



Town of Clayton
Town of Clayton Planning Board Agenda
Monday, August 28, 2023 @ 6:00 PM
Town Council Chambers

<https://www.youtube.com/TownofClaytonNC>

IN PERSON TOWN COUNCIL / ADVISORY BOARD MEETING PROCEDURES

- **ALL persons attending must wear a mask.**
- We will be following proper social distancing at all times.
- Hand sanitizer will be available, both in the lobby and council chambers.
- Podium/microphone will be sanitized after each speaker.

**Face Masks May Be Removed When Speaking.*

1. CALL TO ORDER

2. ADJUSTMENT OF THE AGENDA

3. APPROVAL OF MINUTES

- a. [Clayton Planning Board Minutes-July 24, 2023](#)

4. PUBLIC HEARINGS

2023-111-RZ Project Life Dust Rezoning

Presenter: Bruce Venable, Planner I

[2023-111-RZ Project Life Dust Rezoning - Planning - Pdf](#)

2022-125-CZM Summer Glen Conditional Zoning with Master Plan

Presenter: Bruce Venable, Planner I

[2022-125-CZM Summer Glen Conditional Zoning with Master Plan - Planning - Pdf](#)

5. NEW BUSINESS

6. INFORMAL DISCUSSION AND PUBLIC COMMENT

7. ADJOURN

Town of Clayton Planning Board Meeting

July 24, 2023

Board Members Present

James Moore

Stephen Powers

Ronald Williams

Kevin Lee

Lisa Begley

Jodie Dupree

James Lipscomb

Jeffery Spence

Derrick Applewhite

Staff Present

Ben Howell, Planning Director

Bruce Venable, Planner I

Love Ott, Land Development Specialist

Board Members Absent

Ronald Williams

1. Call to Order

Chair Moore called the meeting to order at 6:00pm.

2. Adjustment to the Agenda

3. Approval of Minutes

Motion: Board Member Dupree

Second: Board Member Begley

Result: Approved, Unanimous

4. Public Comment

a.) 2023-116-OA Yard Encroachments and Screening UDC Text Amendment

Allow fire escapes to encroach into a required yard/setback up to 8 feet regards of Zoning District. Also, remove separation requirement for dumpster and loading area form residentially zoned properties.

The proposed text amendment is consistent with the remainder of the chapter.

Staff recommend the text amendment for public hearing and consideration by Town Council.

Board Member Dupree asked what percentage of the time does the 50 feet not work?

Director Howell stated there has not been a study done involving all the areas where there is commercial or non-residential directly adjacent to residential.

Motion: Board Member Lipscomb

Second: Board Member Applewhite

Result: Approved, Unanimous

b.) 2023-65-RZ 8175 US HWY 70 Rezoning

Rezone from Residential-Estate (R-E) and Business-Highway (B-3) to Industrial Light (I-2). The property is currently vacant.

Encouraged uses include industrial, warehouse, office, research and development, tech-flex, hospital, renewable energy, recycling, fabrication, assembly, and technology.

Staff recommends approval.

Board Member Powers asked if the board will be able to go on site.

Bruce Venable stated that the hearing is just for the rezoning of the property. The property is going through the annexation process.

Motion: Board Member Begley

Second: Board Member Powers

Result: Approved, Unanimous

c.) 2023-66-RZ Milam Equipment Rezoning

Rezone from Business-Highway to Industrial Light (I-1).

Encouraged uses include industrial, warehouse, office, research and development, tech-flex, hospital, renewable energy, recycling, fabrication, assembly, and technology.

Staff recommends approval.

Bob Hornick, representing the applicant, is looking to open an equipment rental facility.

Motion: Board Member Lipscomb

Second: Board Member Spence

Result: Approved, Unanimous

5. New Business

6. Informal Discussion and Public Comment

7. Adjourn

Motion: Board Member Applewhite

Second: Board Member Lipscomb

Chair Moore adjourned the meeting at 6:30



Clayton Planning Board Agenda Cover Sheet

Meeting Date

August 28, 2023

Agenda Location

PUBLIC HEARINGS

Item Title

2023-111-RZ Project Life Dust Rezoning

Presenter(s)

Bruce Venable, Planner I

Suggested Action

Other - Provide recommendation for Town Council

Strategic Priorities Alignment



☐
Think Clayton
(Administrative)



☐
Think Arts &
Culture



☐
Think
Downtown



☐
Think
Economic
Development



☒
Think Land
Use &
Housing



☐
Think
Mobility



☐
Think Parks,
Recreation
& Natural
Resources



☐
Think Public
Services &
Infrastructure

Public Hearing: No

If Approved, Will Document Require Recordation? No

Does This Item Require a Communication Plan?

- ☐ Public Hearing (Required by GS)
- ☐ Newspaper Notice (Required by GS)
- ☐ Public Forum/Input Session
- ☐ E-News Distribution
- ☐ Social Media
- ☒ Special Mailing

- ☐ Public Hearing (Not Required by GS)
- ☐ Newspaper Notice (Not Required by GS)
- ☐ Press Release
- ☒ Website
- ☐ Survey
- ☐ None Required

Other/Special Instructions: Sign Posted at site.

Summary

The Town of Clayton has initiated a rezoning of this property from R-E to I-1.

Recommendation

Approval

Funding Source

N/A

Corresponding Documentation

[1 2023-111-RZ Project Life Dust Rezoning](#)

[2 Neighborhood meeting Materials](#)

[3 Application 2023-111-RZ Project Life Dust](#)

[4 2023-111-RZ Project Life Dust Survey](#)

[5 Staff Report Maps - Life Dust](#)

[6 2023-111-RZ Project Life Dust Rezoning Staff Report](#)

Submitted By: Bruce Venable, Planning

Reviewed By:

Love Ott, Land Development
Specialist

Approved - Aug 24 2023

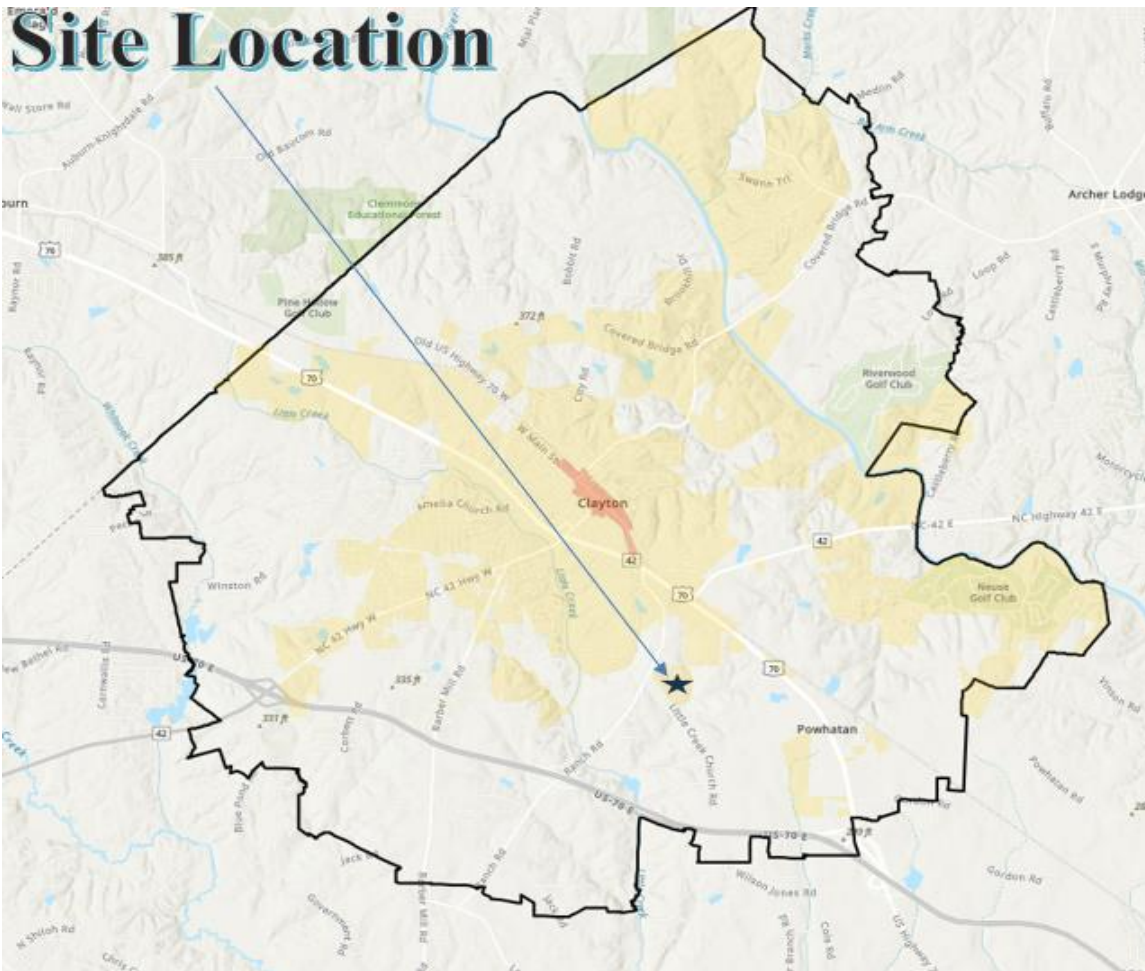
Jonathan Jacobs, Assistant
Engineering Director

Approved - Aug 24 2023



PROJECT LIFE DUST REZONING

Project #:	2023-111-RZ	Location:	Ranch Rd & Little Creek Church Rd.
Applicant:	Town of Clayton	Project Type:	Rezoning
Property Owner:	Town of Clayton	Proposed Use:	Industrial
Staff Planner:	Bruce Venable, Planner I	TAG #(s):	05H04046H



PROJECT SUMMARY

The site is located off Ranch Rd and Little Creek Church Rd. within Clayton Town limits. The applicant has requested to rezone the above-referenced parcel that is approximately +/- 66.836 acres in size from Residential-Estate (R-E) zoning districts to the Industrial-Heavy (I-I) Zoning District. The site is currently vacant.

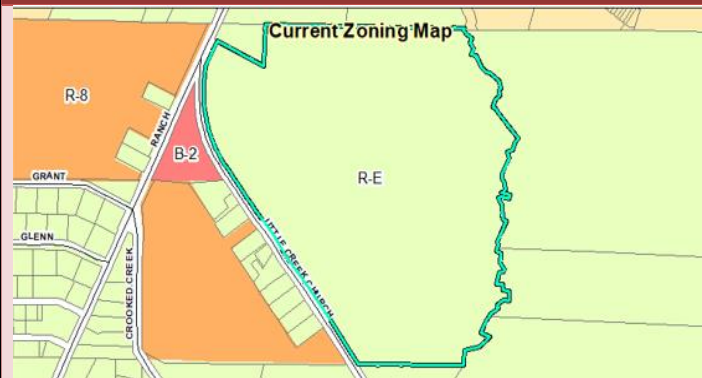
LAND USE REVIEW

SITE DATA:

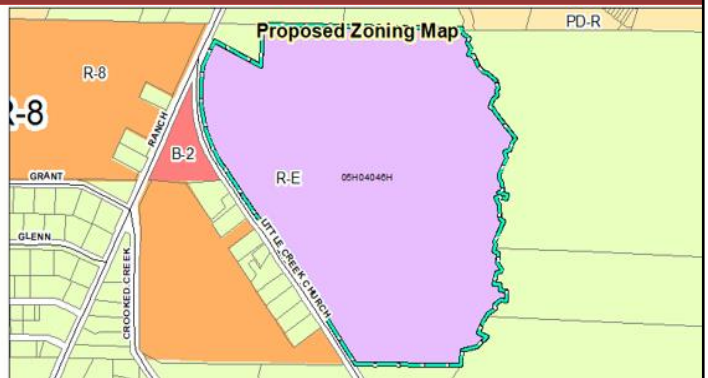
Acreage: +/- 68.836 acres

Existing Use: Vacant

CURRENT ZONING MAP



PROPOSED ZONING MAP



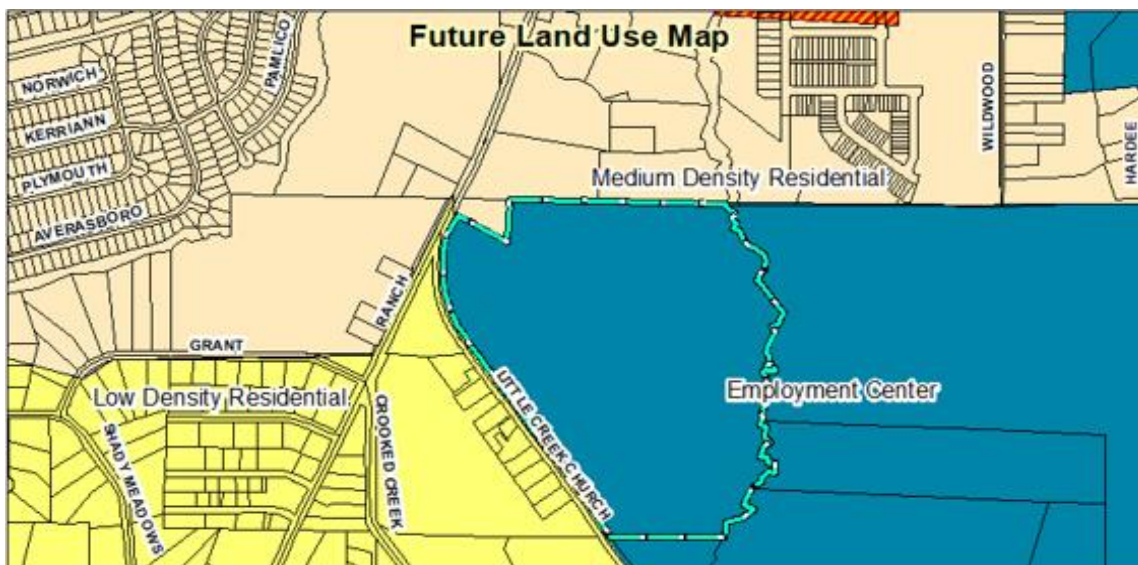
AERIAL MAP



TABLE 1: COMPARISON OF SURROUNDING PROPERTIES

Direction	Zoning	Existing Use
North	R-E (Residential-Estate)	Residential.
South	R-E (Residential-Estate)	Residential: Single Family Homes; Vacant.
East	R-E (Residential-Estate)	Industrial: R&D, Manufacturing.
West	B-2 (Neighborhood-Business), R-E (Residential-Estate), R-8 (Single-Family-Residential-8)	Commercial; Residential.

Consistency with the Comprehensive Growth Plan 2045



The Future Land Use Map identifies this area as “Employment Center” (see map above). Page 21 of the Comprehensive Growth Plan states that Employment Center areas are designated “to provide locations for primary employment and economic development opportunities” and are “located along a major transportation corridor...” These guidelines are consistent with the purpose and function of I-1 zoning, as stated above. The rezoning request would be consistent with the Employment Center Future Land Use designation.

Comprehensive Growth Plan Goals supporting the rezoning request:

Comprehensive Growth Plan Goals supporting the rezoning request include:

Goal LU 1: Preserve Clayton’s character while allowing for growth and development in appropriate areas.

Policy LU 1.1: Manage future growth and encourage quality development through the implementation of the Comprehensive Plan, the Unified Development Code (UDC), and other plans and regulations adopted by the Town Council.

Strategy LU 1.1.1: Review development proposals for consistency with the Future Land Use Map.

Policy LU 1.3: Encourage non-residential land uses in areas consistent with the Future Land Use Map.

Strategy LU 1.3.1: Ensure the scale of non-residential uses are consistent with the Future Land Use Map.

Policy LU 1.4: Encourage new businesses and non-residential development in Employment Centers designated on the Future Land Use Map.

Strategy LU 1.4.1: Encourage a mix of non-residential land use in Employment Centers including industrial, warehouse, office, research and development, tech-flex, renewable energy, recycling, fabrication, assembly, and technology uses.

Strategy LU 1.4.3: Allow for integration of compatible uses in Employment Centers including commercial development as a supporting use.

Goal ED 1: Increase opportunities for companies that provide well-paid jobs.

Policy ED 1.5: Continue business retention efforts and support existing commercial corridors.

Strategy ED 1.5.1: Continue business retention and expansion strategies to engage with existing businesses to support existing operations and expansions.

Strategy ED 1.5.2: Increase employment and redevelopment opportunities along key corridors including 70 Bus and NC 42 and at 70 Bypass interchanges.

REZONING APPROVAL CRITERIA

In connection with its legislative decision on a rezoning request, the Planning Board may consider factors including, but not limited to, the following:

(1) Consistency with the adopted plans and policies of the Town;

Applicant's Response: The proposed rezoning is consistent with the Town's 2045 Comprehensive Growth Plan and the Future Land Use Map that shows this parcel as part of the "Employment Center" area.

Staff Commentary: Staff believe that the current zoning and the proposed zoning changes are consistent with currently adopted plans for this project.

(2) Suitability of the subject property for uses permitted by the current versus the proposed district;

Applicant's Response: Current uses are limited to single-family residential, agriculture and recreation. The proposed zoning district would allow a wide range of industrial uses.

Staff Commentary: Staff believes that this request is appropriate and achieves the best use and practice for this site.

(3) Whether the proposed change tends to improve the balance of uses, or meets a specific demand in the Town;

Applicant's Response: It is staff's belief that since this aligned with the Town's 2045 Comp plan and the FLU Map that is improving the balances uses as was the intention of the 2045 Comp. Plan.

Staff Commentary: Staff believe that this use is consistent with similar uses and may address a need for warehouse and freight services that will assist current and future businesses.

(4) The capacity of adequate public facilities and services including schools, transportation infrastructure, recreation facilities, wastewater treatment, water supply facilities, and stormwater drainage facilities for the proposed use;

Applicant's Response: Water connections are available to the site.

Staff Commentary: The rezoning should not affect the Town's compacity of public facilities, services nor will it negatively affect the current infrastructure. The applicant will be required to complete a WWA application prior to Town Council approval of any potential development on the site.

(5) It has been determined that the legal purposes for which zoning exists are not contravened;

Applicant's Response: No violations of zoning currently exist nor will the proposed zoning create any new violations to the Town's zoning.

Staff Commentary: Staff believe that this request is not contravened and is aligned with the comprehensive future land use plan of 2045 and will serve the community under the proposed I-1 zoning district.

(6) It has been determined that there will be no adverse effect upon adjoining property owners unless such effect can be justified by the overwhelming public good or welfare;

Applicant's Response: It is Staff's opinion that rezoning this parcel is in line with the FLUM which is in the best interest of the public.

Staff Commentary: There should be no adverse effect upon any of the adjoining property owners due to this rezoning proposal.

(7) It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public.

Applicant's Response: There should be no detriment to the general public from the proposed rezoning. The rezoning is aligned with the Town's future plans.

Staff Commentary: No one property owner or small group will benefit materially from this change.

Staff Recommendation

- ◆ Staff recommends **APPROVAL** of the proposed rezoning request.

Consistency and Reasonableness Statement:

"We find this rezoning action is consistent with the Future Land Use Map, Goal LU 1, Policy LU 1.1, Strategy LU 1.1.1, Strategy LU 1.1.2, Strategy LU 1.2.2 of the Town of Clayton's 2045 Comprehensive Growth Plan."

And

The proposed zoning amendment is reasonable and in the public interest because it supports the Town of Clayton 2045 Comprehensive Growth Plan's policies above and because:

1. The rezoning would allow for future employment opportunities along two well-traveled corridors.
2. The rezoning is consistent with the proposed uses of the "Employment Center" Designation found in the 2045 Comprehensive Plan.

ATTACHMENTS:

- 1) Staff Report
- 2) Application/Owner's Consent Form
- 3) Neighborhood Meeting Materials
- 4) Survey
- 5) Staff Report Maps

PROJECT LIFE DUST NEIGHBORHOOD MEETING SIGN-IN AND MINUTES DOCUMENT

NAME	ADDRESS	HOW THEY HEARD ABOUT MEETING
Stan Wendzel	With Project	
Patrick Pierce	TOC	
Bruce Venable	TOC	

Notes from meeting:

Meeting Began promptly at 6:00pm on 8/15/2023

This meeting is to discuss the Town Initiated Rezoning of the property located at Ranch Rd and Little Creek Church Rd totaling 67.10 acres

With no adjacent property owners in attendance the meeting was concluded at 6:20pm.

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TOWN OF CLAYTON
Planning Department
111 E. Second St., P.O. Box 879
Clayton, NC 27528
Phone: 919-553-5002
Fax: 919-553-1720

REZONING APPLICATION COVER SHEET

Name of Project: Life Dust Rezoning **Date:** 06/30/2023
Applicant Name: Town of Clayton

The following checklist to be completed by applicant:

- [] Pre-Application Meeting on: 6/30/23
- [] Review Fee
- [] Advertisement Fee
- [] Completed Application
- [] Owner's Consent Form
- [] Adjacent Property Owner's List
- [] Neighborhood Meeting Notice Letter (1 copy)
- [] 2 Sets of stamped, addressed, empty envelopes for adjacent property owner notification
- [] Signed & Sealed Boundary Survey
- [] Copy of signed & sealed boundary survey in PDF on USB

Reviewed by: _____



TOWN OF CLAYTON
Planning Department
111 E. Second St., P.O. Box 879
Clayton, NC 27528
Phone: 919-553-5002
Fax: 919-553-1720

REZONING APPLICATION

☒ Rezoning Fee: \$750 + \$10 per acre

SITE INFORMATION

Name of Project: Life Dust Rezoning
Acreage of Property: 66.836 Zoning District: R-E
County Tag #: 05H04046H NC Pin #: 166814-42-8880
Address/Location: To the East of Ranch Rd and Little Creek Church Rd
Existing Zoning District: R-E Proposed Zoning District: I-1

APPLICANT INFORMATION

Applicant: Town of Clayton
Mailing Address: P.O. Box 879
Phone Number: 919 553-5002 Fax: _____
Contact Person: Bruce Venable
Email Address: bvenable@townofclaytonnc.org

PROPERTY OWNER INFORMATION

Name: Town of Clayton
Mailing Address: P.O. Box 879
Phone Number: 919 553-5002 Fax: _____
Email Address: Planning@Townofclaytonnc.org

OFFICE USE ONLY

Date Received: _____ Amount Paid: _____ File Number: _____

EXPLANATION OF PROJECT

Please provide detailed information concerning all requests. Attach additional sheets if necessary.

Town initiated rezoning from Residential-Estate to Industrial-Light Zoning District.

APPROVAL CRITERIA

All applications for a Rezoning must address the following findings:

1. Consistency with the adopted plans of the Town.
The proposed rezoning is consistent with the Towns 2045 Comprehensive Growth Plan
and the Future Land Use Map that shows this parcel as part of the "Employment Center" area.

2. Suitability of the subject property for uses permitted by the current vs. the proposed district.
Current uses are limited to single-family residential, agriculture and recreation.
The proposed zoning district would allow a wide range of industrial uses.

3. Whether the proposed change tends to improve the balance of uses, or meets specific demand in the Town.
It is staff's belief that since this aligned with the Town's 2045 Comprehensive plan and the FLU Map that is
improving the balances uses as was the intention of the 2045 Comprehensive Plan.

4. The capacity of adequate public facilities and services including schools, roads, recreation facilities, wastewater treatment, potable water supply and stormwater drainage facilities is available for the proposed use.
Water connections are available along Little Creek Church Road. Sewer is available in the vicinity with the public extension

5. It has been determined that the legal purposes for which zoning exists are not violated.
No violations of zoning currently exist nor will the proposed zoning create any new violations to the Town's
Zoning.

6. It has been determined that there will be no adverse effect upon adjoining property owners unless such effect can be justified by the overwhelming public good or welfare.
It is Staff's opinion that rezoning this parcel is in line with the FLUM which is in the best interest of the public.

7. It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public.

There should be no detriment to the general public from the proposed rezoning. The rezoning is aligned with the Town's future plans.

APPLICANT AFFIDAVIT

I/We, the undersigned, do hereby make application and petition to the Town Council of the Town of Clayton to amend the Zoning Ordinance and change the Official Zoning Map of the Town of Clayton as requested.. I hereby certify that I have full legal right to request such action and that 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 Clayton, North Carolina, and will not be returned.

Bruce Venable -Planner I
Print Name

Bruce
Signature of Applicant

Digitally signed by Bruce
Date: 2023.07.07 14:23:27 -04'00'

07/07/2023
Date

NEIGHBORHOOD MEETING INFORMATION

Purpose:

The purpose of the Neighborhood Meeting is to inform the surrounding property owners of the nature of the proposed land use and/or development features, answer questions, respond to concerns, and solicit comments.

Meeting Date:

The neighborhood meeting must be held prior to the 1st scheduled public meeting date. It is recommended to hold the meeting at least 10 days prior to the 1st scheduled public meeting date, however, it is **not** a requirement.

Meeting Time & Location:

The meeting must be held no earlier than 6:00 pm Monday through Friday, and must be held in a location generally accessible to residents within close proximity of the request. The meeting space must be able to comfortably accommodate everyone that receives an invitation.

Meeting Notice Mailing requirements:

1. The applicant must contact all adjacent property owners via first class mailing (see sample letter).
2. The mailing must include all the persons, firms, or corporations owning property within 100 feet and immediately adjacent to the subject property. Where the subject property immediately adjoins a public or private right-of-way, landscape or riparian buffer, commonly-owned private area, public property, or homeowners' association property, then letters of notification shall be sent to adjoining property owners as if they directly abut the subject property.
3. The notice must be mailed at least ten (10) calendar days but not more than twenty-five (25) days prior to the date of the Neighborhood Meeting.

Information required to be provided at the Neighborhood Meeting:

At a minimum, the following materials must be present and discussed at a Neighborhood Meeting:

1. A copy of the project application.
2. A schedule of all upcoming public meetings for the application.
3. A map at a scale that is appropriate to the project and shows neighboring properties and roads.
4. A map, drawing, or other depiction of the proposed land use change or development proposal.

Information provided to Planning Department:

Alert the Planning Department once the date, location, and time of the Neighborhood Meeting are determined.

Deliver the following items to the Planning Department at least ten (10) calendar days prior to the 1st scheduled public meeting in electronic or hard copy format:

- ☐ Adjacent Property Owner's List (aka "mailing list") *Should be submitted with original application packet*
- ☐ Copy of the letter mailed *Should be submitted with original application packet*
- ☐ Attendance Roster (aka "sign-in sheet") *Submit no later than 10 days prior to 1st public meeting date*
- ☐ Neighborhood Meeting Summary Form with minutes (see below) *Submit no later than 10 days prior to the 1st public meeting date*

ADJACENT PROPERTY OWNERS LIST

Project Name: _____

The following are all the persons, firms, or corporations owning property within 100 feet and immediately adjacent to the property (including across street rights of way) subject to this request. Where the subject property immediately adjoins a public or private right-of-way, landscape or riparian buffer, commonly-owned private area, public property, or homeowners' association property, then letters of notification shall be sent to adjoining property owners as if they directly abut the subject property. Please use a separate sheet if necessary

It is the responsibility of the applicant to correctly identify the current owner, based upon records in the Johnston County GIS Office, for all property owners of land within the required public notice radius.

PARCEL NUMBER	NAME	ADDRESS
05H03011B	WALL, MARILYN P WALL, HARRY D JR	6026 LITTLE CREEK CHURCHROADCLAYTON, NC 27520
05H04030T	VANDERGRIFF, TIM VANDERGRIFF, MARTHA R	2005 RYERSON DR GARNER, NC 27529-4323
05H04031D	D. R. HORTON, INC	2000 AERIAL CENTER PKWYSTE 110 MORRISVILLE, NC 27560-9294
05H04031Y	MASSEY, ANDREA LYNN MASSEY, MICHAEL JOHN	133 ELLIOTT AVE CHARLOTTESVLE, VA22902-6183
05H04032	COX, JIMMY R COX, JUDY G	8851 US 70 BUS HWY W CLAYTON, NC 27520-9296
05I05044A	COX, JASON RALPH	8851 US 70 BUS HWY W CLAYTON, NC 27520-9296
05H04031G	WILLIAMS, BETTY SMITH SMITH, JAMES WILLIE HEIRS	435 GLENBROOK DR RALEIGH, NC 27610-3509
05H04031N	TOMLINSON, MICHAEL	10916 BEAVER CASTLE RD N PRINCE GEO, VA 23860-7643
05H04031J	SMITH, IRECKA DANIELLERENEE	5595 LITTLE CREEK CHURCHROAD CLAYTON, NC 27520-0000
05H04031M	SMITH, JAMES W JR TIDMORE, STEPHANIE	415 LANDOVER LN FOUR OAKS, NC 27524-7739
05H04031	BROWN, BEVERLY RENE DIXON, ANGELA ODOM	5675 LITTLE CREEK CHURCHRD CLAYTON, NC 27520-0000
05H04031K	SMITH, IRECKA D	5595 LITTLE CREEK CHURCHRD CLAYTON, NC 27520-6126
05H04199Z	BANKS, RILLA HEIRS	5675 LITTLE CREEK CH RD CLAYTON, NC 27520-6127
05H04031E	FIDLER, PAUL ALEXANDER	5615 LITTLE CREEK CHURCHRD CLAYTON, NC 27520-6127
05H04031H	WILLIAMS, BETTY SMITH SMITH, JAMES WILLIE HEIRS	435 GLENBROOK DR RALEIGH, NC 27610-3509
05H04033Y	GORDON, TREVOR : GORDON, KRISTEN	1012 BIRCHWOOD CT CLAYTON, NC 27520-7857
05H04031A		

SAMPLE NEIGHBORHOOD MEETING LETTER

(PLACE ON AGENT'S OR OWNER'S LETTERHEAD)

<Date>

Dear Clayton Area Property Owner:

The purpose of this letter is to notify you of an application filed with the Town of Clayton for a land use change or development proposal involving property adjacent to, or in close proximity to, property shown in your ownership by Johnston County tax records. Per Town of Clayton regulations, a Neighborhood Meeting will be held to provide information to area residents about the proposal. A representative of the applicant will be present to explain their application, answer questions, and solicit comments.

Meeting Date: _____ Meeting Time: _____

Meeting Location: _____

Type of Application: _____

Project/proposal property address: _____

Description of project/proposal: _____

Upcoming public meetings for this
application (Planning Board
and/or Town Council): _____

At a minimum, the following will be available for your inspection at the Neighborhood Meeting:

1. A copy of the project application.
2. A schedule of all upcoming public meetings for the application.
3. A map at a scale that is appropriate to the project and shows neighboring properties and roads.
4. A map, drawing, or other depiction of the proposed land use change or development proposal.

A map is enclosed with this letter showing the location of the property that is subject to this application for land use change and/or development proposal.

If you have any questions prior to or after this meeting, you may contact us at **<Insert phone number of applicant>**. You may also contact the Town of Clayton Planning Department at 919-553-5002.

Sincerely,

<Applicant>

Cc: Town of Clayton Planning Department

October 2019

Page 3 of 5

NEIGHBORHOOD MEETING ATTENDANCE ROSTER

Project: _____

Application: _____

Location/Date: _____

	NAME	ADDRESS
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NEIGHBORHOOD MEETING SUMMARY FORM

FILL OUT THE FOLLOWING:

Application:

Date of Mailing:

Date of Meeting: _____ Time of Meeting: _____

Location of Meeting:

I hereby attest that letters were mailed to the addresses listed on the Adjacent Property Owners List (attached) ten days prior to the Neighborhood Meeting, and that all required information was presented at the Meeting:

Printed Name: _____ Signature: _____

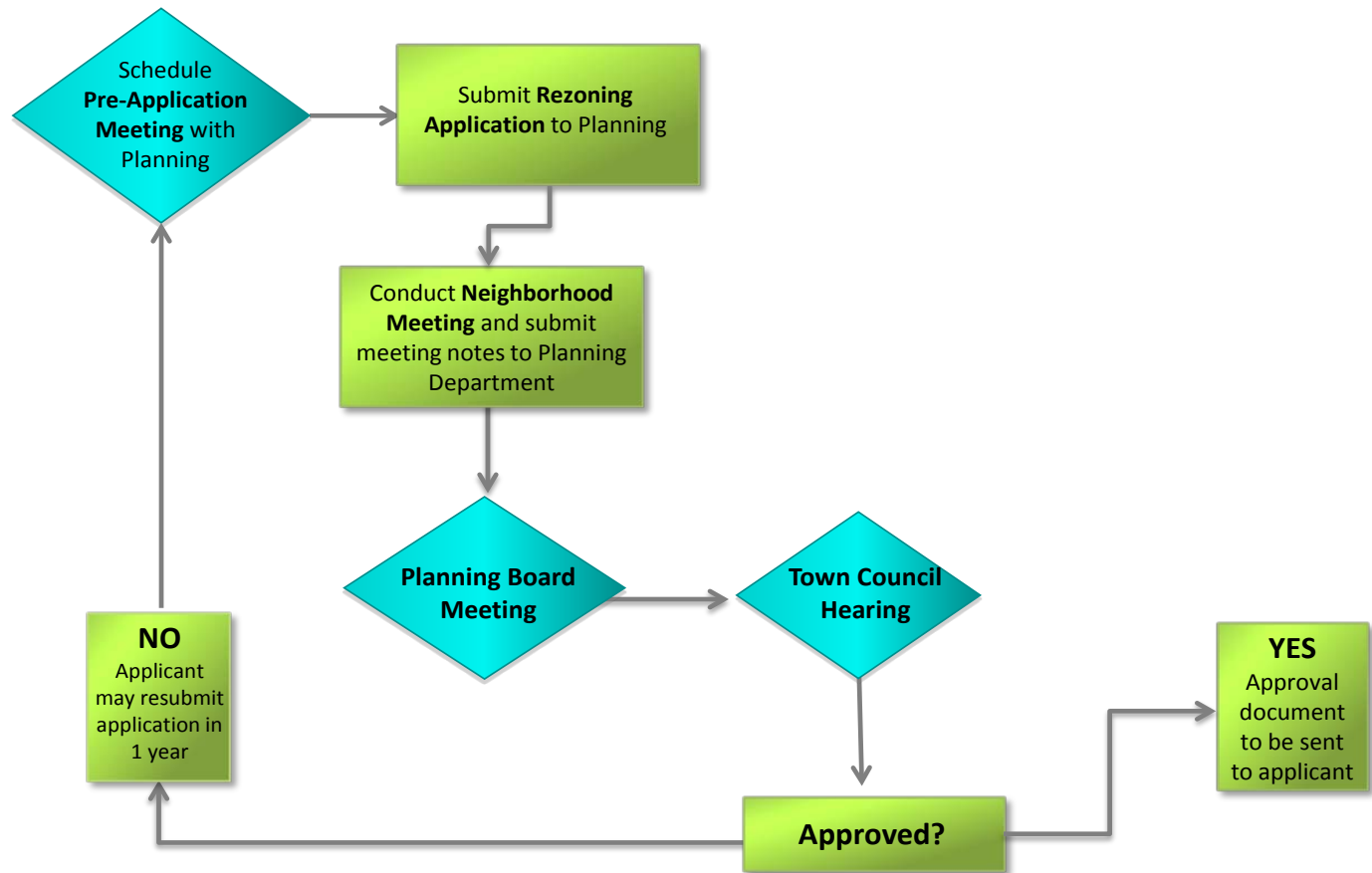
Meeting Summary/Minutes: *provide a summary of the discussion held at the meeting, including issues raised and any resolution discussed, and any changes made to the application as a result of the meeting.*

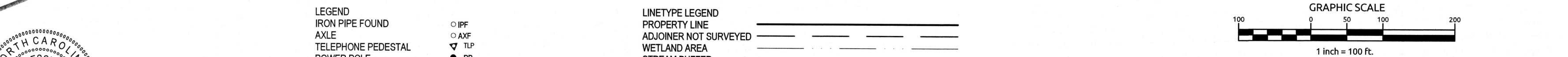
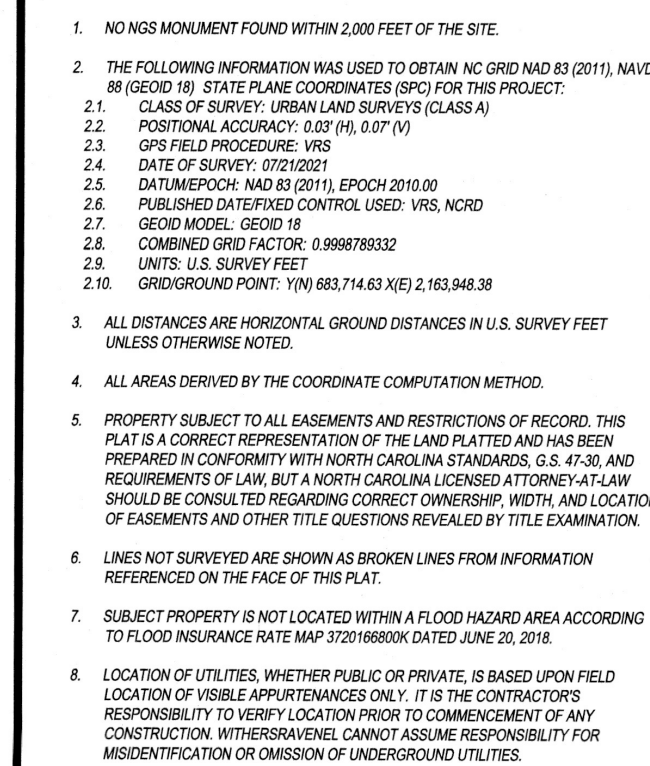
This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Please write clearly (or submit a typed summary). Use additional sheets if necessary.

Town of Clayton Rezoning Process Flow Chart

This is the same process for a Planned Development Rezoning

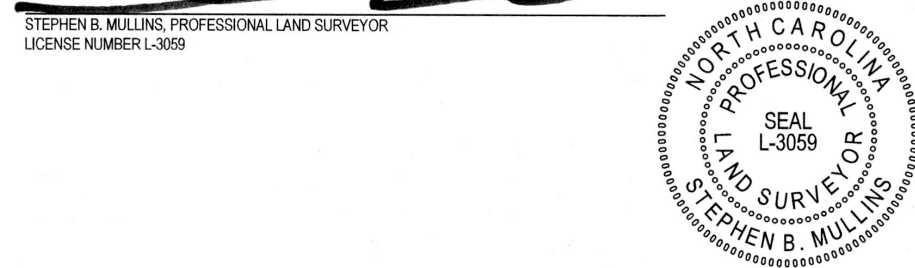




LINE		TABLE		LINE		TABLE	
	BEAM	DISTANCE			BEAM	DISTANCE	
L1	S 06°33'17"E	5.83	L30	S 50°10'10"E	22.1		
L2	S 07°00'17"E	26.87	L31	S 50°28'28"E	41.00		
L3	S 07°12'42"E	24.89	L32	S 50°46'46"E	24.97		
L4	S 81°00'00"E	24.89	L33	S 50°50'40"E	23.47		
L5	S 81°00'00"E	24.89	L34	S 50°54'34"E	23.47		
L6	S 10°14'40"E	21.89	L35	S 50°58'28"E	21.88		
L7	S 10°18'50"E	21.89	L36	S 51°02'22"E	21.88		
L8	S 34°44'13"E	20.69	L37	S 51°06'16"E	19.92		
L9	S 34°44'13"E	20.69	L38	S 51°10'10"E	19.92		
L10	S 34°44'13"E	20.69	L39	S 51°14'04"E	19.92		
L11	S 41°00'00"E	13.36	L40	S 51°17'58"E	19.92		
L12	S 41°00'00"E	13.36	L41	S 51°21'52"E	19.92		
L13	S 49°04'48"E	11.88	L42	S 51°25'46"E	19.92		
L14	S 49°04'48"E	11.88	L43	S 51°29'40"E	19.92		
L15	S 49°04'48"E	11.88	L44	S 51°33'34"E	19.92		
L16	S 49°04'48"E	11.88	L45	S 51°37'28"E	19.92		
L17	S 51°00'00"E	13.37	L46	S 51°41'22"E	21.83		
L18	S 51°00'00"E	13.37	L47	S 51°45'16"E	21.83		
L19	S 54°44'13"E	22.89	L48	S 51°49'10"E	21.83		
L20	S 54°44'13"E	22.89	L49	S 51°53'04"E	21.83		
L21	S 54°44'13"E	22.89	L50	S 51°56'58"E	21.83		
L22	S 54°44'13"E	22.89	L51	S 52°00'52"E	21.83		
L23	S 54°44'13"E	22.89	L52	S 52°04'46"E	21.83		
L24	S 54°44'13"E	22.89	L53	S 52°08'40"E	21.83		
L25	S 54°44'13"E	22.89	L54	S 52°12'34"E	21.83		
L26	S 54°44'13"E	22.89	L55	S 52°16'28"E	21.83		
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L29	S 54°44'13"E	22.89	L58	S 52°28'10"E	21.83		
L30	S 54°44'13"E	22.89	L59	S 52°32'04"E	21.83		
L31	S 54°44'13"E	22.89	L60	S 52°35'58"E	21.83		
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L41	S 54°44'13"E	22.89	L70	S 53°14'58"E	21.83		
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L46	S 54°44'13"E	22.89	L75	S 53°34'28"E	21.83		
L47	S 54°44'13"E	22.89	L76	S 53°38'22"E	21.83		
L48	S 54°44'13"E	22.89	L77	S 53°42'16"E	21.83		
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L70	S 54°44'13"E	22.89	L99	S 55°08'04"E	21.83		
L71	S 54°44'13"E	22.89	L100	S 55°11'58"E	21.83		
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L159	S 54°44'13"E	22.89	L188	S 60°15'10"E	21.83		
L160	S 54°44'13"E	22.89	L189	S 60°19'04"E	21.83		

I CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION(S) RECORDED AS SHOWN ON HEREON; THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION SHOWN ON THE FACE OF THIS MAP; THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY IS 1:26,715; AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600).

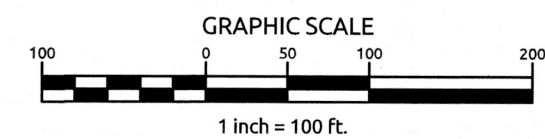
STEPHEN B. MULLINS, PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER L-3059



LEGEND
IRON PIPE FOUND
AXLE
TELEPHONE PEDESTAL
POWER POLE
CABLE BOX
FIBER OPTIC BOX
WATER METER
WATER VALVE
FIRE HYDRANT

○ IPF
 ○ AXF
 ▼ TLP
 ● PP
 ◇ CBX
 □ FOB
 ⚙ WM
 ▲ WV
 ○ FH

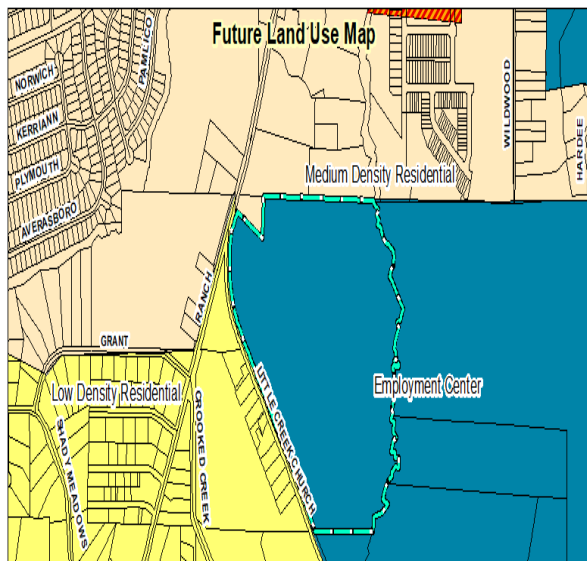
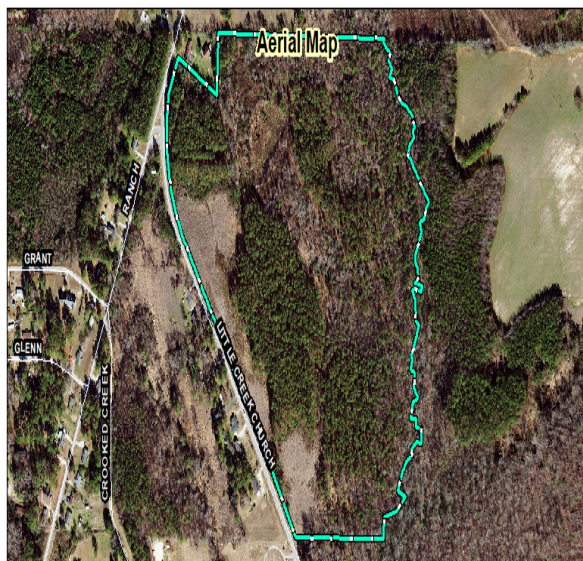
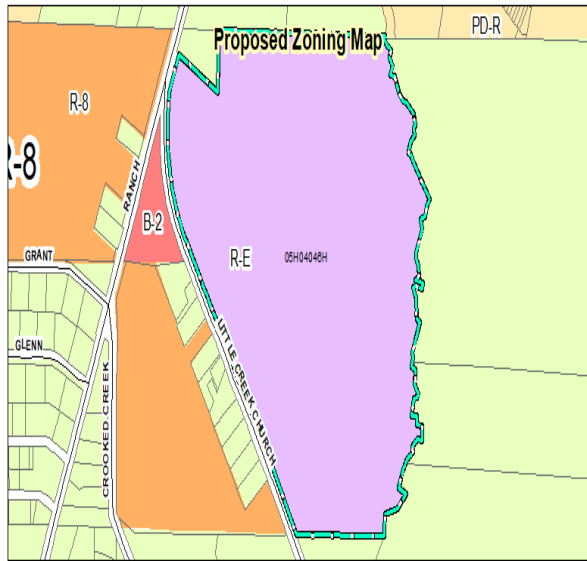
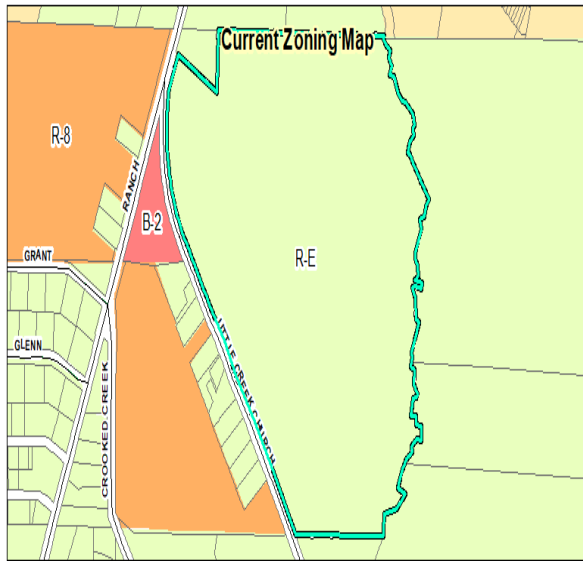
LINETYPE LEGEND
 PROPERTY LINE
 ADJOINER NOT SURVEYED
 WETLAND AREA
 STREAM BUFFER
 TELEPHONE LINE
 WATER LINE
 CATV LINE
 FIBER OPTIC LINE
 CONTOUR 5'
 CONTOUR 1'



REVISIONS:	DATE: 09-5-21	BOUNDARY AND TOPOGRAPHICAL SURVEY OF		 WithersRavenel Engineers Planners Surveyors 115 MacKen Drive Cary, NC 27511 Tel: 919-469-3340 License #: C-0832 www.withersravenel.com
	SCALE: 1"=100'	68.748 ACRE TRACT		
	SURVEYED BY: DONTÉ	OWNED BY TOWN OF CLAYTON		
	DRAWN BY: BURB	PARCEL NUMBER 166814-42-8880		
	CHECK & CLOSURE BY: BURB	DEED BOOK 4490 PAGE 198 PLAT BOOK 80 PAGE 89		
	CAD FILE: 67 ACRES	TOWNSHIP: CLAYTON	COUNTY: JOHNSTON	STATE: NORTH CAROLINA
	PROJECT NO: 02170831.10	ZONE:	P.I.N. 166814-42-8880	



115 MacKenan Drive | Cary, NC 27511 | t: 919.469.3340 | license #: C-0832 |
www.withersravenel.com



Request: Rezoning from R-E to I-1
Project Name Project Life Dust Rezoning
Project Number:

Applicant: Town of Clayton
 Property Owner: Town of Clayton
 Tag #: 05H04046H



0 0.2 0.4 Miles



Staff Report Map
 Prepared by: TOC Planning Department
 July 7, 2023

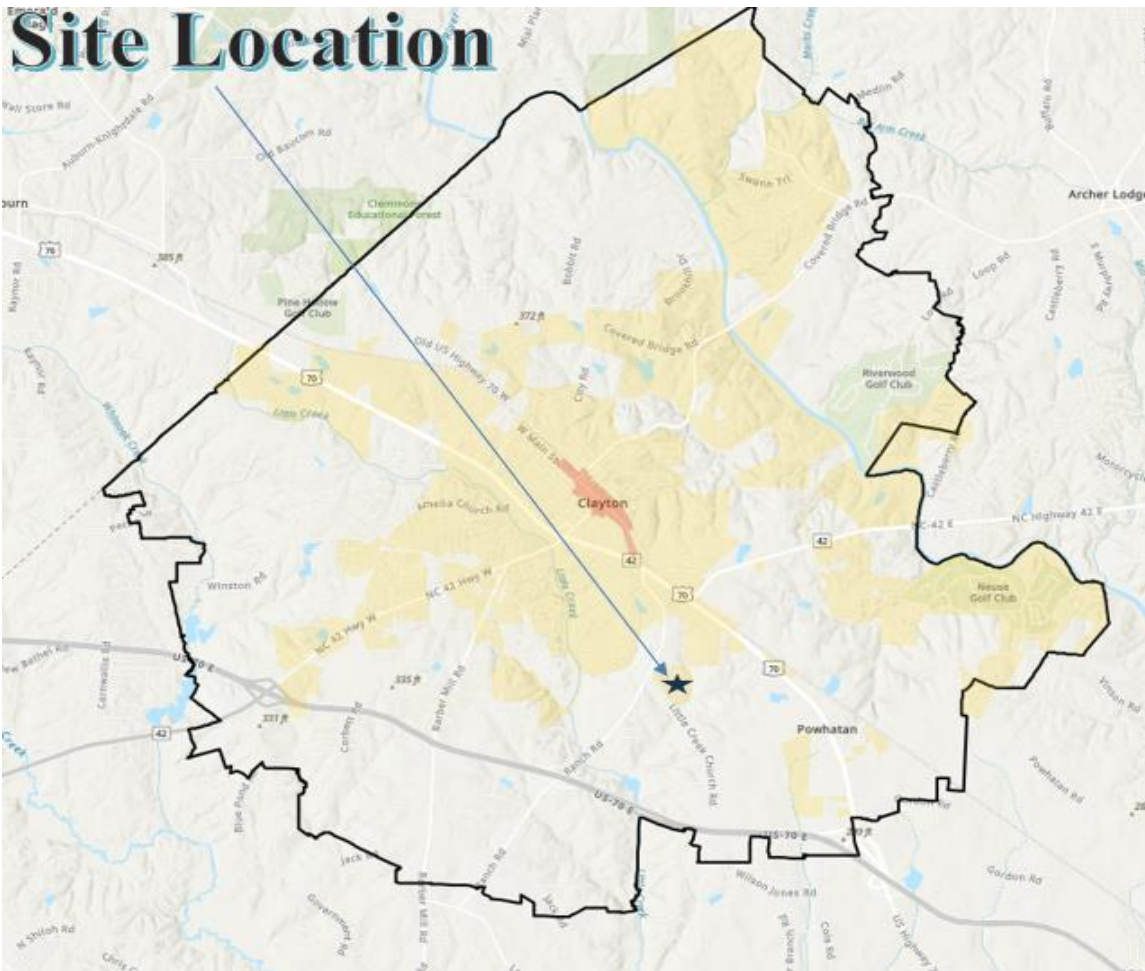
Disclaimer: Town of Clayton assumes no legal responsibility for the quality of the data represented here.

Document Path: C:\Users\lbrearable\OneDrive - Town of Clayton, NC\Desktop\Life Dust\Staff Report Maps - Life Dust.mxd



PROJECT LIFE DUST REZONING

Project #:	2023-111-RZ	Location:	Ranch Rd & Little Creek Church Rd.
Applicant:	Town of Clayton	Project Type:	Rezoning
Property Owner:	Town of Clayton	Proposed Use:	Industrial
Staff Planner:	Bruce Venable, Planner I	TAG #(s):	05H04046H



PROJECT SUMMARY

The site is located off Ranch Road and Little Creek Church Road within Clayton Town limits. The applicant has requested to rezone the above-referenced parcel that is approximately +/- 66.836 acres in size from Residential-Estate (R-E) zoning districts to the Industrial-Heavy (I-I) Zoning District. The site is currently vacant.

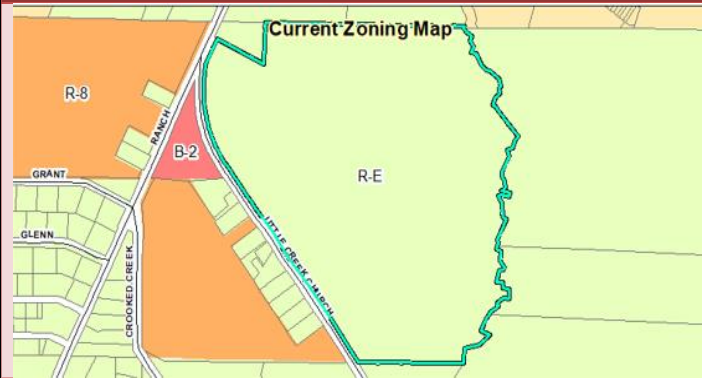
LAND USE REVIEW

SITE DATA:

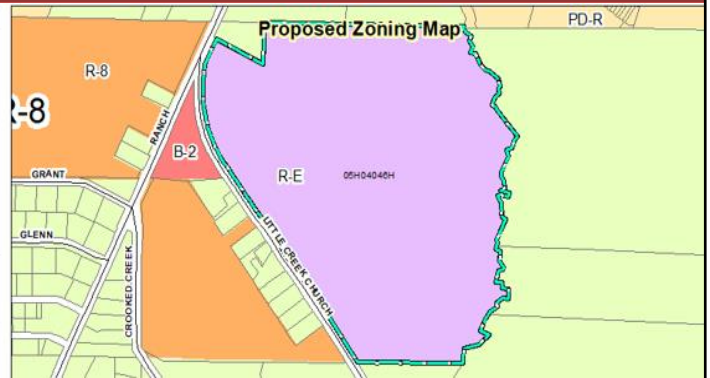
Acreage: +/- 68.836 acres

Existing Use: Vacant

CURRENT ZONING MAP



PROPOSED ZONING MAP



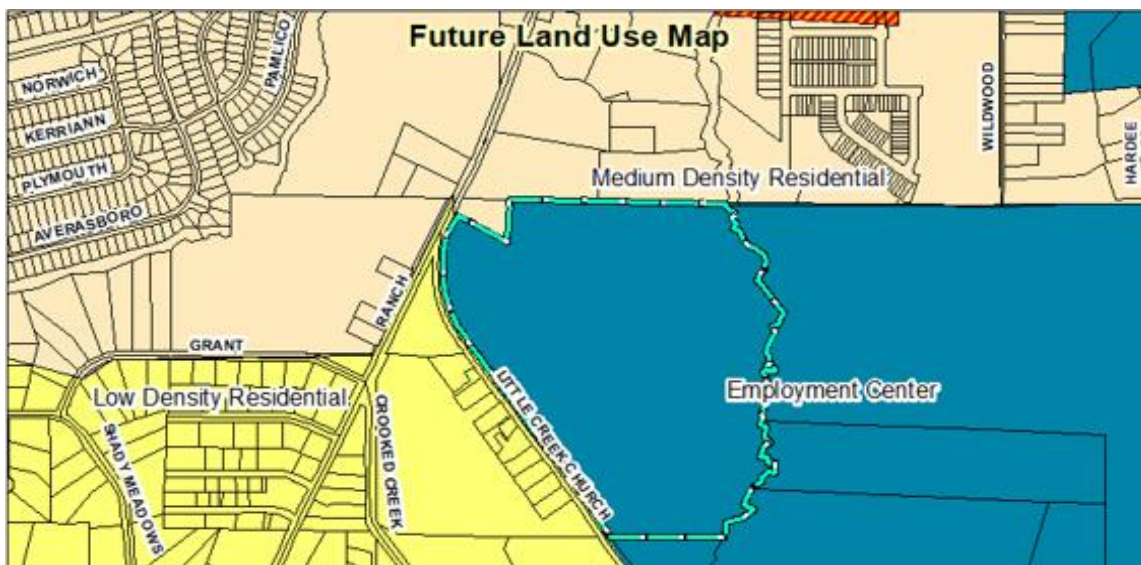
AERIAL MAP



TABLE 1: COMPARISON OF SURROUNDING PROPERTIES

Direction	Zoning	Existing Use
North	R-E (Residential-Estate)	Residential.
South	R-E (Residential-Estate)	Residential: Single Family Homes; Vacant.
East	R-E (Residential-Estate)	Industrial: R&D, Manufacturing.
West	B-2 (Neighborhood-Business), R-E (Residential-Estate), R-8 (Single-Family-Residential-8)	Commercial; Residential.

Consistency with the 2045 Comprehensive Growth Plan



The Future Land Use Map identifies this area as “Employment Center” (see map above). Page 21 of the Comprehensive Growth Plan states that Employment Center areas are designated “to provide locations for primary employment and economic development opportunities” and are “located along a major transportation corridor...” These guidelines are consistent with the purpose and function of I-1 zoning, as stated above. The rezoning request would be consistent with the Employment Center Future Land Use designation.

Comprehensive Growth Plan Goals supporting the rezoning request:

Comprehensive Growth Plan Goals supporting the rezoning request include:

Goal LU 1: Preserve Clayton’s character while allowing for growth and development in appropriate areas.

Policy LU 1.1: Manage future growth and encourage quality development through the implementation of the Comprehensive Plan, the Unified Development Code (UDC), and other plans and regulations adopted by the Town Council.

Strategy LU 1.1.1: Review development proposals for consistency with the Future Land Use Map.

Policy LU 1.3: Encourage non-residential land uses in areas consistent with the Future Land Use Map.

Strategy LU 1.3.1: Ensure the scale of non-residential uses are consistent with the Future Land Use Map.

Policy LU 1.4: Encourage new businesses and non-residential development in Employment Centers designated on the Future Land Use Map.

Strategy LU 1.4.1: Encourage a mix of non-residential land use in Employment Centers including industrial, warehouse, office, research and development, tech-flex, renewable energy, recycling, fabrication, assembly, and technology uses.

Strategy LU 1.4.3: Allow for integration of compatible uses in Employment Centers including commercial development as a supporting use.

Goal ED 1: Increase opportunities for companies that provide well-paid jobs.

Policy ED 1.5: Continue business retention efforts and support existing commercial corridors.

Strategy ED 1.5.1: Continue business retention and expansion strategies to engage with existing businesses to support existing operations and expansions.

Strategy ED 1.5.2: Increase employment and redevelopment opportunities along key corridors including 70 Bus and NC 42 and at 70 Bypass interchanges.

REZONING APPROVAL CRITERIA

In connection with its legislative decision on a rezoning request, the Planning Board may consider factors including, but not limited to, the following:

(1) Consistency with the adopted plans and policies of the Town;

Applicant's Response: The proposed rezoning is consistent with the Town's 2045 Comprehensive Growth Plan and the Future Land Use Map that shows this parcel as part of the "Employment Center" area.

Staff Commentary: Staff believes that the current zoning and the proposed zoning changes are consistent with currently adopted plans for this project.

(2) Suitability of the subject property for uses permitted by the current versus the proposed district;

Applicant's Response: Current uses are limited to single-family residential, agriculture and recreation. The proposed zoning district would allow a wide range of industrial uses.

Staff Commentary: Staff believes that this request is appropriate and achieves the best use and practice for this site.

(3) Whether the proposed change tends to improve the balance of uses, or meets a specific demand in the Town;

Applicant's Response: It is staff's belief that since this aligned with the Town's 2045 Comp plan and the FLU Map that is improving the balances uses as was the intention of the 2045 Comp. Plan.

Staff Commentary: Staff believe that this use is consistent with similar uses and may address a need for warehouse and freight services that will assist current and future businesses.

(4) The capacity of adequate public facilities and services including schools, transportation infrastructure, recreation facilities, wastewater treatment, water supply facilities, and stormwater drainage facilities for the proposed use;

Applicant's Response: Water connections are available to the site.

Staff Commentary: The rezoning should not affect the Town's compacity of public facilities, services nor will it negatively affect the current infrastructure. The applicant will be required to complete a WWA application prior to Town Council approval of any potential development on the site.

(5) It has been determined that the legal purposes for which zoning exists are not contravened;

Applicant's Response: No violations of zoning currently exist nor will the proposed zoning create any new violations to the Town's zoning.

Staff Commentary: Staff believe that this request is not contravened and is aligned with the comprehensive future land use plan of 2045 and will serve the community under the proposed I-1 zoning district.

(6) It has been determined that there will be no adverse effect upon adjoining property owners unless such effect can be justified by the overwhelming public good or welfare;

Applicant's Response: It is Staff's opinion that rezoning this parcel is in line with the FLUM which is in the best interest of the public.

Staff Commentary: There should be no adverse effect upon any of the adjoining property owners due to this rezoning proposal.

(7) It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public.

Applicant's Response: There should be no detriment to the general public from the proposed rezoning. The rezoning is aligned with the Town's future plans.

Staff Commentary: No one property owner or small group will benefit materially from this change.

Staff Recommendation

- ◆ Staff recommends **APPROVAL** of the proposed rezoning request.

Consistency and Reasonableness Statement:

"We find this rezoning action is consistent with the Future Land Use Map, Goal LU 1, Policy LU 1.1, Strategy LU 1.1.1, Strategy LU 1.1.2, Strategy LU 1.2.2 of the Town of Clayton's 2045 Comprehensive Growth Plan."

And

The proposed zoning amendment is reasonable and in the public interest because it supports the Town of Clayton 2045 Comprehensive Growth Plan's policies above and because:

1. The rezoning would allow for future employment opportunities along two well-traveled corridors.
2. The rezoning is consistent with the proposed uses of the "Employment Center" Designation found in the 2045 Comprehensive Plan.

ATTACHMENTS:

- 1) Staff Report
- 2) Application/Owner's Consent Form
- 3) Neighborhood Meeting Materials
- 4) Survey
- 5) Staff Report Maps



Clayton Planning Board Agenda Cover Sheet

Meeting Date

August 28, 2023

Agenda Location

PUBLIC HEARINGS

Item Title

2022-125-CZM Summer Glen Conditional Zoning with Master Plan

Presenter(s)

Bruce Venable, Planner I

Suggested Action

Other - Provide Recommendation for Town Council

Strategic Priorities Alignment



☐
Think Clayton
(Administrative)



☐
Think Arts &
Culture



☐
Think
Downtown



☐
Think
Economic
Development



☒
Think Land
Use &
Housing



☐
Think
Mobility



☐
Think Parks,
Recreation
& Natural
Resources



☐
Think Public
Services &
Infrastructure

Public Hearing: No

If Approved, Will Document Require Recordation? Yes

Does This Item Require a Communication Plan?

- | | |
|---|--|
| ☒ Public Hearing (Required by GS) | ☐ Public Hearing (Not Required by GS) |
| ☐ Newspaper Notice (Required by GS) | ☐ Newspaper Notice (Not Required by GS) |
| ☐ Public Forum/Input Session | ☐ Press Release |
| ☐ E-News Distribution | ☐ Website |
| ☐ Social Media | ☐ Survey |
| ☒ Special Mailing | ☐ None Required |

Other/Special Instructions: Public notice signs placed at property.

Summary

The site is located off Glen Laurel Road and Vinson Road within the Town's ETJ. The applicant has requested to rezone the above referenced parcel from Residential-Estate Zoning (R-E) to Conditional Zoning-Residential Zoning District (CZ-R), which is approximately +/- 53.06 acres in size. The Conditional Zoning District would allow for up to 139 units, or a density of 2.60 units per acre. This site is located within the Watershed Protection Overlay District.

