

Memo

To: Town of Rolesville Planning Board
From: Michael Elabarger, Interim Planning Director & Meredith Gruber, Senior Planner
Date: August 20, 2025
Re: REZ-25-01 Wallbrook Flats

Rezoning Application & Site Data

The Town of Rolesville Planning Department received a Rezoning application in May 2025 for property located at 4724 Burlington Mills Road as well as two unaddressed properties on Burlington Mills Road. The applicant has included a Concept Site Plan as a condition of the rezoning request with a statement that the development of the property shall be in substantial conformance with the plan.



Wallbrook Flats Concept Site Plan

Key information from the rezoning application is in the Site Data Table below:

Site Data Table	
Case Number and Name	REZ-25-01 Wallbrook Flats
Address(es)	4724 Burlington Mills Road and two unaddressed properties on Burlington Mills Road
Owner	Brothers Forty Six LLC and Wallbrook LandCo LLC
Applicant	Austin Williams, Crosland Southeast
Area	15.61 acres
PIN(s)	1758486155, 1758479823, 1758574837
Current Zoning	Residential High Conditional Zoning District (RH-CZ) and General Commercial Conditional Zoning District (GC-CZ)
Proposed Zoning	Town Center Conditional Zoning District (TC-CZ)
Associated Previous Case Number(s)	MA-22-10 (4724 Burlington Mills Road, Arden at Rolesville) and MA 21-09 (Wallbrook Property)
Current Use	Vacant
Proposed Use	Multifamily and Commercial Development

An Alternative Parking Plan, with a minimum rate of 1.5 parking spaces per dwelling unit, will be considered by the Town Board of Commissioners the same evening as the Legislative Hearing. The parking rate is consistent with the minimum required as per the Land Development Ordinance (LDO); however, it eliminates the 0.10 guest spaces per dwelling unit.

Applicant Justification

The Applicant provided a Justification Statement for their rezoning request; it is included as an attachment. The Justification Statement notes the zoning map amendment will facilitate future phases of the Wallbrook development along South Main Street.

Neighborhood Meeting

The applicant held a neighborhood meeting at the Village Church of Rolesville on June 10, 2025. A neighborhood meeting report is included as an attachment.

Comprehensive Plan

Land Use

The Future Land Use Map shows two of the subject parcels (Site Area A) as High Density Residential (land use changed from Commercial to High-Density Residential upon approval of MA-22-10) and the easternmost parcel (Site Area B) as Commercial (land use changed from Industrial to Commercial upon approval of MA-21-09). The High-Density Residential category is described as a mixed-use neighborhood of single family, duplex, condominium, townhouse, or multifamily residential at a density range of six to twelve (6-12) dwelling units per acre. Rolesville's Comprehensive Plan describes Commercial land use as suburban commercial centers, serving the daily needs of surrounding residential neighborhoods, that are typically located near roads with a high volume of traffic.

The proposed multifamily and commercial uses are consistent with the land use categories defined by the Comprehensive Plan; however, the proposed density of 25 units per acre exceeds the cap of 12 noted in the High-Density Residential category.

Community Transportation Plan

The Town of Rolesville's Community Transportation Plan (CTP, adopted 2021) includes recommendations for Thoroughfares, Collectors, and intersections.

Thoroughfare Recommendations

- Burlington Mills Road is planned to be a 4-lane median-divided section with curb & gutter, bike lanes, and sidewalks.

It is noteworthy that NCDOT project U-6241 has been actively under construction, which includes a new right-of-way for Burlington Mills Road across much of the subject property's frontage.

Greenway and Bike Plans

As per the 2022 Greenway and Bike Plans, proposed pedestrian routes are shown in the following locations:

- A ten foot (10') sidepath is illustrated on the western side of Burlington Mills Road along the project frontage.
- A greenway connection is shown between Rolesville Middle School and Burlington Mills Road.

Consistency

The Applicant's rezoning request is reasonably consistent with the Town of Rolesville's Comprehensive Plan for the following reasons:

- The proposed residential and commercial uses align with Rolesville's Future Land Use Map; however, the proposed residential density **exceeds the cap** noted in the 2017 Comprehensive Plan. Please note if this rezoning request is approved, a Comprehensive Plan Amendment will automatically be approved to update the Future Land Use Designation to the Town Center category.
- The vehicular circulation network includes a thoroughfare, Burlington Mills Road, recommended by the Town's Community Transportation Plan.
- The sidepath along Burlington Mills Road and the proposed greenway connection between Rolesville Middle School and Burlington Mills Road will establish pedestrian connections as recommended by Rolesville's Greenway and Bike Plans.

Traffic

Traffic Impact Analysis

The consulting firm, Stantec, performed the Traffic Impact Analysis (TIA) for this project on behalf of the Town; the study analyzed a development of 280 Multifamily Housing units. The Draft Final Report dated July 15, 2025, is included as an attachment to this memo.

TIA Summary - Trip Generation	Entering	Exiting	Total
<i>Multifamily Housing</i>			
<i>AM Peak (7-9 am)</i>	26	84	110
<i>PM Peak (4-6 pm)</i>	89	52	141
<i>Weekday Daily Trips</i>	935	935	1,870

Four intersections were studied for capacity analysis and Level of Service (LOS) impact of this development. Recommendations for improvements are listed in the table below. It is important to note the recommended improvements are no different from the recommended improvements specified in the July 7, 2023 TIA Report prepared for MA-22-10, 4724 Burlington Mills Road / Arden at Rolesville.

<i>TIA Summary – Recommendations</i>	
<i>Burlington Mills Road at Forestville Road</i>	<i>No improvements are recommended at this intersection</i>
<i>Burlington Mills Road at Old Burlington Mills Road / Access A</i>	<i>Construct Access A as a full-movement access point</i> <i>Construct Access A with one ingress lane and two egress lanes consisting of an exclusive left-turn lane and a shared thru/right-turn lane. Construct the access with 75 feet of internal protective stem</i> <i>Construct a westbound left turn lane with 50 feet of full-width storage and appropriate taper</i> <i>Construct an eastbound right-turn lane on Burlington Mills Road with 50 feet of full-width storage and appropriate taper</i> <i>Restripe the southbound approach of Old Burlington Mills Road to provide an exclusive left-turn lane and a shared thru/right-turn lane</i>
<i>Main Street at Old Burlington Mills Road</i>	<i>No improvements are recommended at this intersection</i>
<i>Realigned Burlington Mills Road at Main Street</i>	<i>No improvements are recommended at this intersection</i>

Development Review

The Technical Review Committee (TRC) reviewed two submittals of the Rezoning application and attachments, with all comments being resolved.

Staff Recommendation

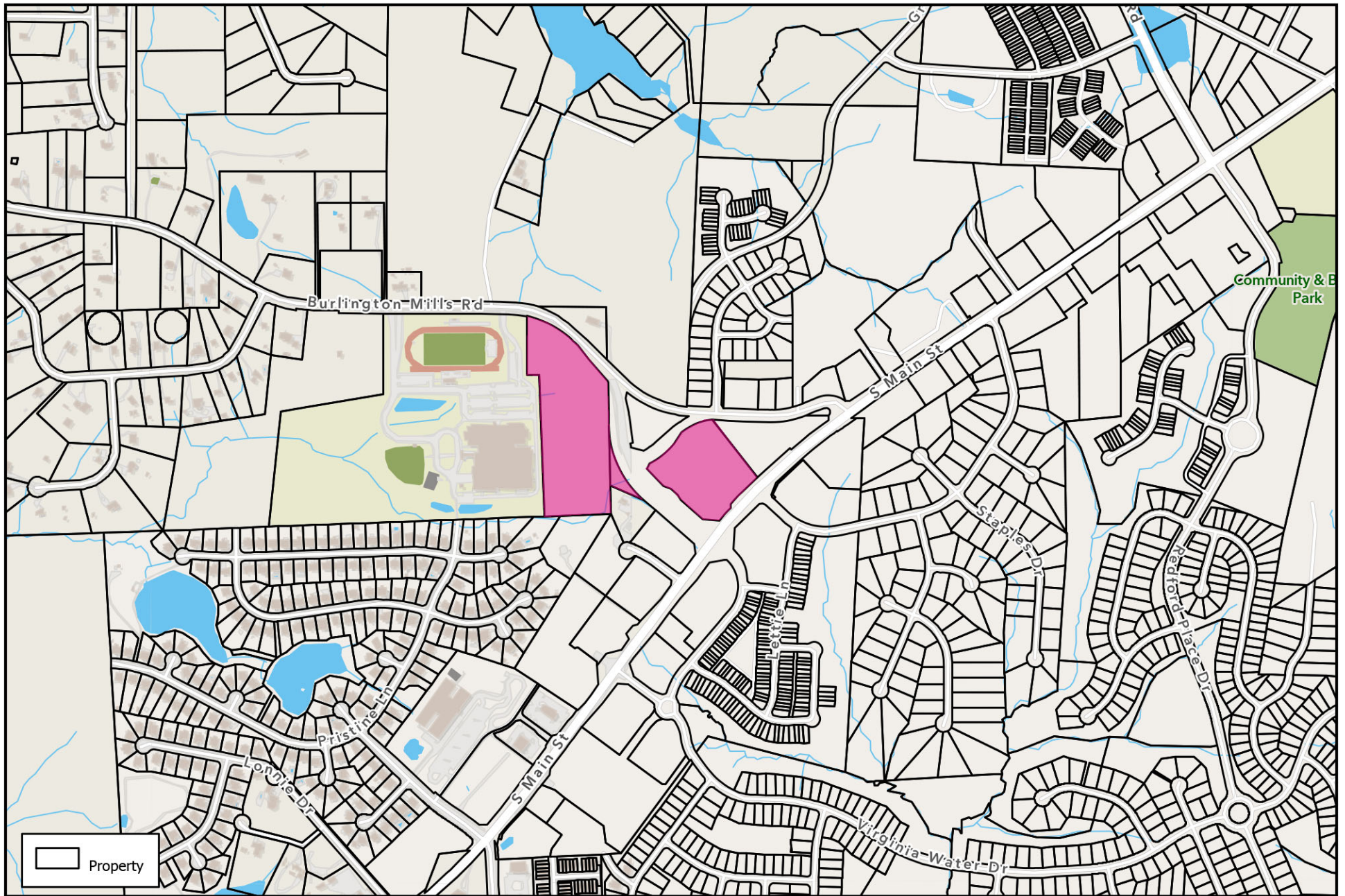
Based on consistency with Rolesville's Comprehensive Plan, staff recommends approval of REZ-25-01, Wallbrook Flats. In addition, the subject property is currently entitled for multifamily residential units and commercial development, both of which are permitted in the Town Center (TC) mixed use zoning district.

Proposed Motion

Motion to recommend to the Town Board of Commissioners (*approval or denial*) of rezoning request REZ-25-01 Wallbrook Flats based on (*consistency or inconsistency*) with Rolesville's Comprehensive Plan.

Attachments

1	Vicinity Map
2	Application and Conditions of Approval
3	Applicant Justification Statement
4	Concept Site Plan
5	Neighborhood Meeting Report
6	Traffic Impact Analysis (TIA) Report



REZ-25-01 Vicinity Map



0 400 800 1,600 ft
1 inch equals 800 feet

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Zoning Map Change (Rezoning) Application

Town of Rolesville Planning Department | PO Box 250 | Rolesville, NC 27571 | 919-554-6517 | planning@rolesville.nc.gov

Planning Department Home Page: [Official Town Webpage](#)

APPLICATION INFORMATION:

Site Address(es): 0, 4724 Burlington Mills Rd & 0 S Main St	Site Area (in acres): 15.61
Rezoning Type: ☐ General ☒ Conditional	Location: ☐ County Limits ☒ Town Limits ☐ ETJ
Existing Zoning District(s): RH-CZ & GC-CZ	Proposed Zoning District(s): TC-CZ
Zoning Overlay(s): N/A	Associated Previous Case Number(s): MA 22-10 & MA 21-09
PIN(s): 1758479823, 1758486155 & 1758574837	
PID(s): 0528534, 0074571 & 0224145	
Current Use(s): Vacant	Proposed Use(s): Multifamily and commercial

APPLICATION MINIMUM REQUIREMENTS / GUIDANCE::

☐ Completed Application and checklist below.	☐ Completed Property Owner's Consent Form – 1 per Owner.
☐ If the request is for a <i>Conditional District</i> per LDO Section 3.3., submittal shall include a separate document being a list of written Conditions of Approval that can include exhibits, plans, maps, etc. Provide a Date and space for revision Dates; this document will always be referenced including its Date.	☐ A Concept (site) Plan * may be submitted, considered, and approved as part of a <i>Conditional District</i> request; it shall be clearly incorporated into a written condition for "general compliance" upon future Development Application reviews and approvals. Provide a Date and space for revision Dates. See Next page for details.
☐ Traffic Impact Analysis (TIA), ITE Trip Generation Letter, or Letter/Email from Planning staff confirming TIA is not required. (LDO Section 8.C.5)	☐ * The Activity Center (AC) and Neighborhood Commercial (NC) zoning districts shall require submittal of a Concept (see site) Plan per LDO Sections 3.4.1 and 3.4.2.
☐ Sketch/Pre-Submittal meeting notes (if applicable).	☐ Any additional supporting documents (ask Staff).
☐ Note: INVOICE issued for the application fee payment during the completeness check or following application review.	

Financially Responsible Party Ellen Allred

(*that who receives and will pay Invoices for the Actual Cost Consultant Review Fees*)

Mailing Address 801 East Blvd, Suite 200 City/State/Zip Charlotte, NC 28203

Phone _____ Email eallred@csere.com

Property Owner(s) Wallbrook LandCo LLC (if more than 1 use separate sheet)

Address 801 East Blvd, Suite 200 City/State/Zip Charlotte, NC 28203

Phone _____ Email awilliams@csere.com

Applicant / Engineer / Architect / Attorney / Agents

Name: Austin Williams (applicant) Phone: 704-621-6430 Email: awilliams@csere.com

Name: Mark Frederick (attorney) Phone: 919-835-4023 Email: markfrederick@parkerpoe.com

Name: Laura Holloman (agent) Phone: 919-361-5000 Email: Holloman@mcadamsco.com

Name: Michael Vampran (architect) Phone: 919-287-0818 Email: vampran@mcadamsco.com

Preferred Point of Contact: ☐ Owner ☒ Applicant ☒ Engineer/Architect ☒ Registered Agent/Attorney

Zoning Map Change (Rezoning) Application



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Existing Zoning District(s): RH-CZ & GC-CZ	Proposed Zoning District(s): TC-CZ
Zoning Overlay(s): N/A	Associated Previous Case Number(s): MA 22-10 & MA 21-09
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☐ Note: INVOICE issued for the application fee payment during the completeness check or following application review.	

