



Memo

To: Mayor Currin and Town Board of Commissioners
From: Meredith Gruber, Planning Director
Date: August 15, 2023
Re: Pearce Farm (formerly known as Tom's Creek)
Rezoning Map Amendment - MA 21-10
Voluntary Annexation Petition - ANX 22-07

Background

Meetings to Date

The meeting history for the Pearce Farm application is as follows:

- **October 24, 2022 Planning Board**
(recommendation of denial)
- **December 6, 2022 Town Board**
(removed from agenda)
- **December 19, 2022 Planning Board**
(tabled application to January 23, 2023; continued to March 27, 2023)
- **March 27, 2023 Planning Board**
(recommended approval 4 – 1)
- **April 26, 2023 Parks and Recreation Advisory Board**
(recommended consistency with the Bike and Greenway Plans)
- **May 2, 2023 Town Board**
(continued to June 6, 2023)
- **June 6, 2023 Town Board**
(continued to August 1, 2023)
- **August 1, 2023 Town Board**
(continued to August 15, 2023)

Application Updates

The applicant previously requested a continuance from June 6, 2023 to July 18, 2023, and the Town Board continued the rezoning and annexation cases to August 1, then August 15, 2023. The continuance request was made to allow time to conduct further review of their application and provide additional zoning conditions.

The Town Board of Commissioners opened a legislative hearing for MA 21-10 and ANX 22-07, Pearce Farm, on May 2, 2023 and continued it to June 6, 2023 to allow the applicant team time to update and clarify some of their proposed zoning conditions. Town Board members requested (1) clarification on amenity center timing, (2) collector road timing, and (3) greenway locations illustrated in the Concept Site Plan. Greenway location updates were previously requested by the Planning Board and the Parks and Recreation Advisory Board, and the Town Board of Commissioners asked for these recommendations to be addressed in the Concept Site Plan.

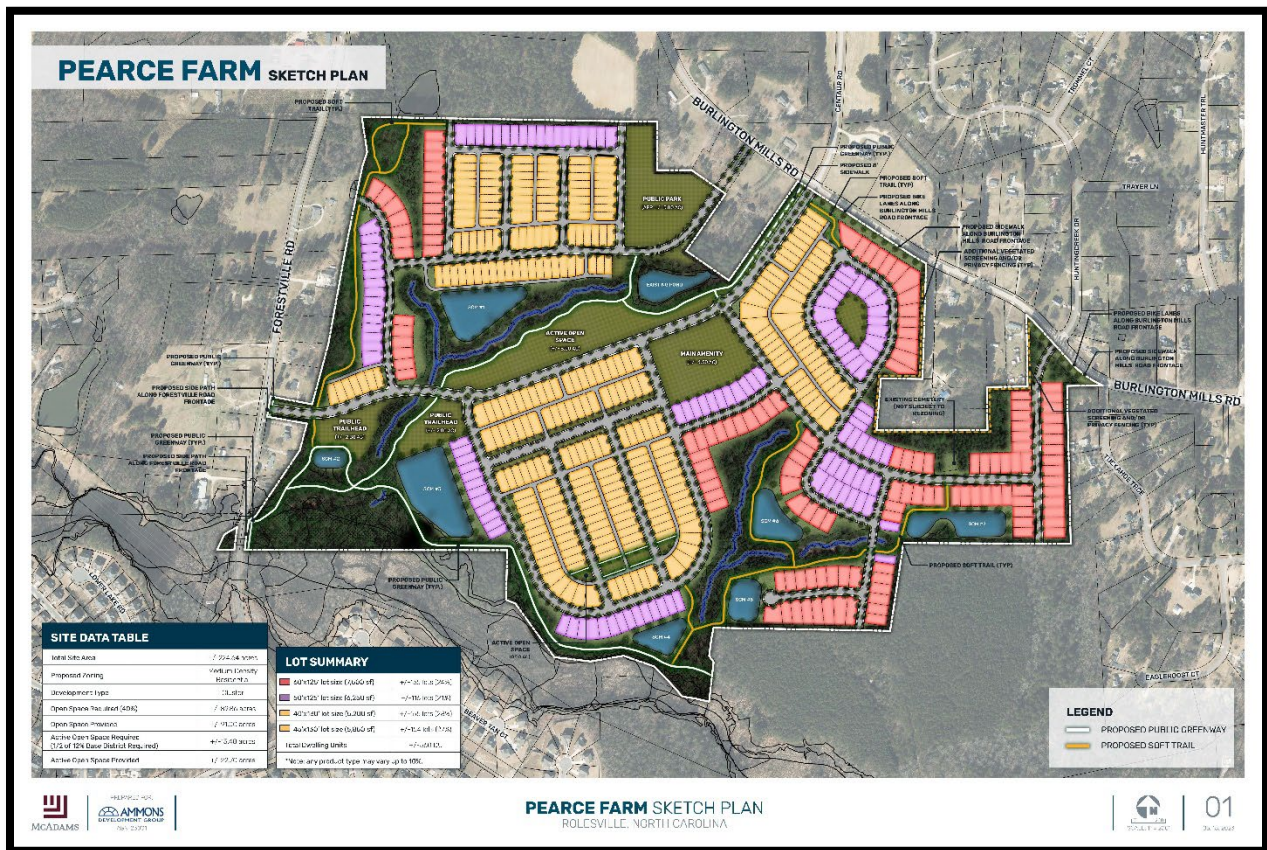
- (1) New condition: Prior to issuance of the 175th building permit, a building permit shall be submitted for the Main Amenity facility. The Main Amenity facility shall be substantially complete prior to issuance of the 325th building permit.
- (2) New condition: Prior to issuance of the 175th building permit, the East-West collector street shall be substantially complete and open for public vehicular service from Access A (Forestville Rd) to Access C (Burlington Mills Rd).
- (3) The updated Concept Site Plan shows a greenway connection to Burlington Mills Road and shows the additional soft trails. The Concept Site Plan is on page 3 of this Memo and is included as an attachment.

In addition to the new conditions noted above, the applicant volunteered additional conditions on July 18, 2023.

- (1) New condition: Construction Documents for the Property to include on-lot grading including (i) proposed finished floor elevations, (ii) 4-corner finished-pad spot elevations, (iii) 1-foot contours of the proposed grades, (iv) proposed high point(s), (v) proposed swale directions, spot elevations, and slopes at not less than 2%,, and (vi) other information as necessary to demonstrate future feasibility of compliance with section R401.3 of the NC Residential Code.
- (2) New condition: After home construction, each lot shall have not less than: (i) 3 large shrubs and 6 small shrubs between the R.O.W. and the front façade of the home, and (ii) 1 large shrub and two small shrubs in the rear yard of the home. Large shrubs shall be those whose mature size is 5'-8' in height and shall be planted at not less than 30" in height. Small shrubs shall be those whose mature size is 2'-4' in height and shall be planted at not less than 20" in height.
- (3) New condition: Prior to the issuance of the 325th building permit, a single family detached lot shall be developed and donated as part of Wounded Warrior Homes, Operation Coming Home, Operation Finally Home, or similar organization providing homes to veterans. Developer and builder shall be entitled to a waiver of all Town of Rolesville permit fees for this home.

Map Amendment (MA 21-10)

The Town of Rolesville Planning Department received a Map Amendment (Rezoning) application in December 2021 for 222.94 acres located at unaddressed properties on Forestville Road, Burlington Mills Road, and Alstonberg Avenue with Wake County PINs 1748891680, 1758081893, and 1748884104. The property owner and Applicant, POGE LLC and ESNE LLC., is requesting to change the zoning from Wake County’s Residential-30 (WC R-30) District and Rolesville’s Residential Low (RL) District to Residential Medium Density Conditional Zoning District (RM-CZ). The application includes a Vision & Intent Statement, proposed Conditions of Approval, a Concept Site Plan, and illustrations of the intended development. On May 2, 2023, the Town Board of Commissioners opened a legislative hearing and continued the hearing to June 6, 2023.



Final Concept Site Plan

Annexation Petition (ANX 22-07)

In August 2022, a petition for a contiguous Voluntary Annexation (ANX 22-07) of the same subject properties as the Map Amendment was received and is being reviewed/processed simultaneously with the rezoning request. As provided by G.S. 160A-31, the petition was investigated by the Town Clerk as to its sufficiency of meeting G. S. 160A-31 after the October 4, 2022 Town Board Meeting. On April 4, 2023, the Town Board of Commissioners scheduled a legislative hearing for the Pearce Farm annexation petition (to be held May 2, 2023). On May 2, 2023, the Town Board of Commissioners opened a legislative hearing and continued the hearing to June 6, 2023.

Applicant Justification

The applicant provided a “Vision & Intent” justification statement as part of the most recent Submittal materials – see pages 3 and 4 of Attachment 5.

Neighborhood Meeting

The applicant has held two neighborhood meetings during the review of this application to date:

1. An on-line meeting on June 2, 2022 - see Attachment 6 for materials.
2. An on-line meeting on December 1, 2022 – the applicant provided no materials for this.

Comprehensive Plan

Land Use

The Future Land Use Map designates the subject parcels as Medium Density Residential, which is described as predominately single family residential uses with portions of duplex, townhouse, and/or multifamily residential. These are lots or tracts at a density range of three to five dwelling units per gross acre including preserved open space areas.

Community Transportation Plan

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

Thoroughfare Recommendations

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

Collector Recommendations

- A Collector connection between Forestville Road and Burlington Mills Road is shown as part of the Proposed Network.
- A Collector connection to the future Stone Fly Drive extension is also shown.

Intersection Recommendations

- No intersection recommendations are included on the Proposed Network Map.

Greenway Plan

As per the 2022 Greenway Plan, proposed Greenways are shown in the following locations:

- Traversing north – south between Burlington Mills Road and Tom’s Creek.

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 606 Single Family Detached housing units, which is analogous to the proposed density of 2.7 dwelling units per acre over the gross 224 acre site. The Final Report dated July 28, 2022 is included as Attachment 7 to this memo; the NC DOT Congestion Management section Report on the TIA is Attachment 8. Both Trip

Generation and Intersection Improvements were looked at in three phases: Initial Phase, Intermediate Phase, and Full Build.

TIA Summary - Trip Generation	Entering	Exiting	Total
2026 Initial Phase Recommendations			
AM Peak (7-9 am)	35	98	133
PM Peak (4-6 pm)	118	69	187
Weekday Daily Trips	917	917	1,834
2028 Intermediate Phase Recommendations			
AM Peak (7-9 am)	35	101	136
PM Peak (4-6 pm)	121	71	192
Weekday Daily Trips	939	939	1,878
Cumulative Trips	1,856	1,856	3,712
2029 Full Build Recommendations			
AM Peak (7-9 am)	30	85	115
PM Peak (4-6 pm)	101	60	161
Weekday Daily Trips	791	791	1,582
Cumulative Trips	2,647	2,647	5,294

Five intersections were studied for capacity analysis and level of service (LOS) impact of this development.

TIA Summary – Intersection Improvements	
2026 Initial Phase Recommendations	
#1 - Burlington Mills Road at Centaur Road / Access C	<ul style="list-style-type: none"> Construct Access C as a full-movement access point Construct Access C with one ingress and one egress lane with a driveway stem length of a minimum of 100 feet
#2 - Forestville Road at Access A	<ul style="list-style-type: none"> Construct Access A as a full-movement access point Construct Access A with one ingress and two egress lanes (one left-turn lane and one right-turn lane) with a driveway stem length of a minimum of 170 feet Construct a northbound Forestville Road right-turn lane with 100 feet of full-width storage and appropriate taper Construct a southbound Forestville Road left-turn lane with 100 feet of full-width storage and appropriate taper
2028 Intermediate Phase Recommendations	
#3 - Burlington Mills Road at Forestville Road	<ul style="list-style-type: none"> Extend the existing eastbound Burlington Mills Road left-turn lane to 575 feet of full-width storage and appropriate taper

	<ul style="list-style-type: none"> • Extend the existing westbound Burlington Mills Road left-turn lane to 225 feet of full-width storage and appropriate taper • Construct a westbound Burlington Mills Road right-turn lane with 150 feet of full-width storage and appropriate taper • Extend the existing northbound Forestville Road left-turn lane to 225 feet of full-width storage and appropriate taper • Extend the existing southbound Forestville Road left-turn lane to 300 feet of full-width storage and appropriate taper • Construct a southbound Forestville Road right-turn lane with 200 feet of full-width storage and appropriate taper • The above recommendations will require the traffic signal at the intersection to be modified
#4 - Burlington Mills Road at Access B	<ul style="list-style-type: none"> • Construct Access B as a right-in/right-out access point • Construct Access B with one ingress and one egress lane with a driveway stem length of a minimum of 100 feet
#2 - Forestville Road at Access A	<ul style="list-style-type: none"> • Monitor Access A for potential signalization
2029 Full Build Recommendations	
#5 - Burlington Mills Road at Huntingcreek Drive /Access D	<ul style="list-style-type: none"> • Construct Access D as a full-movement access point • Construct Access D with one ingress and one egress lane with a driveway stem length of a minimum of 100 feet
#2 - Forestville Road at Access A	<ul style="list-style-type: none"> • Monitor Access A for potential signalization

Development Review

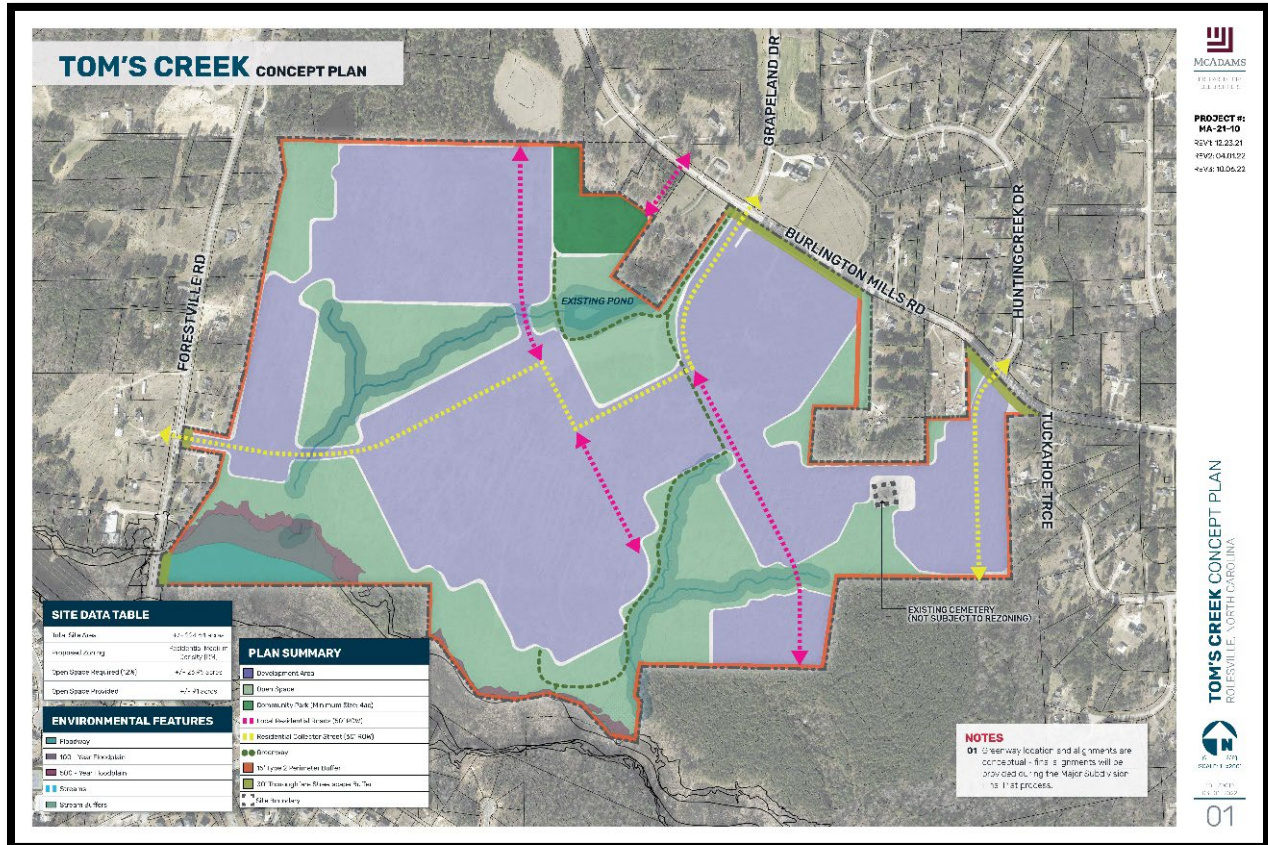
The Technical Review Committee (TRC) reviewed three versions of the Rezoning Map Amendment application, with all comments being resolved, prior to the initial presentation of the application to the Planning Board on October 24, 2022. Town Planning staff and necessary members of the TRC reviewed the fourth submittal prior to the planned December 6, 2022 Town Board of Commissioners meeting (applicant withdrew from consideration), and the Planning Board meeting on December 19, 2022. Town Planning Staff received the fifth submittal on March 22, 2023; this was presented to the Planning Board of March 27, 2023 and to the Town Board of Commissioners at their May 2, 2023 meeting. This seventh submittal is presented with this Memo as the applicants' final submittal for consideration by the Town Board.

Planning Board / Parks & Recreation Advisory Board / Town Board of Commissioners Meetings to Date

October 24, 2022 Planning Board Meeting

At this meeting, Planning Board members heard presentations from Planning Department staff and the applicant team on Map Amendment/Rezoning MA 21-10 Tom's Creek. Board members voted 4-1 on a motion to recommend denial to the Town Board of Commissioners. This

recommendation was based on a lack of detail on lot sizes, dwelling types, and open space; board members were not comfortable with the amount of information provided on the bubble diagram style concept plan.



Concept Site Plan Presented at the October 2022 Planning Board Meeting

December 6, 2022 Town Board of Commissioners Meeting

The applicant chose to withdraw the case from the agenda that evening to further revise/refine the application. The Mayor and Commissioners accepted the applicant's request to send the updated case materials back to the Planning Board for consideration at their December 19, 2022 meeting.

December 19, 2022 Planning Board Meeting

The Board heard presentations from Planning Department staff and the applicant team; discussion on many aspects of the proposed development occurred. The applicant asked to table the discussion by the Planning Board to research and come back to the Planning Board to address a list of items (see minutes). The Planning Board voted 5-1 on a motion to continue the discussion to January 23, 2023. (The case was further continued to the March 27, 2023 Planning Board meeting.)

March 27, 2023 Planning Board Meeting

The Planning Board heard presentations from Planning Department staff and the updated applicant team (Ammons Development and Alliance Group NC). The applicant team discussed the many changes made to the application and the discussions and relationships forged with surrounding property owners. Planning Board discussion focused on greenway locations, the number of dwelling units proposed, transportation improvements, stormwater, speed limits, and an outdoor museum. On a motion to recommend approval to the Town Board of Commissioners, the Planning Board voted 4-1.

April 26, 2023 Parks and Recreation Advisory Board (PARAB) Meeting

The Parks and Recreation Advisory Board heard presentations from Planning staff and the applicant team (Ammons Development and Alliance Group NC). After discussion amongst all parties, the Board unanimously approved the following motion to the Town Board of Commissioners: I [PARAB] make a recommendation to revise the Concept Site Plan to include the bike lanes on Burlington Mills Road and the side path on Forestville Road and the new collector road and an additional section of greenway that connects to Burlington Mills Road so that the Concept Site Plan is consistent with both the adopted Bike and Greenway Plans.

May 2, 2023 Town Board of Commissioners Meeting

Planning staff and the applicant both made presentations to the Town Board of Commissioners on May 2, 2023. The Town Board opened a legislative hearing and continued it to June 6, 2023 to allow the applicant time to update and clarify some of the zoning conditions. Desired condition updates included amenity center timing, collector road timing, and greenway layout.

June 6, 2023 Town Board of Commissioners Meeting

The legislative hearing was continued to August 1, 2023.

August 1, 2023 Town Board of Commissioners Meeting

The legislative hearing was continued to August 15, 2023.

LDO Appendix A / 2.3.G. Review Standards with Staff Responses

The Land Development Ordinance (LDO) Handbook, Appendix A, includes the following review standards when considering a rezoning request.

1. Is the application consistent with the Comprehensive Plan and other applicable adopted Town plans;
Staff Response: The application is consistent with the Comprehensive Plan. The proposed residential use is consistent with the Medium Density Residential land use designation. The transportation network as illustrated in the Concept Site Plan is consistent with the Community Transportation Plan, Bike Plan, and Greenway Plan.
2. Is the application in conflict with any provision of the LDO or the Town Code of Ordinances;
Staff Response: The application is consistent with the LDO. Subsequent future development submittals are required to meet the LDO as well.
3. Does the application correct any errors in the existing zoning present at the time it was adopted;

Staff Response: *There are no zoning errors to correct.*

4. Does the application allow uses that are compatible with existing and allowed uses on surrounding land;
Staff Response: *The application is for single family detached housing at a density of 2.5 units per acre. The proposed residential use, along with the landscape buffers and open space provided around the perimeter of the site, create an appropriate transition to other residential uses and/or vacant land that is residentially zoned.*
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;
Staff Response: *The application can enhance the Town's capacity and safety of the street network through compliance with the Community Transportation Plan and building of required roadway improvements.*
6. Would the application result in a logical and orderly development pattern; and
Staff Response: *The Concept Site Plan, included as a condition of this rezoning request, illustrates a logical and orderly development pattern through the layout of the residential lots within the vehicular and pedestrian circulation network. Open space design/placement highlights the center of the neighborhood.*
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.
Staff Response: *The subsequent future development submittals that may follow this rezoning application are required to meet LDO standards and other state and/or federal regulations.*
8. If a conditional rezoning, the Board of Commissioners may also consider if the conditional rezoning addresses the impacts reasonably expected to be generated by the development or use of the site, can reasonably be implemented and enforced for the subject property, and if it will mitigate specific issues that would likely result if the subject property were zoned to accommodate all the uses and the minimum standards of the corresponding general zoning district.
Staff Response: *The applicant has proposed conditions covering architectural requirements, transportation network improvements, open space, on-lot grading during construction document submittal, on-lot landscaping, and others to enhance the design of the neighborhood above what would be required for a straight Residential Medium (RM) zoning district.*

Staff Recommendation

MA 21-10 – Map Amendment Rezoning Application

Staff finds the proposed rezoning request MA 21-10 is consistent with the Comprehensive Plan and recommends approval of it.

ANX 22-07 – Voluntary Annexation Petition

Staff finds the petition for Voluntary Annexation (see Attachment 9) to be complete. The Town Clerk has provided a Certificate of Sufficiency dated October 26, 2022 (see Attachment 10).

Consistency and Reasonableness

As noted above under the Comprehensive Plan section of this report, the rezoning request for the subject parcels is consistent with the Future Land Use designation of *Medium Density Residential*. The Concept Site Plan and proposed Conditions of Approval express general consistency with the Community Transportation Plan, Bicycle Plan, and Greenway Plan. Map Amendment MA 21-10 is thus consistent with the Comprehensive Plan and other applicable Plans and is therefore reasonable.

Proposed Motions

1. Motion to (approve or deny) rezoning Map Amendment request MA 21-10 – Pearce Farm.
2. (Following Approval) Motion to adopt a Plan Consistency Statement and Statement of Reasonableness for MA 21-10.
3. Motion to (approve or deny) the Voluntary Annexation Petition received under G.S. 160A-31 for ANX 22-07 – Pearce Farm.

Attachments

1	Vicinity Map
2	Future Land Use Map
3	Zoning Map
4	Map Amendment Application – Updated March 23, 2023
5	Submittal Package – July 18, 2023
6	Neighborhood Meeting Package – June 2, 2022
7	Traffic Impact Analysis (TIA) dated July 28, 2022
8	NCDOT Congestion Management Section Report
9	Voluntary Annexation Petition
10	Annexation Certificate of Sufficiency – signed October 26, 2022

ATTACHMENT 1 - VICINITY MAP

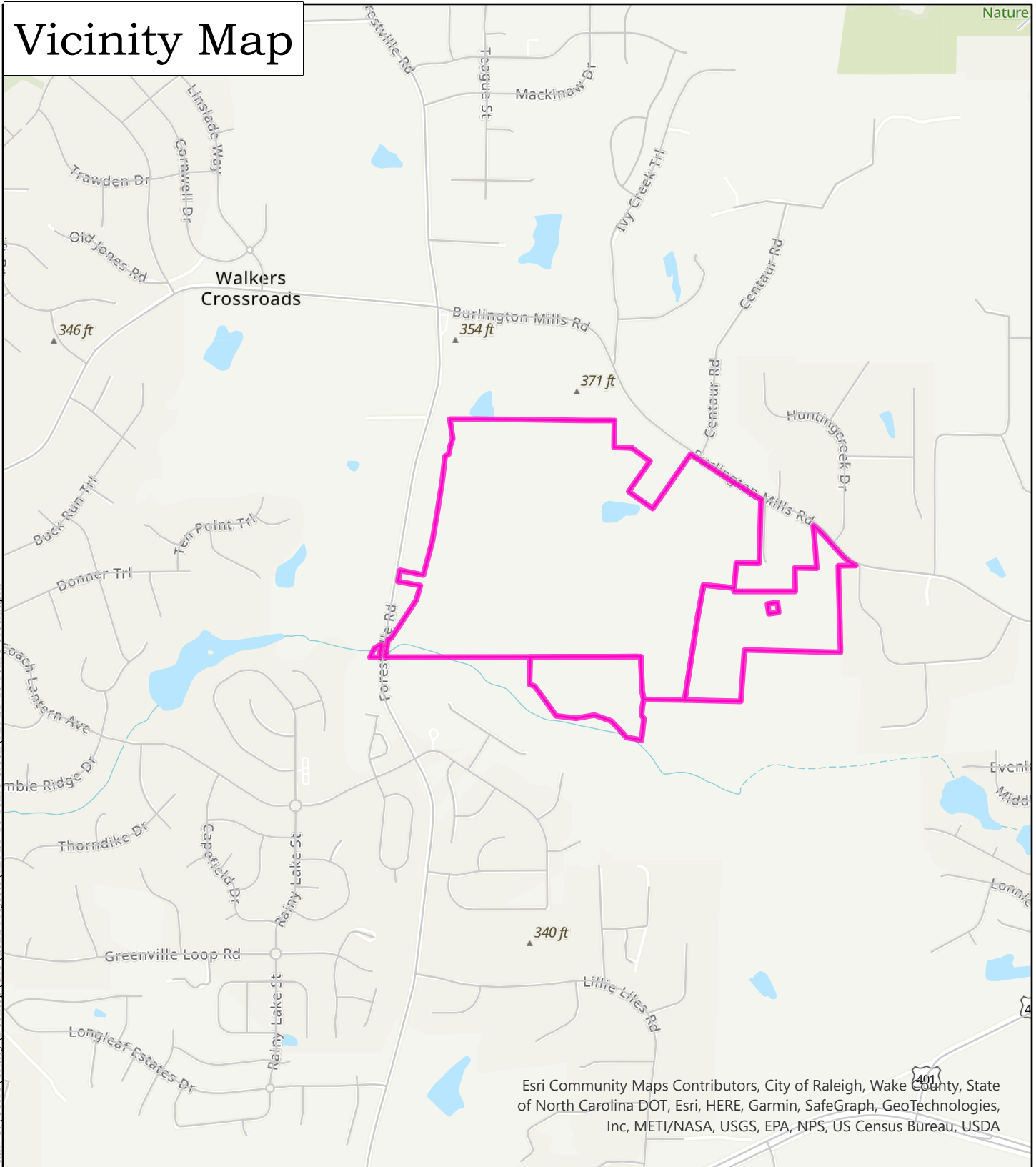


Case: MA 21-10 Tom's Creek **Pearce Farm**
Address: 0 Forestville Rd, 0 Burlington Mills Rd, 0 Alstonburg Ave
PIN 1748891680, 1758081893, 1748884104
Date: 04.14.2022

Vicinity Map

Date Saved: 4/13/2022 2:55 PM

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Esri Community Maps Contributors, City of Raleigh, Wake County, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA



ATTACHMENT 2 - Future Land Use Map

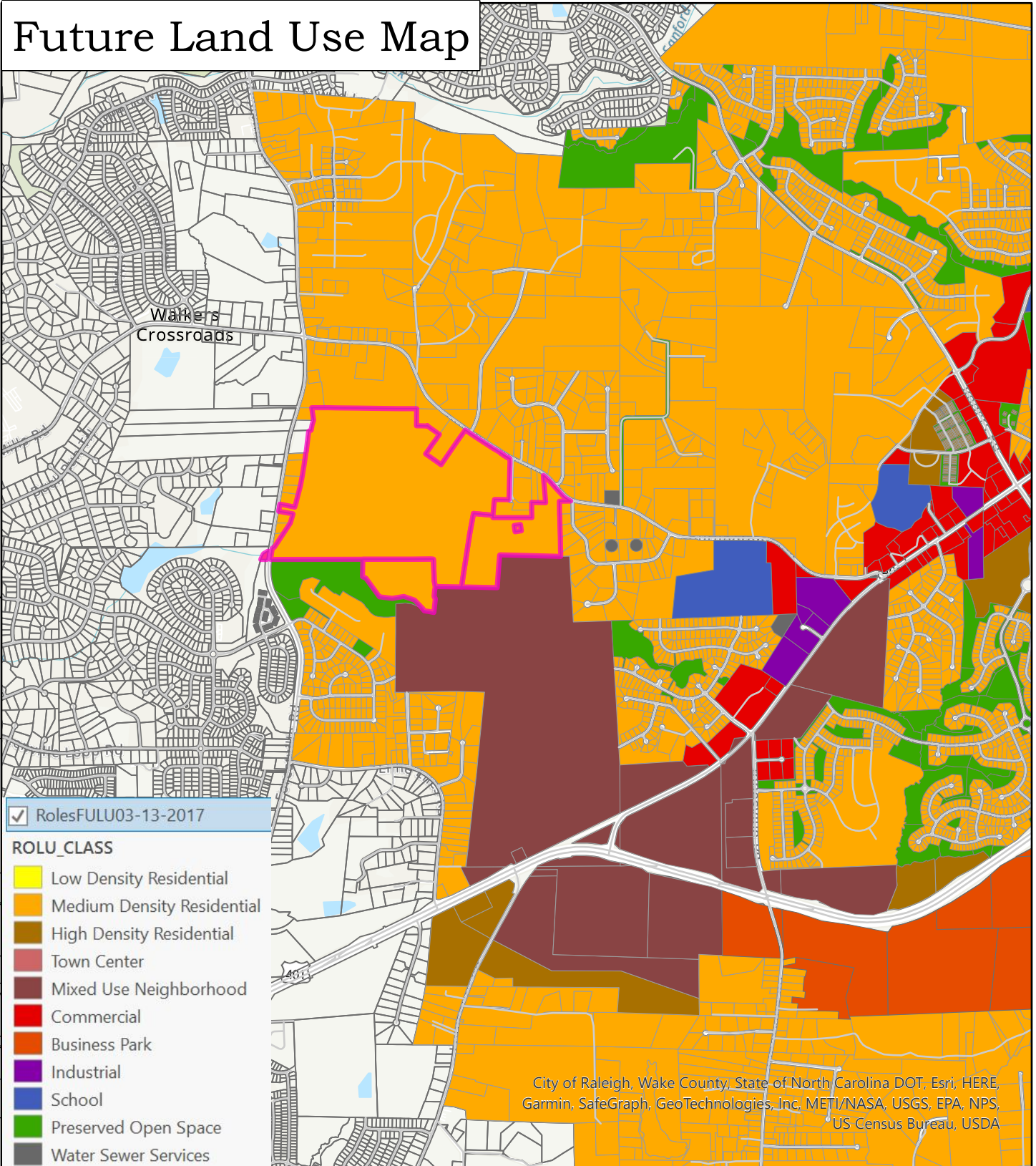


Case: MA 21-10 Tom's Creek
 Address: 0 Forestville Rd, 0 Burlington Mills Rd, 0 Alstonburg Ave
 PIN 1748891680, 1758081893, 1748884104
 Date: 04.14.2022

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Future Land Use Map

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RolesFULU03-13-2017

ROLU_CLASS

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Town Center
- Mixed Use Neighborhood
- Commercial
- Business Park
- Industrial
- School
- Preserved Open Space
- Water Sewer Services

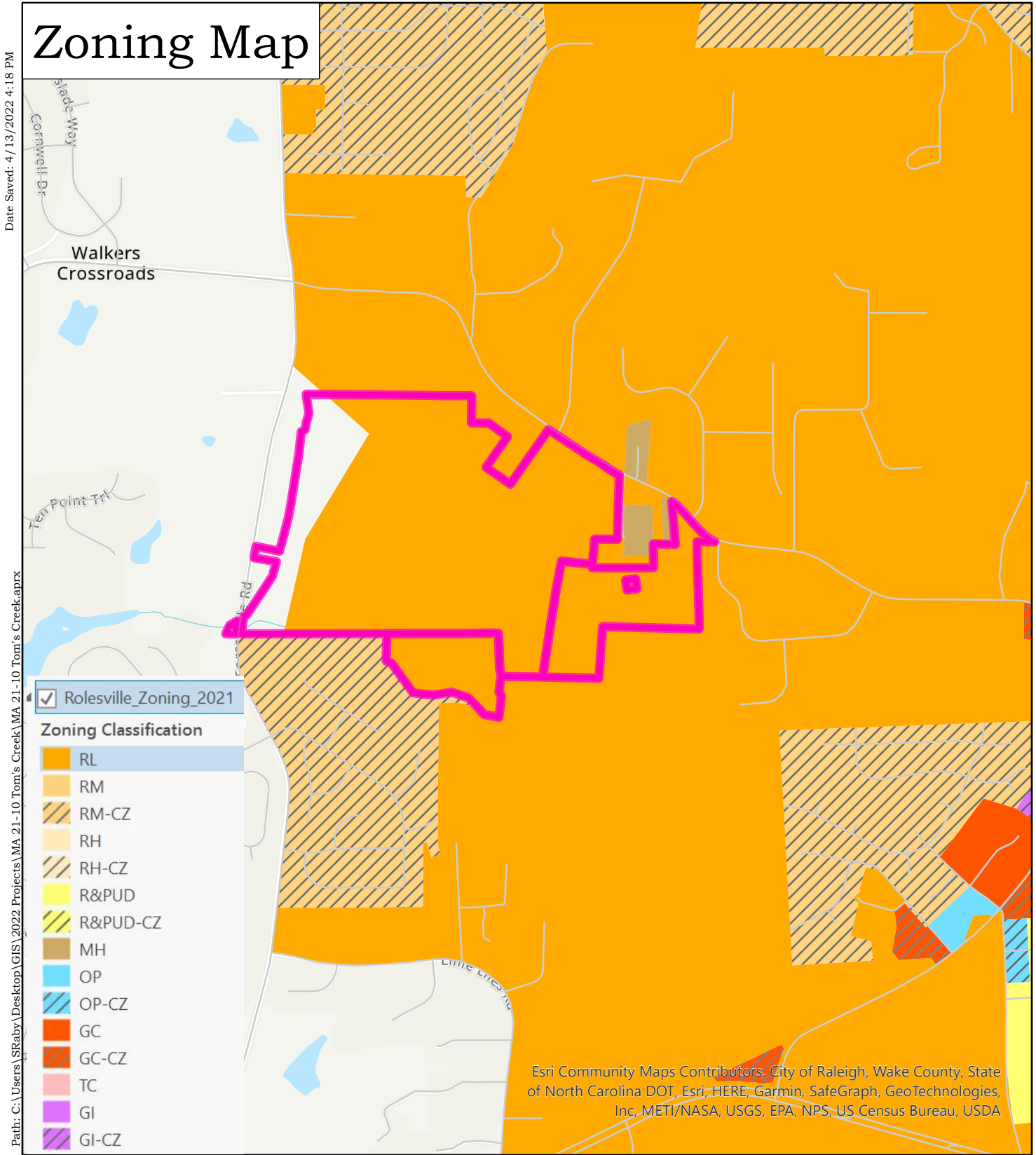
City of Raleigh, Wake County, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA



ATTACHMENT 3 - Zoning Map



Case: MA 21-10 Tom's Creek **Pearce Farm**
Address: 0 Forestville Rd, 0 Burlington Mills Rd, 0 Alstonburg Ave
PIN 1748891680, 1758081893, 1748884104
Date: 04.14.2022



Case No. MA 21-10
Date 3-22-2023



Map Amendment Application

Contact Information

Property Owner POGE, LLC & ESNE, LLC
Address PO Box 97487 City/State/Zip Raleigh, NC 27624
Phone 919-845-6415 Email andy@ammonsdg.com

Developer Ammons Development Group
Contact Name Drew Ammons & Jacob Anderson
Address PO Box 97487 City/State/Zip Raleigh, NC 27624
Phone 919-845-6415 Email drew@ammonsdg.com

Property Information

Address 0 Forestville Rd, 0 Burlington Mills Rd, and 0 Alstonberg Ave Wake Forest, NC 27587
Wake County PIN(s) 1748891680, 1758081893, 1748884104
Current Zoning District RL Requested Zoning District RM-CZ
Total Acreage 222.94

Owner Signature

I hereby certify that the information contained herein is true and completed. I understand that if any item is found to be otherwise after evidentiary hearing before the Town Board of Commissioners, that the action of the Board may be invalidated.