Funding Source

N/A

Corresponding Documentation

- [1 Application & Neighborhood Meeting Summary 2022-125-CZM Summer Glen Subdivision](#)
- [2 2022-125-CZM Submittal- Master Plan Narrative](#)
- [3 2022-125-CZM Submittal Plan -Summer Glen Master Concept Plan](#)
- [4-2022-125-CZM Neighborhood Meeting Minutes and Questions](#)
- [5 2022-125-CZM Summer Glen TIA](#)
- [6 NCDOT TIA Review for Summer Glen Residential TIA \(002\)](#)
- [7 TIA APPENDIX - Summer Glen](#)
- [8 2022-125-CZM Conditions of Approval Summer Glen Conditional Zoning 08-23-2023](#)
- [8 2022-125-CZM Wastewater Allocation Policy and Request Form \(PDF\)](#)
- [9 Staff Report Maps - 2022-125-CZM Summer Glen](#)
- [10 2022-125-CZM Summer Glen Subdivision Conditional Zoning. STAFF REPORT](#)

Submitted By: Bruce Venable, Planning

Reviewed By:

Love Ott, Land Development
Specialist

Approved - Aug 24 2023

Jonathan Jacobs, Assistant
Engineering Director

Approved - Aug 24 2023



TOWN OF CLAYTON
Planning Department
111 E. Second St., P.O. Box 879
Clayton, NC 27528
Phone: 919-553-5002
Fax: 919-553-1720

Conditional Zoning w/Master Plan Coversheet

Summer Glen Subdivision

Name of Project: **Wakefield Assemblage** Date: **5-23-2022**
Applicant Name: **Wakefield Development**

The following checklist to be completed by applicant:

- ☒ Pre-Application Meeting on: **4-12-2022**
- ☒ Review Fee
- ☒ Completed Application
- ☒ Owner's Consent Form
- ☒ Adjacent Property Owner's List
- ☒ Neighborhood Meeting Letter (one copy)
- ☒ 2 sets of stamped, addressed, empty envelopes for adjacent property owner notification
- ☒ Signed & sealed boundary survey
- ☒ Copy of signed & sealed boundary survey in PDF on USB
- ☒ Master Plan Set to include the following:
- Cover Sheet
 - Survey
 - Bubble Plan Outlining:
 - a. Where and which uses or groups of uses will occur
 - b. The proposed intensity/density of those uses
 - c. General location of internal and external network of public right-of-way and public infrastructure
 - d. All required elements for establishment of a zoning district including but not limited to dimensional standards, open space network, natural resource preservation, and landscaping or buffering

Reviewed by: _____



TOWN OF CLAYTON
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111 E. Second St., P.O. Box 879
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Phone: 919-553-5002
Fax: 919-553-1720

Conditional Zoning w/Master Plan Application

Conditional Rezoning w/Associated Site Plan Fee: \$1000 + \$5.00 per acre
Advertising Fee: \$200.00

SITE INFORMATION

Name of Project: Wakefield Assemblage
Acreage of Property: +/- 52.58 Zoning District: R-E
County Tag #: See Next Page NC Pin #: See Next Page
Address/Location: Intersection of Glen Laurel Rd. and Vinson Rd.
Existing Zoning District: RE Proposed Zoning District: CZM

APPLICANT INFORMATION

Applicant: Wakefield Development
Mailing Address: 3100 Smoketree Ct Suite 210 Raleigh, NC 27604
Phone Number: 919.522.9837 Fax: 1.252.459.8197
Contact Person: ~~Matthew Danielson~~
Email Address: ~~Matthew@LMSSI.com~~

Copy Andrew Stocks - Astocks@stocksenineering.com and Bret Mangum Bret@lmssi.com and Mike Baust Mike@lmssi.com on all correspondences.

PROPERTY OWNER INFORMATION

Name: See Next Page
Mailing Address: _____
Phone Number: _____ Fax: _____
Email Address: _____

OFFICE USE ONLY

Date Received: _____ Amount Paid: _____ File Number: 2022-125-CZM

January 2021



*** DISCLAIMER ***

Johnston County assumes no legal responsibility for the information represented here.

Result 0

id: 05I04010A
Tag: 05I04010A
Owner Name 1: TGS PROPERTIES LLC
Owner Name 2:
Mail Address 1: 514 DANIELS ST STE 414
Mail Address 2:
Mail Address 3: RALEIGH, NC 27605-0000
Book: 03962
Page: 0691

Result 0

id: 05I04203F
Tag: 05I04203F
Owner Name 1: GORDON, CHARLES B JR
Owner Name 2:
Mail Address 1: 276 BENNING CIR
Mail Address 2:
Mail Address 3: CLAYTON, NC 27527-5286
Book: 01154
Page: 0409

Result 0

id: 05I04203G
Tag: 05I04203G
Owner Name 1: GORDON, CHARLES B JR
Owner Name 2:
Mail Address 1: 276 BENNING CIR
Mail Address 2:
Mail Address 3: CLAYTON, NC 27527-5286
Book: 01154
Page: 0409

Result 0

id: 05I04200S
Tag: 05I04200S
Owner Name 1: GORDON, CHARLES B JR
Owner Name 2: GORDON, ERIC B
Mail Address 1: 276 BENNING CIR
Mail Address 2:
Mail Address 3: CLAYTON, NC 27527-5286
Book: 04205
Page: 0161

Result 0

id: 05I04010
Tag: 05I04010
Owner Name 1: TGS PROPERTIES LLC
Owner Name 2:
Mail Address 1: 514 DANIELS ST STE 414
Mail Address 2:
Mail Address 3: RALEIGH, NC 27605-0000
Book: 03962
Page: 0691



TOWN OF CLAYTON
Planning Department
111 E. Second St., P.O. Box 879
Clayton, NC 27528
Phone: 919-553-5002
Fax: 919-553-1720

OWNER'S CONSENT FORM

Consent is required from the property owner(s) if an agent will act on their behalf. A separate form is required from each owner. Consent is valid for one year from date of notary, unless otherwise specified. All fields must be completed.

Project Name: Summer Glen **Address or PIN #:** 05104010

AGENT/APPLICANT INFORMATION:

Wakefield Development

(Name - type, print clearly)

310 Smoketree Ct Suite 210

(Address)

Raleigh, NC 27604

(City, State, Zip)

I hereby give **CONSENT** to the above referenced agent/applicant to act on my behalf, to submit applications and all required materials and documents, and to attend and represent me at all meetings and public hearings pertaining to the following processes (*list applicable requests*):

Conditional Rezoning with Master Plan

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 that I have authority to execute this consent form as/on behalf of the property owner. 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 further agree to all terms and conditions which may be imposed as part of the approval of this application.

OWNER AUTHORIZATION:

TGS Properties LLC

(Name - type, print clearly)

514 Daniels St. Suite 414

(Address)

[Signature], MANAGER, TGS Properties, Raleigh, NC 27605

(Owner's Signature)

(City, State, Zip)

STATE OF Virginia

COUNTY OF Virginia Beach

Sworn and subscribed before me Cynthia G. Shank, a Notary Public for the above State and County, this the 15 day of July, 2022.

SEAL

Cynthia G. Shank
Notary Public
REG. # 213972

Commonwealth of Virginia

MY COMMISSION EXPIRES OCTOBER 31, 2024

Cynthia G. Shank
Notary Public

My Commission
Expires:

10/31/2024

July 2018



TOWN OF CLAYTON
Planning Department
111 E. Second St., P.O. Box 879
Clayton, NC 27528
Phone: 919-553-5002
Fax: 919-553-1720

OWNER'S CONSENT FORM

Consent is required from the property owner(s) if an agent will act on their behalf. A separate form is required from each owner. Consent is valid for one year from date of notary, unless otherwise specified. All fields must be completed.

Project Name: Summer Glen Address or PIN #: 05104010A

AGENT/APPLICANT INFORMATION:

Wakefield Development

(Name - type, print clearly)

310 Smoketree Ct Suite 210

(Address)

Raleigh, NC 27604

(City, State, Zip)

I hereby give **CONSENT** to the above referenced agent/applicant to act on my behalf, to submit applications and all required materials and documents, and to attend and represent me at all meetings and public hearings pertaining to the following processes (*list applicable requests*):

Conditional Rezoning with Master Plan

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OWNER AUTHORIZATION:

TGS Properties LLC

(Name - type, print clearly)

514 Daniel St Suite 414

(Address)

[Signature], Manager, TGS Properties

(Owner's Signature)

Raleigh, NC 27605

(City, State, Zip)

STATE OF

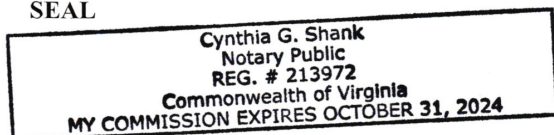
Virginia

COUNTY OF

Virginia Beach

Sworn and subscribed before me Cynthia G. Shank, a Notary Public for the above State and County, this the 15 day of July, 2022.

SEAL



July 2018

Cynthia G. Shank
Notary Public

My Commission
Expires:

10/31/2024



TOWN OF CLAYTON
Planning Department
111 E. Second St., P.O. Box 879
Clayton, NC 27528
Phone: 919-553-5002
Fax: 919-553-1720

OWNER'S CONSENT FORM

Consent is required from the property owner(s) if an agent will act on their behalf. A separate form is required from each owner. Consent is valid for one year from date of notary, unless otherwise specified. All fields must be completed.

Project Name: Summer Glen **Address or PIN #:** 05104203G

AGENT/APPLICANT INFORMATION:

Wakefield Development 310 Smoketree Ct Suite 210
(Name - type, print clearly) (Address)
Raleigh, NC 27604
(City, State, Zip)

I hereby give **CONSENT** to the above referenced agent/applicant to act on my behalf, to submit applications and all required materials and documents, and to attend and represent me at all meetings and public hearings pertaining to the following processes (*list applicable requests*):

Conditional Rezoning with Master Plan

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 that I have authority to execute this consent form as/on behalf of the property owner. 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 further agree to all terms and conditions which may be imposed as part of the approval of this application.

OWNER AUTHORIZATION:

Charles B Gordon Jr. Eric B Gordon 276 Benning Circle
(Name - type, print clearly) (Address)
Clayton, NC 27527-5286
(City, State, Zip)

STATE OF NC
COUNTY OF Johnston

Sworn and subscribed before me Candice Hughes, a Notary Public for the above State and County, this 14th day of July

SEAL



Candice Hughes
Notary Public

My Commission Expires: 7/31/26

July 2018



TOWN OF CLAYTON
Planning Department
111 E. Second St., P.O. Box 879
Clayton, NC 27528
Phone: 919-553-5002
Fax: 919-553-1720

OWNER'S CONSENT FORM

Consent is required from the property owner(s) if an agent will act on their behalf. A separate form is required from each owner. Consent is valid for one year from date of notary, unless otherwise specified. All fields must be completed.

Project Name: Summer Glen Address or PIN #: 05104200S

AGENT/APPLICANT INFORMATION:

Wakefield Development
(Name - type, print clearly)

310 Smoketree Ct Suite 210
(Address)
Raleigh, NC 27604
(City, State, Zip)

I hereby give **CONSENT** to the above referenced agent/applicant to act on my behalf, to submit applications and all required materials and documents, and to attend and represent me at all meetings and public hearings pertaining to the following processes (*list applicable requests*):

Conditional Rezoning with Master Plan

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 that I have authority to execute this consent form as/on behalf of the property owner. 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 further agree to all terms and conditions which may be imposed as part of the approval of this application.

OWNER AUTHORIZATION:

Charles B Gordon Jr. Eric B Gordon
(Name - type, print clearly)

276 Benning Circle
(Address)

[Signature]
(Owner's Signature)

Clayton, NC 27527-5286
(City, State, Zip)

STATE OF NC
COUNTY OF Johnston

Sworn and subscribed before me, Candice Hughes, a Notary Public for the above State and County, this the 19th day of July

SEAL



Candice Hughes
Notary Public

My Commission
Expires: 7/31/2018

July 2018



TOWN OF CLAYTON
Planning Department
111 E. Second St., P.O. Box 879
Clayton, NC 27528
Phone: 919-553-5002
Fax: 919-553-1720

OWNER'S CONSENT FORM

Consent is required from the property owner(s) if an agent will act on their behalf. A separate form is required from each owner. Consent is valid for one year from date of notary, unless otherwise specified. All fields must be completed.

Project Name: Summer Glen **Address or PIN #:** 05I04203F

AGENT/APPLICANT INFORMATION:

Wakefield Development 310 Smoketree Ct Suite 210
(Name - type, print clearly) (Address)
Raleigh, NC 27604
(City, State, Zip)

I hereby give **CONSENT** to the above referenced agent/applicant to act on my behalf, to submit applications and all required materials and documents, and to attend and represent me at all meetings and public hearings pertaining to the following processes (*list applicable requests*):

Conditional Rezoning with Master Plan

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 that I have authority to execute this consent form as/on behalf of the property owner. 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 further agree to all terms and conditions which may be imposed as part of the approval of this application.

OWNER AUTHORIZATION:

Charles B Gordon Jr. Eric B Gordon 276 Benning Circle
(Name - type, print clearly) (Address)
Clayton, NC 27527-5286
(City, State, Zip)

STATE OF NC
COUNTY OF Johnston

Sworn and subscribed before me Sandra Hughes, a Notary Public for the above State and County, this
the 19th day of July

SEAL



Sandra Hughes
Notary Public

My Commission Expires:

7/31/26

July 2018

EXPLANATION OF PROJECT

Please provide detailed information concerning all requests. Attach additional sheets if necessary.

Development of 5 parcels near the intersection of Glen Laurel Road and Vinson road into a subdivision.

APPROVAL CRITERIA – REZONING

All applications for a Conditional Rezoning must address the following Approval Criteria:

1. Consistency with the adopted plans of the Town.
The proposed development meets the Future Land Use Map which shows this area with a Low Density Residential Classification. The comprehensive 2045 Growth Plan classifies Low Density Residential as less than or equal to 3 units/acre, mostly single family, with a min of 25% open space.
2. Suitability of the subject property for uses permitted by the current vs. the proposed conditional district.
The proposed development is not in conformance with the current zoning however the proposed CZM Zoning allows the development to comply with the comprehensive 2045 growth plan.
3. Whether the proposed change tends to improve the balance of uses, or meets specific demand in the Town.
The proposed zoning change allows for low density residential option within the Town of Clayton.
The applicant believes there is a demand for residential development with the Town.
4. The capacity of adequate public facilities and services including schools, roads, recreation facilities, wastewater treatment, water supply facilities and stormwater drainage facilities is available for the proposed conditional district.
Any roadway improvements required by the TIA and deemed necessary by the NCDOT will be included in the project.
The project is just down the road from E. Clayton Community park for public recreation. Preliminary investigation has been provided to and confirmed by Clayton Engineering that shows adequate capacity at the downstream sewer lift station.
The sewer allocation sheet is also being submitted. Storm water systems will be designed to meet the criteria of the governing authorities.
5. It has been determined that the legal purposes for which zoning exists are not violated.
None violated that the applicant is aware of.
6. It has been determined that there will be no adverse effect upon adjoining property owners unless such effect can be justified by the overwhelming public good or welfare.
It is our understanding that there will be no adverse effect upon adjoining property owners by this project.

January 2021

-
7. It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public.

It is our understanding that this project produces no detriment to the general public.

APPROVAL CRITERIA- MASTER PLAN

All associated Master Plans must address the following Approval Criteria:

1. Compliance with code section 155.203(L) and all other applicable requirements of this chapter, or analysis and justification if it deviates from the requirements of this chapter.

The proposed master plan and subdivision design will comply with 155.203(L) and the other referenced sections.

2. Consistency with the Clayton General Design guidelines.

The Town of Clayton general design guidelines and details will be followed.

3. Conformance of the proposal with the stated purpose of the requested conditional zoning district.

The proposed CZM district works well for this project that does not easily fit into other zoning districts. The layout will demonstrate excellence in site design, circulation, use coordination, and compatibility with neighboring properties. See 155.200(C.1)

4. Compatibility of the proposed development with the adjacent community.

The project is compatible with other recent projects on Glen Laurel Rd.

5. The quality of design intended for each component of the project and the ability of the overall development plan to ensure a unified, cohesive environment at full build-out.

The proposed layout presents a unified, cohesive environment within the project at full build out.

6. Compatible relationships between each component of the overall project.

The open space amenity uses (ie. Dog park and play ground) will be compatible with the proposed residential community.

7. Self-sufficiency of each phase of the overall project.

The connections to existing water and sewer will be in Phase One. Future phases will connect to Phase One.

8. Documentation that the proposed infrastructure improvements accommodate the additional impacts caused by the development, or documentation to assure that the development, as proposed, will not overtax the existing public infrastructure systems.

A sanitary sewer analysis has been conducted and confirmed by Town of Clayton Engineering of the available sewer capacity.

9. The fiscal impact of the proposal and the proposed financing of required improvements.

The applicant believes that the towns tax base from the development will provide adequate funding for maintaining the required infrastructure.

10. The success of the proposal in providing adequate pedestrian and bicycle links within the development and with the adjacent community.

The proposed development will provide sidewalks which will provide pedestrian connection to internal amenities there are no public greenways in close proximity to the development.

11. The effectiveness with which the proposal protects and preserves the ecologically sensitive areas within the development.

One stream crossing is proposed and wetland impacts will be avoided and minimized where possible.

APPLICANT AFFIDAVIT

I/We, the undersigned, do hereby make application and petition to the Town Council of the Town of Clayton to amend the Zoning Ordinance and change the Official Zoning Map of the Town of Clayton as requested.. I hereby certify that I have full legal right to request such action and that 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 Clayton, North Carolina, and will not be returned.

Matthew Danielson
Print Name

Matthew Danielson Digitally signed by Matthew Danielson
Date: 2022.05.23 12:43:29 -04'00'
Signature of Applicant

5/23/22
Date

NEIGHBORHOOD MEETING INFORMATION

Purpose:

The purpose of the Neighborhood Meeting is to inform the surrounding property owners of the nature of the proposed land use and/or development features, answer questions, respond to concerns, and solicit comments.

Meeting Date:

The neighborhood meeting must be held at least 10 days prior to the 1st scheduled public meeting date.

Meeting Time & Location:

The meeting must be held no earlier than 6:00 pm Monday through Friday, and must be held in a location generally accessible to residents within close proximity of the request. The meeting space must be able to comfortably accommodate everyone that receives an invitation.

Meeting Notice Mailing requirements:

- a. The applicant must contact all adjacent property owners via first class mailing (see sample letter).
- b. The mailing must include all the persons, firms, or corporations owning property within 100 feet and immediately adjacent to the subject property. Where the subject property immediately adjoins a public or private right-of-way, landscape or riparian buffer, commonly-owned private area, public property, or homeowners' association property, then letters of notification shall be sent to adjoining property owners as if they directly abut the subject property.
- c. The notice must be mailed at least ten (10) calendar days but not more than twenty-five (25) days prior to the date of the Neighborhood Meeting.

Information required to be provided at the Neighborhood Meeting:

At a minimum, the following materials must be present and discussed at a Neighborhood Meeting:

- i. A copy of the project application.
- ii. A schedule of all upcoming public meetings for the application.
- iii. A map at a scale that is appropriate to the project and shows neighboring properties and roads.
- iv. A map, drawing, or other depiction of the proposed land use change or development proposal.

Information provided to Planning Department:

Alert the Planning Department once the date, location, and time of the Neighborhood Meeting are determined.

Deliver the following items to the Planning Department at least ten (10) calendar days prior to the 1st scheduled public meeting in electronic or hard copy format:

- | | |
|--------------------------|---|
| ☐ | Adjacent Property Owner's List (aka "mailing list") <i>Should be submitted with original application packet</i> |
| ☐ | Copy of the letter mailed <i>Should be submitted with original application packet</i> |
| ☐ | Attendance Roster (aka "sign-in sheet") <i>Submit no later than 10 days prior to 1st public meeting date</i> |
| ☐ | Neighborhood Meeting Summary Form with minutes (see below) <i>Submit 10 days prior to 1st public hearing</i> |

ADJACENT PROPERTY OWNERS LIST

Project Name: Wakefield Assemblage

The following are all the persons, firms, or corporations owning property within 100 feet and immediately adjacent to the property (including across street rights of way) subject to this request. Where the subject property immediately adjoins a public or private right-of-way, landscape or riparian buffer, commonly-owned private area, public property, or homeowners' association property, then letters of notification shall be sent to adjoining property owners as if they directly abut the subject property. Please use a separate sheet if necessary

It is the responsibility of the applicant to correctly identify the current owner, based upon records in the Johnston County GIS Office, for all property owners of land within the required public notice radius.

PARCEL NUMBER	NAME	ADDRESS
05I04199M,	Ava C Spence,	4579 C Barber Mill Rd. Clayton, NC 27520
05I04013X,	Leslie and Michael Alan Sharp,	307 Snead Rd, Clayton, NC 27527-7544
05I04013T,	Jodi and William D Bloom,	117 Palmer Dr. Clayton NC 27527
05I04013U,	Margarito Fernandez Santos and Dismairy Florian-Cruz,	112 Palmer Dr. Clayton, NC 27527
05I04013S,	Suzan and Rober Puttkamer,	113 Palmer Dr. Clayton, NC 27527-7540
05I04015J,	Cemetery	
05I04015K,	Lillian and Andrew Kent Seaton,	109 Palmer Dr. Clayton, NC 27527-7540
05I01013W,	Debra A Farmer,	305 Snead Dr. Clayton, NC 27527-7544
0504013V,	Johnnie M McManus,	303 Snead Dr. Clayton, NC 27527
05I04058L,	Toni and Johnny Robinson,	541 Wildlife Pkwy, Clayton, NC 27527-5139
05I04200J,	Sharon S Whitley,	317 Hereford Dr. Clayton, NC 27520-8549
05E99015N,	Kelly and Jon Authier,	958 Glen Laurel Rd. Clayton, NC 27527-6685
05E99014T,	Alton Morgan Heirs,	PO Box 28743 Raleigh, NC 27611
05E99014D,	Pember and Patrick Matthew Wood,	972 Glen Laurel Rd. Clayton, NC 27527-6685
05E99014U,	Longview Acre, LLC,	2405 Poole Rd. Raleigh, NC 27610-2748
05I04011I,	Anne Marie and Francis Patrick Hunter,	3 Pinnacle Pt. Clayton, NC 27527-6635

ADJACENT PROPERTY OWNERS LIST

Project Name: Wakefield Assemblage

The following are all the persons, firms, or corporations owning property within 100 feet and immediately adjacent to the property (including across street rights of way) subject to this request. Where the subject property immediately adjoins a public or private right-of-way, landscape or riparian buffer, commonly-owned private area, public property, or homeowners' association property, then letters of notification shall be sent to adjoining property owners as if they directly abut the subject property. Please use a separate sheet if necessary

It is the responsibility of the applicant to correctly identify the current owner, based upon records in the Johnston County GIS Office, for all property owners of land within the required public notice radius.

PARCEL NUMBER	NAME	ADDRESS
05I04013R,	Glen Ridge Homeowners Association,	PO Box 212 Clayton, NC 27520
05I04011J,	Kimberly and Brandon Foster Roberts,	4 Pinnalcle Pt. Clayton, NC 27527-6635
05E99013L,	Kristen and Mark J Zillioux,	830 Glen Laurel Rd. Clayton, NC 27527
05I04011Q,	Christin Butler Murphy and Christopher D. Hopper,	909 Birkdale Dr. Clayton, NC 27527-6601
05E99023A,	Deborah and Phillip James Kirby,	598 Glen Laurel Rd. Clayton, NC 27520
05I04203K,	Diane Alford Strouse and Steve Kehne Strouse,	68 Tanners Way, Clayton, NC 27527-9504
05I04011O,	Kelly and Leonard D Poole,	905 Birkdale Dr. Clayton, NC 27527
05I04203Q,	Katie and Denis Canelo,	67 Tanners Way, Clayton, NC 27527-9504
05I04200U,	Jamie and Roark Garth Stewart Jr.,	100 Tanners Way, Clayton, NC 27527
05I04203N,	Centennial and James Brent Gurganus,	26 Oak Cine Cir. Clayton, NC 27527-9503
05I04203O,	Jacqueline and Michael Patrick Dunlop,	33 Tanners Way, Clayton, NC 27527-9504
05I04011R,	Janice Cutinho and Justin Patrick Sullivan,	911 Birkdale Dr. Clayton, NC 27527-6601
05I04011P,	Diane E Morris and Alan G Wood,	907 Birkdale Dr. Clayton, NC 27527-6601
05I04011Y,	Neuse Country Club, LLC,	918 Birkdale Dr. Clayton, NC 27527-6600
05I04203L,	Christy Lynn Harmon and Charles Chirstopher Sutton,	67 Oak Vine Cir. Clayton, NC 27527-9502
05I04203M,	Brandy E. B. Creech,	64 Oak Vine Cir. Clayton, NC 27527-9503

ADJACENT PROPERTY OWNERS LIST

Project Name: Wakefield Assemblage

The following are all the persons, firms, or corporations owning property within 100 feet and immediately adjacent to the property (including across street rights of way) subject to this request. Where the subject property immediately adjoins a public or private right-of-way, landscape or riparian buffer, commonly-owned private area, public property, or homeowners' association property, then letters of notification shall be sent to adjoining property owners as if they directly abut the subject property. Please use a separate sheet if necessary

It is the responsibility of the applicant to correctly identify the current owner, based upon records in the Johnston County GIS Office, for all property owners of land within the required public notice radius.

PARCEL NUMBER	NAME	ADDRESS
05I04203J,	Andrea and Warrick L Jones,	34 Tanners Way, Clayton, NC 27527-9504
05I04009,	Betty Sue Woodall,	484 Packing Plant Rd, Smithfield, NC 27577-7729
05J05003B,	Geraldine B Byrd Life Estate,	3165 Vinson Rd. Clayton, NC 27527
05I04018I,	Glen Laurel Tennis Courts Holdings, LLC,	204 Cherry Laurel Dr. Clayton, NC 27527-6639
05J05003,	Stanley C Jones,	PO Box 1345 Clayton, NC 27528
05J05003A,	Debra and Stanley Cleveland Jones,	PO Box 1345 Clayton, NC 27528-1345
05I04058M,	Paulette and Marcus K Sanders,	557 Wildlife Pkwy Clayton, NC 27527-5139

05I04010	TGS PROPERTIES LLC		514 DANIELS ST STE 414	RALEIGH, NC 27605-0000
05E99023A	KIRBY, PHILLIP JAMES	KIRBY, DEBORAH	598 GLEN LAUREL RD	CLAYTON, NC 27520-0000
05J05003	JONES, STANLEY C		PO BOX 1345	CLAYTON, NC 27528
05I04200S	GORDON, CHARLES B JR	GORDON, ERIC B	276 BENNING CIR	CLAYTON, NC 27527-5286
05I04200J	WHITLEY, SHARON S		317 HEREFORD DR	CLAYTON, NC 27520-8549
05I04009	WOODALL, BETTY SUE		484 PACKING PLANT RD	SMITHFIELD, NC 27577-7729
05I04058L	ROBINSON, JOHNNY	ROBINSON, TONI	541 WILDLIFE PKWY	CLAYTON, NC 27527-5139
05J05003B	BYRD, GERALDINE B LIFE ESTATE		3165 VINSON RD	CLAYTON, NC 27527-0000
05I04058M	SANDERS, PAULETTE F.	SANDERS, MARCUS K.	557 WILDLIFE PKWY	CLAYTON, NC 27527-5139
05I04018I	GLEN LAUREL TENNIS COURTS HOLDINGS, LLC		204 CHERRY LAUREL DR	CLAYTON, NC 27527-6639
05I04011Y	NEUSE COUNTRY CLUB, LLC		918 BIRKDALE DR	CLAYTON, NC 27527-6600
05I04011R	CUTINHO, JANICE	SULLIVAN, JUSTIN PATRIC	911 BIRKDALE DR	CLAYTON, NC 27527-6601
05I04011Q	HOPPER, CHRISTOPHER D. JOINT TENANTS (WROS)	MURPHY, CHRISTIN BUTL	909 BIRKDALE DR	CLAYTON, NC 27527-6601
05I04011P	MORRIS, DIANE E	WOOD, ALAN G	907 BIRKDALE DR	CLAYTON, NC 27527-6601
05I04200U	STEWART, ROARK GARTH JR	STEWART, JAMIE W	100 TANNER'S WAY	CLAYTON, NC 27527-0000
05I04203M	CREECH, BRANDY E. B.		64 OAK VINE CIR	CLAYTON, NC 27527-9503
05I04203L	SUTTON, CHARLES CHRISTOPHER	SUTTON, CHRISTY LYNN	67 OAK VINE CIR	CLAYTON, NC 27527-9502
05I04203J	JONES, WARRICK L.	JONES, ANDREA M.	34 TANNERS WAY	CLAYTON, NC 27527-9504
05I04203K	SCHENCK, DAVID	SCHENCK, CYNTHIA	68 TANNERS WAY	CLAYTON, NC 27527-9504
05I04203Q	CANELO, DENIS	CANELO, KATIE	67 TANNERS WAY	CLAYTON, NC 27527-9504
05I04011O	POOLE, LEONARD D	POOLE, KELLY R	905 BIRKDALE DRIVE	CLAYTON, NC 27527-0000
05I04011I	HUNTER, FRANCIS PATRICK	HUNTER, ANNE MARIE	3 PINNACLE PT	CLAYTON, NC 27527-6635
05I04011J	ROBERTS, BRANDON FOSTER	ROBERTS, KIMBERLY A.	4 PINNACLE PT	CLAYTON, NC 27527-6635
05I04013T	BLOOM, WILLIAM D	BLOOM, JODI D	117 PALMER DR	CLAYTON, NC 27527-0000
05I04013U	SANTOS, MARGARITO FERNANDEZ	FLORIAN-CRUZ, DISMAIR	121 PALMER DR	CLAYTON, NC 27527-7540
05I04013W	FARMER, DEBRA A		305 SNEAD DR	CLAYTON, NC 27527-7544
05I04015K	SEATON, ANDREW KENT	SEATON, LILLIAN A.	109 PALMER DR	CLAYTON, NC 27527-7540
05I04013S	PUTTKAMER, ROBERT	PUTTKAMER, SUZAN	113 PALMER DR	CLAYTON, NC 27527-7540
05I04013V	MCMANUS, JOHNNIE M		303 SNEAD DRIVE	CLAYTON, NC 27527-0000
05I04013X	SHARP, MICHAEL ALAN	SHARP, LESLIE MAXWELL	307 SNEAD DR	CLAYTON, NC 27527-7544
05I04203N	GURGANUS, JAMES BRENT	GURGANUS, CENTENNIAL	26 OAK VINE CIR	CLAYTON, NC 27527-9503
05I04203O	DUNLOP, MICHAEL PATRICK	DUNLOP, JACQUELINE W	33 TANNERS WAY	CLAYTON, NC 27527-9504
05I04199M	SPENCE, AVA C		4579 C BARBER MILL ROAD	CLAYTON, NC 27520-0000
05E99014D	WOOD, PATRICK MATTHEW	WOOD, PEMBER ROULEA	972 GLEN LAUREL RD	CLAYTON, NC 27527-6685
05E99014U	LONGVIEW ACRE, LLC		2405 POOLE RD	RALEIGH, NC 27610-2748
05E99014T	MORGAN, ALTON HEIRS		PO BOX 28743	RALEIGH, NC 27611-0000
05E99015N	AUTHIER, KELLY	AUTHIER, JON	958 GLEN LAUREL RD	CLAYTON, NC 27527-6685
05E99013L	ZILLIOUX, MARK J	ZILLIOUX, KRISTEN LAUR	830 GLEN LAUREL RD	CLAYTON, NC 27527-0000
05I04013R	GLEN RIDGE HOMEOWNERS ASSOCIAT		P O BOX 212	CLAYTON, NC 27520-0000
	Town of Clayton Planning Department	Bryant, Lori Bridget	111 E Second Street	Clayton, NC 27520
	Stocks Engineering	Stocks, Andrew	801 E Washington Street	Nashville, NC 27856



May 20, 2022

Dear Clayton Area Property Owner:

The purpose of this letter is to notify you of an application filed with the Town of Clayton for a land use change and development proposal involving property adjacent to, or in close proximity to property shown in your ownership by Johnston County tax records. Per Town of Clayton regulations, a Neighborhood Meeting must be held to provide information to area residents about the proposal. Due to current social distancing resulting from COVID-19, the Town of Clayton has authorized temporary use of Virtual Neighborhood Meetings. This letter includes instructions on how to access the virtual neighborhood meeting for this application. A representative of the applicant will coordinate this meeting and explain the application, answer questions, and solicit comments.

Meeting Date & Time: **June 7, 2022, 6-8pm**

Meeting Location: **virtual Zoom Meeting** (see link and information below to register)

Type of Application: **Conditional Re-Zoning**

Project/proposal property address: **584 & 700 Glen Laurel Rd** (see attached vicinity map)

Description of project/proposal: **Single-Family Development**

Upcoming public meetings for this application:

Planning Board: **June 27, 2022**

The following will be available for your review at the Neighborhood Meeting:

1. Aerial Image of Property
2. Current Zoning Map of Property
3. Copy of Application
4. Anticipated Public Meeting dates
5. Proposed Site Plan

If you have any questions prior to or after this meeting, you may contact us at (919) 484-8880 or email me at tony@tmtla.com.

You may also contact the Town of Clayton Planning Department at 919-553-5002.

Thank you,
Tony M. Tate, PLA
Principal
TMTLA Associates
P: (919) 484-8880
E: tony@tmtla.com

Cc: Town of Clayton Planning Department

TMTLA Associates
5011 Southpark Drive Suite 200 - Durham, NC 27713
p: (919) 484-8880 - e: info@tmtla.com



How to Register for and Participate in the June 7th Neighborhood Meeting:

To Register for Zoom meeting: if you would like the link emailed to you, please contact

robin@tmtla.com or tony@tmtla.com

Use this link to register for the Neighborhood Meeting

<https://us02web.zoom.us/join/tZAtduyhpzIqHNcJpt8QcyqaBKq7C6HxbIQQ>

To Participate by PC, Mac, iPad, iPhone, or Android Device:

NOTE: This meeting will require registration prior to attending if participating by video.

- Go to the following website to attend the meeting: <https://zoom.us/>
- Click on the "Join A Meeting" link at the top of the website.
- Enter the following information where prompted:
 - Meeting ID: **840 1599 9063**
- Once you enter the Meeting ID and click "Join" you will be prompted to register for the meeting. Fill out the required information. After you register for the meeting, you will receive an email with a link to join the meeting.

To Participate by Phone:

- Dial the following number: **(929) 205-6099**
- Enter the following information when prompted:
 - Meeting ID: **840 1599 9063**
- After you enter the Meeting ID please press # to enter the meeting. There is no passcode for this meeting.
- If you are participating by phone all graphics to be discussed during the meeting can be mailed to you.

Once the meeting has started and attendance has been taken, all participants will be muted to allow for presentation by the meeting host. Please note that participants' video will be off by default, as well, so meeting host can display the below maps during the meeting. **Please note this meeting will be recorded.**

During the call attendees are asked to use the raise hand function to ask questions. This can be done by using the Raise Hand function if joining by video or by dialing *9 if joining by telephone.

We look forward to discussing our proposal with you.

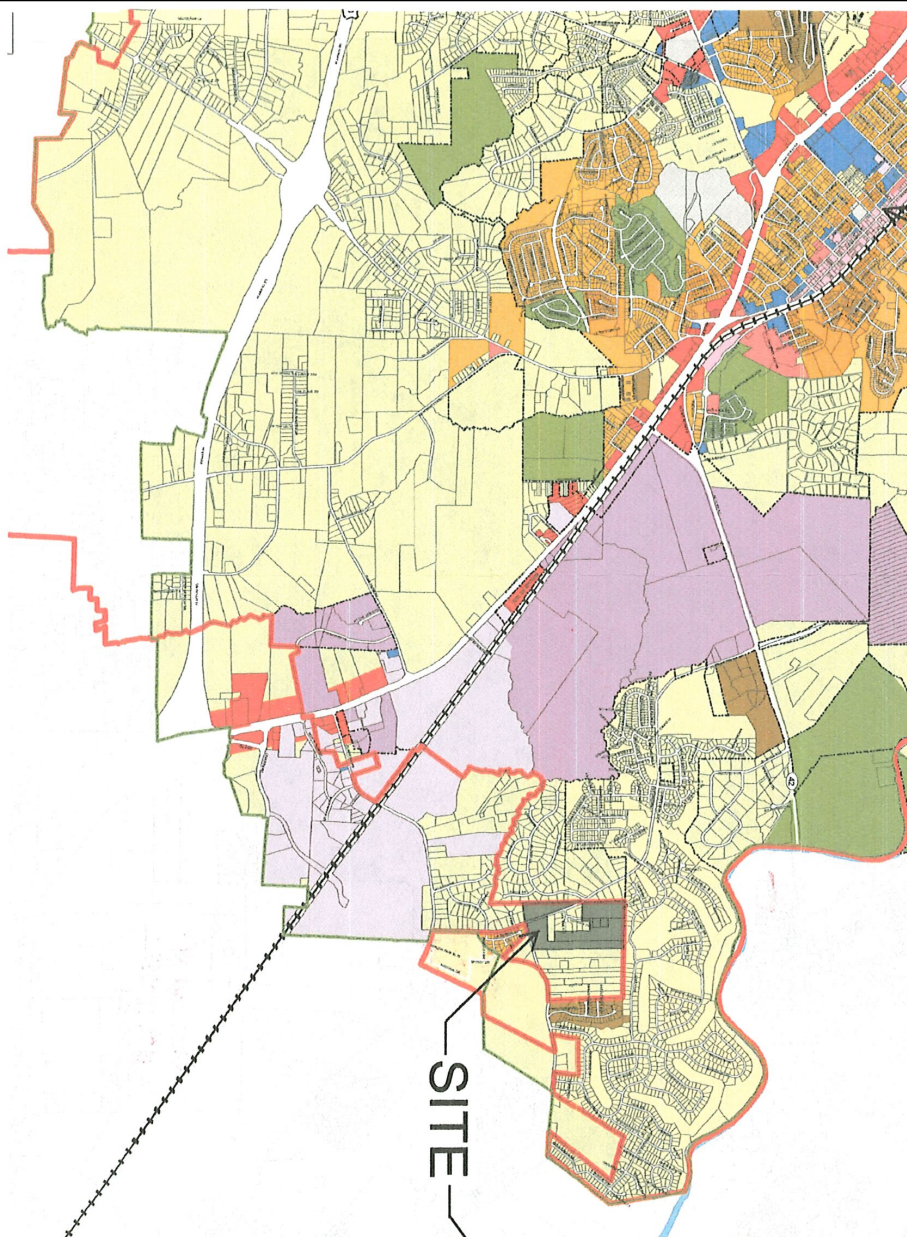
TMTLA Associates
5011 Southpark Drive Suite 200 - Durham, NC 27713
p: (919) 484-8880 - e: info@tmtla.com



VICINITY MAP
SCALE: 1"=1,000'

DOWNTOWN
CLAYTON

SITE



Official Zoning Map

Clayton, North Carolina
Last Amended: February 22 2021

- Clayton Town Limits
- Extra Territorial Jurisdiction
- County Boundary
- Claytex Fire District
- Railroad
- Special Use District
- Residential Estate
- Single-Family Residential: 10,000 S.F. Lot
- Single-Family Residential: 8,000 S.F. Lot
- Single-Family Residential: 6,000 S.F. Lot
- Office-Residential
- Office-Institutional
- Central Business
- Neighborhood Business
- Highway Business
- Industrial-Light
- Industrial-Heavy
- Public-Facilities
- Planned Development-Mixed Use



Preliminary - Subject to Change

Wakefield Assemblage

Glen Laurel Road @ Vinson Road
Clayton, North Carolina



TMILA Associates
Landscape Architecture & Planning



NEIGHBORHOOD MEETING ATTENDANCE ROSTER

Project: _____

Application: _____

Location/Date: _____

NAME	ADDRESS
1	
2	
3	
4	
5	
6	
7	
8	
9	
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11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

January 2021

m.us/meeting/84015999063

cape-Manual-... Sec. 8.3 Tree Protec... Interactive Maps |... iMAPS General Map - Meb... Coronado Stone Pr... Preliminary Subdivi... Raleigh Historic

REQUEST A DEMO 1.888.791

PLANS & PRICING CONTACT SALES RESOURCES SCHEDULE JOIN HOST WHITEBOARD

Automatically record meeting in the cloud

Registrants for 'Glen Laurel Rd - Clayton Neighborhood Mtg'

Search by name or email Search

☐	Registrants	Email Address	Registration Date	
☐	Kim Roberts	Kim@nexgenhomesn c.com	Jun 7, 2022 07:07 PM	Copy
☐	Christin Hopper	Murphy_christin@yah oo.com	Jun 7, 2022 06:16 PM	Copy
☐	Andy S	llbasspro@yahoo.com	Jun 7, 2022 06:09 PM	Copy
☐	John Barnes	john@cheshomes.co m	Jun 7, 2022 06:06 PM	Copy
☐	Angela Crumpler	ascrump09@gmail.co m	Jun 7, 2022 06:02 PM	Copy
☐	Tom Schueller	tjs3914@aol.com	Jun 7, 2022 05:59 PM	Copy
☐	Matthew Danielson	matthew@lmssi.com	Jun 7, 2022 05:59 PM	Copy
☐	Tony Tate	tony@tmtda.com	Jun 7, 2022 05:59 PM	Copy
☐	Jamie Stewart	jaimeelove@gmail.co m	Jun 7, 2022 05:58 PM	Copy
☐	Brandy Creech	bcreech@mbakerintl.c om	Jun 7, 2022 05:56 PM	Copy
☐	Anne Marie Hunter	amhunter999@gmail. com	Jun 7, 2022 05:56 PM	Copy
☐	Paulette Sanders	paulettesanders2@ya hoo.com	Jun 7, 2022 05:48 PM	Copy
☐	Mike Baust	mike@lmssi.com	Jun 7, 2022 05:30 PM	Copy
☐	Rob Puttkamer	robputt108@hotmail. l.com	Jun 7, 2022 05:25 PM	Copy
☐	Kristen Zillioux	kzill@padovanoandzill ioux.com	Jun 7, 2022 03:55 PM	Copy
☐	William Smith	bsmith@tgsgroup.biz	Jun 7, 2022 01:27 PM	Copy

YouTube Facebook Instagram

ation | Cookies Settings

☐	Matthew Danielson	matthew@lmssi.com	Jun 7, 2022 05:59 PM	Copy
☐	Tony Tate	tony@tmtla.com	Jun 7, 2022 05:59 PM	Copy
☐	Jamie Stewart	jaimeelove@gmail.com	Jun 7, 2022 05:58 PM	Copy
☐	Brandy Creech	bcreech@mbakerintl.com	Jun 7, 2022 05:56 PM	Copy
☐	Anne Marie Hunter	amhunter999@gmail.com	Jun 7, 2022 05:56 PM	Copy
☐	Paulette Sanders	paulettesanders2@yahoo.com	Jun 7, 2022 05:48 PM	Copy
☐	Mike Baust	mike@lmssi.com	Jun 7, 2022 05:30 PM	Copy
☐	Rob Puttkamer	robputt108@hotmail.com	Jun 7, 2022 05:25 PM	Copy
☐	Kristen Zillioux	kzill@padovanoandzillioux.com	Jun 7, 2022 03:55 PM	Copy
☐	William Smith	bsmith@tgsgroup.biz	Jun 7, 2022 01:27 PM	Copy
☐	Christin Murphy	christin.murphy@habitawake.org	Jun 7, 2022 01:11 PM	Copy
☐	Andrew Stocks	astocks@stocksengineering.com	Jun 7, 2022 12:00 PM	Copy
☐	jacob callahan	jacob.callahan05@gmail.com	Jun 6, 2022 01:28 PM	Copy
☐	Debra AndersonFarmer	dafarmer60@hotmail.com	Jun 6, 2022 10:42 AM	Copy

[Cancel Registration](#)
[Resend Confirmation Email](#)

[<](#)
[1](#)
[>](#)

GMT20220607-215....txt ^

GMT20220607-2....mp4 ^

NEIGHBORHOOD MEETING SUMMARY FORM

FILL OUT THE FOLLOWING:

Application:

Date of Mailing:

Date of Meeting:

Time of Meeting:

Location of Meeting:

I hereby attest that letters were mailed to the addresses listed on the Adjacent Property Owners List (attached) ten days prior to the Neighborhood Meeting, and that all required information was presented at the Meeting:

Printed Name: _____

Signature: _____

Meeting Summary/Minutes: *provide a summary of the discussion held at the meeting, including issues raised and any resolution discussed, and any changes made to the application as a result of the meeting.*

Please write clearly (or submit a typed summary). Use additional sheets if necessary.

WAKEFIELD DEVELOPMENT
GIVEN LAUREL ASSEMBLY - NEIGHBORHOOD MTC.
QUESTIONS

- JACOB CAUNTAN GIVEN RIDGE HOA PRESIDENT - CROSSING STREET
 - LEAVE AS NATURAL AS POSSIBLE
 - CONSIDERATION FOR CURRENT HORUS MARKET →
- PAULETTE SANDERS TRAFFIC, HOW MANY HOMES
- DORIS ANDERSON GIVEN RIDGE - PRICE OF HOMES
TEMPER ON GIVEN LAUREL
- CRISTIN HOPPER - PEER REVIEW
 - WHEN WILL CONSTRUCTION START
- ANNIE MIRE HUNTER - SURROUNDING OAK GROVE
- GARETH STEWART - OAK GROVE OPEN SPACE
 - CAN SOMEONE PURCHASE LAND FOR PRESERVATION
 - WETLANDS DISTANCE FROM ROAD TO PROPERTY AT CURRENT
- CONSTRUCTION START
- BRAND CREEK - DENSITY
 - TIA
 - BUFFER ON STREAMS ?

AUGUST RANKING BOARD →
TOWN COUNCIL →

KIM FORREST - WHO IS THE BUILDER

JAMIE STEWART - POND CONSTRUCTION & DESIGN

JUNE 7, 2022

18-19 PARTICIPANTS INCL.
PROJ. TEAM

CLAYTON: GLEN LAUREL RD. -

WAKEFIELD DEVELOPMENT

WAKEFIELD ASSEMBLAGE

- INTRODUCTIONS

- DESCRIBE SITE

- DESCRIBE ZONING

- DESCRIBE PROPOSED DEVELOPMENT

- RESPOND TO QUESTIONS.

- MATTHEW DANIELSON DISCUSSED WHAT THE
HOUSES WILL LOOK LIKE

- ANDREW RESPONDED TO ADDITIONAL Q'S.

- JOHN TURNER - DISCUSSED HOMES
3 BDR - 5 BDR

LOKI BRIDGET - CONTACT @ CLAYTON

~~DEB X~~:

JACOB CALLAHAN:

GLEN RIDGE HOA OFFICER

CHALLENGES OF SPLITTING SUBS ACROSS
G.L. RD. -

ANDREW RESPONDS: TROP'LL HAVE THEIR
OWN MAIL BOX BUT UNDER SAME HOA

J. CALLAHAN -

W WHAT WILL HAPPEN TO GRASSLAND -
MAINTAINED AS GRASS OPEN SPACE

PAULSTIS SANDERS -

W VINSON RD - LOTS OF TRAFFIC -

HOW MANY HOMES? 134 ON TOTAL
SITE - IS ON OTHER SIDE OF
G.L. RD.

NC DOT WILL DETERMINE TRAFFIC NEEDS -
WE WILL MEET THOSE REQUIREMENTS.

DEBRA ANDERSON -

W WHAT IS PRICE PT? W WILL VALUE GO
DOWN? \$400'S TO 500 K - JOHN BARNES

W TRAFFIC IS ALREADY BAD - WON'T IT
GET WORSE? PRONE TO ACCIDENTS
WE WILL DO EVERYTHING WE CAN
TO MEET TRAFFIC NEEDS.

CRISTIN HOPPER

REQUESTING A
PEER REVIEW OF TRAFFIC STUDY -
WILL YOU PAY FOR IT?

BRANDY CROUCH -

WHERE ARE YOU AT IN TERMS OF TRAFFIC STUDY?

- EARLY PROCESS - ANDREW

MORE WILL OCCUR AFTER U.S. ZONING
IS

JACOB CALAHAN

- ~~IF THE~~ WHAT WILL THE FARTHEST IMPACT
TO THE SITE IF MARKET DOWNTURN

MATTHEW - RALEIGH DOESN'T SUFFER ^{MUCH} ~~AT ALL~~
WE WILL NOT ABANDON THE SITE

GARTH STEWART (JAMIE STEWART)

OAK GROVE - WHAT WILL HAPPEN AT
END OF TANNER'S WAY. HOW WILL WE
GET ACCESS TO THAT OPEN SPACE.

ANDREW - STILL DEVELOPING - PROBABLY
POorest ACCESS - NOT SURE HOW IT WILL
END UP. -

HOW URGENT END UP NEEDED

G. STEWART -

CAN SOMEONE BUY UNDEVELOPED LOT? UNLIKELY
NOW BECAUSE ~~WANT~~ WANT A LOT COST

BRANDY CREEK

3 OVERALL DENSITY? - LESS THAN
3 UNITS/ACRE - CURRENTLY SHOWN
BE 2.5 UNITS/ACRE

PIKE BLVD -

ANDREW PLEASE SPEAK TO ^{COMMUNITY} ~~THE~~ ^{ENGINEERS.}

IN PROCESS GOING FORWARD. & SCHEDULE

STAFF (1st) THEN PLANNING BD - REVIEW 1st
TOWN COUNCIL.

ONCE FULL REVIEW IS IN PLACE THEN
INFRASTRUCTURES WILL BE DESIGNED

THEN MORE REVIEW BY VARIOUS MUNICIPAL
& UTILITY EXPERTS & ADVISORS

BRANDY CREEK

WHEN WILL TIA ACTUALLY BE COMPLETED?

EXPECTING TO COMPLETE BEFORE SCHOOL
STARTS AGAIN.

CAN WE GET A COPY OF THE SITE PLAN?

STREAMS HAVE A BUFFER - WETLANDS DO NOT

GARTH STEWART -

IS THERE A DIMENSION RE: WETLANDS

~~IS~~

ANSWER: 200' FROM LOT TO CULVERT

BRANDY:

RUN UTILITY UNDER THE STREET

ALONG/ACROSS CULVERT

SECTION WILL FLOW TO NEUSE ~~RIVER~~ ^{C.C. EXIST. ~~SECT~~}

~~SECT~~

GARTH:

STORM WATER PONDS - WHAT DETERMINES
THEIR LOCATIONS?

LOCATED IN LOW AREAS ON THE SITE -
FIT EXIST. CHARACTERISTICS OF THE
SITE

BRANDY -

WHEN WILL CLEARING BEGIN

D: PROB A YEAR

GARTH - WILL NEIGHBORHOOD BE DEV. IN
PHASES?

A: WILL START W/ CREATING ACCESS FROM VIRSON -

MICHAEL PAUST -

THANK YOU TO THE COMMUNITY

KIM - REQUESTED ADDL INFO ^{REGARDING} ~~THE~~
HOMES / WHAT THEY WILL LOOK LIKE

GARTH STEWART -

ARE THE STRUCTURES SHOWN ON THE PLAN
EXISTING?

A: YES

G STEWART -

WILL PONDS BE PLANTED?

POND DAMS WILL BE GRASS SEEDS -

G. STEWART -

WILL POND DISCHARGE TO STREAM? YES.

KRISTEN ZILLOUX

ANGELA CRUMPLE

BILL SMITH

} REMAINING CROWD ON
THE CALL. -

NOT SURE THE WOMEN
ARE EVEN STILL THERE

"ROCKY BRANCH RD" - WAS PREV. ~~THE~~ NAME
OF GLEN LAUREL RD.

Questions from Brandy Creech and Neighbors

- Define “Open Space” and its requirements
 - Will the green shaded areas remain wooded?

The open space is all area that is not within the ROW or on proposed individual lots, the open space will be dedicated to the HOA for ownership and maintenance. The area will consist of amenity areas, perimeter buffers, the Stormwater Control Measures (SCMs), riparian buffers, etc. Portions of this space will remain wooded. The limit of disturbance have not been determined at this time but will be as construction drawings progress.

- SCM – is this a retention pond/water feature?

SCM is an acronym for Stormwater Control Measure and yes would be a retention pond/water feature.

- Two proposed roads are shown tying into an adjacent property. Is there a current plan for the neighborhood to extend?

There is no current plan for the neighborhood to be extended, these are required stubs by the Town of Clayton to meet block length criteria and interconnectivity to adjacent property however there are no current plans by Wakefield Development to further extend the subdivision.

- Size of Lots?

Currently the minimum lot size is 6,900 sf, the typical lot size is 7,200 sf and the largest is 23,519 sf.

- Size of homes?

The typical building pad will be 45' x 55' with options that alter this size. I will let John Barnes from Chesapeake Homes who will be the homebuilder add any additional information about the homes.

- Has an erosion control plan prepared?

Not at this time, Erosion control plans will be a part of the construction drawing process after the rezoning process.

- Is there a plan to restore the creek/natural spring?
 - This is a loaded question.

All environmental features were located by Sage Ecological and were included on the ALTA Survey. Sage will also be coordinating the impact permitting with USACE and NCDEQ. Our current plan is to minimize the proposed impacts and any requirements of the permitting process will be included in the scope of work.

- Will the developer request and participate in the improvement of Glen Laurel and/or Vinson Roads to minimize traffic congestion?

A TIA is currently being performed by Exult Engineering. Any recommendations from the TIA, the Town of Clayton, and NCDOT will be incorporated into the improvements.

- Site Plan Request:
 - Plans to scale**
 - Include park, pool, community building/structures, etc
 - Show property lines (specifically Oak Grove neighborhood)**
 - Show wetland boundaries/all water surveys **

Our current preliminary site plan has been included in the presentation. We would like to note that modifications are being made and the plan is not final until it has received approval from all jurisdictional authorities.

- Is Oak Grove at risk of being annexed because of this proposed development?

No, State law has eliminated forced annexation Oak Grove. The developer cannot annex any land owned by a third party. Oak Grove would have to request voluntary annexation only if there was a desire to do so.

- Will Oak Grove be used as a construction entrance for the back side of the proposed neighborhood?
 - If so, how will the developer compensate Oak Grove residents for excessive wear and tear on our private street?

Oak Grove will **not** be used as a construction entrance, during preliminary discussions with the Town of Clayton, the Engineering department has requested that we not provide a street connection to Tanners Way. This connection is not shown.

- Will neighborhood street creek crossings on the map be culverts or bridges?

We will propose this as a pipe culvert crossing. This crossing will require the US Army Corp of Engineers and NCDEQ approval for stream/wetland impacts.

- Will vegetation be planted to define neighborhood boundaries?

The Town of Clayton requires a perimeter landscape buffer between the proposed zoning and the adjacent property. Natural vegetation will remain where possible however if the natural vegetation is removed for any reason a buffer in accordance with the Towns UDO will be planted.

-

Questions from Betty Woodall

- This tract was once her families farm and she asked if we located the slave cemetery that was on site.

An ALTA Survey and an Environmental Phase One have been performed on the site and neither of those studies found documentation or evidence of any Cemeteries on this site. We do know there is a Cemetery adjacent to this site, inside of the Glen Ridge Subdivision. If any cemeteries are encountered the development team will handle in accordance with typical protocol to investigate concern.

- She also had questions about traffic and turn lanes.

Addressed Above, however a TIA is currently being performed by Exult Engineering. Any recommendations from the TIA, the Town of Clayton, and NCDOT will be incorporated into the improvements.

-

Questions from Christin Hopper

Our lot directly abuts several proposed at the northernmost portion of the property. The stream to be impacted flows through our front yard. Our concerns relate to stormwater management and forest clearing.

1: Would the project comply with the basic requirements of the town of Clayton or are more protective measures proposed?

The stream shared by existing residences and the proposed development, as evidenced by its excessive incision in the landscape, is subject to very flashy storm flows. This perennial feature should be provided more protections than the town of Clayton's basic standards.

The project will comply with all applicable requirements from various governing authorities. The stream has a 50' riparian buffer from the top of the stream bank and these buffers are regulated by Johnston County. Streams and wetlands are regulated by the US Army Corp of Engineers the NC Department of Environmental Quality. There are some proposed impacts to this stream and wetlands so the USACE and NCDEQ will be involved in permitting of this site and be aware of all construction activity.

2: we understand the need for mass balancing, but see no need to clear all the way to the property line. Wide forested buffers provide better living conditions for both existing and future residents. Would the applicant entertain preserving 50ft wooded buffer along property lines adjacent to existing residences?

The plan is to leave a 15' undisturbed buffer where existing vegetation exists. If there is no vegetation or the existing vegetation must be removed, then a Type C landscape buffer as described in the Towns development ordinance will be planted.

3: The dominant winds in our area are from the southwest. Windthrow is common in forests cleared for differing land uses. A wider buffer would reduce the potential for trees to be pushed across the power lines already in our backyard and would increase property values and attractiveness. Some trees along the property line could not be cleared without our approval. Several are tall enough to impact our home.

Care will be taken to keep the existing wooded area within 15' of the property line as the landscape buffer and to avoid any impacts to adjacent properties especially in areas where existing vegetation is to be removed.

4: If the applicant will not agree to preserving this wide forested buffer along property lines, we request that tall opaque, vegetated buffers be planted by the applicant.

If the existing trees are to be removed, the development will provide the Type C landscape buffer as required by the Town of Clayton's development ordinance.

5: Will the applicant entertain allowing a native plant harvest to occur before the forests are cleared? We understand a waiver would need to be signed.

Please provide additional detail and present a more specific request. This can be discussed on a case-by-case basis. Any proposal presented will be reviewed by the developers.

6: The Town of Clayton and Johnston County in general, have done a very poor job of planning infrastructure to accommodate all the growth that is being approved. We request the town consider beginning a fund for all new homes that would be used to improve water and sewer, infrastructure, failing roadways, availability of schools, etc. Our standard of living steadily declines as more and more homes are approved without the most basic considerations for existing residents.

This is an item the Citizens of Clayton and Johnston County should bring to the attention of the elected officials. Typically, municipalities have tap fees and/or development fees to make connections to existing lines which are paid to the town for infrastructure improvements.

Master Plan Narrative

Summer Glen

Conditional Zoning

Town of Clayton Project 2022-125-CZM

July 15, 2022

REV. 10-28-22

REV. 2-27-23

REV. 6-20-23

REV. 7-20-23

Owner/Developer:



3100 Smoketree Ct. Suite 210
Raleigh, NC 27604





Town of Clayton
Conditional Zoning with Master Plan
For
Summer Glen

Applicant:
Wakefield Development
3100 Smoketree Court
Suite 210
Raleigh, NC 27604



~~July 15, 2022~~

~~REV. February 27, 2023~~

~~REV. June 19, 2023~~

REV. July 20, 2023

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Project Development Team:

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Nashville, NC 27856

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Apex, NC 27539

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(919) 577-1080
info@batemancivilsurvey.com

Transportation Engineer – Exult Engineering

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Raleigh, NC 27624

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brittany@exultengineering.com

Environmental Consultant – Sage Ecological Services, Inc.

3707 Swift Drive
Raleigh, NC 27606

Contact: Sean Clark
(919) 335-6757
sclark@sageecological.com

Summer Glen Subdivision

Overall Master Plan Summary:

The proposed Summer Glen Subdivision will be the recombination and subdivision of 5 parcels near the intersection of Glen Laurel Road and Vinson Road. The proposed project boundaries would be on each side of Glen Laurel Road and the properties surrounding the existing Oak Grove Subdivision. The parcel id numbers are 05I04010, 05I04010A, 05I04200S, 05I04203F, and 05I04203G. The combined total acreage of the project is approximately 53.06 Acres.

The site is currently in the Town of Clayton's ETJ and upon rezoning and prior to construction drawing approval would voluntarily annex into the Town of Clayton. This area is located within the limits of the 2045 Comprehensive Growth Plan but is also located in the Wilsons Mills Fire District. Additional time will be allotted in the schedule for annexation since this area this jurisdictional overlap.

The Town of Clayton's 2045 Comprehensive Growth Plan describes the plan for this area as Low-Density Residential. Low-Density Residential is defined with the following excerpt from the Plan:

LDR	Low Density Residential (LDR)
	Areas designated as Low-Density Residential are intended to remain predominantly suburban in character and provide for low-density, single-family residential development on smaller lots than those in Rural Residential areas. However, a mix of residential housing types may occur under a conditional zoning district to support conservation of open space, as long as a gross density of 3 units per acre is not exceeded. • Gross Residential Density*: ≤3 units/acre • Unit Type: Mostly single family detached homes, generally less than 25% attached units • Open Space: Minimum of 25%***. Open space should be a mix of preserved natural features with passive recreation such as greenways and trails and more formal or developed open space such as common greens, playgrounds or sports fields.

**Gross Residential Density is defined as the number of dwelling units divided by the total project area without subtracting areas devoted to open space, road right-of-ways, parks or similar public use and infrastructure areas.*

***Open Space minimums suggested for new developments over a minimum size or number of units. Does not apply to existing development.*

[From Page 18 of the Clayton Comprehensive 2045 Growth Plan]

The proposed plan outlines a development that will be below the Low-Density Residential goals set by the Growth Plan at a density less than or equal to 3 units per acre and above the minimum required open space of 25%. A pre-application meeting was held for this proposed application on April 12, 2022. In that meeting the unique nature of this site was discussed specifically revolving around the proposed lot sizes and density. The recommendation following that meeting from staff was to submit a Conditional Zoning w/ Master Plan. The proposed plan only includes single family residential detached homes however the Conditional Zoning with Master Plan is being pursued due to the unique nature of the lot sizes, density, open space, and partnership with the Neuse Country Club for amenity access. The proposed lot sizes and setbacks also do not neatly fit into a conventional zoning district, so the Conditional Zoning with Master Plan is the best fit and procedure for this project moving forward.

The applicant understands the scale of this development and proposes that it will be completed in multiple phases and may take approximately 3 years to complete final build-out. Phase One of the proposed project will be driven by the connection to the Town of Clayton's sewer main located in Birkdale Drive at the Northern portion of the project area and by an entrance connecting to Vinson Road on the southern end of the project area. A TIA has been reviewed and approved for this site by NCDOT and any requirement from the NCDOT are described herein. Two comments generated during the initial review regarding the proposed sites connection to Glen Laurel Road and Tanners Way will also be discussed in the public facilities section of the Master Plan Narrative.

The number of units proposed for this development is 138 which is 2.60 units per acre. This site is within the watershed protection overlay district which would typically limit the density to 2 units per acre however UDO Sec. 155.501(E)(1) allows an exception to this criterion as a high-density site if the development remains below 36% impervious area for the entire project area. The current Master Plan Conceptual Subdivision Layout shows the general layout of the proposed development with anticipated use areas. Per UDO Sec. 155.400(i) and comment from the master plan review a stub road to an adjacent property has been added. During the neighborhood meeting and other public meetings neighbors requested that stub roads not be included in the design. The Plan also shows the general area of Stormwater Control Devices and Open Space Amenity Areas. As the plan is further developed, the actual locations of the proposed Stormwater Devices, Residential Product Types and Locations may vary to conform to the Construction Drawings. The final overall unit count may be less but will not exceed the specified maximum units specified above and the overall Open Space will not fall below 25% of the proposed development or 13.27 acres. The open space lots will include the landscape buffers, amenity area, and mail kiosk locations for the residents.

The open space requirement per the Town of Clayton Development Code Section 155.203.1.2.B is 1,245 SF per Lot. Which equates to 3.94 Acres of required open space for the 138 Lots. The current site layout provides approximately 17.9 Acres of the property that will be owned by the homeowner's association. Some of this area fits the criteria of Section 155.500 Resource Conservation Areas. These areas will not be accurately assessed until the site topographic survey is completed however using the Johnston County GIS topography as well as the boundary and environmental survey there are approximately 30,217 SF of Wetlands, 141,859 SF of Buffer, 13,475 SF of slopes greater than 25% and no 100-yr floodplain. Portions of the wetlands and steep slopes are located within the buffer so the summation of the three areas should provide an over estimation of the RCA's. These features sum to 158,601 SF (3.64 Acres). Subtracting the RCA from the overall area outside of the lots and ROW leaves the site with approximately 14.26 acres of open space which is well above the 3.94 Acres required by this section and above the 25% that is stated in the Comprehensive 2045 Growth Plan. The developers are currently proposing community open flex space amenity areas within the development as well as a joint venture for future residents to access the amenities located at Neuse Country Club.