Financially Responsible Party Ellen Allred

(*that who receives and will pay Invoices for the Actual Cost Consultant Review Fees*)

Mailing Address 801 East Blvd, Suite 200 City/State/Zip Charlotte, NC 28203

Phone _____ Email eallred@csere.com

Property Owner(s) Brothers Forty Six LLC (if more than 1 use separate sheet)

Address 1220 Old Watkins Road City/State/Zip Raleigh, NC 27616

Phone _____ Email awilliams@csere.com

Applicant / Engineer / Architect / Attorney / Agents

Name: Austin Williams (applicant) Phone: 704-621-6430 Email: awilliams@csere.com

Name: Mark Frederick (attorney) Phone: 919-835-4023 Email: markfrederick@parkerpoe.com

Name: Laura Holloman (agent) Phone: 919-361-5000 Email: Holloman@mcadamsco.com

Name: Michael Vampran (architect) Phone: 919-287-0818 Email: vampran@mcadamsco.com

Preferred Point of Contact: ☐ Owner ☒ Applicant ☒ Engineer/Architect ☒ Registered Agent/Attorney

Conditions of Approval
REZ-25-01: Wallbrook Flats Rezoning
July 30, 2025

1. Development of the property shall be in substantial conformance with the accompanying Wallbrook Flats Concept Plan, dated July 28, 2025. Locations shown for committed elements including, but not limited to, setbacks, greenways, streets, access points, driveways, and open areas shown on the Concept Plan are conceptual and provided for illustration and context only. Final locations of elements shall be determined at subsequent stages of approval.
2. No more than 280 dwelling units shall be permitted within Site Area A as identified on the Concept Plan.
3. The following Principal Uses otherwise listed in the Principal Use Table of LDO Section 5.1 as Permitted or Special Uses in the Town Center district shall be prohibited within Site Area B identified on the Concept Plan: College/University; Telecommunication Tower.

Statement of Justification
Wallbrook Flats Rezoning Application
July 30, 2025

Project Summary

Crosland Southeast is requesting this zoning map amendment to facilitate future phases of their Wallbrook development along S Main Street. The proposed Town Center zoning will allow retail and office uses at a prominent location on S Main Street and place additional residential density in the Main Street corridor to support a walkable downtown core (the “Rezoning”). The attached Wallbrook Flats Concept Plan includes multifamily uses at 0 and 4724 Burlington Mills Road/PINs 1758479823 and 1758486155 and commercial uses at 0 S Main Street/PIN 1758574837 (the “Project”).

Rezoning Justification

1. Is the application consistent with the Comprehensive Plan, Community Transportation Plan, Bicycle and Greenway Plans, and any other adopted Town policy plans?

Response: The proposed zoning is consistent with the Town’s long range plans as set forth in the Comprehensive Plan, Community Transportation Plan, the Main Street Vision Plan, the Parks and Recreation Comprehensive Master Plan, and the Greenway Plan.

- Future Land Use Map: The proposed uses are consistent with the current FLUM designations for the parcels included in this application. PINs 1758479823 and 1758486155 are designated High Density Residential on the FLUM, as amended by MA 22-10. The proposed high density residential uses and TC zoning on these parcels are consistent with this designation. PIN 1758574837 is designated Commercial on the FLUM, as amended by MA 21-09. The proposed commercial uses and TC zoning on this parcel are consistent with this designation.
- Main Street Vision Plan, Corridor Development Strategy 1 for the Central - Lifestyle Village (Main & Burlington Mills): “Support market rate housing development with mix of product types: townhomes, apartments, senior housing.” *Main Street Vision Plan, pg. 80.*
- Main Street Vision Plan, Corridor Development Strategy 3 for the Central - Lifestyle Village (Main & Burlington Mills): “Housing product to incorporate higher densities.” *Main Street Vision Plan, pg. 80.*
- Main Street Vision Plan, Corridor Development Strategy 8 for the Central - Lifestyle Village (Main & Burlington Mills): “Provide opportunities for additional small office for service/professional services.” *Main Street Vision Plan, pg. 80.*
- Main Street Vision Plan, Corridor Development Strategy 1 for All Areas: “Facilitate expanded new housing options along the corridor.” *Main Street Vision Plan, pg. 80.*

- Main Street Vision Plan, Goal #2: Promote diverse housing stock for multiple age groups and income levels: “One of the top issues raised by residents of Rolesville and people who want to move to Town is the lack of diverse housing. There are *few multifamily options* and most of the single-family housing starts at \$300,000, well out of the budget of workforce buyers and renters. By *diversifying the housing* for millennials and aging retirees, the opportunity arises for more people to live, work, and shop in Rolesville, boosting the local economy and creating the opportunity for multiple generations of families to remain in the community they made a life in.” *Main Street Vision Plan, pg. 16 (emphasis added)*.
- Comprehensive Plan Goal LU1. Encourage a walkable, connected Town in the face of rapid growth. *Comprehensive Plan pg. 42*.
- Comprehensive Plan Goal D1.1. Take actions to ensure that new housing stock provides diverse options around Main Street. “New neighborhoods that are developed should provide a *mix of housing options for young adults, families, senior citizens, etc.* so that citizens can age in place and have options for their housing expectations.” *Comprehensive Plan pg. 83 (emphasis added)*. This Project is strategically located to take advantage of the Main Street improvements already underway and future redevelopment along the Main Street corridor. The residential uses will front on the new realigned Burlington Mills Road, just a short walk from existing shops and restaurants along Main Street. Residents will have convenient access to a grocery store and the Project will bring much needed daytime foot traffic to Rolesville to patronize shops and restaurants and promote the development of additional retail shops downtown.

2. Is the application in conflict with any provision of the LDO or the Town Code of Ordinances?

Response: No. The Project is consistent with all provisions of the LDO.

3. Does the application correct any errors in the existing zoning present at the time it was adopted?

Response: There are no errors in the existing zoning to correct.

4. Does the rezoning allow uses that are compatible with existing and permitted uses on surrounding land/properties?

Response: Yes. The existing land uses along the Main Street corridor include commercial, residential, and civic uses. The proposed multifamily and commercial uses will integrate with the existing uses in a cohesive and compatible manner. Landscaped buffers provide transitions where appropriate.

5. Would the application ensure efficient development within the Town, including the capacity and safety of the street network, public facilities, and other similar considerations?

Response: Yes. The ongoing improvements to the surrounding streets and the pedestrian network are designed to accommodate the proposed uses. Additional improvements proposed by this project will ensure public facilities are safe and efficient.

6. Would the application result in a logical and orderly development pattern?

Response: Yes. The Town has adopted specific plans and policies to promote development along the Main Street corridor in order to create a walkable, vibrant town center. This Project, as an extension of the Wallbrook development, will continue the positive momentum of development along Main Street. Additional residential density will bring much needed daytime foot traffic to Rolesville to patronize shops and restaurants and promote the development of additional retail shops downtown.

7. Would the application result in adverse impacts on water, air, noise, storm water management, wildlife, vegetation, wetlands, and the natural functioning of the environment?

Response: No adverse impacts are anticipated as a result of this Project.

8. If a Conditional district providing proposed Conditions of Approval, do they address and mitigate the impacts reasonably expected to be generated by the development or use of the property, can they reasonably be implemented, and can they be enforced for the subject property, and will they result in no greater impact on adjacent properties or the community at large than would be expected to occur by the permitted uses and the minimum development standards of the corresponding General zoning district.

Response: The proposed zoning conditions will require development consistent with the Wallbrook Flats Concept Plan, which can be enforced through the subsequent site plan approval process. The proposed parking reduction is based on the findings of a parking reduction study consistent with the requirements of LDO Section 6.4.3.K.

WALLBROOK FLATS REZ-25-01 CONCEPT PLAN

SITE DATA TABLE

Total Site Area	15.61 acres
Site Area 'A'	±10.48 acres
Site Area 'B'	±5.13 acres
Existing Zoning	Residential High-Conditional Zoning (RH-GC) and General Commercial (GC)
Proposed Zoning	Town Center District
Proposed Residential Units	±264 units
Residential Density	±16.9 units/acres
Proposed Residential Parking Ratio	±1.5/du

BARRINGTON HALL DRIVE

BURLINGTON MILLS ROAD

LOUISBURG ROAD

SITE AREA 'B'
(±5.13 AC)

BURLINGTON MILLS ROAD

SECONDARY SITE ACCESS *

PROPOSED SIDEWALK

EXISTING SIDEWALK

SITE AREA 'A'
(±10.48 AC)

ROLESVILLE MIDDLE SCHOOL

PROPOSED GREENWAY

SCM

AMENITY

*VEHICULAR ACCESS MAY ADJUST PENDING NCDOT AND TOWN REVIEW.
CONCEPT PLAN IS ILLUSTRATIVE IN NATURE AND SUBJECT TO CHANGE PENDING DEVELOPMENT PLAN REVIEW.

Report of Neighborhood Meeting
REZ-25-01: Wallbrook Flats Rezoning

Pursuant to applicable provisions of the Rolesville Land Development Ordinance, a meeting was held with neighbors to discuss the Rezoning on Tuesday, June 10, 2025, at 6:00 PM. The property considered for this rezoning totals approximately 17.6 acres in the Town of Rolesville having Wake County Parcel Identification Numbers 1758479823, 1758486155 & 1758582090. The meeting was held in person at the Village Church Rolesville at 410 Southtown Circle, Rolesville, NC 27571. All owners of property within 500 feet of the subject property were invited. A copy of the neighborhood meeting notice is attached as Exhibit A. A copy of the required mailing list for the meeting invitations is attached as Exhibit B. A summary of items discussed at the meeting is attached as Exhibit C. A list of individuals who attended the meeting is attached as Exhibit D.

Neighborhood Meeting Minutes
REZ-25-01: Wallbrook Flats Rezoning

The Applicant held a neighborhood meeting for the Wallbrook Flats rezoning at Village Church Rolesville at 410 Southtown Circle on June 10, 2025 at 6:00 PM. The following members of the project team were in attendance to present and answer questions: Austin Williams, Yates Dunaway, and Trent Martin with Crosland Southeast, Mark Frederick with Parker Poe, Nate Bouquin with McAdams, and John Myers with JPM South. Mark Frederick began by introducing the project team, gave an overview of the rezoning process, and then described the proposed rezoning. The floor was then opened to questions from the attending neighbors. Following is a summary of the questions asked by neighbors and the applicant's responses.

Question: When is construction expected to start?

Applicant Response: If this rezoning is approved we would still need to obtain other approvals from the town so construction likely wouldn't start until the end of next year.

Question: Was a traffic study performed?

Applicant Response: Yes, the town initiates the traffic study, which is performed by a neutral third party. The traffic study evaluates how nearby intersections will perform based on current traffic counts and the anticipated amount of traffic this project will add to the intersections. The study also takes into account background growth and other approved projects in the area. The traffic study may recommend that this project construct certain improvements, such as turn lanes, to mitigate any impacts for the additional traffic from this development. We are still waiting to receive the results from the traffic study but we aren't anticipating any major improvements will be recommended. This is primarily due to the significant transportation improvements already under construction along Main Street and Burlington Mills Road.

Question: The notification letter states this project is mixed use. Where would each use be located?

Applicant Response: Residential uses are proposed on the two parcels adjacent to Rolesville Middle School and commercial uses are proposed on the parcel along Main Street.

Question: How will this project impact the Burlington Mills Road realignment?

Applicant Response: This project will not impact the realignment.

Question: Will neighbors be notified of future meetings?

Applicant Response: Yes. The same people will be notified for future meetings, including the public hearings.

Neighborhood Meeting Minutes
REZ-25-01: Wallbrook Flats Rezoning

Question: Will a greenway be included, similar to the previous rezoning?

Applicant Response: We are still evaluating the best location for a greenway.

Question: What will the apartments look like?

Applicant Response: We have not fully designed the apartments yet. These will be 4 story apartment buildings, which is similar in form to the approved Arden rezoning case a few years ago.

Question: Will there be a buffer along the southern side of the apartment community?

Applicant Response: Yes, a buffer will be provided consistent with the town's requirements for the town center district. This includes a landscaped buffer and restrictions on uses and building form within 50 feet of the property boundary. As you can see on the concept plan, we are planning on placing the stormwater control device along the southern portion of the property, which will help provide additional separation between the properties to the south and the apartment buildings.



**REZ-25-01: Wallbrook Flats
Traffic Impact Analysis**

Rolesville, North Carolina

July 23, 2025

Prepared for:

Town of Rolesville
502 Southtown Circle
Rolesville, NC 27571

Applicant:

Crosland Southeast
801 East Boulevard
Suite 200
Charlotte, NC 28203

Prepared by:

Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606

Sign-off Sheet

This document entitled REZ-25-01: Wallbrook Flats Traffic Impact Analysis was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Town of Rolesville (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by *Austyn Beci*
(signature)

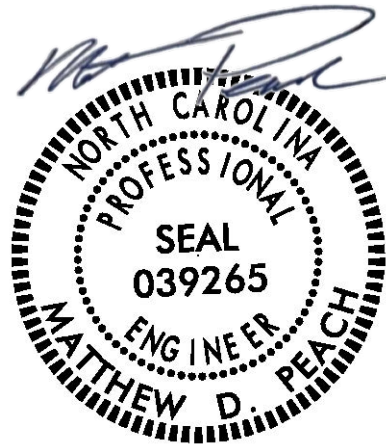
Austyn Beci, PE

Reviewed by *Breyer Roberts*
(signature)

Breyer Roberts, EI

Approved by *Matt Peach*
(signature)

Matt Peach, PE, PTOE



7/23/2025

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Executive Summary

The proposed Wallbrook Flats development is located on the south side of Burlington Mills Road west of Main Street (US 401 Business) at 4724 Burlington Mills Road in Rolesville, NC. The applicant is pursuing a rezoning (REZ-25-01) to a Town Center District - Conditional Zoning (TC-CZ). This rezoning (REZ 25-01) involves two properties, the Wallbrook Flats location (PIN 1758486155), as well as portion of the property at 0 S. Main Street (PIN 1758582090). These parcels are currently zoned as Residential High-Density Conditional Zoning (RH-CZ) and General Commercial-Conditional Zoning (GC-CZ) under the Land Development Ordinance (LDO). The rezoning at 0 S. Main Street will cover a 5.13-acre portion of the 7.07-acre parcel that was included in the preliminary subdivision plat for the broader Wallbrook development (PR21-04). Although the property at 0 S. Main Street is included in the rezoning, the applicant does not intend to change the land uses from what was included in the original Wallbrook TIA dated August 11, 2020. Therefore, this study analyzes the proposed land use, and its impacts on traffic associated with the residential development proposed for 4724 Burlington Mills Road (PIN 1758486155) named Wallbrook Flats.

The 10.64-acre site is anticipated to be completed in 2030. The site plan shows 264 units of multifamily housing on site, however, the applicant has requested the traffic study be based on a maximum unit count of 280 units if in the future there is the possibility to add units on-site. Using the Institute of Transportation Engineers (ITE) Trip Generation Manual, it is estimated that at full build-out the development is expected to generate 1,870 new trips per average weekday. In the AM and PM peak hours, the development is expected to generate 110 AM peak hour trips (26 entering and 84 exiting) and 141 PM peak hour trips (89 entering and 52 exiting). Two (2) access points are proposed for the development connecting to Burlington Mills Road. Access A will operate with full movement and be located at the future intersection of Burlington Mills Road at Old Burlington Mills Road. Access B will operate as a right-in / right-out driveway, meaning that left-turns in and out will be restricted, and be located approximately 1,000 feet north of Access A.

The purpose of this report is to evaluate the proposed development in terms of traffic conditions, evaluate the ability of the adjacent roadways to accommodate the additional traffic volumes, and recommend transportation improvements needed to mitigate congestion that may result from the additional site traffic. This report presents trip generation, trip distribution, traffic analysis, and recommendations for transportation improvements needed to meet anticipated traffic demands.