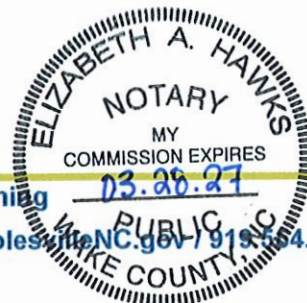
Signature *Andrew L. Ammons, MANAGER* Date 3/23/23

STATE OF NORTH CAROLINA
COUNTY OF WAKE

I, a Notary Public, do hereby certify that ANDREW L. AMMONS
personally appeared before me this day and acknowledged the due execution of the foregoing instrument. This
the 23rd day of MARCH 2023

My commission expires 03/28/27

Signature *[Signature]* Seal



PEARCE FARM

Rolesville NC

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1) VISION AND INTENT

INTRODUCTION

The proposed Pearce Farm project is located on approximately 224 acres within the western extents of the Town of Rolesville Planning Jurisdiction with a de minimis far western portion of property located within the Wake County Planning Jurisdiction. The property within the Rolesville Jurisdiction is currently zoned *Residential Low Density* with the Wake County Zoning designated at R-30. The site has roadway access along both Forestville Road and Burlington Mills Road and is located to the north of the Tom's Creek Riparian corridor. When the Town of Rolesville adopted the new LDO in 2021, the goal was to promote smart development in a growing region. A meaningful feature of the ordinance was its arrangement to ensure future neighborhoods would promote the preservation of natural resources and open space while also providing a variety of housing options within each Residential District. This rezoning application, as demonstrated within its Concept Plan, will achieve these goals, provide exceptional quality of life for new and existing residents, and will certainly become a valuable part of the fabric of Rolesville.

COMPREHENSIVE PLAN CONFORMITY

The proposal for this project is to rezone the parcels to *Residential Medium Density – Conditional District*. This Zoning District is defined by the Rolesville Land Development Ordinance (LDO) as having overall density generally between three (3) and five (5) dwelling units per acre (du/ac). The Zoning Application for Pearce Farm proposes to limit the overall density to 2.7 du/ac. As depicted in the included Concept Plan, Pearce Farm is proposed under LDO 3.1.B. As a supplement to the Zoning, the Concept Plan is presented with the application to provide more detail on a potential lot layout that would conform to the conditions proposed in this application.

RESPECT FOR NEIGHBORS

To ameliorate the impacts of its transportation improvements as called for by NCDOT and Town of Rolesville (discussed later), Pearce Farm will provide access and safety enhancements well surpassing the required and conventional standards for individual homeowners adjacent to roadway improvements along Forestville and Burlington Mills roads. Such improvements will variously include upgrades to individual driveways and aprons allow for better ingress and egress, curb and gutter, stormwater improvements, and enhanced landscaping to provide additional placemaking for the surrounding community.

Pearce Farm will provide appropriate screening and/or fencing along existing property owners which about the future individual residential units. Notations for such screening locations are labeled on the Concept plan.

Further, this project will also include significant Architectural Standards for new homes. The specifics of these guidelines are included in this package and include commitments for raised foundations, front porches, high quality façade materials, and promotion of diversity in the home styles by creating restrictions on repeating certain building elements for lots adjacent to each other. To illustrate the design vision of the Architectural Standards, example elevations of compliant designs are attached as Section 9, hereof.

ENVIRONMENTAL STEWARDSHIP

Per the criteria of LDO 3.1.B, the project will have a minimum of 40% open space. Within this, there is an Active Open Space requirement as highlighted in the Site Data Table below. The overall open space will consist of a public greenway trail, soft surface walking trails, a community amenity, land dedicated to the

Town for a public park and concentrated activity areas spaced throughout the community. In addition to the open space commitments, a series of Zoning Conditions are included as a part of this application.

Pearce Farm will comply with all Rolesville and North Carolina requirements for the treatment and detention of stormwater to ensure that it preserves the existing quality and quantity of the flow in the waterbodies of the Tom's Creek riparian corridor. Further, by virtue of its design, as seen on the Concept Plan, Pearce Farm will have substantially less new impervious surface than would otherwise be permitted on the site under Residential Medium Density, alone.

COMMUNITY BENEFITS

As shown on the enclosed Concept Plan, Pearce Farm proposes a residential collector street which will provide an east-west connection from Burlington Mills Rd. to Forestville Rd. allowing for the residents within the residential development to easily access either State Road. This road connection will also allow surrounding existing residents to avoid the intersection of Burlington Mill and Forestville for more of their travel. This will permit that intersection to perform better than shown in the TIA. The residential collector street also will provide adequate pedestrian and vehicular (on-street parking) access to trails and greenspace provided in the updated Parks shown in the Concept Plan.

As shown on the Concept Plan, Pearce Farm will provide a chain of active and passive open spaces accessed both by a greenway and a public parkway for robust access and engagement by all residents and citizens. These spaces, along with the community's active private amenities, will provide a superlative lifestyle experience for new and existing residents.

The Concept Plan depicts the public park dedication, including dedicated trailheads with parking for future Town use, needed to enhance the public greenway system.

Traffic is a meaningful concern for residents of this area of Rolesville. Pearce Farm will be a part of the solution. Pearce Farm, if approved, will complete upgrades to Forestville Rd, Burlington Mills Rd, and the intersection of Burlington Mills Rd. & Forestville Rd. The upgrades will help to manage existing through traffic on Forestville Rd. & Burlington Mills Rd. and alleviate some of the congestion at their intersection which would otherwise remain indefinitely unmitigated. The Town of Rolesville selected Stantec to perform a Traffic Impact Analysis (TIA) to evaluate the traffic network and selected roadway intersections near the project site. The full report has been submitted to the Town and NCDOT for review. The study identified a series of improvements that will be required, including improvements at the intersection of Forestville and Burlington Mill Roads, and at each of the four (4) proposed driveway connections for this project. A detailed list of the improvements is included with this package. This list also identifies the timing of when the infrastructure improvements will be completed.

2) RM-CZ DISTRICT DATA

Land Use Category	Required	Proposed
Open Space	89.86 ac	91.00 ac
Active Open Space	13.48 ac	22.0 ac
Public Park Land Dedication	Included in above	5.00 ac + 4.00 ac trailhead(s)
Community Amenity		4.5 ac
Public Greenway Trail	N/A	4,500 lf
Private, Soft-surface Trails	N/A	4,500 lf

Lot Development Standards		
Front Setback	20'	20'
Side Setback	5'	5'
Corner Setback	10'	10'
Rear Setback	20'	20'
Lot Area	5,000 sf (min)	5,000 sf – 7,500 sf

3) GENERAL DISTRICT CONDITIONS

1. The following uses otherwise permitted in the district are prohibited: (i) Major Utility, excluding City of Raleigh Public Utilities or other Public or Private Utilities required by the Town of Rolesville for Public Benefit (i.e. Water Tower), and (ii) Telecommunication Tower.
2. The subject property shall be developed generally in accordance with the Concept Plan attached hereto and incorporated herein as if fully set out.
3. The subject property shall be developed in accordance with the Architectural Requirements attached hereto and incorporated herein as if fully set out.
4. The subject property shall be developed in accordance with the Transportation Improvements attached hereto and incorporated herein as if fully set out.
5. Total residential density shall not exceed 2.7 units per acre.
6. A Homeowners Association (HOA) shall be established in accordance with the Rolesville Land Development Ordinance. HOA documents must be recorded with the first final plat.
7. A main central amenity will be constructed with development of these properties and shall include a (i) Clubhouse, (ii) Pool, (iii) Pickleball Courts, (iv) Grilling Station(s) and/or Fire Pit(s). and (v) other recreational outdoor activities for residents of the development (collectively, the "Amenity Facility").
8. In addition to the approximately 4,500-feet of greenway, as depicted on the master plan, development shall provide at least the same length of private trails (>4,500-feet) to connect programmed open spaces within the properties.
9. Open Space throughout the Development shall include:
 - Garbage and Pet Waste Receptacles to be maintained by the HOA.
 - Reestablishment of ground cover, shrubbery, and tree plantings using only native species, and to specifically include low-to-no maintenance plantings on slopes greater than 4:1, especially perennial flowering and fruit-bearing groundcover and tree species which provide food and habitat for pollinators.
10. At the time of the recording of the first plat adjoining any portion of 2017 Forestville Road (Wake PIN: 174-869-4159), approximately 4 acres of this parcel shall be dedicated to the Town as shown on the Concept Plan. In addition, at the time of the recording of the first plat adjoining any portion of 4124 Burlington Mills Road (Wake PIN: 1749-80-8878), approximately 5 acres of this parcel shall be dedicated to the Town as shown on the Concept Plan. These areas shall be dedicated as public park space subject to various grading, landscape, slope, roadway, pedestrian access, and utility easements, etc. as may be mutually beneficial to the Development and/or the Town for completion of the Development and/or the park space.

11. At the time of the recording of the first plat dedicating Access "B" upon the adjoining parcel known as 4124 Burlington Mills Road (Wake PIN: 1749-80-8878) as shown on the Concept Plat, Access "B" shall be constructed across said adjoining parcel through the public access easement.
12. Prior to issuance of the 175th building permit for a home, a building permit shall be submitted for the Main Amenity facility. The Main Amenity facility shall be substantially complete prior to issuance of the 325th building permit.
13. Prior to issuance of the 175th building permit, the East-West collector street shall be substantially complete and open for public vehicular service from Access A (Forestville Rd) to Access C (Burlington Mills Rd).
14. Construction Documents for the Property to include on-lot grading including (i) proposed finished floor elevations, (ii) 4-corner finished-pad spot elevations, (iii) 1-foot contours of the proposed grades, (iv) proposed high point(s), (v) proposed swale directions, spot elevations, and slopes at not less than 2%, and (vi) other information as necessary to demonstrate future feasibility of compliance with section R401.3 of the NC Residential Code.
15. After home construction, each lot shall have not less than: (i) 3 large shrubs and 6 small shrubs between the R.O.W. and the front façade of the home, and (ii) 1 large shrub and two small shrubs in the rear yard of the home. Large shrubs shall be those whose mature size is 5'-8' in height, and shall be planted at not less than 30" in height. Small shrubs shall be those whose mature size is 2'-4' in height, and shall be planted at not less than 20" in height.
16. Prior to the issuance of the 325th building permit, a single family detached lot shall be developed and donated as part of Wounded Warrior Homes, Operation Coming Home, Operation Finally Home, or similar organization providing homes to veterans. Developer and builder shall be entitled to a waiver of all Town of Rolesville permit fees for this home.

4) ARCHITECTURAL STANDARDS

- Foundations will be crawl space or raised slab which vary in height based on topography and drainage requirements. Foundations will be constructed at a minimum height of 18" in not less than one location on any home.
- Foundations will be brick or stone veneered on the front elevation of all homes and on the side elevation on corner lots.
- All single-family detached homes will be constructed with a front porch with a minimum porch depth of 6'.
- Exterior wall materials may include wood, synthetic wood, cementitious materials (horizontal siding, shakes, board and batten), brick and/or stone. Front facades and the side elevations on corner lots will include a minimum of two of these materials.
- Any primary roof pitch facing a street will be greater than or equal to 5:12 and will be clad in architectural roof shingles. Secondary or accent roof pitches will be greater than or equal to 3:12 and may be clad in architectural shingles or metal roofing materials.
- There will be no uninterrupted building planes greater than 30' which face a street, including the side elevations on corner lots.
- The depth of eaves will be a minimum of 6" except for bay window or similar façade projections which may have eaves of not less than 2".
- Garage doors will include glass inserts for all front-entry garage homes. Glass design will vary, per plan.
- All windows, soffits, eaves, shutters, fascia, and other exterior trims will be constructed of weather-resistant materials including cementitious, vinyl, synthetic, or metal products.
- To ensure architectural diversity and a varied streetscape in the community, no floor plan and elevation will be repeated on adjoining lots or homes directly across the street from one another. The front elevations offered will differ with respect to the following: (1) wall materials and siding configurations, (2) porch architecture and width, (3) masonry types or selections, (4) rooflines and roofing selections, (5) window size, placement, and grille styles, and (6) exterior color palettes.

Note: To illustrate the design vision of the Architectural Standards, example elevations of compliant designs are attached as "Exhibit C".

5) TRANSPORTATION IMPROVEMENTS

Prior to the issuance of the 100th Certificate of Occupancy (C.O.) for the Project

Burlington Mills Road at Forestville Road:

- Construct an exclusive westbound right-turn lane with 150' of storage.
- Construct an exclusive southbound right-turn lane with 200' of storage.
- Extend the existing southbound left-turn lane to provide 300' of storage.
- Extend the existing westbound left-turn lane to provide 225' of storage.
- Extend the existing northbound left-turn lane to provide 225' of storage.
- Extend the existing eastbound left-turn lane to provide 575' of storage.

Prior to the issuance of any C.O. for the phase of development which includes Access A:

Forestville Road at Access A:

- Construct an exclusive northbound right-turn lane with 100' of storage.
- Construct an exclusive southbound left-turn lane with 100' of storage.
- Monitor intersection for signal warrants and install if/when warranted.

Forestville Road Frontage

- Construction of ½ of the planned ultimate roadway section along the site frontage on Forestville Road. The ultimate section for Forestville Road consists of a 4-lane median divided roadway with sidepaths.

Prior to the issuance of any C.O. for the phase of development which includes Access B, C, or D:

Burlington Mills Road:

- Construction of ½ of the planned ultimate roadway section along the site frontage on Burlington Mill Road. The ultimate section for Burlington Milles Road consists of a 4-lane median divided roadway with bike lanes and sidewalks.

Prior to the issuance of any C.O. for the phase of development which includes Access B:

Burlington Mills Road at Access B:

- Construct and exclusive eastbound right turn lane with 50' of storage.

Prior to the issuance of any C.O. for the phase of development which includes Access C:

Burlington Mills Road at Access C/Centaur Road:

- Construct an exclusive eastbound right-turn lane with 50' of storage.
- Construct an exclusive westbound left-turn lane with 50' of storage.

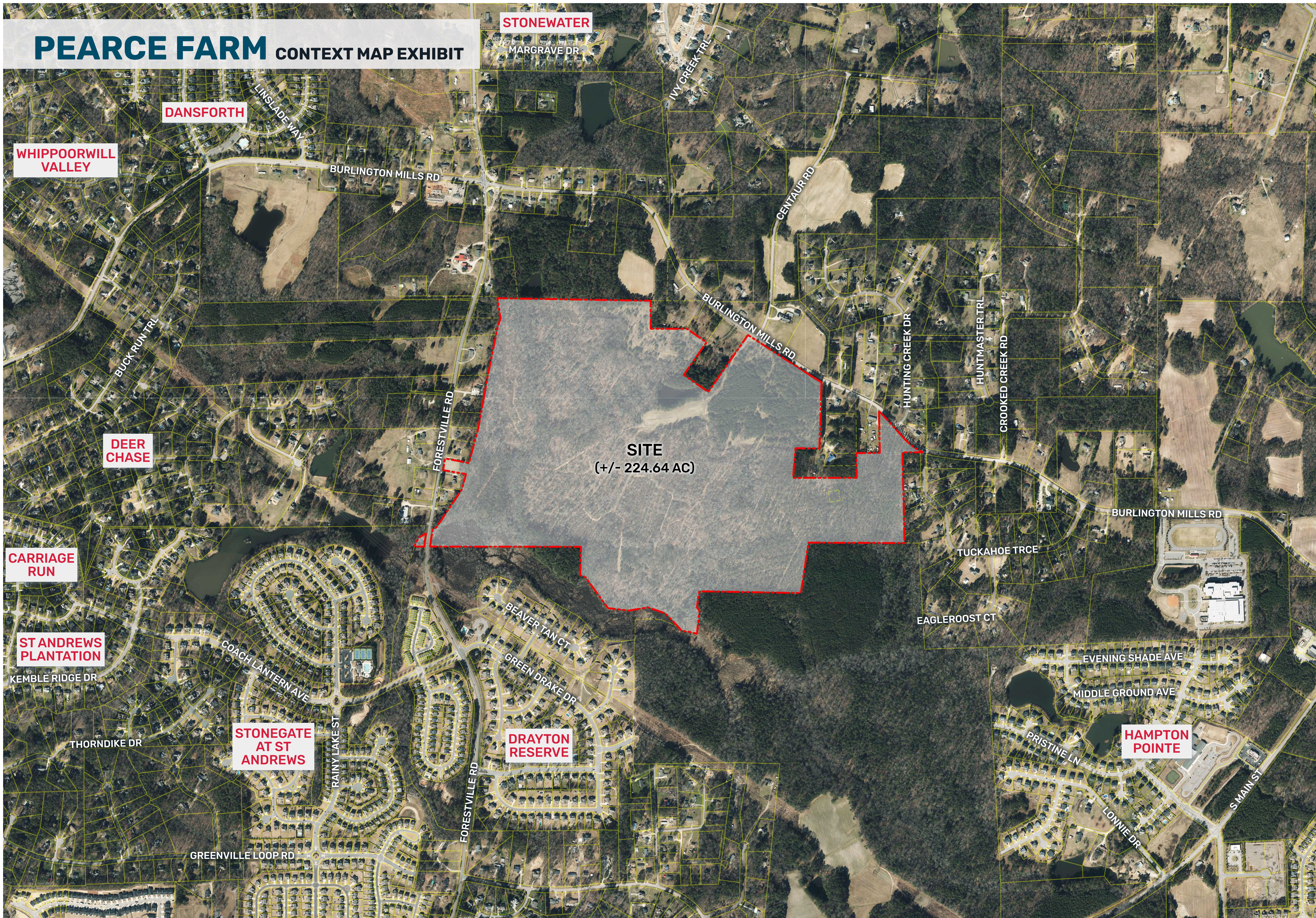
Prior to the issuance of any C.O. for the phase of development which includes Access D:

Burlington Mills Road at Access D/Huntingcreek Drive:

- Construct an exclusive eastbound right-turn lane with 50' of storage.
- Construct an exclusive westbound left-turn lane with 50' of storage.

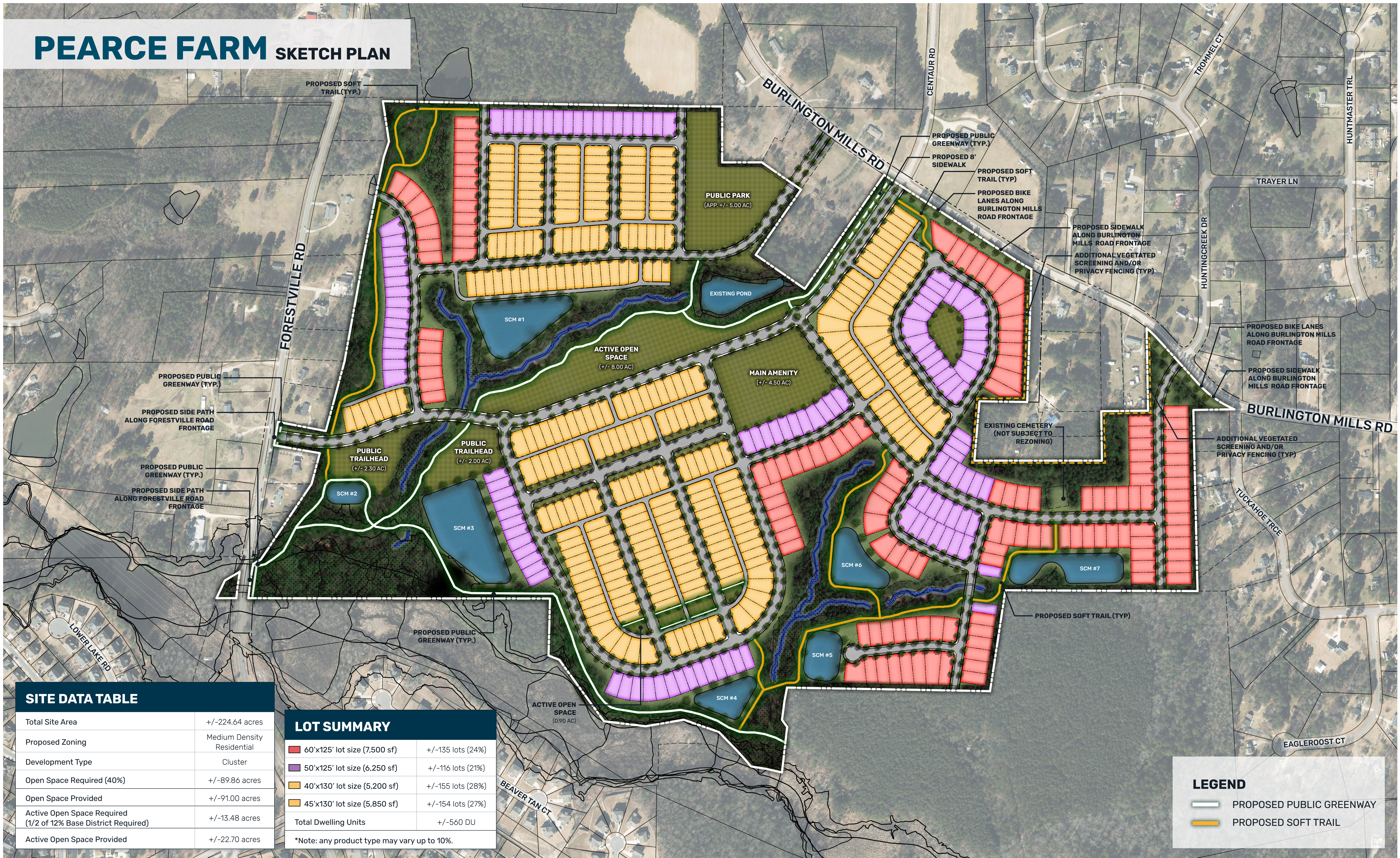
CONTEXT MAP

PEARCE FARM CONTEXT MAP EXHIBIT



CONCEPT PLAN

PEARCE FARM SKETCH PLAN



SITE DATA TABLE

Total Site Area	+/-224.64 acres
Proposed Zoning	Medium Density Residential
Development Type	Cluster
Open Space Required (40%)	+/-89.86 acres
Open Space Provided	+/-91.00 acres
Active Open Space Required (1/2 of 12% Base District Required)	+/-13.48 acres
Active Open Space Provided	+/-22.70 acres

LOT SUMMARY

60'x125' lot size (7,500 sf)	+/-135 lots (24%)
50'x125' lot size (6,250 sf)	+/-116 lots (21%)
40'x130' lot size (5,200 sf)	+/-155 lots (28%)
45'x130' lot size (5,850 sf)	+/-154 lots (27%)
Total Dwelling Units	+/-560 DU

*Note: any product type may vary up to 10%.

LEGEND

- PROPOSED PUBLIC GREENWAY
- PROPOSED SOFT TRAIL

EXAMPLE ARCHITECTURE

PEARCE FARM RESIDENTIAL ELEVATIONS - ALLEY LOADED HOMES



PEARCE FARM RESIDENTIAL ELEVATIONS - FRONT LOADED HOMES



PEARCE FARM RESIDENTIAL ELEVATIONS - RANCH STYLE HOMES



ACTIVE AND PASSIVE OPEN SPACES

PEARCE FARM ACTIVE OPEN SPACE



GATHERING AREAS WITH FIRE PITS AND SEATING



CLUBHOUSE AMENITY WITH POOL



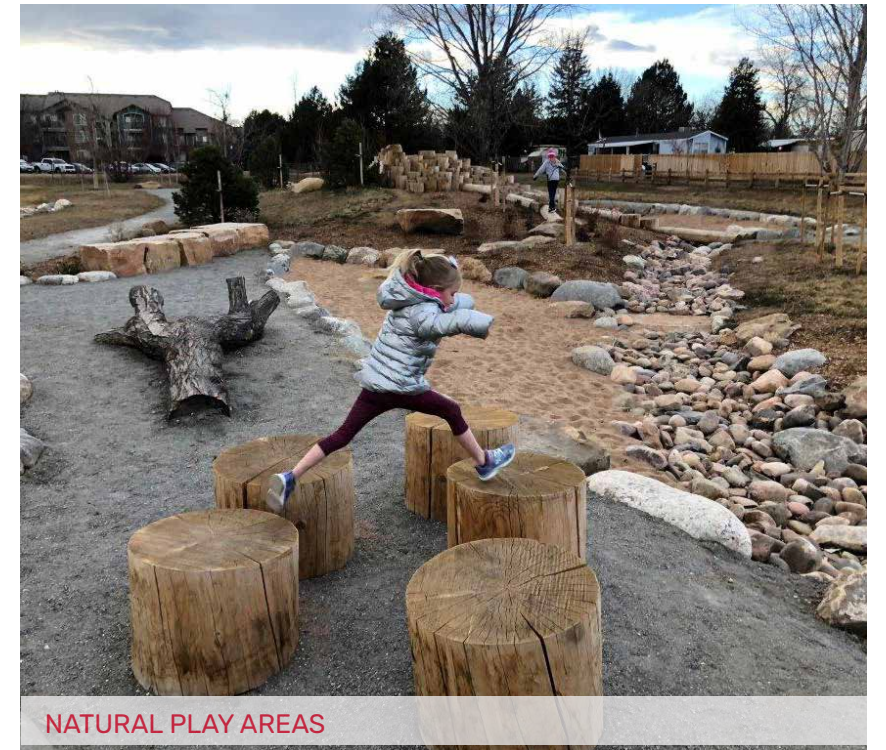
TENNIS COURTS



PICKLEBALL COURTS



NATURAL PLAY AREAS



NATURAL PLAY AREAS

PEARCE FARM PASSIVE OPEN SPACE - GREENWAYS + SOFT TRAILS



GREENWAY TRAILS WITH FENCING AND LANDSCAPE FEATURES



GREENWAY WITH BENCHES



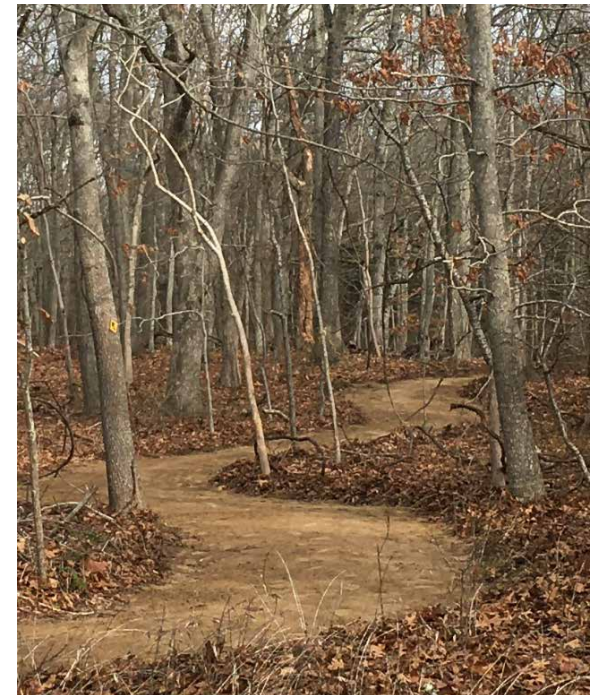
GREENWAY TRAIL



GREENWAY TRAIL WITH NATIVE LANDSCAPING



NATURAL SOFT SURFACE TRAIL



NATURAL SOFT SURFACE TRAIL

PEARCE FARM PASSIVE OPEN SPACE - PONDS + NATIVE PLANTS



NATIVE POLLINATOR PLANT SPECIES



NATIVE POLLINATOR SPECIES AND SIGNAGE



NEIGHBORHOOD MEETING NOTICE

May 19, 2022

NEIGHBORHOOD MEETING NOTICE

Dear Property Owner:

As a representative of the proposed developer, Toll Brothers, we are sending this letter to invite you to a community engagement meeting regarding the Tom's Creek rezoning in Rolesville, North Carolina. If you are receiving this letter, it is our understanding that you own property or belong to a neighborhood association within 200 feet of the subject property.

The site of the proposed rezoning is located between Burlington Mills and Forestville Rd with the PINs 1748891680, 1758081893, and 1748884104. During the meeting, the applicant will present its plans to rezone this land from MH (Manufactured Home) and R-30 to Residential Medium Density. The total site area is approximately 224.64 acres.

We will be hosting a virtual neighborhood meeting via Zoom (see instruction sheet for details). The meeting will be held on June 2nd, 2022 from 6:00pm to 7:00pm Eastern Time. We welcome any questions or comments on the proposed project prior to the meeting.

If you have questions or cannot attend the meeting but would like further information, please feel free to contact Laura Holloman by phone: 919.610.7377 or email: holloman@mcadamsco.com.

Sincerely,
MCADAMS

A handwritten signature in black ink that reads 'Laura Holloman'.

Laura Holloman, AICP
Sr. Planner, Planning + Design Group
919.610.7377
holloman@mcadamsco.com

May 19, 2022

RE: Tom's Creek Rezoning Virtual Neighborhood Meeting – Zoom Instructions

Dear Property Owner,

We will be hosting a virtual neighborhood meeting via Zoom Webinar. The meeting will be held on June 2nd and begin at 6:00 PM Eastern Time.

