ZEBULON

NORTH CAROLINA

TOWN OF ZEBULON
JOINT PUBLIC HEARING
October 13th, 2025
6:00 PM

I. CALL TO ORDER

II. APPROVAL OF AGENDA

III. NEW BUSINESS

a. **Planned Development 2025-05 – Sheetz (1406 N Arendell Ave) PIN #2706011220** A request by Sheetz, INC., for a rezoning from Heavy Commercial (HC) to Planned Development for the use of a Convenience Store with Gasoline Sales.

IV. ADJOURNMENT

Topic: **RZ 2025-05 – Sheetz Planned Development (PD) Rezoning Petition**
Speaker: Matthew Lower, Planning Director
From: Matthew Lower, Planning Director
Prepared by: Christopher Medina, Planner I
Approved by: Taiwo Jayeoba, Interim Town Manager

Executive Summary:
The Board of Commissioners will consider a Planned Development (PD) rezoning petition for 1406 N Arendell Ave (PIN# 2706011220). Town Board's approval of this Planned Development rezoning petition will add a drive-through, pick-up window and one additional fuel pump at the Sheetz gas station.

Discussion:
Sheetz, Inc is seeking to rezone one parcel, totaling 2.15 acres, from Heavy Commercial (HC) to Planned Development (PD) Zoning District.

The building and site will be demoed and rebuilt to include a 6,139 square-foot building with a pickup window and one additional fuel pump for the existing use of a Convenience Store (with gasoline sales). The existing car wash will be removed from the site. The applicant is proposing nine conditions that deviate from the requirements of the Unified Development Ordinance (UDO). If approved, any development on the property will be subject to the conditions described within the proposed Planned Development Narrative and any additional Town development standards.

Unified Development Ordinance (UDO) Consistency Analysis:
"The Planned Development (PD) districts are established and intended to encourage innovative land planning and site design concepts that support a high quality of life and achieve a high quality of development, environmental sensitivity, energy efficiency, and other Town goals and objectives (UDO Section 4.5.6.A)"

As part of a complete Planned Development application the applicant has provided a Planned Development narrative to help inform the proposed districts character. While this narrative engages with the Unified Development Ordinance, the Planned Development process allows flexibility to create a new district that is beyond what is permitted under an existing zoning district.

The following conditions have been proposed as deviations from the ordinance:

1) The fuel pump canopy island shall be located between the proposed building and N. Arendell Avenue (NC 96).
   - Section 4.3.5.Q.1 "Pump islands may not be located between a building and any adjacent street rights-of-way."

2) No more than sixty percent (60%) of off-street parking will be located between the proposed structure's primary facade and North Arendell Avenue.
   - Section 5.3.1.F.11.a.i “Sites comprised of commercial buildings subject to these design standards shall be configured such that no more than 50 percent of the provided off-street parking shall be located between a building’s primary building façade and the street it faces.”
3) The proposed dumpster enclosure shall be located as shown on the site plan. The proposed dumpster shall be fully screened and enclosed. The enclosure shall be built consistently with the elevations, attached hereto and made a condition hereof. The enclosure shall be constructed with brick, concrete masonry, and pressure treated wood (or reasonably similar quality materials) to ensure aesthetic consistency with the primary structure.
   - Section 5.3.1.H “The following standards shall apply to dumpster and refuse collection areas for commercial uses. 1. The sides and back of enclosures shall be constructed of the same materials as the primary building and the following materials are prohibited a. Natural wood fence panels b. Synthetic Stucco or EFIS c. Chain-Link d. Reflective Corrugated Metal 2. Gates shall be constructed of a metal panel system and painted or coated black, grey, or similar neutral color. 3. Enclosures shall meet the standards of Table 5.10.5, Screening Methods.”
4) The primary wall/façade (facing North Arendell Avenue) will be occupied by no less than twenty-seven percent (27%) of visually transparent windows or doors. The applicant shall supplement with additional false/opaque windows and/or articulated wall forms.
   - Section 5.3.1.F.7 “Building walls shall incorporate fenestration features in accordance with the following standards (see Figure 5.3.1.F.7: Commercial Building Fenestration): a. PRIMARY BUILDING WALLS Primary building walls shall be configured so that: i. At least 40 percent of the first floor portion of the primary wall is occupied by visually transparent windows or doors; ii. At least 30 percent of a second floor portion of the primary wall (if provided) is occupied by visually transparent windows or doors; iii. A window or functional general access doorway is located at least every 20 feet along the façade; and iv. No more than 50 percent of any single window or door is obstructed by a window sign or other opaque display.”
5) The secondary wall/facade (facing Pearces Road) will be occupied by no less than twenty-four (24%) of visually transparent windows or doors, false or opaque windows, or articulated wall forms.
   - Section 5.3.1.F.7 “SECONDARY BUILDING WALLS Secondary building walls shall be configured so that at least 30 percent of the ground floor façade and at least 20 percent of any second floor façade is occupied by: i. Visually transparent windows or

doors with regular spacing; ii. False or opaque windows with regular spacing; iii. Articulated wall forms designed to mimic window openings that also include an overhang or awning."

6) The street setback for Pearces Road shall be ten (10) feet for the dumpster enclosure.
   - Section 3.4.4 "Heavy Commercial: Minimum street setback (feet) 30"
7) The side perimeter buffer for the boundary adjoining the property located at 1420 North Arendell Avenue (PIN: 1796919353) shall be three (3) feet.
   - Section 5.6.10 "HC along HC – Type A perimeter buffer: Buffer width (feet) 10"
8) The streetscape buffer along North Arendell Avenue and Pearces Road shall be zero (0) feet.
   - Section 5.6.12 "Streetscape buffers shall maintain a minimum width of at least 15 feet from the lot lines subject to these standards."
9) Parking spaces 11, 12, 13, and 14 (as shown on the site plan) shall be permitted to be further than fifty (50) feet from the trunk of a canopy tree. Planters shall be located along the sidewalk at the storefront to enhance landscaping for the parking area and for the parking spaces 11, 12, 13, and 14.
   - Section 5.6.9.A "1. Parking lots subject to these standards shall include at least one canopy tree for every 12 off-street parking spaces provided. 2. Required canopy trees may be placed around, in, or near the parking lot provided that no parking space is more than 50 feet from the trunk of a canopy tree."

Policy Analysis:

Comprehensive Land Use Plan:

The future land use map shows the subject parcel as General Commercial (GC). The commercial use is consistent with the GC future land use. "This designation is for properties in commercial retail, office and service uses, primarily along portions of major roadway corridors within the community for high visibility and accessibility, but also in other locations to accommodate smaller-scale and neighborhood-focused businesses. (Land Use and Development, Page 18)."

The rezoning is supported by the following CLUP goals:

1. **Goals for Land Use and Development:**
   - **Goal 1:** A land use allocation and pattern that advances Zebulon's objectives of achieving greater housing variety, supporting its economic development and tax base needs, and creating a complete community with convenient resident access to schools, recreation, shopping and services (Land Use and Development, p.2).
   - **Goal 2:** Consistent character of land use within areas intended for particular character types, from rural and suburban through auto-oriented and urban along the community character spectrum (Land Use and Development, p.2).

2. **Goals for Growth Capacity**
    - **Goal 1:** A growth management philosophy and strategies that enable most of the projected growth in the Zebulon area to be absorbed within and contiguous to the existing developed town (Growth Capacity, p.2).
    - **Goal 2:** A growth progression and pattern of development that promotes the Town's long-term financial sustainability and applies an adequate public facilities approach to growth management. (Growth Capacity, p.2).
3. **Economic Development Goals and Actions**:
    - **Goal 1:** An economically resilient community with a diverse yet stable economic base, an environment that supports both entrepreneurs and established businesses, and a local real estate market attractive to emerging investment, job creation and development opportunities (Economic Development, p. 2).
    - **Goal 2**: A town that remains the unquestioned hub community for eastern Wake County as a multi-purpose destination and center of employment, commerce, government services, education, culture and recreational and leisure activities for residents and visitors (Economic Development, p. 2).

Outcomes:

The rezoning will have the following outcomes:

1. **Improvements for the existing convenience store (with gasoline sales):** The rezoning from a Heavy Commercial (HC) zoning district to a Planned Development (PD) district will allow Sheetz to add both a drive-through, pick-up window and one more fuel pump (multi-product dispenser (MPD)).
2. The rezoning to PD will allow for the redevelopment of the site in a manner that mirrors the existing building orientation and site plan, resulting in a legally conforming project.
3. The site will be developed to an alternative form other than what is prescribed in the Unified Development Ordinance (UDO).

Staff Recommendation for Joint Public Hearing:

Staff recommends opening the public hearing for this Planned Development rezoning petition. After public hearing and discussion closes, refer the matter to the Planning Board for consideration.

Staff Recommendation for Planning Board:

Town staff recommend that the Planning Board consider the appropriateness of applying the Planned Development (PD) process to this request. The proposed redevelopment would bring the Sheetz site into legal conformity and provide an updated building form consistent with the Town's Unified Development Ordinance (UDO).

If the Board determines that utilizing the PD process to make a project conforming by allowing flexibility from the ordinance is consistent with the intent of UDO section 2.2.15 and 3.5.6, staff recommends approval with the proposed conditions.

Alternatively, if the Board believes that applying the PD process in this instance would constitute an avoidance of the Town's established design and development standards—particularly given that the site is being completely redeveloped- then staff recommends denial of the request.

Attachments:

1. Application
2. Neighborhood Meeting Packet
3. Plan Set
4. Planned Development Narrative/TIA
5. Utility Allocation Checklist
6. Future Land Use Map
7. Aerial Map
8. Zoning Map
9. Site Photos
10. Public Hearing Notification Affidavit

2nd Request

APPLICATION FOR PLANNED DEVELOPMENT

PART 1. DESCRIPTION OF REQUEST/PROPERTY

Street Address of the Property: 1406 N ARENDELL AVE		Acreage: 2.50
Parcel Identification Number (NC PIN): 2706011220	Deed Book: 13270	Deed Page(s): 2106
Existing Zoning of the Property: HEAVY COMMERCIAL (HC)	Proposed Zoning of the Property: PLANNED DEVELOPMENT	
Existing Use of the Property: CONVENIENCE STORE (WITH GASOLINE SALES)	Proposed Use of the Property: CONVENIENCE STORE (WITH GASOLINE SALES)	

Reason for rezoning to a Planned Unit Development:

SHEETZ IS PROPOSING A NEW PICK UP WINDOW WHICH TRIGGERS THE PLANNED DEVELOPMENT PROCESS.

PART 2. APPLICANT/AGENT INFORMATION

Name of Applicant/Agent: SHEETZ, INC.		
Street Address of Applicant/Agent: 243 SHEETZ WAY		
City: CLAYSBURG	State: PA	Zip Code: 16625
Email of Applicant/Agent: KBROWN@SHEETZ.COM	Telephone Number of Applicant/Agent: 814-312-1705	Fax Number of Applicant/Agent: N/A

Are you the owner of the property? ☐ Yes ☒ No	Are you the owner's agent? ☒ Yes ☐ No	**Note: If you are not the owner of the property, you must obtain the Owner's consent and signature giving you permission to submit this application.**

PART 3. PROPERTY OWNER INFORMATION

Name of Property Owner: OLDE HERITAGE PROPERTIES LLC		
Street Address of Property Owner: 806 N ARENDELL AVE		
City: ZEBULON	State: NC	Zip Code: 27597
Email of Property Owner:	Telephone Number of Property Owner:	Fax Number of Property Owner:

I hereby state that the facts related in this application and any documents submitted herewith are complete, true, correct, and accurate to the best of my knowledge.

Signature of Applicant:	***Print Name:*** Kelly Brown	***Date:*** 05/01/2025
Signature of Owner:	***Print Name:*** Betty B. Ray	***Date:*** 4/9/25

LEGISLATIVE CONSIDERATIONS – PLANNED DEVELOPMENT

The applicant shall propose site-specific standards and conditions that take into account the following considerations, which are considerations that are relevant to the legislative determination of whether or not the proposed planned development is in the public interest. Therese considerations do not exclude the legislative consideration of any other factor that is relevant to the public interest. Failure to adequately address the findings below may result in denial of the application. Please provide responses to the following standards as outlined in Section 2.2.15 of the Unified Development Ordinance.

1. Please provide details on how the proposed Planned Development advances the public health, safety, or welfare
The proposed Planned Development advances the public health, safety, and welfare of the community by redeveloping an aged-store and development. The access points are consistent with existing conditions and new lighting/underground storage tanks will be included. The proposed development has planned a fence in between the residential and retail to enhance safety of the neighbors.
2. Please provide details on how the proposed Planned Development is appropriate for its proposed location, and is consistent with the purposes, goals, objectives, and policies of the Town's adopted policy guidance.
The proposed Planned Development is appropriate for its proposed location and is consistent with the purposes, goals, objectives, and policies of the Town's adopted policy guidance because it maintains the current use but modifies the orientation to be consistent with new Town standards and Comprehensive Plan.
3. Please provide details on how the proposed Planned Development is reasonable and in the public interest.
The proposed Planned Development is reasonable and in the public interest because it redevelops an aged-store and development. The development will become consistent with new Town standards and Comprehensive Plan.
4. Please provide details on how the proposed Planned Unit Development provides for innovative land planning and site design concepts that support a high quality of life and achieve a high quality of development, environmental sensitivity, energy efficiency, and other Town goals and objectives.
The proposed Planned Development provides for innovative land planning and site design concepts that support a high quality of life and achieve a high quality of development, environmental sensitivity, energy efficiency, and other Town goals and objectives because the store will be rebuilt to current Sheetz standards, including the latest lighting design, which is most efficient. The development will become in compliance with the latest Town standards.
5. Please provide details on how the proposed planned unit development provides improved means of access, open space, and design amenities;
The proposed Planned Development provides improved means of access, open space, and design amenities because it is not increasing the impervious area onsite, the existing stormwater management pond is being maintained, and the access points are being maintained. A new amenity for the community, a pick-up window, is being proposed so customers can have easier accessibility to getting food and beverage from the store.

6. Please provide details on how the proposed Planned Unit Development provides a well-integrated mix of residential and nonresidential land uses in the same development, including a mix of housing types, lot sizes, and densities;
The proposed Planned Development provides a commercial use that is adjacent to a residential use.
7. Please provide details on how the proposed Planned Unit Development creates a system of incentives for redevelopment and infill in order to revitalize established areas;
The proposed Planned Development creates a system of incentives for redevelopment and infill in order to revitalize established areas because it is demolishing and rebuilding a successful, existing use in order to bring the site up to current standards and appearance. Completing this rebuild project will allow Sheetz to continue to bring in business for the community for another 15+ years.
8. Please provide details on how the proposed Planned Unit Development promotes a vibrant public realm by placing increased emphasis on active ground floor uses, pedestrian-oriented building façade design, intensive use of sidewalks, and establishment of public gathering areas;
The proposed Planned Development promotes a vibrant public realm by including bike racks, outdoor seating, and maintains the open space adjacent to the street frontages.
9. Please provide details on how the proposed Planned Unit Development provides for efficient use of land resulting in smaller networks of utilities and streets and thereby lowering development and housing costs; and
The proposed Planned Development provides for efficient use of land because it maintains the existing use. There is no new Town infrastructure required.
10. Please provide details on how the proposed Planned Unit Development provides quality design and environmentally sensitive development that respects surrounding established land use character and respects and takes advantage of a site's natural and man-made features, such as trees, estuaries, shorelines, special flood hazard area, and historic features.
The proposed Planned Development provides quality design and environmentally sensitive development because it is maintaining the existing open space and stormwater management facility onsite. The vegetated buffer in between the Sheetz and residential property will be increased along with the addition of a fence to prevent noise.
11. Other factors as the Board of Commissioners may determine to be relevant.

ZEBULON
NORTH CAROLINA

APPLICATION FOR
PLANNED DEVELOPMENT

OWNER'S CONSENT FORM

Name of Project: 416 SHEETZ ZEBULON Submittal Date: JUNE 2, 2025

OWNER'S AUTHORIZATION

I hereby give CONSENT to Sheetz, INC. (type, stamp or print clearly full name of agent) to act on my behalf, to submit or have submitted this application and all required material and documents, and to attend and represent me at all meetings and public hearings pertaining to the application(s) indicated above. Furthermore, I hereby give consent to the party designated above to agree to all terms and conditions which may arise as part of the approval of this application.

I hereby certify I have full knowledge the property I have an ownership interest in is the subject of this application. I acknowledge and agree that, pursuant to Section 2.2.15. of the Town of Zebulon Unified Development Ordinance, that lands subject to a Planned Development shall be subject to all the standards, conditions, and plans approved as part of that application. These standards, plans, and approved conditions are perpetually binding on the land as an amendment to this Ordinance and the Official Zoning Map and may only be changed in accordance with the procedures established in this Ordinance. Development located outside the Town of Zebulon's corporate limits shall comply with all Town policies related to annexation and the extension of utilities. I understand that all other applicable standards and regulations of the UDO will remain applicable to the subject lands unless specifically listed as conditions or deviations as part of this request. I understand that any false, inaccurate, or incomplete information provided by me, or my agent will result in the denial, revocation or administrative withdrawal of this application, request, approval or permits. I acknowledge that additional information may be required to process this application. I further consent to the Town of Zebulon to publish, copy or reproduce any copyrighted document submitted as a part of this application for any third party. I further agree to all terms and conditions, which may be imposed as part of the approval of this application.

Signature of Owner	Betty B. Ray *Print Name*	4/19/25 *Date*

CERTIFICATION OF PROPERTY OWNER

I hereby certify the statements or information made in any paper or plans submitted herewith are true and correct to the best of my knowledge. I understand this application, related material and all attachments become official records of the Planning Department of the Town of Zebulon, North Carolina, and will not be returned.

Signature of Owner	*Print Name*	2nd 4/19/25 *Date*

*Owner of record as shown by the Wake County Revenue Department (www.wakegov.com). An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this form.

CONCEPT PLAN REQUIREMENTS

Every applicant requesting Planned Development approval shall submit **8 copies** and **1 pdf (e-mail or USB Drive)** of a concept plan drawing with the application for a Planned Development. The concept plan shall contain sufficient information to adequately determine the type of development being proposed. The concept plan drawing shall include, at a minimum, the following features unless otherwise specified by the Planning Department:

ITEM		CHECK IF SUBMITTED
1.	Plot plan showing all existing and planned structures, building setback lines, perimeter boundaries, and easements.	✔
2.	Elevation drawings of all buildings indicating the proposed exterior finish materials.	✔
3.	Landscaping plan, lighting, fencing, screening, and walls, indicating all heights and locations.	✔
4.	Location of all ingress and egress.	✔
5.	Off-street parking and loading facilities, with calculations showing how the quantities were obtained.	✔
6.	All pedestrian walks and open areas for use by residents, tenants, or the public.	✔
7.	Proposed land uses indicating areas in square feet.	✔
8.	The location and types of all signs, including lighting and heights, with elevation drawings.	✔
9.	Existing and/or proposed street names.	✔
10.	Proposed potable or reuse water, wastewater connections, and storm sewer line; proposed grading and drainage patterns; proposed water and sewer allocations.	✔
11.	Such additional items and conditions, including design standards as the Planning Board and Board of Commissioners deems necessary.	N/A
12.	Trip generation data and TIA if applicable in accordance with Section 6.13 of the UDO.	✔

PROPOSED USES

An application has been duly filed requesting that the property described in this application be rezoned from HC (HEAVY COMMERCIAL) to PD (PLANNED DEVELOPMENT). It is understood and acknowledged that if the property is rezoned as requested, the property described in this request will be perpetually bound to the use(s) authorized and subject to such conditions as imposed, unless subsequently changed or amended as provided for in the Unified Development Ordinance. It is further understood and acknowledged that final plans for any specific development to be made pursuant to any such Planned Development shall be submitted for site or subdivision plan approval. Use additional pages as needed.

The Rezoned Lands may be used for, and only for, the uses listed immediately below. The permitted uses are subject to the limitations and regulations stated in the Use Table and any additional limitations or regulations stated below. For convenience, some relevant sections of the Unified Development Ordinance may be referenced; such references do not imply that other sections of the Unified Development Ordinance do not apply.

1.	CONVENIENCE STORE (WITH GASOLINE SALES)	**25.**	
2.		**26.**	
3.		**27.**	
4.		**28.**	
5.		**29.**	
6.		**30.**	
7.		**31.**	
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21.		**45.**	
22.		**46.**	
23.		**47.**	
24.		**48.**	

PROPOSED DEVELOPMENT CONDITIONS

The applicant hereby requests that the Zebulon Board of Commissioners, pursuant to Section 3.3.5 of the Unified Development Ordinance, approve the Proposed Planned Development with above listed use(s), subject to the following condition(s), requested deviations, and proposed alternative means of compliance. (Attach additional pages as needed)

Condition #1:
Modification from 5.3.2.3.a&b of Mixed-Use Design Standards:
The building will be configured as shown on the site plan.

Condition #2:
Modification from 5.3.2.4.a
The building will occupy approximately 25% of the frontage along Pearces Road.
The building will occupy approximately 50% of the frontage along N Arendell Avenue (NC 96).

Condition #3:
Modification from 5.3.2.6.a&b
A drive aisle and parking rows are proposed between the building and the N Arendell Avenue (NC 96).

Condition #4:
Modification from 5.3.2.8.b
Alternative transparency requirements are provided along Pearces Road.

Condition #5:
Modification from 5.3.2.12
A pick-up window is proposed with this development.

Condition #6:
Modification from 5.6.12.D.1
The street buffer along Pearces Road is 8' All other buffer requirements are met. Curb line is consistent with existing conditions.

Condition #7:
Modification from Table 5.6.10.C
The buffer along the adjacent commercial property is 3 feet. All other buffer requirements are met. Curb line is consistent with existing conditions.

Condition #8:
Modification from Table 5.11.9.M
There will be two wall signs on the front building facade.

PROPOSED USES

An application has been duly filed requesting that the property described in this application be rezoned from HC (HEAVY COMMERCIAL) to PD (PLANNED DEVELOPMENT). It is understood and acknowledged that if the property is rezoned as requested, the property described in this request will be perpetually bound to the use(s) authorized and subject to such conditions as imposed, unless subsequently changed or amended as provided for in the Unified Development Ordinance. It is further understood and acknowledged that final plans for any specific development to be made pursuant to any such Planned Development shall be submitted for site or subdivision plan approval. Use additional pages as needed.

The Rezoned Lands may be used for, and only for, the uses listed immediately below. The permitted uses are subject to the limitations and regulations stated in the Use Table and any additional limitations or regulations stated below. For convenience, some relevant sections of the Unified Development Ordinance may be referenced; such references do not imply that other sections of the Unified Development Ordinance do not apply.

1.	CONVENIENCE STORE (WITH GASOLINE SALES)	**25.**	
2.	DRIVE THROUGH / PICK-UP WINDOW	**26.**	
3.		**27.**	
4.		**28.**	
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21.		**45.**	
22.		**46.**	
23.		**47.**	
24.		**48.**	

NOTICE OF NEIGHBORHOOD MEETING

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Dear Neighbor:
You are invited to a neighborhood meeting to review and discuss the development proposal at:

1406 N ARENDELL AVENUE, ZEBULON, NC 27597 (Address) | 2706011220 (Pin Numbers)

in accordance with the Town of Zebulon Neighborhood Meeting procedures. This meeting is intended to be a way for the applicant to discuss the project and review the proposed plans with adjacent neighbors and neighborhood organizations before the submittal of an application to the Town. This provides neighbors an opportunity to raise questions and discuss any concerns about the impacts of the project before it is officially submitted. Once an application has been submitted to the Town, it may be tracked using the Interactive Development Map located on the Town of Zebulon website at:
https://www.townofzebulon.org/planning/interactive-development-map

A Neighborhood Meeting is requested because this project will include:

- ☐ Conditional Rezoning
- ☑ Planned Unit Development
- ☐ Site Plan within the Downtown Core or Downtown Periphery Zoning Districts
- ☐ Zoning Map Amendment (results in more intensive uses or increased density)
- ☐ Special Use Permit (Quasi-Judicial Hearing)
  *Quasi-Judicial Hearing: The Board of Commissioners cannot discuss the project prior to the public hearing.

The following is a description of the proposed (also see attached map(s) and/or plan sheet(s)):
Redevelopment of the existing Sheetz site. The building and site will be demoed and rebuilt to include a 6,139 SF building with a pickup window and 1 additional MPD. The existing car wash will be removed. New landscaping will be included.

Estimated Submittal Date: APRIL 30, 2025

MEETING INFORMATION:

Property Owner(s) Name(s) OLDE HERITAGE PROPERTIES LLC

Applicant(s) KIMLEY-HORN AND ASSOCIATES, INC. ON BEHALF OF SHEETZ, INC.

Contact Information (e-mail/phone) HEATHER.TIMOTHY@KIMLEY-HORN.COM

Meeting Address: ZEBULON COMMUNITY CENTER; 301 S ARENDELL AVE, ZEBULON, NC 27597

Date of Meeting: THURSDAY, APRIL 17, 2025

Time of Meeting: 6:00 - 8:00 PM

**Meetings shall occur between 5:00 p.m.-9:00 p.m. on a Monday through Thursday (excluding Town recognized holidays). If you have questions about the general process for this application, please contact the Planning Department at 919-823-1809. You may also find information about the Zebulon Planning Department and on-going planning efforts at https://www.townofzebulon.org/services/planning

PROJECT CONTACT INFORMATION

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Development Contacts:		
Project Name: 416 SHEETZ ZEBULON		Zoning: HC, HEAVY COMMERCIAL (CURRENT)
Location: 1406 N ARENDELL AVE (CORNER OF PEARCES RD & N ARENDELL AVE)		
Property PIN(s): 2706011220		Acreage/Square Feet: 2.50
Property Owner: OLDE HERITAGE PROPERTIES LLC		
Address: 806 N ARENDELL AVE		
City: ZEBULON	State: NC	Zip: 27597
Phone: N/A		Email: N/A
Developer: SHEETZ, INC.		
Address: 243 SHEETZ WAY		
City: CLAYSBURG	State: PA	Zip: 16625
Phone: 814-312-1705	Fax: N/A	Email: KBROWN@SHEETZ.COM
Engineer: KIMLEY-HORN AND ASSOCIATES, INC.		
Address: 421 FAYETTEVILLE STREET, SUITE 600		
City: RALEIGH	State: NC	Zip: 27601
Phone: 703-870-3644	Fax:	Email: HEATHER.TIMOTHY@KIMLEY-HORN.COM
Builder (if known):		
Address:		
City:	State:	Zip:
Phone:	Fax:	Email:

	PIN	Property Owner Name	Property Address	Mailing Address
1	2705184110	Town of Zebulon Planning Department	1003 N Arendell Ave	Same as property address
2	2706012606	WAKELON TOWNHOMES HOMEOWNERS ASSN INC	201 Pearces Rd	13037 NC HIGHWAY 39 ZEBULON NC 27597-8028
3	1796919353	Wake County Board of Alchoholic Control	1420 N Arendell Ave	1212 Wicker Dr RALEIGH, NC 27604-1428
4	1796918552	WEN 14582 ZEBULON LLC	1500 N Arendell Ave	120 EAST END AVE APT 10B NEW YORK VA 10028
5	1796915297	TRI ARC FOOD SYSTEMS INC	1513 N Arendell Ave	4905 WATERS EDGE DR RALEIGH NC 27606-2405
6	1796902666	TRUIST BANK	49 Green Pace Rd	PO BOX 167 WINSTON SALEM NC 27102-0167
7	1796907983	PARRISH REALTY CO OF ZEBULON INC	1413 N Arendell Ave	2072 EARPSBORO RD ZEBULON NC 27597-6896
8	1796909941	LNP INC PARRISH REALTY C/O RENEE BAKER	1405 N Arendell Ave	PO BOX 1128 ZEBULON NC 27597-1128
9	1796908821	PARRISH REALTY CO OF ZEBULON INC	0 N Arendell Ave	2072 EARPSBORO RD ZEBULON NC 27597-6896
10	2706000800	LNP INC	1403 N Arendell Ave	PO BOX 1128 ZEBULON NC 27597-1128
11	2706000607	LNP INC PARRISH REALTY C/O RENEE BAKER	1309 N Arendell Ave	PO BOX 1128 ZEBULON NC 27597-1128
12	2706001516	EDDINS OIL COMPANY INC	1301 N Arendell Ave	Same as property address
13	2706002456	BB CAR WASH LLC DR CAR WASH LLC	1211 N Arendell Ave	120 WIND CHIME CT RALEIGH NC 27615-6433
14	2706003318	BB CAR WASH LLC DR CAR WASH LLC	1209 N Arendell Ave	120 WIND CHIME CT RALEIGH NC 27615-6433
15	2705091833	BB CAR WASH LLC DR CAR WASH LLC	0 Hendricks Dr	120 WIND CHIME CT RALEIGH NC 27615-6433
16	2706003875	BELLWOOD FOREST LLC	1300 N Arendell Ave	2701 E MILLBROOK RD RALEIGH NC 27604-2811
17	2706013095	WAFFLE HOUSE INC TAX DEPARTMENT	102 Pearces Rd	5986 FINANCIAL DR NORCROSS GA 30071-2949
18	2706015099	CG ENTERPRISES OF NC LLC	301 Jones St	1609 WHISPERING MEADOWS DR ZEBULON NC 27597-7367
19	2706014107	LE, KHANH Q NGUYEN, NGOC N	106 Pearces Rd	3715 HINTON GROVE PL RALEIGH NC 27604-5058
20	2706014224	CG ENTERPRISES OF NC LLC	108 Pearces Rd	1609 WHISPERING MEADOWS DR ZEBULON NC 27597-7367
21	2706016424	BUNN, DONNA GREEN GREEN, RICHARD ALLEN	204 Pearces Rd	603 BRANTLEYTOWN RD ZEBULON NC 27597-6021
22	2706012471	MANDAL, ABIR K	101 Nostalgia Ln	101 NOSTALGIA LN ZEBULON NC 27597-6871
23	2706012442	SILVER, RODERICK N	103 Nostalgia Ln	103 NOSTALGIA LN ZEBULON NC 27597-6871
24	2706012423	HEMPHILL, ANDREW SCOTT	105 Nostalgia Ln	105 NOSTALGIA LN ZEBULON NC 27597-6871
25	2706011494	WILSON, SHELIA COUNCIL	107 Nostalgia Ln	107 NOSTALGIA LN ZEBULON NC 27597-6871
26	2706011475	GILLEENY, RYAN GILLEENY, KYNDRA	109 Nostalgia Ln	109 NOSTALGIA LN ZEBULON NC 27597-6871
27	2706011446	DAUPHINAIS, STEPHANIE DAUPHINAIS, PAUL B	111 Nostalgia Ln	111 NOSTALGIA LN ZEBULON NC 27597-6871
28	2706011417	HARPER, MARTHA ANN	113 Nostalgia Ln	113 NOSTALGIA LN ZEBULON NC 27597-6871
29	2706010523	UNDERHILL, KAREN	201 Nostalgia Ln	Same as property address

30	2706010536	MOSS, KIMBERLY HOCUTT EXECUTOR THE ESTATE OF EVA D HOCUTT	203 Nostalgia Ln	10704 THORNBURY CREST CT RALEIGH NC 27614-7845
31	2706010548	BINDER, TINA H BINDER, MICHAEL I	205 Nostalgia Ln	Same as property address
32	2706010651	SCHILLING, DOMENICK CAIN, LORI	207 Nostalgia Ln	Same as property address
33	2706010666	MACHACEK, JOHN D MACHACEK, ELLEN G	209 Nostalgia Ln	Same as property address
34	2706010679	KUHN, GERALD G KUHN, YARITZA	211 Nostalgia Ln	Same as property address
35	2706010781	BLACKWELL, EMILY	213 Nostalgia Ln	Same as property address
36	2706011576	BERUBE, TAD ARTHUR	300 Nostalgia Ln	8721 ZEIGLER DR KNIGHTDALE NC 27545-7466
37	2706012518	GUEVARA, BETHANN M	304 Nostalgia Ln	Same as property address
38	2706012536	CARAPELLE, BEVERLY L	106 Nostalgia Ln	Same as property address
39	2706012555	EGGIMANN, PETER EGGIMANN, DEVERA	104 Nostalgia Ln	PO BOX 1629 WENDELL NC 27591-1629
40	2706012584	WHITE, AMESHA	102 Nostalgia Ln	102 NOSTALGIA LN ZEBULON NC 27597-6870
41	2706013513	SPELLER, JULIAN THOMAS TRUSTEE SPELLER, BRENDA AYERS TRUSTEE	100 Nostalgia Ln	106 E LEE ST ZEBULON NC 27597-2426
42	2706013519	INGRAM, BIELCA INGRAM, WILLIAM	308 Nostalgia Ln	Same as property address
43	2706013622	PAUL, BETTY	311 Nostalgia Ln	Same as property address
44	1796917959	WAKEFIELD CENTRAL BAPTIST CHURCH	308 Proctor St	Same as property address
45	1796916679	BL FAMILY TRUST	1512 N Arendell Ave	1188 COCO PALMS DR EL CAJON CA 92020-7873

Attachment 2
PD 2025-05

NEIGHBORHOOD MEETING SIGN-IN SHEET:

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Project Name: Sheetz 416 Zebulon

Meeting Address: Zebulon community center; 301 S Arendell Ave, Zebulon, NC 27597

Date of Meeting: Thursday, April 17, 2025 Time of Meeting: 6:00 - 8:00 PM

Property Owner(s) Names: Olde Heritage Properties LLC

Applicants: Sheetz, Inc.

Please print your name below, state your address and/or affiliation with a neighborhood group, and provide your phone number and email address. Providing your name below does not represent support or opposition to the project; it is for documentation purposes only.

	Name/ Organization	Address	Phone#	E-mail
1	Tina & Miko Binder	205 Nostalgia Ln	919-604-8562	thbmib@gmail.com
2		Zebulon, NC		
3	DOMENICK SCHILLING	207 NOSTALGIA LN	919.413.7600	DSCHILLING@NC.RR.com
4	Karen Underhill	201 "	" 219-9516	underhillkgmc@aol.com
5	Roderick Silver	103 Nostalgia LN	252-883-0646	neal5962 hotmail.com
6	Bryan Hicks	1212 Wicker Dr. Raleigh 27604	919-832-2726	bhicks@wakeabc.com
7	Lori Cain	207 Nostalgia Ln	919-449-5263	———
8	Stephanie Dauphinais	111 NOSTALGIA LN	910 470 4131	dauphinaiss@bellsouth.net
9	Joe Moore	104 Nostalgia LN	(828)553-918[illegible]	[illegible]
10	Drew Hemphill	105 Nostalgia Ln	919-215-4811	dhemp0327@gmail.com
11				
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25				

Attach Additional Sheets If Necessary.

Name: Lori Cain

Email / Phone: Suntanvalentine@yahoo.com

Comment/Question: gas tanks on backside of property too close to ~~A~~ Wakelon Neighborhood; Tall barrier wall between backside + neighborhood; increased noise due to 24hr pickup window; decreased property values of Wakelon

Name: DOMENICK SCHILLING

Email / Phone: DSCHILLING@NC.RR.COM 919.413.7600

Comment/Question: CONCERNS: NOISE! TRAFFIC! LIGHT!

CONCRETE BARRIER BETWEEN US! SHEETZ Please

Name: Karen Underhill

Email / Phone: underhillkgmc@aol.com 919-219-9516

Comment/Question: brush + debris near townhomes people cutting through traffic @ Pearces [illegible] & [illegible] lights. trash in parking lot nasty, noisy.
Move outdoor seating away from townhomes

Name: Roderick Silver

Email / Phone: neal396@hotmail.com 252-883-0646

Comment/Question: Build Sound Barrier Wall between Store & town homes

Name: Lori Cain
Email / Phone: Suntanvalentine@yahoo.com
Comment/Question: Nothing good will come out of this project; most disgusting sheetz in Wake Co
Lots of changes need to be done as addressed by Waketon homeowners

Name: Tina Binder
Email / Phone: 919-604-8562
Comment/Question: Traffic, Sidewalks, Noise, Smell,
Move Air Tanks, Move Picnic Tables, Turn around traffic in
Townhomes is high + the Road wear & tear is Paid by homeowners
its a Private Rd.

Name: Bryan Hicks (Wake County ABC)
Email / Phone: bhicks@wakeabc.com 919-832-2726
Comment/Question:
Concern exists on (1) the Wake ABC dumpster as it appears access is lost from the Sheetz property. We are good transitioning to 96 gallon carts if Town permits. and (2) notification of any changes to access to our property (ingress/egress) as a cross access agreement exists. (3) out of statements from Neighbors, Wake ABC is fine having the air pumps along our property. →

Jordan Brewer and Matt Gross rule! And they didn't pay me to say that.

Timothy, Heather

From:	A Harper <nnhrpr3@gmail.com>
Sent:	Wednesday, April 16, 2025 10:21 PM
To:	kbrown@sheetz.com; Timothy, Heather
Subject:	Sheetz Redevelopment Zebulon NC
Attachments:	Sheetz Redevelopment.docx
Categories:	External

M. Ann Harper
113 Nostalgia Ln, Zebulon, NC 27597
nnhrpr3@gmail.com
919.333.5898

Olde Heritage Properties LLC

Sheetz, Inc.

Kimley-Horn and Associates, Inc. on Behalf of Sheetz, Inc.

To Whom it May Concern:

I'm writing to express my concerns of the proposed redevelopment of the Sheetz located on Arendell Ave. and Pearce Rd. in Zebulon NC.

(1) Safety & Privacy: My property, (113 Nostalgia Ln) sits directly behind and in between the car wash and the ABC store. Non-residents of Wakelon Townhomes have now made a path thru the woods adjacent to my property to gain access to the Sheetz. This has become very alarming and a safety concern.

Solution: A concrete divider wall to limit pedestrian traffic of non-residents.

(2) Noise: The proposed redevelopment would significantly increase the already high volume of noise. Increased construction noise during the development process could disrupt our daily living and privacy.

Solution: A concrete divider wall that will absorb some of the noise. Limit the hours of operation, particularly for the food pickup window.

(3) Increased Traffic: The proposed redevelopment would also drastically increase the already congested area.

Solution: Close the entrance on Pearce Rd. and add a second entrance on Arendell Ave. Widen Pearce's Rd. and add turn lanes to accommodate the increase of traffic.

Thank you for taking the time to review my concerns. I hope you consider the potential implications of this redevelopment.

Sincerely,

M. Ann Harper

113 Nostalgia Ln

Zebulon NC 27597

Timothy, Heather

From: Wakelon Townhomes <wakelonhoa@gmail.com>
Sent: Friday, April 18, 2025 10:28 AM
To: Timothy, Heather
Subject: Wakelon Townhomes Community Feedback for Sheetz Redevelopment Plan

Categories: External

Hello Heather -

Thanks to Chris, Tom and yourself for presenting the initial plans for the Sheetz demolition and re-build to some of the residents here at Wakelon Townhomes in Zebulon last night. It was very helpful, and I hope that we can put together a plan that will be satisfactory to everyone.

Below I've pasted my email to our residents, and two responses received that you can add to your community feedback. I didn't simply forward the whole chain since there is a lot of extraneous stuff that would just clog up your email (out of office replies, undeliverable addresses etc.).

The responses were from Gina Pace of 305 Nostalgia Ln and Courtney Parker West of 301 Nostalgia Ln. Let me know if you need any other information.

Sincerely,

Domenick Schilling
President, Wakelon Townhomes HOA
207 Nostalgia Ln

Hello All -

Everyone should have received the notice regarding the changes at the Sheetz station. PLEASE READ IT! There are plans to demolish the Sheetz station and rebuild it with more pumps and a drive-thru pick up window. This means more traffic and more noise and more people cutting through the neighborhood or using it as a turn around.

There will be a meeting on Thursday 4/17 from 6:00pm - 8:00pm to ask questions and express concerns. You can just stop in anytime, you don't need to be there right at 6:00 or stay for the entire time. Please make plans to go if at all possible.

Some ideas I thought about:

1. A concrete divider wall (not a landscape buffer) between Wakelon Townhomes and Sheetz.
2. Close off the entrance to Sheetz from Pearces Rd and add another entrance from Arendell Ave.
3. Widen Pearces Rd and add turn lanes to accommodate the increased # of cars trying to get in and out of Sheetz.
4. Limit the hours of operation, particularly for the food pick up window.

We need as many residents as possible to show up on Thursday and make our voices heard!

If you have more questions or did not receive the notice, please let me know. I hope to see everyone at the meeting Thursday evening.

Sincerely,

Domenick

Hey Domenick!

I am unable to make the meeting since I am out of state BUT I wanted to add a suggestion to your list, expanding on some of your ideas.

They would DEFINITELY need to close off the entrance to Pearce's Rd. or only make it accessible for vehicles coming toward Arendell (like an entrance for cars that are turning right only but requiring them to exit at a new stop light, SPECIFICALLY to enter and exit Sheetz. They could make their new stop light further down the road and mimic the one down in Nashville with turning lanes and a longer driveway.

That's all I can think of at the moment.. This has got my brain scrambled! I love your ideas and appreciate you fighting for our little community!

Thanks so much!

I cannot make it tonight, but I cosign the suggestions above. Please keep those of us unable to attend informed on how it goes! Thank you for representing community interests.
Best,
Courtney

SUMMARY OF DISCUSSION FROM THE NEIGHBORHOOD MEETING

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Project Name: 416 SHEETZ ZEBULON

Meeting Address: ZEBULON COMMUNITY CENTER; 301 S ARENDELL AVE, ZEBULON, NC 27597

Date of Meeting: THURSDAY, APRIL 17, 2025 **Time of Meeting:** 6:00 - 8:00 PM

Property Owner(s) Names: OLDE HERITAGE PROPERTIES LLC

Applicants: KIMLEY-HORN AND ASSOCIATES, INC. ON BEHALF OF SHEETZ, INC.

Please summarize the questions/comments and your response from the Neighborhood Meeting in the spaces below (attach additional sheets, if necessary). Please state if/how the project has been modified in response to any concerns. The response should not be "Noted" or "No Response". There has to be documentation of what consideration the neighbor's concern was given and justification for why no change was deemed warranted.

Question/ Concern #1 NOISE

Applicant Response:

SHEETZ WILL IMPLEMENT A NOISE BARRIER FENCE ALONG THE PROPERTY LINE THAT IS ADJACENT TO THE NEIGHBORHOOD. SHEETZ WILL ALSO RELOCATE ONE OF THE AIR MACHINES TO THE OPPOSITE SIDE OF THE SITE AS WELL AS THEIR DUMPSTER. THE ABC DUMPSTER MUST REMAIN AS-IS DUE TO DELIVERIES (ONCE A MONTH). THE PICK-UP WINDOW WILL NOT HAVE ANY SPEAKERS.

Question/ Concern #2 CUT THROUGH - THE NEIGHBORS ARE CONCERNED WITH PEOPLE WALKING THROUGH THE NEIGHBORHOOD TO GO TO SHEETZ.

Applicant Response:

THE NOISE BARRIER FENCE WILL ALSO HELP LIMIT PEOPLE CUTTING THROUGH THE NEIGHBORHOOD TO GO TO SHEETZ.

Question/ Concern #3 TRAFFIC - THE NEIGHBORS ARE CONCERNED WITH VEHICLES BLOCKING THEIR ACCESS POINT, SHEETZ CUSTOMERS COMING INTO THEIR NEIGHBORHOOD TO TURNAROUND SO THEY CAN MAKE A RIGHT INTO THE SHEETZ, AND ONLY 1 LEFT TURN LANE AT THE INTERSECTION.

Applicant Response:

SHEETZ UNDERSTANDS THAT THE TOWN HAS PLANS TO IMPROVE THE ROAD ADJACENT TO THE SITE. THE NEIGHBORS HAVE BEEN AWARE OF THESE FUTURE PLANS. RECENT SIGNAL TIMING UPDATES HAVE BEEN IMPLEMENTED PER NCDOT CONFIRMATION WHICH WILL HELP THE CONGESTION. SHEETZ IS PROPOSING TO ADD A "DO NOT BLOCK INTERSECTION" SIGN. KIMLEY-HORN HAS CONFIRMED WITH NCDOT THAT THE EXISITNG MEDIAN ALONG NC 96 CANNOT BE CUT TO ALLOW VEHICLES TO MAKE A LEFT INTO THE SHEETZ FROM NC 96.

Question/ Concern #4 FUEL DISPENSER LOCATION AND UNDERGROUND STORAGE TANKS

Applicant Response:

THE NEW ORIENTATION OF THE BUILDING AND FUEL PUMPS ARE TO COMPLY WITH CURRENT CODE, UDO 4.3.5.O.A "PUMP ISLANDS MAY NOT BE LOCATED BETWEEN A BUILDING AND ANY ADJACENT STREET RIGHTS-OF-WAY." SHEETZ WILL USE THEIR NEWEST TECHNOLOGY AND STANDARDS OF UNDERGROUND STORAGE TANKS. THE APOR RECOVERY SYSTEMS WILL BE IMPLEMENTED WHICH WILL HELP LIMIT ANY POTENTIAL SMELL FROM THE FUEL.

QUESTION/CONCERN #5:
LIGHTING

APPLICANT RESPONSE:
SHEETZ IS IMPLEMENTING THEIR NEWEST TECHNOLOGY AND STANDARDS OF LIGHTING DESIGN WHICH WILL HELP LIGHT POLLUTION AND LIMIT LIGHTING TO JUST THE SHEETZ SITE.

QUESTION/CONCERN #6:
CONSTRUCTION

APPLICANT RESPONSE:
SHEETZ HAS COMPLETED SEVERAL SIMILAR REBUILD PROJECTS. THEY LOOK TO SHORTEN THE CONSTRUCTION SCHEDULE AS MUCH AS POSSIBLE.

QUESTION/CONCERN #7:
PICK-UP WINDOW

APPLICANT RESPONSE:
THE PICK-UP WINDOW WILL OPERATE 24/7 PER SHEETZ STANDARDS WITH PROVIDING CONVENIENCE FOR THE CUSTOMERS. THERE WILL BE NO SPEAKER ASSOCIATED WITH THE PICK-UP WINDOW.

ZEBULON

INFORMATION PACKET FOR
NEIGHBORHOOD MEETINGS

AFFIDAVIT OF CONDUCTING A NEIGHBORHOOD MEETING, SIGN-IN SHEET AND ISSUES/RESPONSES SUBMITTAL

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

I, Christopher O. Bostic, do hereby declare as follows:
Print Name

1. I have conducted a Neighborhood Meeting for the proposed Rezoning, Major Site Plan, Master Subdivision Plan, or Special Use Permit.

2. The meeting invitations were mailed to the Zebulon Planning Department, all property owners within 300 feet of the subject property and any neighborhood association that represents citizens in the area via first class mail a minimum of 10 days in advance of the Neighborhood Meeting.

3. The meeting was conducted at 301 S. Arendall Ave, Zebulon NC (location/address) on Thurs, April 17 (date) from 6:00 pm (start time) to 8:00 pm (end time).

4. I have included the mailing list, meeting invitation, sign-in sheet, issue/response summary, and zoning map/reduced plans with the application.

5. I have prepared these materials in good faith and to the best of my ability.

4/21/25 By: _____
Date

STATE OF North Carolina
COUNTY OF Wake

Sworn and subscribed before me, Tracie L. Jacobs, a Notary Public for the above State and County, on this the 21st day of April, 2025.

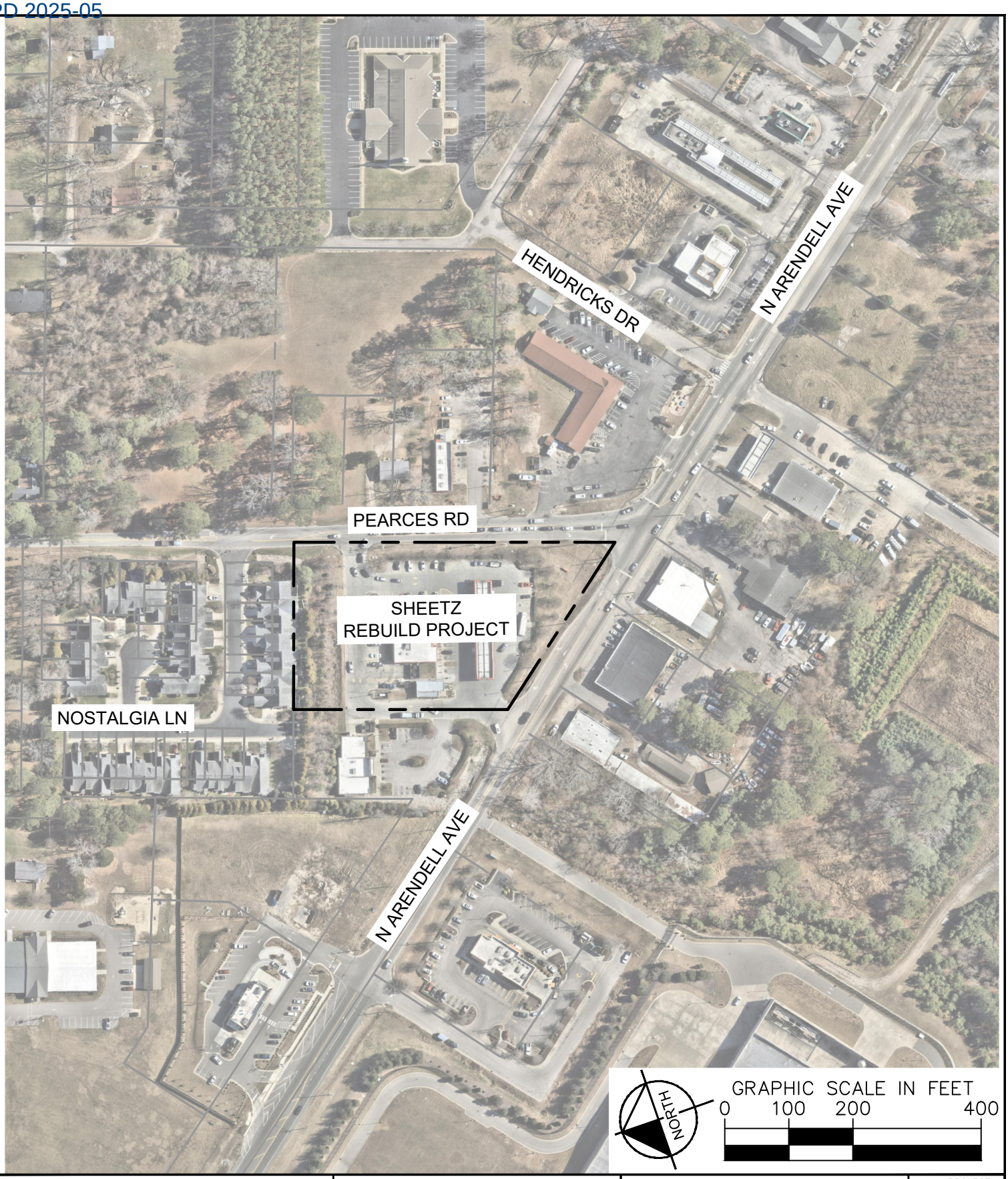
SEAL

TRACIE L. JACOBS NOTARY PUBLIC WAKE COUNTY, NC

Tracie L. Jacobs
Notary Public

Tracie L. Jacobs
Print Name

My Commission Expires:
5.11.2025



Kimley»Horn
©2025 KIMLEY-HORN AND ASSOCIATES
421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601
PHONE: 919-677-2000
WWW.KIMLEY-HORN.COM

VICINITY MAP

SHEETZ
1406 N ARENDELL AVE

KHA PROJECT	110529004
DATE	04/03/2025
SCALE	AS SHOWN
DESIGNED BY	RND
DRAWN BY	RND
CHECKED BY	HRT

Kimley»Horn

421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601
PHONE: 919-677-2000
WWW.KIMLEY-HORN.COM

VICINITY MAP

SHEETZ
1406 N ARENDELL AVE

KHA PROJECT	110529004
DATE	04/03/2025
SCALE	AS SHOWN
DESIGNED BY	RND
DRAWN BY	RND
CHECKED BY	HRT

PEARCES RD
SR 1001
60' PUBLIC R/W

SAN SEWER MH
RIM=340.20
6"PVC IN(N)=331.65
8"PVC OUT(S)=331.56

SAN SEWER MH
RIM=336.38
6"PVC IN(NW)=330.75
6"PVC OUT(SE)=330.62

SAN SEWER MH
8"PVC IN(N)=330.26
6"PVC IN(NW)=330.45
8"PVC OUT(S)=330.19

PROPOSED "STOP" SIGN (MUTCD R1-1, 30" X 30")
PROPOSED STOP BAR (TYP.)
PROPOSED PICK-UP LANE
ONE WAY
PROPOSED DUMPSTER ENCLOSURE
PROPOSED FLAG POLE LIGHT
PROPOSED FLAG POLE
PROPOSED MONUMENT SIGN
PROPOSED SHEETZ STORE
±6139 SF
PROPOSED CONCRETE PAD FOR TRANSFORMER
PROPOSED DIRECTIONAL PAVEMENT ARROWS (TYP.)
PROPOSED R7-8 ACCESSIBLE SIGN WITH POST
PROPOSED OUTDOOR SEATING (TYP.)
PROPOSED AIR MACHINE
PROPOSED BIKE RACK (TYP.)
PROPOSED E-STOP
PROPOSED ACCESSIBLE STRIPING (TYP.)
PROPOSED R7-8 ACCESSIBLE SIGN WITH POST
PROPOSED ACCESSIBLE SYMBOL (TYP.)
PROPOSED AIR MACHINE
PROPOSED UST VENT STACK
STANDARD UST FIELD
PROPOSED GUTTER TO DIRECT DRAINAGE
PROPOSED "STOP" SIGN (MUTCD R1-1, 30" X 30") WITH "RIGHT TURN ONLY" SIGN (MUTCD R3-5R, 30" X 36") MOUNTED BELOW

ACCESS EASEMENT
BK 13236 PG 2015

TOWN OF ZEBULON
SAN SEWER EASE
BM 1998 PG 1813

DRAINAGE EASEMENT
BK 13236 PG 2015

POWER LINE EASEMENT
DB 1739 PG 251
BM 2007 PG 1039

N ARENDELL AVE
NC HWY 96
100' WIDE PUBLIC R/W
BM 2007 PG 1039

SIDEWALK CROSSES LINE
STORM MH
RIM=335.43
24"CPP IN(N)=329.39
24"RCP OUT(S)=329.32
VEHICULAR INGRESS/EGRESS ACROSS LINE
DUMPSTER AREA AND CURBING OVER THE PROPERTY LINE AS SHOWN
CURB INLET
GRATE=333.75
18"OPENING IN=330.00
24"CPP OUT=330.00
DROP INLET
GRATE=332.95
24"RCP IN(NE)=329.25
24"RCP OUT(NW)=329.20
24"RCP
INV=328.86
18"RCP
INV=330.85
18"RCP
INV=333.89

N/F
OWNER:
WAKE COUNTY BOARD OF ALCOHOLIC CONTROL
PIN: 1796919353
DB 12796 PG 253

FIP 1"
@ 15.0'

SITE LEGEND

- HEAVY DUTY CONCRETE
- STANDARD DUTY CONCRETE
- HEAVY DUTY ASPHALT
- BRICK PAVERS
- STANDARD 6" CURB
- TRANSITION TO FLUSH CURB
- LOD — LIMITS OF DISTURBANCE (± 70,790 SF)

SITE NOTES

1. CONTRACTOR TO CHAMFER CORNERS AT CONCRETE AND ASPHALT TRANSITIONS.

GRAPHIC SCALE IN FEET
0 10 20 40

Know what's below. Call before you dig.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2025 KIMLEY-HORN AND ASSOCIATES
421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601
PHONE: 919-835-1494
WWW.KIMLEY-HORN.COM

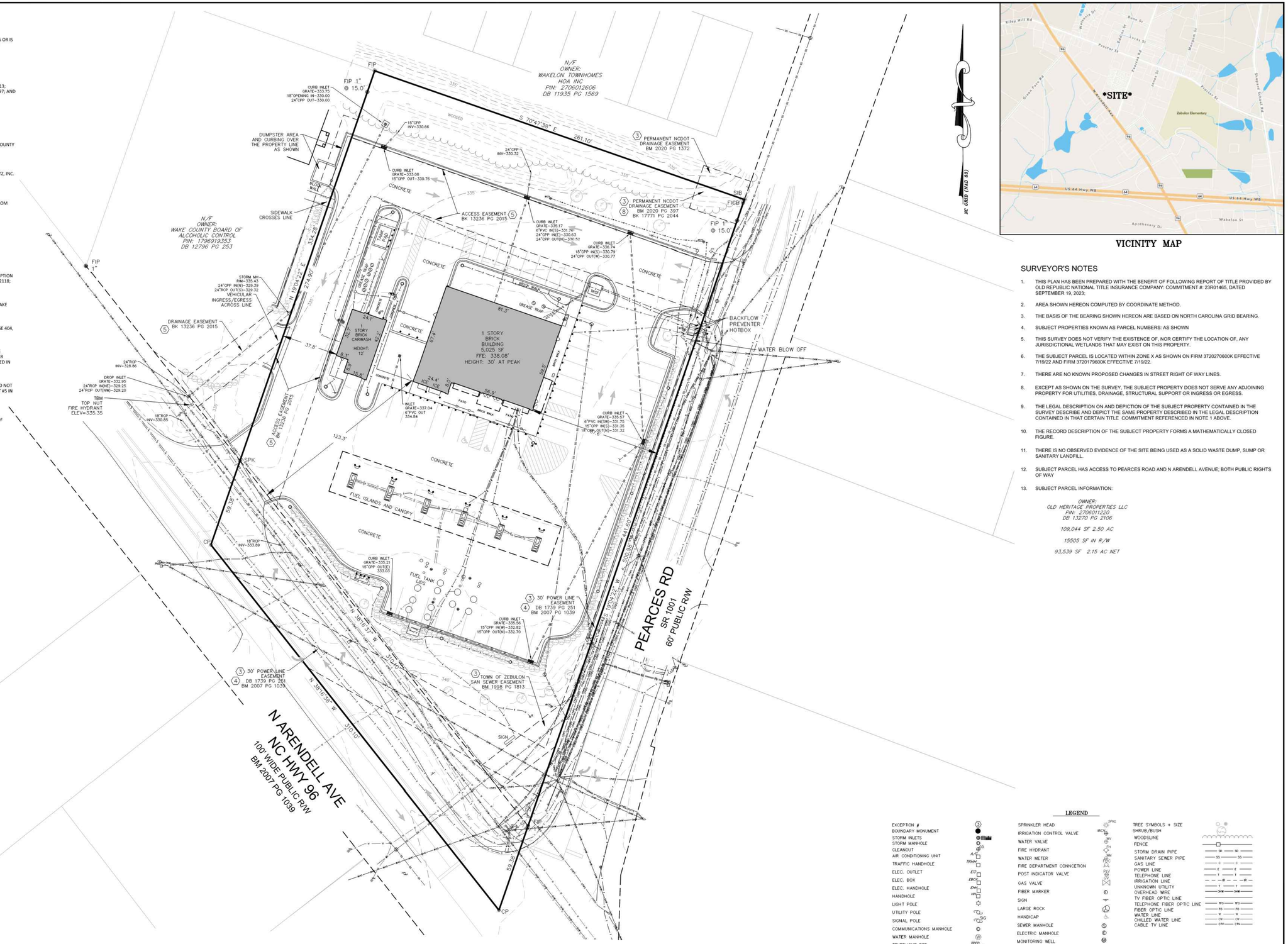
DRAFT

KHA PROJECT 110529004
DATE 4/14/2025
SCALE AS SHOWN
DESIGNED BY RND
DRAWN BY RND
CHECKED BY HRT

SITE PLAN

STORE #416
1406 N ARENDELL AVE
TOWN OF ZEBULON NORTH CAROLINA

SHEET NUMBER
C301



Attachment 3
PD 2025-05

SCHEDULE B, PART II EXCEPTIONS

1. 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 A MATTER OF SURVEY
2. TAXES FOR THE YEAR 2024, AND SUBSEQUENT YEARS NOT YET DUE AND PAYABLE.
   -NOT A MATTER OF SURVEY
3. BUILDING RESTRICTION LINES, EASEMENTS AND ANY OTHER FACTS SHOWN ON P1AT(S) RECORDED IN BOOK OF MAPS 1998, PAGE 1813; BOOK OF MAPS 2005, PAGE 2269; BOOK OF MAPS 2007, PAGE 0796; BOOK OF MAPS 2007, PAGE 1039; BOOK OF MAPS 2020, PAGE 397; AND BOOK OF MAPS 2020, PAGE 1372, WAKE COUNTY REGISTRY.
   BOOK OF MAPS 1998, PAGE 1813; -SHOWN HEREON
   BOOK OF MAPS 2005, PAGE 2269; -DOES NOT APPLY TO SUBJECT SITE
   BOOK OF MAPS 2007, PAGE 0796; -DOES NOT APPLY TO SUBJECT SITE
   BOOK OF MAPS 2007, PAGE 1039; - POWER LINE EASEMENT PER DB 1739 PG 251 REFERENCED AND SHOWN HEREON
   BOOK OF MAPS 2020, PAGE 397; - SHOWN HEREON
   BOOK OF MAPS 2020, PAGE 1372; - SHOWN HEREON; EASEMENT ON ADJOINING PARCEL
4. EASEMENT(S) TO CAROLINA POWER AND LIGHT COMPANY RECORDED IN BOOK 1103, PAGE 401; AND BOOK 1739, PAGE 251, WAKE COUNTY REGISTRY.
   BOOK 1103 PAGE 401: BLANKET TYPE EASEMENT
   BOOK 1739 PG 251: SHOWN HEREON
5. EASEMENT AGREEMENT BETWEEN OLD HERITAGE PROPERTIES, LLC, WAKE COUNTY BOARD OF ALCOHOLIC CONTROL, INC. AND SHEETZ, INC. RECORDED IN BOOK 13236, PAGE 2015, WAKE COUNTY REGISTRY.
   -SHOWN HEREON
6. EASEMENTS SET OUT IN DEED RECORDED IN BOOK 12796, PAGE 253, WAKE COUNTY REGISTRY.
   -EASEMENT DESCRIBED AS A PERMANENT NON-EXCLUSIVE RIGHT AND EASEMENT FOR THE PURPOSE OF INGRESS/EGRESS TO AND FROM SUBJECT LOT. LIMITED TO THE PAVED PARKING AREAS AND DRIVWAYS ON THE ADJOINING LOT TO THE WEST.
7. UTILITY AND SEWER EASEMENT SET OUT IN DEED RECORDED IN BOOK 8181, PAGE 173, WAKE COUNTY REGISTRY.
   -UTILITY AND SEWER EASEMENT WITH TOWN OF ZEBULON OVER SUBJECT PARCEL. LOCATION NOT DESCRIBED IN DOCUMENT.
8. DRAINAGE EASEMENT SET OUT IN DEED RECORDED IN BOOK 17771, PAGE 2044, WAKE COUNTY REGISTRY.
   -SHOWN HEREON. TEMPORARY CONSTRUCTION EASEMENT NTOED NOT SHOWN (TEMPORARY IN NATURE)
9. TITLE TO THAT PORTION OF SUBJECT PROPERTY LYING WITHIN THE RIGHT(S) -OF-WAY OF NC 96 HIGHWAY (ZEBULON ROAD).
   -PORTION WITHIN THE R/W OF ARENDELL RD (NC 96) SHOWN HEREON
10. DEED OF TRUST TO TRUSTEE(S) FOR CAPITAL BANK IN THE AMOUNT OF $1,108,000.00, RECORDED IN BOOK 12134, PAGE 197; ASSUMPTION AND MODIFICATION AGREEMENT RECORDED IN BOOK 13270, PAGE 2109; ASSIGNMENT OF RENTS RECORDED IN BOOK 13270, PAGE 2118; AND MODIFICATION AGREEMENT RECORDED IN BOOK 13954, PAGE 2509, WAKE COUNTY REGISTRY.
    -NOT A MATTER OF SURVEY
11. DEED OF TRUST TO TRUSTEE(S) FOR CAPITAL BANK, N.A. IN THE AMOUNT OF $100,000.00, RECORDED IN BOOK 14867, PAGE 2020, WAKE COUNTY REGISTRY.
    -EXHIBIT B THEREIN REFERENCES EXCEPTIONS ALREADY SHOWN AND LISTED HEREON
12. DEED OF TRUST TO TRUSTEE(S) FOR NEW REPUBLIC SAVINGS BANK IN THE AMOUNT OF $785,000.00, RECORDED IN BOOK 14961, PAGE 404, WAKE COUNTY REGISTRY.
    -NOT A MATTER OF SURVEY
13. ANY ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION, OR ADVERSE CIRCUMSTANCE AFFECTING THE TITLE THAT WOULD BE DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND. THIS EXCEPTION DELETES THE COVERAGE PROVIDED UNDER COVERED RISK 2(C). (UPON RECEIPT OF A CURRENT SURVEY AND SURVEYOR'S REPORT, THIS EXCEPTION WILL BE DELETED OR AMENDED IN ACCORDANCE WITH THE FACTS DISCLOSED THEREBY.)
    -SHOWN HEREON IF FOUND DURING COURSE OF SURVEY
14. ANY LIEN, OR RIGHT TO A LIEN, FOR SERVICES, LABOR OR MATERIALS HERETOFORE OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN ON THE PUBLIC RECORD. (THIS EXCEPTION MAY BE DELETED FROM THE POLICY ONLY UPON SATISFACTION OF REQUIREMENT #5 IN SCHEDULE BI HEREIN.)
    -NOT A MATTER OF SURVEY
15. MECHANICS LIEN AGENT ENTRY NUMBER_____AND ALL RELATED RIGHTS TO FILING OR CURRENT FILINGS BY ANY POTENTIAL LIEN CLAIMANTS, INCLUDING DESIGN PROFESSIONALS. (THIS EXCEPTION MAY BE DELETED FROM THE POLICY ONLY UPON SATISFACTION OF REQUIREMENT #5 IN SCHEDULE BI HEREIN.)
    -NOT A MATTER OF SURVEY
16. NOTICE: CLOSING PROTECTION INSURANCE COVERING THE TRANSACTION INSURED BY THIS POLICY IS NOT PROVIDED.
    -NOT A MATTER OF SURVEY

VICINITY MAP

SURVEYOR'S NOTES

1. THIS PLAN HAS BEEN PREPARED WITH THE BENEFIT OF FOLLOWING REPORT OF TITLE PROVIDED BY OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY: COMMITMENT #: 23R01465, DATED SEPTEMBER 19, 2023;
2. AREA SHOWN HEREON COMPUTED BY COORDINATE METHOD.
3. THE BASIS OF THE BEARING SHOWN HEREON ARE BASED ON NORTH CAROLINA GRID BEARING.
4. SUBJECT PROPERTIES KNOWN AS PARCEL NUMBERS: AS SHOWN
5. THIS SURVEY DOES NOT VERIFY THE EXISTENCE OF, NOR CERTIFY THE LOCATION OF, ANY JURISDICTIONAL WETLANDS THAT MAY EXIST ON THIS PROPERTY.
6. THE SUBJECT PARCEL IS LOCATED WITHIN ZONE X AS SHOWN ON FIRM 3720270600K EFFECTIVE 7/19/22 AND FIRM 3720179600K EFFECTIVE 7/19/22.
7. THERE ARE NO KNOWN PROPOSED CHANGES IN STREET RIGHT OF WAY LINES.
8. EXCEPT AS SHOWN ON THE SURVEY, THE SUBJECT PROPERTY DOES NOT SERVE ANY ADJOINING PROPERTY FOR UTILITIES, DRAINAGE, STRUCTURAL SUPPORT OR INGRESS OR EGRESS.
9. THE LEGAL DESCRIPTION ON AND DEPICTION OF THE SUBJECT PROPERTY CONTAINED IN THE SURVEY DESCRIBE AND DEPICT THE SAME PROPERTY DESCRIBED IN THE LEGAL DESCRIPTION CONTAINED IN THAT CERTAIN TITLE COMMITMENT REFERENCED IN NOTE 1 ABOVE.
10. THE RECORD DESCRIPTION OF THE SUBJECT PROPERTY FORMS A MATHEMATICALLY CLOSED FIGURE.
11. THERE IS NO OBSERVED EVIDENCE OF THE SITE BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.
12. SUBJECT PARCEL HAS ACCESS TO PEARCES ROAD AND N ARENDELL AVENUE; BOTH PUBLIC RIGHTS OF WAY
13. SUBJECT PARCEL INFORMATION:

OWNER:
OLD HERITAGE PROPERTIES LLC
PIN: 2706011220
DB 13270 PG 2106

109,044 SF 2.50 AC

15505 SF IN R/W

93,539 SF 2.15 AC NET

PROPERTY DESCRIPTION (PER TITLE COMMITMENT)

LYING AND BEING IN WAKE COUNTY AND IDENTIFIED IN THE 2023 WAKE COUNTY GIS RECORDS UNDER PIN #2706-01-1220 AND DESCRIBED AS ALL OF LOT 2, CONTAINING 2.504 GROSS ACRES, AS SHOWN ON THAT MAP RECORDED IN BOOK OF MAPS 2007, PAGE 1039, WAKE COUNTY REGISTER OF DEEDS.