Recreation/open space is required to be dedicated to the town and must be accepted by Town Council. If the open space is not accepted by the town the recreation/open space fee-in-lieu per lot will apply in accordance with UDC Section 155.206(I).

Assuming the Council finds this Master Plan favorable, the combined Site Plan and Construction Drawings will provide a much higher level of technical data and detail appropriate for review by the Technical Review Committee, NCDOT, and other agencies having jurisdiction.

Exhibit A – Master Concept Plan

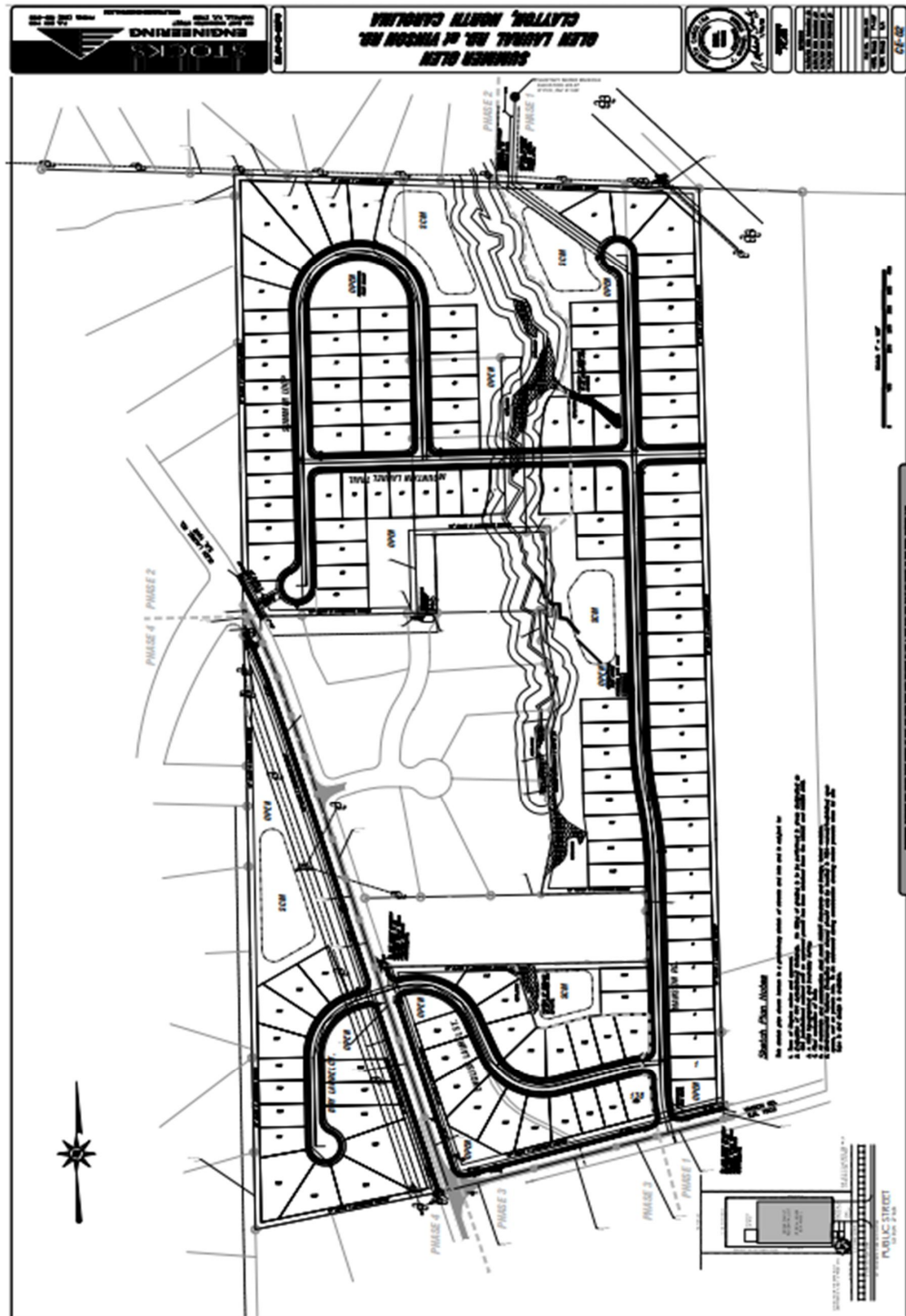


Exhibit B – Site Data

SITE INFORMATION

PROJECT NAME: SUMMER GLEN SUBDIVISION
 SITE LOCATION: GLEN LAUREL RD AND VINSON
 RD CLAYTON, NORTH CAROLINA
 PARID: 05104010A, 05104203G, 05104010
 05004203F, 05104200S
 DEED BOOK/PAGE: 0691/03962, 0409/01154,
 0691/03962, 0409/01154,
 0161/04205
 ZONE: EX. – RESIDENTIAL ESTATE (RE)
 PRO. – CONDITIONAL ZONING WITH
 MASTER PLAN (CZM)
 USE: EX. – AG./RES./VACANT
 PRO. – SINGLE FAMILY RES.
 TOTAL TRACK ACREAGE: ±53.06 Ac.
 NUMBER OF PROPOSED LOTS: ±138 LOTS
 PROPOSED DENSITY: 2.6 per Acre (<3)
 MINIMUM LOT SIZE: 6,500 SF
 (ALLOWED TO BE LESS THAN 1/3 AC. IF OPEN SPACE SUBDIVISION)
 LINEAR FOOTAGE OF STREETS: ±6,420 LF
 AREA OF PROPOSED STREET R/W: ±7.46 Ac.
 MINIMUM BUILDING SETBACKS:
 FRONT/ R/W: 21.5'
 (25' FROM SIDEWALK)
 SIDE: 6'
 CORNER SIDE: 10'
 REAR: 15'
 PROPERTY IS WITHIN WATER SUPPLY WATERSHED OVERLAY DISTRICT.
 RESOURCE CONSERVATION AREAS (RCA) (APPROX.):
 WETLANDS: 30,217 SF
 BUFFERS: 141,895 SF
 STEEP SLOPES(>25%): 13,475 SF
 100-YR FLOODPLAIN: 0 SF
 REQ. OPEN SPACE (155.203.1.2.B) – 1,245 SF/LOT=171,810 SF(3.94 AC.)
 OPEN SPACE COMMON AREA (155.501.E.1): ±17.9 Ac. (±34%)
 MAX. IMPERVIOUS AREA: 36% (19.10 AC)
 EST. IMPERVIOUS AREA: 809,159 SF (±35%)
 (155.501.E.1 MAX 2 UNITS PER ACRE OR 36% IMPERVIOUS)
 WATER AND SEWER SERVICES PROVIDED BY THE TOWN ON CLAYTON
 138 SEWER SERVICES WILL BE REQUIRED TO SERVE
 THIS DEVELOPMENT.
 PROPOSED 140 – 1" DOMESTIC WATER METERS.
 SITE PLAN AND CONSTRUCTION DRAWING APPROVAL IS REQUIRED FROM
 THE TOWN OF CLAYTON PRIOR TO ANY CONSTRUCTION ACTIVITY RELATED
 TO THIS PROJECT. DEVELOPMENT FEES ARE DUE BEFORE CONSTRUCTION
 DRAWING APPROVAL.
 PER DISCUSSION WITH THE TOWN OF CLAYTON STAFF WE PLAN TO
 DO A JOINT SITE PLAN AND CONSTRUCTION DRAWING REVIEW.
 THIS PLAN IS SUBJECT TO MINOR REVISION THROUGHOUT THE
 CONSTRUCTION DRAWING APPROVAL PROCESS. REVISIONS TO THE
 APPROVED MASTER PLANS ARE LIMITED.
 ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF
 CLAYTON ENGINEERING DESIGN STANDARDS, SPECIFICATIONS, AND DETAILS.

Existing Conditions:

The site consists predominantly of wooded area (+/- 40 Acres) with a variety of evergreen and hardwood trees. The remainder of the property contains approximately 13 Acres of tillable agricultural land. There is one residential home site that will be removed by the seller prior to the purchase of the land by the developer. The property contains a buffered stream which is an unnamed tributary to the Neuse River and multiple wetland pockets. The environmental features have been located by Sage Ecological Services, Inc. and the flags located by Bateman Civil Survey Company. The existing properties are zoned Residential Estate and the proposed zoning is Conditional Zoning with Master Plan. The following exhibits include a copy of the Boundary Survey, the Current Zoning Map, and an Aerial Image.

Exhibit C – Boundary Survey

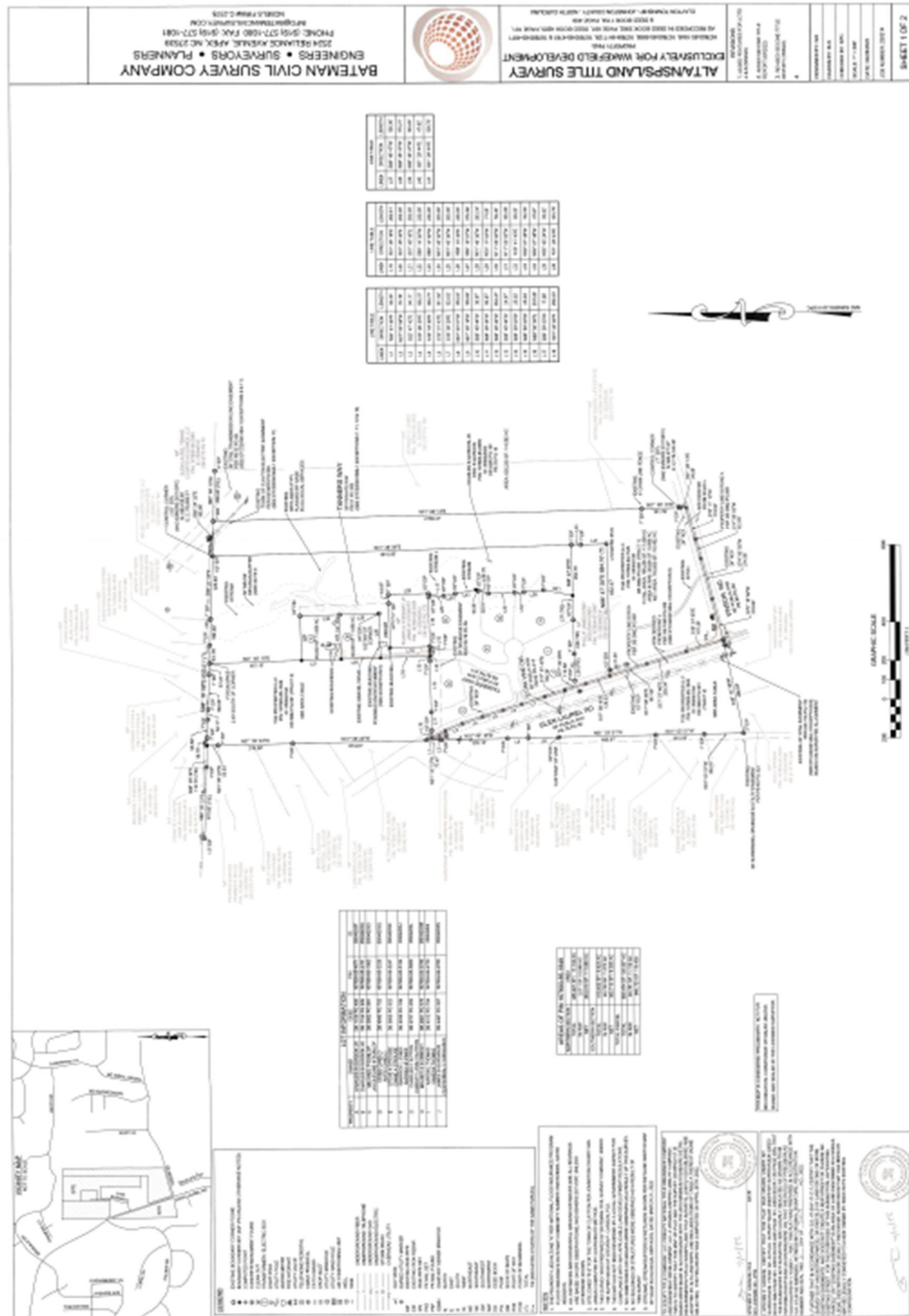


Exhibit D – Current Zoning Map

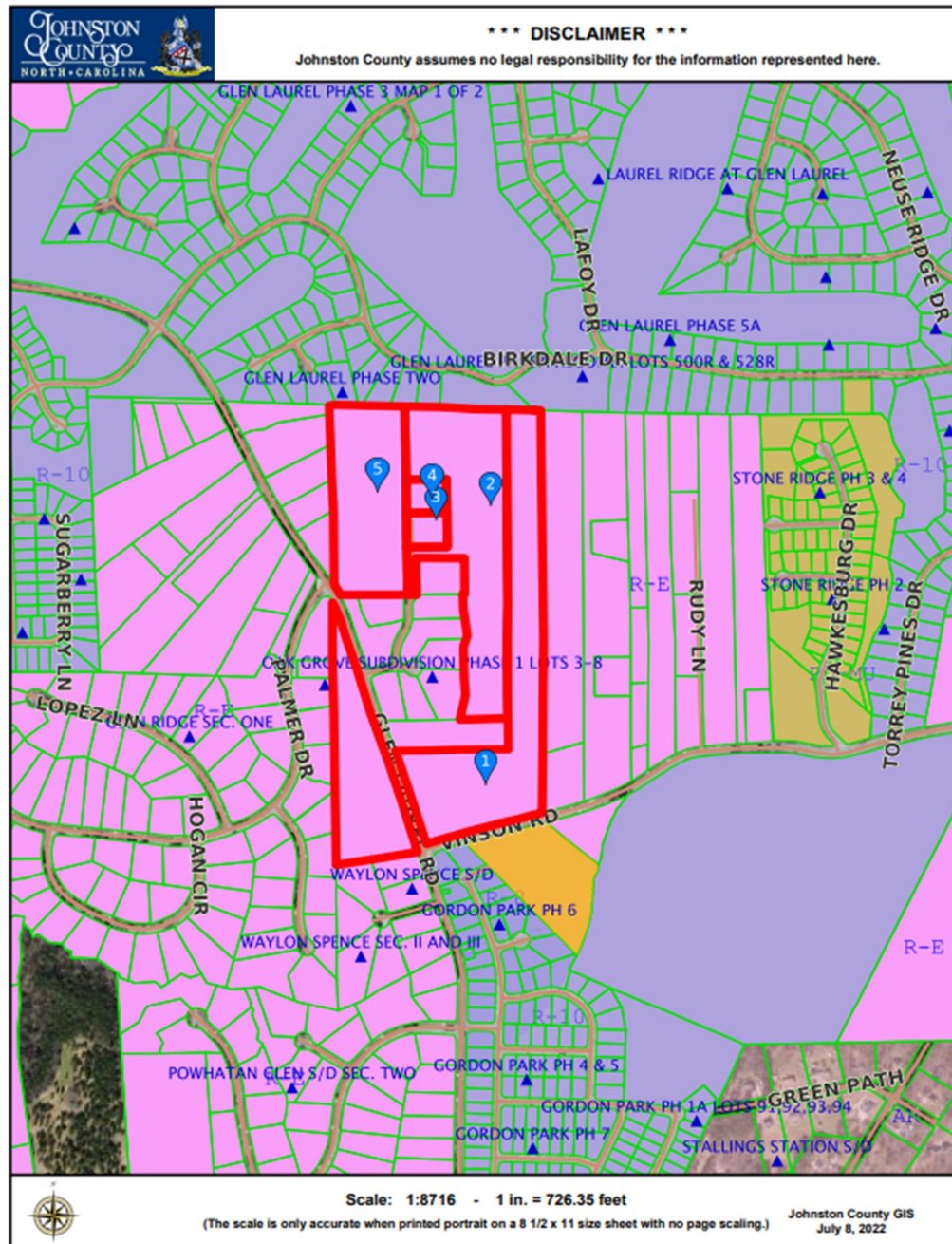


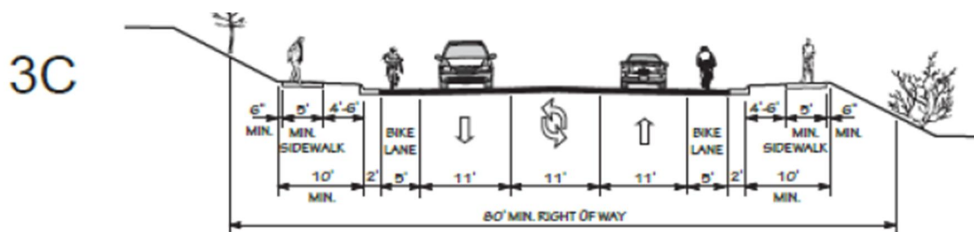
Exhibit E – Aerial Image



Approval Criteria – Conditional Rezoning

1. Consistency with the adopted plans of the Town.
 - a. The Comprehensive 2045 Growth Plan Future Land Use Map labels this area as Low Density Residential (LDR), and the current zoning is Residential Estate (RE). The Growth Plan represents LDR as equal to or less than 3 units per acre and a minimum required open space of 25%. The proposed Summer Glen Project has a proposed density of 2.60 units per acre (138 Units/53.06 Ac.) which is achievable by conditional rezoning with master plan and will provide approximately 34% open space. This site is within the watershed which would typically limit the density to 2 units per acre however UDO Sec. 155.501(E)(1) allows an exception to this criterion as a high-density site if the development remains below 36% impervious area for the entire project area. The project will provide any required infrastructure/utility improvements to accommodate the development by extending water, sewer, electricity, public roads, and by following any recommendation from the TIA, the North Carolina Department of Transportation, and the Town of Clayton. The proposed rezoning meets the intent of the growth plan.
2. Suitability of the subject for uses permitted by the current vs. the proposed conditional district.
 - a. The proposed development consists of single family detached residential homes which are allowed in the current RE zoning. The approval of the conditional rezoning would allow a higher density than allowed in the current zoning, however, the use is consistent with the current zoning and the proposed density is consistent with the Comprehensive 2045 Growth Plan.
3. Whether the proposed change tends to improve the balance of uses or meets specific demand in the Town.
 - a. Being consistent with the 2045 Growth Plan the proposed development is cohesive with development in close proximity to the project area. There is high demand for residential development in and around the Town of Clayton and this project helps meet the demand within the Town and increases, improve, and expand the Town Limits, Towns Tax Base, and infrastructure network.
4. The capacity of adequate public facilities and services included schools, roads, recreation facilities, wastewater treatment, water supply facilities and stormwater drainage facilities are available for the proposed conditional district.
 - a. Schools: The proposed development will be served by Powhatan Elementary School (<1 mile), Riverwood Middle School (8.8 miles), and Clayton High School (5.2 miles). Powhatan Elementary School was added to Johnston county Public Schools Capped Schools list for the 2022-2023 School year. Clayton High School has been on this list since 2020-2021 and Riverwood Middle School was removed from this list after the 2021-2022 School year. According to Johnston County Schools website, Capped Schools will continue to enroll students who live within the attendance area but may not accept students who live outside of that area.

- b. Roads: A traffic impact analysis (TIA) has been performed by Exult Engineering and has been reviewed by the North Carolina Department of Transportation (NCDOT) to determine if there is adequate roadway infrastructure to serve the proposed development. The developer has agreed to construct any required road improvements resulting from the professional engineers TIA and subsequent review by NCDOT. The NCDOT Congestion Management Section has required left turn lanes with 100' of storage at each of the three intersections. The striping for the turn lanes that have been found to be what is required will fit within the Frontage Widening criteria of the Towns Ordinance. The frontage widening along Glen Laurel Rd. and Vinson Rd. are shown on the master concept plan. The frontage widening will meet the criteria of the 3C Cross Section per the Transportation Guidance Document. See Figure 3C Below.



- c. Recreation Facilities: The proposed development will provide community flex open space and is located approximately 1.5 miles from East Clayton Community Park. The developers have also discussed with The Neuse Country Club the option of pursuing their facilities as an amenity to the residents. Negotiations regarding this agreement are currently underway.
- d. Wastewater Treatment: The engineering design team has been working with the Town of Clayton Engineering Department and determined that the downstream sewer lift station in Glen Laurel Subdivision has adequate capacity for allocation of additional tributary flow from the proposed development. Communication with Staff regarding this lift station and the available capacity at the WWTP are ongoing and the current development schedule is set for after the opening of the WWTP expansion with the potential of bringing a few lots onboard prior to that time.
- e. Water Supply: The proposed development has proposed connection to the Town of Claytons existing water in Birkdale Road and Vinson Road creating an additional loop in the water system.
- f. Stormwater Drainage Facilities: The proposed development is within the Neuse River Basin and will require stormwater management for water quantity and quality before leaving the site. Stormwater runoff will be collected by street curb and gutters and above ground swales and will be directed into an underground pipe system that will route stormwater to proposed stormwater control facilities (SCM). Approximate locations of these facilities are included on the master plan. The final location, size, and detail of these devices will be provided during the construction drawing submittal process. All stormwater management will be designed to meet the requirements set by the Town of Clayton and the North Carolina Department of Environmental Quality.

5. It has been determined that the legal purposes for which zoning exists are not violated.
 - a. The applicant has followed the procedure as outlined in Section 155.203 Part 3 and 155.705. All Town of Clayton process and procedures have been and will be followed throughout the rezoning process.
6. It has been determined that there will be no adverse effect upon adjoining property owners unless such effect can be justified by the overwhelming public good or welfare.
 - a. It is our understanding that there will be no adverse effect upon adjoining property owners by this project further the proposed development will be expanding the public utility system providing additional loops in the water system which has the potential to increase water quality in the water lines and increase water pressure.
7. It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public.
 - a. It is our understanding that this project produced no detriment to the general public and the public improvements will benefit the Town of Clayton and the adjacent property owners.
8. Compliance with code section 155.203(L) and all other applicable requirements of this chapter, or analysis and justification if it deviates from the requirements of this chapter.
 - a. The proposed master plan and subsequent subdivision design will comply with 155.203(L) and the other referenced sections except for the deviations listed in the following section.
9. Consistency with the Clayton General Design Guidelines.
 - a. The Town of Clayton General Design guidelines and standard details for construction will be followed.
10. Conformance of the proposal with the stated purpose of the requested conditional zoning district.
 - a. The proposed CZM district works well for this project that does not easily fit into other zoning districts. A table of the differences is in the next section. The layout demonstrates excellence in site design, circulation, use coordination and compatibility with neighboring properties. See 155.200 (C.1).
11. Compatibility of the proposed development with the adjacent community.
 - a. The project is very similar to other development in the project area and will be compatible with the other recent projects on Glen Laurel Road.
12. The quality of design intended for each component of the project and the ability of the overall development plan to ensure a unified, cohesive environment at full build-out.

- a. The proposed layout presents a unified, cohesive environment within the project at full build-out.
13. Compatible relationships between each component of the overall project.
- a. The open space amenity uses will be compatible with the proposed residential community. The developers are also pursuing a joint venture with the adjacent Neuse Country Club for access to additional amenities.
14. Self-sufficiency of each phase of the overall project.
- a. The connections to existing water and sewer will be in Phase One. Future phases will connect to Phase One.
15. Documentation that the proposed infrastructure improvements accommodate the additional impacts caused by the development, or documentation to assure that the development, as proposed will not overtax the existing public infrastructure systems.
- a. A sanitary sewer analysis has been performed by Stocks Engineering and reviewed and confirmed by the Town of Clayton Engineering that the downstream sewer has available capacity at the lift station. We are having ongoing discussions with the staff regarding the WWTP expansion timeline and its coordination with development.
16. The fiscal impact of the proposal and the proposed financing of required improvements.
- a. The applicant believes that the towns tax base from the development will provide adequate funding for maintaining the required infrastructure.
17. The success of the proposal in providing adequate pedestrian and bicycle links within the development and with the adjacent community.
- a. The proposed development will provide sidewalks which will provide pedestrian connection to internal amenities. There are no public greenways in close proximity to the development however the frontage widening will provide sidewalks on our side of the property for the length of the frontage.
18. The effectiveness with which the proposal protects and preserves the ecologically sensitive areas within the development.
- a. One stream crossing is proposed, and wetland impacts will be avoided and minimized where possible. All impact permitting will be performed by Sage Ecological with the support of the developer and Stocks Engineering.

Consistency with Unified Development Code

The proposed subdivision concept is drawn with the intent to meet the requirements of the Town of Clayton Unified Development Code (UDC) where practical and applicable. During the Construction Drawing process and review by the Town Staff, considerable time will be spent to ensure the plans meet the intent of the Code and the following modifications to the code as requested herein.

Comparison for Proposed Lot Dimensional Standards for Open Space Subdivisions:

	Current Zoning			Proposed Zoning
	R-E	R-10	R-8	CZM
Minimum Lot Size	12,000 SF	8,000 SF	6,000 SF	6,500 SF (Allowed in Open Space Sub.)
Minimum Lot Width	48 FT	50 FT	42 FT	60 FT
Maximum Lot Coverage	35%	35%	35%	70%
Maximum Impervious Area	50%	50%	55%	70% (per lot) 36% (full site)
Density (Units/Acre)	3.7	5	7	2.6
Front Setback	25	25	25	20
Side Setback	9	6	6	6
Side Street Setback	15	15	10	10
Rear Setback	18	15	15	15

Landscape Buffer Criteria:

The proposed master plan includes a 15' landscape buffer around the perimeter of the project boundary as required per 155.203.L.1.i. Existing vegetation may be used to satisfy the Class C buffer requirement. A Tree and Shrub study will be coordinated with Town Staff during construction to verify the remaining vegetation meets the criteria of the required buffer planting ratios for every 100' of lineal buffer. If the existing vegetation does not meet the minimum planting requirements, then more plantings will be installed to supplement the existing vegetation. If there is no existing vegetation or grading activity that requires the existing vegetation to be removed, then a Class "C" – 15' buffer will be planted. The existing vegetation may also provide the screening of the required wall, opaque fence, evergreen hedge, berm, or combination thereof. If the existing vegetation does not provide adequate screening, then supplemental plantings will be added to increase the screening. One of the goals of this development is to leave as much existing vegetation as possible within the 15' buffer and to minimize the disturbed area however this may not be possible for entire perimeter buffer. During the construction process the site perimeter buffers will be evaluated and considered for potential areas to increase the landscape buffers. The buffers will meet the minimums as described in the ordinance. The planning director may grant an exception to the wall, opaque fence, evergreen hedge, berm, or combination thereof within the Class C buffer. Generally, if the topography or thickness of the existing mature vegetation functionally meets the 6' screening requirement the installation of the fence, wall, berm, or hedge can be waived.

Public Utility Extensions:

The project will connect to existing Town of Clayton Utilities that are on or within proximity of the project area. The Town has an 8" water line in Vinson Road as well as an 8" waterline in Birkdale Road. There is also a gravity sewer main in Birkdale that will be accessible by an easement from Neuse Country Club. The Water and Sewer that is in Birkdale Road is less than 300' from the development making this an "Infill Development" according to the Water and Wastewater Allocation Criteria. Johnston County has 6" water in Oak Grove Subdivision and 12" Water in Glen Laurel Road. The county also has a 16" Sanitary Sewer Force Main in Glen Laurel Road. The proposed project will connect to town water in both Birkdale Road and Vinson Road and will not connect to county utilities.

During the preconstruction meeting we were requested to analyze the sewer capacity of the lift station in Glen Laurel Subdivision. An analysis of this lift station was performed by Stocks Engineering based on current data provided by the Town of Clayton Public Utilities. The analysis was reviewed by the Engineering department, and they confirmed that the lift station had available capacity for the proposed development. A copy of the "Preliminary Pump Station Calcs" and the emails noting the Engineering Departments confirmation of the available capacity has been added as Exhibit H following the Water and Wastewater Allocation Criteria.

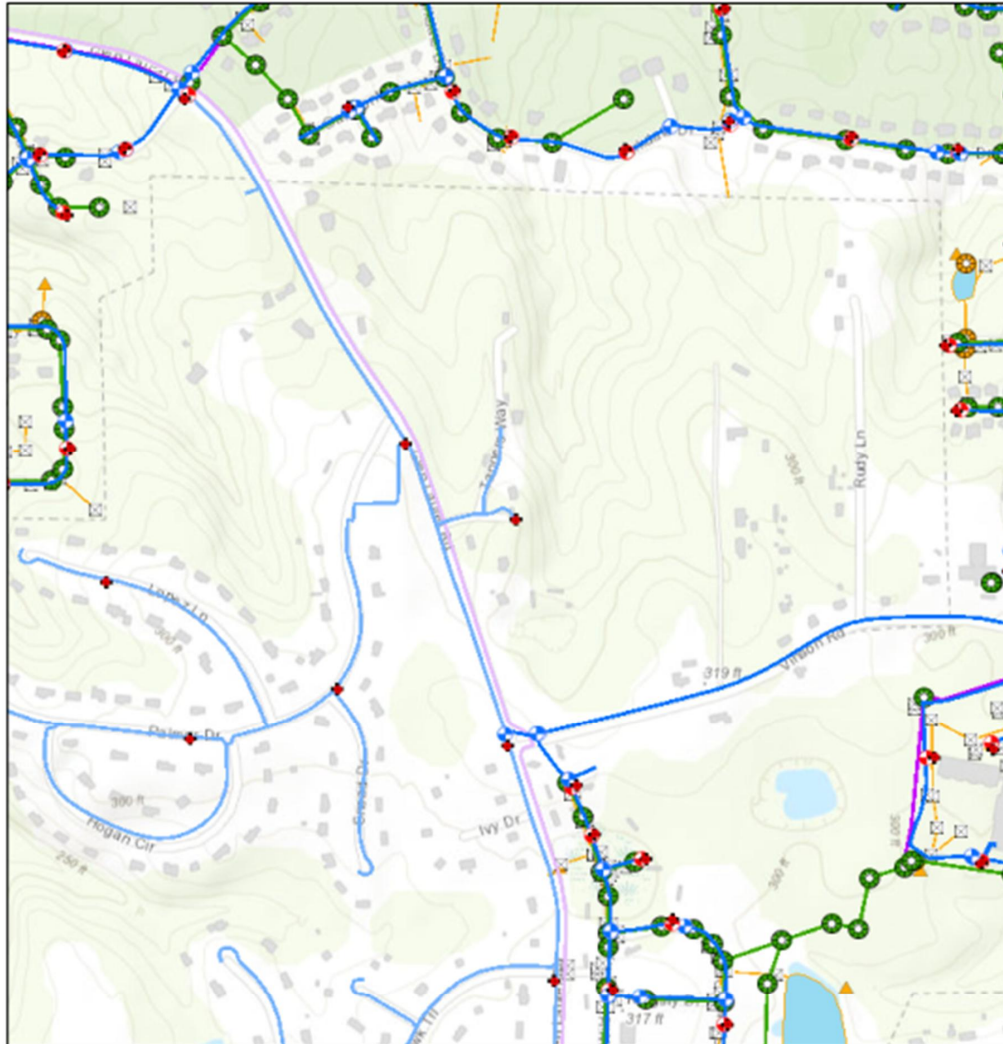
Actual allocation of water and sewer for the proposed development will come from Town Council after the submittal of the Water and Wastewater Allocation Criteria Request. This policy requires a project score a minimum of 50 points from the provided Allocation Criteria worksheet. The proposed project will exceed the 50-point minimum from a combination of being an infill development type (25 pts), a residential future tax status (5 pts), a town electric customer (20 pts) and by providing multiple car garages (5 pts) from the community benefit bonus points section. The proposed development will request allocation of 34,500 GPD of water and sewer from Town Council and the Water and Wastewater Allocation Request has been submitted to run parallel with this application. The bulk of this flow will not be available until the new WWTP comes online however there was some discussion with Engineering that would potentially allow for a small portion of the homes to be platted sooner if the flow was available at the time of platting.

The Town of Clayton also has Electricity adjacent to this property and the developer has been in communication with the Electric Department about being an electric customer.

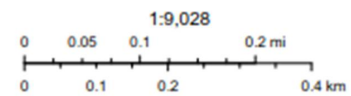
Included in the next two exhibits are a map showing the approximate locations of the existing utilities and the Town of Clayton Water and Wastewater Allocation Criteria. The third Exhibit contains email confirmation and the pump station calculation showing the downstream sewer system has available capacity for this project.

Exhibit F – Existing Utility Map

Summer Glen Utility Connection



July 7, 2022



Town of Cary, Johnston County, State of North Carolina DOT, Esri, HERE,
Garmin, GeoTechnologies, Inc., Intermap, USGS, METI/NASA, EPA, USDA

Exhibit G – Water and Wastewater Allocation Criteria



WATER & WASTEWATER ALLOCATION CRITERIA				
		TOTAL POINTS = 55		MINIMUM 10 POINTS REQUESTED
	Category	Points	Calc.	Notes
LEVEL OF ACTIVITY # (See table for request)	Government/Public Admin./Public Safety	50		
	Non-residential (Commercial) - Retail & Restaurant	30		
	Non-residential (Commercial) - Office	20		
	Non-residential (Commercial) - Warehouse	15		
	Non-residential (Commercial) - Medical	25		
	Non-residential (Commercial) - Hotel/Motel	35		
	Industrial/Manufacturing	30		
	Institutional	15		
	Residential Existing Lot- Single Family Detached	40		Individual Existing Lot construction
	Residential Subdivision - Single Family Detached (> 0.25 Acre Lots)	20		Single Family Homes on Individual Lots greater than 0.25 acres
	Residential Subdivision - Single Family Detached (< 0.25 Acre Lots)	15		Single Family Homes on Individual Lots less than 0.25 Acres
	Residential Subd. - Single Family Attached (> 1,500 SF Heated Space)	10		Townhomes with heated square-footage greater than 1,500 SF
	Residential Subd. - Single Family Attached (< 1,500 SF Heated Space)	5		Townhomes with heated square-footage less than 1,500 SF
	Residential - Multifamily (Apartments)	10		
	Mixed-Residential	25		Mix of various lot sizes of Single-family, Townhomes, and Apartments
	Mixed-Use Commercial & Residential	30		Mix of Residential and Non-residential (Commercial) uses
	Overseas Redevelopment	30		
POTENTIAL SUBJECTS (Other 3 points request)	Industrial Development	25	25	Utilities already exist within 300 Feet of property
	Exempt	0		
	Residential	5	5	
	Non-residential	10		
COMMUNITY IMPROVEMENT BENEFITS (See table for request)	Industrial	10		
	Cultural Arts/Entertainment for Public	10		
	Sports Recreation for Public	10		
	Town Electric Customer	20	20	
	Expansion of existing non-residential use	10		
	Re-development of an existing property	5		Must result in increased property value
	Residential Subdivision - Additional amenities included	5 - 15		Pool, Clubhouse, sports courts, etc. - 5 pts per, max 15 pts
	Job Creation - 10 to 25 new jobs	5		
	Job Creation - 26 to 100 new jobs	10		
	Job Creation - 100+ new jobs	15		
	Job creation - Jobs created will have salaries at or above median income	5		Must be greater than 50% of jobs added with documentation to confirm
	Residential - Multiple-Car Garages provided	5	5	
	Residential - Overflow Parking provided	5		Subject to Planning and Engineering support
	Masonry Elements included in Building Construction	10		
	Sustainable/High Efficiency Products and appliances used	5 - 15		5 pts per, max 15 pts
	Private trail connection to Public Greenway	10		

Exhibit H – Sanitary Sewer System Capacity Confirmation

Andrew Stocks

From: Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Sent: Wednesday, May 4, 2022 4:44 PM
To: Andrew Stocks
Cc: James Blalock; Joshua Baird; Gray Methven
Subject: Re: Glen Laurel 1

Andrew - sorry for the delays on our end, but I have been out of the office and unable to review. In looking at your data, I am comfortable with the available capacity. Your analysis assumed almost double per lot, as we have a reduced flow rate for single family of 250GPD.

This confirmation is separate from the actual allocation that will take place at the council level.

If you have any other questions, please let me know.

Thanks,

Jonathan K. Jacobs, PE

Town of Clayton
Assistant Town Engineer
111 E. Second Street
Clayton, NC 27520
(919) 359-1297
ClaytonNC.org

Sent from my iPhone

From: Andrew Stocks <astocks@stocksengineering.com>
Sent: Wednesday, May 4, 2022 4:41:18 PM
To: Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Cc: James Blalock <jblalock@townofclaytonnc.org>; Joshua Baird <jbaird@townofclaytonnc.org>; Gray Methven <gray@lmssi.com>
Subject: RE: Glen Laurel 1

Be Advised: This email originated from outside of the Town of Clayton's network. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Josh, Jonathan, or James,

I have tried to reach all of you by phone this afternoon, Wakefield is looking for some agreement from the Town to the calculations that no improvements will be required to the lift station down stream of the Glen Laurel Project Area. It is critical to the projects schedule to get traffic counts that are needed before the end of the school year. Wakefields officers are not allowing the traffic to be ordered until there is an answer on the sewer. If you could provide some feedback on the calculations or confirm that no improvements are needed at the lift station it would be greatly appreciated.

We look forward to a response.

Thanks,

"For such a time as this",

J. Andrew Stocks

J. Andrews Stocks, PE

Stocks Engineering, PA

801 East Washington Street
P.O. Box 1108
Nashville, NC 27856

252.459.8196 (voice)
252.459.8197 (fax)
252.450.5140 (cell)

www.stocksengineering.com

"Designing the Future – Today" - We remain dedicated to providing innovative Cost-efficient engineering solutions. We value clients, and we are not only Committed to meeting their needs, but exceeding their expectations with a Strong commitment to moral, ethical and professional standards.

From: Andrew Stocks

Sent: Monday, May 2, 2022 11:48 AM

To: Jonathan Jacobs <jjacobs@townofclaytonnc.org>

Cc: James Blalock <jblalock@townofclaytonnc.org>; Joshua Baird <jbaird@townofclaytonnc.org>; Gray Methven <gray@lmssi.com>

Subject: FW: Glen Laurel 1

Jonathan,

Have you had the opportunity to look at the attached pump station calcs to confirm on the Towns end that there is sewer capacity without any upgrades?

This is critical for Wakefields officers to be able to give the go ahead on the traffic count before school lets out so that those numbers are accurate.

Let us know if you have any questions.

Thanks,

"For such a time as this",

J. Andrew Stocks

J. Andrews Stocks, PE

Stocks Engineering, PA

801 East Washington Street
P.O. Box 1108
Nashville, NC 27856

252.459.8196 (voice)
252.459.8197 (fax)
252.450.5140 (cell)

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2

needs, but exceeding their expectations with a Strong commitment to moral, ethical and professional standards.

From: Andrew Stocks
Sent: Monday, April 25, 2022 5:38 PM
To: Jonathan Jacobs <jjacobs@townofclaytonnc.org>; James Blalock <jblalock@townofclaytonnc.org>
Cc: Gray Methven <gray@lmssi.com>
Subject: RE: Glen Laurel 1

Jonathan and James,
I plugged the data you provided into our pump station design worksheet along with the proposed flow from our development added to the average weekly run times from the excel sheet with a peaking factor of 2.5. I am not about the current elevation on the pump on and off elevations but the station appears to continue to operate with above 2 fps velocity in the force main, close to a 2 minute run time cycling a little more than 3.5 times per hour. Take a look and let me know if there is anything else that we will need to provide.
Gray's corporate officers are looking for some answers on sewer allocation before they will allow the project to proceed.
Thanks for your help!

"For such a time as this",
J. Andrew Stocks
J. Andrews Stocks, PE

Stocks Engineering, PA

801 East Washington Street
P.O. Box 1108
Nashville, NC 27856

252.459.8196 (voice)
252.459.8197 (fax)
252.450.5140 (cell)

www.stocksengineering.com

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From: Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Sent: Friday, April 22, 2022 5:43 AM
To: Andrew Stocks <astocks@stocksengineering.com>
Cc: Gray Methven <gray@lmssi.com>
Subject: Fwd: Glen Laurel 1

Jonathan K. Jacobs, PE

Town of Clayton
Assistant Town Engineer
111 E. Second Street
Clayton, NC 27520
(919) 359-1297
ClaytonNC.org

Sent from my iPhone

From: James Blalock <jblalock@townofclaytonnc.org>
Sent: Friday, April 22, 2022 5:42:32 AM
To: Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Subject: RE: Glen Laurel 1

Jonathan,

Please see attached.

James Blalock

Maintenance Superintendent, Water Resources
PO Box 879
Clayton, NC 27528
ClaytonNC.org
O: 919-553-1530 x6524
C: 919-538-3320



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From: Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Sent: Thursday, April 21, 2022 4:08 PM
To: James Blalock <jblalock@townofclaytonnc.org>
Subject: Glen Laurel 1

James – Can you send me the latest data for GL PS #1?

Thanks!

Jonathan K. Jacobs, PE

Assistant Town Engineer
111 E. Second St.
Clayton, NC 27520
O: 919-553-5002 x6537
D: 919-359-1297

ClaytonNC.org



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Pump Station Calculations Worksheet

Project: East School Road
Location: Flowers Plantation

Date: 4/25/2022
Designer: JAS

Known/Assume
Calculated
From Pump Supplier

Design Data:

Number of Lots:		Proposed Subdivision	139	Lots
Proposed Flow from Lots:	@ 480	GPD	66720	GPD
Existing Flow			164,038	
Pump Rate Selection (GPDx2.5PeakFactor/1,440min/day)			400.62	GPM
Force Main Discharge Elevation (Peak Elevation)			292	feet
Gravity Influent Elevation			135.70	feet
Ground Elevation at Lift Station			156.50	feet
Bottom of Wetwell			129.40	feet
Force Main Type and Size	PVC C=140		8	inch
Force Main Length			10000	feet
Wetwell Diameter			8	feet
Wetwell Surface Area			50.24	sf
Gallons per vertical foot of Wetwell			375.80	

Velocity in Force Main	$V = \frac{\text{Design Flow (GPM)}}{[r^2 \cdot \pi \cdot 7.48 \cdot 60]}$	2.56	fps
------------------------	--	------	-----

Total Dynamic Head (Provided by Town of Clayton)	160	feet
--	-----	------

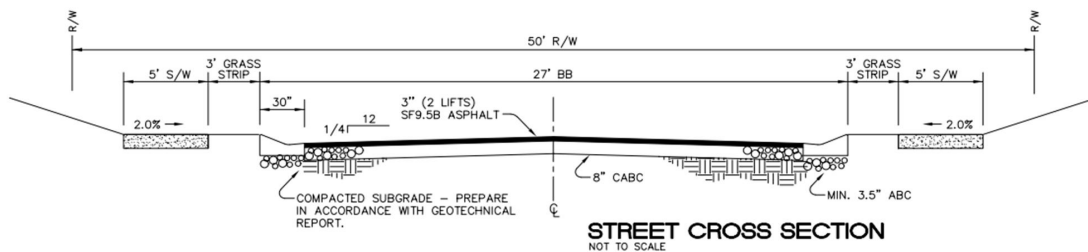
Pump Selected
Pump Capacity
Pump Speed
Pump Impeller Diameter
Pump HP
Voltage
Hertz
Phase
Minimum Solid Size

Pump On Elevation	133.50	feet
Pump Off Elevation	131.70	feet

Detention Volume (Area x (Pump On - Pump Off) x (7.48 gal/cf))	676.43	gallons
Total Daily Flow (Q = Flow Projection/(24hours x 60 min.))	46.33	gpm
Pump On Time (Detention Volume/(Pump Capacity - Q))	1.91	minutes
Run Time per Day (Pump On time x # of Cycles x 24 hours/day)	166.54123	minutes
Pump Off Time (Detention Volume / Q)	14.60	minutes
Pumping Cycle (Pump On + Pump Off)	16.51	minutes
Cycles (60 min/hour / Pumping Cycle)	3.63	cycles/hr

Public Facilities

Streets: The proposed master plan proposes 6 new public streets, 2 intersections with existing State Roads, 1 emergency access easement to Glen Laurel Road. Per UDO Sec. 155.400(i) and comment from the master plan review a stub road to an adjacent property has been added. During the neighborhood meeting and other public meetings neighbors requested that stub roads not be included in the design. Approximately 6,420 Linear Feet of street will be constructed and dedicated to the Town as Public Streets. A typical cross section of the proposed streets is provided below.



Exult Engineering prepared a Traffic Impact Analysis (TIA) for the proposed development. As of the original submittal date the TIA had not been reviewed by the NCDOT. The NCDOT Congestion Management has completed their review and is requiring left turn lanes with 100' of storage for each of the three entrances. The linework and striping for these turn lanes will be incorporated into the frontage widening which has been added to the master plan. Any recommendations or improvements to the existing road system found by the TIA and NCDOT congestion management will be included in the construction drawings for implementation. The developers request for a variance for the frontage widening has been denied therefore the frontage widening is shown on the master concept plan. This frontage widening will incorporate the recommendations from the TIA and NCDOT.

During the review process there were two street layout comments that are worth noting and discussing in this document, the emergency access from the cul-de-sac to Glen Laurel Road and a connection to Tanners Way. The layout was revised based on a meeting with the Engineering Department between the pre-application meeting and the first CZM submittal. It was recommended by Town of Clayton Engineering that any connection to Tanners Way be avoided, and a Knox box gated emergency access connect the cul-de-sac to Glen Laurel Road.

The development team discussed eliminating the cul-de-sac and providing a connection to Glen Laurel across from Palmer Drive with NCDOT however this development does not own the land that would be required to properly align a new driveway with Palmer Drive. Since this would create an offset intersection on Glen Laurel NCDOT has denied a drive at this location due to safety concerns with the road alignments. In the place of a full drive the NCDOT will allow a Knox box gated emergency access to be installed in this location if that is favorable to the Town.

Tanners Way was designed as a public street that would be dedicated to the NCDOT however NCDOT has not taken ownership of this road. Tanners way also has Johnston County water and avoiding this connection would also eliminate a connection to the County water system. During the neighborhood meeting the residents on Tanners Way expressed concern with additional traffic on their neighborhood streets and it was represented to them, as was to us from Engineering, that this connection would not

be made. Avoiding this connection helps satisfy the residents of Tanners Way that were otherwise in favor of the development.

Refuse Collection/Recycling: The proposed development will voluntarily annex into the Limits of the Town of Clayton and refuse and recycling will be provided by municipal waste collection with individual roll out bins for each lot.

Water and Fire Protection: The proposed development will connect to the Town of Clayton water system at two points. A fire flow analysis will be prepared on the proposed design to model the domestic and fire flow demand on the water system. A fire truck vehicle tracking has been included with the master plan. The proposed master plan includes approximately 6,800 Linear Foot of water line. The water will vary between 6" and 8" in size as well as PVC and DIP in material. The water will connect to the existing Town of Clayton Public Water in Vinson Road and Birkdale Road by easement from the Neuse Country Club.

Sewer: Public sewer is accessible to the site by an easement from the Neuse Country Club and is less than 300' from the project boundary. It is our understanding that the easement is currently being reviewed by the Town for dedication from the Neuse Country Club property. The existing downstream pump station and line has been analyzed by Stocks Engineering and Reviewed by the Town of Clayton Engineering Department. It was determined that the pump station has adequate capacity for the proposed development. The chain of emails where this was discussed is included in the following pages. We have also had discussions regarding the WWTP expansion and have adjusted the time schedule to better align with the completion of this project. An Allocation Request Application has been submitted to run in parallel with the conditional rezoning request.

Electricity: The Town of Clayton Electric Department has power easements on and adjacent to portions of the project's Northern boundary. The developer has initiated conversations with them to be a Town of Clayton Electric customer. Streetlights will be provided if required by the Town of Clayton's Unified Development Code.

Exhibit I – Email from NCDOT

Andrew Stocks

From: Lawhorn, Samuel C <sclawhorn@ncdot.gov>
Sent: Tuesday, September 27, 2022 4:09 PM
To: Andrew Stocks
Subject: RE: [External] Summer Glen Subdivision - Town of Clayton

Andrews,

This access was already requested and denied during the TIA review by NCDOT. The offset intersection gives me safety concerns. I am not sure that three access is needed for this site, but the Town is requiring another access has Tanner Way been look into?

Sam Lawhorn, P.E.
District 3 Engineer
Highway Division 4
North Carolina Department of Transportation

919-739-5300
sclawhorn@ncdot.gov

2671 US 70 West
Goldsboro, NC 27530



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Andrew Stocks <astocks@stocksengineering.com>
Sent: Monday, September 26, 2022 7:24 PM
To: Lawhorn, Samuel C <sclawhorn@ncdot.gov>
Subject: [External] Summer Glen Subdivision - Town of Clayton

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [Report Spam](#).

Sam,
Please reference the attached PDF of Summer Glen Subdivision. The Town of Clayton has requested that we eliminate the CDS and provide a connection to Glen Laurel Road. I expressed some concern about this to the Town since we do not own enough property to align with Palmer Drive, the entrance to Glen Ridge Subdivision, but wanted to get your thoughts on before we make any changes to the plans. Can you give us some direction from NCDOT's perspective? Feel free to call me to discuss (252-450-5140).

Thanks,

"For such a time as this",

The Arietta (Model 850)

Conceptual Unit Elevations

The Arietta

MODEL 850

BEDROOMS: 4 - 5
BATHROOMS: 2.5 - 4
SQUARE FEET: 3,351



Welcome Home!
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919.813.6678

TODAY HOMES
— REALTY NC —



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05/21

The Arietta (Model 850)

Picture from Highgate Subdivision



The Concerto (Model 6260)

Conceptual Unit Elevations

The Concerto

MODEL 6260

BEDROOMS: 4 - 5
BATHROOMS: 2.5 - 3
SQUARE FEET: 2,656



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05/21

The Concerto (Model 6260)

Picture from Highgate Subdivision



The Melody (Model 6280)

Conceptual Unit Elevations

The Melody

MODEL 6280

BEDROOMS: 3-4
BATHROOMS: 2.5-3.5
SQUARE FEET: 2,340



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919.813.6678

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Services, Inc.
NMLS #1000056
www.tidewatermortgage.com



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07/22

The Melody (Model 6280)

Picture from Highgate Subdivision



The Grace (Model 62900)

Conceptual Unit Elevations

The Grace

MODEL 62900

BEDROOMS: 4-5
BATHROOMS: 2.5-3
SQUARE FEET: 2,454



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919.813.6678

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Services, Inc.
BILLS #1000000
www.tidewatermortgage.com



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05/21

The Grace (Model 62900)

Picture from Highgate Subdivision



Architectural Standards

1. All units to be 1 and 2 story with a variety of Craftsman, Colonial and Transitional themed elevations. Home plans of the same elevation shall not be side by side or directly across from one another.
2. Exterior color packages will enhance variety of color throughout the neighborhood and will not be duplicated side by side.
3. Siding elements to include a mix of premium vinyl siding with varying patterns such as lap siding, shake, and board and batten materials per architectural elevations.
4. All build facades to include a variety of craftsman columns with masonry, square and round columns per elevation.
5. Each home will have either a front porch or covered stoop element with a front lead walk that connects to the driveway.
6. Four vehicular parking spaces to be provided on each lot, two-car front loaded garage spaces (decorative garage door with glass windows and carriage details) with two parking spaces on the driveway.
7. Side roof eaves to be a minimum 10" overhang.
8. All front building facades to require a goal of 25% masonry elements such as Stone/brick accents of the portion of the house excluding the garage door(s).
9. Architectural style shingles to be used.
10. Side or rear patios to be provided on all units for outdoor living as well as optional covered porches available per plan.

General Zoning Conditions

1. Following Town Council approval, an electronic copy of the Master Plan and Narrative including the Conditions of Approval shall be submitted to the Planning Department for final approval.
2. The development shall meet all adopted Town of Clayton Unified Development Code (UDC) requirements, Town of Clayton Engineering and Stormwater design standards, and the North Carolina Fire Code and NFPA Fire standards, except where specifically modified by the approved master plan.
3. The developer will be required to pay their portion of the Wilsons Mills Fire District Capital Dept prior to the time the annexation is effective.
4. The Development shall be constructed in substantial conformance with the Master Plan and Master Plan Narrative as approved by the Clayton Town Council.
5. All parcels subject to the rezoning and master plan shall be annexed into the Town prior to any additional development approvals.
6. Uses in the Development will be limited to single family residential homes, and any allowed accessory uses within the Town of Clayton UDC for residential development.
7. The following standards will apply to the Development:
 - a. Maximum Number of units: 139
 - b. Maximum Density: 2.6 Dwelling units per acre and 36% Total Site Impervious Area
 - c. Lot Dimensional Standards as specified on the Master Plan
 - d. Must be a Town Electric Customer
 - e. Tree protection fence must be installed at the clearing limits to maximize preservation of existing vegetation.
8. A gated emergency access (w/ Knox box meeting Town of Clayton Fire Dept. standards) connecting the cul-de-sac on Summer Loop to Glen Laurel Road.
9. Frontage widening improvements will be made in phases that correlate with the driveway connections to the existing roadways in the respective phase.
10. TIA/NCDOT Requirements:

Planned Improvements By NCDOT/Others:

- According to the NCDOT Congestion Management Sections comments on the TIA, The NCDOT Signal Improvements by others are planned for the intersection of Glen Laurel Road and Vinson Road. The development team will discuss the timing of these improvements with the NCDOT.

Planned Improvements By Developer:

Glen Laurel Road at Proposed Site Driveway:

- Provide one ingress and one egress lane on the eastbound and westbound approaches of the Proposed Site Driveway with 100' of internal protected stems and a northbound and southbound left turn lane on Glen Laurel Road consisting of a minimum of 100' full width storage and the appropriate deceleration and taper lengths as prescribed by the NCDOT Geometric Turn Lane detail 12.0.

Vinson Road at Proposed Site Driveway:

- Provide one ingress and one egress lane on the southbound approach of the Proposed Site Driveway with 100' of internal protected stem and a eastbound left turn lane on Vinson Road consisting of a minimum of 100' full width storage and the appropriate deceleration and taper lengths as prescribed by the NCDOT Geometric Turn Lane detail 12.0.

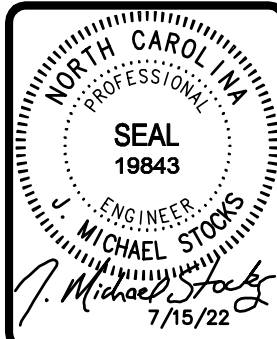
SUMMER GLEN
GLEN LAUREL ROAD at VINSON ROAD
CLAYTON, JOHNSTON COUNTY, NORTH CAROLINA
TOWN OF CLAYTON PROJECT NO. 2022-125-CZM

CONDITIONAL REZONING WITH MASTER PLAN - JULY 15, 2022
REVISED 2-27-23 6-19-23 7-19-23



BLN-C-1874

SUMMER GLEN
GLEN LAUREL RD. at VINSON RD.
CLAYTON, NORTH CAROLINA



COVER SHEET

REVISIONS
10/28/22 CZM Submittal #2
2/21/23 CZM Submittal #3
6/19/23 CZM Submittal #4
7/19/23 CZM Submittal #5

FILE NO. 2022-031
HORIZ. SCALE: 1"=100'
VERT. SCALE: NONE

COVER

GOVERNING AGENCIES:

PLANNING:
TOWN OF CLAYTON
PLANNING DEPARTMENT
111 E. SECOND STREET
CLAYTON, NC 27520
CONTACT: MR. BEN HOWELL, AICP, CZO
(919) 359-9364
BHOWELL@TOWNOFCLAYTONNC.ORG

PUBLIC UTILITIES:
TOWN OF CLAYTON
ENGINEERING
111 E. SECOND STREET
CLAYTON, NC 27520

CONTACT: MR. JOSHUA BAIRD
(919) 359-1288
JBAIRD@TOWNOFCLAYTONNC.ORG

NATURAL GAS
Piedmont Natural Gas
250 FIVE POINTS ROAD
DUDLEY, NC 28333

CONTACT: MARCUS THOMPSON
(919) 920-0257

ELECTRIC
TOWN OF CLAYTON
653 NC HIGHWAY 42 W
CLAYTON, NC 27520

MR. ALLEN TURNAGE
(919) 553-1530
ATURNAGE@TOWNOFCLAYTONNC.ORG

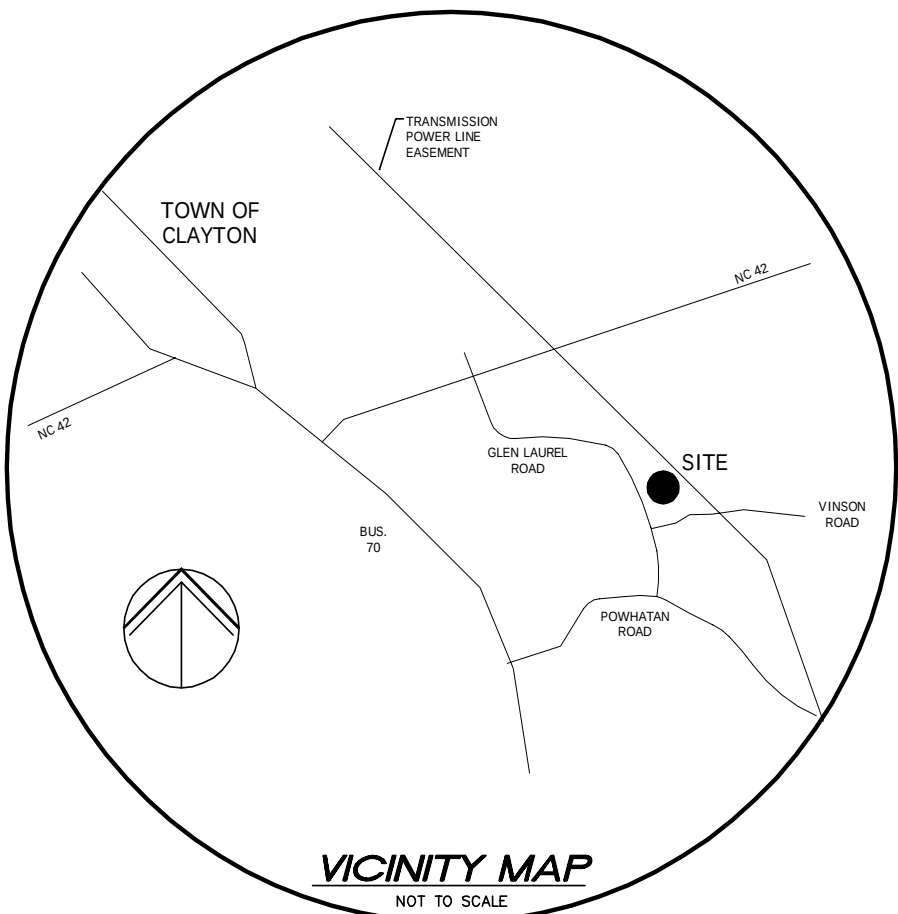
UTILITY AGENCIES:

WATER & SEWER:
TOWN OF CLAYTON
PUBLIC UTILITIES
111 E. SECOND STREET
CLAYTON, NC 27520
CONTACT: (OFFICE)
919.553.5002
UTILITIES@TOWNOFCLAYTONNC.ORG

EROSION CONTROL:
TOWN OF CLAYTON
ENGINEERING
PO BOX 879
111 E. SECOND STREET
CLAYTON, NC 27520
CONTACT: JONATHAN JACOBS
(919) 359-1297
JJACOBS@TOWNOFCLAYTONNC.ORG

SITE INFORMATION

PROJECT NAME: SUMMER GLEN SUBDIVISION
SITE LOCATION: GLEN LAUREL RD AND VINSON
RD CLAYTON, NORTH CAROLINA
PARID: 0504010A, 0504203G, 0504010
0504020F, 0504200S
DEED BOOK/PAGE: 0691/03962, 0409/01154,
0181/04205
ZONE: EX - RESIDENTIAL ESTATE (RE)
PRO - CONDITIONAL ZONING WITH
MASTER PLAN (CZM)
USE: EX - AG./RES./VACANT
PRO - SINGLE FAMILY RES.
TOTAL TRACK ACREAGE: 453.06 AC.
NUMBER OF PROPOSED LOTS: 138 LOTS
PROPOSED DENSITY: 2.6 per Acre (<3)
MINIMUM LOT SIZE: 6,500 SF
(ALLOWED TO BE LESS THAN 1/3 AC. IF OPEN SPACE SUBDIVISION)
LINEAR FOOTAGE OF STREETS: 16,420 LF
AREA OF PROPOSED STREET R/W: 17.46 AC.
MINIMUM BUILDING SETBACKS:
FRONT/ R/W: 21.5' (25' FROM SIDEWALK)
SIDE: 6'
CORNER SIDE: 10'
REAR: 15'
PROPERTY IS WITHIN WATER SUPPLY WATERSHED OVERLAY DISTRICT.
RESOURCE CONSERVATION AREAS (RCA) (APPROX.):
WETLANDS: 30,217 SF
BUFFERS: 141,895 SF
STEEP SLOPES (>25%): 13,475 SF
100-YR FLOODPLAIN: 0 SF
REQ. OPEN SPACE (155.203.1.2.B) - 1,245 SF/LOT=171,810 SF(3.94 AC.)
OPEN SPACE COMMON AREA (155.501.E.1): 17.9 AC. (±34%)
MAX. IMPERVIOUS AREA: 36% (19.10 AC.)
EST. IMPERVIOUS AREA: 809,159 SF (±33%)
(155.501.E.1 MAX 2 UNITS PER ACRE OR 36% IMPERVIOUS)
WATER AND SEWER SERVICES PROVIDED BY THE TOWN ON CLAYTON
138 SEWER SERVICES WILL BE REQUIRED TO SERVE
THIS DEVELOPMENT.
PROPOSED 140 - 1" DOMESTIC WATER METERS.
SITE PLAN AND CONSTRUCTION DRAWING APPROVAL IS REQUIRED FROM
THE TOWN OF CLAYTON PRIOR TO ANY CONSTRUCTION ACTIVITY RELATED
TO THIS PROJECT. DEVELOPMENT FEES ARE DUE BEFORE CONSTRUCTION
DRAWING APPROVAL.
PER DISCUSSION WITH THE TOWN OF CLAYTON STAFF WE PLAN TO
DO A JOINT SITE PLAN AND CONSTRUCTION DRAWING REVIEW.
THIS PLAN IS SUBJECT TO MINOR REVISION THROUGHOUT THE
CONSTRUCTION DRAWING APPROVAL PROCESS. REVISIONS TO THE
APPROVED MASTER PLANS ARE LIMITED.
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF
CLAYTON ENGINEERING DESIGN STANDARDS, SPECIFICATIONS, AND DETAILS.



INDEX

COVER COVER SHEET
CE-01.1 BOUNDARY AND ALTA SURVEY
CE-01.2 BOUNDARY AND ALTA SURVEY
CE-02 MASTER PLAN
CE-03 FIRE TRUCK VEHICLE TRACKING

TOWN OF CLAYTON GENERAL ZONING CONDITIONS:

- Following Town Council approval, an electronic copy of the Master Plan and Narrative including the Conditions of Approval shall be submitted to the Planning Department for final approval.
- The development shall meet all adopted Town of Clayton Unified Development Code (UDC) requirements, Town of Clayton Engineering and Stormwater design standards, and the North Carolina Fire Code and NFPA Fire standards, except where specifically modified by the approved master plan.
- The developer will be required to pay their portion of the Wilsons Mills Fire District Capital Dept prior to the time the annexation is effective.
- The Development shall be constructed in substantial conformance with the Master Plan and Master Plan Narrative as approved by the Clayton Town Council.
- All parcels subject to the rezoning and master plan shall be annexed into the Town prior to any additional development approvals.
- Uses in the Development will be limited to single family residential homes, and any allowed accessory uses within the Town of Clayton UDC for residential development.
- The following standards will apply to the Development:
 - Maximum Number of units: 139
 - Maximum Density: 2.6 Dwelling units per acre and 36% Total Site Impervious Area
 - Lot Dimensional Standards as specified on the Master Plan
 - Must be a Town Electric Customer
 - Tree protection fence must be installed at the clearing limits to maximize preservation of existing vegetation.
- A gated emergency access (w/ Knox box meeting Town of Clayton Fire Dept. standards) connecting the cul-de-sac on Summer Loop to Glen Laurel Road.
- Frontage widening improvements will be made in phases that correlate with the driveway connections to the existing roadways in the respective phase.
- THA/NC DOT Requirements:
 - Planned Improvements By NCDOT/Other:
 - According to the NCDOT Congestion Management Sections comments on the TIA, The NCDOT Signal Improvements by others are planned for the intersection of Glen Laurel Road and Vinson Road. The development team will discuss the timing of these improvements with the NCDOT.
 - Planned Improvements By Developer:
 - Glen Laurel Road at Proposed Site Driveway:
 - Provide one ingress and one egress lane on the eastbound and westbound approaches of the Proposed Site Driveway with 100' of internal protected stems and a northbound and southbound left turn lane on Glen Laurel Road consisting of a minimum of 100' full width storage and the appropriate deceleration and taper lengths as prescribed by the NCDOT Geometric Turn Lane detail 12.0.
 - Vinson Road at Proposed Site Driveway:
 - Provide one ingress and one egress lane on the southbound approach of the Proposed Site Driveway with 100' of internal protected stem and a eastbound left turn lane on Vinson Road consisting of a minimum of 100' full width storage and the appropriate deceleration and taper lengths as prescribed by the NCDOT Geometric Turn Lane detail 12.0.

