

STAFF REPORT

Rezoning #22CZ22 Elevate 64 West PUD

March 28, 2023 Town Council Meeting



All property owners and tenants within 300 feet of this rezoning have been notified per UDO Sec. 2.2.11 *Public Notification*.

BACKGROUND INFORMATION:

Location: 3805 & 3809 US Hwy 64 West
Applicant: FA Develop, LLC
Authorized Agent: FA Develop, LLC
Owners: Louvenia Ann Goodwin

PROJECT DESCRIPTION:

Acreage: +/- 35.15 acres
PINs: 0712749870 & 071282430
Current Zoning: Rural Residential (RR)
Proposed Zoning: Planned Unit Development–Conditional Zoning (PUD-CZ)
2045 Land Use Map: Mixed Use: High Density Residential/Office Employment/Commercial Services
Town Limits: Inside the ETJ

ADJACENT ZONING & LAND USES:

	Zoning	Land Use
North:	Wake County Residential-80W	Single-family residential & Vacant; US 64 Hwy W
South:	Rural Residential (RR); Planned Unit Development-Conditional Zoning (PUD-CZ #14CZ14)	Forestry; Townhomes (Deer Creek Subdivision)
East:	Rural Residential (RR)	Single-family residential; Forestry; Agriculture
West:	Planned Unit Development-Conditional Zoning (PUD-CZ #14CZ14) Neighborhood Business-Conditional Zoning (B1-CZ #14CZ24)	Townhomes (Deer Creek Subdivision); Single-family residential

EXISTING CONDITIONS:

The site consists of two (2) parcels totaling +/- 35.15 acres. The Elevate 64 West PUD is located along the southern side of the US Hwy 64 West corridor and is adjacent to the existing Deer Creek Subdivision to the west and forestry, agricultural, and residential land uses to the south and east. The surrounding properties are designated as mixed use on the 2045 Land Use Map, which promotes commercial, office, and high-density residential uses.

NEIGHBORHOOD MEETING:

The applicant conducted a neighborhood meeting on September 29, 2022. The meeting report is attached to the staff report.

2045 LAND USE MAP:

The 2045 Land Use Map designates the site as Mixed Use: High Density Residential/Office Employment/Commercial Services. The applicant is proposing a maximum of 392 residential units in this area. Per Town policy, the PUD also proposes 30% of the site as non-residential, which is approximately 10.55 acres. The proposed rezoning is consistent with the 2045 Land Use Map designations.

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WCPSS COORDINATION:

A Letter of Impact from Wake County Public School System (WCPSS) was received for this rezoning and is included in the staff report packet. WCPSS indicates that elementary and high schools within the current assignment area for this rezoning/development are anticipated to have insufficient capacity for future students; transportation to schools outside of the current assignment area should be anticipated. School expansion or construction within the next five years may address concerns at the high school level. Possible long-term solutions may include capping students out to schools with available seats (not very proximate), reassignments, or calendar changes.

PLANNED UNIT DEVELOPMENT PLAN:

The applicant is proposing a Planned Unit Development with uses and development standards as follows:

Proposed Uses:

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

Residential:

- Condominium
- Multi-family or Apartment

Non-Residential:

- | | |
|--------------------------------------|------------------------------------|
| • Day care facility | • Hotel or motel |
| • Drop-in or sort term day care | • Artisan studio |
| • Government Service | • Barber and beauty shop |
| • Pharmacy | • Book store |
| • Veterinary clinic or hospital | • Convenience store |
| • Studio for art | • Dry cleaners and laundry service |
| • Botanical garden | • Financial institution |
| • Tailor shop | • Floral shop |
| • Greenway | • Health/fitness center or spa |
| • Park, active | • Personal Service |
| • Park, passive | • Pet services |
| • Recreational facility, private | • Microbrewery |
| • Restaurant, general | • Microdistillery |
| • Medical or dental office or clinic | • Grocery, general |
| • Medical or dental laboratory | • Grocery, specialty |
| • Office, business or professional | • Retail sales, general |
| • Publishing office | • Real estate sales |

Architectural Conditions:

The following architectural controls are offered to ensure a consistency of character throughout the development, while allowing for enough variety to create interest and avoid monotony.

Residential Requirements:

1. Vinyl siding is not permitted; however, vinyl windows, decorative elements, and trim are permitted.
2. Siding materials shall be varied in type and/or color on 30% of each façade on each building.
3. Windows must vary in size and/or type.
4. Windows that are not recessed must be trimmed.

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5. Recesses and projections shall be provided for at least 50% of each façade on each building.
6. Rooflines cannot be a single mass; they must be varied with the use of gables or parapets.
7. Garage doors must have windows, decorative details or carriage-style adornments on them.
8. Four of the following decorative features shall be used on each building:
 - Decorative shake
 - Board and batten
 - Decorative porch railing/posts
 - Shutters
 - Decorative/functional air vents on roof or foundation
 - Recessed windows
 - Decorative windows
 - Decorative brick/stone
 - Decorative gables
 - Decorative cornices
 - Tin/metal roof

Non-Residential Requirements

1. The predominant exterior building materials shall be high quality materials, including:
 - Brick masonry
 - Decorative concrete block (either integrally colored or textured)
 - Stone accents
 - Aluminum storefronts with anodized or pre-finished colors.
 - EIFS cornices, and parapet trim
 - Precast concrete
2. EIFS or synthetic stucco shall not be used in the first forty inches above grade.
3. The building exterior shall have more than one material color.
4. The building shall have more than one parapet height.
5. The main entrance to the building shall be emphasized.
6. Only full cut-off lighting fixtures and fixtures with external house-side shields shall be allowed where non-residential properties are adjacent to residential properties.

Additional building materials may be included with administrative staff approval. Substitute materials shall be allowed by staff as long as they are determined by the Planning Director to be substantially similar.

Affordable Housing:

- At least twenty (20) residential units or, if greater, five percent (5%) of the total residential units (as shown on the first site plan submittal), shall be designated as restricted workforce affordable housing rental units (the "Affordable Units") for a minimum affordability period of ten (10) years starting from the date of issuance of the first residential Certificate of Occupancy (the "Affordable Restriction Period").
- The Affordable Units shall be occupied by households earning no more than eighty percent (80%) of the Raleigh, NC Metropolitan Statistical Area (MSA) Area Median Income (AMI), adjusted for family size, as most recently published by the U.S. Department of Housing and Urban Development (HUD).
- The Affordable Units may be either one or two bedroom units and rented during the Affordable Restriction Period at maximum rent limits applicable to households earning eighty percent (80%) of the Raleigh, NC Area Median Income ("AMI"), adjusted for family size, as most recently published by HUD and stipulated by the most recently published North Carolina Housing Finance Agency (NCHFA) Low-Income Housing Tax Credit (LIHTC) Multifamily Tax Subsidy Program (MTSP) income and rent limits for the Wake County Metropolitan Area.
- Prior to issuance of the first residential Certificate of Occupancy, a restrictive covenant between the Town and property owner shall be executed and recorded in the Wake County Registry to memorialize the affordable housing terms and conditions.

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- During the Affordable Restriction Period, the property owner shall be responsible for performing all property management and administration duties to ensure compliance with this affordable housing condition and shall submit annual compliance reports to the Town verifying compliance with this affordable housing condition.
- Following expiration of the Affordable Restriction Period, this affordable housing condition shall expire, and the property owner shall be relieved of all obligations set forth in this affordable housing condition, and the Affordable Units may freely be marketed and leased at market-rate rents.

PROPOSED DESIGN CONTROLS:

Maximum Residential Units:	392
Maximum Building Height:	
Residential:	60 ft and 4 stories
Non-Residential:	40 ft and 2 stories
Maximum Built-Upon Area:	70%

Building Setbacks:

- Notwithstanding any contrary UDO provision or language in this PUD, there shall be no minimum setback or buffer requirement along the shared property line between the Residential and Nonresidential uses.
- Residential buildings shall be setback 95 ft from the southern parent property line adjacent to the forestry use.
- All other building setbacks shall comply with the UDO.

Parking & Loading:

- Development in the Residential District shall comply with parking requirements in Section 8.3.2 of the Town of Apex UDO.
- Any garage units within the residential development will count towards parking requirement.
- Residential parking will provide a minimum of 5% of total parking with access to EV Charging.
- Parking in the Non-Residential area shall comply with parking requirements in Section 8.3.2 of the Town of Apex UDO.

PROPOSED RCA & BUFFERS:

The proposed Elevate 64 West PUD complies with the UDO requirements for RCA. The proposed layout will preserve the existing non-jurisdictional pond in addition to protecting other environmentally sensitive areas on the property and required Resource Conservation Areas consistent with the Town's UDO.

Buffers:	UDO Requirement:	Proposed:
Northern Boundary:	100-ft Type A*	Res: 100-ft Type A Non-Res: 100-ft Type A*
Southern Boundary:		
Adjacent to section without roadway frontage:	50-ft Type A	50-ft Type A
Southern side of new local connector:	50-ft Type A	30-ft Type B
Northern side of new local connector:	None	10-ft Type A
Eastern Boundary:		
Adjacent to large lot single-family:	20-ft Type B	20-ft Type B**
Adjacent to forestry:	50-ft Type A	20-ft Type B**
West Boundary:	15-ft Type A	15-ft Type A

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Buffers:	UDO Requirement:	Proposed:
Along New North-South Major Collector:	Non-Res: 10-ft Type D; Res: 10-ft Type A	10-ft Type A

*Per UDO Sec. 8.2.6.B.5.f.ii.c: Highway buffers along non-residential uses meeting all of the following criteria shall be reduced to a planted 50' Type A buffer if they meet the following criteria.

- i. No more than 20% of the façades of non-residential buildings facing the highway can use EIFS or other synthetic stucco.
- ii. Pedestrian connections in the form of sidewalks and/or multi-use paths shall be made from non-residential buildings to adjacent residential development and properties with future residential land use. The form of the connection shall be determined by the Director of Planning and Community Development or designee.
- iii. Furthermore, properties that front a limited-controlled access highway with no other access or road frontage shall be allowed to reduce the opacity of no more than 50% of this buffer to a Type E buffer. The remainder of the buffer shall be planted to a Type A standard.

**Except where the existing Lawson Lane encroaches onto property. Where encroachment occurs, there shall be a 10-ft Type B buffer.

PUBLIC FACILITIES:

The Elevate 64 West PUD will be served by Town of Apex water, sanitary sewer, and electrical systems. The utility design will be finalized at Master Subdivision Plan review. A conceptual Utility Plan is included in the PUD Plan for reference. The ultimate design for the utilities shall meet the current Town of Apex Master Water and Sewer Plans for approval.

STORMWATER:

The development shall meet all UDO requirements for the treatment of stormwater. The development will also exceed the UDO requirements as follows:

- Post development peak runoff shall not exceed pre-development peak runoff conditions for the 1-year, 10-year, 25-year, 100-year and 24-hour storm events.
- No clearing or land disturbance shall be permitted within the riparian buffer, except the minimum necessary to install required sewer infrastructure, greenways, roadways, and SCM outlets. The SCM water storage and treatment area shall not be permitted within the riparian buffer. The sewer shall be designed to minimize the impacts to the riparian buffer.
- The existing pond on-site will have at a minimum 1,500 sf of submerged and/or partially submerged vegetative shelf planted with wetland plantings to aid with water quality and protect the shoreline from erosion. The density of plantings will consist of 50 plants per 200 sf of area.

APEX TRANSPORTATION PLAN/ACCESS AND CIRCULATION:

Per the proposed amendment to the Apex Thoroughfare and Collector Street Plan map:

- A future north-south Major Collector is shown from US-64 Hwy W to Olive Chapel Road.
- The proposed amendment also shows a future local connector extending east to connect future Lawson Lane extension to future Transit Trail extension.
- The developer will build the future Major Collector and local connector and dedicate right-of-way within their property boundaries to meet the requirements shown in Advance Apex.

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The Bicycle and Pedestrian System Plan map shows a greenway connection to the Deer Creek Subdivision.

- The developer has committed to building the greenway within their project boundaries.
- This project shall comply with the Town's Bicycle and Pedestrian System Plan Map. Sidewalk shall be provided along both sides of all public streets within this development. Where required, the project shall construct 10-foot wide asphalt side paths in lieu of sidewalk along the public streets.

Roadway improvements are subject to modification and final approval by the Town of Apex and NCDOT as part of the Master Subdivision Plan and Site Plan review and approval process.

Traffic Impact Analysis:

A Traffic Impact Analysis has been performed as part of this PUD rezoning consistent with the Town's standards. Based upon the Traffic Impact Analysis, the following traffic improvements are proposed for this development:

US Highway 64 at Site Access 1:

- Construct the access as a left-in, right-in, right-out.
- Provide a westbound turn lane on US 64 with 150 feet of storage and appropriate deceleration length and taper.
- Provide an eastbound right turn lane on US 64 with 100 feet of storage and appropriate deceleration length and taper as applicable.
- Provide a channelization northbound right-out free-flow lane with an eastbound 810-foot acceleration lane plus 240-foot taper on US 64.
- The site access will be designed in accordance with NCDOT and Town of Apex standards as applicable and is the only access permitted to connect to US 64 as part of the PUD.
- Site access will be provided via a north-south Major Collector Street to be constructed by the PUD from the US 64 to the southern boundary of the PUD.

Other:

- At US 64 at Pinefield Road, construct a concrete median diverter island between the westbound U-turn lane and the eastbound left-turn /U-turn lane on US 64 in conjunction with intersection widening as needed to accommodate these changes, preventing southbound left turns from Pinefield Road.
- Construct an east-west Local Connector Street starting at the north-south Major Collector Street and stubbing to the eastern boundary of the PUD.
- Cross access will be provided via public access easement to adjacent parcel to the:
 - o east (PIN 0712-74-2710),
 - o west (PIN 0712-93-2588), and
 - o south (PIN 0712-83-4236) off of east/west local connector.

ENVIRONMENTAL ADVISORY BOARD:

The Apex Environmental Advisory Board (EAB) held a pre-application meeting for this rezoning on July 20, 2022. The zoning conditions suggested by the EAB are listed below along with the applicant's response to each condition.

EAB Suggested Conditions	Applicant's Response
1. The existing pond will be retained and protected.	Added
2. The development will install a minimum of 10 pet waste stations.	Added
3. Native flora will be incorporated into the landscape plan.	Added

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EAB Suggested Conditions	Applicant's Response
4. A minimum of 25-kW solar PV system for the generation of electricity to offset the electric consumption of the common area and pool. A 25-kW system will consist of approximately 66 solar panels.	Modified
5. Five percent of the parking spaces shall have EV charging stations installed.	Added
6. For stormwater management, post-development peak runoff shall not exceed pre-development peak runoff for the 25-year and 100-year 24-hour storm events.	Added
7. SCM and infrastructure shall not be placed in the stream buffer area, with the exception of Apex utility and greenway easements.	Added

Proposed EAB Conditions:

1. The existing pond shall be preserved and protected.
2. The project shall install at least ten (10) pet waste station throughout the community in locations that are publicly accessible, such as adjacent to amenity centers, SCMs, sidewalks, greenways or side paths.
3. The project shall increase biodiversity within perimeter buffers, common owned open space, and other landscape areas by providing a variety of native and adaptive species for the canopy, understory and shrub levels. A minimum of 75% of the species selected shall be native of North Carolina. No invasive species shall be permitted. No single species of tree or shrub shall constitute more than 20% of the plant material of its type within a single development site.
4. A solar photovoltaic (PV) system of at least 7.5 KW shall be instated within the development. All solar installation required by this condition shall be completed or under construction prior to 90% of the building permits being issued for the development. The system may be spread across on or more of the buildings, as needed. Any buildings with the solar PV system shall be identified on the Site Plan which may be amended from time to time.
5. The developer shall provide 5% of all parking spaces as EV charging spaces.
6. Post-development peak runoff shall not exceed pre-development peak runoff for the 24-hour, 1-year, 10-year, 25-year and 100-year storm events in accordance with the Unified Development Ordinance.
7. No clearing or land disturbance shall be permitted within the riparian buffer, except the minimum necessary to install required sewer infrastructure, greenways, roadways, and SCM outlets. The SCM water storage and treatment area shall not be permitted within the riparian buffer. The sewer shall be designed to minimize impacts to the riparian buffer.

PARKS, RECREATION, AND CULTURAL RESOURCES ADVISORY COMMISSION:

The Parks, Recreation, and Cultural Resources Advisory Commission reviewed the Elevate 64 West Planned Unit Development at their November 30, 2022 meeting. The Advisory Commission unanimously recommended a fee-in-lieu of dedication with credit for the construction of greenway trail within the project boundary as well as off-site into the existing, adjacent Deer Creek Subdivision. The rate of the fees owed will be set at the time of rezoning approval by the Town Council and will run the life of the project for the number and type of units proposed.

The Advisory Commission also recommended the proposal for Elevate 64 West to extend the public Reedy Creek Greenway from the existing Deer Creek subdivision to the western property line of Elevate 64 West. Greenway will also be extended within Elevate 64 West to proposed internal pedestrian network, exact route to be determined at the time of Site Plan approval. All approved greenway trails must be completed prior to the point of 50% of the Total number or residential units in the project being issued a building permit for the Site Plans.