This report examines the following scenarios for the AM and PM peak hours:

- 2025 Existing
- 2030 No-Build
- 2030 Build
- 2030 Build Improved

Capacity analysis for the AM and PM peak hours in each scenario was performed for the following existing intersections:

- US 401 Business (Main Street) at SR 2051 (Burlington Mills Road)
- SR 2051 (Burlington Mills Road) at SR 2049 (Forestville Road)



REZ-25-01: WALLBROOK FLATS TRAFFIC IMPACT ANALYSIS

The study will also include the following planned (i.e., future) intersections:

- US 401 Business (Main Street) at SR 2051 (Old Burlington Mills Road)
- SR 2051 (Old Burlington Mills Road) at Burlington Mills Road

The results of the capacity analysis at these existing and planned intersections, in addition to the aforementioned driveways, are summarized in Tables ES-1:

Table ES-1: Level of Service Summary Table

Level of Service (Delay in seconds per vehicle)	2025 Existing		2030 No-Build		2030 Build		2030 Build Imp.	
	AM	PM	AM	PM	AM	PM	AM	PM
Burlington Mills Road at Forestville Road	C (34.2)	C (31.2)	E (55.9)	E (56.6)	E (56.8)	E (58.7)		
Burlington Mills Road at Old Burlington Mills Road / Access A			E (37.7)	C (23.2)	F (73.9)	E (46.5)	F (72.7)	E (44.8)
Burlington Mills Road at Access B					B (12.3)	B (10.9)	B (12.3)	B (10.9)
Main Street at Old Burlington Mills Road	B (15.8)	B (12.6)	D (27.4)	C (19.3)	D (27.5)	C (19.7)		
Main Street at Realigned Burlington Mills Road / Virginia Water Drive			D (51.4)	D (49.8)	D (54.4)	D (52.4)		
Not Included:		Signalized:			Stop-Controlled:			

Rolesville's LDO⁸, Section 8.E, establishes the following Level of Service Standards:

1. *The traffic impact analysis must demonstrate that the proposed development would not cause build-out-year, peak-hour levels of service on any arterial or collector road or intersection within the study area to fall below Level of Service (LOS) "D," as defined by the latest edition of the Highway Capacity Manual, or, where the existing level of service is already LOS "E" that the proposed development would not cause the LOS to fall to the next lower letter grade.*
2. *If the road segment or intersection is already LOS "F," the traffic impact analysis must demonstrate that the proposed development, with any proposed improvements, would not cause build-out year peak-hour operation to degrade more than five (5) percent of the total delay on any intersection approach.*

As shown in Table ES-1, the proposed development accounts for a minimal increase in average delay at the existing and planned study intersections.

At the intersection of Burlington Mills Road at Old Burlington Mills Road / Access A, the southbound left turn movement operates at LOS F in both the AM and PM peak hours. With the proposed development in place, the approach increases in delay from an average of 38 seconds per vehicle to an average of 74 seconds per vehicle in the AM peak hour. In the PM peak hour, the same approach operates at LOS E with the proposed development in place. Long delays at this intersection during the AM peak hour are attributed to traffic traveling to / from Rolesville



Middle School. The school, located just to the west of the proposed development, operates from 8:15 AM to 3:00 PM. At unsignalized intersections, it is common for minor streets to experience higher delays due to the difficulty in making a left-turn movement through the intersection with the uninterrupted main street traffic. While delay per vehicle is high on the approach, the queues are mainly contained within the turn-lanes, with the Southbound thru/right lane operating at LOS C in both peak hours. A traffic signal was evaluated at the intersection and is not recommended due to low side-street traffic volumes.

Based on the findings of this study, specific improvements have been identified and should be completed as part of the proposed development. Intersections where no improvements are recommended are locations that meet the standards specified in the LDO⁸.

Burlington Mills Road at Forestville Road

- No improvements are recommended at this intersection

Burlington Mills Road at Old Burlington Mills Road / Access A

- Construct Access A as a full-movement access point
- Construct Access A with one ingress lane and two egress lanes consisting of an exclusive left-turn lane and a shared thru/right-turn lane. Construct the access with 75 feet of internal protective stem
- Construct a westbound left turn lane on Burlington Mills Road with 50 feet of full-width storage and appropriate taper
- Construct an eastbound right-turn lane on Burlington Mills Road with 50 feet of full-width storage and appropriate taper
- Restripe the southbound approach of Old Burlington Mills Road to provide an exclusive left-turn lane and a shared thru/right-turn lane.

Burlington Mills Road at Access B

- Construct Access B as a restricted-movement access point allowing right-turns in and right-turns out only.
- Construct Access B with one ingress lane and one egress lane consisting of an exclusive right-turn lane. Construct the access with 50 feet of internal protective stem
- Construct an eastbound right-turn lane on Burlington Mills Road with 50 feet of full-width storage and appropriate taper

Main Street at Old Burlington Mills Road

- No improvements are recommended at this intersection

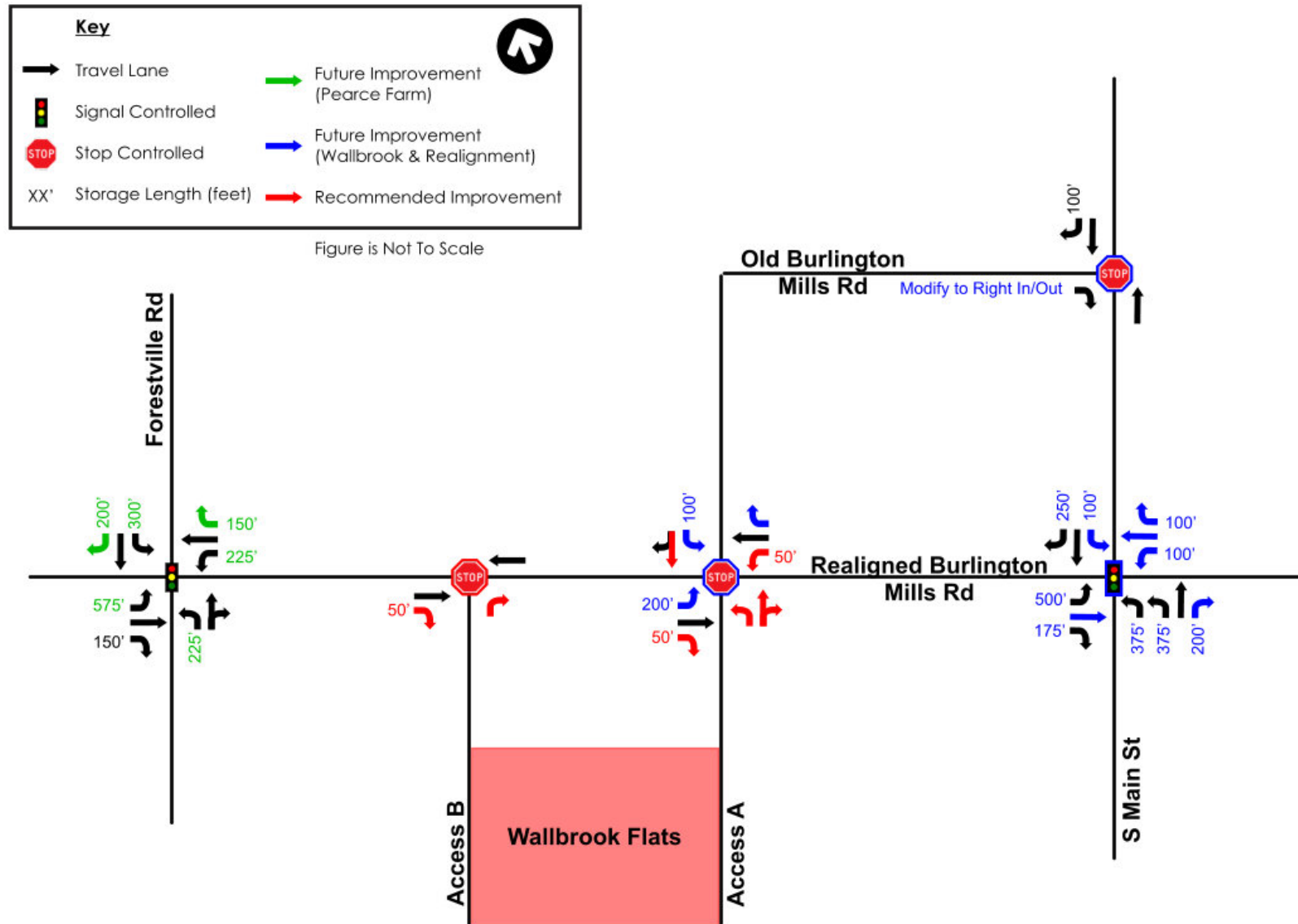
Realigned Burlington Mills Road at Main Street

- No improvements are recommended at this intersection

These recommendations are illustrated in Figure ES-1.



Figure ES-1: Recommended Improvements



REZ-25-01: WALLBROOK FLATS TRAFFIC IMPACT ANALYSIS

Introduction

July 23, 2025

1.0 INTRODUCTION

The proposed Wallbrook Flats development is located on the south side of Burlington Mills Road west of Main Street (US 401 Business) at 4724 Burlington Mills Road in Rolesville, NC. The applicant is pursuing a rezoning (REZ-25-01) to a Town Center District - Conditional Zoning (TC-CZ). This rezoning (REZ 25-01) involves two properties, the Wallbrook Flats location (PIN 1758486155), as well as portion of the property at 0 S. Main Street (PIN 1758582090). These parcels are currently zoned as Residential High-Density Conditional Zoning (RH-CZ) and General Commercial-Conditional Zoning (GC-CZ) under the Land Development Ordinance (LDO). The rezoning at 0 S. Main Street will cover a 5.13-acre portion of the 7.07-acre parcel that was included in the preliminary subdivision plat for the broader Wallbrook development (PR21-04). Although the property at 0 S. Main Street is included in the rezoning, the applicant does not intend to change the land uses from what was included in the original Wallbrook TIA dated August 11, 2020. Therefore, this study analyzes the proposed land use, and its impacts on traffic associated with the residential development proposed for 4724 Burlington Mills Road (PIN 1758486155) named Wallbrook Flats.

The 10.64-acre site is anticipated to be completed in 2030. The site plan shows 264 units of multifamily housing on site, however, the applicant has requested the traffic study be based on a maximum unit count of 280 units if in the future there is the possibility to add units on-site. The project location is shown in Figure 1. The site plan, prepared by McAdams, can be found in Figure 2.

The traffic analysis considers future build conditions during the build-out year (2030). Access to the site is anticipated to be provided by two driveways on Burlington Mills Road. The analysis scenarios are as follows:

- 2025 Existing
- 2030 No-Build
- 2030 Build
- 2030 Build Improved

The purpose of this report is to evaluate the development in terms of projected vehicular traffic conditions, evaluate the ability of the adjacent roadways to accommodate the additional traffic, and recommend transportation improvements needed to mitigate congestion that may result from additional site traffic. This report presents trip generation, trip distribution, traffic analyses, and recommendations for improvements needed to meet anticipated traffic demands. The analysis examines the AM and PM peak hours for the analysis scenarios.