- > To attend the meeting via computer, type in the following link in your internet browser:
<https://mcadamsco.zoom.us/j/89755975513>

- > To attend the meeting via phone, you may dial in by your location:

US: +1 646 876 9923 or
+1 301 715 8592 or
+1 312 626 6799 or
+1 669 900 6833 or
+1 253 215 8782 or
+1 346 248 7799 or
+1 408 638 0968 or
888 788 0099 (Toll Free) or
877 853 5247 (Toll Free)

Webinar ID: **897 5597 5513**

International numbers available: <https://mcadamsco.zoom.us/j/89755975513>

Sincerely,

MCADAMS

May 24, 2022

NEIGHBORHOOD MEETING NOTICE - CORRECTION

Dear Property Owner:

As a representative of the proposed developer, Toll Brothers, we are sending this letter as a correction to the previous neighborhood meeting notice dated May 19th. If you are receiving this letter, it is our understanding that you own property or belong to a neighborhood association within 200 feet of the subject property.

The site of the proposed rezoning was incorrectly listed to be currently zoned MH (Manufactured Home) & R-30. The correct current zoning of the project site is RL (Residential Low-Density) & R-30. The project site is located between Burlington Mills and Forestville Rd with the PINs 1748891680, 1758081893, and 1748884104. During the meeting, the applicant will present its plans to rezone this land from RL (Residential Low-Density) and R-30 to RM-CZ (Residential Medium Density, conditional district). The total site area is approximately 224.64 acres.

We will be hosting a virtual neighborhood meeting via Zoom (see instruction sheet for details). The meeting will be held on June 2nd, 2022 from 6:00pm to 7:00pm Eastern Time. We welcome any questions or comments on the proposed project prior to the meeting.

If you have questions or cannot attend the meeting but would like further information, please feel free to contact Laura Holloman by phone: 919.610.7377 or email: holloman@mcadamsco.com.

Sincerely,
MCADAMS



Laura Holloman, AICP
Sr. Planner, Planning + Design Group
919.610.7377
holloman@mcadamsco.com

May 24, 2022

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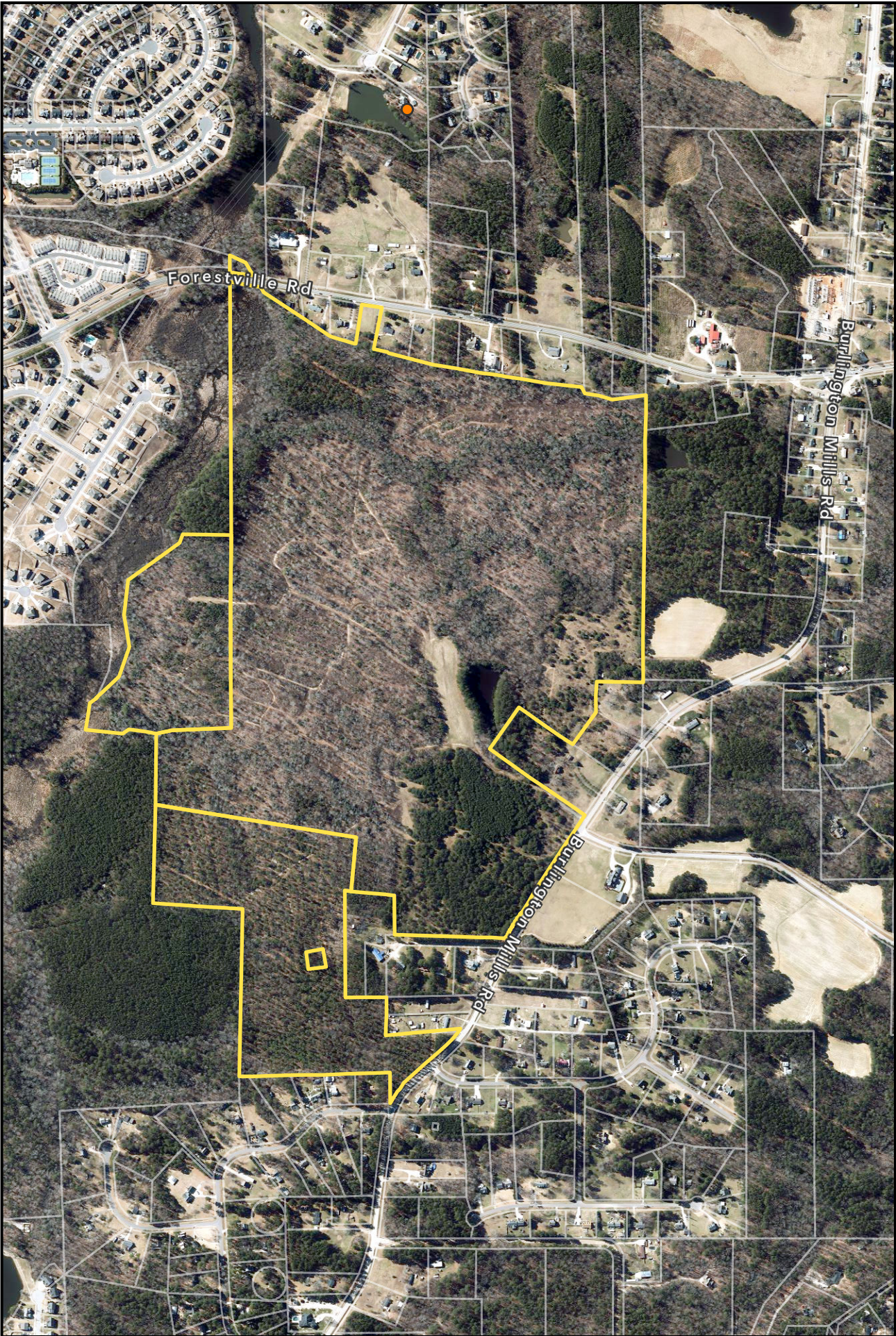
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+1 301 715 8592 or
+1 312 626 6799 or
+1 669 900 6833 or
+1 253 215 8782 or
+1 346 248 7799 or
+1 408 638 0968 or
888 788 0099 (Toll Free) or
877 853 5247 (Toll Free)

Webinar ID: **897 5597 5513**

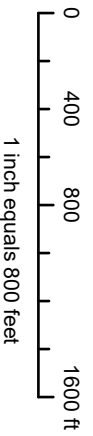
International numbers available: <https://mcadamsco.zoom.us/j/89755975513>

Sincerely,

MCADAMS



Tom's Creek Vicinity Map



Disclaimer
Maps makes every effort to produce and publish the most current and accurate information possible. However, the maps are produced for information purposes, and are NOT surveys. No warranties, expressed or implied, are provided for the data therein, its use, or its interpretation.

Tom's Creek Neighborhood Meeting Minutes June 2, 2022 6PM

Presenters:

Nil Ghosh, Morningstar Law Group,

Laura Holloman McAdams,

Melanie Rausch McAdams,

Mike Sanchez, McAdams

Brittany Chase Exult Engineering

Attendees: Approximately 25

contacts received requesting updates:

najla.osr@gmail.com

steve@newleafassociatesnc.com – requested examples of Toll cluster developments

Meeting:

- Start time: 6:00 pm, this meeting was held virtually.
- Nil Ghosh overviewed the project area, current zoning, proposed zoning and proposed density. Mr. Ghosh clarified mailing snafu to relieve any confusion.
- Mr. Ghosh displayed the concept bubble plan, paying particular attention to proposed entrances to the development, and internal circulation.
- Mr. Ghosh moved on to current traffic conditions, including TIA process and the correspondence with the Town that is a required part of the process.
- Mr. Ghosh explained the cluster development model and how it will affect open space opportunities.
- Neighbor question: What square footage is proposed for the lots? -Ms. Holloman replied it is a little early in the process for lot dimensions.
- Neighbor question: Any rock that will require blasting? -Mr. Ghosh stated we do not know that yet, however Rolesville does have significant rock deposits so quite possibly.
- Neighbor asked about amenities: Mr. Ghosh overview the pool clubhouse, public greenway, and 6-acre public park dedication that will benefit the Town as a whole.
- Neighbor question: What is the public sewer and water connection? -Mr. Sanchez stated we are in discussion with city of Raleigh on where to connect to both sewer and water. Water will likely connect to Forestville Rd, and Burlington Mills Road, Sewer likely Forestville Road.
- Neighbor asked about traffic analysis: Ms. Chase stated the connection points and surrounding intersections that will be included in the TIA analysis.
- Neighbor asked what low density allows for? -Ms. Holloman stated 1-2 homes/acre in Rolesville, this is being developed as medium density which comes out to 2-5 homes/acre.
- Neighbor inquired about removal of utilities access points. Mr. Ghosh stated that would be hard to achieve.

- Neighbor asked Mr. Ghosh to explain cluster development concept. Mr. Ghosh explained that it allows for smaller lots per house, and greater open space.
- Neighbor asked what is the price range for the homes? Mr. Ghosh stated the difficulty in knowing, however the average sale price would likely be above \$500,000.
- Neighbor asked if this proposal includes townhomes. Mr. Ghosh stated no.
- Neighbor asked if environmental impact analysis was required. Mr. Ghosh stated that it is not required for residential, however the existing environmental conditions of the site is why the cluster option is being explored.
- Neighbor asked about timeline. Mr. Ghosh outlined the timeline/process for approval before construction can begin. Mr. Ghosh estimated dirt likely would not move until summer 2023, and residents may begin to move in around 2025. Full buildout would likely be around 2029.
- Resident asked about existing water and sewer hookups. Mr. Ghosh stated sewer would come from Forestville Rd slightly south of where the property abuts Forestville Rd, and water is available along both Burlington Mills Rd and Forestville Rd.
- Neighbor asked if annexation will be required? Mr. Ghosh stated yes.
- Neighbor asked when the greenway will become available. Mr. Ghosh stated that timing and construction will be under the Town's purview.
- Neighbor asked will the sewer have to cross Tom's Creek? Mr. Sanchez stated yes.
- Neighbor asked if water line will extend out to Burlington Mills? -Mr. Sanchez stated CORPUD will likely require the project to extend sewer to Burlington Mills.
- Neighbor stated Grapeland Rd is mislabeled on the map.
- Neighbor asked if a signal may be added as a result of this project to the intersection of Huntington Creek and Burlington Mills. Ms. Chase stated it is difficult to determine at this time, however the TIA will identify that.
- Neighbor asked if this project would trigger Forestville Rd to be widened to have double lanes. Mr. Ghosh stated we do not know at this point, however the TIA will identify this.
- Neighbor asked how much open space is passive versus active. Mr. Ghosh stated that is undetermined at this time.
- Neighbor asked if a traffic light will be added at intersection of Centaur Road and Burlington Mills. Mr. Ghosh again reviewed the TIA process and assured it would identify if a light would be necessary.
- Neighbor asked does Toll Brothers have a concept we can see? Mr. Ghosh stated he will get back to them with something.
- Neighbor asked if Stonewater can be targeted lot size for this development? -Mr. Ghosh stated the limitations, and market advantages for various lot sizes, and how this site coincides with the Town's Comprehensive Plan.
- Neighbor asked what school district would this be in? -Mr. Ghosh stated we do not know yet
- Neighbor stated a previous developer proposed providing water and sewer to Deer Chase is this still on the table? -Mr. Sanchez stated the goal is not to run lines within other private properties.
- Neighbor asked about architectural commitments. -Mr. Ghosh stated none have been committed to yet however Toll Brothers is generally committed to quality and they will likely be added later.

- Neighbor asked if Tuckahoe homes will be annexed into Rolesville. Mr. Ghosh explained how annexation generally has to be voluntary, so no.
- Neighbor expressed discontent with lot size, and would prefer larger lots.
- Neighbor asked where will the greenway connect offsite? Ms. Holloman stated that we met with Rolesville Parks and based the estimate off the creek alignment. However exact location is still up for discussion with the town.
- Neighbor asked if there will be a follow up meeting? – Mr. Ghosh again explained the process.
- Neighbor asked if 300 houses can be approved instead of 600. Mr. Ghosh stated it is possible the town could ask for that, but 300 homes is not what is being proposed with this project.
- Neighbor asked about stormwater and expressed concern over ponds flooding and sediment contamination. Mr. Ghosh overviewed the inspection process that occurs both during and after construction. Stormwater devices are required to be inspected and approved through the Town.
- Neighbor asked why not build on larger lots, at a higher price point? -Mr. Ghosh stated this is what is being proposed and is identified by market indicators to be appropriate for the area.
- Neighbor asked if any natural borders or fencing will be located along border of Tuckahoe? - Mrs. Holloman stated currently there is no fencing proposed, however there will be a landscape buffer. A fence can certainly be discussed with Toll Brothers.
- Neighbor asked what the distance was from their driveway to nearest entrance Road. -Mr. Sanchez stated roughly 500 feet.
- Neighbor asked if an EIS will be considered? -Mr. Sanchez stated that wetland and stream delineation are required, and endangered species have to be identified as part of the process, as well as coordination with SHPO for archaeological resources.
- Neighbor asked if Tuckahoe water supply will be affected? -Mr. Sanchez explained that the water will come from City of Raleigh Municipal Water therefor will not change status of well water.
- Neighbor expressed concern that blasting will negatively impact their well. -Mr. Sanchez stated the shallow rock is generally located away from existing wells/property boundaries meaning most of the blasting should have minimal impact to wells.
- Call in numbers were unmuted by the host and invited to ask any questions.
- Neighbor asked about traffic, and possibility of proposing fewer homes. Mr. Ghosh explained the TIA process, including potential road improvements, and the projects consistency with current Rolesville comprehensive plan.
- Neighbor requested that McAdams engineering incorporate well damage into report that may occur and requested that the project take this into consideration.
- Neighbor asked where the amenities and pool will be located within the site? -Mr. Ghosh stated we are not sure yet, however likely next to the dedicated park.
- Neighbor asked would toll brothers be willing to commit to architectural guidelines Hardy board and stone facades would be desirable. Mr. Ghosh stated that we can take the requested guidelines back to Toll Brothers and make that suggestion.
- Meeting concluded at 8:01 pm.



Tom's Creek Development Traffic Impact Analysis

July 28, 2022

Prepared for:

Town of Rolesville, North Carolina
502 Southtown Circle
Rolesville, NC 27571

Applicant:

Toll Brothers Inc.
900 Perimeter Park Drive, Suite B3
Morrisville, NC 27560

Prepared by:

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

Sign-off Sheet

This document entitled Tom's Creek Development Traffic Impact Analysis was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of the 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 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 the information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such a 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 Pierre Tong

(signature)

Pierre Tong, PE

Reviewed by Matt Peach

(signature)

Matt Peach, PE, PTOE

Approved by Jeff Weller

(signature)

Jeff Weller, PE



7/28/2022

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Executive Summary

The proposed Tom's Creek Development is located between SR 2049 (Forestville Road) and SR 2051 (Burlington Mills Road) in Rolesville, NC. In general, the 224.64-acre site is located in the southeast corner of the intersection of Forestville Road and Burlington Mills Road. The site is envisioned to consist of 606 single-family detached housing units. The development is anticipated to be completed in 2029.

At full build-out, the development is anticipated to generate 5,294 new trips per average weekday. In the AM and PM peak hours, the development is expected to generate approximately 384 trips (100 entering and 284 exiting) and 540 (340 entering and 200 exiting), respectively.

Four (4) access points are proposed for the development. Access A will connect to Forestville Road whereas Accesses B, C, and D will connect to Burlington Mills Road. The site plan is shown in Figure ES-1.

This study evaluates the ability of the adjacent roadways to accommodate the additional traffic and recommends transportation improvements needed to mitigate congestion that may result from the site traffic. This report presents trip generation, trip distribution, traffic analyses, and recommendations for improvements needed to meet anticipated traffic demands. The following scenarios are examined for the AM and PM peak hours:

- 2022 Existing
- 2026 No Build
- 2026 Initial Build
- 2026 Initial Build with Improvements
- 2028 No Build
- 2028 Intermediate Build
- 2028 Intermediate Build with Improvements
- 2029 No Build
- 2029 Full Build

Capacity analyses for the AM and PM peak hours in each scenario were performed for the following intersections:

- Burlington Mills Road at Ligon Mill Road
- Burlington Mills Road at Forestville Road
- Burlington Mills Road at Access B
- Burlington Mills Road at Centaur Road / Access C
- Burlington Mills Road at Huntingcreek Drive / Access D
- Burlington Mills Road at US 401 Business (S. Main Street)
- Forestville Road at Access A
- Forestville Road at US 401

Table ES-1 shows a summary of the delays and levels of service for the study area intersections.

The results presented herein indicate that the proposed development will have an impact on the surrounding roadway network. These impacts are most pronounced at the intersection of Burlington Mills Road and Forestville Road. As a result, several improvements are recommended at the intersection. These improvements not only mitigate the development's impact on the intersection but also improve LOS by a letter grade.

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Other study area intersections have improvements committed by other developments or public-funded projects. The results of this analysis show that these intersections experience minor increases in delay due to the proposed development. Accordingly, improvements are not recommended at these intersections.

The primary access point (Access A) on Forestville Road is anticipated to operate with high delays if it is left as a stop-controlled intersection; even with the addition of turn-lanes on all approaches. The installation of a traffic signal will greatly improve operations but is contingent upon the intersection meeting the warrants for installation of a traffic signal outlined in the Manual on Uniform Traffic Control Devices (MUTCD) and approved by NCDOT. Accordingly, it is recommended that the location be monitored for the installation of a traffic signal and that the design and construction of the signal be the responsibility of the applicant.

All proposed driveways along Burlington Mills Road (Accesses B, C, and D) are expected to operate at an acceptable level of service in all scenarios and are not expected to have a significant impact on operations along Burlington Mills Road.

Based on the findings of this study, specific improvements have been identified and are recommended to be completed as part of the proposed development. These improvements are listed below and recommended improvements are shown in Figure ES-2.

2026 Initial Phase Recommendations

Burlington Mills Road at Centaur Road / Access C

- Construct Access C as a full-movement access point
- Construct Access C with one ingress and one egress lane with a driveway stem length of a minimum of 100 feet

Forestville Road at Access A

- Construct Access A as a full-movement access point
- Construct Access A with one ingress and two egress lanes (one left-turn lane and one right-turn lane) with a driveway stem length of a minimum of 170 feet
- Construct a northbound Forestville Road right-turn lane with 100 feet of full-width storage and appropriate taper
- Construct a southbound Forestville Road left-turn lane with 100 feet of full-width storage and appropriate taper

2028 Intermediate Phase Recommendations

Burlington Mills Road at Forestville Road

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

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

- Construct a southbound Forestville Road right-turn lane with 200 feet of full-width storage and appropriate taper
- The above recommendations will require the traffic signal at the intersection to be modified

Burlington Mills Road at Access B

- Construct Access B as a right-in/right-out access point
- Construct Access B with one ingress and one egress lane with a driveway stem length of a minimum of 100 feet

Forestville Road at Access A

- Monitor Access A for potential signalization

2029 Full Build Recommendations

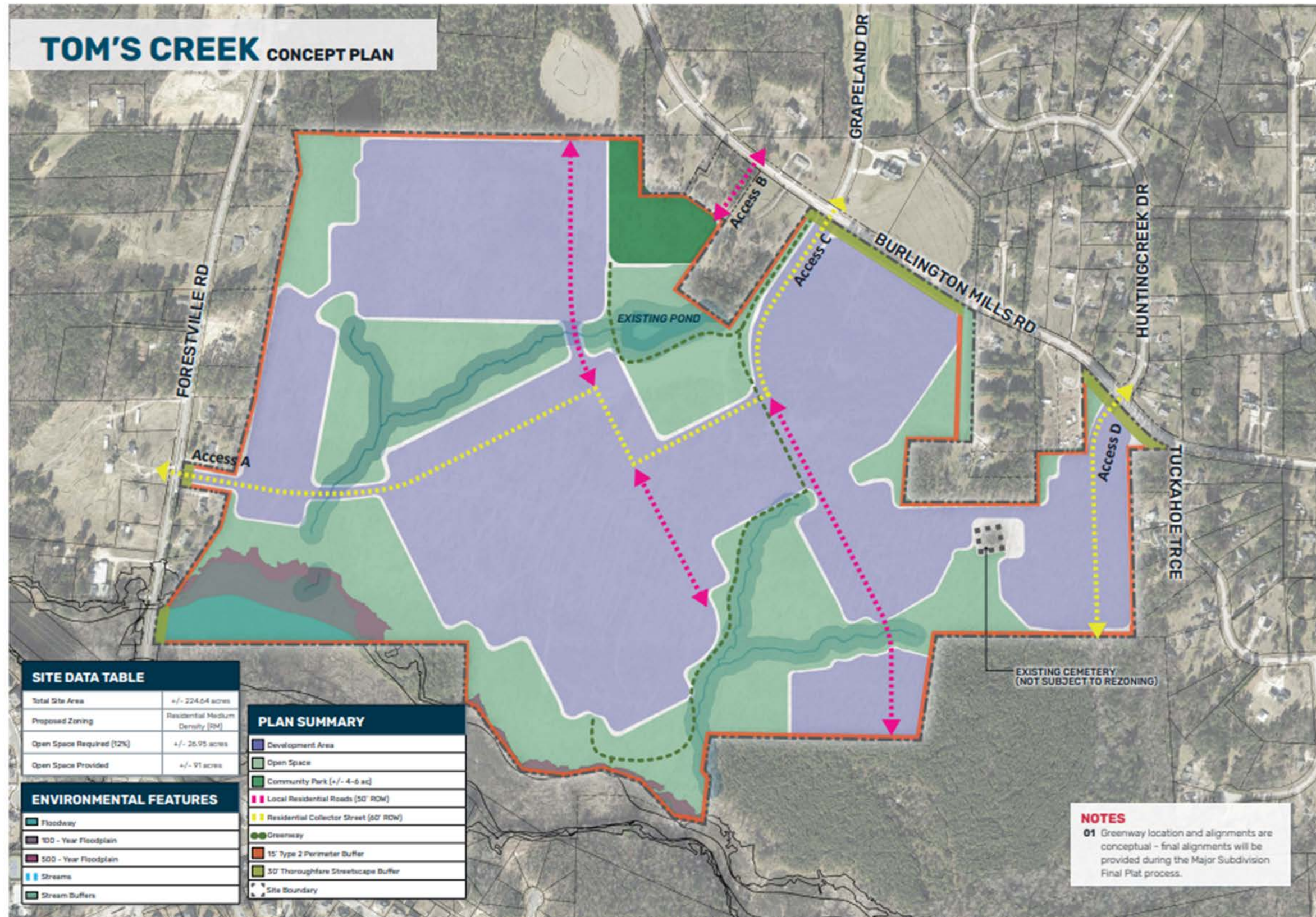
Burlington Mills Road at Huntingcreek Drive / Access D

- Construct Access D as a full-movement access point
- Construct Access D with one ingress and one egress lane with a driveway stem length of a minimum of 100 feet

Forestville Road at Access A

- Monitor Access A for potential signalization

Figure ES-1: Site Plan



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TOM'S CREEK CONCEPT PLAN
 ROLESVILLE, NORTH CAROLINA



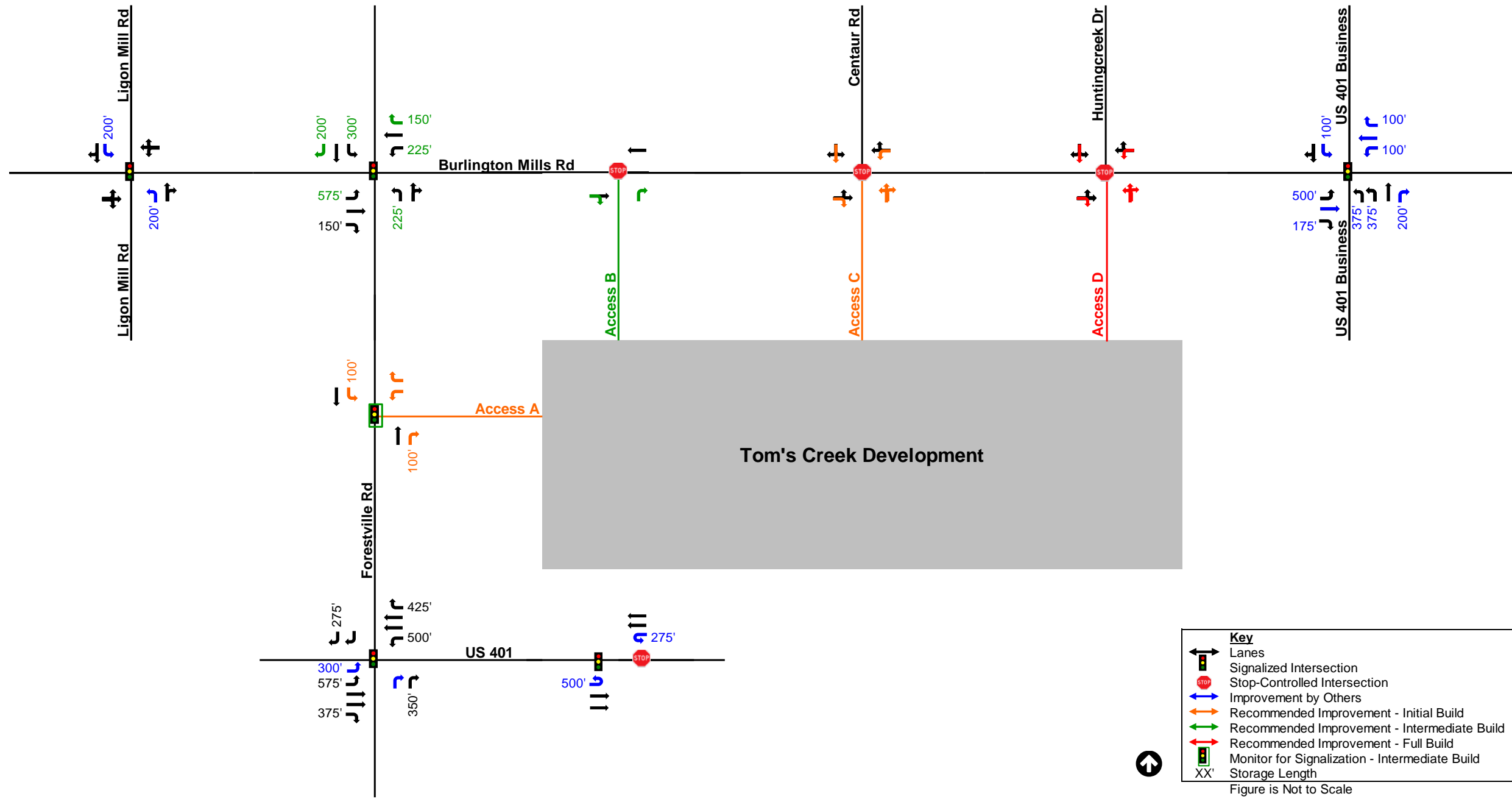
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Table ES-1: Level of Service & Delay Summary

Level of Service (Delay, sec/veh)	2022 Existing		2026 No Build		2026 Initial Build		2026 Initial Build with Improvements		2028 No Build		2028 Intermediate Build		2028 Intermediate Build with Improvements		2029 No Build		2029 Full Build			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
Burlington Mills Road at Ligon Mill Road	D (43.4)	C (33.4)	D (53.7)	C (26.4)	D (47.1)	C (29.0)	D (47.1)	C (29.0)	E (57.8)	C (28.3)	E (59.2)	C (30.1)	E (64.7)	C (31.7)	E (70.3)	C (32.7)	E (73.5)	C (33.7)		
Burlington Mills Road at Forestville Road	C (33.5)	C (32.0)	F (84.9)	F (85.7)	F (90.7)	F (80.2)	F (90.7)	F (80.2)	F (99.3)	F (89.5)	F (109.3)	F (94.1)	E (60.0)	E (60.3)	E (62.5)	E (62.2)	E (66.2)	E (64.3)		
Burlington Mills Road at Access B	-	-	-	-	-	-	-	-	-	-	-	-	B (11.6)	B (11.2)	B (11.6)	B (11.2)	B (11.7)	B (11.3)	B (11.8)	B (11.6)
Burlington Mills Road at Centaur Road / Access C	B (12.4)	B (10.5)	C (16.3)	B (13.0)	C (20.7)	C (16.1)	C (20.7)	C (16.1)	C (21.4)	C (16.3)	D (29.6)	C (20.2)	D (29.6)	C (20.2)	D (30.3)	C (20.4)	D (29.4)	C (20.8)		
Burlington Mills Road at Huntingcreek Drive / Access D	B (11.7)	B (10.1)	C (15.5)	C (12.2)	C (15.8)	B (12.4)	C (15.8)	B (12.4)	C (16.1)	B (12.6)	C (16.3)	B (12.8)	C (16.3)	C (12.8)	C (16.5)	B (12.9)	D (28.1)	C (20.1)		
Burlington Mills Road at US 401 Business	C (27.8)	B (16.6)	E (61.0)	D (42.3)	E (62.0)	D (46.5)	E (62.0)	D (46.5)	E (65.3)	D (43.4)	E (62.9)	D (43.5)	E (70.8)	D (44.3)	E (67.8)	D (42.6)	E (69.3)	D (43.0)		
Forestville Road at Access A	-	-	-	-	F (398.3)	F (1262.7)	F (297.2)	F (821.2)	F (445.5)	F (1306.6)	F (1133.7)	F (3272.1)	B (8.6)	A (7.4)	A (9.1)	A (7.5)	B (11.8)	A (9.2)		
Forestville Road at US 401	D (37.2)	D (40.4)	The Perry Farms development will convert this intersection to a Reduced Conflict Intersection by 2026																	
Forestville Road at US 401 Westbound	-	-	D (47.4)	B (17.5)	D (52.7)	C (20.8)	D (52.7)	C (20.8)	E (61.5)	B (19.1)	E (69.5)	B (19.8)	E (69.9)	B (19.8)	E (73.3)	B (19.8)	E (78.4)	B (19.1)		
Forestville Road at US 401 Eastbound	-	-	B (17.9)	C (20.4)	B (18.6)	B (21.6)	B (18.6)	C (21.6)	B (19.6)	C (21.9)	C (20.3)	C (22.0)	B (16.7)	C (22.0)	B (17.5)	C (23.2)	B (17.5)	C (23.2)		
US 401 Westbound U-Turn	-	-	C (31.8)	B (15.7)	C (26.9)	B (16.2)	C (26.9)	B (16.2)	C (31.3)	B (15.9)	C (30.0)	B (15.9)	C (32.5)	B (15.9)	D (35.0)	B (16.0)	D (35.1)	B (16.1)		

Figure ES-2: Recommended Improvements



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Introduction
July 28, 2022

1.0 INTRODUCTION

The purpose of this report is to evaluate the traffic impacts of the proposed Tom's Creek Development located in Rolesville, NC. This development is located between SR 2049 (Forestville Road) and SR 2051 (Burlington Mills Road) in Rolesville, NC. In general, the 224.64-acre site is located in the southeast corner of the intersection of Forestville Road and Burlington Mills Road. The development's location and study area are shown in Figure 1.

The site currently consists of undeveloped farmland and is zoned Residential Low Density (RL). The applicant is pursuing a rezoning to Residential Medium Density – Conditional District (RM-CZ). Construction of the site is anticipated to be completed in 2029 and will consist of up to 606 units of single-family detached housing. The Rolesville Comprehensive Plan designates this property as “Medium Density Residential” with a suggested density range of 3-5 units per acre, however, the applicant has chosen to limit the proposed density to 2.7 units per acre. Figure 2 shows the conceptual site plan prepared by McAdams. Figure 3 shows each of the six (6) phases of development.

The Tom's Creek Development is expected to be constructed in six (6) phases as shown in Figure 3; however, the applicant has requested that three (3) phases be included in this study. The Initial phase studied includes what is shown as phases 1 and 2 in Figure 3 and is assumed to be fully built out and occupied by 2026. The Intermediate phase includes what is shown as phases 3 and 4 in Figure 3 and is assumed to be fully built out and occupied by 2028. The final phase includes what is shown as phases 5 and 6 in Figure 3 and is assumed to be fully built out and occupied by 2029.