LEGEND

EXCEPTION #	③	SPRINKLER HEAD	SPKL	TREE SYMBOLS + SIZE	
BOUNDARY MONUMENT	●	IRRIGATION CONTROL VALVE	IRCV	SHRUB/BUSH	
STORM INLETS		WATER VALVE	WV	WOODSLINE	
STORM MANHOLE		FIRE HYDRANT	FH	FENCE	
CLEANOUT	CO	WATER METER	WM	STORM DRAIN PIPE	— SD — SD —
AIR CONDITIONING UNIT	A/C	FIRE DEPARTMENT CONNCETION	FDC	SANITARY SEWER PIPE	— SS — SS —
TRAFFIC HANDHOLE	TRHH	POST INDICATOR VALVE	PIV	GAS LINE	— G — G —
ELEC. OUTLET	EO	GAS VALVE	GV	POWER LINE	— E — E —
ELEC. BOX	EBOX	FIBER MARKER	Ⓕ	TELEPHONE LINE	— T — T —
ELEC. HANDHOLE	EHH	SIGN		IRRIGATION LINE	— IR — IR —
HANDHOLE	HH	LARGE ROCK		UNKNOWN UTILITY	— ? — ? —
LIGHT POLE		HANDICAP	♿	OVERHEAD WIRE	— OHW — OHW —
UTILITY POLE		SEWER MANHOLE	Ⓢ	TV FIBER OPTIC LINE	
SIGNAL POLE	SIG	ELECTRIC MANHOLE	Ⓔ	TELEPHONE FIBER OPTIC LINE	— TFO — TFO —
COMMUNICATIONS MANHOLE	©	MONITORING WELL	Ⓜ	FIBER OPTIC LINE	— FO — FO —
WATER MANHOLE	Ⓦ			WATER LINE	— W — W —
TELEPHONE PED	TPED			CHILLED WATER LINE	— CW — CW —
				CABLE TV LINE	— CTV — CTV —

SURVEYOR'S CERTIFICATION

I, ROBERT C. BAUMGARTNER, 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, 6A, 6B, 7A, 7B,7C, 8, 9, 11(OBSERVED), 13, 14, 16, 17, 18, 19, 20, & 21 OF TABLE A THEREOF.

ROBERT C. BAUMGARTNER, NC PLS No. L-4531

SEAL
L-4531

0 30 60 120
GRAPHIC SCALE 1"=30'

KCI ASSOCIATES OF NC
ENGINEERS, SURVEYORS AND PLANNERS

4800 FALLS OF NEUSE ROAD, SUITE 200
RALEIGH, NC 27607
PHONE (919) 783-9214 * FAX (919) 783-9266

ALTA/NSPS LAND TITLE SURVEY
1406 N ARENDELL AVE
LANDS OWNED BY
OLDE HERITAGE PROPERTIES LLC
TOWN OF ZEBULON,
WAKE COUNTY, NC

REV: 4/16/25 DATE: 3/10/25	SCALE: 1" = 30'	SHEET: C-100

EXISTING IRRIGATION WATER METER TO REMAIN. EXISTING IRRIGATION CONTROL VALVE, IRRIGATION BACKFLOW PREVENTOR, AND IRRIGATION WATER LINE TO BE REMOVED.

EXISTING CAR WASH WATER METER, CAR WASH VALVE, CAR WASH BACKFLOW PREVENTOR, AND CAR WASH WATER LINE TO BE REMOVED.

EXISTING DOMESTIC WATER METER TO REMAIN. EXISTING DOMESTIC WATER VALVE, DOMESTIC BACKFLOW PREVENTOR, AND DOMESTIC WATER LINE TO BE REMOVED.

EXISTING WATER SAMPLING STATION TO REMAIN

EXISTING LIGHT POLE TO BE REMOVED

EXISTING RETAINING WALL TO REMAIN AND BE PROTECTED IN PLACE

EXISTING FLAG POLE AND LIGHT TO BE REMOVED

EXISTING MONUMENT SIGN TO BE REMOVED

EXISTING CABLE AND TELEPHONE LINE TO BE REMOVED

EXISTING TRANSFORMER TO BE REMOVED

EXISTING GREASE TRAP TO BE REMOVED

EXISTING HEALTHY TREES TO REMAIN AND PROTECT IN PLACE OVERGROWN UNDERSTORY VEGETATION WITHIN THE LIMITS OF THE EXISTING DRY POND AREA TO BE CLEARED

EXISTING TRASH ENCLOSURE TO BE REMOVED

PROPOSED TREES AND VEGETATION TO BE CLEARED WITHIN VICINITY OF PROPOSED NOISE WALL

EXISTING TREE TO BE PROTECTED

EXISTING "NO LEFT TURN" SIGN TO BE REMOVED

DUMPSTER ENCLOSURE TO BE RELOCATED BY OTHERS

PEARCES RD
SR 1001
60' PUBLIC R/W

N ARENDELL AVE
NC HWY 96
100' WIDE PUBLIC R/W
BM 2007 PG 1039

30' POWER LINE EASEMENT
DB 1739 PG 251
BM 2007 PG 1039

ACCESS EASEMENT
BK 13236 PG 2015

DRAINAGE EASEMENT
BK 13236 PG 2015

N/F OWNER: WAKELON TOWNHOMES HOA INC PIN: 2706012606 DB 11935 PG 1569

N/F OWNER: WAKE COUNTY BOARD OF ALCOHOLIC CONTROL PIN: 1796919353 DB 12796 PG 253

DEMO LEGEND

- CURB AND GUTTER TO BE REMOVED
- EX. TREE TO BE REMOVED
- LOD — LIMITS OF DISTURBANCE (±81,705 SF)
- EX. BUILDING AND ITS ASSOCIATED PAVEMENTS AND FOUNDATIONS TO BE DEMOLISHED
- EX. BRICK PAVERS TO BE REMOVED
- W — EX. WATER LINE TO REMAIN
- W — EX. WATER LINE TO BE REMOVED
- EX. IRRIGATION LINE TO REMAIN
- EX. IRRIGATION LINE TO BE REMOVED
- SS — EX. SANITARY LINE TO REMAIN
- SS — EX. SANITARY LINE TO BE REMOVED
- SD — EX. STORM DRAIN TO REMAIN
- SD — EX. STORM DRAIN TO BE REMOVED
- E — EX. ELECTRIC LINE TO REMAIN
- E — EX. ELECTRIC LINE TO BE REMOVED
- GAS — EX. GAS LINE TO REMAIN
- GAS — EX. GAS LINE TO BE REMOVED
- T — EX. TELECOM LINE TO REMAIN
- T — EX. TELECOM LINE TO BE REMOVED
- CATVFO — EX. CABLE LINE TO REMAIN
- CATVFO — EX. CABLE LINE TO BE REMOVED

DEMOLITION NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND/OR VERIFYING ALL LOCAL AND STATE PERMITS REQUIRED FOR DEMOLITION WORK HAVE BEEN OBTAINED.
2. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND/OR ENGINEER FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES IN THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
3. EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE AND DO NOT INCLUDE MECHANICAL, ELECTRICAL AND MISCELLANEOUS STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THE DEMOLITION WORK FOR THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
4. ALL EXISTING ABOVE AND BELOW GROUND STRUCTURES WITHIN THE LIMITS OF NEW CONSTRUCTION SHALL BE RAZED UNLESS NOTED OTHERWISE WITHIN THIS CONSTRUCTION SET, ARCHITECTURAL PLANS AND/OR PROJECT SPECIFICATIONS. THIS INCLUDES FOUNDATION SLABS, WALLS, AND FOOTINGS.
5. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
6. ALL UTILITY REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY.
7. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR GETS WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
8. UTILITY CONTACTS ARE LISTED ON SHEET C-000.
9. EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE INSTALLED PRIOR TO INITIATION OF DEMOLITION ACTIVITIES. REFER TO THE E&S PLAN FOR DETAILS.
10. ASBESTOS OR HAZARDOUS MATERIALS, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY SHEETZ IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
11. CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS, AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
12. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL, AND OSHA REGULATIONS WHEN OPERATING DEMOLITION EQUIPMENT AROUND UTILITIES.

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

Know what's below. Call before you dig.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2025 KIMLEY-HORN AND ASSOCIATES
421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601
PHONE: 919-835-1494
WWW.KIMLEY-HORN.COM

NOT FOR CONSTRUCTION

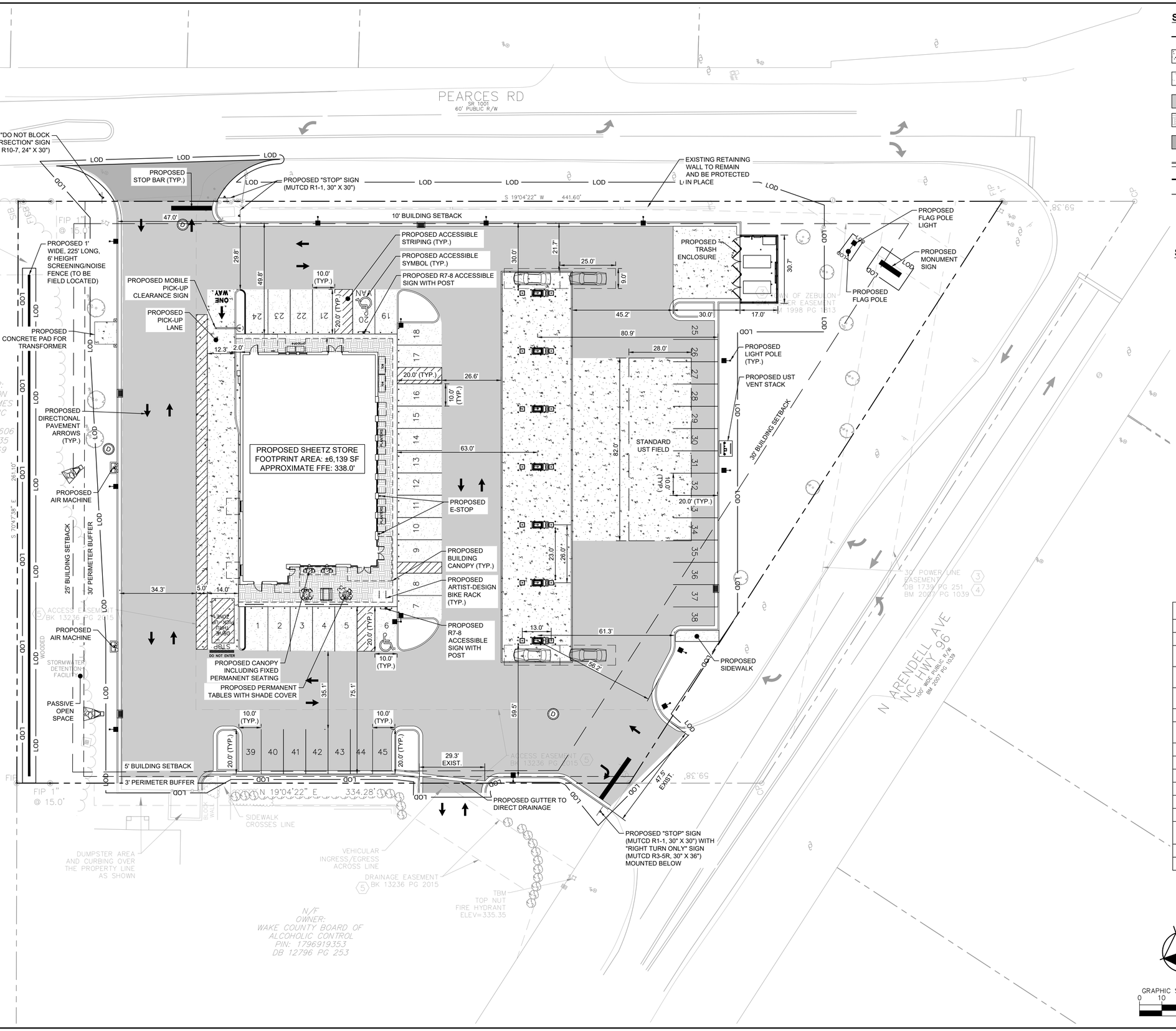
KHA PROJECT	110529004
DATE	9/12/2025
SCALE	AS SHOWN
DESIGNED BY	RND
DRAWN BY	RND
CHECKED BY	HRT

EXISTING CONDITIONS AND DEMOLITION PLAN

STORE #416
1406 N ARENDELL AVE

TOWN OF ZEBULON NORTH CAROLINA

SHEET NUMBER
C-110



SITE LEGEND

- PROPERTY LINE
- HEAVY DUTY CONCRETE (SHEETZ STANDARD)
- STANDARD DUTY CONCRETE (SHEETZ STANDARD)
- HEAVY DUTY ASPHALT (SHEETZ STANDARD)
- BRICK PAVERS (SHEETZ STANDARD)
- MILL AND OVERLAY ASPHALT (NCDOT)
- STANDARD 6" CURB AND GUTTER
- TRANSITION TO FLUSH CURB
- LOD — LIMITS OF DISTURBANCE (± 81,705 SF)
- LIGHT POLE
- STORM STRUCTURE

SITE NOTES

1. CONTRACTOR SHALL REFER TO THE SHEETZ ARCHITECTURAL PLANS FOR THE EXACT LOCATION OF UTILITY ENTRANCES, BUILDING DIMENSIONS, ROOF LEADERS, EXIT DOORS, EXIT RAMPS AND PORCHES.
2. ALL DIMENSIONS ARE TO BUILDING FACE, FACE OF CURB, OR EDGE OF SIDEWALK UNLESS NOTED OTHERWISE. ALL ANGLES ARE 90 DEGREES UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS FOR THE INSTALLATION OF TRAFFIC SIGNAGE AND PAVEMENT MARKINGS AS SHOWN ON THE CONSTRUCTION PLANS.
4. ALL NON-LANDSCAPED ISLANDS SHALL BE PAINTED WITH STRIPES 4" WIDE, AT 45° AND 2 FEET O.C.
5. ALL STRIPING SHALL BE 4" WIDE UNLESS NOTED OTHERWISE.
6. CONTRACTOR SHALL COORDINATE FINAL LOCATION OF THE SHEETZ MAIN FREESTANDING SIGN WITH THE SHEETZ CONSTRUCTION MANAGER.
7. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.
8. ALL DIMENSIONS SHOWN ON THIS PLAN SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY SHEETZ REPRESENTATIVE AND DESIGN ENGINEER OF ANY DISCREPANCIES BETWEEN THE PLAN AND FIELD CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR ALL DIMENSIONS AT THE PROJECT SITE.
9. SEE DETAIL SHEETS FOR ADDITIONAL CONSTRUCTION INFORMATION.
10. CONTRACTOR SHALL NEATLY SAW-CUT ALL JOINTS WHERE THE PROPOSED CONSTRUCTION MEET EXISTING PAVEMENT AND CONCRETE.

ZONING TABULATIONS

MINIMUM LOT AREA	6,000 SF
MINIMUM LOT WIDTH	50'
MAXIMUM LOT COVERAGE	80%
MAXIMUM BUILDING HEIGHT	50'
MAXIMUM INDIVIDUAL BUILDING SIZE	10,000 SF
FLOOR AREA RATIO	0.10 MAXIMUM
OPEN SPACE	3% *3.6% PROVIDED*
BUILDING SETBACKS	
FRONT (N ARENDELL AVE)	30'
FRONT (PEARCES RD)	10'
REAR (PIN 2706012606)	25'
SIDE (PIN 1796919353)	5'
LANDSCAPE BUFFERS	
FRONT (N ARENDELL AVE AND PEARCES RD)	0'
REAR (PIN 2706012606)	30'
SIDE (PIN 1796919353)	3'

GRAPHIC SCALE IN FEET
0 10 20 40

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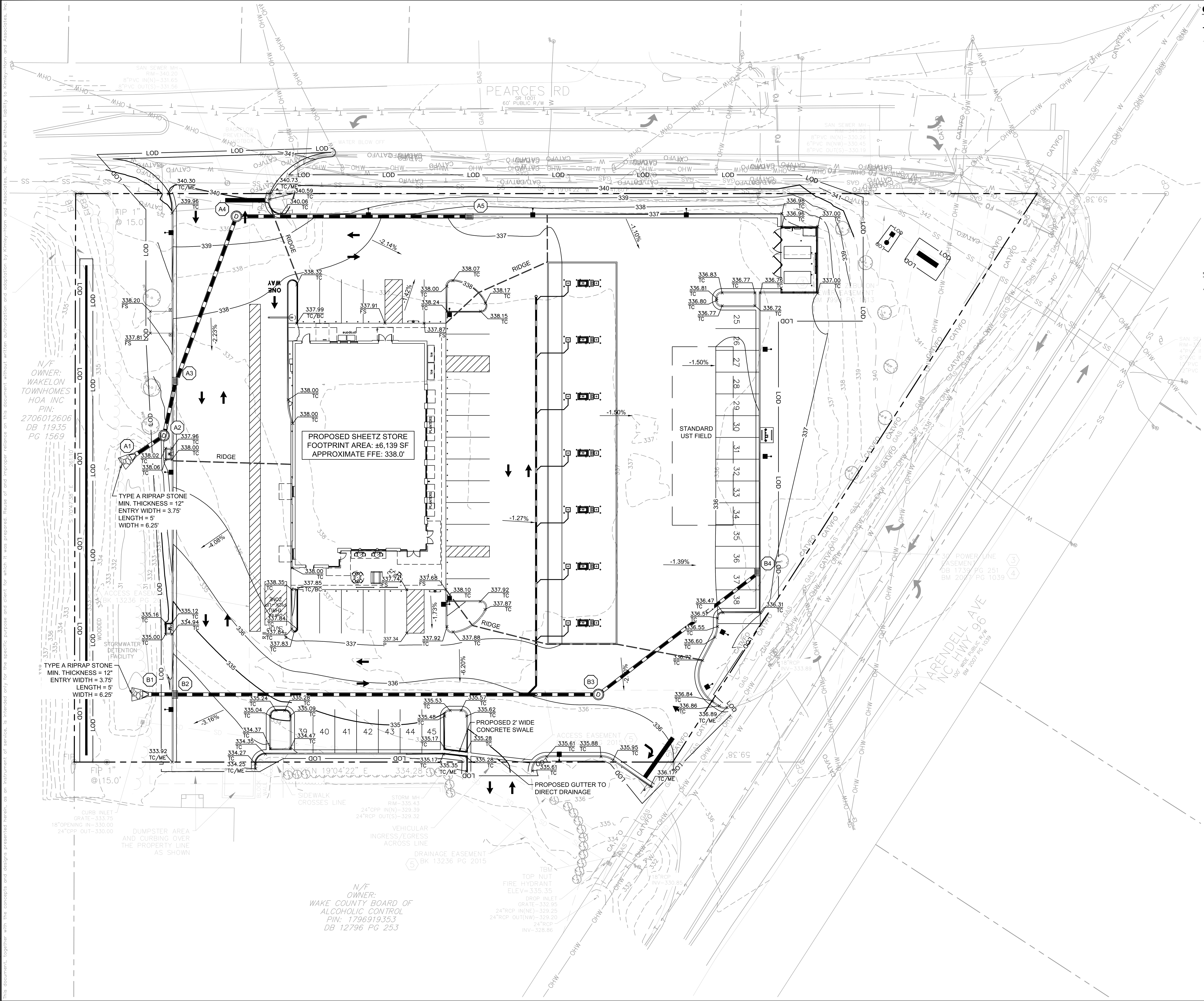
SITE PLAN

STORE #416
1406 N ARENDELL AVE
TOWN OF ZEBULON NORTH CAROLINA

SHEET NUMBER
C-200

Attachment 3
PD 2025-05

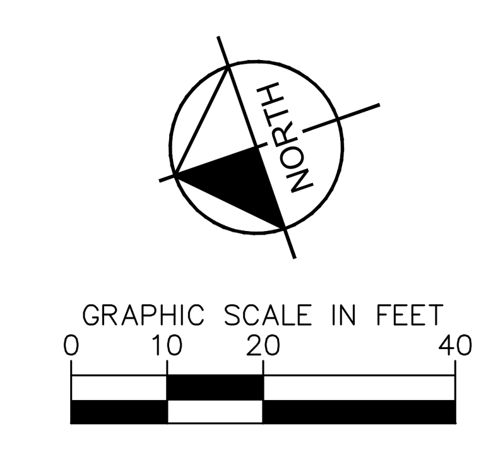


GRADING LEGEND

Symbol	Description
100	PROPOSED CONTOUR
100	EXISTING CONTOUR
1000 TC	TOP OF CURB ELEVATION
1000 BC	BOTTOM OF CURB ELEVATION
1000 FFE	FINISHED FLOOR ELEVATION
1000 FS	FINISHED SURFACE ELEVATION
1000 P	PAVEMENT ELEVATION
1000 G	GROUND ELEVATION
1000 TW	TOP OF WALL ELEVATION
1000 BW	BOTTOM OF WALL ELEVATION
1000 HP	HIGH POINT
1000 ME	MATCH EXISTING
	STANDARD 6" CURB AND GUTTER
	TRANSITION TO FLUSH CURB

GRADING NOTES

1. ALL SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS PREPARED BY KIMLEY-HORN, THE CURRENT REQUIREMENTS OF THE TOWN OF ZEBULON, THE APPLICABLE SECTIONS OF THE CITY OF RALEIGH, THE APPLICABLE SECTIONS OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADWAY CONSTRUCTION, AND ALL OTHER PERTINENT FEDERAL AND STATE LAWS.
2. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE. IF DISCREPANCIES BETWEEN FIELD CONDITIONS AND DESIGN PLANS ARE DISCOVERED, CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER IMMEDIATELY.
4. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY 811 "CALL BEFORE YOU DIG." THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
5. ALL EXISTING TREES, VEGETATION, PAVEMENTS, CONCRETE FOUNDATIONS, STRUCTURES AND ORGANIC TOPSOIL SHALL BE STRIPPED AND REMOVED FROM NEW CONSTRUCTION AREAS UNLESS NOTED OTHERWISE.
6. ALL SLOPES SHALL BE 2:1 (HORIZONTAL: VERTICAL) MAXIMUM UNLESS NOTED OTHERWISE. ALL SLOPES 3:1 OR GREATER SHALL BE PERMANENTLY STABILIZED WITH VEGETATION.
7. AN AS-BUILT DRAWING OF NEW UTILITY SERVICES MUST BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER UPON COMPLETION OF THE PROJECT.
8. ALL AREAS NOT PAVED SHALL BE TOP SOILED, SEEDED, SODDED, MULCHED AND/OR LANDSCAPED UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DRAWINGS, SITE SPECIFICATIONS OR INSTRUCTED BY THE OWNER.
9. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT PREPARED BY THE GEOTECH ENGINEER PRIOR TO INITIATION OF ANY EARTHWORK ACTIVITY.
10. ALL ELEVATIONS SHOWN ARE REFERENCED TO BENCHMARKS ON THE PROJECT SURVEY AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR AT GROUNDBREAKING.
11. ALL SPOT ELEVATIONS ARE REFERENCED TO THE FINISHED GROUND SURFACE UNLESS NOTED OTHERWISE.
12. CONTRACTOR SHALL REFERENCE DETAILED BUILDING PLANS FOR EXACT BUILDING DIMENSIONS, ELEVATIONS, AND UTILITY CONNECTION POINTS.
13. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.



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Kimley»Horn

421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601
PHONE: 919-835-1494
WWW.KIMLEY-HORN.COM

NOT FOR CONSTRUCTION

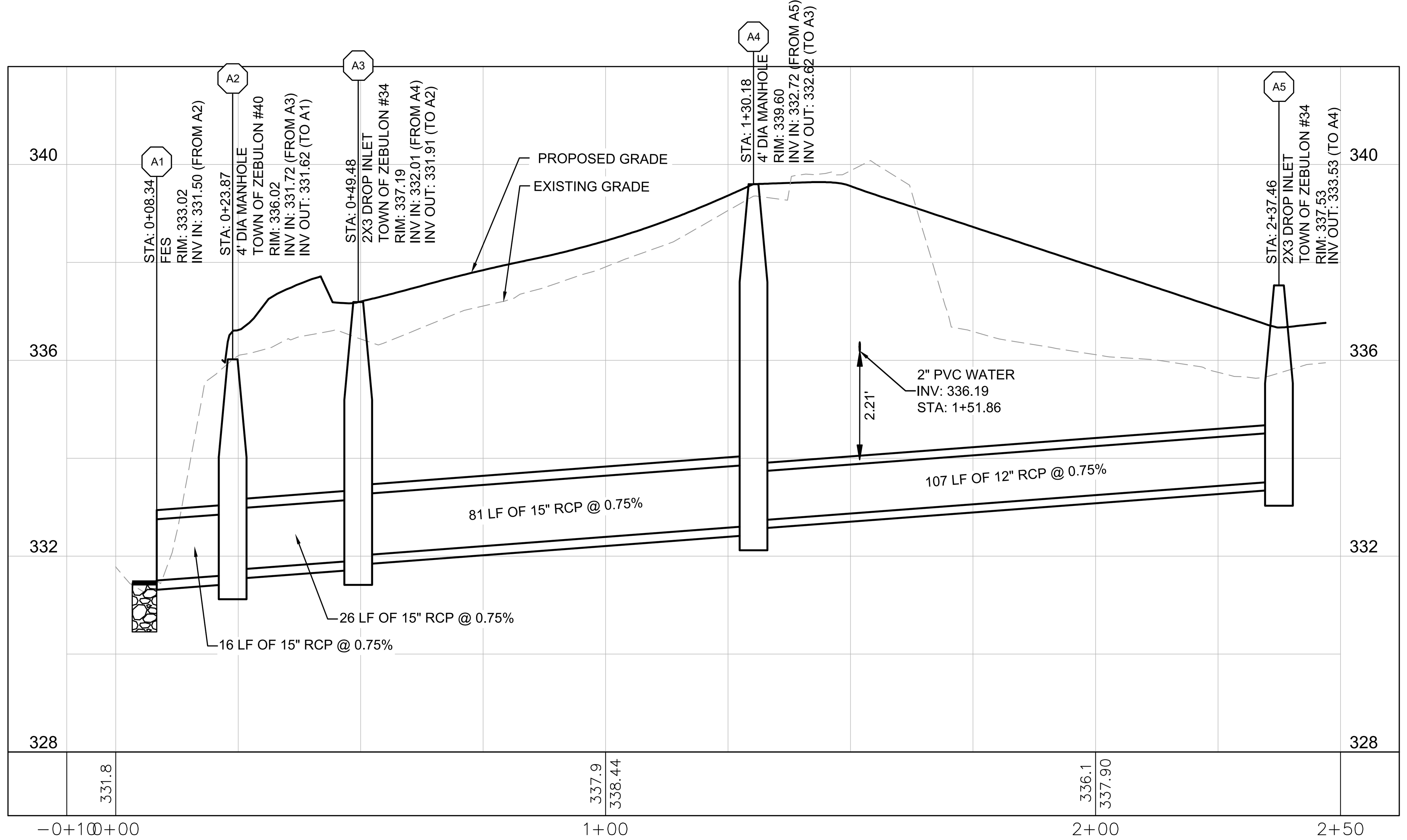
KHA PROJECT	110529004
DATE	9/12/2025
SCALE	AS SHOWN
DESIGNED BY	RND
DRAWN BY	RND
CHECKED BY	HRT

GRADING AND DRAINAGE PLAN

STORE #416
1406 N ARENDELL AVE
TOWN OF ZEBULON NORTH CAROLINA

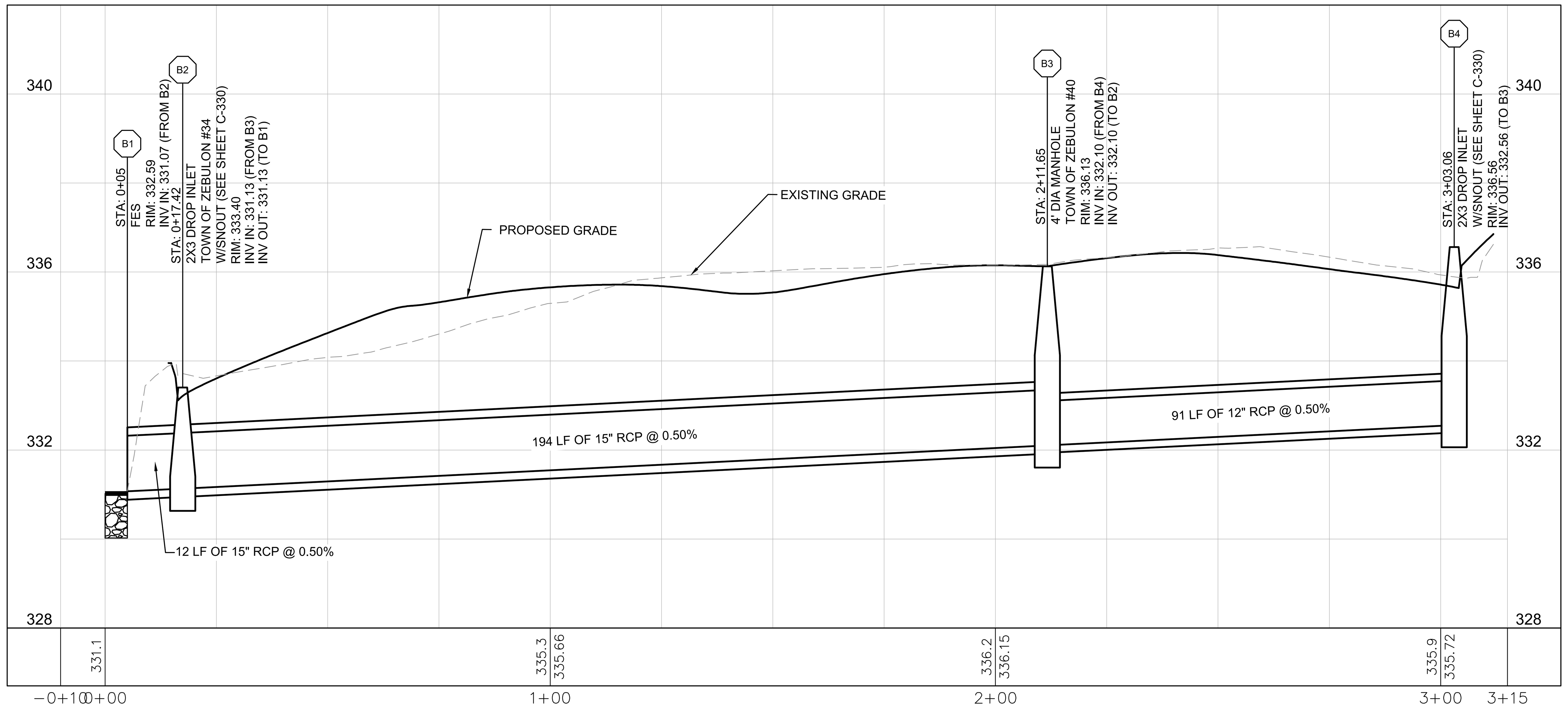
SHEET NUMBER
C-300

Attachment 3
PD 2025-05



Plan North Storm Run

SCALE: 1" = 20' H
1" = 2' V



Plan South Storm Run

SCALE: 1" = 20' H
1" = 2' V

STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
A1	FES RIM: 333.02 INV IN: 331.50	FROM A2, 15" RCP INV IN: 331.50 @ 0.75%	
A2	4' DIA MANHOLE TOWN OF ZEBULON #40 RIM: 336.02 INV IN: 331.72 INV OUT: 331.62	FROM A3, 15" RCP INV IN: 331.72 @ 0.75%	TO A1, 15" RCP INV OUT: 331.62 @ 0.75%
A3	2X3 DROP INLET TOWN OF ZEBULON #34 RIM: 337.19 INV IN: 332.01 INV OUT: 331.91	FROM A4, 15" RCP INV IN: 332.01 @ 0.75%	TO A2, 15" RCP INV OUT: 331.91 @ 0.75%
A4	4' DIA MANHOLE RIM: 339.60 INV IN: 332.72 INV OUT: 332.62	FROM A5, 12" RCP INV IN: 332.72 @ 0.75%	TO A3, 15" RCP INV OUT: 332.62 @ 0.75%
A5	2X3 DROP INLET TOWN OF ZEBULON #34 RIM: 337.53 INV OUT: 333.53		TO A4, 12" RCP INV OUT: 333.53 @ 0.75%
B1	FES RIM: 332.59 INV IN: 331.07	FROM B2, 15" RCP INV IN: 331.07 @ 0.50%	
B2	2X3 DROP INLET TOWN OF ZEBULON #34 W/SNOUT (SEE SHEET C-330) RIM: 333.40 INV IN: 331.13 INV OUT: 331.13	FROM B3, 15" RCP INV IN: 331.13 @ 0.50%	TO B1, 15" RCP INV OUT: 331.13 @ 0.50%
B3	4' DIA MANHOLE TOWN OF ZEBULON #40 RIM: 336.13 INV IN: 332.10 INV OUT: 332.10	FROM B4, 12" RCP INV IN: 332.10 @ 0.50%	TO B2, 15" RCP INV OUT: 332.10 @ 0.50%
B4	2X3 DROP INLET W/SNOUT (SEE SHEET C-330) RIM: 336.56 INV OUT: 332.56		TO B3, 12" RCP INV OUT: 332.56 @ 0.50%

Know what's **below.**
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No.	REVISIONS	DATE	BY

Kimley»Horn

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PHONE: 919-835-1494
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NOT FOR CONSTRUCTION

KHA PROJECT	110529004
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SCALE	AS SHOWN
DESIGNED BY	RND
DRAWN BY	RND
CHECKED BY	HRT

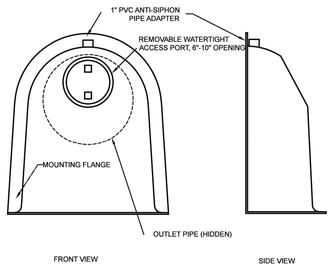
DRAINAGE PROFILES

STORE #416
1406 N ARENDELL AVE

TOWN OF ZEBULON   NORH CAROLINA

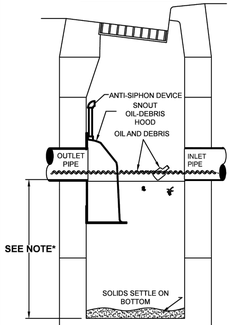
SHEET NUMBER
C-320

CONFIGURATION DETAIL



SNOUT OIL-WATER-DEBRIS SEPARATOR

TYPICAL INSTALLATION



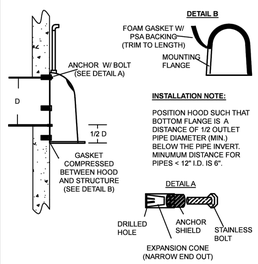
*NOTE- SUMP DEPTH OF 36" MIN. FOR UP TO 12" ID PIPE OUTLET. FOR PIPES 15" ID AND ABOVE SUMP DEPTH OF 2.5 TO 3 TIMES PIPE ID RECOMMENDED (E.G. 5' DEEP for 24" PIPE)

NOTES:

1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY:
   BEST MANAGEMENT PRODUCTS, INC.
   9 MATHEWS DRIVE, UNIT A1-A2.
   EAST HADDAM, CT 06423
   TOLL FREE: (800) 504-8008 OR (888) 434-0277, FAX: (877) 434-3197
   WEB SITE: www.bmpinc.com
   OR PRE-APPROVED EQUAL
2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT PIPE AND ELBOW AS DRAWN. (SEE CONFIGURATION DETAIL)
4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION (SNOUT SIZE ALWAYS LARGER THAN PIPE SIZE).
5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.
7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.
8. ALL STRUCTURE JOINTS SHALL BE WATERTIGHT.
9. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH ¼" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
10. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
    INSTALLATION KIT SHALL INCLUDE:
    A. INSTALLATION INSTRUCTIONS
    B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER
    C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
    D. 3/8" STAINLESS STEEL BOLTS
    E. ANCHOR SHIELDS

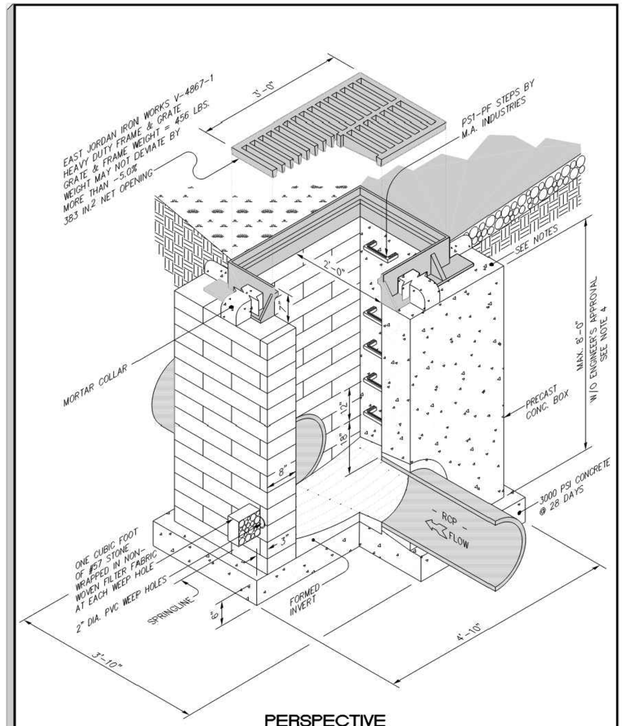
US Patent # 6126817, 7951294, 7857966, 8512556
Canada Patent # 2285146, 2690156, 2690156 others pending

INSTALLATION DETAIL



HOOD SPECIFICATION FOR CATCH BASINS AND WATER QUALITY STRUCTURES

DESCRIPTION	DATE	SCALE
OIL- DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL)	09/08/18	NONE
	DRAWING NUMBER	SP-SN



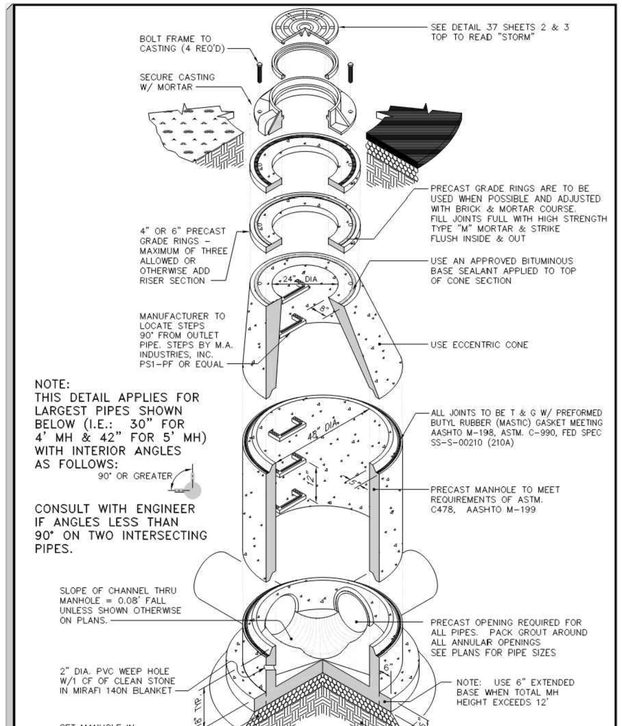
PERSPECTIVE

TOWN OF ZEBULON

2x3 DROP INLET

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE:	DETAIL #
NOT TO SCALE	34
DATE: JULY 2010	SHEET #: 1 OF 1



PERSPECTIVE

TOWN OF ZEBULON

PRECAST CONCRETE 4' DIA. MH JB

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE:	DETAIL #
NOT TO SCALE	40
DATE: JULY 2010	SHEET #: 1 OF 1

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No.	REVISIONS	DATE	BY

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PHONE: 919-835-1494
WWW.KIMLEY-HORN.COM

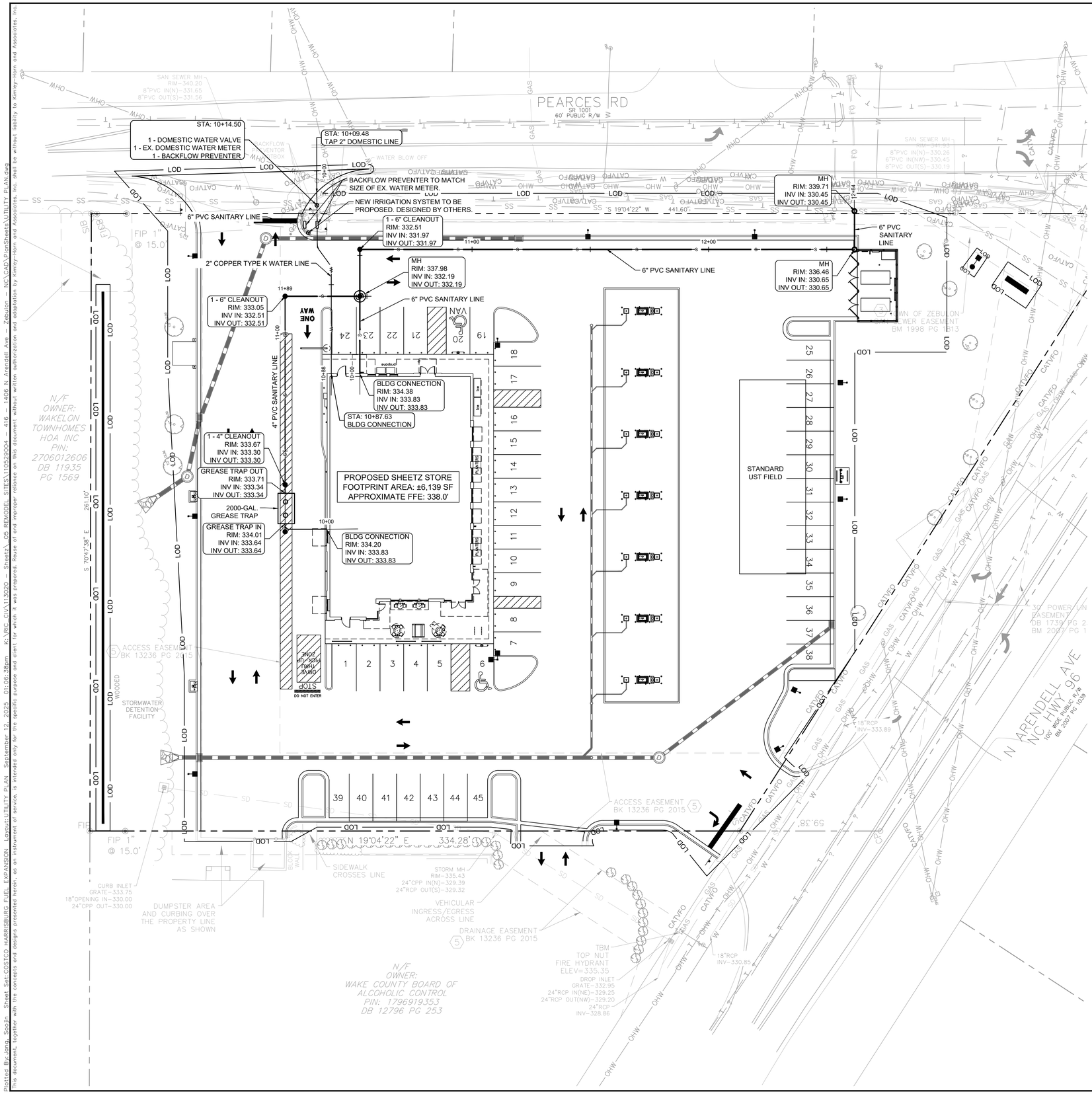
NOT FOR CONSTRUCTION

KHA PROJECT	110529004
DATE	9/12/2025
SCALE	AS SHOWN
DESIGNED BY	RND
DRAWN BY	RND
CHECKED BY	HRT

DRAINAGE DETAILS

STORE #416
1406 N ARENDELL AVE
TOWN OF ZEBULON NORTH CAROLINA

SHEET NUMBER
C-330



CITY OF RALEIGH UTILITY NOTES

1. All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition)

2. Utility separation requirements:
   a) A distance of 100' shall be maintained between sanitary sewer & any private or public water supply source such as an impounded reservoir used as a source of drinking water. If adequate lateral separation cannot be achieved, ferrous sanitary sewer pipe shall be specified & installed to waterline specifications. However, the minimum separation shall not be less than 25' from a private well or 50' from a publicwell.
   b) When installing water &/or sewer mains, the horizontal separation between utilities shall be 10'. If this separation cannot be maintained due to existing conditions, the variation allowed is the water main in a separate trench with the elevation of the water main at least 18" above the top of the sewer & must be approved by the Public Utilities Director. All distances are measured from outside diameter to outside diameter.
   c) Where it isimpossible to obtain properseparation, or anytime a sanitary sewer passes over a watermain, DIP materials or steel encasement extended 10' on each side of crossing must be specified & installed to waterline specifications.
   d) 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DIP material is specified for sanitary sewer.
   e) Maintain 18" min. vertical separation at all watermain & RCP storm drain crossings; maintain 18" min. vertical separation at all sanitary sewer & RCP storm drain crossings. Where adequate separations cannot be achieved, specify DIP materials & a concrete cradle having 6" min. clearance (per CORPUD details W- 41 & S-49).
   f) All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required.

3. Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction.

4. Developer shall provide 30 days advance written notice to owner for any work required within an existing City of Raleigh Utility Easement traversing private property.

5. Contractor shall maintain continuous water & sewer service to existing residences & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24-hour advance notice to the City of Raleigh Public Utilities Department.

6. SEWER BYPASS PUMPING – A bypass plan sealed by an NC Professional Engineer shall be provided to Raleigh Water prior to pumping operations for approval. The operations and equipment shall comply with the Public Utilities Handbook.

7. 3.0' minimum cover is required on all water mains & sewer force mains. 4.0' minimum cover is required on all reuse mains.

8. It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This includes abandoning tap at main & removal of service from ROW or easement per CORPUD Handbook procedure.

9. Install 2" copper water services with meters located at ROW or within a 2'x2' Waterline Easement immediately adjacent. NOTE: it is the applicant's responsibility to properly size the water service for each connection to provide adequate flow & pressure.

10. Install 4" and 6" PVC sewer services as noted @ 1.0% minimum grade with cleanouts located at ROW or easement line & spaced every 75 linear feet maximum.

11. Pressure reducing valves are required on all water services exceeding 80 psi; backwater valves are required on all sanitary sewer services having building drains lower than 1.0' above the next upstreammanhole.

12. All environmental permits applicable to the project must be obtained from NCDWQ, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.

13. NCDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service taps) within state or railroad ROW prior to construction.

14. Grease Interceptor / Oil Water Separator sizing calculations & installation specifications shall be approved by the RW FOG Program Coordinator prior to issuance of a UC and/or Building Permit. Contact (919) 996-4516 or fog@raleighnc.gov for more information.

15. Cross-connection control protection devices are required based on the degree of health hazard involved as listed in Appendix B of the Rules Governing Public Water Systems in North Carolina.

16. The devices shall meet the American Society of Sanitary Engineering (SAAE) standards and be on the University of Southern California approval list.

17. The device and installation shall mee the guidelines of Appendix A – Guidelines and Requirements for the Cross Connection Program in Raleigh's Service Area.

18. The devices shall be installed and tested (both, initial and periodic testing thereafter) in accordance with the manufacturer's recommendations or the local cross connection control program, whichever is more stringent. Contact Cross.connection@raleighnc.gov for more information.

19. NOTICE for projects that involve an oversized main or urban main replacement. Any City reimbursement greater than $250,000.00 must undergo the public bidding process.

UTILITY LEGEND

LOD	LIMITS OF DISTURBANCE (±81,705 SF)
SS	EXISTING SANITARY SEWER LINE
W	EXISTING WATER LINE
S	PROPOSED SANITARY SEWER LINE
W	PROPOSED WATER LINE
	PROPOSED STORM DRAIN

SHEETZ UTILITY NOTES

1. ALL SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS PREPARED BY KIMLEY-HORN, THE CURRENT REQUIREMENTS OF THE TOWN OF ZEBULON AND THE CITY OF RALEIGH, THE APPLICABLE SECTIONS OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADWAY CONSTRUCTION, AND ALL OTHER PERTINENT FEDERAL AND STATE LAWS.
2. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID.
4. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY 811 "CALL BEFORE YOU DIG." THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BID AND PERFORM ALL UTILITY WORK IN COMPLIANCE TO ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES ASSOCIATED WITH THE INSTALLATION, INSPECTING, TESTING AND FINAL ACCEPTANCE OF ALL PROPOSED UTILITY CONSTRUCTION UNLESS OTHERWISE COORDINATED BEFOREHAND WITH SHEETZ.
7. CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY ON THE ADDITION, REMOVAL AND/OR RELOCATION OF UTILITIES AND UTILITY POLES AND THE EXTENSION OF ALL PROPOSED UTILITIES TO THE SHEETZ PROJECT STRUCTURES.
8. ALL UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE UTILITY COMPANY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL UTILITIES ARE INSTALLED CORRECTLY TO MEET PROJECT REQUIREMENTS WHETHER PERFORMED BY THE CONTRACTOR OR NOT.
9. AN AS-BUILT DRAWING OF NEW UTILITY SERVICES SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER UPON COMPLETION OF THE PROJECT.
10. UTILITY COMPANIES AND CONTACTS ARE LISTED ON SHEET C-000.
11. CONDUIT LOCATIONS TO FREESTANDING SIGNS AND SITE LIGHT POLES TO BE COORDINATED WITH SHEETZ CONSTRUCTION MANAGER.
12. CONTRACTOR SHALL COORDINATE AND VERIFY WITH SHEETZ CONSTRUCTION MANAGER ON LOCATION AND SIZE OF THE STORE GREASE TRAP. GREASE TRAP SHALL BE PROVIDED WITH "T" PIPE IN OUTFLOW CHAMBER. ALL SANITARY SEWER PIPE SHALL BE SDR-35 PVC UNLESS OTHERWISE NOTED.
13. CONTRACTOR SHALL COORDINATE WITH SHEETZ CONSTRUCTION MANAGER AND SHEETZ IT DEPARTMENT ON THE CONDUIT ROUTE TO STORE FOR TELE/COMMUNICATION SERVICES.
14. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.

ATTENTION CONTRACTORS

The Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Infrastructure Inspections Division and schedule a Pre-construction meeting on the Development Portal prior to beginning any construction. Raleigh Water must be contacted at (919) 996-4540 at least twenty-four hours prior to beginning any work activity around critical water and sewer infrastructure.