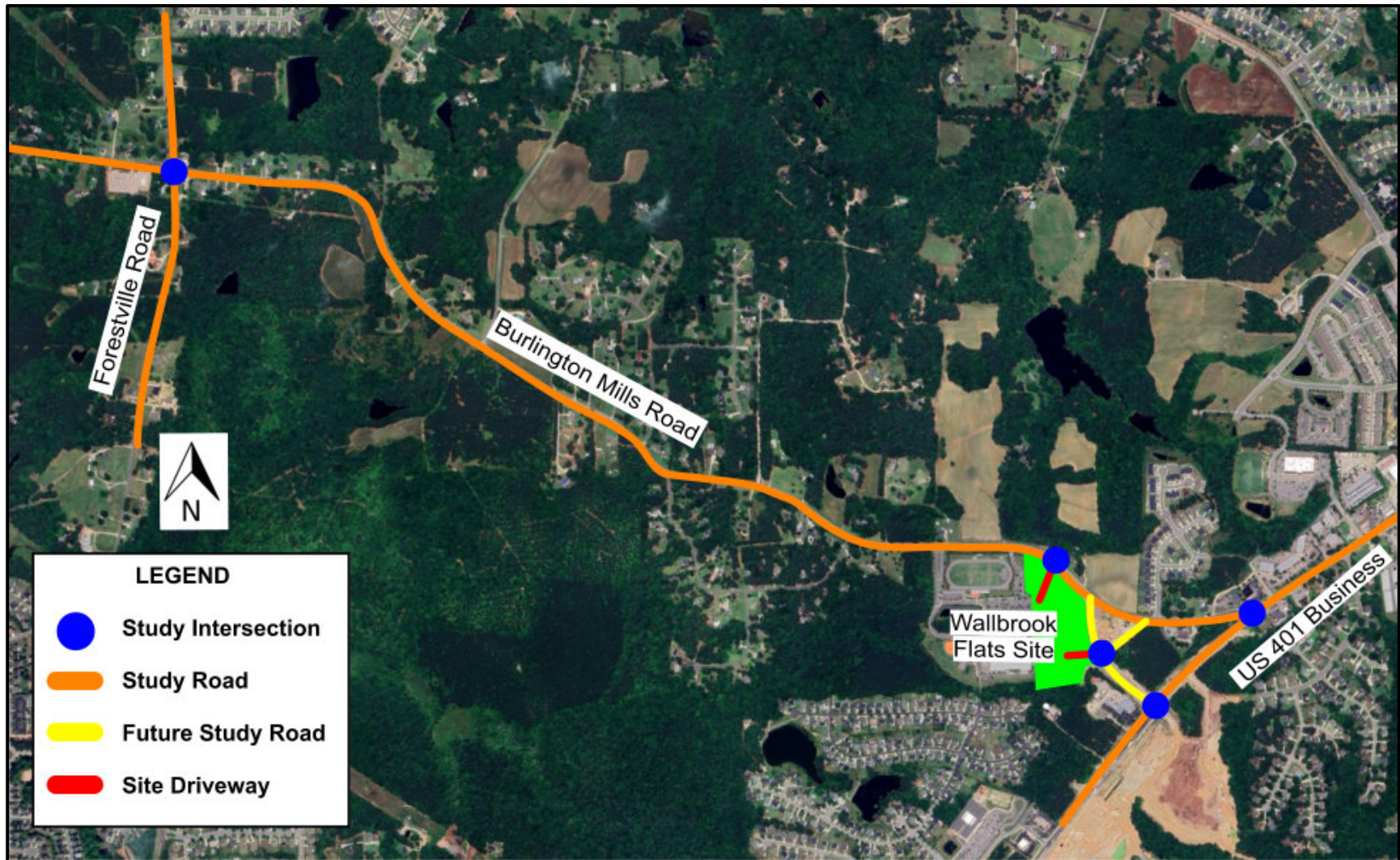


REZ-25-01: WALLBROOK FLATS TRAFFIC IMPACT ANALYSIS

Introduction

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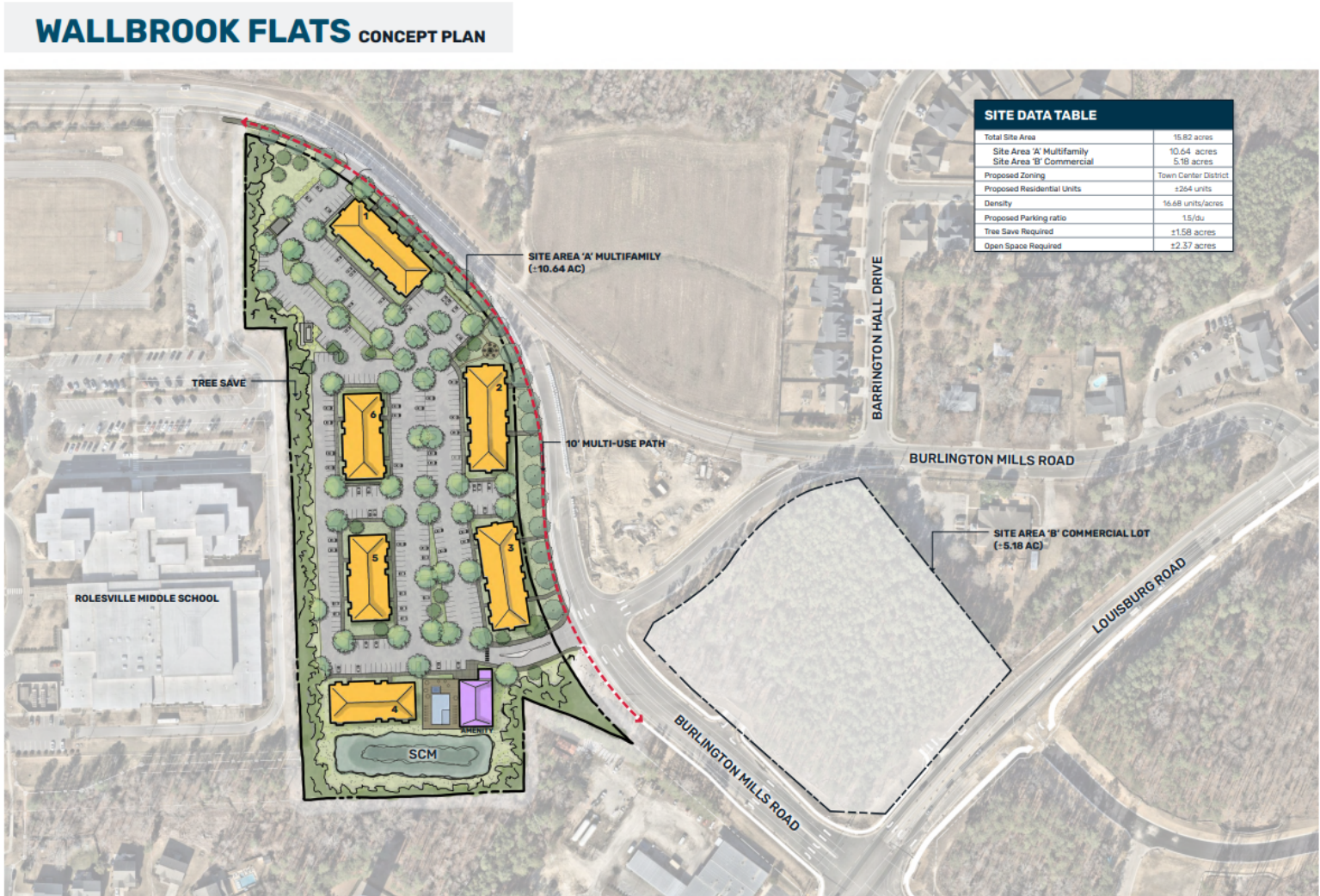
Figure 1: Site Location



REZ-25-01: WALLBROOK FLATS TRAFFIC IMPACT ANALYSIS

Introduction
July 23, 2025

Figure 2: Site Plan



2.0 INVENTORY OF TRAFFIC CONDITIONS

2.1 STUDY AREA

Stantec coordinated with the Town of Rolesville, the applicant, and the North Carolina Department of Transportation (NCDOT) to determine the appropriate study area and assumptions. The following existing intersections were agreed upon to be analyzed to determine the impacts associated with this development. These intersections are shown in Figure 1.

- US 401 Business (Main Street) at SR 2051 (Burlington Mills Road)
- SR 2051 (Burlington Mills Road) at SR 2049 (Forestville Road)

2.2 PROPOSED ACCESS

Access to the site is envisioned to be provided by two access points along Burlington Mills Road. Access A will operate with full movement and be located at the future intersection of Burlington Mills Road at Old Burlington Mills Road. This will add a fourth leg to the future three-legged, stop-controlled intersection. The second access, Access B, will be located approximately 1,000 feet north of Access A and will operate with restricted movement, allowing right in/ right out.

Table 1 provides a detailed description of the existing study area roadway network. All functional classification and average annual daily traffic (AADT) information were obtained from NCDOT.

Table 1: Existing Conditions

Road Name	Road Number	Primary Cross-Section	Functional Classification ¹	AADT ² (year)	Speed Limit (mph)	Maintenance Agency
Burlington Mills Road	SR 2051	Two-Lane Undivided	Major Collector	4,400-9,000 vpd (2023)	35-45	NCDOT
Forestville Road	SR 2049	Two-Lane Undivided	Minor Arterial	15,000-17,500 vpd (2023)	45	NCDOT
Main Street	US 401 Business	Two-Lane w/ TWLTL*	Principal Arterial	11,000-14,500 vpd (2023)	35	NCDOT

*TWLTL = Continuous Two-Way Left-Turn Lane

The existing lane configuration and traffic control for the study area intersections are illustrated in Figure 3.

2.3 FUTURE CONDITIONS

The following sub-sections discuss the projects that are anticipated to modify the study area intersections between 2025 and the future year 2030. The future year lane configuration and traffic control for the study area intersections are illustrated in Figure 4.



REZ-25-01: WALLBROOK FLATS TRAFFIC IMPACT ANALYSIS

Inventory of Traffic Conditions

July 23, 2025

2.3.1 U-6241 (Main Street)

The U-6241 project will realign Burlington Mills Road near Main Street as well as make streetscape and multimodal improvements along Main Street. The access point to the proposed development is located approximately 700 feet west of where the realigned Burlington Mills Road will tie into the existing alignment of Burlington Mills Road (a.k.a. Old Burlington Mills Road). This will create a new, three-legged, stop-controlled intersection.

The project will convert the existing signalized intersection of Main Street at Burlington Mills Road to an unsignalized (i.e., stop-controlled) intersection. Furthermore, Burlington Mills Road will be converted from full-movement access onto Main Street to right-in / right-out only access.

2.3.2 Pearce Farm (fka Tom's Creek)

The following improvements are currently proposed to be implemented in association with the development of the Pearce Farm site:

Burlington Mills Road at Forestville Road

- Extend the existing eastbound left-turn lane to 575 feet of full-width storage and appropriate taper
- Extend the existing westbound left-turn lane to 225 feet of full-width storage and appropriate taper
- Construct a westbound right-turn lane with 150 feet of full-width storage and appropriate taper
- Extend the existing northbound left-turn lane to 225 feet of full-width storage and appropriate taper
- Extend the existing southbound left-turn lane to 300 feet of full-width storage and appropriate taper
- Construct a southbound right-turn lane with 200 feet of full-width storage and appropriate taper

A copy of the TIA is contained in the Appendix. Pearce Farm is discussed in more detail in Section 4.3.1.

2.3.3 Wallbrook

The following improvements were committed to by the Wallbrook development:

Main Street at Realigned Burlington Mills Road

- Construct dual northbound exclusive left-turn lanes with 375 feet of full-width storage and appropriate taper
- Construct an exclusive northbound right-turn lane with 200 feet of full-width storage and appropriate taper
- Construct an exclusive westbound left-turn lane with 100 feet of full-width storage and appropriate taper
- Construct an exclusive westbound right-turn lane with 100 feet of full-width storage and appropriate taper
- Construct an exclusive eastbound left-turn lane with 500 feet of full-width storage and appropriate taper
- Construct an exclusive eastbound right-turn lane with 175 feet of full-width storage and appropriate taper
- Construct an exclusive southbound left-turn lane with 100 feet of full-width storage and appropriate taper
- Construct an exclusive southbound right-turn lane with at least 250 feet of full-width storage and appropriate taper

A copy of the TIA is contained in the Appendix. The Wallbrook development is discussed in more detail in Section 4.3.2.



Figure 3: 2025 Existing Lanes and Traffic Control

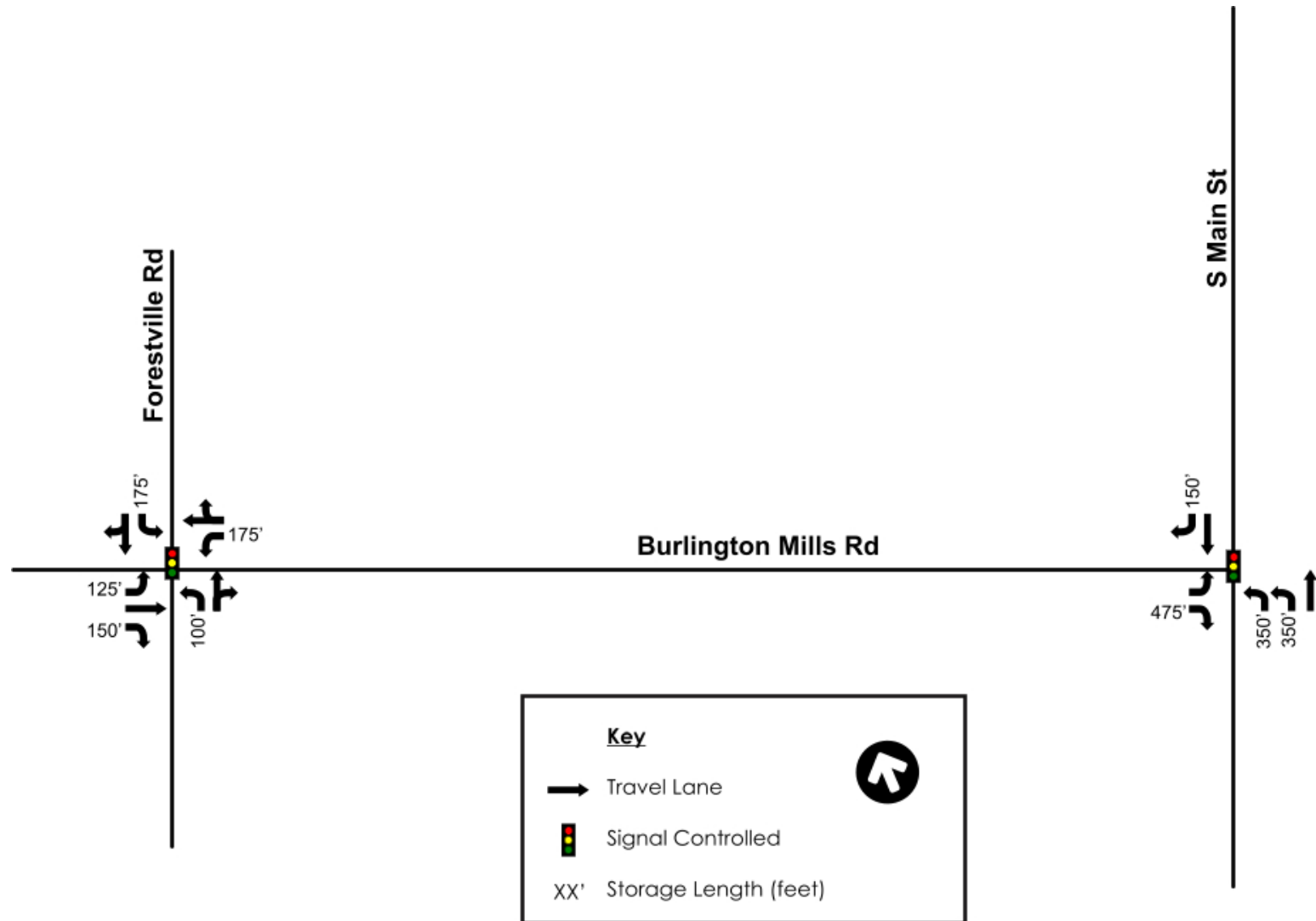


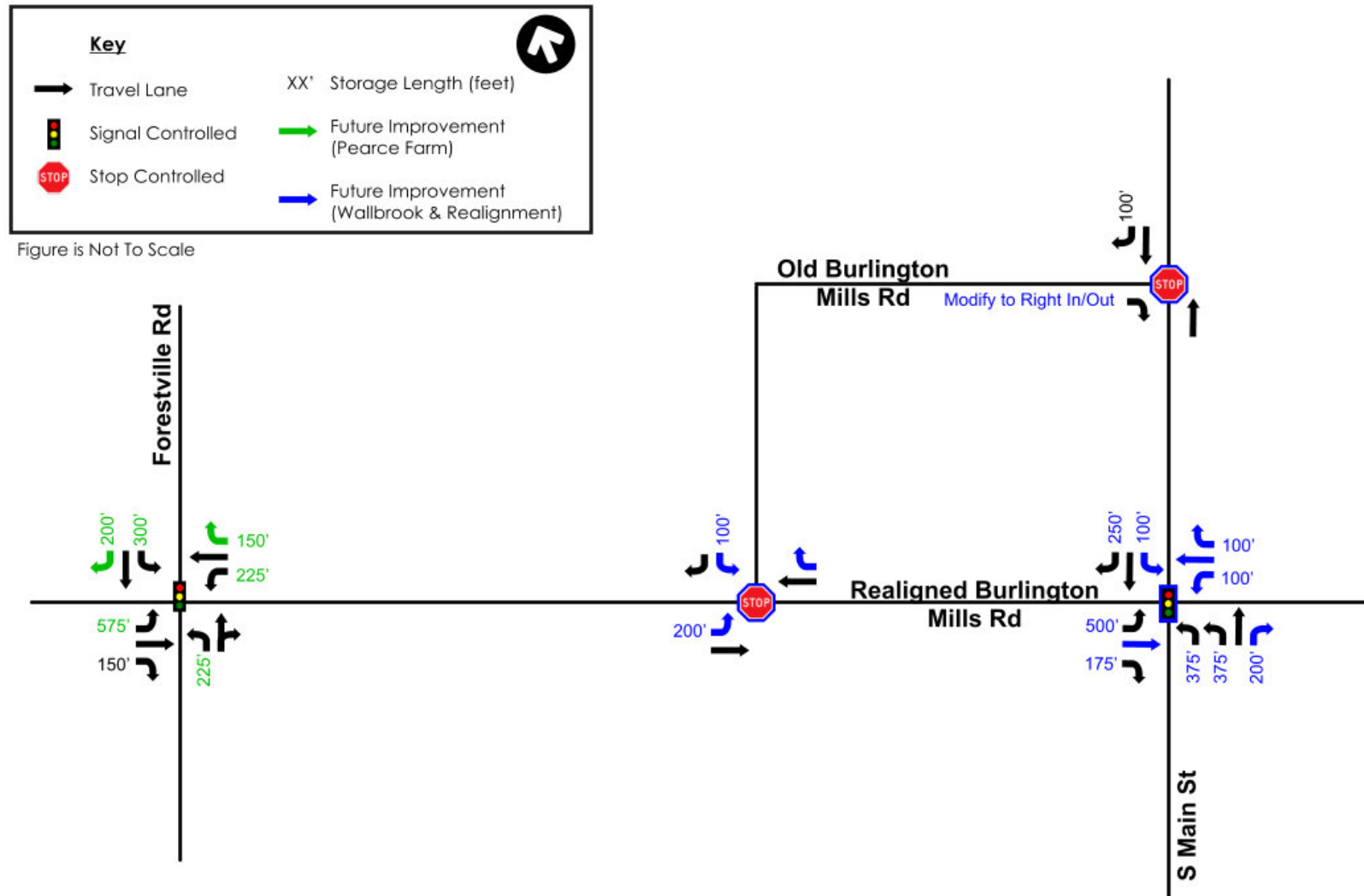
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REZ-25-01: WALLBROOK FLATS TRAFFIC IMPACT ANALYSIS

Inventory of Traffic Conditions
July 23, 2025

Figure 4: 2030 No-Build Lanes and Traffic Control



3.0 TRIP GENERATION AND DISTRIBUTION

3.1 TRIP GENERATION

Trip generation for the proposed development was performed using the 11th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual³. The Rate Versus Equation spreadsheet published by NCDOT⁴ was used to supplement the ITE methodology. No trip reductions were taken for internal capture or pass-by traffic. Trip generation for the proposed development is shown in Table 2.