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:

- 2022 Existing
- 2026 No Build
- 2026 Initial Build
- 2026 Initial Build with Improvements
- 2028 No Build
- 2028 Intermediate Build
- 2028 Intermediate Build with Improvements
- 2029 No Build
- 2029 Full Build

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Introduction
July 28, 2022

Figure 1: Site Location and Study Area Map

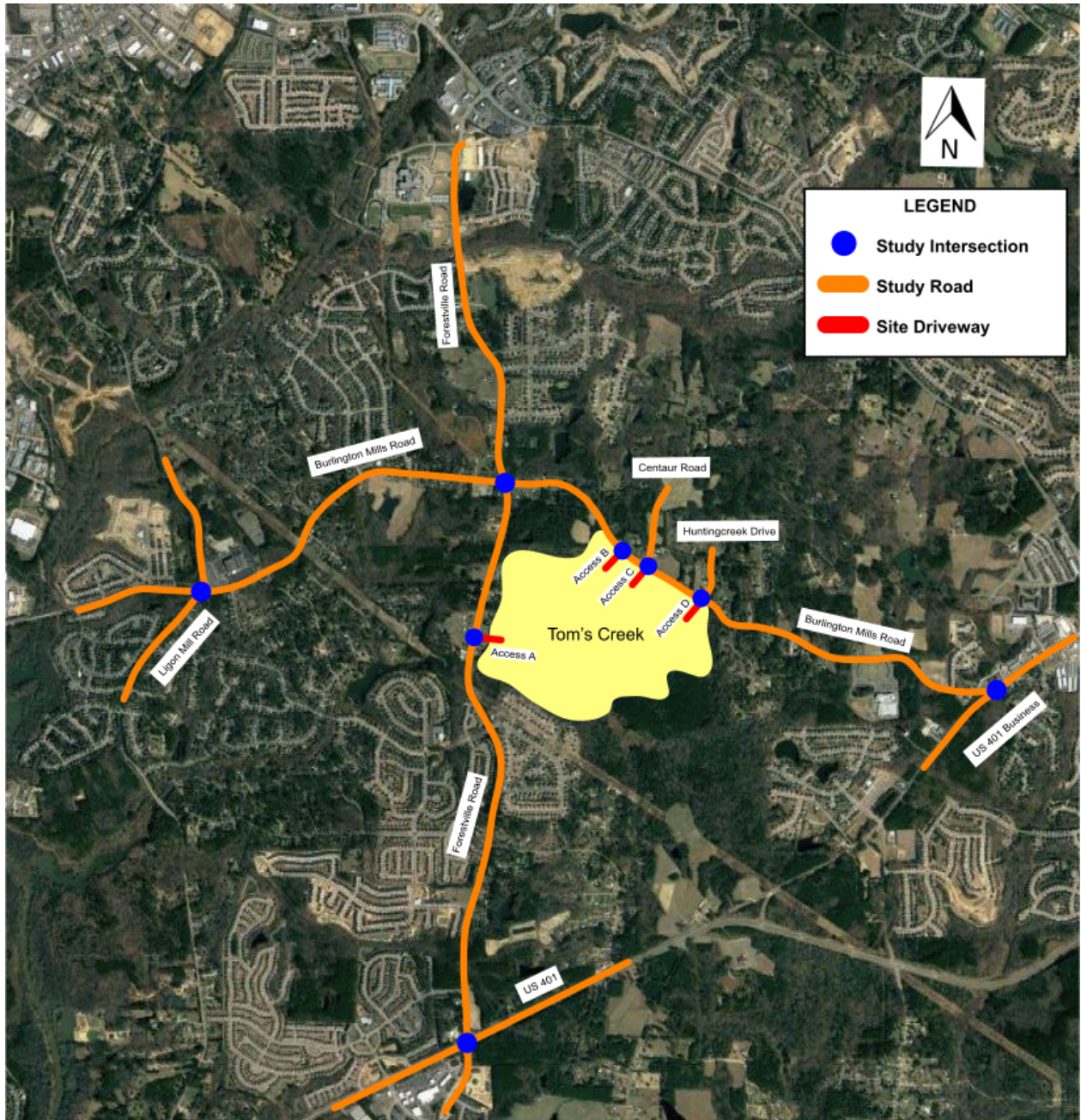
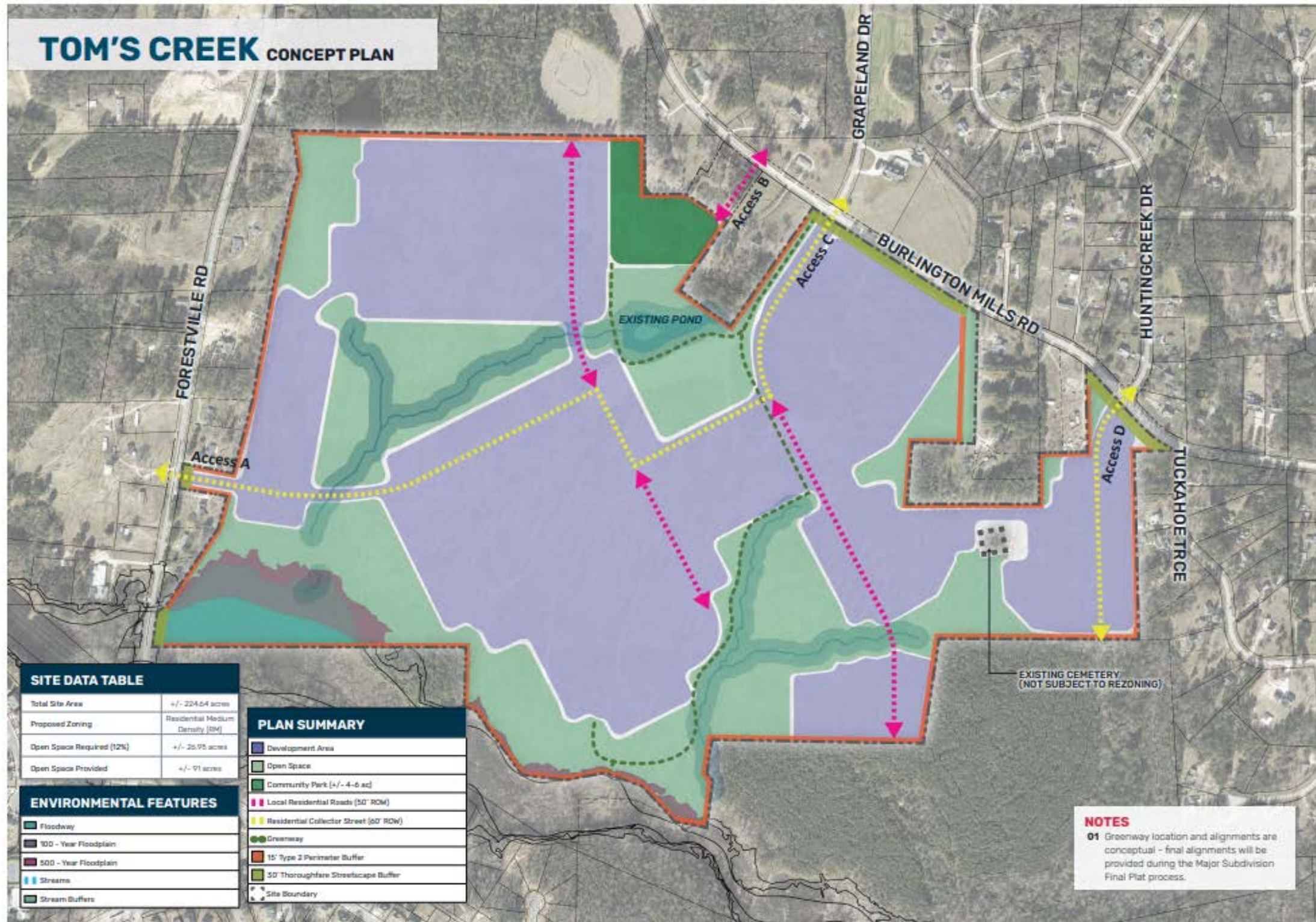


Figure 2: Proposed Site Plan



SITE DATA TABLE	
Total Site Area	+/- 224.64 acres
Proposed Zoning	Residential Medium Density (RM)
Open Space Required (12%)	+/- 26.95 acres
Open Space Provided	+/- 91 acres

ENVIRONMENTAL FEATURES	
	Floodway
	100 - Year Floodplain
	500 - Year Floodplain
	Streams
	Stream Buffers

PLAN SUMMARY	
	Development Area
	Open Space
	Community Park (+/- 4-6 ac)
	Local Residential Roads (50' ROW)
	Residential Collector Street (60' ROW)
	Greenway
	15' Type 2 Perimeter Buffer
	50' Thoroughfare Streetscape Buffer
	Site Boundary

NOTES
01 Greenway location and alignments are conceptual - final alignments will be provided during the Major Subdivision Final Plat process.



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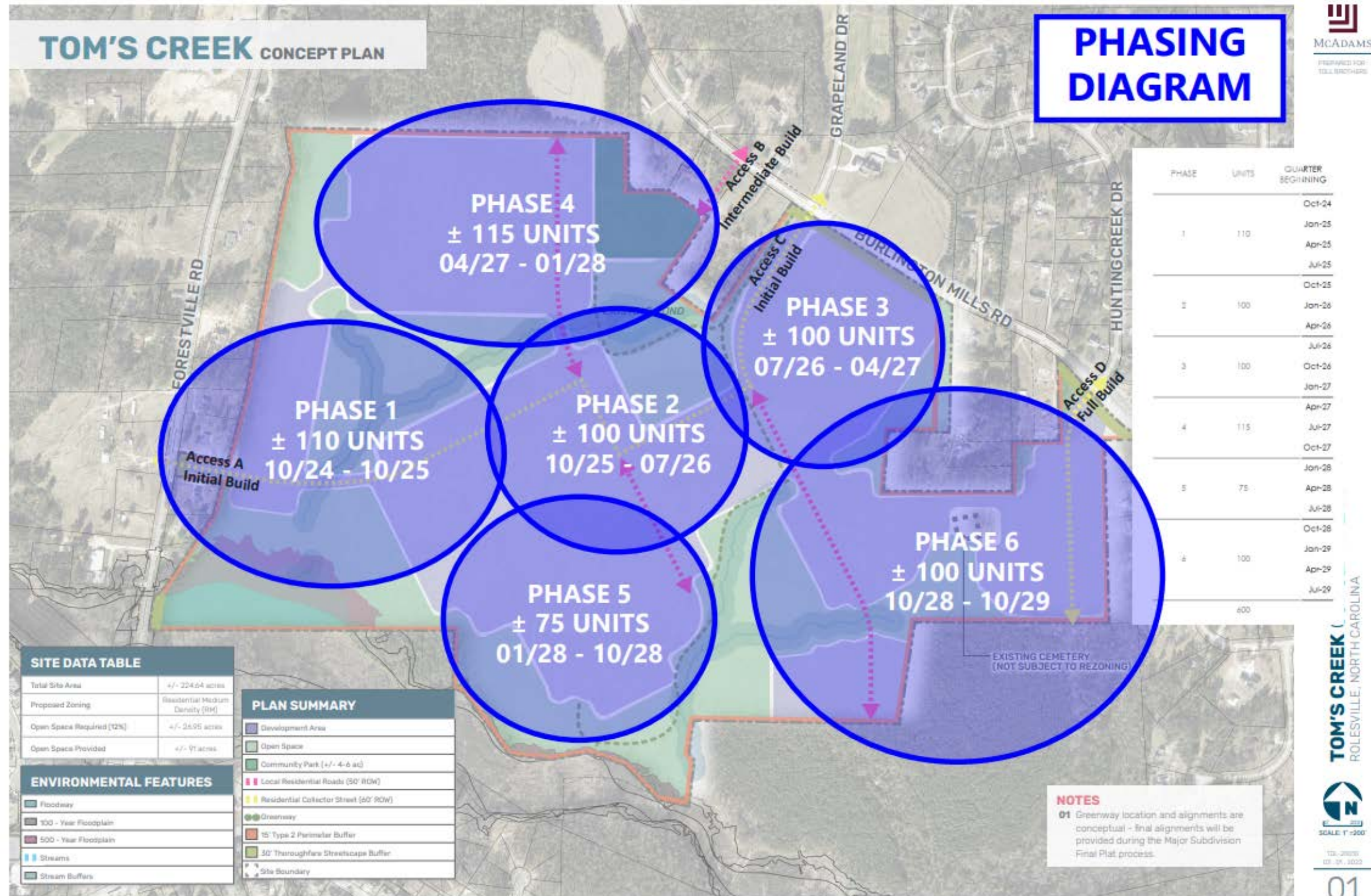
TOM'S CREEK CONCEPT PLAN
ROLESVILLE, NORTH CAROLINA



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Figure 3: Proposed Phases



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Inventory of Traffic Conditions
July 28, 2022

2.0 INVENTORY OF TRAFFIC CONDITIONS

2.1 STUDY AREA

Stantec coordinated with the Town of Rolesville and the North Carolina Department of Transportation (NCDOT) Division 5, District 1 to determine the appropriate study area and assumptions for this study. The final scoping document is included in the appendix. The following intersections were agreed upon to be analyzed to determine the associated impacts of the proposed development.

- Burlington Mills Road at Ligon Mill Road (signalized)
- Burlington Mills Road at Forestville Road (signalized)
- Burlington Mills Road at Centaur Road (stop-controlled)
- Burlington Mills Road at Huntingcreek Drive (stop-controlled)
- Burlington Mills Road at US 401 Business (S. Main Street) (signalized)
- Forestville Road at US 401 (signalized)

Figure 4 shows a diagram of the existing lane configurations, geometry, and traffic control features in the study area.

2.2 PROPOSED ACCESS

2.2.1 Initial Phase Access

Access to the Initial phase (i.e., phases 1 and 2 as shown in Figure 3) is envisioned to be provided by two access points:

- Forestville Road at Access A
- Burlington Mills Road at Centaur Road / Access C

Access A is proposed to be a full-movement driveway located along Forestville Road. This will create a new three-legged intersection. Intersection control will be provided by a stop sign on Access A. Access C is proposed to be a full-movement driveway on Burlington Mills Road at Centaur Road. Intersection control will be provided by stop signs on the minor approaches.

2.2.2 Intermediate Phase Access

The Intermediate phase (i.e., phases 3 and 4 as shown in Figure 3) will construct a new access point on Burlington Mills Road:

- Burlington Mills Road at Access B

Access B is proposed to be a right-in/right-out driveway located along Burlington Mills Road. This will create a new three-legged intersection. Intersection control will be provided by a stop sign on Access B. The construction of Access B will bring the total number of access points to three during the Intermediate phase.

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Inventory of Traffic Conditions
July 28, 2022

2.2.3 Full Build Access

The final phase (i.e., phases 5 and 6 as shown in Figure 3 and referred to as the full build) will construct a new access point on Burlington Mills Road:

- Burlington Mills Road at Huntingcreek Drive / Access D

Access D is proposed to be a full-movement driveway on Burlington Mills Road at Huntingcreek Drive. Intersection control will be provided by stop signs on both Huntingcreek Drive and Access D. The construction of Access D will bring the total number of access points to four when the development is fully built out.

2.3 EXISTING ROADWAY CONDITIONS

Table 1 provides a detailed description of the existing study area roadway network. All functional classification and average annual daily traffic (AADT) information, where available, was obtained from NCDOT via the NCDOT.gov website. The existing roadway laneage is illustrated in Figure 4.

Table 1: Existing Conditions

Road Name	Road Number	Primary Cross-Section	Functional Classification ¹	2020 AADT ² (vpd)	Speed Limit (mph)	Maintenance Agency
Burlington Mills Road	SR 2045/2051	2-Lane Undivided	Minor Collector	3,500-8,000	45	NCDOT
Centaur Road	SR 2073	2-Lane Undivided	Local	Unknown	55	NCDOT
Forestville Road	SR 2049	2-Lane Undivided	Minor Arterial	10,500-13,000	45	NCDOT
Huntingcreek Drive	SR 3657	2-Lane Undivided	Local	Unknown	55	NCDOT
Ligon Mill Road	SR 2044	2-Lane Undivided	Minor Collector	1,800-7,600	45	NCDOT
Louisburg Road	US 401	4-Lane Divided	Principal Arterial	21,500	55	NCDOT
S. Main Street	US 401 Business	2-Lane/3-Lane Undivided	Principal Arterial	9,000-12,000	35	NCDOT

2.4 FUTURE NO BUILD ROADWAY CONDITIONS

Nearby developments have committed to specific improvements to the study intersections. While the schedule of each development is unknown, the improvements are assumed to be completed in 2026 before the Tom's Creek Development is constructed. These improvements are described in the following subsections. The future no build roadway conditions are shown in Figure 5.

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Inventory of Traffic Conditions
July 28, 2022

Burlington Mills Road at Ligon Mill Road

The Kitchin Farms development has committed to constructing two improvements at this intersection:

- Construct a southbound left-turn lane along Ligon Mill Road with 200 feet of storage and appropriate deceleration and taper length
- Construct a northbound left-turn lane along Ligon Mill Road with 200 feet of storage and appropriate Forestville Road at US 401

These improvements are documented in the Marshall Village Traffic Impact Analysis (Ramey Kemp & Associates, August 2021). A copy of this TIA is included in the appendix. Additional information on the Kitchin Farms development can be found in Section 5.3.

Forestville Road at US 401

The Perry Farms development has committed to converting this location to a reduced conflict intersection (RCI) where left and through movements are redirected from the Forestville Road approaches and U-turns are made at the US 401 & Leland Drive intersection and a nearby bulb-intersection east of the US 401 & Forestville Road intersection. This includes the construction of the following improvements at this intersection:

- Convert intersection to an RCI with left and through movements being eliminated from the Forestville Road approaches
- Restripe Forestville Road approaches to dual right-turn lanes
- Construct a second eastbound left-turn lane with 300 feet of storage and appropriate deceleration and taper length
- Provide an eastbound U-turn location approximately 1,300 feet east of the intersection with an eastbound U-turn lane with 500 feet of storage and appropriate deceleration and taper length

These improvements are documented in the Perry Farms Development Traffic Impact Analysis Review Report (NCDOT Congestion Management, July 2021). A copy of this memo and other associated documentation is included in the appendix. Additional information on the Perry Farms development can be found in Section 5.3

Burlington Mills Road at US 401 Business

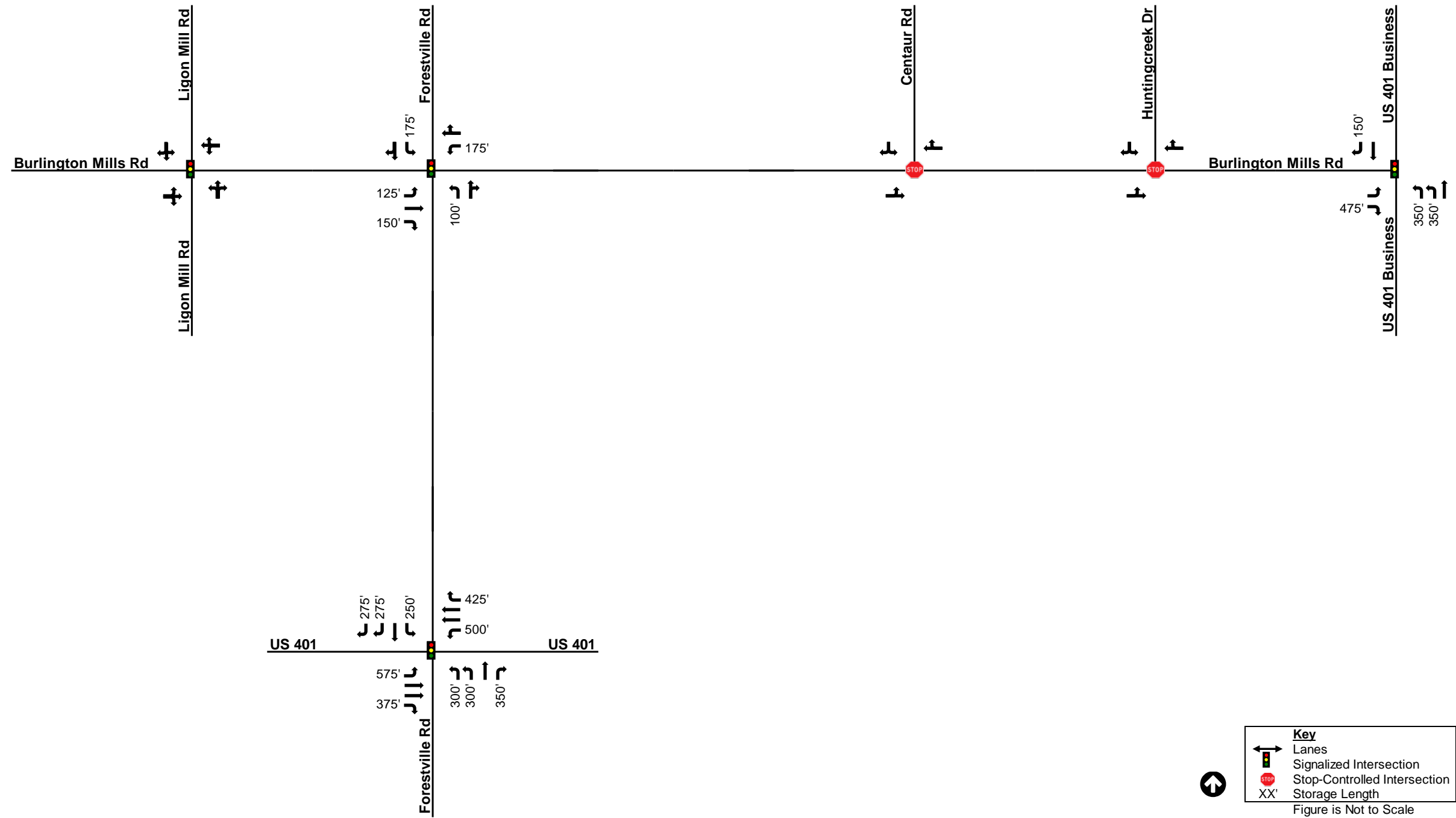
As part of the NCDOT U-6241 project (construction year 2022) and Wallbrook development, Burlington Mills Road will be realigned and a new signalized intersection with US 401 Business will be constructed to the south of the existing intersection.

These improvements are documented in the Revised Wallbrook Development Traffic Impact Analysis (Stantec, August 2020). A copy of this memo is included in the appendix. Additional information on the Wallbrook development can be found in Section 5.3

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Inventory of Traffic Conditions
July 28, 2022

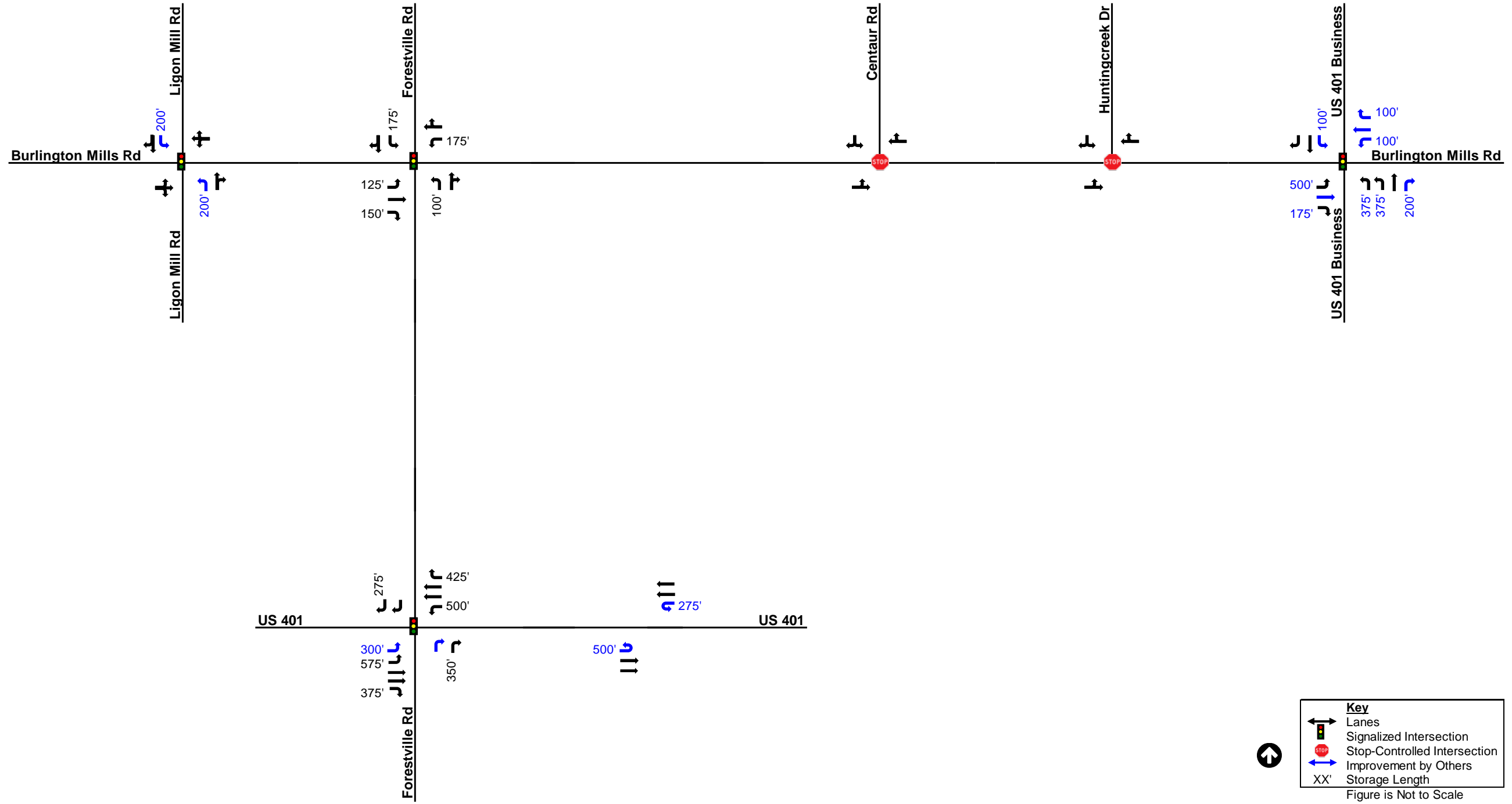
Figure 4: 2022 Existing Lane Configurations and Traffic Control



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Inventory of Traffic Conditions
July 28, 2022

Figure 5: 2026 No Build Lane Configurations and Traffic Control



Trip Generation
 July 28, 2022

3.0 TRIP GENERATION

Trip generation was performed for the proposed development in three phases. Trips were estimated using the 11th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual³. The manual provides means for calculating trips across four setting types: city center core, dense multi-use urban, general urban/suburban, and rural. This trip generation, submitted to the Town and NCDOT for review, and including internal capture and trip generation methodology, is located in the appendix.

3.1 INITIAL PHASE TRIP GENERATION

The Initial phase of the Tom's Creek Development will comprise 210 single-family detached housing units. Table 2 shows the number of anticipated trips that will be generated by the Initial phase (Daily, AM Peak, and PM Peak entering and exiting).

Table 2: Initial Phase Trip Generation

Land Use	ITE LUC	Size	Daily			AM Peak			PM Peak		
			Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
Single Family Homes	210	210 Units	1834	917	917	133	35	98	187	118	69
Trips Generated for this phase			1834	917	917	133	35	98	187	118	69

3.2 INTERMEDIATE PHASE TRIP GENERATION

The Intermediate phase of the Tom's Creek Development will add 215 new single-family detached housing units to those constructed as a part of the Initial phase. This results in a total of 425 single-family detached housing units. To provide a conservative estimate of the traffic to and from the development during the Intermediate phase, trips were calculated for 215 units. Trips from the Initial phase (shown in Table 2) were then added to trips from the Intermediate phase to produce the cumulative trips generated during the Intermediate phase. These cumulative values were assigned to the roadway network using the trip distribution discussed in Section 4.0. Table 3 shows the number of anticipated trips that will be generated by the Intermediate Build (Daily, AM Peak, and PM Peak entering and exiting).

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Trip Generation
July 28, 2022

Table 3: Intermediate Phase Trip Generation

Land Use	ITE LUC	Size	Daily			AM Peak			PM Peak		
			Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
Single Family Homes	210	215 Units	1878	939	939	136	35	101	192	121	71
Trips Generated for this phase			1878	939	939	136	35	101	192	121	71
Cumulative Trips Generated			3712	1856	1856	269	70	199	379	239	140

3.3 FULL BUILD TRIP GENERATION

The Full Build, and final phase, for this site is a combined 606 units of single-family detached housing. Table 4 shows the number of anticipated trips that will be generated when the site is completed.

Table 4: Full Build Trip Generation

Land Use	ITE LUC	Size	Daily			AM Peak			PM Peak		
			Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
Single Family Homes	210	606 Units	5294	2647	2647	384	100	284	540	340	200
Trips Generated for this phase			1582	791	791	115	30	85	161	101	60
Cumulative Trips Generated			5294	2647	2647	384	100	284	540	340	200

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Distribution

July 28, 2022

4.0 TRAFFIC DISTRIBUTION

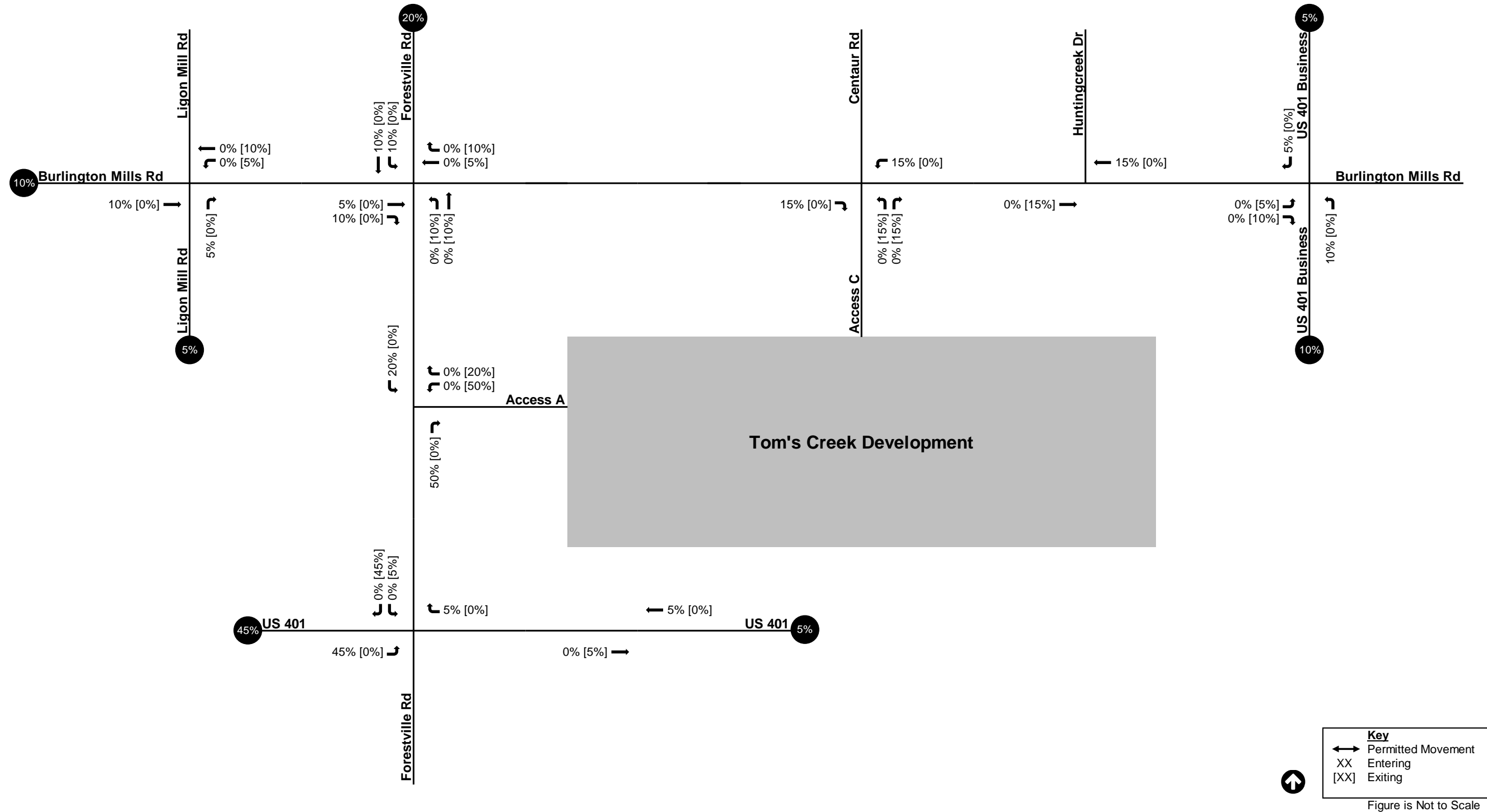
4.1 SITE TRIP DISTRIBUTION

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. The following percentages were used in the AM and PM peak hours for the proposed site:

- 45% to/from the south via US 401 (Louisburg Road)
- 20% to/from the north via Forestville Road
- 10% to/from the west via Burlington Mills Road
- 10% to/from the south via US 401 Business (S. Main Street)
- 5% to/from the south via Ligon Mill Road
- 5% to/from the north via US 401 Business (S. Main Street)
- 5% to/from the east via US 401 (Louisburg Road)

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 to the Town and NCDOT for review as part of NCDOT's TIA Scoping Checklist contained in the appendix. Trip distribution and assignment for the Initial phase are shown in Figure 6 and Figure 7, trip distribution and assignment for the Intermediate phase are shown in Figure 8 and Figure 9, and trip distribution for the Full Build is shown in Figure 10 and Figure 11.

