND LAWN AREA BEGINNING WITH THE DATE OF SUBSTANTIAL COMPLETENESS.

GENERAL NOTES:
 -CONTRACTOR SHALL HAVE MISS UTILITIES LOCATE ALL UTILITIES IN THE PLANTING AREA PRIOR TO BEGINNING PLANTING OPERATIONS. ANY CONFLICTS WITH PROPOSED PLANTING SHALL BE REPORTED IMMEDIATELY TO THE STORE MANAGER AND ENGINEER / LANDSCAPE ARCHITECT BEFORE ANY PLANTING OPERATIONS ARE TO BEGIN.
 -THESE DETAILS ARE THE MINIMUM PLANTING STANDARD FOR CONTAINER or BALLED & BURLAPPED DECIDUOUS AND EVERGREEN TREES UP TO 2-1/2" IN CALIPER.
 -ALL DETAILS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT COLLAR IS APPROXIMATELY 1" HIGHER THAN EXISTING GRADE.
 -ALL LAWN AREAS WITHIN THE WAWA PROPERTY NOT OTHERWISE COVERED BY HARDSCAPE, PAVEMENT, BUILDING AND MULCHED BEDS SHALL BE SODDED WITH HYBRID BERMUDA OR AS OTHERWISE DIRECTED BY THE OWNER.



PERMALOC CORPORATION
 13505 BARRY ST
 HOLLAND, MI 49424
 TOLL FREE: 1-800-356-9660
 PHONE: (616) 399-9600
 FAX: (616) 399-9770
 www.permaloc.com



- CLEANLINE INSTALLATION INSTRUCTIONS**
- Dig landscape trench 1" (25mm) deeper than the edging being set.
 - Set the edging into the landscape trench with the top 1/2" (12.5cm) above what will become the compacted finish grade. (The installer can connect the adjacent sections of the edging prior to or after the sections are placed in the trench.) Where connections are needed on curves, the installer will find that connecting sections prior to installing will allow for faster completion.
 - Start at the beginning of the bed area and begin driving the 12" (30.5cm) aluminum stakes. (NOTE: There are more loops per section than stakes. The additional loops are provided for greater versatility of staking based on the design and application.)
 - Snap down the adjacent sections. (See ISOMETRIC VIEW A)
 - At the end of the bed area, cut the section to the desired length and stake down. Begin your next bed area with the remaining portion of the cut section. **FORMING ANGLES:** Cut the bottom of the edging halfway up using a hacksaw, lay on a hard surface placing a brick or 4 x 4 over the cut.
 - Bend up to the desired angle using a hammer to stiffen angle. This forms a 1/2" radius on top avoiding sharp corners. area, cut the section to the desired length and stake down. Begin your next bed area with the remaining portion of the cut section. (See Diagram B) **FORMING ANGLES:** Cut the bottom of the edging halfway up using a hacksaw, lay on a hard surface placing a brick or 4 x 4 over the cut. Bend up to the desired angle using a hammer to stiffen angle. This forms a 1/2" radius on top avoiding sharp corners.

PERMALOC CLEANLINE COMMERCIAL GRADE ALUMINUM LANDSCAPE EDGING
 NOTE: ALUMINUM EDGING SHALL ONLY BE USED TO EDGE RIVER ROCK MULCH BEDS.

NO.	REVISIONS	DATE

Kimley»Horn
 © 2022 KIMLEY-HORN AND ASSOCIATES, INC.
 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA 23462
 PHONE: 757-213-8600 FAX: 757-213-8601
 WWW.KIMLEY-HORN.COM