Table 2: Trip Generation

Land Use	Size	Daily			AM Peak			PM Peak		
		Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
Multifamily Housing (LUC 220)	280 Units	1870	935	935	110	26	84	141	89	52
Total Trips Generated		1870	935	935	110	26	84	141	89	52

3.2 SITE TRIP DISTRIBUTION

To accurately determine the effect of the proposed development on the surrounding roadway network, an estimate of the expected distribution of traffic entering and exiting the site is needed. These percentages were developed using a combination of existing traffic volume counts, historic AADTs provided by NCDOT, and engineering judgment. This trip distribution was submitted as part of NCDOT's TIA Scoping Checklist contained in the Appendix. All traffic volume calculations can be found in the Appendix.

- 40% to/from the south on Main Street
- 25% to/from the north on Main Street
- 25% to/from the north on Forestville Road
- 10% to/from the west on Burlington Mills Road

The trip distribution for the proposed development is shown in Figure 5. The trip assignment is shown in Figure 6.



Figure 5: Trip Distribution

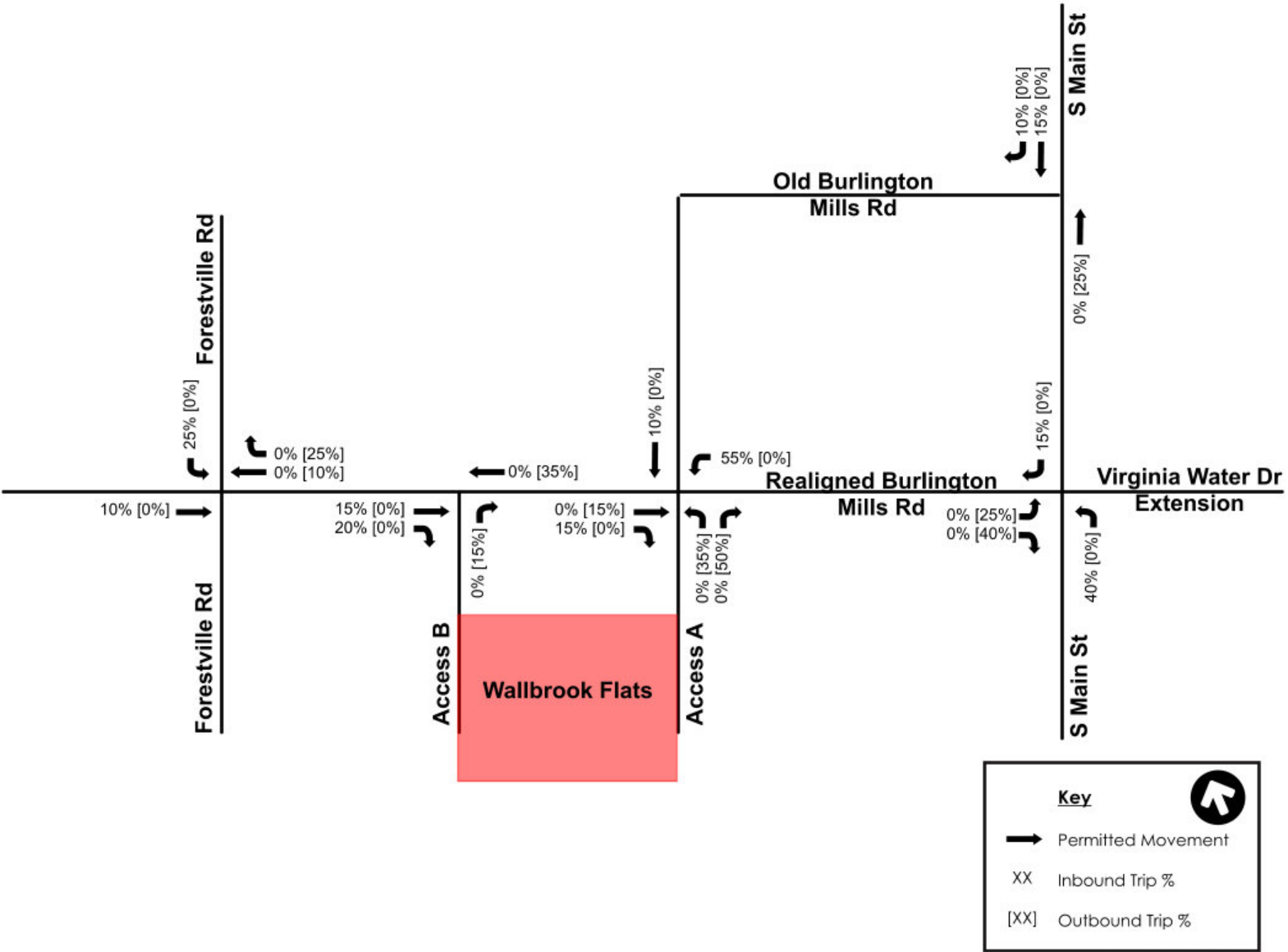
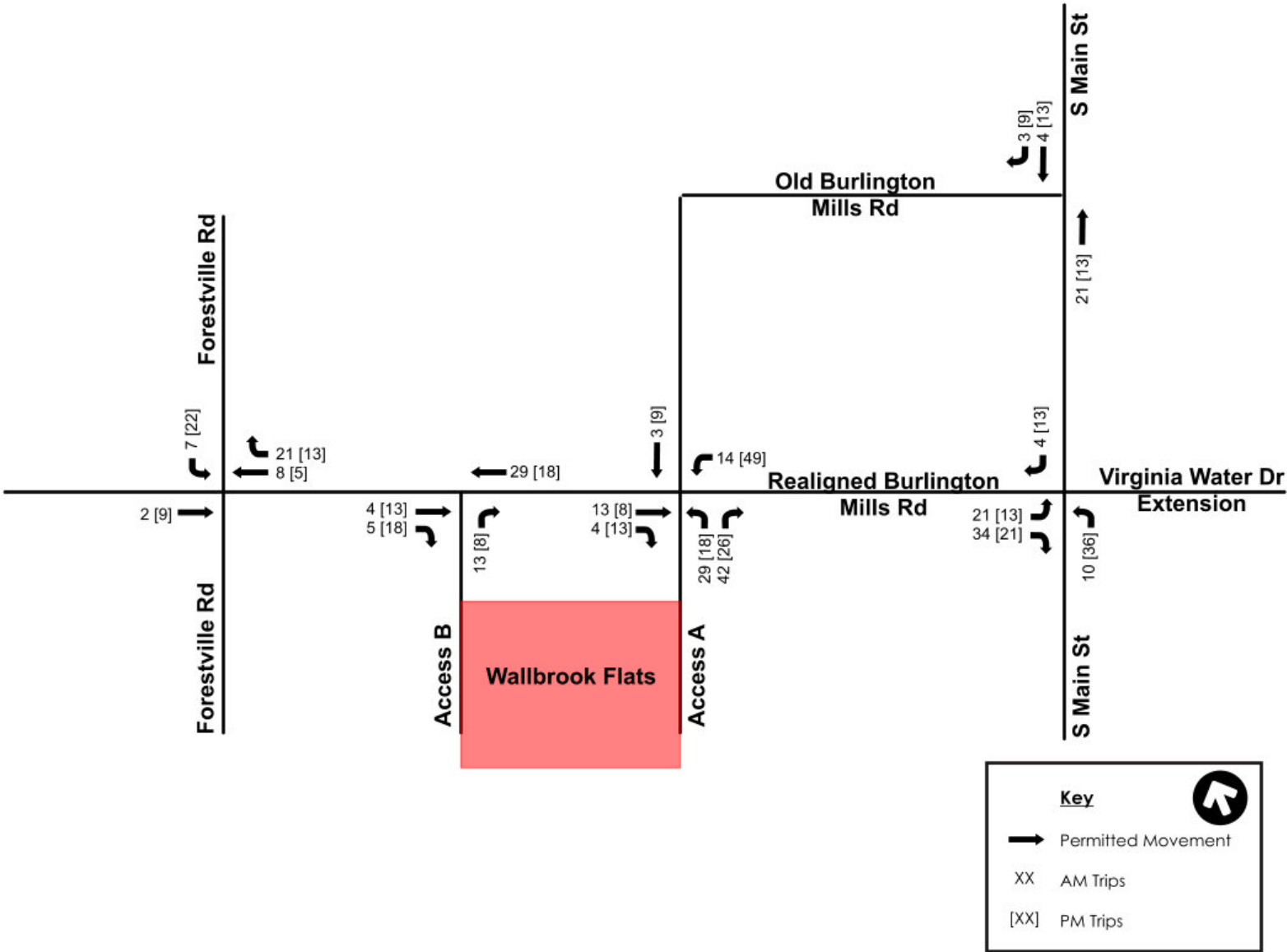


Figure 6: Trip Assignment



4.0 TRAFFIC VOLUMES

All traffic volume calculations can be found in the Appendix.

4.1 DATA COLLECTION

Morning (7:00 – 9:00 AM) and evening (4:00 – 6:00 PM) turning movement counts were taken at the study intersections on May 13, 2025, while schools were in session. Due to the distance between study intersections and the number of driveways between them, the traffic counts were not balanced. All traffic count data can be found in the appendix. The existing (2025) traffic volumes are shown in Figure 7.

4.2 BACKGROUND TRAFFIC GROWTH

Background traffic growth is the increase in traffic volumes due to usage increases and non-specific growth throughout the area. The 2025 existing volumes were grown by a 2.0 percent annual rate to estimate the 2030 volumes. The growth in vehicles as a result of this future traffic growth is shown in Figure 8.

4.3 ADJACENT DEVELOPMENT TRAFFIC

There are two (2) developments proposed to be constructed within and nearby the study area: Pearce Farm (fka Tom's Creek), and Wallbrook. The total trips associated with these developments are shown in Figure 9. Figures showing the individual development trips can be found in the appendix. The following subsections highlight salient data for each of the approved developments.

4.3.1 Pearce Farm (fka Tom's Creek)

Pearce Farm is a residential development project located in the southeast quadrant of the Forestville Road and Burlington Mills Road intersection. It is currently assumed that the project will consist of 606 units of single-family detached housing and that the project will be built out by 2029. The improvements associated with the Wallbrook development are discussed in Section 2.4.3. To provide a conservative analysis, it was assumed that the entire project would be built out and completed by the construction of the Wallbrook Flats. The trips attributed to the Pearce Farm development, as well as a copy of the traffic study prepared by Stantec are provided in the Appendix.

4.3.2 Wallbrook

Wallbrook is a proposed mixed-use development project located along Main Street. The proposed development is expected to consist of 107,000 square feet of office space, 17,000 square feet of restaurants, 143,000 square feet of retail space, and 170 townhomes. The development is currently under construction and not yet completed. The improvements associated with the Wallbrook development are discussed in Section 2.4.3. The trips attributed to the Wallbrook development, as well as a copy of the traffic study prepared by Stantec, can be found in the Appendix.



4.4 NO-BUILD TRAFFIC VOLUMES

The 2030 No-Build traffic volumes consist of the sum of the 2025 Existing traffic volumes, the Background traffic growth, and the adjacent development growth. The 2030 No-Build traffic volumes are shown in Figure 10.

4.5 BUILD TRAFFIC VOLUMES

The 2030 Build traffic volumes include the 2030 No-Build traffic and the proposed development traffic discussed in Section 3.0. The 2030 Build traffic volumes are shown in Figure 11.



Figure 7: 2025 Existing Traffic Volumes

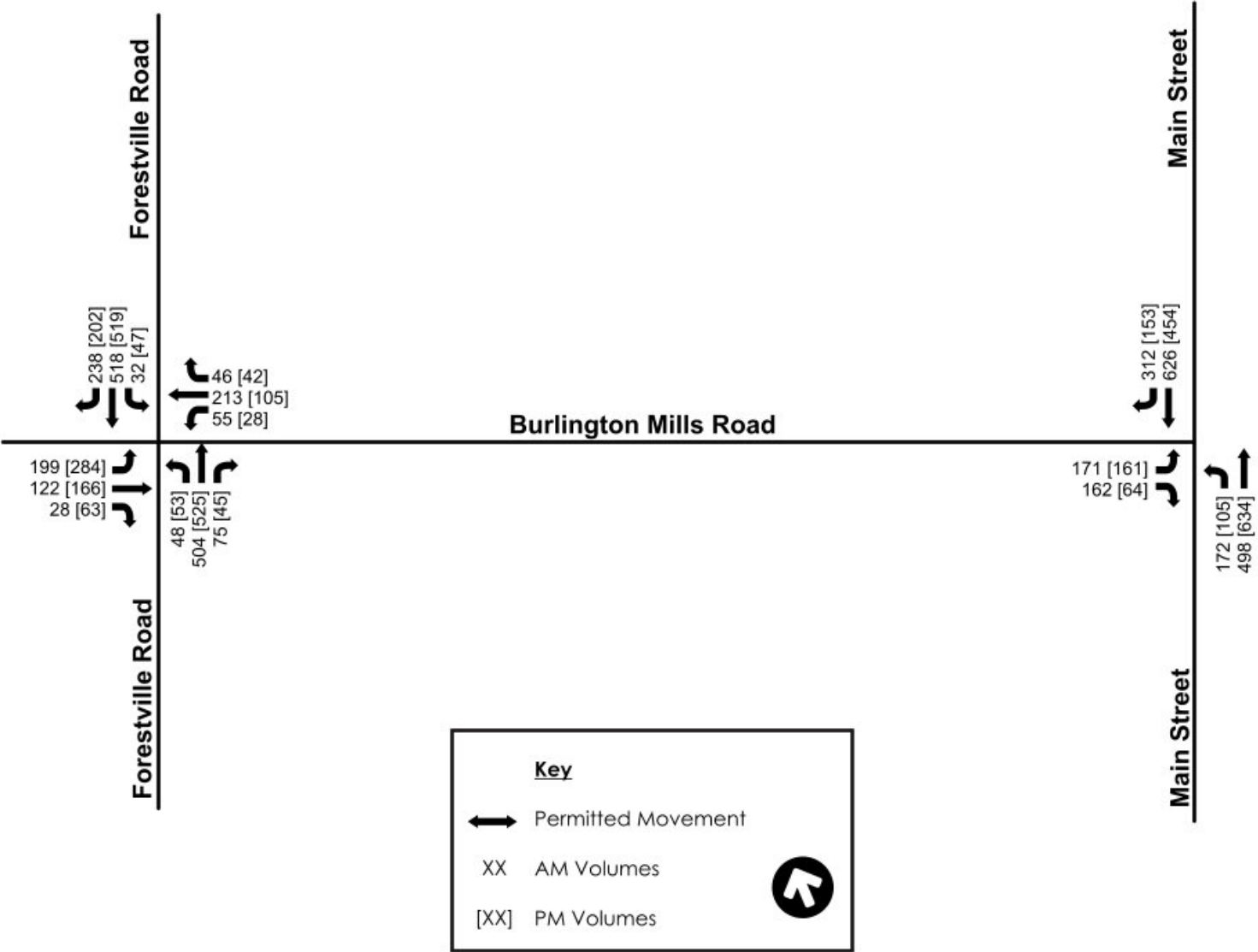


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Figure 8: Background Traffic Growth