Failure to notify City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for Inspection, install a downstream plug, have permitted plans on the jobsite, or any other violation of City of Raleigh Standards will result in a fine and possible exclusion from future work in the City of Raleigh

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

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

No.	REVISIONS	DATE	BY

Kimley»Horn
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421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601
PHONE: 919-835-1494
WWW.KIMLEY-HORN.COM

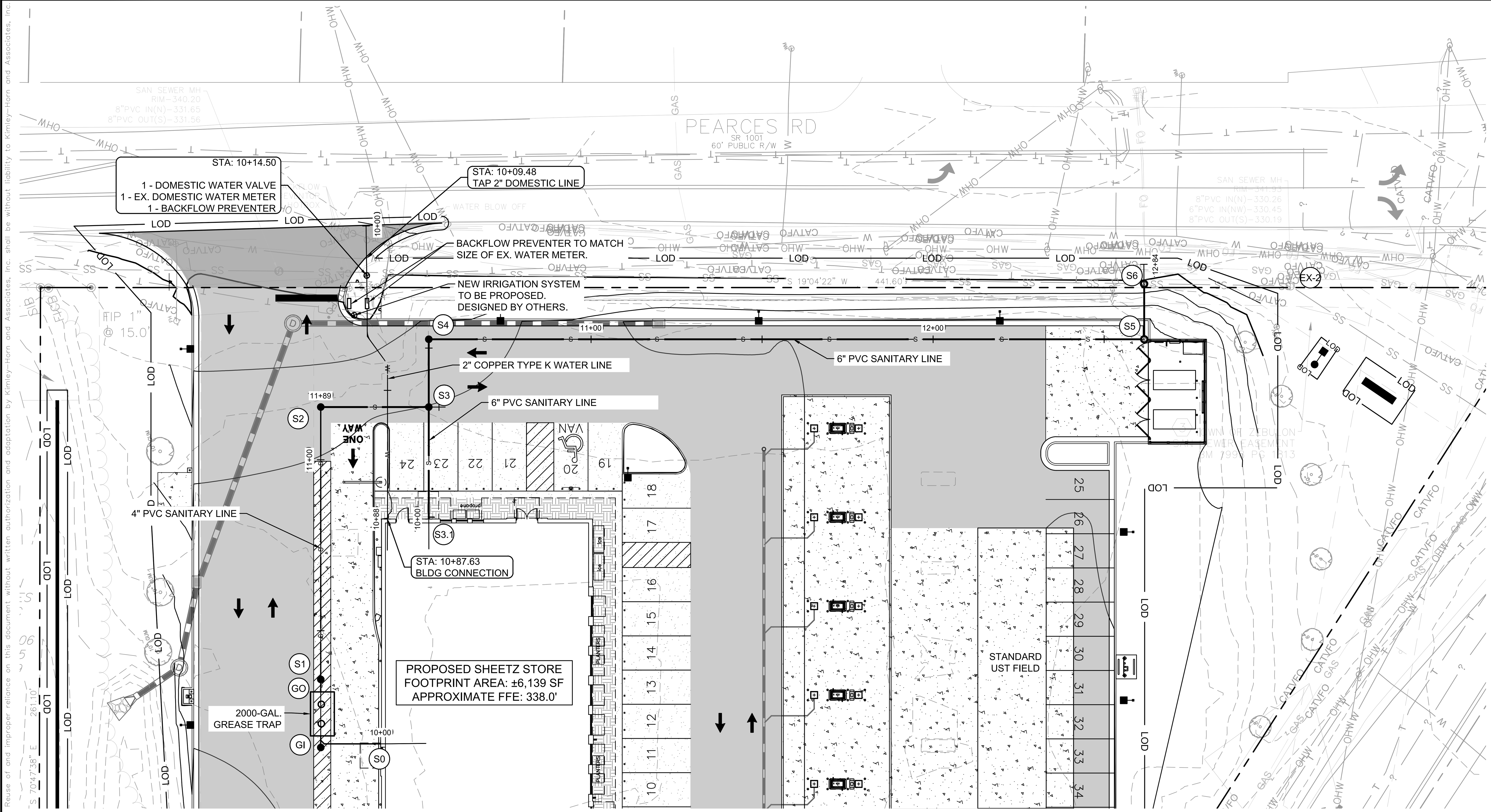
NOT FOR CONSTRUCTION

KHA PROJECT	110529004
DATE	9/12/2025
SCALE	AS SHOWN
DESIGNED BY	RND
DRAWN BY	RND
CHECKED BY	HRT

UTILITY PLAN

STORE #416
1406 N ARENDELL AVE
TOWN OF ZEBULON NORTH CAROLINA

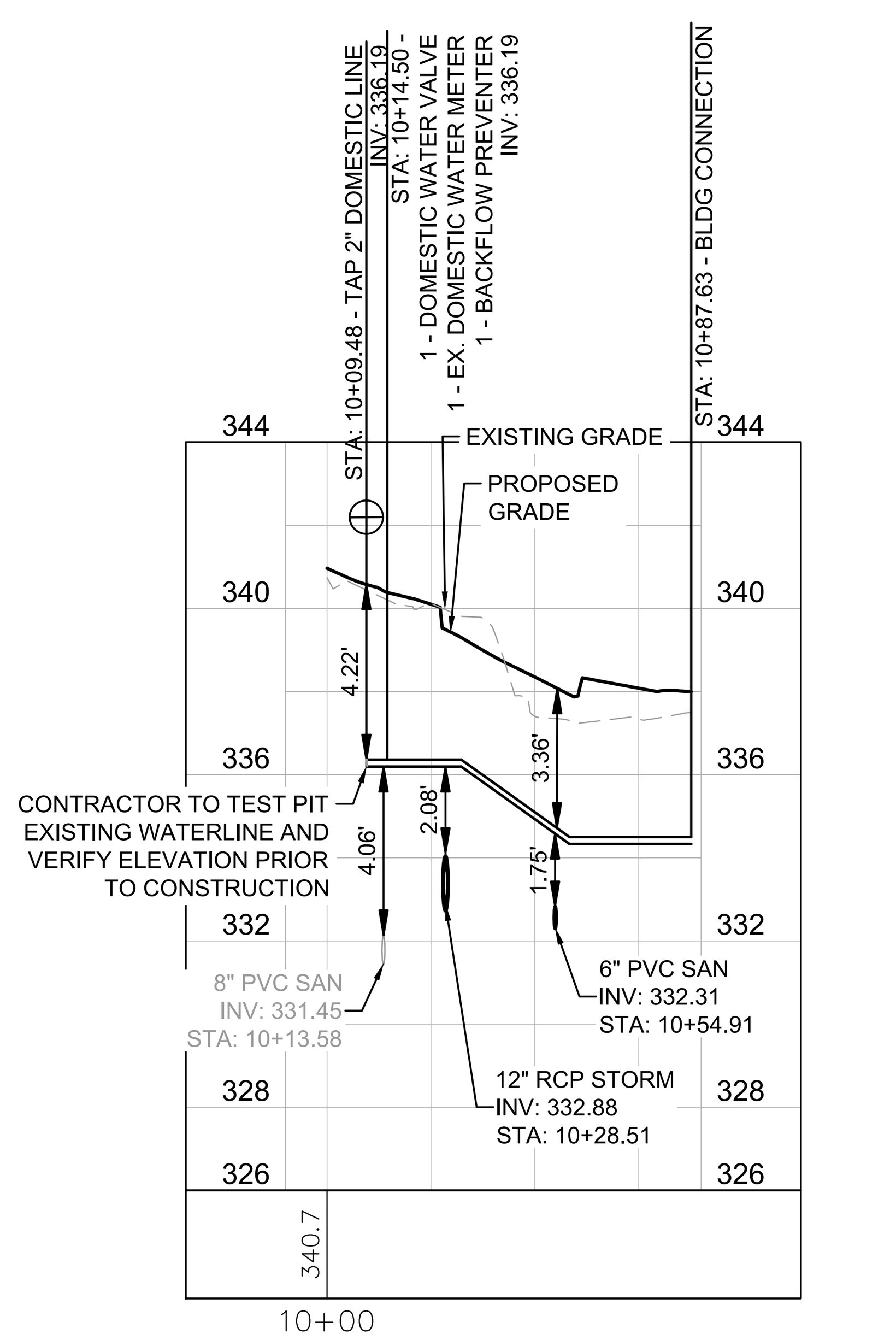
SHEET NUMBER
C-400



STRUCTURE TABLE			
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
GI	GREASE TRAP IN RIM: 334.01 INV IN: 333.64 INV OUT: 333.64	FROM S0., 4" PVC INV IN: 333.64 @ 1.00%	TO GO, 4" PVC INV OUT: 333.64 @ 2.33%
GO	GREASE TRAP OUT RIM: 333.71 INV IN: 333.34 INV OUT: 333.34	FROM GI, 4" PVC INV IN: 333.34 @ 2.33%	TO S1, 4" PVC INV OUT: 333.34 @ 1.00%
S0	BLDG CONNECTION RIM: 334.20 INV OUT: 333.83		TO GI., 4" PVC INV OUT: 333.83 @ 1.00%
S1	1 - 4" CLEANOUT RIM: 333.67 INV IN: 333.30 INV OUT: 333.30	FROM GO, 4" PVC INV IN: 333.30 @ 1.00%	TO S2, 4" PVC INV OUT: 333.30 @ 1.00%
S2	1 - 6" CLEANOUT RIM: 333.05 INV IN: 332.51 INV OUT: 332.51	FROM S1, 4" PVC INV IN: 332.51 @ 1.00%	TO S3, 6" PVC INV OUT: 332.51 @ 1.00%
S3	MH RIM: 337.98 INV IN: 332.19 INV IN: 332.19 INV OUT: 332.09	FROM S3.1, 6" PVC INV IN: 332.19 @ 5.02% FROM S2, 6" PVC INV IN: 332.19 @ 1.00%	TO S4, 6" PVC INV OUT: 332.09 @ 0.63%
S3.1	BLDG CONNECTION RIM: 334.38 INV OUT: 333.83		TO S3, 6" PVC INV OUT: 333.83 @ 5.02%
S4	1 - 6" CLEANOUT RIM: 332.51 INV IN: 331.97 INV OUT: 331.97	FROM S3, 6" PVC INV IN: 331.97 @ 0.63%	TO S5, 6" PVC INV OUT: 331.97 @ 0.63%
S5	MH RIM: 336.46 INV IN: 330.65 INV OUT: 330.65	FROM S4, 6" PVC INV IN: 330.65 @ 0.63%	TO S6, 6" PVC INV OUT: 330.65 @ 0.63%
S6	MH RIM: 339.71 INV IN: 330.45 INV IN: 330.55 INV OUT: 330.45	FROM EX-1, 8" PVC INV IN: 330.45 @ 0.44% FROM S5, 6" PVC INV IN: 330.55 @ 0.63%	TO EX-2, 8" PVC INV OUT: 330.45 @ 0.44%

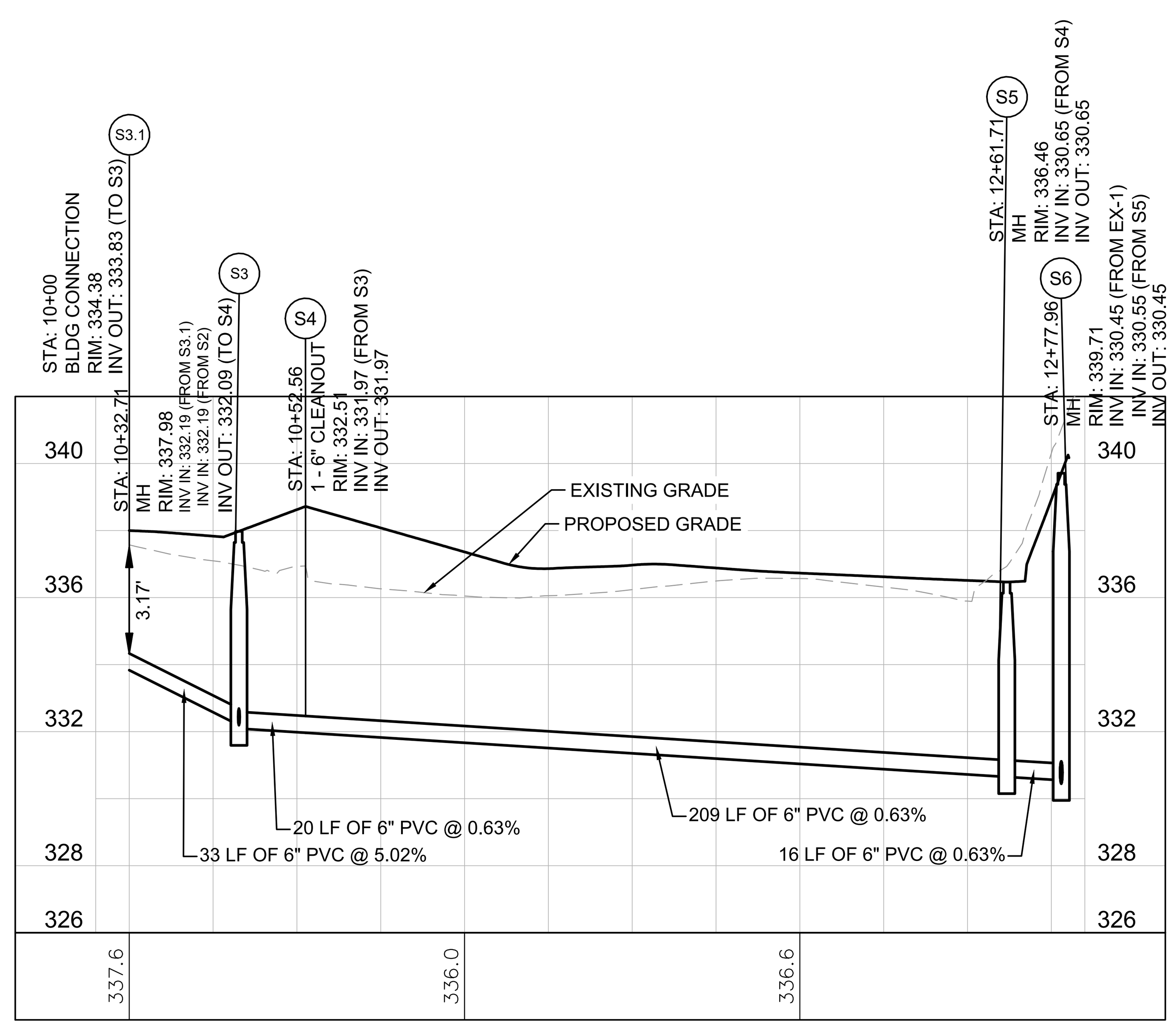
NORTH

GRAPHIC SCALE IN FEET
0 10 20 40



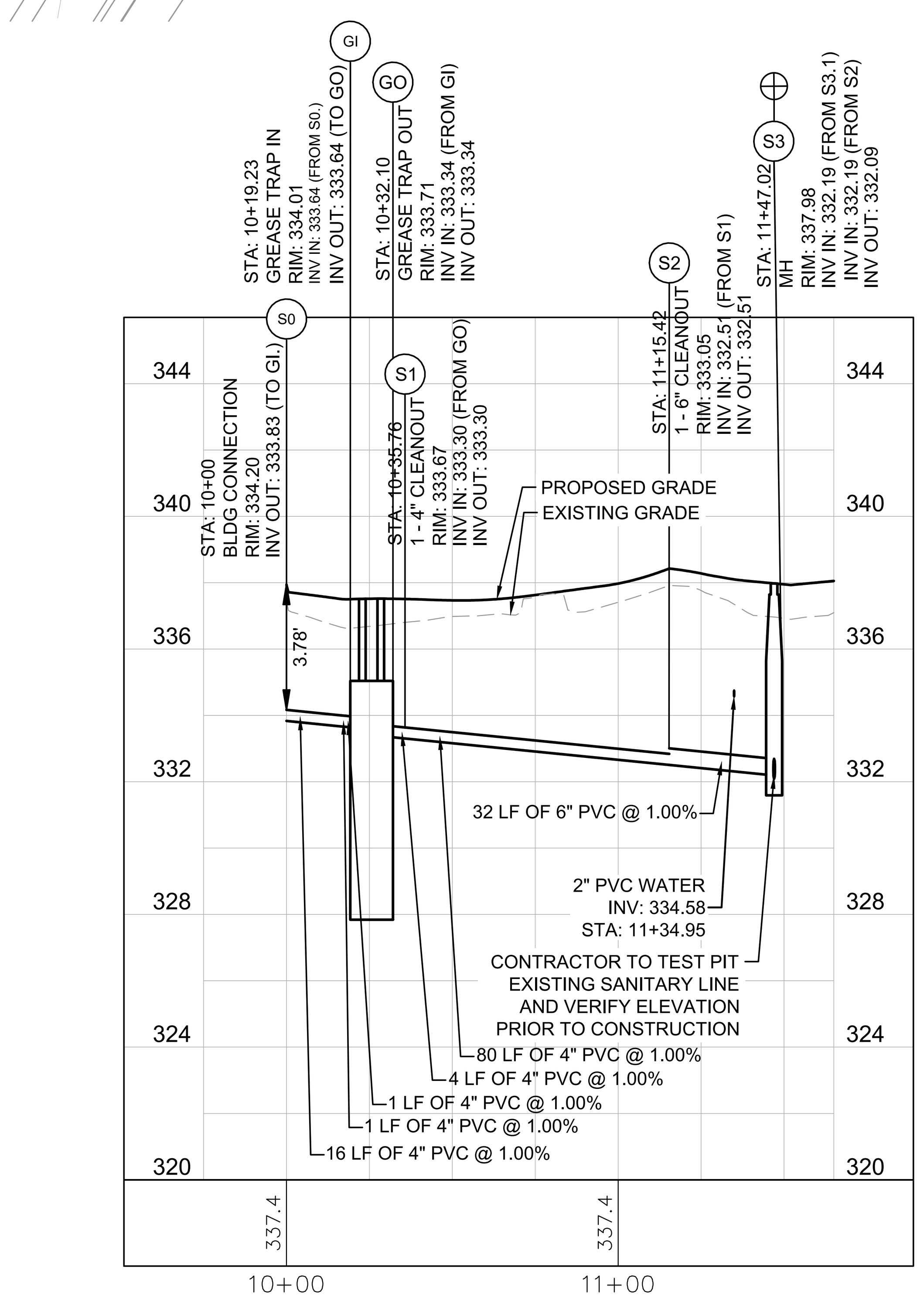
WATER SERVICE CONNECTION

SCALE: 1" = 40' H
1" = 4' V



SANITARY LATERAL CONNECTION TO S6

SCALE: 1" = 40' H
1" = 4' V



SANITARY GREASE TRAP CONNECTION TO S3

SCALE: 1" = 40' H
1" = 4' V

Know what's **below.**
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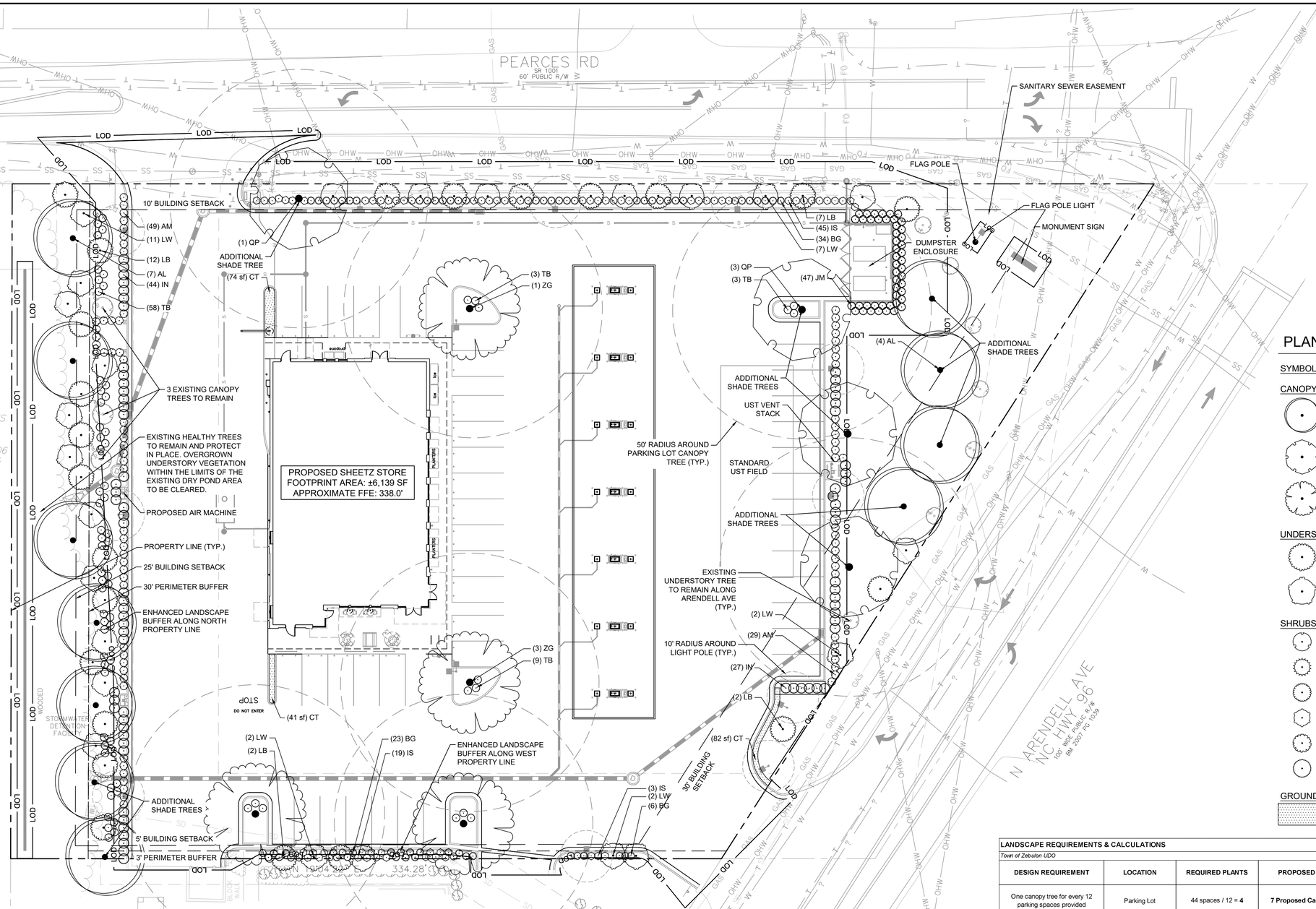
PHONE: 919-835-1494
WWW.KIMLEY-HORN.COM

KHA PROJECT 110529004
DATE 9/12/2025
SCALE AS SHOWN
DESIGNED BY RND
DRAWN BY RND
CHECKED BY HRT

UTILITY PROFILES

STORE #416
1406 N ARENDELL AVE
TOWN OF ZEBULON NORTH CAROLINA

SHEET NUMBER
C-410



PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME
CANOPY TREES		
	AL	ACER SACCHARUM 'LEGACY' LEGACY SUGAR MAPLE
	QP	QUERCUS PHELLOS WILLOW OAK
	ZG	ZELKOVA SERRATA `GREEN VASE' GREEN VASE JAPANESE ZELKOVA
UNDERSTORY TREES		
	LB	LAGERSTROEMIA INDICA 'BYER'S WONDERFUL WHITE' WONDERFUL WHITE CRAPE MYRTLE
	LW	LAGERSTROEMIA INDICA 'WHIT IV' RED ROCKET® CRAPE MYRTLE
SHRUBS		
	AM	ABELIA X GRANDIFLORA 'HOPLEYS' MISS LEMON™ GLOSSY ABELIA
	BG	BUXUS X 'GREEN MOUNTAIN' GREEN MOUNTAIN BOXWOOD
	IN	ILEX VOMITORIA 'NANA' DWARF YAUPON HOLLY
	IS	ILEX GLABRA 'SHAMROCK' SHAMROCK INKBERRY HOLLY
	JM	JUNIPERUS SCOPULORUM 'MEDORA' MEDORA JUNIPER
	TB	THUJA OCCIDENTALIS 'BOBOZAM' MR. BOWLING BALL® ARBORVITAE
GROUND COVERS		
	CT	CYNODON DACTYLON 'TIF 419' TIF 419 BERMUDAGRASS

LANDSCAPE REQUIREMENTS & CALCULATIONS

Town of Zebulon UDO

DESIGN REQUIREMENT	LOCATION	REQUIRED PLANTS	PROPOSED PLANTS	CODE SECTION
One canopy tree for every 12 parking spaces provided	Parking Lot	44 spaces / 12 = **4**	**7 Proposed Canopy Trees**	*5.6.9.A*
Parking lot perimeter landscape shall have continuous row of evergreen shrubs	Parking Lot Perimeter	707 LF / 3 = **236**	**246 Proposed Evergreen Shrubs**	*5.6.9.C*
Streetscape Four (4) understory trees per 100 linear feet where overhead utility lines are present and twenty shrubs per 100 linear feet	Pearces Rd	395 LF / 100 = 3.95 3.95 * 4 = **16** 3.95 * 20 = **79**	**14 Proposed Understory Trees** **2 Existing Understory Tree** **79 Proposed Shrubs**	*5.6.12*
	N Arendell Ave	277 LF / 100 = 2.77 2.77 * 4 = **11** 2.77 * 20 **= 56**	**4 Proposed Understory Trees** **7 Existing Understory Trees** **56 Proposed Shrubs**	*5.6.12*
Type A Buffer Four (4) understory trees and fifteen (15) shrubs per 100 linear feet	West Property Line	120 LF / 100 = 1.20 1.20 * 4 = **5** 1.20 * 15 = **18**	**6 Proposed Understory Trees** **51 Proposed Shrubs**	*5.6.10*
Type C Buffer Three (3) canopy trees, six (6) understory trees, and twenty-five (25) shrubs per 100 linear feet	North Property Line	261 LF / 100 = 2.61 2.61 * 3 = **8** 2.61 * 6 = **16** 2.61 * 25 = **66**	**7 Proposed Canopy Trees** **3 Existing Canopy Trees** **23 Proposed Understory Trees** **151 Proposed Shrubs**	*5.6.10*
Two (2) staggered rows of evergreen shrubs to form fully opaque screen	Dumpster Enclosure	64 LF / 3 = 22 22 * 2 = **44**	**47 Proposed Evergreen Shrubs**	*5.10.5*
Installation of native shade trees for outdoor enhancement.	Perimeter	**10**	**10 Proposed Canopy Trees**	*Utility Allocation Policy: 3A*

Note: Shade trees planted in the buffers and parking lot perimeter beyond the required amount are used to meet the additional native shade tree requirement for the Utility Allocation Policy: 3A. Shrubs and understory trees planted in the buffers beyond the required amount are used to meet the enhanced buffer landscaping requirement for the Utility Allocation Policy: 3A.

NOTES
1. SPECIFIED ACER SACCHARUM 'LEGACY' AND QUERCUS PHELLOS SHADE TREES TO BE COUNTED FOR UTILITY ALLOCATION POLICY: 3A REQUIREMENT
2. BUFFER WIDTHS HAVE BEEN REDUCED PER DEVELOPMENT CONDITIONS.

NORTH

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0 10 20 40

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NOT FOR CONSTRUCTION

KHA PROJECT	110529004
DATE	9/12/2025
SCALE	AS SHOWN
DESIGNED BY	RND
DRAWN BY	RND
CHECKED BY	HRT

LANDSCAPE PLAN

STORE #416
1406 N ARENDELL AVE

TOWN OF ZEBULON NORTH CAROLINA

SHEET NUMBER
L-100

1 FRONT ELEVATION
1/4" = 1'-0"

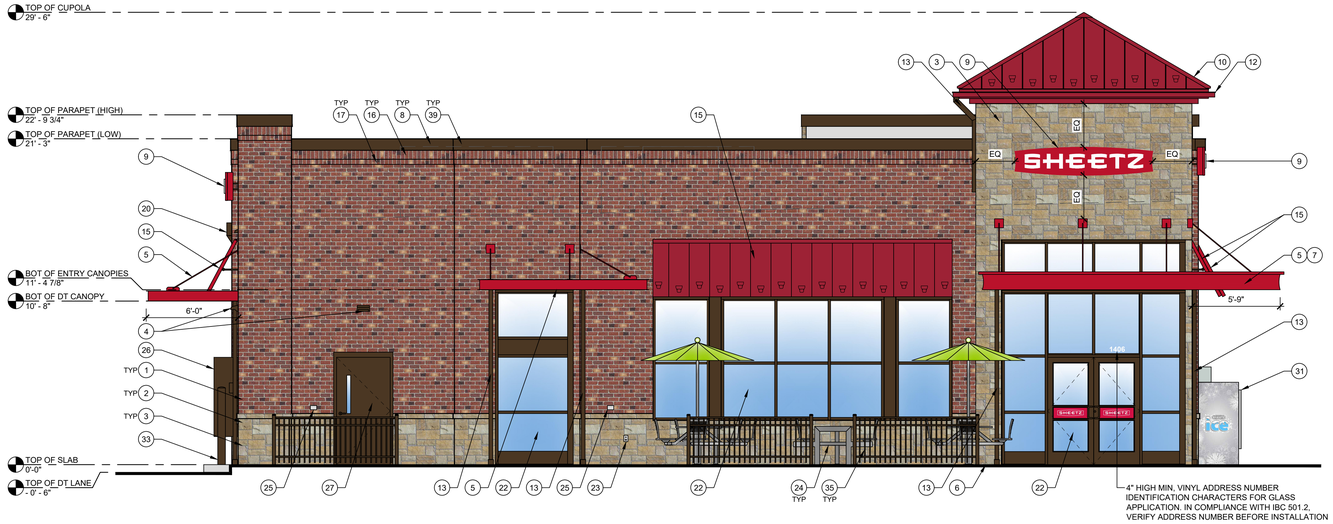
GLAZING CALCULATION FRONT ELEVATION = 2199.82 SQ FT		
DESCRIPTION	40% OF COVERAGE REQ	PROVIDED
TRANSPARENT GLAZING	879.92 SQ FT	590.61 SQ FT
FAUX WINDOW GLAZING	879.92 SQ FT	120.61 SQ FT
TOTAL GLAZING	879.92 SQ FT	711.22 SQ FT

TYPICAL EXTERIOR ELEVATION NOTES:

- ALL LIGHTS SHOWN ABOVE AND/OR BELOW DOORS OR WINDOWS ARE TO BE CENTERED ON THE DOOR OR WINDOW UNLESS NOTED OTHERWISE.
- FIXTURES/EQUIPMENT BETWEEN TWO DOORS OR WINDOWS ARE TO BE CENTERED EQUALLY.
- EXTERIOR SEALANT FOR STONE SHALL COMPLY WITH SECTION 07 9005 JOINT SEALANTS, GENERAL BUILDING FASCADE WEATHER SEALANT AND SHALL MATCH THE COLOR OF THE STORE.

EXTERIOR ELEVATION KEYNOTES:

1. BRICK VENEER, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
2. CAST STONE SILL, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
3. ANCHORED CAST STONE MASONRY VENEER, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
4. EXTERIOR LIGHT FIXTURE, REFER TO ELECTRICAL DRAWINGS
5. ARCHITECTURAL CANOPY, COLOR: REGAL RED, PREMIUM TWO-COAT KYNAR FINISH
6. BRICK PAVER WALKWAY
7. LIGHTED CURVED FASCIA CANOPY ATTACHMENT
8. METAL COPING, COLOR: DARK BRONZE
9. WALL MOUNTED BUILDING SIGN, SEE SHEET A200.
10. STANDING SEAM METAL ROOF, COLOR: BRITE RED
11. NOT USED
12. GUTTER, COLOR TO MATCH CUPOLA COLOR
13. DOWNSPOUT, COLOR: DARK BRONZE
14. DRIVE-THRU WINDOW (IF APPLICABLE)
15. METAL STANDING SEAM SHED STYLE AWNING AND FRAME ASSEMBLY, ROOF COLOR: BRITE RED, FRAME COLOR: DARK BRONZE
16. BRICK SOLDIER COURSE, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
17. BRICK ROWLOCK COURSE, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
18. CONTROL JOINT, SEE MASONRY SPEC
19. STEEL ROOF LADDER AND CRANKY POST, COLOR: DARK BRONZE
20. STANDARD THROUGH WALL SCUPPER WITH CONDUCTOR HEAD & DOWNSPOUT, COLOR: DARK BRONZE
21. OVERFLOW SCUPPER
22. ALUMINUM STOREFRONT SYSTEM, SEE A600
23. EXTERIOR HOSE BIB, REFER TO PLUMBING DRAWINGS
24. OUTDOOR FURNITURE
25. ELECTRICAL RECEPTACLE, REFER TO ELECTRICAL DRAWINGS
26. ELECTRICAL EQUIPMENT, REFER TO ELECTRICAL DRAWINGS
27. HM DOOR AND FRAME, COLOR: DARK BRONZE
28. EMERGENCY WATER CONNECTION, REFER TO PLUMBING DRAWINGS
29. SEAMLESS ALUM PANEL SYSTEM WITH EXPOSED FASTENERS, COLOR: DARK BRONZE
30. PROPANE LOCKER
31. ICE MERCHANDISER
32. RTI FILLPORT
33. STEEL BOLLARD, COLOR: DARK BRONZE
34. CO2 FILLPORT
35. DECORATIVE ALUMINUM FENCE, COLOR DARK BRONZE
36. AUTOMATIC DOOR PUSH PLATE AND BOLLARD, BOLLARD COLOR: DARK BRONZE
37. GAS METER AND RISER, REFER TO CIVIL UTILITY PLAN, COLOR: DARK BRONZE
38. NOT USED
39. LIGHT CHANNEL AT PARAPET COPING. SEE ARCHITECTURAL AND ELECTRICAL DRAWINGS FOR MORE INFORMATION.
40. NOT USED
41. FAUX WINDOWS WITH INTERNAL GRAPHIC



2 LEFT ELEVATION
1/4" = 1'-0"

GLAZING CALCULATION FRONT ELEVATION = 1275.16 SQ FT		
DESCRIPTION	30% OF COVERAGE REQ	PROVIDED
TRANSPARENT GLAZING	383 SQ FT	392.2 SQ FT
FAUX WINDOW GLAZING	N/A	N/A
TOTAL GLAZING	383 SQ FT	392.2 SQ FT

OUTLINE AREA = 14.84 SQ.FT.
BOX AREA = 16.52 SQ.FT.
TYPICAL OF FOUR
PROJECTS 7" OFF FACE OF BUILDING

A WALL MOUNTED "SHEETZ" BUILDING SIGN
1/2" = 1'-0"

Convenience Architecture and Design P.C.
351 Sheetz Way, Claysburg, PA 16625

phone (814) 239-6013
email tcolumbu@sheetz.com
web site www.sheetz.com

PROJECT NAME:
NEW SHEETZ STORE
STORE #416R

ZEBULON ARENDALL AVE.

Int. of North Arendall Avenue
and Pearces Road
Zebulon, NC 27597-8734

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

KEYPLAN

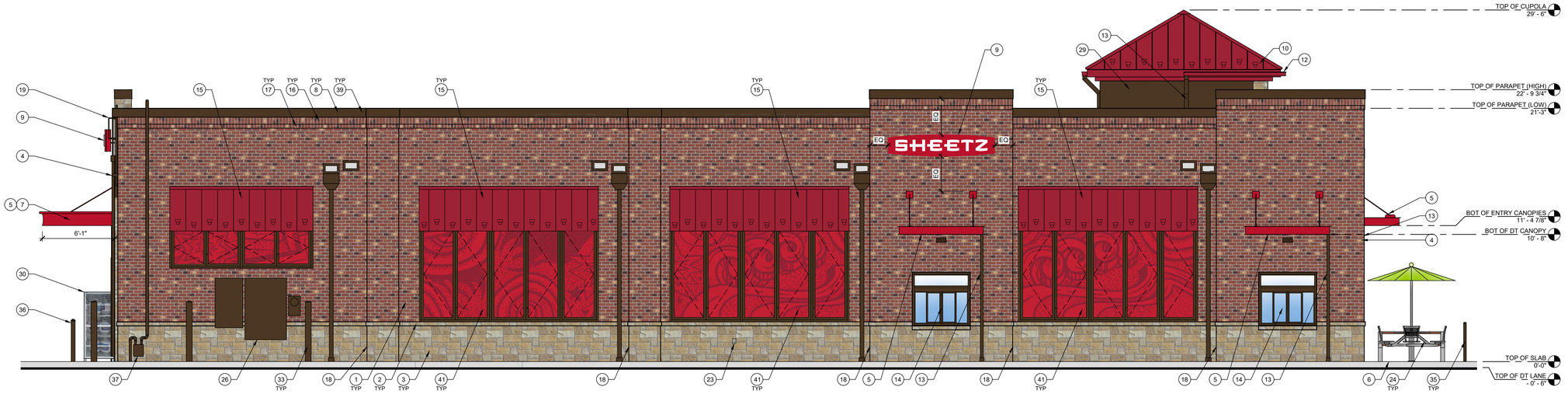
MARK	DATE	DESCRIPTION

ISSUE:	09.10.2025
SITE ID NO:	416R
AUTHOR BY:	RJK / AMM
REVIEW BY:	TMC / RJH
VERSION:	6139_v1.8

EXTERIOR ELEVATIONS

A200

PRELIMINARY ELEVATIONS



3 REAR ELEVATION
1/4" = 1'-0"

TYPICAL EXTERIOR ELEVATION NOTES:

- ALL LIGHTS SHOWN ABOVE AND/OR BELOW DOORS OR WINDOWS ARE TO BE CENTERED ON THE DOOR OR WINDOW UNLESS NOTED OTHERWISE.
- FIXTURES/EQUIPMENT BETWEEN TWO DOORS OR WINDOWS ARE TO BE CENTERED EQUALLY.
- EXTERIOR SEALANT FOR STONE SHALL COMPLY WITH SECTION 07 9005 JOINT SEALANTS, GENERAL BUILDING FASCADE WEATHER SEALANT AND SHALL MATCH THE COLOR OF THE STORE.

EXTERIOR ELEVATION KEYNOTES:

1. BRICK VENEER, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
2. CAST STONE SILL, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
3. ANCHORED CAST STONE MASONRY VENEER, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
4. EXTERIOR LIGHT FIXTURE, REFER TO ELECTRICAL DRAWINGS
5. ARCHITECTURAL CANOPY, COLOR: REGAL RED, PREMIUM TWO-COAT KYNAR FINISH
6. BRICK PAVER WALKWAY
7. LIGHTED CURVED FASCIA CANOPY ATTACHMENT
8. METAL COPING, COLOR: DARK BRONZE
9. WALL MOUNTED BUILDING SIGN, SEE SHEET A200.
10. STANDING SEAM METAL ROOF, COLOR: BRITE RED
11. NOT USED
12. GUTTER, COLOR TO MATCH CUPOLA COLOR
13. DOWNSPOUT, COLOR: DARK BRONZE
14. DRIVE-THRU WINDOW (IF APPLICABLE)
15. METAL STANDING SEAM SHED STYLE AWNING AND FRAME ASSEMBLY, ROOF COLOR: BRITE RED, FRAME COLOR: DARK BRONZE
16. BRICK SOLDIER COURSE, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
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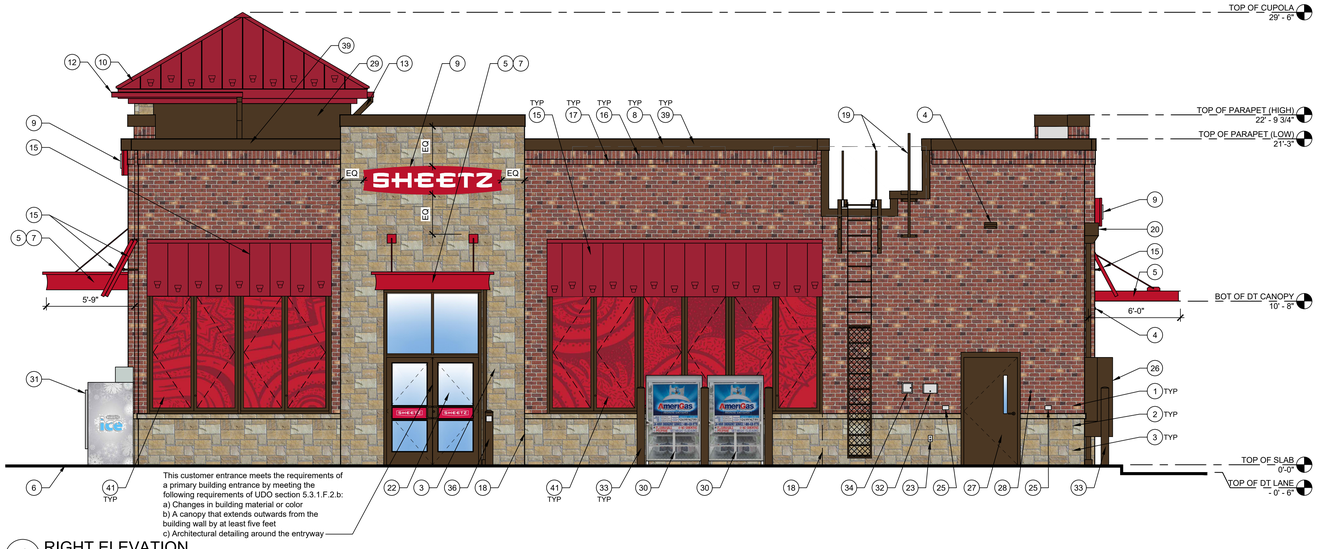
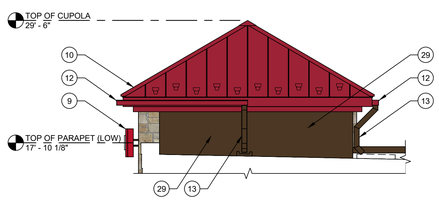


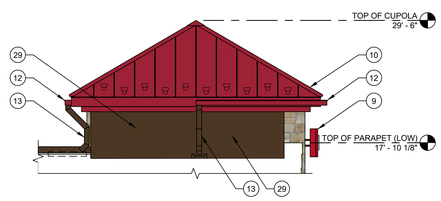
4 RIGHT ELEVATION
1/4" = 1'-0"

GLAZING CALCULATION RIGHT ELEVATION = 1,257 SQ FT

DESCRIPTION	30% OF COVERAGE REQ	PROVIDED
TRANSPARENT GLAZING	377.10	73.34
FAUX WINDOW GLAZING	377.10	239.96
TOTAL GLAZING	377.10	313.3



5 CUPOLA ELEVATION FROM ROOF
1/4" = 1'-0"



6 CUPOLA ELEVATION FROM ROOF
1/4" = 1'-0"

*C*onvenience *A*rchitecture
and *D*esign P.C.
351 Sheetz Way, Claysburg, PA 16625

phone (814) 239-6013
email tcolumbu@sheetz.com
web site www.sheetz.com

PROJECT NAME:
NEW SHEETZ STORE
STORE #416R

ZEBULON ARENDALL AVE.

Int. of North Arendall Avenue
and Pearces Road
Zebulon, NC 27597-8734

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

KEYPLAN

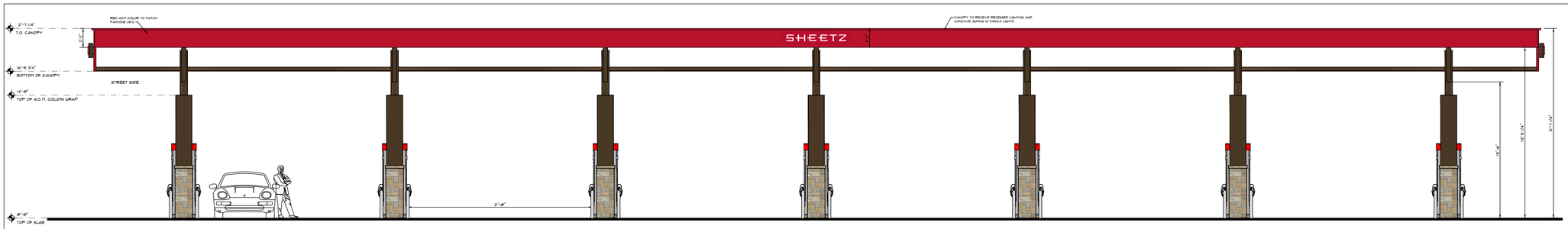
MARK	DATE	DESCRIPTION

ISSUE:	09.10.2025
SITE ID NO:	416R
AUTHOR BY:	RJK / AMM
REVIEW BY:	TMC / RJH
VERSION:	6139_v1.8

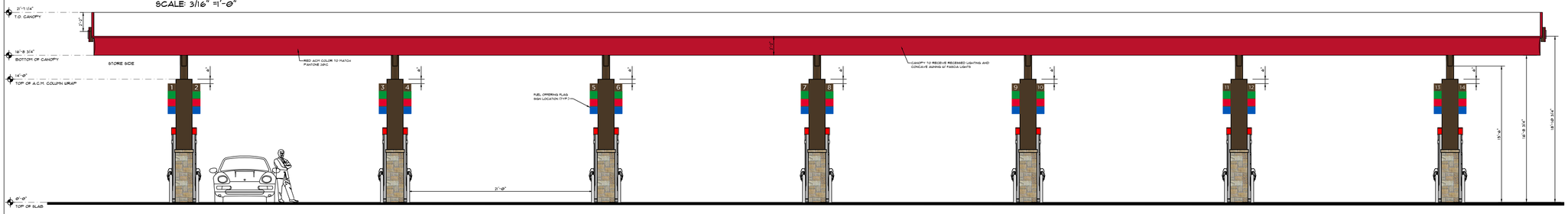
EXTERIOR ELEVATIONS

A201

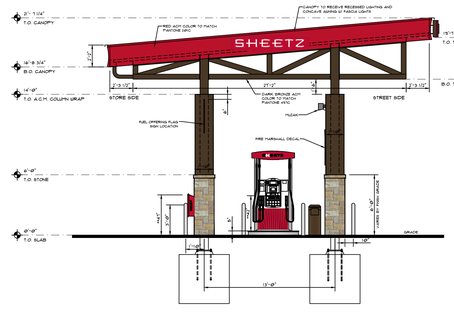
PRELIMINARY ELEVATIONS



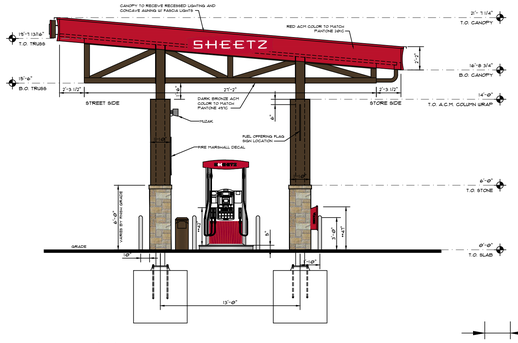
SIDE 'B' ELEVATION
SCALE: 3/16" =1'-0"



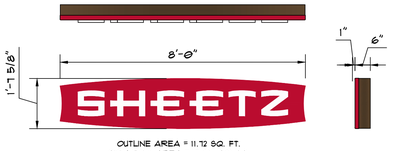
SIDE 'D' ELEVATION
SCALE: 3/16" =1'-0"



SIDE 'A' LEFT SIDE ELEVATION
SCALE: 3/16" =1'-0"

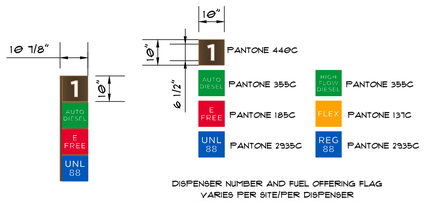


SIDE 'C' RIGHT SIDE ELEVATION
SCALE: 3/16" =1'-0"



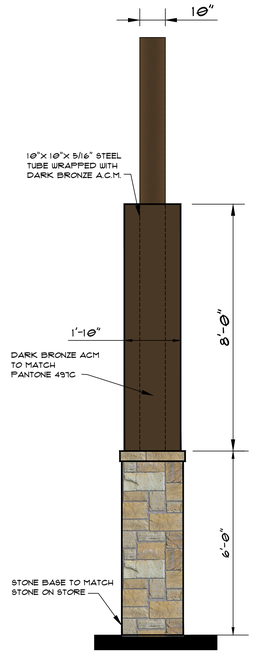
OUTLINE AREA = 11.72 SQ. FT.
SIGN BOX AREA = 13.08 SQ. FT.
PMS 200C AND PMS 440C
TYPICAL OF THREE
SIGN IS INTERNALLY ILLUMINATED
PIN-MOUNTED TO CURVED AWNING

CANOPY MOUNTED SHEETZ SIGN DETAIL
SCALE: 1/2" =1'-0"

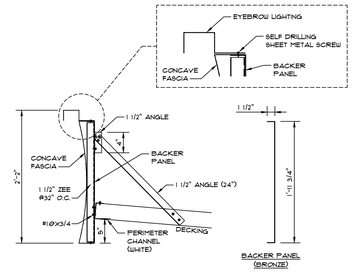


DISPENSER NUMBER AND FUEL OFFERING FLAG
VARIES PER SITE/PER DISPENSER
2 PER COLUMN ON STORE SIDE COLUMNS
.69 SQ. FT. PER FLAG

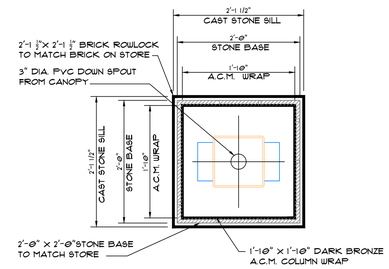
FUEL OFFERING FLAG SIGN ELEVATION AND DETAIL
SCALE: 1/2" =1'-0"



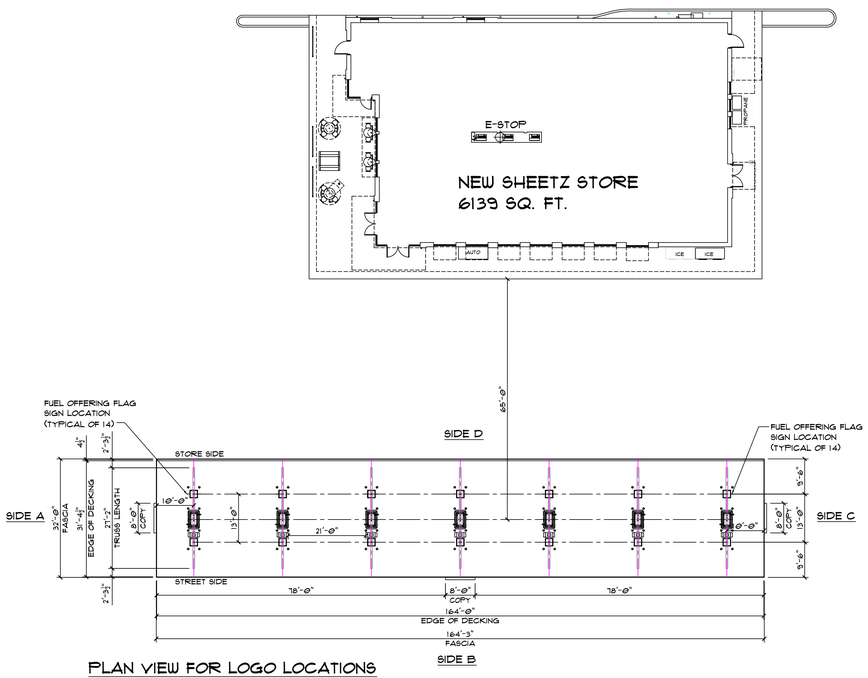
COLUMN ELEVATION
SCALE: 1/2" =1'-0"



CONCAVE FASCIA MOUNTING DETAIL
SCALE: 1/4" =1'-0"



STONE COLUMN BASE DETAIL
SCALE: 1/4" =1'-0"



PLAN VIEW FOR LOGO LOCATIONS

Convenience Architecture and Design P.C.
351 Sheetz Way, Claysburg, PA 16625

phone (814) 239-6013
email tcolumbu@sheetz.com
web site www.sheetz.com

PROJECT NAME:
SHEETZ STORE

#416 REBUILD ZEBULON

1406 N. Arendell Avenue
Wake County
Zebulon
North Carolina

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

KEYPLAN

MARK	DATE	DESCRIPTION

ISSUE: 04-08-25
PROJECT NO:
AUTHOR BY: DNC
REVIEW BY:
SHEET TITLE

GAS AWNING
CONCAVE FASCIA

AWNING

Planned Development Narrative

416 Sheetz Zebulon

1406 N Arendell Ave
Zebulon, North Carolina

PIN: 2706011220

Prepared for:
Town of Zebulon, North Carolina

Date: September 12, 2025
KHA Reference #: 110529004

Kimley»Horn

421 Fayetteville Street, Suite 600, Raleigh, NC 27601
Phone: 919-677-2000

416 SHEETZ ZEBULON
1406 N ARENDELL AVE
ZEBULON, NORTH CAROLINA

PLANNED DEVELOPMENT NARRATIVE

OWNER:
OLDE HERITAGE PROPERTIES LLC
806 N ARENDELL AVE, ZEBULON, NC, 27597

DEVELOPER:
SHEETZ, INC.
KELLEY BROWN – KBROWN@SHEETZ.COM
243 SHEETZ WAY, CLAYSBURG, PA 16625

ENGINEER:
KIMLEY-HORN
HEATHER TIMOTHY, PE – HEATHER.TIMOTHY@KIMLEY-HORN.COM
421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601

TRAFFIC ENGINEER:
MORGAN ROSAMOND, PE – MORGAN.ROSAMOND@KIMLEY-HORN.COM
KIMLEY-HORN AND ASSOCIATES, INC.
421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601

SEPTEMBER 2025

KHA PROJECT NO. 110529004

PLANNED DEVELOPMENT NARRATIVE

TABLE OF CONTENTS

1.0 INTRODUCTION

The proposed project is the redevelopment of the existing Sheetz site located at 1406 N Arendell Avenue in Zebulon (PIN 2706011220). Maintaining the commercial use is consistent with the current Town of Zebulon Comprehensive Land Use Plan (CLUP), as the property is designated General Commercial (GC). As noted in the CLUP, the current Heavy Commercial (HC) zone is closely associated with GC. The GC designation "is for properties in commercial retail, office and service uses, primarily along portions of major roadway corridors within the community for high visibility and accessibility[.]" The primary land use types in the GC designation include "automobile service related enterprises (e.g., gas stations)." This application is consistent with CLUP and the proposed use directly aligns with the GC designation.

The building and site will be demolished and rebuilt to include a 6,139 SF building with a pick-up window and one additional MPD (two additional fueling stations). The existing car wash will be removed. The new pick-up window has triggered the Planned Development application process.

2.0 PERMITTED USES

This site is zoned Heavy Commercial (HC) per the Town of Zebulon Unified Development Ordinance (UDO) amended April 17, 2025. The proposed principal use, convenience store (with gasoline sales), and the proposed accessory use, drive through (pick-up window), are both permitted by-right in this zone.

The convenience store (with gasoline sales) principal use is subject to the specific standards from 4.3.5.Q:

1. Location of fuel pump islands
    a. Pump islands may not be located between a building and any adjacent street right-of-way. ***Applicant is proposing a condition related to this standard. See Section 10.0 Conditions.***
    b. Pump islands shall be at least 10 feet from any lot line and 12 feet from any principal building. Canopies over the pump islands may be located within 10 feet of a lot line. ***Project in compliance.***
2. Location of fuel tanks
    a. Gasoline and fuel storage tanks shall be located a minimum of 20 feet from any lot line or building. ***Project in compliance.***

The drive through (pick-up window) accessory use is subject to the specific standards from 4.4.7.I:

1. Outdoor speakers associated with a drive-through shall be at least 50 feet from any lot with a residential zoning district designation. ***N/A – no outdoor speakers associated with pick-up window.***
2. Drive-through windows, menus, or order boxes shall not be located on the front façade of the building they serve. ***Project in compliance.***
3. Drive-through facilities shall be designed so as not to obstruct the movement of pedestrians along sidewalks, through areas intended for public use, or between the building entrance and customer parking spaces. ***Project in compliance.***
4. Canopies or other features installed over a drive through window shall maintain common roof lines and materials with the principal structure. ***Project in compliance.***
5. New construction of drive-throughs shall conform to the mixed-use design standards in section 5.3.2. ***N/A – per coordination with the Town, this project will use the Commercial Design Standards as the basis of reference.***

3.0 ZONING REQUIREMENTS

The site is subject to the following district dimensional standards of its existing zone, Heavy Commercial (HC), per UDO Section 3.4.4:

- Minimum Lot Area: 6,000 SF
- Minimum Lot Width: 50 FT
- Maximum Lot Coverage: 80%
- Maximum Building Height: 50 FT
- Minimum (Building) Street Setback 30 FT
    - ***Applicant is proposing a condition related to this standard. See Section 10.0 Conditions for Pearces Rd because of trash enclosure.***
- Minimum (Building) Side Setback: 5 FT
- Minimum (Building) Rear Setback: 25 FT

The site is subject to the following perimeter and streetscape buffer requirements per UDO Sections 5.6.10 and 5.6.12:

- Minimum Perimeter Buffer (PIN 2706012606) 30 FT
- Minimum Perimeter Buffer (PIN 1796919353) 10 FT
    - ***Applicant is proposing a condition related to this standard. See Section 10.0 Conditions which notes 3 FT buffer proposed to maintain existing curb lines.***
- Minimum Streetscape Buffer: 15 FT
    - ***Applicant is proposing a condition related to this standard. See Section 10.0 Conditions which notes 0 FT buffer for Pearces Rd and N Arendell Ave to maintain existing curb lines. Applicant is exempt from the streetscape buffer requirement since the primary building façade is "visible from the arterial or collector street right-of-way (UDO Section 5.6.12.C.1)."***

The project proposes the following additional dimensional standards as required for Planned Development (PD) District applications per UDO Section 3.5.6.B.6:

- Maximum Individual Building Size 10,000 SF
- Floor Area Ratio 0.10 MAXIMUM

The site has adequate parking per UDO Section 5.8.4. 45 spaces have been provided, meeting the required standard of 1 space per 200 sf of a "Convenience Store (with gasoline sales)" which equates to 30 spaces.

4.0 ARCHITECTURAL STANDARDS

The architecture of the proposed building will follow all Commercial Design Standards, except where Applicant has proposed targeted conditions, as detailed in Section 10.0 Conditions. Appendix B provides the proposed building elevations with fenestration calculations.

The front building façade is the primary building wall. There are two secondary building walls, both adjacent to the front building façade. The pick-up window-side building wall is a tertiary wall.

5.0 SIGNAGE

Signage has been provided per UDO Section 5.11. There is one proposed wall mounted sign on each building façade. There is one proposed ground sign and one flag near the intersection of N Arendell

Avenue and Pearces Road. Additional wall mounted signage is provided on the ends of the fuel canopy and on the order pickup clearance bar.

6.0 STORMWATER MANAGEMENT

The proposed development will meet all applicable Town of Zebulon and North Carolina requirements through the decrease of impervious surfaces. The stormwater controls in the existing condition are to remain and be maintained by owner. The majority of the proposed site outfalls to the existing wet pond on the north of the site which is then conveyed to the rock swale along N Arendell Avenue within the North Carolina Department of Transportation (NCDOT) right-of-way.

7.0 OPEN SPACE

This site shall comply with minimum open space set-aside requirements as defined in Section 5.7.4 where commercial open space is required to be 3%. This site complies with the open space through the use of the stormwater detention facility as passive open space which makes up 3.6% of the site area.

8.0 UTILITIES

Sheetz will demolish and replace the existing water, sanitary sewer, and storm laterals onsite.

- A proposed water lateral connects the proposed building to the main off of Pearces Road.
- A proposed sanitary lateral and sanitary lateral with a grease trap connects to the main off of Pearces Road.
- There are multiple stormwater pipes proposed on site. All proposed stormwater pipes convey water from the site via curb inlets to the existing wet pond north of the site. This water is then conveyed to the rock swale along N Arendell Avenue which is consistent with existing drainage patterns.

This project will meet the 60 points required for the Utility Allocation Policy by the following:

- 40 base points for single use retail
- 3 points for abatement of any existing non-conforming structures
- 2 points for enhanced buffer landscaping
- 10 points for installation of native shade tree species
- 1 point for deck/patio – more than 1000 square feet
- 2 points for canopy including fixed permanent seating
- 1 point for permanent tables with shade cover
- 1 point for artist-design bicycle racks

9.0 TRANSPORATION IMPACT ANALYSIS

A traffic impact analysis was completed by Kimley-Horn dated June 1, 2025 and is attached in Appendix C.

NCDOT TIP project U-5118 FB proposes to construct an additional southbound through lane along NC 96 beginning approximately 830 feet north of the intersection of NC 96 at Pearces Road and ending at US 64-264 WB Ramps/Dogwood Drive. At the intersection of NC 96 at Pearces Road, the westbound right lane is expected to be restriped to a shared left/right lane and the existing traffic signal is expected to be modified to accommodate these improvements. While this project was considered for inclusion during scoping discussions with the Town, it was ultimately excluded in order to provide a conservative analysis of the intersection of NC 96 at Pearces Road.