Owner/Developer:

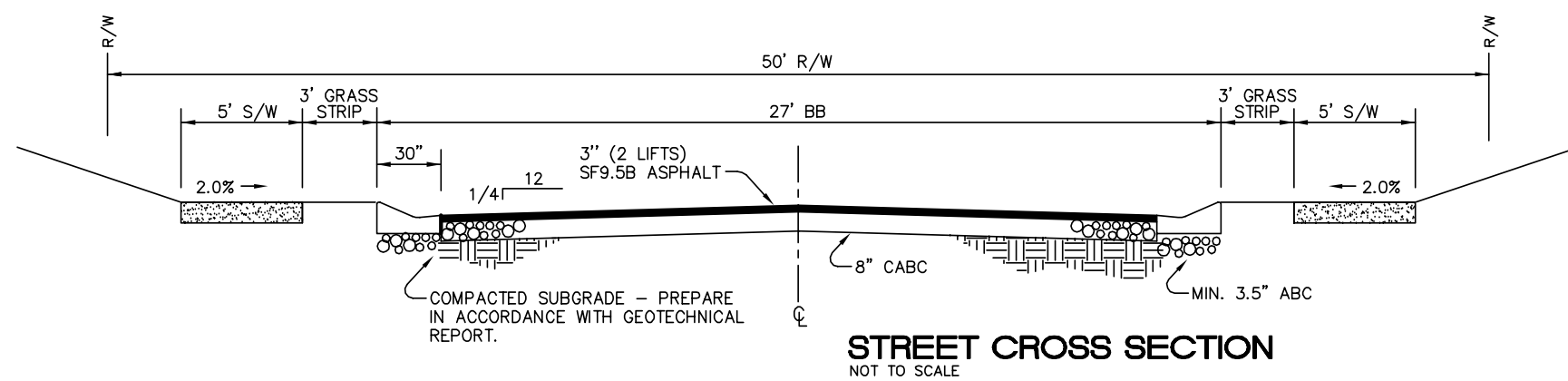
Wakefield Development, LLC
448 Viking Drive, Suite 220
Virginia Beach, VA 23452
757-463-6000 (v)
Contact: Mike Baust

Civil Engineering:

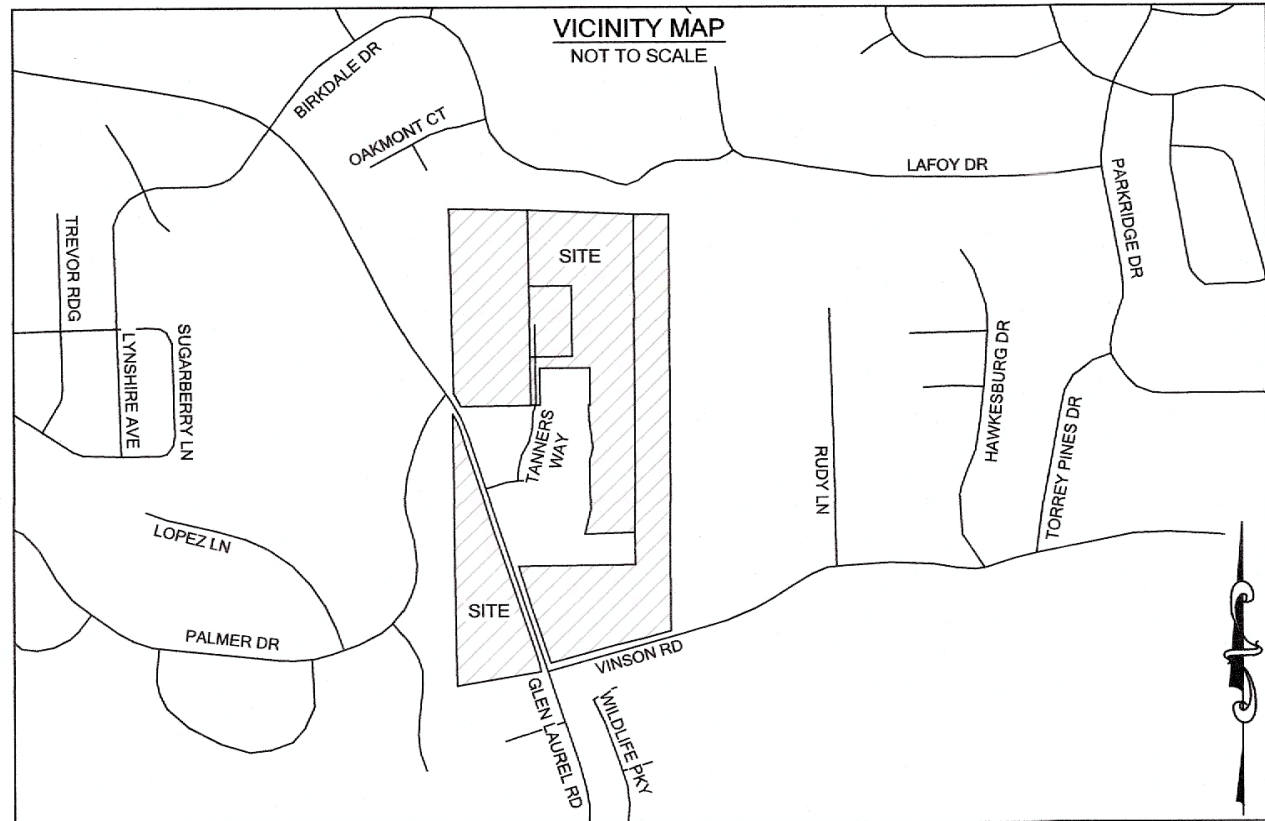
Stocks Engineering, PA
801 East Washington Street
Nashville, North Carolina 27856
252-459-8186 (v) 252-903-6891 (c)
Contact: Mike Stocks, PE
metocks@stocksengineering.com

Surveying:

Bateman Civil Survey Company
2524 Reliance Avenue
Apex, North Carolina 27539
919-677-1080 (v)
Contact: Josh Davidson, PLS
josh@batemancivilsurvey.com



THEREFORE, EVERYONE WHO HEARS THESE WORDS OF MINE AND PUTS THEM INTO PRACTICE IS LIKE A WISE MAN WHO BUILT HIS HOUSE ON THE ROCK. MATTHEW 7:24



LEGEND

EXISTING BOUNDARY CORNER FOUND
BOUNDARY CORNER SET (3/4" IPS UNLESS OTHERWISE NOTED)
COMPUTED POINT
CONCRETE MONUMENT FOUND
CLEAN CUT
TRANSFORMER / ELECTRIC BOX
LIGHT POLE
UTILITY POLE
WATER METER
FIRE HYDRANT
UTILITY VALVE
TELEPHONE PEDESTAL
CABLE PEDESTAL
CATCH BASIN
DROP INLET
UTILITY MANHOLE
UTILITY HAND HOLE
AIR CONDITIONING UNIT
WELL
SIGN

UNDERGROUND FIBER
UNDERGROUND TELEPHONE
UNDERGROUND GAS
UNDERGROUND ELECTRIC
STORM DRAIN
OVERHEAD UTILITY

GULF WIRE
BURIED UTILITY MARKER
EXISTING IRON PIPE
EXISTING IRON REBAR
IRON PIPE SET
PKS PK NAIL SET
PKF PK NAIL FOUND
SSMH SANITARY SEWER MANHOLE
N NORTH
E EAST
S SOUTH
W WEST
NE NORTHEAST
SE SOUTHEAST
SW SOUTHWEST
NW NORTHWEST
DB DEED BOOK
PG PAGE
BM BOOK OF MAPS
RW RIGHT OF WAY
POB POINT OF BEGINNING
(T) TOTAL
TIE (INDICATES 2 PARTS OF THE SAME PARCEL)

- NOTES**
1. THE PROPERTY LIES IN ZONE "X" PER NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 3720167800K, DATED 06/20/2018.
 2. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES AND ALL BEARINGS ARE BASED ON GPS OBSERVATIONS, NAD 83/NSRS 2011/SPC UNLESS OTHERWISE SHOWN.
 3. SITE ZONED "R-2" FOR THE TOWN OF CLAYTON PER JOHNSTON COUNTY GIS.
 4. AREAS COMPUTED BY COORDINATE METHOD.
 5. THIS SURVEY WAS PREPARED BY BATEMAN CIVIL SURVEY COMPANY, UNDER THE SUPERVISION OF STEVEN P. CARSON, PLS.
 6. THIS MAP HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
 7. NO CEMETERIES OR GRAVES WERE OBSERVED AS A RESULT OF THIS SURVEY.
 8. NO BUILDINGS OR STRUCTURES WERE OBSERVED AS A RESULT OF THIS SURVEY.
 9. STREAMS, STREAM BUFFERS & WETLANDS SHOWN PER WETLAND SKETCH MAP BY SAGE ECOLOGICAL SERVICES, DATED MARCH 21, 2022

TO: EQUITY TITLE COMPANY, LLC, FIDELITY NATIONAL TITLE INSURANCE COMPANY AND WAKEFIELD DEVELOPMENT, LLC, A VIRGINIA LIMITED LIABILITY COMPANY. THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS OF TABLE A THEREOF (NONE SELECTED). THE FIELDWORK WAS COMPLETED ON APRIL 28TH, 2022.

STEVEN P. CARSON, PLS
NC LICENSE NO. 4752

DATE 7/11/22

I, STEVEN P. CARSON, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED BOOK 3962 PAGE 691, DEED BOOK 4205 PAGE 161, DEED BOOK 1154 PAGE 409); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND AS SHOWN HERE ON; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000 +; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-20 AS AMENDED, WITH MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL THIS 11 DAY OF JULY, A.D., 2022.

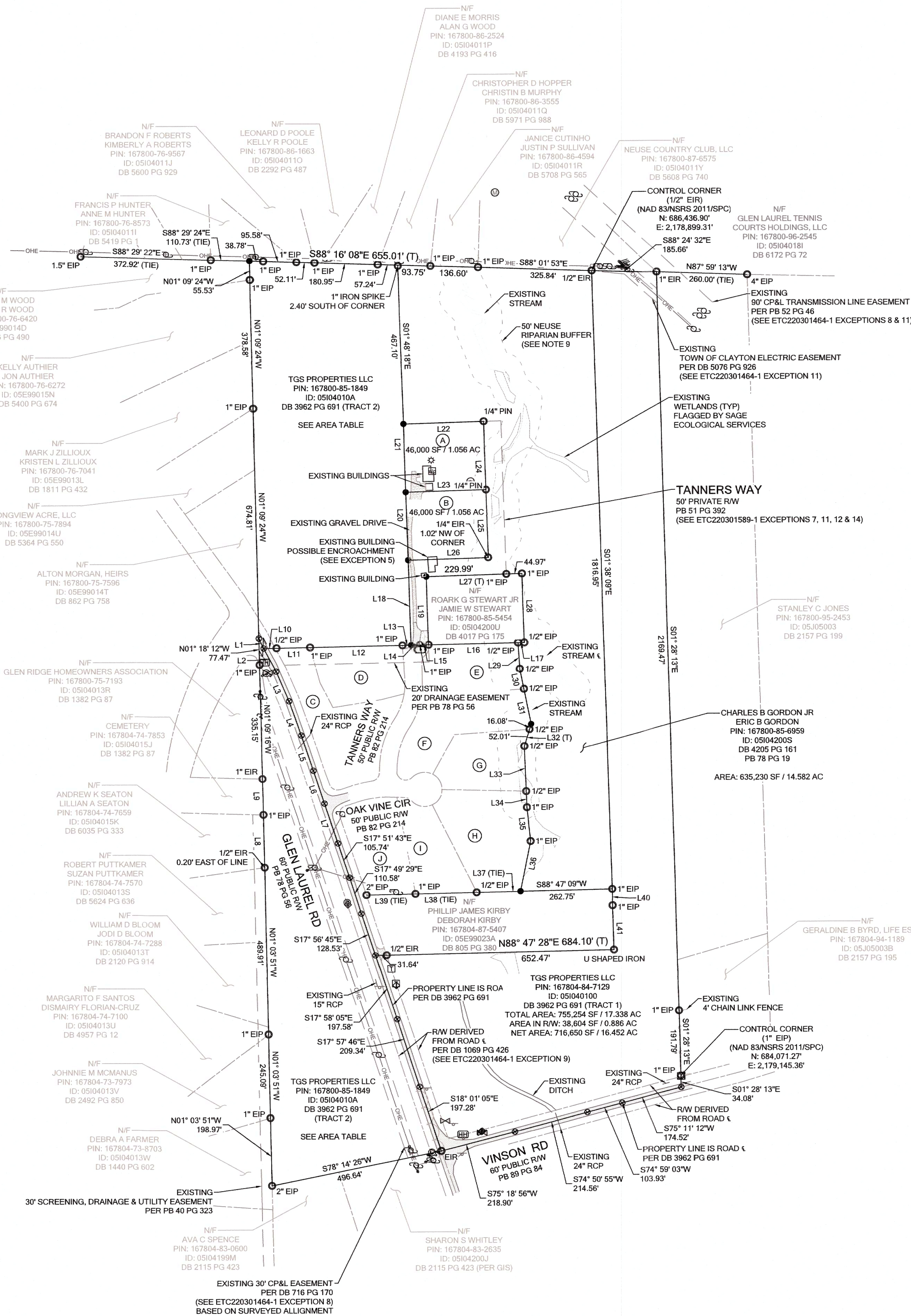
I, FURTHER THAT IN ACCORDANCE WITH G.S. 47-30-F-11-C-1; CERTIFY THAT THE SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND OR ONE OR MORE EXISTING EASEMENTS AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET. FOR THE PURPOSES OF THIS SUBSECTION, AN "EXISTING PARCEL" OR "EXISTING EASEMENT" IS AN AREA OF LAND DESCRIBED IN A SINGLE LEGAL DESCRIPTION OR LEGALLY RECORDED SUBDIVISION THAT HAS BEEN OR MAY BE LEGALLY CONVEYED TO A NEW OWNER BY DEED IN ITS EXISTING CONFIGURATION.

STEVEN P. CARSON, PLS
NC LICENSE NO. 4752

DATE 7/11/22

LOT INFORMATION				
PROPERTY	OWNER	DEED	PIN	ID
A	CHARLES B GORDON JR	DB 1154 PG 409	167800-85-4971	0504203F
B	CHARLES B GORDON JR	DB 1154 PG 409	167800-85-4781	0504203D
C	MICHAEL P DUNLOP	DB 962 PG 691	167800-85-1063	0504203O
D	DENIS CAMELO	DB 4943 PG 703	167800-85-2226	0504203Q
E	STEVE K STROUSE	DB 5855 PG 522	167800-85-5247	0504203K
F	WARRICK L JONES	DB 5039 PG 189	167800-85-5124	0504203J
G	ANDREA M JONES	DB 4721 PG 209	167800-85-5969	0504203L
H	CHRISTY LYNN H SUTTON	DB 4801 PG 579	167804-84-5766	0504203M
I	BRANDY E B GREICH	DB 4312 PG 754	167804-84-4723	0504203N
J	VANESA THOMAS	DB 4461 PG 357	167804-84-2765	0504203N
J	JAMES B GURGANUS	CENTENNIAL H GURGANUS		

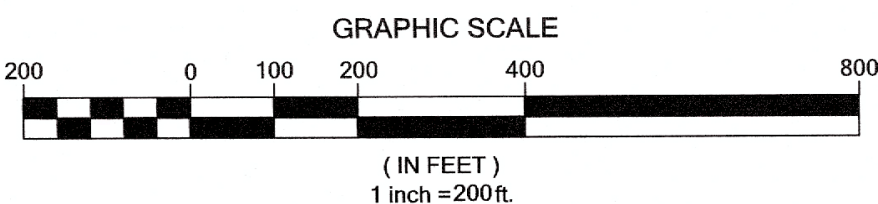
AREAS OF PIN 167800-85-1849	
NORTHERN SECTION	AREA
TOTAL	485,021 SF / 11.134 AC
IN RW	2,011 SF / 0.046 AC
NET	483,010 SF / 11.088 AC
SOUTHERN SECTION	AREA
TOTAL	410,433 SF / 9.423 AC
IN RW	48,740 SF / 1.073 AC
NET	363,713 SF / 8.350 AC
TOTAL PARCEL	895,474 SF / 20.557 AC
IN RW	48,751 SF / 1.110 AC
NET	846,723 SF / 19.438 AC



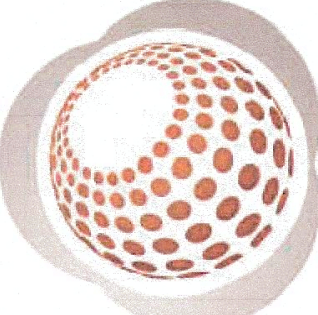
LINE TABLE		
LINE#	DIRECTION	LENGTH
L1	S24° 41' 24"E	32.33'
L2	N27° 50' 58"W	76.78'
L3	S22° 47' 42"E	94.11'
L4	S19° 08' 39"E	106.37'
L5	S18° 18' 38"E	109.77'
L6	S18° 01' 43"E	101.90'
L7	S18° 00' 39"E	123.02'
L8	N01° 03' 51"W	155.03'
L9	N01° 09' 16"W	105.00'
L10	S88° 49' 44"W	36.97'
L11	S88° 49' 44"W	96.87'
L12	S88° 49' 44"W	264.47'
L13	S88° 49' 44"W	24.97'
L14	S88° 50' 00"W	25.02'
L15	S88° 50' 00"W	25.04'
L16	N88° 50' 00"E	257.08'
L17	S88° 50' 00"W	17.98'
L18	S01° 44' 46"E	250.03'

LINE TABLE		
LINE#	DIRECTION	LENGTH
L19	S01° 45' 16"E	200.61'
L20	S01° 45' 30"E	200.00'
L21	S01° 45' 30"E	200.00'
L22	S88° 14' 30"W	230.00'
L23	S88° 14' 30"W	230.00'
L24	N01° 45' 30"W	200.00'
L25	N01° 45' 30"W	200.00'
L26	N88° 14' 30"E	230.00'
L27	S88° 19' 57"W	274.96'
L28	N01° 46' 36"W	203.34'
L29	N03° 17' 54"W	77.05'
L30	N11° 06' 00"W	59.49'
L31	N11° 06' 00"W	105.09'
L32	N16° 41' 40"E	68.09'
L33	N02° 07' 38"W	132.30'
L34	N02° 07' 38"W	47.67'
L35	N05° 45' 24"W	99.82'
L36	N11° 29' 43"E	149.79'

LINE TABLE		
LINE#	DIRECTION	LENGTH
L37	S88° 46' 47"W	126.36'
L38	S88° 46' 47"W	175.27'
L39	S88° 46' 47"W	140.20'
L40	S01° 29' 44"E	47.82'
L41	S01° 29' 44"E	128.73'



BATEMAN CIVIL SURVEY COMPANY
ENGINEERS • SURVEYORS • PLANNERS
2524 RELIANCE AVENUE, APEX, NC 27539
PHONE: (919) 577-1080 FAX: (919) 577-1081
INFO@BATEMANCIVLSURVEY.COM
NCBELS FIRM# C-2378



ALTA/NSPS/LAND TITLE SURVEY
EXCLUSIVELY FOR: WAKEFIELD DEVELOPMENT
PROPERTY PINS:
167800-85-1849, 167800-85-6959, 167804-84-1128, 167800-85-4781 & 167800-85-4971
AS RECORDED IN DEED BOOK 3962, PAGE 691, DEED BOOK 4205, PAGE 161,
& DEED BOOK 1154, PAGE 409
CLAYTON TOWNSHIP - JOHNSTON COUNTY - NORTH CAROLINA

REVISIONS
1. ADDED FEATURES FOR LOTS A & B (8/22/22)
2. ADDED SECOND TITLE REPORT (8/22/22)
3. REVISED SECOND TITLE REPORT (7/6/22)
4.

DESIGNED BY: N/A
DRAWN BY: ELS
CHECKED BY: SPC
SCALE: 1" = 200'
DATE: 04/28/2022
JOB NUMBER: 220214

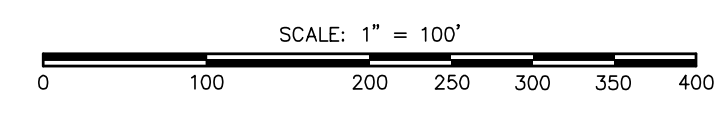
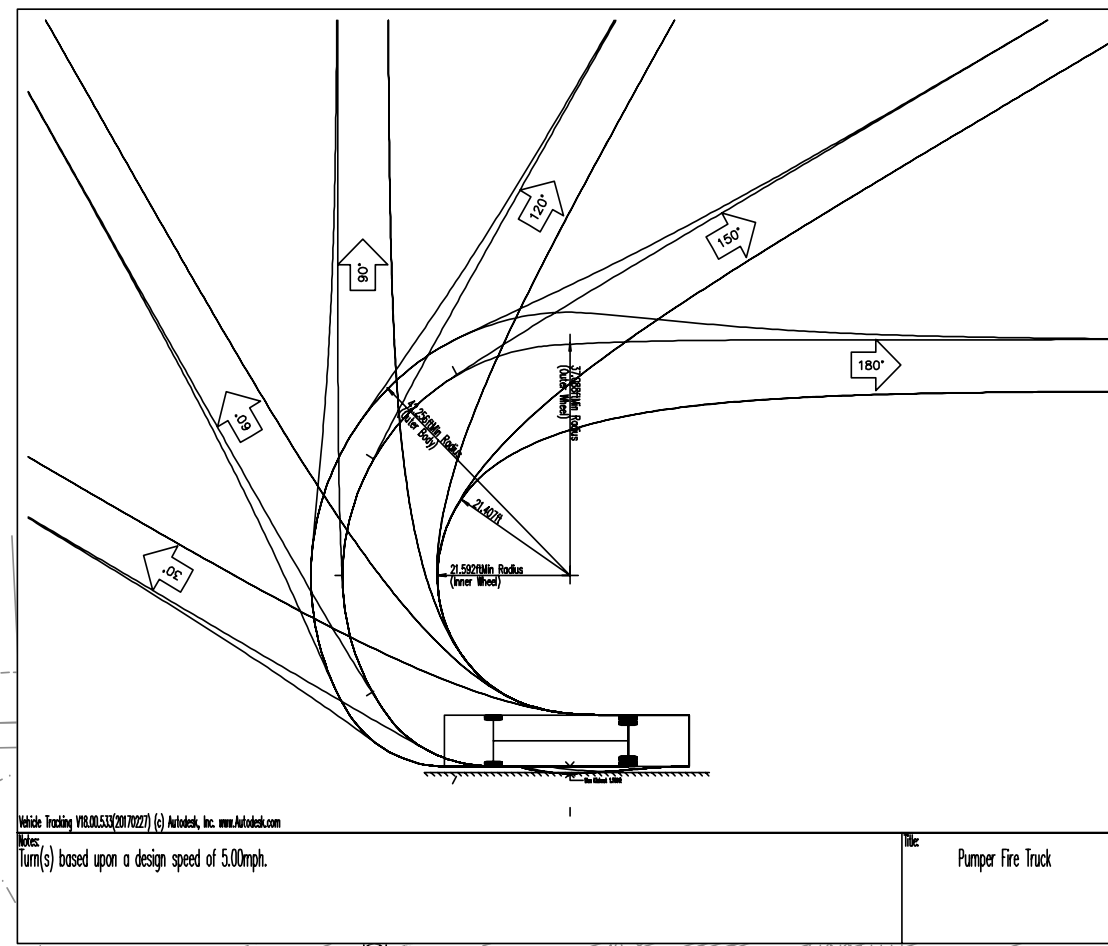
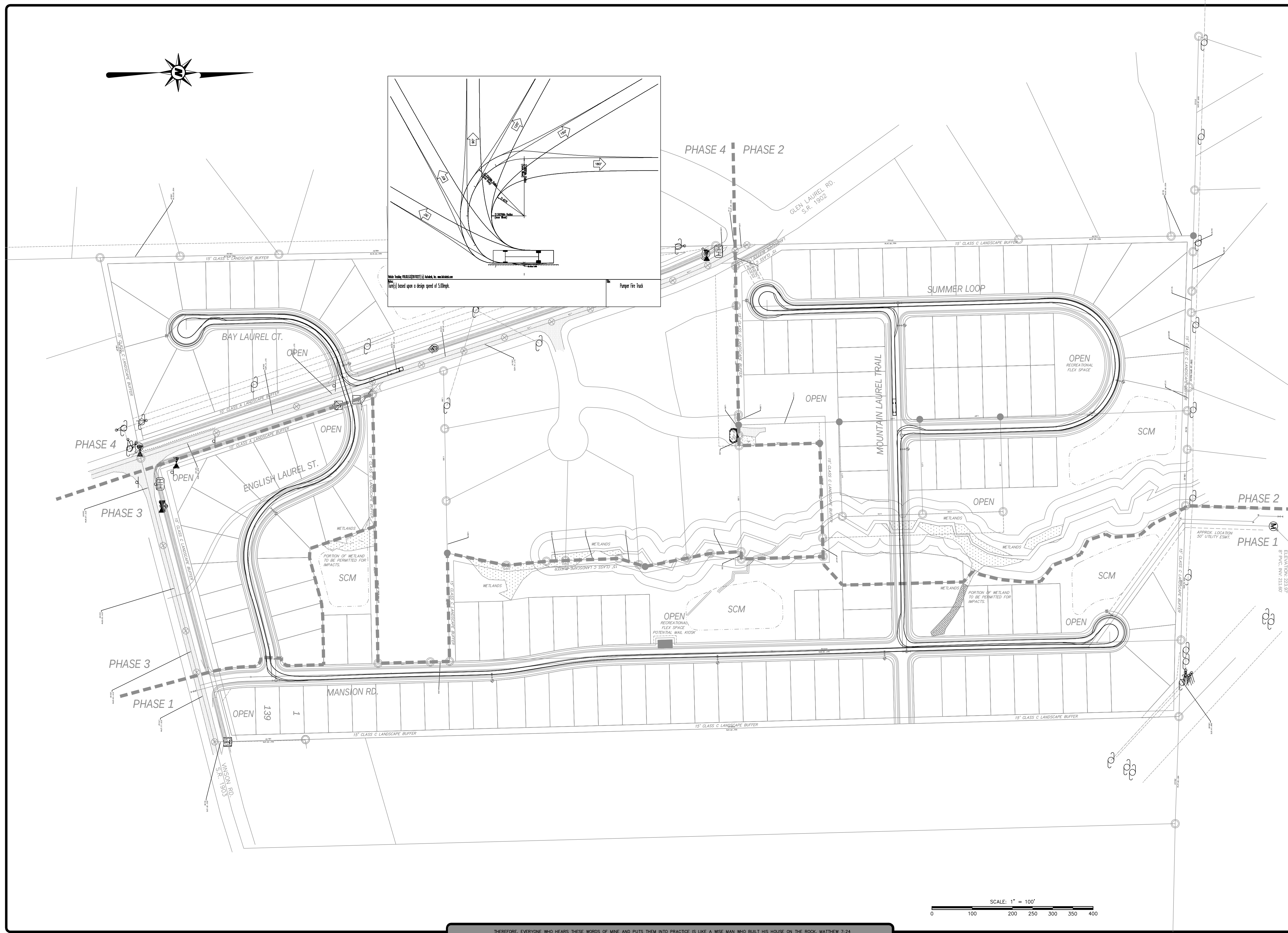
SHEET 1 OF 2

ISSUING AGENCY: EQUITY TITLE COMPANY, LLC ISSUING OFFICE: 200 GOLDEN OAK COURT, STE. 150, VIRGINIA BEACH, VA 23462 ISSUING OFFICERS ALTA REGISTRY ID: 1177969 COMMITMENT NO.: ETC220301464-1 PROPERTY ADDRESS: 36.89 ACRES, MORE OR LESS, ON GLEN LAUREL RD., CLAYTON, NC 27527 PROPERTY SURVEYED BY BATEMAN BENTLEY COMPANY, INC. DATED 04/27/2022, JOB NO. 220214 SCHEDULE A	
1. COMMITMENT DATE: APRIL 1, 2022 AT 08:00 AM	
2. POLICY TO BE ISSUED: (A) ALTA OWNERS POLICY (06/17/06) PROPOSED INSURED: WAKEFIELD DEVELOPMENT, LLC, A VIRGINIA LIMITED LIABILITY COMPANY POLICY AMOUNT: \$1,680,050.00	
3. THE ESTATE OR INTEREST IN THE LAND DESCRIBED OR REFERRED TO IN THIS COMMITMENT IS: FEE SIMPLE.	
4. TITLE TO THE FEE SIMPLE ESTATE OR INTEREST IN THE LAND IS, AT THE COMMITMENT DATE, VESTED IN: TGS PROPERTIES, LLC, A NORTH CAROLINA LIMITED LIABILITY COMPANY	
5. THE LAND IS DESCRIBED AS FOLLOWS:	
TRACT 1: BEGINNING AT A STAKE IN THE INTERSECTION OF STATE ROAD 1902 AND STATE ROAD 1903, CORNER OF LOT NOS. 1 AND 5, AND RUNNING THENCE WITH THE CENTER OF STATE ROAD 1902, NORTH 13 DEGREES 55 MINUTES WEST 607.75 FEET TO A STAKE IN THE CENTER OF THE ROAD, CORNER OF LOT NO. 4; THENCE WITH THE LINE OF LOT NO. 4, THENCE WEST 690 FEET TO A STAKE, CORNER OF LOT NO. 4; THENCE WITH THE LINE OF LOT NO. 4, NORTH 3 DEGREES 15 MINUTES EAST 2901 FEET TO A STAKE, CORNER OF LOT NO. 4; THENCE SOUTH 83 DEGREES 30 MINUTES EAST 597.5 FEET TO THE POINT AND PLACE OF BEGINNING, AND CONTAINING 18.5 ACRES, MORE OR LESS, SAID TRACT BEING LOT NOS. 1, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677,	

SCHEDULE A	
ISSUING AGENT: EQUITY TITLE COMPANY, LLC ISSUING OFFICE: 200 GOLDEN OAK COURT, STE. 150, VIRGINIA BEACH, VA 23452 ISSUING OFFICES ALTA REGISTRY ID: 1171969 COMMITMENT NO.: ETC220301589-1 PROPERTY ADDRESS: 200 1.06 ACRES TRACTS ON TANNERS WAY NEAR GLEN LAUREL DRIVE, CLAYTON, NC 27527 15.06 ACRES MORE OR LESS NEAR GLEN LAUREL DRIVE, CLAYTON, NC 27527 REVISION NO.: 2	
1. COMMITMENT DATE: APRIL 22, 2022 AT 08:00 AM	
2. POLICY TO BE ISSUED: (A) ALTA OWNERS POLICY (09/17/06) PROPOSED INSURED: WAKEFIELD DEVELOPMENT, LLC, A VIRGINIA LIMITED LIABILITY COMPANY POLICY AMOUNT: \$793,100.00	
3. THE ESTATE OR INTEREST IN THE LAND DESCRIBED OR REFERRED TO IN THIS COMMITMENT IS: FEE SIMPLE AND THE APPURTENANT EASEMENT.	
4. THE TITLE IS, AT THE COMMITMENT DATE, VESTED IN: CHARLES B. GORDON, JR. (AS TO PARCEL ONE) CHARLES B. GORDON, JR. AND ERIC B. GORDON (AS TO PARCEL TWO)	
5. THE LAND IS DESCRIBED AS FOLLOWS: PARCEL ONE: ALL OF LOT 1, 1.056 ACRES AND ALL OF LOT 2, 1.056 ACRES AS SHOWN ON PLAT THEREOF RECORDED IN PLAT BOOK 44, PAGE 381, JOHNSTON COUNTY, REGISTRY. TOGETHER WITH THAT CERTAIN 50' ACCESS EASEMENT AS INDICATED ON PLAT RECORDED IN PLAT BOOK 44, PAGE 381, JOHNSTON COUNTY, REGISTRY, LESS THAT PORTION OF THE 50' ACCESS EASEMENT EXTINGUISHED IN PLAT BOOK 77, PAGE 480 (SEE ALSO PLAT BOOK 51, PAGE 392 AND PLAT BOOK 8, PAGE 13, FOR FURTHER DEPICTIONS OF SAID EASEMENT)	
PARCEL TWO: BEGINNING AT AN EXISTING PK NAIL LOCATED IN THE CENTERLINE OF NCSR 1901 (GLEN LAUREL ROAD), SAID EXISTING PK NAIL BEING SOUTHWEST CORNER OF PROPERTY OWNED BY ERIC B. GORDON AND AMANDA DAVIS GORDER (DEED BOOK 3150, PAGE 887) AND RUNNING THENCE ALONG THE CENTERLINE OF NCSR 1902 THE FOLLOWING COURSES AND DISTANCES: NORTH 14 DEGREES 18 MINUTES 36 SECONDS WEST 114.10 FEET, NORTH 13 DEGREES 58 MINUTES 07 SECONDS WEST 146.66 FEET, NORTH 14 DEGREES 53 MINUTES 02 SECONDS WEST 18.25 FEET, NORTH 13 DEGREES 16 MINUTES 02 SECONDS WEST 75.00 FEET, NORTH 15 DEGREES 38 MINUTES 35 SECONDS WEST 159.74 FEET, NORTH 14 DEGREES 53 MINUTES 09 SECONDS WEST 53.58 FEET, NORTH 16 DEGREES 31 MINUTES 45 SECONDS WEST 100.00 FEET, NORTH 20 DEGREES 28 MINUTES 13 SECONDS WEST 87.30 FEET, NORTH 35 DEGREES 01 MINUTE 01 SECOND WEST 15.91 FEET TO AN EXISTING PK NAIL, THENCE RUNNING SOUTH 87 DEGREES 17 MINUTES 53 SECONDS EAST 432.28 FEET TO AN EXISTING IRON PIPE, THENCE RUNNING NORTH 02 DEGREES 06 MINUTES 05 SECONDS EAST 1116.36 FEET TO AND EXISTING IRON PIPE, THENCE RUNNING SOUTH 14 DEGREES 30 MINUTES 33 SECONDS EAST 596.50 FEET TO A POINT, THENCE RUNNING NORTH 02 DEGREES 19 MINUTES 10 SECONDS WEST 1.68431 FEET TO A POINT, THENCE RUNNING SOUTH 01 DEGREE 35 MINUTES 30 SECONDS WEST 54.28 FEET TO A POINT, THENCE RUNNING SOUTH 01 DEGREE 33 MINUTES 09 SECONDS WEST 100.08 FEET TO A POINT, THENCE RUNNING NORTH 87 DEGREES 20 MINUTES 05 SECONDS WEST 262.77 FEET TO AN EXISTING IRON PIPE, THENCE RUNNING NORTH 87 DEGREES 20 MINUTES 05 SECONDS WEST 473.01 FEET TO THE POINT AND PLACE OF BEGINNING.	
LESS AND EXCEPT THE FOLLOWING PARCELS OF LAND: 1. BEING ALL OF LOT 1, CONTAINING 1.275 ACRES, MORE OR LESS, AS SHOWN ON A MAP RECORDED IN PLAT BOOK 51, PAGE 392, JOHNSTON COUNTY REGISTRY, TO WHICH PLAT REFERENCE IS HEREBY MADE FOR A FULL AND COMPLETE DESCRIPTION OF SAID LOT. 2. BEING ALL OF LOT 1, CONTAINING 1.056 ACRES, MORE OR LESS, AS SHOWN ON A MAP RECORDED IN PLAT BOOK 44, PAGE 381, JOHNSTON COUNTY REGISTRY, TO WHICH PLAT REFERENCE IS HEREBY MADE FOR A FULL AND COMPLETE DESCRIPTION OF SAID LOT. 3. BEING ALL OF LOT 2, CONTAINING 1.056 ACRES, MORE OR LESS, AS SHOWN ON A MAP CORDED IN PLAT BOOK 44, PAGE 381, JOHNSTON COUNTY REGISTRY, TO WHICH PLAT REFERENCE IS HEREBY MADE FOR A FULL AND COMPLETE DESCRIPTION OF SAID LOT. 4. BEING ALL OF THAT 50' ACCESS EASEMENT WHICH IS SHOWN AS TANNERS WAY ON THOSE MAPS RECORDED IN PLAT BOOK 44, PAGE 381 AND PLAT BOOK 51, PAGE 392, JOHNSTON COUNTY REGISTRY.	
THE ABOVE-DESCRIBED REAL PROPERTY IS NOW SHOWN ON THAT MAP RECORDED IN PLAT BOOK 78, PAGE 19, JOHNSTON COUNTY REGISTRY.	
LESS AND EXCEPT THOSE PARCELS DEPICTED ON PLAT BOOK 78, PAGE 56 AND ON PLAT BOOK 82, PAGE 214, JOHNSTON COUNTY REGISTRY.	
COMMITMENT NO.: ETC220301589-1	SCHEDULE B, PART II EXCEPTIONS
THIS COMMITMENT DOES NOT REPELISH ANY COVENANT, CONDITION, RESTRICTION, OR LIMITATION CONTAINED IN ANY DOCUMENT REFERRED TO IN THIS COMMITMENT TO THE EXTENT THAT THE SPECIFIC COVENANT, CONDITION, RESTRICTION, OR LIMITATION VIOLATES STATE OR FEDERAL LAW BASED ON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, GENDER IDENTITY, HANDICAP, FAMILIAL STATUS, OR NATIONAL ORIGIN.	
THE POLICY WILL NOT INSURE AGAINST LOSS OR DAMAGE RESULTING FROM THE TERMS AND PROVISIONS OF ANY LEASE OR EASEMENT IDENTIFIED IN SCHEDULE A, AND WILL INCLUDE THE FOLLOWING EXCEPTIONS UNLESS CLEARLY TO THE SATISFACTION OF THE COMPANY:	
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 A, PART I - REQUIREMENTS ARE MET. (NO MATTER OF SURVEY)	
2. RIGHTS OR CLAIMS OF PARTIES IN POSSESSION AND EASEMENTS OR CLAIMS OF EASEMENTS NOT SHOWN BY THE PUBLIC RECORDS. (NO MATTER OF SURVEY)	
3. ANY LIEN, CLAIM OR RIGHT TO A LIEN, FOR SERVICES, LABOR OR MATERIAL HERETOFORE OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY THE PUBLIC RECORDS. (NO MATTER OF SURVEY)	
4. TAXES OR SPECIAL ASSESSMENTS WHICH ARE NOT SHOWN AS EXISTING LIENS BY THE PUBLIC RECORDS. (NO MATTER OF SURVEY)	
5. ANY DISCREPANCY, CONFLICT, MATTER AFFECTING ACCESS, SHORTAGE IN AREA OR BOUNDARY LINES, ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION, OVERLAP, SETBACK OR EASEMENT OR CLAIMS OF EASEMENT, RIPARIAN RIGHT, AND TITLE TO LAND WITHIN ROADS, WAYS, RAILROADS, WATERCOURSES, BURIAL GROUNDS, MARSHES, DREDGED OR FILLED AREAS OR LAND BELOW THE MEAN HIGH-WATER MARK OR WITHIN THE BOUNDS OF ANY ADJOINING BODY OF WATER, OR OTHER ADVERSE CIRCUMSTANCE AFFECTING THE TITLE THAT WOULD BE DISCLOSED BY A CURRENT INSPECTION AND ACCURATE AND COMPLETE LAND AND TITLE MAP OF THE LAND, (TO BE DELETED UPON RECEIPT OF REQUIREMENT NOTED UNDER SCHEDULE B, PART I, ITEM #7, HEREIN) (AS SHOWN HEREON)	
6. THE LIEN FOR ALL TAXES FOR THE YEAR 2022, WHICH ARE NOT YET DUE AND PAYABLE, AND SUBSEQUENT YEARS. (NO MATTER OF SURVEY)	
7. DECLARATION OF RESTRICTIONS AND PROVISIONS FOR PRIVATE ROAD MAINTENANCE RECORDED IN BOOK 1883, PAGE 155, JOHNSTON COUNTY REGISTRY. (AS SHOWN HEREON)	
8. EASEMENTS IN FAVOR OF CAROLINA POWER & LIGHT COMPANY RECORDED IN BOOK 716, PAGE 171, BOOK 1045, PAGE 315, BOOK 1447, PAGE 695 AND BOOK 3995, PAGES 23, 25 AND 27, JOHNSTON COUNTY REGISTRY. (EASEMENTS ARE BLANKET IN NATURE, UNABLE TO PLOT)	
9. DELETED PER SURVEYOR	
10. MEMORANDUM OF WATER USE AGREEMENT RECORDED IN BOOK 2373, PAGE 455, JOHNSTON COUNTY REGISTRY. (NO MATTER OF SURVEY)	
11. RIGHTS OF OTHERS IN AND TO TANNERS WAY AND ACCESS EASEMENT ON PLAT BOOK 44, PAGE 381. (AS SHOWN HEREON)	
12. FIFTY (50) FOOT PRIVATE RIGHT OF WAY AS SHOWN ON PLAT BOOK 51, PAGE 392, JOHNSTON COUNTY REGISTRY. (AS SHOWN HEREON)	
13. TITLE TO ANY HOUSE TRAILER, MOBILE HOME, OR MANUFACTURED HOME LOCATED ON THE LAND. (NO MATTER OF SURVEY)	
14. ANY RIGHT, EASEMENT, SETBACK, INTEREST, CLAIM, ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATIONS OR OTHER ADVERSE CIRCUMSTANCE AFFECTING THE TITLE DISCLOSED BY PLAT(S) RECORDED IN PLAT BOOK 44, PAGE 381, PLAT BOOK 51, PAGE 392, PLAT BOOK 78, PAGE 19, PLAT BOOK 77, PAGE 480, PLAT BOOK 52, PAGE 343 AND PLAT BOOK 9, PAGE 3. (AS SHOWN HEREON)	
15. THE FOLLOWING MATTER(S) AS SHOWN ON PLAT OF SURVEY BY BATEMAN CIVIL SURVEY COMPANY, DATED APRIL 28, 2022 LAST REVISED JUNE 2, 2022, AND ANY EASEMENT(S) OR RIGHT(S)-OF-WAY ASSOCIATED THEREWITH, INCLUDING THE FOLLOWING: A) EXISTING BOUNDARY ENCROACHMENTS AS SHOWN ON SURVEY; B) 50' RUSSE RIPARIAN BUFFER, AND 50' RIPARIAN BUFFER SHOW ON PLAT BOOK 78, PAGE 56; C) RIGHTS OF UPPER AND LOWER RIPARIAN OWNERS IN AND TO THE WATERS OF STREAM CROSSING OR ADJOINING THE LAND, AND THE NATURAL FLOW THEREOF, FREE FROM DIMINUTION OR POLLUTION; D) 50' PRIVATE R/W AS SHOWN ON SURVEY; E) ANY TITLE OR RIGHTS ASSERTED BY ANYONE, INCLUDING BUT NOT LIMITED TO, PERSONS, CORPORATIONS, GOVERNMENTS OR OTHER ENTITIES, TO WETLANDS AS ESTABLISHED OR CHANGED BY THE UNITED STATES GOVERNMENT OR WATERS RIGHTS, IF ANY. (AS SHOWN HEREON)	

[illegible]

BATEMAN CIVIL SURVEY COMPANY ENGINEERS • SURVEYORS • PLANNERS 2524 RELIANCE AVENUE, APEX, NC 27539 PHONE: (919) 577-1080 FAX: (919) 577-1081 INFO@BATEMANCIVILSURVEY.COM NCBELLS FIRM# C-2376	
	
ALTANSPS/LAND TITLE SURVEY EXCLUSIVELY FOR: WAKEFIELD DEVELOPMENT PROPERTY PINS: 167900-S5-1849, 167900-S5-0555, 167900-S5-4781 & 167900-S5-4971 AS RECORDED IN DEED BOOK 3862, PAGE 691, DEED BOOK 4205, PAGE 161, & DEED BOOK 1154, PAGE 409 CLAYTON TOWNSHIP - JOHNSTON COUNTY - NORTH CAROLINA	
1. ADDRESSED FEATURES FOR LOTS A & B (5/02/2022)	REVISIONS
2. ADDRESSED SECOND TITLE REPORT (6/02/22)	1. ADDRESSED SECOND TITLE REPORT (7/06/22)
3. REVISED SECOND TITLE REPORT (7/06/22)	4.
DESIGNED BY: N/A	
DRAWN BY: ELS	
CHECKED BY: SPC	
SCALE: 1" = 200'	
DATE: 04/28/2022	
JOB NUMBER: 220214	
SHEET 2 OF 2	



THEREFORE, EVERYONE WHO HEARS THESE WORDS OF MINE AND PUTS THEM INTO PRACTICE IS LIKE A WISE MAN WHO BUILT HIS HOUSE ON THE ROCK. MATTHEW 7:24

**STOCKS
ENGINEERING**
801 EAST WASHINGTON STREET
NASHVILLE, TN 37203
PHONE: (615) 455-8188
WWW.STOCKSENGINEERING.COM

BLN-C-1874

**SUMMER GLEN
GLEN LAUREL RD. at VINSON RD.
CLAYTON, NORTH CAROLINA**

FIRE TRUCK TRACKING

REVISIONS
10/26/22 C2M Submittal #2
2/27/23 C2M Submittal #3
6/15/23 C2M Submittal #4
7/19/23 C2M Submittal #5

FILE NO.	2022-031
HORIZ. SCALE:	1"=100'
VERT. SCALE:	N/A

CE-03

Wakefield Development Glen Laurel Assemblage

Neighborhood Meeting Questions

- Jacob Callahan - Glen Ridge HOA President – Crossing Street
 - Leave as natural as possible
 - Consideration for current housing market
- Paulette Sanders – Traffic, how many homes
- Debra Anderson Glen Ridge – Price of homes, Traffic on Glen Laurel
- Cristin Hopper – Peer Review – When will construction start
- Anne Marie Hunter – Surrounding Oak
- Garth Stewart – Oak Grove open space
 - Can someone purchase lots for preservation
- - Wetlands distance from road to property at culvert
 - Construction start
- Brandy Creech
 - Density
 - TIA
 - Buffer on streams
- August Planning Board
- Town Council
- Kim Roberts – Who is the builder
- Jamie Stewart – Pond construction & design

Clayton: June 7th, 2022 Wakefield Assemblage (18-19 Participants)

- Introductions
- Describe Site
- Describe Zoning
- Describe Proposed Development
- Respond to Questions
 - Matthew Danielson, Wakefield Development, discussed what the homes will look like
 - Andrew responded to additional questions
 - John Barnes discussed houses 3BR – 5BR
 - Lori Bridget – Contact @ Clayton

Q&A

Jacob Callahan: Glen Ridge HOA Officer

-Challenges of splitting sub across G.L. Rd

Andrew responds: They'll have their own mail kiosk but under same HOA

J. Callahan:

What will happen to grassland Maintained as grass open space

Paulette Sanders Vinson Rd:

Lots of traffic, NCDOT will determine traffic needs – we will meet those requirements

how many houses 136 on total site – 15 on other side of GL Rd

Debra Anderson:

What is price pt, will value go down, John Barnes - \$400's to 500K

Traffic is already bad. Won't it get worse? Prone to accidents... We will do everything we can to meet traffic needs.

Cristin Hopper:

Requesting a peer review of traffic study... Will you pay for it?

Brandy Creech:

Where are you in terms of traffic study? Andrew-early process

More will occur after zoning

Jacob Callahan:

What will be the impact to the site if market downturn? Matthew-Raleigh doesn't suffer much. We will not abandon the site

Garth Stewart (Jamie Stewart) Oak Grove

What will happen at end of Tanner's Way. How will we get access to that open space Andrew – Still developing – Probably best access – Not sure how it will end up. Will likely end up wooded.

Can someone buy undeveloped lot? Unclear

Brandy Creech:

Overall density? **Less than 3 units/acre – currently shown at 2.5 units/acre**

Mike Baust:

Andrew please speak to community in process going forward and schedule **Staff then planning board review, town council- One full review is in place then infrastructure will be designed. Then more review by various municipal & utility experts & advisors.**

Brandy Creech:

When will TIA actually be completed **Expecting to complete before school starts again**

Can we get a copy of the site plan?

Streams have a buffer. Wetlands do not.

Garth Stewart:

Is there a dimension RE: Wetlands **Andrew- 200' from lot to culvert**

Brandy Creech:

Run utility under the street

Along/across culvert **Sections will flow to Neuse cc exist.....**

Garth Stewart:

Stormwater ponds – what determines their location **Location in low areas on the site, fit exist characteristics of the site**

Brandy Creech:

When will clearing begin **Andrew-Probably a year**

Garth Stewart:

Will neighborhood be developed in phases Yes, connection to Vinson Road to sewer connection and phases will grow from there

Mike Baust:

Thank you to the community.

Kim:

Requested additional info regarding homes/what will they look like

Garth Stewart:

Are the structures shown on the plan existing? Andrew-Yes

Will ponds be planted? Pond dam will be grass seeded.

Will pond discharge to stream? Yes

Kristen Zillioux, Angela Crumpler, Bill Smith Remaining crew on the call. Not sure Kristen and Angela are even still there though their computer is logged in.

"Rocky Branch Rd" was previous name of Glen Laurel Rd.

Questions from Brandy Creech and Neighbors

- Define "Open Space" and its requirements
 - o Will the green shaded areas remain wooded?

The open space is all area that is not within the ROW or on proposed individual lots, the open space will be dedicated to the HOA for ownership and maintenance. The area will consist of amenity areas, perimeter buffers, the Stormwater Control Measures (SCMs), riparian buffers, etc. Portions of this space will remain wooded. The limit of disturbance have not been determined at this time but will be as construction drawings progress.

- SCM – is this a retention pond/water feature?

SCM is an acronym for Stormwater Control Measure and yes would be a retention pond/water feature.

- Two proposed roads are shown tying into an adjacent property. Is there a current plan for the neighborhood to extend?

There is no current plan for the neighborhood to be extended, these are required stubs by the Town of Clayton to meet block length criteria and interconnectivity to adjacent property however there are no current plans by Wakefield Development to further extend the subdivision.

- Size of Lots?

Currently the minimum lot size is 6,900 sf, the typical lot size is 7,200 sf and the largest is 23,519 sf.

- Size of homes?

The typical building pad will be 45' x 55' with options that alter this size. I will let John Barnes from Chesapeake Homes who will be the homebuilder add any additional information about the homes.

- Has an erosion control plan prepared?

Not at this time, Erosion control plans will be a part of the construction drawing process after the rezoning process.

- Is there a plan to restore the creek/natural spring?
 - o This is a loaded question.

All environmental features were located by Sage Ecological and were included on the ALTA Survey. Sage will also be coordinating the impact permitting with USACE and NCDEQ. Our current plan is to minimize the proposed impacts and any requirements of the permitting process will be included in the scope of work.

- Will the developer request and participate in the improvement of Glen Laurel and/or Vinson Roads to minimize traffic congestion?

A TIA is currently being performed by Exult Engineering. Any recommendations from the TIA, the Town of Clayton, and NCDOT will be incorporated into the improvements.

- Site Plan Request:
 - o Plans to scale**
 - o Include park, pool, community building/structures, etc
 - o Show property lines (specifically Oak Grove neighborhood)**
 - o Show wetland boundaries/all water surveys **

Our current preliminary site plan has been included in the presentation. We would like to note that modifications are being made and the plan is not final until it has received approval from all jurisdictional authorities.

- Is Oak Grove at risk of being annexed because of this proposed development?

No, State law has eliminated forced annexation Oak Grove. The developer cannot annex any land owned by a third party. Oak Grove would have to request voluntary annexation only if there was a desire to do so.

- Will Oak Grove be used as a construction entrance for the back side of the proposed neighborhood?
 - o If so, how will the developer compensate Oak Grove residents for excessive wear and tear on our private street?

Oak Grove will not be used as a construction entrance, during preliminary discussions with the Town of Clayton, the Engineering department has requested that we not provide a street connection to Tanners Way. This connection is not shown.

- Will neighborhood street creek crossings on the map be culverts or bridges?

We will propose this as a pipe culvert crossing. This crossing will require the US Army Corp of Engineers and NCDEQ approval for stream/wetland impacts.

- Will vegetation be planted to define neighborhood boundaries?

The Town of Clayton requires a perimeter landscape buffer between the proposed zoning and the adjacent property. Natural vegetation will remain where possible however if the natural vegetation is removed for any reason a buffer in accordance with the Towns UDO will be planted.

·

Questions from Betty Woodall

- This tract was once her families farm and she asked if we located the slave cemetery that was on site.

An ALTA Survey and an Environmental Phase One have been performed on the site and neither of those studies found documentation or evidence of any Cemeteries on this site. We do know there is a Cemetery adjacent to this site, inside of the Glen Ridge Subdivision. If any cemeteries are encountered the development team will handle in accordance with typical protocol to investigate concern.

- She also had questions about traffic and turn lanes.

Addressed Above, however a TIA is currently being performed by Exult Engineering. Any recommendations from the TIA, the Town of Clayton, and NCDOT will be incorporated into the improvements.

Questions from Christin Hopper

Our lot directly abuts several proposed at the northernmost portion of the property. The stream to be impacted flows through our front yard. Our concerns relate to stormwater management and forest clearing.

1: Would the project comply with the basic requirements of the town of Clayton or are more protective measures proposed?

The stream shared by existing residences and the proposed development, as evidenced by its excessive incision in the landscape, is subject to very flashy storm flows. This perennial feature should be provided more protections than the town of Clayton's basic standards.

The project will comply with all applicable requirements from various governing authorities. The stream has a 50' riparian buffer from the top of the stream bank and these buffers are regulated by Johnston County. Streams and wetlands are regulated by the US Army Corp of Engineers the NC Department of Environmental Quality. There are some proposed impacts to this stream and wetlands so the USACE and NCDEQ will be involved in permitting of this site and be aware of all construction activity.

2: we understand the need for mass balancing, but see no need to clear all the way to the property line. Wide forested buffers provide better living conditions for both existing and future residents. Would the applicant entertain preserving 50ft wooded buffer along property lines adjacent to existing residences?

The plan is to leave a 15' undisturbed buffer where existing vegetation exists. If there is no vegetation or the existing vegetation must be removed, then a Type C landscape buffer as described in the Towns development ordinance will be planted.

3: The dominant winds in our area are from the southwest. Windthrow is common in forests cleared for differing land uses. A wider buffer would reduce the potential for trees to be pushed across the power lines already in our backyard and would increase property values and attractiveness. Some trees along the property line could not be cleared without our approval. Several are tall enough to impact our home.

Care will be taken to keep the existing wooded area within 15' of the property line as the landscape buffer and to avoid any impacts to adjacent properties especially in areas where existing vegetation is to be removed.

4: If the applicant will not agree to preserving this wide forested buffer along property lines, we request that tall opaque, vegetated buffers be planted by the applicant.

If the existing trees are to be removed, the development will provide the Type C landscape buffer as required by the Town of Clayton's development ordinance.

5: Will the applicant entertain allowing a native plant harvest to occur before the forests are cleared? We understand a waiver would need to be signed.

Please provide additional detail and present a more specific request. This can be discussed on a case-by-case basis. Any proposal presented will be reviewed by the developers.

6: The Town of Clayton and Johnston County in general, have done a very poor job of planning infrastructure to accommodate all the growth that is being approved. We request the town consider beginning a fund for all new homes that would be used to improve water and sewer, infrastructure, failing roadways, availability of schools, etc. Our standard of living steadily declines as more and more homes are approved without the most basic considerations for existing residents.

This is an item the Citizens of Clayton and Johnston County should bring to the attention of the elected officials. Typically, municipalities have tap fees and/or development fees to make connections to existing lines which are paid to the town for infrastructure improvements.

July 2022



SUMMER GLEN RESIDENTIAL

Traffic Impact Analysis

LOCATED IN CLAYTON, NC

Prepared for:

Wakefield Development, LLC
3100 Smoketree Court, Suite 210
Raleigh, North Carolina 27604

Prepared by:

Exult Engineering, PC
P.O. Box 99277
Raleigh, NC 27624



SUMMER GLEN RESIDENTIAL TRAFFIC IMPACT ANALYSIS

This document entitled Summer Glen Residential Traffic Impact Analysis was prepared by Exult Engineering, PC for the account of Wakefield Development, LLC. The material in it reflects Exult Engineering's best judgement in light of the information available to them at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Exult Engineering, PC accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Summer Glen Residential Traffic Impact Analysis

Prepared by: Brittany Chase (sign)

Date: 7-14-22

Brittany Chase, PE

Reviewed by: Lisa Lundeen (sign)

Date: 7-14-22

Lisa Lundeen, PE

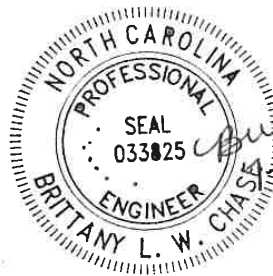


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EXECUTIVE SUMMARY

The proposed 54.07-acre site is located on the east and west side of Glen Laurel Road, north of Vinson Road in Clayton, North Carolina. The property is currently zoned as Residential Estate (R-E). The proposed development consists of approximately 135 single family detached homes. The proposed site is to be developed within three years by the year 2025 and requires Conditional Zoning. The proposed development will be accessed by one full movement driveway on Glen Laurel Road and one full movement driveway on Vinson Road. The purpose of this Traffic Impact Analysis (TIA) is to analyze the potential traffic impacts of the proposed development on the surrounding roadway network and to identify any roadway improvements necessary to mitigate the impact of the project traffic.

The North Carolina Department of Transportation (NCDOT) TIA Scoping Checklist was prepared and submitted to the Town of Clayton and NCDOT. The NCDOT TIA Scoping Checklist and subsequent correspondence regarding the scope of the TIA is included in the Appendix of this report. The *NCDOT Congestion Management Capacity Analysis Guidelines* and the Town of Clayton's *Code of Ordinances* were referenced to perform this traffic study.

As determined by the Town and NCDOT, the study area includes:

1. Glen Laurel Road at Vinson Road
2. Glen Laurel Road at Powhatan Road
3. Glen Laurel Road at Proposed Site Driveway
4. Vinson Road at Proposed Site Driveway

The proposed development is expected to generate 1,370 daily trips, 101 AM peak hour trips (26 entering, 75 exiting), and 135 PM peak hour trips (85 entering, 50 exiting).

As justified by historical daily traffic volumes in the vicinity, a 3% annual growth rate was assumed as required by the Town. Approved developments are developments in the area of the proposed site that have been approved but not yet constructed. The traffic from these approved developments is expected to contribute to the no-build traffic volumes projected for the study intersections. According to the Town and NCDOT, there are no approved developments to consider in the study area. All adjacent development is expected to be accounted for in the annual growth rate.

To determine the traffic impacts of the proposed development, capacity analyses were performed at the study intersections under the following scenarios:

- Existing (2022) Traffic Conditions
- No-Build (2025) Traffic Conditions
- Buildout (2025) Traffic Conditions
- Buildout (2025) Traffic Conditions with Recommended Improvements

As indicated by NCDOT, the following roadway improvement is committed to **by NCDOT** and included in the future year analysis scenarios:

Glen Laurel Road at Vinson Road:

- Install a traffic signal

Based on the capacity analysis presented herein, the following roadway improvements are recommended to be completed **by the developer** to accommodate project traffic:

Glen Laurel Road at Proposed Site Driveway:

- Provide one ingress and one egress lane on the eastbound and westbound approaches of the Proposed Site Driveway.

Vinson Road at Proposed Site Driveway:

- Provide one ingress and one egress lane on the southbound approach of the Proposed Site Driveway.

INTRODUCTION

The proposed 54.07-acre site is located on the east and west side of Glen Laurel Road, north of Vinson Road in Clayton, North Carolina as shown on Figure 1. The property is currently zoned as Residential Estate (R-E). The proposed development consists of approximately 135 single family detached homes and requires Conditional Zoning. As shown on Figure 2, the proposed development will be accessed by one full movement driveway on Glen Laurel Road and one full movement driveway on Vinson Road. The proposed site is to be developed within three years by the year 2025.

The purpose of this TIA is to analyze the potential traffic impacts of the proposed development on the surrounding roadway network and to identify any roadway improvements necessary to mitigate the impact of the project traffic. This study includes the analysis of the following traffic scenarios:

- Existing (2022) Traffic Conditions
- No-Build (2025) Traffic Conditions
- Buildout (2025) Traffic Conditions
- Buildout (2025) Traffic Conditions with Recommended Improvements

As justified by historical daily traffic volumes in the vicinity, a 3% annual growth rate was assumed as required by the Town. Approved developments are developments in the area of the proposed site that have been approved but not yet constructed. The traffic from these approved developments is expected to contribute to the no-build traffic volumes projected for the study intersections. According to the Town and NCDOT, there are no approved developments to consider in the study area. All adjacent development is expected to be accounted for in the annual growth rate.