PLANNING BOARD RECOMMENDATION:

Planning Board heard this item at their March 13, 2023 meeting. By a vote of 4 to 3, they voted to recommend

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approval of Rezoning Case #22CZ22 Elevate 64 West PUD as presented by the applicant. The dissenting opinions are attached to the Planning Board Report to Town Council.

PLANNING STAFF RECOMMENDATION:

During the Planning Board meeting, it was made clear that several members were concerned about the number of apartments that will connect to US 64 without a second connection to the greater street network. The Fire Code restricts the number of residential units off of one access point to 200.

After the Planning Board meeting, the Fire Marshal was consulted. He requested that the connections from the apartments to the proposed Major Collector be clarified on the plans. Once the plan was updated to show multiple connections to the future Major Collector, the Fire Marshal confirmed that the proposed plan meets the intent of the Fire Code. This is consistent with other developments that have constructed Major Collectors or Thoroughfares and proposed more than 300 residential units.

Planning staff recommends approval of Rezoning #22CZ22 Elevate 64 West PUD as proposed.

ANALYSIS STATEMENT OF THE REASONABLENESS OF THE PROPOSED REZONING:

This Statement will address consistency with the Town's comprehensive and other applicable plans, reasonableness, and effect on public interest:

The 2045 Land Use Map designates the site as Mixed Use: High Density Residential/Office Employment/Commercial Services. The proposed rezoning is consistent with the 2045 Land Use Map designations. The Apex Town Council has further considered that the proposed rezoning to Planned Unit Development-Conditional Zoning (PUD-CZ) will maintain the character and appearance of the area and provide the flexibility to accommodate the growth in population, economy, and infrastructure consistent with that contemplated by the 2045 Land Use Map.

The proposed rezoning is reasonable and in the public interest because it will construct portions of new Major Collector and Local Connector streets, build portions of the greenway network, add to the local housing stock, provide affordable housing units, and implement stricter environmental conditions than the UDO requires.

PLANNED UNIT DEVELOPMENT DISTRICT AND CONDITIONAL ZONING STANDARDS:

Standards

In return for greater flexibility in site design requirements, Planned Development (PD) Districts are expected to deliver exceptional quality community designs that preserve critical environmental resources; provide high quality community amenities; incorporate creative design in the layout of buildings, Resource Conservation Area and circulation; ensure compatibility with surrounding land uses and neighborhood character; provide high quality architecture; and provide greater efficiency in the layout and provision of roads, utilities, and other infrastructure. The Planned Development (PD) Districts shall not be used as a means of circumventing the Town's adopted land development regulations for routine developments.

1. Planned Unit Development (PUD-CZ) District

In approving a Planned Development (PD) Zoning District designation for a PUD-CZ, the Town Council shall find the PUD-CZ district designation and PD Plan for PUD-CZ demonstrates compliance with the following standards:

a) Development parameters

- (i) The uses proposed to be developed in the PD Plan for PUD-CZ are those uses permitted in Sec. 4.2.2 Use Table.*

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- (ii) The uses proposed in the PD Plan for PUD-CZ can be entirely residential, entirely non-residential, or a mix of residential and non-residential uses, provided a minimum percentage of non-residential land area is included in certain mixed use areas as specified on the 2045 Land Use Map. The location of uses proposed by the PUD-CZ must be shown in the PD Plan with a maximum density for each type of residential use and a maximum square footage for each type of non-residential use.
- (iii) The dimensional standards in Sec. 5.1.3 *Table of Intensity and Dimensional Standards, Planned Development Districts* may be varied in the PD Plan for PUD-CZ. The PUD-CZ shall demonstrate compliance with all other dimensional standards of the UDO, North Carolina Building Code, and North Carolina Fire Code.
- (iv) The development proposed in the PD Plan for PUD-CZ encourages cluster and compact development to the greatest extent possible that is interrelated and linked by pedestrian ways, bikeways and other transportation systems. At a minimum, the PD Plan must show sidewalk improvements as required by the Apex Transportation Plan and the *Town of Apex Standard Specifications and Standard Details*, and greenway improvements as required by the Town of Apex Parks, Recreation, Greenways, and Open Space Plan and the Apex Transportation Plan. In addition, sidewalks shall be provided on both sides of all streets for single-family detached homes.
- (v) The design of development in the PD Plan for PUD-CZ results in land use patterns that promote and expand opportunities for walkability, connectivity, public transportation, and an efficient compact network of streets. Cul-de-sacs shall be avoided unless the design of the subdivision and the existing or proposed street system in the surrounding area indicate that a through street is not essential in the location of the proposed cul-de-sac, or where sensitive environmental areas such as streams, floodplains, and wetlands would be substantially disturbed by making road connections.
- (vi) The development proposed in the PD Plan for PUD-CZ is compatible with the character of surrounding land uses and maintains and enhances the value of surrounding properties.
- (vii) The development proposed in the PD Plan for PUD-CZ has architectural and design standards that are exceptional and provide higher quality than routine developments. All residential uses proposed in a PD Plan for PUD-CZ shall provide architectural elevations representative of the residential structures to be built to ensure the Standards of this Section are met.
- b) *Off-street parking and loading.* The PD Plan for PUD-CZ shall demonstrate compliance with the standards of Sec. 8.3 *Off-Street Parking and Loading*, except that variations from these standards may be permitted if a comprehensive parking and loading plan for the PUD-CZ is submitted as part of the PD Plan that is determined to be suitable for the PUD-CZ, and generally consistent with the intent and purpose of the off-street parking and loading standards.
- c) *RCA.* The PD Plan for PUD-CZ shall demonstrate compliance with Sec. 8.1.2 Resource Conservation Area, except that the percentage of RCA required under Sec. 8.1.2 may be reduced by the Town Council by no more than 10% provided that the PD Plan for PUD-CZ includes one or more of the following:
 - (i) A non-residential component;
 - (ii) An overall density of 7 residential units per acre or more; or
 - (iii) Environmental measures including but not limited to the following:
 - a. The installation of a solar photovoltaic (PV) system on a certain number or percentage of single-family or townhouse lots or on a certain number or percentage of multifamily, mixed-use, or nonresidential buildings. All required solar installation shall be completed or under construction prior to 90% of the building permits being

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- issued for the approved number of lots or buildings. For single-family or townhouse installations, the lots on which these homes are located shall be identified on the Master Subdivision Plat, which may be amended;
- b. The installation of a geothermal system for a certain number or percentage of units within the development; or
 - c. Energy efficiency standards that exceed minimum Building Code requirements (i.e. SEER rating for HVAC).
- d) *Landscaping.* The PD Plan for PUD-CZ shall demonstrate compliance with the standards of Sec. 8.2 *Landscaping, Buffering and Screening*, except that variations from these standards may be permitted where it is demonstrated that the proposed landscaping sufficiently buffers uses from each other, ensures compatibility with land uses on surrounding properties, creates attractive streetscapes and parking areas and is consistent with the character of the area. In no case shall a buffer be less than one half of the width required by Sec. 8.2 or 10 feet in width, whichever is greater.
- e) *Signs.* Signage in the PD Plan for PUD-CZ shall demonstrate compliance with Sec. 8.7 *Signs*, except that the standards can be varied if a master signage plan is submitted for review and approval concurrent with the PD plan and is determined by the Town Council to be suitable for the PUD-CZ and generally consistent with the intent and purpose of the sign standards of the UDO. The master signage plan shall have design standards that are exceptional and provide for higher quality signs than those in routine developments and shall comply with Sec. 8.7.2 *Prohibited Signs*.
- f) *Public facilities.* The improvements standards and guarantees applicable to the public facilities that will serve the site shall comply with Article 7: *Subdivision* and Article 14: *Parks, Recreation, Greenways, and Open Space*.
- (i) The PD Plan for PUD-CZ demonstrates a safe and adequate on-site transportation circulation system. The on-site transportation circulation system shall be integrated with the off-site transportation circulation system of the Town. The PD Plan for PUD-CZ shall be consistent with the Apex Transportation Plan and the *Town of Apex Standard Specifications and Standard Details* and show required right-of-way widths and road sections. A Traffic Impact Analysis (TIA) shall be required per Sec. 13.19.
 - (ii) The PD Plan for PUD-CZ demonstrates a safe and adequate on-site system of potable water and wastewater lines that can accommodate the proposed development, and are efficiently integrated into off-site potable water and wastewater public improvement plans. The PD Plan shall include a proposed water and wastewater plan.
 - (iii) Adequate off-site facilities for potable water supply, sewage disposal, solid waste disposal, electrical supply, fire protection and roads shall be planned and programmed for the development proposed in the PD Plan for PUD-CZ, and the development is conveniently located in relation to schools and police protection services.
 - (iv) The PD Plan shall demonstrate compliance with the parks and recreation requirements of Sec. Article 14: *Parks, Recreation, Greenways, and Open Space* and Sec. 7.3.1 *Privately-owned Play Lawns* if there is a residential component in the PUD-CZ.
- g) *Natural resource and environmental protection.* The PD Plan for PUD-CZ demonstrates compliance with the current regulatory standards of this Ordinance related to natural resource and environmental protection in Sec. 6.1 *Watershed Protection Overlay District*, Sec. 6.2 *Flood Damage Prevention Overlay District*, and Sec. 8.1 *Resource Conservation*.
- h) *Storm water management.* The PD Plan shall demonstrate that the post-development rate of on-site storm water discharge from the entire site shall not exceed pre-development levels in accordance with Sec. 6.1.7 of the UDO.

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- i) *Phasing.* The PD Plan for PUD-CZ shall include a phasing plan for the development. If development of the PUD-CZ is proposed to occur in more than one phase, then guarantees shall be provided that project improvements and amenities that are necessary and desirable for residents of the project, or that are of benefit to the Town, are constructed with the first phase of the project, or, if this is not possible, then as early in the project as is technically feasible.
- j) *Consistency with 2045 Land Use Map.* The PD Plan for PUD-CZ demonstrates consistency with the goals and policies established in the Town's 2045 Land Use.
- k) *Complies with the UDO.* The PD Plan for PUD-CZ demonstrates compliance with all other relevant portions of the UDO.

Legislative Considerations

The Town Council shall find the Planned Unit Development-Conditional Zoning (PUD-CZ) designation demonstrates compliance with the following standards. 2.3.3.F:

The applicant shall propose site-specific standards and conditions that take into account the following considerations, which are considerations that are relevant to the legislative determination of whether or not the proposed conditional zoning district rezoning request is in the public interest. These considerations do not exclude the legislative consideration of any other factor that is relevant to the public interest.

- 1) *Consistency with 2045 Land Use Map.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and consistency with the purposes, goals, objectives, and policies of the 2045 Land Use Map.
- 2) *Compatibility.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and compatibility with the character of surrounding land uses.
- 3) *Zoning district supplemental standards.* The proposed Conditional Zoning (CZ) District use's compliance with Sec 4.4 *Supplemental Standards*, if applicable.
- 4) *Design minimizes adverse impact.* The design of the proposed Conditional Zoning (CZ) District use's minimization of adverse effects, including visual impact of the proposed use on adjacent lands; and avoidance of significant adverse impacts on surrounding lands regarding trash, traffic, service delivery, parking and loading, odors, noise, glare, and vibration and not create a nuisance.
- 5) *Design minimizes environmental impact.* The proposed Conditional Zoning District use's minimization of environmental impacts and protection from significant deterioration of water and air resources, wildlife habitat, scenic resources, and other natural resources.
- 6) *Impact on public facilities.* The proposed Conditional Zoning (CZ) District use's avoidance of having adverse impacts on public facilities and services, including roads, potable water and wastewater facilities, parks, schools, police, fire and EMS facilities.
- 7) *Health, safety, and welfare.* The proposed Conditional Zoning (CZ) District use's effect on the health, safety, or welfare of the residents of the Town or its ETJ.
- 8) *Detrimental to adjacent properties.* Whether the proposed Conditional Zoning (CZ) District use is substantially detrimental to adjacent properties.
- 9) *Not constitute nuisance or hazard.* Whether the proposed Conditional Zoning (CZ) District use constitutes a nuisance or hazard due to traffic impact or noise, or because of the number of persons who will be using the Conditional Zoning (CZ) District use.
- 10) *Other relevant standards of this Ordinance.* Whether the proposed Conditional Zoning (CZ) District use

STAFF REPORT

Rezoning #22CZ22 Elevate 64 West PUD

March 28, 2023 Town Council Meeting



complies with all standards imposed on it by all other applicable provisions of this Ordinance for use, layout, and general development characteristics.



November 10, 2022

Dionne Brown, PE.
Davenport
4600 Marriott Drive, Suite 340
Raleigh, NC 27612
(919) 948-3289

Subject: **Staff summary and comments for the Signature Apex Development TIA,
09/28/2022**

Ms. Brown:

Please review the following summary of my comments and recommendations. You may schedule a meeting with me and your client to discuss at your convenience.

Study Area

The TIA studied access to the proposed development at the following two (2) intersections:

- US Hwy 64 and Site Access 1
- US Hwy 64 and Site Access 2

The following three (3) intersections were also included for analysis in the TIA study area:

- US Hwy 64 and New Hill Road / NC 751
- US Hwy 64 and New Hill Olive Chapel Road
- US Hwy 64 and Pinefield Road

Trip Generation

The proposed development is expected to consist of 392 apartments and 34,000 square feet of a medical office use. The development is projected to generate approximately 109 new trips entering and 143 new trips exiting the site during the weekday A.M. peak hour and 134 new trips entering and 154 new trips exiting the site during the weekday P.M. peak hour. The development is projected to add an additional 3,176 new daily trips onto the adjacent roadway network.

Background traffic

Background traffic consists of 3% annual background traffic growth compounded to build out year 2025, and the following three (3) background developments.

- Triangle Math and Science Academy Lower School (K-8)
- Triangle Math and Science Academy Upper School (9-12)
- Legacy PUD

It should be noted that the TMSA lower and upper school will have bell times staggered by at least 30 minutes. Therefore, the two school will not have simultaneous impacts on the adjacent roadway network in the AM peak hour of operations. However, for a conservative analysis the TIA considered impacts from both schools on the AM peak hour.

Trip Distribution and Assignment

The trip distributions to and from the development site are as follows:

- 55% to/from the east on US Hwy 64
- 25% to/from the west on US Hwy 64
- 15% to/from the north on NC 751 / New Hill Road
- 5% to/from the south on New Hill Olive Chapel Road

Traffic Capacity Analysis and Recommendations

Level of Service (LOS) is a grade of A through F assigned to an intersection, approach, or movement to describe how well or how poorly it operates. LOS A through D is considered acceptable for peak hour operation. LOS E or F describes potentially unacceptable operation and developers may be required to mitigate their anticipated traffic impact to improve LOS based on the Apex Unified Development Ordinance (UDO).

Tables 1 through 5 describe the levels of service (LOS) for the scenarios analyzed in the TIA. "NA" is shown when the scenario does not apply. The scenarios are as follows:

- **Existing 2022** - Existing year 2022 traffic.
- **No Build 2025** – Projected year (2025) with background traffic growth and background development.
- **Build 2025** – Projected year (2025) with background traffic, and site build-out including recommended improvements where applicable.
- **Build 2025 Offset-T** - Projected year (2025) with background traffic, and site build-out including recommended improvements where applicable, as well as NCDOT safety project that involves the reconstruction of multiple intersections to achieve an Offset-T configuration at NC 751 and New Hill Olive Chapel Road along US Hwy 64.

US Hwy 64 and Site Access 1

Table 1. A.M. / P.M. Unsignalized Peak Hour Levels of Service US Hwy 64 and Site Access 1		
	Build 2025	Build 2025 Offset-T
<u>Overall</u>	<u>NA</u>	<u>NA</u>
<i>Eastbound (US Hwy 64)</i>	NA	NA
<i>Westbound Left (US Hwy 64)</i>	D / D^2	D / D^2
<i>Northbound (Right-in / Right out Driveway)</i>	F / F^1	F / F^1

1. Level of service for stop-controlled minor street approaches.
2. Level of service for left turn movements on free-flowing approaches

TIA recommendations:

- The TIA recommends construction of a stop-controlled site access driveway with right-in/right-out and left-in operations. Additionally, the TIA recommends construction of an eastbound right turn lane with 100 feet of storage and appropriate deceleration length and taper and a westbound left turn lane of 150 feet of storage and appropriate deceleration length and taper along US Hwy 64, subject to NCDOT review and approval of an access break. Site Access 1 is proposed to be constructed as a two-way, two-lane major collector roadway approximately 1,200 feet west of Pinefield Road, and approximately 2,100 feet east of New Hill Olive Chapel Road along US Hwy 64.

Apex staff recommendations:

In addition to the recommendations in the TIA Apex staff recommends construction of a channelized right-out turn lane with an 810-foot acceleration lane and 240-foot taper on US Hwy 64 per *AASHTO: A Policy on Geometric Design of Highways and Streets*. The northbound approach of the proposed major collector roadway is projected to operate at LOS F in both peak hours with average vehicle delays approaching 90 seconds per vehicle and 95th percentile queues approaching 175 feet. The construction of a channelized right turn and an acceleration lane will mitigate congestion and delays on the major collector to LOS A and will improve the safety of the right turn maneuver onto US Hwy 64. Staff also recommend the intersection be designed to accommodate a westbound WB-40 U-turn.