All study intersections are expected to operate with acceptable levels-of service and, based on SimTraffic observations, maximum queues are expected to increase minimally with the redevelopment of the Sheetz. Therefore, no improvements are recommended with the proposed expansion.

10.0 CONDITIONS

This project is subject to the following conditions:

1. The fuel pump canopy island shall be located between the proposed building and N. Arendell Avenue (NC 96).

   Summary of Proposed Condition: This condition is proposed following extensive review with staff and Applicant's discussion with surrounding property owners. The subject property is unique insofar as it not only sits at the intersection of Pearces Road and North Arendell Avenue – but also the property boundary and intersection configuration creates an acute angle as North Arendell Avenue runs southwest along the boundary line. This creates significant limitations on the location of the fuel pump canopy island – with the proposed option as shown on the site plan being preferable to promote (and not inhibit) site circulation. Additionally, it places a key activity center towards the intersection – and away from the neighboring properties (including an adjacent townhome/residential property) in an effort to minimize any effect of this redevelopment.

2. No more than sixty percent (60%) of off-street parking will be located between the proposed structure's primary façade and North Arendell Avenue.

   Summary of Proposed Condition: As reflected in the site plan, Applicant is proposing forty-five (45) total parking spaces. Nineteen (19) of those spaces are located on/along the sides of the primary structure with twenty-six (26) spaces located along the frontage of the building and to the right of the fuel pump canopy. This total is actually 57.78% of the total parking and a slight increase above the requirement in the ordinance of no more than fifty percent (50%) located between the primary façade and the adjoining street.

   This request is needed to focus site activity on the middle of the site and at the access points, which will promote safe, effective, and efficient ingress and egress. It will minimize any impacts to the adjoining properties – including the townhome/residential property adjoining this site. Additionally, this parking configuration is necessary to avoid any conflicts with the proposed pick-up lane – which significantly limits/restricts the rear area of the subject site for parking.

3. The proposed dumpster enclosure shall be located as shown on the site plan. The proposed dumpster shall be fully screened and enclosed. The enclosure shall be built consistent with the elevations, attached hereto and made a condition hereof. The enclosure shall be constructed with brick, concrete masonry, and pressure treated wood (or reasonably similar quality materials) to ensure aesthetic consistency with the primary structure.

   Summary of Proposed Condition: Applicant consulted with the adjacent residential property owners and property owners' association. In those discussions, the location of the proposed dumpster enclosure was a focal point. The adjacent residential property owners specifically requested that the dumpster enclosure be located/relocated away from the shared property boundary. In an effort to address those concerns, Applicant has proposed this location as shown on the site plan – which will be fully screened from view of any right-of-way and composed of masonry, brick, wood, or similar

materials (as shown in the elevation). These materials match the aesthetic of the proposed primary structure.

4. The primary wall/façade (facing North Arendell Avenue) will be occupied by no less than twenty-seven percent (27%) of visually transparent windows or doors. Applicant shall supplement with additional false/opaque windows and/or articulated wall forms.

   Summary of Proposed Condition: Applicant seeks a slight adjustment from Section 5.3.1.F.7(a) of the Commercial Design Standards for fenestration for the primary façade facing North Arendell Avenue As shown on the elevations and proposed designs for this site, Applicant provides significant fenestration and transparent windows and doors along the primary façade. The proposed percentage in this condition is the maximum Applicant is able to reasonably provide, given that Applicant cannot (for security and safety reasons) place transparent windows and doors where interior bathrooms or storage areas are located. Applicant will supplement the primary façade with false/opaque windows and/or articulated wall forms to meet the intent of the fenestration design standards.

5. The secondary wall/façade (facing Pearces Road) will be occupied by no less than twenty-four (24%) of visually transparent windows or doors, false or opaque windows, or articulated wall forms.

   Summary of Proposed Condition: Applicant seeks a slight adjustment from Section 5.3.1.F.7(b) of the Commercial Design Standards for fenestration for the secondary façade facing Pearces Road. As shown on the elevations and proposed designs for this site, Applicant provides significant fenestration and transparent windows and doors along the secondary façade facing Pearces Road. The proposed percentage in this condition is the maximum Applicant is able to reasonably provide, given that Applicant cannot (for security and safety reasons) place transparent windows and doors where interior bathrooms or storage areas are located. Where possible, Applicant will supplement the secondary façade with false/opaque windows and/or articulated wall forms to meet the intent of the fenestration design standards.

6. The street setback for Pearces Road shall be ten (10) feet for the dumpster enclosure.

   Summary of Proposed Condition: Applicant seeks a slight adjustment from the street setback requirement for Pearces Road, as detailed in Section 3.4.4(C). Specifically, the requested street setback for Pearces Road of ten (10) feet is primarily to facilitate the proposed location of the dumpster enclosure. This is a narrow request, insofar as the structures, the fuel pumps, and parking are all compliant with the thirty (30) foot street setback from Pearces Road.

7. The side perimeter buffer for the boundary adjoining the property located at 1420 North Arendell Avenue (PIN: 1796919353) shall be three (3) feet.

   Summary of Proposed Condition: Applicant requests a three-foot side perimeter buffer for the boundary adjoining the property located at 1420 North Arendell Avenue (PIN: 1796919353). Applicant will maintain a three-foot perimeter buffer at this location – which will supplement and enhance existing buffering located on the adjoining commercial property. This request is appropriate given site limitations for increased buffering along that boundary line – specifically, given the drive access that connects the two sites and the need for an adequate drive aisle for ingress, egress, and circulation. This proposed condition also aligns with the existing curb lines at the subject property.

8. The streetscape buffer along North Arendell Avenue and Pearces Road shall be zero (0) feet.

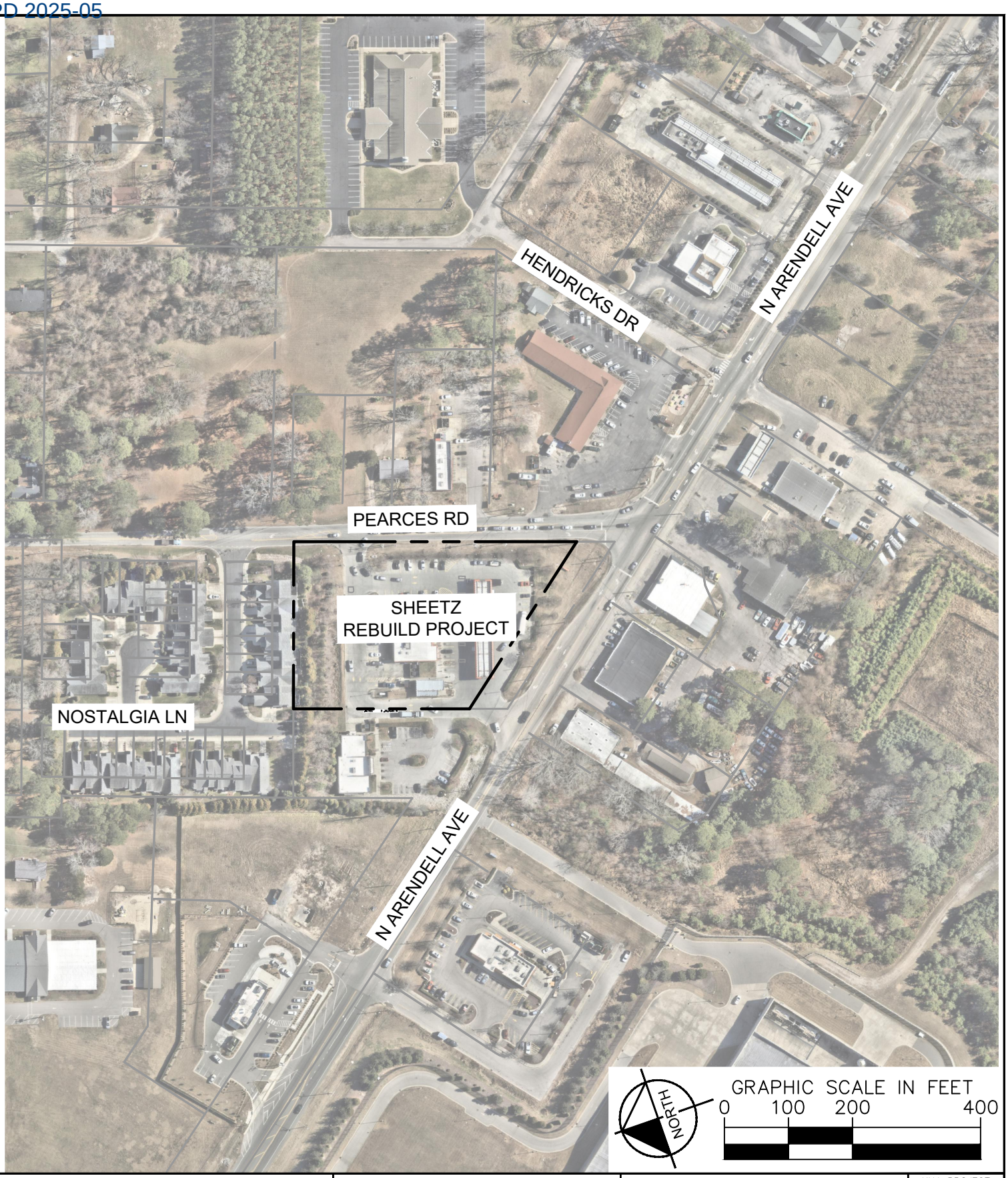
Summary of Proposed Condition: Applicant requests the elimination of the streetscape buffer requirement along North Arendell Avenue and Pearces Road. Applicant is arguably exempt from that requirement, pursuant to Section 5.6.12(C)(1), where the primary building façade "is visible from the arterial or collector street right-of-way." Here, the primary façade is directly visible from the rights-of-way for Pearces Road and North Arendell Avenue. Additionally, Applicant proposes this condition, given the site layout and to ensure safe visibility to and from the site, and to maintain the existing curb lines.

Additionally, Applicant proposes this condition because the proposed plantings and landscaping, as shown on the landscape plan, is the maximum Applicant is reasonably able to provide, given the location of rights-of-way, easements, and a retaining wall, all of which significantly constrain Applicant's ability to include additional streetscape buffering beyond what is shown. Applicant is planting additional trees and landscaping beyond what is required in other areas of the subject property and is willing to consider further supplementation in those areas, as needed.

9. Parking spaces 11, 12, 13, and 14 (as shown on the site plan) shall be permitted to be further than fifty (50) feet from the trunk of a canopy tree. Planters shall be located along the sidewalk at the storefront to enhance landscaping for the parking area and for the parking spaces 11, 12, 13, and 14.

   Summary of Proposed Condition: More than 90% of the proposed parking spaces will be within fifty (50) feet of the trunk of a canopy tree, which complies with the landscape requirements of the Town's ordinances. The parking spaces directly in front of the primary façade/entry for the subject property are slightly beyond that fifty (50) foot distance and Applicant has reasonably located proposed canopy trees as close to those spaces as reasonably practicable. To supplement the landscaping for the parking area, Applicant shall locate planters along the walkway adjoining those front spaces (including parking spaces 11, 12, 13, and 14).

APPENDIX A: VICINITY MAP



Kimley»Horn

421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601
PHONE: 919-677-2000
WWW.KIMLEY-HORN.COM

VICINITY MAP

SHEETZ
1406 N ARENDELL AVE

KHA PROJECT	110529004
DATE	04/03/2025
SCALE	AS SHOWN
DESIGNED BY	RND
DRAWN BY	RND
CHECKED BY	HRT

APPENDIX B: BUILDING ELEVATIONS

1 FRONT ELEVATION
1/4" = 1'-0"

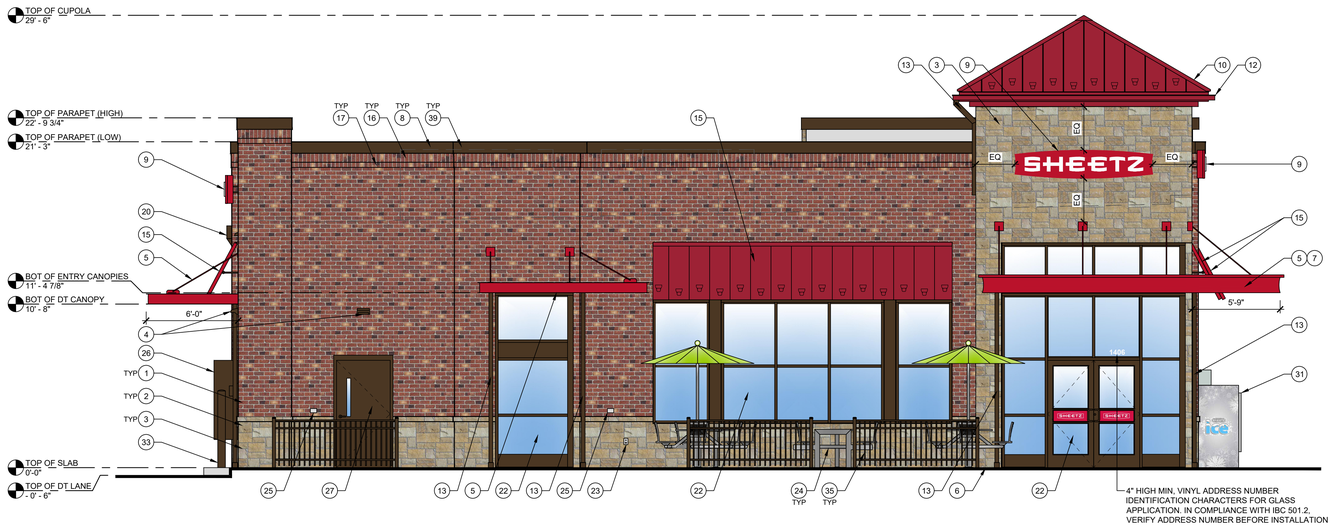
GLAZING CALCULATION FRONT ELEVATION = 2199.82 SQ FT		
DESCRIPTION	40% OF COVERAGE REQ	PROVIDED
TRANSPARENT GLAZING	879.92 SQ FT	590.61 SQ FT
FAUX WINDOW GLAZING	879.92 SQ FT	120.61 SQ FT
TOTAL GLAZING	879.92 SQ FT	711.22 SQ FT

TYPICAL EXTERIOR ELEVATION NOTES:

- ALL LIGHTS SHOWN ABOVE AND/OR BELOW DOORS OR WINDOWS ARE TO BE CENTERED ON THE DOOR OR WINDOW UNLESS NOTED OTHERWISE.
- FIXTURES/EQUIPMENT BETWEEN TWO DOORS OR WINDOWS ARE TO BE CENTERED EQUALLY.
- EXTERIOR SEALANT FOR STONE SHALL COMPLY WITH SECTION 07 9005 JOINT SEALANTS, GENERAL BUILDING FASCADE WEATHER SEALANT AND SHALL MATCH THE COLOR OF THE STORE.

EXTERIOR ELEVATION KEYNOTES:

1. BRICK VENEER, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
2. CAST STONE SILL, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
3. ANCHORED CAST STONE MASONRY VENEER, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
4. EXTERIOR LIGHT FIXTURE, REFER TO ELECTRICAL DRAWINGS
5. ARCHITECTURAL CANOPY, COLOR: REGAL RED, PREMIUM TWO-COAT KYNAR FINISH
6. BRICK PAVER WALKWAY
7. LIGHTED CURVED FASCIA CANOPY ATTACHMENT
8. METAL COPING, COLOR: DARK BRONZE
9. WALL MOUNTED BUILDING SIGN, SEE SHEET A200.
10. STANDING SEAM METAL ROOF, COLOR: BRITE RED
11. NOT USED
12. GUTTER, COLOR TO MATCH CUPOLA COLOR
13. DOWNSPOUT, COLOR: DARK BRONZE
14. DRIVE-THRU WINDOW (IF APPLICABLE)
15. METAL STANDING SEAM SHED STYLE AWNING AND FRAME ASSEMBLY, ROOF COLOR: BRITE RED, FRAME COLOR: DARK BRONZE
16. BRICK SOLDIER COURSE, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
17. BRICK ROWLOCK COURSE, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
18. CONTROL JOINT, SEE MASONRY SPEC
19. STEEL ROOF LADDER AND CRANKY POST, COLOR: DARK BRONZE
20. STANDARD THROUGH WALL SCUPPER WITH CONDUCTOR HEAD & DOWNSPOUT, COLOR: DARK BRONZE
21. OVERFLOW SCUPPER
22. ALUMINUM STOREFRONT SYSTEM, SEE A600
23. EXTERIOR HOSE BIB, REFER TO PLUMBING DRAWINGS
24. OUTDOOR FURNITURE
25. ELECTRICAL RECEPTACLE, REFER TO ELECTRICAL DRAWINGS
26. ELECTRICAL EQUIPMENT, REFER TO ELECTRICAL DRAWINGS
27. HM DOOR AND FRAME, COLOR: DARK BRONZE
28. EMERGENCY WATER CONNECTION, REFER TO PLUMBING DRAWINGS
29. SEAMLESS ALUM PANEL SYSTEM WITH EXPOSED FASTENERS, COLOR: DARK BRONZE
30. PROPANE LOCKER
31. ICE MERCHANDISER
32. RTI FILLPORT
33. STEEL BOLLARD, COLOR: DARK BRONZE
34. CO2 FILLPORT
35. DECORATIVE ALUMINUM FENCE, COLOR DARK BRONZE
36. AUTOMATIC DOOR PUSH PLATE AND BOLLARD, BOLLARD COLOR: DARK BRONZE
37. GAS METER AND RISER, REFER TO CIVIL UTILITY PLAN, COLOR: DARK BRONZE
38. NOT USED
39. LIGHT CHANNEL AT PARAPET COPING. SEE ARCHITECTURAL AND ELECTRICAL DRAWINGS FOR MORE INFORMATION.
40. NOT USED
41. FAUX WINDOWS WITH INTERNAL GRAPHIC



2 LEFT ELEVATION
1/4" = 1'-0"

GLAZING CALCULATION FRONT ELEVATION = 1275.16 SQ FT		
DESCRIPTION	30% OF COVERAGE REQ	PROVIDED
TRANSPARENT GLAZING	383 SQ FT	392.2 SQ FT
FAUX WINDOW GLAZING	N/A	N/A
TOTAL GLAZING	383 SQ FT	392.2 SQ FT

OUTLINE AREA = 14.84 SQ.FT.
BOX AREA = 16.52 SQ.FT.
TYPICAL OF FOUR
PROJECTS 7" OFF FACE OF BUILDING

A WALL MOUNTED "SHEETZ" BUILDING SIGN
1/2" = 1'-0"

Convenience Architecture and Design P.C.
351 Sheetz Way, Claysburg, PA 16625

phone (814) 239-6013
email tcolumbu@sheetz.com
web site www.sheetz.com

PROJECT NAME:
NEW SHEETZ STORE
STORE #416R

ZEBULON ARENDALL AVE.

Int. of North Arendall Avenue
and Pearces Road
Zebulon, NC 27597-8734

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

KEYPLAN

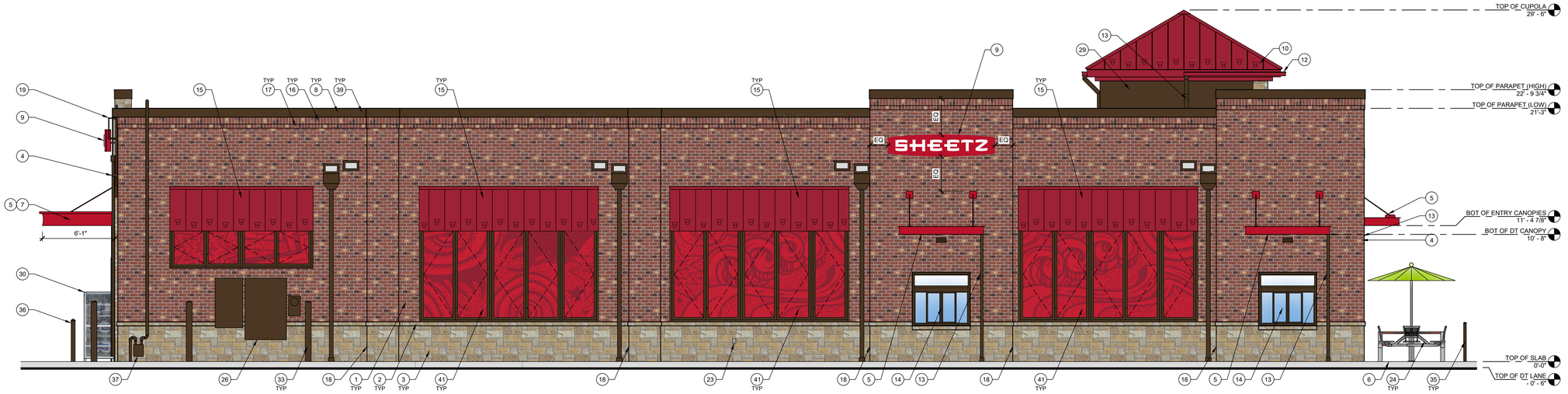
MARK	DATE	DESCRIPTION

ISSUE:	09.10.2025
SITE ID NO:	416R
AUTHOR BY:	RJK / AMM
REVIEW BY:	TMC / RJH
VERSION:	6139_v1.8

EXTERIOR ELEVATIONS

A200

PRELIMINARY ELEVATIONS



3 REAR ELEVATION
1/4" = 1'-0"

TYPICAL EXTERIOR ELEVATION NOTES:

- ALL LIGHTS SHOWN ABOVE AND/OR BELOW DOORS OR WINDOWS ARE TO BE CENTERED ON THE DOOR OR WINDOW UNLESS NOTED OTHERWISE.
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EXTERIOR ELEVATION KEYNOTES:

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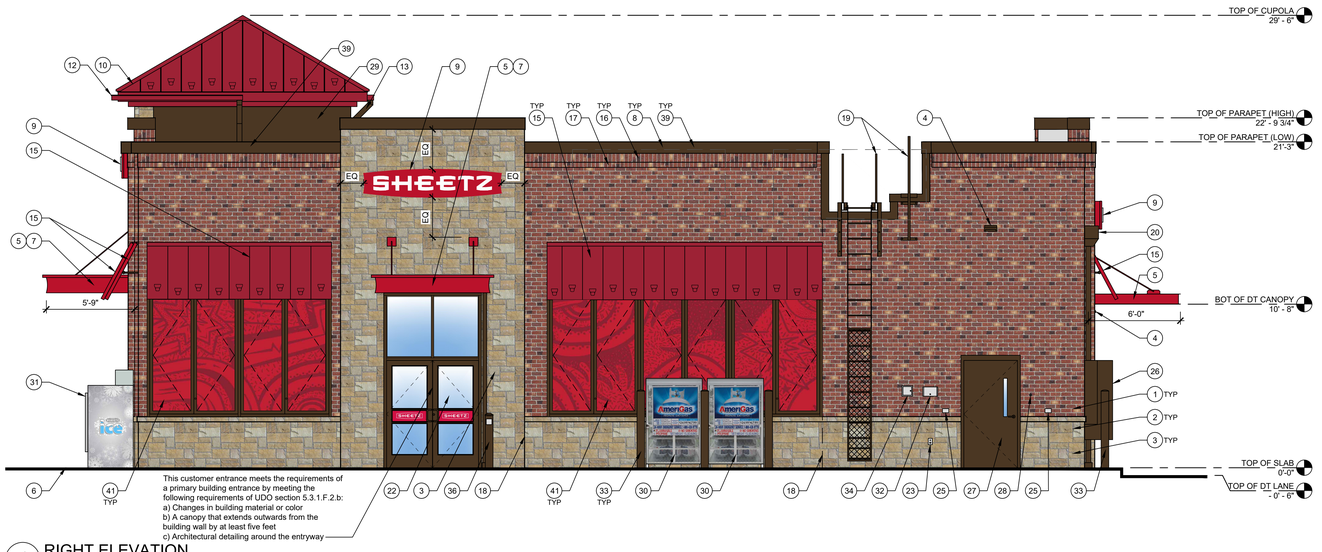
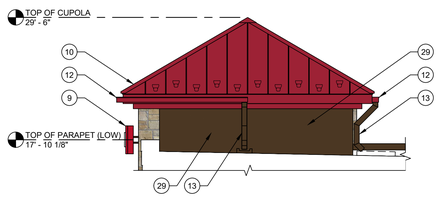


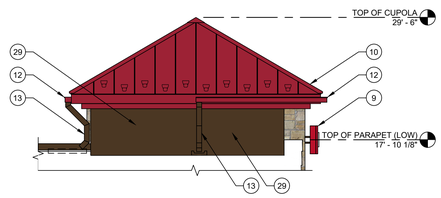
4 RIGHT ELEVATION
1/4" = 1'-0"

GLAZING CALCULATION RIGHT ELEVATION = 1,257 SQ FT

DESCRIPTION	30% OF COVERAGE REQ	PROVIDED
TRANSPARENT GLAZING	377.10	73.34
FAUX WINDOW GLAZING	377.10	239.96
TOTAL GLAZING	377.10	313.3



5 CUPOLA ELEVATION FROM ROOF
1/4" = 1'-0"



6 CUPOLA ELEVATION FROM ROOF
1/4" = 1'-0"

*C*onvenience *A*rchitecture
and *D*esign P.C.
351 Sheetz Way, Claysburg, PA 16625

phone (814) 239-6013
email tcolumbu@sheetz.com
web site www.sheetz.com

PROJECT NAME:
NEW SHEETZ STORE
STORE #416R

ZEBULON ARENDALL AVE.

Int. of North Arendall Avenue
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OWNER:
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CONSULTANT

PROFESSIONAL

KEYPLAN

MARK	DATE	DESCRIPTION

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SITE ID NO:	416R
AUTHOR BY:	RJK / AMM
REVIEW BY:	TMC / RJH
VERSION:	6139_v1.8

EXTERIOR ELEVATIONS

A201

PRELIMINARY ELEVATIONS

APPENDIX C: TRAFFIC IMPACT ANALYSIS

Traffic Impact Analysis

Zebulon Sheetz Development
Zebulon, NC

Prepared for:

Sheetz, Inc.

Kimley»Horn

Traffic Impact Analysis for

Zebulon Sheetz Development

Zebulon, North Carolina

Prepared for:

Sheetz, Inc.

Prepared by:

Kimley-Horn and Associates, Inc.
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

June 2025

110529004

Executive Summary

Kimley-Horn and Associates, Inc. has performed a Traffic Impact Analysis for the Zebulon Sheetz redevelopment, located east of NC 96 and north of Pearces Road in Zebulon, NC. The existing Sheetz on the property consists of a 5,000 square foot (s.f.) convenience store/gas station with 12 vehicle fueling positions (vfp). The development is proposing to demolish the existing store and build a new store with a 6,150 s.f. convenience store/gas station with 14 vfp. The site can currently be accessed via a right-in/right-out only driveway along NC 96 and a full movement driveway along Pearces Road. No changes to site access are proposed as part of this redevelopment. Build-out of the development is anticipated by 2026.

This report presents trip generation, distribution, traffic analyses, and recommendations for transportation improvements required to meet anticipated traffic demands in conjunction with the development.

Per the Town of Zebulon (Town) Unified Development Ordinance (UDO), the future traffic conditions were analyzed for the build-out year plus one year into the future after the development is completed (2027). Therefore, the traffic conditions studied include the following:

- Existing (2025)
- Background (2027)
- Build-out (2027)

Trip Generation

The traffic generation potential of the proposed development was determined using the trip generation data published in *Trip Generation* (Institute of Transportation Engineers, Eleventh Edition, 2021). As shown in Table ES-1 located on the following page, compared to the existing Sheetz store on the site, the proposed store is projected to generate approximately 196 additional new daily trips, 16 new AM peak hour trips, and 16 new PM peak hour trips.

Table ES-1 ITE Traffic Generation (Vehicles)												
Land Use		**Intensity**		**Daily**			**AM Peak Hour**			**PM Peak Hour**		
				Total	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**
945	Convenience Store/Gas Station: 9-15 vfp - Existing	5,000	s.f.	3,502	1,751	1,751	283	142	141	273	137	136
945	Convenience Store/Gas Station: 9-15 vfp - Proposed	6,150	s.f.	4,308	2,154	2,154	348	174	174	335	168	167
Pass-By Reductions - Existing				*2,644*	*1,322*	*,322*	*215*	*108*	*107*	*205*	*103*	*102*
Pass-By Reductions - Proposed				*3,254*	*1,627*	*1,627*	*264*	*132*	*132*	*251*	*126*	*125*
Difference in Pass-By Reductions				***610***	***305***	***305***	***49***	***24***	***25***	***46***	***23***	***23***
Total Net New External Trips - Existing				**858**	**429**	**429**	**68**	**34**	**34**	**68**	**34**	**34**
Total Net New External Trips - Proposed				**1,054**	**527**	**527**	**84**	**42**	**42**	**84**	**42**	**42**
Difference in Total Net New External Trips				**196**	**98**	**98**	**16**	**8**	**8**	**16**	**8**	**8**

Capacity Analysis

Capacity analyses were performed using Synchro Version 12 software. Table ES-2 summarizes the operation of the study intersections for the AM and PM peak hour traffic conditions.

Table ES-2 - Level of Service Summary							
Intersection and Approach/Movement	**Traffic Control**	**Existing (2025) Traffic**		**Background (2027) Traffic**		**Build-out (2027) Traffic**	
		AM	**PM**	**AM**	**PM**	**AM**	**PM**
NC 96 at Pearces Road	**Signalized**	**C (21.8)**	**B (15.1)**	**C (26.4)**	**B (17.5)**	**C (26.9)**	**B (17.9)**
Eastbound		B (16.6)	B (11.6)	C (21.9)	B (15.3)	C (22.2)	B (15.6)
Westbound		B (15.3)	A (7.5)	B (19.9)	A (9.8)	C (20.3)	B (10.0)
Southbound		D (42.3)	D (50.4)	D (43.8)	D (48.4)	D (44.4)	D (48.7)
NC 96 at Site Driveway 1	**Unsignalized**	**- (-)**	**- (-)**	**- (-)**	**- (-)**	**- (-)**	**- (-)**
Southbound		B (14.4)	C (15.6)	C (15.8)	C (18.2)	C (15.9)	C (18.5)
Pearces Road at Site Driveway 2	**Unsignalized**	**- (-)**	**- (-)**	**- (-)**	**- (-)**	**- (-)**	**- (-)**
Eastbound		B (13.9)	C (17.2)	C (16.4)	C (22.9)	C (17.9)	D (26.8)
Northbound Left		A (8.5)	A (8.2)	A (8.9)	A (8.5)	A (9.0)	A (8.6)

Conclusions

NCDOT TIP project U-5118 FB proposes to construct an additional southbound through lane along NC 96 beginning approximately 830 feet north of the intersection of NC 96 at Pearces Road and ending at US 64-264 WB Ramps/Dogwood Drive. At the intersection of NC 96 at Pearces Road the westbound right lane is expected to be restriped to a shared left/right lane and the existing traffic signal is expected to be modified to accommodate these laneage improvements. While this project was considered for inclusion during scoping discussions with the Town, it was ultimately excluded in order to provide a conservative analysis of the intersection of NC 96 at Pearces Road.

All study intersections are expected to operate with acceptable levels-of service and, based on SimTraffic observations, maximum queues are expected to increase minimally with the redevelopment of the Sheetz. Therefore, no improvements are recommended with the proposed expansion.

TABLE OF CONTENTS

Page No.

APPENDICES

LIST OF TABLES

LIST OF FIGURES

1.0 Introduction

Kimley-Horn and Associates, Inc. has performed a Traffic Impact Analysis for the Zebulon Sheetz redevelopment, located east of NC 96 and north of Pearces Road in Zebulon, NC. The existing Sheetz on the property consists of a 5,000 square foot (s.f.) convenience store/gas station with 12 vehicle fueling positions (vfp). The development is proposing to demolish the existing store and build a new store with a 6,150 s.f. convenience store/gas station with 14 vfp. The site can currently be accessed via a right-in/right-out only driveway along NC 96 and a full movement driveway along Pearces Road. No changes to site access are proposed as part of this redevelopment. Build-out of the development is anticipated by 2026.

This report presents trip generation, distribution, traffic analyses, and recommendations for transportation improvements required to meet anticipated traffic demands in conjunction with the development.

Per the Town of Zebulon (Town) Unified Development Ordinance (UDO), the future traffic conditions were analyzed for the build-out year plus one year into the future after the development is completed (2027). Therefore, the traffic conditions studied include the following:

- Existing (2025)
- Background (2027)
- Build-out (2027)

Town planning staff provided background data and were consulted regarding the elements to be covered in this analysis. The approved assumptions memorandum is included in the Appendix of this report.

2.0 Inventory

2.1 Study Area

The study area for this development includes the following intersections:

- NC 96 at Pearces Road
- NC 96 at Site Driveway 1
- Pearces Road at Site Driveway 2

Figure 2.1 shows the site location and driveway connections. The conceptual site plan is shown on **Figure 2.2**.

2.2 Existing Conditions

The Zebulon Sheetz development is located east of NC 96 and north of Pearces Road in Zebulon, NC. Roadways in the study area include NC 96 and Pearces Road. Roadway network elements (speed limit, estimated average daily traffic volume, and existing configuration) of study area roadways are summarized in Table 2.1. The existing roadway laneage is shown in **Figure 2.3**.

Table 2.1
Roadway Network Summary

Roadway	Speed Limit	Estimated AADT Volume	Typical Existing Configuration
NC 96	35 mph	12,500 vpd west of Pearces Road*; 24,000 vpd east of Pearces Road**	2-Lane Undivided/ 4-Lane Undivided
Pearces Road	35 mph	7,500 vpd north of NC 96***	2-Lane Undivided

*2021 AADT from NCDOT.
**2023 AADT from NCDOT
***ADT was calculated for this roadway using existing AM and PM traffic volumes, assuming the total of those peak hours is 20% of the daily traffic volumes.

2.3 Future Roadway Improvements

NCDOT TIP project U-5118 FB proposes to construct an additional southbound through lane along NC 96 beginning approximately 830 feet north of the intersection of NC 96 at Pearces Road and ending at US 64-264 WB Ramps/Dogwood Drive. At the intersection of NC 96 at Pearces Road the westbound right lane is expected to be restriped to a shared left/right lane and the existing traffic signal is expected to be modified to accommodate these laneage improvements. While this project was considered for inclusion during scoping discussions with the Town, it was ultimately excluded in order to provide a conservative analysis of the intersection of NC 96 at Pearces Road.

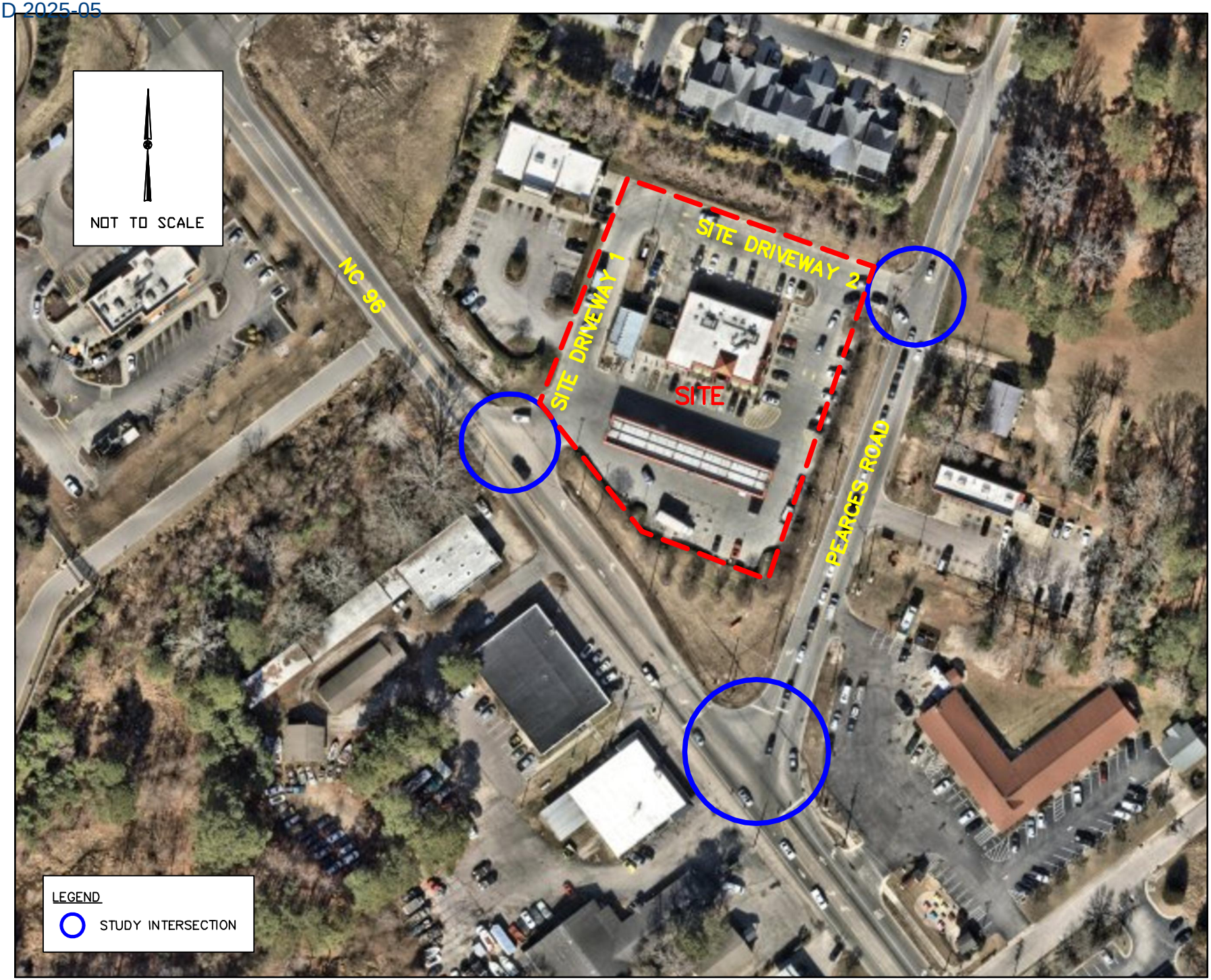

FIGURE 2.1

SITE LOCATION

ZEBULON SHEETZ
ZEBULON, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

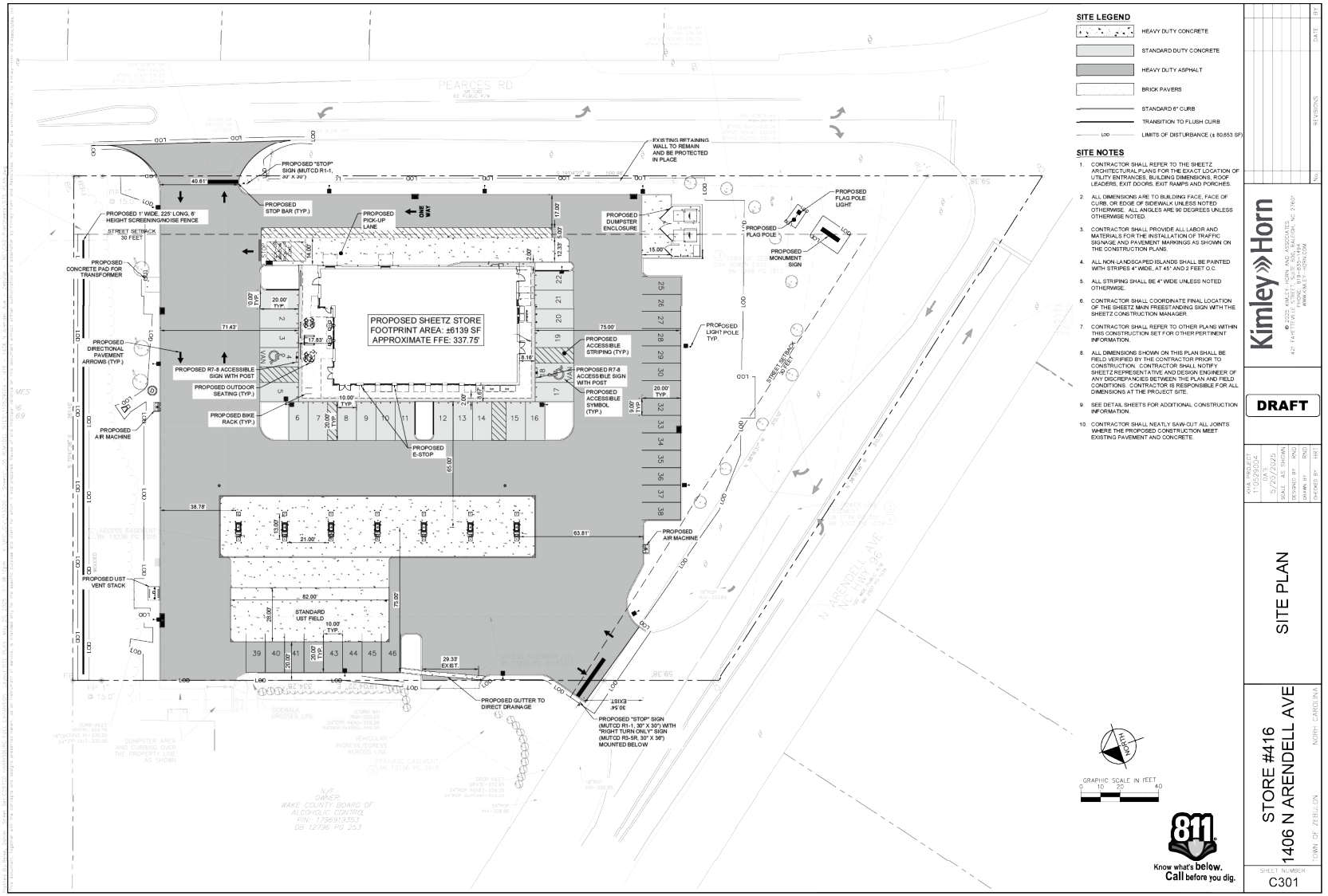

FIGURE 2.2

CONCEPTUAL SITE PLAN

ZEBULON SHEETZ
ZEBULON, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

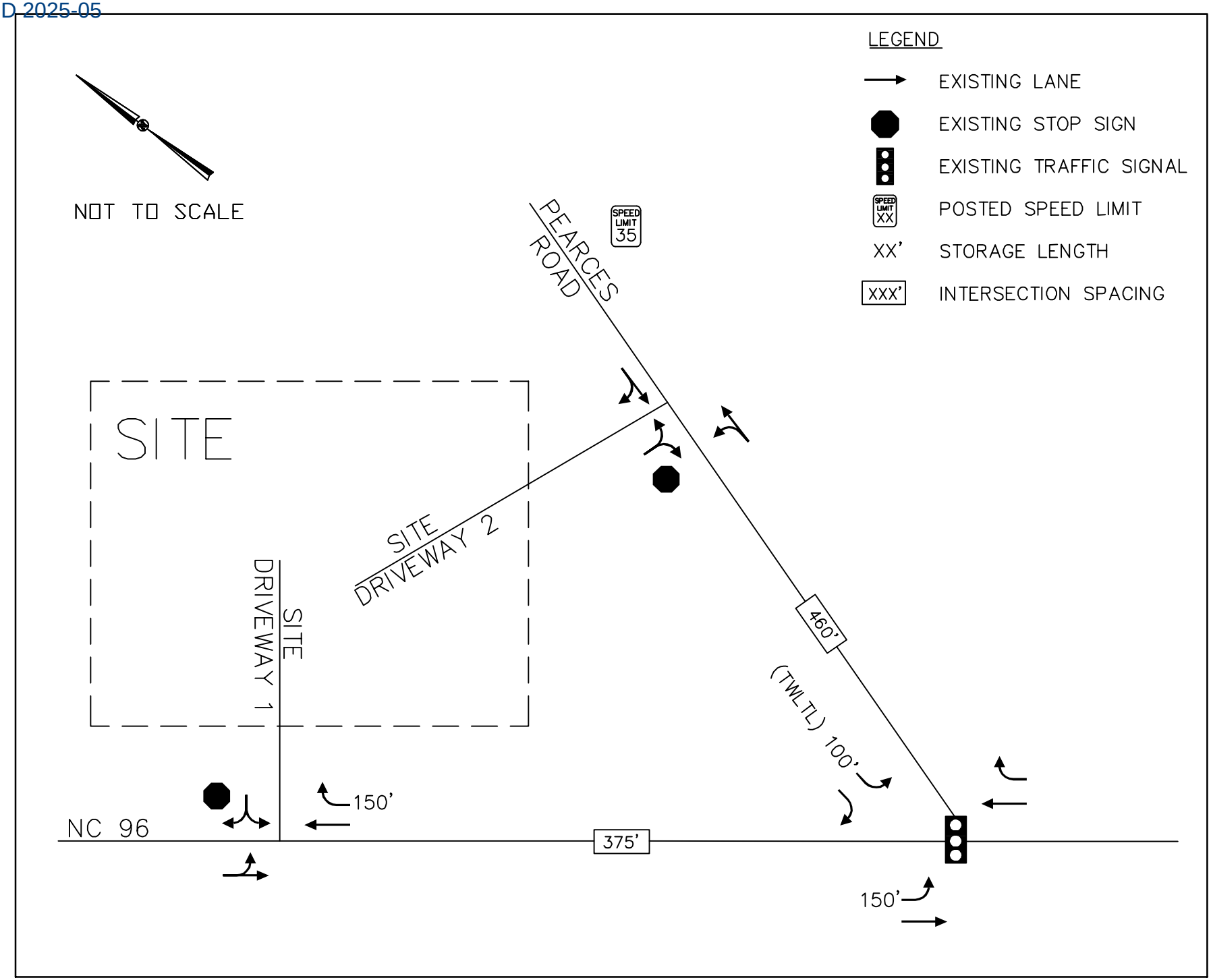

FIGURE 2.3

EXISTING ROADWAY LANEAGE

ZEBULON SHEETZ
ZEBULON, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

3.0 Traffic Generation

The traffic generation potential of the proposed development was determined using the traffic generation data published in *Trip Generation* (Institute of Transportation Engineers, Eleventh Edition, 2021). As currently envisioned, the proposed redevelopment is planned to consist of 6,150 s.f. convenience store/gas station with 14 vfp. Table 3.0 summarizes the estimated traffic generation for the proposed development.

Table 3.0
ITE Traffic Generation (Vehicles)

Land Use		Intensity		Daily			AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out	Total	In	Out
945	Convenience Store/Gas Station: 9-15 vfp - Existing	5,000	s.f.	3,502	1,751	1,751	283	142	141	273	137	136
945	Convenience Store/Gas Station: 9-15 vfp - Proposed	6,150	s.f.	4,308	2,154	2,154	348	174	174	335	168	167
Pass-By Reductions - Existing				*2,644*	*1,322*	*,322*	*215*	*108*	*107*	*205*	*103*	*102*
Pass-By Reductions - Proposed				*3,254*	*1,627*	*1,627*	*264*	*132*	*132*	*251*	*126*	*125*
Difference in Pass-By Reductions				***610***	***305***	***305***	***49***	***24***	***25***	***46***	***23***	***23***
Total Net New External Trips - Existing				**858**	**429**	**429**	**68**	**34**	**34**	**68**	**34**	**34**
Total Net New External Trips - Proposed				**1,054**	**527**	**527**	**84**	**42**	**42**	**84**	**42**	**42**
Difference in Total Net New External Trips				**196**	**98**	**98**	**16**	**8**	**8**	**16**	**8**	**8**

Table 3.0 shows that the proposed development has the potential to generate 6,894 new daily trips in a typical weekday with 196 new daily trips, 16 new AM peak hour trips, and 16 new PM peak hour trips.

4.0 Site Traffic Distribution

The proposed site generated trips were assigned to the surrounding roadway network. The directional distribution and assignment are based on existing travel patterns.

- 50% to/from the east via NC 96
- 30% to/from the west via NC 96
- 20% to/from the north via Peaces Road

The site traffic distribution and assignment are shown in **Figure 4.1**. The AM and PM pass-by trip distribution and assignments are shown in **Figure 4.2** and **Figure 4.3**, respectively.

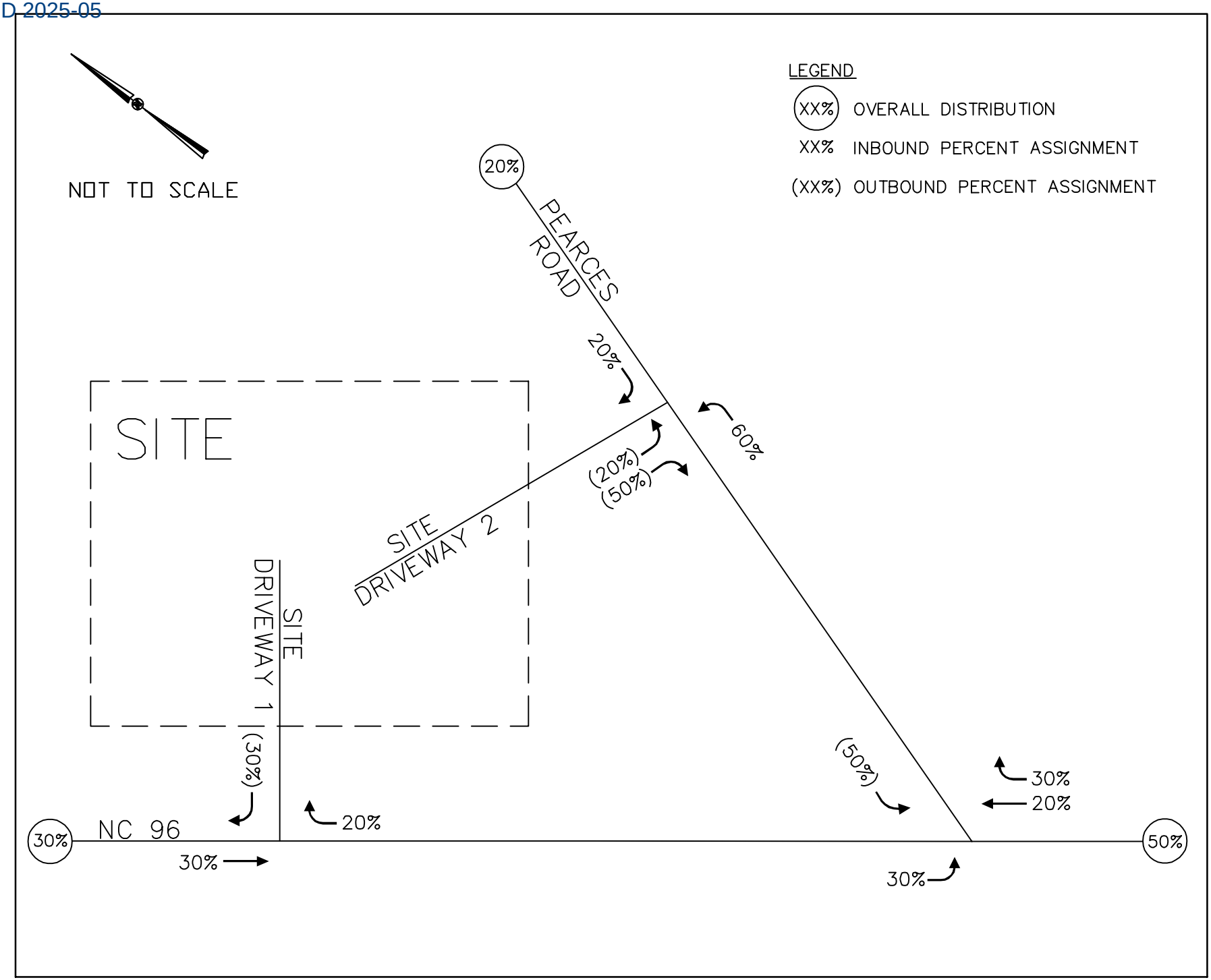

FIGURE 4.1

SITE TRAFFIC DISTRIBUTION AND PERCENT ASSIGNMENT

ZEBULON SHEETZ
ZEBULON, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

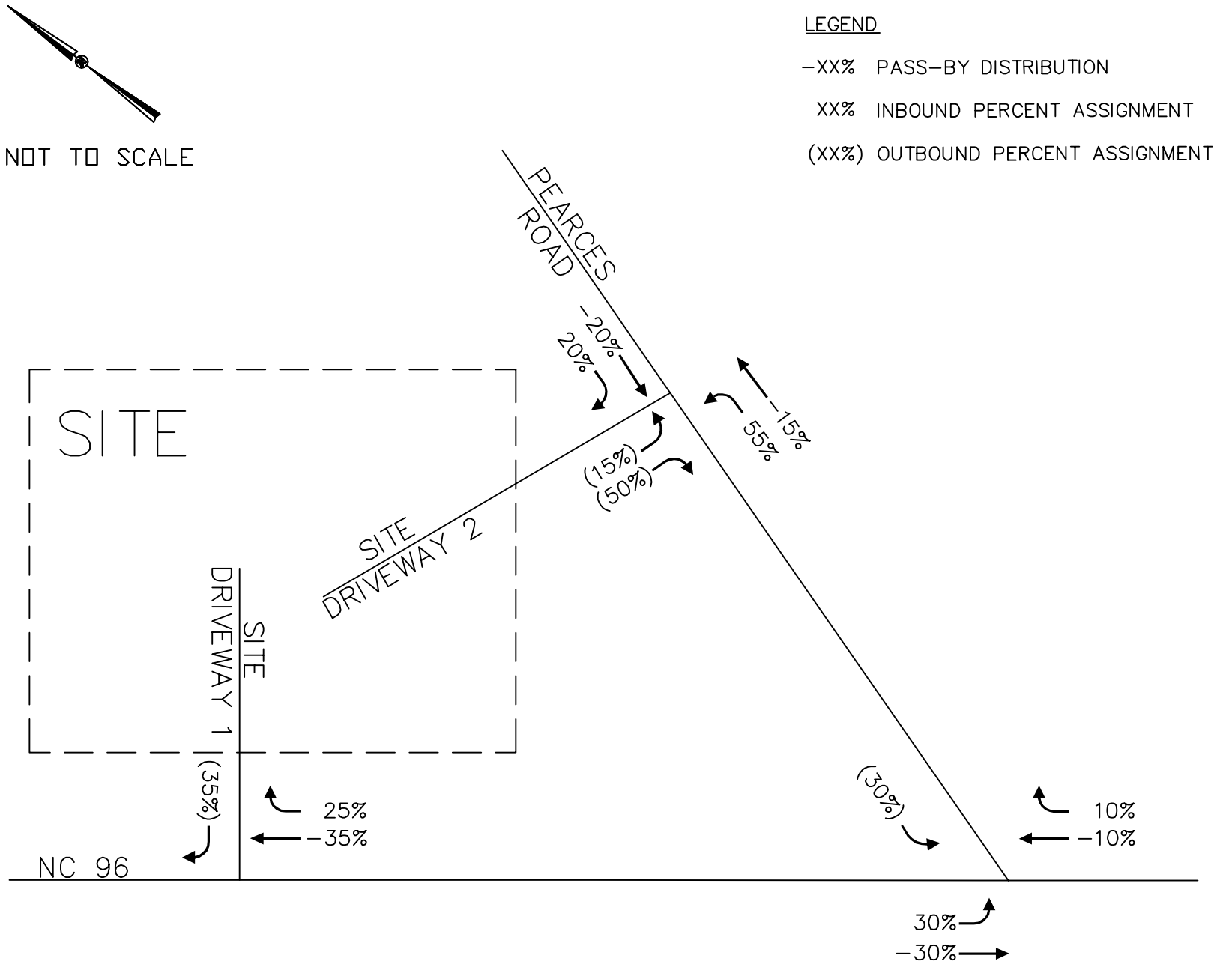

FIGURE 4.2

AM PEAK HOUR
PASS-BY ASSIGNMENT

ZEBULON SHEETZ
ZEBULON, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

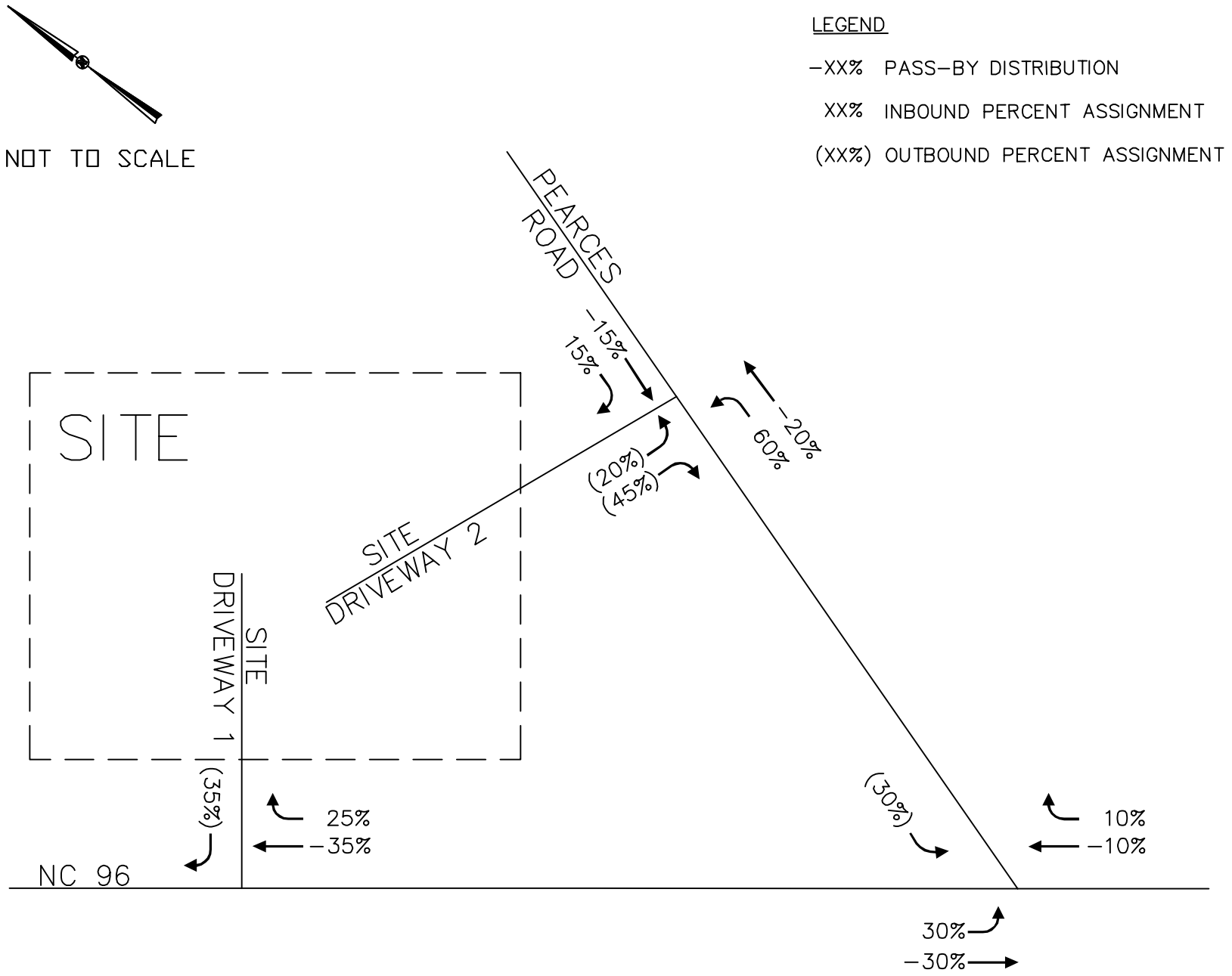

FIGURE 4.3

PM PEAK HOUR
PASS-BY ASSIGNMENT

ZEBULON SHEETZ
ZEBULON, NC
TRAFFIC IMPACT ANALYSIS

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5.0 Projected Traffic Volumes

5.1 Existing Traffic

AM peak hour (7:00 to 9:00 AM) and PM peak hour (4:00 to 6:00 PM) turning movement counts were performed at the following study intersection on January 28, 2025 while area schools were in session:

- NC 96 at Pearces Road

AM peak hour (7:00 to 9:00 AM) and PM peak hour (4:00 to 6:00 PM) turning movement counts were performed at each of the following study intersections on March 26, 2025, while area schools were in session:

- NC 96 at Site Driveway 1
- Pearces Road at Site Driveway 2

The existing AM and PM peak hour traffic volumes are shown on **Figure 5.1** and **Figure 5.2**, respectively, and the traffic count data are included in the Appendix.