Summer Glen Residential TIA

Vicinity Map

EXTENTS

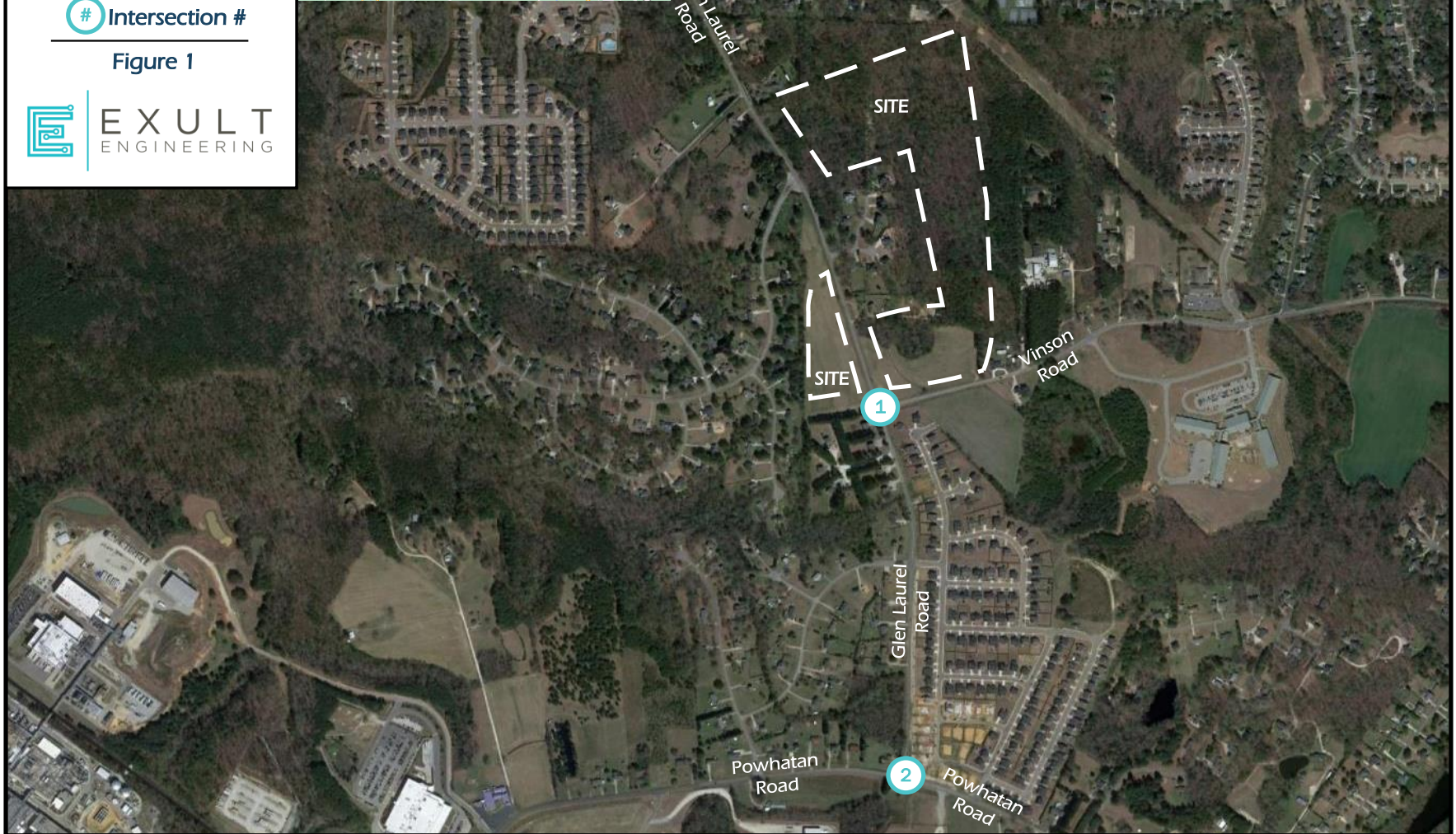
Glen Laurel Road from the Proposed
Driveway to Powhatan Road

Town of Clayton, NCDOT Division 4

LEGEND

Intersection

Figure 1



Summer Glen Residential TIA

Proposed Site Plan

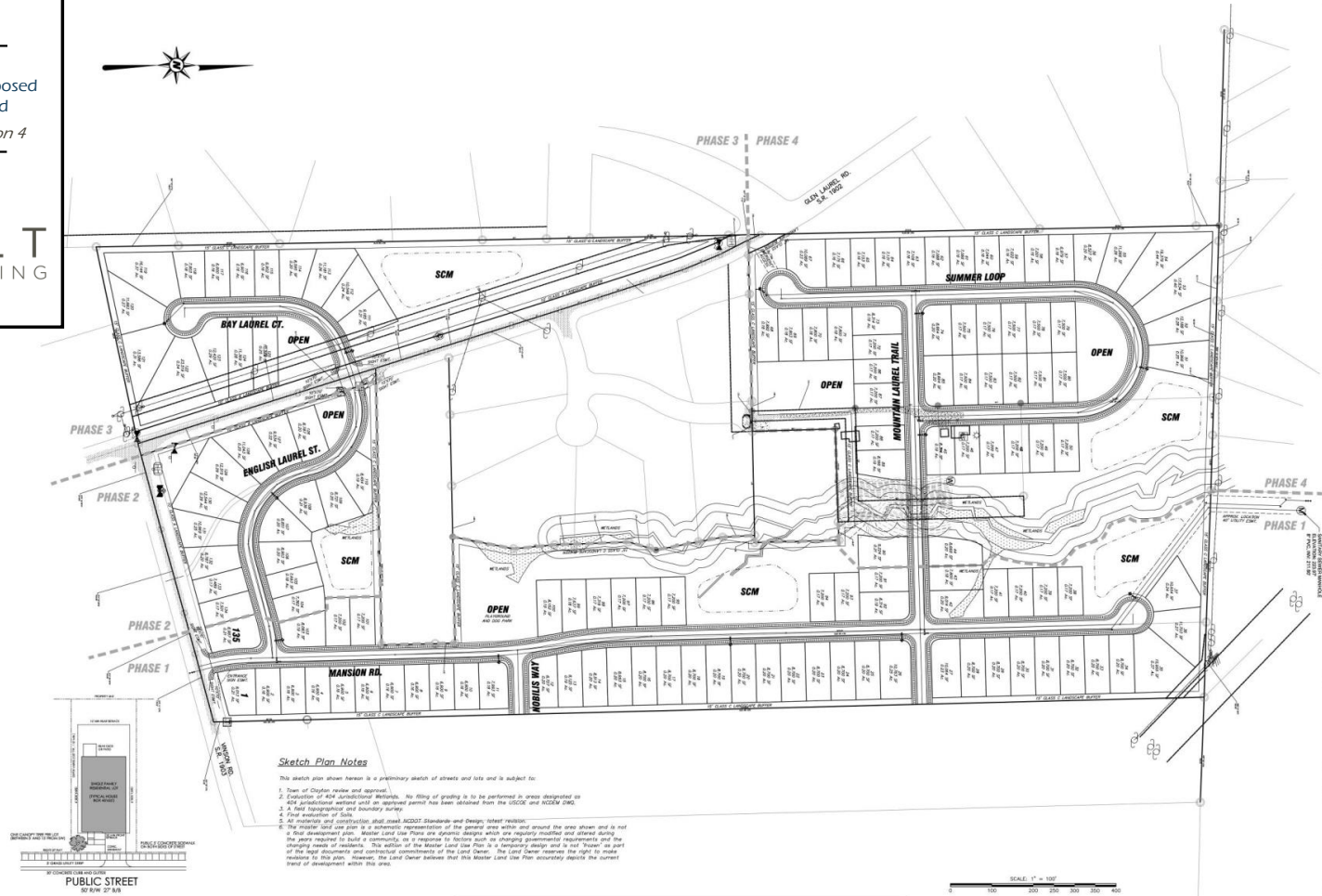
Prepared by
TMTLA Associates

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Glen Laurel Road from the Proposed
Driveway to Powhatan Road

Town of Clayton, NCDOT Division 4

Figure 2



EXISTING CONDITIONS

The proposed 54.07-acre site is located on the east and west side of Glen Laurel Road, north of Vinson Road in Clayton, North Carolina. The property is currently zoned as Residential Estate (R-E). Per the Town and NCDOT, the study area for the proposed development includes the following intersections:

1. Glen Laurel Road at Vinson Road
2. Glen Laurel Road at Powhatan Road
3. Glen Laurel Road at Proposed Site Driveway
4. Vinson Road at Proposed Site Driveway

A site visit was performed on Thursday, May 16, 2022 to observe existing field conditions, such as lane geometry, posted speed limits, and traffic operations. Figure 3 shows the Existing Lane Geometry at the above existing study intersections.

Peak-hour turning movement traffic counts were performed at the existing study intersections during the AM (7:00 – 9:00) and PM (3:45 – 6:00) peak periods on Thursday, May 12, 2022 while school was still in session. As required by NCDOT, the PM peak period began 15 minutes early to ensure school traffic volumes were captured. Traffic count data is included in the Appendix of this report. Any traffic imbalances were justified based on the number of access points and land uses located between study intersections. Figure 4 shows the 2022 AM and PM Peak Hour Existing Traffic Volumes for the study intersections.

Glen Laurel Road (SR-1902) is currently a 2-lane undivided roadway with a posted speed limit of 45 miles per hour in the project vicinity. Glen Laurel Road is classified as a Local Road on the *NCDOT Functional Class Map* and has a 2019 average annual daily traffic (AADT) volume of 4,400 vehicles per day on the *NCDOT Interactive Traffic Volume Map*.

Vinson Road (SR-1903) is currently a 2-lane undivided roadway with a posted speed limit of 45 miles per hour in the project vicinity with a 35 miles per hour school zone. Vinson Road is classified as a Local Road on the *NCDOT Functional Class Map*. Assuming the PM peak hour accounts for approximately 10% of the daily traffic volume, Vinson Road has an estimated 2022 annual daily traffic volume of 5,970 vehicles per day.

Powhatan Road (SR-1901) is currently a 2-lane undivided roadway with a posted speed limit of 45 miles per hour to the west of Glen Laurel Road and 55 miles per hour to the east of Glen Laurel Road. Powhatan Road is classified as a Local Road on the *NCDOT Functional Class Map*. Assuming the PM peak hour accounts for approximately 10% of the daily traffic volume, Powhatan Road has an estimated 2022 annual daily traffic volume of 7,020 vehicles per day.

Summer Glen Residential TIA

Existing Lane Geometry

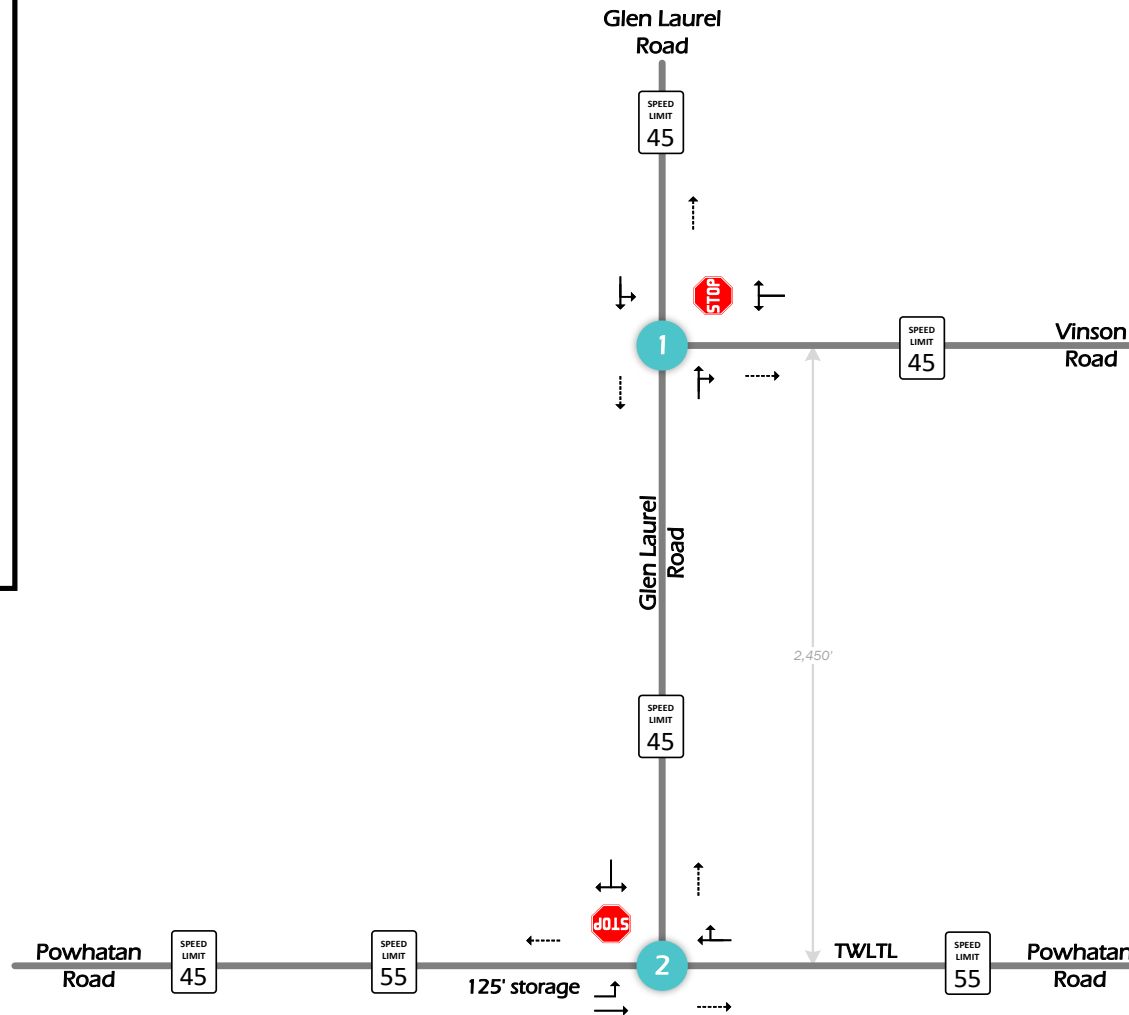
LEGEND

	Stop Control		Approach Lane
	Speed Limit		Departure Lane
	Signal Control		Intersection Spacing
	XX' - Full Storage Length		

EXTENTS

Glen Laurel Road from the Proposed
Driveway to Powhatan Road
Town of Clayton, NCDOT Division 4

Figure 3



Summer Glen Residential TIA

Existing 2022 AM and PM Traffic Volumes

LEGEND

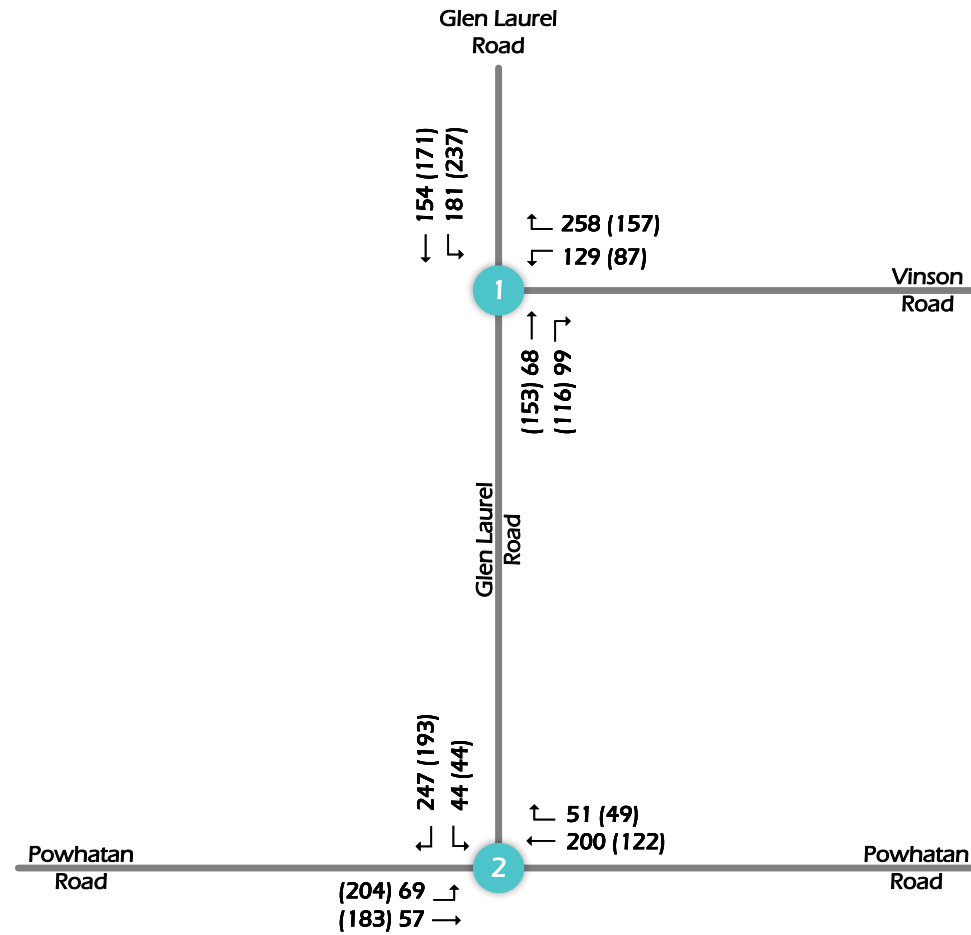
(XX) XX – (PM) AM Traffic Volumes

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Glen Laurel Road from the Proposed
Driveway to Powhatan Road

Town of Clayton, NCDOT Division 4

Figure 4



FUTURE CONDITIONS

The proposed site is to be developed within three years by the year 2025. The projected 2025 no-build traffic volumes consist of existing 2022 traffic volumes plus background growth and approved development traffic.

As justified by historical daily traffic volumes in the vicinity, a 3% annual growth rate was assumed as required by the Town. Approved developments are developments in the area of the proposed site that have been approved but not yet constructed. The traffic from these approved developments is expected to contribute to the no-build traffic volumes projected for the study intersections. According to the Town and NCDOT, there are no approved developments to consider in the study area. All adjacent development is expected to be accounted for in the annual growth rate.

The projected no-build traffic volumes at the study intersections are shown in Figure 5 (2025 AM Peak Hour No-Build Traffic Volumes) and Figure 6 (2025 PM Peak Hour No-Build Traffic Volumes). Traffic volume calculations are also included in the Appendix of this report.

NCDOT indicated the following roadway improvement is committed to **by NCDOT** and is therefore included in the future year analysis scenarios:

Glen Laurel Road at Vinson Road:

- Install a traffic signal

Summer Glen Residential TIA

2025 AM Peak Hour No-Build Traffic

LEGEND

XX – 2022 Existing Traffic
[XX] – Background Growth
[XX] – 2025 Total No-Build Traffic

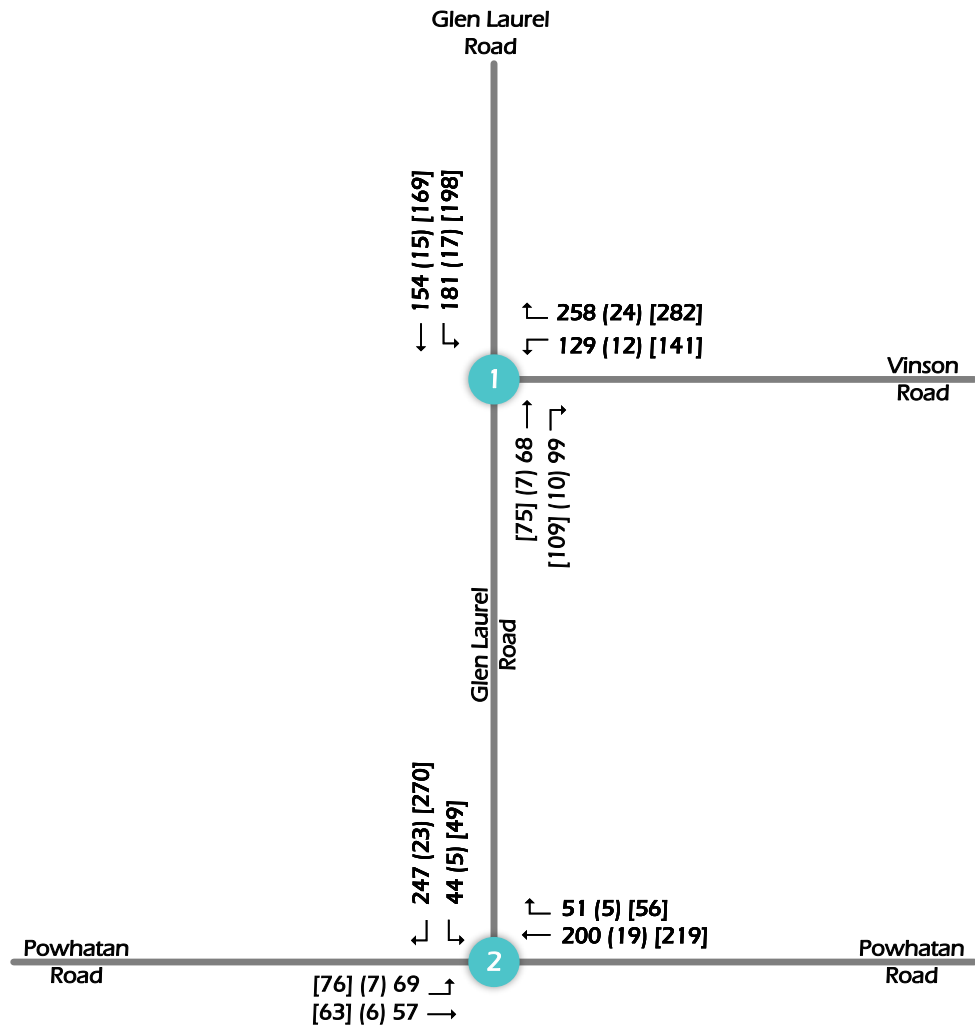
XX + [XX] = [XX]

EXTENTS

Glen Laurel Road from the Proposed
Driveway to Powhatan Road

Town of Clayton, NCDOT Division 4

Figure 5



Summer Glen Residential TIA

2025 PM Peak Hour No-Build Traffic

LEGEND

XX – 2022 Existing Traffic
[XX] – Background Growth
[XX] – 2025 Total No-Build Traffic

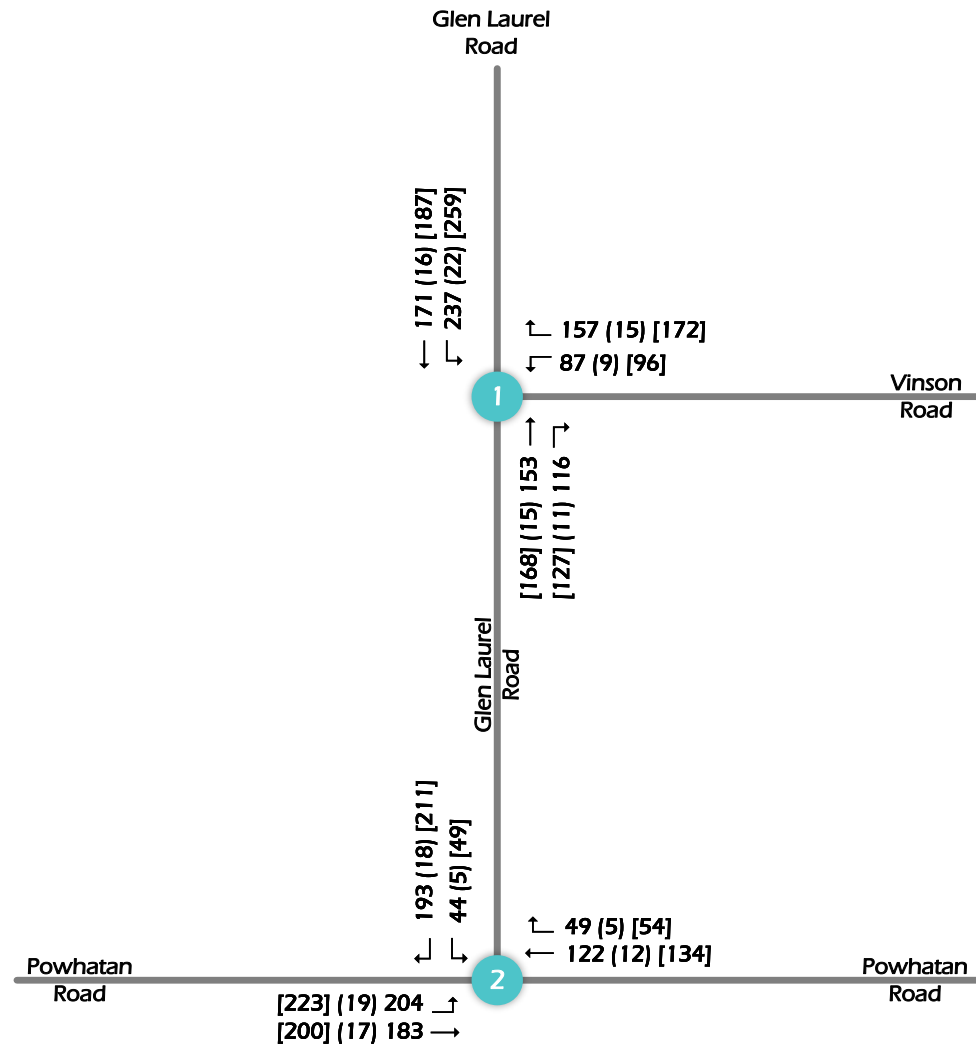
XX + [XX] = [XX]

EXTENTS

Glen Laurel Road from the Proposed
Driveway to Powhatan Road

Town of Clayton, NCDOT Division 4

Figure 6



PROPOSED SITE

The proposed 54.07-acre site is located on the east and west side of Glen Laurel Road, north of Vinson Road in Clayton, North Carolina. The property is currently zoned as Residential Estate (R-E). The proposed development consists of approximately 135 single family detached homes and requires Conditional Zoning. The proposed site is to be developed within three years by the year 2025. The proposed development will be accessed by one full movement driveway on Glen Laurel Road and one full movement driveway on Vinson Road.

Table 1 shows the projected trip generation for the proposed development. Trips were calculated for the portion of the site east of Glen Laurel Road (120 homes) and the portion of the site west of Glen Laurel Road (15 homes). The trip generation was based on rates published in the ITE *Trip Generation Manual*, 11th Edition. The proposed development is expected to generate 1,370 daily trips, 101 AM peak hour trips (26 entering, 75 exiting), and 135 PM peak hour trips (85 entering, 50 exiting).

Table 1: Trip Generation

Land Use			Daily	AM Peak Hour			PM Peak Hour		
				Total	Enter	Exit	Total	Enter	Exit
210: Single-Family Detached Housing	120	d.u.	1,194	88	23	65	118	74	44
210: Single-Family Detached Housing	15	d.u.	176	13	3	10	17	11	6
Total Site Trips			1,370	101	26	75	135	85	50

References: *Trip Generation Manual*, 11th Edition, Institute of Transportation Engineers, September 2021

Based on the existing traffic patterns, surrounding opportunities to access retail and office developments, and access to commuter roadways, the proposed trip distribution for the site is as follows:

- 30% to/from the north on Glen Laurel Road
- 15% to/from the east on Vinson Road
- 15% to/from the east on Powhatan Road
- 40% to/from the west on Powhatan Road

The proposed site trip distributions were previously approved by the Town and NCDOT. Figure 7A shows the Site Traffic Distribution and Assignment at each of the study intersections for the Eastern Portion of the site. Figure 7B shows the Site Traffic Distribution and Assignment at each of the study intersections for the Western Portion of the site.

The trip assignment was applied to the trips generated for the proposed development to determine the projected AM and PM peak hour site traffic volumes. The projected AM and PM peak hour site traffic volumes were added to the 2025 no-build traffic volumes to determine the buildout traffic volumes at the study intersections. The projected buildout traffic volumes at the study intersections are shown in Figure 8 (2025 AM Peak Hour Buildout Traffic Volumes) and Figure 9 (2025 PM Peak Hour Buildout Traffic Volumes).

Summer Glen Residential TIA

Eastern Portion: Site Traffic Distribution & Assignment

LEGEND

(XX%) – Outbound Site Traffic

XX% – Inbound Site Traffic

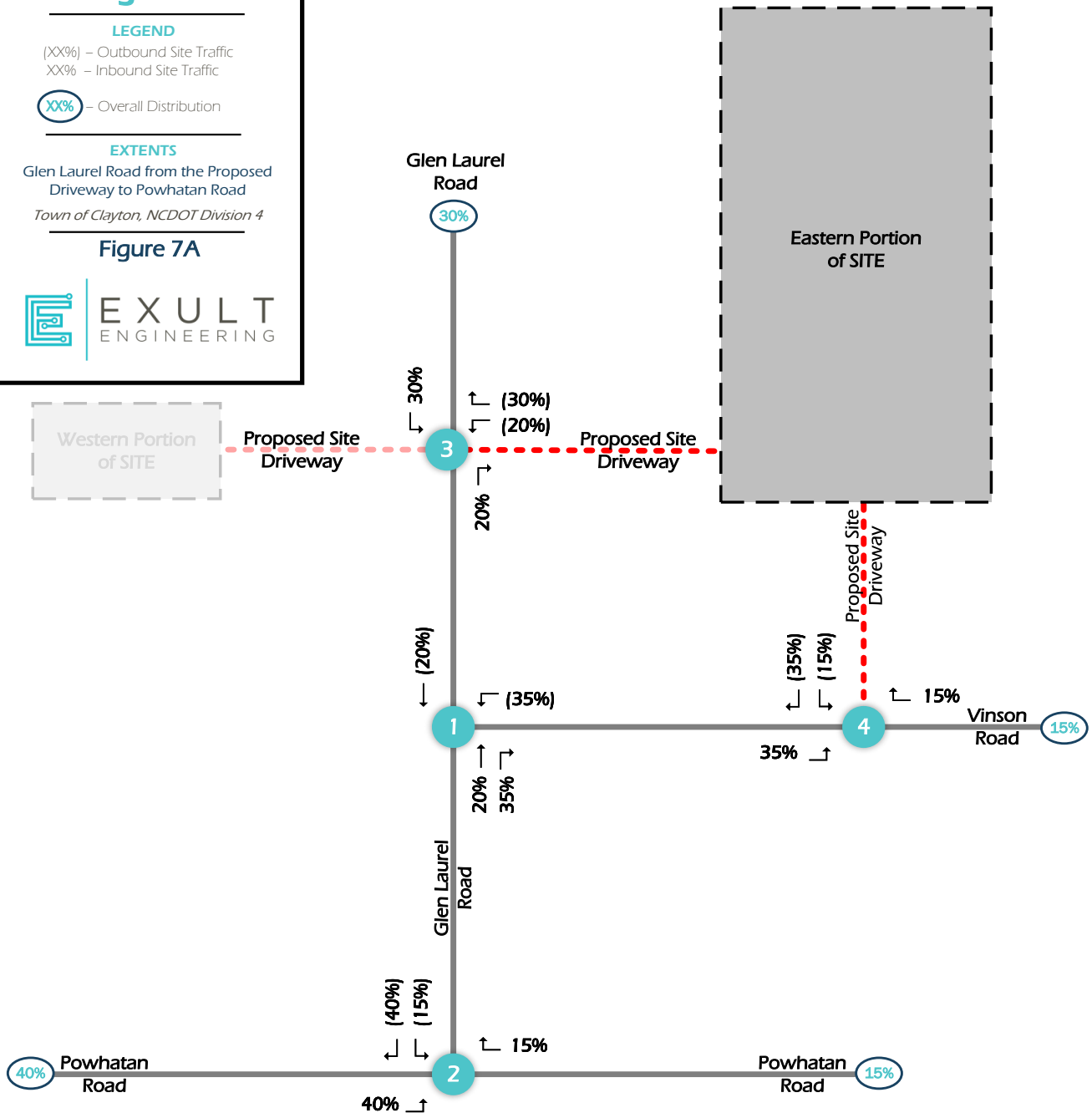
(XX%) – Overall Distribution

EXTENTS

Glen Laurel Road from the Proposed
Driveway to Powhatan Road

Town of Clayton, NCDOT Division 4

Figure 7A



Western Portion: Site Traffic Distribution & Assignment

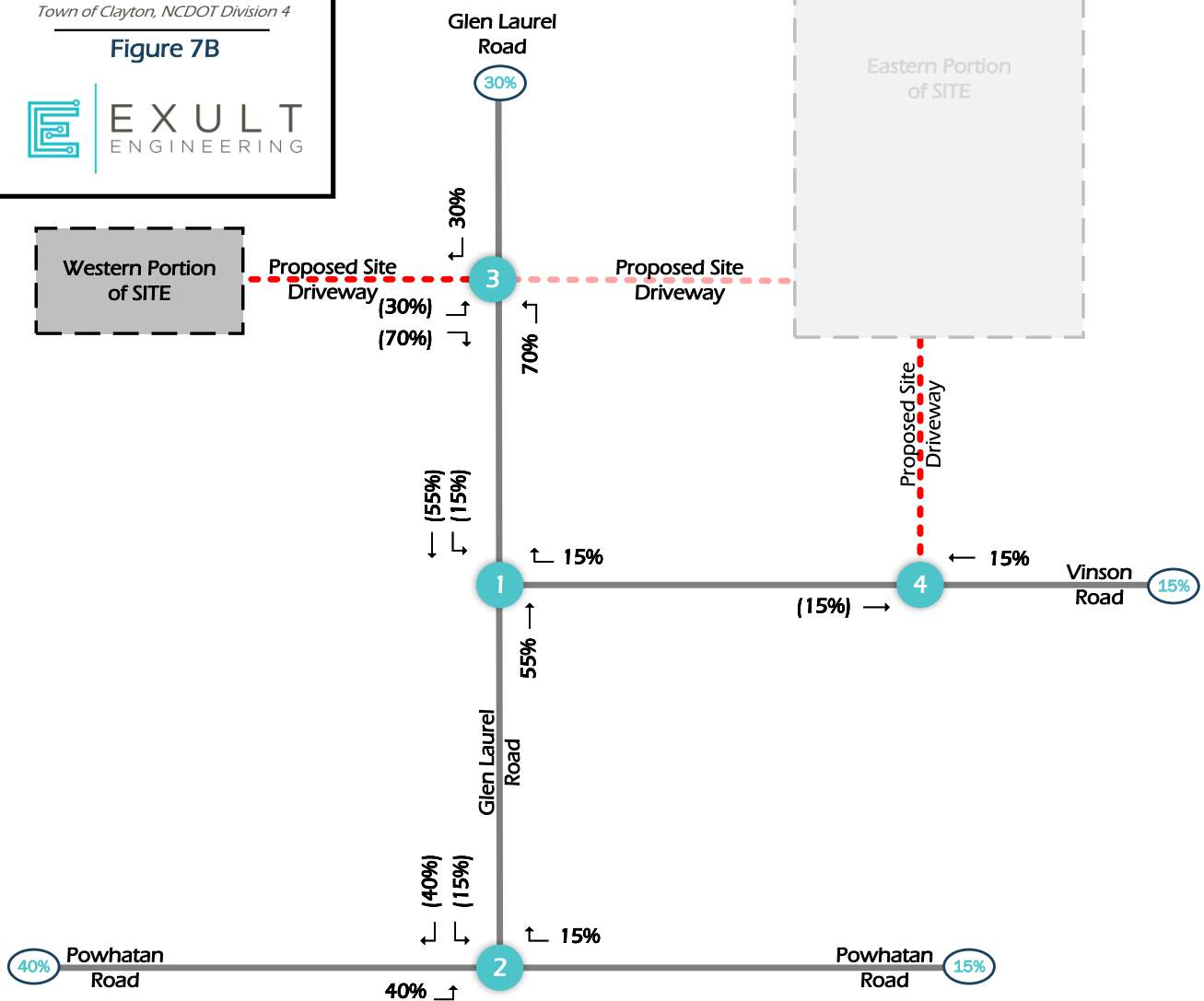
(XX%) – Outbound Site Traffic
XX% – Inbound Site Traffic

XX% – Overall Distribution

Glen Laurel Road from the Proposed Driveway to Powhatan Road

Town of Clayton, NCDOT Division 4

Figure 7B



Summer Glen Residential TIA

2025 AM Peak Hour Buildout Traffic

LEGEND

XX – No-Build Traffic
 (XX) – Site Traffic
 [XX] – Total Buildout Traffic

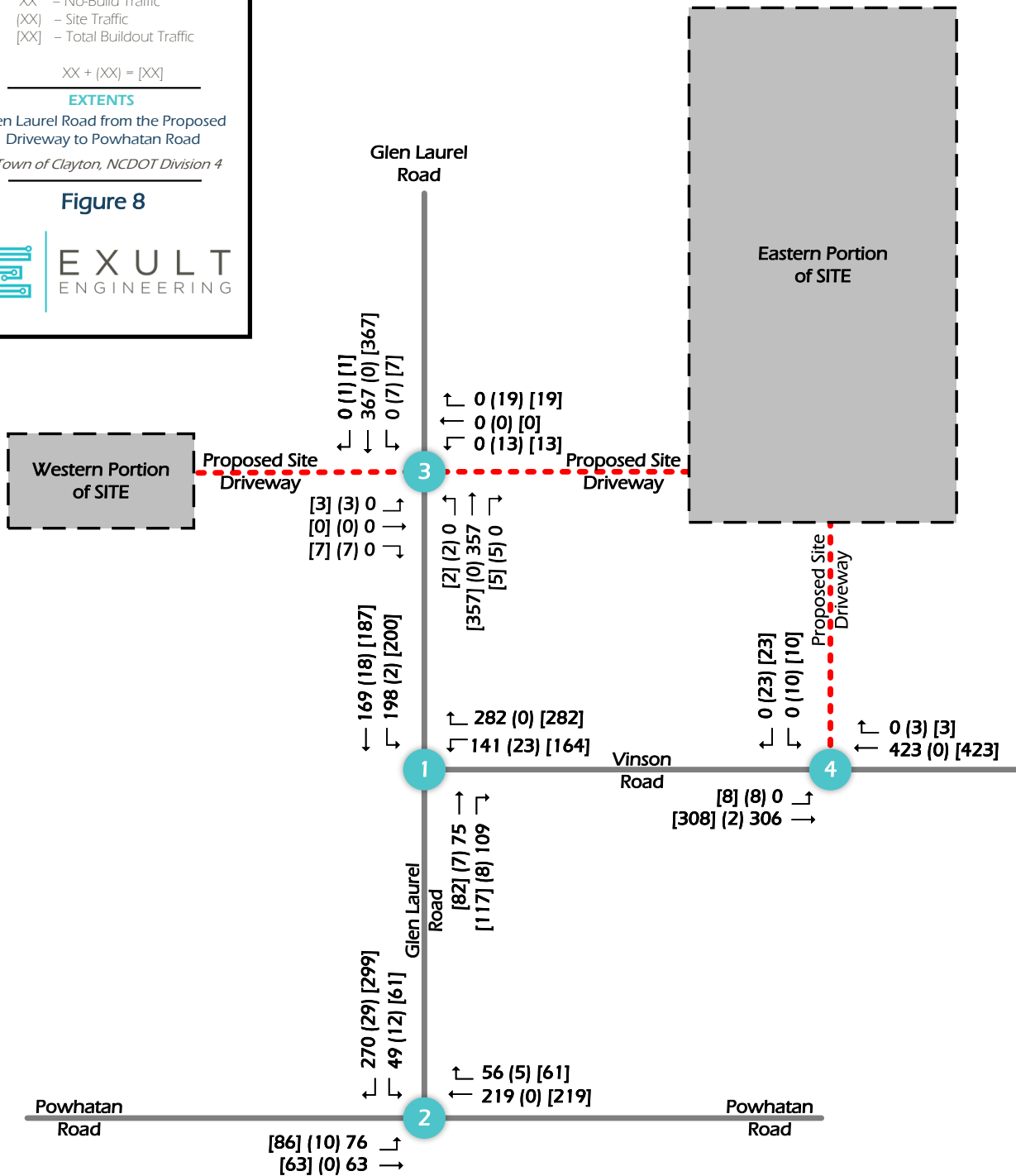
$$XX + (XX) = [XX]$$

EXTENTS

Glen Laurel Road from the Proposed
 Driveway to Powhatan Road

Town of Clayton, NCDOT Division 4

Figure 8



Summer Glen Residential TIA

2025 PM Peak Hour Buildout Traffic

LEGEND

- XX - No-Build Traffic
- (XX) - Site Traffic
- [XX] - Total Buildout Traffic

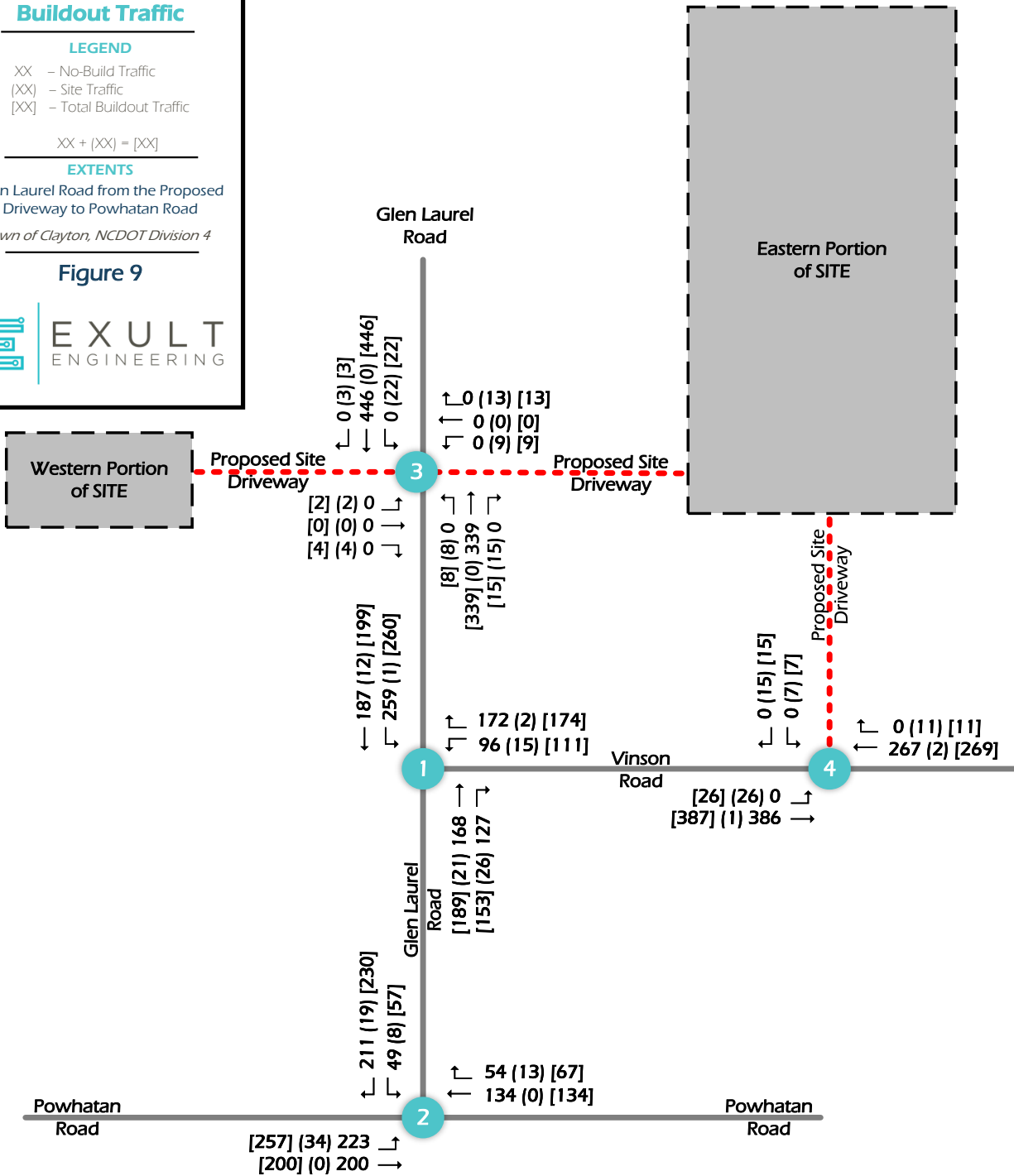
$$XX + (XX) = [XX]$$

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Glen Laurel Road from the Proposed
Driveway to Powhatan Road

Town of Clayton, NCDOT Division 4

Figure 9



CAPACITY ANALYSIS

The intersections identified within the study area were analyzed under 2022 existing, 2025 no-build, and 2025 buildout conditions to identify the potential traffic impact of the proposed development on the roadway network. Necessary roadway improvements to mitigate the anticipated impact of the proposed site traffic were recommended based on the level-of-service (LOS) analysis results.

The proposed site is to be developed within three years by the year 2025. This study includes the analysis of the following traffic scenarios:

- Existing (2022) Traffic Conditions
- No-build (2025) Traffic Conditions
- Buildout (2025) Traffic Conditions
- Buildout (2025) Traffic Conditions with Recommended Improvements

LOS is a qualitative measurement of traffic operations that is a measure of delay time. The Transportation Research Board's *Highway Capacity Manual* (HCM) defines six levels of service for intersections with LOS "A" representing the best operating condition and LOS "F" representing the worst. The following table summarizes the criteria for signalized intersections and stop-controlled intersections.

Table 2: Highway Capacity Manual (LOS and Delay)

Signalized Intersection		Stop-Controlled Intersection	
Level-of-Service (LOS)	Average Control Delay (Seconds per Vehicles)	Level-of-Service (LOS)	Average Control Delay (Seconds per Vehicle)
A	≤ 10.0	A	≤ 10.0
B	> 10.0 and ≤ 20.0	B	> 10.0 and ≤ 15.0
C	> 20.0 and ≤ 35.0	C	> 15.0 and ≤ 25.0
D	> 35.0 and ≤ 55.0	D	> 25.0 and ≤ 35.0
E	> 55.0 and ≤ 80.0	E	> 35.0 and ≤ 50.0
F	> 80.0	F	> 50.0

Version 10.3 of Synchro Professional software was used to determine the LOS, delay, and expected queue length at the signalized and unsignalized intersections. SimTraffic was also used to determine the maximum queue length experienced at the study intersections. This software is based on the analysis procedures defined in the HCM. For unsignalized intersections, Synchro reports were created using the HCM 6th Edition option for unsignalized intersections. Queue lengths for the turn lanes are shown in the summary tables. Detailed Synchro and SimTraffic reports are included in the Appendix of this report.

LOS for a two-way stop-controlled (TWSC) intersection is determined by the control delay and is defined for the minor approaches. Control delay includes initial deceleration delay, queue move-up time, stopped

delay, and final acceleration delay. With respect to field measurements, this summation of control delay is defined as the total time elapsed from the time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line. Capacity analysis results between LOS A and LOS C for the minor street stop-controlled approaches are assumed to represent short delays. Results between LOS D and LOS E for the minor street stop-controlled approaches are assumed to represent moderate delays, and LOS F for the minor street stop-controlled approaches is assumed to represent long delays. It is typical for minor street stop-controlled approaches and driveways intersecting major streets to experience long delays during peak hours, particularly for left-turn movements. However, the majority of the traffic moving through the intersection experiences little or no delay on the major street approaches.

Capacity Analysis Inputs

The following inputs were used for all intersections:

- Peak Hour Factor (PHF) was based on existing count data by intersection for existing scenarios. For no-build and buildout scenarios, a PHF of 0.90 was used to remain conservative.
- Heavy vehicle (HV%) percentages were based on existing count data by approach for existing scenarios. Heavy vehicle percentages were set to existing percentages for no-build and buildout scenarios to remain conservative and account for school buses.
- For allowable movements where zero (0), one (1), two (2), or three (3) volumes are projected, a value of four (4) was used in the Synchro capacity analysis model.
- For signalized intersections with movements without a detector, "none" was coded for the detector phase.
- For signals in future scenarios, cycle lengths were optimized separately for all future year scenarios following minimum and maximum cycle length guidelines.
- Right-turns on red were not permitted.
- Lost time set to 5 seconds, yellow time set to 5 seconds, and red time set to 2 seconds in future scenarios.

For unsignalized intersections, queue length for HCM from Synchro is given in terms of number of vehicles. To convert to queue length in feet, an estimated 25'/vehicle was applied.

The following subsections summarize the LOS and queue length results for the capacity analysis under 2022 existing, 2025 no-build, and 2025 buildout traffic scenarios for each study intersection.

Glen Laurel Road at Vinson Road

Glen Laurel Road at Vinson Road is currently a three-legged unsignalized intersection with the westbound Vinson Road minor street approach operating under stop control and the northbound and southbound major street approaches of Glen Laurel Road operating as free-flow.

According to NCDOT, there are plans to install a traffic signal at the intersection. Therefore, a signal was assumed to be in place under future year analysis scenarios. For future no-build and buildout scenarios, the following input values were used in accordance with *NCDOT Congestion Management Capacity Analysis Guidelines*:

- Cycle lengths were optimized following minimum and maximum cycle length guidelines. Lead/lag phasing and splits were optimized.
- Minimum initial was set to 12 seconds for the major street through movements and 7 seconds for the major street left-turn and minor street movements.
- Left-turn treatment for exclusive left-turn movements was set to protected only.
- Default detector settings were used.



Southbound Approach of Glen Laurel Road at Vinson Road

The capacity analysis results for the intersection are summarized in Table 3 below under 2022 existing, 2025 no-build, and 2025 buildout scenarios. As shown in Table 3 below, the intersection currently operates with moderate delays for the westbound minor street approach. Under future no-build conditions, with the signal in place, the intersection is expected to operate at LOS C during the AM and PM peak hour. The intersection is expected to continue to operate at an acceptable LOS C during the AM and PM peak hour under buildout conditions. As shown in Table 3, the proposed site has minimal impact on the operation of the intersection.

According to the guidelines published in NCDOT's *Policy on Street and Driveway Access to North Carolina Highways* (July 2003), mitigation improvements should be identified if the total average delay at the intersection increases by 25% or more with the addition of the proposed development site trips. The overall projected delay for the intersection and each approach under buildout conditions increases by less than 25% when compared to no-build conditions. Therefore, there are no roadway improvements recommended to be completed by the developer to accommodate site traffic.

Table 3: Level-of-Service: Glen Laurel Road and Vinson Road (Unsignalized and Signalized)

Condition	AM Peak		PM Peak	
	LOS and Delay (sec/veh)	Turn Lane Synchro 95% Queue Length (feet)	LOS and Delay (sec/veh)	Turn Lane Synchro 95% Queue Length (feet)
2022 Existing	WB – E (48.5) SBL – A (8.2)	No Turn Lanes	WB – E (46.4) SBL – A (8.8)	No Turn Lanes
2025 No-Build (Signalized)	Overall – C (27.2) WB – C (31.7) NB – B (14.3) SB – C (28.5)	No Turn Lanes	Overall – C (24.5) WB – D (36.6) NB – A (9.2) SB – C (27.3)	No Turn Lanes
2025 Buildout (Signalized)	Overall – C (30.6) WB – C (34.2) NB – B (15.2) SB – C (34.2)	No Turn Lanes	Overall – C (28.3) WB – D (43.7) NB – A (9.3) SB – C (32.8)	No Turn Lanes

Glen Laurel Road at Powhatan Road

Glen Laurel Road at Powhatan Road is currently a three-legged unsignalized intersection with the southbound Glen Laurel Road approach operating under stop control and the eastbound and westbound major street approaches of Powhatan Road operating as free-flow.

The capacity analysis results for the intersection are summarized in Table 4 below under 2022 existing, 2025 no-build, and 2025 buildout scenarios. As shown in Table 4 below, the intersection currently operates with short delays for the southbound minor street approach. Under future no-build conditions, the intersection is expected to continue to operate with short delays for the minor street approach. The intersection is expected to continue to operate with short delays for the southbound minor street approach during the AM and PM peak hour under buildout conditions.



**Westbound Approach of Powhatan Road at
Glen Laurel Road**

According to the guidelines published in NCDOT's *Policy on Street and Driveway Access to North Carolina Highways* (July 2003), mitigation improvements should be identified if the total average delay at the intersection increases by 25% or more with the addition of the proposed development site trips. The projected delay for each approach under buildout conditions increases by less than 25% when compared to no-build conditions. The intersection is expected to operate acceptably at project buildout and the site traffic has minimal impact on the operation of the intersection. Therefore, there are no roadway improvements recommended to be completed by the developer to accommodate site traffic.

Table 4: Level-of-Service: Glen Laurel Road at Powhatan Road (Unsignalized)

Condition	AM Peak		PM Peak	
	LOS and Delay (sec/veh)	Turn Lane Synchro 95% Queue Length (feet)	LOS and Delay (sec/veh)	Turn Lane Synchro 95% Queue Length (feet)
2022 Existing	EBL – A (8.0) SB – B (13.5)	EBL – 5'/45'	EBL – A (8.1) SB – B (12.7)	EBL – 15'/54'
2025 No-Build	EBL – A (8.1) SB – B (14.8)	EBL – 5'/46'	EBL – A (8.2) SB – B (13.9)	EBL – 18'/61'
2025 Buildout	EBL – A (8.1) SB – C (16.5)	EBL – 8'/48'	EBL – A (8.4) SB – C (15.6)	EBL – 20'/71'

Glen Laurel Road at Proposed Site Driveway

The future intersection of Glen Laurel Road at Proposed Site Driveway is an unsignalized four-legged intersection. The eastbound and westbound (Proposed Site Driveway) minor street approaches will operate under stop control while the major street approaches (Glen Laurel Road) will operate as free-flow. The Proposed Site Driveway will serve as access for the portion of the development located west of Glen Laurel Road as well as east of Glen Laurel Road.

The capacity analysis results for the intersection are summarized in Table 5 below. The intersection of Glen Laurel Road at Proposed Site Driveway is expected to operate with short delays for the eastbound and westbound approaches (Proposed Site Driveway) during the AM and PM peak hours at project buildout.

According to the “Warrant for Left and Right-Turn Lanes” published in the NCDOT’s *Policy On Street And Driveway Access to North Carolina Highways* (July 2003), the projected traffic volumes at the Proposed Site Driveway do not firmly support the need for turn lanes. Warrant information is included in the Appendix of this report. Furthermore, turn lanes are not needed based on Synchro and SimTraffic capacity analysis results. The following roadway improvements are recommended for the intersection of Glen Laurel Road at Proposed Site Driveway to accommodate the proposed site traffic:

- Provide one ingress and one egress lane on the eastbound and westbound approaches of Proposed Site Driveway.

Table 5: Level-of-Service: Glen Laurel Road at Proposed Site Driveway (Unsignalized)

Condition	AM Peak		PM Peak	
	LOS and Delay (sec/veh)	Turn Lane Synchro 95% Queue Length (feet)	LOS and Delay (sec/veh)	Turn Lane Synchro 95% Queue Length (feet)
2025 Buildout	NBL – A (8.2) SBL – A (8.1) EB – B (14.9) WB – C (15.0)	No Turn Lanes	NBL – A (8.4) SBL – A (8.2) EB – C (18.0) WB – C (16.4)	No Turn Lanes

Vinson Road at Proposed Site Driveway

The future intersection of Vinson Road at Proposed Site Driveway is an unsignalized three-legged intersection. The southbound (Proposed Site Driveway) minor street approach will operate under stop control while the major street approaches (Vinson Road) will operate as free-flow.

The capacity analysis results for the intersection are summarized in Table 7 below. The intersection of Vinson Road at Proposed Site Driveway is expected to operate with short delays for the southbound approach (Proposed Site Driveway) during the AM and PM peak hours at project buildout.

According to the “Warrant for Left and Right-Turn Lanes” published in the NCDOT’s *Policy On Street And Driveway Access to North Carolina Highways* (July 2003), the projected traffic volumes at the Proposed Site Driveway do not firmly support the need for turn lanes. Warrant information is included in the Appendix of this report. Furthermore, turn lanes are not needed based on Synchro and SimTraffic capacity analysis results. The following roadway improvements are recommended for the intersection of Vinson Road at Proposed Site Driveway to accommodate the proposed site traffic:

- Provide one ingress and one egress lane on the southbound approach of Proposed Site Driveway.

Table 6: Level-of-Service: Vinson Road at Proposed Site Driveway (Unsignalized)

Condition	AM Peak		PM Peak	
	LOS and Delay (sec/veh)	Turn Lane Synchro 95% Queue Length (feet)	LOS and Delay (sec/veh)	Turn Lane Synchro 95% Queue Length (feet)
2025 Buildout	EBL – A (8.3) SB – B (13.1)	No Turn Lanes	EBL – A (8.0) SB – B (12.0)	No Turn Lanes

RECOMMENDATIONS

The recommended lane geometry is shown on Figure 10.

As indicated by NCDOT, the following roadway improvement is committed to **by NCDOT** and included in the future year analysis scenarios:

Glen Laurel Road at Vinson Road:

- Install a traffic signal

Based on the capacity analysis presented herein, the following roadway improvements are recommended to be completed **by the developer** to accommodate project traffic:

Glen Laurel Road at Proposed Site Driveway:

- Provide one ingress and one egress lane on the eastbound and westbound approaches of the Proposed Site Driveway.

Vinson Road at Proposed Site Driveway:

- Provide one ingress and one egress lane on the southbound approach of the Proposed Site Driveway.

Summer Glen Residential TIA

Recommended Lane Geometry

LEGEND

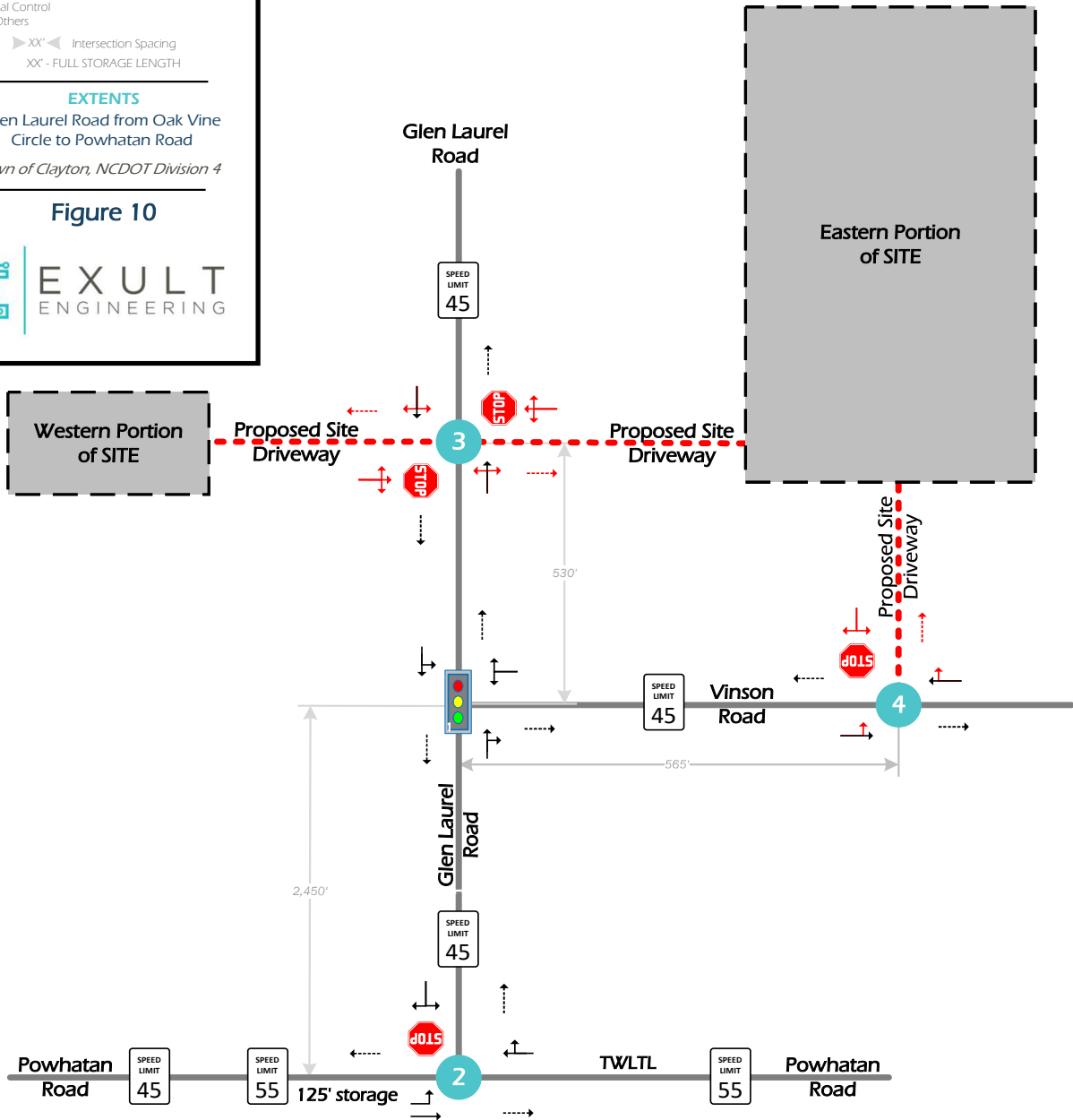
-  Stop Control
-  Speed Limit
-  Committed Signal Control by Others
-  Existing Approach Lane
-  Recommended Approach Lane (By Developer)
-  Departure Lane
-  Intersection Spacing
-  XX' - FULL STORAGE LENGTH

EXTENTS

Glen Laurel Road from Oak Vine Circle to Powhatan Road

Town of Clayton, NCDOT Division 4

Figure 10





STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

DELIVERY VIA EMAIL

August 4, 2022

Jonathan K. Jacobs, PE
Assistant Town Engineer - Town of Clayton
111 E. Second Street
Clayton, NC 27528

COUNTY: Johnston

SUBJECT: **TIA Review of Proposed Summer Glen Residential TIA**

Dear Mr. Jacobs,

Highway Division Four (Division) has reviewed the Traffic Impact Analysis (TIA) for the subject development. Please accept this letter as concurrence with the TIA and the attached TIA Review Report performed by the Congestion Management Section of the Transportation Mobility and Safety Division of NCDOT. Any comments below are in addition to the requirements that are included in the actual TIA or Traffic Impact Analysis Review. All requirements or recommendations included herein are based off current Department and Division policies. This review should not be mistaken for approval of the driveway permit, design/construction plans, final plat, site plans, or access locations. A driveway permit must be obtained prior to construction and NCDOT will approve site plan and access locations during this review. All design aspects of any submitted plans shall comply with current NCDOT Standard Specifications for Roads and Structures and Policy on Street and Driveway Access to North Carolina Highways.

GENERAL COMMENTS

- Any roadway improvements and right-of-way dedication necessary to accommodate the road construction shall be the responsibility of the owner/developers. All required ROW shall be dedicated as public ROW in the final plat. Installation of right turn lanes will typically require at least 15' of dedication.
- Lane Closures for required improvement construction will only be permitted under restricted hours due to heavy traffic volumes in the vicinity of the proposed development. These restrictions will be determined during the driveway permitting application and approval.
- These conditions are based on current traffic volumes and projected growth for the study area. If the proposed build out year for this development, as stated in the TIA, varies more than one year an addendum or revised TIA may be required.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS | DIV. 4 DIST. 3
2671 US 70 WEST
GOLDSBORO, NC 27530

Telephone: (919) 739-5300
Fax: (919) 731-2017
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
2671 US 70 WEST
GOLDSBORO, NC 26730

- The installation of any improvements being identified by a TIA for an adjacent development does not dismiss or release this development from installation and/or participation of these improvements provided the other development does not move forward as intended. It is recommended that the Developers coordinate this installation with other committed developments. The Department will not participate in determining the value of each individual contribution to this roadway improvement.

Additional Requirements

- All driveways for this site on NCDOT ROW must be spaced 600' on secondary and 1,000' on primary routes. This is measured along the ROW line between the tangent projection of the inside edges of adjacent driveways apart measuring the distance between the radiuses of both driveways.
- Any additional improvements that are constructed by others and not shown on this TIA must be maintained while constructing the improvements required by this letter.
- All left and right turns installed on NCDOT ROW at will required a minimum of 100' of storage if located at a site driveway. If any left turn lane taper overlaps with any existing or proposed middle turn lane or taper, the entire section will need to be widened to three lanes.
- The analysis includes background improvements by others. If these improvements are not in place at the time of construction, the site should provide these improvements or analysis demonstrating mitigation is not necessary.

Feel free to contact me if you have any additional questions or concerns.

Sincerely,



Sam Lawhorn, PE
District Engineer

cc: Kevin Bowen, PE - Division Engineer
Paul Marak, PE - Division Traffic Engineer
Charles Sorrell - Congestion Management Engineer
Brittany Chase, P.E. – Exult Engineering
Driveway Permit File



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

August 3, 2022

Summer Glen Residential

Traffic Impact Analysis Review Report Congestion Management Section

TIA Project: SC-2022-249
Division: 4
County: Johnston



Doumit Y. Ishak, Regional Engineer
Clarence B. Bunting, IV, P.E. Project Engineer
Charles Sorrell, Project Design Engineer

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
TRANSPORTATION MOBILITY & SAFETY DIVISION
1561 MAIL SERVICE CENTER
RALEIGH, NC 27699-1561

Telephone: (919) 814-5000
Fax: (919) 771-2745
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
750 N. GREENFIELD PARKWAY
GARNER, NC 27529

Summer Glen Residential TIA

SC-2022-249

Clayton

Johnston County

Per your request, the Congestion Management Section (CMS) of the Transportation Mobility and Safety Division has completed a review of the subject site. The comments and recommendations contained in this review are based on data for background conditions presented in the Traffic Impact Analysis (TIA) and are subject to the approval of the local District Engineer's Office and appropriate local authorities.

Date Initially Received by CMS	7/18/22	Date of Site Plan	N/A
Date of Complete Information	7/18/22	Date of Sealed TIA	7/14/22

Proposed Development

The TIA assumes the development is to be completed by 2025 and consist of the following:

Land Use	Land Use Code	Size
Single-Family Detached Housing	210	120 units
Single-Family Detached Housing	210	15 units

Trip Generation - Unadjusted Volumes During a Typical Weekday			
	IN	OUT	TOTAL
AM Peak Hour	26	75	101
PM Peak Hour	85	50	135
Daily Trips			1,370

General Reference

For reference to various documents applicable to this review please reference the following link: <https://connect.ncdot.gov/resources/safety/Pages/Congestion-Management.aspx>

Once the driveway permit has been approved and issued, a copy of the final driveway permit requirements should be forwarded to this office. If we can provide further assistance, please contact the Congestion Management Section.