Figure 6: Initial Phase Trip Distribution



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Distribution
July 28, 2022

Figure 7: Initial Phase Trip Assignment

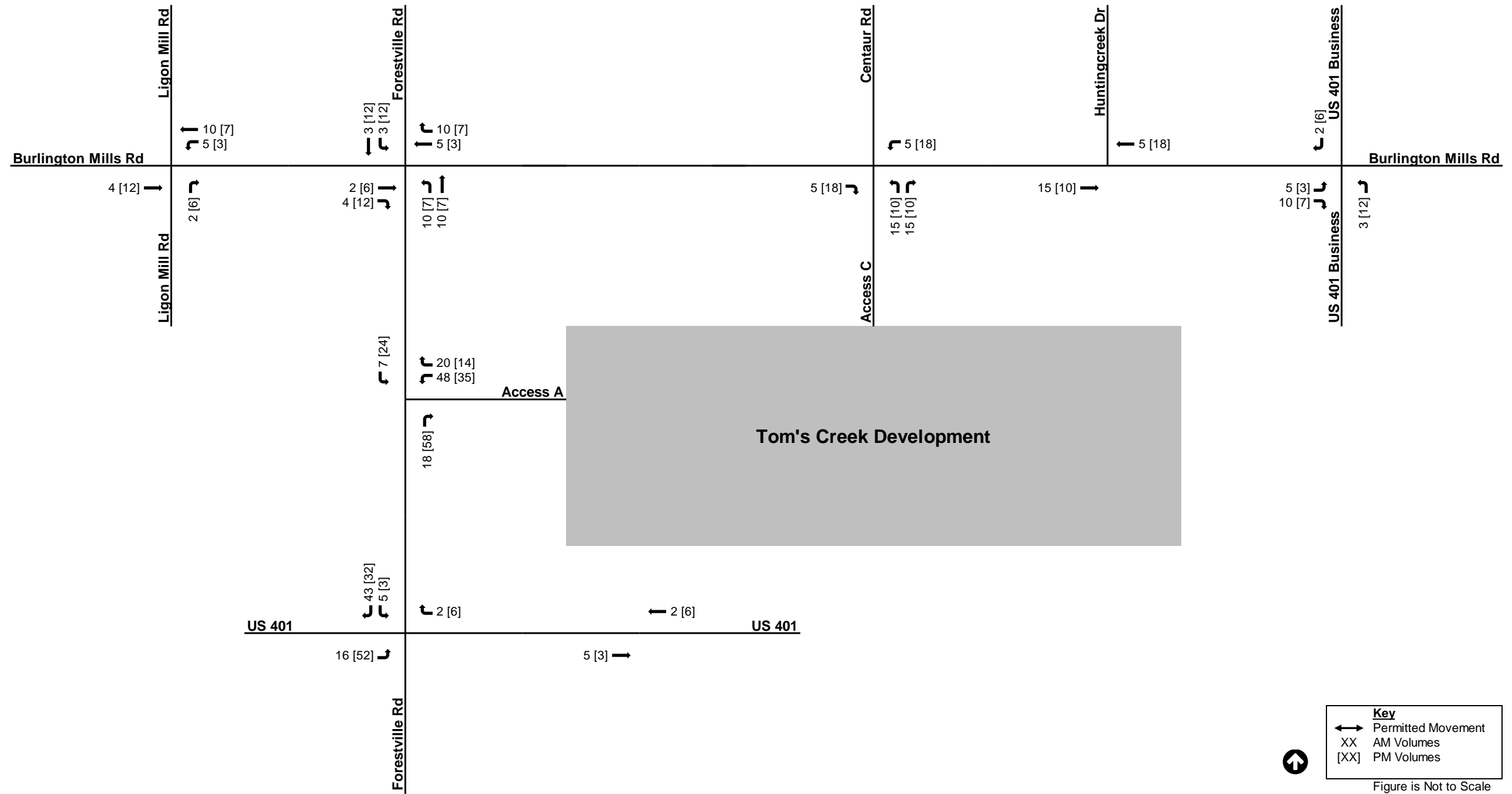


Figure 8: Intermediate Phase Trip Distribution

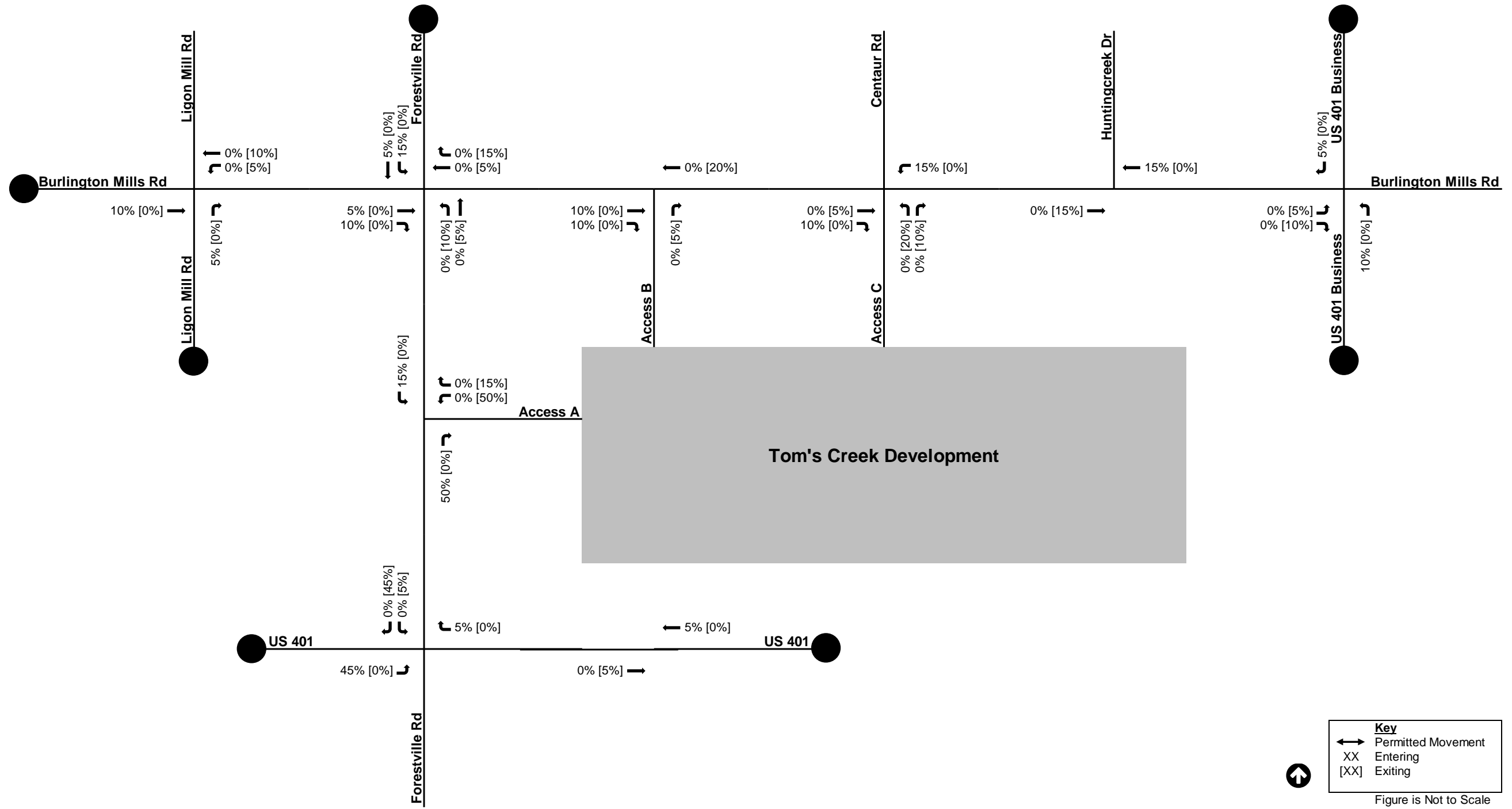


Figure 9: Intermediate Phase Trip Assignment

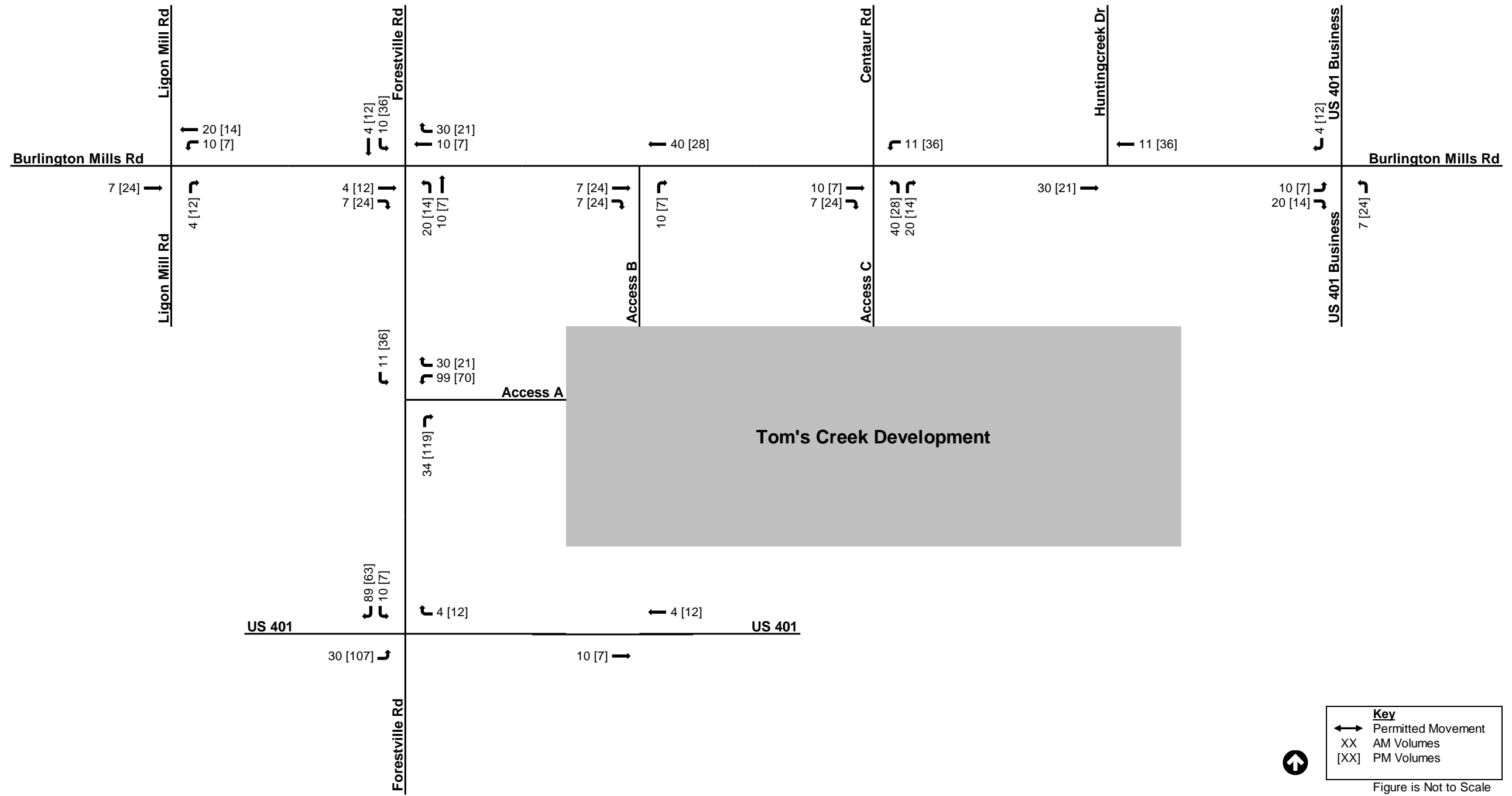
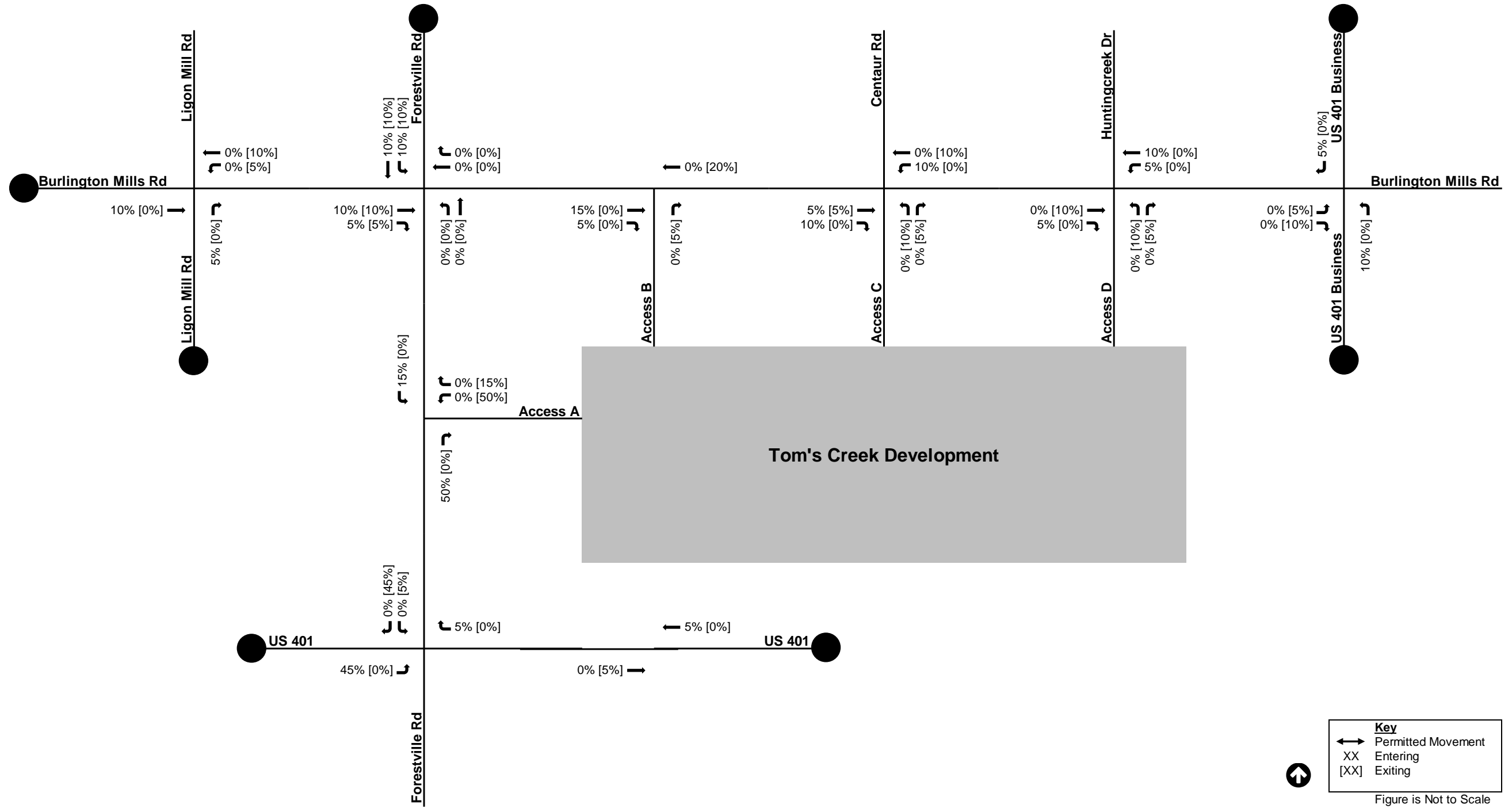


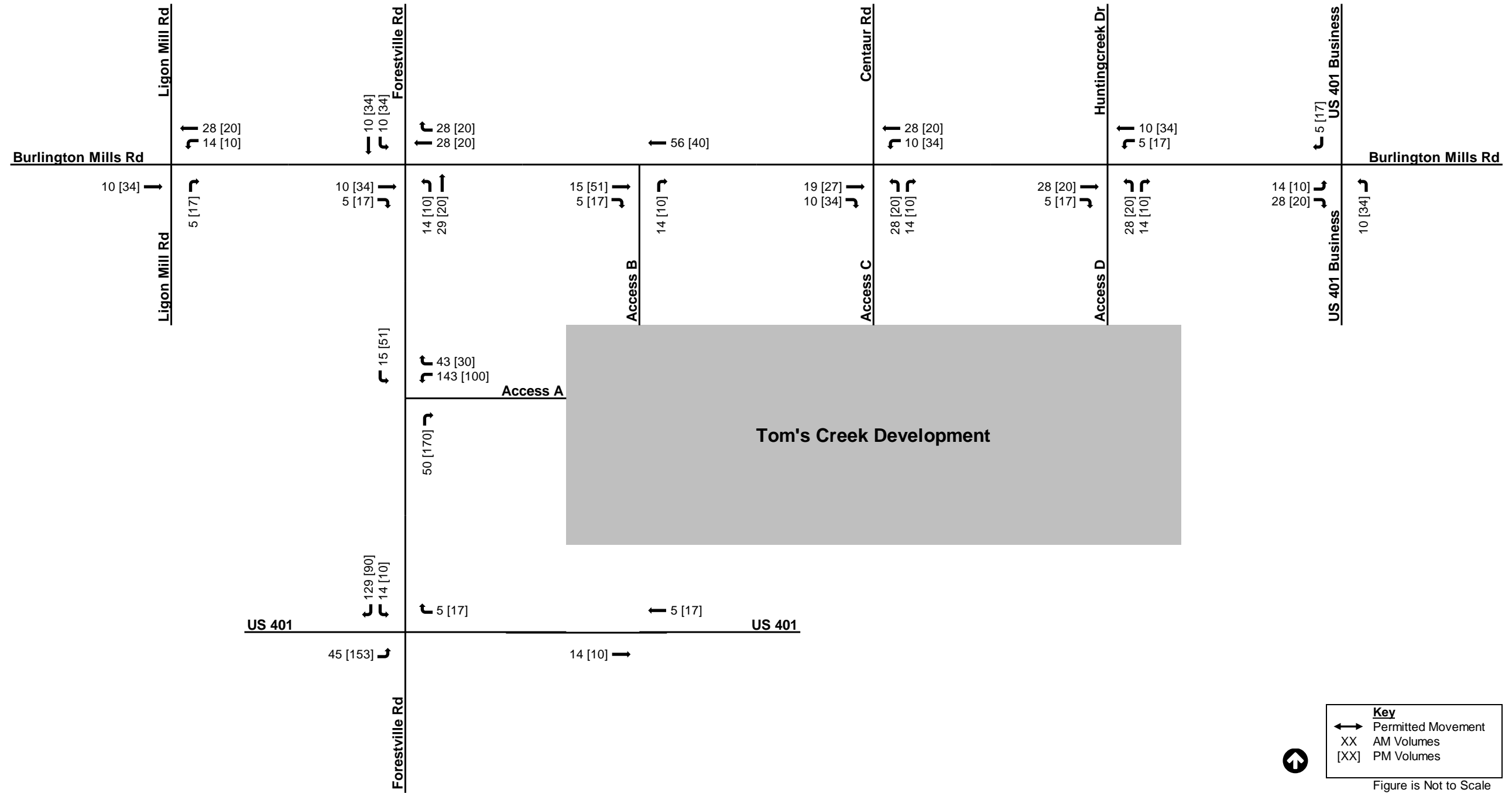
Figure 10: Full Build Trip Distribution



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Distribution
July 28, 2022

Figure 11: Full Build Trip Assignment



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Volumes
July 28, 2022

5.0 TRAFFIC VOLUMES

All traffic volume calculations can be found in the appendix.

5.1 TRAFFIC COUNTS

Morning (7:00 – 9:00 am) and evening (4:00 – 6:00 pm) turning movement counts were taken at the study intersections on May 17, 2022, 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 2022 existing volumes are shown in Figure 12.

5.2 FUTURE TRAFFIC GROWTH

Future traffic growth is the increase in traffic volumes due to usage increases and non-specific growth throughout the area. The 2022 existing volumes were grown by a 2% annual rate to estimate 2026, 2028, and 2029 base volumes.

5.3 APPROVED DEVELOPMENT TRAFFIC

There are three (3) approved developments within the study area. Information on each is listed below with additional information being included in the appendix

1. Wallbrook is a proposed mixed-use development project located along both sides of US 401 Business (S. Main Street) between Burlington Mills Road and Hampton Lake Drive/Jonesville Road. The development is expected to be complete before the completion of the Initial Build of the Tom's Creek development.
2. Perry Farms is a mixed-use development located in the northeast quadrant of the US 401 (Louisburg Road) and Forestville Road intersection. The development is expected to be complete before the completion of the Initial Build of the Tom's Creek development.
3. Marshall Village is a residential development located in the northwest quadrant of the Forestville Road and Burlington Mills Road intersection and is estimated to be built in 2024, before the completion of the Initial Build of the Tom's Creek development.

It should be noted that the Kitchin Farms development has committed to improvements to the intersection of Burlington Mills Road at Ligon Mill Road discussed in Section 2.4. Kitchin Farms is a residential development located west of Ligon Mill Road in Wake Forest. The residential development of 263 units is partially constructed and occupied. As a result, traffic from the constructed and occupied portion of the development is included in the traffic counts. Much of the traffic generated by the development would be traveling to/from US 1 which is not included in the study area. Therefore, traffic from this development is not included in the analysis. The minor amount of traffic to/from Kitchin Farms that would travel through the study area is assumed to be captured by the future traffic growth rate of 2% per year discussed in Section 5.2.

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Traffic Volumes
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5.4 NO BUILD TRAFFIC VOLUMES

The future traffic growth and approved development traffic volumes were added to the existing volumes to determine the no build traffic volumes. 2026 no build traffic volumes are shown in Figure 13. 2028 no build traffic volumes are shown in Figure 15. The 2029 no build traffic volumes are shown in Figure 17.

5.5 INITIAL PHASE TRAFFIC VOLUMES

To obtain the total 2026 Initial phase traffic volumes, the distributed site traffic shown in Figure 7 was added to the respective no build traffic volumes shown in Figure 13. The total AM and PM peak hour turning movement volumes for the study intersections were then calculated and analyzed for the 2026 Initial phase. The 2026 Initial phase traffic volumes are shown in Figure 14.

5.6 INTERMEDIATE PHASE TRAFFIC VOLUMES

To obtain the total 2028 Intermediate phase traffic volumes, the distributed site traffic shown in Figure 9 was added to the respective no build traffic volumes shown in Figure 15. The total AM and PM peak hour turning movement volumes for the study intersections were then calculated and analyzed for the 2028 Intermediate phase. The 2028 Intermediate phase traffic volumes are shown in Figure 16.

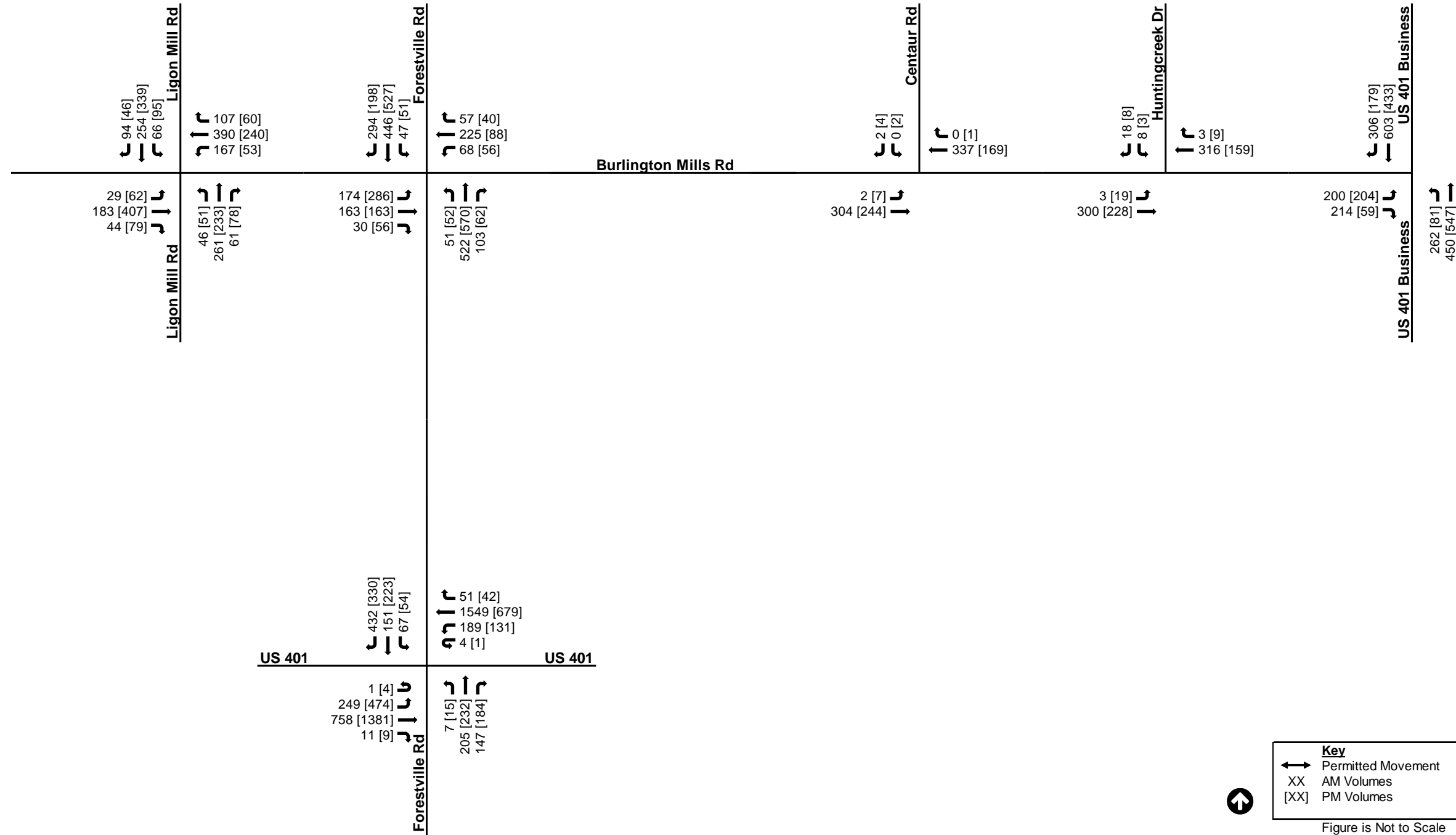
5.7 FULL BUILD TRAFFIC VOLUMES

To obtain the total 2029 Full Build traffic volumes, the distributed site traffic shown in Figure 11 was added to the respective no build traffic volumes shown in Figure 17. The total AM and PM peak hour turning movement volumes for the study intersections were then calculated and analyzed for the 2029 Full Build traffic scenario. The 2029 Full Build traffic volumes are shown in Figure 18.

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Volumes
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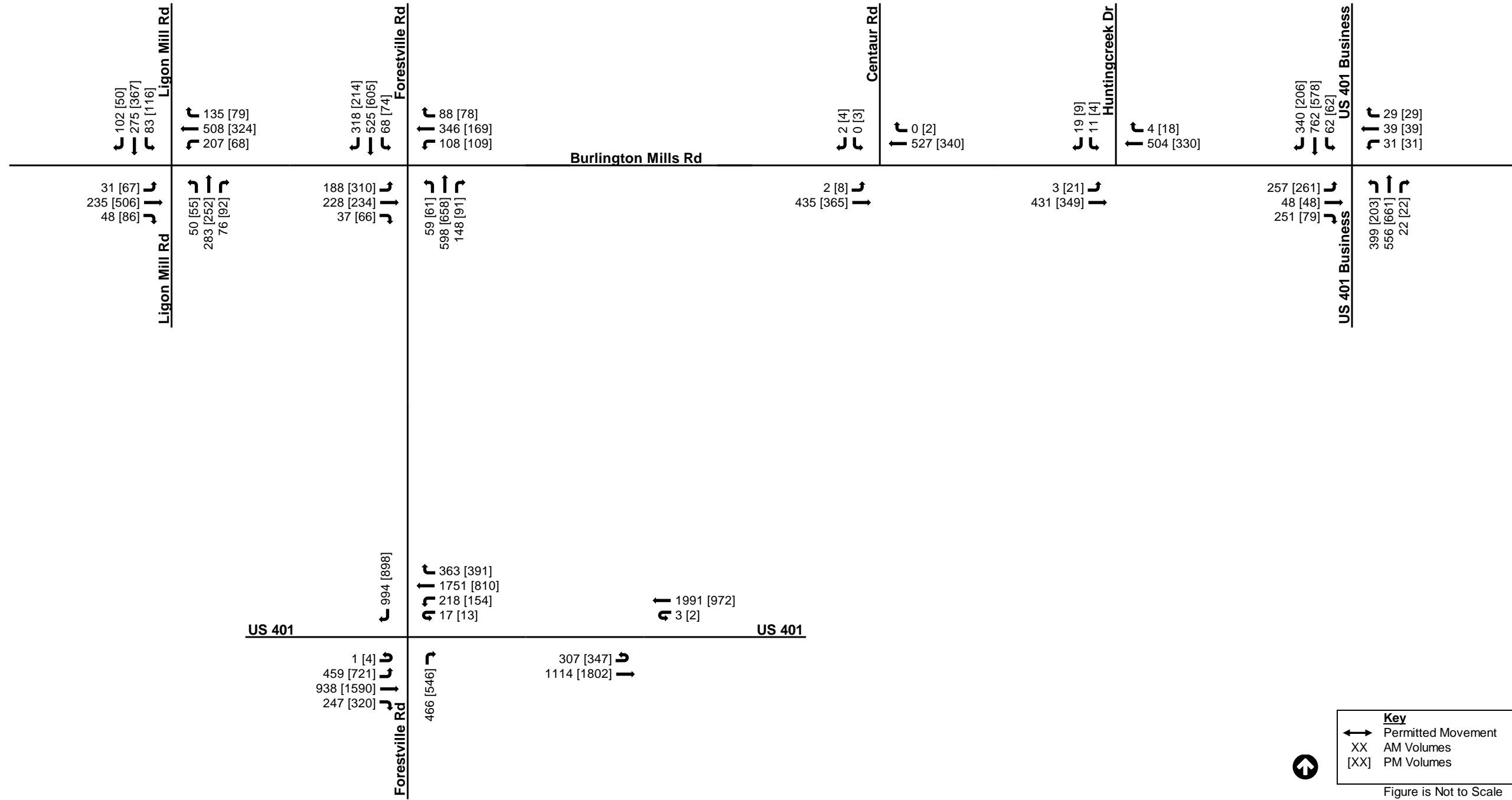
Figure 12: 2022 Existing Traffic Volumes



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Volumes
July 28, 2022

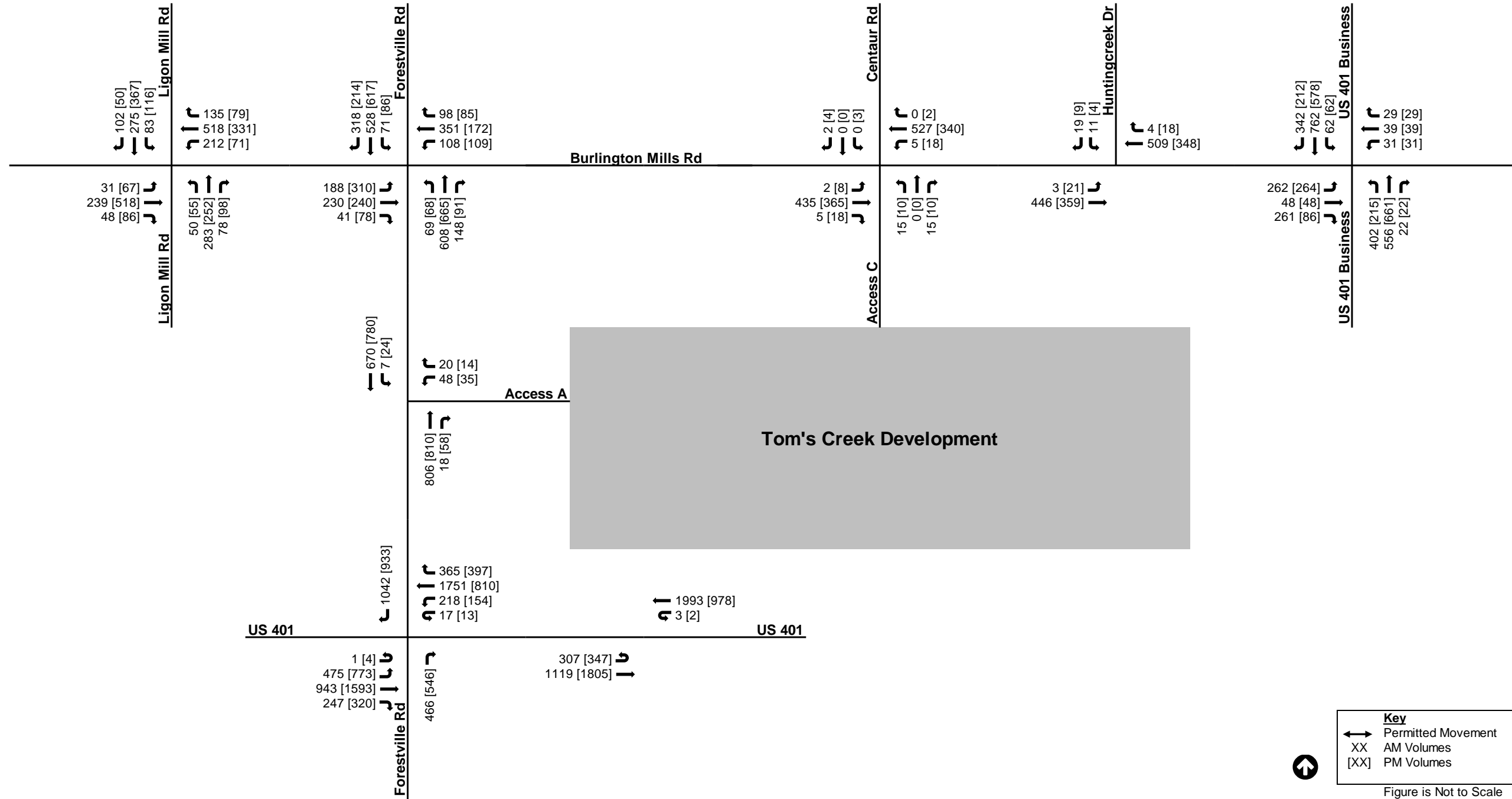
Figure 13: 2026 No Build Traffic Volumes