5.2 Approved Development Traffic

Approved development traffic is generated by approved but not yet constructed projects in the vicinity of the proposed project. Based on discussions with the Town and NCDOT, there were four (4) approved developments in the study area that were identified for inclusion as background traffic. These approved developments include 7-Eleven Convenience Store, Clifton Grove (formerly Pearces Road Residential), Domino's, and Weaver's Ridge.

7-Eleven Convenience Store

- Location: East of NC 96 and north of US 64-264
- Land Uses: 4,714 s.f. convenience store with 16 vehicle fueling pumps and 3 truck fueling pumps
- Data Source: *Zebulon 7-Eleven Convenience Store TIA* (Impact Designs, Inc., March 2023)

Clifton Grove (formerly Pearces Road Residential)

- Location: West of Pearces Road and south of Pippin Road
- Land Uses: 232 single family detached units
- Data Source: *Pearces Road Residential Development TIA* (Timmons Group, October 2020)

Zebulon Domino's

- Location: North of Dogwood Drive and east of NC 96
- Land Uses: 1,632 s.f. Domino's Restaurant
- Data Source: *Zebulon Domino's TIA* (DRMP, Inc., November 2024)

Weaver's Ridge

- Location: East of NC 96 across from Glory Road
- Land Uses: 124 townhomes and 58 single-family homes

- Data Source: *Weaver's Ridge Traffic Study* (Ramey Kemp & Associates, Inc., July 2019)

Approved development traffic volumes for the future year scenarios are shown on **Figure 5.1** and **Figure 5.2** for the AM and PM peak hours, respectively.

5.3 Historic Growth Traffic

Historic growth traffic is the increase in traffic due to usage increases and non-specific growth throughout the area. In addition to the approved development traffic and per Town requirements, study intersections were grown to the 2027 build-out year using an annual growth rate of 2.5%.

Projected future year (2027) background AM and PM peak hour traffic volumes are shown on **Figure 5.1** and **Figure 5.2**, respectively. Background growth calculations are detailed on intersection spreadsheets in the Appendix of this report.

5.4 Site Traffic

The proposed site traffic was generated and assigned to the adjacent roadway network according to the distributions discussed previously in *Section 4.0.* The primary AM and PM peak hour site traffic volumes are shown on **Figure 5.3** and **Figure 5.4**, respectively. The pass-by AM and PM peak hour site traffic volumes are shown on **Figure 5.3** and **Figure 5.4**, respectively.

5.5 Build-Out Traffic

To obtain the projected (2027) build-out traffic volumes, the projected site traffic volumes were added to the projected (2027) background traffic. Traffic volume calculations are detailed in intersection spreadsheets in the Appendix of this report. **Figure 5.3** and **Figure 5.4** show the projected (2027) AM and PM peak hour build-out traffic volumes, respectively.

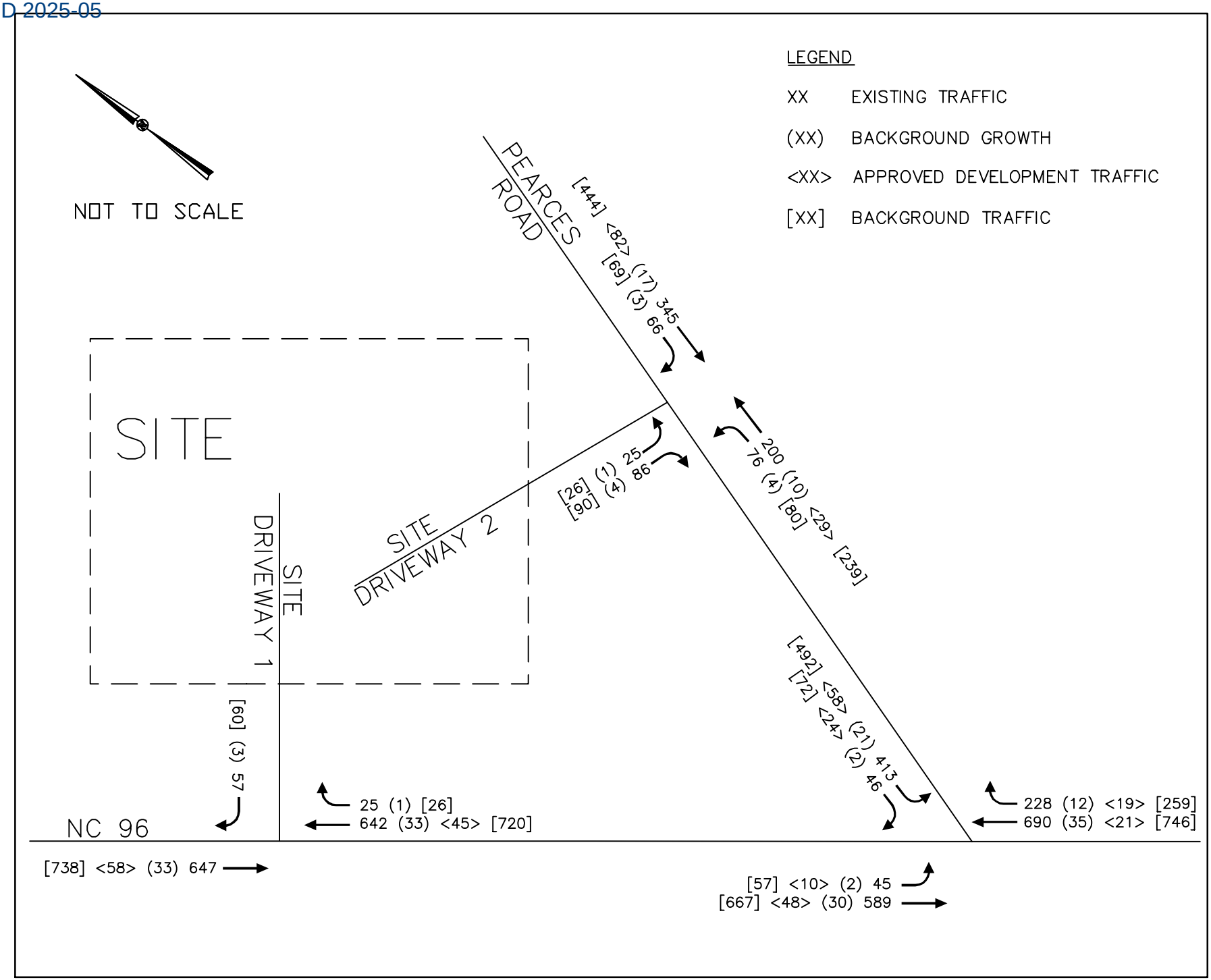


FIGURE 5.1

EXISTING (2025) AND PROJECTED (2027) AM HOUR TRAFFIC VOLUMES

ZEBULON SHEETZ
ZEBULON, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

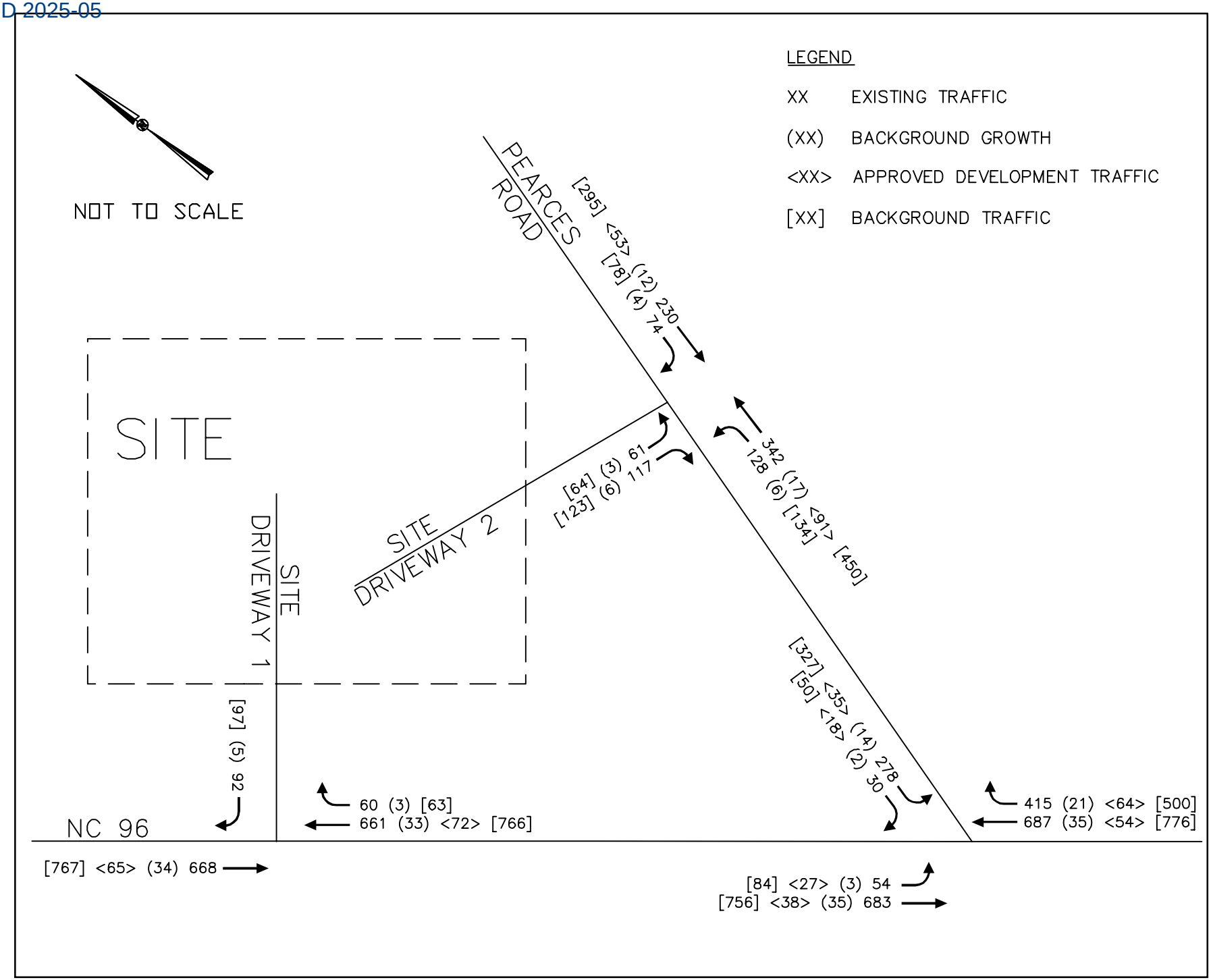


FIGURE 5.2

EXISTING (2025) AND PROJECTED (2027) PM HOUR TRAFFIC VOLUMES

ZEBULON SHEETZ
ZEBULON, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

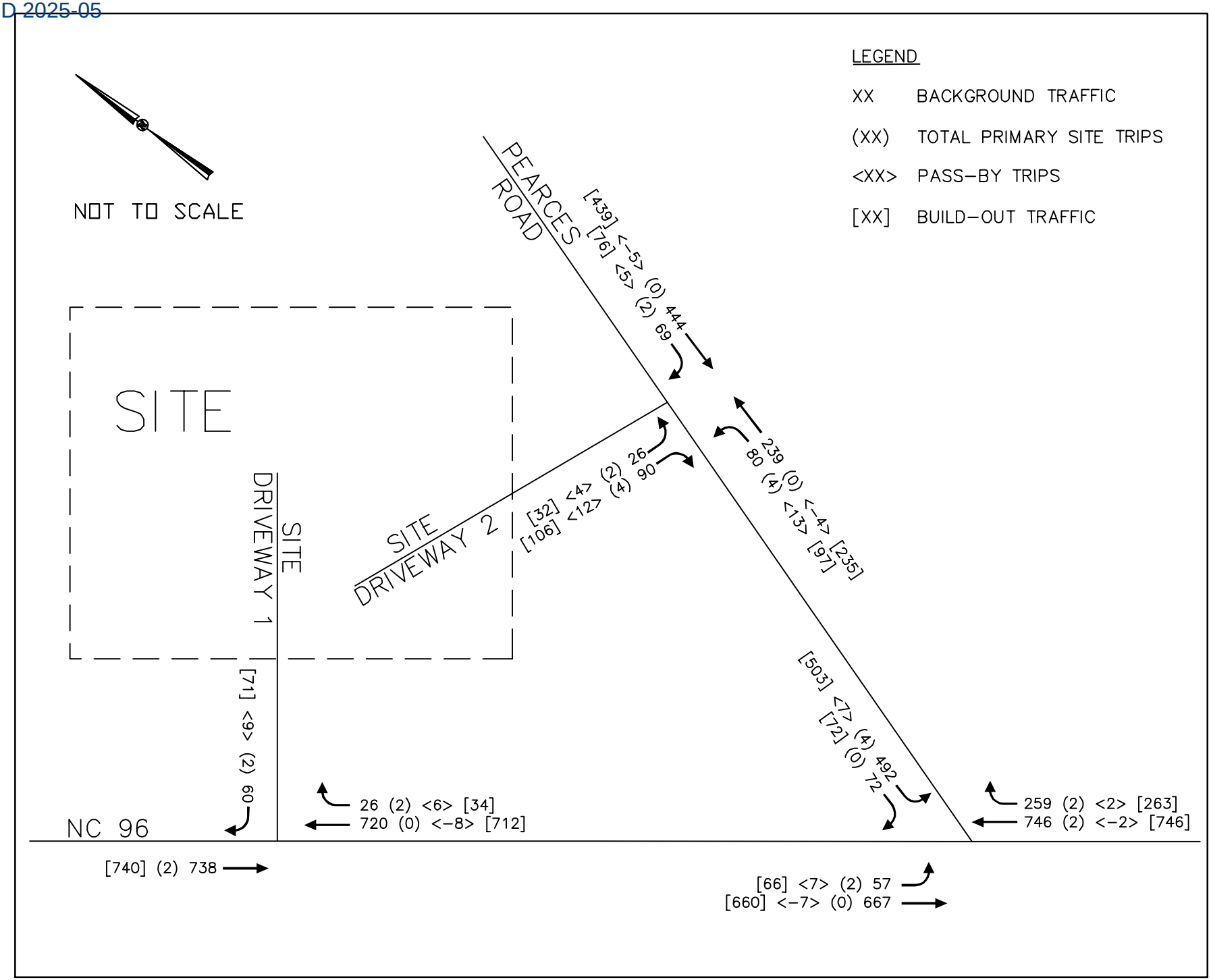


FIGURE 5.3

PROJECTED (2027) BUILD-OUT AM PEAK HOUR TRAFFIC VOLUMES

ZEBULON SHEETZ
ZEBULON, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

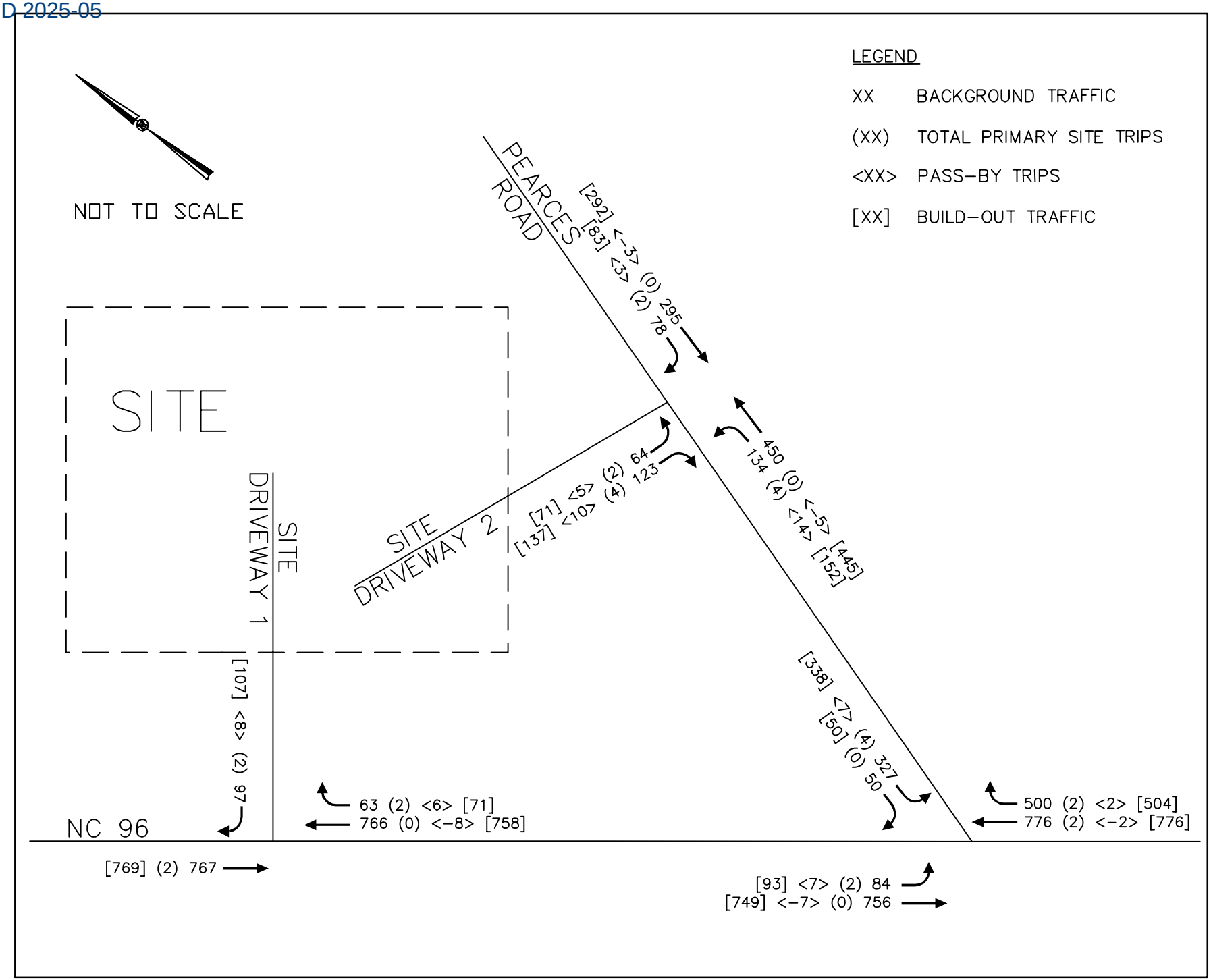


FIGURE 5.4

PROJECTED (2027) BUILD-OUT PM PEAK HOUR TRAFFIC VOLUMES

ZEBULON SHEETZ
ZEBULON, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

6.0 Capacity Analysis

Capacity analyses (see Appendix) were performed for the AM and PM peak hours for the existing traffic condition (2025) and the projected (2027) background and build-out traffic conditions using Synchro/SimTraffic Version 12 software to determine the operating characteristics of the adjacent road network and the impacts of the proposed project.

Capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a set time duration. Capacity is combined with Level-of-Service (LOS) to describe the operating characteristics of a road segment or intersection. LOS is a qualitative measure that describes operational conditions and motorist perceptions within a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A representing the shortest average delays and F representing the longest average delays. LOS D is the typically accepted standard for signalized intersections in urbanized areas. For signalized intersections, LOS is defined for the overall intersection operation.

For unsignalized intersections, only the movements that must yield right-of-way experience control delay. Therefore, LOS criteria for the overall intersection is not reported by Synchro/SimTraffic Version 12 or computable using methodology published in the *Highway Capacity Manual*. It is typical for stop sign controlled side streets and driveways intersecting major streets to experience long delays during peak hours, while the majority of the traffic moving through the intersection on the major street experiences little or no delay. Table 6.0 lists the LOS control delay thresholds published in the *Highway Capacity Manual* for signalized and unsignalized intersections.

Table 6.0
Level-of-Service Control Delay Thresholds

Level-of-Service	Signalized Intersections – Control Delay Per Vehicle [sec/veh]	Unsignalized Intersections – Average Control Delay [sec/veh] & Qualitative Operational Description	
A	≤ 10	≤ 10	Short Delays
B	> 10 – 20	> 10 – 15	
C	> 20 – 35	> 15 – 25	
D	> 35 – 55	> 25 – 35	Moderate Delays
E	> 55 – 80	> 35 – 50	
F	> 80	> 50	Long Delays

Existing peak hour factors were used for existing (2025) traffic conditions. A peak hour factor of 0.9 was used for all future scenarios. To provide a conservative analysis, existing coordinated signal timings were used in all future traffic conditions at the intersection of NC 96 at Pearces Road.

All capacity analyses are included in the Appendix and are briefly summarized in the following sub-sections.

6.1 NC 96 at Pearces Road

Analyses indicate that the signalized intersection of NC 96 at Pearces Road currently operates at LOS C in the AM peak hour and LOS B in the PM peak hour. The signalized intersection is expected to continue to operate at LOS C in the AM peak hour and LOS B in the PM peak hour, with or without the proposed redevelopment in place. With the increase in site traffic as part of the Sheetz redevelopment, minimal increases in vehicular queues are expected from background to build-out traffic conditions.

As site traffic is expected to have minimal impact on the operation of this intersection, no improvements are recommended to accommodate projected site traffic.

Table 6.1 summarizes the operation of the intersection of NC 96 at Pearces Road for existing (2025), background (2027), and build-out (2027) traffic conditions.

Table 6.1
NC 96 at Pearces Road (Signalized)

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Existing (2025) Traffic	Overall - C (21.8) EB - B (16.6) WB - B (15.3) SB - D (42.3)	Overall - B (15.1) EB - B (11.6) WB - A (7.5) SB - D (50.4)
Background (2027) Traffic	Overall - C (26.4) EB - C (21.9) WB - B (19.9) SB - D (43.8)	Overall - B (17.5) EB - B (15.3) WB - A (9.8) SB - D (48.4)
Build-out (2027) Traffic	Overall - C (26.9) EB - C (22.2) WB - C (20.3) SB - D (44.4)	Overall - B (17.9) EB - B (15.6) WB - B (10.0) SB - D (48.7)

6.2 NC 96 at Site Driveway 1

Analyses indicate that the unsignalized intersection of NC 96 at Site Driveway 1 currently operates with short delays in both peak hours for the minor-street approach (Site Driveway 1). The minor-street approach of this intersection is expected to continue to operate with short delays in both peak hours, with or without the proposed redevelopment in place. With the increase in site traffic as part of the Sheetz redevelopment, minimal increases in vehicular queues are expected from background to build-out traffic conditions.

As site traffic is expected to have minimal impact on the operation of this intersection, no improvements are recommended to accommodate projected site traffic.

Table 6.2 summarizes the operation of the intersection of NC 96 at Site Driveway 1 for existing (2025), background (2027), and build-out (2027) traffic conditions.

Table 6.2
NC 96 at Site Driveway 1 (Unsignalized)

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Existing (2025) Traffic	SB - B (14.4)	SB - C (15.6)
Background (2027) Traffic	SB - C (15.8)	SB - C (18.2)
Build-out (2027) Traffic	SB - C (15.9)	SB - C (18.5)

6.3 Pearces Road at Site Driveway 2

Analyses indicate that the unsignalized intersection of Pearces Road at Site Driveway 2 currently operates with short delays in both peak hours for the minor-street approach (Site Driveway 2). The minor-street approach of this intersection is expected to continue to operate with short delays in both peak hours under background (2027) traffic conditions. With the proposed redevelopment in place, the minor-street approach is expected to operate with short delays in the AM peak hour and moderate delays in the PM peak hour. With the increase in site traffic as part of the Sheetz redevelopment, minimal increases in vehicular queues are expected from background to build-out traffic conditions.

As site traffic is expected to have minimal impact on the operation of this intersection, no improvements are recommended to accommodate projected site traffic.

Table 6.3 summarizes the operation of the intersection of Pearces Road at Site Driveway 2 for existing (2025), background (2027), and build-out (2027) traffic conditions.

Table 6.3
Pearces Road at Site Driveway 2 (Unsignalized)

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Existing (2025) Traffic	EB - B (13.9) NBL - A (8.5)	EB - C (17.2) NBL - A (8.2)
Background (2027) Traffic	EB - C (16.4) NBL - A (8.9)	EB - C (22.9) NBL - A (8.5)
Build-out (2027) Traffic	EB - C (17.9) NBL - A (9.0)	EB - D (26.8) NBL - A (8.6)

7.0 Conclusions

NCDOT TIP project U-5118 FB proposes to construct an additional southbound through lane along NC 96 beginning approximately 830 feet north of the intersection of NC 96 at Pearces Road and ending at US 64-264 WB Ramps/Dogwood Drive. At the intersection of NC 96 at Pearces Road the westbound right lane is expected to be restriped to a shared left/right lane and the existing traffic signal is expected to be modified to accommodate these laneage improvements. While this project was considered for inclusion during scoping discussions with the Town, it was ultimately excluded in order to provide a conservative analysis of the intersection of NC 96 at Pearces Road.

All study intersections are expected to operate with acceptable levels-of service and, based on SimTraffic observations, maximum queues are expected to increase minimally with the redevelopment of the Sheetz. Therefore, no improvements are recommended with the proposed expansion.

Appendix

Appendix A:

Approved Assumptions Memorandum

6/1/2025

Preliminary Assumptions – Zebulon Sheetz - UPDATED
Traffic Impact Analysis
Zebulon, North Carolina

KHA will perform analyses for the Zebulon Sheetz development, a proposed commercial project located along east of NC 96 and north of Pearces Road in Zebulon, North Carolina. The following assumptions will be used in the analysis of the site:

Study Intersections
The study area will consist of the following intersections:

- NC 96 at Pearces Road
- NC 96 at Site Driveway 1 *(right-in/right-out access)*
- Pearces Road at Site Driveway 2 *(full movement access)*

Analysis Scenarios
Weekday AM and PM peak hour analyses will be performed for the following traffic conditions:

- Existing (2025)
- Background (2026 +1)*
- Build-out (2026 +1)*
- Build-out (2026 +1)* - with Improvements

**Per the Town of Zebulon Unified Development Ordinance (UDO), the future traffic conditions will be analyzed for the build-out year plus one year into the future after the development is completed (2027).*

Background Traffic Growth
Based on historical AADT data from NCDOT and nearby developments and Town of Zebulon ordinances, an annual growth rate of 2.5% will be used to grow the existing traffic counts to the build-out year.

Approved Developments
Additionally, based on the Town of Zebulon Development Activity Map, the following approved developments were identified for inclusion in this analysis as background traffic:

- 7-Eleven
- Zebulon Domino's
- Clifton Grove (Pearces Road Residential)
- Weavers Ridge

Traffic for these approved developments will be obtained or developed from either site plans or traffic studies attained from the Town of Zebulon.

Roadway Improvements by Others
State Transportation Improvement Program (TIP) project U-5118 FB proposes to construct access management improvements north of Pearces Road to Dogwood Drive along NC 96. This project is expected to begin construction in 2025. While this project was considered for inclusion during scoping discussions with the Town, it will ultimately be excluded in order to provide a conservative analysis of the intersection of NC 96 at Pearces Road.

Trip Distribution
The following overall distribution will be used for Zebulon Sheetz Development entering and exiting traffic:

- 50% to/from the east on NC 96
- 30% to/from the west on NC 96

- 20% to/from the north on Pearces Road

Trip Generation

The property is currently consists of a 5,000 square foot (SF) convenience store/gas station with 12 vehicle fueling positions (vfp). The development is proposing to expand the store to 6,150 SF with 14 vfp. See attached for the existing and proposed trip generation of the Zebulon Sheetz development.

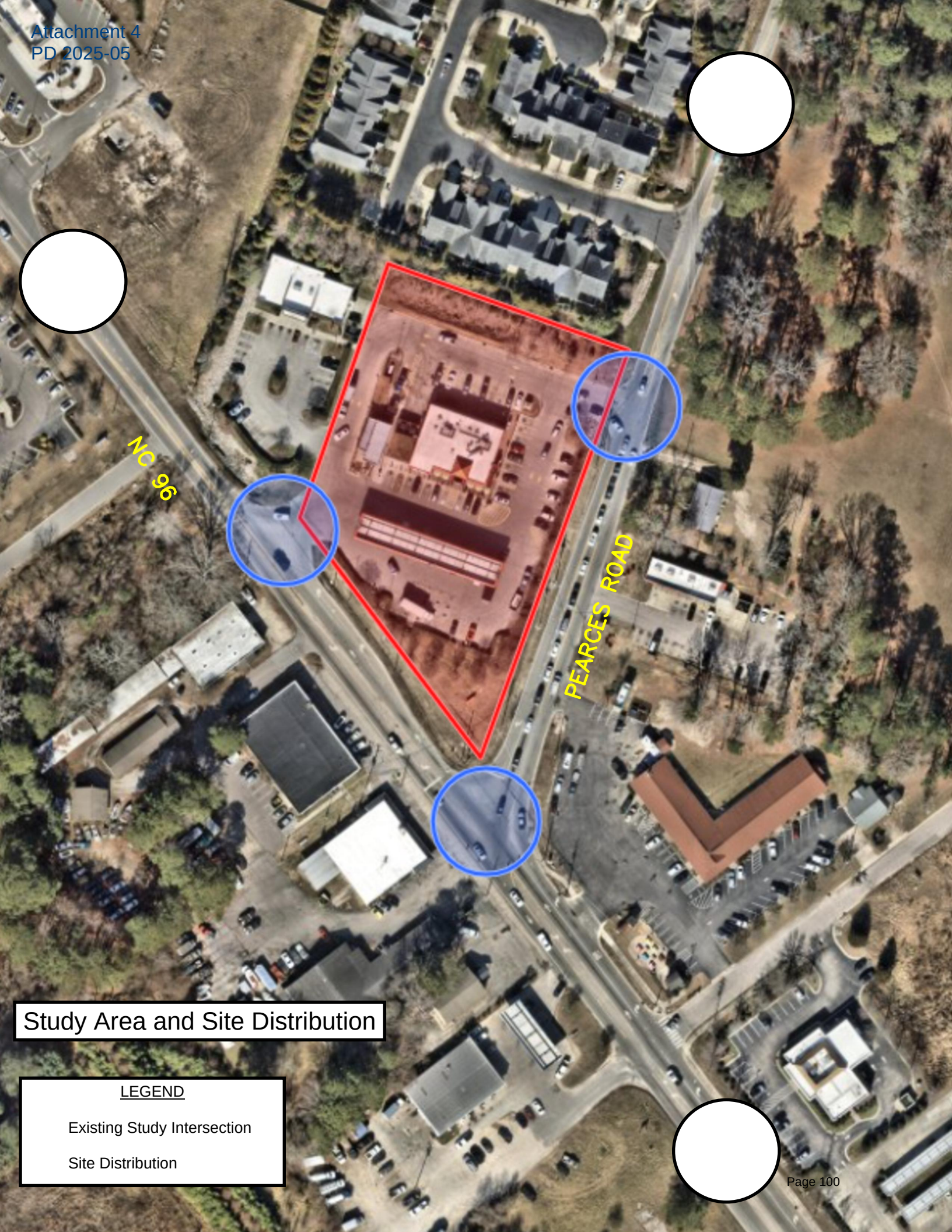
Other Study Assumptions

Existing peak hour factors (PHF) will be used in each traffic condition where those exceed the default PHF of 0.90. For future traffic signals, inputs (right-turns on red, permitted + protected phasing) will be obtained from the signal plans, and optimized signal timings will be used in each of the traffic conditions.

Sheetz Zebulon

Table 1 - Trip Generation (11th Edition): 6150SF Store, 14 vfp

Land Use	Intensity		Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
945 Convenience Store/Gas Station: 9-15 vfp. - Existing	5,000	s.f.	3,502	1,751	1,751	283	142	141	273	137	136
945 Convenience Store/Gas Station: 9-15 vfp. - Proposed	6,150	s.f.	4,308	2,154	2,154	348	174	174	335	168	167
Pass-By Capture	AM	PM									
945 Convenience Store/Gas Station - Existing	76%	75%	2,644	1322	1,322	215	108	107	205	103	102
945 Convenience Store/Gas Station - Proposed	76%	75%	3,254	1627	1,627	264	132	132	251	126	125
Difference in Pass-By Trips			**610**	**305**	**305**	**49**	**24**	**25**	**46**	**23**	**23**
Total Net New External Trips: Proposed Site			**1,054**	**527**	**527**	**84**	**42**	**42**	**84**	**42**	**42**
Total Net New External Trips: Existing Site			**858**	**429**	**429**	**68**	**34**	**34**	**68**	**34**	**34**
Difference in Total Net New External Trips			**196**	**98**	**98**	**16**	**8**	**8**	**16**	**8**	**8**



Study Area and Site Distribution

LEGEND

Existing Study Intersection

Site Distribution

Appendix B:

Trip Generation

Sheetz Zebulon

Table 1 - Trip Generation (11th Edition): 6150SF Store, 14 vfp

Land Use	Intensity		Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
945 Convenience Store/Gas Station: 9-15 vfp. - Existing	5,000	s.f.	3,502	1,751	1,751	283	142	141	273	137	136
945 Convenience Store/Gas Station: 9-15 vfp. - Proposed	6,150	s.f.	4,308	2,154	2,154	348	174	174	335	168	167
Pass-By Capture	AM	PM									
945 Convenience Store/Gas Station - Existing	76%	75%	2,644	1322	1,322	215	108	107	205	103	102
945 Convenience Store/Gas Station - Proposed	76%	75%	3,254	1627	1,627	264	132	132	251	126	125
Difference in Pass-By Trips			**610**	**305**	**305**	**49**	**24**	**25**	**46**	**23**	**23**
Total Net New External Trips: Proposed Site			**1,054**	**527**	**527**	**84**	**42**	**42**	**84**	**42**	**42**
Total Net New External Trips: Existing Site			**858**	**429**	**429**	**68**	**34**	**34**	**68**	**34**	**34**
Difference in Total Net New External Trips			**196**	**98**	**98**	**16**	**8**	**8**	**16**	**8**	**8**

Appendix C:

Traffic Count Data

Prepared by National Data & Surveying Services

SR 96 / N Arendell Ave & Pearces Rd / Five County Spay and Neuter Clinic Dwy

Peak Hour Turning Movement Count

ID: 25-160002-005
City: Zebulon

Day: Tuesday
Date: 1/28/2025

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	7:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	4:00 PM - 06:00 PM

SOUTHBOUND (SR 96/N Arendell Ave)

AM	7	589	45	0	739	AM
NOON	0	0	0	0	0	NOON
PM	1	683	54	0	720	PM

EASTBOUND (Pearces Rd/Five County Spay and Neuter Clinic Dwy)

AM	NOON	PM		
18	0	1		
0	0	0	0	
3	0	3	0	
0	0	2	1	
9	0	5	0	
AM	NOON	PM		

WESTBOUND (Pearces Rd/Five County Spay and Neuter Clinic Dwy)

PM	NOON	AM	
30	0	46	1
0	0	2	0
278	0	413	1
0	0	0	0
471	0	273	
PM	NOON	AM	

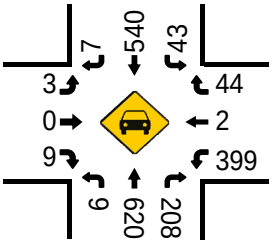
NORTHBOUND (SR 96/N Arendell Ave)

PM	966	0	0	687	415	PM
NOON	0	0	0	0	0	NOON
AM	1011	0	9	690	228	AM

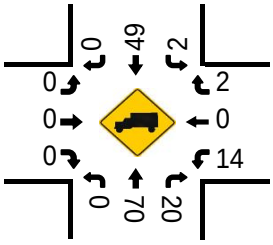
	0	0	1	1

CONTROL			
Signalized			
TEV	2041 AM	0 NOON	2158 PM
PHF	0.96		0.98

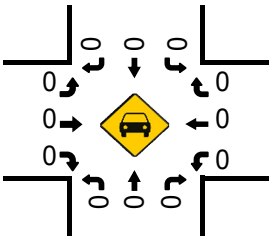
Cars (AM)



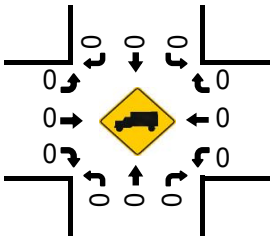
HT (AM)



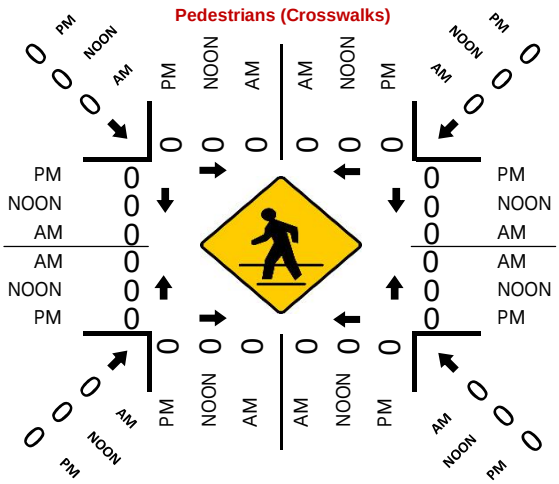
Cars (NOON)



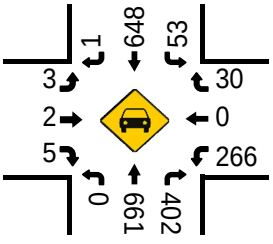
HT (NOON)



Pedestrians (Crosswalks)



Cars (PM)



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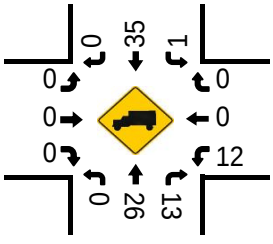


Prepared by National Data & Surveying Services

Sheetz Gasoline Station Dwy & N Arendell Ave / SR 96

Peak Hour Turning Movement Count

ID: 25-160015-002
City: Zebulon

Day: Wednesday
Date: 3/26/2025

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	7:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	4:00 PM - 06:00 PM

Sheetz Gasoline Station Dwy

SOUTHBOUND

AM	57	0	0	0	27	AM
NOON	0	0	0	0	0	NOON
PM	92	0	2	2	66	PM

EASTBOUND (N Arendell Ave/SR 96)

AM	NOON	PM		
699	0	753	⇦	
0	0	0	↩	0
2	0	4	↱	0
647	0	668	→	1
0	0	0	↳	0
AM	NOON	PM		

WESTBOUND (N Arendell Ave/SR 96)

PM	NOON	AM		
60	0	25	↰	1
661	0	642	←	1
0	0	0	↩	0
0	0	0	↪	0
670	0	647	⇨	
PM	NOON	AM		

	0	1	0	0
	0	0	0	0

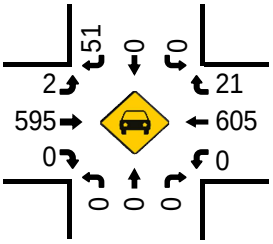
CONTROL			
No Control			
TEV	1373 AM	0 NOON	1489 PM
PHF	0.96		0.94

NORTHBOUND

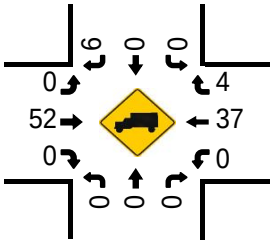
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

Sheetz Gasoline Station Dwy

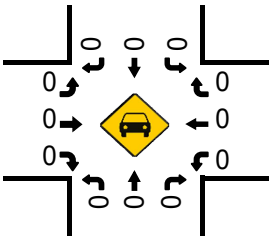
Cars (AM)



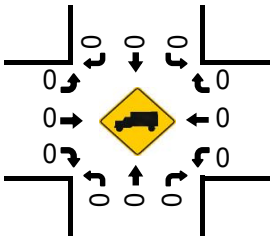
HT (AM)



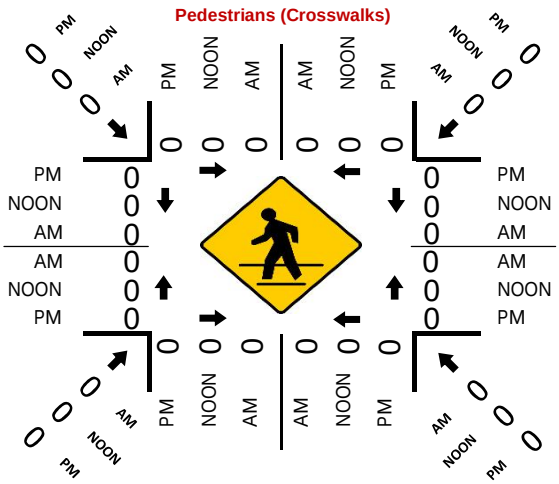
Cars (NOON)



HT (NOON)



Pedestrians (Crosswalks)



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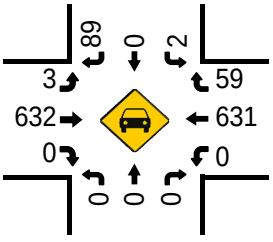

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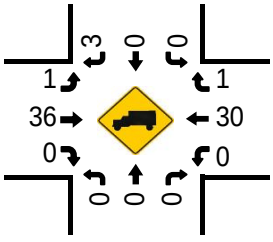


Prepared by National Data & Surveying Services

Pearces Rd / CR 1001 & Sheetz Gasoline Station Dwy

Peak Hour Turning Movement Count

ID: 25-160015-001
City: Zebulon

Day: Wednesday
Date: 3/26/2025

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	4:00 PM - 06:00 PM

Pearces Rd/CR 1001

SOUTHBOUND

AM	66	345	0	0	225	AM
NOON	0	0	0	0	0	NOON
PM	74	230	0	0	403	PM
	0	1	0	0		

EASTBOUND (Sheetz Gasoline Station Dwy)

AM	NOON	PM	
142	0	202	
0	0	0	0
25	0	61	0
0	0	0	1
86	0	117	0
AM	NOON	PM	

WESTBOUND (Sheetz Gasoline Station Dwy)

	PM	NOON	AM
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
	0	0	0
	PM	NOON	AM

CONTROL

No Control

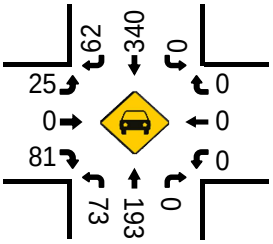
TEV	798 AM	0 NOON	952 PM
PHF	0.92		0.97

		0	1	1	0	
PM	347	0	128	342	0	PM
NOON	0	0	0	0	0	NOON
AM	431	0	76	200	0	AM

NORTHBOUND

Pearces Rd/CR 1001

Cars (AM)



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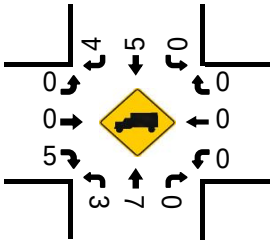

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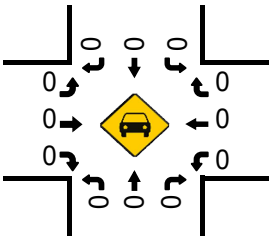

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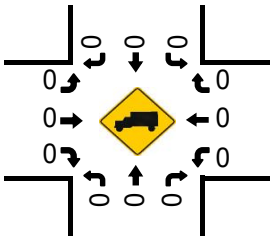
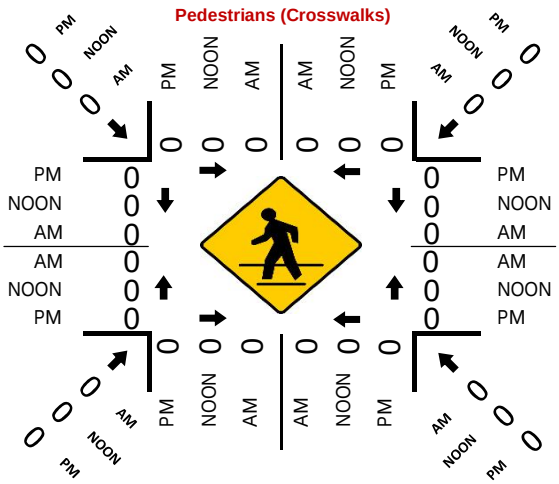
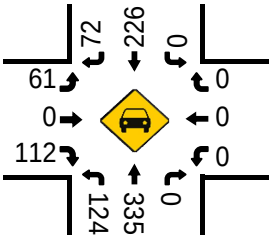


Pedestrians (Crosswalks)



Cars (PM)



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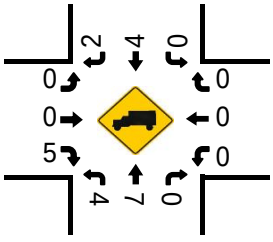


Appendix D:

Approved Development Information

TRAFFIC IMPACT ANALYSIS

Zebulon 7-Eleven Convenience Store

ZEBULON, NORTH CAROLINA

Nicholas E. Burns 3/1/23

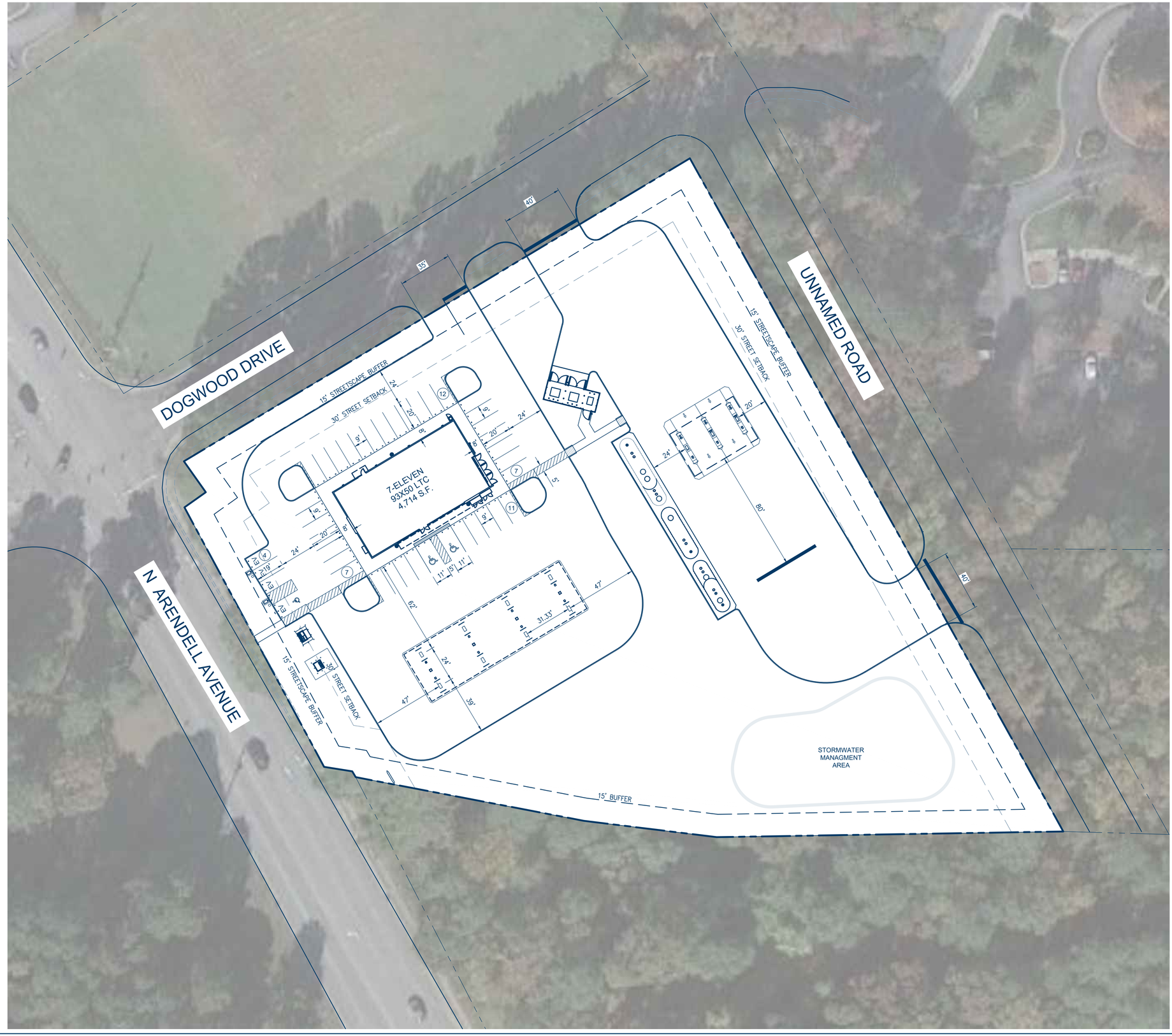
REPORT PREPARED FOR:
C4 CStore Holdings II, LLC
121 West Trade Street, Suite 2550
Charlotte, NC 28202

REPORT PREPARED BY
Impact Designs, Inc.
PO Box 3728
Mooresville, NC 28117
nick@impactdesignsinc.com

QUALIFICATIONS

1. THIS SITE PLAN WAS PRODUCED WITH THE BEST INFORMATION AVAILABLE AT DATE OF PRODUCTION.
2. NO ALTA/TOPO SURVEY, NO TITLE REPORT, NO EASEMENT RESEARCH WAS AVAILABLE.
3. TRANSPORTATION, UTILITY, ARCHEOLOGICAL, HISTORICAL RESEARCH WAS NOT PERFORMED.
4. NO ZONING REQUIREMENTS, SETBACKS, BUFFERS WERE SUPPLIED AT THE DATE OF THIS PLAN. PROPOSED LAYOUT MAY NEED TO BE ADJUSTED PENDING ADDITIONAL INFORMATION.
5. WATER QUALITY/QUANTITY TREATMENT LOCATION AND SIZE SUBJECT TO ENGINEERING CALCULATIONS AND AGENCY REVIEW.
6. FOR ILLUSTRATIVE PURPOSES ONLY: NOT FOR LEASING DIMENSIONS OR CONSTRUCTION. ALL DIMENSIONS AND LAYOUT SUBJECT TO CHANGE.
7. SITE PLAN WILL REQUIRE 7-ELEVEN AND CITY APPROVAL.

SITE SUMMARY	
AREA	152,875 S.F.±
PARKING SPACES	41



GRAPHIC SCALE
20 0 10 20
1 INCH = 20 FEET

THE DIMENSION GROUP
ARCHITECTURE · CIVIL ENGINEERING · MEP ENGINEERING
11755 SANDHILL ROAD, DALLAS, TEXAS 75238
TEL: 214.343.8040 www.dimensiondfw.com

#	DATE	REVISION DESCRIPTION	BY

drawn by
designed by
approved by

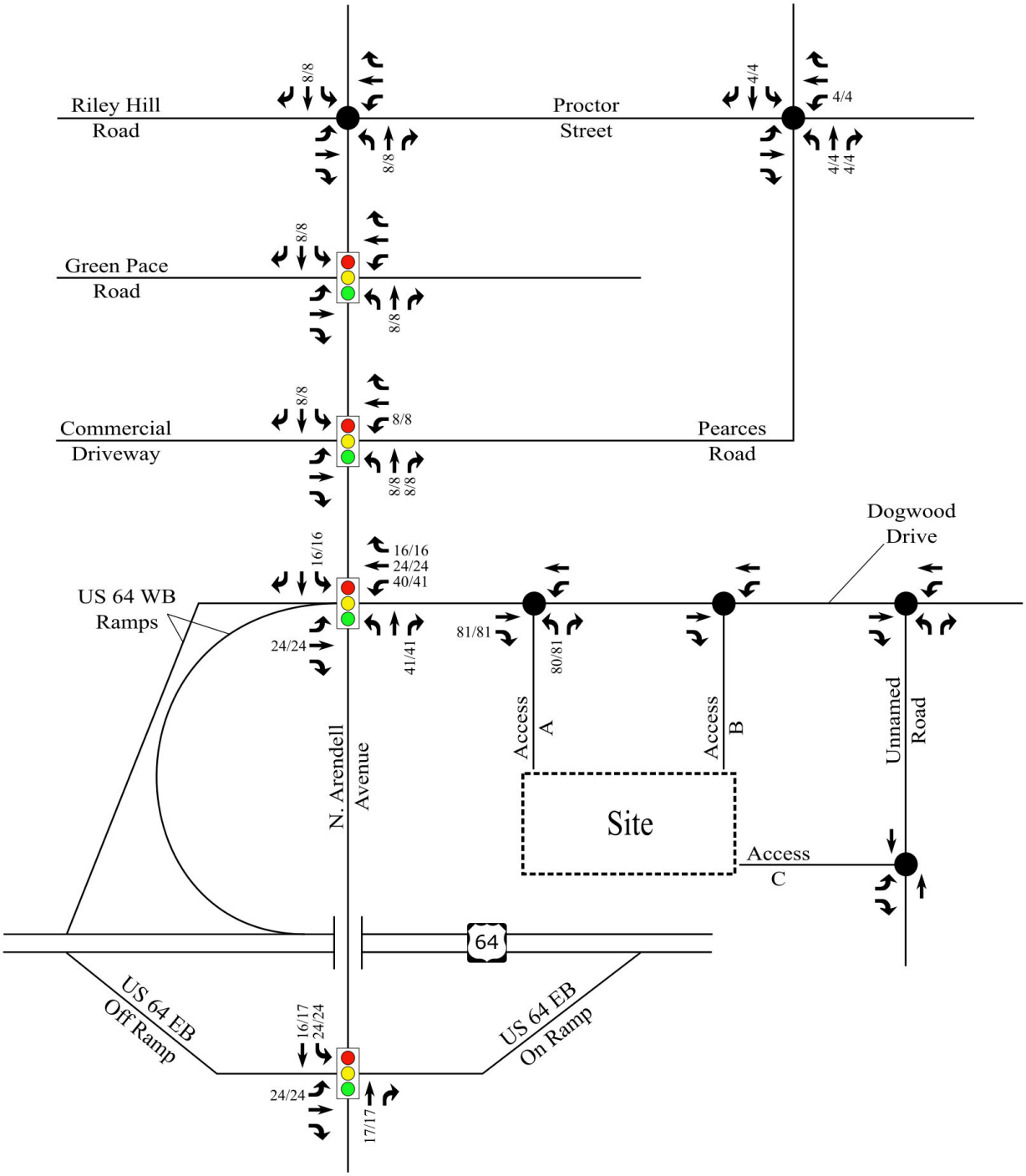
project no. C22-144
date 10/28/2022 – 11:28 am
dwg. C22144 – N Arendell & Dogwood – CSP1.dwg

CONCEPTUAL SITE PLAN

N ARENDELL AVE & DOGWOOD DR
ZEBULON, NC

SHEET
CSP1

Drawing name: L:\7-Eleven\2022\C22-144 & C22-145 – 1055397 – Zebulon, NC (N Arendell Ave & Dogwood Dr)\01 Preliminary\Site Sketch\C22144 – N Arendell & Dogwood – CSP1.dwg Oct 28, 2022 – 11:28am



LEGEND

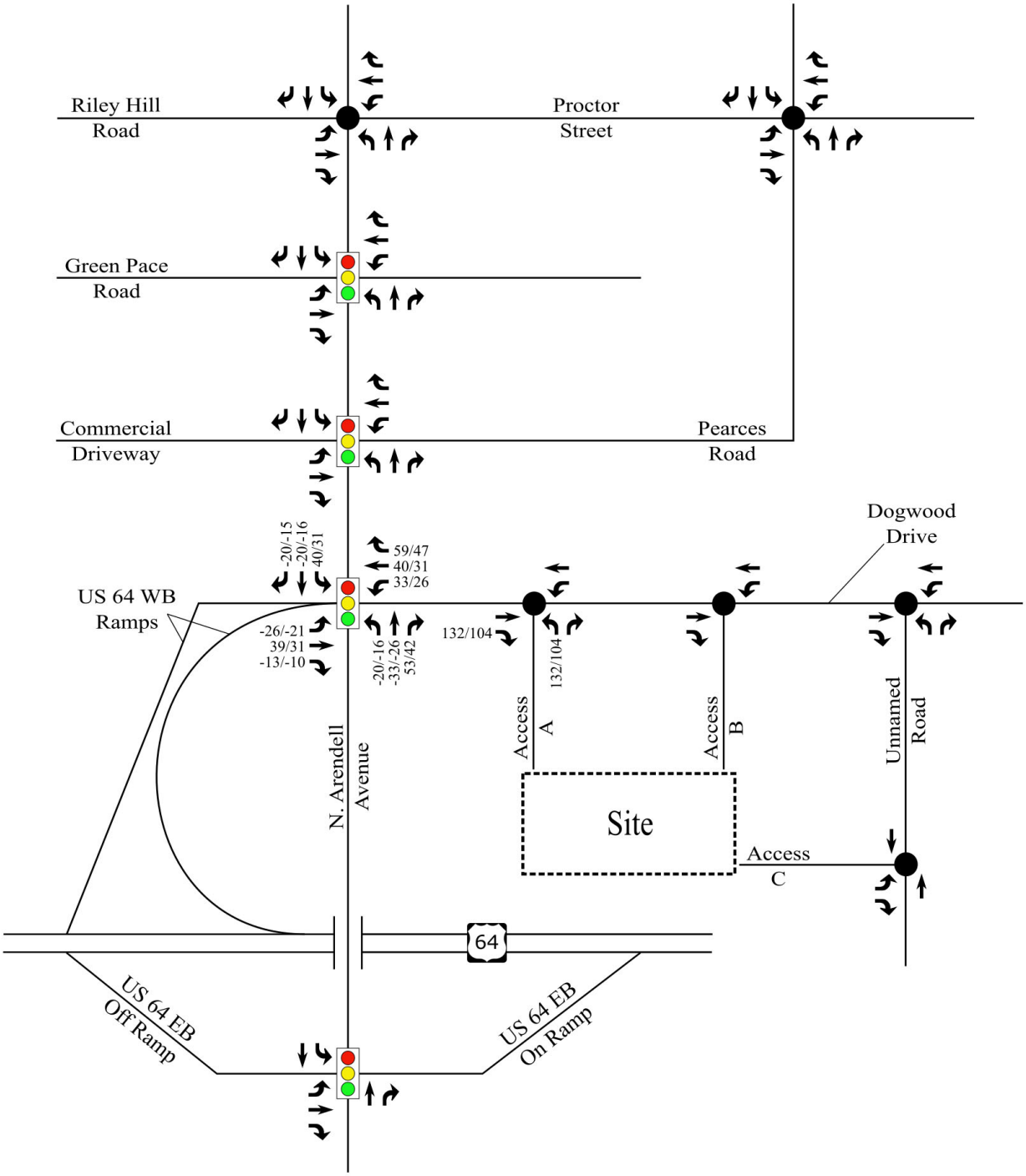
- Signalized Intersection
- Unsignalized Intersection
- X / Y → AM / PM Passenger Vehicle Site Trips

IMPACT
Designs, Inc.