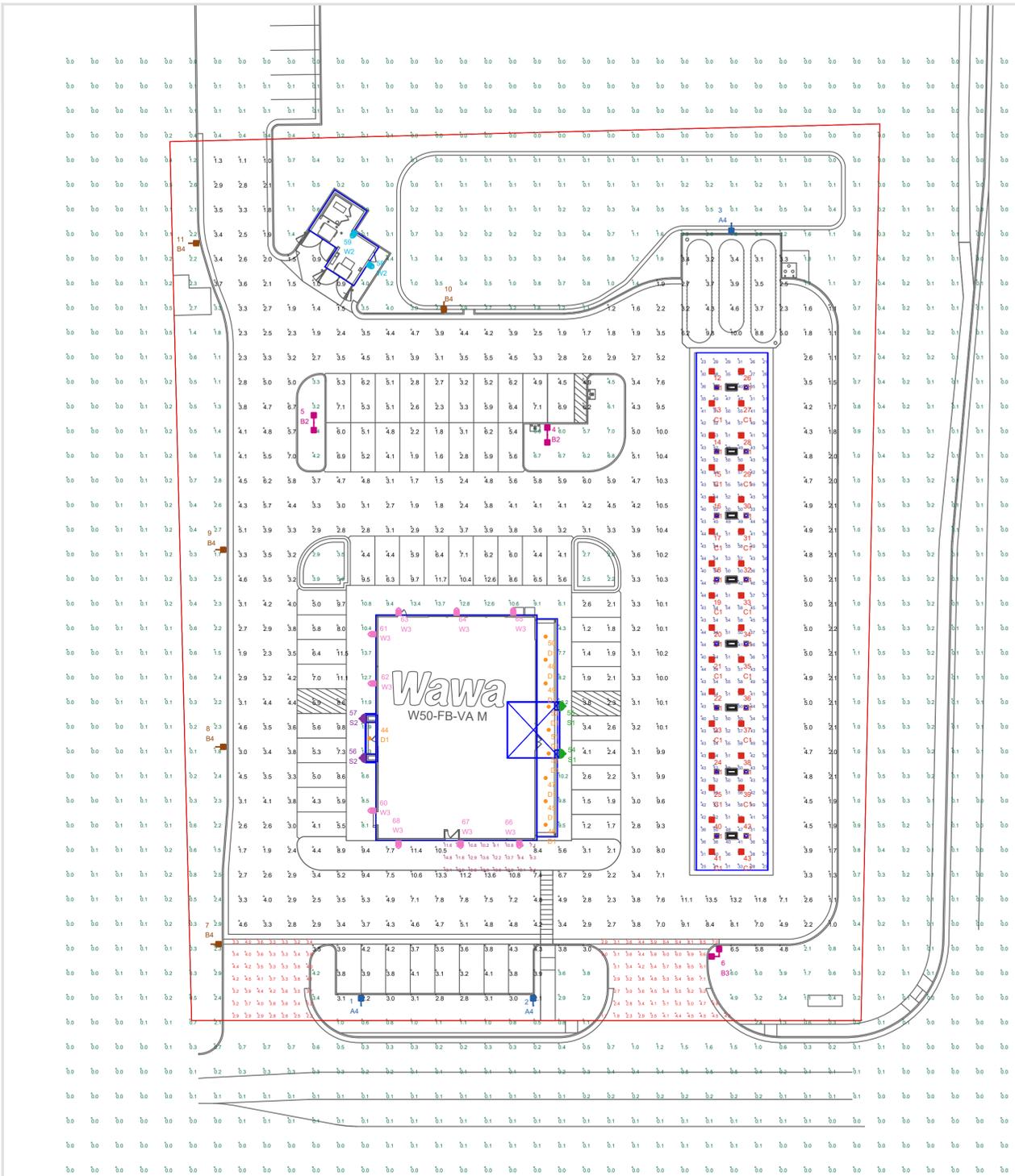


KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
116573001	04/05/2022	AS SHOWN	AMB	AMB	JY

LANDSCAPE NOTES AND DETAILS

WAWA - KILL DEVIL HILLS
 PREPARED FOR
ARISTA DEVELOPMENT, LLC
 NORTH CAROLINA
 KILL DEVIL HILLS

SHEET NUMBER
CL501



THIS SITE IS LOCATED IN A REGION WHERE LIGHTING IS REGULATED BY LOCAL ORDINANCES

LUM. NO.	LABEL	MTG. HT.
1	A4	20.5
2	A4	20.5
3	A4	20.5
4	B2	20.5
5	B2	20.5
6	B3	20.5
7	B4	20.5
8	B4	20.5
9	B4	20.5
10	B4	20.5
11	B4	20.5
12	C1	18.21
13	C1	18.21
14	C1	18.21
15	C1	18.21
16	C1	18.21
17	C1	18.21
18	C1	18.21
19	C1	18.21
20	C1	18.21
21	C1	18.21
22	C1	18.21
23	C1	18.21
24	C1	18.21
25	C1	18.21
26	C1	16.21
27	C1	16.21
28	C1	16.21
29	C1	16.21
30	C1	16.21
31	C1	16.21
32	C1	16.21
33	C1	16.21
34	C1	16.21