US Hwy 64 and Site Access 2 (Right-in Only)

Table 2. A.M. / P.M. Unsignalized Peak Hour Levels of Service US Hwy 64 and Site Access 2		
	Build 2025	Build 2025 Offset-T
<u>Overall</u>	<u>NA</u>	<u>NA</u>
<i>Eastbound (US Hwy 64)</i>	NA	NA

TIA recommendations:

- The TIA recommends construction of Site Access 2 as a right-in only, with a single lane of ingress. Additionally, the TIA recommends construction of an eastbound right turn lane with 100 feet of storage and appropriate deceleration length and taper. Since Site Access 2 is a right-in only, there are no delays and level of service metrics associated with the movement.

Apex staff recommendations:

Apex staff does not recommend an access point (right-in only) at this location. Site Access 2 is proposed too close to the intersection of Pinefield Road (within the start of the left turn taper) and would conflict with the acceleration lane recommended for Site Access 1, which causes safety concerns on US Hwy 64. Additionally, consolidating access along US Hwy 64 to a single point of ingress and egress at Site Access 1 better aligns with the long-term vision for the corridor based on the *US 64 Corridor Study Wake and Chatham Counties*.

US 64 at New Hill Road/NC 751

Table 3. A.M. / P.M. Signalized Peak Hour Levels of Service US Hwy 64 and New Hill Road/NC 751				
	Existing 2022	No Build 2025	Build 2025	Build 2025 Offset-T
Overall	<u>D / D</u>	<u>F / F</u>	<u>F / F</u>	<u>F / F</u>
Eastbound (US Hwy 64)	<u>C / C</u>	<u>D / D</u>	<u>D / D</u>	<u>B / B</u>
Westbound (US Hwy 64)	<u>C / C</u>	<u>F / E</u>	<u>F / F</u>	<u>F / F</u>
Northbound (New Hill Road)	<u>F / F</u>	<u>F / F</u>	<u>F / F</u>	<u>NA</u>
Southbound (NC 751)	<u>D / D</u>	<u>E / E</u>	<u>E / E</u>	<u>E / F</u>

TIA recommendations:

- The TIA recommends no improvements at this intersection. The TIA recognizes that the intersection will operate at LOS F in both the No Build and the two Build scenarios. However, the TIA indicates that the deterioration in the level of service at this intersection is the result of the Triangle Math and Science Academies development.
- It should also be noted that the TIA assumed that both the Upper and Lower TMSA schools will have an impact on both peak hours. However, the school PM peak hour does not correspond with the roadway PM peak hour as the K-12 schools will be let out between 2PM-4PM. Also, school operations are planned to be staggered by at least 30 minutes in the AM peak hour, therefore assuming that both the TMSA schools will impact the intersection simultaneously in the AM peak is conservative.
- Apex staff recommendations:
Apex staff concurs with the recommendations in the TIA. The development is not projected to add more than 5% to the overall traffic of the intersection, and no more than 10% to any single movement. Per the UDO Section 13.19, the development is not responsible for any improvements at this intersection.

It should be noted that an adjacent development currently in review with Apex staff (Apex Gateway) has recommended improvements that will partially mitigate congestion, as well as safety issues at this intersection. Additionally, Apex staff is in coordination with NCDOT about the possibility of the Offset-T roadway re-configuration at this intersection. Coordination is on-going with consideration to improving safety and operations.

US Hwy 64 and New Hill Olive Chapel Road

Table 4. A.M. / P.M. Peak Hour Levels of Service US Hwy 64 and New Hill Olive Chapel Road				
	Unsignalized	Signalized		
	Existing 2022	No Build 2025	Build 2025	Build 2025 Offset - T
Overall	NA	D / C	D / C	D / C
Eastbound (US Hwy 64)	NA	D / D	D / D	C / C
Westbound Left (US Hwy 64)	NA	C / C	E / E	B / B
Northbound (New Hill Olive Chapel Road)	C / C ¹	F / E	F / E	D / D

1. Level of service for stop-controlled minor street approaches.

TIA recommendations:

- The TIA recommends no improvements at this intersection. The TIA recognizes that some approaches and movements at the intersection will operate at LOS E or LOS F in both the No Build and the two Build scenarios. However, the TIA indicates that the deterioration in the level of service at this intersection is the result of the Triangle Math and Science Academies development.
- It should also be noted that the TIA assumed that both the Upper and Lower TMSA schools will have an impact on both peak hours. However, the school PM peak hour does not correspond with the roadway PM peak hour as the K-12 schools will be let out between 2PM-4PM. Also, school operations are planned to be staggered by at least 30 minutes in the AM peak hour, therefore assuming that both the TMSA schools will impact the intersection simultaneously in the AM peak is conservative.

Apex staff recommendations:

Apex staff concurs with the recommendations in the TIA. The development is not projected to add more than 5% to the overall traffic of the intersection, and no more than 10% to any single movement. Per the UDO Section 13.19, the development is not responsible for any improvements at this intersection.

It should be noted that Apex staff is in coordination with NCDOT about the possibility of the Offset-T roadway re-configuration at this intersection. Coordination is on-going with consideration to improving safety and operations.

US Hwy 64 and Pinefield Road

Table 5. A.M. / P.M. Unsignalized Peak Hour Levels of Service US Hwy 64 and Pinefield Road				
	Existing 2022	No Build 2025	Build 2025	Build 2025 Offset - T
Overall	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Eastbound (US Hwy 64)	B / C^2	F / F^2	F / F^2	F / F^2
Westbound (US Hwy 64)	A / D^2	A / F^2	A / F^2	A / F^2
Southbound (Pinefield Road)	E / F^1	F / F^1	C / C^1	C / C^1

1. Level of service for stop-controlled minor street approaches.
2. Level of service for left turn movements on free-flowing approaches

TIA recommendations:

- The TIA recommends no improvements at this intersection.

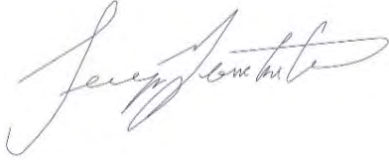
Apex staff recommendations:

Apex staff recommends construction of safety improvements at this intersection by the developer, subject to NCDOT review and approval. Staff recommends widening the intersection to install a concrete median diverter island between the westbound U-turn lane and the eastbound left turn/U-turn lane on US Hwy 64. This will reduce the chances of head-on collisions. Additionally, this will restrict southbound left turn movements across US Hwy 64 from Pinefield Drive. Since the development is proposing to construct a left-over at Site Access 1 further to the west, the development will provide a U-turn opportunity for the left turning traffic out of Pinefield Road. This U-turn opportunity removes the need for vehicular conflicts associated with the potentially unsafe left turn crossing maneuver at this location.

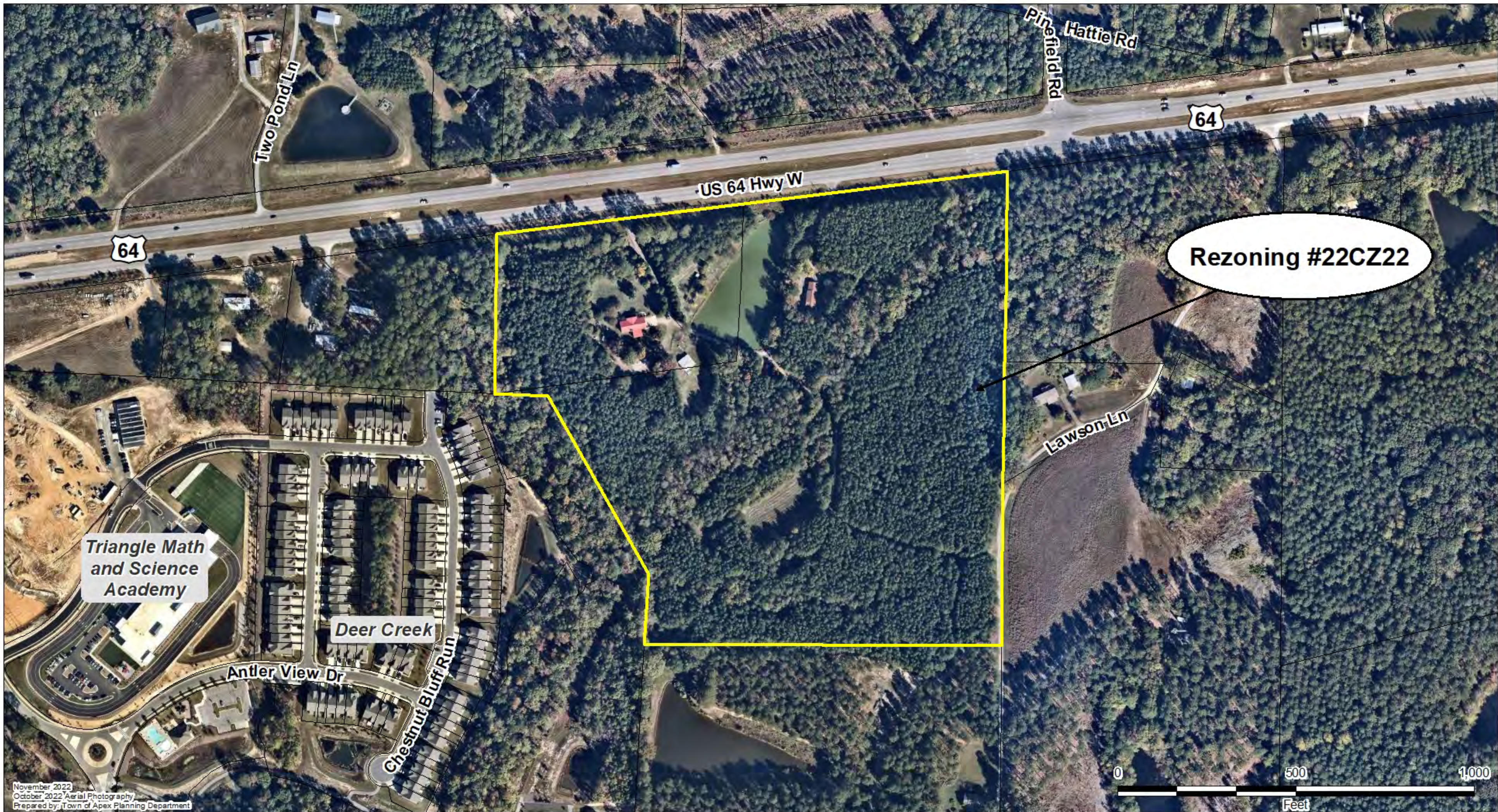
The development is projected to increase the traffic demand on the eastbound left turn movement by more than 10% of no build conditions and impact the left turn queues. 95th percentile queues are projected to increase to approximately 250 ft in the PM peak hour which reaches the capacity limits of the left turn storage lane at this intersection, warranting improvements per UDO section 13.19. It is unlikely that a traffic signal will be warranted at this location based on traffic volumes.

Please coordinate with the NCDOT District Engineer's Office concerning any recommendations on NCDOT facilities. Town staff will be available for meetings to discuss improvements on Town maintained roadways as needed.

Sincerely,

A handwritten signature in cursive script, appearing to read "Serge Grebenschikov".

Serge Grebenschikov, PE
Traffic Engineer
919-372-7448



Rezoning #22CZ22

PLANNED UNIT DEVELOPMENT APPLICATION

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

Application #:	<u>22CZ22</u>	Submittal Date:	<u>10/03/2022</u>
Fee Paid	<u>\$</u>	Check #	<u></u>

PETITION TO AMEND THE OFFICIAL ZONING DISTRICT MAP

Project Name: Elevate 64 West
Address(es): 3805 & 3809 US Hwy 64
PIN(s) 0712-84-2430, 0712-74-9870

Acreage: +/- 35.15

Current Zoning: RR Proposed Zoning: PUD-CZ

Current 2045 LUM Designation: Office Employment, Commercial Services, High Density Residential

Is the proposed rezoning consistent with the 2045 LUM Classification(s)? Yes ☒ No ☐

If any portion of the project is shown as mixed use (3 or more stripes on the 2045 Land Use Map) provide the following:

Area classified as mixed use:	Acreage:	<u>35.15</u>
Area proposed as non-residential development:	Acreage:	<u>10.545</u>
Percent of mixed use area proposed as non-residential:	Percent:	<u>30%</u>

Applicant Information

Name: FA Develop, LLC
Address: 530 Eugene Court
City: Greensboro State: NC Zip: 27401
Phone: 336.294.9199 E-mail: admin@signaturepropertygroup.com

Owner Information

Name: Louvenia Ann S Goodwin
Address: 3809 US 64 Hwy W
City: Apex State: NC Zip: 27523
Phone: 919-781-7074 E-mail:

Agent Information

Name: CE Group - Joe Faulkner
Address: 301 Glenwood Ave, Suite 220
City: Raleigh State: NC Zip: 27603
Phone: (919) 606-7703 E-mail: joe@CEGROUP.com

Other contacts:

PLANNED UNIT DEVELOPMENT APPLICATION

Application #: 22CZ22

Submittal Date: 10/03/2022

PLANNED UNIT DEVELOPMENT DISTRICT STANDARDS:

In return for greater flexibility in site design requirements, Planned Development (PD) Districts are expected to deliver exceptional quality community designs that preserve critical environmental resources; provide high quality community amenities; incorporate creative design in the layout of buildings, Resource Conservation Area and circulation; ensure compatibility with surrounding land uses and neighborhood character; provide high quality architecture; and provide greater efficiency in the layout and provision of roads, utilities, and other infrastructure. The Planned Development (PD) Districts shall not be used as a means of circumventing the Town's adopted land development regulations for routine developments. The PD text and plan should demonstrate how the standards of Sec. 2.3.4.F are met by the proposed rezoning.

LEGISLATIVE CONSIDERATIONS - CONDITIONAL ZONING

The applicant shall propose site-specific standards and conditions that take into account the following considerations, which are considerations that are relevant to the legislative determination of whether or not the proposed conditional zoning district rezoning request is in the public interest. These considerations do not exclude the legislative consideration of any other factor that is relevant to the public interest. Use additional pages as needed.

1) *Consistency with 2045 Land Use Map.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and consistency with the purposes, goals, objectives, and policies of the 2045 Land Use Map.

The 2045 Land Use Map designates this site for High Density Residential, Office Employment, and/or Commercial Services. The proposed use of 392 apartment units and 34,000 SF of commercial space is consistent with the 2045 Land Use Map.

2) *Compatibility.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and compatibility with the character of surrounding land uses.

Apex has designated the Highway 64 frontage for mixed use including high density residential. Adjoining or nearby sites have already been rezoned for townhomes, apartments, schools, and commercial uses which are under construction or completed.

3) *Zoning district supplemental standards.* The proposed Conditional Zoning (CZ) District use's compliance with Sec 4.4 *Supplemental Standards*, if applicable.

The proposed CZ District will comply with Section 4.4's supplemental standards.

PETITION PROCESS INFORMATION

4) *Design minimizes adverse impact.* The design of the proposed Conditional Zoning (CZ) District use's minimization of adverse effects, including visual impact of the proposed use on adjacent lands; and avoidance of significant adverse impacts on surrounding lands regarding trash, traffic, service delivery, parking and loading, odors, noise, glare, and vibration and not create a nuisance.

See attached Exhibit A for a discussion of proposed zoning conditions that will minimize any potential adverse effects. The proposed use will not generate excessive or unusual trash, traffic, or other nuisances.

5) *Design minimizes environmental impact.* The proposed Conditional Zoning District use's minimization of environmental impacts and protection from significant deterioration of water and air resources, wildlife habitat, scenic resources, and other natural resources.

Please see attached Exhibit B, with recommendations of the Environmental Advisory Board and the Applicant's proposed zoning conditions to accommodate these recommendations.

6) *Impact on public facilities.* The proposed Conditional Zoning (CZ) District use's avoidance of having adverse impacts on public facilities and services, including roads, potable water and wastewater facilities, parks, schools, police, fire and EMS facilities.

The proposed uses are not likely to have any adverse impact on public facilities or services and are consistent with the Apex 2045 land use plan. Applicant has obtained a preliminary Traffic Impact Study indicating no adverse impact on roads.

7) *Health, safety, and welfare.* The proposed Conditional Zoning (CZ) District use's effect on the health, safety, or welfare of the residents of the Town or its ETJ.

The proposed uses will expand housing options for Apex residents, as well as extend a segment of greenway. The proposed development will include construction of a 12" water main on the frontage of Hwy 64 per Apex long-term infrastructure plan.

8) *Detrimental to adjacent properties.* Whether the proposed Conditional Zoning (CZ) District use is substantially detrimental to adjacent properties.

The proposed uses will not be detrimental to adjacent properties. On the contrary, the construction of new road, water, and sewer infrastructure in this development will benefit adjacent properties and increase their value.

PETITION PROCESS INFORMATION

9) *Not constitute nuisance or hazard.* Whether the proposed Conditional Zoning (CZ) District use constitutes a nuisance or hazard due to traffic impact or noise, or because of the number of persons who will be using the Conditional Zoning (CZ) District use.

The proposed uses will not constitute a nuisance or hazard due to traffic, noise, or population.

The preliminary TIA demonstrates a no adverse impact on traffic, and the proposed use is consistent with the Apex 2045 Land Use Plan.

10) *Other relevant standards of this Ordinance.* Whether the proposed Conditional Zoning (CZ) District use complies with all standards imposed on it by all other applicable provisions of this Ordinance for use, layout, and general development characteristics.

The applicant will seek site plan review from Apex staff to create a development that meets or exceeds the requirements of the UDO.