Zebulon 7-Eleven
Zebulon, NC

Primary Trip Assignments - Passenger Vehicles

Scale: Not to Scale	Figure	8



LEGEND

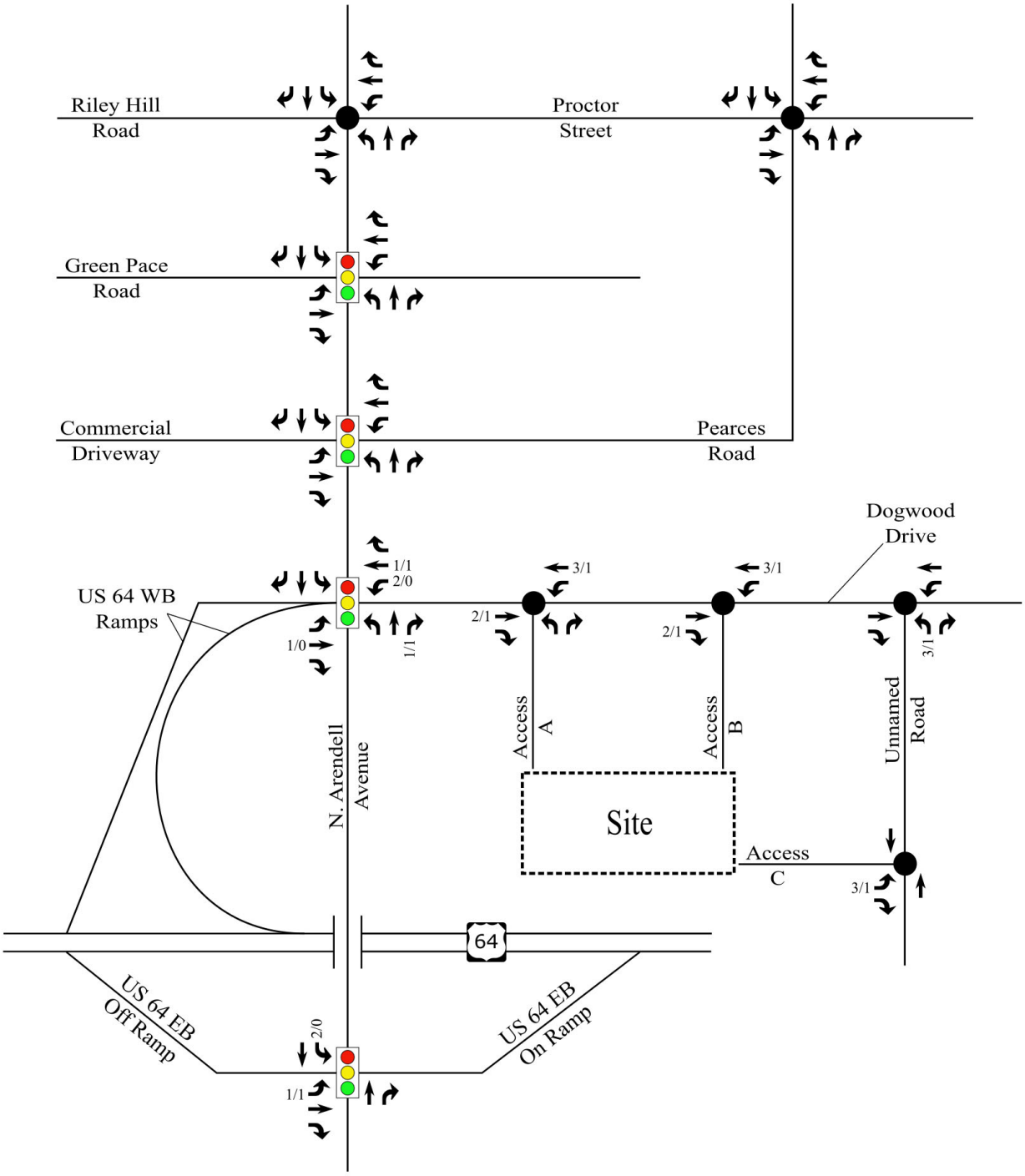
- Signalized Intersection
- Unsignalized Intersection
- X / Y → AM / PM Pass-By Trips

IMPACT
Designs, Inc.

Zebulon 7-Eleven
Zebulon, NC

Pass-By Trip Assignments

Scale: Not to Scale	Figure	10



LEGEND

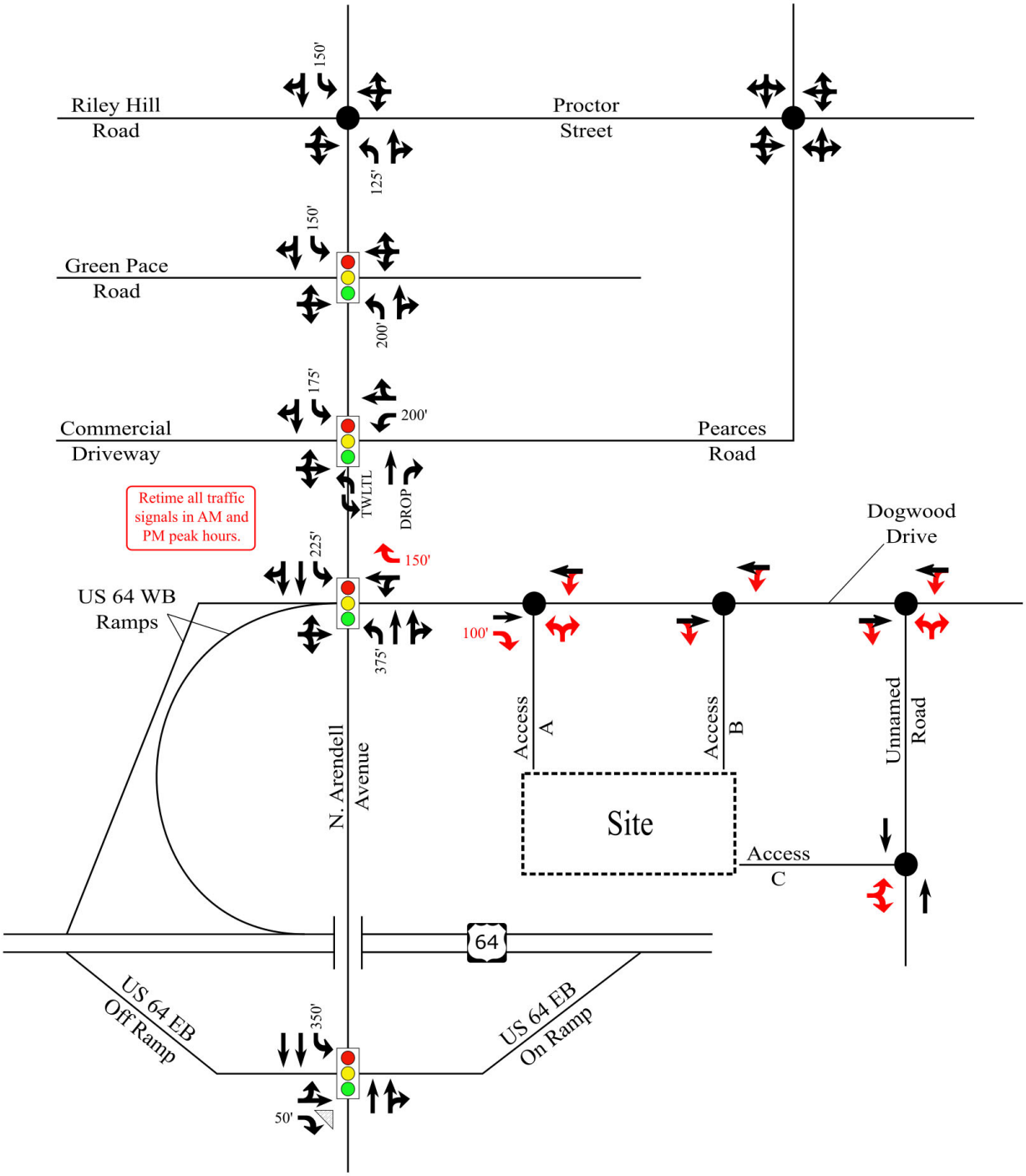
- Signalized Intersection
- Unsignalized Intersection
- X / Y → AM / PM Truck Site Trips

IMPACT
Designs, Inc.

Zebulon 7-Eleven
Zebulon, NC

Primary Trip Assignments - Trucks

Scale: Not to Scale	Figure	12



LEGEND

- Signalized Intersection
- Unsignalized Intersection
- Existing Lane
- Channelized Movement
- Recommended Improvement
- X' Storage (In Feet)

IMPACT Designs, Inc.

Zebulon 7-Eleven
Zebulon, NC

Proposed Lane Configurations and Traffic Control

Scale: Not to Scale	Figure	14

Pearces Road Residential Development

Traffic Impact Analysis

Zebulon, North Carolina

October 2020

Prepared for:

DR Horton

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Contact: Jeff Hochanadel, PE, PTOE

5410 Trinity Road, Suite 102 • Raleigh, NC 27607
(919) 866-4951 phone • (919) 859-5663 fax
www.timmons.com

SITE DATA

SITE ADDRESSES:	1015 Pearces Road 0 Pippin Road 921 Pearces Road
Total Acreage:	±117.47 Ac.
Conservation Area (Incudes Rec. Area)	61.24 Ac. (52.13%)
Development Area	56.23 Ac.
Total No. Lots:	232
Gross Density:	1.98 DU/AC
Watershed:	Moccasin Creek

Wm. G. Daniel & Assoc.
Engineering Planning
Site Design
1160-SE WAYNARD ROAD
SUITE 260
CARY, NC 27511
Ph:919-467-9705 Fx:919-460-7585
C-0329
FED ID# 56-1275586

Revisions

Project
D.R. Horton Property
Zebulon, NC

Conservation Subdivision
Development Areas Map

Date
July 2, 2020

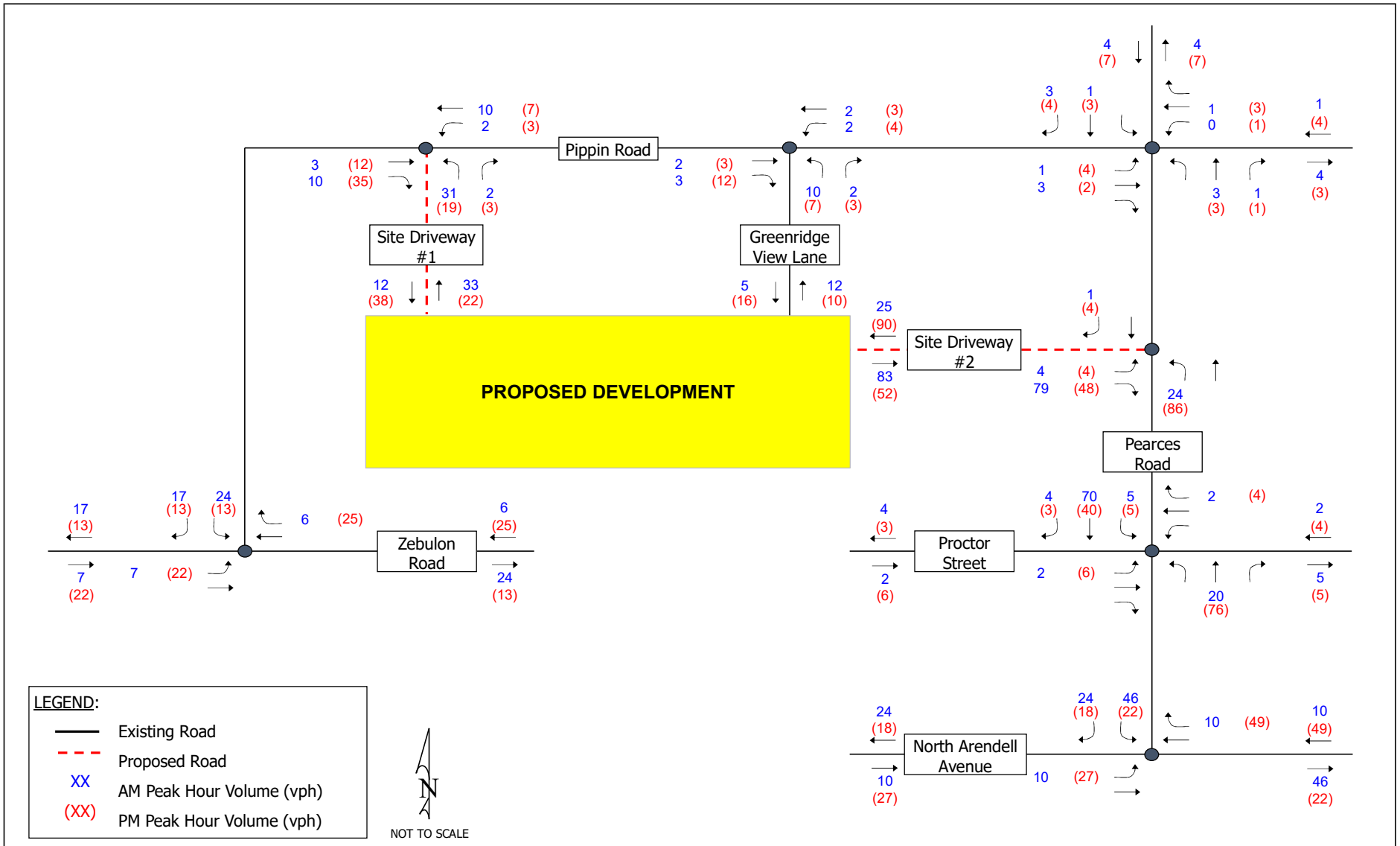
Scale
1" = 200'

Sheet
1 of 1

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Pearces Road Residential
Traffic Impact Analysis
Site Plan

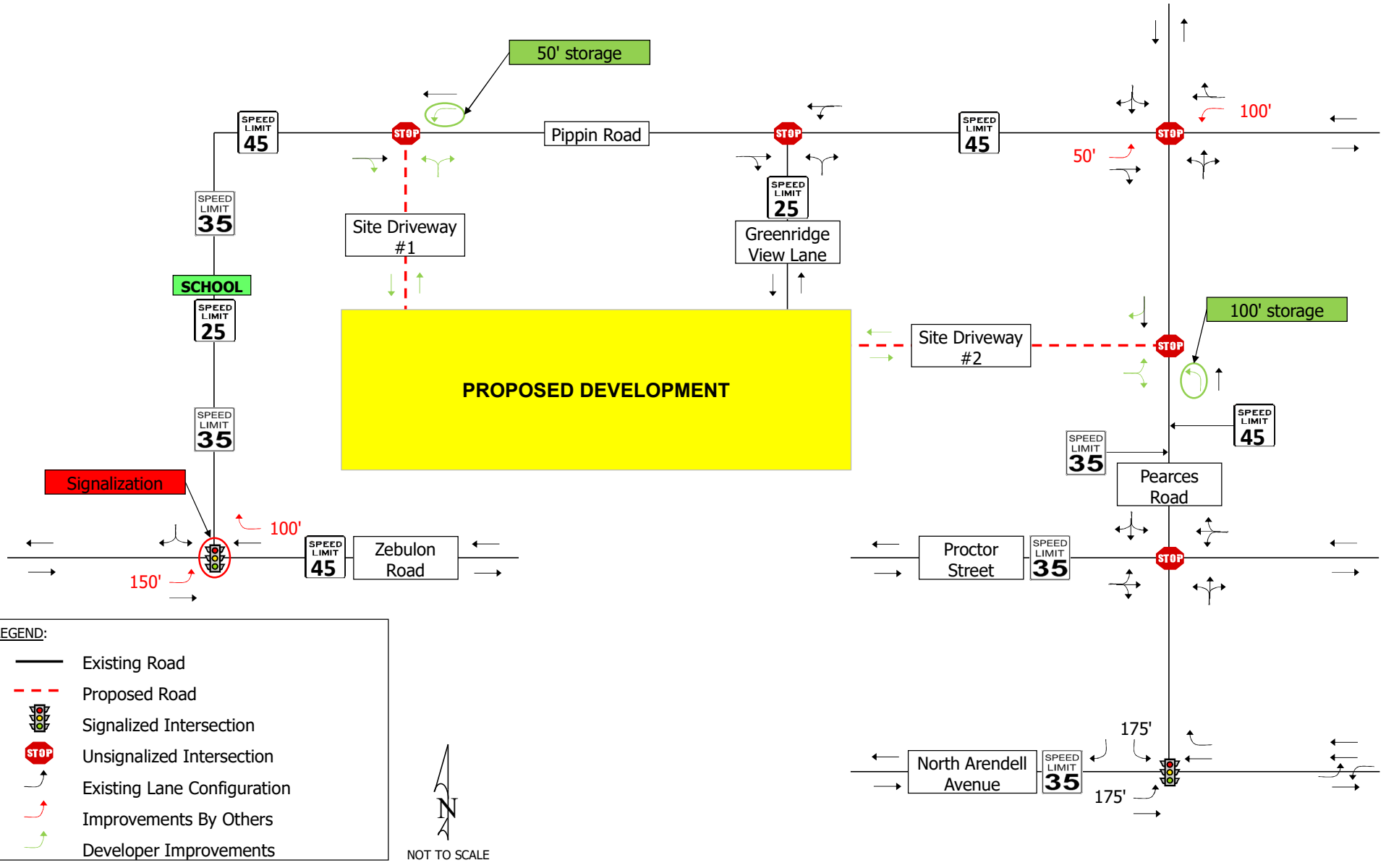
Figure 2-1



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Pearces Road Residential
Traffic Impact Analysis
2024 Trip Distribution Volumes

Figure 4-2



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Pearces Road Residential
Traffic Impact Analysis
2024 Proposed Lane Configuration

Figure 6-1

DRMP

TRAFFIC IMPACT ANALYSIS

FOR

ZEBULON DOMINO'S

LOCATED IN

ZEBULON, NORTH CAROLINA

Prepared For:

Rivers & Associates, Inc.

353 E Six Forks Road

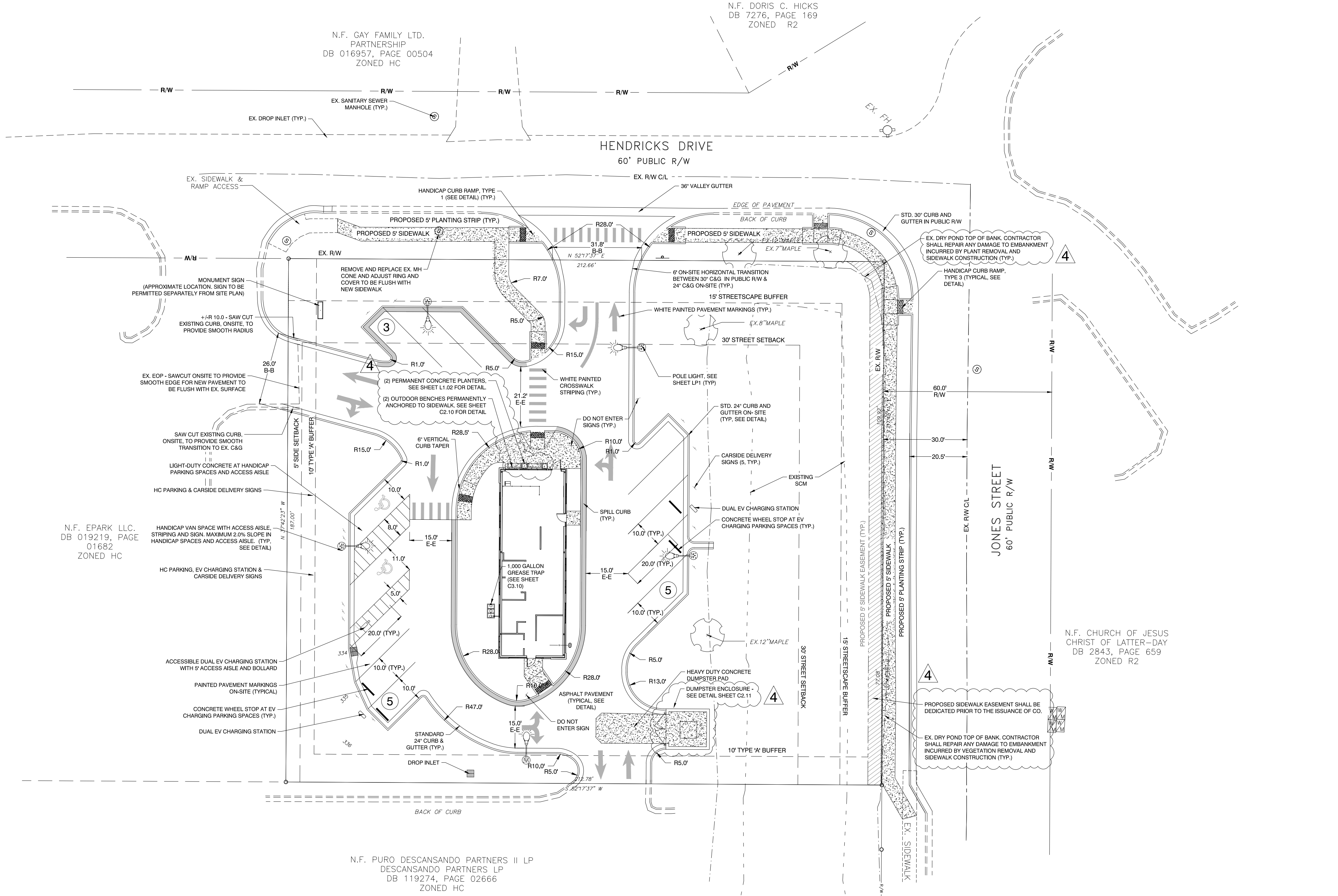
Suite 230

Raleigh, NC

Prepared By:

DRMP, Inc.

License #F-1524



SITE DATA TABLE

PROPERTY INFORMATION / SITE ADDRESSES -	NC PIN - 27-0600-6772		
	ADDRESS - 1000 HENDRICKS DR		
	ZEBULON, WAKE COUNTY, NORTH CAROLINA 27597		
TOWNSHIP -	LITTLE RIVER (PER IMAPS)		
OWNER/ DEVELOPER -	JTSJ INC.		
	9107 S TRYON ST STE. F, CHARLOTTE, NC 28273		
SITE AREA -	0.913 AC (PER SURVEY)		
LAND USE -	EXISTING - VACANT / STORMWATER CONTROL MEASURE		
	PROPOSED - RESTAURANT, WALK-UP ONLY (4)		
ZONING -	HC- HEAVY COMMERCIAL		
SETBACKS -	STREET -	30'	
	SIDE -	0'; 5' IF PROVIDED	
	REAR -	0'	
BUFFERS -	15' STREETSCAPE BUFFER ALONG HENDRICKS DR & JONES ST		
	10' TYPE 'A' PERIMETER BUFFER ALONG ADJACENT PROPERTIES		
BUILDING DATA -	PROPOSED BUILDING FOOTPRINT = +/- 1,632 SF		
PARKING - (4)	REQUIRED -	1 SPACE / EMPLOYEE ON LARGEST SHIFT	
		1 SPACE / OUTDOOR SEATING LOCATION	
		11 EMPLOYEES + 2 OUTDOOR SEATING LOCATIONS	
		= 13 PARKING SPACES REQUIRED	
	PROVIDED -	13 PARKING SPACES, INCL. 2 VAN ACCESSIBLE HANDICAP SPACES.	
		MINIMUM DIMENSIONS: 10' X 20'	
BICYCLE PARKING -	REQUIRED -	1 SPACE / 20 OFF-STREET AUTO PARKING SPACES	
		<20 SPACES ON SITE, NO BICYCLE PARKING REQUIRED	
IMPERVIOUS SURFACE - AREA	EXISTING -	N/A	
	PROPOSED -	ASPHALT PAVEMENT - (INCLUDES C+G)	+/-12,848 SF
		CONCRETE -	+/- 2,231 SF
		BUILDING -	+/- 1,632 SF
		TOTAL -	+/- 16,771 SF (+/- 0.385 AC)
	PROPOSED IMPERVIOUS PERCENTAGE -		+/- 42.17%

GENERAL NOTES:

1. ALL SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS PREPARED BY RIVERS AND ASSOCIATES, INC., THE CURRENT REQUIREMENTS OF THE TOWN OF ZEBULON, THE APPLICABLE SECTIONS OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADWAY CONSTRUCTION, AND ALL OTHER PERTINENT FEDERAL, STATE AND LOCAL LAWS.
2. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
4. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY N.C. ONE CALL AT 1-800-632-4949. THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
5. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT PRIOR TO INITIATION OF ANY EARTHWORK ACTIVITY.
6. CONTRACTOR SHALL NOTIFY PUBLIC WORKS STREET MAINTENANCE DIVISION 48 HOURS PRIOR TO MAKING CONNECTIONS TO EXISTING STORM DRAINS LOCATED WITHIN PUBLIC STORM DRAINAGE EASEMENTS OR R/W.
7. REFER TO C1.02 FOR SURVEY CONTROL INFORMATION.
8. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.
9. PER FEMA FIRM MAP 3720466000L DATED 7/7/14, THIS PROJECT IS IN ZONE X AND THEREFORE THERE IS NO REGULATORY FLOODPLAIN LOCATED ON THIS PROPERTY.
10. BUILDINGS, STRUCTURES OR OTHER IMPROVEMENTS, MATERIALS AND SURFACES, INCLUDING BUT NOT LIMITED TO PRINCIPLE AND ACCESSORY STRUCTURES AND ADDITIONS AND APPURTENANCES THERETO, SIGNAGE, FENCES, WALLS, MECHANICAL EQUIPMENT, CANOPIES, ANNTENNAS, MASTS, DEBRIS, SOLID WASTE COLLECTION CONTAINERS, MAIL RECEPTACLES, AND IMPERVIOUS SURFACES SHALL NOT ENCROACH WITHIN ANY DEDICATED EASEMENT WITHOUT PRIOR APPROVAL OF TOWN OF ZEBULON & THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
11. SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS NOT APPLICABLE, THE SITE DISTURBANCE IS LESS THAN ONE ACRE.
12. WETLANDS ARE VALUABLE NATURAL RESOURCES THAT PROVIDE IMPORTANT ECOLOGICAL FUNCTIONS. BE ADVISED THAT ACTIVITIES IN WETLANDS ARE REGULATED BY THE FEDERAL GOVERNMENT UNDER SECTION 404 OF THE CLEAN WATER ACT. JURISDICTIONAL WETLANDS MAY INCLUDE THE PINE-SHRUB POCOSINS THAT ARE COMMON IN THIS REGION. IF ANY PRIVATE LAND OWNER, DEVELOPER, CORPORATION, OR OTHER PERSON PROPOSES TO UNDERTAKE CONSTRUCTION/FILLING ACTIVITIES IN OR NEAR A LAKE, STREAM, CREEK TRIBUTARY OR ANY UNNAMED BODY OF WATER INCLUDING ITS ADJACENT WETLANDS, FEDERAL PERMIT AUTHORIZATION MAY BE REQUIRED FROM THE U.S. ARMY CORPS OF ENGINEERS PRIOR TO COMMENCEMENT OF SUCH LAND-DISTURBING ACTIVITIES. PLEASE CONTACT MS. TRACY WHEELER, TELEPHONE (252) 975-1616 FOR A WETLAND DETERMINATION AND INFORMATION REGARDING SPECIFIC PERMIT REQUIREMENTS. WETLANDS DETERMINATION PENDING, BY OTHERS.
13. APPROVAL OF SITE PLAN DOES NOT CONSTITUTE APPROVAL OF SIGNS. SEPARATE SIGN PERMITS ARE REQUIRED.
14. ALL SLOPES SHALL BE 3:1 (HORIZONTAL:VERTICAL) MAXIMUM UNLESS NOTED OTHERWISE.
15. ALL AREAS NOT PAVED SHALL BE TOPSOILED, SEEDED, MULCHED OR LANDSCAPED/SODDED UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DRAWINGS, SITE SPECIFICATIONS OR INSTRUCTED BY THE OWNER.
16. ALL REQUIRED IMPROVEMENTS SHALL COMPLY WITH THE TOWN OF ZEBULON ZONING ORDINANCE
17. REFUSE COLLECTION SHALL BE PROVIDED BY PRIVATE CONTRACTOR.
18. CONSTRUCTION OF ROADWAY EXTENSION BY OTHERS

STORMWATER MANAGEMENT NOTES:

1. EXISTING STORMWATER MANAGEMENT DETENTION BASIN
   - A. ON-SITE ALLOWABLE IMPERVIOUS SURFACE AREA = 1.89 AC = 82,328 SF
   - B. SONIC IMPERVIOUS SURFACE AREA = 0.84 AC = 36,590 SF
   - C. CAPITAL BANK IMPERVIOUS SURFACE AREA = 0.56 AC = 24,394 SF
2. ALLOWABLE IMPERVIOUS SURFACE AREA FOR SITE = 0.48 AC = 21,344 SF
3. PROPOSED IMPERVIOUS SURFACE AREA FOR SITE = 0.45 AC = 16,771 SF
4. ALLOWABLE FUTURE IMPERVIOUS AREA = 21,344 SF - 16,771 SF = 4,573 SF

NOTE:

1. PAVEMENT MARKINGS WITHIN SITE CAN BE PAINTED. PAVEMENT MARKINGS WITHIN RIGHT OF WAY SHALL BE THERMOPLASTIC AND SHALL BE INSTALLED IN ACCORDANCE WITH NCDOT STANDARDS AND SPECIFICATIONS.

2. EXISTING ON-SITE FIBER OPTIC LINES TO BE REROUTED BY CONTRACTOR.

HC RAMPS:

1. ALL HC RAMPS TO BE FIELD ADJUSTED WITH INPUT FROM THE TOWN OF ZEBULON FIELD INSPECTOR PRIOR TO INSTALLATION.

2. POWER POLES WHICH CONFLICT WITH FIELD LOCATED HC RAMPS ARE TO BE RELOCATED BY APPROPRIATE UTILITY COMPANY.

CALL BEFORE YOU DIG!
WWW.NC811.ORG
N.C. ONE-CALL CENTER
IT'S THE LAW!

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH TOWN OF ZEBULON, CITY OF RALEIGH PUBLIC UTILITIES DEPT., WAKE COUNTY, NCDOT & NCDEQ STANDARDS, SPECIFICATIONS AND DETAILS.

SCALE 1 inch = 20 ft

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Planners
Surveyors
Landscape Architects
Six Forks Place III Ste. 230
353 E. Six Forks Road
Raleigh, NC 27609
919.594.1626

REVISIONS:

NO.	DESCRIPTION	DATE	BY
4	CONSTRUCTION DRAWING SUBMITTAL #5	06/28/24	
3	CONSTRUCTION DRAWINGS SUBMITTAL #4	05/22/24	
2	CONSTRUCTION DRAWINGS SUBMITTAL #3	01/19/24	
1	CONSTRUCTION DRAWINGS SUBMITTAL #2	12/07/23	
	TRC REVIEW PLAN	11/07/23	
	CONSTRUCTION DRAWINGS SUBMITTAL #1	06/01/23	

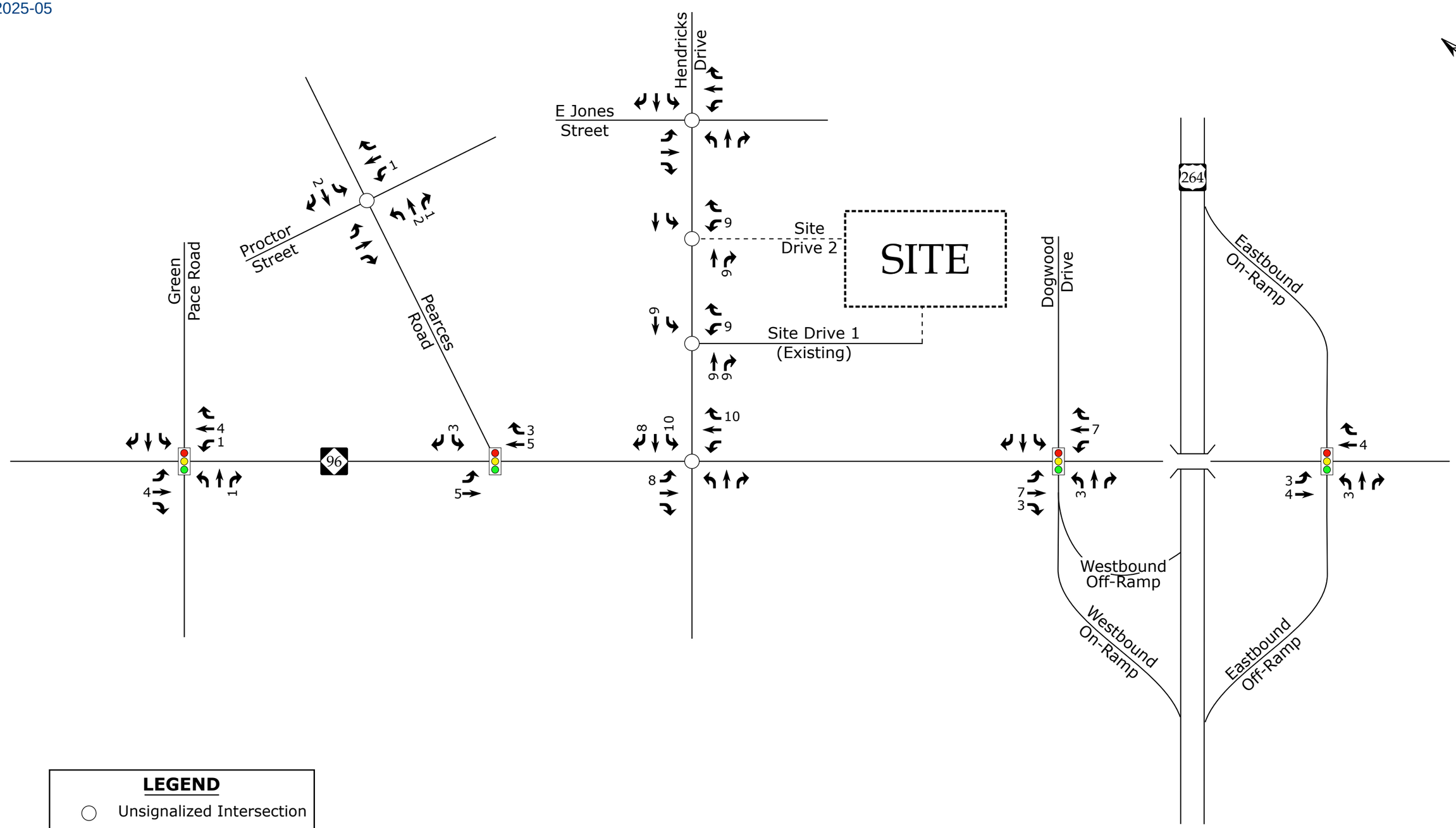
CONSTRUCTION DRAWINGS

DOMINO'S ZEBULON

TOWN OF ZEBULON – WAKE COUNTY – NORTH CAROLINA

SITE PLAN

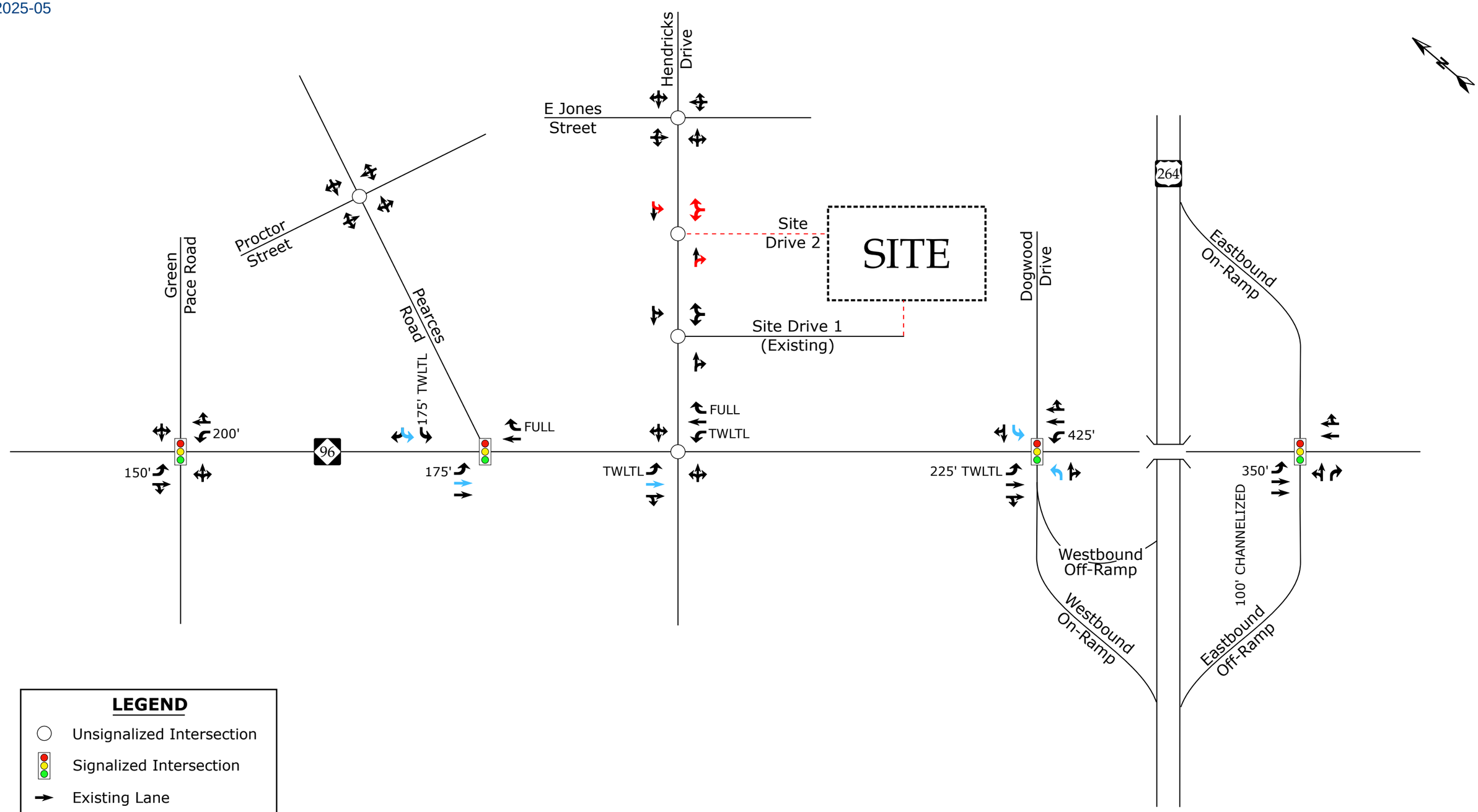
DATE:	
DESIGNED BY:	SF/MS
DRAWN BY:	SF/MS
CHECKED BY:	JSJ/PRM
PROJECT No.	2023018
DRAWING No.	W-4081
SCALE:	AS SHOWN
SHEET No.	C2.01



LEGEND

- ○ Unsignalized Intersection
- Signalized Intersection
- X → Weekday PM Peak Hour Site Trips

DRMP	Zebulon Domino's Zebulon, NC	Site Trip Assignment
		Scale: Not to Scale / Figure 7



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Existing Lane
- Improvement by Developer
- NCDOT Improvement
- X' Storage (In Feet)

DRMP

Zebulon Domino's
Zebulon, NC

Recommended Lane Configurations

Scale: Not to Scale | Figure 11

RAMEY KEMP & ASSOCIATES
TRANSPORTATION ENGINEERS

RAMEY KEMP & ASSOCIATES, INC.
5808 Faringdon Place, Suite 100
Raleigh, NC 27609
Phone: 919-872-5115
www.rameykemp.com

July 25, 2019

Mr. Meade Bradshaw
Assistant Planning Director
Town of Zebulon
1003 N. Arendell Avenue
Zebulon, NC 27597
Phone: (919) 269-7455
Email: mbradshaw@townofzebulon.org

Subject: Traffic Study
Weaver's Ridge – Zebulon, North Carolina

Dear Mr. Bradshaw:

This letter provides the findings of the traffic study prepared by Ramey Kemp & Associates, Inc. (RKA) for the proposed Weaver's Ridge development located east of Zebulon Road (NC 96) across from Glory Road in Zebulon, North Carolina. The purpose of the study is to determine how traffic generated by the proposed development is expected to impact surrounding roadways and intersections.

The proposed residential development is assumed to consist of 124 townhomes and 58 single-family homes. Refer to Figure 1 for the site location map. Site access will be provided via one (1) full movement site driveway along Zebulon Road (NC 96) across from Glory Road and a connection to the Weaver's Pond Development via Golden Plum Lane.

Refer to Figure 2 for the preliminary site plan of the proposed development and Figure 3 for an illustration of the existing lane configurations within the study area.

The study analyzes traffic conditions for the study intersections during the weekday AM and PM peak hours for the following scenarios:

- Existing (2019) Traffic Conditions
- Background (2024 +1) Traffic Conditions
- Combined (2024 +1) Traffic Conditions
- Combined (2024 +1) Traffic Conditions with Improvements

Existing (2019) Peak Hour Conditions

Through coordination with the Town of Zebulon (Town) and the North Carolina Department of Transportation (NCDOT), existing peak hour traffic volumes were determined based on previous and current traffic studies conducted within the study area. The counts from the Weaver's Pond Development were conducted by Ramey Kemp & Associates, Inc. in August of 2017 and projected to the year 2019 for the existing (2019) volumes for the following intersections:

- Zebulon Road (NC 96) and Pippin Road
- Pippin Road and Pearces Road

Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersections listed below, in April of 2019 by Ramey Kemp & Associates, Inc. during a typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods:

- Zebulon Road (NC 96) and Glory Road

The volumes conducted in 2017 were grown to the year 2019 using an annual 3% growth rate and then the volumes were balanced along Zebulon Road (NC 96) to account for any variance associated with the different count dates. Volumes were not balanced along Pippin Road due to the reasonable imbalance in comparison to the land uses between the intersections along Pippin Road. Refer to Figure 4 for existing weekday AM and PM peak hour traffic volumes. A copy of the count data is attached to this report. Through coordination with the Town and the NCDOT, it was determined that an annual growth rate of 3% would be used to generate projected traffic volumes. Refer to Figure 5 for projected (2025) traffic. It should be noted that the balanced existing (2019) traffic is not re-balanced after the growth rate is applied for the projected (2025) traffic volumes, which can result in minor (1 vehicle) imbalances due to rounding.

Adjacent Developments

Through coordination with the Town, the following residential developments were identified to be included as an adjacent development in this study:

- Weaver's Pond
- Taryn Lake & Taryn Creek

Adjacent development trips are shown in Figure 6. Refer to the appendix in the attachments for the adjacent development information.

Background (2025) Peak Hour Conditions

Background traffic is comprised of existing traffic growth within the study area and additional traffic created as a result of adjacent approved developments. The background (2025) traffic volumes were determined by projecting the existing (2019) peak hour traffic to the year 2025 and adding the adjacent development trips. Refer to Figure 7 for background (2025) peak hour traffic.

Future Roadway Improvements

The Weaver's Pond development has committed to improvements at the intersection of Zebulon Road (NC 96) and Pippin Road. The improvements are expected to consist of a northbound right-turn lane with at least 100 feet of storage and appropriate decel and taper, a southbound left-turn lane with at least 150 feet of storage and appropriate decel and taper, and signalization of the intersection.

Trip Generation

The proposed development is assumed to consist of 124 townhomes and 58 single-family homes. Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE *Trip Generation Manual*, 10th Edition. Refer to Table 1 for a detailed breakdown of the proposed site trip generation.

Table 1: Trip Generation Summary

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	AM Peak Hour Trips (vph)		PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Single-Family Detached Housing (210)	58 units	630	11	35	38	22
Multifamily Housing (Low-Rise) (Townhomes) (220)	124 units	900	14	45	45	27
Total Trips		**1,530**	**25**	**80**	**83**	**49**

It is estimated that the proposed development will generate approximately 1,530 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 105 trips (25 entering and 80 exiting) will occur during the weekday AM peak hour and 132 trips (83 entering and 49 exiting) will occur during the weekday PM peak hour.

Site Trip Distribution and Assignment

Trip distribution percentages used in assigning site traffic for this development were estimated based on a combination of existing traffic patterns, population centers adjacent to the study area, and engineering judgment. All trip distributions were approved by the Town and NCDOT during the scoping process. It is estimated that trips will be regionally distributed as follows:

- 20% to/from the north via Pearces Road
- 5% to/from the south via Pearces Road
- 50% to/from the south via Zebulon Road (NC 96)
- 25% to/from the north via Zebulon Road (NC 96)

It should be noted that based on engineering judgement it was determined that 100% of site trips will exit the site using the full movement site driveway located along Zebulon Road (NC 96). The site trip distribution is shown in Figure 8. Refer to Figure 9 for the site trip assignment.

It is not expected that the traffic from the proposed development will utilize the Weaver's Pond access; however, it is expected that a portion of the Weaver's Pond development will utilize the new site drive along Zebulon Road (NC 96). Based on coordination with the NCDOT and Town, Phases 3A and 5 of the Weaver's Pond Master Plan are proposed to be rerouted from the Weaver's Pond access on Pippin Road to the new Zebulon Road (NC 96) site drive aligned with Glory Road. Phases 3A and 5 include 137 homes combined, or approximately 19% of the total homes in the Weaver's Pond development. 19% of the Weaver's Pond site trips were rerouted from Pippin Road to the proposed site drive. Figure 10 illustrates the anticipated rerouted Weaver's Pond development site trips through the proposed Weaver's Ridge site.

Combined (2025) Peak Hour Conditions

To estimate traffic conditions with the site fully built-out, the total site trips were added to the background (2025) traffic volumes to determine the combined (2025) traffic volumes. Refer to Figure 11 for an illustration of the combined (2025) peak hour traffic volumes with the proposed site fully developed.

Capacity Analysis

The existing (2019), background (2025), and combined (2025) weekday AM and PM peak hour traffic volumes were analyzed to determine the current levels of service at the study intersections under existing roadway conditions. The results of the analysis are presented in the following section of this report.

Zebulon Road (NC 96) and Pippin Road

The existing intersection of Zebulon Road (NC 96) and Pippin Road was analyzed under existing (2019), background (2025), and combined (2025) traffic conditions with the lane configurations and traffic control shown in Table 2. It should be noted that this intersection was analyzed as a signalized intersection for the background (2025) and combined (2025) scenarios. Refer to Table 2 for a summary of the analysis results. The Synchro capacity analysis reports are included in the attached appendix.

Table 2: Analysis Summary of Zebulon Road (NC 96) and Pippin Road

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
Existing (2019) Conditions	WB NB SB	1 LT-RT 1 TH-RT 1 LT-TH	C[2] -- A[1]	N/A	D[2] -- A[1]	N/A
Background (2025) Conditions - **Signalized**	WB NB SB	1 LT-RT 1 TH, <u>1 RT</u> <u>1 LT</u>, 1TH	C C B	C (22)	D C C	C (23)
Combined (2025) Conditions - **Signalized**	WB NB SB	1 LT-RT 1 TH, <u>1 RT</u> <u>1 LT</u>, 1TH	C C B	C (21)	D C C	C (26)

Improvements by Weaver's Pond shown <u>underlined</u>.
1. Level of service for major-street left-turn movement.
2. Level of service for minor-street approach.

Capacity analysis of existing (2019) traffic conditions indicates the minor-street approach at Zebulon Road (NC 96) and Pippin Road operates at LOS C during the weekday AM peak hour and LOS D during the weekday PM peak hour. The Weaver's Pond development is committed to constructing a northbound right-turn lane, a southbound left-turn lane and installing a signal at this intersection. These improvements were analyzed under future (2025) traffic conditions. Because signal plans and timings have not yet been finalized, the signal timings were optimized under background (2025) traffic conditions and the same timings were used to analyze combined (2025) traffic conditions. Under background (2025) and combined (2025) traffic conditions, the intersection is expected to operate at an overall LOS C or better.

It is anticipated that the improvements associated with the Weaver's Pond development will accommodate the proposed site traffic at this intersection.

Pippin Road and Pearces Road

The existing unsignalized intersection of Pippin Road and Pearces Road was analyzed under existing (2019), background (2025), and combined (2025) traffic conditions with the lane configurations and traffic control shown in Table 3. Refer to Table 3 for a summary of the analysis results. The Synchro capacity analysis reports are included in the attached appendix.

Table 3: Analysis Summary of Pippin Road and Pearces Road

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
Existing (2019) Conditions	EB WB NB SB	1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT	B[2] B[2] A[1] A[1]	N/A	B[2] B[2] A[1] A[1]	N/A
Background (2025) Conditions	EB WB NB SB	1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT	C[2] C[2] A[1] A[1]	N/A	C[2] C[2] A[1] A[1]	N/A
Combined (2025) Conditions	EB WB NB SB	1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT	C[2] C[2] A[1] A[1]	N/A	C[2] C[2] A[1] A[1]	N/A

1. Level of service for major-street left-turn movement.
2. Level of service for minor-street approach.

Capacity analysis of existing (2019), background (2025), and combined (2025) traffic conditions indicates the minor-street approaches and major-street left-turn movements at Pippin Road and Pearces Road are expected to operate at LOS C or better during both the weekday AM and PM peak hours.

Zebulon Road (NC 96) and Glory Road/Site Drive

The existing unsignalized intersection of Zebulon Road and Glory Road/Site Drive was analyzed under existing (2019), background (2025), and combined (2025) traffic conditions with the lane configurations and traffic control shown in Table 4. Refer to Table 4 for a summary of the analysis results. The Synchro capacity analysis reports are included in the attached appendix.

Table 4: Analysis Summary of Zebulon Road (NC 96) and Glory Road/Site Drive

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
Existing (2019) Conditions	EB NB SB	1 LT-RT 1 LT-TH 1 TH-RT	C[2] A[1] --	N/A	B[2] A[1] --	N/A
Background (2025) Conditions	EB NB SB	1 LT-RT 1 LT-TH 1 TH-RT	C[2] A[1] --	N/A	C[2] A[1] --	N/A
Combined (2025) Conditions	EB **WB** NB SB	1 LT-**TH**-RT **1 LT, 1 TH-RT** 1 LT-TH, **1 RT** 1 **LT**-TH-RT	D[2] F[2] A[1] A[1]	N/A	E[2] F[2] A[1] A[1]	N/A
Combined (2025) Conditions – **Signalized to meet UDO**	EB **WB** NB SB	1 LT-**TH**-RT **1 LT, 1 TH-RT** 1 LT-TH, **1 RT** 1 **LT**, 1 TH-RT	D D B B	B (17)	D D A B	B (11)

Improvements by Developer shown in **bold**.

1. Level of service for major-street left-turn movement.
2. Level of service for minor-street approach.

Capacity analysis of existing (2019) and background (2025) traffic conditions indicates the minor-street approach and major-street left-turn movement at Pippin Road and Glory Road are expected to operate at LOS C or better during both the weekday AM and PM peak hours. Under combined (2025) traffic conditions, the proposed development is expected to add a 4th leg to the intersection. With the addition of the 4th leg, the eastbound minor-street approach is expected to operate at LOS D during the weekday AM peak hour and LOS E during the weekday PM peak hour, and the new westbound approach is expected to operate at LOS F during both the weekday AM and PM peak hours.

Right and left-turn lanes were analyzed and recommended per the NCDOT *Policy on Street and Driveway Access to North Carolina Highways* (Driveway Manual). A southbound left-turn lane with 50 feet of storage and appropriate decel and taper is recommended, as well as a northbound right-turn lane with 100 feet of storage and appropriate decel and taper.

Per the Town's UDO, if a site access operates at LOS D or worse, additional site access points may need to be considered. It should be noted that the proposed Weaver's Ridge development is expected to have connectivity to the Weaver's Pond development, which has two site access points along Pippin Road. Drivers will likely use an alternative site access if they experience significant delay at the more convenient site access.

In order to meet the Town's UDO, improvements must be identified to improve the intersection to an acceptable level-of-service. Signalization and/or additional capacity along Zebulon Road (NC 96) would be necessary for significant improvement at the intersection. A traffic signal was considered at this intersection, and combined (2025) traffic volumes were analyzed utilizing the criteria contained in the *Manual on Uniform Traffic Control Devices* (MUTCD). A traffic signal was warranted during both weekday peak hours under combined (2025) traffic conditions; however, due to the high volume of residential development, which typically generates trips during two peak hours each day, it is anticipated that a 4- or 8-hour signal warrant would not be met.

A traffic signal was analyzed at the intersection to meet the Town's UDO requirements. With a signal, the intersection is expected to operate at LOS B with all approaches operating at LOS D or better.

Conclusions

This traffic study was conducted to determine the potential traffic impacts for the proposed Weaver's Ridge residential development located east of Zebulon Road (NC 96) across from Glory Road in Zebulon, North Carolina.

The proposed residential development is assumed to consist of 124 townhomes and 58 single-family homes. The study analyzes traffic conditions during the weekday AM and PM peak hours for the following scenarios:

- Existing (2019) Traffic Conditions
- Background (2025) Traffic Conditions
- Combined (2025) Traffic Conditions
- Combined (2025) Traffic Conditions with Improvements

It is estimated that the proposed development will generate approximately 1,530 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 105 trips (25 entering and 80 exiting) will occur during the weekday AM peak hour and 132 trips (83 entering and 49 exiting) will occur during the weekday PM peak hour.

Recommendations

Based on the findings of this study, specific geometric improvements have been identified and are recommended to accommodate future traffic conditions. See a more detailed description of the recommended improvements below. Refer to Figure 12 for an illustration of the recommended lane configuration for the proposed development.

Committed Improvements by Weaver's Pond

Zebulon Road (NC 96) and Pippin Road

- Provide designated northbound right-turn lane with at least 100 feet of storage and appropriate decel and taper.
- Provide designated southbound left-turn lane with at least 150 feet of storage and appropriate decel and taper.
- Install traffic signal at intersection when warranted.

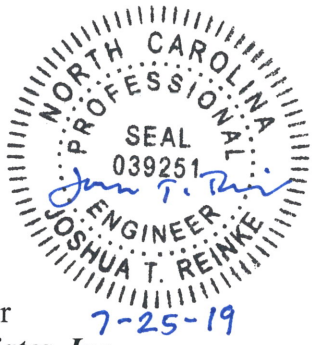
Recommended Improvements by Developer

Zebulon Road (NC 96) and Glory Road / Site Drive 1

- Provide site access via westbound approach with one ingress lane and two egress lanes striped as one left-turn lane and one shared through/right-turn lane.
- Provide designated northbound right-turn lane with at least 100 feet of storage and appropriate decel and taper.
- Provide designated southbound left-turn lane with at least 50 feet of storage and appropriate decel and taper.
- Monitor intersection for signalization.

If you should have any questions, please feel free to contact me at (919) 872-5115.

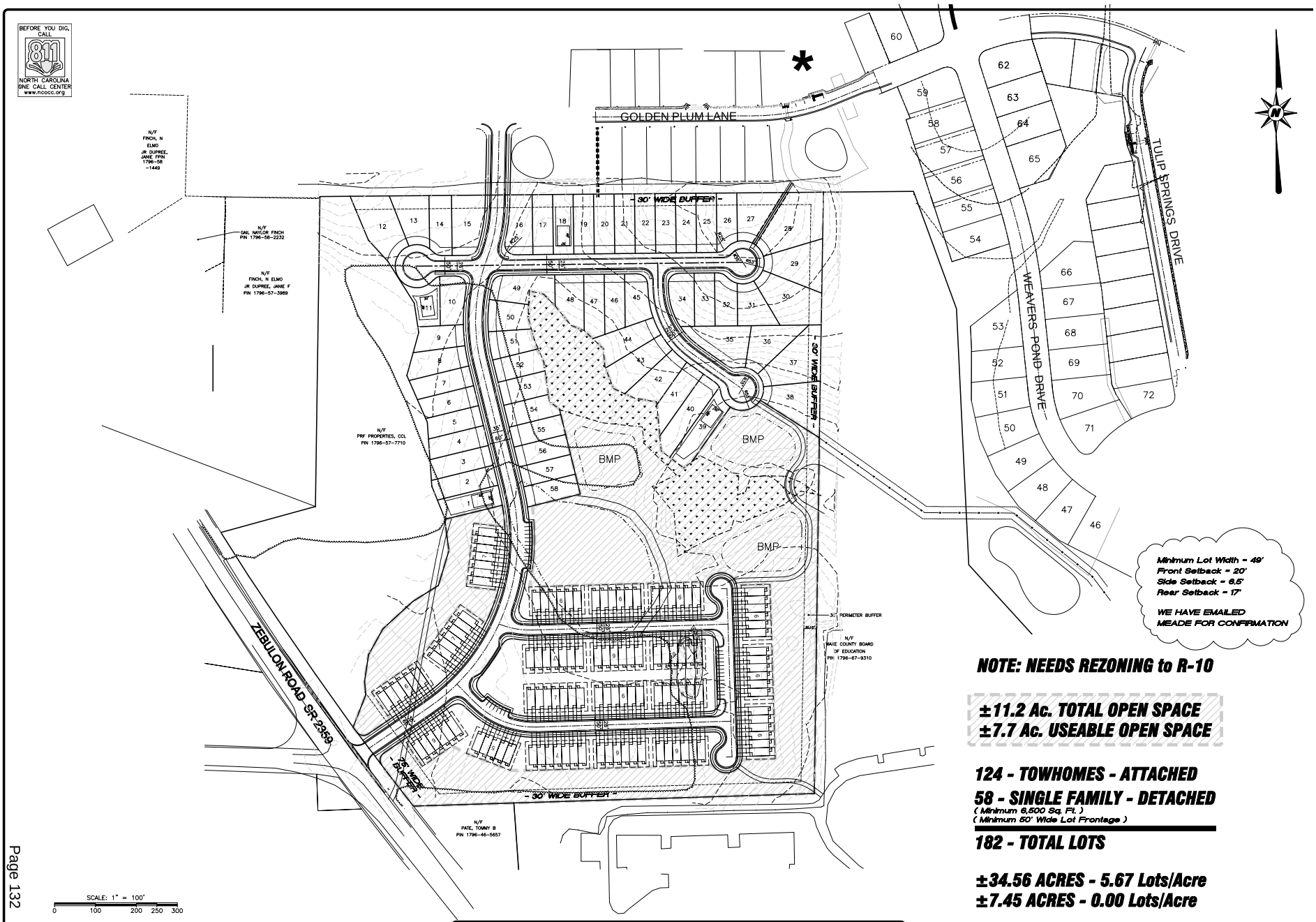
Sincerely,



Joshua Reinke, P.E.
Transportation Engineer
Ramey Kemp & Associates, Inc.