LUM. NO.	LABEL	MTG. HT.
35	C1	16.21
36	C1	16.21
37	C1	16.21
38	C1	16.21
39	C1	16.21
40	C1	18.21
41	C1	18.21
42	C1	16.21
43	C1	16.21
44	D1	9
45	D1	9
46	D1	9
47	D1	9
48	D1	9
49	D1	9
50	D1	9
51	D1	9
52	D1	9
53	D1	9
54	S1	9
55	S1	9
56	S2	8.5
57	S2	8.5
58	W2	8
59	W2	8
60	W3	15
61	W3	15
62	W3	15
63	W3	15
64	W3	15
65	W3	15
66	W3	15
67	W3	15
68	W3	15

NOTES:
 - ALL AREA LIGHTS ON 20 FT. POLES MOUNTED ON 6 IN. CONCRETE BASES
 - ALL CONCRETE BASES TO BE LOCATED 5 FT. BEHIND CURB

LABEL	AVG	MAX	MIN	AVG/MIN	MAX/MIN
CANOPY	44.14	58	21	2.10	2.76
DELIVERY	11.30	14.8	7.1	1.59	2.08
ENTRANCES & EXITS	4.17	8.5	1.7	2.45	5.00
PAVED	4.44	13.6	0.9	4.93	15.11
UNDEFINED	0.66	14.3	0.0	N.A.	N.A.

SYMBOL	QTY	LABEL	ARRANGEMENT	LUMENS	LLF	BUG RATING	WATTS/LUMINAIRE	TOTAL WATTS	MANUFACTURER	CATALOG LOGIC
[Symbol]	3	A4	SINGLE	8891	1.030	B1-U0-G2	134	402	CREE, INC.	ARE-EDG-3MB-DA-06-E-UL-XX-700-57K
[Symbol]	2	B2	BACK-BACK	12678	1.030	B3-U0-G2	134	536	Cree Inc.	ARE-EDG-4M-DA-06-E-UL-XX-700-57K
[Symbol]	1	B3	2 @ 90 DEGREES	12678	1.030	B3-U0-G2	134	268	Cree Inc.	ARE-EDG-4M-DA-06-E-UL-XX-700-57K
[Symbol]	5	B4	SINGLE	9549	1.030	B1-U0-G2	134	670	CREE, INC.	ARE-EDG-4MB-DA-06-E-UL-XX-700-57K
[Symbol]	32	C1	SINGLE	13251	1.030	B3-U0-G1	134	4288	CREE, INC.	CAN-304-SL-RD-06-E-UL-XX-700-57K
[Symbol]	10	D1	SINGLE	1652	1.020	B2-U0-G0	27.2	272	Cree Inc	KR6-20L-35K-120V + KR6T-SSGC-FF
[Symbol]	2	S1	SINGLE	2659	1.000	B0-U5-G2	20	40	FC/SSL Lighting	FCWS7170-XXX-35K-2500-CRI85-XX-D
[Symbol]	2	S2	SINGLE	2542	1.000	B0-U4-G2	20	40	FC/SSL Lighting	FCWS7168-XXX-35K-2500-CRI85-XX-D
[Symbol]	2	W2	SINGLE	2105	1.030	B1-U0-G1	25	50	CREE, INC.	SEC-EDG-3M-WM-02-E-UL-XX-350-57K
[Symbol]	9	W3	SINGLE	11259	1.030	B3-U0-G3	134	1206	CREE, INC.	SEC-EDG-4M-WM-06-E-UL-XX-700-57K