DEVELOPMENT NAME APPROVAL APPLICATION

Application #: 22CZ22

Submittal Date: 10/03/2022

Fee for Initial Submittal: No Charge

Fee for Name Change after Approval: \$500*

Purpose

To provide a consistent and clearly stated procedure for the naming of subdivisions and/or developments and entrance roadways (in conjunction with *Town of Apex Address Policy*) so as to allow developers to define and associate the theme or aesthetics of their project(s) while maintaining the Town's commitment to preserving the quality of life and safety for all residents of Apex proper and extraterritorial jurisdiction.

Guidelines

- ✓ The subdivision/development name shall not duplicate, resemble, or present confusion with an existing subdivision/development within Apex corporate limits or extraterritorial jurisdiction except for the extension of an existing subdivision/development of similar or same name that shares a continuous roadway.
- ✓ The subdivision/development name shall not resemble an existing street name within Apex corporate limits or extraterritorial jurisdiction unless the roadway is a part of the subdivision/development or provides access to the main entrance.
- ✓ The entrance roadway of a proposed subdivision/development shall contain the name of the subdivision/development where this name does not conflict with the Town of Apex *Road Name Approval Application* and *Town of Apex Address Policy* guidelines.
- ✓ The name "Apex" shall be excluded from any new subdivision/development name.
- ✓ Descriptive words that are commonly used by existing developments will be scrutinized more seriously in order to limit confusion and encourage distinctiveness. A list of commonly used descriptive words in Apex's jurisdiction is found below.
- ✓ The proposed subdivision/development name must be requested, reviewed and approved during preliminary review by the Town.
- ✓ A \$500.00 fee will be assessed to the developer if a subdivision/development name change is requested after official submittal of the project to the Town.*

*The imposed fee offsets the cost of administrative changes required to alleviate any confusion for the applicant, Planning staff, other Town departments, decision-making bodies, concerned utility companies and other interested parties. There is no charge for the initial name submittal.

Existing Development Titles, Recurring

	Residential	Non-Residential
10 or more	Creek, Farm(s), Village(s),	Center/Centre
6 to 9	Crossing(s), Park, Ridge, Wood(s)	Commons, Park
3 to 5	Acres, Estates, Glen(s), Green*, Hills	Crossing(s), Plaza, Station, Village(s)

*excludes names with Green Level

DEVELOPMENT NAME APPROVAL APPLICATIONApplication #: 22CZ22Submittal Date: 10/03/2022**Proposed Subdivision/Development Information**Description of location: 3809 Highway 64 WestNearest intersecting roads: New Hill Olive Chapel Road to the west, Lawson Lane (private), to the east.Wake County PIN(s): 0712-84-2430, 0712-74-9870Township: White Oak**Contact Information (as appropriate)**Contact person: Craig TaylorPhone number: 336.294.9199

Fax number: _____

Address: 530 Eugene Court, Greensboro NC 27401E-mail address: ctaylor@signaturepropertygroup.comOwner: Louvenia Ann S GoodwinPhone number: 919-781-7074

Fax number: _____

Address: 3809 US 64 Hwy W, Apex NC 27523

E-mail address: _____

Proposed Subdivision/Development Name1st Choice: Elevate 64 West2nd Choice (*Optional*): _____**Town of Apex Staff Approval:**_____
Town of Apex Planning Department Staff_____
Date

TOWN OF APEX UTILITIES OFFER AND AGREEMENT

Application #: 22CZ22

Submittal Date: 10/03/2022

**Town of Apex
73 Hunter Street
P.O. Box 250 Apex, NC 27502
919-249-3400**

WAKE COUNTY, NORTH CAROLINA CUSTOMER SELECTION AGREEMENT

(the "Premises")

The Town of Apex offers to provide you with electric utilities on the terms described in this Offer & Agreement. If you accept the Town's offer, please fill in the blanks on this form and sign and we will have an Agreement once signed by the Town.

_____, the undersigned customer ("Customer") hereby irrevocably chooses and selects the Town of Apex (the "Town") as the permanent electric supplier for the Premises. Permanent service to the Premises will be preceded by temporary service if needed.

The sale, delivery, and use of electric power by Customer at the Premises shall be subject to, and in accordance with, all the terms and conditions of the Town's service regulations, policies, procedures and the Code of Ordinances of the Town.

Customer understands that the Town, based upon this Agreement, will take action and expend funds to provide the requested service. By signing this Agreement the undersigned signifies that he or she has the authority to select the electric service provider, for both permanent and temporary power, for the Premises identified above.

Any additional terms and conditions to this Agreement are attached as Appendix 1. If no appendix is attached this Agreement constitutes the entire agreement of the parties.

Acceptance of this Agreement by the Town constitutes a binding contract to purchase and sell electric power.

Please note that under North Carolina General Statute §160A-332, you may be entitled to choose another electric supplier for the Premises.

Upon acceptance of this Agreement, the Town of Apex Electric Utilities Division will be pleased to provide electric service to the Premises and looks forward to working with you and the owner(s).

ACCEPTED:

CUSTOMER: _____

TOWN OF APEX

BY: _____

Authorized Agent

BY: _____

Authorized Agent

DATE: _____

DATE: _____

AGENT AUTHORIZATION FORM

Application #: 22CZ22

Submittal Date: 10/03/2022

Louvenia Ann S. Goodwin is the owner* of the property for which the attached application is being submitted:

☒ Rezoning: For Conditional Zoning and Planned Development rezoning applications, this authorization includes express consent to zoning conditions that are agreed to by the Agent which will apply if the application is approved.

☐ Site Plan

☐ Subdivision

☐ Variance

☐ Other: _____

The property address is: 3805 & 3809 US Hwy 64 West, Apex NC

The agent for this project is: FA Develop, LLC

☐ I am the owner of the property and will be acting as my own agent

Agent Name: FA Develop, LLC

Address: 530 Eugene Ct, Greensboro NC 27401

Telephone Number: 336.294.9199

E-Mail Address: admin@signaturepropertygroup.com

Signature(s) of Owner(s)*

X Louvenia Ann S. Goodwin

Louvenia Ann S Goodwin

Type or print name

October 2, 2022

Date

Type or print name

Date

Attach additional sheets if there are additional owners.

*Owner of record as shown on the latest equalized assessment rolls of Wake County. An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this authorization.

Pursuant to Article 40 of Chapter 66 of the North Carolina General Statutes (the Uniform Electronic Transactions Act) this application and all documents related hereto containing an electronic or digitized signature are legally binding in the same manner as are hard copy documents executed by hand signature. The parties hereby consent to use electronic or digitized signatures in accordance with the Town's Electronic Signature Policy and intend to be bound by the application and any related documents. If electronic signatures are used the application shall be delivered in an electronic record capable of retention by the recipient at the time of receipt.

AFFIDAVIT OF OWNERSHIP

Application #: 22CZ22

Submittal Date: 10/03/2022

The undersigned, FA Develop, LLC (the "Affiant") first being duly sworn, hereby swears or affirms as follows:

1. Affiant is over eighteen (18) years of age and authorized to make this Affidavit. The Affiant is the sole owner, or is the authorized agent of all owners, of the property located at 3805&3809 US Hwy 64 West, Apex NC and legally described in **Exhibit "A"** attached hereto and incorporated herein (the "Property").
2. This Affidavit of Ownership is made for the purpose of filing an application for development approval with the Town of Apex.
3. If Affiant is the owner of the Property, Affiant acquired ownership by deed, dated _____, and recorded in the Wake County Register of Deeds Office on _____, in Book _____ Page _____.
4. If Affiant is the authorized agent of the owner(s) of the Property, Affiant possesses documentation indicating the agency relationship granting the Affiant the authority to apply for development approval on behalf of the owner(s).
5. If Affiant is the owner of the Property, from the time Affiant was deeded the Property on _____, Affiant has claimed sole ownership of the Property. Affiant or Affiant's predecessors in interest have been in sole and undisturbed possession and use of the property during the period of ownership. Since taking possession of the Property on _____, no one has questioned Affiant's ownership or right to possession nor demanded any rents or profits. To Affiant's knowledge, no claim or action has been brought against Affiant (if Affiant is the owner), or against owner(s) (if Affiant is acting as an authorized agent for owner(s)), which questions title or right to possession of the property, nor is any claim or action pending against Affiant or owner(s) in court regarding possession of the Property.

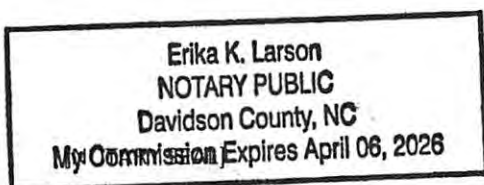
This the 3d day of October, 2022.



VP - FA Develop, LLC - Craig Taylor
Type or print name

STATE OF NORTH CAROLINA
COUNTY OF Guilford

I, the undersigned, a Notary Public in and for the County of Guilford, hereby certify that Craig A. Taylor, Affiant, personally known to me or known to me by said Affiant's presentation of said Affiant's _____, personally appeared before me this day and acknowledged the due and voluntary execution of the foregoing Affidavit.





Notary Public
State of North Carolina
My Commission Expires: 4-6-24

AFFIDAVIT OF OWNERSHIP: EXHIBIT A – LEGAL DESCRIPTION

Application #: 22CZ22

Submittal Date: 10/03/2022

Insert legal description below.

Being all of Wake County parcel number 0712749870 and 0712842430 as described in deed book (D.B.) 18884 page (Pg.) 1101 and book of maps (B.M.) 1987 Pg. 493, recorded in the Wake County Register of Deeds and being more particularly bounded and described as follows:

Beginning at a 1/2" iron pipe, said pipe being the Northwest corner of Mabopane Foundation as described in D.B. 17693 Pg. 551 and on the Southern right of way (R/W) of U.S. HWY 64, thence following the Southern R/W of U.S. HWY 64 for the following courses and distances N 82°56'01" E a distance of 583.30' to THE TRUE POINT OF BEGINNING, a 1/2" iron pipe, being the Northeast corner of said Mabopane Foundation; thence N 82°56'01" E a distance of 1432.12' to a 5/8" rebar, the Northwest corner of Clara's Legacy, LLC as described in D.B. 18483 Pg. 1288; thence with the Western lines of said Clara's Legacy, LLC and Gaylene W. Goodwin as described in D.B. 12-E Pg. 3228 S 00°38'48" W a distance of 1323.37' to a 1" iron pipe, the Northeast corner of Seagroves Family, LLC as described in D.B. 14213 Pg. 2028, passing a 1" iron pipe at a distance of 528.04' and a 1/2" iron pipe at a distance of 865.27'; thence with the Northern line of said Seagroves Family, LLC N 89°57'28" W a distance of 1002.06' to a 1/2" iron pipe, the Northwest corner of said Seagroves Family, LLC and on the Eastern line of Deer Creek Owners Association, as described in D.B. 19016 Pg. 2557, passing a 1/2" iron pipe at a distance of 687.31'; thence with the Eastern line of said Deer Creek Owners Association for the following courses and distances N 03°21'09" E a distance of 195.23' to a 1/2" iron pipe; thence N 29°30'01" W a distance of 573.36' to a 1/2" iron pipe; thence N 86°51'40" W a distance of 149.09' to a 1/2" iron pipe, on the Northern line of said Deer Creek Owners Association and the Southeast corner of said Mabopane Foundation; thence following the Eastern line of said Mabopane Foundation N 02°00'16" E a distance of 444.55' to the point of beginning, having an area of 35.15 acres, more or less.

Developer Company Information	
Company Name	FA Develop, LLC
Company Phone Number	336.294.9199
Developer Representative Name	Craig Taylor
Developer Representative Phone Number	336.294.9199
Developer Representative Email	ctaylor@signaturepropertygroup.com

New Residential Subdivision Information	
Date of Application for Subdivision	
City, Town or Wake County Jurisdiction	Apex
Name of Subdivision	Elevate 64
Address of Subdivision (if unknown enter nearest cross streets)	3805 US Hwy 64 W
REID(s)	
PIN(s)	0712-84-2430, 0712-74-9870

Projected Dates Information	
Subdivision Completion Date	October 2025
Subdivision Projected First Occupancy Date	July 2024

Lot by Lot Development <i>Information</i>																	
Unit Type	Total # of Units	Senior Living	Studio	1 Bedroom	2 Bedroom	3 Bedroom	4 Bedroom	Square Foot Range		Price Range		Anticipated Completion Units & Dates					
								Min	Max	Low	High	Year	# Units	Year	# Units	Year	# Units
Single Family																	
Townhomes																	
Condos																	
Apartments	392			200	192							2024	224	2025			
Other																	

Please complete each section of this form and submit with your application.

Town of Apex staff will enter this information into the online WCPSS form.

Please send any questions about this form to:
studentassignment-gis-group@wcpss.net

NOTICE OF NEIGHBORHOOD MEETING

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

9/14/2022

Date

Dear Neighbor:

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

3805 US 64 Hwy West

0712842430

3809 US 64 Hwy West

0712749870

Address(es)

PIN(s)

in accordance with the Town of Apex Neighborhood Meeting procedures. This meeting is intended to be a way for the applicant to discuss the project and review the proposed plans with adjacent neighbors and neighborhood organizations before the submittal of an application to the Town. This provides neighbors an opportunity to raise questions and discuss any concerns about the impacts of the project before it is officially submitted. If you are unable to attend, please refer to the Project Contact Information page for ways to contact the applicant. Notified neighbors may request that the applicant provide updates and send plans via email or mail. Once an application has been submitted to the Town, it may be tracked using the [Interactive Development Map](#) or the [Apex Development Report](#) located on the Town of Apex website at <http://www.apexnc.org/180>.

A Neighborhood Meeting is required because this project includes (check all that apply):

Application Type		Approving Authority
☒	Rezoning (including Planned Unit Development) Proposed Transportation Plan Amendments are associated	Town Council
☐	Major Site Plan	Technical Review Committee (staff)
☐	Minor Site Plan for the uses "Day care facility", "Government service", "School, public or private", "Restaurant, drive-through", or "Convenience store with gas sales"	Technical Review Committee (staff)
☐	Special Use Permit	Board of Adjustment (QJPH*)
☐	Residential Master Subdivision Plan (excludes exempt subdivisions)	Technical Review Committee (staff)

*Quasi-Judicial Public Hearing: The Board of Adjustment cannot discuss the project prior to the public hearing.

The following is a description of the proposal (also see attached map(s) and/or plan sheet(s)):

392 Multifamily apartments and 34,000sq feet of Commercial Office Space

Estimated submittal date: October 3, 2022

MEETING INFORMATION:

Property Owner(s) name(s): Louvenia Ann S. Goodwin

Applicant(s): FA Develop, LLC

Contact information (email/phone): ctaylor@signaturepropertygroup.com/(336)294-9199

Meeting Address: See attached

Date/Time of meeting**: September 29/5:00 to 7:00

Welcome: 5:00-5:10 Project Presentation: 5:10-6:00 Question & Answer: 6:00-7:00

**Meetings shall occur between 5:00 p.m.-9:00 p.m. on a Monday through Thursday (excluding Town recognized holidays). If you have questions about the general process for this application, please contact the Planning Department at 919-249-3426. You may also find information about the Apex Planning Department and on-going planning efforts at <http://www.apexnc.org/180>.

PROJECT CONTACT INFORMATION

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

Development Contacts:

Project Name: Elevate Apex Zoning: Ex. = RR / Prop.= PUD-CZ

Location: 3805/3809 US 64 Highway West

Property PIN(s): 0712842430_0712749870 Acreage/Square Feet: +/- 35.15 Acres

Property Owner: Louvenia Ann S. Goodwin

Address: 3809 US Highway 64 West

City: Apex State: NC Zip: 27563

Phone: 919-781-7074

Email: _____

Developer: FA Develop, LLC

Address: 530 Eugene Ct.

City: Greensboro State: NC Zip: 27401

Phone: (336) 294-9199

Fax: _____

Email: ctaylor@signaturepropertygroup.com

Engineer: CE Group

Address: 301 Glenwood Ave, Suite 220

City: Raleigh State: NC Zip: 27603

Phone: (919) 606-7703

Fax: _____

Email: joe@CEGROUP.com

Builder (if known): Signature Development Group

Address: 530 Eugene Ct.

City: Greensboro State: NC Zip: 27401

Phone: (336) 294-9199

Fax: _____

Email: _____

Please note that Town staff will not have complete information about a proposed development until the application is submitted for review. If you have a question about Town development standards and how they relate to the proposed development, please contact the appropriate staff person listed below.

Town of Apex Department Contacts

Planning Department Main Number (Provide development name or location to be routed to correct planner)	(919) 249-3426
Parks, Recreation & Cultural Resources Department Angela Reincke, Parks and Greenways Planner	(919) 249-7468
Public Works - Transportation Russell Dalton, Traffic Engineering Manager	(919) 249-3358
Water Resources Department Jessica Bolin, Environmental Engineering Manager (Stormwater, Sedimentation & Erosion Control)	(919) 249-3537
James Gregg, Utility Engineering Manager (Water & Sewer)	(919) 249-3324
Electric Utilities Division Rodney Smith, Electric Technical Services Manager	(919) 249-3342

Providing Input to Town Council:

Each Town Council meeting agenda includes a Public Forum time when anyone is permitted to speak for three (3) minutes on any topic with the exception of items listed as Public Hearings for that meeting. The Town Council meets on the 2nd and 4th Tuesdays of each month at 6:00 p.m. (except for holidays, see schedule of meetings at <http://www.apexnc.org/838/Agendas-Minutes>). You may also contact Town Council by e-mail at AllCouncil@apexnc.org.