Signalization

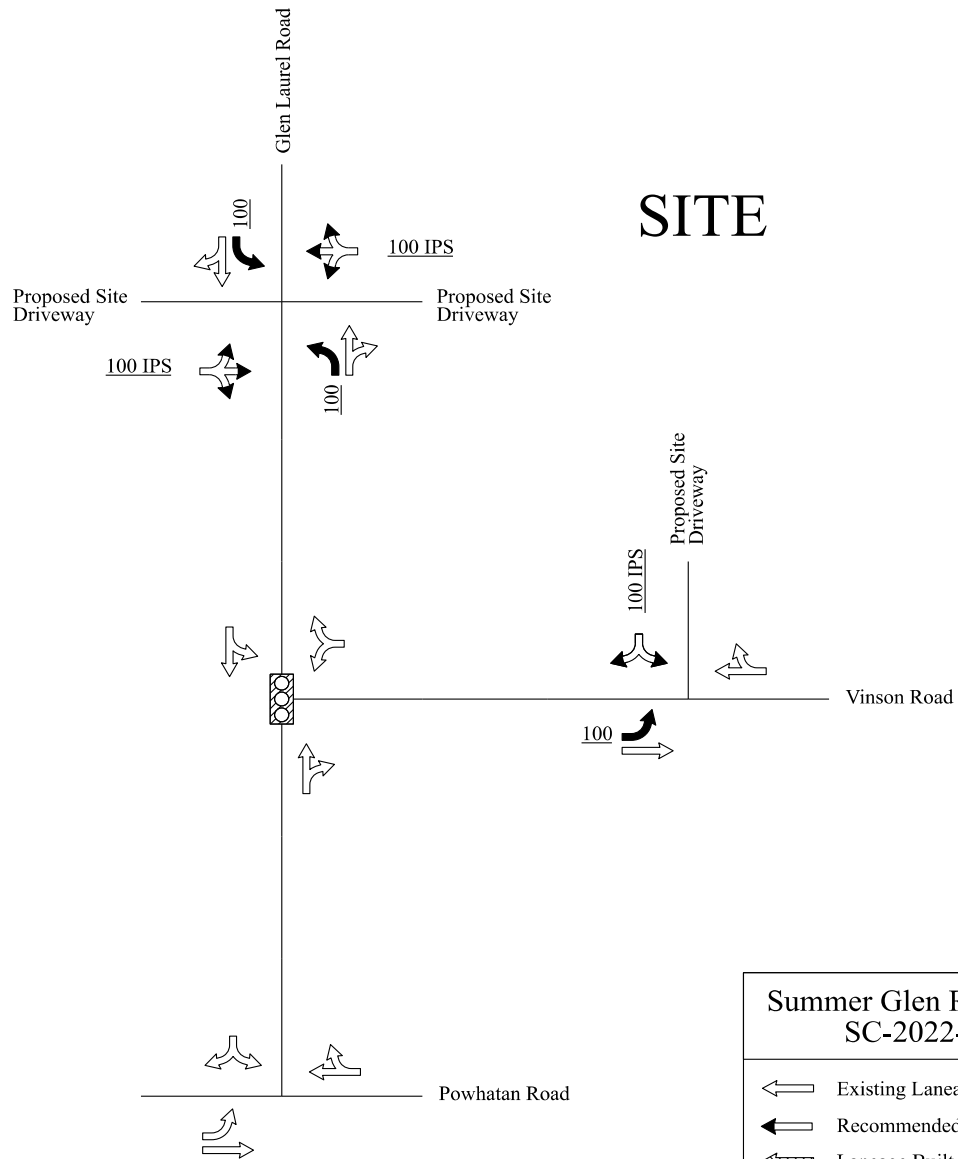
We defer to the District Engineer, the Division Traffic Engineer, and the Regional Traffic Engineer for final decisions regarding signalization.

Improvements By Others

The analysis includes background improvements by others. If these improvements are not in place at the time of construction, the site should provide these improvements or analysis demonstrating mitigation is not necessary.

SITE

SITE



Summer Glen Residential SC-2022-249

-  Existing Laneage
-  Recommended Laneage
-  Laneage Built By Others
-  NCDOT Recommendation
-  Existing Signal
-  Monitor for Signal
-  Developer Proposed Signal
- XXX Storage
- XXX NCDOT Recommended Storage
- <XXX> Distance Between Intersections
- IPS Internal Protected Stem
- All Distances in Feet
- Drawing Not to Scale

Charles Sorrell 7/19/22

APPENDIX

NCDOT TIA SCOPING CHECKLIST AND CORRESPONDENCE



NCDOT TIA Scoping Checklist



Project Name: Glen Laurel Residential

TIA Scoping Date: 5/5/2022

☐ **TIA Need Screening Forms are Attached.** Project Reference #: _____ Decision Date: _____

☒ **Site Plan and Access**

☒ Provide a site plan illustrating site access, internal and external roadways, buildings and land uses.

Refer to NCDOT's [Policy on Street and Driveway Access to North Carolina Highways](#) pages 14 and 15 for site plan requirements.

☒ Identify site access.

New Access	On Road	Access Type		Driveway Spacing		
	Road Name	Permitted Movements	Traffic Control	Distance (ft)	Direction	Nearest Intersection / Access
Access A	Glen Laurel Road	Conventional Full-Mvmt	2-Way Stop	1100	North	Vinson Road
Access B	Vinson Road	Conventional Full-Mvmt	2-Way Stop	1200	East	Glen Laurel
Access C						
Access D						
Access E						
Access F						
Access G						
Access H						
Existing Access	Existing Intersection of		Access Modification	Proposed Interconnectivity (If Applicable)		
	Road A	Road B		Connector #	Road Connected	Adjacent Development
Access 1	Oak Vine Circle	Glen Laurel	N/A	Connector 1	Tanners Way	
Access 2				Connector 2		
Access 3				Connector 3		
Access 4				Connector 4		

Removed
per Town

☐ Additional access clarifications and provisions (e.g., proposed control-of-access or median breaks, modifications of existing access, loading/unloading area access, bike/pedestrian accommodation).

☐

Proposed K-12 School Site

- ☐ NCDOT [MSTA School Traffic Calculator](#) for Select School Type shall be used.
- ☐ Peak Hour Factors (PHFs) shall be adjusted/weighted for new school trips (0.5 PHF by default).
- ☐ Internal school circulation analysis is required, and should be submitted in advance or concurrent with the TIA submittal.
- ☐ Clarify traffic operation plans (e.g. traffic circulation pattern, pedestrian access, drop-off/pick-up zone location and configuration, queue storage area and, if applicable, staggered start times).





NCDOT TIA Scoping Checklist



☒ Trip Distribution

- ☐ Trip distribution diagrams are submitted concurrently with this document (attach separate sheets).
- ☒ Trip distribution diagrams will be submitted separately, along with supporting information, to the District Engineer for review and approval prior to capacity analysis. The trip distribution shall be based on the current and anticipated traffic patterns, as well as instructions noted below.

Trip distribution will be determined and submitted for comment/approval once traffic volume data is collected.

If required by the District Engineer, the following additional diagrams shall also be submitted:

- ☐ Mixed-Use Developments (separate diagrams for residential, commercial, and office trips)
- ☐ Inter-Development Trips (if 'internal' trips cross public streets)
- ☐ Pass-By Trips
- ☐ Diverted Trips
- ☐ Each Analysis Period

☐ Mode Split

- ☐ Provide Data Source and Justification

Mode Period	Auto		
AM Peak	%	%	%
PM Peak	%	%	%
Daily	%	%	%
	%	%	%

- ☐ Identify proper infrastructure and accommodation for other modes of travel.

☒ Analysis Peak Periods:

- ☒ Weekday AM Peak 7-9 am
- ☒ Weekday PM Peak 4-6 pm
- ☐ Weekday Midday Peak _____
- ☐ Weekday PM School Peak _____
- ☐ Weekend _____ Peak _____
- ☐ Other _____





NCDOT TIA Scoping Checklist



☒ Trip Distribution

- ☐ Trip distribution diagrams are submitted concurrently with this document (attach separate sheets).
- ☒ Trip distribution diagrams will be submitted separately, along with supporting information, to the District Engineer for review and approval prior to capacity analysis. The trip distribution shall be based on the current and anticipated traffic patterns, as well as instructions noted below.

Trip distribution will be determined and submitted for comment/approval once traffic volume data is collected.

If required by the District Engineer, the following additional diagrams shall also be submitted:

- ☐ Mixed-Use Developments (separate diagrams for residential, commercial, and office trips)
- ☐ Inter-Development Trips (if 'internal' trips cross public streets)
- ☐ Pass-By Trips
- ☐ Diverted Trips
- ☐ Each Analysis Period

☐ Mode Split

- ☐ Provide Data Source and Justification

Mode Period	Auto		
AM Peak	%	%	%
PM Peak	%	%	%
Daily	%	%	%
	%	%	%

- ☐ Identify proper infrastructure and accommodation for other modes of travel.

☒ Analysis Peak Periods:

- ☒ Weekday AM Peak 7-9 am
- ☒ Weekday PM Peak 4-6 pm
- ☐ Weekday Midday Peak _____
- ☐ Weekday PM School Peak _____
- ☐ Weekend _____ Peak _____
- ☐ Other _____



NCDOT TIA Scoping Checklist



☒ Study Area Intersections and Data Collection

The study area shall include the site access intersections (both new and existing) identified under “Site Plan and Access” on page 1, as well as the following external and, if applicable, internal intersections.

External Intersection	Intersection of		Traffic Control	Intersection Turning Movement Counts			Notes
	Road A	Road B		New / Existing	Date of Counts	Growth Adjustment	
#1	Glen Laurel Road	Vinson Road	2-Way Stop	Require New Counts			
#2	Glen Laurel Road	Powhatan Road	2-Way Stop	Require New Counts			
#3							
#4							
#5							
#6							
#7							
#8							
#9							
#10							
#11							
#12							

Internal Intersection	Intersection of		Access Type		Intersection Spacing		
	Road A	Road B	Traffic Control	Permitted Movements	Distance (ft)	Direction	Nearest Intersection
#101			Please Select	Please Select		Please Select	
#102							
#103							
#104							
#105							

The following data will be collected:

- ☒ New traffic turning movement counts in ☒ 15-min intervals ☐ 5-min intervals (near schools)
 Unless otherwise noted above, new traffic counts shall be collected at the existing study intersections during the analysis periods. Weekday counts shall avoid Mondays, Fridays, holidays, school breaks, road closures, and major weather events.
- ☐ To account for the impact of existing and/or proposed school traffic, PHFs will be adjusted for:
 intersections numbered: _____
 and access points numbered: _____
- ☐ Traffic Forecast Data for TIP: _____
- ☒ Roadway/Intersection Configuration & Traffic Control
- ☒ Traffic Signal Phasing & Timing Data
- ☐ Crash Data: _____ Period: _____
- ☐ Other: _____



NCDOT TIA Scoping Checklist

TIA Need
Screening



TIA
Scoping



TIA
Submittal



☒ Future Year Conditions

☒ Project Build-Out Year: 2025

☒ Future Analysis Year(s): 2025

☒ Identify below any funded/committed future transportation improvements, as well as any approved but incomplete developments near the site.

Funded STIP / Local CIP Project	Project Description		Year Complete
	Signal at Glen Laurel and Vinson (NCDOT)		
Nearby Approved Development	Location	Future Land Use (exclude any completed phases)	Committed Improvements
Gordon Park	NE of Powhatan and Glen Laur	Residential	

☒ Annual Growth Factor: 3 %

Justification/Data Source: Per the Town and historical growth on Glen Laurel Road

☐ Local Comprehensive Transportation Plan Compliance

☐ Identify Applicable Local Transportation Planning Documents

☐ Identify Applicable Roadways inside the Study Area

Road Name	Classification	Speed Limit	Proposed Cross-Section	Proposed Right-of-Way	Compliance Requirements	Affect Study Intersection #



NCDOT TIA Scoping Checklist



☒ Study Method

The traffic analysis shall follow the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), [Policy on Street and Driveway Access to North Carolina Highways](#), and use the current approved version of analysis software (e.g. Synchro/SimTraffic, HCS, Sidra Intersection, TransModeler).

The study shall include the following analysis scenarios for each analysis period.

1. Existing Conditions
2. Future No-Build Conditions (existing + background growth + approved developments + committed or funded improvements)
3. Future Build Conditions (future no-build + site trips)
4. Future Build with Improvements Conditions (future build traffic with improvements to mitigate the proposed development's impacts) and, if applicable:
- ☐ 5. TIP Design Year Analysis _____
- ☐ 6. Alternative Access Scenario (without proposed control-of-access or median break / modification)

The following additional analysis/outputs should be provided as warranted:

- ☐ Signal Warrant Analysis for accesses/intersections _____
- ☐ Multi-Modal Level of Service Analysis
- ☐ School Loading Zone Traffic Simulation
- ☐ Phasing Analysis (scope separately as needed)
- ☐ Safety/Crash Analysis
- ☐ Control-of-Access Modification Justification
- ☐ Median Break / Modification Justification
- ☐ Other _____

☒ Submittals

In addition to the hardcopies required below, the TIA Consultant shall provide the District Engineer and, if required, the local government an electronic copy of the study documents, including the latest site plan, figures and appendices, in searchable PDF files and the original traffic analysis files (e.g., Synchro, HCS). To expedite review, the NCDOT electronic submittals shall also be delivered concurrently to:

☐ Div. Traffic Engr ☐ Regional Traffic Engr ☐ Congestion Management ☐ Other _____

Submittals	NCDOT		Local Government	
	Electronic	Hardcopy	Electronic	Hardcopy
Trip Generation & Distribution	Required		Please Select	
Draft TIA Report	Required			
Final Sealed TIA Report	Required			

☐ **Additional Comments** (municipal TIA requirements, approved variations from NCDOT guidelines)



NCDOT TIA Scoping Checklist



Agreement by All Parties

The undersigned agree to the contents and methodology described above for completing the required traffic impact analysis for the proposed development identified herein. Any changes to the above methodology contemplated by the Applicant or the TIA Consultant must be submitted to the District Engineer in writing. If approved by NCDOT, then such changes may be accepted for the TIA report. Subsequent revisions to the development plan (e.g. land use, density, site access, or schedule) may require additional scoping and analysis, and may modify the TIA requirements.

This agreement shall become effective on the date approved by NCDOT, and shall expire ____ months after the effective date or upon significant changes to the roadway network and/or development assumptions, whichever occurs first. Once expired, renewal or re-scoping will be required for subsequent TIA submittals.

APPLICANT

_____	Gray Methven	5/13/2022
Signature	Print Name	Date

TIA CONSULTANT

_____	Brittany Chase	5/13/2022
Signature	Print Name	Date

LOCAL GOVERNMENT REPRESENTATIVE (If Applicable)

_____	_____	_____
Signature	Print Name	Date

Email concurrence may be used in lieu of the signature.

NCDOT DISTRICT REPRESENTATIVE

Reviewed and approved by the NCDOT Division ____ District ____ on ____.

_____	_____
Signature	Print Name

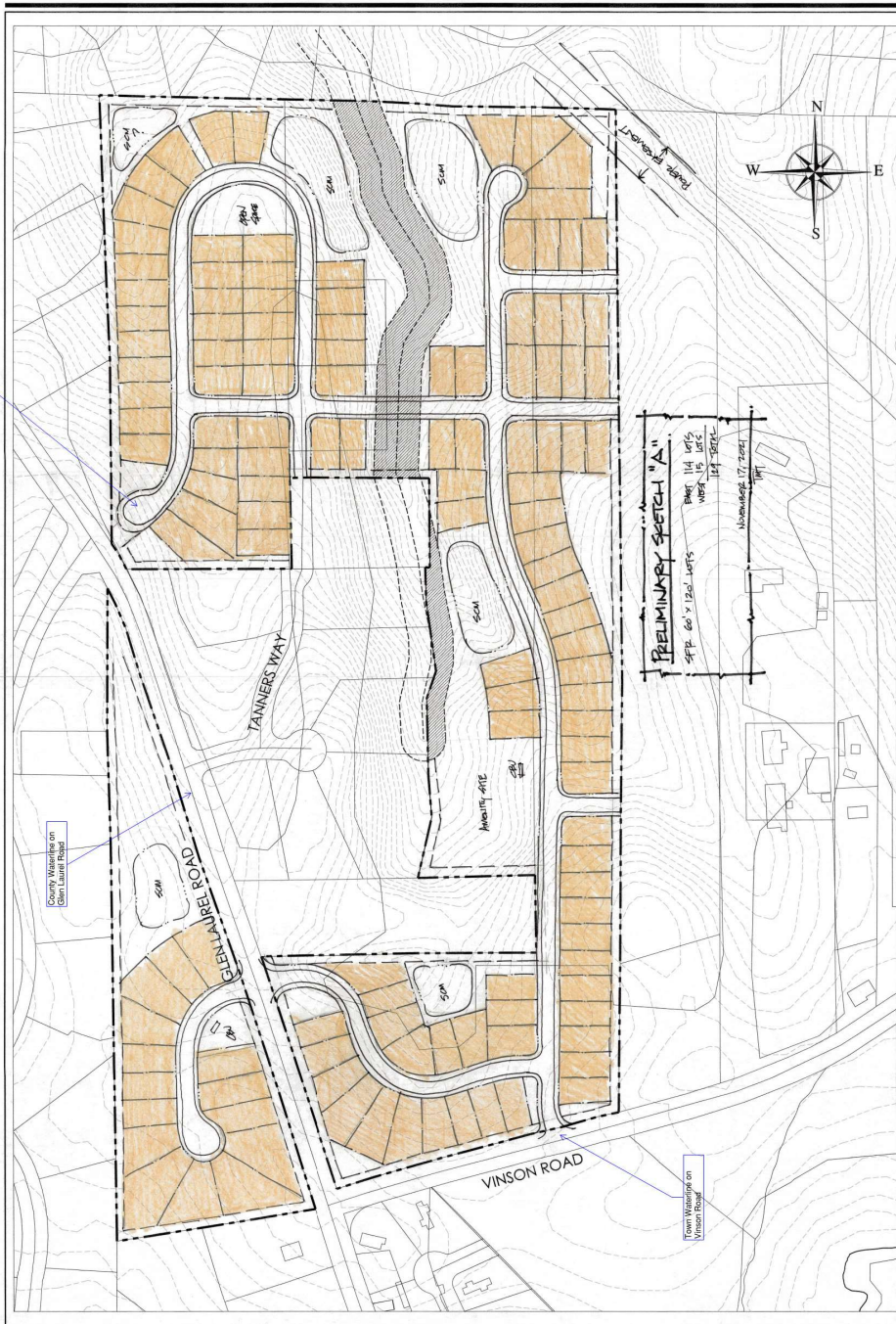
Email concurrence may be used in lieu of the signature.

Final connection to Glen Laurel

TIA will be required. Coordinate with NCDOT and Town to get driveway permits and prior to acceptance of subdivision plan or any CZM.
Wastewater Allocation Policy and scoring is required for this project. Over 10,000 GPD will require Council action

Glen Laurel and Vinson are NCDOT roads - will require driveway permits and encroachments
Project will be subject to system development fees and current draft fees at time of building permits

No existing sewer to serve this parcel. Off site extension will be required. Subdivision and a pump station at Powhatan Elementary School.



PRELIMINARY AND CONCEPTUAL DESIGN
All dimensions and notes are subject to field verification of phase 1 and 2 conditions and all conditions, existing utilities, regulated areas, and other information are subject to field verification. These items are verified during the design process and are not to be used for construction.



PROJECT # 21243
DATE
SHEET
OF

PRELIMINARY SKETCH DESIGN
GLEN LAUREL RD PROPERTY
Wasteland Development
CATION, NC

REVISIONS:



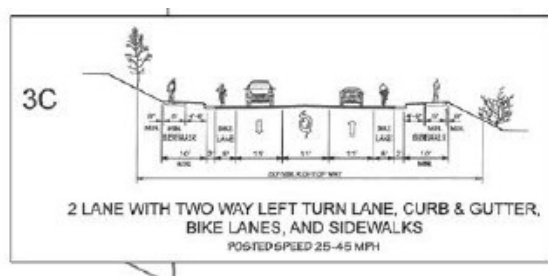
TMILA ASSOCIATES
5011 SOUTH PARK DRIVE, STE. 200, DURHAM, NC 27713
P: (919) 484-8800 e: info@tmila.com

Brittany Chase

From: Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Sent: Friday, June 3, 2022 8:34 AM
To: Brittany Chase
Cc: Lisa Lundeen; Chanlin Wong; Ben Howell; Lawhorn, Samuel C
Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

Brittany – I am comfortable with your proposed distribution.

For Vinson Road, see the snippet below. Both Glen Lauren and Vinson are cross-section 3C, and half the ultimate section would be expected.



Gordon Park has 3-4 lots remaining, so I am comfortable with that being captured in your background growth. I did not realize it was that built out.

Let me know if you need anything else.

Thanks!

Jonathan K. Jacobs, PE

Assistant Town Engineer

111 E. Second St.

Clayton, NC 27520

O: 919-553-5002 x6537

D: 919-359-1297

ClaytonNC.org





Please note that email sent to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Brittany Chase <Brittany@ExultEngineering.com>
Sent: Wednesday, June 1, 2022 4:01 PM
To: Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>; Ben Howell <bhowell@townofclaytonnc.org>; Lawhorn, Samuel C <sclawhorn@ncdot.gov>
Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

Be Advised: This email originated from outside of the Town of Clayton's network. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Jonathan!

I hope you are doing well.

I wanted to close the loop with you on a few items as we are trying to finalize our analysis this week for Glen Laurel Residential:

1. Were you okay with the previously provided proposed distribution? Sam concurred, but I do not think we have record of the Town's response. I have re-attached for your quick reference.
2. Were you able to confirm the number of remaining lots in Gordon Park? You had mentioned it may be close to buildout and therefore we would assume remaining trips would be included in background growth.
3. Are there any frontage widening requirements for the proposed site along Glen Laurel or Vinson Road?

Thank you and have a great rest of your day!



Brittany Chase, P.E.
Exult Engineering | P.O. Box 99277, Raleigh, NC 27624
Office: 984-500-5428 | Mobile: 919-610-4444
Email: Brittany@ExultEngineering.com
Website: www.ExultEngineering.com

From: Lawhorn, Samuel C <sclawhorn@ncdot.gov>
Sent: Tuesday, May 24, 2022 4:00 PM

To: Brittany Chase <Brittany@ExultEngineering.com>; Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>; Ben Howell <bhowell@townofclaytonnc.org>
Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

Brittany,

I am still trying to shake this stuff, but thanks for asking. I am okay with distributions shown.

Sam Lawhorn, P.E.
District 3 Engineer
Highway Division 4
North Carolina Department of Transportation

919-739-5300
sclawhorn@ncdot.gov

2671 US 70 West
Goldsboro, NC 27530



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From: Brittany Chase <Brittany@ExultEngineering.com>
Sent: Monday, May 23, 2022 8:32 PM
To: Lawhorn, Samuel C <sclawhorn@ncdot.gov>; Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>; Ben Howell <bhowell@townofclaytonnc.org>
Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

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Hi Sam and Jonathan –

I hope you both are doing well and had a great weekend. Sam – I hope you are feeling better this week!

Please find attached proposed distribution for the Glen Laurel Residential site in Clayton. I have also attached a sketch of the existing traffic volumes collected for your reference. Please let us know if you have any comments or if you approve of the distribution.

Jonathan – have you been able to confirm the number of lots remaining for the Gordon Park development (potential approved development)?

Thank you both and have a great night!



Brittany Chase, P.E.

Exult Engineering | P.O. Box 99277, Raleigh, NC 27624

Office: 984-500-5428 | Mobile: 919-610-4444

Email: Brittany@ExultEngineering.com

Website: www.ExultEngineering.com

From: Lawhorn, Samuel C <sclawhorn@ncdot.gov>

Sent: Monday, May 16, 2022 8:37 AM

To: Brittany Chase <Brittany@ExultEngineering.com>; Jonathan Jacobs <jjacobs@townofclaytonnc.org>

Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>; Ben Howell <bhowell@townofclaytonnc.org>

Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

I am good with just starting the PM counts at 3:45.

Thanks,

Sam Lawhorn, P.E.

District 3 Engineer

Highway Division 4

North Carolina Department of Transportation

919-739-5300

sclawhorn@ncdot.gov

2671 US 70 West

Goldsboro, NC 27530



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From: Brittany Chase <Brittany@ExultEngineering.com>

Sent: Friday, May 13, 2022 1:15 PM

To: Lawhorn, Samuel C <sclawhorn@ncdot.gov>; Jonathan Jacobs <jjacobs@townofclaytonnc.org>

Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>; Ben Howell <bhowell@townofclaytonnc.org>

Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

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Hi Sam –

Thank you for your response.

In regards to the weekday PM school traffic for Glen Laurel at Vinson:

- Is the backup concern related to vehicles leaving the school after pickup in the afternoon? I am assuming so with the westbound direction of Vinson Road being stop controlled at that intersection. The school dismissal (Powhatan Elementary) begins at 3:55 so those vehicles would most likely be captured in that count beginning at 4:00 pm. We could extend the count time by 15 minutes if you feel that is necessary. But, I am not sure a separate analysis is needed because of the school dismissal time pretty much aligning with our peak period. Please advise so I can let our counters know.
- Our client indicated that requested access is no longer required by the Town because of property ownership constraints.

Have a great rest of your afternoon!



Brittany Chase, P.E.

Exult Engineering | P.O. Box 99277, Raleigh, NC 27624

Office: 984-500-5428 | Mobile: 919-610-4444

Email: Brittany@ExultEngineering.com

Website: www.ExultEngineering.com

From: Lawhorn, Samuel C <sclawhorn@ncdot.gov>

Sent: Friday, May 13, 2022 12:50 PM

To: Brittany Chase <Brittany@ExultEngineering.com>; Jonathan Jacobs <jjacobs@townofclaytonnc.org>

Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>; Ben Howell

<bhowell@townofclaytonnc.org>

Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

Brittany,

Just one comment and one question.

- I would like to see the Weekday PM school traffic studied for just the intersection of Glen Laurel and Vinson. I have been told the traffic backs up significantly at this intersection and would like to just verify the traffic would not back up past the site driveway on Vinson rd.
- How is the requested access on Glen Lauren being dealt with? Having this as a public driveway would give me concerns with the offset of the adjacent subdivision roadway and distance from Oak Vine Circle.

Sam Lawhorn, P.E.

District 3 Engineer

Highway Division 4

North Carolina Department of Transportation

919-739-5300

sclawhorn@ncdot.gov

2671 US 70 West

Goldsboro, NC 27530



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From: Brittany Chase <Brittany@ExultEngineering.com>
Sent: Friday, May 13, 2022 10:39 AM
To: Lawhorn, Samuel C <sclawhorn@ncdot.gov>; Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>; Ben Howell <bhowell@townofclaytonnc.org>
Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

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Good morning Sam and Jonathan –

As discussed, we have prepared the NCDOT TIA Scoping Checklist for your records. Please let me know if you have any comments.

Sam – I wasn't sure on the construction year for the planned signal at Vinson and Glen Laurel, but would assume it would be completed by our buildout year.

Jonathan – Just let me know on the remaining lots for Gordon Park when you have a moment.

Thank you both and I hope you have a great weekend!



Brittany Chase, P.E.
Exult Engineering | P.O. Box 99277, Raleigh, NC 27624
Office: 984-500-5428 | Mobile: 919-610-4444
Email: Brittany@ExultEngineering.com
Website: www.ExultEngineering.com

From: Lawhorn, Samuel C <sclawhorn@ncdot.gov>
Sent: Tuesday, May 10, 2022 3:18 PM
To: Brittany Chase <Brittany@ExultEngineering.com>; Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>; Ben Howell <bhowell@townofclaytonnc.org>
Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

I need the checklist as it saves so much time compared to reading different types of MOUs from every company.

Sam Lawhorn, P.E.
District 3 Engineer

Highway Division 4
North Carolina Department of Transportation

919-739-5300
sclawhorn@ncdot.gov

2671 US 70 West
Goldsboro, NC 27530



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From: Brittany Chase <Brittany@ExultEngineering.com>
Sent: Tuesday, May 10, 2022 12:08 PM
To: Jonathan Jacobs <jjacobs@townofclaytonnc.org>; Lawhorn, Samuel C <sclawhorn@ncdot.gov>
Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>; Ben Howell <bhowell@townofclaytonnc.org>
Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

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Thanks so much Jonathan – we appreciate the heads up related to the pedestrian concerns.

We will get these summarized in a TIA Scoping MOU for everyone's records. Sam – I have never asked you, but do you prefer the NCDOT TIA Scoping Checklist Form, or is it okay if we summarize these items using our own template?



Brittany Chase, P.E.
Exult Engineering | P.O. Box 99277, Raleigh, NC 27624
Office: 984-500-5428 | Mobile: 919-610-4444
Email: Brittany@ExultEngineering.com
Website: www.ExultEngineering.com

From: Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Sent: Tuesday, May 10, 2022 12:02 PM
To: Brittany Chase <Brittany@ExultEngineering.com>; Lawhorn, Samuel C <sclawhorn@ncdot.gov>
Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>; Ben Howell <bhowell@townofclaytonnc.org>
Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

Brittany – I have responded below in Green.

Thanks!

Jonathan K. Jacobs, PE

Assistant Town Engineer

111 E. Second St.

Clayton, NC 27520

O: 919-553-5002 x6537

D: 919-359-1297

ClaytonNC.org



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From: Brittany Chase <Brittany@ExultEngineering.com>

Sent: Friday, May 6, 2022 2:45 PM

To: Lawhorn, Samuel C <sclawhorn@ncdot.gov>; Jonathan Jacobs <jjacobs@townofclaytonnc.org>

Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>

Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

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Thanks for your response Sam!

I will wait for input from Jonathan before preparing the MOU. Just for your records, the developer has informed us that the buildout year will be 2025 (not 2026 as indicated on the TIA Needs Screening form).

Thank you both and have a great weekend!



Brittany Chase, P.E.

Exult Engineering | P.O. Box 99277, Raleigh, NC 27624
Office: 984-500-5428 | Mobile: 919-610-4444
Email: Brittany@ExultEngineering.com
Website: www.ExultEngineering.com

From: Lawhorn, Samuel C <sclawhorn@ncdot.gov>
Sent: Friday, May 6, 2022 9:51 AM
To: Brittany Chase <Brittany@ExultEngineering.com>; Jonathan Jacobs <jjacobs@townofclaytonnc.org>
Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>
Subject: RE: [External] Glen Laurel Residential - TIA Scoping Request

Since this study is already being completed and is in a busy area, I would like to review it as well. See below in red for my comments.

Sam Lawhorn, P.E.
District 3 Engineer
Highway Division 4
North Carolina Department of Transportation

919-739-5300
sclawhorn@ncdot.gov

2671 US 70 West
Goldsboro, NC 27530



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From: Brittany Chase <Brittany@ExultEngineering.com>
Sent: Thursday, May 5, 2022 7:07 PM
To: Jonathan Jacobs <jjacobs@townofclaytonnc.org>; Lawhorn, Samuel C <sclawhorn@ncdot.gov>
Cc: Lisa Lundeen <LisaL@ExultEngineering.com>; Chanlin Wong <ChanlinW@ExultEngineering.com>
Subject: [External] Glen Laurel Residential - TIA Scoping Request

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Hi Jonathan and Sam –

I hope you both are doing well.

We have been contracted by Wakefield Development to perform the TIA for the proposed Glen Laurel Residential development. Please see the attached concept sketch (with Town Pre-App Comments) and *NCDOT TIA Needs Screening* form. We understand the Town will require a TIA. Will NCDOT also require a TIA with the trip generation below the TIA threshold?

We would like to request the TIA scope from the Town and NCDOT (if applicable). I am still waiting on confirmation of buildout year from the developer. Do you prefer to set up a meeting to discuss or is scoping via email acceptable?

If scoping via email is acceptable, could you please provide feedback on the following items and I can summarize in the *NCDOT TIA Scoping Checklist* form:

1. Study area I would like to at least see the Glen Laurel and Vinson intersection, but the Town may want additional intersections. Additionally, please add Powhatan and Glen Laurel Road.
2. Growth rate: Historical ADT volumes show an annual growth rate of 2% in the area (please see attached). I am okay with this if the Town is. The Town has been utilizing a 3% growth rate which aligns more with Glen Laurel on your Growth Calculation sheet.
3. Approved Developments Gordon Park – this is close to built-out. Let me see how many units remain.
4. There may be TIP projects to consider, depending on the required study intersections. Are there any committed or planned improvements at the study area intersections? NCDOT is currently trying to secure funding for a signal at Glen Laurel and Vinson. This should be included in the study. There has been a lot of concern over the pedestrian safety at Powhatan Elementary. I don't expect the developer to make any additional improvements, but expect this to come up in any type of rezoning/public hearing discussion and want the developer to be prepared.

We do appreciate your attention to this request. As the school year is coming to a close, there is a rush to collect traffic count data in the next month!

Thank you!



Brittany Chase, P.E.

Exult Engineering | P.O. Box 99277, Raleigh, NC 27624

Office: 984-500-5428 | Mobile: 919-610-4444

Email: Brittany@ExultEngineering.com

Website: www.ExultEngineering.com

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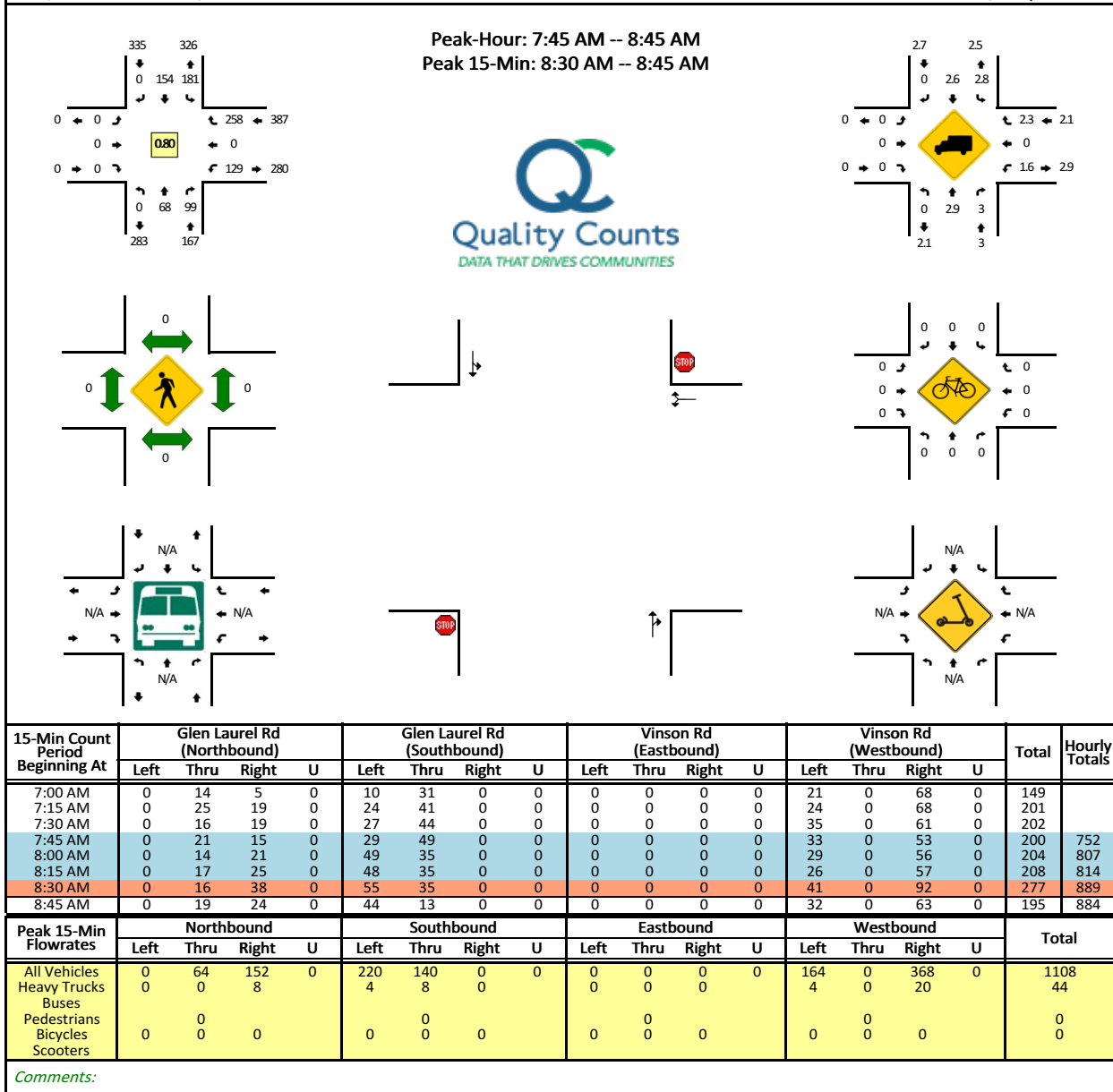
2022 TRAFFIC COUNT DATA

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Glen Laurel Rd -- Vinson Rd
CITY/STATE: Johnston, NC

QC JOB #: 15821001
DATE: Thu, May 12 2022



Report generated on 5/18/2022 1:31 PM

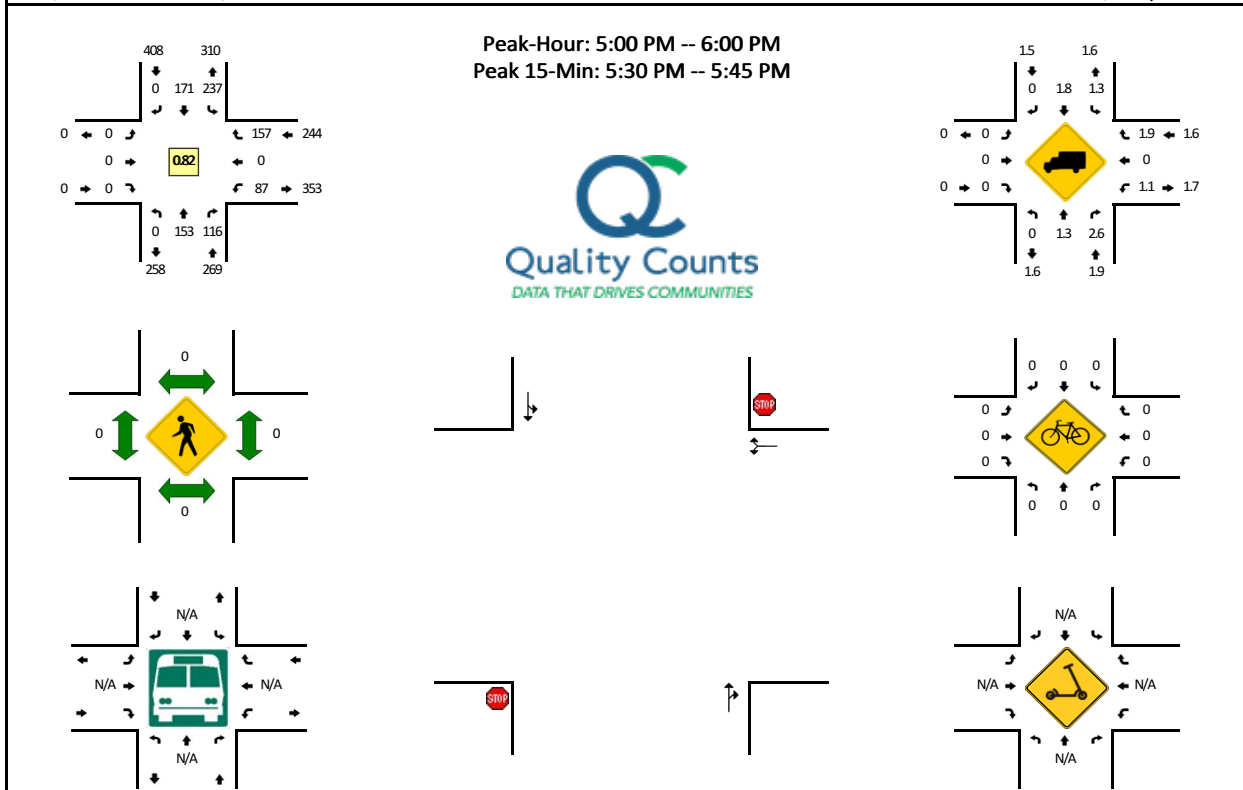
SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Glen Laurel Rd -- Vinson Rd
CITY/STATE: Johnston, NC

QC JOB #: 15821002
DATE: Thu, May 12 2022



15-Min Count Period Beginning At	Glen Laurel Rd (Northbound)				Glen Laurel Rd (Southbound)				Vinson Rd (Eastbound)				Vinson Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:45 PM	0	33	28	0	54	27	0	0	0	0	0	0	13	0	29	1	185	
4:00 PM	0	46	43	0	62	19	0	0	0	0	0	0	44	0	58	0	272	
4:15 PM	0	34	25	0	50	24	0	1	0	0	0	0	38	0	58	0	230	
4:30 PM	0	45	18	0	54	34	0	0	0	0	0	0	19	0	49	0	219	906
4:45 PM	0	38	19	0	52	34	0	0	0	0	0	0	12	0	30	0	185	906
5:00 PM	0	43	30	0	59	38	0	0	0	0	0	0	13	0	28	0	211	845
5:15 PM	0	42	32	0	60	41	0	0	0	0	0	0	20	0	37	0	232	847
5:30 PM	0	39	32	0	71	46	0	0	0	0	0	0	36	0	56	0	280	908
5:45 PM	0	29	22	0	47	46	0	0	0	0	0	0	18	0	36	0	198	921
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	156	128	0	284	184	0	0	0	0	0	0	144	0	224	0	1120	
Heavy Trucks	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	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	0	
Scoters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Comments:

Report generated on 5/18/2022 1:31 PM

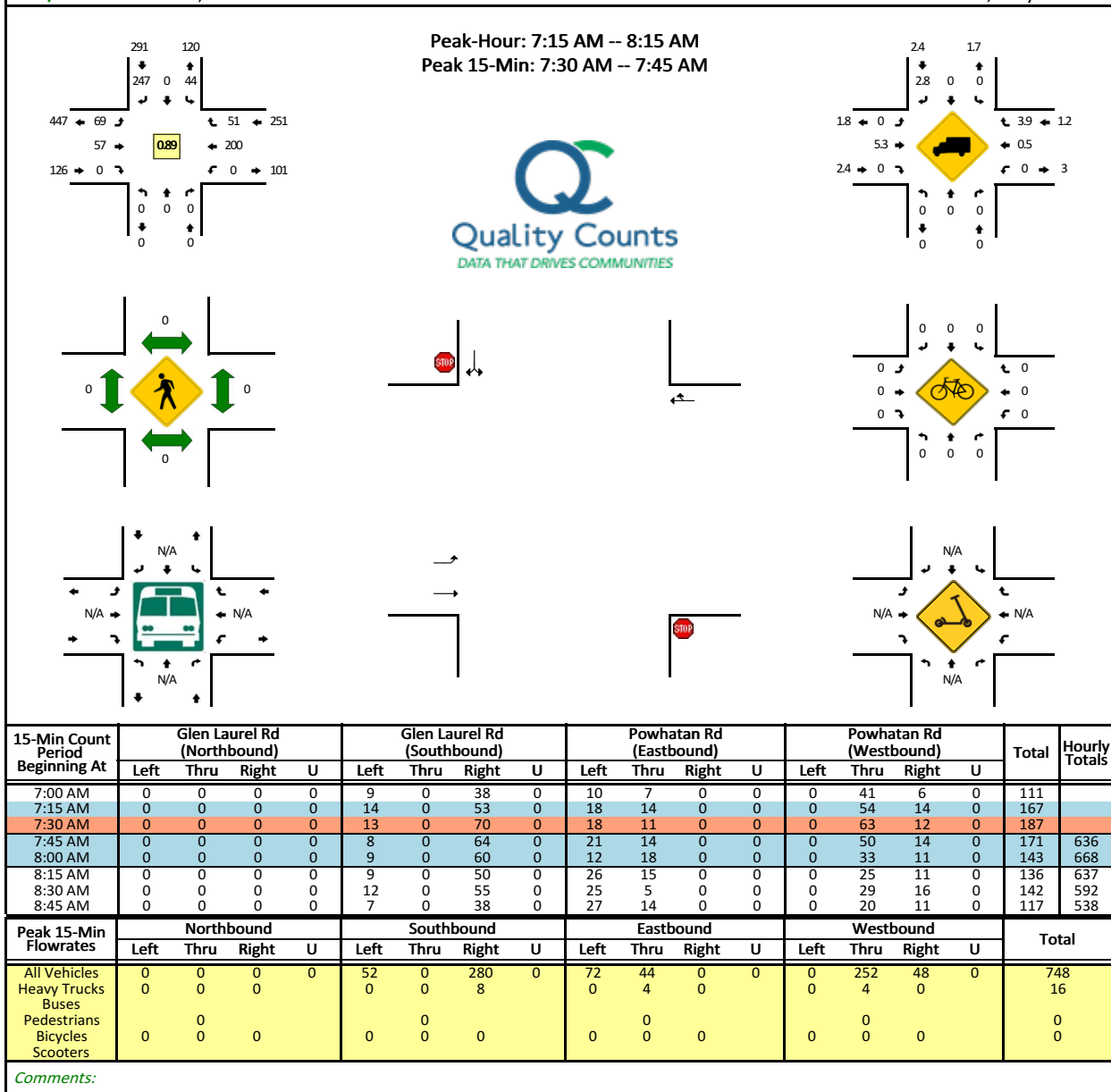
SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Glen Laurel Rd -- Powhatan Rd
CITY/STATE: Johnston, NC

QC JOB #: 15821003
DATE: Thu, May 12 2022



Report generated on 5/18/2022 1:31 PM

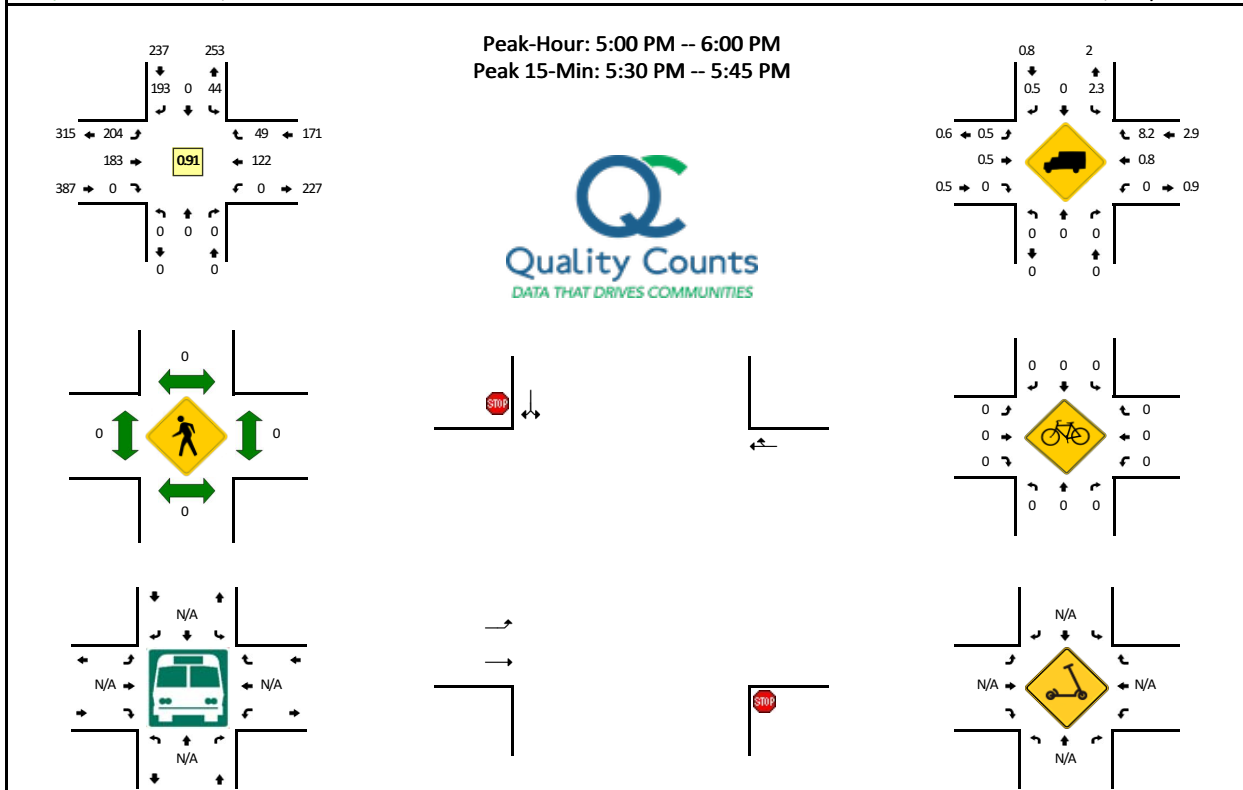
SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Glen Laurel Rd -- Powhatan Rd
CITY/STATE: Johnston, NC

QC JOB #: 15821004
DATE: Thu, May 12 2022



15-Min Count Period Beginning At	Glen Laurel Rd (Northbound)				Glen Laurel Rd (Southbound)				Powhatan Rd (Eastbound)				Powhatan Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	24	0	25	0	72	51	0	0	0	10	9	0	191	
4:15 PM	0	0	0	0	16	0	36	0	47	42	0	0	0	20	11	0	172	
4:30 PM	0	0	0	0	16	0	32	0	48	43	0	0	0	20	8	0	167	
4:45 PM	0	0	0	0	16	0	25	0	47	48	0	0	0	23	12	0	171	701
5:00 PM	0	0	0	0	13	0	30	0	53	55	0	0	0	29	12	0	192	702
5:15 PM	0	0	0	0	10	0	41	0	51	50	0	0	0	30	16	0	198	728
5:30 PM	0	0	0	0	14	0	65	0	61	44	0	0	0	24	11	0	219	780
5:45 PM	0	0	0	0	7	0	57	0	39	34	0	0	0	39	10	0	186	795
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	56	0	260	0	244	176	0	0	0	96	44	0	876	
Heavy Trucks	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	8	
Buses																		
Pedestrians	0	0	0	0	0	0	0	0	0	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	0	
Scooters																		

Comments:

Report generated on 5/18/2022 1:31 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

SITE VISIT DATA COLLECTION

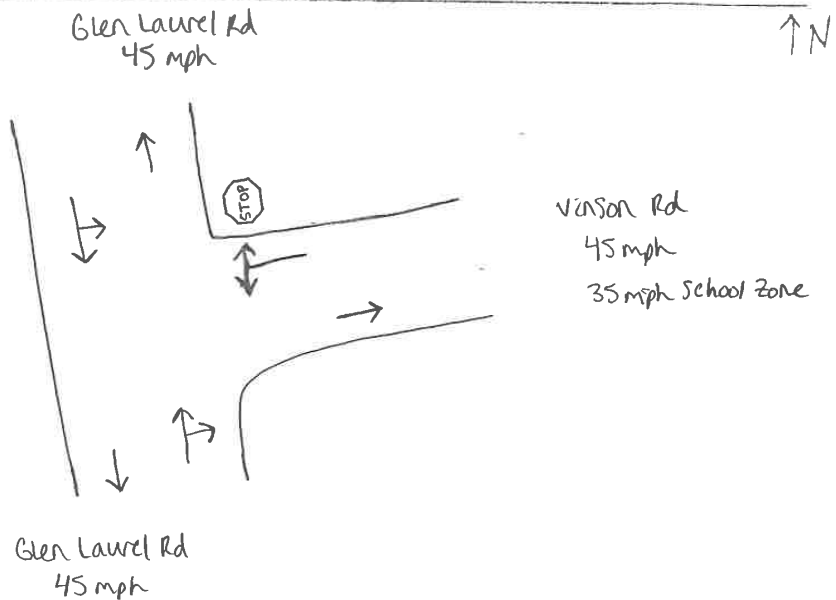
Project: Glen Laurel Traffic Due Diligence

Date: 5/16/22

Initials: TB

Intersection: Glen Laurel Rd @ Vinson Rd

Sketch:

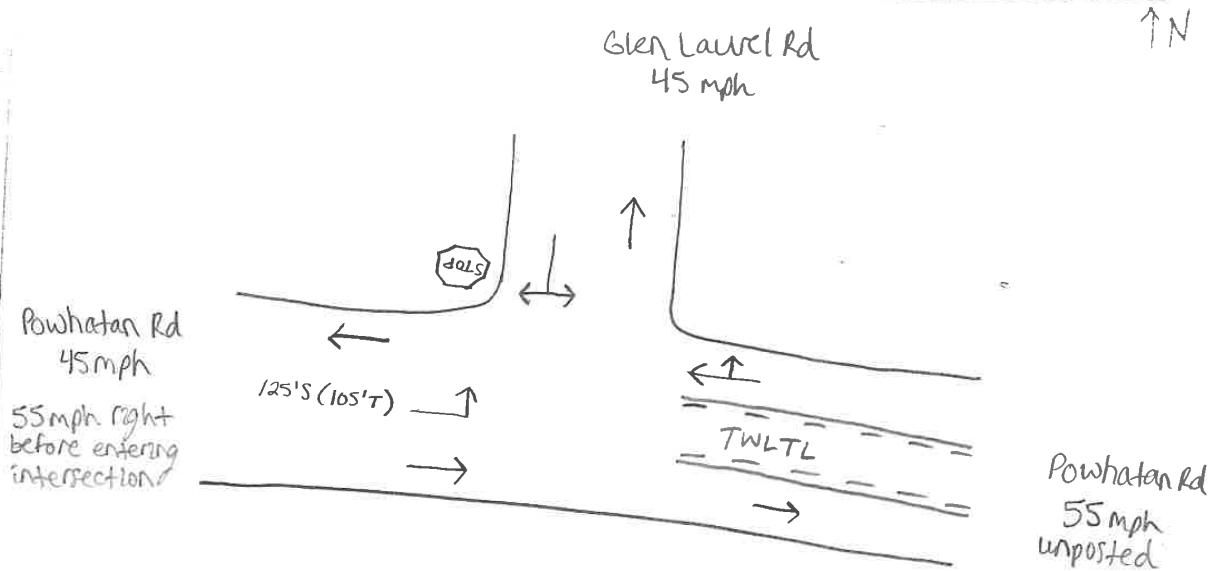


- Label: Street names, storage lengths, taper lengths, Speed limits, lane geometry, driveways
- Photos of all approaches & departures
- Signal Head / Phasing Information:
 - Northbound
 - Southbound
 - Eastbound
 - Westbound

Unsignalized
- Approximate cycle length:
- Problems Observed? Excessive Queues, etc.?

Project: Glen Laurel Traffic Due Diligence
Date: 5/16/22
Initials: TB
Intersection: Glen Laurel Rd @ Powhatan Rd

Sketch:



- Label: Street names, storage lengths, taper lengths, Speed limits, lane geometry, driveways
 - Photos of all approaches & departures
 - Signal Head / Phasing Information:
 - Northbound
 - Southbound
 - Eastbound
 - Westbound
- Unsignalized
- Approximate cycle length:
 - Problems Observed? Excessive Queues, etc.?

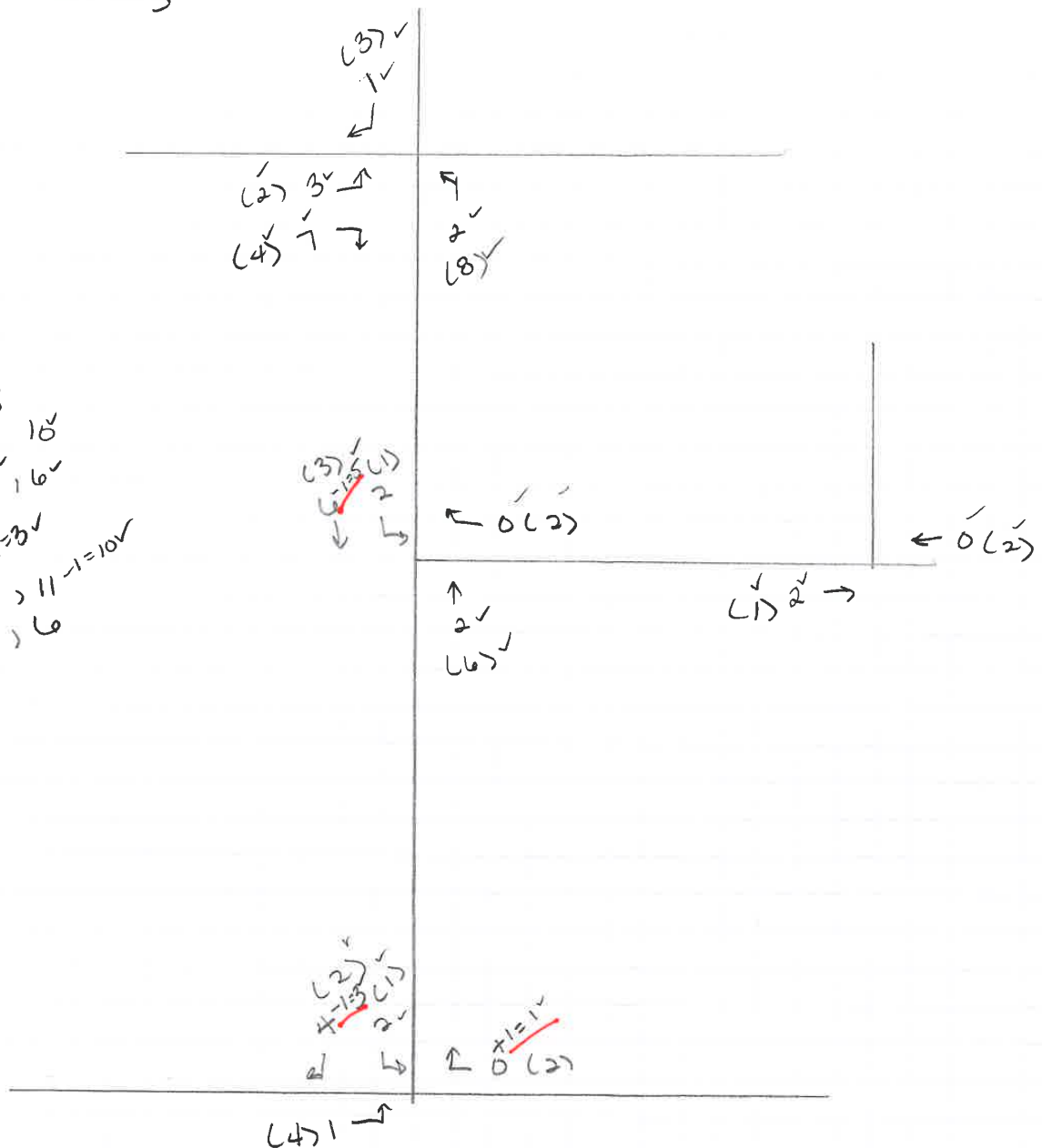
SITE TRAFFIC BALANCING

Western Portion
Site balancing

Am 3, 10
Pm 11, 6

@ driveways
Am - 3, 10
Pm - 11, 6

@ extents
Am - 2 + 1 = 3
Pm 11, 6





www.ExultEngineering.com

Date: 7-13-22 Sheet _____ of _____

Project: Summer Glen Task: _____

Engineer: _____

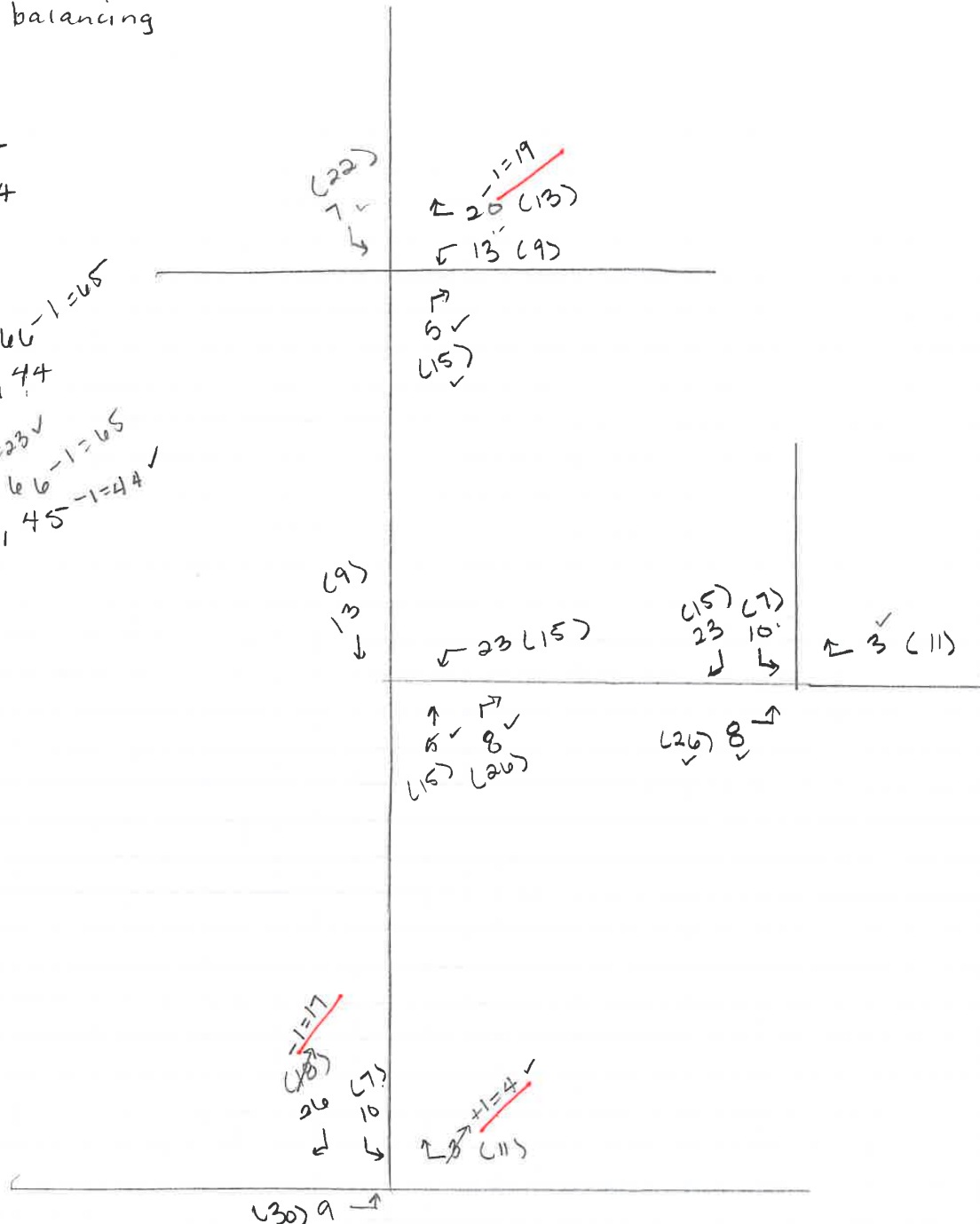
Serving our clients, communities, & team with excellence.