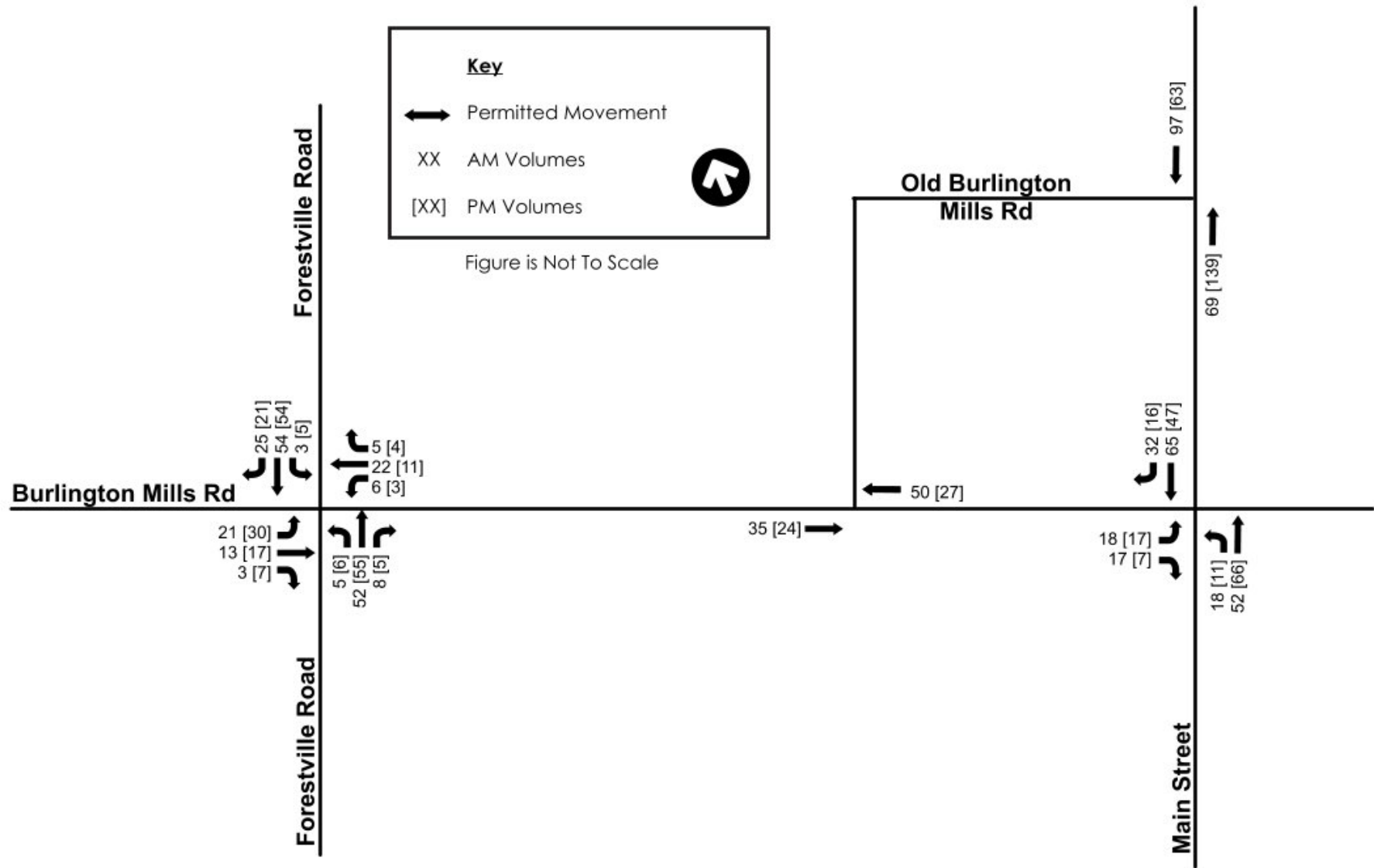
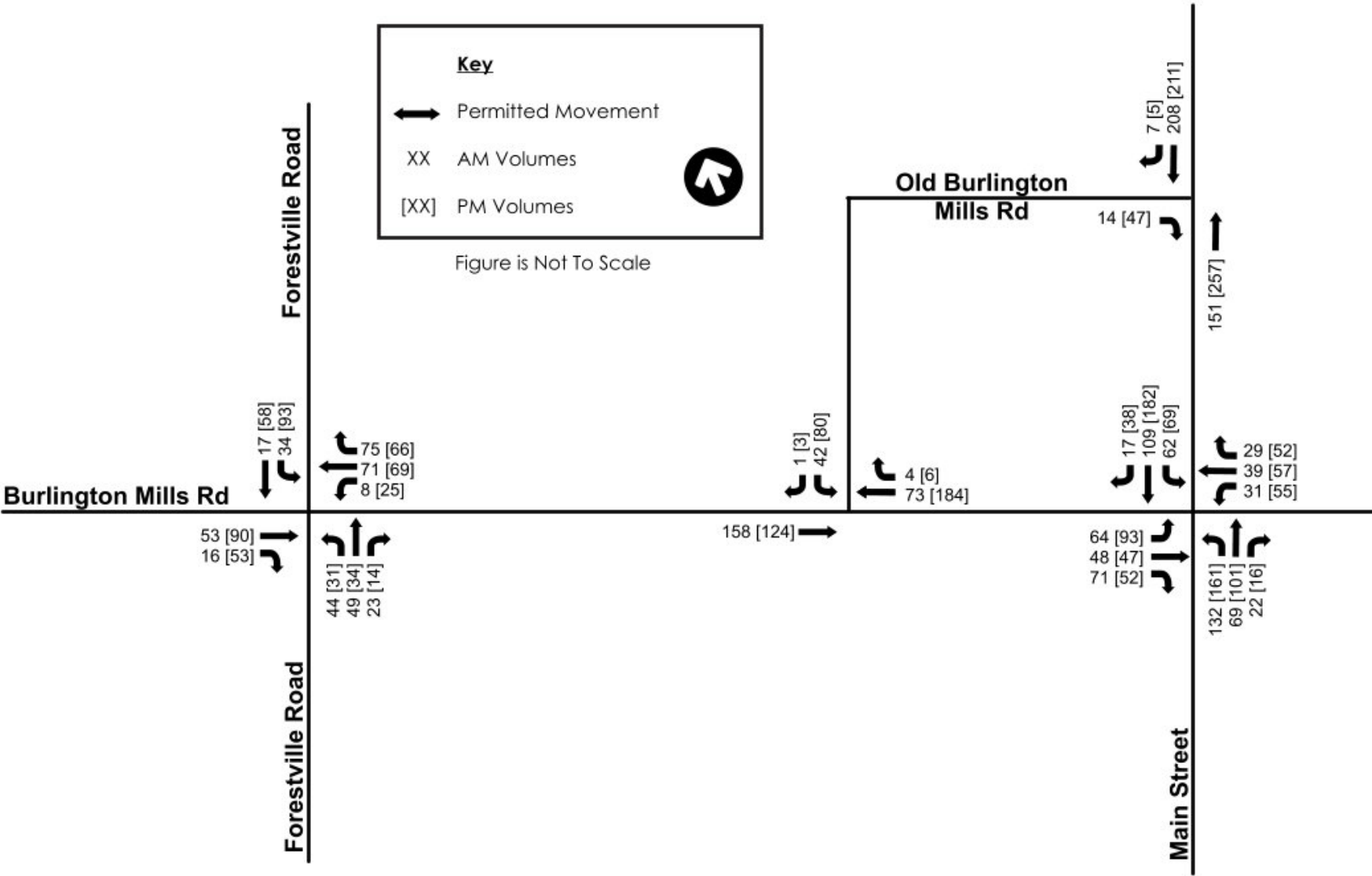


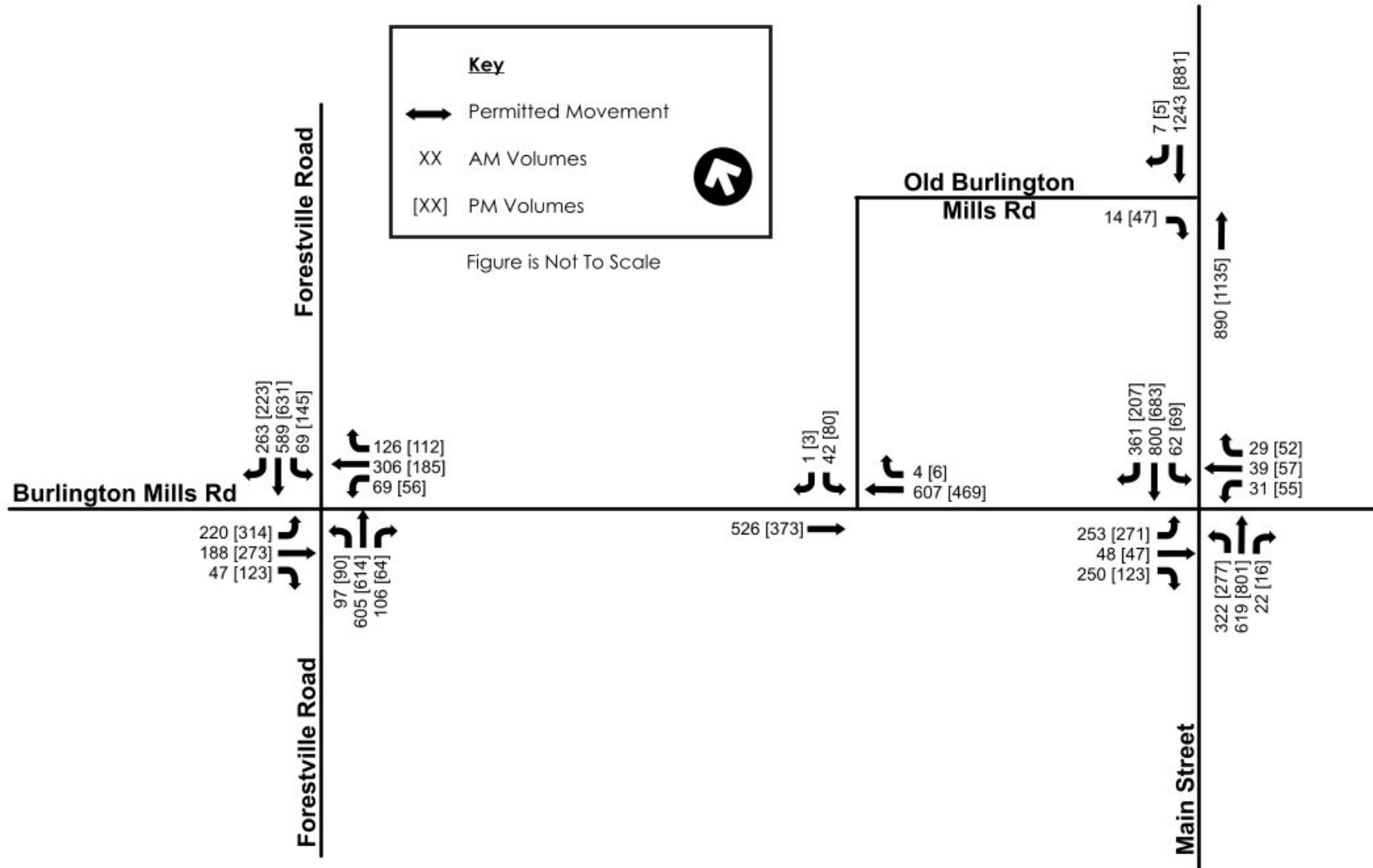
Figure 9: Adjacent Development Traffic Volumes



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Traffic Volumes
July 23, 2025

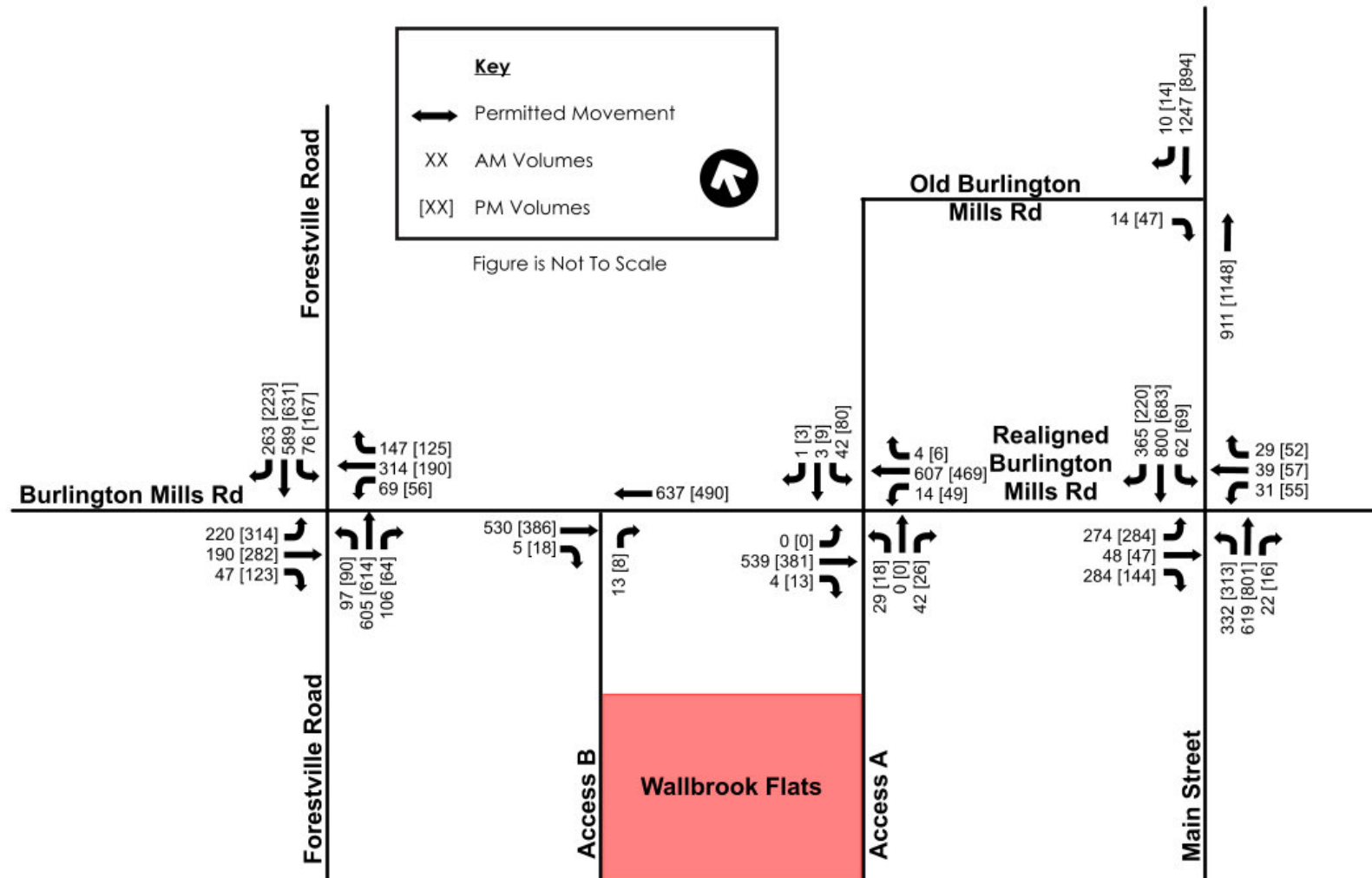
Figure 10: 2030 No-Build Traffic Volumes



REZ-25-01: WALLBROOK FLATS TRAFFIC IMPACT ANALYSIS

Traffic Volumes
July 23, 2025

Figure 11: 2030 Build Traffic Volumes



5.0 CAPACITY ANALYSIS

Capacity analyses were performed for the roadway network in the study area. The traffic analysis program Synchro Version 11 was used to analyze all signalized and stop-controlled intersections according to methods put forth by the Transportation Research Board's Highway Capacity Manual⁵ (HCM). The HCM defines capacity as the "maximum rate or flow at which persons or vehicles can be reasonably expected to traverse a point or uniform section of a line or roadway during a specified period under prevailing roadway, traffic, and control conditions, usually expressed as vehicles per lane per hour."