Private Agreements and Easement Negotiation:

The Town of Apex cannot enforce private agreements between developers and neighbors and is not a party to the easement and right-of-way negotiation that occurs between developers and neighboring property owners for easements or rights-of-way that are necessary to build the project.

It is recommended that all private agreements be made in writing and that if a property owner feels it necessary, they should obtain private legal counsel in order to protect their interests in both private agreements and during easement negotiations. The only conditions that the Town of Apex can enforce are those conditions that are made a part of the conditional zoning of the property by agreement of the developer and the Town.

As an example, if a developer offers to build a fence for a neighbor to mitigate some impact, the Town can only enforce the construction of the fence if the fence becomes a condition of the rezoning. This would occur by the developer offering the condition as part of their conditional zoning application package or at the Town Council public hearing on the conditional zoning and the Town accepting it as a condition. Private agreements regarding a fence being constructed will not be enforced by the Town.

To request that any agreement with a developer is made a part of the conditional zoning at the time of approval, you may ask at the Town Council public hearing if the agreement is included in the conditions. If it is not, you may request that the Town Council not approve the rezoning without the agreement being included in the conditions (note that it is up to Town Council whether to approve or deny the rezoning but they cannot impose conditions that the applicant does not agree to add). The developer's proposed conditions can be viewed any time after a rezoning is submitted on the Interactive Development Map at: <http://apexnc.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=fa9ba2017b784030b15ef4da27d9e795>

Documentation:

Neighbors to a requested new development and/or rezoning are strongly encouraged to fully document (such as through dated photographs) the condition of their property before any work is initiated for the new development. Stormwater controls installed on developed property are not designed to and will likely not remove 100% of the soil particles transported by stormwater runoff. As a result, creeks and ponds could become cloudy for a period of time after rain events.

COMMON CONSTRUCTION ISSUES & WHO TO CALL

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

Noise & Hours of Construction:	Non-Emergency Police	919-362-8661
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Noise from tree removal, grading, excavating, paving, and building structures is a routine part of the construction process. The Town generally limits construction hours from 7:00 a.m. to 8:30 p.m. so that there are quiet times even during the construction process. Note that construction outside of these hours is allowed with special permission from the Town when it makes more sense to have the construction occur at night, often to avoid traffic issues. In addition, the Town limits hours of blasting rock to Monday through Friday from 8:00 a.m. to 5:00 p.m. Report violations of construction hours and other noise complaints to the Non-Emergency Police phone number at 919-362-8661.

Construction Traffic:	James Misciagno	919-372-7470
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Construction truck traffic will be heavy throughout the development process, including but not limited to removal of trees from site, loads of dirt coming in and/or out of the site, construction materials such as brick and wood brought to the site, asphalt and concrete trucks come in to pave, etc. The Town requires a construction entrance that is graveled to try to prevent as much dirt from leaving the site as possible. If dirt does get into the road, the Town can require they clean the street (see "Dirt in the Road" below).

Road Damage & Traffic Control:	Water Resources – Infrastructure Inspections	919-362-8166
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There can be issues with roadway damage, roadway improvements, and traffic control. Potholes, rutting, inadequate lanes/signing/stripping, poor traffic control, blocked sidewalks/paths are all common issues that should be reported to Water Resources – Infrastructure Inspections at 919-249-3427. The Town will get NCDOT involved if needed.

Parking Violations:	Non-Emergency Police	919-362-8661
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Unless a neighbor gives permission, there should be no construction parking in neighbors' driveways or on their property. Note that parking in the right-of-way is allowed, but Town regulations prohibit parking within 15 feet of driveways so as not to block sight triangles. Trespassing and parking complaints should be reported to the Non-Emergency Police phone number at 919-362-8661.

Dirt in the Road:	James Misciagno	919-372-7470
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Sediment (dirt) and mud gets into the existing roads due to rain events and/or vehicle traffic. These incidents should be reported to James Misciagno. He will coordinate the cleaning of the roadways with the developer.

Dirt on Properties or in Streams:	James Misciagno Danny Smith	919-372-7470 Danny.Smith@ncdenr.gov
--	--	--

Sediment (dirt) can leave the site and get onto adjacent properties or into streams and stream buffers; it is typically transported off-site by rain events. These incidents should be reported to James Misciagno at 919-372-7470 so that he can coordinate the appropriate repairs with the developer. Impacts to the streams and stream buffers should also be reported to Danny Smith (danny.smith@ncdenr.gov) with the State.

Dust:	James Misciagno	919-372-7470
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During dry weather dust often becomes a problem blowing into existing neighborhoods or roadways. These incidents should be reported to James Misciagno at 919-372-7470 so that he can coordinate the use of water trucks onsite with the grading contractor to help control the dust.

Trash:	James Misciagno	919-372-7470
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Excessive garbage and construction debris can blow around on a site or even off of the site. These incidents should be reported to James Misciagno at 919-372-7470. He will coordinate the cleanup and trash collection with the developer/home builder.

Temporary Sediment Basins:	James Misciagno	919-372-7470
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Temporary sediment basins during construction (prior to the conversion to the final stormwater pond) are often quite unattractive. Concerns should be reported to James Misciagno at 919-372-7470 so that he can coordinate the cleaning and/or mowing of the slopes and bottom of the pond with the developer.

Stormwater Control Measures:	Jessica Bolin	919-249-3537
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Post-construction concerns related to Stormwater Control Measures (typically a stormwater pond) such as conversion and long-term maintenance should be reported to Jessica Bolin at 919-249-3537.

Electric Utility Installation:	Rodney Smith	919-249-3342
---------------------------------------	---------------------	---------------------

Concerns with electric utility installation can be addressed by the Apex Electric Utilities Department. Contact Rodney Smith at 919-249-3342.

NEIGHBORHOOD MEETING SIGN-IN SHEET

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

Meeting Address: Zoom Meeting

Date of meeting: 9/29/2022 Time of meeting: 5PM to 7PM

Property Owner(s) name(s): Louvenia Ann S Goodwin

Applicant(s): FA Develop, LLC

Please print your name below, state your address and/or affiliation with a neighborhood group, and provide your phone number and email address. Providing your name below does not represent support or opposition to the project; it is for documentation purposes only. For virtual meetings, applicants must include all known participants and request the information below.

	NAME/ORGANIZATION	ADDRESS	PHONE #	EMAIL	SEND PLANS & UPDATES
1.	Ryan Smith/Seagroves Family, LLC	1732 Lawson Ln. Apex, NC 27502			
2.	Paula Howard	599 Neodak Rd Apex, NC 27523			
3.	Jennifer Gordiano	2021 Buckner Clark Rd Pittsboro 27312			
4.	Rebecca Iphone	1125 Chestnut Bluff Run Apex 27502			
5.	Joe Faulkner/CE Group	301 Glenwood Ave Suite 220 Raleigh			
6.	Craig Taylor/Signature	530 Eugene Ct. Greensboro			
7.	Britt Bowers/Signature	530 Eugene Ct. Greensboro			
8.					
9.					
10.					
11.					
12.					
13.					
14.					

Use additional sheets, if necessary.

SUMMARY OF DISCUSSION FROM THE NEIGHBORHOOD MEETING

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

Property Owner(s) name(s): Louvenia Ann S. Goodwin

Applicant(s): FA Develop, LLC

Contact information (email/phone): ctaylor@signaturepropertygroup.com/336-294-9199

Meeting Address: Zoom Meeting

Date of meeting: 9/29/2022

Time of meeting: 5PM - 7PM

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

Question/Concern #1:

How wide will the perimeter buffers be on the southern boundary of the property? Commenter believes buffers should be 50 feet due to neighboring land being Agricultural Type 6.

Applicant's Response:

Buffers currently designed at 25 feet, we will check UDO and design accordingly.

Question/Concern #2:

Neighboring land is Wake County Voluntary Agricultural District, activities involve controlled burning and heavy equipment. May be requirement to notify residents of these activities.

Applicant's Response:

Applicant will review notification requirements and address accordingly.

Question/Concern #3:

Neighboring land has an agricultural dam that if breached may flow onto subject property.

Applicant's Response:

Based on the topo any breach would go into Deer Creek, not toward planned buildings.

Question/Concern #4:

Fences and retaining walls and how will your property be graded out?

Applicant's Response:

Too early in the process to know for sure.

SUMMARY OF DISCUSSION FROM THE NEIGHBORHOOD MEETING

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Property Owner(s) name(s): Louvenia Ann S. Goodwin

Applicant(s): FA Develop, LLC

Contact information (email/phone): ctaylor@signaturepropertygroup.com/336-294-9199

Meeting Address: Zoom Meeting

Date of meeting: 9/29/2022

Time of meeting: 5PM - 7PM

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

Question/Concern #1: 5

Will new roads stub directly to property line? Expressed concern about new road exposing neighboring land to trespassing and illegal dumping.

Applicant's Response:

Typically town requires new roads to be built to property line. Applicant will consider fencing and barriers to reduce trespassing.

Question/Concern #2: 6

Commenter questioned impact of development on Lawson Lane which is private road, specifically regarding access, fencing, and setbacks.

Applicant's Response:

New development will not connect to Lawson Lane. Setbacks will be in accordance with UDO. Fencing in the area will be considered.

Question/Concern #3: 7

When we will have a more detailed site plan?

Applicant's Response:

Probably by the end of October.

Question/Concern #4: 8

Are zoom meetings the required way to have neighborhood meetings? An in person meeting would be better. Many residents that wanted to attend but couldn't because of technology limitations.

Applicant's Response:

Zoom meetings are optional. We will consider holding a second, in-person meeting.

SUMMARY OF DISCUSSION FROM THE NEIGHBORHOOD MEETING

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Property Owner(s) name(s): Louvenia Ann S. Goodwin

Applicant(s): FA Develop, LLC

Contact information (email/phone): ctaylor@signaturepropertygroup.com/336-294-9199

Meeting Address: Zoom Meeting

Date of meeting: 9/29/2022

Time of meeting: 5PM - 7PM

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

Question/Concern #~~1~~: 9

What areas will be tree save areas? Will there be Type A or B Buffers?

Applicant's Response:

Tree save areas and buffers shown in Green on site plan, subject to further design and review by Apex.

Buffer is currently planned for Type B.

Question/Concern #~~2~~: 10

Have you done a traffic study? Is DOT recommending U turn at Pinefield Road? Will additional traffic lights be installed?

Applicant's Response:

Preliminary TIA is complete, suggests minimal impact on traffic. Development will be right out only, with u-turn possible at Pinefield. TIA does not suggest additional traffic lights.

Question/Concern #~~3~~: 11

Where is the construction entrance? Will Lawson Lane be used for construction traffic?

Applicant's Response:

Construction entrance will be on Highway 64 at approximate location of current driveways. Lawson Lane will not be used.

Question/Concern #~~4~~: 12

What is the height of 4 story apartment building? Will it have a flat roof or pitched?

Applicant's Response:

Not sure of the height but we can find out. We plan to use pitched roofs in this location.

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

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

I, Craig Taylor, do hereby declare as follows:

Print Name

1. I have conducted a Neighborhood Meeting for the proposed Rezoning, Major Site Plan, Minor Site Plan, Residential Master Subdivision Plan, or Special Use Permit in accordance with UDO Sec. 2.2.7.B *Neighborhood Meeting*.
2. The meeting invitations were mailed to the Apex Planning Department, all property owners and tenants abutting and within 300 feet of the subject property and any neighborhood association that represents citizens in the notification area via first class mail a minimum of 14 days in advance of the Neighborhood Meeting.
3. The meeting was conducted at Zoom Meeting (location/address) on September 29, 2022 (date) from 5:00 PM (start time) to 7:00 PM (end time).
4. I have included the mailing list, meeting invitation, sign-in sheet, issue/response summary, and zoning map/reduced plans with the application.
5. I have prepared these materials in good faith and to the best of my ability.

10/3/22
Date

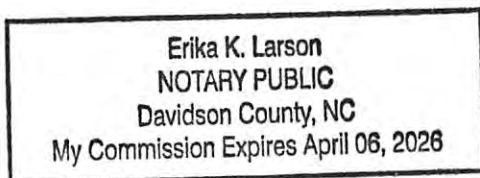
By: [Signature]

STATE OF NORTH CAROLINA
COUNTY OF ~~WAKE~~ Guilford

Sworn and subscribed before me, ERIKA K. LARSON, a Notary Public for the above State and County, on this the 3rd day of October, 20 22.

SEAL

[Signature]
Notary Public
ERIKA K. LARSON
Print Name



My Commission Expires: 4-6-26

ELEVATE 64 WEST

Planned Unit Development

Apex, North Carolina

November 4, 2022



APPLICANT:	FA Develop, LLC 530 Eugene Ct Greensboro, NC 27401
CONSULTANT:	CE Group, Inc. 301 Glenwood Ave. Suite 220 Raleigh, NC 27603

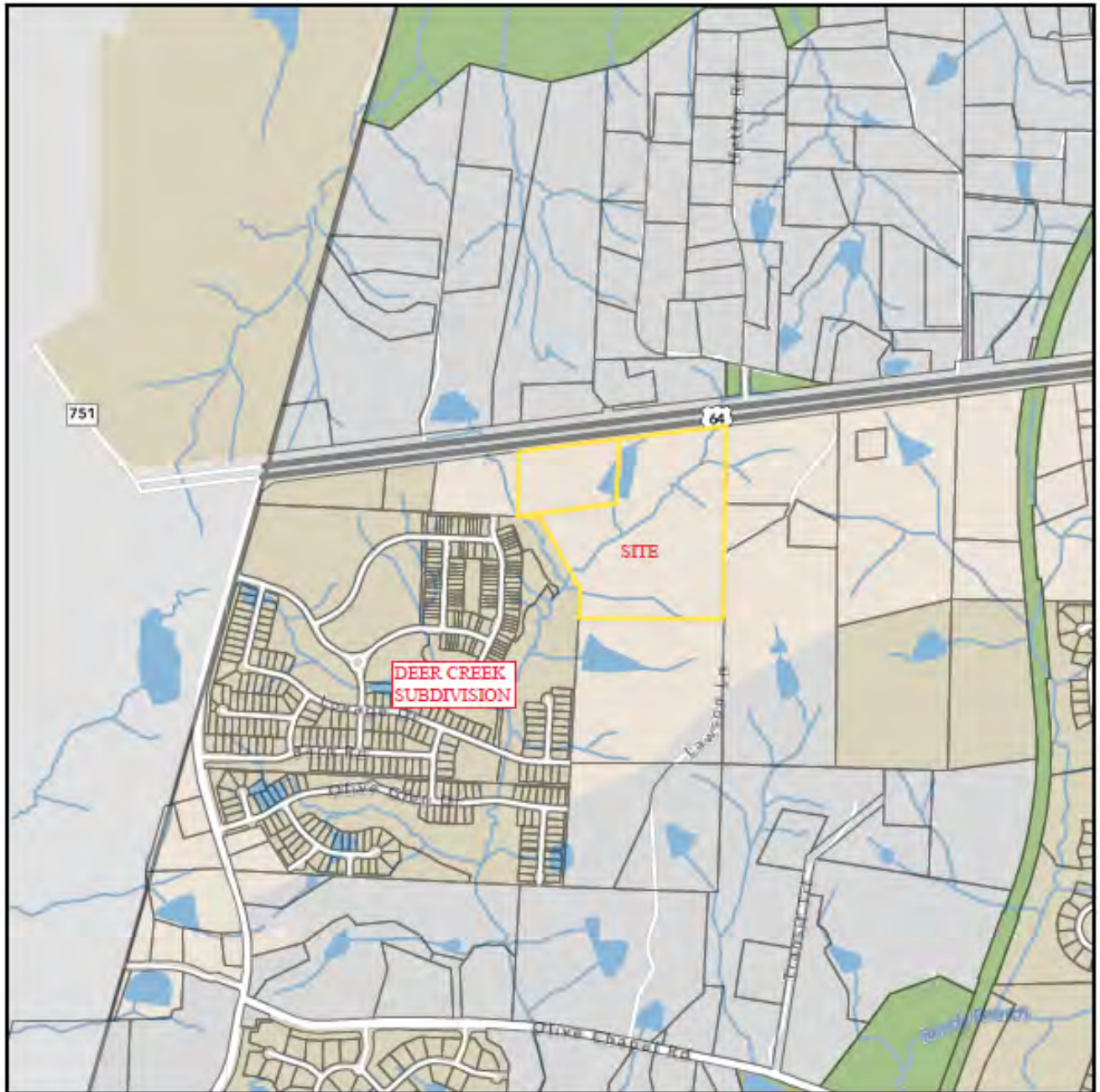
ELEVATE 64 WEST

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ELEVATE 64 WEST

VICINITY MAP



ELEVATE 64 WEST

PROJECT DATA

Name of Project:	Elevate 64 West
Property Owner:	Louvenia Ann S Goodwin 3809 US 64 Hwy West Apex, NC 27523
Developer:	FA Develop, LLC 530 Eugene Ct Greensboro, NC 27401
Prepared by:	CE Group, Inc. 301 Glenwood Avenue Suite 220 Raleigh, NC 27603
Current Zoning:	Rural Residential (RR)
Proposed Zoning:	Planned Unit Development Conditional Zoning (PUD-CZ)
Current 2045 Land Use Map Designation:	Mixed Use: Office Employment/Commercial Services/High Density Residential
Site Address:	3805 & 3809 US Hwy 64 West Apex, NC
Property Identification Number:	0712749870 & 071282430
Total Acreage:	+/- 35.15 Acres
Area Designated as Mixed Use on 2045 LUM:	+/-35.15 Acres
Area Proposed as Non-Residential:	30% minimum - 10.545 Acres Minimum (including RCA, Buffers, etc)

ELEVATE 64 WEST

PURPOSE STATEMENT

Elevate 64 West is a proposed mixed-use development consisting of high density residential and non-residential uses. The property is located along the southern side of the US Hwy 64 West corridor and is adjacent to the existing Deer Creek Subdivision to the west and agricultural / residential use land to the south and east. All these surrounding properties are designated as mixed use on the 2045 Land Use Map, which promotes commercial, office, and high-density residential uses.