Eastern Portion
Site balancing

Am: 23, 65
Pm: 74, 44

@ driveways
Am - 23, 66 - 1 = 65
Pm - 74, 44

@ extents
Am - 22 + 1 = 23 ✓
Am - 22, 66 - 1 = 65 ✓
Pm - 74, 45 - 1 = 44 ✓



INTERSECTION VOLUME SPREADSHEETS

Intersection Development Worksheet Intersection #1 - Glen Laurel Road at Vinson Road																
AM PEAK HOUR																
	Northbound Glen Laurel Road				Southbound Glen Laurel Road				Eastbound Glen Laurel Road				Westbound Vinson Road			
	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn
2022 Existing Traffic																
2022 Traffic Count	68 99				181 154								129 258			
2022 Existing Traffic	0	68	99	0	181	154	0	0	0	0	0	0	129	0	258	0
Background Growth Calculation																
Growth Factor	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
2025 Background Growth	0	7	10	0	17	15	0	0	0	0	0	0	12	0	24	0
2025 Background Traffic Due to Growth Factor	0	7	10	0	17	15	0	0	0	0	0	0	12	0	24	0
Approved Developments																
Total Approved Development Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Background Growth																
Background Growth Total	0	7	10	0	17	15	0	0	0	0	0	0	12	0	24	0
2025 No-Build Traffic	0	75	109	0	198	169	0	0	0	0	0	0	141	0	282	0
Trip Assignment - Eastern Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	35%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	2	13	0	0	0	0	0	0	23	0	0	0
Inbound Assigned Percentage	0%	20%	35%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Primary Site Trips	0	5	8	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Primary Site Trips	0	5	8	0	2	13	0	0	0	0	0	0	23	0	0	0
Trip Assignment - Western Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	15%	55%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	2	5	0	0	0	0	0	0	0	0	0	0
Inbound Assigned Percentage	0%	55%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%
Inbound Primary Site Trips	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Primary Site Trips	0	2	0	0	2	5	0	0	0	0	0	0	0	0	0	0
Total Project Traffic	0	7	8	0	2	18	0	0	0	0	0	0	23	0	0	0
2025 Buildout Volumes	0	82	117	0	200	187	0	0	0	0	0	0	164	0	282	0

PM PEAK HOUR																
	Northbound Glen Laurel Road				Southbound Glen Laurel Road				Eastbound Glen Laurel Road				Westbound Vinson Road			
	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn
2022 Existing Traffic																
2022 Traffic Count	153 116				237 171								87 157			
2022 Existing Traffic	0	153	116	0	237	171	0	0	0	0	0	0	87	0	157	0
Background Growth Calculation																
Growth Factor	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
2025 Background Growth	0	15	11	0	22	16	0	0	0	0	0	0	9	0	15	0
2025 Background Traffic Due to Growth Factor	0	166	127	0	259	187	0	0	0	0	0	0	96	0	172	0
Approved Developments																
Total Approved Development Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Background Growth																
Background Growth Total	0	166	127	0	259	187	0	0	0	0	0	0	96	0	172	0
2025 No-Build Traffic	0	168	127	0	260	187	0	0	0	0	0	0	96	0	172	0
Trip Assignment - Eastern Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	35%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	0	9	0	0	0	0	0	0	15	0	0	0
Inbound Assigned Percentage	0%	20%	35%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Primary Site Trips	0	15	26	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Primary Site Trips	0	15	26	0	0	9	0	0	0	0	0	0	15	0	0	0
Trip Assignment - Western Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	15%	55%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0
Inbound Assigned Percentage	0%	55%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%
Inbound Primary Site Trips	0	6	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Total Primary Site Trips	0	6	0	0	1	3	0	0	0	0	0	0	0	0	2	0
Total Project Traffic	0	21	26	0	1	12	0	0	0	0	0	0	16	0	2	0
2025 Buildout Volumes	0	189	153	0	260	199	0	0	0	0	0	0	111	0	174	0

Intersection Development Worksheet Intersection #2 - Glen Laurel Road at Powhatan Road																
AM PEAK HOUR																
	Northbound				Southbound				Eastbound				Westbound			
	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn
2022 Existing Traffic																
2022 Traffic Count*					44		247		69	57			200	51		
Balancing																
2022 Existing Traffic	0	0	0	0	44	0	247	0	69	57	0	0	0	200	51	0
Background Growth Calculation																
Growth Factor	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
2025 Background Growth	0	0	0	0	5	0	23	0	7	6	0	0	0	18	5	0
2025 Background Traffic Due to Growth Factor	0	0	0	0	49	0	270	0	76	63	0	0	0	219	56	0
Approved Developments																
Total Approved Development Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Background Growth																
Background Growth Total	0	0	0	0	49	0	270	0	76	63	0	0	0	219	56	0
2025 No-Build Traffic	0	0	0	0	49	0	270	0	76	63	0	0	0	219	56	0
Trip Assignment - Eastern Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	15%	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	10	0	26	0	0	0	0	0	0	0	0	0
Inbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	15%	0%
Inbound Primary Site Trips	0	0	0	0	0	0	0	0	9	0	0	0	0	0	4	0
Total Primary Site Trips	0	0	0	0	10	0	26	0	9	0	0	0	0	0	4	0
Trip Assignment - Western Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	15%	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	2	0	3	0	0	0	0	0	0	0	0	0
Inbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	15%	0%
Inbound Primary Site Trips	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Total Primary Site Trips	0	0	0	0	2	0	3	0	1	0	0	0	0	0	1	0
Total Project Traffic	0	0	0	0	12	0	29	0	10	0	0	0	0	0	5	0
2025 Buildout Volumes	0	0	0	0	61	0	299	0	86	63	0	0	0	219	61	0

PM PEAK HOUR																
	Northbound				Southbound				Eastbound				Westbound			
	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn
2022 Existing Traffic																
2022 Traffic Count*					44		193		204	183			122	49		
Balancing																
2022 Existing Traffic	0	0	0	0	44	0	193	0	204	183	0	0	0	122	49	0
Background Growth Calculation																
Growth Factor	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
2025 Background Growth	0	0	0	0	5	0	18	0	19	17	0	0	0	12	5	0
2025 Background Traffic Due to Growth Factor	0	0	0	0	49	0	211	0	223	200	0	0	0	134	54	0
Approved Developments																
Total Approved Development Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Background Growth																
Background Growth Total	0	0	0	0	49	0	211	0	223	200	0	0	0	134	54	0
2025 No-Build Traffic	0	0	0	0	49	0	211	0	223	200	0	0	0	134	54	0
Trip Assignment - Eastern Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	15%	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	7	0	17	0	0	0	0	0	0	0	0	0
Inbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	15%	0%
Inbound Primary Site Trips	0	0	0	0	0	0	0	0	30	0	0	0	0	0	11	0
Total Primary Site Trips	0	0	0	0	7	0	17	0	30	0	0	0	0	0	11	0
Trip Assignment - Western Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	15%	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0
Inbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	15%	0%
Inbound Primary Site Trips	0	0	0	0	0	0	0	0	4	0	0	0	0	0	2	0
Total Primary Site Trips	0	0	0	0	1	0	2	0	4	0	0	0	0	0	2	0
Total Project Traffic	0	0	0	0	6	0	19	0	34	0	0	0	0	0	13	0
2025 Buildout Volumes	0	0	0	0	57	0	230	0	257	200	0	0	0	134	67	0

Intersection Development Worksheet																
Intersection #3 - Glen Laurel Road at Proposed Full Movement Driveway																
AM PEAK HOUR																
	Northbound Glen Laurel Road				Southbound Glen Laurel Road				Eastbound Proposed Full Movement				Westbound Proposed Full Movement Driveway			
	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn
2022 Existing Traffic																
2022 Traffic Count	326				335											
Balancing	0	326	0	0	0	335	0	0	0	0	0	0	0	0	0	0
2022 Existing Traffic																
Background Growth Calculation																
Growth Factor	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
2025 Background Growth	0	31	0	0	0	32	0	0	0	0	0	0	0	0	0	0
2025 Background Traffic Due to Growth Factor	0	357	0	0	0	367	0	0	0	0	0	0	0	0	0	0
Approved Developments																
Total Approved Development Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Background Growth																
Background Growth Total	0	357	0	0	0	367	0	0	0	0	0	0	0	0	0	0
2025 No-Build Traffic	0	357	0	0	0	367	0	0	0	0	0	0	0	0	0	0
Trip Assignment - Eastern Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	30%	0%
Outbound Primary Site Trips	0	0	0	0	0	0	0	0	0	0	0	0	13	0	19	0
Inbound Assigned Percentage	0%	0%	20%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Primary Site Trips	0	0	5	0	7	0	0	0	0	0	0	0	0	0	0	0
Total Primary Site Trips	0	0	5	0	7	0	0	0	0	0	0	0	13	0	19	0
Trip Assignment - Western Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	70%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	0	0	0	0	3	0	7	0	0	0	0	0
Inbound Assigned Percentage	70%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Primary Site Trips	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Total Primary Site Trips	2	0	0	0	0	0	1	0	3	0	7	0	0	0	0	0
Total Project Traffic																
	2	0	5	0	7	0	1	0	3	0	7	0	13	0	19	0
2025 Buildout Volumes																
	2	357	5	0	7	367	1	0	3	0	7	0	13	0	19	0

PM PEAK HOUR																
	Northbound Glen Laurel Road				Southbound Glen Laurel Road				Eastbound Proposed Full Movement				Westbound Proposed Full Movement Driveway			
	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn
2022 Existing Traffic																
2022 Traffic Count	310				408											
Balancing	0	310	0	0	0	408	0	0	0	0	0	0	0	0	0	0
2022 Existing Traffic																
Background Growth Calculation																
Growth Factor	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
2025 Background Growth	0	28	0	0	0	38	0	0	0	0	0	0	0	0	0	0
2025 Background Traffic Due to Growth Factor	0	339	0	0	0	446	0	0	0	0	0	0	0	0	0	0
Approved Developments																
Total Approved Development Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Background Growth																
Background Growth Total	0	339	0	0	0	446	0	0	0	0	0	0	0	0	0	0
2025 No-Build Traffic	0	339	0	0	0	446	0	0	0	0	0	0	0	0	0	0
Trip Assignment - Eastern Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	30%	0%
Outbound Primary Site Trips	0	0	0	0	0	0	0	0	0	0	0	0	9	0	13	0
Inbound Assigned Percentage	0%	0%	20%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Primary Site Trips	0	0	15	0	22	0	0	0	0	0	0	0	0	0	0	0
Total Primary Site Trips	0	0	15	0	22	0	0	0	0	0	0	0	9	0	13	0
Trip Assignment - Western Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	70%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	0	0	0	0	2	0	4	0	0	0	0	0
Inbound Assigned Percentage	70%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Primary Site Trips	8	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Total Primary Site Trips	8	0	0	0	0	0	3	0	2	0	4	0	0	0	0	0
Total Project Traffic																
	8	0	15	0	22	0	3	0	2	0	4	0	9	0	13	0
2025 Buildout Volumes																
	8	339	15	0	22	446	3	0	2	0	4	0	9	0	13	0

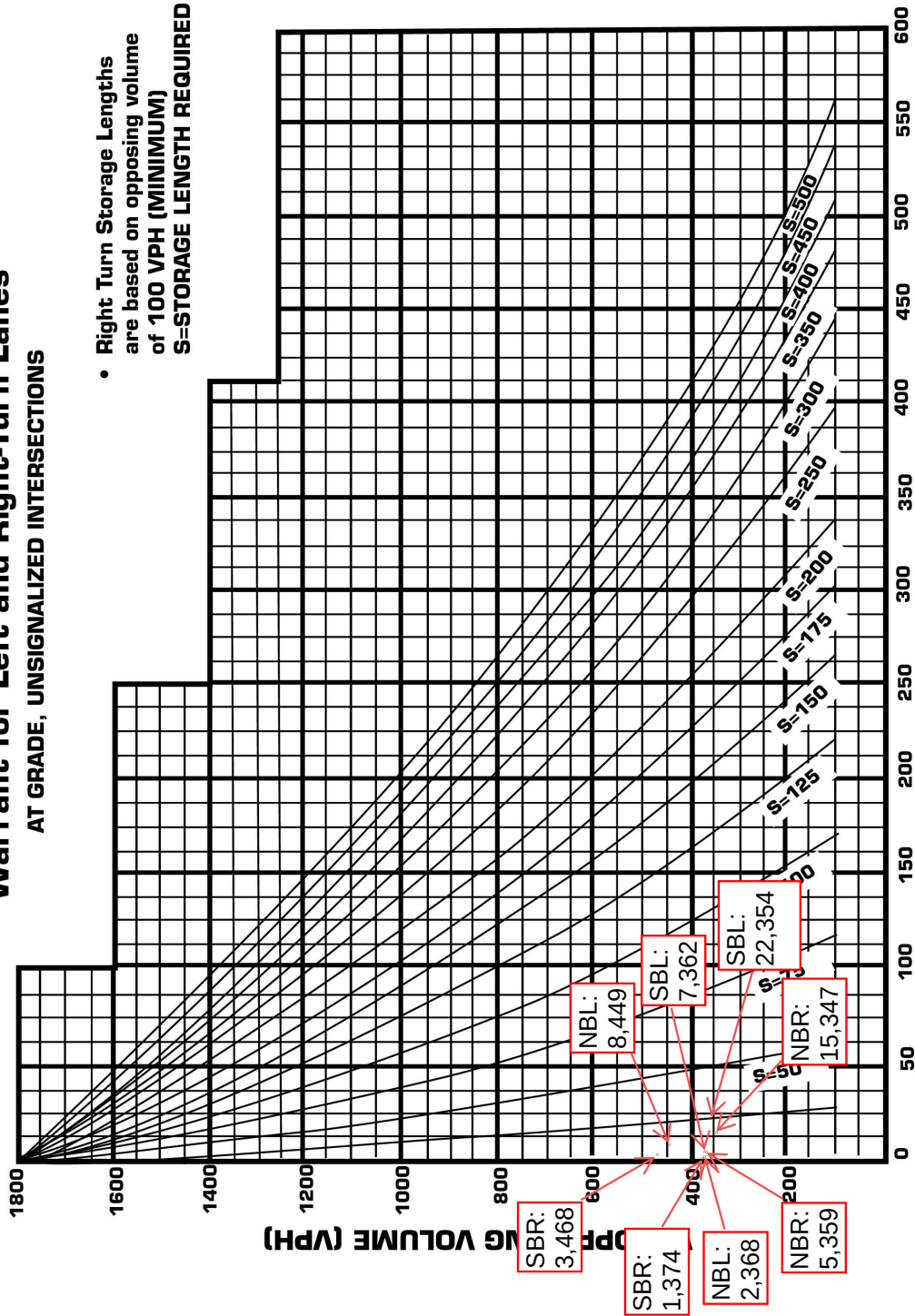
Intersection Development Worksheet																
Intersection #4 - Vinson Road at Proposed Full Movement Driveway																
AM PEAK HOUR																
	Northbound				Southbound				Eastbound				Westbound			
	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn
2022 Existing Traffic																
2022 Traffic Count									280				387			
Balancing	0	0	0	0	0	0	0	0	0	280	0	0	0	387	0	0
2022 Existing Traffic																
Background Growth Calculation																
Growth Factor	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
2025 Background Growth	0	0	0	0	0	0	0	0	0	28	0	0	0	38	0	0
2025 Background Traffic Due to Growth Factor	0	0	0	0	0	0	0	0	0	308	0	0	0	423	0	0
Approved Developments																
Total Approved Development Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Background Growth																
Background Growth Total	0	0	0	0	0	0	0	0	0	308	0	0	0	423	0	0
2025 No-Build Traffic	0	0	0	0	0	0	0	0	0	308	0	0	0	423	0	0
Trip Assignment - Eastern Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	10	0	23	0	0	0	0	0	0	0	0	0
Inbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	35%	0%	0%	0%	0%	0%	15%	0%
Inbound Primary Site Trips	0	0	0	0	0	0	0	0	8	0	0	0	0	0	3	0
Total Primary Site Trips	0	0	0	0	10	0	23	0	8	0	0	0	0	0	3	0
Trip Assignment - Western Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Inbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%
Inbound Primary Site Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Primary Site Trips	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Total Project Traffic																
	0	0	0	0	10	0	23	0	8	2	0	0	0	0	3	0
2025 Buildout Volumes																
	0	0	0	0	10	0	23	0	8	308	0	0	0	423	3	0

PM PEAK HOUR																
	Northbound				Southbound				Eastbound				Westbound			
	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn
2022 Existing Traffic																
2022 Traffic Count*									353				244			
Balancing	0	0	0	0	0	0	0	0	0	353	0	0	0	244	0	0
2022 Existing Traffic																
Background Growth Calculation																
Growth Factor	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
2025 Background Growth	0	0	0	0	0	0	0	0	0	33	0	0	0	23	0	0
2025 Background Traffic Due to Growth Factor	0	0	0	0	0	0	0	0	0	366	0	0	0	267	0	0
Approved Developments																
Total Approved Development Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Background Growth																
Background Growth Total	0	0	0	0	0	0	0	0	0	366	0	0	0	267	0	0
2025 No-Build Traffic	0	0	0	0	0	0	0	0	0	366	0	0	0	267	0	0
Trip Assignment - Eastern Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	7	0	15	0	0	0	0	0	0	0	0	0
Inbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	35%	0%	0%	0%	0%	0%	15%	0%
Inbound Primary Site Trips	0	0	0	0	0	0	0	0	26	0	0	0	0	0	11	0
Total Primary Site Trips	0	0	0	0	7	0	15	0	26	0	0	0	0	0	11	0
Trip Assignment - Western Portion																
Outbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%
Outbound Primary Site Trips	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Inbound Assigned Percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%
Inbound Primary Site Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Total Primary Site Trips	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0
Total Project Traffic																
	0	0	0	0	7	0	15	0	26	1	0	0	0	2	11	0
2025 Buildout Volumes																
	0	0	0	0	7	0	15	0	26	387	0	0	0	269	11	0

TURN LANE WARRANT INFORMATION

AT GRADE, UNSIGNALIZED INTERSECTIONS

- **Right Turn Storage Lengths** are based on opposing volume of **100 VPH (MINIMUM)**
- S=STORAGE LENGTH REQUIRED**



Note: Where adjacent signalization may provide opportunities for gaps in the traffic stream a reduction in the above storage values can be considered on a case by case basis.

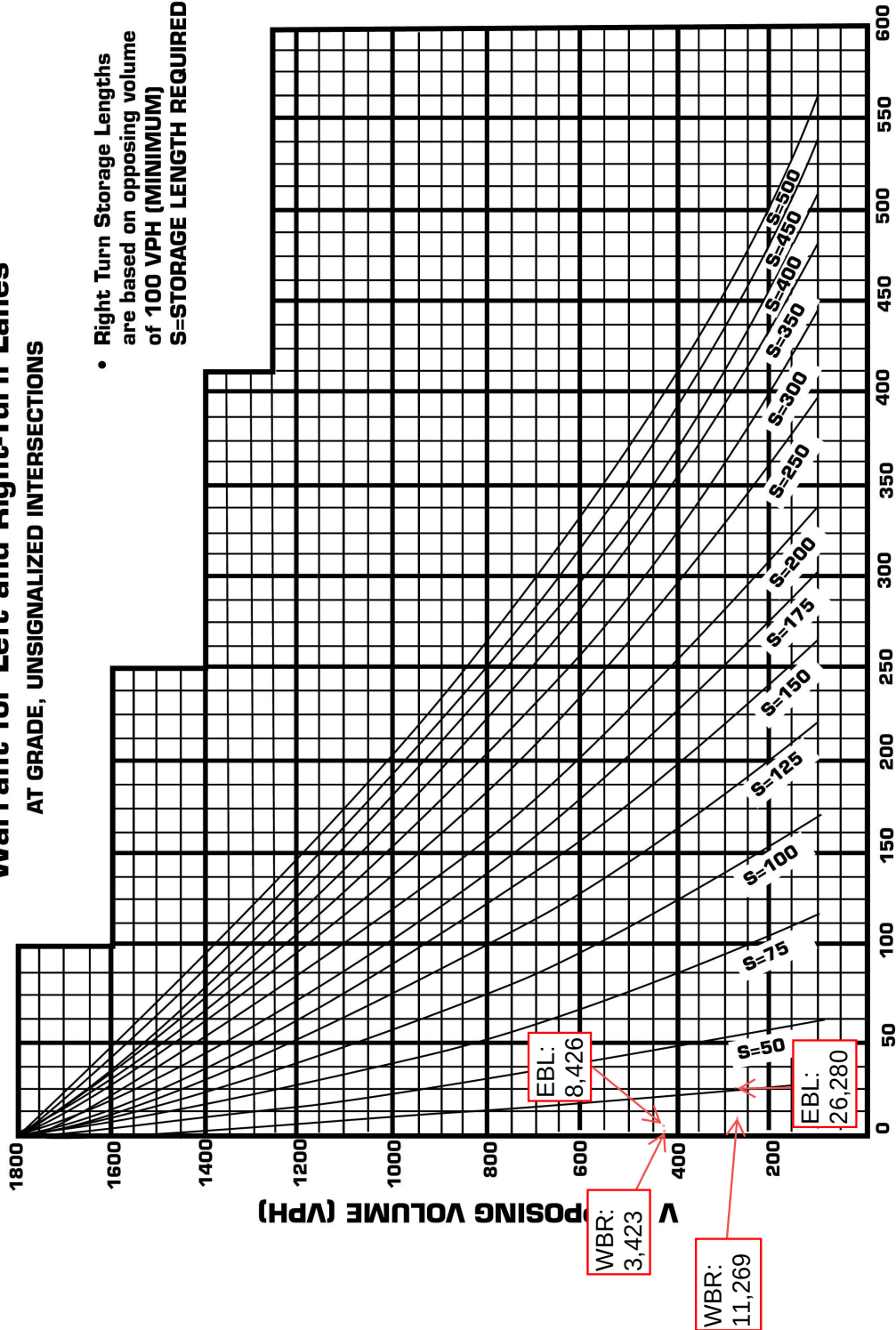
V_L : LEFT TURNING VOLUME (VPH)
 V_R : RIGHT TURNING VOLUME (VPH)

Vinson Road at Proposed Site Driveway

Warrant for Left and Right-Turn Lanes

AT GRADE, UNSIGNALIZED INTERSECTIONS

- Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)
- S=STORAGE LENGTH REQUIRED



Note: Where adjacent signalization may provide opportunities for gaps in the traffic stream a reduction in the above storage values can be considered on a case by case basis.

V: LEFT TURNING VOLUME (VPH)
V_R: RIGHT TURNING VOLUME (VPH)

SYNCHRO REPORT PRINTOUTS

2022 EXISTING AM PEAK HOUR

Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

Existing AM
07/13/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	129	258	68	99	181	154
Future Volume (vph)	129	258	68	99	181	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1668	0	1697	0	0	1797
Flt Permitted	0.984					0.974
Satd. Flow (perm)	1668	0	1697	0	0	1797
Link Speed (mph)	45		45			45
Link Distance (ft)	1029		2524			1067
Travel Time (s)	15.6		38.2			16.2
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	484	0	209	0	0	419
Enter Blocked Intersection	1 veh	1 veh	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	60.8%			ICU Level of Service B		
Analysis Period (min)	15					

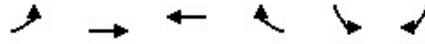
Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

Existing AM
07/13/2022

Intersection						
Int Delay, s/veh	22.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	129	258	68	99	181	154
Future Vol, veh/h	129	258	68	99	181	154
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	3	3	3	3
Mvmt Flow	161	323	85	124	226	193
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	792	147	0	0	209	0
Stage 1	147	-	-	-	-	-
Stage 2	645	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	358	900	-	-	1356	-
Stage 1	880	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	291	900	-	-	1356	-
Mov Cap-2 Maneuver	291	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	48.5	0		4.4		
HCM LOS	E					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	530	1356	-	
HCM Lane V/C Ratio	-	-	0.913	0.167	-	
HCM Control Delay (s)	-	-	48.5	8.2	0	
HCM Lane LOS	-	-	E	A	A	
HCM 95th %tile Q(veh)	-	-	10.9	0.6	-	

Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

Existing AM
07/13/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	69	57	200	51	44	247
Future Volume (vph)	69	57	200	51	44	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	105				25	
Satd. Flow (prot)	1770	1863	1812	0	1637	0
Flt Permitted	0.950				0.993	
Satd. Flow (perm)	1770	1863	1812	0	1637	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		1328	1366		2524	
Travel Time (s)		16.5	16.9		38.2	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	64	282	0	327	0
Enter Blocked Intersection	No	No	No	No	1 veh	1 veh
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 45.1%

ICU Level of Service A

Analysis Period (min) 15

Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

Existing AM
07/13/2022

Intersection						
Int Delay, s/veh	6.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	69	57	200	51	44	247
Future Vol, veh/h	69	57	200	51	44	247
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, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	64	225	57	49	278
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	282	0	-	0	474	254
Stage 1	-	-	-	-	254	-
Stage 2	-	-	-	-	220	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1280	-	-	-	549	785
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	817	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1280	-	-	-	516	785
Mov Cap-2 Maneuver	-	-	-	-	588	-
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	817	-
Approach	EB	WB		SB		
HCM Control Delay, s	4.4	0		13.5		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1280	-	-	-	747	
HCM Lane V/C Ratio	0.061	-	-	-	0.438	
HCM Control Delay (s)	8	-	-	-	13.5	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	2.2	

2022 EXISTING PM PEAK HOUR

Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

Existing PM
07/13/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	87	157	153	116	237	171
Future Volume (vph)	87	157	153	116	237	171
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1670	0	1755	0	0	1811
Flt Permitted	0.982					0.972
Satd. Flow (perm)	1670	0	1755	0	0	1811
Link Speed (mph)	45		45			45
Link Distance (ft)	1029		2524			1070
Travel Time (s)	15.6		38.2			16.2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	297	0	328	0	0	498
Enter Blocked Intersection	1 veh	1 veh	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	61.7%			ICU Level of Service B		
Analysis Period (min)	15					

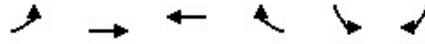
Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

Existing PM
07/13/2022

Intersection						
Int Delay, s/veh	14.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	157	153	116	237	171
Future Vol, veh/h	87	157	153	116	237	171
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	106	191	187	141	289	209
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1045	258	0	0	328	0
Stage 1	258	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	253	781	-	-	1232	-
Stage 1	785	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	186	781	-	-	1232	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	785	-	-	-	-	-
Stage 2	330	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	46.4	0		5.1		
HCM LOS	E					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	365	1232	-	
HCM Lane V/C Ratio	-	-	0.815	0.235	-	
HCM Control Delay (s)	-	-	46.4	8.8	0	
HCM Lane LOS	-	-	E	A	A	
HCM 95th %tile Q(veh)	-	-	7.2	0.9	-	

Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

Existing PM
07/13/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←	→	←	→	←	→
Traffic Volume (vph)	204	183	122	49	44	193
Future Volume (vph)	204	183	122	49	44	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	105				25	
Satd. Flow (prot)	1770	1863	1773	0	1643	0
Flt Permitted	0.950				0.991	
Satd. Flow (perm)	1770	1863	1773	0	1643	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		1328	1366		2524	
Travel Time (s)		16.5	16.9		38.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	224	201	188	0	260	0
Enter Blocked Intersection	No	No	No	No	1 veh	1 veh
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 45.0% ICU Level of Service A

Analysis Period (min) 15

Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

Existing PM
07/13/2022

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	204	183	122	49	44	193
Future Vol, veh/h	204	183	122	49	44	193
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, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	224	201	134	54	48	212
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	188	0	-	0	810	161
Stage 1	-	-	-	-	161	-
Stage 2	-	-	-	-	649	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1386	-	-	-	349	884
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	520	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1386	-	-	-	292	884
Mov Cap-2 Maneuver	-	-	-	-	403	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	520	-
Approach	EB	WB		SB		
HCM Control Delay, s	4.3	0		12.7		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1386	-	-	-	724	
HCM Lane V/C Ratio	0.162	-	-	-	0.36	
HCM Control Delay (s)	8.1	-	-	-	12.7	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.6	-	-	-	1.6	

2025 NO-BUILD AM PEAK HOUR

Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

No Build AM
07/13/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	141	282	75	109	198	169
Future Volume (vph)	141	282	75	109	198	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1668	0	1697	0	0	1797
Flt Permitted	0.984					0.695
Satd. Flow (perm)	1668	0	1697	0	0	1282
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		45			45
Link Distance (ft)	1029		2524			1071
Travel Time (s)	15.6		38.2			16.2
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	529	0	230	0	0	459
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	7.0		12.0		12.0	12.0
Minimum Split (s)	14.0		19.0		19.0	19.0
Total Split (s)	41.0		49.0		49.0	49.0
Total Split (%)	45.6%		54.4%		54.4%	54.4%

Summer Glen TIA 05/16/2022 No Build AM
Exult Engineering

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Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

No Build AM
07/13/2022

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Maximum Green (s)	34.0		42.0		42.0	42.0
Yellow Time (s)	5.0		5.0		5.0	5.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	-2.0		-2.0			-2.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Min		Min	Min
Act Effct Green (s)	29.3		33.7			33.7
Actuated g/C Ratio	0.40		0.46			0.46
v/c Ratio	0.80		0.30			0.78
Control Delay	31.7		14.3			28.5
Queue Delay	0.0		0.0			0.0
Total Delay	31.7		14.3			28.5
LOS	C		B			C
Approach Delay	31.7		14.3			28.5
Approach LOS	C		B			C
Queue Length 50th (ft)	218		67			180
Queue Length 95th (ft)	324		105			264
Internal Link Dist (ft)	949		2444			991
Turn Bay Length (ft)						
Base Capacity (vph)	866		1077			813
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.61		0.21			0.56

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 73.7

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 27.2

Intersection LOS: C

Intersection Capacity Utilization 68.1%

ICU Level of Service C

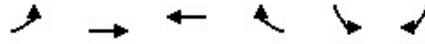
Analysis Period (min) 15

Splits and Phases: 1: Glen Laurel Rd & Vinson Rd



Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

No Build AM
07/13/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	76	63	219	56	49	270
Future Volume (vph)	76	63	219	56	49	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	105				25	
Satd. Flow (prot)	1770	1863	1811	0	1637	0
Flt Permitted	0.950				0.992	
Satd. Flow (perm)	1770	1863	1811	0	1637	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		1328	1366		2524	
Travel Time (s)		16.5	16.9		38.2	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	71	309	0	358	0
Enter Blocked Intersection	No	No	No	No	1 veh	1 veh
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
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

Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

No Build AM
07/13/2022

Intersection						
Int Delay, s/veh	7.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	76	63	219	56	49	270
Future Vol, veh/h	76	63	219	56	49	270
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, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	71	246	63	55	303
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	309	0	-	0	519	278
Stage 1	-	-	-	-	278	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1252	-	-	-	517	761
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1252	-	-	-	482	761
Mov Cap-2 Maneuver	-	-	-	-	563	-
Stage 1	-	-	-	-	717	-
Stage 2	-	-	-	-	799	-
Approach	EB	WB		SB		
HCM Control Delay, s	4.4	0		14.8		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1252	-	-	-	722	
HCM Lane V/C Ratio	0.068	-	-	-	0.496	
HCM Control Delay (s)	8.1	-	-	-	14.8	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	2.8	

2025 NO-BUILD PM PEAK HOUR

Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

No Build PM
07/13/2022

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	96	172	168	127	259	187
Future Volume (vph)	96	172	168	127	259	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1670	0	1755	0	0	1811
Flt Permitted	0.982					0.595
Satd. Flow (perm)	1670	0	1755	0	0	1108
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		45			45
Link Distance (ft)	1029		2524			1071
Travel Time (s)	15.6		38.2			16.2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	327	0	360	0	0	544
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	CI+Ex		CI+Ex		CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	7.0		12.0		12.0	12.0
Minimum Split (s)	14.0		19.0		19.0	19.0
Total Split (s)	29.0		61.0		61.0	61.0
Total Split (%)	32.2%		67.8%		67.8%	67.8%
Maximum Green (s)	22.0		54.0		54.0	54.0

Summer Glen TIA 05/16/2022 No Build PM
Exult Engineering

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Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

No Build PM
07/13/2022

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Yellow Time (s)	5.0		5.0		5.0	5.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	-2.0		-2.0			-2.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Min		Min	Min
Act Effect Green (s)	20.4		42.8			42.8
Actuated g/C Ratio	0.28		0.58			0.58
v/c Ratio	0.71		0.35			0.85
Control Delay	36.6		9.2			27.3
Queue Delay	0.0		0.0			0.0
Total Delay	36.6		9.2			27.3
LOS	D		A			C
Approach Delay	36.6		9.2			27.3
Approach LOS	D		A			C
Queue Length 50th (ft)	143		84			199
Queue Length 95th (ft)	236		120			300
Internal Link Dist (ft)	949		2444			991
Turn Bay Length (ft)						
Base Capacity (vph)	578		1347			850
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.57		0.27			0.64

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 73.8

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 24.5

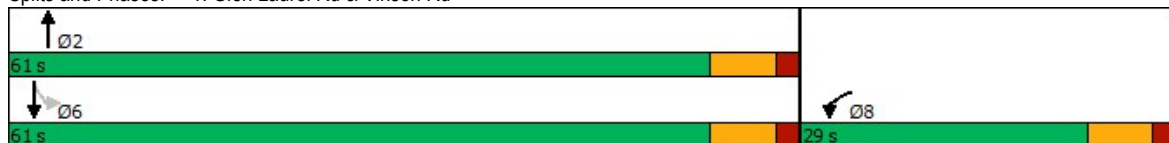
Intersection LOS: C

Intersection Capacity Utilization 69.2%

ICU Level of Service C

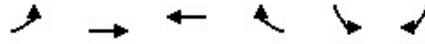
Analysis Period (min) 15

Splits and Phases: 1: Glen Laurel Rd & Vinson Rd



Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

No Build PM
07/13/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	223	200	134	54	49	211
Future Volume (vph)	223	200	134	54	49	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	105				25	
Satd. Flow (prot)	1770	1863	1773	0	1643	0
Flt Permitted	0.950				0.991	
Satd. Flow (perm)	1770	1863	1773	0	1643	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		1328	1366		2524	
Travel Time (s)		16.5	16.9		38.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	248	222	209	0	288	0
Enter Blocked Intersection	No	No	No	No	1 veh	1 veh
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.4% ICU Level of Service A

Analysis Period (min) 15

Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

No Build PM
07/13/2022

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	223	200	134	54	49	211
Future Vol, veh/h	223	200	134	54	49	211
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, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	248	222	149	60	54	234
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	209	0	-	0	897	179
Stage 1	-	-	-	-	179	-
Stage 2	-	-	-	-	718	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1362	-	-	-	310	864
Stage 1	-	-	-	-	852	-
Stage 2	-	-	-	-	483	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1362	-	-	-	254	864
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	483	-
Approach	EB	WB		SB		
HCM Control Delay, s	4.3	0		13.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1362	-	-	-	690	
HCM Lane V/C Ratio	0.182	-	-	-	0.419	
HCM Control Delay (s)	8.2	-	-	-	13.9	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.7	-	-	-	2.1	

2025 BUILDOUT AM PEAK HOUR

Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

Buildout AM
07/13/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	164	282	82	117	200	187
Future Volume (vph)	164	282	82	117	200	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.915		0.921			
Flt Protected	0.982					0.975
Satd. Flow (prot)	1674	0	1699	0	0	1799
Flt Permitted	0.982					0.678
Satd. Flow (perm)	1674	0	1699	0	0	1251
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		45			45
Link Distance (ft)	523		2524			533
Travel Time (s)	7.9		38.2			8.1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Adj. Flow (vph)	205	353	103	146	250	234
Shared Lane Traffic (%)						
Lane Group Flow (vph)	558	0	249	0	0	484
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	7.0		12.0		12.0	12.0
Minimum Split (s)	14.0		19.0		19.0	19.0
Total Split (s)	42.0		48.0		48.0	48.0
Total Split (%)	46.7%		53.3%		53.3%	53.3%
Maximum Green (s)	35.0		41.0		41.0	41.0
Yellow Time (s)	5.0		5.0		5.0	5.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	-2.0		-2.0			-2.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Min		Min	Min
Act Effct Green (s)	31.7		36.4			36.4
Actuated g/C Ratio	0.40		0.46			0.46
v/c Ratio	0.83		0.32			0.84
Control Delay	34.2		15.2			34.2
Queue Delay	0.0		0.0			0.0
Total Delay	34.2		15.2			34.2
LOS	C		B			C
Approach Delay	34.2		15.2			34.2
Approach LOS	C		B			C
Queue Length 50th (ft)	273		83			225
Queue Length 95th (ft)	341		117			298

Summer Glen TIA 05/16/2022 Buildout AM
Exult Engineering

Synchro 10 Report
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Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

Buildout AM
07/13/2022

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	443		2444			453
Turn Bay Length (ft)						
Base Capacity (vph)	825		973			716
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.68		0.26			0.68

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 78.6

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 30.6

Intersection LOS: C

Intersection Capacity Utilization 71.3%

ICU Level of Service C

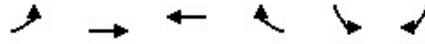
Analysis Period (min) 15

Splits and Phases: 1: Glen Laurel Rd & Vinson Rd



Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

Buildout AM
07/13/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	86	63	219	61	61	299
Future Volume (vph)	86	63	219	61	61	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	105				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.970		0.888	
Flt Protected	0.950				0.992	
Satd. Flow (prot)	1770	1863	1807	0	1641	0
Flt Permitted	0.950				0.992	
Satd. Flow (perm)	1770	1863	1807	0	1641	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		1328	1366		2524	
Travel Time (s)		16.5	16.9		38.2	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	97	71	246	69	69	336
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	71	315	0	405	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 51.8%

ICU Level of Service A

Analysis Period (min) 15

Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

Buildout AM
07/13/2022

Intersection						
Int Delay, s/veh	8.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	86	63	219	61	61	299
Future Vol, veh/h	86	63	219	61	61	299
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, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	97	71	246	69	69	336
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	315	0	-	0	546	281
Stage 1	-	-	-	-	281	-
Stage 2	-	-	-	-	265	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1245	-	-	-	499	758
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1245	-	-	-	460	758
Mov Cap-2 Maneuver	-	-	-	-	547	-
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	779	-
Approach	EB	WB		SB		
HCM Control Delay, s	4.7	0		16.5		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1245	-	-	-	711	
HCM Lane V/C Ratio	0.078	-	-	-	0.569	
HCM Control Delay (s)	8.1	-	-	-	16.5	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.3	-	-	-	3.6	

Summer Glen TIA
3: Glen Laurel Rd & Proposed Site Driveway

Buildout AM
07/13/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	4	7	13	4	19	4	357	5	7	367	4
Future Volume (vph)	4	4	7	13	4	19	4	357	5	7	367	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932			0.927			0.998			0.999	
Flt Protected		0.988			0.982						0.999	
Satd. Flow (prot)	0	1715	0	0	1696	0	0	1859	0	0	1859	0
Flt Permitted		0.988			0.982						0.999	
Satd. Flow (perm)	0	1715	0	0	1696	0	0	1859	0	0	1859	0
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		415			452			533			541	
Travel Time (s)		11.3			12.3			8.1			8.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	4	8	14	4	21	4	397	6	8	408	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	39	0	0	407	0	0	420	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	33.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

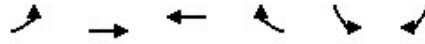
Summer Glen TIA
3: Glen Laurel Rd & Proposed Site Driveway

Buildout AM
07/13/2022

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	4	7	13	4	19	4	357	5	7	367	4
Future Vol, veh/h	4	4	7	13	4	19	4	357	5	7	367	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	8	14	4	21	4	397	6	8	408	4
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	847	837	410	840	836	400	412	0	0	403	0	0
Stage 1	426	426	-	408	408	-	-	-	-	-	-	-
Stage 2	421	411	-	432	428	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	282	303	642	285	303	650	1147	-	-	1156	-	-
Stage 1	606	586	-	620	597	-	-	-	-	-	-	-
Stage 2	610	595	-	602	585	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	267	299	642	276	299	650	1147	-	-	1156	-	-
Mov Cap-2 Maneuver	267	299	-	276	299	-	-	-	-	-	-	-
Stage 1	604	581	-	618	595	-	-	-	-	-	-	-
Stage 2	583	593	-	585	580	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	14.9			15			0.1			0.2		
HCM LOS	B			C								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1147	-	-	382	401	1156	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.044	0.1	0.007	-	-				
HCM Control Delay (s)	8.2	0	-	14.9	15	8.1	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-				

Summer Glen TIA
4: Vinson Rd & Proposed Site Driveway

Buildout AM
07/13/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (vph)	8	308	423	4	10	23
Future Volume (vph)	8	308	423	4	10	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.905	
Flt Protected		0.999			0.985	
Satd. Flow (prot)	0	1861	1861	0	1660	0
Flt Permitted		0.999			0.985	
Satd. Flow (perm)	0	1861	1861	0	1660	0
Link Speed (mph)		45	45		25	
Link Distance (ft)		523	514		296	
Travel Time (s)		7.9	7.8		8.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	9	342	470	4	11	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	351	474	0	37	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 32.6% ICU Level of Service A

Analysis Period (min) 15

Summer Glen TIA
4: Vinson Rd & Proposed Site Driveway

Buildout AM
07/13/2022

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	308	423	4	10	23
Future Vol, veh/h	8	308	423	4	10	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	342	470	4	11	26
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	474	0	-	0	832	472
Stage 1	-	-	-	-	472	-
Stage 2	-	-	-	-	360	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1088	-	-	-	339	592
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	706	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1088	-	-	-	336	592
Mov Cap-2 Maneuver	-	-	-	-	336	-
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	706	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		13.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1088	-	-	-	481	
HCM Lane V/C Ratio	0.008	-	-	-	0.076	
HCM Control Delay (s)	8.3	0	-	-	13.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

2025 BUILDOUT PM PEAK HOUR

Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

Buildout PM
07/13/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	111	174	189	153	260	199
Future Volume (vph)	111	174	189	153	260	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr t	0.918		0.939			
Flt Protected	0.981					0.972
Satd. Flow (prot)	1678	0	1749	0	0	1811
Flt Permitted	0.981					0.557
Satd. Flow (perm)	1678	0	1749	0	0	1038
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		45			45
Link Distance (ft)	523		2524			533
Travel Time (s)	7.9		38.2			8.1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	135	212	230	187	317	243
Shared Lane Traffic (%)						
Lane Group Flow (vph)	347	0	417	0	0	560
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	7.0		12.0		12.0	12.0
Minimum Split (s)	14.0		19.0		19.0	19.0
Total Split (s)	28.0		62.0		62.0	62.0
Total Split (%)	31.1%		68.9%		68.9%	68.9%
Maximum Green (s)	21.0		55.0		55.0	55.0
Yellow Time (s)	5.0		5.0		5.0	5.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	-2.0		-2.0			-2.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Min		Min	Min
Act Effct Green (s)	20.9		48.0			48.0
Actuated g/C Ratio	0.26		0.60			0.60
v/c Ratio	0.79		0.39			0.89
Control Delay	43.7		9.3			32.8
Queue Delay	0.0		0.0			0.0
Total Delay	43.7		9.3			32.8
LOS	D		A			C
Approach Delay	43.7		9.3			32.8
Approach LOS	D		A			C
Queue Length 50th (ft)	184		103			229
Queue Length 95th (ft)	#274		137			#347
Internal Link Dist (ft)	443		2444			453

Summer Glen TIA 05/16/2022 Buildout PM
Exult Engineering

Synchro 10 Report
Page 1

Summer Glen TIA
1: Glen Laurel Rd & Vinson Rd

Buildout PM
07/13/2022

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Bay Length (ft)						
Base Capacity (vph)	506		1284			762
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.69		0.32			0.73

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 79.4

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 73.5%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Glen Laurel Rd & Vinson Rd



Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

Buildout PM
07/13/2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	257	200	134	67	57	230
Future Volume (vph)	257	200	134	67	57	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	105				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.955		0.892	
Flt Protected	0.950				0.990	
Satd. Flow (prot)	1770	1863	1762	0	1645	0
Flt Permitted	0.950				0.990	
Satd. Flow (perm)	1770	1863	1762	0	1645	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		1328	1366		2524	
Travel Time (s)		16.5	16.9		38.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	286	222	149	74	63	256
Shared Lane Traffic (%)						
Lane Group Flow (vph)	286	222	223	0	319	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.7%			ICU Level of Service A		
Analysis Period (min)	15					

Summer Glen TIA
2: Powhatan Rd & Glen Laurel Rd

Buildout PM
07/13/2022

Intersection						
Int Delay, s/veh	7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	257	200	134	67	57	230
Future Vol, veh/h	257	200	134	67	57	230
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, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	286	222	149	74	63	256
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	223	0	-	0	980	186
Stage 1	-	-	-	-	186	-
Stage 2	-	-	-	-	794	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1346	-	-	-	277	856
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	445	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1346	-	-	-	218	856
Mov Cap-2 Maneuver	-	-	-	-	337	-
Stage 1	-	-	-	-	667	-
Stage 2	-	-	-	-	445	-
Approach	EB	WB		SB		
HCM Control Delay, s	4.7	0		15.6		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1346	-	-	-	656	
HCM Lane V/C Ratio	0.212	-	-	-	0.486	
HCM Control Delay (s)	8.4	-	-	-	15.6	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.8	-	-	-	2.7	

Summer Glen TIA
3: Glen Laurel Rd & Proposed Site Driveway

Buildout PM
07/13/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	4	4	9	4	13	8	339	15	22	446	4
Future Volume (vph)	4	4	4	9	4	13	8	339	15	22	446	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.955			0.932			0.994			0.999	
Flt Protected		0.984			0.982			0.999			0.998	
Satd. Flow (prot)	0	1750	0	0	1705	0	0	1850	0	0	1857	0
Flt Permitted		0.984			0.982			0.999			0.998	
Satd. Flow (perm)	0	1750	0	0	1705	0	0	1850	0	0	1857	0
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		415			452			533			541	
Travel Time (s)		11.3			12.3			8.1			8.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	4	4	10	4	14	9	377	17	24	496	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	28	0	0	403	0	0	524	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 44.7%	ICU Level of Service A											
Analysis Period (min) 15												

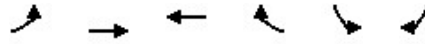
Summer Glen TIA
3: Glen Laurel Rd & Proposed Site Driveway

Buildout PM
07/13/2022

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	4	4	4	9	4	13	8	339	15	22	446	4
Future Vol, veh/h	4	4	4	9	4	13	8	339	15	22	446	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	4	10	4	14	9	377	17	24	496	4
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	959	958	498	954	952	386	500	0	0	394	0	0
Stage 1	546	546	-	404	404	-	-	-	-	-	-	-
Stage 2	413	412	-	550	548	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	237	257	572	238	259	662	1064	-	-	1165	-	-
Stage 1	522	518	-	623	599	-	-	-	-	-	-	-
Stage 2	616	594	-	519	517	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	222	247	572	226	249	662	1064	-	-	1165	-	-
Mov Cap-2 Maneuver	222	247	-	226	249	-	-	-	-	-	-	-
Stage 1	516	503	-	616	592	-	-	-	-	-	-	-
Stage 2	591	587	-	496	502	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	18			16.4			0.2			0.4		
HCM LOS	C			C								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1064	-	-	291	344	1165	-	-				
HCM Lane V/C Ratio	0.008	-	-	0.046	0.084	0.021	-	-				
HCM Control Delay (s)	8.4	0	-	18	16.4	8.2	0	-				
HCM Lane LOS	A	A	-	C	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-				

Summer Glen TIA
4: Vinson Rd & Proposed Site Driveway

Buildout PM
07/13/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	26	387	269	11	7	15
Future Volume (vph)	26	387	269	11	7	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.995		0.908	
Flt Protected		0.997			0.984	
Satd. Flow (prot)	0	1857	1853	0	1664	0
Flt Permitted		0.997			0.984	
Satd. Flow (perm)	0	1857	1853	0	1664	0
Link Speed (mph)		45	45		25	
Link Distance (ft)		523	514		296	
Travel Time (s)		7.9	7.8		8.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	430	299	12	8	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	459	311	0	25	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 50.0%

ICU Level of Service A

Analysis Period (min) 15

Summer Glen TIA
4: Vinson Rd & Proposed Site Driveway

Buildout PM
07/13/2022

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	387	269	11	7	15
Future Vol, veh/h	26	387	269	11	7	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	430	299	12	8	17
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	311	0	-	0	793	305
Stage 1	-	-	-	-	305	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1249	-	-	-	358	735
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	617	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1249	-	-	-	347	735
Mov Cap-2 Maneuver	-	-	-	-	347	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	617	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.5	0		12		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1249	-	-	-	542	
HCM Lane V/C Ratio	0.023	-	-	-	0.045	
HCM Control Delay (s)	8	0	-	-	12	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	

SIMTRAFFIC PRINTOUTS

SimTraffic Simulation Summary
Existing AM

Summer Glen TIA
07/13/2022

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	1131	1199	1167	1166	1144	1144	1144
Vehs Exited	1138	1197	1167	1169	1136	1150	1140
Starting Vehs	31	24	25	31	22	25	22
Ending Vehs	24	26	25	28	30	19	26
Travel Distance (mi)	828	868	868	851	829	831	825
Travel Time (hr)	24.4	25.4	25.0	24.6	23.9	24.1	23.4
Total Delay (hr)	3.0	2.9	2.7	2.7	2.5	2.7	2.2
Total Stops	778	767	743	757	707	733	701
Fuel Used (gal)	28.1	29.0	29.1	28.8	28.0	28.0	27.6

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	1224	1135	1139	1159
Vehs Exited	1216	1134	1146	1160
Starting Vehs	20	22	38	26
Ending Vehs	28	23	31	23
Travel Distance (mi)	891	846	838	847
Travel Time (hr)	26.2	24.4	24.2	24.6
Total Delay (hr)	3.1	2.7	2.7	2.7
Total Stops	795	765	733	746
Fuel Used (gal)	30.4	28.5	28.1	28.6

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

SimTraffic Simulation Summary
Existing AM

Summer Glen TIA
07/13/2022

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	1131	1199	1167	1166	1144	1144	1144
Vehs Exited	1138	1197	1167	1169	1136	1150	1140
Starting Vehs	31	24	25	31	22	25	22
Ending Vehs	24	26	25	28	30	19	26
Travel Distance (mi)	828	868	868	851	829	831	825
Travel Time (hr)	24.4	25.4	25.0	24.6	23.9	24.1	23.4
Total Delay (hr)	3.0	2.9	2.7	2.7	2.5	2.7	2.2
Total Stops	778	767	743	757	707	733	701
Fuel Used (gal)	28.1	29.0	29.1	28.8	28.0	28.0	27.6

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	1224	1135	1139	1159
Vehs Exited	1216	1134	1146	1160
Starting Vehs	20	22	38	26
Ending Vehs	28	23	31	23
Travel Distance (mi)	891	846	838	847
Travel Time (hr)	26.2	24.4	24.2	24.6
Total Delay (hr)	3.1	2.7	2.7	2.7
Total Stops	795	765	733	746
Fuel Used (gal)	30.4	28.5	28.1	28.6

Queuing and Blocking Report
Existing AM

Summer Glen TIA
07/13/2022

Intersection: 1: Glen Laurel Rd & Vinson Rd

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	175	15	64
Average Queue (ft)	76	1	24
95th Queue (ft)	135	7	58
Link Distance (ft)	995	2443	1017
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Powhatan Rd & Glen Laurel Rd

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	45	4	103
Average Queue (ft)	12	0	51
95th Queue (ft)	36	3	83
Link Distance (ft)		1337	2443
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

SimTraffic Simulation Summary
Existing PM

Summer Glen TIA
07/13/2022

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:50	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	1185	1227	1292	1267	1182	1226	1237
Vehs Exited	1191	1227	1284	1269	1179	1229	1234
Starting Vehs	32	30	21	25	27	32	28
Ending Vehs	26	30	29	23	30	29	31
Travel Distance (mi)	890	933	974	956	899	940	934
Travel Time (hr)	24.7	26.7	27.7	26.7	25.4	26.9	26.2
Total Delay (hr)	2.4	3.1	3.1	2.8	2.6	3.1	2.8
Total Stops	563	642	621	608	584	662	580
Fuel Used (gal)	29.8	30.7	32.6	32.2	30.1	31.6	31.1

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	1245	1249	1274	1239
Vehs Exited	1242	1254	1275	1239
Starting Vehs	24	24	27	28
Ending Vehs	27	19	26	26
Travel Distance (mi)	948	946	956	937
Travel Time (hr)	27.0	26.9	26.9	26.5
Total Delay (hr)	3.1	3.1	2.9	2.9
Total Stops	654	607	597	611
Fuel Used (gal)	32.2	31.3	32.1	31.4

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

SimTraffic Simulation Summary
Existing PM

Summer Glen TIA
07/13/2022

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	1185	1227	1292	1267	1182	1226	1237
Vehs Exited	1191	1227	1284	1269	1179	1229	1234
Starting Vehs	32	30	21	25	27	32	28
Ending Vehs	26	30	29	23	30	29	31
Travel Distance (mi)	890	933	974	956	899	940	934
Travel Time (hr)	24.7	26.7	27.7	26.7	25.4	26.9	26.2
Total Delay (hr)	2.4	3.1	3.1	2.8	2.6	3.1	2.8
Total Stops	563	642	621	608	584	662	580
Fuel Used (gal)	29.8	30.7	32.6	32.2	30.1	31.6	31.1

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	1245	1249	1274	1239
Vehs Exited	1242	1254	1275	1239
Starting Vehs	24	24	27	28
Ending Vehs	27	19	26	26
Travel Distance (mi)	948	946	956	937
Travel Time (hr)	27.0	26.9	26.9	26.5
Total Delay (hr)	3.1	3.1	2.9	2.9
Total Stops	654	607	597	611
Fuel Used (gal)	32.2	31.3	32.1	31.4

Queuing and Blocking Report
Existing PM

Summer Glen TIA
07/13/2022

Intersection: 1: Glen Laurel Rd & Vinson Rd

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	171	26	115
Average Queue (ft)	61	1	44
95th Queue (ft)	121	12	86
Link Distance (ft)	995	2443	1020
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Powhatan Rd & Glen Laurel Rd

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	54	7	109
Average Queue (ft)	21	0	48
95th Queue (ft)	47	4	85
Link Distance (ft)		1337	2443
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

SimTraffic Simulation Summary
No Build AM

Summer Glen TIA
07/13/2022

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	1257	1281	1281	1248	1266	1187	1305
Vehs Exited	1279	1276	1269	1251	1261	1197	1288
Starting Vehs	47	31	26	35	31	37	21
Ending Vehs	25	36	38	32	36	27	38
Travel Distance (mi)	914	925	927	906	916	854	943
Travel Time (hr)	30.3	30.6	31.0	29.7	30.4	28.2	31.4
Total Delay (hr)	6.8	6.7	7.1	6.4	6.8	6.2	7.1
Total Stops	981	976	1025	959	1001	906	1032
Fuel Used (gal)	32.3	32.3	32.8	31.9	32.4	30.1	33.3

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	1317	1252	1295	1271
Vehs Exited	1313	1251	1299	1269
Starting Vehs	25	30	39	32
Ending Vehs	29	31	35	32
Travel Distance (mi)	935	916	947	918
Travel Time (hr)	31.6	30.6	31.9	30.6
Total Delay (hr)	7.3	6.8	7.2	6.8
Total Stops	1022	983	1042	993
Fuel Used (gal)	33.3	32.3	33.3	32.4

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

SimTraffic Simulation Summary
No Build AM

Summer Glen TIA
07/13/2022

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	1257	1281	1281	1248	1266	1187	1305
Vehs Exited	1279	1276	1269	1251	1261	1197	1288
Starting Vehs	47	31	26	35	31	37	21
Ending Vehs	25	36	38	32	36	27	38
Travel Distance (mi)	914	925	927	906	916	854	943
Travel Time (hr)	30.3	30.6	31.0	29.7	30.4	28.2	31.4
Total Delay (hr)	6.8	6.7	7.1	6.4	6.8	6.2	7.1
Total Stops	981	976	1025	959	1001	906	1032
Fuel Used (gal)	32.3	32.3	32.8	31.9	32.4	30.1	33.3

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	1317	1252	1295	1271
Vehs Exited	1313	1251	1299	1269
Starting Vehs	25	30	39	32
Ending Vehs	29	31	35	32
Travel Distance (mi)	935	916	947	918
Travel Time (hr)	31.6	30.6	31.9	30.6
Total Delay (hr)	7.3	6.8	7.2	6.8
Total Stops	1022	983	1042	993
Fuel Used (gal)	33.3	32.3	33.3	32.4

Queuing and Blocking Report
No Build AM

Summer Glen TIA
07/13/2022

Intersection: 1: Glen Laurel Rd & Vinson Rd

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	273	136	237
Average Queue (ft)	148	59	122
95th Queue (ft)	241	107	202
Link Distance (ft)	995	2443	1022
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Powhatan Rd & Glen Laurel Rd

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	46	2	119
Average Queue (ft)	15	0	59
95th Queue (ft)	39	2	98
Link Distance (ft)		1337	2443
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

SimTraffic Simulation Summary
No Build PM

Summer Glen TIA
07/13/2022

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:50	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	1324	1385	1436	1412	1310	1344	1336
Vehs Exited	1329	1382	1433	1411	1321	1331	1329
Starting Vehs	38	33	32	30	43	34	29
Ending Vehs	33	36	35	31	32	47	36
Travel Distance (mi)	994	1040	1085	1056	994	1003	999
Travel Time (hr)	31.8	33.5	36.1	34.1	31.5	32.4	31.7
Total Delay (hr)	6.7	7.3	8.7	7.6	6.3	6.9	6.5
Total Stops	917	980	1085	1018	934	970	924
Fuel Used (gal)	35.0	36.3	38.1	37.4	34.9	35.0	35.0

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	1351	1403	1322	1363
Vehs Exited	1355	1407	1325	1363
Starting Vehs	39	30	32	34
Ending Vehs	35	26	29	35
Travel Distance (mi)	1029	1047	1003	1025
Travel Time (hr)	33.6	34.2	31.9	33.1
Total Delay (hr)	7.4	7.8	6.8	7.2
Total Stops	1024	996	926	975
Fuel Used (gal)	36.3	36.5	35.2	36.0

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

SimTraffic Simulation Summary
No Build PM

Summer Glen TIA
07/13/2022

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	1324	1385	1436	1412	1310	1344	1336
Vehs Exited	1329	1382	1433	1411	1321	1331	1329
Starting Vehs	38	33	32	30	43	34	29
Ending Vehs	33	36	35	31	32	47	36
Travel Distance (mi)	994	1040	1085	1056	994	1003	999
Travel Time (hr)	31.8	33.5	36.1	34.1	31.5	32.4	31.7
Total Delay (hr)	6.7	7.3	8.7	7.6	6.3	6.9	6.5
Total Stops	917	980	1085	1018	934	970	924
Fuel Used (gal)	35.0	36.3	38.1	37.4	34.9	35.0	35.0

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	1351	1403	1322	1363
Vehs Exited	1355	1407	1325	1363
Starting Vehs	39	30	32	34
Ending Vehs	35	26	29	35
Travel Distance (mi)	1029	1047	1003	1025
Travel Time (hr)	33.6	34.2	31.9	33.1
Total Delay (hr)	7.4	7.8	6.8	7.2
Total Stops	1024	996	926	975
Fuel Used (gal)	36.3	36.5	35.2	36.0

Queuing and Blocking Report
No Build PM

Summer Glen TIA
07/13/2022

Intersection: 1: Glen Laurel Rd & Vinson Rd

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	237	152	289
Average Queue (ft)	113	71	137
95th Queue (ft)	200	125	235
Link Distance (ft)	995	2443	1022
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Powhatan Rd & Glen Laurel Rd

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	61	7	99
Average Queue (ft)	25	0	50
95th Queue (ft)	52	4	83
Link Distance (ft)		1337	2443
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

SimTraffic Simulation Summary
Buildout AM

Summer Glen TIA
07/13/2022

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	1383	1426	1429	1415	1345	1416	1418
Vehs Exited	1392	1428	1422	1407	1335	1408	1411
Starting Vehs	40	37	25	31	21	25	31
Ending Vehs	31	35	32	39	31	33	38
Travel Distance (mi)	951	993	987	957	910	964	973
Travel Time (hr)	32.1	34.0	33.5	32.1	30.6	34.1	34.7
Total Delay (hr)	7.7	8.6	8.2	7.5	7.2	9.1	9.5
Total Stops	1178	1192	1215	1133	1096	1242	1245
Fuel Used (gal)	34.9	36.7	36.3	34.9	33.4	35.7	36.3

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	1383	1415	1328	1396
Vehs Exited	1378	1434	1320	1394
Starting Vehs	33	42	29	31
Ending Vehs	38	23	37	32
Travel Distance (mi)	935	982	911	956
Travel Time (hr)	32.0	33.9	30.7	32.8
Total Delay (hr)	8.0	8.7	7.2	8.2
Total Stops	1174	1253	1109	1183
Fuel Used (gal)	34.4	35.9	33.3	35.2

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

SimTraffic Simulation Summary
Buildout AM

Summer Glen TIA
07/13/2022

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	1383	1426	1429	1415	1345	1416	1418
Vehs Exited	1392	1428	1422	1407	1335	1408	1411
Starting Vehs	40	37	25	31	21	25	31
Ending Vehs	31	35	32	39	31	33	38
Travel Distance (mi)	951	993	987	957	910	964	973
Travel Time (hr)	32.1	34.0	33.5	32.1	30.6	34.1	34.7
Total Delay (hr)	7.7	8.6	8.2	7.5	7.2	9.1	9.5
Total Stops	1178	1192	1215	1133	1096	1242	1245
Fuel Used (gal)	34.9	36.7	36.3	34.9	33.4	35.7	36.3

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	1383	1415	1328	1396
Vehs Exited	1378	1434	1320	1394
Starting Vehs	33	42	29	31
Ending Vehs	38	23	37	32
Travel Distance (mi)	935	982	911	956
Travel Time (hr)	32.0	33.9	30.7	32.8
Total Delay (hr)	8.0	8.7	7.2	8.2
Total Stops	1174	1253	1109	1183
Fuel Used (gal)	34.4	35.9	33.3	35.2

Queuing and Blocking Report
Buildout AM

Summer Glen TIA
07/13/2022

Intersection: 1: Glen Laurel Rd & Vinson Rd

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	310	153	294
Average Queue (ft)	157	65	144
95th Queue (ft)	257	122	239
Link Distance (ft)	467	2444	483
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Powhatan Rd & Glen Laurel Rd

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	48	2	159
Average Queue (ft)	16	0	70
95th Queue (ft)	42	2	121
Link Distance (ft)		1337	2444
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Glen Laurel Rd & Proposed Site Driveway

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	36	49	32	41
Average Queue (ft)	13	22	1	2
95th Queue (ft)	38	47	14	18
Link Distance (ft)	386	424	483	485
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Buildout AM

Summer Glen TIA
07/13/2022

Intersection: 4: Vinson Rd & Proposed Site Driveway

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	44	46
Average Queue (ft)	4	22
95th Queue (ft)	26	47
Link Distance (ft)	467	267
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

SimTraffic Simulation Summary
Buildout PM

Summer Glen TIA
07/13/2022

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:50	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	1440	1482	1561	1484	1494	1446	1473
Vehs Exited	1425	1466	1564	1478	1497	1456	1482
Starting Vehs	30	33	32	32	48	51	39
Ending Vehs	45	49	29	38	45	41	30
Travel Distance (mi)	1027	1055	1118	1061	1094	1035	1050
Travel Time (hr)	34.2	35.3	38.3	34.6	36.3	34.4	34.8
Total Delay (hr)	8.1	8.8	10.3	8.1	8.8	8.2	8.2
Total Stops	1139	1134	1231	1136	1173	1103	1139
Fuel Used (gal)	38.0	38.5	41.5	39.1	40.0	38.1	38.6

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	1463	1483	1436	1478
Vehs Exited	1445	1475	1447	1473
Starting Vehs	22	38	47	39
Ending Vehs	40	46	36	37
Travel Distance (mi)	1048	1075	1041	1060
Travel Time (hr)	34.4	35.5	33.8	35.2
Total Delay (hr)	8.1	8.3	7.6	8.4
Total Stops	1053	1182	1142	1145
Fuel Used (gal)	37.9	39.6	37.8	38.9

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

SimTraffic Simulation Summary
Buildout PM

Summer Glen TIA
07/13/2022

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	1440	1482	1561	1484	1494	1446	1473
Vehs Exited	1425	1466	1564	1478	1497	1456	1482
Starting Vehs	30	33	32	32	48	51	39
Ending Vehs	45	49	29	38	45	41	30
Travel Distance (mi)	1027	1055	1118	1061	1094	1035	1050
Travel Time (hr)	34.2	35.3	38.3	34.6	36.3	34.4	34.8
Total Delay (hr)	8.1	8.8	10.3	8.1	8.8	8.2	8.2
Total Stops	1139	1134	1231	1136	1173	1103	1139
Fuel Used (gal)	38.0	38.5	41.5	39.1	40.0	38.1	38.6

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	1463	1483	1436	1478
Vehs Exited	1445	1475	1447	1473
Starting Vehs	22	38	47	39
Ending Vehs	40	46	36	37
Travel Distance (mi)	1048	1075	1041	1060
Travel Time (hr)	34.4	35.5	33.8	35.2
Total Delay (hr)	8.1	8.3	7.6	8.4
Total Stops	1053	1182	1142	1145
Fuel Used (gal)	37.9	39.6	37.8	38.9

Queuing and Blocking Report
Buildout PM

Summer Glen TIA
07/13/2022

Intersection: 1: Glen Laurel Rd & Vinson Rd

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	263	166	312
Average Queue (ft)	123	82	148
95th Queue (ft)	212	145	254
Link Distance (ft)	467	2444	483
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Powhatan Rd & Glen Laurel Rd

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	71	15	149
Average Queue (ft)	29	1	59
95th Queue (ft)	58	9	110
Link Distance (ft)		1337	2444
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 3: Glen Laurel Rd & Proposed Site Driveway

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	42	39	48	59
Average Queue (ft)	11	18	4	6
95th Queue (ft)	36	43	24	33
Link Distance (ft)	386	424	483	485
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Buildout PM

Summer Glen TIA
07/13/2022

Intersection: 4: Vinson Rd & Proposed Site Driveway

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	55	40
Average Queue (ft)	7	15
95th Queue (ft)	33	41
Link Distance (ft)	467	267
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0



Town of Clayton
Planning Department
111 E. Second Street, Clayton, NC 27520
P.O. Box 879, Clayton, NC 27528
Phone: 919-553-5002
Fax: 919-553-1720

August 18, 2023

Wakefield Development
Attn: Bret Mangum
3100 Smoktree Court
Suite 210
Raleigh, NC 27604
bret@lmssi.com

Re: 2022-125-CZM Summer Glen Conditional Zoning District and Master Plan

To Whom It May Concern,

The Town of Clayton Planning staff is recommending to the Planning Board and Town Council that conditions of approval be placed upon the above referenced application, which proceeds to the Planning Board on August 28, 2023 and Town Council (dependent on outcome of Planning Board meeting) on September 18, 2023. These recommended conditions of approval are outlined on the back of this letter.