Level of service (LOS) is a term used to describe different traffic conditions and is defined as a "qualitative measure describing operational conditions within a traffic stream, and their perception by motorists or passengers." LOS varies from Level A, representing free flow, to Level F where traffic breakdown conditions are evident. At an unsignalized intersection, the primary traffic on the main roadway is virtually uninterrupted. Therefore, the overall delay for the intersection is usually less than what is calculated for minor street movements. The overall intersection delay and the delay for the intersections' minor movement(s) are reported in the summary tables of this report. LOS D is acceptable for signalized intersections in suburban areas during peak periods. For unsignalized intersections, it is common for some of the minor street movements or approaches to be operating at LOS F during peak hour conditions and that is not necessarily indicative of an area that requires improvements.

Capacity analyses were completed following *NCDOT Capacity Analysis Guidelines*⁶ as well as the *Draft NCDOT Capacity Analysis Guidelines Best Practices*⁷. Table 3 presents the criteria of each LOS as indicated in the HCM.

Table 3: Level of Service Criteria

Level of Service (LOS)	Signalized Intersection Control Delay (seconds/vehicle)	Unsignalized Intersection Control Delay (seconds/vehicle)
A	≤ 10	≤ 10
B	>10 and ≤ 20	>10 and ≤ 15
C	>20 and ≤ 35	>15 and ≤ 25
D	>35 and ≤ 55	>25 and ≤ 35
E	>55 and ≤ 80	>35 and ≤ 50
F	>80	>50

The Town of Rolesville's Land Development Ordinance (LDO)⁸, Section 8.E, establishes the following Level of Service Standards:

1. *The traffic impact analysis must demonstrate that the proposed development would not cause build-out-year, peak-hour levels of service on any arterial or collector road or intersection within the study area to fall below Level of Service (LOS) "D," as defined by the latest edition of the Highway Capacity Manual, or, where the existing level of service is already LOS "E" that the proposed development would not cause the LOS to fall to the next lower letter grade.*



REZ-25-01: WALLBROOK FLATS TRAFFIC IMPACT ANALYSIS

Capacity Analysis

July 23, 2025

2. If the road segment or intersection is already LOS "F," the traffic impact analysis must demonstrate that the proposed development, with any proposed improvements, would not cause build-out year peak-hour operation to degrade more than five (5) percent of the total delay on any intersection approach.

All Synchro files and detailed printouts can be found in the Appendix.

5.1 2025 EXISTING

In the base year under the existing geometric conditions, both study intersections operate at an overall acceptable LOS. It should be noted that the Burlington Mills Road at Forestville Road eastbound left, operates at LOS F and LOS E in the AM and PM peak hours; respectively. The results from the 2025 existing analysis are shown in Table 4. Instances where the overall intersection or lane group operate at LOS E or F are highlighted in the table.

Table 4: 2025 Existing Level of Service and Delay

Intersection		Approach	Lane Group	Delay (sec./veh.)		Level of Service (LOS)		95th % Queue (feet)		Max. Obs. Queue (feet)	
				AM	PM	AM	PM	AM	PM	AM	PM
	Burlington Mills Road at Forestville Road	Overall		34.2	31.2	C	C				
		EB	L	99.5	71.9	F	E	274	344	223	224
			T	25.9	26.8	C	C	106	139	631	588
			R	15.0	15.5	B	B	26	48	130	214
		WB	L	19.3	17.2	B	B	43	23	120	59
			TR	24.8	19.5	C	B	155	81	253	181
		NB	L	8.6	9.0	A	A	24	26	165	160
			TR	12.6	12.7	B	B	290	284	352	340
		SB	L	14.1	14.9	B	B	29	39	274	274
TR	42.5		37.8	D	D	724	674	734	596		
	Burlington Mills Road at Main Street	Overall		15.8	12.6	B	B				
		EB	L	41.0	38.9	D	D	87	57	140	116
			T	5.4	6.3	A	A	174	245	229	260
		WB	T	15.5	11.6	B	B	396	256	472	232
			R	2.6	1.9	A	A	51	27	250	124
		SB	L	40.5	32.7	D	C	171	152	301	247
			R	21.5	14.1	C	B	136	33	186	107

 Intersection or Lane Group Operates at LOS E

 Intersection or Lane Group Operates at LOS F



5.2 2030 NO-BUILD

In the 2030 No-Build conditions, the analysis assumes the improvements associated with the adjacent developments and NCDOT projects are constructed. These improvements, discussed in Section 2.4, are listed below:

Burlington Mills Road at Forestville Road

- Extend the existing eastbound left-turn lane to 575 feet of full-width storage and appropriate taper
- Extend the existing westbound left-turn lane to 225 feet of full-width storage and appropriate taper
- Construct a westbound right-turn lane with 150 feet of full-width storage and appropriate taper
- Extend the existing northbound left-turn lane to 225 feet of full-width storage and appropriate taper
- Extend the existing southbound left-turn lane to 300 feet of full-width storage and appropriate taper
- Construct a southbound right-turn lane with 200 feet of full-width storage and appropriate taper

Main Street at Realigned Burlington Mills Road

- Construct dual northbound exclusive left-turn lanes with 375 feet of full-width storage and appropriate taper
- Construct an exclusive northbound right-turn lane with 200 feet of full-width storage and appropriate taper
- Construct an exclusive westbound left-turn lane with 100 feet of full-width storage and appropriate taper
- Construct an exclusive westbound right-turn lane with 100 feet of full-width storage and appropriate taper
- Construct an exclusive eastbound left-turn lane with 500 feet of full-width storage and appropriate taper
- Construct an exclusive eastbound right-turn lane with 175 feet of full-width storage and appropriate taper
- Construct an exclusive southbound left-turn lane with 100 feet of full-width storage and appropriate taper
- Construct an exclusive southbound right-turn lane with at least 250 feet of full-width storage and appropriate taper

Main Street at Old Burlington Mills Road

- The existing signalized and full-movement intersection will be converted to a stop-controlled right-in / right-out intersection.

Synchro LOS and delay results for the 2030 No-Build analysis scenario are listed in Table 5. Instances where the overall intersection or lane group operate at LOS E or F are highlighted in the table. The intersection of Main Street at Realigned Burlington Mills Road is projected to operate at an overall LOS D in both peak hours with individual movements operating at LOS E and F. The intersection of Burlington Mills Road at Forestville Road is projected to operate at an overall LOS E in both peak hours with individual movements operating at LOS E and F.

At the unsignalized intersection of Burlington Mills Road at Old Burlington Mills Road, the southbound left-turn from Old Burlington Mills Road onto Realigned Burlington Mills Road operates at LOS E in the AM peak hour. This is attributed to high thru volumes on Burlington Mills Road due to traffic to / from Rolesville Middle School.

SimTraffic observations noted queues exceeding 1,000 feet on the northbound approach of Burlington Mills Road at Forestville Road. Similarly, the northbound (AM) and southbound (AM & PM) approaches of Main Street resulted in a maximum observed queue greater than 1,000 feet.



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Table 5: 2030 No-Build Level of Service and Delay

Intersection		Approach	Lane Group	Delay (sec./veh.)		Level of Service (LOS)		95th % Queue (feet)		Max. Obs. Queue (feet)	
				AM	PM	AM	PM	AM	PM	AM	PM
	Burlington Mills Road at Forestville Road	Overall		55.9	56.6	E	E				
		EB	L	104.7	90.9	F	F	390	464	430	504
			T	31.9	32.0	C	C	198	263	271	331
			R	19.1	18.8	B	B	49	100	80	188
		WB	L	59.1	64.3	E	E	117	94	263	199
			T	94.7	100.6	F	F	500	312	644	370
			R	26.8	25.5	C	C	115	88	250	213
		NB	L	88.9	86.9	F	F	189	169	325	325
			TR	59.6	61.1	E	E	924	821	1091	1334
		SB	L	85.1	122.0	F	F	142	269	321	400
			T	41.7	42.5	D	D	649	700	623	953
			R	8.7	7.8	A	A	105	100	300	300
	Burlington Mills Road at Old Burlington Mills Road	EB	L	9.2	8.5	A	A	0	0	28	30
		SB	L	40.1	23.8	E	C	33	33	68	96
			R	12.2	10.7	B	B	0	0	26	25
	Main Street at Old Burlington Mills Road	EB	R	27.4	19.3	D	C	8	15	289	171
	Realigned Burlington Mills Road at Main Street	Overall		51.4	49.8	D	D				
		EB	L	134.6	125.3	F	F	516	518	362	456
			T	60.3	54.5	E	D	92	84	342	230
			R	44.4	32.1	D	C	313	134	271	164
		WB	L	79.5	79.6	E	E	74	110	81	114
			T	78.7	74.4	E	E	87	108	116	133
			R	54.2	38.0	D	D	58	67	95	100
		NB	L	68.0	75.8	E	E	236	257	468	475
			T	25.5	35.6	C	D	674	1058	585	1186
			R	9.9	5.9	A	A	21	11	219	273
		SB	L	81.3	90.5	F	F	124	142	200	200
			T	54.2	35.7	D	D	1248	785	1106	1084
			R	12.1	5.2	B	A	257	54	350	350

 Intersection or Lane Group Operates at LOS E

 Intersection or Lane Group Operates at LOS F


5.3 2030 BUILD

As part of the 2030 Build analysis, the proposed driveways were added to the network as detailed in Section 2.2.

With the proposed development in place, a minimal increase in average delay at the study intersections without a proposed driveway was observed when compared with the 2030 No-Build analysis. At the intersection of Main Street at Realigned Burlington Mills Road, individual movements at the intersection experience longer delays when compared to the no-build analysis, however, the overall intersection continues to operate at LOS D. Queuing observed in the No-Build analysis is still present in the Build scenario with long queues observed at the intersections of Burlington Mills at Forestville Road and Realigned Burlington Mills Road at Main Street.

At the intersection of Burlington Mills Road at Old Burlington Mills Road / Access A, the southbound left turn movement operates at LOS F in both the AM and PM peak hours. With the proposed development in place, the approach increases in delay from an average of 38 seconds per vehicle to an average of 74 seconds per vehicle in the AM peak hour. In the PM peak hour, the same approach operates at LOS E with the proposed development in place. Long delays at this intersection during the AM peak hour are attributed to traffic traveling to / from Rolesville Middle School. The school, located just to the west of the proposed development, operates from 8:15 AM to 3:00 PM. At unsignalized intersections, it is common for minor streets to experience higher delays due to the difficulty in making a left-turn movement through the intersection with the uninterrupted main street traffic. While delay per vehicle is high on the approach, the queues are mainly contained within the turn-lanes, with the Southbound thru/right lane operating at LOS C in both peak hours.

The following movements operate at LOS F during one or both peak hours:

- Burlington Mills Road at Forestville Road – EBL, WBT, NBL, SBL – AM and PM peak hours
- Burlington Mills Road at Old Burlington Mills Road / Access A – SBL – AM and PM peak hours
- Realigned Burlington Mills Road at Main Street – EBL, WBL, SBL – AM and PM peak hours, WBT – AM peak hour, NBL – PM peak hour

Synchro LOS and delay results for the 2030 Build scenario are listed in Table 6. Instances where the overall intersection or lane group operate at LOS E or F are highlighted in the table.



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Table 6: 2030 Build Level of Service and Delay

Intersection		Approach	Lane Group	Delay (sec./veh.)		Level of Service (LOS)		95th % Queue (feet)		Max. Obs. Queue (feet)	
				AM	PM	AM	PM	AM	PM	AM	PM
	Burlington Mills Road at Forestville Road	Overall		56.8	58.7	E	E				
		EB	L	106.5	102.5	F	F	390	476	398	576
			T	31.3	34.2	C	C	197	279	239	693
			R	18.6	20.0	B	C	48	104	76	203
		WB	L	57.4	68.5	E	E	116	101	304	287
			T	92.5	126.5	F	F	505	334	500	728
			R	27.2	25.7	C	C	130	98	250	250
		NB	L	89.6	86.9	F	F	189	169	325	325
			TR	62.1	61.1	E	E	936	821	1112	1160
		SB	L	91.3	110.3	F	F	158	294	372	398
T	42.9		38.4	D	D	659	635	730	822		
R	9.0		7.4	A	A	109	97	300	300		
	Burlington Mills Road at Old Burlington Mills Road / Access A	EB	L	9.2	8.5	A	A	0	0	29	21
		WB	LT	8.8	8.4	A	A	0	5	321	203
		NB	LTR	41.3	21.2	E	C	55	18	80	81
		SB	L	83.3	50.6	F	F	58	70	62	104
			TR	24.9	21.2	C	C	3	5	29	46
	Burlington Mills Road at Access B	NB	R	12.3	10.9	B	B	3	0	31	31
	Main Street (US 401 Business) at Old Burlington Mills Road	EB	R	27.5	19.6	D	C	8	15	263	240
	Realigned Burlington Mills Road at Main Street (US 401 Business)	Overall		54.4	52.4	D	D				
		EB	L	143.0	126.4	F	F	569	551	414	492
			T	59.7	55.2	E	E	92	86	389	320
			R	45.2	33.1	D	C	356	155	270	206
		WB	L	85.8	82.9	F	F	77	113	88	112
			T	81.6	77.4	F	E	89	111	124	146
			R	56.2	39.5	E	D	61	68	81	97
		NB	L	69.6	86.3	E	F	248	291	463	475
			T	26.6	36.4	C	D	694	1086	641	1231
			R	11.0	6.3	B	A	23	11	218	219
		SB	L	83.3	95.4	F	F	127	149	199	200
			T	57.7	37.2	E	D	1299	828	1107	1094
			R	12.5	5.3	B	A	271	58	350	350

 Intersection or Lane Group Operates at LOS E

 Intersection or Lane Group Operates at LOS F


5.4 2030 BUILD IMPROVED

5.4.1 Proposed Improvements

Burlington Mills Road at Old Burlington Mills Road / Access A

- Construct Access A as a full-movement access point
- Construct Access A with one ingress lane and two egress lanes consisting of an exclusive left-turn lane and a shared thru/right-turn lane. Construct the access with 75 feet of internal protective stem
- Construct a westbound left turn lane on Burlington Mills Road with 50 feet of full-width storage and appropriate taper
- Construct an eastbound right-turn lane on Burlington Mills Road with 50 feet of full-width storage and appropriate taper
- Restripe the southbound approach of Old Burlington Mills Road to provide an exclusive left-turn lane and a shared thru/right-turn lane.