NC Corporate License # C-0910

Attachments: Appendix



Minimum Lot Width = 49'
Front Setback = 20'
Side Setback = 6.5'
Rear Setback = 17'

WE HAVE EMAILED MEADE FOR CONFIRMATION

NOTE: NEEDS REZONING to R-10

±11.2 Ac. TOTAL OPEN SPACE
±7.7 Ac. USEABLE OPEN SPACE

124 - TOWHOMES - ATTACHED

58 - SINGLE FAMILY - DETACHED
(Minimum 6,500 Sq. Ft.)
(Minimum 50' Wide Lot Frontage)

182 - TOTAL LOTS

±34.56 ACRES - 5.67 Lots/Acre
±7.45 ACRES - 0.00 Lots/Acre

MANY ARE THE PLANS IN A PERSONS HEART, BUT IT IS THE LORD'S PURPOSE THAT PREVAILS. PROVERBS 19:21

STOCKS ENGINEERING
801 EAST WASHINGTON STREET
NASHVILLE, N.C. 27856
PHONE: (252) 459-9196
WWW.STOCKSENGINEERING.COM

BLN-C-1874

WEAVER'S RIDGE - PRELIMIARY TOPO
ZEBULON, WAKE COUNTY, NORTH CAROLINA

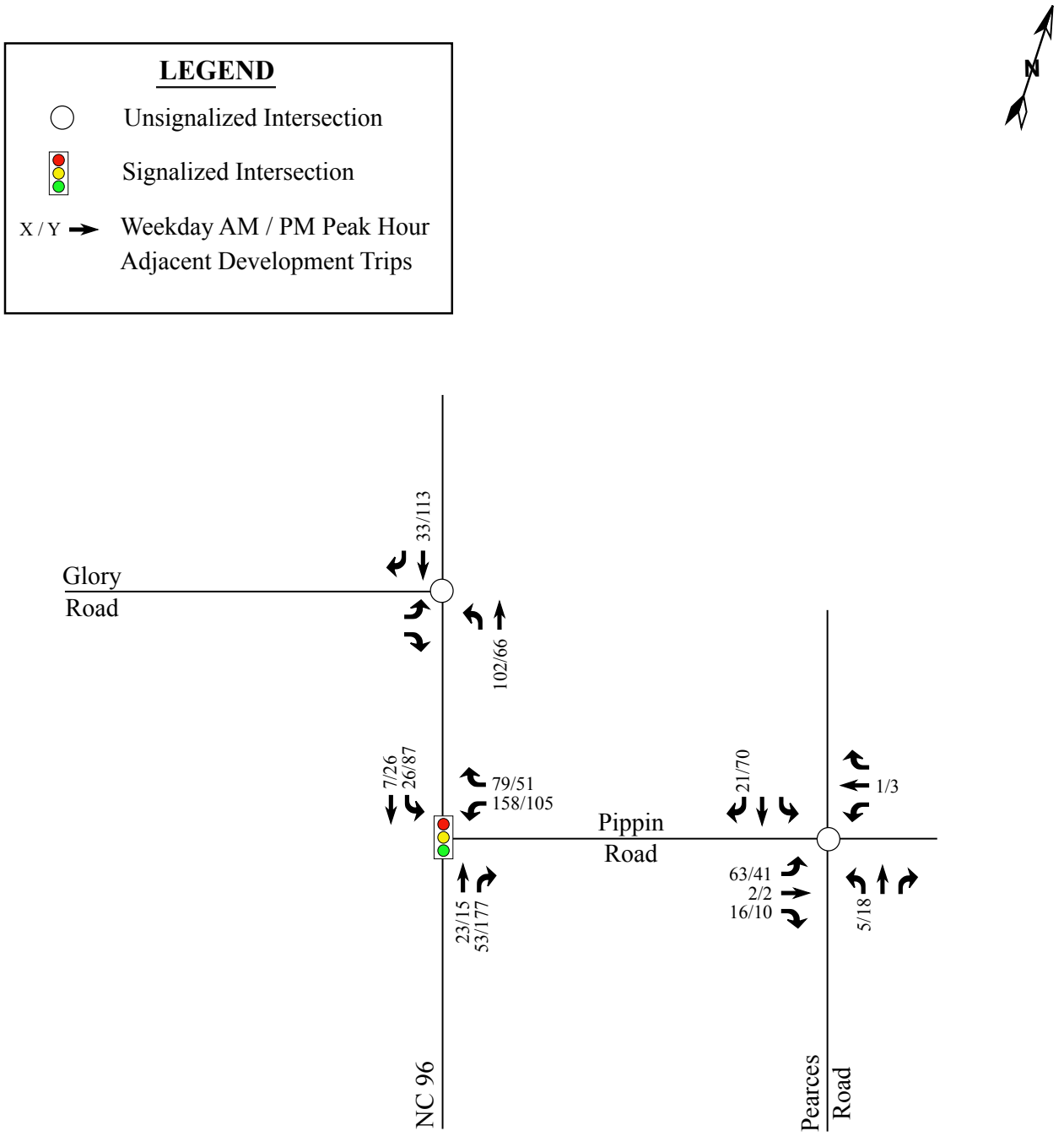
NORTH CAROLINA PROFESSIONAL SEAL 19843 ENGINEER MICHAEL STOCKS
3/19/19

MASTER MATRIX LAYOUT

REVISIONS

FILE NO.	2019-006
HORZ. SCALE:	1"=100'
VERT. SCALE:	NONE

TOPO



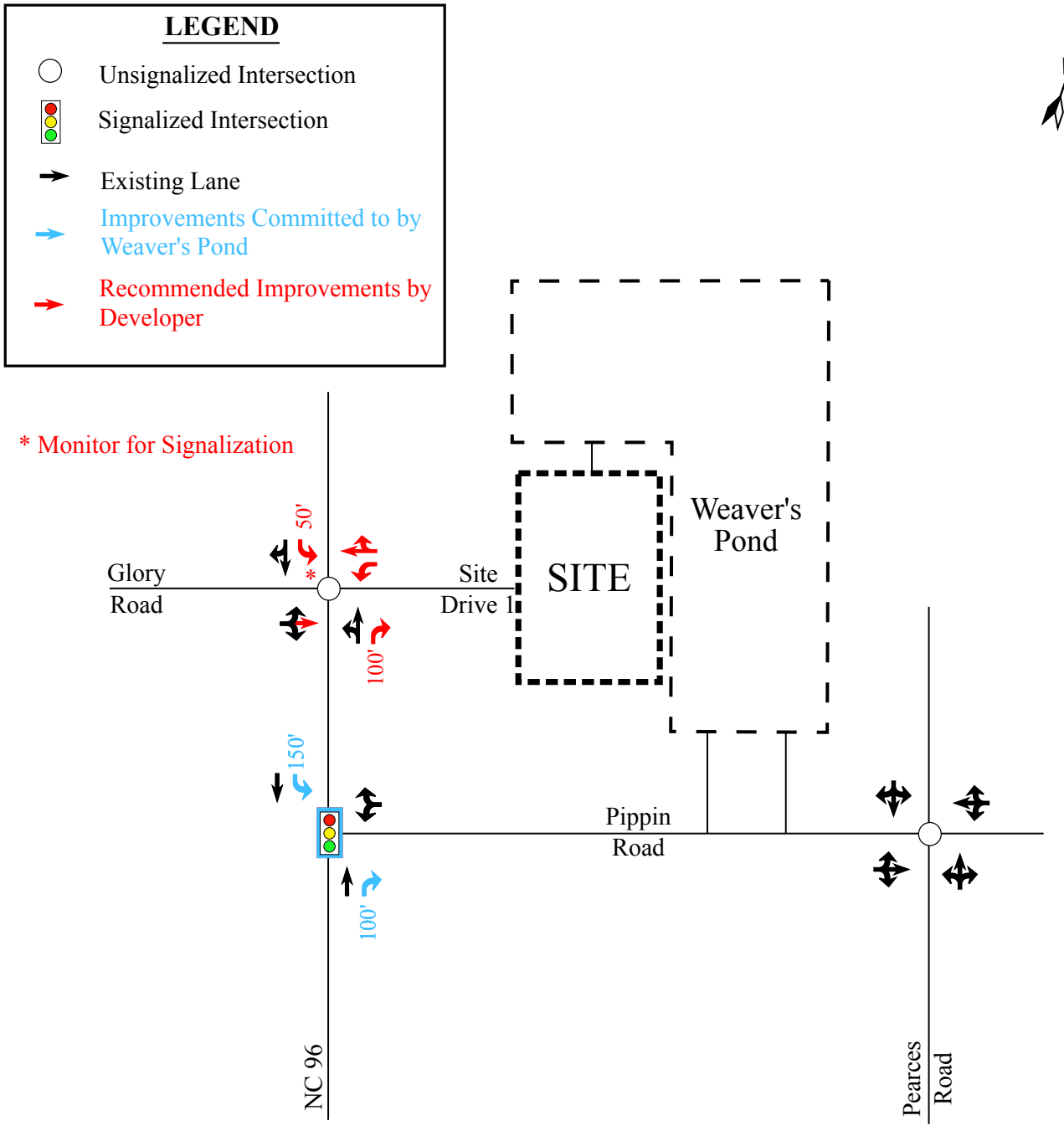
RAMEY KEMP & ASSOCIATES
TRANSPORTATION ENGINEERS

Weaver's Ridge
Zebulon, NC

Peak Hour Adjacent Development Trips

Scale: Not to Scale

Figure 6



RAMEY KEMP & ASSOCIATES
TRANSPORTATION ENGINEERS

Weaver's Ridge
Zebulon, NC

Recommended Lane Configuration

Scale: Not to Scale | Figure 12

Appendix E:

Intersection Spreadsheets

INTERSECTION VOLUME DEVELOPMENT
INTERSECTION #1
NC 96 at -/Pearces Road

AM PEAK HOUR

	- Northbound				Pearces Road Southbound				NC 96 Eastbound				NC 96 Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2025 Traffic Volumes	0	0	0	0	0	413	0	46	0	45	589	0	0	0	690	228
Count Balancing																
Pedestrians		0				0				0				0		
Conflicting Pedestrians		0		0		0		0		0		0		0		0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	0	0	0	0	14	0	2	0	2	49	0	0	0	70	20
Heavy Vehicle %	2%	2%	2%	2%	2%	3%	2%	4%	2%	4%	8%	2%	2%	2%	10%	9%
Peak Hour Factor		0.96				0.96				0.96				0.96		
Adjustment Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjusted 2025 Volumes	0	0	0	0	0	413	0	46	0	45	589	0	0	0	690	228
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Background Growth	0	0	0	0	0	21	0	2	0	2	30	0	0	0	35	12
New Road Adjustment																
7-Eleven	0	0	0	0	0	8	0	0	0	0	8	0	0	0	8	8
Clifton Grove (Pearces Road Residential)	0	0	0	0	0	46	0	24	0	10	0	0	0	0	0	10
Zebulon Domino's	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weaver's Ridge	0	0	0	0	0	4	0	0	0	0	40	0	0	0	13	1
Total Approved Development Trips	0	0	0	0	0	58	0	24	0	10	48	0	0	0	21	19
2027 No-Build Traffic	0	0	0	0	0	492	0	72	0	57	667	0	0	0	746	259
2027 No-Build Pedestrians		0				0				0				0		
2027 No-Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 No-Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 No-Build Conflicting Bicycles				0				0				0				0
Trip Distribution IN										30%					20%	30%
Trip Distribution OUT						(50%)										
Balancing Adjustment																
Retail Trips	0	0	0	0	0	4	0	0	0	2	0	0	0	0	2	2
Total Primary Site Trips	0	0	0	0	0	4	0	0	0	2	0	0	0	0	2	2
Pass-By Distribution REDUCTION											-30%				-10%	
Pass-By Distribution IN										30%						10%
Pass-By Distribution OUT						(30%)										
Balancing Adjustment						-1										
Pass-By Trips	0	0	0	0	0	7	0	0	0	7	-7	0	0	0	-2	2
Total Vehicular Project Trips	0	0	0	0	0	11	0	0	0	9	-7	0	0	0	0	4
2027 Build Traffic	0	0	0	0	0	503	0	72	0	66	660	0	0	0	746	263
2027 Build Heavy Vehicle %	2%	2%	2%	2%	2%	3%	2%	3%	2%	3%	8%	2%	2%	2%	10%	8%
2027 Build Pedestrians		0				0				0				0		
2027 Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 Build Conflicting Bicycles				0				0				0				0

INTERSECTION VOLUME DEVELOPMENT
INTERSECTION #1
NC 96 at -/Pearces Road

PM PEAK HOUR

	- Northbound				Pearces Road Southbound				NC 96 Eastbound				NC 96 Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2025 Traffic Volumes	0	0	0	0	0	278	0	30	0	54	683	0	0	0	687	415
Count Balancing																
Pedestrians	0								0				0			
Conflicting Pedestrians		0		0		0		0				0		0		
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	0	0	0	0	12	0	0	0	1	35	0	0	0	26	13
Heavy Vehicle %	2%	2%	2%	2%	2%	4%	2%	2%	2%	2%	5%	2%	2%	2%	4%	3%
Peak Hour Factor	0.98				0.98				0.98				0.98			
Adjustment Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjusted 2025 Volumes	0	0	0	0	0	278	0	30	0	54	683	0	0	0	687	415
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Background Growth	0	0	0	0	0	14	0	2	0	3	35	0	0	0	35	21
New Road Adjustment																
7-Eleven	0	0	0	0	0	8	0	0	0	0	8	0	0	0	8	8
Clifton Grove (Pearces Road Residential)	0	0	0	0	0	22	0	18	0	27	0	0	0	0	0	49
Zebulon Domino's	0	0	0	0	0	3	0	0	0	0	5	0	0	0	5	3
Weaver's Ridge	0	0	0	0	0	2	0	0	0	0	25	0	0	0	41	4
Total Approved Development Trips	0	0	0	0	0	35	0	18	0	27	38	0	0	0	54	64
2027 No-Build Traffic	0	0	0	0	0	327	0	50	0	84	756	0	0	0	776	500
2027 No-Build Pedestrians	0				0				0				0			
2027 No-Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 No-Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 No-Build Conflicting Bicycles				0				0				0				0
Trip Distribution IN										30%					20%	30%
Trip Distribution OUT						(50%)										
Balancing Adjustment																
Retail Trips	0	0	0	0	0	4	0	0	0	2	0	0	0	0	2	2
Total Primary Site Trips	0	0	0	0	0	4	0	0	0	2	0	0	0	0	2	2
Pass-By Distribution REDUCTION											-30%				-10%	
Pass-By Distribution IN										30%						10%
Pass-By Distribution OUT						(30%)										
Balancing Adjustment																
Pass-By Trips	0	0	0	0	0	7	0	0	0	7	-7	0	0	0	-2	2
Total Vehicular Project Trips	0	0	0	0	0	11	0	0	0	9	-7	0	0	0	0	4
2027 Build Traffic	0	0	0	0	0	338	0	50	0	93	749	0	0	0	776	504
2027 Build Heavy Vehicle %	2%	2%	2%	2%	2%	4%	2%	2%	2%	2%	5%	2%	2%	2%	4%	3%
2027 Build Pedestrians	0				0				0				0			
2027 Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 Build Conflicting Bicycles				0				0				0				0

INTERSECTION VOLUME DEVELOPMENT
INTERSECTION #2
NC 96 at -/Site Driveway 1

AM PEAK HOUR

	- Northbound				Site Driveway 1 Southbound				NC 96 Eastbound				NC 96 Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2025 Traffic Volumes	0	0	0	0	0	0	0	57	0	0	647	0	0	0	642	25
Count Balancing																
Pedestrians		0				0				0				0		
Conflicting Pedestrians		0		0		0		0		0		0		0		0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	0	0	0	0	0	0	6	0	0	52	0	0	0	37	4
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	11%	2%	2%	8%	2%	2%	2%	6%	16%
Peak Hour Factor		0.96				0.96				0.96				0.96		
Adjustment Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjusted 2025 Volumes	0	0	0	0	0	0	0	57	0	0	647	0	0	0	642	25
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Background Growth	0	0	0	0	0	0	0	3	0	0	33	0	0	0	33	1
New Road Adjustment																
7-Eleven	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8	0
Clifton Grove (Pearces Road Residential)	0	0	0	0	0	0	0	0	0	0	10	0	0	0	24	0
Zebulon Domino's	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weaver's Ridge	0	0	0	0	0	0	0	0	0	0	40	0	0	0	13	0
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	58	0	0	0	45	0
2027 No-Build Traffic	0	0	0	0	0	0	0	60	0	0	738	0	0	0	720	26
2027 No-Build Pedestrians		0				0				0				0		
2027 No-Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 No-Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 No-Build Conflicting Bicycles				0				0				0				0
Trip Distribution IN											30%					20%
Trip Distribution OUT								(30%)								
Balancing Adjustment																
Retail Trips	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total Primary Site Trips	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Pass-By Distribution REDUCTION															-35%	
Pass-By Distribution IN																25%
Pass-By Distribution OUT								(35%)								
Balancing Adjustment																
Pass-By Trips	0	0	0	0	0	0	0	9	0	0	0	0	0	0	-8	6
Total Vehicular Project Trips	0	0	0	0	0	0	0	11	0	0	2	0	0	0	-8	8
2027 Build Traffic	0	0	0	0	0	0	0	71	0	0	740	0	0	0	712	34
2027 Build Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	9%	2%	2%	7%	2%	2%	2%	5%	12%
2027 Build Pedestrians		0				0				0				0		
2027 Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 Build Conflicting Bicycles				0				0				0				0

INTERSECTION VOLUME DEVELOPMENT
INTERSECTION #2
NC 96 at -/Site Driveway 1

PM PEAK HOUR

	- Northbound				Site Driveway 1 Southbound				NC 96 Eastbound				NC 96 Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2025 Traffic Volumes	0	0	0	0	0	0	0	92	0	0	668	0	0	0	661	60
Count Balancing																
Pedestrians			0				0				0				0	
Conflicting Pedestrians		0		0		0		0		0		0		0		0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	0	0	0	0	0	0	3	0	0	36	0	0	0	30	1
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	5%	2%	2%	2%	5%	2%
Peak Hour Factor			0.94				0.94				0.94				0.94	
Adjustment Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjusted 2025 Volumes	0	0	0	0	0	0	0	92	0	0	668	0	0	0	661	60
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Background Growth	0	0	0	0	0	0	0	5	0	0	34	0	0	0	33	3
New Road Adjustment																
7-Eleven	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8	0
Clifton Grove (Pearces Road Residential)	0	0	0	0	0	0	0	0	0	0	27	0	0	0	18	0
Zebulon Domino's	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0
Weaver's Ridge	0	0	0	0	0	0	0	0	0	0	25	0	0	0	41	0
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	65	0	0	0	72	0
2027 No-Build Traffic	0	0	0	0	0	0	0	97	0	0	767	0	0	0	766	63
2027 No-Build Pedestrians			0				0				0				0	
2027 No-Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 No-Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 No-Build Conflicting Bicycles				0				0				0				0
Trip Distribution IN											30%					20%
Trip Distribution OUT								(30%)								
Balancing Adjustment																
Retail Trips	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total Primary Site Trips	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Pass-By Distribution REDUCTION															-35%	
Pass-By Distribution IN																25%
Pass-By Distribution OUT								(35%)								
Balancing Adjustment																
Pass-By Trips	0	0	0	0	0	0	0	8	0	0	0	0	0	0	-8	6
Total Vehicular Project Trips	0	0	0	0	0	0	0	10	0	0	2	0	0	0	-8	8
2027 Build Traffic	0	0	0	0	0	0	0	107	0	0	769	0	0	0	758	71
2027 Build Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	5%	2%	2%	2%	4%	2%
2027 Build Pedestrians			0				0				0				0	
2027 Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 Build Conflicting Bicycles				0				0				0				0

INTERSECTION VOLUME DEVELOPMENT
INTERSECTION #3
Pearces Road at Site Driveway 2/-

AM PEAK HOUR

	Pearces Road Northbound				Pearces Road Southbound				Site Driveway 2 Eastbound				- Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2025 Traffic Volumes	0	76	200	0	0	0	345	66	0	25	0	86	0	0	0	0
Count Balancing																
Pedestrians		0				0				0				0		
Conflicting Pedestrians		0		0		0		0		0		0		0		0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	3	7	0	0	0	5	4	0	0	0	5	0	0	0	0
Heavy Vehicle %	2%	4%	4%	2%	2%	2%	2%	6%	2%	2%	2%	6%	2%	2%	2%	2%
Peak Hour Factor		0.92				0.92				0.92				0.92		
Adjustment Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjusted 2025 Volumes	0	76	200	0	0	0	345	66	0	25	0	86	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Background Growth	0	4	10	0	0	0	17	3	0	1	0	4	0	0	0	0
New Road Adjustment																
7-Eleven	0	0	8	0	0	0	8	0	0	0	0	0	0	0	0	0
Clifton Grove (Pearces Road Residential)	0	0	20	0	0	0	70	0	0	0	0	0	0	0	0	0
Zebulon Domino's	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weaver's Ridge	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0
Total Approved Development Trips	0	0	29	0	0	0	82	0	0	0	0	0	0	0	0	0
2027 No-Build Traffic	0	80	239	0	0	0	444	69	0	26	0	90	0	0	0	0
2027 No-Build Pedestrians		0				0				0				0		
2027 No-Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 No-Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 No-Build Conflicting Bicycles				0				0				0				0
Trip Distribution IN		60%						20%								
Trip Distribution OUT										(20%)		(50%)				
Balancing Adjustment		-1														
Retail Trips	0	4	0	0	0	0	0	2	0	2	0	4	0	0	0	0
Total Primary Site Trips	0	4	0	0	0	0	0	2	0	2	0	4	0	0	0	0
Pass-By Distribution REDUCTION			-15%				-20%									
Pass-By Distribution IN		55%						20%								
Pass-By Distribution OUT										(15%)		(50%)				
Balancing Adjustment												-1				
Pass-By Trips	0	13	-4	0	0	0	-5	5	0	4	0	12	0	0	0	0
Total Vehicular Project Trips	0	17	-4	0	0	0	-5	7	0	6	0	16	0	0	0	0
2027 Build Traffic	0	97	235	0	0	0	439	76	0	32	0	106	0	0	0	0
2027 Build Heavy Vehicle %	2%	3%	3%	2%	2%	2%	2%	6%	2%	2%	2%	5%	2%	2%	2%	2%
2027 Build Pedestrians		0				0				0				0		
2027 Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 Build Conflicting Bicycles				0				0				0				0

INTERSECTION VOLUME DEVELOPMENT
INTERSECTION #3
Pearces Road at Site Driveway 2/-

PM PEAK HOUR

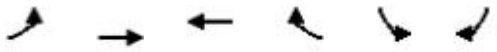
	Pearces Road Northbound				Pearces Road Southbound				Site Driveway 2 Eastbound				- Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2025 Traffic Volumes	0	128	342	0	0	0	230	74	0	61	0	117	0	0	0	0
Count Balancing																
Pedestrians		0				0				0				0		
Conflicting Pedestrians		0		0		0		0		0		0		0		0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	4	7	0	0	0	4	2	0	0	0	5	0	0	0	0
Heavy Vehicle %	2%	3%	2%	2%	2%	2%	2%	3%	2%	2%	2%	4%	2%	2%	2%	2%
Peak Hour Factor		0.97				0.97				0.97				0.97		
Adjustment Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjusted 2025 Volumes	0	128	342	0	0	0	230	74	0	61	0	117	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Background Growth	0	6	17	0	0	0	12	4	0	3	0	6	0	0	0	0
New Road Adjustment																
7-Eleven	0	0	8	0	0	0	8	0	0	0	0	0	0	0	0	0
Clifton Grove (Pearces Road Residential)	0	0	76	0	0	0	40	0	0	0	0	0	0	0	0	0
Zebulon Domino's	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0
Weaver's Ridge	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0
Total Approved Development Trips	0	0	91	0	0	0	53	0	0	0	0	0	0	0	0	0
2027 No-Build Traffic	0	134	450	0	0	0	295	78	0	64	0	123	0	0	0	0
2027 No-Build Pedestrians		0				0				0				0		
2027 No-Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 No-Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 No-Build Conflicting Bicycles				0				0				0				0
Trip Distribution IN		60%						20%								
Trip Distribution OUT										(20%)		(50%)				
Balancing Adjustment		-1														
Retail Trips	0	4	0	0	0	0	0	2	0	2	0	4	0	0	0	0
Total Primary Site Trips	0	4	0	0	0	0	0	2	0	2	0	4	0	0	0	0
Pass-By Distribution REDUCTION			-20%				-15%									
Pass-By Distribution IN		60%						15%								
Pass-By Distribution OUT										(20%)		(40%)				
Balancing Adjustment												1				
Pass-By Trips	0	14	-5	0	0	0	-3	3	0	5	0	10	0	0	0	0
Total Vehicular Project Trips	0	18	-5	0	0	0	-3	5	0	7	0	14	0	0	0	0
2027 Build Traffic	0	152	445	0	0	0	292	83	0	71	0	137	0	0	0	0
2027 Build Heavy Vehicle %	2%	3%	2%	2%	2%	2%	2%	3%	2%	2%	2%	4%	2%	2%	2%	2%
2027 Build Pedestrians		0				0				0				0		
2027 Build Conflicting Pedestrians		0		0		0		0		0		0		0		0
2027 Build Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027 Build Conflicting Bicycles				0				0				0				0

Appendix F:

Synchro Output: Existing (2025)

Zebulon Sheetz
1: NC 96 & Pearces Road

Existing (2025) AM
05/20/2025

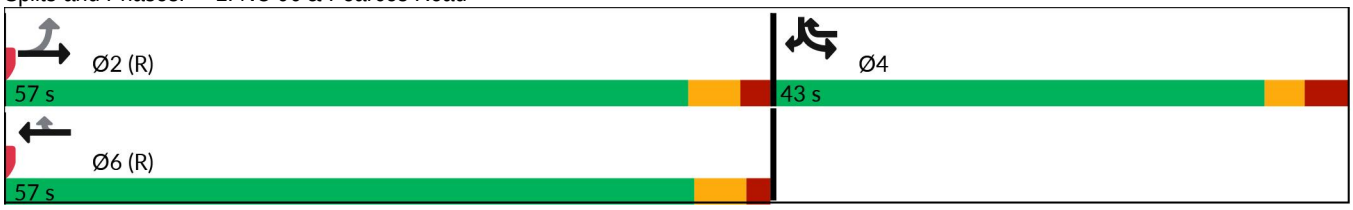


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	45	589	690	228	413	46
Future Volume (vph)	45	589	690	228	413	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	0%		1%	
Storage Length (ft)	185			0	100	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				100	
Satd. Flow (prot)	1727	1750	1727	1482	1744	1545
Flt Permitted	0.249				0.950	
Satd. Flow (perm)	453	1750	1727	1482	1744	1545
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		340	452		446	
Travel Time (s)		6.6	8.8		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	8%	10%	9%	3%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	614	719	238	430	48
Turn Type	Perm	NA	NA	pm+ov	Prot	Prot
Protected Phases		2	6	4	4	4
Permitted Phases	2			6		
Detector Phase	2	2	6	4	4	4
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	7.0	7.0	7.0
Minimum Split (s)	18.0	18.0	17.0	15.0	15.0	15.0
Total Split (s)	57.0	57.0	57.0	43.0	43.0	43.0
Total Split (%)	57.0%	57.0%	57.0%	43.0%	43.0%	43.0%
Yellow Time (s)	3.8	3.8	3.8	3.0	3.0	3.0
All-Red Time (s)	2.3	2.3	1.8	3.3	3.3	3.3
Lost Time Adjust (s)	-1.1	-1.1	-0.6	-1.3	-1.3	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	59.7	59.7	59.7	100.0	30.3	30.3
Actuated g/C Ratio	0.60	0.60	0.60	1.00	0.30	0.30
v/c Ratio	0.17	0.59	0.70	0.16	0.81	0.10
Control Delay (s/veh)	13.4	16.9	20.2	0.2	44.4	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.4	16.9	20.2	0.2	44.4	23.1

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	B	B	C	A	D	C
Approach Delay (s/veh)		16.6	15.3		42.3	
Approach LOS		B	B		D	
Queue Length 50th (ft)	13	229	298	0	251	22
Queue Length 95th (ft)	39	404	531	0	331	43
Internal Link Dist (ft)		260	372		366	
Turn Bay Length (ft)	185				100	
Base Capacity (vph)	270	1044	1030	1478	662	587
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.59	0.70	0.16	0.65	0.08

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 74 (74%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay (s/veh): 21.8		Intersection LOS: C	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: NC 96 & Pearces Road



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	647	642	25	0	57
Future Volume (vph)	0	647	642	25	0	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	2%		0%	
Storage Length (ft)	0			125	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Satd. Flow (prot)	0	1750	1775	1378	0	1481
Flt Permitted						
Satd. Flow (perm)	0	1750	1775	1378	0	1481
Link Speed (mph)		35	35		15	
Link Distance (ft)		421	340		208	
Travel Time (s)		8.2	6.6		9.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	8%	6%	16%	2%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	674	669	26	0	59
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱		↱
Traffic Vol, veh/h	0	647	642	25	0	57
Future Vol, veh/h	0	647	642	25	0	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	2	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	8	6	16	2	11
Mvmt Flow	0	674	669	26	0	59

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	669
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.399
Pot Cap-1 Maneuver	0	-	-	-	0	442
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	442
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	442
HCM Lane V/C Ratio	-	-	-	0.134
HCM Control Delay (s/veh)	-	-	-	14.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q (veh)	-	-	-	0.5

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	86	76	200	345	66
Future Volume (vph)	25	86	76	200	345	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	1%	
Storage Length (ft)	0	0	50			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		100			
Satd. Flow (prot)	1600	0	1736	1827	1801	0
Flt Permitted	0.989		0.950			
Satd. Flow (perm)	1600	0	1736	1827	1801	0
Link Speed (mph)	15			35	35	
Link Distance (ft)	230			446	197	
Travel Time (s)	10.5			8.7	3.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	6%	4%	4%	2%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	120	0	83	217	447	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	86	76	200	345	66
Future Vol, veh/h	25	86	76	200	345	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	6	4	4	2	6
Mvmt Flow	27	93	83	217	375	72

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	794	411	447	0	-	0
Stage 1	411	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Critical Hdwy	6.42	6.26	4.14	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.354	2.236	-	-	-
Pot Cap-1 Maneuver	357	632	1103	-	-	-
Stage 1	669	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	330	632	1103	-	-	-
Mov Cap-2 Maneuver	330	-	-	-	-	-
Stage 1	619	-	-	-	-	-
Stage 2	689	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	13.9	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1103	-	524	-	-
HCM Lane V/C Ratio	0.075	-	0.23	-	-
HCM Control Delay (s/veh)	8.5	-	13.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0.2	-	0.9	-	-

Zebulon Sheetz
1: NC 96 & Pearces Road

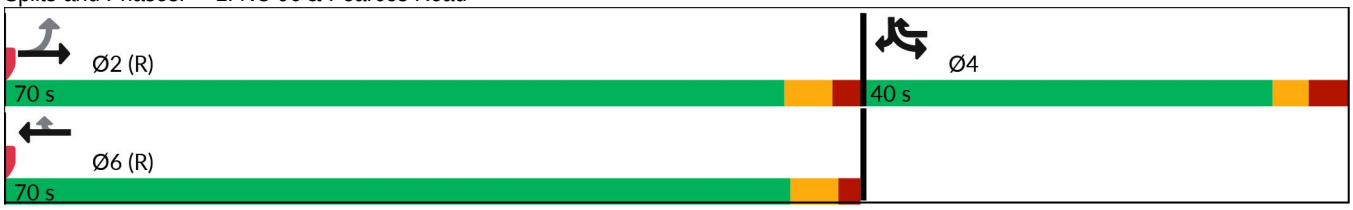
Existing (2025) PM
05/20/2025

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	54	683	687	415	278	30
Future Volume (vph)	54	683	687	415	278	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	0%		1%	
Storage Length (ft)	185			0	100	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				100	
Satd. Flow (prot)	1761	1800	1827	1568	1727	1575
Flt Permitted	0.311				0.950	
Satd. Flow (perm)	576	1800	1827	1568	1727	1575
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		366	439		465	
Travel Time (s)		7.1	8.6		9.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	4%	3%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	697	701	423	284	31
Turn Type	Perm	NA	NA	pm+ov	Prot	Prot
Protected Phases		2	6	4	4	4
Permitted Phases	2			6		
Detector Phase	2	2	6	4	4	4
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	7.0	7.0	7.0
Minimum Split (s)	18.0	18.0	17.0	15.0	15.0	15.0
Total Split (s)	70.0	70.0	70.0	40.0	40.0	40.0
Total Split (%)	63.6%	63.6%	63.6%	36.4%	36.4%	36.4%
Yellow Time (s)	3.8	3.8	3.8	3.0	3.0	3.0
All-Red Time (s)	2.3	2.3	1.8	3.3	3.3	3.3
Lost Time Adjust (s)	-1.1	-1.1	-0.6	-1.3	-1.3	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	76.0	76.0	76.0	110.0	24.0	24.0
Actuated g/C Ratio	0.69	0.69	0.69	1.00	0.22	0.22
v/c Ratio	0.14	0.56	0.56	0.27	0.75	0.09
Control Delay (s/veh)	8.4	11.9	11.8	0.4	52.4	32.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.4	11.9	11.8	0.4	52.4	32.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	A	B	B	A	D	C
Approach Delay (s/veh)		11.6	7.5		50.4	
Approach LOS		B	A		D	
Queue Length 50th (ft)	12	221	221	0	189	18
Queue Length 95th (ft)	35	407	405	0	258	39
Internal Link Dist (ft)		286	359		385	
Turn Bay Length (ft)	185				100	
Base Capacity (vph)	397	1242	1261	1561	549	501
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.56	0.56	0.27	0.52	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 50 (45%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 15.1		Intersection LOS: B	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: NC 96 & Pearces Road



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	668	661	60	0	92
Future Volume (vph)	0	668	661	60	0	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	2%		0%	
Storage Length (ft)	0			125	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Satd. Flow (prot)	0	1800	1791	1568	0	1596
Flt Permitted						
Satd. Flow (perm)	0	1800	1791	1568	0	1596
Link Speed (mph)		35	35		15	
Link Distance (ft)		592	366		225	
Travel Time (s)		11.5	7.1		10.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	5%	2%	2%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	711	703	64	0	98
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱		↱
Traffic Vol, veh/h	0	668	661	60	0	92
Future Vol, veh/h	0	668	661	60	0	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	2	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	5	5	2	2	3
Mvmt Flow	0	711	703	64	0	98

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	703
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	0	-	-	-	0	436
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	436
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	436
HCM Lane V/C Ratio	-	-	-	0.224
HCM Control Delay (s/veh)	-	-	-	15.6
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q (veh)	-	-	-	0.9

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	61	117	128	342	230	74
Future Volume (vph)	61	117	128	342	230	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	1%	
Storage Length (ft)	0	0	50			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		100			
Satd. Flow (prot)	1647	0	1752	1863	1788	0
Flt Permitted	0.983		0.950			
Satd. Flow (perm)	1647	0	1752	1863	1788	0
Link Speed (mph)	15			35	35	
Link Distance (ft)	239			465	197	
Travel Time (s)	10.9			9.1	3.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	4%	3%	2%	2%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	184	0	132	353	313	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	61	117	128	342	230	74
Future Vol, veh/h	61	117	128	342	230	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	1	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	4	3	2	2	3
Mvmt Flow	63	121	132	353	237	76

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	892	275	313	0	-	0
Stage 1	275	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Critical Hdwy	6.42	6.24	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.336	2.227	-	-	-
Pot Cap-1 Maneuver	312	759	1242	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	538	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	279	759	1242	-	-	-
Mov Cap-2 Maneuver	279	-	-	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	538	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	17.2	2.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1242	-	477	-	-
HCM Lane V/C Ratio	0.106	-	0.385	-	-
HCM Control Delay (s/veh)	8.2	-	17.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0.4	-	1.8	-	-

Appendix G:

Synchro Output: Background (2027)

Zebulon Sheetz
1: NC 96 & Pearces Road

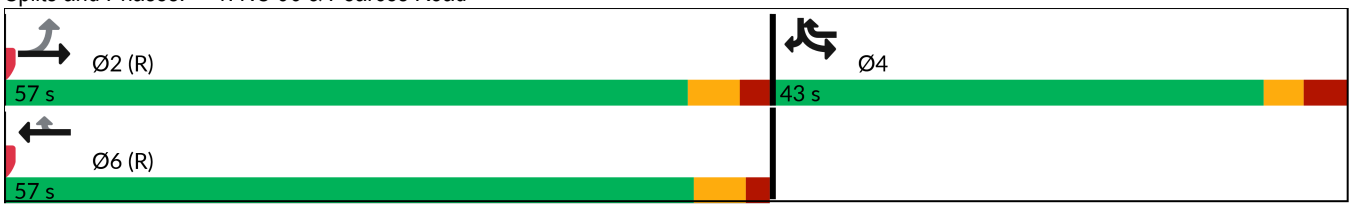
Background (2027) AM
05/20/2025

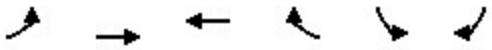
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	57	667	746	259	492	72
Future Volume (vph)	57	667	746	259	492	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	0%		1%	
Storage Length (ft)	185			0	100	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				100	
Satd. Flow (prot)	1727	1750	1727	1482	1744	1545
Flt Permitted	0.185				0.950	
Satd. Flow (perm)	336	1750	1727	1482	1744	1545
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		340	452		446	
Travel Time (s)		6.6	8.8		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	8%	10%	9%	3%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	695	777	270	513	75
Turn Type	Perm	NA	NA	pm+ov	Prot	Prot
Protected Phases		2	6	4	4	4
Permitted Phases	2			6		
Detector Phase	2	2	6	4	4	4
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	7.0	7.0	7.0
Minimum Split (s)	18.0	18.0	17.0	15.0	15.0	15.0
Total Split (s)	57.0	57.0	57.0	43.0	43.0	43.0
Total Split (%)	57.0%	57.0%	57.0%	43.0%	43.0%	43.0%
Yellow Time (s)	3.8	3.8	3.8	3.0	3.0	3.0
All-Red Time (s)	2.3	2.3	1.8	3.3	3.3	3.3
Lost Time Adjust (s)	-1.1	-1.1	-0.6	-1.3	-1.3	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	56.2	56.2	56.2	100.0	33.8	33.8
Actuated g/C Ratio	0.56	0.56	0.56	1.00	0.34	0.34
v/c Ratio	0.31	0.71	0.80	0.18	0.87	0.14
Control Delay (s/veh)	19.4	22.1	26.8	0.3	47.0	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.4	22.1	26.8	0.3	47.0	22.2

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	B	C	C	A	D	C
Approach Delay (s/veh)		21.9	19.9		43.8	
Approach LOS		C	B		D	
Queue Length 50th (ft)	20	316	388	0	295	32
Queue Length 95th (ft)	56	494	#664	0	#417	62
Internal Link Dist (ft)		260	372		366	
Turn Bay Length (ft)	185				100	
Base Capacity (vph)	188	982	970	1474	662	587
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.71	0.80	0.18	0.77	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 74 (74%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay (s/veh): 26.4		Intersection LOS: C	
Intersection Capacity Utilization 83.0%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: NC 96 & Pearces Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	738	720	26	0	60
Future Volume (vph)	0	738	720	26	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	2%		0%	
Storage Length (ft)	0			125	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Satd. Flow (prot)	0	1750	1775	1378	0	1481
Flt Permitted						
Satd. Flow (perm)	0	1750	1775	1378	0	1481
Link Speed (mph)		35	35		15	
Link Distance (ft)		421	340		208	
Travel Time (s)		8.2	6.6		9.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	8%	6%	16%	2%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	769	750	27	0	63
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱		↱
Traffic Vol, veh/h	0	738	720	26	0	60
Future Vol, veh/h	0	738	720	26	0	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	2	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	8	6	16	2	11
Mvmt Flow	0	769	750	27	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	750
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.399
Pot Cap-1 Maneuver	0	-	-	-	0	397
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	397
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	397
HCM Lane V/C Ratio	-	-	-	0.157
HCM Control Delay (s/veh)	-	-	-	15.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q (veh)	-	-	-	0.6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	26	90	80	239	444	69
Future Volume (vph)	26	90	80	239	444	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	1%	
Storage Length (ft)	0	0	50			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		100			
Satd. Flow (prot)	1600	0	1736	1827	1811	0
Flt Permitted	0.989		0.950			
Satd. Flow (perm)	1600	0	1736	1827	1811	0
Link Speed (mph)	15			35	35	
Link Distance (ft)	230			446	197	
Travel Time (s)	10.5			8.7	3.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	6%	4%	4%	2%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	0	87	260	558	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	90	80	239	444	69
Future Vol, veh/h	26	90	80	239	444	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	6	4	4	2	6
Mvmt Flow	28	98	87	260	483	75

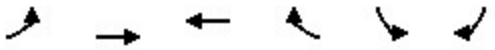
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	955	521	558	0	-	0
Stage 1	521	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Critical Hdwy	6.42	6.26	4.14	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.354	2.236	-	-	-
Pot Cap-1 Maneuver	287	548	1003	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	262	548	1003	-	-	-
Mov Cap-2 Maneuver	262	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	16.4	2.2	0
HCM LOS	C		

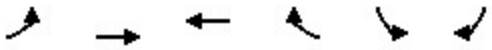
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1003	-	440	-	-
HCM Lane V/C Ratio	0.087	-	0.287	-	-
HCM Control Delay (s/veh)	8.9	-	16.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0.3	-	1.2	-	-

Zebulon Sheetz
1: NC 96 & Pearces Road

Background (2027) PM
05/20/2025



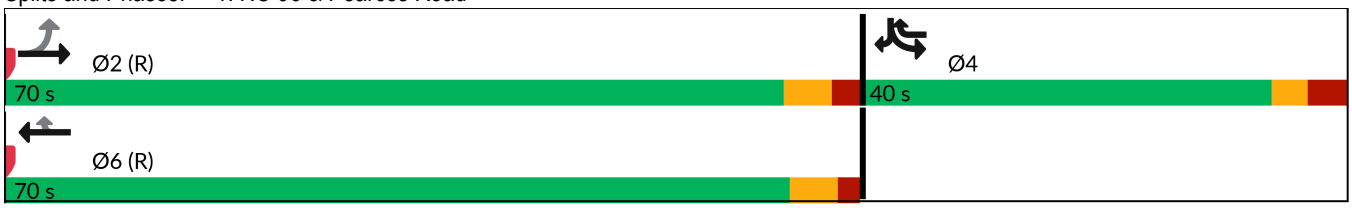
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	756	776	500	327	50
Future Volume (vph)	84	756	776	500	327	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	0%		1%	
Storage Length (ft)	185			0	100	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				100	
Satd. Flow (prot)	1761	1800	1827	1568	1727	1575
Flt Permitted	0.244				0.950	
Satd. Flow (perm)	452	1800	1827	1568	1727	1575
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		366	439		465	
Travel Time (s)		7.1	8.6		9.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	4%	3%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	86	771	792	510	334	51
Turn Type	Perm	NA	NA	pm+ov	Prot	Prot
Protected Phases		2	6	4	4	4
Permitted Phases	2			6		
Detector Phase	2	2	6	4	4	4
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	7.0	7.0	7.0
Minimum Split (s)	18.0	18.0	17.0	15.0	15.0	15.0
Total Split (s)	70.0	70.0	70.0	40.0	40.0	40.0
Total Split (%)	63.6%	63.6%	63.6%	36.4%	36.4%	36.4%
Yellow Time (s)	3.8	3.8	3.8	3.0	3.0	3.0
All-Red Time (s)	2.3	2.3	1.8	3.3	3.3	3.3
Lost Time Adjust (s)	-1.1	-1.1	-0.6	-1.3	-1.3	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	72.8	72.8	72.8	110.0	27.2	27.2
Actuated g/C Ratio	0.66	0.66	0.66	1.00	0.25	0.25
v/c Ratio	0.29	0.65	0.66	0.33	0.78	0.13
Control Delay (s/veh)	12.7	15.6	15.8	0.6	51.1	30.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.7	15.6	15.8	0.6	51.1	30.4

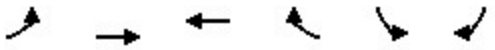


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	B	B	B	A	D	C
Approach Delay (s/veh)		15.3	9.8		48.4	
Approach LOS		B	A		D	
Queue Length 50th (ft)	24	299	311	0	219	28
Queue Length 95th (ft)	65	520	537	0	296	55
Internal Link Dist (ft)		286	359		385	
Turn Bay Length (ft)	185				100	
Base Capacity (vph)	298	1190	1208	1564	549	501
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.65	0.66	0.33	0.61	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 50 (45%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 17.5		Intersection LOS: B	
Intersection Capacity Utilization 79.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: NC 96 & Pearces Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱		↱
Traffic Volume (vph)	0	767	766	63	0	97
Future Volume (vph)	0	767	766	63	0	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	2%		0%	
Storage Length (ft)	0			125	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Satd. Flow (prot)	0	1800	1791	1568	0	1596
Flt Permitted						
Satd. Flow (perm)	0	1800	1791	1568	0	1596
Link Speed (mph)		35	35		15	
Link Distance (ft)		592	366		225	
Travel Time (s)		11.5	7.1		10.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	5%	2%	2%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	816	815	67	0	103
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱		↱
Traffic Vol, veh/h	0	767	766	63	0	97
Future Vol, veh/h	0	767	766	63	0	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	2	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	5	5	2	2	3
Mvmt Flow	0	816	815	67	0	103

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	815
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	0	-	-	-	0	376
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	376
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	376
HCM Lane V/C Ratio	-	-	-	0.274
HCM Control Delay (s/veh)	-	-	-	18.2
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q (veh)	-	-	-	1.1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	123	134	450	295	78
Future Volume (vph)	64	123	134	450	295	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	1%	
Storage Length (ft)	0	0	50			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		100			
Satd. Flow (prot)	1647	0	1752	1863	1798	0
Flt Permitted	0.983		0.950			
Satd. Flow (perm)	1647	0	1752	1863	1798	0
Link Speed (mph)	15			35	35	
Link Distance (ft)	239			465	197	
Travel Time (s)	10.9			9.1	3.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	4%	3%	2%	2%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	193	0	138	464	384	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	64	123	134	450	295	78
Future Vol, veh/h	64	123	134	450	295	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	1	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	4	3	2	2	3
Mvmt Flow	66	127	138	464	304	80

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1084	344	384	0	-	0
Stage 1	344	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Critical Hdwy	6.42	6.24	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.336	2.227	-	-	-
Pot Cap-1 Maneuver	240	694	1169	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	212	694	1169	-	-	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	472	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	22.9	1.9	0
HCM LOS	C		

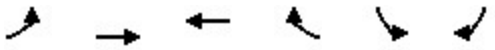
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1169	-	390	-	-
HCM Lane V/C Ratio	0.118	-	0.494	-	-
HCM Control Delay (s/veh)	8.5	-	22.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0.4	-	2.6	-	-

Appendix H:

Synchro Output: Build-Out (2027)

Zebulon Sheetz
1: NC 96 & Pearces Road

Build-Out (2027) AM
05/20/2025

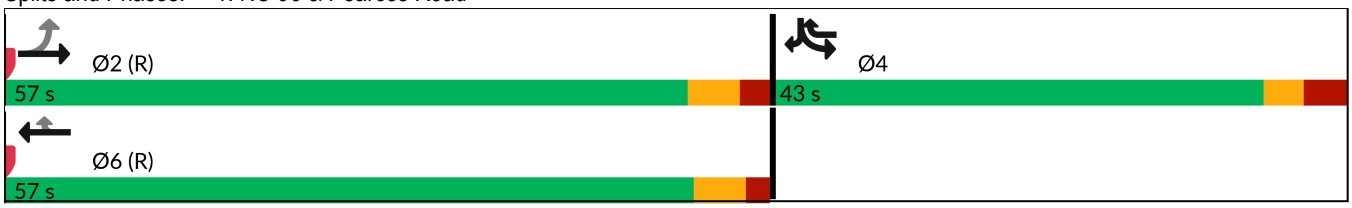


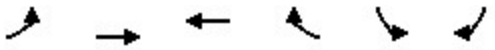
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	66	660	746	263	503	72
Future Volume (vph)	66	660	746	263	503	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	0%		1%	
Storage Length (ft)	185			0	100	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				100	
Satd. Flow (prot)	1744	1750	1727	1495	1744	1560
Flt Permitted	0.180				0.950	
Satd. Flow (perm)	330	1750	1727	1495	1744	1560
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		340	452		446	
Travel Time (s)		6.6	8.8		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	8%	10%	8%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	688	777	274	524	75
Turn Type	Perm	NA	NA	pm+ov	Prot	Prot
Protected Phases		2	6	4	4	4
Permitted Phases	2			6		
Detector Phase	2	2	6	4	4	4
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	7.0	7.0	7.0
Minimum Split (s)	18.0	18.0	17.0	15.0	15.0	15.0
Total Split (s)	57.0	57.0	57.0	43.0	43.0	43.0
Total Split (%)	57.0%	57.0%	57.0%	43.0%	43.0%	43.0%
Yellow Time (s)	3.8	3.8	3.8	3.0	3.0	3.0
All-Red Time (s)	2.3	2.3	1.8	3.3	3.3	3.3
Lost Time Adjust (s)	-1.1	-1.1	-0.6	-1.3	-1.3	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	55.7	55.7	55.7	100.0	34.3	34.3
Actuated g/C Ratio	0.56	0.56	0.56	1.00	0.34	0.34
v/c Ratio	0.38	0.71	0.81	0.18	0.88	0.14
Control Delay (s/veh)	21.8	22.2	27.3	0.3	47.6	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.8	22.2	27.3	0.3	47.6	22.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	C	C	C	A	D	C
Approach Delay (s/veh)		22.2	20.3		44.4	
Approach LOS		C	C		D	
Queue Length 50th (ft)	24	317	394	0	301	32
Queue Length 95th (ft)	68	485	#664	0	#442	62
Internal Link Dist (ft)		260	372		366	
Turn Bay Length (ft)	185				100	
Base Capacity (vph)	183	975	962	1485	662	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.71	0.81	0.18	0.79	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 74 (74%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay (s/veh): 26.9		Intersection LOS: C	
Intersection Capacity Utilization 88.0%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: NC 96 & Pearces Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	740	712	34	0	71
Future Volume (vph)	0	740	712	34	0	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	2%		0%	
Storage Length (ft)	0			125	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Satd. Flow (prot)	0	1767	1791	1428	0	1508
Flt Permitted						
Satd. Flow (perm)	0	1767	1791	1428	0	1508
Link Speed (mph)		35	35		15	
Link Distance (ft)		421	340		208	
Travel Time (s)		8.2	6.6		9.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	7%	5%	12%	2%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	771	742	35	0	74
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱		↱
Traffic Vol, veh/h	0	740	712	34	0	71
Future Vol, veh/h	0	740	712	34	0	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	2	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	7	5	12	2	9
Mvmt Flow	0	771	742	35	0	74

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	742
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.29
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.381
Pot Cap-1 Maneuver	0	-	-	-	0	404
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	404
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	404
HCM Lane V/C Ratio	-	-	-	0.183
HCM Control Delay (s/veh)	-	-	-	15.9
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q (veh)	-	-	-	0.7

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	106	97	235	439	76
Future Volume (vph)	32	106	97	235	439	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	1%	
Storage Length (ft)	0	0	50			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		100			
Satd. Flow (prot)	1613	0	1752	1845	1806	0
Flt Permitted	0.988		0.950			
Satd. Flow (perm)	1613	0	1752	1845	1806	0
Link Speed (mph)	15			35	35	
Link Distance (ft)	230			446	197	
Travel Time (s)	10.5			8.7	3.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	3%	3%	2%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	150	0	105	255	560	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	106	97	235	439	76
Future Vol, veh/h	32	106	97	235	439	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	5	3	3	2	6
Mvmt Flow	35	115	105	255	477	83

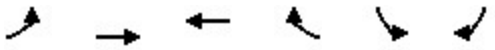
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	984	519	560	0	-	0
Stage 1	519	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Critical Hdwy	6.42	6.25	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.345	2.227	-	-	-
Pot Cap-1 Maneuver	275	551	1006	-	-	-
Stage 1	597	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	246	551	1006	-	-	-
Mov Cap-2 Maneuver	246	-	-	-	-	-
Stage 1	535	-	-	-	-	-
Stage 2	632	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	17.9	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1006	-	428	-	-
HCM Lane V/C Ratio	0.105	-	0.35	-	-
HCM Control Delay (s/veh)	9	-	17.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0.4	-	1.6	-	-

Zebulon Sheetz
1: NC 96 & Pearces Road

Build-Out (2027) PM
05/20/2025

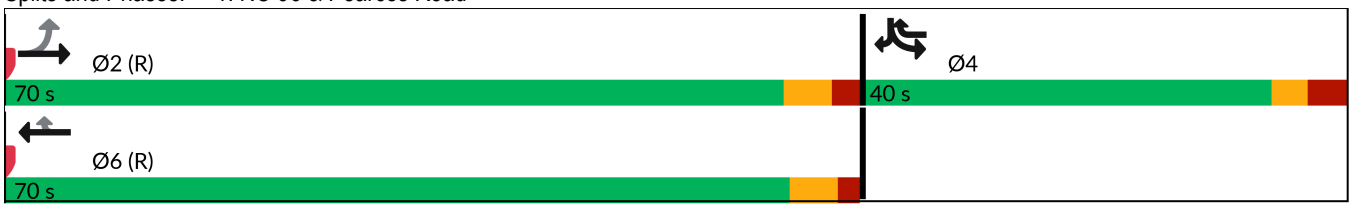


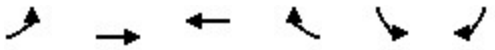
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	93	749	776	504	338	50
Future Volume (vph)	93	749	776	504	338	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	0%		1%	
Storage Length (ft)	185			0	100	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				100	
Satd. Flow (prot)	1761	1800	1827	1568	1727	1575
Flt Permitted	0.241				0.950	
Satd. Flow (perm)	447	1800	1827	1568	1727	1575
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		35	
Link Distance (ft)		366	439		465	
Travel Time (s)		7.1	8.6		9.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	4%	3%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	764	792	514	345	51
Turn Type	Perm	NA	NA	pm+ov	Prot	Prot
Protected Phases		2	6	4	4	4
Permitted Phases	2			6		
Detector Phase	2	2	6	4	4	4
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	7.0	7.0	7.0
Minimum Split (s)	18.0	18.0	17.0	15.0	15.0	15.0
Total Split (s)	70.0	70.0	70.0	40.0	40.0	40.0
Total Split (%)	63.6%	63.6%	63.6%	36.4%	36.4%	36.4%
Yellow Time (s)	3.8	3.8	3.8	3.0	3.0	3.0
All-Red Time (s)	2.3	2.3	1.8	3.3	3.3	3.3
Lost Time Adjust (s)	-1.1	-1.1	-0.6	-1.3	-1.3	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	72.2	72.2	72.2	110.0	27.8	27.8
Actuated g/C Ratio	0.66	0.66	0.66	1.00	0.25	0.25
v/c Ratio	0.32	0.65	0.66	0.33	0.79	0.13
Control Delay (s/veh)	13.7	15.8	16.2	0.6	51.4	30.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.7	15.8	16.2	0.6	51.4	30.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	B	B	B	A	D	C
Approach Delay (s/veh)		15.6	10.0		48.7	
Approach LOS		B	B		D	
Queue Length 50th (ft)	27	301	317	0	226	28
Queue Length 95th (ft)	73	513	537	0	308	55
Internal Link Dist (ft)		286	359		385	
Turn Bay Length (ft)	185				100	
Base Capacity (vph)	293	1181	1199	1562	549	501
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.65	0.66	0.33	0.63	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 50 (45%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay (s/veh): 17.9		Intersection LOS: B	
Intersection Capacity Utilization 80.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: NC 96 & Pearces Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	769	758	71	0	107
Future Volume (vph)	0	769	758	71	0	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		1%	2%		0%	
Storage Length (ft)	0			125	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Satd. Flow (prot)	0	1800	1809	1568	0	1596
Flt Permitted						
Satd. Flow (perm)	0	1800	1809	1568	0	1596
Link Speed (mph)		35	35		15	
Link Distance (ft)		592	366		225	
Travel Time (s)		11.5	7.1		10.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	4%	2%	2%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	818	806	76	0	114
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱		↱
Traffic Vol, veh/h	0	769	758	71	0	107
Future Vol, veh/h	0	769	758	71	0	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	2	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	5	4	2	2	3
Mvmt Flow	0	818	806	76	0	114

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	806
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	0	-	-	-	0	380
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	380
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	380
HCM Lane V/C Ratio	-	-	-	0.3
HCM Control Delay (s/veh)	-	-	-	18.5
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q (veh)	-	-	-	1.2

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	71	137	152	445	292	83
Future Volume (vph)	71	137	152	445	292	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	1%	
Storage Length (ft)	0	0	50			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		100			
Satd. Flow (prot)	1647	0	1752	1863	1794	0
Flt Permitted	0.983		0.950			
Satd. Flow (perm)	1647	0	1752	1863	1794	0
Link Speed (mph)	15			35	35	
Link Distance (ft)	239			465	197	
Travel Time (s)	10.9			9.1	3.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	4%	3%	2%	2%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	214	0	157	459	387	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	71	137	152	445	292	83
Future Vol, veh/h	71	137	152	445	292	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	1	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	4	3	2	2	3
Mvmt Flow	73	141	157	459	301	86

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1117	344	387	0	-	0
Stage 1	344	-	-	-	-	-
Stage 2	773	-	-	-	-	-
Critical Hdwy	6.42	6.24	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.336	2.227	-	-	-
Pot Cap-1 Maneuver	229	694	1166	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	198	694	1166	-	-	-
Mov Cap-2 Maneuver	198	-	-	-	-	-
Stage 1	621	-	-	-	-	-
Stage 2	455	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	26.8	2.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1166	-	374	-	-
HCM Lane V/C Ratio	0.134	-	0.573	-	-
HCM Control Delay (s/veh)	8.6	-	26.8	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q (veh)	0.5	-	3.4	-	-

Appendix I:
SimTraffic Reports

Queuing and Blocking Report
Existing (2025) AM

05/21/2025

Intersection: 1: NC 96 & Pearces Road

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	175	273	441	350	200	363
Average Queue (ft)	41	170	222	32	176	144
95th Queue (ft)	102	281	375	159	227	355
Link Distance (ft)		266	435	435		364
Upstream Blk Time (%)		1	1	0		0
Queuing Penalty (veh)		7	0	0		2
Storage Bay Dist (ft)	185				100	
Storage Blk Time (%)		6			37	1
Queuing Penalty (veh)		3			17	2

Intersection: 2: NC 96 & Site Driveway 1

Movement	EB	SB
Directions Served	T	R
Maximum Queue (ft)	150	83
Average Queue (ft)	13	32
95th Queue (ft)	78	66
Link Distance (ft)	371	154
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Pearces Road & Site Driveway 2

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (ft)	116	58	52
Average Queue (ft)	47	19	3
95th Queue (ft)	87	48	27
Link Distance (ft)	196		163
Upstream Blk Time (%)	0		0
Queuing Penalty (veh)	0		0
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Network Summary

Network wide Queuing Penalty: 32

Queuing and Blocking Report
Existing (2025) PM

05/21/2025

Intersection: 1: NC 96 & Pearces Road

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	164	294	397	182	199	301
Average Queue (ft)	46	162	172	32	142	64
95th Queue (ft)	106	281	328	112	210	208
Link Distance (ft)		290	421	421		381
Upstream Blk Time (%)		1	0			
Queuing Penalty (veh)		3	0			
Storage Bay Dist (ft)	185				100	
Storage Blk Time (%)		5			31	0
Queuing Penalty (veh)		3			9	0

Intersection: 2: NC 96 & Site Driveway 1

Movement	EB	SB
Directions Served	T	R
Maximum Queue (ft)	110	104
Average Queue (ft)	7	44
95th Queue (ft)	49	81
Link Distance (ft)	543	171
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Pearces Road & Site Driveway 2

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (ft)	121	68	2
Average Queue (ft)	56	26	0
95th Queue (ft)	93	57	3
Link Distance (ft)	205		163
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		1	
Queuing Penalty (veh)		3	

Network Summary

Network wide Queuing Penalty: 19

Queuing and Blocking Report
Background (2027) AM

05/21/2025

Intersection: 1: NC 96 & Pearces Road

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	227	282	468	417	200	374
Average Queue (ft)	79	216	277	68	188	235
95th Queue (ft)	182	320	461	271	224	438
Link Distance (ft)		266	435	435		364
Upstream Blk Time (%)		6	3	1		3
Queuing Penalty (veh)		42	0	0		18
Storage Bay Dist (ft)	185				100	
Storage Blk Time (%)	3	16			46	1
Queuing Penalty (veh)	17	9			33	7

Intersection: 2: NC 96 & Site Driveway 1

Movement	EB	SB
Directions Served	T	R
Maximum Queue (ft)	318	93
Average Queue (ft)	57	36
95th Queue (ft)	216	73
Link Distance (ft)	371	154
Upstream Blk Time (%)	2	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Pearces Road & Site Driveway 2

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (ft)	127	73	15	147
Average Queue (ft)	54	27	1	19
95th Queue (ft)	107	59	11	93
Link Distance (ft)	196		364	163
Upstream Blk Time (%)	1			1
Queuing Penalty (veh)	0			0
Storage Bay Dist (ft)		50		
Storage Blk Time (%)		1	0	
Queuing Penalty (veh)		3	0	

Network Summary

Network wide Queuing Penalty: 129

Queuing and Blocking Report
Background (2027) PM

05/21/2025

Intersection: 1: NC 96 & Pearces Road

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	234	311	430	387	199	359
Average Queue (ft)	125	219	230	62	160	110
95th Queue (ft)	239	344	401	225	219	295
Link Distance (ft)		290	421	421		381
Upstream Blk Time (%)		7	1	0		0
Queuing Penalty (veh)		53	0	0		1
Storage Bay Dist (ft)	185				100	
Storage Blk Time (%)	12	15			37	1
Queuing Penalty (veh)	89	13			18	2

Intersection: 2: NC 96 & Site Driveway 1

Movement	EB	SB
Directions Served	T	R
Maximum Queue (ft)	434	104
Average Queue (ft)	82	45
95th Queue (ft)	339	84
Link Distance (ft)	543	171
Upstream Blk Time (%)	3	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Pearces Road & Site Driveway 2

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (ft)	138	74	36
Average Queue (ft)	59	28	2
95th Queue (ft)	101	59	18
Link Distance (ft)	205		163
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		1	
Queuing Penalty (veh)		4	

Network Summary

Network wide Queuing Penalty: 180

Queuing and Blocking Report
Build-Out (2027) AM

05/21/2025

Intersection: 1: NC 96 & Pearces Road

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	231	290	468	411	200	376
Average Queue (ft)	106	214	295	81	186	237
95th Queue (ft)	218	312	480	305	225	442
Link Distance (ft)		266	435	435		364
Upstream Blk Time (%)		5	5	2		4
Queuing Penalty (veh)		39	0	0		23
Storage Bay Dist (ft)	185				100	
Storage Blk Time (%)	8	14			47	1
Queuing Penalty (veh)	50	9			34	4

Intersection: 2: NC 96 & Site Driveway 1

Movement	EB	SB
Directions Served	T	R
Maximum Queue (ft)	282	89
Average Queue (ft)	52	40
95th Queue (ft)	212	74
Link Distance (ft)	371	154
Upstream Blk Time (%)	1	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Pearces Road & Site Driveway 2

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (ft)	155	65	9	151
Average Queue (ft)	61	27	0	22
95th Queue (ft)	120	59	9	108
Link Distance (ft)	196		364	163
Upstream Blk Time (%)	1			2
Queuing Penalty (veh)	0			0
Storage Bay Dist (ft)		50		
Storage Blk Time (%)		1		
Queuing Penalty (veh)		3		

Network Summary

Network wide Queuing Penalty: 162

Queuing and Blocking Report
Build-Out (2027) PM

05/21/2025

Intersection: 1: NC 96 & Pearces Road

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	235	330	432	393	199	372
Average Queue (ft)	154	246	232	79	160	118
95th Queue (ft)	270	365	409	274	220	308
Link Distance (ft)		290	421	421		381
Upstream Blk Time (%)		19	2	1		1
Queuing Penalty (veh)		145	0	0		2
Storage Bay Dist (ft)	185				100	
Storage Blk Time (%)	27	22			36	1
Queuing Penalty (veh)	201	20			18	2

Intersection: 2: NC 96 & Site Driveway 1

Movement	EB	SB
Directions Served	T	R
Maximum Queue (ft)	530	126
Average Queue (ft)	235	52
95th Queue (ft)	655	96
Link Distance (ft)	543	171
Upstream Blk Time (%)	20	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Pearces Road & Site Driveway 2

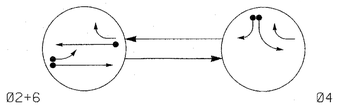
Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (ft)	156	68	6	56
Average Queue (ft)	71	32	0	3
95th Queue (ft)	126	60	6	31
Link Distance (ft)	205		381	163
Upstream Blk Time (%)	1			0
Queuing Penalty (veh)	0			0
Storage Bay Dist (ft)		50		
Storage Blk Time (%)		1	0	
Queuing Penalty (veh)		7	0	

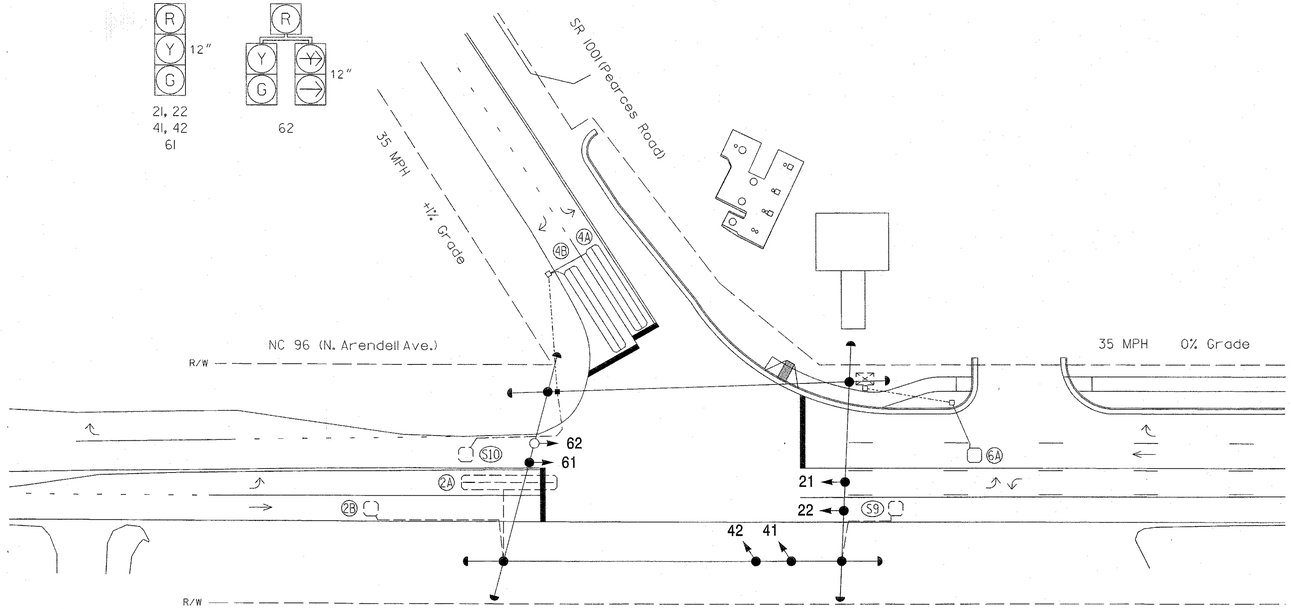
Network Summary

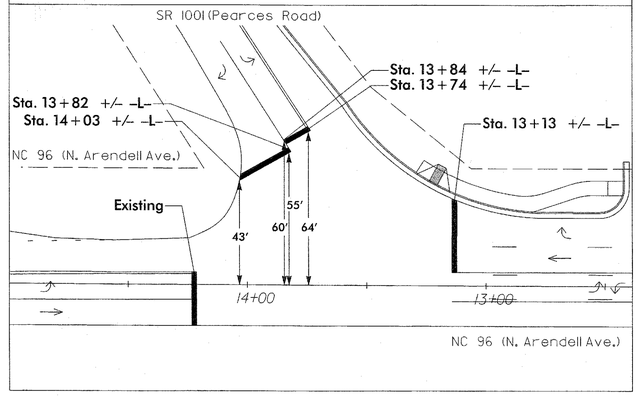
Network wide Queuing Penalty: 395

Appendix J:

Signal Plans







Attachment 4
PD 2025-05

PROJECT REFERENCE NO.	SHEET NO.
U-5118 FA	Sig. 1

2 Phase
Fully Actuated
(NC 96 - Arendell Ave. Closed Loop System)

PHASING DIAGRAM

PHASING DIAGRAM DETECTION LEGEND

◄—●	DETECTED MOVEMENT
◄——	UNDETECTED MOVEMENT (OVERLAP)
◄— —	UNSIGNALIZED MOVEMENT
<— — —>	PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+6	Ø4	FLASH
21, 22	G	R	Y
41, 42	R	G	R
61	G	R	Y
62	G	R/→	Y

SIGNAL FACE I.D.