Please read through these potential conditions of approval, and sign below if you are in agreement with the conditions as proposed. If you are not in agreement please respond accordingly in writing. This will be included within the agenda packet for Planning Board and Town Council review.

Thank you.

Sincerely,

Ben Howell, AICP, CZO
Planning Director

Recommend Conditions of Approval (2022-125-CZM, Summer Glen Conditional Zoning District and Master Plan):

1. Following Town Council approval, an electronic copy of the Master Plan and Narrative including the Conditions of Approval shall be submitted to the Planning Department for final approval.
2. The Development shall meet all adopted Town of Clayton Unified Development Code (UDC) requirements, Town of Clayton Engineering and Stormwater design standards, and the North Carolina Fire Code and NFPA Fire standards, except where specifically modified by the approved master plan.
3. The Development shall be constructed in substantial conformance with the Master Plan and Master Plan Narrative as approved by the Clayton Town Council.
4. All parcels subject to the Conditional Zoning and Master Plan shall be annexed into the Town prior to any subsequent development approvals.
5. The developer will be required to pay their proportional share of the Wilsons Mills Fire District Capital Debt to the Town prior to the effective date of the Annexation.
6. Uses in the development shall be limited to single-family detached residential homes, and any allowed residential accessory uses within the Town of Clayton Unified Development Code.
7. The following standards shall apply to the Development:
 - Maximum Residential Units: 139
 - Maximum Density: 2.6 Dwelling Units per Acre
 - Total Site Impervious Surface Area: 36%
 - Minimum Lot Size: 6,500 Square Feet
 - Minimum Building Setbacks:
 - Front Setback: 21.5 Feet
 - Setback from Sidewalk: 25 Feet
 - Side Setback: 6 Feet
 - Corner Side Setback: 10 Feet
 - Rear Setback: 15 Feet
 - Maximum Building Height: 35 Feet
8. The Town of Clayton shall be the electric provided for this project.
9. Tree protection fencing must be installed at the clearing limits to maximize preservation of existing vegetation.
10. A gated emergency access with a Knox Box meeting Town of Clayton Fire Department standards connecting the Cul-De-Sac on Summer Loop to Glen Laurel Road shall be provided.

11. Required frontage improvements along Glen Laurel Road and Vinson Road will be made in phases that correlate with the driveway connections to those existing roadways in the respective phase.
12. The following transportation improvements, in accordance with the recommendation in the TIA and approval by NCDOT, shall be constructed prior to the approval of the final plat for the first phase of the development:

Glen Laurel and Vinson Road Intersection

- According to NCDOT Congestion Management Section, the signal improvement at this intersection will be completed by NCDOT. The development team will discuss the timing of these improvements with NCDOT.

Glen Laurel Road at Proposed Site Driveway:

- Provide one ingress and one egress lane on the eastbound and westbound approaches of the Proposed Site Driveway with 100 feet of internal protected stems and northbound and southbound left-turn lanes on Glen Laurel Road consisting of a minimum of 100-foot full width storage and the appropriate deceleration and taper lengths as prescribed by the NCDOT Geometric Turn Lane detail 12.0.

Vinson Road and Proposed Site Driveway:

- Provide one ingress and one egress lane on the eastbound and westbound approaches of the Proposed Site Driveway with 100 feet of internal protected stems and an eastbound left-turn lane on Vinson Road consisting of a minimum of 100-foot full width storage and the appropriate deceleration and taper lengths as prescribed by the NCDOT Geometric Turn Lane detail 12.0.

13. The following Architectural Standards shall be required to be met for the Single-Family Homes:

- All units to be 1 and 2 story with a variety of Craftsman, Colonial and Transitional themed elevations. Home plans of the same elevation shall not be side by side or directly across from one another.
- Exterior color packages will enhance variety of color throughout the neighborhood and will not be duplicated side by side.
- Siding elements to include a mix of premium vinyl siding with varying patterns such as lap siding, shake, and board and batten materials per architectural elevations.
- All build facades to include a variety of craftsman columns with masonry, square and round columns per elevation.
- Each home will have either a front porch or covered stoop element with a front lead walk that connects to the driveway.
- Four vehicular parking spaces to be provided on each lot, two-car front loaded garage spaces (decorative garage door with glass windows and carriage details) with two parking spaces on the driveway.
- Side roof eaves to be a minimum 10" overhang.
- All front building facades to require a goal of 25% masonry elements such as Stone/brick accents of the portion of the house excluding the garage door(s).
- Architectural style shingles to be used.
- Side or rear patios to be provided on all units for outdoor living as well as optional covered porches available per plan.

14. To the extent of any conflict between the Master Plan, Master Plan Narrative and these conditions, these conditions shall control.

APPLICANT AFFIDAVIT

I/We, the undersigned, do hereby certify that I have reviewed the recommended conditions of approval and am in agreement with the conditions as they are outlined within this letter.

Raymond L. Gottlieb

Print Name


Signature of Applicant

8/23/2023
Date

Wakefield Development, LLC

By: TMPR, LLC, Manager

By: Raymond L. Gottlieb, Manager, TMPR, LLC

	TOWN OF CLAYTON POLICY	
	Department: Public Services	Effective: January 21, 2020
Policy Title: Water & Wastewater Allocation Policy Version #02 (V.02)	Supersedes: TC Action 2010-026	
	Prepared By: Richard D. Cappola Jr., PE Public Services Director	
	Approved By: Town Council Date: January 21, 2020	

I. Purpose

The Town of Clayton has invested substantial capital in the infrastructure necessary to support a growing, prosperous, and healthy community. Water supply and wastewater treatment capacities are among the most important elements of this infrastructure. The intent of this policy is to provide for the judicious allocation of these resources in conformity with adopted goals and priorities in an effort to shape the community consistent with the articulated vision to become the "Premier Community for Active Families." This policy is intended to manage the remaining capacity available until additional capacity is developed through construction of a new Water Reclamation Facility, and should be reviewed periodically to ensure it is achieving the intended purpose.

II. Scope

The Town Council for the Town of Clayton has adopted the Comprehensive Plan 2040 which is a useful tool to successfully evaluate applications for allocation of public resources so that the character of the community shall be consistent with its vision, values, and plans. In accordance with the "Town of Clayton Strategic Growth Plan", utility allocation reservations should support and maximize the concept of increasing the Town's property tax based revenues by the expansion and improvement of higher valued land use development, emphasizing a balance of Residential, commercial, and industrial uses.

III. Policy

The Town of Clayton seeks to grant utility allocations such that the existing character of the Town's utility customer base does not become more residential than is practical to achieve the intent of the Strategic Growth Plan, and seeks to increase the diversity of the customer base by increasing the percentage of resources devoted to industrial, commercial, and mixed use development.

The total amount of available capacity and each incremental increase in capacity should generally be allocated based on the following parameters:

- No more than fifty percent (50%) of the total available capacity may be allocated to projects that include solely residential development.
- At least thirty percent (30%) of the total available capacity shall be reserved for allocation to commercial/industrial projects.
- Projects encompassing mixed use (residential and commercial) elements may be considered for allocation even if such an allocation will exceed the limit established above for residential use.
Note: These percentages may be reviewed and adjusted by the Town Council at their discretion.

Due to weather related factors, the regulatory environment, and the dynamic nature of wastewater flow and treatment, accounting of available utility capacity is, by its very nature, inexact. The Town of Clayton shall track allocation reservations granted and the amount of capacity available. Such reports do not constitute a policy statement, commitment or guarantee on the amount of capacity available for allocation.

The following hierarchy shall apply to evaluation of utility allocation requests:

- Commercial properties with quality development projects
- Development projects with a mixed-use element
- Industrial projects and other major employer entities
- Additional phases attached to residential projects with a proven record of quality product and economic success
- Residential projects that include tangible, high quality community amenities
- Residential projects that include diverse products and opportunities
- Residential projects not otherwise described above

Evaluation of projects will be based on the scoring rubric attached hereto as Exhibit A, which is incorporated in this Agreement by reference. A project must meet or exceed 50 points to receive an allocation. Proposed projects can gain BONUS POINTS by the applicant offering to provide items listed on the rubric as part of their development proposal. Examples of these items may include such things as additional amenities (fire pits, community gardens, etc.) or offering to provide “Minimum of 25% of building façades will be made of masonry materials.”

The Town of Clayton may allocate utility service capacity to competing projects based on a demonstrated intent and ability of the applicant to meet adopted Town goals and plans for character and quality of development. The Town of Clayton reserves the right to deny a utility allocation request if the applicant fails to adequately demonstrate that the project meets adopted Town goals or plans, or in the case that the project is deemed to be less supportive of Town goals or plans of a competing project.

IV. Procedure

The owner or developer of any project requiring water or wastewater utility service from the Town of Clayton shall submit a written application, in the application form provided by Town Staff, for an allocation reservation. The application shall include detailed information on the amount of capacity necessary to serve the project, the nature of the project, project schedule in relation to demand of utility capacity, and other supporting information demonstrating how the project serves the needs and interests of the Town of Clayton. In the case of Industrial flows, additional information associated with the constituents shall be required and may be subject to other ordinances or policies of the Town.

- The Town Council shall review for approval all allocations which require or may require a daily flow allocation of ten thousand gallons or more (> 10,000 GPD)
 - The Town Council shall incorporate the evaluation of utility allocation requests into the decision-making process associated with Subdivisions, Mixed-use Planned Developments, and Special Use Permits. The criteria contained herein for evaluation of utility allocation requests shall be included as elements within the review processes for the accompanying land use application with regard to conformity with Town of Clayton policies and ordinances, planning practices, and consistency with adopted long-range and strategic plans.
 - For allocations requiring Town Council approval, but which do not require other land use regulatory reviews or approvals, the applicant shall provide a full description of how their project supports the goals and priorities established within this and related policies and plans in their application for allocation reservation.

- The Town Manager or their designee shall review for approval all applications for utility capacity which require a daily flow allocation of less than ten thousand gallons (< 10,000 GPD).
 - In addition to the scoring rubric, the Town Manager or their designee shall consider the goals articulated by this and related Town policies when reviewing applications for utility allocations. If an application is denied, the Town Manager or their designee shall state in writing the reasons for denial of the request.

V. General Conditions

- This policy shall replace any previous policies on water and wastewater allocations adopted by the Town Council.
- An allocation will expire if a project has not progressed in construction plan approval, building permit approval, or on-site construction within 12 months of award of the allocation.
- Upon request by the applicant and at the discretion of the Town Engineer, an allocation may be extended for one twelve (12) month period.
- If a project is unsuccessful in obtaining any required Federal, State, or local government permit or approval the reservation shall be retracted. The Town of Clayton shall bear no liability for any costs incurred by the applicant, nor bare further responsibility in the matter.
- Granting of a utility allocation does not imply or confer approval of any other applications or reviews as may be required by Town Ordinance or policy and does not imply or create any vested right.
- Public water may be utilized for irrigation purposes so long as the Primary Use associated with the site has previously gained a water allocation through the Town.
- This policy shall be reviewed annually and, when appropriate, readjusted by the Town Council. The Town's overall progress on policy goals will be considered and the multipliers and/or point thresholds readjusted accordingly.

V. Appeals Process

- Appeal of any provision of this policy shall be made to the Town Council.
- Appeal of any decision on a utility allocation by the Town Manager or their designee shall be made to the Town Council for final decision. Any such appeal shall be placed on the agenda of a regularly scheduled Town Council meeting.



WATER & WASTEWATER ALLOCATION CRITERIA				
		TOTAL POINTS =	55	MINIMUM 50 POINTS REQUIRED
	Category	Points	Calc.	Notes
DEVELOPMENT TYPE ¹ (Choose 1 from this category)	Government/Public Admin./Public Safety	50		
	Non-residential (Commercial) - Retail & Restaurant	30		
	Non-residential (Commercial) - Office	20		
	Non-residential (Commercial) - Warehouse	15		
	Non-residential (Commercial) - Medical	25		
	Non-residential (Commercial) - Hotel/Motel	35		
	Industrial/Manufacturing	30		
	Institutional	15		
	Residential Existing Lot- Single Family Detached	40		Individual Existing Lot construction
	Residential Subdivision - Single Family Detached (> 0.25 Acre Lots)	20		Single Family Homes on Individual Lots greater than 0.25 acres
	Residential Subdivision - Single Family Detached (< 0.25 Acre Lots)	15		Single Family Homes on Individual Lots less than 0.25 Acres
	Residential Subd.- Single Family Attached (> 1,500 SF Heated Space)	10		Townhomes with heated square-footage greater than 1,500 SF
	Residential Subd.- Single Family Attached (< 1,500 SF Heated Space)	5		Townhomes with heated square-footage less than 1,500 SF
	Residential - Multifamily (Apartments)	10		
	Mixed-Residential	25		Mix of various lot sizes of Single-family, Townhomes, and Apartments
	Mixed-Use Commercial & Residential	30		Mix of Residential and Non-residential (Commercial) uses
	Downtown Redevelopment	30		
	Infill Development	25	25	Utilities already exist within 300 Feet of property
FUTURE TAX STATUS (Choose 1 from this category)	Exempt	0		
	Residential	5	5	
	Non-residential	10		
	Industrial	10		
COMMUNITY BENEFIT BONUS POINTS (Choose All that apply from this category)	Cultural Arts/Entertainment for Public	10		
	Sports/Recreation for Public	10		
	Town Electric Customer	20	20	
	Expansion of existing non-residential use	10		
	Re-development of an existing property	5		Must result in increased property value
	Residential Subdivision - Additional amenities included	5 - 15		Pool, Clubhouse, sports courts, etc. - 5 pts per, max 15 pts
	Job Creation - 10 to 25 new jobs	5		
	Job Creation - 26 to 100 new jobs	10		
	Job Creation - 100+ new jobs	15		
	Job creation - Jobs created will have salaries at or above median income	5		Must be greater than 50% of jobs added with documentation to confirm
	Residential - Multiple-Car Garages provided	5	5	
	Residential - Overflow Parking provided	5		Subject to Planning and Engineering support
	Masonry Elements included in Building Construction	10		
	Sustainable/High Efficiency Products and appliances used	5 - 15		5 pts per, max 15 pts
	Private trail connection to Public Greenway	10		
COMMUNITY IMPACT DEDUCT POINTS (Choose All that apply from this category)	Pump Station Improvements required ²	-10		Subject to Town policy and standards
	New Pump Station Required ²	-20		Subject to Town policy and standards
	Out-of Town Status (After construction)	-10		
	Outside Fire District	-5		
	Inconsistent with Comp Plan	-5		
CLARIFICATIONS	1	Any Development Type Category not listed is subject to Town Council discretion with staff recommendation.		
	2	The Town Engineer may waive these deductions if the improvements are consistent with Future utility service plans, replace/offline an aging station, or are in the best interest of the Town.		



TOWN OF CLAYTON
Engineering & Inspections Department
111 E. Second Street, Clayton, NC 27520
P.O. Box 879, Clayton, NC 27528
Phone: 919-553-5002
Fax: 919-553-1720

WASTEWATER ALLOCATION REQUEST

The Town of Clayton, in an effort to manage and maintain the sewer and water capacity for the Town, requires that this application be completed and submitted to the Town for consideration of a utility allocation. Review fee is due upon submittal of request.

Wastewater Allocation Request Review Fee: \$50

Application MUST be completed and sealed by a registered engineer unless otherwise approved by staff.

SITE INFORMATION

Name of Project: Wakefield Assemblage Acreage of Property: 53.06
County Tag Number: Multiple, See Next Page. NC PIN: Multiple, See Next Page.
Address/Location: 584 Glen Laurel Road
Clayton, NC 27527
Zoning District: Proposed CZM
Town Limits / ETJ: ☐ Town Limits ☒ ETJ (Extra-Territorial Jurisdiction)

APPLICANT INFORMATION – Applicant must be a registered engineer unless otherwise approved by Town Engineer

Applicant: Stocks Engineering PA for Wakefield Development
Mailing Address: PO Box 1108 Nashville, NC 27856
Phone Number: 252.459.8196 Fax: 252.459.8197
Contact Person: Andrew Stocks, PE
Email Address: astocks@stocksengineering.com

PROPERTY OWNER INFORMATION

Name: Multiple, See Next Page
Mailing Address: _____
Phone Number: _____ Fax: _____
Email Address: _____

FOR OFFICE USE ONLY

Date Received: _____ File Number: _____ Associated Project Number: _____



*** DISCLAIMER ***

Johnston County assumes no legal responsibility for the information represented here.

Result 0

id: 05I04010A
Tag: 05I04010A
Owner Name 1: TGS PROPERTIES LLC
Owner Name 2:
Mail Address 1: 514 DANIELS ST STE 414
Mail Address 2:
Mail Address 3: RALEIGH, NC 27605-0000
Book: 03962
Page: 0691

Result 0

id: 05I04203F
Tag: 05I04203F
Owner Name 1: GORDON, CHARLES B JR
Owner Name 2:
Mail Address 1: 276 BENNING CIR
Mail Address 2:
Mail Address 3: CLAYTON, NC 27527-5286
Book: 01154
Page: 0409

Result 0

id: 05I04203G
Tag: 05I04203G
Owner Name 1: GORDON, CHARLES B JR
Owner Name 2:
Mail Address 1: 276 BENNING CIR
Mail Address 2:
Mail Address 3: CLAYTON, NC 27527-5286
Book: 01154
Page: 0409

Result 0

id: 05I04200S
Tag: 05I04200S
Owner Name 1: GORDON, CHARLES B JR
Owner Name 2: GORDON, ERIC B
Mail Address 1: 276 BENNING CIR
Mail Address 2:
Mail Address 3: CLAYTON, NC 27527-5286
Book: 04205
Page: 0161

Result 0

id: 05I04010
Tag: 05I04010
Owner Name 1: TGS PROPERTIES LLC
Owner Name 2:
Mail Address 1: 514 DANIELS ST STE 414
Mail Address 2:
Mail Address 3: RALEIGH, NC 27605-0000
Book: 03962
Page: 0691

PROJECT INFORMATIONUse: ☒ New ☐ Expanded ☐ ChangeUse Type: ☒ Residential ☐ Non-ResidentialProposed Use(s): Residential Existing Use(s): Vacant/Agriculture

Invoice shall be mailed to the following:

Developer Name: Wakefield Development (Matthew Danielson)Mailing Address: 3100 Smoketree Ct. Suite 210 Raleigh, NC 27604Phone Number: 919.556.4310 Fax Number: _____Email Address: matthew@lmssi.com**ALLOCATION REQUEST**

The following is required:

- For non-residential construction, submit a floor plan of proposed building.
- Use additional sheets if necessary.
- Provide any documentation supporting/justifying the request as an attachment (using a comparable use is recommended).
- If a phasing / take-down schedule is proposed, include as an attachment.

Residential:

Gross Acreage: 53.06

Single Family	# of Units	GPD per Unit	Total Requested GPD
1-2 Bedroom Units			
3 Bedroom Units			
>3 Bedroom Units	138	250	34,500
Total		-----	34,500

Multi-Family	# of Units	GPD per Unit	Total Requested GPD
1-2 Bedroom Units			
3 Bedroom Units			
>3 Bedroom Units			
Total		-----	

Non-Residential: (Design Flow Guideline provided as Appendix A)*

*If design flow deviates from the flow rates presented in Appendix A, provide supporting documentation/justification as an attachment in the form of 12 months of water bills demonstrating gallons per day utilized.

Gross Acreage: _____

Use	Measurement Unit	# of Units	GPD per Unit	Total Requested GPD
Total			-----	

TOTAL REQUESTED GALLONS PER DAY: 34,500

NOTE TO APPLICANT:

Invoicing:

Invoices are generated on the following schedule:

Non-Residential:

Generated with the application for a Zoning Compliance Permit.

Residential:

Multi-Family / Apartments:

Generated with the application for a Zoning Compliance Permit.

Subdivision / Subdivided Lots:

Generated at Final Plat submittal.

Fee Development:

Development Fees are calculated and invoiced based on the Town of Clayton adopted [Comprehensive List of Fees and Charges](#). Invoiced fees include acreage fees, capacity fees, nutrient offset fees, recreation fees, fees-in-lieu, and electric department lot deposit. Please speak with Town staff with questions.

Approval:

Requests over 10,000 GPD are approved by the Town Council, by resolution. All other requests are approved by the Town Manager.

APPLICANT AFFIDAVIT

I/We, the undersigned, do hereby make application and petition to the Town of Clayton to approve the subject Wastewater Allocation. I hereby certify that I have full legal right to request such action and that 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 Clayton, North Carolina, and will not be returned.

J. ANDREW STOCKS

Print Name



[Signature]
Signature of Applicant

7-6-22

Date

Engineer Seal:

TOWN OF CLAYTON OFFICE USE ONLY:

Approved by: ☐ Town Manager

☐ Town Council (*requests of 10,000 GPD or more require Council approval by resolution*)

The **Town Manager / Town Council (circle one)** has authorized the allocation of _____

gallons per day for project # _____.

Date of Approval: _____

Signed:

Town Manager

If approved by Town Council:

Attach a copy of the resolution and any associated documentation.

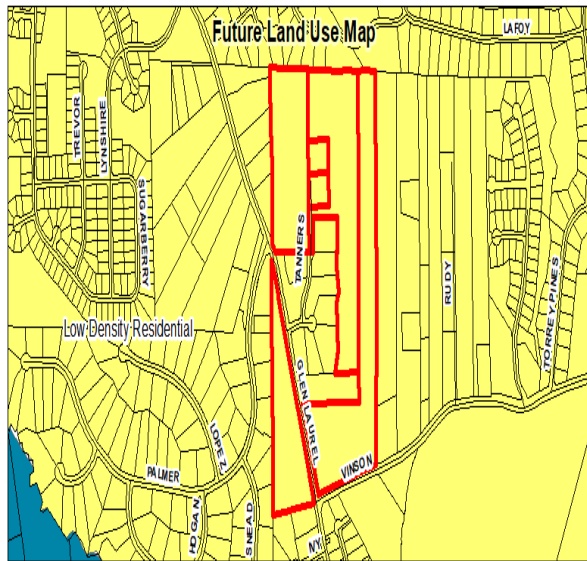
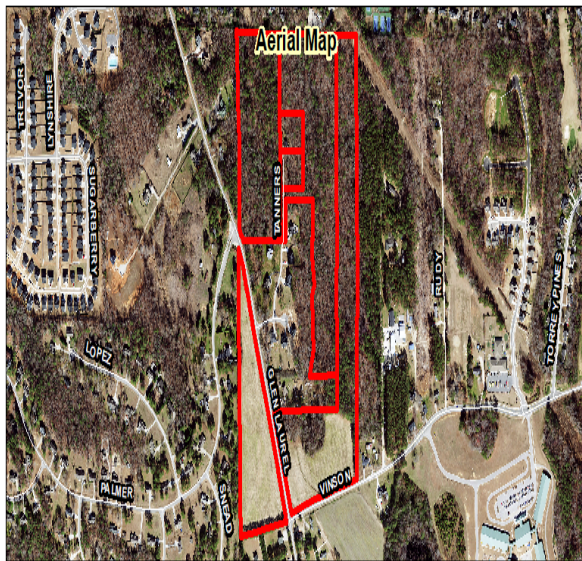
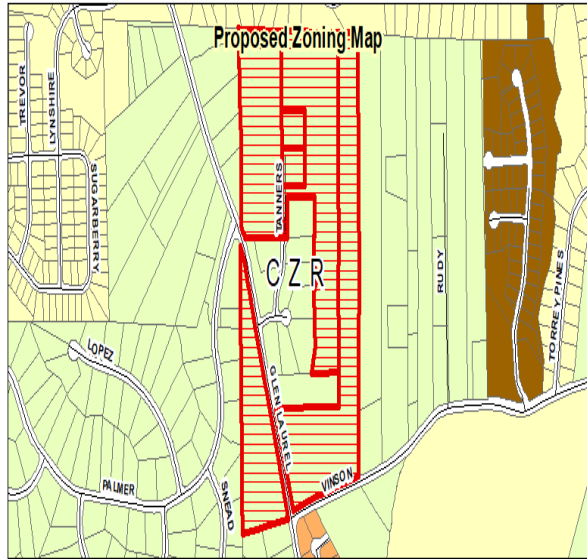
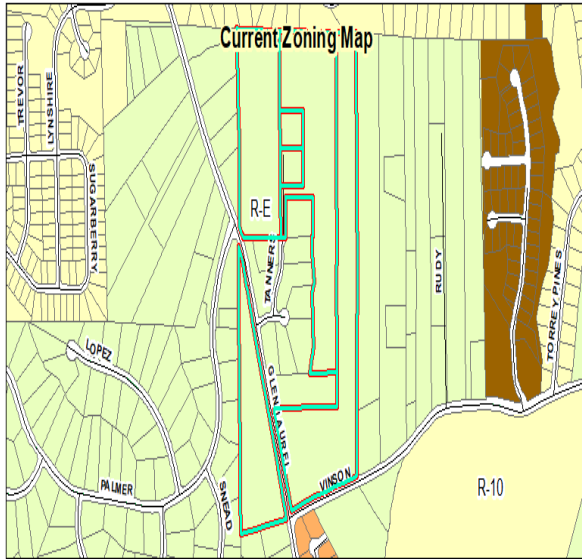
APPENDIX A: DESIGN FLOW RATES

The following table from the North Carolina Administrative Code 02T.0114 shall be used to determine the minimum allowable design daily flow of wastewater facilities. Alternatively, the Town in its sole and absolute discretion may calculate the customer's initial average daily wastewater flow based on data from the customer's operations (or from similarly situated customers) with a comparable sanitary sewer system, where such data are available and reasonably current.

Establishment Type	Daily Flow Rate
Barber and Beauty Shops	
Barber Shops	50 gal/chair
Beauty Shops	125 gal/booth or bowl
Businesses, Offices and Factories	
General business and office facilities	25 gal/employee/shift
Factories, excluding industrial waste	25 gal/employee/shift
Factories or businesses with showers or food preparation	35 gal/employee/shift
Warehouse	100 gal/loading bay
Warehouse – self storage (not including caretaker residence)	1 gal/unit
Churches	
Churches without kitchens, day care or camps	3 gal/seat
Churches with kitchen	5 gal/seat
Churches providing day care or camps	25 gal/person (child & employee)
Fire, Rescue and Emergency Response	
Fire or rescue stations without on-site staff	25 gal/person
Fire or rescue stations with on-site staff	50 gal/person/shift
Food and Drink Facilities	
Banquet, dining hall	30 gal/seat
Bars, cocktail lounges	20 gal/seat
Caterers	50 gal/100 sq. ft. floor space
Restaurant, full Service	40 gal/seat
Restaurant, single service articles	20 gal/seat
Restaurant, drive-in	50 gal/car space
Restaurant, carry out only	50 gal/100 sq. ft. floor space
Institutions, dining halls	5 gal/meal
Deli	40 gal/100 sq. ft. floor space
Bakery	10 gal/100 sq. ft. floor space
Meat department, butcher shop or fish market	75 gal/100 sq. ft. floor space
Specialty food stand or kiosk	50 gal/100 sq. ft. floor space
Hotels and Motels	
Hotels, motels and bed & breakfast facilities, without in-room cooking facilities	120 gal/room
Hotels and motels, with in-room cooking facilities	175 gal/room
Resort hotels	200 gal/room
Cottages, cabins	200 gal/unit
Self-service laundry facilities	500 gal/machine
Medical, Dental and Veterinary Facilities	
Medical or dental offices	250 gal/practitioner/shift
Veterinary offices (not including boarding)	250 gal/practitioner/shift
Veterinary hospitals, kennels, animal boarding facilities	20 gal/pen, cage, kennel or stall
Hospitals, medical	300 gal/bed
Hospitals, mental	150 gal/bed
Convalescent, nursing, rest homes without laundry facilities	60 gal/bed
Convalescent, nursing, rest homes with laundry facilities	120 gal/bed
Residential care facilities	60 gal/person
Parks, Recreation, Camp Grounds, R-V Parks and other Outdoor Activity Facilities	
Campgrounds with comfort station, without water or sewer hookups	75 gal/campsite

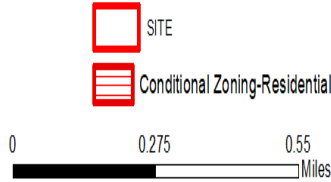
Establishment Type	Daily Flow Rate
Campgrounds with water and sewer hookups	100 gal/campsite
Campground dump station facility	50 gal/space
Construction, hunting or work camps with flush toilets	60 gal/person
Construction, hunting or work camps with chemical or portable toilets	40 gal/person
Parks with restroom facilities	250 gal/plumbing fixture
Summer camps without food preparation or laundry facilities	30 gal/person
Summer camps with food preparation and laundry facilities	60 gal/person
Swimming pools, bathhouses and spas	10 gal/person
Public access restrooms	325 gal/plumbing fixture
Schools, Pre-school and Day Care	
Day care and preschool facilities	25 gal/person (child & employee)
Schools with cafeteria, gym and showers	15 gal/student
Schools with cafeteria	12 gal/student
Schools without cafeteria, gym or showers	10 gal/student
Boarding schools	60 gal/person (student & employee)
Service Stations and Car Wash Facilities	
Service stations, gas stations	250 gal/plumbing fixture
Car wash facilities	1200 gal/bay
Sports Centers	
Bowling center	50 gal/lane
Fitness, exercise, karate or dance center	50 gal/100 sq. ft.
Tennis, racquet ball	50 gal/court
Gymnasium	50 gal/100 sq. ft.
Golf course with only minimal food service	250 gal/plumbing fixture
Country clubs	60 gal/member or patron
Mini golf, putt-putt	250 gal/plumbing fixture
Go-kart, motocross	250 gal/plumbing fixture
Batting cages, driving ranges	250 gal/plumbing fixture
Marinas without bathhouse	10 gal/slip
Marinas with bathhouse	30 gal/slip
Video game arcades, pool halls	250 gal/plumbing fixture
Stadiums, auditoriums, theaters, community centers	5 gal/seat
Stores, Shopping Centers, Malls and Flea Markets	
Auto, boat, recreational vehicle dealerships/showrooms with restrooms	125 gal/plumbing fixture
Convenience stores, with food preparation	60 gal/100 sq. ft.
Convenience stores, without food preparation	250 gal/plumbing fixture
Flea markets	30 gal/stall
Shopping centers and malls with food service	130 gal/1000 sq. ft.
Stores and shopping centers without food service	100 gal/1000 sq. ft.
Transportation Terminals	
Air, bus, train, ferry, port and dock	5 gal/passenger

Source: North Carolina Administrative Code 02T.0114, January 1, 2007



Request: Rezoning from R-E to CZ-R
Project Name: SUMMRE GLEN
Project Number: 2022-125-CZM

Applicant: WAKEFIELD DEVELOPMENT
 Property Owner: WAKEFIELD DEVELOPMENT
 Tag #: 05104010, 05104010A, 05104200S, 05104203F, and 05104203G



Staff Report Map
 Prepared by: TOC Planning Department
AUGUST 23, 2023

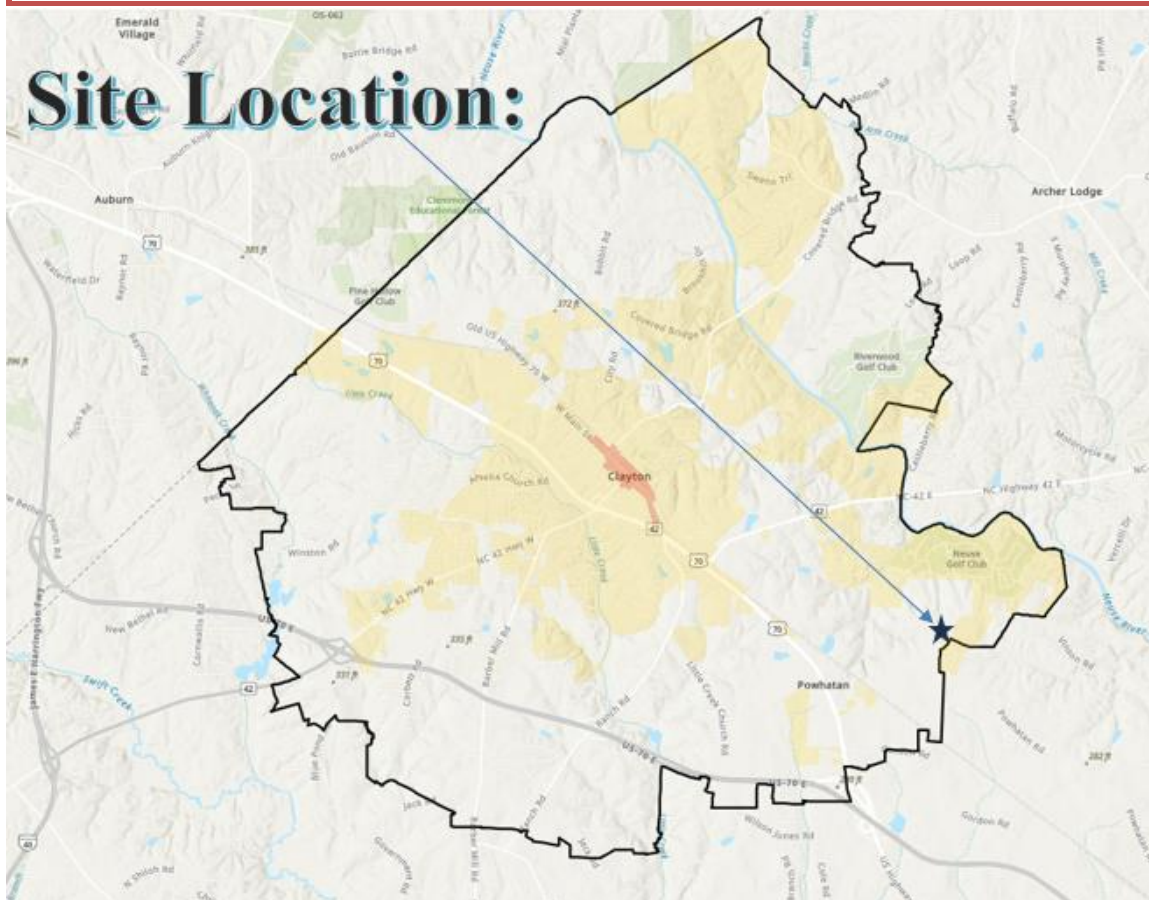
Disclaimer: Town of Clayton assumes no legal responsibility for the quality of the data represented here.

Document Path: C:\Users\lbyrable\Town of Clayton, NC\Planning - Development Projects\Conditional Zoning with Master Plan\2022-125-CZM Summer Glen Subdivision\Staff Report Map\Staff Report Maps - 2022-125-CZM Summer Glen.mxd



SUMMER GLEN CZM

Project #:	2022-125-CZM	Location:	Glen Laurel Road and Vinson Road
Applicant:	Wakefield Development	Project Type:	Conditional Zoning with Master Plan
Property Owner:	Wakefield Development	Proposed Use:	Residential
Staff Planner:	Bruce Venable, Planner I	TAG #(s):	05I04010, 05I04010A, 05I04200S, 05I04203F, and 05I04203G



PROJECT SUMMARY

The site is located off Glen Laurel Road and Vinson Road within the Town's ETJ. The applicant has requested to rezone the above referenced parcel from Residential-Estate Zoning (R-E) to Conditional Zoning -Residential Zoning District (CZ-R), which is approximately +/- 53.06 acres in size. The Conditional Zoning District would allow for up to 139 units, or a density of 2.60 units per acre. This site is located within the Watershed Protection Overlay District.

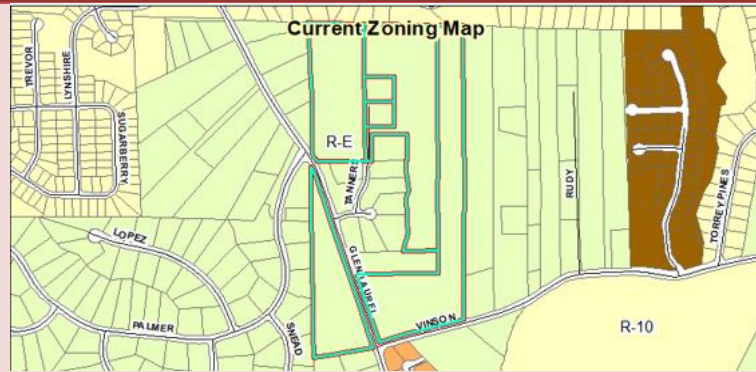
LAND USE REVIEW

SITE DATA:

Acreage: +/- 53.06 acres

Existing Use: Residential/Vacant

CURRENT ZONING MAP



PROPOSED ZONING MAP



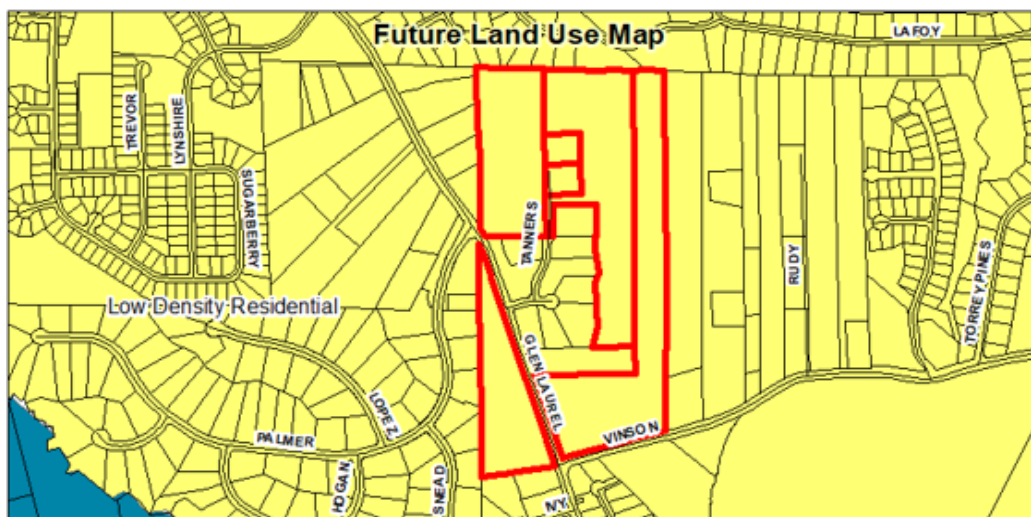
AERIAL MAP



TABLE 1: COMPARISON OF SURROUNDING PROPERTIES

Direction	Zoning	Existing Use
North	R-E (Residential-Estate)	Residential
South	R-E (Residential-Estate)	Residential
East	R-E (Residential-Estate)	Residential
West	R-E (Residential-Estate)	Residential.

Consistency with the 2045 Comprehensive Growth Plan



Future Land Use

The Future Land Use Map identifies this area as “Low Density Residential” (see map above). The condition rezoning request would be consistent with the Low Density Residential future land use designation.

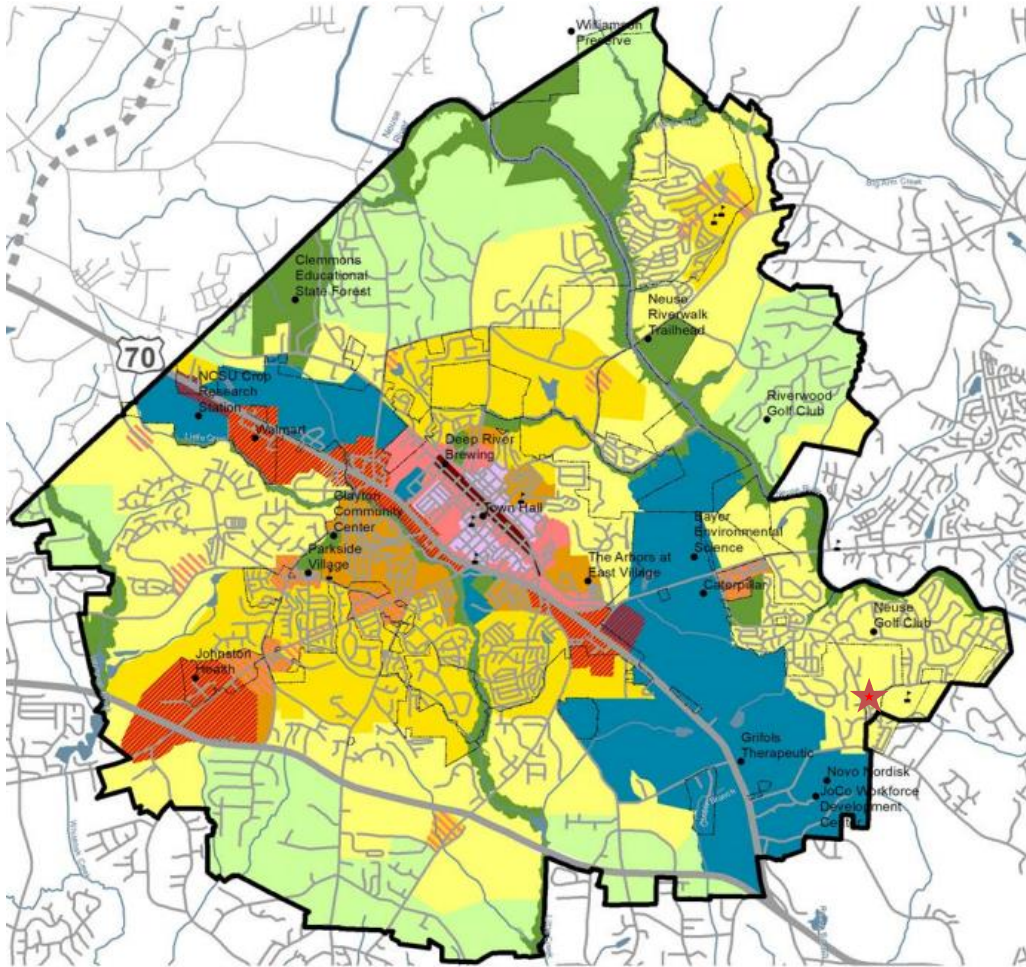
LDR

Low Density Residential (LDR)



Areas designated as Low-Density Residential are intended to remain predominantly suburban in character and provide for low-density, single-family residential development on smaller lots than those in Rural Residential areas. However, a mix of residential housing types may occur under a conditional zoning district to support conservation of open space, as long as a gross density of 3 units per acre is not exceeded.

- **Gross Residential Density*:** ≤3 units/acre
- **Unit Type:** Mostly single family detached homes, generally less than 25% attached units
- **Open Space:** Minimum of 25%**. Open space should be a mix of preserved natural features with passive recreation such as greenways and trails and more formal or developed open space such as common greens, playgrounds or sports fields.



DEVELOPMENT DATA:

Proposed Uses:	Residential (single-family homes)
Proposed Density:	Up to 139 units are proposed at an overall proposed residential density of 2.6 units/acre for the development.
Fire Protection:	Wilson Mills (Current)
Access/Streets:	3 Access points will be provided from along Glen Laurel Rd (2) and Vinson Rd (1)
Water/Sewer Provider:	Town of Clayton
Electric Provider:	Town of Clayton

Lot Dimensional Standards:

	Current Zoning			Proposed Zoning
	R-E	R-10	R-8	CZM
Minimum Lot Size	12,000 SF	8,000 SF	6,000 SF	6,500 SF (Allowed in Open Space Sub.)
Minimum Lot Width	48 FT	50 FT	42 FT	60 FT
Maximum Lot Coverage	35%	35%	35%	70%
Maximum Impervious Area	50%	50%	55%	70% (per lot) 36% (full site)
Density (Units/Acre)	3.7	5	7	2.6
Front Setback	25	25	25	20
Side Setback	9	6	6	6
Side Street Setback	15	15	10	10
Rear Setback	18	15	15	15

Landscape Buffer Requirement:

The proposed master plan includes a 15' landscape buffer around the perimeter of the project boundary as required per 155.203.L.1.i. Existing vegetation may be used to satisfy the Class C buffer requirement. Tree and Shrub study will be coordinated with Town Staff during construction to verify the remaining vegetation meets the criteria of the required buffer planting ratios for every 100' of lineal buffer. If the existing vegetation does not meet the minimum planting requirements, more plantings will be installed to supplement the existing vegetation. If there is no existing vegetation or grading activity that requires the existing vegetation to be removed, then a Class "C" - 15' buffer will be planted. The existing vegetation may also provide the screening of the required wall, opaque fence, evergreen hedge, berm, or combination thereof. If the existing vegetation does not provide adequate screening, then supplemental plantings will be added to increase the screening. One of the goals of this development is to leave as much existing vegetation as possible within the 15' buffer and to minimize the disturbed area, however, this may not be possible for entire perimeter buffer. During the construction process, the site perimeter buffers will be evaluated and considered for potential areas to increase the landscape buffers. The buffers will meet the minimums as described in the ordinance.

Transportation Improvements:

The proposed site is to be developed within three years by the year 2025. The proposed development will be accessed by one full-movement driveway on each side of Glen Laurel Road and one full-movement driveway on Vinson Road. Table 1 shows the projected trip generation for the proposed development. Trips were calculated for the portion of the site east of Glen Laurel Road (120 homes) and the portion of the site west of Glen Laurel Road (15 homes). The trip generation was based on rates published in the ITE Trip Generation Manual, 11th Edition.

Table 1: Trip Generation

Land Use			Daily	AM Peak Hour			PM Peak Hour		
				Total	Enter	Exit	Total	Enter	Exit
210: Single-Family Detached Housing	120	d.u.	1,194	88	23	65	118	74	44
210: Single-Family Detached Housing	15	d.u.	176	13	3	10	17	11	6
Total Site Trips			1,370	101	26	75	135	85	50

References: *Trip Generation Manual*, 11th Edition, Institute of Transportation Engineers, September 2021

Based on the existing traffic patterns, surrounding opportunities to access retail and office developments, and access to commuter roadways, the proposed trip distribution for the site is as follows:

- 30% to/from the north on Glen Laurel Road
- 15% to/from the east on Vinson Road
- 15% to/from the east on Powhatan Road
- 40% to/from the west on Powhatan Road

Required Transportation Improvements:

Glen Laurel Road at Vinson Road:

- Install a traffic signal (Currently committed by NCDOT)
If the traffic signal is not constructed and in operation at the time of construction, the applicant will be required to construct the traffic signal.

Glen Laurel Road at Proposed Site Driveways:

- Provide one ingress and one egress lane on the eastbound and westbound approaches of the Proposed Site Driveway.
- Provide a dedicated left-turn lane, one for each proposed site driveway, providing a minimum of 100' full-width storage with appropriate deceleration lane and tapers.

Vinson Road at Proposed Site Driveway:

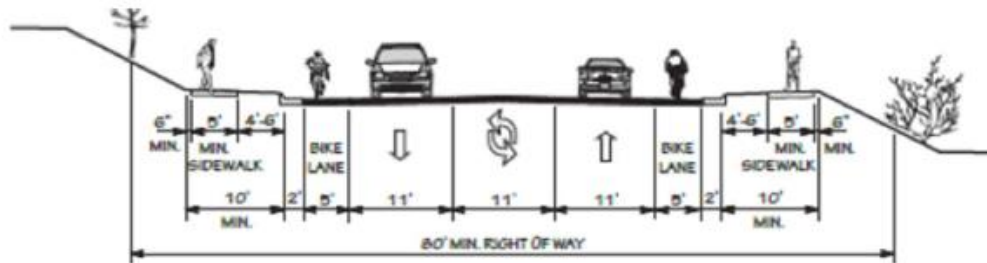
- Provide one ingress and one egress lane on the eastbound and westbound approaches of the Proposed Site Driveway.
- Provide a dedicated east-bound left-turn lane, providing a minimum of 100' full-width storage with appropriate deceleration lane and tapers.

Other Improvements and Notes by NCDOT:

- All driveways for this site on NCDOT ROW must be spaced 600' on secondary and 1,000' on primary routes. This is measured along the ROW line between the tangent projection of the inside edges of adjacent driveways apart measuring the distance between the radiuses of both driveways.
- If there are any turn lane overlaps with any existing or proposed middle-turn lanes, or tapers, the entire roadway section shall be widened to three-full lanes, with the middle-lane as a two-way left-turn lane.

Frontage Improvements:

- The applicant is responsible for the construction and right-of-way dedication of ½ the roadway typical section for Glen Laurel Road and Vinson Road as identified on the Transportation Plan (shown below) along all frontages along the public right-of-way.



Public Utilities:

The project will connect to the existing Town of Clayton Utility System which exists within the proximity of the project area. The Town has an existing 8" waterline in Vinson Road as well as a 10" waterline maintained by Johnston County (within the Town's service area) located on Glen Laurel Road. Public Sewer will be accessed through an offsite sewer extension to tie into the existing Town of Clayton Utility System along Birkdale Drive.

As required by the Engineering Department, a preliminary analysis of the Glen Laurel #1 Pump Station and Summerlyn Pump Stations was performed by Stocks Engineering utilizing data provided by the Town. A copy of the "Preliminary Pump Station Calcs" and the emails noting the Engineering Departments confirmation of the available capacity has been added as Exhibit H following the Water and Wastewater Allocation Criteria.

Allocation of wastewater for the proposed development will come from Town Council action following consideration of the Conditional Zoning District. The Wastewater Allocation Policy requires a project score of a minimum of 50 points from the provided Allocation Criteria worksheet. The proposed project will exceed the 50-point minimum from a combination of being an infill development type (25 pts), a residential future tax status (5 pts), a Town Electric customer (20 pts) and by providing multiple car garages (5 pts) from the community benefit bonus points section.

The proposed development will request consideration of a total wastewater allocation of 34,500 GPD from Town Council and the Water and Wastewater Allocation Request has been submitted to run parallel with this application. This flow will not be available until the new Sam's Branch Water Reclamation Facility comes online in 2025.

The Town of Clayton also has Electricity adjacent to this property and the developer has been in communication with the Electric Department about being an electric customer. Included in the next two exhibits are a map showing the approximate locations of the existing utilities and the Town of Clayton Water and Wastewater Allocation Criteria.

Streets:

The proposed master plan proposes six (6) new public streets, two (2) intersections with existing State Roads, and one (1) emergency access easement to Glen Laurel Road. Per UDO Sec. 155.400(i) and comment from the master plan review, a stub road to an adjacent property has been added. Approximately 6,420 Linear Feet of new streets will be constructed and dedicated to the Town as Public Streets. A typical cross section of the proposed streets is provided below.

During the TRC review process, there were two street layout comments worth noting and discussing in this document: the emergency access from the cul-de-sac to Glen Laurel Road and a connection to Tanners Way. The layout was revised based on a meeting with the Engineering Department between the pre-application meeting and the first CZM submittal. It was recommended by Town of Clayton Engineering that any connection to Tanners Way be avoided due to Tanners Way being a private street, and a Knox box gated emergency access connect the cul-de-sac to Glen Laurel Road. The development team discussed eliminating the cul-de-sac and providing a connection to Glen Laurel Road across from Palmer Drive with Town staff and NCDOT however this development does not own the land that would be required to properly align a new driveway with Palmer Drive. Since this would create an offset intersection on Glen Laurel, NCDOT was unsupportive of a driveway at this location due to safety concerns with the road alignments. In the place of a full drive the NCDOT will allow gated emergency access with Knox box to be installed in this location.

Architectural Standards:

1. All units to be 1 and 2 story with a variety of Craftsman, Colonial and Transitional themed elevations. Home plans of the same elevation shall not be side by side or directly across from one another.
2. Exterior color packages will enhance variety of color throughout the neighborhood and will not be duplicated side by side.
3. Siding elements to include a mix of premium vinyl siding with varying patterns such as lap siding, shake, and board and batten materials per architectural elevations.
4. All building facades to include a variety of craftsman columns with masonry, square and round columns per elevation.
5. Each home will have either a front porch or covered stoop element with a front lead walk that connects to the driveway.
6. Four vehicular parking spaces to be provided on each lot, two-car front loaded garage spaces (decorative garage door with glass windows and carriage details) with two parking spaces on the driveway.
7. Side roof eaves to be a minimum 10" overhang.
8. All front building facades to require a goal of 25% masonry elements such as Stone/brick accents of the portion of the house excluding the garage door(s).
9. Architectural style shingles to be used.
10. Side or rear patios to be provided on all units for outdoor living as well as optional covered porches available per plan.

* Renderings of the Architectural Elevations can be found pgs. 30-37 of the Summer Glen Master Plan Narrative Document include in this packet.

Conditional Rezoning Approval Criteria:

See Master Plan Narrative for Applicant Responses.

In connection with its legislative decision on a conditional zoning district request, the Town Council may consider factors including, but not limited to, the following:

1. Consistency with the adopted plans of the Town.

Staff Commentary: The 2045 Comprehensive Growth Plan Future Land Use Map labels this area as Low Density Residential (LDR), and the current zoning is Residential Estate (R-E). The Growth Plan represents LDR as equal to or less than 3 units per acre and a minimum required open space of 25%. The proposed Summer Glen Project has a proposed density of 2.6 units per acre which is achievable by conditional rezoning with master plan and will provide approximately 34% open space. The project will provide any required infrastructure/utility improvements to accommodate the development by extending water, sewer, electricity, public roads, and by following any recommendation from the TIA and the North Carolina Department of Transportation. The proposed rezoning meets the intent of the growth plan.

2. Suitability of the subject for uses permitted by the current vs. the proposed conditional district.

Staff Commentary: The proposed development consists of single-family detached residential homes which are allowed in the current R-E zoning. The approval of the conditional rezoning would allow a higher density than allowed in the current zoning, however, the use is consistent with the current zoning and the proposed density is consistent with the 2045 Comprehensive Growth Plan.

3. Whether the proposed change tends to improve the balance of uses or meets specific demand in the Town.

Staff Commentary: Being consistent with the 2045 Comprehensive Growth Plan, the proposed development is cohesive with development in close proximity to the project area. There is a high demand for residential development in and around the Town of Clayton and this project helps meet the demand within the Town and increases the Town Limits.

4. The capacity of adequate public facilities and services including schools, roads, recreation facilities, wastewater treatment, water supply facilities and stormwater drainage facilities are available for the proposed conditional district.

Staff Commentary:

Schools: The proposed development will be served by Powhatan Elementary School (<1 mile), Riverwood Middle School (8.8 miles), and Clayton High School (5.2 miles).

Roads: A traffic impact analysis (TIA) has been performed by Exult Engineering and has been reviewed by Town staff and the North Carolina Department of Transportation (NCDOT) to determine if there is adequate roadway infrastructure to serve the proposed development. The developer will be required to construct any required road improvements resulting from the TIA and subsequent review by NCDOT.

Recreation Facilities: The proposed development will provide community flex open space and is located approximately 1.5 miles from East Clayton Community Park. The developers have also discussed with The Neuse Country Club the option of pursuing their facilities as an amenity to the residents. Negotiations regarding this agreement are currently underway.

Wastewater: The applicant has been working with the Town of Clayton Engineering Department and determined that the downstream sewer lift station in Glen Laurel Subdivision has adequate capacity for allocation of additional tributary flow from the proposed development.

Water Supply: The proposed development has proposed connection to the Town of Clayton's existing water on Glen Laurel Road and Vinson Road creating an additional loop in the water system.

Stormwater Drainage Facilities: The proposed development is within the Neuse River Basin and will require stormwater management for water quantity and quality before leaving the site. Stormwater runoff will be collected by street curb and gutter and above ground swales and will be directed into an underground pipe system that will route stormwater to proposed stormwater control facilities (SCM). Approximate locations of these facilities are included on the master plan. The final location, size, and detail of these devices will be provided during the construction drawing submittal process. All stormwater management will be designed to meet the requirements set by the Town of Clayton Stormwater Ordinance and the North Carolina Department of Environmental Quality (NCDEQ).

5. It has been determined that the legal purposes for which zoning exists are not violated.

Staff Commentary: The applicant has followed the procedure as outlined in Section 155.203 Part 3 and 155.705. All Town of Clayton process and procedures have been and will be followed throughout the rezoning process.

6. It has been determined that there will be no adverse effect upon adjoining property owners unless such effect can be justified by the overwhelming public good or welfare.

Staff Commentary: It is our understanding that there will be no adverse effect upon adjoining property owners by this project further the proposed development will be expanding the public utility system providing additional loops in the water system which has the potential to increase water quality in the water lines and increase water pressure.

7. It has been determined that no one property owner or small group of property owners will benefit materially from the change to the detriment of the general public.

Staff Commentary: It is our understanding that this project produced no detriment to the general public and the public improvements will benefit the Town of Clayton and the adjacent property owners.

Master Plan Approval Criteria

The master plan shall include, and the applicant shall be responsible for successfully addressing the following:

- Compliance with § 155.203(L) and all other applicable requirements of this chapter, or analysis and justification if it deviates from the requirements of this chapter;
- Consistency with the Clayton General Design Guidelines;
- Conformance of the proposal with the stated purpose of the requested conditional zoning district;
- Compatibility of the proposed development with the adjacent community;

- The quality of design intended for each component of the project and the ability of the overall development plan to ensure a unified, cohesive environment at full build-out;
- Compatible relationships between each component of the overall project;
- Self-sufficiency of each phase of the overall project;
- The fiscal impact of the proposal and the proposed financing of required improvements;
- The success of the proposal in providing adequate pedestrian and bicycle links within the development and with the adjacent community; and
- The effectiveness with which the proposal protects and preserves the ecologically sensitive areas within the development.

Staff Commentary: The applicant has provided a Master Plan Narrative providing details of the proposal. Through the Master Plan, Narrative and proposed conditions, staff believes that the applicant has successfully met the criteria.

Considerations:

- The Town Council shall consider the recommendation of the Planning Board and the Interim Planning Director.
- The Town Council shall approve, approve with conditions, or disapprove the conditional zoning district. Any additional, revised, or deleted conditions from those below must be signed or declined by the applicant prior to the Council rendering a decision.
- Concurrently with adopting, denying or remanding any conditional zoning district, the Town Council shall adopt a statement describing whether its action is consistent with the adopted plans and policies of the Town and explaining why the Town Council considers the action taken to be reasonable and in the public interest.
- If the conditional zoning district is not consistent with the 2045 Comprehensive Growth Plan and is approved, the 2045 Comprehensive Growth Plan Future Land Use Map will be considered amended to match the proposed conditional zoning district.
- If approved, the conditional zoning district, master plan and narrative will be recorded with the Johnston County Register of Deeds and shall guide future development for this land. The conditional zoning district, master plan, and narrative shall not expire, and will run with the land.

Staff Recommendation

Staff recommends that the Planning Board recommend approval of the Conditional Zoning District, subject to the 14 conditions listed below to the Town Council.

Recommended Conditions of Approval (2022-125-CZM, Summer Glen, Conditional Zoning and Master Plan):

1. Following Town Council approval, an electronic copy of the Master Plan and Narrative including the Conditions of Approval shall be submitted to the Planning Department for final approval.
2. The Development shall meet all adopted Town of Clayton Unified Development Code (UDC) requirements, Town of Clayton Engineering and Stormwater design standards, and the North

Carolina Fire Code and NFPA Fire standards, except where specifically modified by the approved master plan.

3. The Development shall be constructed in substantial conformance with the Master Plan and Master Plan Narrative as approved by the Clayton Town Council.
4. All parcels subject to the Conditional Zoning and Master Plan shall be annexed into the Town prior to any subsequent development approvals.
5. The developer will be required to pay their proportional share of the Wilsons Mills Fire District Capital Debt to the Town prior to the effective date of the Annexation.
6. Uses in the development shall be limited to single-family detached residential homes, and any allowed residential accessory uses within the Town of Clayton Unified Development Code.
7. The following standards shall apply to the Development:
 - Maximum Residential Units: 139
 - Maximum Density: 2.6 Dwelling Units per Acre
 - Total Site Impervious Surface Area: 36%
 - Minimum Lot Size: 6,500 Square Feet
 - Minimum Building Setbacks:
 - Front Setback: 21.5 Feet
 - Setback from Sidewalk: 25 Feet
 - Side Setback: 6 Feet
 - Corner Side Setback: 10 Feet
 - Rear Setback: 15 Feet
 - Maximum Building Height: 35 Feet
8. The Town of Clayton shall be the electric provider for this project.
9. Tree protection fencing must be installed at the clearing limits to maximize preservation of existing vegetation.
10. A gated emergency access with a Knox Box meeting Town of Clayton Fire Department standards connecting the Cul-De-Sac on Summer Loop to Glen Laurel Road shall be provided.
11. Required frontage improvements along Glen Laurel Road and Vinson Road will be made in phases that correlate with the driveway connections to those existing roadways in the respective phase.
12. The following transportation improvements, in accordance with the recommendation in the TIA and approval by NCDOT, shall be constructed prior to the approval of the final plat for the first phase of the development:

Glen Laurel and Vinson Road Intersection

- According to NCDOT Congestion Management Section, the signal improvement at this intersection will be completed by NCDOT. The development team will discuss the timing of these improvements with NCDOT.

Glen Laurel Road at Proposed Site Driveway:

- Provide one ingress and one egress lane on the eastbound and westbound approaches of the Proposed Site Driveway with 100 feet of internal protected stems and northbound and southbound left-turn lanes on Glen Laurel Road consisting of a minimum of 100-foot full width storage and the appropriate deceleration and taper lengths as prescribed by the NCDOT Geometric Turn Lane detail 12.0.

Vinson Road and Proposed Site Driveway:

- Provide one ingress and one egress lane on the eastbound and westbound approaches of the Proposed Site Driveway with 100 feet of internal protected stems and an eastbound left-turn lane on Vinson Road consisting of a minimum of 100-foot full width storage and the appropriate deceleration and taper lengths as prescribed by the NCDOT Geometric Turn Lane detail 12.0.

13. The following Architectural Standards shall be required to be met for the Single-Family Homes:

- All units to be 1 and 2 story with a variety of Craftsman, Colonial and Transitional themed elevations. Home plans of the same elevation shall not be side by side or directly across from one another.
- Exterior color packages will enhance variety of color throughout the neighborhood and will not be duplicated side by side.
- Siding elements to include a mix of premium vinyl siding with varying patterns such as lap siding, shake, and board and batten materials per architectural elevations.
- All build facades to include a variety of craftsman columns with masonry, square and round columns per elevation.
- Each home will have either a front porch or covered stoop element with a front lead walk that connects to the driveway.
- Four vehicular parking spaces to be provided on each lot, two-car front loaded garage spaces (decorative garage door with glass windows and carriage details) with two parking spaces on the driveway.
- Side roof eaves to be a minimum 10" overhang.
- All front building facades to require a goal of 25% masonry elements such as Stone/brick accents of the portion of the house excluding the garage door(s).
- Architectural style shingles to be used.
- Side or rear patios to be provided on all units for outdoor living as well as optional covered porches available per plan.

14. To the extent of any conflict between the Master Plan, Master Plan Narrative and these conditions, these conditions shall control.

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- 1) Application
 - 2) Master Plan Narrative
 - 3) Master Plan
 - 4) Neighborhood Meeting Materials
 - 5) Transportation Impact Analysis (TIA)
 - 6) NCDOT TIA Review
 - 7) Conditions of Approval - Signed (8/23/2023)
 - 8) Wastewater Allocation Request
 - 9) Staff Report Map
 - 10) Staff Report