The proposed development will consist of high-density residential luxury apartments which will be highly amenitized. Amenities will include a pool, clubhouse with fitness area, outdoor grilling kitchen, dog park, and many others. In addition to the high density residential the development will also provide for complimentary non-residential uses in accordance with the 2045 Land Use Map. The total site area is 35.15 acres of which 30% minimum will be dedicated to these non-residential uses. The non-residential use will be located along the US 64 Highway corridor.

The development is compatible with the surrounding areas. This site is within a rapidly developing area of the Town's ETJ with Deer Creek subdivision and Triangle Math and Science Academy located to the west. Agriculture and a single-family residence are located to the east of the site. There is an existing Forestry use to the south which will be partially buffered by an open space/stormwater control measure area which will include a 50-foot buffer as required by UDO section 8.2.6. The remaining portion of the forestry use will be buffered via a new planned local connector roadway (50' right-of-way) which will also provide a 30-foot street front buffer along the property line.

There is also an amendment to the Town's Transportation Plan that will include a future north-south Major Collector that can potentially connect US Highway 64 to Olive Chapel Road. In addition, there is an east-west future local connector being proposed. This development will construct both roads within the boundaries of the project.

ELEVATE 64 WEST

The proposed layout will preserve the existing non-jurisdictional pond in addition to protecting other environmentally sensitive areas on the property and required Resource Conservation Areas as required by the Town's UDO. There is an existing greenway located on the adjacent Deer Creek subdivision which will be extended 730-feet offsite through this development and connected to the internal roadway system. This connection provides further connectivity for the Town's greenway system plan, benefiting current and future residents. In addition, there will be internal sidewalks providing safe connectivity to the proposed uses and to the adjacent properties.

ELEVATE 64 WEST

PERMITTED USES

Below is a list of permitted uses for both the high-density residential use area and non-residential uses. All uses are subject to the limitations and regulations stated in the Town's UDO.

RESIDENTIAL:

Condominium

Multi-family or Apartment

NON-RESIDENTIAL:

Day care facility

Drop-in or short term day care

Government Service

Veterinary clinic or hospital

Botanical garden

Greenway

Park, active

Park, passive

Recreational facility, private

Restaurant, general

Medical or dental office or clinic

Medical or dental laboratory

Office, business or professional

Publishing office

Hotel or motel

Artisan studio

Barber and beauty shop

Book store

Convenience store

Dry cleaners and laundry service

Financial institution

Floral shop

Health/fitness center or spa

Personal Service

Pharmacy

Studio for art

Tailor shop

Pet services

Microbrewery

Microdistillery

Grocery, general

Grocery, specialty

Retail sales, general

Real estate sales

ELEVATE 64 WEST

DESIGN CONTROLS

RESIDENTIAL

MULTI-FAMILY APARTMENT OR CONDOMINIUMS

Acreage: Approximately 24.585 acres

Total Number of Units: 392 units maximum (1- and 2-bedroom units)

Maximum Building Height: 60' 4-stories

Internal Building setbacks per UDO section 5.2.2.F

Building Setback along
Southern Parent Property line
(Forestry Use) 95'

NONRESIDENTIAL

Acreage: Approximately 10.545 acres

Maximum Height: 40' 2-stories

Notwithstanding any contrary UDO provision or language in this PUD, there shall be no minimum setback or buffer requirement along the shared property line between the Residential and Non-residential uses.

BUFFERS/STREETSCAPES/LANDSCAPING

Perimeter Buffers:

Western Buffer: 15-foot Type A

Southern Buffer: 50-foot (along non-roadway frontage section Forestry use) Type A
30-foot Streetfront Type B along local collector south side of roadway
10-foot Streetfront Type A along local collector north side of roadway

Eastern Buffer: 20-foot Type B, except where the Lawson Lane encroaches onto property.
Where the encroachment occurs, there shall be a 10-foot Type B buffer.

Streetscape Buffers:

Along US 64 – 100-feet Type A
Along New Major Collector - 10-feet Type A

ELEVATE 64 WEST

Per UDO 8.2.6.B.5.f.ii.c.: Highway buffers along non-residential uses meeting all of the following criteria shall be reduced to a planted 50' Type A buffer.

- i. No more than 20% of the façades of non-residential buildings facing the highway can use EIFS or other synthetic stucco.
- ii. Pedestrian connections in the form of sidewalks and/or multi-use paths shall be made from non-residential buildings to adjacent residential development and properties with future residential land use. The form of the connection shall be determined by the Director of Planning and Community Development or designee.
- iii. Furthermore, properties that front a limited-controlled access highway with no other access or road frontage shall be allowed to reduce the opacity of no more than 50% of this buffer to a Type E buffer. The remainder of the buffer shall be planted to a Type A standard.

AFFORDABLE HOUSING

At least twenty (20) residential units or, if greater, five percent (5%) of the total residential units (as shown on the first site plan submittal), shall be designated as restricted workforce affordable housing rental units (the "Affordable Units") for a minimum affordability period of ten (10) years starting from the date of issuance of the first residential Certificate of Occupancy (the "Affordable Restriction Period"). The Affordable Units shall be occupied by households earning no more than eighty percent (80%) of the Raleigh, NC Metropolitan Statistical Area (MSA) Area Median Income (AMI), adjusted for family size, as most recently published by the U.S. Department of Housing and Urban Development (HUD). The Affordable Units may be either one or two bedroom units and rented during the Affordable Restriction Period at maximum rent limits applicable to households earning eighty percent (80%) of the Raleigh, NC Area Median Income ("AMI"), adjusted for family size, as most recently published by HUD and stipulated by the most recently published North Carolina Housing Finance Agency (NCHFA) Low-Income Housing Tax Credit (LIHTC) Multifamily Tax Subsidy Program (MTSP) income and rent limits for the Wake County Metropolitan Area. Prior to issuance of the first residential Certificate of Occupancy, a restrictive covenant between the Town and property owner shall be executed and recorded in the Wake County Registry to memorialize the affordable housing terms and conditions. During the Affordable Restriction Period, the property owner shall be responsible for performing all property management and administration duties to ensure compliance with this affordable housing condition and shall submit annual compliance reports to the Town verifying compliance with this affordable housing condition. Following expiration of the Affordable Restriction Period, this affordable housing condition shall expire, and the property owner shall be relieved of all obligations set forth in this affordable housing condition, and the Affordable Units may freely be marketed and leased at market-rate rents.

ARCHITECTURAL STANDARDS

The following architectural controls are offered to ensure a consistency of character throughout the development, while allowing for enough variety to create interest and avoid monotony.

ELEVATE 64 WEST

RESIDENTIAL REQUIREMENTS

1. Vinyl siding is not permitted; however, vinyl windows, decorative elements and trim are permitted.
2. Siding materials shall be varied in type and/or color on 30% of each façade on each building.
3. Windows must vary in size and/or type.
4. Windows that are not recessed must be trimmed.
5. Recesses and projections shall be provided for at least 50% of each façade on each building.
6. Rooflines cannot be a single mass; they must be varied with the use of gables or parapets.
7. Garage doors must have windows, decorative details or carriage-style adornments on them.
8. Four of the following decorative features shall be used on each building:

- Decorative shake
- Board and batten
- Decorative porch railing/posts
- Shutters
- Decorative/functional air vents on roof or foundation
- Recessed windows
- Decorative windows
- Decorative brick/stone
- Decorative gables
- Decorative cornices
- Tin/metal roof

NON-RESIDENTIAL REQUIREMENTS

1. The predominant exterior building materials shall be high quality materials, including:
 1. Brick masonry
 2. Decorative concrete block (either integrally colored or textured)
 3. Stone accents
 4. Aluminum storefronts with anodized or pre-finished colors.
 5. EIFS cornices, and parapet trim
 6. Precast concrete
2. EIFS or synthetic stucco shall not be used in the first forty inches above grade.
3. The building exterior shall have more than one material color.
4. The building shall have more than one parapet height.
5. The main entrance to the building shall be emphasized.
6. Only full cut-off lighting fixtures and fixtures with external house-side shields shall be allowed where non-residential properties are adjacent to residential properties.

Additional building materials may be included with administrative staff approval. Substitute materials shall be allowed by staff as long as they are determined by the Planning Director to be substantially similar.

ELEVATE 64 WEST

REPRESENTATIVE RESIDENTIAL BUILDING ELEVATIONS



ELEVATE 64 WEST



REPRESENTATIVE NON-RESIDENTIAL BUILDING ELEVATIONS



ELEVATE 64 WEST



ELEVATE 64 WEST



ELEVATE 64 WEST

PARKING AND LOADING

Development in the Residential District shall comply with parking requirements in Section 8.3.2 of the Town of Apex UDO. Any garage units within the residential development will count towards parking requirement. Residential parking will provide a minimum of 5% of total parking with access to EV Charging.

Parking in the Non-Residential area shall comply with parking requirements in Section 8.3.2 of the Town of Apex UDO.

SIGNAGE

Signage shall comply with UDO Section 8.7.

NATURAL RESOURCES AND ENVIRONMENTAL DATA

RIVER BASINS AND WATERSHED PROTECTION OVERLAY DISTRICTS

This project is located within the Beaver Creek Drainage Basin. Accordingly, the Property is within the Primary Watershed Protection Overlay District as shown on the Town of Apex Watershed Protection Map. This PUD will comply with all built upon area, vegetated conveyances, structural SCMs and riparian stream buffer requirements of UDO Section 6.1.7.

Resource Conservation Areas (RCA)

The Development shall include a minimum of 25% RCA. RCA area shall comply with Section 8.1.2 of the UDO.

Floodplain

The project site does not sit within a designated current or future 100 year floodplain as shown on the Town of Apex FEMA map and FIRM Panel 3720071200L, dated July 19, 2022.

Historic Structures

The Property is currently vacant and there are no known historic structures present within the project boundary.

ELEVATE 64 WEST

Environmental Commitments Summary

The Applicant met with the Apex Environmental Advisory Board (EAB) on July 20, 2022. The EAB made seven recommendations. These recommendations, and Applicants plan to address them, are set forth below:

1. Existing pond will be retained and protected.
 - a. The existing pond shall be preserved and protected.
2. Install a minimum of 10 pet waste stations.
 - a. The project shall install at least ten (10) pet waste station throughout the community in locations that are publicly accessible, such as adjacent to amenity centers, SCMs, sidewalks, greenways or side paths.
3. Native flora will be incorporated into landscape plan.
 - a. The project shall increase biodiversity within perimeter buffers, common owned open space, and other landscape areas by providing a variety of native and adaptive species for the canopy, understory and shrub levels. A minimum of 75% of the species selected shall be native of North Carolina. No invasive species shall be permitted. No single species of tree or shrub shall constitute more than 20% of the plant material of its type within a single development site.
4. A minimum 7.5-kilowatt (kW) solar PV system for the generation of electricity to partially offset the electric consumption of the common area and pool.
 - a. A solar photovoltaic (PV) system of at least 7.5 KW shall be instated within the development. All solar installation required by this condition shall be completed or under construction prior to 90% of the building permits being issued for the development. The system may be spread across on or more of the buildings, as needed. Any buildings with the solar PV system shall be identified on the Site Plan which may be amended from time to time.
5. Five percent (5%) of the parking spaces have EV charging stations installed.
 - a. The developer shall provide 5% of all parking spaces as EV charging spaces.
6. For stormwater management, post-development peak runoff shall not exceed the pre-development peak runoff for the 25-year and 100-year 24-hour storm events.
 - a. Post-development peak runoff shall not exceed pre-development peak runoff for the 24-hour, 1-year, 10-year, 25-year and 100-year storm events in accordance with the Unified Development Ordinance.
7. SCM and infrastructure shall not be placed in the stream buffer area, with the exception of Apex utility and greenway easements.
 - a. No clearing or land disturbance shall be permitted within the riparian buffer, except the minimum necessary to install required sewer infrastructure, greenways, roadways, and SCM outlets. The SCM water storage and treatment area shall not be permitted within the riparian buffer. The sewer shall be designed to minimize impacts to the riparian buffer.

ELEVATE 64 WEST

STORMWATER MANAGEMENT

The Development shall meet all stormwater management requirements for quality and quantity treatment in accordance with Section 6.1.7 of the UDO such that:

- Post development peak runoff shall not exceed pre-development peak runoff conditions for the 1 year, 10 year, 25 year, 100 year and 24-hour storm events.
- Treatment for the first 1 inch of runoff will provide 85% removal of total suspended solids.

Acceptable stormwater structures shall include detention ponds, constructed wetlands, bioretention areas, or other approved devices consistent with the NC DEQ Stormwater Design Manual and the Town of Apex UDO.

No clearing or land disturbance shall be permitted within the riparian buffer, except the minimum necessary to install required sewer infrastructure, greenways, roadways, and SCM outlets. The SCM water storage and treatment area shall not be permitted within the riparian buffer. The sewer shall be designed to minimize the impacts to the riparian buffer.

Existing Pond on-site will have at a minimum 1,500 sf of submerged and/or partially submerged vegetative shelf planted with wetland plantings to aid with water quality and protect the shoreline from erosion. Density of plantings will consist of 50 plants per 200 sf of area. Plant material will be in accordance to the NCDENR BMP manual Chapter C-3.

PARKS AND RECREATION

The Elevate 64 West project was reviewed at the November 30th, 2022 Parks, Recreation and Cultural Resources Advisory Commission meeting. The Advisory Commission unanimously recommended a fee-in-lieu of dedication with credit for the construction of greenway trail within the project boundary as well as off-site into the existing, adjacent Deer Creek Subdivision. The rate of the fees owed will be set at the time of rezoning approval by the Town Council and will run the life of the project for the number and type of units proposed.

GREENWAY TRAILS

The Advisory Commission also recommended the proposal for Elevate 64 West to extend the public Reedy Creek Greenway from the existing Deer Creek subdivision to the western property line of Elevate 64 West. Greenway will also be extended within Elevate 64 West to proposed internal pedestrian network, exact route to be determined at the time of Site Plan approval. All approved greenway trails must be completed prior to the point of 50% of the Total number or residential units in the project being issued a building permit for the Site Plans.

ELEVATE 64 WEST

PUBLIC FACILITIES

The proposed PUD shall meet all Public Facilities requirements as set forth in Town of Apex UDO and shall be designed according to the Town of Apex and NCDOT engineering standards where applicable. Road and utility infrastructure shall be as follows:

GENERAL ROADWAY INFRASTRUCTURE

Except as set forth herein, all proposed roadway infrastructure and right-of-way dedications will be consistent with the Town of Apex UDO and Transportation Plan in effect as of the submission date of this rezoning.

TRANSPORTATION IMPROVEMENTS

The following conditions regarding transportation improvements apply and are consistent with the Town's recommendations regarding the Traffic Impact Analysis that has been performed for this rezoning, which is on file with the Town of Apex. All proposed access points to state-maintained roadways including improvements specified in the zoning conditions are ultimately subject to both Apex and NCDOT approval at the time of subdivision and site plan and are subject to change if required based on engineering evaluation at that time.

- US Highway 64 at Site Access 1
 - o Construct the access as a left-in, right-in, right-out.
 - o Provide a westbound turn lane on US 64 with 150 feet of storage and appropriate deceleration length and taper.
 - o Provide an eastbound right turn lane on US 64 with 100 feet of storage and appropriate deceleration length and taper as applicable.
 - o Provide a channelization northbound right-out free-flow lane with an eastbound 810-foot acceleration lane plus 240-foot taper on US 64.
 - o The site access will be designed in accordance with NCDOT and Town of Apex standards as applicable and is the only access permitted to connect to US 64 as part of the PUD.
 - o Site access will be provided via a north-south Major Collector Street to be constructed by the PUD from the US 64 to the southern boundary of the PUD.
- US 64 at Pinefield Road
 - o Construct a concrete median diverter island between the westbound U-turn lane and the eastbound left-turn/U-turn lane on US 64 in conjunction with intersection

ELEVATE 64 WEST

widening as needed to accommodate these changes, preventing southbound left turns from Pinefield Road.

- Construct an east-west Local Connector Street starting at the north-south Major Collector Street and stubbing to the eastern boundary of the PUD
- Cross access will be provided via public access easement to adjacent parcel to the east (PIN# 0712-74-2710).
- Cross access will be provided via public access easement to adjacent parcel to the west (PIN# 0712-93-2588).
- Cross Access will be provided via public access easement to adjacent parcel to the south (PIN # 0712-83-4236) off of east/west local connector.