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Volumes
July 28, 2022

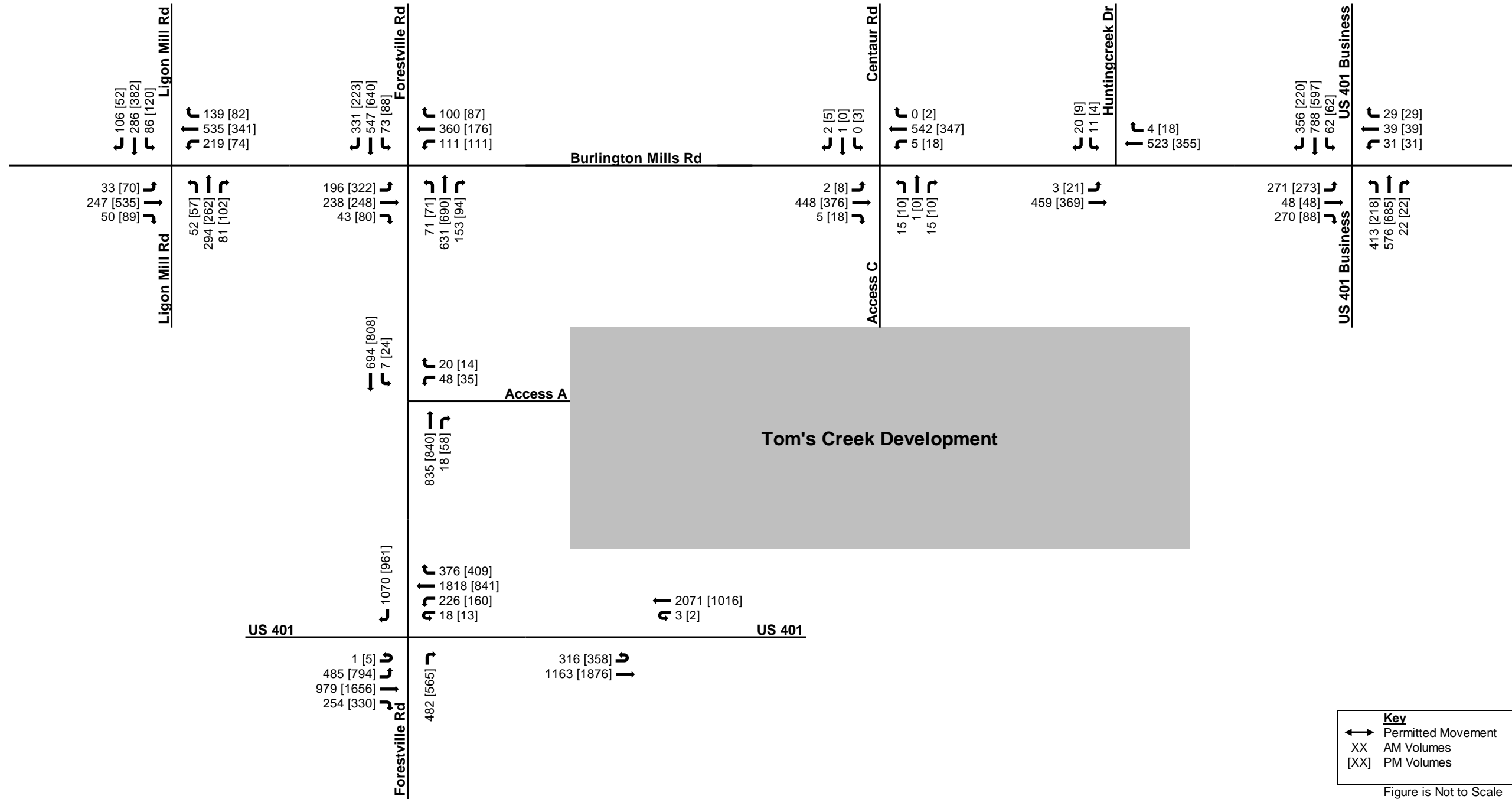
Figure 14: 2026 Initial Build Traffic Volumes



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Volumes
July 28, 2022

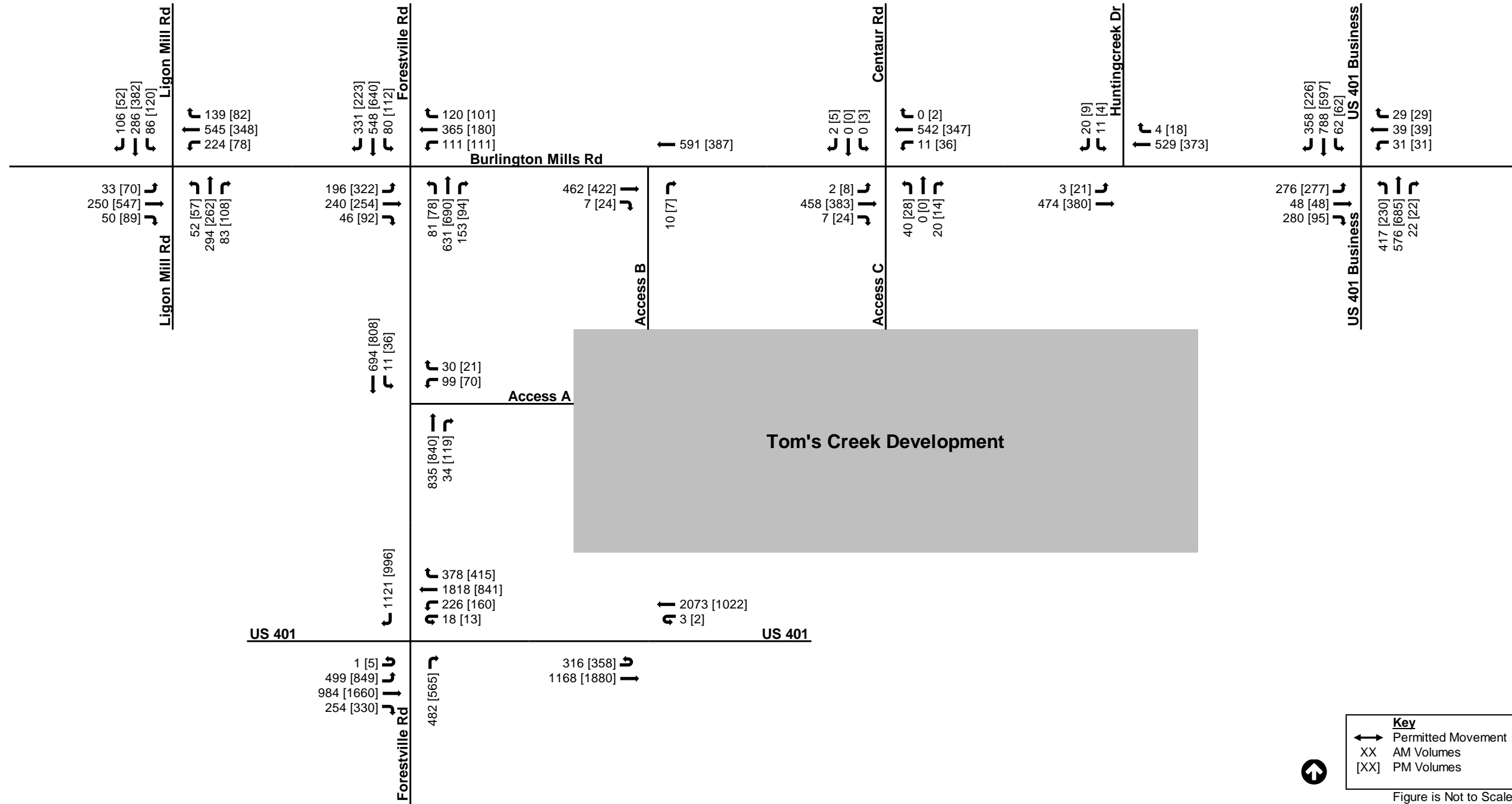
Figure 15: 2028 No Build Traffic Volumes



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Volumes
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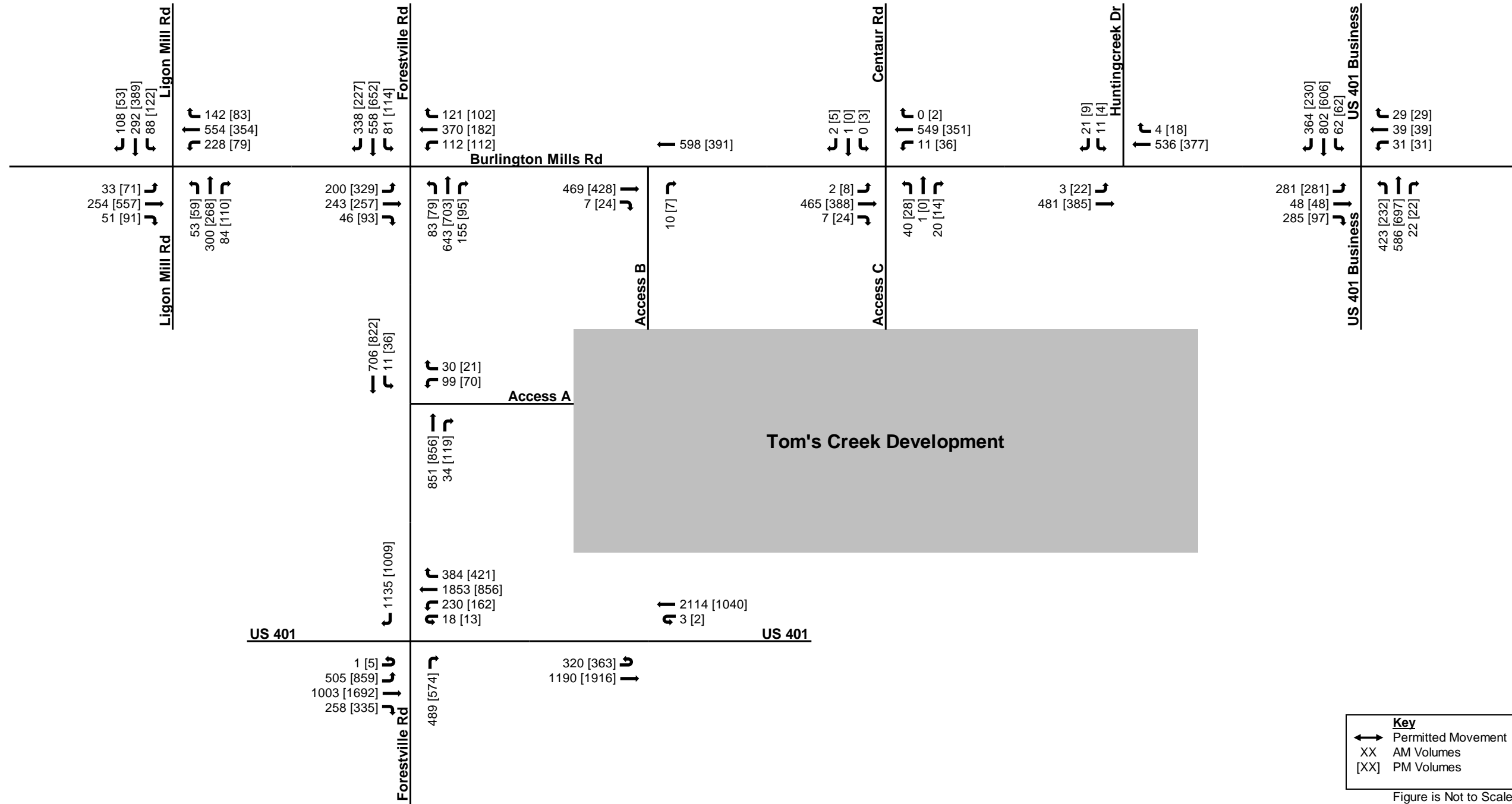
Figure 16: 2028 Intermediate Build Traffic Volumes



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Volumes
July 28, 2022

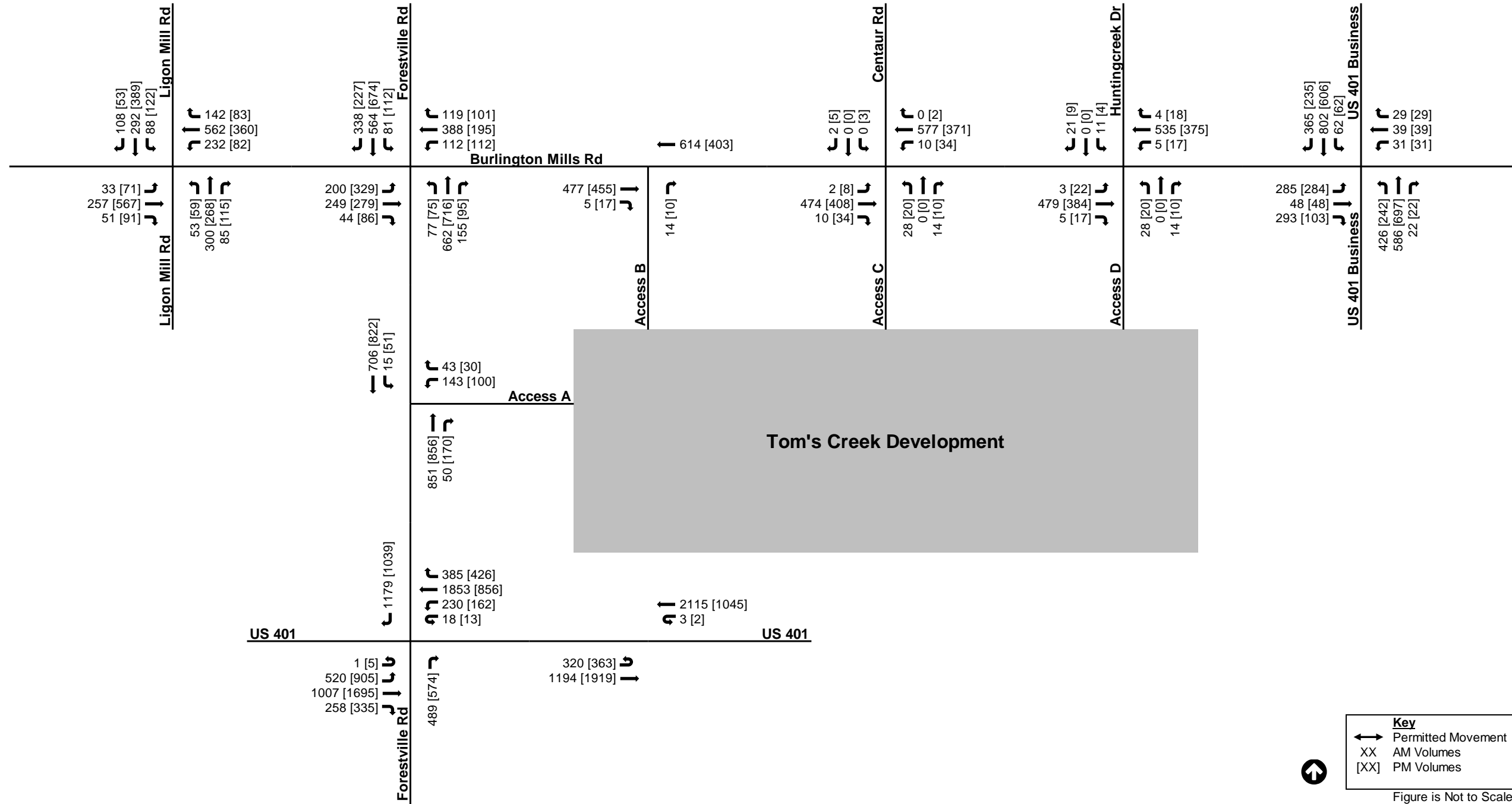
Figure 17: 2029 No Build Traffic Volumes



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Volumes
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Figure 18: 2029 Full Build Traffic Volumes



Key

- ↔ Permitted Movement
- XX AM Volumes
- [XX] PM Volumes

Figure is Not to Scale

6.0 TRAFFIC ANALYSIS

Capacity analyses were performed for the roadway network in the project study area. The traffic analysis program Synchro Version 10 was used to analyze all signalized and stop-controlled intersections according to methods put forth by the Transportation Research Board's Highway Capacity Manual (HCM)⁴. The Highway Capacity Manual defines capacity as "the maximum rate of flow at which persons or vehicles can be reasonably expected to traverse a point or uniform section of a lane or roadway during a specified period under the 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 the minor street movements. The overall intersection delay and the delay for the intersection's 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.

Capacity analyses were completed following *NCDOT Capacity Analysis Guidelines*⁵ as well as the *Draft NCDOT Capacity Analysis Guidelines Best Practices*⁶. Table 5 presents the criteria of each LOS as indicated in the *HCM*.

Table 5: 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 Ordinance⁷, 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.*

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Analysis

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Capacity analyses were performed for the following conditions:

- 2022 Existing
- 2026 No Build
- 2026 Initial Phase
- 2026 Initial Phase with Improvements
- 2028 No Build
- 2028 Intermediate Phase
- 2028 Intermediate Phase with Improvements
- 2029 No Build
- 2029 Full Build

The following intersections were included in the capacity analysis for the above scenarios, where applicable:

- Burlington Mills Road at Ligon Mill Road
- Burlington Mills Road at Forestville Road
- Burlington Mills Road at Access B
- Burlington Mills Road at Centaur Road / Access C
- Burlington Mills Road at Huntingcreek Drive / Access D
- Burlington Mills Road at US 401 Business (S. Main Street)
- Forestville Road at Access A
- Forestville Road at US 401

SimTraffic runs were completed for all scenarios to observe the predicted traffic operations throughout the study area during each of the peak hours. Per the *Draft NCDOT Capacity Analysis Guidelines: Best Practices*⁶, ten (10) SimTraffic analysis runs were performed for each scenario. Detailed SimTraffic queuing and blocking reports can be found in the appendix.

All Synchro files and detailed printouts can be found in the appendix. A summary of the results of the analyses is provided in the following sub-sections.

6.1 2022 EXISTING ANALYSIS

In the 2022 existing scenario, all study intersections operate at an overall LOS D or better in both peak hours. The following movements operate at LOS F:

- Burlington Mills Road at Forestville Road: Eastbound Left (AM)
- Forestville Road at US 401: Northbound Left (PM), Southbound Left (AM/PM), Southbound Through (PM)







From the traffic simulation, long queues were observed on the southbound approach of Ligon Mill Road at Burlington Mills Road. This is attributed to the lack of exclusive left and right turn lanes at this intersection.

Capacity analysis results for the existing traffic conditions are listed in Table 6.

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Analysis
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Table 6: Capacity Analysis Results for 2022 Existing Conditions

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
			Overall							
 Burlington Mills Road at Ligon Mill Road	Overall		43.4	33.4	D	C				
	EB	LTR	16.3	28.6	B	C	185	494	245	691
	WB	LTR	26.3	14.5	C	B	778	178	728	436
	NB	LTR	52.3	28.7	D	C	436	272	844	458
	SB	LTR	79.8	56.4	E	E	582	466	1228*	841
 Burlington Mills Road at Forestville Road	Overall		33.5	32	C	C				
	EB	L	95.9	59.9	F	E	279	299	224	225
		T	28.8	22.4	C	C	145	90	488	603
		R	26.2	20	C	B	32	27	150	250
	WB	L	28.4	22.9	C	C	49	52	187	80
		TR	37	22.9	D	C	307	96	308	140
	NB	L	8.3	8.6	A	A	14	11	191	175
		TR	11.3	14	B	B	387	357	524	404
	SB	L	19.3	16.5	B	B	51	44	275	244
		TR	40.6	44.9	D	D	917	693	744	544
 Burlington Mills Road at Centaur Road	EB	LT	8.1	7.6	A	A	0	0	22	17
	SB	LR	12.4	10.5	B	B	3	0	29	26
 Burlington Mills Road at Huntingcreek Drive	EB	LT	8	7.6	A	A	0	0	9	39
	SB	LR	11.7	10.1	B	B	5	3	30	22
 Burlington Mills Road at US 401 Business	Overall		27.8	16.6	C	B				
	EB	L	66.4	41.8	E	D	247	48	225	114
		T	7.1	8.7	A	A	151	261	229	268
	WB	T	22.2	15.2	C	B	396	287	680	262
		R	4.6	2.7	A	A	77	41	250	205
	SB	L	69.2	42.8	E	D	185	177	385	317
R		34.3	15.9	C	B	158	38	265	80	
 Forestville Road at US 401	Overall		37.2	40.4	D	D				
	EB	L	59.3	32.3	E	C	382	497	314	578
		T	16.1	31.1	B	C	284	909	250	754
		R	5.6	8.7	A	A	6	9	26	24
	WB	L	11.8	42.3	B	D	95	175	565	243
		T	42.6	39.8	D	D	915	485	813	470
		R	17.1	36.5	B	D	49	75	525	99
	NB	L	59	85.8	E	F	12	25	36	54
		T	61.7	75.4	E	E	259	364	263	309
		R	35	46.1	D	D	150	233	187	266
	SB	L	89.1	100	F	F	104	86	212	147
T		54.4	80.5	D	F	173	336	210	324	
R		30.7	25.7	C	C	218	125	177	203	
* Queue Extends Off Sim Traffic Network or Into Next Intersection										

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Analysis

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6.2 2026 NO BUILD ANALYSIS

In the 2026 No Build conditions, increases in traffic volumes due to future traffic growth and approved developments cause delays at study area intersections to increase when compared to the 2022 existing analysis. This analysis assumes the improvements committed to by the approved developments are constructed. These improvements were discussed in Section 2.4 and illustrated in Figure 5. The following observations are notable:

At the intersection of Burlington Mills Road at Forestville Road, LOS F is expected during both peak hours with several movements operating with high delays and long queues; specifically, left turns on the eastbound, northbound, and southbound approaches. The southbound shared through / right-turn lane also operates at LOS F. Long queues were observed on the shared through / right-turn lanes on the westbound, northbound, and southbound approaches.

At the intersection of Burlington Mills Road and US 401 Business, LOS E is expected in the AM peak hour with a few movements operating at LOS F. This is typical of locations that are implementing urban design concepts such as those from U-6241 and the Wallbrook development.

2026 No Build capacity analysis results are listed in Table 7.

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Table 7: Capacity Analysis Results for 2026 No Build Conditions

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
			Overall							
Burlington Mills Road at Ligon Mill Road	Overall		53.7	26.4	D	C				
	EB	LTR	12.9	20.8	B	C	217	478	387	752
		WB	LTR	32.2	9.2	C	A	500	178	964
	NB	L	122	42.8	F	D	151	74	294	114
		TR	74.3	31.8	E	C	553	245	620	259
	SB	L	178.9	50.8	F	D	242	136	300	259
		TR	80.1	41.3	F	D	622	341	767	467
Burlington Mills Road at Forestville Road	Overall		84.9	85.7	F	F				
	EB	L	151.3	133	F	F	398	587	224	225
		T	34.7	34.4	C	C	270	254	821	1321
		R	20.3	20.5	C	C	38	53	217	250
	WB	L	36.7	147.8	D	F	112	246	275	275
		TR	118.4	75.5	F	E	698	389	2388	1130
	NB	L	106.8	88.7	F	F	155	129	200	193
		TR	51.3	61	D	E	1148	1064	1228	1783
	SB	L	130.5	110.2	F	F	187	176	275	275
		TR	99.7	102.6	F	F	1435	1270	2091*	2098*
Burlington Mills Road at Centaur Road	EB	LT	8.7	8.1	A	A	0	0	33	36
	SB	LR	16.3	13	C	B	3	3	26	26
Burlington Mills Road at Huntingcreek Drive	EB	LT	8.6	8.1	A	A	0	3	37	67
	SB	LR	15.5	12.2	C	B	8	3	36	24
Burlington Mills Road at US 401 Business	Overall		61	42.3	E	D				
	EB	L	137.1	73.1	F	E	504	411	404	375
		T	61.8	36.5	E	D	78	63	268	106
		R	46	22.3	D	C	305	44	243	129
	WB	L	94.1	84.3	F	F	79	72	98	83
		T	92.3	79.6	F	E	93	83	117	91
		R	60.6	36.9	E	D	64	44	76	74
	NB	L	138.8	73	F	E	403	195	449	426
		T	25.8	32.6	C	C	614	734	734	700
		R	11.2	8	B	A	23	16	133	274
	SB	L	97.5	100.5	F	F	132	160	199	199
T		44.8	35.5	D	D	1142	628	1054	627	
R		7.2	5.7	A	A	131	52	689	145	
Forestville Road at US 401 Westbound	Overall		47.4	17.5	D	B				
	WB	T	48.5	14.8	D	B	1311	113	1039	206
		R	20.6	18	C	B	242	117	438	263
	NB	L	37.5	16.5	D	B	264	176	433	300
SB	R	60.1	20.7	E	C	693	256	606	248	
Forestville Road at US 401 Eastbound	Overall		17.9	20.4	B	C				
	EB	T	10.8	16.4	B	B	234	414	260	425
		R	9.7	9.2	A	A	126	127	178	337
	NB	R	32.1	36.9	C	D	178	239	278	293
SB	L	26.8	25.1	C	C	166	143	245	383	
US 401 Westbound U-Turn	Overall		31.8	15.7	C	B				
	WB	T	23.9	13	C	B	1120	257	1265*	245
	NB	L	83.1	23.3	F	C	505	190	331	297

* Queue Extends Off SimTraffic Network or Into Next Intersection

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6.3 2026 INITIAL PHASE ANALYSIS

In 2026 with the Initial phase of the development in place, the network experiences an incremental change in delays due to the addition of traffic generated by the proposed development. In large, operations are similar to that when compared with the 2026 No Build capacity analysis results as the overall level of service at the study intersections did not change with the addition of site trips.

The stop-controlled approach of Access A at Forestville Road operates at LOS F in both peak hours. This is attributed to high volumes of through traffic on Forestville Road.

The stop-controlled approach of Access C at Burlington Mills Road across from Centaur Road operates at LOS C in both peak hours.

The Initial phase capacity analysis results are listed in Table 8.

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Table 8: Capacity Analysis Results for 2026 Initial Phase Conditions

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
			Overall							
Burlington Mills Road at Ligon Mill Road	Overall		47.1	29	D	C				
	EB	LTR	9	20.8	A	C	134	465	316	934
	WB	LTR	43.8	8.6	D	A	643	168	984	865
	NB	L	72.8	54	E	D	95	87	290	123
		TR	53.4	36.2	D	D	380	280	393	265
	SB	L	122.7	67.4	F	E	150	159	300	288
TR		60.4	45.6	E	D	407	378	763	450	
Burlington Mills Road at Forestville Road	Overall		90.7	80.2	F	F				
	EB	L	171.7	120	F	F	424	635	224	224
		T	36	41.8	D	D	247	307	1213	1562
		R	25.7	28.2	C	C	49	74	250	250
	WB	L	36.8	71	D	E	103	205	275	275
		TR	110.6	118.7	F	F	764	519	1923	1073
	NB	L	143.1	120.4	F	F	199	182	199	199
		TR	57.4	57.8	E	E	1246	1146	1812	1563
	SB	L	152.2	115.7	F	F	210	233	275	275
TR		107.4	84	F	F	1526	1376	2100*	2058*	
Burlington Mills Road at Centaur Road / Access C	EB	LTR	8.7	8.1	A	A	0	0	21	32
	WB	LTR	8.4	8.2	A	A	0	3	40	60
	NB	LTR	20.6	15.9	C	C	13	5	38	31
	SB	LTR	20.7	16.1	C	C	5	3	29	32
Burlington Mills Road at Huntingcreek Drive	EB	LT	8.6	8.2	A	A	0	3	42	114
	SB	LR	15.8	12.4	C	B	8	3	34	22
Burlington Mills Road at US 401 Business	Overall		62	46.5	E	D				
	EB	L	138.5	83.2	F	F	532	439	410	394
		T	67.4	36.4	E	D	90	62	306	140
		R	51	26.8	D	C	308	98	266	155
	WB	L	100.8	93.9	F	F	82	79	88	86
		T	98.6	92.3	F	F	96	93	136	113
		R	65.1	40.6	E	D	67	48	85	75
	NB	L	133.1	87	F	F	418	181	435	436
		T	26.3	34.8	C	C	636	808	687	751
		R	11.6	9	B	A	24	17	228	228
	SB	L	103.9	98.4	F	F	137	163	199	200
		T	46.7	36.7	D	D	1195	757	1037	627
R		7.4	7.9	A	A	139	130	790	195	
Forestville Road at US 401 Westbound	Overall		52.7	20.8	D	C				
	WB	T	53.5	15.4	D	B	1396	136	1092	221
		R	23.2	18.8	C	B	299	141	438	284
	NB	L	38.4	18.6	D	B	284	215	406	295
SB	R	68.3	28.1	E	C	818	360	615	281	
Forestville Road at US 401 Eastbound	Overall		18.6	21.6	B	C				
	EB	T	10.8	17.1	B	B	243	470	294	431
		R	9.7	9.9	A	A	129	143	186	321
	NB	R	34.2	38.4	C	D	190	236	293	311
SB	L	28.1	32.2	C	C	105	143	254	323	
US 401 Westbound U-Turn	Overall		26.9	16.2	C	B				
	WB	T	22.6	13	C	B	788	276	1234*	298
	NB	L	54.6	25.1	D	C	350	184	279	337
Forestville Road at Access A	SB	LT	9.9	10.2	A	B	0	3	61	211
	WB	LR	398.3	1263	F	F	173	180	83	91

* Queue Extends Off SimTraffic Network or Into Next Intersection

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6.4 2026 INITIAL PHASE WITH IMPROVEMENTS ANALYSIS

Based on the findings of this study, specific improvements have been identified and should be completed as part of the Initial phase of this development. The recommendations are illustrated in Figure 19. The specific improvements are listed below and detailed in Section 7.1.

Forestville Road at Access A

- Provide Access A with two egress lanes (one left-turn lane and one right-turn lane) with a driveway stem length of a minimum of 170 feet
- Construct a northbound right-turn lane with 100 feet of full-width storage and appropriate taper
- Construct a southbound left-turn lane with 100 feet of full-width storage and appropriate taper

The Initial phase with Improvements capacity analysis results is listed in Table 9.

With the recommended improvements in place, the westbound approach of the Forestville Road at Access A intersection continues to operate with long delays compared to the 2026 Initial phase. The intersection is not anticipated to meet the criteria for the installation of a traffic signal at the Initial phase of development. This will be addressed as part of subsequent phases of development.

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Table 9: Capacity Analysis Results for 2026 Initial Phase with Improvements

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
			Overall							
Burlington Mills Road at Ligon Mill Road	Overall		47.1	29	D	C				
	EB	LTR	9	20.8	A	C	134	465	310	961*
		L	43.8	8.6	D	A	643	168	992	1030
	NB	L	72.8	54	E	D	95	87	265	151
		TR	53.4	36.2	D	D	380	280	418	293
	SB	L	122.7	67.4	F	E	150	159	300	299
TR		60.4	45.6	E	D	407	378	867	622	
Burlington Mills Road at Forestville Road	Overall		90.7	80.2	F	F				
	EB	L	171.7	120	F	F	424	635	225	224
		T	36	41.8	D	D	247	307	887	1497
		R	25.7	28.2	C	C	49	74	232	250
	WB	L	36.8	71	D	E	103	205	275	275
		TR	110.6	118.7	F	F	764	519	2223	1078
	NB	L	143.1	120.4	F	F	199	182	199	200
		TR	57.4	57.8	E	E	1246	1146	1765	1652
	SB	L	152.2	115.7	F	F	210	233	275	275
		TR	107.4	84	F	F	1526	1376	2082*	2096*
Burlington Mills Road at Centaur Road / Access C	EB	LTR	8.7	8.1	A	A	0	0	36	22
	WB	LTR	8.4	8.2	A	A	0	3	25	69
	NB	LTR	20.6	15.9	C	C	13	5	41	29
	SB	LTR	20.7	16.1	C	C	5	3	30	32
Burlington Mills Road at Huntingcreek Drive	EB	LT	8.6	8.2	A	A	0	3	28	74
	SB	LR	15.8	12.4	C	B	8	3	36	24
Burlington Mills Road at US 401 Business	Overall		62	46.5	E	D				
	EB	L	138.5	83.2	F	F	532	439	456	394
		T	67.4	36.4	E	D	90	62	375	143
		R	51	26.8	D	C	308	98	274	153
	WB	L	100.8	93.9	F	F	82	79	93	82
		T	98.6	92.3	F	F	96	93	123	108
		R	65.1	40.6	E	D	67	48	79	73
	NB	L	133.1	87	F	F	418	181	446	449
		T	26.3	34.8	C	C	636	808	624	811
		R	11.6	9	B	A	24	17	224	276
	SB	L	103.9	98.4	F	F	137	163	199	200
		T	46.7	36.7	D	D	1195	757	1096	552
		R	7.4	7.9	A	A	139	130	964	167
Forestville Road at US 401 Westbound	Overall		52.7	20.8	D	C				
	WB	T	53.5	15.4	D	B	1396	136	1218	230
		R	23.2	18.8	C	B	299	141	438	287
	NB	L	38.4	18.6	D	B	284	215	613	314
	SB	R	68.3	28.1	E	C	818	360	645	304
Forestville Road at US 401 Eastbound	Overall		18.6	21.6	B	C				
	EB	T	10.8	17.1	B	B	243	470	321	463
		R	9.7	9.9	A	A	129	143	235	356
	NB	R	34.2	38.4	C	D	190	236	296	338
	SB	L	28.1	32.2	C	C	105	143	266	378
US 401 Westbound U-Turn	Overall		26.9	16.2	C	B				
	WB	T	22.6	13	C	B	788	276	1217*	256
	NB	L	54.6	25.1	D	C	350	184	291	345
Forestville Road at Access A	SB	L	9.9	10.2	A	B	0	3	28	39
		L	414.2	1242.4	F	F	135	138	79	77
	WB	R	16.4	16.2	C	C	5	3	27	24

* Queue Extends Off Sim Traffic Network or Into Next Intersection

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6.5 2028 NO BUILD ANALYSIS

In the 2028 No Build scenario, increases in traffic volumes due to the addition of future traffic growth increase delay across the network. The following observations are notable:

The Burlington Mills Road & Ligon Mill Road intersection operates at LOS E in the AM peak hour with significant queues on several approaches.