Burlington Mills Road at Access B

- Construct Access B as a restricted-movement access point allowing right-turns in and right-turns out only.
- Construct Access B with one ingress lane and one egress lane consisting of an exclusive right-turn lane. Construct the access with 50 feet of internal protective stem
- Construct an eastbound right-turn lane on Burlington Mills Road with 50 feet of full-width storage and appropriate taper

5.4.2 Analysis Results

The 2030 Build Improved capacity analysis results are shown in Table 7. Instances where the overall intersection or lane group operate at LOS E or F are highlighted in the table. Based on the findings of this study, specific improvements have been identified and should be completed as part of the proposed development. The proposed development accounts for a minimal increase in average delay at the study intersections. Intersections where no improvements are recommended are locations that meet the LOS Standards specified in the LDO⁸.

While delay per vehicle is high for left-turning traffic on the side street approaches to the intersection of Burlington Mills Road at Old Burlington Mills Road / Access A, the queues are contained within the turn-lanes, with the thru/right lane operating at LOS C in both peak hours. A traffic signal was evaluated at the intersection and is not recommended due to low side-street traffic volumes. This is discussed in section 5.4.3.



Table 7: 2030 Build Improved Level of Service and Delay

Intersection		Approach	Lane Group	Delay (sec./veh.)		Level of Service (LOS)		95th % Queue (feet)		Max. Obs. Queue (feet)	
				AM	PM	AM	PM	AM	PM	AM	PM
	Burlington Mills Road at Old Burlington Mills Road / Access A	EB	L	9.2	8.5	A	A	0	0	30	13
		WB	L	8.8	8.4	A	A	0	5	32	62
		NB	L	58.5	29.3	F	D	33	10	54	43
			TR	15.6	13.0	C	B	10	5	59	45
		SB	L	81.9	48.7	F	E	58	68	64	90
			TR	24.7	20.9	C	C	3	5	36	44
	Burlington Mills Road at Access B	NB	R	12.3	10.8	B	B	3	0	31	27

 Intersection or Lane Group Operates at LOS E

 Intersection or Lane Group Operates at LOS F

5.4.3 Traffic Signal Warrants

The results shown in Table 7 show that high delays (in seconds per vehicle) are anticipated on the side street approaches of Old Burlington Mills Road and the proposed Site Access A. These high delays are observed in the AM peak hour which can be attributed to traffic traveling to/from Rolesville Middle School. The intersection operates above LOS F in the PM peak hour.

The intersection is planned to be located approximately 650 feet from the future signalized intersection of Main Street at Burlington Mills Road / Virginia Water Drive. If signalized, queues could spill back and affect operations at either Main Street or the proposed driveway.

Volumes on the side streets of Old Burlington Mills Road and the proposed driveway are lower than the threshold established by the Manual on Uniform Traffic Control Devices (MUTCD)⁹ peak hour warrant for the installation of a traffic signal (i.e., Warrant 3). As a result, the intersection of Burlington Mills Road at Old Burlington Mills Road / Access A is not recommended for the installation of a traffic signal.

5.4.4 Conceptual Design

A conceptual design of the intersection of Burlington Mills Road at Old Burlington Mills Road / Access A has been produced to determine the amount of storage that can be provided with minimal impact to U-6241 currently under construction. The design shown in Figure 13 provides the following:

Left-Turn Lane at the Proposed Access A

The design shown provides 100 feet total of full-width turn lane which can be broken down into 50 feet of full-width deceleration length and 50 feet of full-width storage. The combined length is greater than the SimTraffic maximum observed queueing of 62 feet as shown in Table 7.



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U-6241 Left-Turn Lanes at Main Street

The conceptual design reduces the storage of the left-turn lanes by approximately 15 feet.



6.0 RECOMMENDATIONS

Based on the findings of this study, specific improvements have been identified and should be completed as part of the proposed development. These recommendations are shown in Figure 12. A conceptual design is provided in Figure 13. Intersections where no improvements are recommended are locations that meet the LOS Standards specified in the LDO⁸.

Burlington Mills Road at Forestville Road

- No improvements are recommended at this intersection

Burlington Mills Road at Old Burlington Mills Road / Access A

- Construct Access A as a full-movement access point
- Construct Access A with one ingress lane and two egress lanes consisting of an exclusive left-turn lane and a shared thru/right-turn lane. Construct the access with 75 feet of internal protective stem
- Construct a westbound left turn lane on Burlington Mills Road with 50 feet of full-width storage and appropriate taper
- Construct an eastbound right-turn lane on Burlington Mills Road with 50 feet of full-width storage and appropriate taper
- Restripe the southbound approach of Old Burlington Mills Road to provide an exclusive left-turn lane and a shared thru/right-turn lane.

Burlington Mills Road at Access B

- Construct Access B as a restricted-movement access point allowing right-turns in and right-turns out only.
- Construct Access B with one ingress lane and one egress lane consisting of an exclusive right-turn lane. Construct the access with 50 feet of internal protective stem
- Construct an eastbound right-turn lane on Burlington Mills Road with 50 feet of full-width storage and appropriate taper

Main Street at Old Burlington Mills Road

- No improvements are recommended at this intersection

Realigned Burlington Mills Road at Main Street

- No improvements are recommended at this intersection



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Figure 12: Recommended Improvements

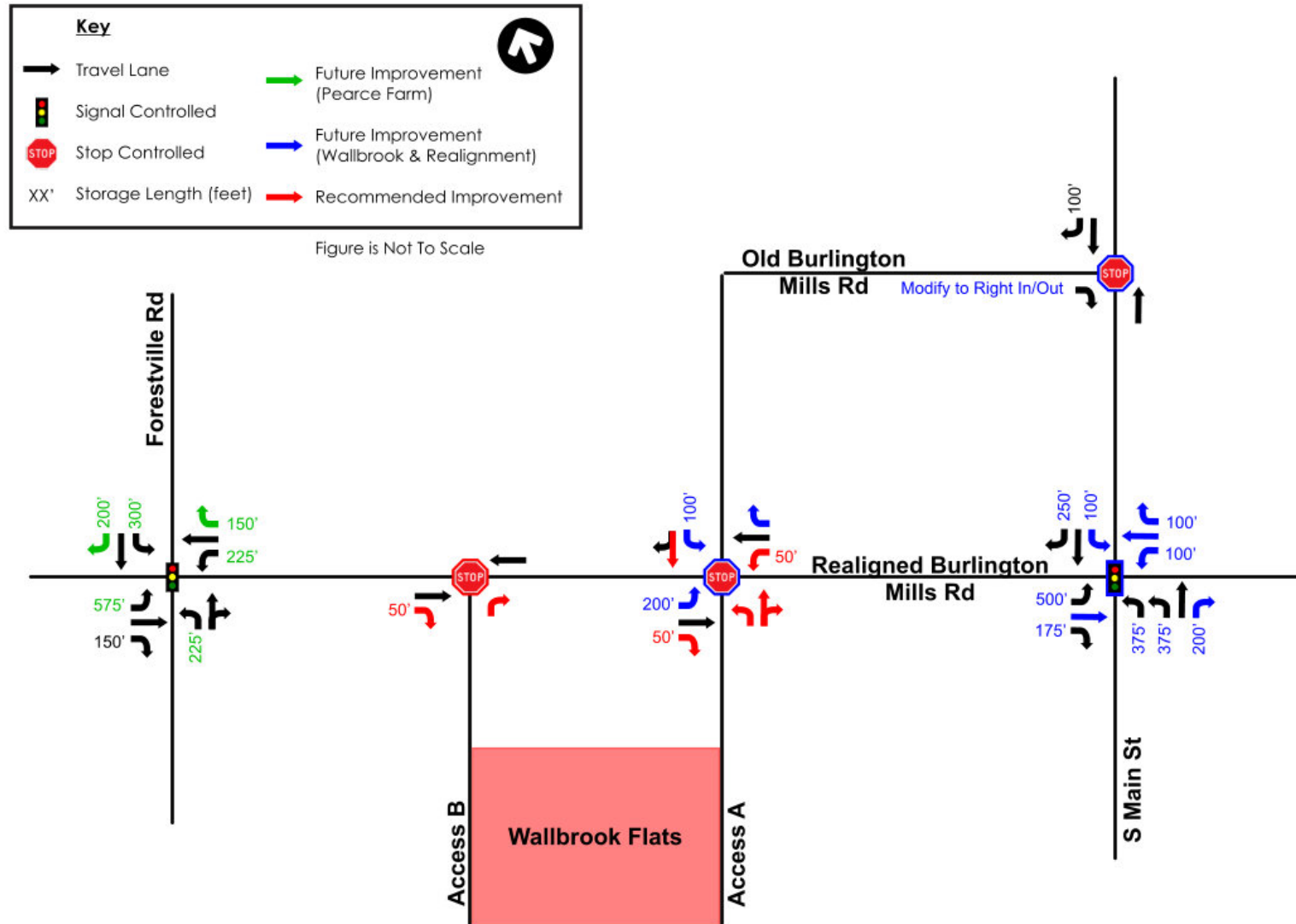
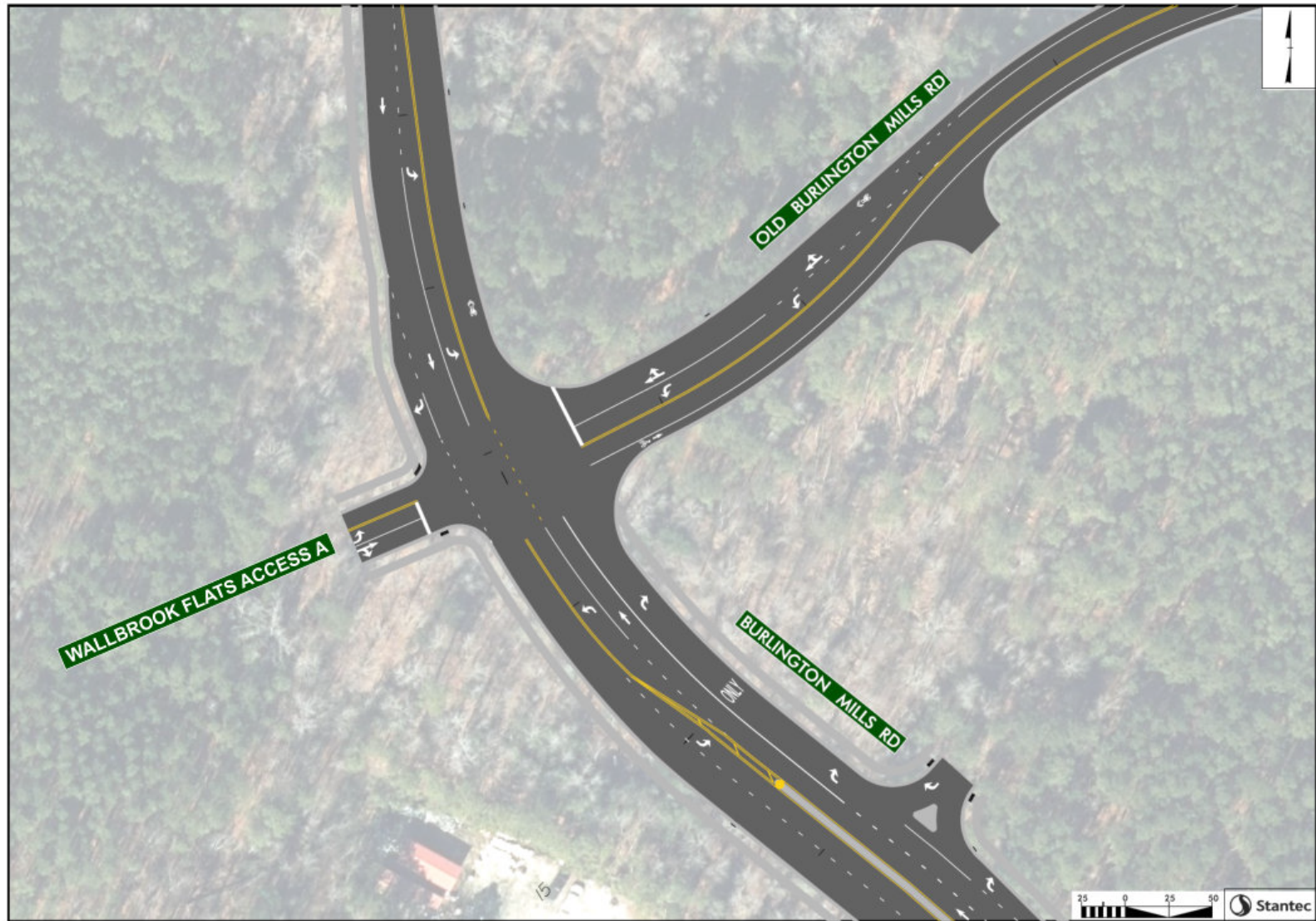


Figure 13: Conceptual Design



References

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7.0 REFERENCES

¹ **NCDOT Functional Classification Map**,

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² **2020 NCDOT Average Daily Traffic Volumes**,

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³ **Trip Generation (11th Edition)**, Institute of Transportation Engineers (ITE), September 2021.

⁴ **NCDOT Trip Generation Rate Equation Recommendations**,

<https://connect.ncdot.gov/resources/safety/Congestion%20Mngmt%20and%20Signing/DRAFT%20-%20Trip%20Generation%20Rate%20Eqn.xlsm>

⁵ **Highway Capacity Manual 6th Edition: A Guide for Multimodal Mobility Analysis**. Washington D.C.: Transportation Research Board, 2016.

⁶ **NCDOT Capacity Analysis Guidelines**. North Carolina Department of Transportation (NCDOT), March 2022, <https://connect.ncdot.gov/resources/safety/Congestion%20Mngmt%20and%20Signing/Standards%20-%20Capacity%20Analysis%20Guidelines.pdf>

⁷ **Draft NCDOT Capacity Analysis Guidelines: Best Practices**. North Carolina Department of Transportation (NCDOT), March 2022, <https://connect.ncdot.gov/resources/safety/Congestion%20Mngmt%20and%20Signing/Best%20Practices%20-%20Capacity%20Analysis%20Guidelines.pdf>

⁸ **Land Development Ordinance**. Town of Rolesville, June 1, 2021, <https://www.rolesvillenc.gov/code-ordinances>

⁹ **Manual on Uniform Traffic Control Devices**. United States Department of Transportation - Federal Highway Administration, last modified September 14, 2022, https://mutcd.fhwa.dot.gov/pdfs/2009r1r2r3/pdf_index.htm

8.0 APPENDIX

- Scoping Correspondence
- Site Plan
- Raw Traffic Count Data
- Adjacent Development Information
- Adjacent Development Traffic Volumes
- Traffic Volume Calculations
- Synchro Files
- Synchro & SimTraffic Reports
- Conceptual Design