PEDESTRIAN IMPROVEMENTS

This project shall comply with the Town's Bicycle and Pedestrian System Plan Map. Sidewalk shall be provided along both sides of all public streets within this development. Where required, the project shall construct 10-foot wide asphalt side paths in lieu of sidewalk along the public streets.

WATER AND SANITARY SEWER

All lots within the project will be served by Town of Apex for water and sanitary sewer. The utility design will be finalized at the time of master subdivision plan approval and be based on available facilities adjacent to the site at that time. The design will meet the current Town of Apex master plans for water and sewer.

OTHER UTILITIES

Electricity will be provided by Apex Electric. Phone, cable, and gas will be provided by the Developer and shall meet UDO standards.

PHASING

The Development will be completed in multiple phases. Final locations of phases will be determined at the time of Master Subdivision Review and Approval.

CONSISTENCY WITH LAND USE PLAN

The proposed land use will be consistent with Advance Apex 2045: The Apex Comprehensive Plan, if the requested Land Use Map Amendment is approved. The Future Land Use Map designates the Property as High Density/Office Employment/Commercial Services.

ELEVATE 64 WEST

COMPLIANCE WITH UDO

The development standards adopted for this PUD comply with those set forth in the current version of the Town's Unified Development Ordinance (UDO). This PUD shall be the primary governing document for the development. All standards and regulations in this PUD shall control over general standards of the UDO. Provided, however, that if a specific regulation is not addressed in this PUD, UDO regulations shall control.

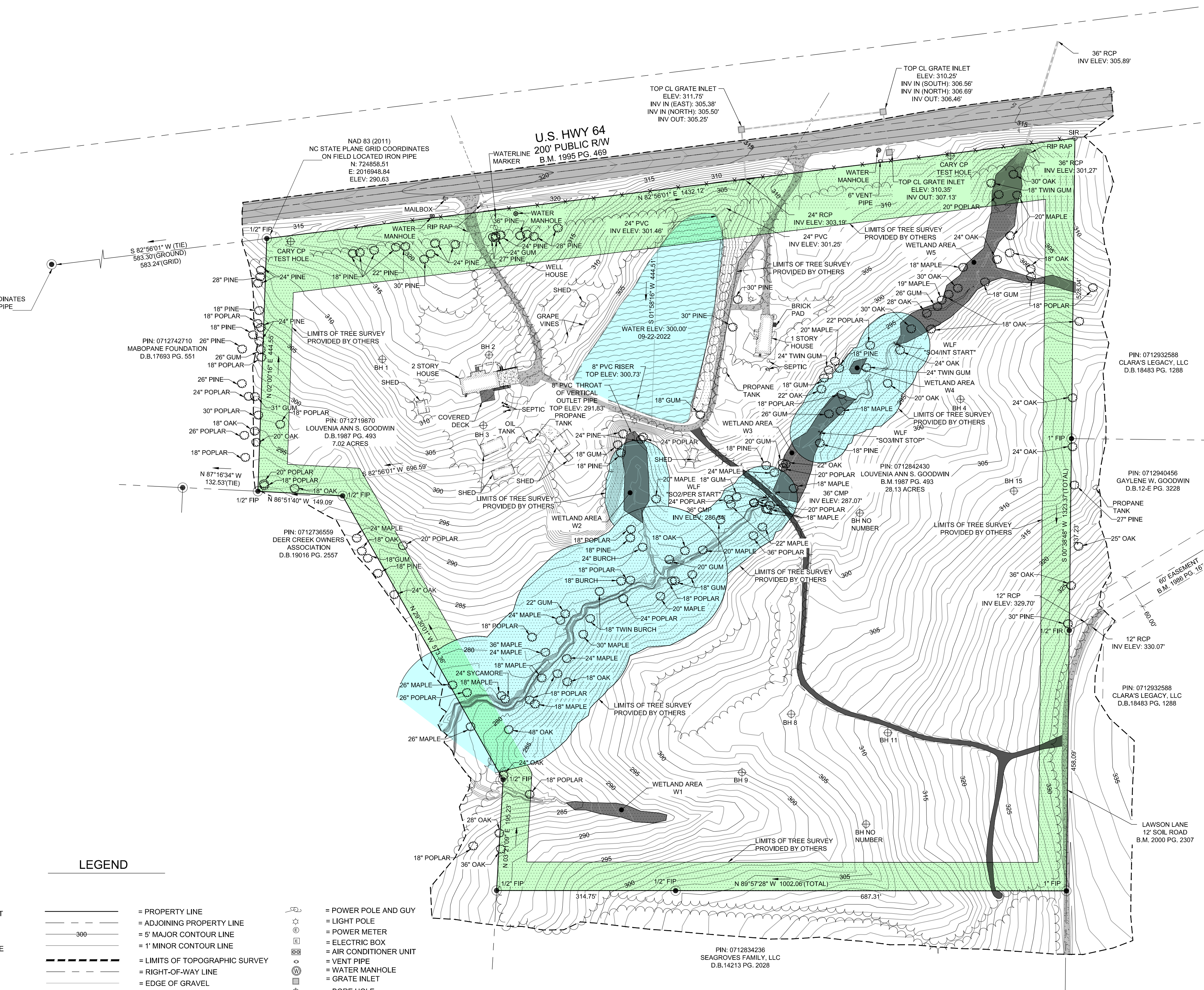
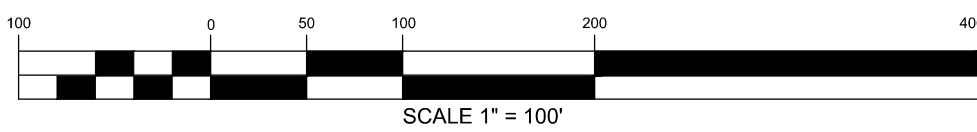
NC GRID
NAD83(2011)

NAD 83 (2011)
NC STATE PLANE GRID COORDINATES
ON FIELD LOCATED IRON PIPE
N: 724330.51
E: 2017527.75
ELEV: 290.63

LEGEND

- | | | | | | |
|--|----------------------|--|--------------------------------|--|----------------------------|
| | = PAVEMENT | | = PROPERTY LINE | | = POWER POLE AND GUY |
| | = GRAVEL | | = ADJOINING PROPERTY LINE | | = LIGHT POLE |
| | = CONCRETE | | = 5' MAJOR CONTOUR LINE | | = ELECTRIC BOX |
| | = DECK | | = 1' MINOR CONTOUR LINE | | = AIR CONDITIONER UNIT |
| | = BRICK | | = LIMITS OF TOPOGRAPHIC SURVEY | | = VENT PIPE |
| | = RIP RAP | | = RIGHT-OF-WAY LINE | | = WATER MANHOLE |
| | = WETLANDS AREA | | = EDGE OF GRAVEL | | = GRATE INLET |
| | = WATER | | = TREE LINE | | = BORE HOLE |
| | = DIRT ROAD | | = OVERHEAD ELECTRIC | | = WATERLINE MARKER |
| | = DASHED ROAD STRIPE | | = FENCE | | = MAILBOX |
| | = DASHED ROAD STRIPE | | = STORM | | = SIGN |
| | = DASHED ROAD STRIPE | | = WALL | | = FOUND IRON PIPE |
| | = DASHED ROAD STRIPE | | = SOLID ROAD STRIPE | | = FOUND IRON REBAR |
| | = DASHED ROAD STRIPE | | = DASHED ROAD STRIPE | | = SET IRON REBAR |
| | = DASHED ROAD STRIPE | | = DASHED ROAD STRIPE | | = REINFORCED CONCRETE PIPE |
| | = DASHED ROAD STRIPE | | = DASHED ROAD STRIPE | | = POLYVINYL CHLORIDE |
| | = DASHED ROAD STRIPE | | = DASHED ROAD STRIPE | | = DEED BOOK |
| | = DASHED ROAD STRIPE | | = DASHED ROAD STRIPE | | = BOOK OF MAPS |
| | = DASHED ROAD STRIPE | | = DASHED ROAD STRIPE | | = PAGE |

= LIMITS OF TREE SURVEY PROVIDED BY OTHERS



SITE DATA:

3809 US HWY 64 W
LOUVENIA ANN S. GOODWIN
PIN #: 0712719870
D.B. 18884 PG. 1101
B.M. 1987 PG. 493
AREA: 7.02 ACRES

3905 US 64 HWY W
LOUVENIA ANN S. GOODWIN
PIN #: 0712842430
D.B. 18884 PG. 1101
B.M. 1987 PG. 493
AREA: 28.13 ACRES

TOTAL AREA: 35.15 ACRES

ZONING:
EXISTING ZONING: RR (RURAL RESIDENTIAL)

GENERAL NOTES:

AREA DETERMINED UTILIZING COMPUTER SOFTWARE.

DISTANCES ARE GROUND DISTANCES (US FEET) UNLESS OTHERWISE SHOWN.

NO SUBSURFACE INVESTIGATION PERFORMED BY FLEMING ENGINEERING, INC. UTILITY LOCATION WORK SHOWN HEREON WAS DERIVED BY ABOVE GROUND INDICATORS ONLY. UNDERGROUND UTILITIES SHOWN WERE FOUND MARKED AT THE TIME OF SURVEY.

THIS PROPERTY IS SUBJECT TO ANY EASEMENTS, AGREEMENTS OR RIGHTS OF WAY RECORDED PRIOR TO THE DATE OF THIS MAP WHICH WERE NOT VISIBLE AT THE TIME OF INSPECTION.

THE SURVEYOR HAS NOT PERFORMED A TITLE INVESTIGATION ON THIS PROPERTY. THEREFORE, THIS MAP IS SUBJECT TO ANY AND ALL FACTS AN ACCURATE TITLE INVESTIGATION MAY DISCLOSE.

THE CLASSIFICATION OF THIS SURVEY IS NORTH CAROLINA CLASS A. HORIZONTAL DATUM: NAD83(2011). VERTICAL DATUM: NAVD88(GEIOD 18)

THERE IS NO VISIBLE EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.

THIS PROPERTY IS LOCATED WITHIN ZONE "X" AREA AS INDICATED ON THE FLOOD INSURANCE RATE MAPS, (FIRM) MAP NUMBERS 3720071200L, EFFECTIVE DATE JULY 19th, 2022.

THE WETLANDS FLAGS FOUND WERE OFTEN NOT SEQUENTIAL OR MISSING NUMBERS.

LIMITS OF TREE SURVEY WAS PROVIDED BY OTHERS

PURPOSE OF TREE SURVEY WAS TO LOCATE 18" DIAMETER AND LARGER TREES.

NO NGS MONUMENTS WERE RECOVERED WITHIN 2000' OF THE PROPERTY.

I, TOMMY W. WRIGHT CERTIFY THAT THE CONTROL FOR THIS SURVEY IS FROM AN ACTUAL GPS (OR GNSS) SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY

- CLASS OF SURVEY: CLASS A
- POSITIONAL ACCURACY: 0.05'
- TYPE OF GPS FIELD PROCEDURE: STATIC
- DATES OF SURVEY: 07-29-2022 THROUGH 09-21-2022 AND 11-21-2022
- DATUM EPOCH: NAD83(2011)EPOCH (2010)
- PUBLISHED/FIXED-CONTROL USE: DR4334 NCLL NCLL LILLINGTON CORP ARP, DL3891 NCJL JORDAN LAKE CORP ARP, DG9328 DURH DURHAM COOP CORP ARP GEIOD MODEL: 2010
- MEAN COMBINED GRID FACTOR: 0.99989882(GROUND TO GRID)
- UNITS: US SURVEY FEET

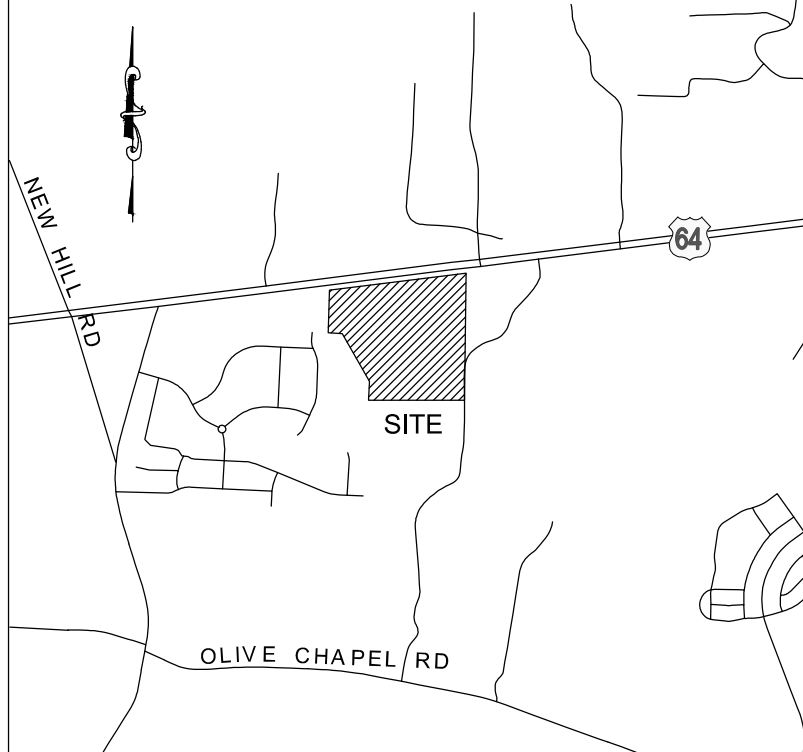
HORIZONTAL POSITIONS ARE REFERENCED TO NAD83/NSRS (2011) VERTICAL POSITIONS ARE REFERENCED TO NAVD88 USING (GEIOD18)

SURVEYORS CERTIFICATION:

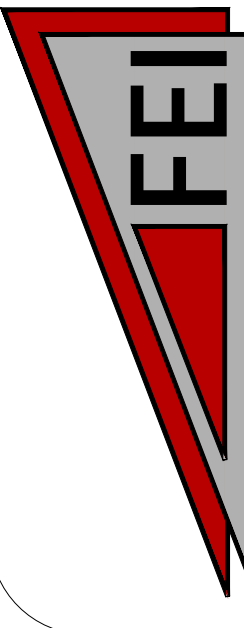
I, TOMMY W. WRIGHT CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK 18884, PAGE 1101); THAT THE BOUNDARIES NOT SURVEYED ARE INDICATED AS DRAWN FROM INFORMATION IN BOOK, PAGE AS SHOWN; THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY IS 1:29,064.7 (CLASS A), AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600).

THIS 29th DAY OF NOVEMBER, 2022.

VICINITY MAP
1" = 2000'



Civil Engineers and Land Surveyors
8518 Triad Drive, Colfax, NC 27235
www.feiconsulting.com
(336) 852-9797
License No. C-0950



3809 US HWY 64 W

EXISTING CONDITIONS

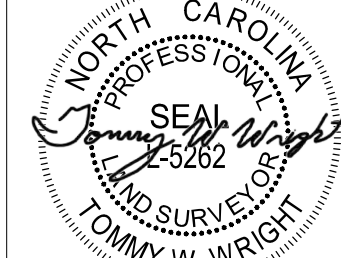
CLIENT INFORMATION:
SIGNATURE DEVELOPMENT GROUP, LLC
530 EUGENE CT
GREENSBORO, NC 27401

PROPERTY ADDRESS:
3809 US 64 HWY W
APEX, NC 27523

PROJECT LOCATION:
CITY: APEX
TOWNSHIP: WHITE OAK
COUNTY: FAYETTE
STATE: NORTH CAROLINA

NO.	DATE	REVISION NOTE
1		
2		
3		
4		
5		

DRAWN BY: JDB/STW
CHECKED BY: TWW
DATE: 11-29-2022
PROJECT NO.: 19008.004
REF. NO.: -
SCALE: 1" = 100'



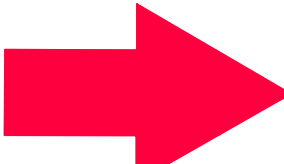
SHEET

1 OF 1

APEX, NORTH CAROLINA
February 24, 2022

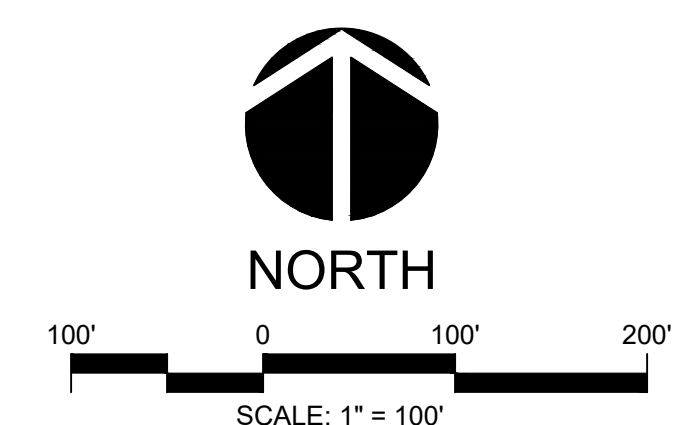
PROPOSED MULTI-FAMILY UNITS = ±392 UNITS
MAIN TRACT AREA= ±35.83 AC
RETAIL/OFFICE MIN. AREA = 10.548 ACRES
WATERSHED: JORDAN LAKE / PRIMARY WATERSHED
PROTECTION OVERLAY