At the intersection of Burlington Mills Road at Forestville Road, LOS F is expected during both peak hours with several movements operating with high delays and long queues. Specifically, left turns on the eastbound, northbound, and southbound approaches. The shared through / right-turn lanes on the westbound and southbound approaches also operate at LOS F.

At the intersection of Burlington Mills Road and US 401 Business, LOS E is expected in the AM peak hour with a few movements operating at LOS F. This is typical of locations that are implementing urban design concepts such as those from U-6241 and the Wallbrook development.

The Forestville Road & US 401 westbound reduced conflict intersection operates at LOS E in the AM peak hour. Similar to the 2026 scenarios, there are extensive queues for the westbound US 401 approaches in the AM peak hour.

The Forestville Road & Access A intersection still experiences excessive delays for the westbound left due to heavy traffic on Forestville Road with average delays of over 600 seconds in the AM peak hour and 1800 seconds in the PM peak hour.

2028 No Build capacity analysis results are listed in Table 10.

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

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Table 10: Capacity Analysis Results for 2028 No Build Conditions

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 Ligon Mill Road	Overall		57.8	28.3	E	C				
	EB	LTR	9.2	24.1	A	C	145	521	288	1072*
	WB	LTR	51.5	6.2	D	A	496	136	947	1118
		L	85.4	51.3	F	D	105	83	299	112
	NB	TR	61.8	33.3	E	C	423	262	541	256
		L	211.4	63.2	F	E	173	150	300	285
SB	TR	71.6	43.3	E	D	451	362	1255*	930*	
	Overall		99.3	89.5	F	F				
Burlington Mills Road at Forestville Road	EB	L	182.1	130.8	F	F	437	571	224	225
		T	44	36.9	D	D	285	242	1390	1687
		R	32.6	24.1	C	C	50	63	249	250
	WB	L	41.9	71.7	D	E	184	216	275	275
		TR	130.2	137.4	F	F	983	519	2344	1337*
	NB	L	150.5	97.3	F	F	223	153	200	200
		TR	60.8	59.4	E	E	1360	1111	2031	1843
	SB	L	177.3	137.2	F	F	230	217	274	275
		TR	113.8	104.6	F	F	1668	1336	2098*	2101*
	Burlington Mills Road at Centaur Road / Access C	EB	LTR	8.7	8.1	A	A	0	0	37
WB		LTR	8.4	8.3	A	A	0	3	35	62
NB		LTR	21.4	16.3	C	C	13	5	36	40
SB		LTR	21.4	16	C	C	5	3	35	30
Burlington Mills Road at Huntingcreek Drive	EB	LT	8.7	8.2	A	A	0	3	45	76
	SB	LR	16.1	12.6	C	B	8	3	35	23
Burlington Mills Road at US 401 Business	Overall		65.3	43.4	E	D				
	EB	L	61.8	77.6	E	E	451	433	408	354
		T	40.5	36.1	D	D	67	76	374	110
		R	38	18.7	D	B	403	52	271	123
	WB	L	107.5	84.5	F	F	86	72	78	79
		T	104.8	79.6	F	E	101	83	127	106
		R	43.7	37.9	D	D	47	43	70	72
	NB	L	94.7	74.2	F	E	446	206	474	474
		T	37.2	32.9	D	C	791	781	920	866
		R	16.9	7.9	B	A	29	16	276	274
	SB	L	113.4	114.8	F	F	144	164	199	200
		T	102.7	36.5	F	D	1492	673	1158*	680
		R	9.1	5.7	A	A	153	57	1151*	147
Forestville Road at US 401 Westbound	Overall		61.5	19.1	E	B				
	WB	T	64.9	16	E	B	1545	124	1325	224
		R	24	20.2	C	C	314	154	438	299
	NB	L	40.7	16.4	D	B	304	200	597	303
SB	R	78.5	23.6	E	C	889	209	677	253	
Forestville Road at US 401 Eastbound	Overall		19.6	21.9	B	C				
	EB	T	11.3	18.1	B	B	265	451	330	440
		R	10	9.2	B	A	138	132	223	338
	NB	R	36.4	39.7	D	D	206	252	289	336
	SB	L	29.8	25.5	C	C	114	148	273	589
US 401 Westbound U Turn	Overall		31.3	15.9	C	B				
	WB	T	27	13.4	C	B	875	266	1272*	252
	NB	L	59.4	22.9	E	C	380	188	294	287
Forestville Road at Access A	SB	L	10	10.4	B	B	0	3	31	40
		L	624.1	1823	F	F	153	148	127	68
	WB	R	16.9	16.7	C	C	5	5	51	28

* Queue Extends Off SimTraffic Network or Into Next Intersection

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6.6 2028 INTERMEDIATE PHASE ANALYSIS

In 2028 with the Intermediate phase of the development in place, the network experiences an incremental change in delays due to the addition of traffic generated by this phase of the proposed development. In large, operations are similar to that compared to the 2028 No Build capacity analysis results as only two locations experience a degradation in the Level of Service. Specifically, Access C in the AM peak hour increases from LOS C to LOS D. Also, the intersection of US 401 Eastbound at Forestville Road increases from LOS B to LOS C in the AM peak hour. Operations at both intersections are considered acceptable.

The Intermediate phase adds Access B, a right-in / right-out driveway, onto Burlington Mills Road. Capacity analysis results show this intersection operates at LOS B during both peak hours.

The Intermediate Build capacity analysis results are listed in Table 11.

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Table 11: Capacity Analysis Results for 2028 Intermediate Build Conditions

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
			Overall							
Burlington Mills Road at Ligon Mill Road	Overall		59.2	30.1	E	C				
	EB	LTR	10.4	23.9	B	C	161	526	291	943*
		WB	LTR	70.9	6.2	E	A	574	136	1167
	NB	L	78.4	55.3	E	E	105	86	284	138
		TR	53.9	36.1	D	D	421	301	434	314
	SB	L	135.7	79.1	F	E	169	158	300	300
TR		59.6	46.4	E	D	449	374	1071*	869*	
Burlington Mills Road at Forestville Road	Overall		109.3	94.1	F	F				
	EB	L	188.4	146	F	F	481	565	224	225
		T	48.8	36.6	D	D	323	242	1534	1857
		R	34.5	24.4	C	C	60	70	249	250
	WB	L	46.9	68	D	E	187	200	275	275
		TR	139	144.3	F	F	1084	554	2606*	1828*
	NB	L	205.1	106.4	F	F	277	175	200	199
		TR	72.5	62.7	E	E	1438	1125	2423*	2166
	SB	L	186.7	161.6	F	F	261	272	275	275
		TR	120.4	104.6	F	F	1757	1336	2104*	2101*
Burlington Mills Road at Centaur Road / Access C	EB	LTR	8.7	8.1	A	A	0	0	36	23
	WB	LTR	8.5	8.4	A	A	0	3	153	62
	NB	LTR	29.6	20.2	D	C	35	15	119	54
	SB	LTR	22.3	17	C	C	5	3	38	31
Burlington Mills Road at Huntingcreek Drive	EB	LT	8.7	8.3	A	A	0	3	48	84
	SB	LR	16.3	12.8	C	B	8	3	34	24
Burlington Mills Road at US 401 Business	Overall		62.9	43.5	E	D				
	EB	L	126.8	74.3	F	E	591	429	442	363
		T	54.2	36.1	D	D	90	72	417	120
		R	49.3	18.3	D	B	434	55	275	137
	WB	L	114.3	84.5	F	F	91	72	104	90
		T	111.3	79.6	F	E	105	83	123	113
		R	74.2	37.9	E	D	73	44	97	87
	NB	L	85.2	76.9	F	E	366	217	454	474
		T	27.7	33.5	C	C	709	775	725	845
		R	12.4	7.8	B	A	25	16	173	273
	SB	L	117.2	111.5	F	F	150	164	199	200
		T	73.6	36.8	E	D	1533	673	1147*	664
		R	15.6	5.7	B	A	319	60	1030*	139
Forestville Road at US 401 Westbound	Overall		69.5	19.8	E	B				
	WB	T	73.6	16.5	E	B	1651	124	1304	245
		R	26.9	21.4	C	C	352	168	438	293
	NB	L	41.6	16.7	D	B	323	217	698	311
	SB	R	89.5	24.6	F	C	1002	233	718	254
Forestville Road at US 401 Eastbound	Overall		20.3	22	C	C				
	EB	T	11.4	18.1	B	B	274	454	332	437
		R	10	9.2	B	A	141	132	221	344
	NB	R	38.6	39.7	D	D	218	252	312	323
	SB	L	30.9	25.9	C	C	127	148	308	496
US 401 Westbound U-Turn	Overall		30	15.9	C	B				
	WB	T	24.5	13.5	C	B	897	269	1275*	263
	NB	L	66.5	22.6	E	C	407	187	283	306
Forestville Road at Access A	SB	L	10.1	10.9	B	B	3	5	36	58
	WB	L	1472	4249	F	F	328	280	349	160
		R	17.3	17	C	C	8	5	219	32
Burlington Mills Road at Access B	NB	R	11.6	11.2	B	B	3	0	27	24

* Queue Extends Off Sim Traffic Network or Into Next Intersection

6.7 2028 INTERMEDIATE BUILD WITH IMPROVEMENTS ANALYSIS

Based on the findings of this study, specific improvements have been identified and should be completed as part of the Intermediate phase of this development. The recommendations are illustrated in Figure 19. The specific improvements are listed below and detailed in Section 7.2.

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
- The above recommendations will require the traffic signal at the intersection to be modified.

Forestville Road at Access A

- Monitor Access A for potential signalization

The Initial phase with Improvements capacity analysis results is listed in Table 12.

With the recommended improvements in place, the level of service of the Burlington Mills Road & Forestville Road intersection improves from LOS F in both peak hours to LOS E in both peak hours. The eastbound left, westbound through, and southbound left movements still operate at LOS F in both peak hours but with reduced delays compared to the Intermediate Build without Improvements scenario, and there is now adequate storage to accommodate vehicles for these movements.

It should be noted that while the movement does not meet the requirements to study a protected-only phase in future-year scenarios, the westbound left-turn was changed from permitted-only to protected-only as it resulted in significantly reduced delays and queues for the overall intersection, despite adding an extra phase to the signal.

The installation of a traffic signal at the intersection of Forestville Road and Access A during this phase of development would improve the LOS from an F to a C in both peak hours. The installation of a traffic signal is contingent upon the intersection meeting the warrants for installation of a traffic signal outlined in the Manual on Uniform Traffic Control Devices (MUTCD) and approved by NCDOT. Accordingly, it is recommended that the location be monitored for the installation of a traffic signal and that the design and construction of the signal be the responsibility of the applicant.

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Table 12: Capacity Analysis Results for 2028 Intermediate Build with Improvements

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 Ligon Mill Road	Overall		64.7	31.7	E	C				
	EB	LTR	12.7	23.9	B	C	214	526	422	1042*
	WB	LTR	62.5	12.9	E	B	1229	251	1902	1566
	NB	L	119.7	55.3	F	E	145	86	299	156
		TR	68.8	36.1	E	D	568	301	557	320
	SB	L	194.6	79.1	F	E	236	158	300	299
TR		74	46.4	E	D	608	374	1436*	761	
Burlington Mills Road at Forestville Road	Overall		60	60.3	E	E				
	EB	L	117	97.5	F	F	349	516	362	565
		T	73.8	69.4	E	E	307	326	368	466
		R	20.2	27.1	C	C	34	75	234	248
	WB	L	45.2	62.4	D	E	141	194	325	297
		T	82.6	115.1	F	F	437	345	1046	694
		R	28.6	39.9	C	D	76	93	250	250
	NB	L	75	93.1	E	F	135	160	325	324
		TR	66.2	56.5	E	E	1147	1112	1853	1720
	SB	L	120.5	129.5	F	F	195	260	346	288
		T	40.7	38.2	D	D	646	733	673	690
		R	11.7	4.8	B	A	168	60	300	300
Burlington Mills Road at Centaur Road / Access C	EB	LTR	8.7	8.1	A	A	0	0	16	78
	WB	LTR	8.5	8.4	A	A	0	3	65	103
	NB	LTR	29.6	20.2	D	C	35	15	64	56
	SB	LTR	22.3	17	C	C	5	3	29	29
Burlington Mills Road at Huntingcreek Drive	EB	LT	8.7	8.3	A	A	0	3	60	68
	SB	LR	16.3	12.8	C	B	8	3	33	22
Burlington Mills Road at US 401 Business	Overall		70.8	44.3	E	D				
	EB	L	189.1	37.4	F	D	509	236	497	391
		T	40.4	18.1	D	B	61	22	457	96
		R	35.7	11.9	D	B	205	26	266	147
	WB	L	84.5	84.5	F	F	72	72	89	81
		T	79.6	79.6	E	E	83	83	106	107
		R	51.4	56.4	D	E	57	60	68	75
	NB	L	188.3	83.5	F	F	405	217	467	475
		T	25.7	41.9	C	D	604	973	912	863
		R	10.8	11.1	B	B	22	21	250	274
	SB	L	83.1	122.9	F	F	118	164	199	200
		T	43.7	44.4	D	D	1098	836	1106*	725
R		7.1	7.6	A	A	122	115	935	210	
Forestville Road at US 401 Westbound	Overall		69.9	19.8	E	B				
	WB	T	70.9	16.5	E	B	1291	124	1085	240
		R	17.6	21.4	B	C	229	168	438	299
	NB	L	32.3	16.7	C	B	252	217	643	400
SB	R	102.7	24.5	F	C	935	375	792	281	
Forestville Road at US 401 Eastbound	Overall		16.7	22	B	C				
	EB	T	11.6	18.1	B	B	241	454	299	410
		R	10.2	9.2	B	A	126	132	211	317
	NB	R	27.4	39.7	C	D	160	252	283	335
SB	L	23	25.9	C	C	134	148	261	427	
US 401 Westbound U Turn	Overall		32.5	15.9	C	B				
	WB	T	25.6	13.5	C	B	1094	269	1268*	274
	NB	L	77.7	22.6	E	C	507	187	331	305
Forestville Road at Access A	Overall		8.6	7.4	A	A				
	WB	L	34.6	33.7	C	C	96	74	129	104
		R	29.4	30	C	C	38	31	65	44
	NB	T	8.8	6.1	A	A	598	173	448	264
		R	0	0.1	A	A	0	0	118	169
	SB	L	1.5	2.7	A	A	1	10	54	70
T	4.3	7.3	A	A	395	810	277	290		
Burlington Mills Road at Access B	NB	R	11.6	11.2	B	B	3	0	26	22

*+A28:L62 Queue Extends Off SimTraffic Network or Into Next Intersection

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6.8 2029 NO BUILD ANALYSIS

In the 2029 No Build scenario, increases in traffic volumes due to the addition of future traffic growth increase delay across the network. The following observations are notable:

The Burlington Mills Road & Ligon Mill Road intersection operates at LOS E in the AM peak hour with significant queues on several approaches.

The intersection of Burlington Mills Road at Forestville Road operates at LOS E in both peak hours. Long queues are observed on the northbound and westbound through movements. Left turns on the eastbound, northbound, and southbound approaches operate at LOS F during both peak hours.

At the intersection of Burlington Mills Road and US 401 Business, LOS E is expected in the AM peak hour with a few movements operating at LOS F. This is typical of locations that are implementing urban design concepts such as those from U-6241 and the Wallbrook development.

The Forestville Road & US 401 westbound reduced conflict intersection now operates at LOS E in the AM peak hour. Similar to the 2026 scenarios, there are extensive queues for the westbound US 401 approaches in the AM peak hour.

The 2029 No Build capacity analysis results are listed in Table 13.

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Table 13: Capacity Analysis Results for 2029 No Build Conditions

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
			Overall							
Burlington Mills Road at Ligon Mill Road	Overall		70.3	32.7	E	C				
	EB	LTR	14.3	26.8	B	C	238	551	418	1091*
	WB	LTR	80.8	16.7	F	B	1352	223	2247	2084
	NB	L	99.7	56.5	F	E	145	89	300	157
		TR	67.6	34.8	E	C	583	300	755	319
	SB	L	161.8	75.7	F	E	241	159	300	300
TR		71.8	44	E	D	629	372	1382*	1062*	
Burlington Mills Road at Forestville Road	Overall		62.5	62.2	E	E				
	EB	L	117.8	90.4	F	F	375	505	415	574
		T	66.7	65.7	E	E	301	308	380	480
		R	21.2	28.1	C	C	42	70	232	250
	WB	L	57.1	57.3	E	E	160	213	325	325
		T	90.5	118	F	F	516	384	1241	653
		R	25.9	31.8	C	C	73	89	250	250
	NB	L	89.6	94.3	F	F	157	156	324	325
		TR	67.3	63.9	E	E	1229	1158	1933	2222
	SB	L	140.9	142.8	F	F	213	266	357	392
		T	42.9	40.5	D	D	697	766	752	874
		R	11.9	7.2	B	A	179	106	300	300
Burlington Mills Road at Centaur Road / Access C	EB	LTR	8.7	8.1	A	A	0	0	40	60
	WB	LTR	8.5	8.4	A	A	0	3	59	71
	NB	LTR	30.3	20.4	D	C	35	15	77	64
	SB	LTR	22.5	17.1	C	C	5	3	42	33
Burlington Mills Road at Huntingcreek Drive	EB	LT	8.7	8.3	A	A	0	3	65	108
	SB	LR	16.5	12.9	C	B	8	3	36	21
Burlington Mills Road at US 401 Business	Overall		67.8	42.6	E	D				
	EB	L	162	66.4	F	E	526	435	507	389
		T	42.5	32.8	D	C	67	57	478	98
		R	35.4	16.3	D	B	210	38	273	155
	WB	L	87.5	84.5	F	F	75	72	82	86
		T	86	79.6	F	E	88	83	110	108
		R	55.9	38.3	E	D	59	44	86	68
	NB	L	173.4	75.2	F	E	425	219	458	475
		T	26.9	33.6	C	C	646	797	820	752
		R	11	7.7	B	A	22	16	252	276
	SB	L	89.4	119.6	F	F	125	164	200	199
		T	48.2	37.6	D	D	1194	687	1138	638
R		7.3	5.8	A	A	133	61	1037	156	
Forestville Road at US 401 Westbound	Overall		73.3	19.8	E	B				
	WB	T	83.6	17.4	F	B	1416	137	1113	249
		R	18.7	23.3	B	C	252	322	438	321
	NB	L	33.8	16.2	C	B	268	214	641	412
SB	R	92.6	23.3	F	C	993	360	697	305	
Forestville Road at US 401 Eastbound	Overall		17.5	23.2	B	C				
	EB	T	11.7	21	B	C	254	570	267	452
		R	10.2	9.9	B	A	132	140	171	357
	NB	R	29.8	37	C	D	174	248	272	331
SB	L	24.6	24.8	C	C	146	148	291	352	
US 401 Westbound U Turn	Overall		35	16	D	B				
	WB	T	27.8	13.8	C	B	1200	275	1270*	273
	NB	L	82.5	22.3	F	C	548	187	295	326
Forestville Road at Access A	Overall		9.1	7.5	A	A				
	WB	L	37.8	33.7	D	C	102	74	130	108
		R	31.9	30	C	C	41	31	75	48
	NB	T	9	6.5	A	A	636	181	340	290
		R	0	0.1	A	A	0	0	120	168
	SB	L	1.7	2.6	A	A	2	8	36	87
T	4.8	7.1	A	A	754	825	268	268		
Burlington Mills Road at Access B	NB	R	11.7	11.3	B	B	3	0	24	22

* Queue Extends Off SimTraffic Network or Into Next Intersection

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Analysis

July 28, 2022

6.9 2029 FULL BUILD ANALYSIS

In 2029 with the development fully built out, the network experiences an incremental change in delays due to the addition of traffic generated by the final phase of the proposed development. In large, operations are similar to that compared with the 2029 no build capacity analysis results as only two locations experience a degradation in LOS. Specifically, Access D in both peak hours increases one letter grade. That is, from LOS C to LOS D in the AM peak hour and from LOS B to LOS C in the PM peak hour. Forestville Road at Access A also experiences a degradation in LOS going from LOS A to LOS B in the AM peak hour. Operations at both intersections are considered acceptable.

This final phase adds Access C, a full-movement driveway, onto Burlington Mills across from Huntingcreek Drive. This intersection is projected to operate at LOS D in the AM peak hour and LOS C in the PM peak hour.

When warranted, the installation of a traffic signal is recommended at the intersection of Forestville Road and Access A as discussed in Section 6.7. This is contingent upon the intersection meeting the warrants for installation of a traffic signal outlined in the Manual on Uniform Traffic Control Devices (MUTCD) and approved by NCDOT. Accordingly, it is recommended that the location be monitored for the installation of a traffic signal and that the design and construction of the signal be the responsibility of the applicant.

The Full Build capacity analysis results are listed in Table 14.

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Traffic Analysis
July 28, 2022

Table 14: Capacity Analysis Results for 2029 Full Build Conditions

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
			Overall							
Burlington Mills Road at Ligon Mill Road	Overall		73.5	33.7	E	C				
	EB	LTR	13.9	28	B	C	238	563	433	1082*
	WB	LTR	81.6	17.5	F	B	1353	228	2193	2092
	NB	L	118.8	56.5	F	E	153	89	299	177
		TR	70.3	35.5	E	D	598	306	658	323
	SB	L	198.7	82.7	F	F	250	161	300	300
TR		75	44	E	D	641	372	1359*	941*	
Burlington Mills Road at Forestville Road	Overall		65.2	64.3	E	E				
	EB	L	130.8	97.7	F	F	378	505	395	580
		T	65.9	66.2	E	E	305	336	370	609
		R	20.9	27.5	C	C	40	64	145	250
	WB	L	57.5	60.4	E	E	159	207	325	311
		T	95.5	117.3	F	F	547	404	1225	633
		R	25.8	30.5	C	C	73	86	250	250
	NB	L	92.6	87.6	F	F	133	124	325	324
		TR	71.4	67.9	E	E	1278	1190	2202	2036
	SB	L	140.9	137	F	F	213	260	399	399
		T	42.4	42.4	D	D	699	810	839	818
		R	12.3	7.6	B	A	184	109	300	300
Burlington Mills Road at Centaur Road / Access C	EB	LTR	8.8	8.2	A	A	0	0	55	57
	WB	LTR	8.5	8.5	A	A	0	3	49	107
	NB	LTR	29.4	20.8	D	C	25	13	57	49
	SB	LTR	23.6	17.9	C	C	5	5	31	29
Burlington Mills Road at Huntingcreek Drive	EB	LTR	8.7	8.3	A	A	0	3	54	106
	WB	LTR	8.5	8.3	A	A	0	3	28	78
	NB	LTR	28.1	20.1	D	C	23	13	62	55
	SB	LR	20.2	15.9	C	C	13	5	40	31
Burlington Mills Road at US 401 Business	Overall		69.3	43	E	D				
	EB	L	169.6	66	F	E	537	445	506	418
		T	43.3	31.9	D	C	68	54	487	156
		R	37.5	161	D	B	226	39	274	143
	WB	L	87.5	84.5	F	F	75	72	88	85
		T	86	79.6	F	E	88	83	117	106
		R	55.9	38.4	E	D	59	44	74	67
	NB	L	176.1	76.6	F	E	429	230	467	475
		T	26.9	33.8	C	C	646	800	995*	820
		R	11	7.8	B	A	22	16	274	274
	SB	L	89.4	124.1	F	F	125	164	200	200
		T	48.2	38	D	D	1194	691	1149*	644
R		7.3	5.9	A	A	134	63	1071*	145	
Forestville Road at US 401 Westbound	Overall		78.4	19.1	E	B				
	WB	T	89.2	16	F	B	1431	137	1187	258
		R	19.5	21.2	B	C	259	223	438	305
	NB	L	33.4	17.9	C	B	274	236	727	718
SB	R	100.8	21.7	F	C	1044	344	777	297	
Forestville Road at US 401 Eastbound	Overall		17.5	23.2	B	C				
	EB	T	11.7	21.1	B	C	256	572	329	459
		R	10.2	9.9	B	A	132	140	227	356
	NB	R	29.8	37	C	D	174	248	290	335
SB	L	24.6	24.4	C	C	146	148	305	338	
US 401 Westbound U-Turn	Overall		35.1	16.1	D	B				
	WB	T	27.9	138	C	B	1202	277	1276*	268
	NB	L	82.6	22.7	F	C	546	187	340	308
Forestville Road at Access A	Overall		11.8	9.2	B	A				
	WB	L	37.3	34.6	D	C	132	97	169	129
		R	29.7	29.3	C	C	50	38	83	70
	NB	T	12.2	7.5	B	A	666	173	853	318
		R	0	0.1	A	A	0	0	167	187
	SB	L	2.1	4.1	A	A	2	11	104	165
T		6	9.4	A	A	512	839	298	325	
Burlington Mills Road at Access B	NB	R	11.8	11.6	B	B	3	3	26	24

* Queue Extends Off SimTraffic Network or Into Next Intersection

7.0 RECOMMENDATIONS

Based on the findings of this study, specific improvements have been identified and should be completed as part of the proposed development.

7.1 INITIAL PHASE RECOMMENDATIONS

The following improvements are recommended to be constructed as part of the Initial phase of the development. These improvements are illustrated in Figure 19.

Burlington Mills Road at Ligon Mill Road

- No improvements are recommended at this intersection

Burlington Mills Road at Forestville Road

- No improvements are recommended at this intersection

Burlington Mills Road at Centaur Road / Access C

- Construct Access C as a full-movement access point
- Construct Access C with one ingress and one egress lane with a driveway stem length of a minimum of 100 feet

Burlington Mills Road at Huntingcreek Drive

- No improvements are recommended at this intersection

Burlington Mills Road at US 401 Business

- No improvements are recommended at this intersection

Forestville Road at Access A

- Construct Access A as a full-movement access point
- Construct Access A with one ingress and two egress lanes (one left-turn lane and one right-turn lane) with a driveway stem length of a minimum of 170 feet
- Construct a northbound Forestville Road right-turn lane with 100 feet of full-width storage and appropriate taper
- Construct a southbound Forestville Road left-turn lane with 100 feet of full-width storage and appropriate taper

Forestville Road at US 401

- No improvements are recommended at this intersection

Recommendations
July 28, 2022

7.2 INTERMEDIATE PHASE RECOMMENDATIONS

Following the construction of the Initial phase and associated improvements, the following improvements are recommended to be constructed as part of the Intermediate phase of the development. These improvements are illustrated in Figure 19.

Burlington Mills Road at Ligon Mill Road

- No improvements are recommended at this intersection

Burlington Mills Road at Forestville Road

- Extend the existing eastbound Burlington Mills Road left-turn lane to 575 feet of full-width storage and appropriate taper
- Extend the existing westbound Burlington Mills Road left-turn lane to 225 feet of full-width storage and appropriate taper
- Construct a westbound Burlington Mills Road right-turn lane with 150 feet of full-width storage and appropriate taper
- Extend the existing northbound Forestville Road left-turn lane to 225 feet of full-width storage and appropriate taper
- Extend the existing southbound Forestville Road left-turn lane to 300 feet of full-width storage and appropriate taper
- Construct a southbound Forestville Road right-turn lane with 200 feet of full-width storage and appropriate taper
- The above recommendations will require the traffic signal at the intersection to be modified

Burlington Mills Road at Access B

- Construct Access B as a right-in/right-out access point
- Construct Access B with one ingress and one egress lane with a driveway stem length of a minimum of 100 feet

Burlington Mills Road at Centaur Road / Access C

- No improvements are recommended at this intersection

Burlington Mills Road at Huntingcreek Drive

- No improvements are recommended at this intersection

Burlington Mills Road at US 401 Business

- No improvements are recommended at this intersection

Forestville Road at Access A

- Monitor Access A for potential signalization

Forestville Road at US 401

- No improvements are recommended at this intersection

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Conclusions
July 28, 2022

7.3 FULL BUILD RECOMMENDATIONS

Following the construction of the Initial and Intermediate phases and associated improvements, the following improvements are recommended to be constructed as part of the Full Build phase of the development. These improvements are illustrated in Figure 19.

Burlington Mills Road at Ligon Mill Road

- No improvements are recommended at this intersection

Burlington Mills Road at Forestville Road

- No improvements are recommended at this intersection

Burlington Mills Road at Access B

- No improvements are recommended at this intersection

Burlington Mills Road at Centaur Road / Access C

- No improvements are recommended at this intersection

Burlington Mills Road at Huntingcreek Drive / Access D

- Construct Access D as a full-movement access point
- Construct Access D with one ingress and one egress lane with a driveway stem length of a minimum of 100 feet

Burlington Mills Road at US 401 Business

- No improvements are recommended at this intersection

Forestville Road at Access A

- Monitor Access A for potential signalization

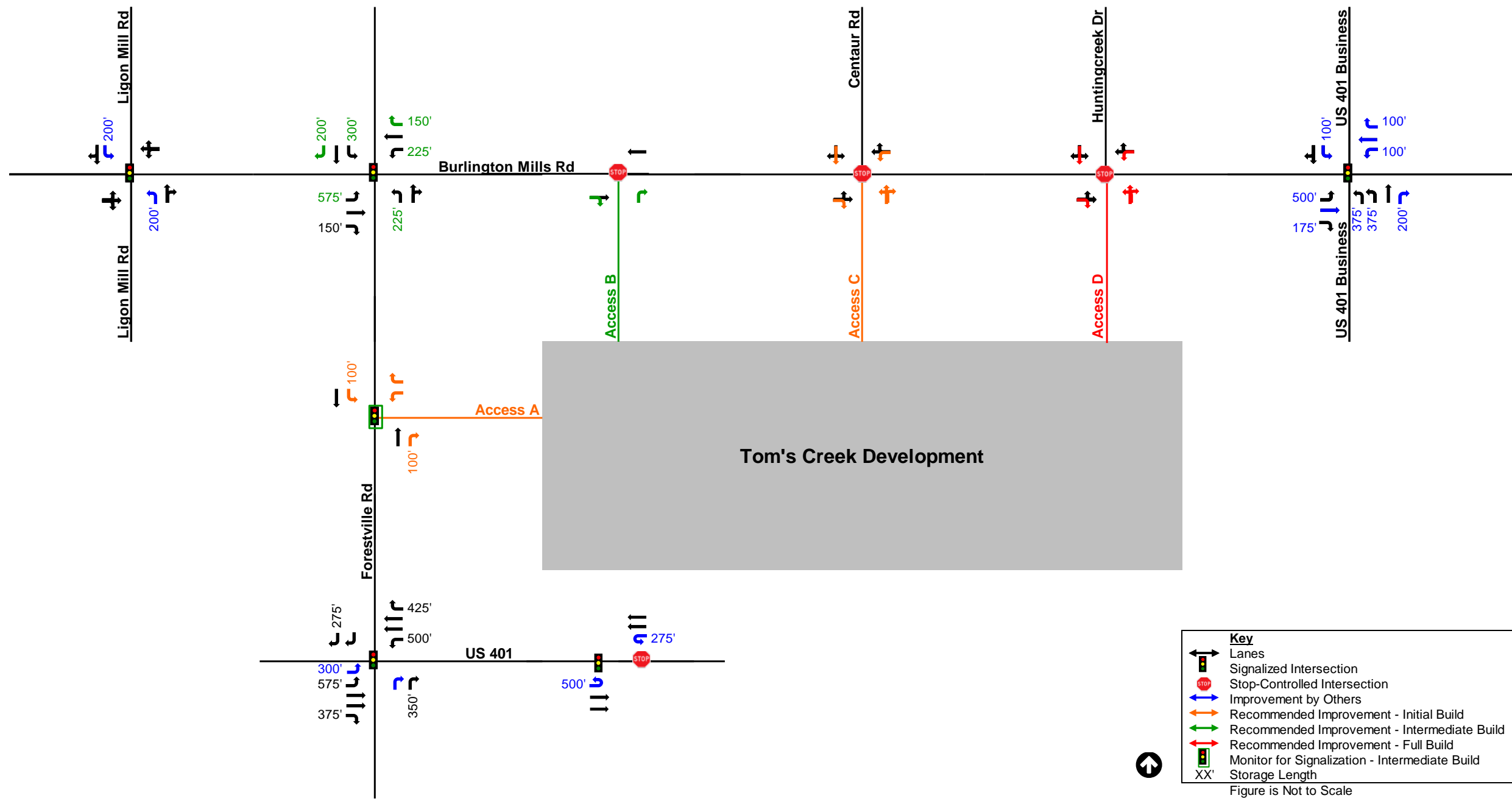
Forestville Road at US 401

- No improvements are recommended at this intersection

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Conclusions
July 28, 2022

Figure 19: Recommended Lane Configurations



TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Conclusions
July 28, 2022

8.0 CONCLUSIONS

The results presented herein indicate that the proposed development will have an impact on the surrounding roadway network. These impacts are most pronounced at the intersection of Burlington Mills Road and Forestville Road. As a result, several improvements are recommended at the intersection. These improvements not only mitigate the development's impact on the intersection but also improve the Level of Service by a letter grade.