All Heads L.E.D.

OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A	6X40	+5	2-4-2	-	2	Y	Y	-	-	-	-	-
2B	6X6	70	3	-	2	Y	Y	-	-	-	-	-
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	3	-	-
4B	6X40	0	2-4-2	Y	4	Y	Y	-	-	15	-	-
6A	6X6	70	4	Y	6	Y	Y	-	-	-	-	-
S9	6X6	+150	3	-	-	-	-	-	-	-	Y	-
S10	6X6	+135	3	-	-	-	-	-	-	-	Y	-

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
5. Closed loop system data: Controller Asset #1700.

LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
□	Pedestrian Signal Head With Push Button & Sign	■
○——)	Signal Pole with Guy	●——◗
○—┐	Signal Pole with Sidewalk Guy	●—┐
▭	Inductive Loop Detector	▭
☒	Controller & Cabinet	☒
□	Junction Box	■
------------	2-in Underground Conduit	-·-·-·-·-
N/A	Right of Way	— — —
⟶	Directional Arrow	⟶

OASIS 2070L TIMING CHART

FEATURE	PHASE 2	4	6
Min Green 1 *	10	7	10
Extension 1 *	3.0	2.0	3.0
Max Green 1 *	45	20	45
Yellow Clearance	3.8	3.0	3.8
Red Clearance	2.3	3.3	1.8
Walk 1 *	-	-	-
Don't Walk 1	-	-	-
Seconds Per Actuation *	-	-	-
Max Variable Initial *	-	-	-
Time Before Reduction *	-	-	-
Time To Reduce *	-	-	-
Minimum Gap	-	-	-
Recall Mode	MIN RECALL	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	YELLOW
Dual Entry	-	-	-
Simultaneous Gap	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

INSET – STOP BAR LOCATIONS

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
FINAL DRAWING Date: 2/21/12
RL
Traffic Engineering Branch

Signal Upgrade

SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
Fax:919-789-9591
License #: C-2197

Prepared In the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE
0 30
1"=30'

NC 96 (N. Arendell Avenue)
at
SR 1001 (Pearces Road)

Division 5	Zebulon	Wake County

PLAN DATE:	August 2011	REVIEWED BY:	J Hochanadel
PREPARED BY:	A Nau	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
SEAL 28430
JEFFREY P. HOCHANADEL
8/8/11
SIGNATURE DATE
SIG. INVENTORY NO. 05-1700

...\Signal Design\05-1700.dgn 8/8/2011 9:20:51 AM

ZEBULON
NORTH CAROLINA

MUNICIPAL UTILITY ALLOCATION POLICY

Statement of Purpose and Goals

Introduction

Drinking water supplies throughout the greater City of Raleigh distribution system are finite, subject to disruption by drought and/or other calamity and Zebulon's allocation is contractually limited. The Town staff, the Planning Board, and the Board of Commissioners have given a great deal of thought and study as to the best utilization of this valuable resource to benefit current and future citizens.

The Town of Zebulon's municipal water and sewer capacity is a valuable resource that must be conserved and apportioned to new development projects that promote the Town's policy of ensuring a diversified tax base and housing supply. Such an allocation policy will tend to promote diversity of housing available to a wide cross section of citizens of diverse socio-economic backgrounds and promote economic viability and sustainability by providing for retail and other commercial development within the Town of Zebulon.

In order to preserve and enhance property values, manage its limited water supply as a vital natural resource, promote economic development, and incentivize smart growth practices, the allocation of Zebulon's potable water capacity shall hereafter be in accordance with this policy.

Land Use and the Tax Base

The local government expense of providing fire and police protection, schools, parks, social services, water and sewage systems and other essential public services to residential neighborhoods is generally greater than the ad valorem tax revenue generated by such neighborhoods. On the other hand, the cost of providing services to commercial and industrial development is generally less than the tax revenue accruing to the local government. Having a predominantly residential tax base would require the Town of Zebulon over time to assess a higher tax levy to raise funds to provide essential services or to reduce the level of public services provided. This is one reason among many why local governments including Zebulon strive to achieve a balance of both residential and non-residential growth.

Zebulon's historical development is transitioning from industrial to residential, leading to a current tax base of approximately 40% residential and 60% commercial/industrial. The following table shows Zebulon's tax base over the past five years [1]

Zebulon Tax Base (Past Five Years)

Fiscal Year	Commercial	Residential
2021-2022	60%	40%
2020-2021	65%	35%
2019-2020	72%	28%
2018-2019	73%	27%
2017-2018	71%	29%

[1] "Tax Base Components | Wake County Government," *Wake County North Carolina*, https://www.wakegov.com/departments-government/tax-administration/data-files-statistics-and-reports/tax-base-components

As shown in the table above, the residential tax base has steadily increased proportionally over the past five years. This trend in the tax base data, combined with the vested planned residential development in the coming years, demonstrates the need for the Town to address this shift through policy. The Zebulon Board of Commissioners believes that it is fiscally responsible and otherwise in the public interest to promote and encourage non-residential development in the jurisdiction as an alternative to rapid residential development to keep the ratio between the two development types well balanced. A goal of maintaining a tax base of 60% residential and 40% commercial/industrial is hereby established.

Development Goals for the Full Build-Out of Zebulon

Communities without a wide variety of housing types and styles also put pressure on the Wake County Public School System which remains committed to having students of a wide range of socio-economic backgrounds attend each local school. In addition to the goal of maintaining a balanced tax base, the Town of Zebulon is committed to achieving a balance of housing types within its jurisdiction.

This commitment is consistent with both the Town's Strategic Plan and Comprehensive Plan. The *Town of Zebulon: Vision 2030 Strategic Plan* lists "Growing Smart" as one of its three focus areas, calling for the planning of appropriate land uses and affordability of the community. The *Grow Zebulon Comprehensive Land Use Plan* identifies six guiding principles for the town. Two of those principles are "Zebulon will be BALANCED" and "Zebulon will be PRUDENT." A balance should be achieved for the Town's tax base, its land uses, and its housing types to allow for an affordable community with employment and business opportunities that will help the community prosper. The achievement of balance in Zebulon will contribute to the Town being prudent. As stated previously, a local government's cost of providing services to commercial properties is generally less than that of residential properties. Having a balanced tax base that is not proportionally over-saturated with residential properties will contribute to keeping the Town financially sound.

Below are three development goals that are integral to the utility allocation policy and the future of the Town. These development goals apply to the entire, future Zebulon jurisdiction including the ETJ, short-range and long-range urban service areas.

GOAL #1: Maintain 60%-40% ratio of residential to non-residential tax values.

Upon Adoption-January 2021
60% Residential - 40% Non-Residential

GOAL #2: Residential Housing Percentage Breakdown
SFD|TH|MF – 75%|10%|15% (Note – Duplex counted as MF)

Upon Adoption-January 2021
80.5% | 0.5% | 19%

GOAL #3: Encourage Mixed Use Development to improve pedestrian connectivity to non-residential activity.

Policy and Procedures

Water Allocation

All existing parcels of real property within the corporate limits of Zebulon, regardless of proposed acreage, shape, or location as of the adoption of this ordinance are entitled to **115 gallons per day** of water allocation to build and sustain a single family or a limited business or commercial use. No additional water allocation will be awarded for proposed development except in accordance with the requirements of this policy.

Wastewater Connection

All projects considered for utility allocation must provide a wastewater system connection with adequate receiving capacity, as determined by the Wake County Health Department and/or City of Raleigh Public Utilities Department and approved by the Town of Zebulon Planning Director.

General Conditions & Requirements

- All proposed projects must be within the existing corporate limits or have filed a valid and complete petition for Voluntary Annexation.
- All proposed projects under consideration must have a complete application submitted for the appropriate Master Plan, Subdivision, Site Plan, Special Use Permit, Conditional Zoning Request, Zoning Compliance Permit, Building Permit, or any other necessary approval.
- All projects are subject to a Utility Allocation or Developer's Agreement approved by the Town's Board of Commissioners. If the Developer/Applicant fails to meet all terms of that agreement the unused allocation will be reclaimed, no new building permits will be issued, and no new connections to the water or wastewater systems will be permitted. Active building permits will have certificates of occupancy held until mitigating measures are agreed to by all parties.
- Projects with proven vested rights upon adoption of this ordinance will be permitted to finish their projects as previously approved.
- Public water may be utilized for irrigation purposes so long as the Primary Use associated with the site has previously gained water allocation through the Town.
- Any third parties who buy land to build upon are bound by the approved Utility Allocation Agreement or Development Agreement for that property. If the agreement is not fulfilled, the above terms and conditions still apply regardless of who owns the land.

Compliance Required

This policy allocates municipal water in gallons per day for new development proposals, master plans, site plans, building plans, and/or structures seeking construction approval. Each phase of a phased development must comply with the terms and development schedule of an approved Utility Allocation Agreement before the next phase can begin or the development risks loss of previously reserved allocation.

Previously dedicated but unused allocation can be reclaimed by the Town's Board of Commissioners for:

(1) the lack of compliance with any existing Utility Allocation or Developer's Agreement;

(2) violation of applicable town policy provision, ordinance standard, condition of approval;

(3) violation of federal or state regulation; or

(4) other good cause.

Utility Allocation Application Process

Upon receiving a new development proposal requesting water capacity, the Planning Staff shall direct the Developer/Applicant to demonstrate the project's qualifications. A Developer/Applicant shall state on the appropriate application, and stipulate within an approved Utility Allocation Agreement, the use or uses proposed to be built as part of the project along with the construction design and materials. Town action on the request will be deferred until the application is complete and the requested information has been provided.

Proposed projects shall complete the UTILITY ALLOCATION WORKSHEET according to its instructions to determine the total number of points achieved. The Utility Allocation Application package will be reviewed for completeness and compliance by the Technical Review Committee (TRC) in conjunction with the applicable development approval for the subject property (conditional rezoning, planned development, site plan, etc.).

Qualification for water allocation is judged by:

- The level of developer investment
- Anticipated increases in the Town's ad valorem tax base
- Construction and dedication of public infrastructure
- Provision of employment opportunities for Zebulon citizens
- Provisions of diversified housing stock
- Preservation of open space
- Protection of existing tree canopy
- Conservation of existing habitat
- The provision of recreational amenities for current or future Zebulon residents

Projects must be awarded **60 TOTAL POINTS** or more to merit water allocation.

Points are awarded in two categories, BASE POINTS and BONUS POINTS. BONUS POINTS are broken down into six categories.

1. Nonconformity Abatement and Public Infrastructure Improvements
2. Green Development Standards
3. Gateway and Transit Improvements
4. Amenities
5. Affordable Housing
6. Other

Unless a project can gain all necessary BONUS POINTS from a single improvement identified in the approved list, improvements must be made from at least two of the categories of BONUS POINTS.

All features and/or improvements that earn a projects BONUS POINTS must be clearly shown on a development plan for each application type.

Expiration of Allocation Award

A developer/applicant who has secured allocation according to this policy and hasn't progressed in construction plan approval, building permit approval, or on-site construction for a period of 12 months will lose the award of allocation without benefit.

Annual Review of Policy & Appeals

This policy shall be reviewed in January of each year and, when appropriate, readjusted by the Town's Board of Commissioners. The Town's overall progress on policy goals will be considered and the multipliers and/or point thresholds readjusted accordingly.

Appeals of any provision of this ordinance shall be decided upon by the Town's Board of Commissioners upon receiving a recommendation from the Planning Board.

BASE POINTS: List of Preferred Land Uses and Required Characteristics:

The uses listed below have been determined to be the most desirable and important uses for the Town of Zebulon to promote and maintain economic and housing diversity. Only projects that completely meet the stated performance characteristics will be considered for utility allocation. Please select one of the following Base Point classifications.

60 Base Points	**Single Family Homes (Expedited Subdivision or Recombination)** Newly constructed Single Family Homes built upon new lots created via the minor subdivision, exempt subdivision, expedited subdivision (3 or fewer lots) or recombination process.
60 Base Points	**Change of Use** This category captures renovation, rehabilitation, up-fit or retrofit of existing buildings or portions of buildings that pre-date this policy and require a code summary sheet, change in building occupancy, certificate of occupancy, building permit and/or building inspections and do not increase the utility demand from the previous use of the building.
45 Base Points	**Business Office/Finance/ Insurance / Professional Services Center - Large** Qualifying projects must exceed 100,000 square feet of heated floor space and create at least 150 employment positions that exceed the average annual Wake County salary according to Wake County Economic Development or the Employment Security Commission. Employees perform professional, scientific, and technical services for others. Such services require a high degree of expertise and training and provide high salaried employment opportunities. Examples include software engineering, legal, medical, accounting, consulting, architectural, biomedical, chemical, research and development, and administrative services. Finance or Insurance Centers shall also pool financial risks by underwriting insurance and annuities. Some establishments support employee benefit programs. Examples include bank or credit union headquarters, brokerages, investments, insurance, financing, and data processing establishments.
45 Base Points	**Manufacturing/Industrial Employment Center** Manufacturing or Industrial establishments in this category exceed 200,000 square feet of floor space located in plants, factories, or mills and employ power-

	driven machines and materials-handling equipment. They may also employ workers who assemble or create new products by hand, without the characteristic machinery-intensive enterprise. Many manufacturing establishments process products of agriculture, forestry, fishing, mining, or quarrying as well as products of other manufacturing establishments. Most manufacturing establishments have some form of captive services (e.g., research and development, and administrative operations, such as accounting, payroll, or management) in conjunction on-site.
45 Base Points	**Governmental Uses/Public Administration** This category encompasses centers for all government functions; it includes federal, state, and local government agencies that administer, oversee, and manage public programs and budgets and have executive, legislative, or judicial authority. Establishments develop policy, create laws, adjudicate civil and criminal legal cases, and provide for public safety and national defense.
40 Base Points	**Single Use Retail** Newly constructed single use, stand-alone building used primarily for retail, restaurant, or similar commercial use.
40 Base Points	**Hotels, Motels, or other Accommodation Service Establishments** This category serves lodging and short-term accommodations for travelers. They may offer a wide range of services, from overnight sleeping space to full-service hotel suites. They may offer these services in conjunction with other activities, such as entertainment or recreation. Stays in these establishments are generally less than one month. This classification does not include boarding or rooming houses.
40 Base Points	**Arts/Entertainment/Museums** These establishments operate facilities or provide services for a variety of cultural, entertainment, and performing art functions. Establishments include those that produce, promote, or participate in live performances, events, or exhibits intended for public viewing; those that preserve and exhibit objects and sites of historical, cultural, or educational interest; and those that operate facilities or provide services to serve activities associated with the aforementioned.
40 Base Points	**Amusement, Sports or Recreational Establishment** Establishments in this category operate either indoor or outdoor facilities offering family activities (i.e. sports, recreation, or amusement) and provide services, such as facilitating amusement in places operated by others, operating recreational sports groups and leagues. Examples include golf courses, indoor sports venues, bowling alleys, miniature golf courses, athletic clubs, skating rinks and arcades. This category may be used in conjunction with a commercial or residential development as a mixed use development.
40 Base Points	**Mixed Use Development (Transit Oriented)** Newly constructed or substantially rehabilitated collection of vertically mixed retail, office and residential uses in multi-story buildings centered within a one-half mile radius of an existing rail or bus transit station or the intersection of

	Horton Street and North Arendell Avenue in Downtown Zebulon. In order to qualify as mixed use, developments must dedicate at least one-third of the total heated square footage to residential use and the remainder to a mix of retail and office uses. All three use types must be represented and at least 10% of the heated square footage must be dedicated to street level, storefront retail uses.
40 Base Points	**Mixed Use Development (Urban Infill)** Newly constructed or substantially rehabilitated collection of mixed retail, office and residential uses in a multi-story building on a previously developed parcel within the corporate limits. In order to qualify as mixed use, developments must dedicate at least one-third of the total heated square footage to residential use and the remainder to a mix of retail and office uses. All three use types must be represented and at least 10% of the heated square footage must be dedicated to street level, storefront retail uses.
40 Base Points	**Mixed Use Development (Greenfield)** Newly constructed collection of mixed retail, office and residential uses in a multi-story building or buildings on a previously undeveloped parcel. In order to qualify as mixed use, developments must dedicate at least one-third of the total heated square footage to residential use and the remainder to a mix of retail and office uses. All three use types must be represented and at least 10% of the heated square footage must be dedicated to street level, storefront retail uses.
35 Base Points	**Housing Services for the Elderly Establishments** This category offers housing services for the aged, not requiring a license from the North Carolina Department of Health and Human Services, such as independent retirement housing, multi-unit assisted housing with services (MAHS), and continuing care retirement centers. All facilities must provide, but not necessarily be limited to, the following services/facilities: On-site laundry facilities, on site management, guaranteed transportation services at least four days per week, on-site exercise facilities, on-site computer access, and a clubhouse/common lounge area for all residents.
35 Base Points	**Mixture of Use Development (Retail/Office-Institutional/Commercial)** Newly constructed collection of horizontally arranged uses including retail, office-institutional and commercial within a master planned project on a previously undeveloped parcel or parcels totaling at least 10 acres. Mixture of use projects must include at least two (2) use types with at least 25% of the space devoted to each use type included in the development.
30 Base Points	**Retail/Commercial Center** Newly constructed center of at least 50,000 square feet, typically containing an anchor such as a grocery store and other smaller spaces and/or outparcels for subordinate uses. Uses are entirely consumer-driven and include all manner of retail, service and office possibilities.
30 Base Points	**Business Office/Finance/ Insurance / Professional Services Center – Medium** Qualifying projects must exceed 50,000 square feet of heated floor space and create at least 75 employment positions that exceed the average annual Wake County salary according to Wake County Economic Development or the

	Employment Security Commission. Employees perform professional, scientific, and technical services for others. Such services require a high degree of expertise and training and provide high salaried employment opportunities. Examples include software engineering, legal, medical, accounting, consulting, architectural, biomedical, chemical, research and development, and administrative services. Finance or Insurance Centers shall also pool financial risks by underwriting insurance and annuities. Some establishments support employee benefit programs. Examples include bank or credit union headquarters, brokerages, investments, insurance, financing, and data processing establishments.
30 Base Points	**Business Office/Finance/ Insurance / Professional Services Center – Small** Qualifying projects 50,000 square feet of heated floor space or less. Employees perform professional, scientific, and technical services for others. Such services require a high degree of expertise and training and provide high salaried employment opportunities. Examples include software engineering, legal, medical, accounting, consulting, architectural, biomedical, chemical, research and development, and administrative services. Finance or Insurance Centers shall also pool financial risks by underwriting insurance and annuities. Some establishments support employee benefit programs. Examples include bank or credit union headquarters, brokerages, investments, insurance, financing, and data processing establishments.
30 Base Points	**Multi-Tenant Retail Center** Newly constructed center 50,000 square feet or less, typically containing a more than one tenant space within a single structure. Uses are entirely consumer-driven and include all manner of retail, service and office possibilities.
30 Base Points	**Single Use Office** Newly constructed single use, stand-alone building used primarily for office and professional.
30 Base Points	**Bungalow Court or Pocket Neighborhood** Newly constructed Bungalow Court or Pocket Neighborhood per the standards of the Unified Development Ordinance.
30 Base Points	**Distribution/Trucking Center** Newly constructed center of at least 500,000 square feet where products and resources are transported to and delivered from via truck or rail.
25 Base Points	**Warehouse** Newly constructed center of at least 500,000 square feet where products and resources are stored.
25 Base Points	**Religious Institutions** Any facility such as a church, temple, synagogue, mosque or monastery used for worship by a non-profit organization and their customarily related uses.
20 Base Points	**Intensive Industrial Uses:** Uses classified as Special Land Uses within the Industrial Classification.

20 Base Points	**Multi-Family Residential & Condo Units**
20 Base Points	**Major Subdivision 4- 25 Lots** Any subdivision of land of four (4) – 25 Lots.
10 Base Points	**Major Subdivision 26 lots or more** Any subdivision of land of 26 or more lots.
Board Determination	**All Other Uses Not Categorized** This category of use captures all other uses not categorized elsewhere. Allocations for such uses are left to the discretion of the Town's Board of Commissioners upon recommendation of the Planning Board and acted on a case-by-case basis.

TOWN COUNCIL MEMO ON 2/19 FOLLOW UP CALL WE CAN TAKE CREDIT FOR THESE POINTS.

BONUS POINTS

Proposed projects can gain BONUS POINTS by agreeing to provide any of the following items over and above the UDO or Standard Specification requirements for their development proposal.

NOTE: No bonus points are given for UDO requirements.

CATEGORY 1 – Non-Conformity Abatement and Public Infrastructure Improvements

Section 1A - Abatement of Nonconformities		(Max - 3 points)
✔	Abatement of any existing non-conforming structures	3
	Abatement of any existing non-conforming use of land	2
	Abatement of any existing non-conforming lots	1

Section 1B - Roadway Infrastructure Not Warranted by TIA/UDO/CTP		(Max - 10 points)
	Construction of full cross section of existing off-site public street	5
	Nearby intersection improvements	5
	Traffic signal improvements	4
	Signage or striping improvements	1

Section 1C - Off-Site Public Greenway Improvements		(Max - 10 points)
	Construct more than 4000 linear feet of 10-foot-wide path	10
	Construct more than 3000 linear feet of 10-foot-wide path	8
	Construct more than 2000 linear feet of 10-foot-wide path	6
	Construct more than 1000 linear feet of 10-foot-wide path	4
	Construct 500 to 1000 linear feet of 10-foot-wide path	2

Section 1D – Off-Site Bike-Ped Improvements		(Max – 5 points)
	Construction of off-site sidewalk improvements (Subject to TRC Approval)	2
	Construction of off-site bike lane improvements (Subject to TRC Approval)	3

CATEGORY 2. Green Development Standards/ Building & Site Design

Section 2A - Conservation of Natural Habitat Meeting Active Open Space Requirements as Defined in the UDO		(Max - 10 points)
	One point per acre up to 10 acres	1 - 10

Section 2B - Parking		(Max – 15 points)
	Structured Parking Facilities - must reduce footprint by 20%	10
	EV Charging Stations (two-port)	5
	Provision of on-street public parking (1 point per stall up to 10 Max)	1 - 10

Section 2C - Stormwater SCM's		(Max – 10 points)
	Stormwater - Restored Riparian Buffer	10
	Construct a fountain or other stormwater amenity within the BMP/SCM (as approved by Staff)	4
	Stormwater - Landscaped Green Roof	5
	Stormwater - Underground capture system for on-site irrigation	5
	Stormwater - Bioretention	5
	Stormwater - Wetland	5
	Exclusive use of porous pavement in parking areas where suitable	2

Section 2D - Building/Site Design		(Max - 20 points)
	Compliance with residential design guidelines per Section 5.2 of the UDO	10
	Non-Residential building design that incorporates an active upper story.	5
	Pedestrian oriented and walkable site design which promotes alternatives to vehicular travel within the development. (Subject to TRC Approval)	5

Section 2E - Infill/Redevelopment		(Max – 16 points)
	Development or Redevelopment within DTC	10
	Development or Redevelopment within DTP	6
	Redevelopment of previously vacant building space over 20,000 square feet	6
	Redevelopment of previously vacant building space under 20,000 square feet	5

Section 2F - Historic Preservation		
	Historic Structure Preservation via Deed Restriction (Determined by TRC)	10
	Restoration of Historic Structure (Must be approved by TRC)	5

Section 2G – LEED Certification		(Max – 10 points)
	LEED Certification for Neighborhood Development (LEED ND)	10
	Platinum LEED Certification	10
	Gold LEED Certification	8
	Silver LEED Certification	6
	Bronze LEED Certification	4
	LEED Certified Certification	2

CATEGORY 3 – Outdoor Enhancement and Transit Improvements

Section 3A – Outdoor Enhancement		(Max – 12 points)
	Construction of a Parkway Street Section on a Collector level street	5

	Construction or Preservation of Gateway Landscaping or Structure (Subject to Comprehensive Plan Consistency and TRC approval)	5
	Outdoor Display of Public Art (Subject to TRC Approval)	4
	Public Facing Outdoor Mural (Subject to TRC Approval)	4
	Maintenance of Roadside Gateway Plant Bed (requires maintenance agreement)	3
	Planting Pollinator Garden (225 Square Foot Minimum)	3
	Exclusive use of xeriscaping techniques and drought tolerant species	3
	Enhanced Roadside Landscaping (Subject to TRC Approval)	2
✔	Enhanced Buffer Landscaping (Subject to TRC Approval)	2
	Construction of a Parkway Street Section on a Local level street	2
✔	Installation of Native Shade Tree Species (per Tree up to 10 Trees)	1 10 TREES = 10 POINTS

Section 3B – Transit (Pursuant to location being adjacent to a planned or active transit route)		(Max - 8 points)
	Provision of more than 50 designated Park & Ride Stalls	8
	Provision of 25 designated Park & Ride Stalls	5
	Provision of 10 designated Park & Ride Stalls	3
	Provision of mass transit easement w/ structure (bus stop with shelter & bench)	2

CATEGORY 4 - Amenities

Section 4A - Private Greenway		(Max - 3 points)
	Construction of more than 3000 linear feet private greenway meeting Town of Zebulon standards	3
	Construction of more than 2000 linear feet of private greenway meeting Town of Zebulon standards	2
	Construction of more than 1000 linear feet of private greenway meeting Town of Zebulon standards	1

Section 4B – Pool (Combinations may be approved by TRC)		(Max - 8 points)
	Olympic Pool and Aquatic Center	8
	Junior Olympic Pool	5
	Lap Pool (four lane minimum)	3
	Resort Style Pool	2
	Any Other Pool	1

Section 4C - Outdoor Deck/Patio		(Max - 3 points)
	Deck/Patio - More than 3000 square feet	3
	Deck/Patio - More than 2000 square feet	2
✔	Deck/Patio - More than 1000 square feet	1

Section 4D - Pool Amenities	(Max - 2 points)

	Jacuzzi/Hot Tub/Whirlpool	2
	Water Playground with apparatus	2
	Sauna/Steam room	2

Section 4E - Clubhouse		(Max - 10 points)
	Commercial Coffee Shop with at least 10 designated public seating spaces.	10
	With full kitchen and over 4000 square feet of meeting space	10
	With full kitchen and less than 4000 square feet of meeting space	9
	Meeting space without kitchen more than 3500 square feet	8
	Meeting space without kitchen 2500 - 3499 square feet	7
	Meeting Space without kitchen 1500 - 2499 square feet	5
	Meeting Space without kitchen less than 1500 square feet	4
	No meeting space, bathrooms and changing rooms only	3
	Outdoor Kitchen or Grills	2

Section 4F - Additional Active Recreation		(Max - 10 points)
	Gymnasium (regulation size indoor basketball court)	10
	Baseball/Softball Field (regulation size)	5
	Football/Soccer Field (regulation size)	5
	Skate Park	5
	Tennis Courts (two regulation courts, fenced)	5
	Multi-Use Hardcourt (two regulation basketball courts, street hockey, fenced)	5
	Pickleball Court (three regulation courts, fenced)	5
	Pocket Park – 5,000 square feet	3
	IPEMA Certified Playground Equipment	4
	Lighted Field of Play for nighttime use	3
	Electronic Scoreboard or Covered Dugouts or Bleachers	3
	Community Garden – 15-foot by 15-foot, with water access and potting shed.	3

Section 4G – Additional Urban Open Space Enhancements (Within Non Residential Zoning Districts)		(Max – 10 points)
	Fountain	2
✔	Canopy Including Fixed Permanent Seating	2
	Drinking Fountain with Pet Fountain	2
	Permanent Game Tables	1
✔	Permanent Tables with Shade Cover	1
	All Weather Bulletin Board	1
	Covered or Internal Bicycle Parking	1
✔	Artist-Design Bicycle Racks	1
	Little Free Library	1
	Drinking Fountain	1
	Public Work Bike Stand With Tools	1

CATEGORY 5 – Affordable Housing

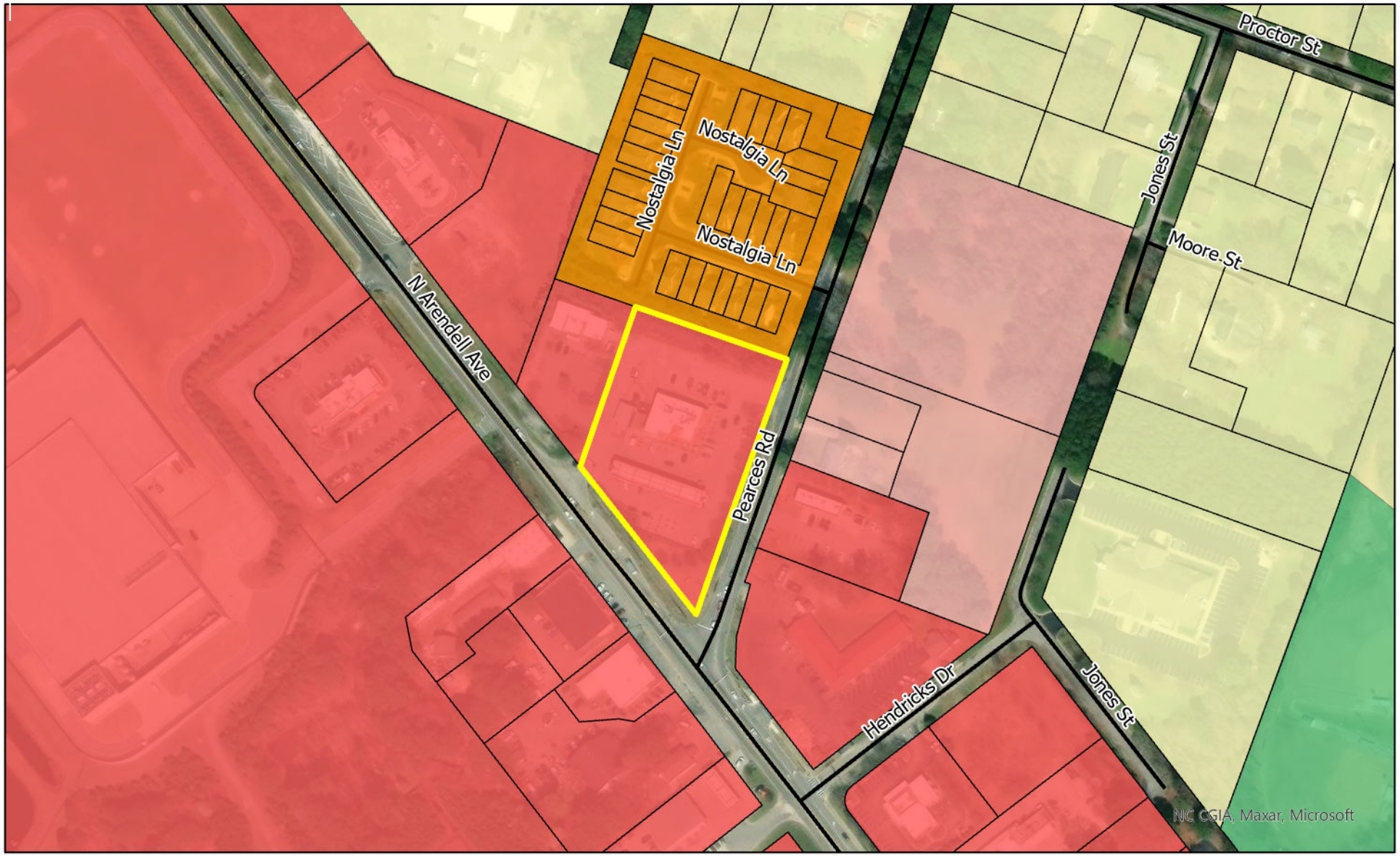
Inclusion of a percentage of the provided housing stock of a proposed development cost no more than 30% of a household income not exceeding 80% of the Area Median Income (AMI)		(Max – 10 Points
	15% Affordable Housing	10
	10% Affordable Housing	5

CATEGORY 6 – Other

(Max 5 Points)

	Integrated public safety operation systems (EX. Flock Safety or others as approved by the Police Department)	3
	Smart Waste and Recycling Stations	2

Future Land Use Map



Planning
ZEBULON
NORTH CAROLINA

0 0.03 0.05 0.1 Miles

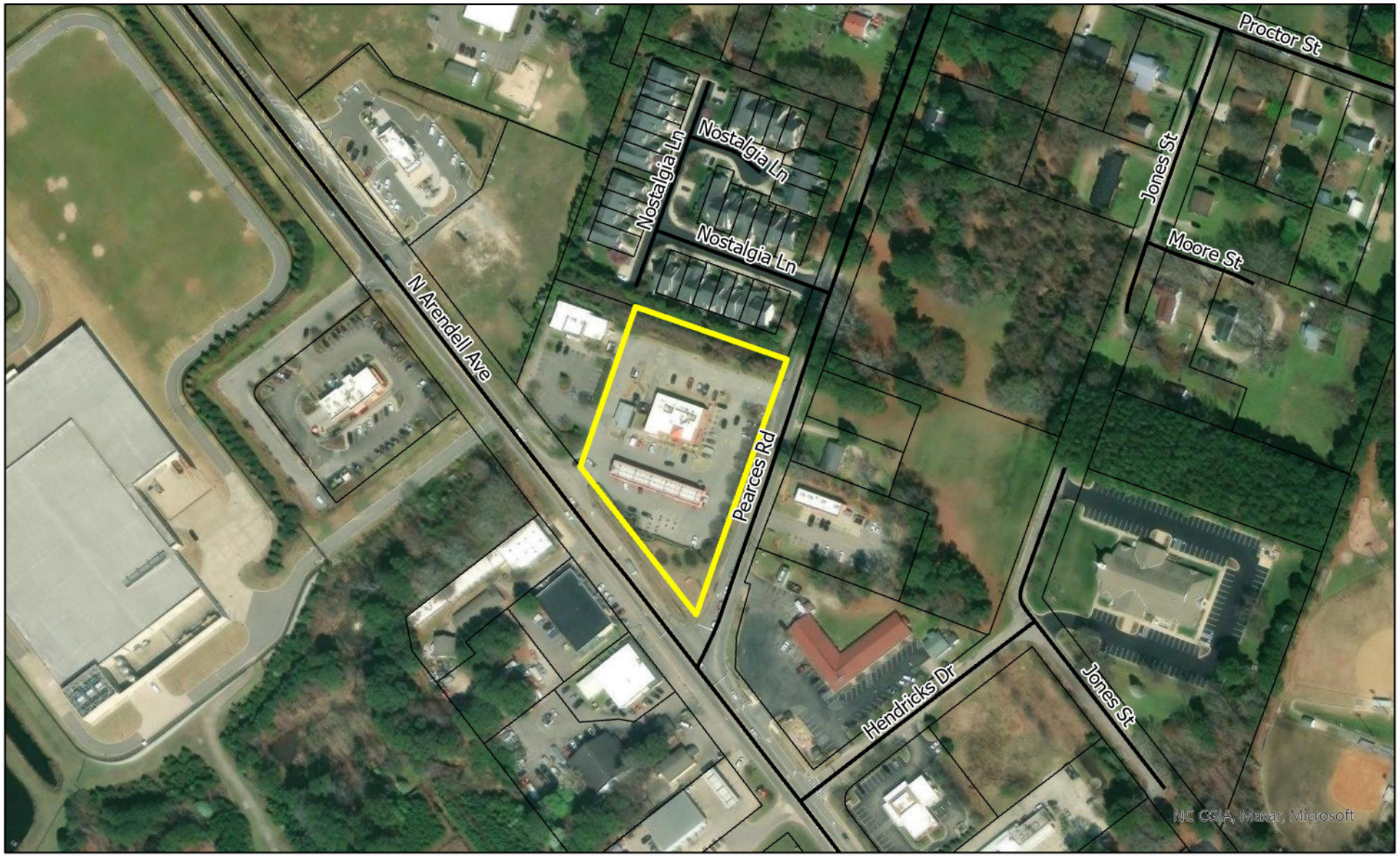
Legend

- Streets
- Parcels

Land Use/Character

- Parks and Recreation (PR)
- Suburban Residential (SR)
- Residential Mix (RM)
- Suburban Commercial (SC)
- General Commercial (GC)
- Sheetz (1406 N Arendell Ave)

Aerial Map



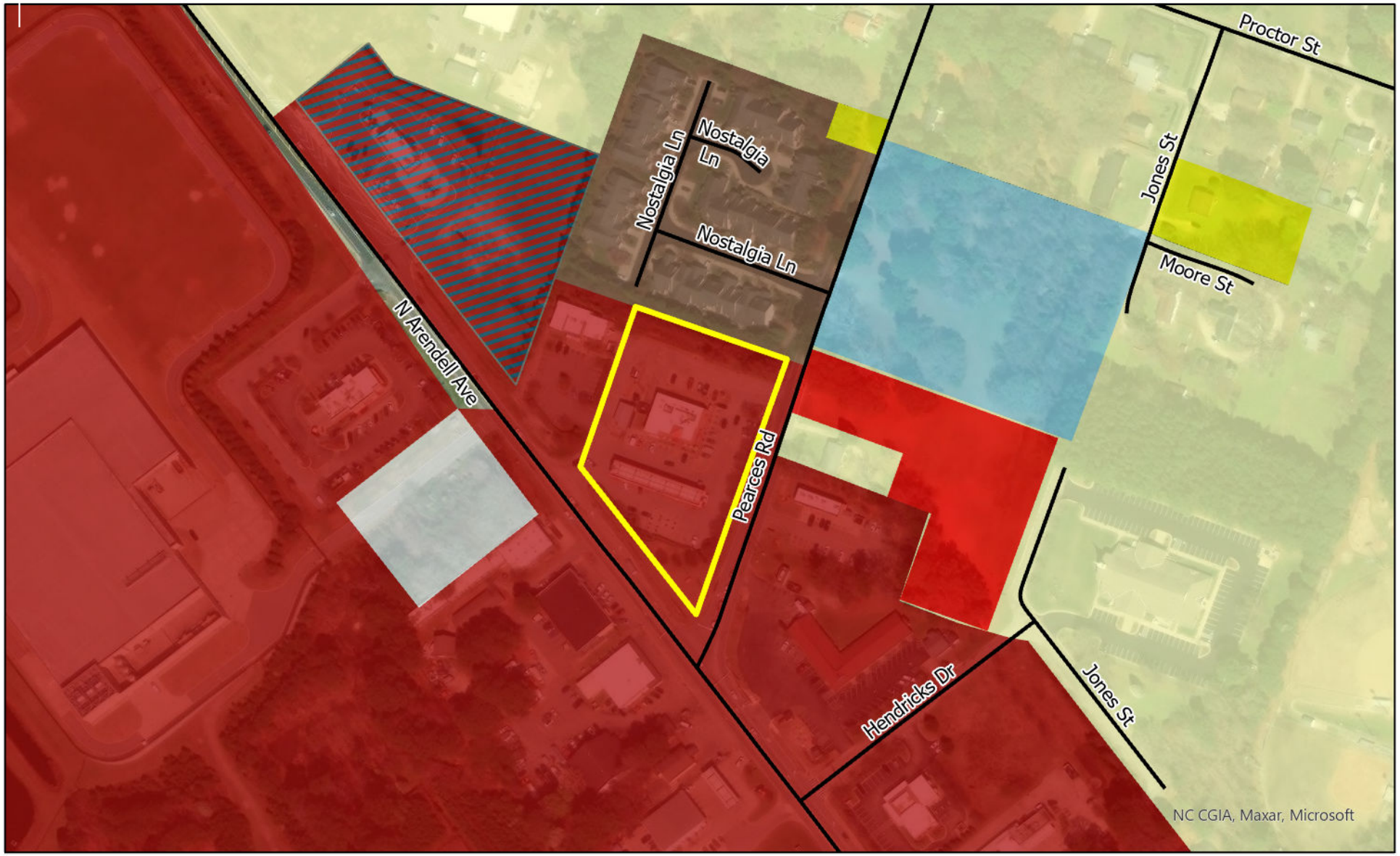
Planning
ZEBULON
NORTH CAROLINA

0 0.03 0.05 0.1 Miles

Legend

Streets
Parcels
Sheetz (1406 N Arendell Ave)

Zoning Map



Planning ZEBULON NORTH CAROLINA

0 0.03 0.05 0.1 Miles

Legend

- Streets
- R2, Residential Suburban
- R4, Residential Neighborhood
- RMF, Residential Multi-Family
- GC, General Commercial
- HC, Heavy Commercial
- LI, Light Industrial
- OI, Office and Institutional
- CZ, Conditional Zoning
- Sheetz (1406 N Arendell Ave)


SUEETZ


SHEETZ
87 2.5 1


SHEETZ
87 2.51

ZEBULON
NORTH CAROLINA

CASE # Planned Development 2025-05: Sheetz (1406 N Arendell)

HEARING DATE: October 13, 2025

State of North Carolina

County of Wake

BEFORE ME, the undersigned Notary, E. McKinney Worner on this 9th day of October 2025, personally appeared Matthew Lower, known to me to be a credible person and of lawful age, who being by me first duly sworn, on his oath, deposes and says:

I Matthew Lower, Planning Director for the Town of Zebulon, affirm that the following Public Notice Procedures have been completed in accordance with applicable North Carolina General Statute and Town of Zebulon Unified Development Ordinance Section 2.3.6 have been satisfied for the above referenced hearing.

- Advertisement in a Paper of General Circulation sent on September 29, 2025 (Wake weekly, publication dates **10/3/2025 & 10/10/2025**)
- Posted to Planning Department Website **9/29/2025**
- Signs Posted on Site **10/1/2025**
- Mailed Notices sent out **10/1/2025**

Matthew Lower — Date: 10/9/2025

Subscribed and sworn to before me, this 9th day of October 2025.

[Notary Seal:] E. MCKINNEY WORNER NOTARY PUBLIC WAKE COUNTY, NC My Commission Expires May 23, 2027

[signature of Notary] — [printed name of Notary]: E. McKinney Worner

NOTARY PUBLIC

My commission expires: May 23, 2027.

Notice of Public Hearing

Notice is hereby given pursuant to the provisions of Article 2.3.6 of the Town of Zebulon Unified Development Ordinance that a public hearing will be held on **October 13th, 2025, at 6:00 PM** at the **Zebulon Municipal Complex, 1003 N. Arendell Avenue**, and will be conducted by the Board of Commissioners and Planning Board for the purpose of considering the following items:

IDT Project Number 1745359– Planned Development 2025-05 – Sheetz (1406 N Arendell Ave)
PIN #2706011220 A request by Sheetz, INC., for a rezoning from Heavy Commercial (HC) to Planned Development for the use of a Convenience Store with Gasoline Sales.

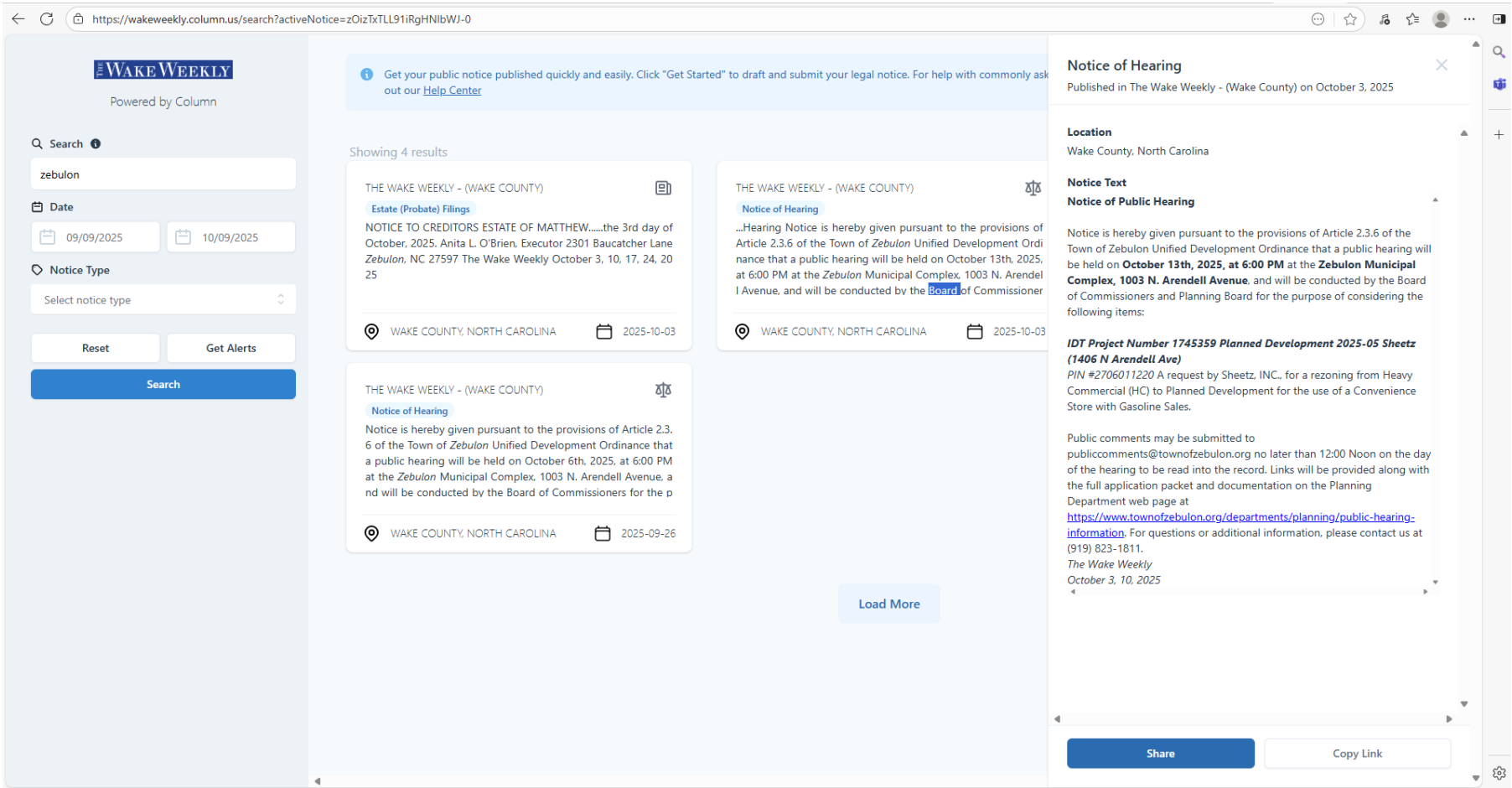
Public comments may be submitted to publiccomments@townofzebulon.org no later than 12:00 Noon on the day of the hearing to be read into the record. Links will be provided along with the full application packet and documentation on the Planning Department web page at https://www.townofzebulon.org/departments/planning/public-hearing-information. For questions or additional information, please contact us at (919) 823-1811.

Aviso de audiencia pública

Por la presente se notifica, de conformidad con lo dispuesto en el artículo 2.3.6 de la Ordenanza de Desarrollo Unificado de la ciudad de Zebulon, que el **13 de octubre de 2025, a las 18:00 horas**, se celebrará una audiencia pública en el **Complejo Municipal de Zebulon, situado en 1003 N. Arendell Avenue**, que será dirigida por la Board of Commissioners y la Planning Board con el fin de examinar los siguientes puntos:

> ***Proyecto IDT Numero 1745359: Desarrollo Planificado 2025-05 – Sheetz (1406 N Arendell Ave)***
> *PIN Numero 2706011220* Solicitud de Sheetz, INC., para cambiar la zonificación de comercial pesado (HC) a desarrollo planificado para el uso de una tienda de conveniencia con venta de gasolina.

Los comentarios públicos pueden enviarse a publiccomments@townofzebulon.org antes de las 12:00 del mediodía del día de la audiencia para que se lean en el acta. Se proporcionarán enlaces junto con el paquete completo de la solicitud y la documentación en la página web del Departamento de Planificación en https://www.townofzebulon.org/departments/planning/public-hearing-information. Si tiene alguna pregunta o desea obtener información adicional, póngase en contacto con nosotros en el (919) 823-1811.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Notice Type
Select notice type
Reset
Get Alerts
Search
Get your public notice published quickly and easily. Click "Get Started" to draft and submit your legal notice. For help with commonly ask
out our Help Center
Showing 4 results
THE WAKE WEEKLY - (WAKE COUNTY)
Estate (Probate) Filings
NOTICE TO CREDITORS ESTATE OF MATTHEW.....the 3rd day of October, 2025. Anita L. O'Brien, Executor 2301 Baucatcher Lane Zebulon, NC 27597 The Wake Weekly October 3, 10, 17, 24, 20 25
WAKE COUNTY, NORTH CAROLINA
2025-10-03
THE WAKE WEEKLY - (WAKE COUNTY)
Notice of Hearing
...Hearing Notice is hereby given pursuant to the provisions of Article 2.3.6 of the Town of Zebulon Unified Development Ordi nance that a public hearing will be held on October 13th, 2025, at 6:00 PM at the Zebulon Municipal Complex, 1003 N. Arendel l Avenue, and will be conducted by the Board of Commissioner
WAKE COUNTY, NORTH CAROLINA
2025-10-03
THE WAKE WEEKLY - (WAKE COUNTY)
Notice of Hearing
Notice is hereby given pursuant to the provisions of Article 2.3. 6 of the Town of Zebulon Unified Development Ordinance that a public hearing will be held on October 6th, 2025, at 6:00 PM at the Zebulon Municipal Complex, 1003 N. Arendell Avenue, a nd will be conducted by the Board of Commissioners for the p
WAKE COUNTY, NORTH CAROLINA
2025-09-26
Load More
Notice of Hearing
Published in The Wake Weekly - (Wake County) on October 3, 2025
Location
Wake County, North Carolina
Notice Text
Notice of Public Hearing
Notice is hereby given pursuant to the provisions of Article 2.3.6 of the Town of Zebulon Unified Development Ordinance that a public hearing will be held on October 13th, 2025, at 6:00 PM at the Zebulon Municipal Complex, 1003 N. Arendell Avenue, and will be conducted by the Board of Commissioners and Planning Board for the purpose of considering the following items:
IDT Project Number 1745359 Planned Development 2025-05 Sheetz (1406 N Arendell Ave)
PIN #2706011220 A request by Sheetz, INC., for a rezoning from Heavy Commercial (HC) to Planned Development for the use of a Convenience Store with Gasoline Sales.
Public comments may be submitted to publiccomments@townofzebulon.org no later than 12:00 Noon on the day of the hearing to be read into the record. Links will be provided along with the full application packet and documentation on the Planning Department web page at https://www.townofzebulon.org/departments/planning/public-hearing-information. For questions or additional information, please contact us at (919) 823-1811.
The Wake Weekly
October 3, 10, 2025
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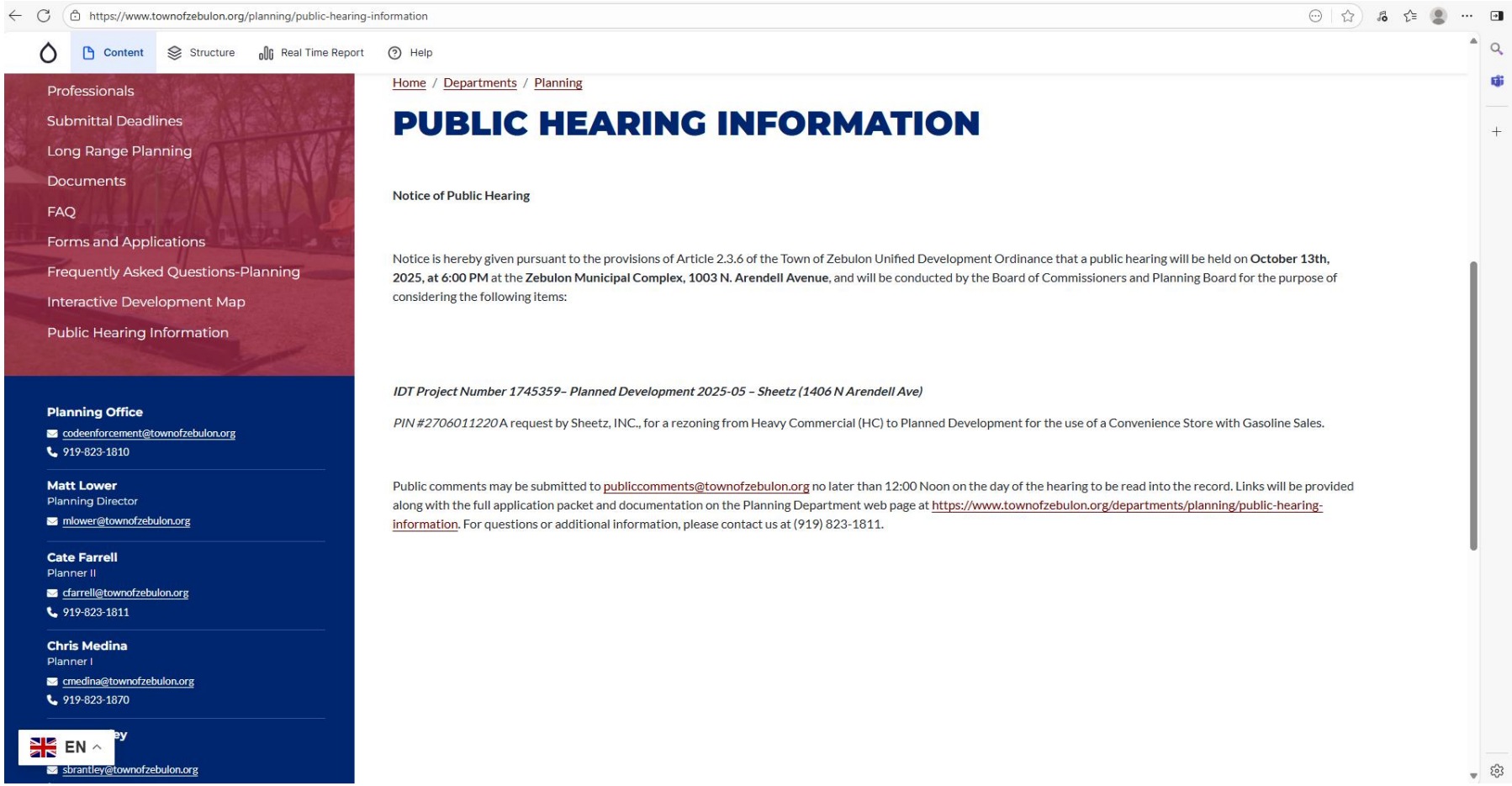
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Content
Structure
Real Time Report
Help
Professionals
Submittal Deadlines
Long Range Planning
Documents
FAQ
Forms and Applications
Frequently Asked Questions-Planning
Interactive Development Map
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EN
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PUBLIC HEARING INFORMATION
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Planned Development
Rezoning Petition
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www.townofzebulon.org
919-823-1810
Zebulon Planning Department


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