Other existing intersections in the study area? have improvements committed by other approved developments or public-funded projects. The results of this analysis show that these intersections experience minor increases in delay due to the proposed development. Accordingly, improvements are not recommended at these intersections.

The primary access point (Access A) on Forestville Road is anticipated to operate with high delays if it is left as a stop-controlled intersection, even with the addition of turn lanes on all approaches. The installation of a traffic signal would greatly improve operations but is contingent upon the intersection meeting the warrants for installation of a traffic signal outlined in the Manual on Uniform Traffic Control Devices (MUTCD) and approved by NCDOT. Accordingly, it is recommended that the location be monitored for the installation of a traffic signal and that the design and construction of the signal be the responsibility of the applicant.

All proposed driveways along Burlington Mills Road (Accesses B, C, and D) are expected to operate at an acceptable level of service in all scenarios and are not expected to have a significant impact on operations along Burlington Mills Road.

9.0 REFERENCES

¹ **NCDOT Functional Classification Map,**

<http://ncdot.maps.arcgis.com/home/webmap/viewer.html?layers=029a9a9fe26e43d687d30cd3c08b1792>

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

<https://ncdot.maps.arcgis.com/apps/webappviewer/index.html?id=964881960f0549de8c3583bf46ef5ed4>

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

⁴ **Highway Capacity Manual 6th Edition: A Guide for Multimodal Mobility Analysis.** Washington D.C.: Transportation Research Board, 2016.

⁵ **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>

⁶ **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)

⁷ **Land Development Ordinance.** Town of Rolesville, June 1, 2021, <https://www.rolesvillenc.gov/code-ordinances>

TOM'S CREEK DEVELOPMENT TRAFFIC IMPACT ANALYSIS

Appendix
July 28, 2022

APPENDIX

A link containing all relevant files is electronically sent with this report:

- NCDOT Scoping Checklist
- Site Plan
- Traffic Count Data
- Approved Development Information
- Traffic Volume Calculations
- Synchro and SimTraffic Files
- Traffic Signal Plans



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

August 26, 2022

Tom's Creek Development

Traffic Impact Analysis Review Report Congestion Management Section

TIA Project: SC-2022-270
Division: 5
County: Wake



Clarence B. Bunting, IV, P.E. Regional Engineer
Daniel W. Collins, 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

Location:
750 N. GREENFIELD PARKWAY
GARNER, NC 27529

Website: www.ncdot.gov

Tom's Creek Development

SC-2022-270

Rolesville

Wake 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	07/29/22	Date of Site Plan	03/31/22
Date of Complete Information	08/12/22	Date of Sealed TIA	07/28/22

Proposed Development

The TIA assumes the development is completed by 2029 and consists of the following:

Land Use	Land Use Code	Size
Single Family Detached Housing	210	606 d.u

Trip Generation - Unadjusted Volumes During a Typical Weekday

	IN	OUT	TOTAL
AM Peak Hour	100	284	384
PM Peak Hour	340	200	540
Daily Trips			5,294

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.

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.

Signalization








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

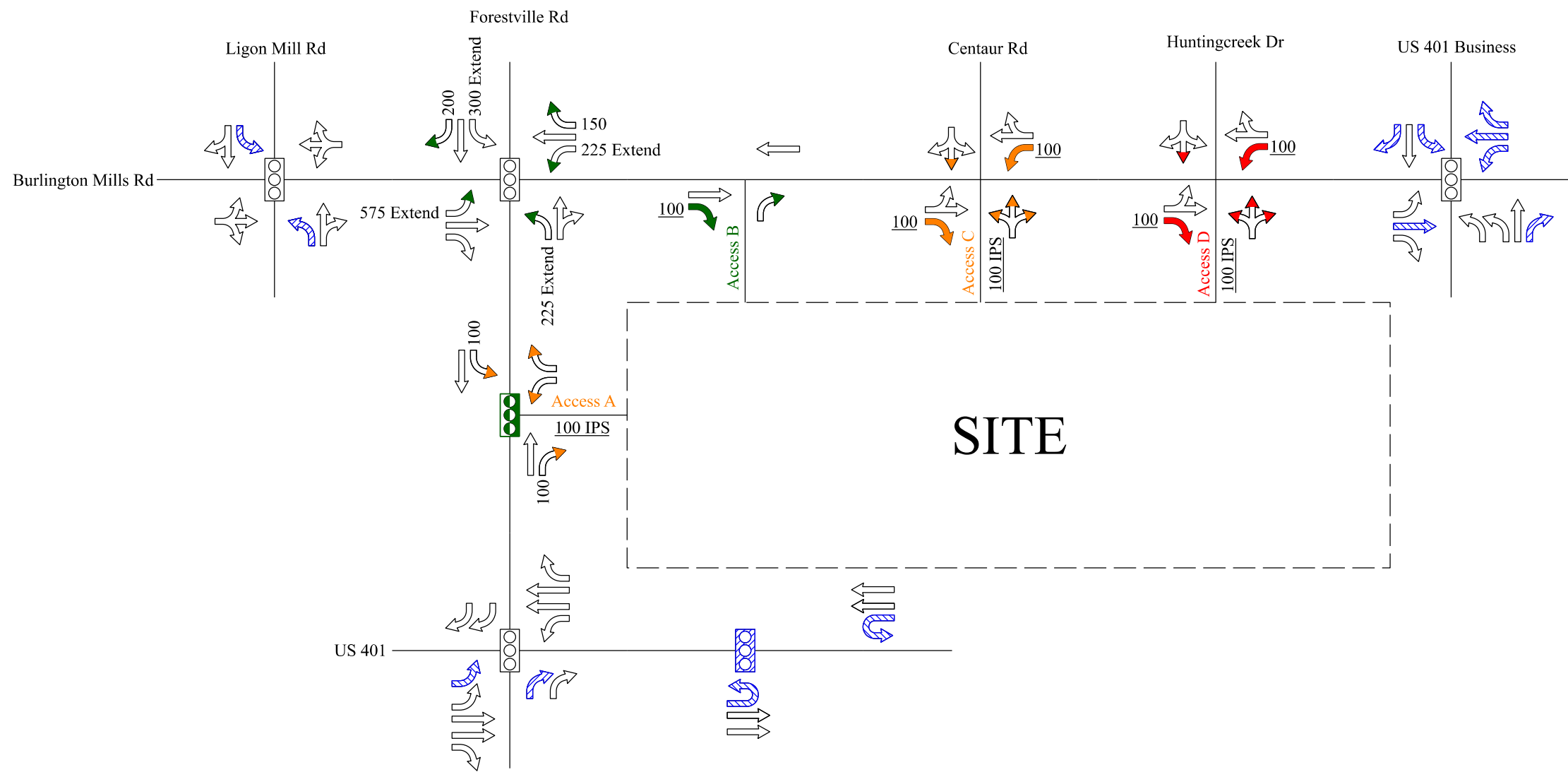
Phased Background Traffic

Please note that background analysis for each phase includes the site traffic from previously developed phases. Additional analysis files were submitted.

Tom's Creek Development
SC-2022-270



-  Existing Laneage
-  Recommended Laneage
-  Laneage Built By Others
-  NCDOT Recommendation
-  Existing Signal
-  Signal Proposed By Others
-  Monitor For Signal
- XXX Storage
- XXX NCDOT Recommended Storage
- <XXX> Distance Between Intersections
- IPS Internal Protected Stem
- Improvement by Others
- Initial Build
- Intermediate Build
- Full Build
- All Distances in Feet
- Drawing Not to Scale





TOWN OF ROLESVILLE PETITION FOR ANNEXATION

The items below are required in order to complete your application and shall be submitted when the application is filed.

1. A complete copy of the last deed of record for proof of ownership
2. An annexation boundary plat/map for recordation at the Wake County Register of Deeds Office (mylar plat) prepared by a professional land surveyor showing the boundaries of the area or property for annexation into the Town of Rolesville.
3. A complete copy of the written metes and bounds description based on the annexation boundary plat/map.

SECTION 1 - LOCATION

Is the area contiguous with the existing primary corporate limits? Satellite corporate limits is not primary. Yes or No

Note: If the land is contiguous to any existing corporate limits, the proposed annexation boundary will include all intervening right-of-ways for streets, easements, and other areas as stated in North Carolina General Statute §160-131(1).

SECTION 2 - VESTED RIGHTS

NC General Statutes require petitioners of both contiguous and non-contiguous annexations to file a signed statement declaring whether vested rights have been established in accordance with G.S. 160A-385.1 or 153A-344.1 for properties subject to the petition. Do you declare vested rights for the property subject to this petition? Yes or No

SECTION 3 - PROPERTY DETAILS

PIN Number	Real Estate ID Number	Deed Book Number	Page Number	Acreage To Be Annexed	Wake County Assessed Value
1748891680	0318100	DB 014427	PG 01034	172.03	\$ \$4,578,795
1758081893	0063677	DB 011146	PG 00339	33.81	\$ \$998,985
1748884104	0325091	DB 011180	PG 01815	17.10	\$ \$317,265

SECTION 4 - SIGNATURES AND VERIFICATION

We, the undersigned owners of the real properties contained in the metes and bounds description and plat/map attached hereto, respectfully request that the area described above be annexed and made part of the Town of Rolesville, North Carolina. By signing below, we acknowledge that all information is correct.

- If property owned by **INDIVIDUALS** (NOTE: All legal owners must sign including both husband and wife)

Earl F. Shoaf
Signature of Owner #1

8-17-2022
Date Signed

Signature of Owner #2

Date Signed

- If property owned by a **COMPANY OR CORPORATION** (NOTE: The company or corporation must be legally registered with the State of North Carolina – Office of the Secretary of State)

ESNE LLC

Name of Corporation

EARL F. SHOAF

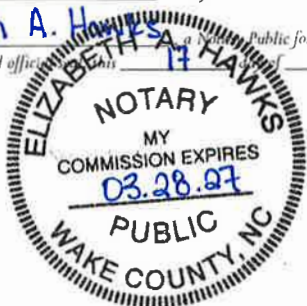
Earl F. Shoaf
Signature of Registered Agent

Printed Name of Registered Agent
343 South White Street, Wake Forest, NC 27587

Address, State, Zip of Registered Office:

North Carolina, Wake County

I, Elizabeth A. Hawkins, a Notary Public for said County and State, do hereby certify that the above signed individual(s) appeared before me this day and signed the foregoing instrument. Witness my hand and office this 17 day of August, 2022.



[Signature]
Notary Public
My commission expires: 03.28.27

TOWN OF ROLESVILLE PETITION FOR ANNEXATION

The items below are required in order to complete your application and shall be submitted when the application is filed.

1. A complete copy of the last deed of record for proof of ownership
2. An annexation boundary plat/map for recordation at the Wake County Register of Deeds Office (mylar plat) prepared by a professional land surveyor showing the boundaries of the area or property for annexation into the Town of Rolesville.
3. A complete copy of the written metes and bounds description based on the annexation boundary plat/map.

SECTION 1 - LOCATION

Is the area contiguous with the existing primary corporate limits? Satellite corporate limits is not primary. Yes or No

Note: If the land is contiguous to any existing corporate limits, the proposed annexation boundary will include all intervening right-of-ways for streets, easements, and other areas as stated in North Carolina General Statute §160-131(1).

SECTION 2 - VESTED RIGHTS

NC General Statutes require petitioners of both contiguous and non-contiguous annexations to file a signed statement declaring whether vested rights have been established in accordance with G.S. 160A-385.1 or 153A-344.1 for properties subject to the petition. Do you declare vested rights for the property subject to this petition? Yes or No

SECTION 3 - PROPERTY DETAILS

PIN Number	Real Estate ID Number	Deed Book Number	Page Number	Acreage To Be Annexed	Wake County Assessed Value
1748891680	0318100	DB 014427	PG 01034	172.03	\$ 4,578,795
1758081893	0063677	DB 011146	PG 00339	33.81	\$ 998,985
1748884104	0325091	DB 011180	PG 01815	17.10	\$ 317,265

SECTION 4 - SIGNATURES AND VERIFICATION

We, the undersigned owners of the real properties contained in the metes and bounds description and plat/map attached hereto, respectfully request that the area described above be annexed and made part of the Town of Rolesville, North Carolina. By signing below, we acknowledge that all information is correct.

- If property owned by INDIVIDUALS (NOTE: All legal owners must sign including both husband and wife)

Signature of Owner #1

Date Signed

Signature of Owner #2

Date Signed

- If property owned by a COMPANY OR CORPORATION (NOTE: The company or corporation must be legally registered with the State of North Carolina – Office of the Secretary of State)

POGE LLC

of Corporation

Printed Name of Registered Agent
8368 Six Forks Road, Suite 204, Raleigh, NC 27615

Signature of Registered Agent

Address, State, Zip of Registered Office:

North Carolina, Wake County

I, Elizabeth A. Hawks a Notary Public for said County and State, do hereby certify that the above signed individual(s) appeared before me this day and signed the foregoing instrument.
Witness my hand and official seal this 17 day of August, 2022.



Notary Public

My commission expires: 03.28.27

BK011146PG00339

WAKE COUNTY, NC 233
LAURA M RIDDICK
REGISTER OF DEEDS
PRESENTED & RECORDED ON
12/16/2004 AT 11:41:56
STATE OF NORTH CAROLINA
REAL ESTATE EXCISE TAX: \$694
BOOK:011146 PAGE:00339 - 00342

NORTH CAROLINA GENERAL WARRANTY DEED

Excise Tax: \$ 694

Parcel Identifier No. 63677 Verified by _____ County on the ____ day of _____, 20__
By: _____

Mail/Box to: Box 204

This instrument was prepared by: E.R. Carraway, Jr.

Brief description for the Index: _____

THIS DEED made this 15 day of December, 2004, by and between

GRANTOR	GRANTEE
POGE, LLC	ESNE, LLC (*a 50% undivided interest) <u>316 Baytree Lane</u> <u>Raleigh NC 27609</u>

Enter in appropriate block for each party: name, address, and, if appropriate, character of entity, e.g. corporation or partnership.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple,* all that certain lot or parcel of land situated in the City of _____, _____ Township, Wake County, North Carolina and more particularly described as follows:

SEE EXHIBIT A ATTACHED HERETO AND INCORPORATED HEREIN BY REFERENCE.

*a 50% undivided interest

The property hereinabove described was acquired by Grantor by instrument recorded in Book 11074 page 180-183,

A map showing the above described property is recorded in Plat Book _____ page _____.

BK011146PG00340

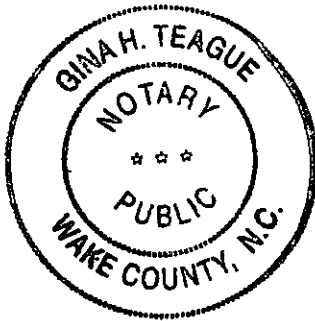
TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple. And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever, other than the following exceptions:

Subject to easements, rights of way, restrictions of record and 2004 ad valorem taxes.

IN WITNESS WHEREOF, the Grantor has duly executed the foregoing as of the day and year first above written.

POGE, LLC (Entity Name) (SEAL)
By: [Signature] Title: Manager (SEAL)
By: _____ (SEAL)
By: _____ (SEAL)
USE BLACK INK ONLY

USE BLACK INK ONLY State of North Carolina - County of _____
I, the undersigned Notary Public of the County and State aforesaid, certify that _____ personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes therein expressed. Witness my hand and Notarial stamp or seal this _____ day of _____, 20__.



State of North Carolina - County of WAKE
I, the undersigned Notary Public of the County and State aforesaid, certify that Andrew L. Ammons personally came before me this day and acknowledged that he is the Manager of POGE, LLC, a North Carolina or _____ corporation/limited liability company/general partnership/limited partnership (strike through the inapplicable), and that by authority duly given and as the act of each entity, he signed the forgoing instrument in its name on its behalf as its act and deed. Witness my hand and Notarial stamp or seal this 15th day of December, 2004. My Commission Expires: 2-3-08 Gina H. Teague Notary Public

USE BLACK INK ONLY State of North Carolina - County of _____
I, the undersigned Notary Public of the County and State aforesaid, certify that _____
Witness my hand and Notarial stamp or seal this _____ day of _____, 20__.

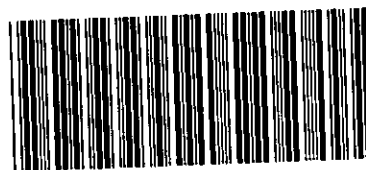
The foregoing Certificate(s) of _____ is/are certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof. Register of Deeds for _____ County. By: _____ Deputy/Assistant - Register of Deeds

BK011146PG00341

EXHIBIT A

BEGINNING at an existing iron pipe in the southern right of way of Burlington Mills Road, being the northeast corner of Herbert F. Faison Property (Deed Book 10986, Page 2004, Wake County Registry); thence with the Faison line south $0^{\circ} 53$ minutes 33 seconds east 416.19 feet to an iron pipe; thence south $89^{\circ} 17$ minutes 04 seconds west 234.59 feet to an existing iron pipe; thence south $0^{\circ} 39$ minutes 48 seconds east 124.39 feet to an existing iron pipe; thence south $89^{\circ} 20$ minutes 19 seconds west 330.37 feet to an existing iron pipe; thence south $15^{\circ} 48$ minutes 27 seconds west 115.81 feet to an existing iron pipe; thence north $84^{\circ} 20$ minutes 47 seconds west 599.08 feet to an existing iron pipe; thence south $09^{\circ} 00$ minutes 45 seconds west 1,229.37 feet to an existing iron pipe; thence south $89^{\circ} 00$ minutes 15 seconds east 590.45 feet to a bent axle; thence north $08^{\circ} 39$ minutes 21 seconds east 511.98 feet to an iron pipe; thence south $89^{\circ} 46$ minutes 10 seconds east 964.65 feet to an axle; thence north $01^{\circ} 14$ minutes 54 seconds west 59.88 feet to an iron pipe; thence north $01^{\circ} 18$ minutes 47 seconds west 255.38 feet to an iron pipe; thence north $01^{\circ} 19$ minutes 39 seconds west 195.03 feet to an iron pipe; thence north $01^{\circ} 19$ minutes 44 seconds west 399.16 feet to an iron pipe; thence north $89^{\circ} 02$ minutes 56 seconds east 206.09 feet to a point in the southern right of way of Burlington Mills Road; thence along with the southern right of way of Burlington Mills Road a curve to the right, having a radius of 515.68 feet, a length of 226.18 feet, and a chord bearing of north $54^{\circ} 29$ minutes 10 seconds west, a distance of 224.37 feet to an iron pipe set; thence with said right of way north $41^{\circ} 55$ minutes 16 seconds west 297.45 feet to an iron pipe set; thence with said right of way a curve to the left, having a radius of 663.20 feet, a length of 82.17 feet, and chord bearing of north $45^{\circ} 28$ minutes 14 seconds west, a distance of 82.12 feet to the point of beginning, and being all of Parcel 1, containing 34.928 acres, as shown on a survey entitled, "Boundary Survey for Ammons Development Group, Heritage/Trevisan Survey," dated October 7, 2004, prepared by Mulkey Engineers & Consultants.

See also plat recorded in Book of Maps 1997, Page 1970, Wake County Registry.



BOOK:011146 PAGE:00339 - 00342

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Please retain with original document and submit for rerecording.



Wake County Register of Deeds
Laura M. Riddick
Register of Deeds

North Carolina – Wake County

The foregoing certificate of Gina H. Teague

_____ Notary(ies) Public is (are) certified to be correct. This instrument and this certificate are duly registered at the date and time and in the book and page shown on the first page hereof.

Laura M. Riddick, Register of Deeds

By: Carl W. Brown
Assistant/Deputy Register of Deeds

This Customer Group _____ # of Time Stamps Needed

This Document _____ New Time Stamp
4 _____ # of Pages

BK014427PG01034

WAKE COUNTY, NC 23
LAURA M RIDDICK
REGISTER OF DEEDS
PRESENTED & RECORDED ON
08/09/2011 AT 09:34:05
STATE OF NORTH CAROLINA
REAL ESTATE EXCISE TAX: \$90
BOOK:014427 PAGE:01034 - 01036

HOLD FOR: Warren Jordan Shackelford, P.L.L.C. Box 204

PREPARED BY: Warren Jordan Shackelford, P.L.L.C., lb
343 S. White Street, Wake Forest, NC 27587

TAX IDENTIFICATION #: 219552 REVENUE STAMP \$ 90.00

NORTH CAROLINA GENERAL WARRANTY DEED

This deed made this 26th day of July, 2011 by and between:

GRANTOR: **VANESSA C. WHITNEY AND HUSBAND, STEVEN E. WHITNEY**
590 White Oak Ridge Rd., Short Hills, NJ 07078

GRANTEE: **POGE, LLC AND ESNE, LLC**
P.O. Box 1615, Wake Forest, NC 27588-1615

Grantor, for valuable consideration paid by Grantee, receipt of which is hereby acknowledged, does grant, convey and transfer unto Grantee in fee simple the property described as follows:

TOWNSHIP OF _____, COUNTY OF WAKE

BEING all of that 0.639 acre tract shown on plat entitled "Recombination Survey For POGE, LLC & ESNE, LLC", a copy of which is recorded in Book of Maps 2011, Page 665, Wake County Registry. This tract is bordered on the north by other land of Grantor, on the east by other land of Grantee, on the south by other land of Perry and on the west by the center line of Forestville Road.

The interest conveyed to POGE, LLC is a one half interest and the interest conveyed to ESNE, LLC is a one half interest in the above described property.

All or a portion of the property herein conveyed ___ includes or x does not include the primary residence of a Grantor.

TO HAVE AND TO HOLD the above described property and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

Grantor covenants with Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title to the property against the lawful claims of all others except for the exceptions set out below.

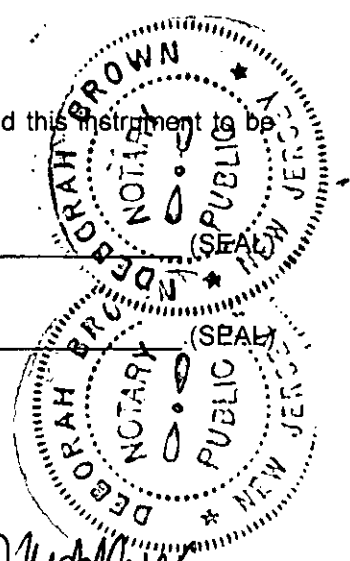
Title to the property described herein is subject to the following exceptions:

- 1. Subject to the right of way of Forestville Road.

IN WITNESS WHEREOF, Grantor has set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by a duly authorized officer.

Vanessa C. Whitney
 Vanessa C. Whitney

Steven E. Whitney
 Steven E. Whitney



STATE OF NY COUNTY OF Middlesex
 I, Deborah Brown, a Notary Public for the County of Middlesex State of N.Y., certify that Vanessa C. Whitney personally appeared before me this day and acknowledged the execution of the foregoing instrument.

Witness my hand and official stamp or seal, this the 2nd day of August 2011.

Deborah Brown
 Notary Public

My Commission Expires May 1, 2013

STATE OF NY COUNTY OF Middlesex
 I, Deborah Brown, a Notary Public for the County of Middlesex State of NY, certify that Steven E. Whitney personally appeared before me this day and acknowledged the execution of the foregoing instrument.

Witness my hand and official stamp or seal, this the 2nd day of August 2011.

Deborah Brown
 Notary Public

My Commission Expires: May 1, 2013

DEBORAH BROWN
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 5/1/2013



BOOK:014427 PAGE:01034 - 01036

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Please retain with original document and submit for rerecording.**



**Wake County Register of Deeds
Laura M. Riddick
Register of Deeds**

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_____ # of Time Stamps Needed

This Document
_____ New Time Stamp
_____ # of Pages
28

TOM'S CREEK ANNEXATION: LEGAL DESCRIPTION

Beginning at a point on the northern right of way line of Burlington Mills Road (a 60 foot public right of way); thence crossing said road, South 00°43'21" East a distance of 46.92 feet to a point; thence South 89°03'08" West a distance of 60.00 feet to an iron pipe, being the northeast corner of lot 1, as shown on book of maps 1983, page 1032; thence with said common line, South 89°03'39" West a distance of 187.22 feet to an iron pipe; thence South 01°20'27" East a distance of 909.54 feet to an iron pipe, being a corner on the northern line of lands now of formally owned by the Ronald Gay Revocable Trust, as described in deed book 15275, page 1754; thence with said common line, North 89°46'12" West a distance of 964.93 feet to an iron pipe; thence South 08°38'57" West a distance of 511.94 feet to an iron pipe; thence North 88°59'41" West a distance of 1019.11 feet to an iron pipe; thence South 11°10'22" West a distance of 67.04 feet to an iron pipe; thence South 07°22'33" West a distance of 97.35 feet to an iron pipe; thence South 36°25'17" East a distance of 43.76 feet to an iron pipe; thence South 06°34'13" West a distance of 230.02 feet to an iron pipe; thence North 77°03'06" West a distance of 82.83 feet to a point; thence North 81°12'25" West a distance of 75.13 feet to a point; thence North 40°14'16" West a distance of 51.36 feet to a point, being the northeast corner of future common area "A", as shown on book of maps 2009, page 766; thence with said common line, North 42°57'03" West a distance of 65.28 feet to a point; thence North 44°16'05" West a distance of 120.33 feet to an iron pipe; thence North 70°43'54" West a distance of 186.82 feet to a point; thence South 80°13'05" West a distance of 193.30 feet to a point; thence North 83°14'58" West a distance of 211.03 feet to a point; thence North 36°02'02" West a distance of 382.28 feet to an iron pipe; thence North 68°25'41" West a distance of 57.67 feet to an iron pipe; thence North 01°28'10" East a distance of 286.16 feet to an iron pipe; thence North 89°55'54" West a distance of 1514.36 feet to an iron pipe on the eastern right of way line of Forestville Road (a 60 foot public right of way), passing through an iron pipe 24.99 feet before the end of the line; thence going across Forestville Road, South 89°54'41" West a distance of 60.37 feet to a point on the western of right of way line of said road; thence North 89°52'27" West a distance of 99.63 feet to a point on the eastern line of an open space lot, as shown on book of maps 2006, page 2455; thence with said common line, North 25°21'09" East a distance of 98.59 feet to an iron pipe; thence North 59°46'50" East a distance of 86.29 feet to an iron pipe on the western right of way line of Forestville Road; thence crossing Forestville Road, North 59°38'25" East a distance of 78.37 feet to an iron pipe on the eastern right of way line of said road, being the southwest corner of lands now or formally owned by Chester Hall, as described in deed book 15126, page 738; thence with said common line, North 59°44'06" East a distance of 44.33 feet to an iron pipe; thence North 33°55'46" East a distance of 456.11 feet to an iron pipe, being the southeast corner of the 1.05 acre tract as shown on book of maps 1984, page 1180; thence with said common line, North 15°01'05" East a distance of 160.64 feet to an iron pipe; thence North 80°14'37" West a distance of 293.14 feet to a point on the western right of way line of Forestville Road, passing through an iron pipe on the eastern right of way line of said road 59.90 feet before the end of the line; thence with the right of way line of said road, North 09°43'25" East a distance of 119.68 feet to a point; thence leaving said right of way line, South 79°14'30" East a distance of 303.79 feet to an iron pipe, being the southeastern corner of lot 2, as shown on book of maps 2011, page 665, passing through an iron pipe on the eastern right of way line of said road 244.11 feet before the end of the line; thence from the southeast corner of lot 2 with said common line, North 15°01'13" East a distance of 215.24 feet to an iron pipe; thence North 14°59'03" East a distance of 147.83 feet to an iron pipe, being the southeast corner of lot 1A, as shown on book of maps 2015, page 364; thence with said common line, North 10°16'58" East a distance of 545.13 feet to an iron

pipe, being the southeast corner of lands now or formally owned by Ricky Upchurch, as described in deed book 19101, page 210; thence with said common line, North 11°33'27" East a distance of 498.22 feet to an iron pipe on the eastern line of tract 2, as shown on book of maps 2008, page 316; thence with said common line, North 01°40'05" West a distance of 81.40 feet to an iron pipe, being the southeast corner of the 1.00 acre tract, as shown on book of maps 1983, page 1428; thence with said common line, North 00°47'30" West a distance of 199.02 feet to an iron pipe, being a corner on the southern line of lot 2, as shown on book of maps 2015, page 852; thence with said common line, South 89°01'55" East a distance of 1539.42 feet to an iron pipe on the southern line of lands now of formally owned by Cynthia Brown, et.al., as described in deed book 8488, page 1172; thence with said common line, South 89°57'48" East a distance of 177.78 feet to an iron pipe, being the northwest corner of lot 1 as shown on book of maps 2016, page 1918; thence with said common line, South 00°02'53" East a distance of 280.76 feet to an iron pipe; thence North 89°54'46" East a distance of 185.05 feet to an iron pipe; thence South 55°12'12" East a distance of 240.28 feet to an iron pipe, being a corner on the western line of the 5.00 acre tract, as shown on book of maps 1978, page 466; thence with said common line, South 34°48'09" West a distance of 398.52 feet to an iron pipe; thence South 55°16'40" East a distance of 299.72 feet to an iron pipe; thence North 34°50'47" East a distance of 756.71 feet to a point on the northern right of way line of Burlington Mills Road, passing through an iron pipe 60.04 feet before the end of the line; thence with said right of way line, South 57°04'24" East a distance of 748.89 feet to a point; thence with a curve to the left a radius of 1846.64 feet, an arc length of 160.08 feet, a chord bearing of South 59°40'11" East, a chord length of 160.03 feet to a point; thence leaving said right of way line, South 01°53'41" West a distance of 601.38 feet to an iron pipe on the western line of lots 2-4, as shown on book of maps 1980, page 1034, passing through an iron pipe on the southern right of way line of said road 534.89 feet before the end of the line; thence with said common line, South 02°05'19" West a distance of 61.24 feet to an iron pipe, being the northwest corner of lot 2, as shown on book of maps 2001, page 2256; thence with said common line, South 01°51'32" West a distance of 40.02 feet to an iron pipe, being a northeast corner of lot 1, as shown on book of maps 2015, page 2033; thence with said common line, North 89°12'34" West a distance of 298.87 feet to an iron pipe; thence South 04°47'52" West a distance of 263.29 feet an iron pipe; thence South 04°43'50" West a distance of 35.66 feet to an iron pipe; thence North 89°59'24" East a distance of 639.81 feet to an iron pipe; thence North 00°40'04" West a distance of 123.61 feet to an iron pipe; thence North 00°40'04" West a distance of 124.37 feet to an iron pipe, being the southwest corner of lands now or formally owned by Tammy Taylor, et.al., as described in deed book 3304, page 182; thence with said common line, North 89°16'36" East a distance of 234.62 feet to an iron pipe, being the southeast corner of lands now of formally owned Herbert Faison, et.al., as shown on book of maps 2017, page 1607; thence North 00°53'11" West a distance of 416.19 feet to an iron pipe on the southern right of way line of Burlington Mills Road; thence across said road, North 00°53'11" West a distance of 74.05 feet to a point on the northern right of way line of said road, passing through the corner in the center of said road 37.33 feet before the end of the line; thence with said right of way line, South 53°53'43" East a distance of 25.81 feet to a point; thence South 47°28'59" East a distance of 119.14 feet to a point; thence South 41°44'03" East a distance of 142.74 feet to a point; thence South 40°47'35" East a distance of 104.65 feet to a point; thence South 44°58'08" East a distance of 107.79 feet to a point; thence South 54°16'14" East a distance of 74.29 feet to a point; thence South 63°08'43" East a distance of 59.86 feet to a point; thence South 68°57'56" East a distance of 21.04 feet to the point and place of beginning; containing an area of 225.48 acres.

The above description excludes the family cemetery of the G.W. Wall family, as show on book of maps 1997, page 911. Being more particularly described as:

Commencing from an iron pipe, being the southwest corner of lot 1, as shown on plat book 2015, page 2033; thence South $68^{\circ}38'02''$ East a distance of 380.31 feet to an iron pipe, the point of beginning; thence North $81^{\circ}25'40''$ East a distance of 104.55 feet to a point; thence South $08^{\circ}53'38''$ East a distance of 104.55 feet to an iron pipe; thence South $81^{\circ}17'52''$ West a distance of 104.56 feet to an iron pipe; thence North $08^{\circ}53'18''$ West a distance of 104.79 feet to the point and place of beginning, containing an area of 0.25 acres.

ATTACHMENT 10 - Annexation Certificate of Sufficiency

CERTIFICATE OF SUFFICIENCY

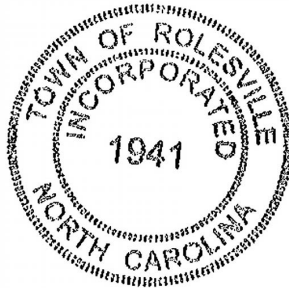
ANX22-07: Tom's Creek

To the Board of Commissioners of the Town of Rolesville, North Carolina:

I, Robin E. Peyton, Town Clerk, do hereby certify that I have investigated the attached petition and hereby make the following findings:

- a. The petition contains an adequate property description of the area(s) proposed for annexation.
- b. The area described in the petition is contiguous to the Town of Rolesville primary corporate limits as required by G.S. 160A-31.
- c. The petition is signed by all owners of real property lying in the area described therein.

In witness whereof, I have hereunto set my hand and affixed the seal of the Town of Rolesville, this 26th day of October 2022.



Robin E. Peyton

Robin E. Peyton
Town Clerk