LEGEND

- | | |
|---|--|
|  | APPROXIMATE RCA AREA |
|  | APPROXIMATE GREENWAY TRAIL EXTENSION
FROM EXISTING DEER CREEK SUBDIVISION |
|  | STORMWATER MANAGEMENT DEVICE/OPEN SPACE |
|  | APPROXIMATE MULTI-FAMILY (HIGH DENSITY
RESIDENTIAL) AREA |
|  | APPROXIMATE RETAIL / OFFICE AREA |
|  | APPROXIMATE LOCATION OF PROPOSED ACCESS AND
PUBLIC CROSS ACCESS EASEMENT |
|  | APPROXIMATE LOCATION OF MAJOR COLLECTOR AND
LOCAL COLLECTOR ROADWAYS |
|  | APPROXIMATE PUBLIC ROAD ACCESS |

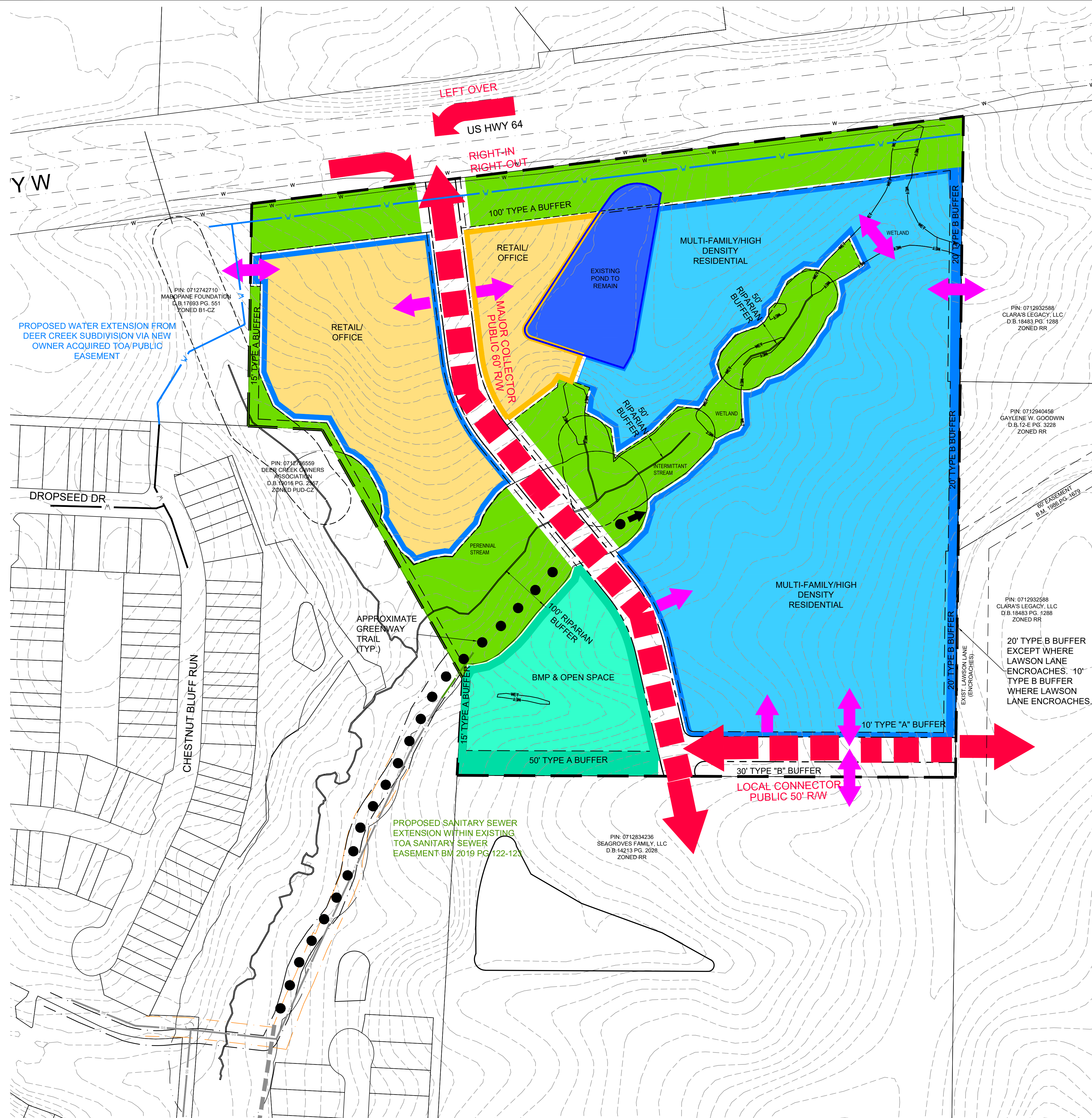
DEVELOPMENT NOTES:

- 1) PLAN SHEET IS INTENDED FOR ILLUSTRATIVE USE ONLY AND IS SUBJECT TO CHANGE.
- 2) PER 2.3.4(F)(1)(F)(II) OF THE UDO, THE PD PLAN FOR THE PUD-CZ SHALL DEMONSTRATE A SAFE AND ADEQUATE ON-SITE TRANSPORTATION CIRCULATION SYSTEM. THE ON-SITE TRANSPORTATION CIRCULATION SHALL BE INTEGRATED WITH THE OFF-SITE TRANSPORTATION CIRCULATION SYSTEM OF THE TOWN. THE PD PLAN FOR PUD-CZ SHALL BE CONSISTENT WITH THE APEX TRANSPORTATION PLAN AND THE TOWN OF APEX STANDARD SPECIFICATION AND STANDARD DETAILS AND SHOW REQUIRED RIGHT-OF-WAY WIDTHS AND ROAD SECTIONS.
- 3) MAJOR COLLECTOR AND LOCAL CONNECTOR ROAD ALIGNMENT LOCATION WILL BE DETERMINED AT THE MAJOR SUBDIVISION PLAN STAGE WITH TOWN STAFF APPROVAL. ANY SUBSTANTIAL CHANGES MAY REQUIRE TRANSPORTATION PLAN AMENDMENTS.
- 4) SITE MUST MEET CURRENT TOWN WATER SYSTEM MASTER PLAN. MUST COORDINATE WITH PROJECT NEXT DOOR AND VERIFY WATER MAIN CONNECTIONS ADJACENT TO US 64.



CE GROUP
1 GLENWOOD AVE. SUITE 220
RALEIGH, NC 27603
PHONE: 919-367-8790
www.cegroupinc.com
License # C-1739

PRELIMINARY DESIGN
NOT RELEASED
FOR CONSTRUCTION



NOT USED

ELEVATION MATERIAL KEY (CONTINUED):

- 17 6-0 x 6-8 WOOD FRAME FULL LITE GLASS JULIET BALCONY DOOR W/ 12" TRANSOM
• 2" BRICK MOLD BOARD JAMBS & HEAD
• SLOPED BRICK VENEER ROWLOCK SILL, SOLDIER COURSE HEAD
- 18 6-0 x 6-8 WOOD FRAME FULL LITE GLASS JULIET BALCONY DOOR W/ 12" TRANSOM
• 5/4 5.5" FIBER CEMENT BOARD SILL, JAMBS, & HEAD
- 19 PRE-FINISHED 42" ALUMINUM GUARDRAIL
- 20 PRE-FINISHED 42" ALUMINUM JULIET BALCONY GUARDRAIL
- 22 CIRCULATION RAINSCREEN: COMPOSITE DECKING SLATS ON METAL FRAME (SEE STRUCTURAL)
- 23 ONE-LIGHT OUTDOOR CYLINDER ACCENT LIGHT
- 24 TWO-LIGHT OUTDOOR CYLINDER ACCENT LIGHT
- 25 HVAC WALL PLENUM W/ ARCHITECTURAL LOUVER & SLOPED BRICK VENEER ROWLOCK SILL, BRICK VENEER JAMBS, SOLDIER COURSE HEAD
ONLY REQUIRED ON WALLS ADJACENT TO SUNOOM WITH MECHANICAL UNIT FACING
- 26 HVAC WALL PLENUM W/ ARCHITECTURAL LOUVER & 5/4 2.5" FIBER CEMENT TRIM
ONLY REQUIRED ON WALLS ADJACENT TO SUNOOM WITH MECHANICAL UNIT FACING
- 27 30"x30" HARDIE BOARD ACCENT MEDALLION W/ 5/4 3.5" FIBER CEMENT BOARD TRIM & 4/4 2" FIBER CEMENT BOARD BATTENS
- 28 ALUMINUM FRAME SUNSHADE AWNINGS WITH 8:12 PITCH STANDING SEAM METAL ROOF TO MATCH CIRCULATION ENTRY ROOFS (DESIGN BY OTHERS)

ELEVATION MATERIAL KEY (CONTINUED):

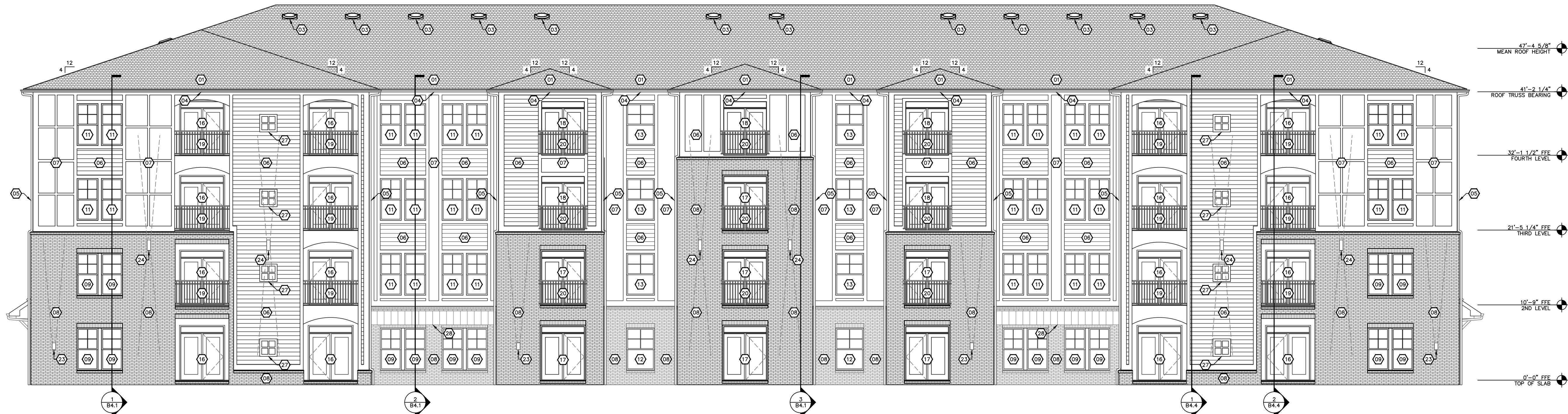
- 09 3-0 x 6-0 VINYL FRAME SINGLE HUNG WINDOW
• 5/4 5.5" FIBER CEMENT BOARD CENTER MULLION
• SLOPED BRICK VENEER ROWLOCK SILL, BRICK VENEER JAMBS, SOLDIER COURSE HEAD
- 10 NOT USED
- 11 3-0 x 6-0 VINYL FRAME SINGLE HUNG WINDOW
• 5/4 5.5" FIBER CEMENT BOARD CENTER MULLION, SILL, JAMBS, & HEAD
- 12 4-0 x 6-0 VINYL FRAME SINGLE HUNG WINDOW
• SLOPED BRICK VENEER ROWLOCK SILL, BRICK VENEER JAMBS, SOLDIER COURSE HEAD
- 13 4-0 x 6-0 VINYL FRAME SINGLE HUNG WINDOW
• 5/4 5.5" FIBER CEMENT BOARD SILL, JAMBS, & HEAD
- 14 2-0 x 2-0 VINYL FRAME PICTURE WINDOW
• SLOPED BRICK VENEER ROWLOCK SILL, BRICK VENEER JAMBS, SOLDIER COURSE HEAD
- 15 2-0 x 2-0 VINYL FRAME PICTURE WINDOW
• 5/4 5.5" FIBER CEMENT BOARD SILL, JAMBS, & HEAD
- 16 6-0 x 6-8 WOOD FRAME FULL LITE GLASS PORCH DOOR W/ 12" TRANSOM
• 2" BRICK MOLD BOARD JAMBS & HEAD

ELEVATION MATERIAL KEY:

- 01 25 YEAR ARCHITECTURAL SHINGLES OVER #15 ROOFING FELT
- 02 METAL ROOF OVER #15 ROOFING FELT
- 03 METAL DOME ATTIC VENT - SEE BUILDING ROOF PLAN
- 04 PRE-FINISHED 5K ALUMINUM SEAMLESS GUTTER OVER ALUMINUM TRIM COIL FASCIA
- 05 PRE-FINISHED 4"x3" ALUMINUM DOWNSPOUT - CONNECT TO UNDERGROUND STORMWATER SYSTEM (SEE CIVIL DRAWINGS)
- 06 8.25" FIBER CEMENT LAP SIDING (7" EXPOSURE)
• 5/4 5.5" FIBER CEMENT BOARD: FRIEZE BOARD & CLADDING TRANSITIONS
• 5/4 9.25" FIBER CEMENT BOARD: SILL TRIM & WALL CORNER TRIM (RIP WALL CORNER TRIM ADJACENT TO BRICK VENEER AS REQUIRED TO ALIGN WITH TRIM ABOVE)
- 07 FIBER CEMENT PANELS
• 5/4 5.5" FIBER CEMENT BOARD: FRIEZE BOARD & CLADDING TRANSITIONS
• 4/4 3.5" FIBER CEMENT BOARD: VERTICAL & HORIZONTAL BATTEN STRIPS
• 5/4 5.5" FIBER CEMENT BOARD: PORCH OPENING JAMBS
• 5/4 9.25" FIBER CEMENT BOARD: SILL TRIM, WALL CORNER TRIM, CIRCULATION OPENING CORNERS
- 08 BRICK VENEER
• SLOPED ROWLOCK SILL: CLADDING TRANSITIONS & PORCH OPENING SILLS
• SOLDIER COURSE: PORCH OPENING HEAD



1 PARKING LOT ELEVATION
1/8" = 1'



2 STREET ELEVATION
1/8" = 1'

RE

Rehab Engineering, P.C.
401 East Fourth Street, Suite 201
Winston Salem, North Carolina 27101-4171
www.rehab-eng.com
office 336 714 8935
fax 336 722 9872



Version:	01				
Date:	2022-03-10				
Version Name:	Construction Documents				

ELEVATIONS - PARKING LOT & STREET

PROJECT NUMBER:
20-15

DRAWN BY:
JAD

SHEET:
BLDG56-1
B3.1

NOT USED

ELEVATION MATERIAL KEY (CONTINUED):

- 17 6-0 x 6-8 WOOD FRAME FULL LITE GLASS JULIET BALCONY DOOR W/ 12" TRANSOM
- 2" BRICK MOLD BOARD JAMBS & HEAD
 - SLOPED BRICK VENEER ROWLOCK SILL, SOLDIER COURSE HEAD
- 18 6-0 x 6-8 WOOD FRAME FULL LITE GLASS JULIET BALCONY DOOR W/ 12" TRANSOM
- 5/4 5.5" FIBER CEMENT BOARD SILL, JAMBS, & HEAD
- 19 PRE-FINISHED 42" ALUMINUM GUARDRAIL
- 20 PRE-FINISHED 42" ALUMINUM JULIET BALCONY GUARDRAIL
- 22 CIRCULATION RAINSCREEN: COMPOSITE DECKING SLATS ON METAL FRAME (SEE STRUCTURAL)
- 23 ONE-LIGHT OUTDOOR CYLINDER ACCENT LIGHT
- 24 TWO-LIGHT OUTDOOR CYLINDER ACCENT LIGHT
- 25 HVAC WALL PLENUM W/ ARCHITECTURAL LOUVER & SLOPED BRICK VENEER ROWLOCK SILL, BRICK VENEER JAMBS, SOLDIER COURSE HEAD
- *ONLY REQUIRED ON WALLS ADJACENT TO SUNOOM WITH MECHANICAL UNIT FACING*
- 26 HVAC WALL PLENUM W/ ARCHITECTURAL LOUVER & 5/4 2.5" FIBER CEMENT TRIM
- *ONLY REQUIRED ON WALLS ADJACENT TO SUNOOM WITH MECHANICAL UNIT FACING*
- 27 30"x30" HARDIE BOARD ACCENT MEDALLION W/ 5/4 3.5" FIBER CEMENT BOARD TRIM & 4/4 2" FIBER CEMENT BOARD BATTENS
- 28 ALUMINUM FRAME SUNSHADE AWNINGS WITH 8:12 PITCH STANDING SEAM METAL ROOF TO MATCH CIRCULATION ENTRY ROOFS (DESIGN BY OTHERS)

ELEVATION MATERIAL KEY (CONTINUED):

- 09 3-0 x 6-0 VINYL FRAME SINGLE HUNG WINDOW
- 5/4 5.5" FIBER CEMENT BOARD CENTER MULLION
 - SLOPED BRICK VENEER ROWLOCK SILL, BRICK VENEER JAMBS, SOLDIER COURSE HEAD
- 10 NOT USED
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- SLOPED ROWLOCK SILL: CLADDING TRANSITIONS & PORCH OPENING SILLS
 - SOLDIER COURSE: PORCH OPENING HEAD

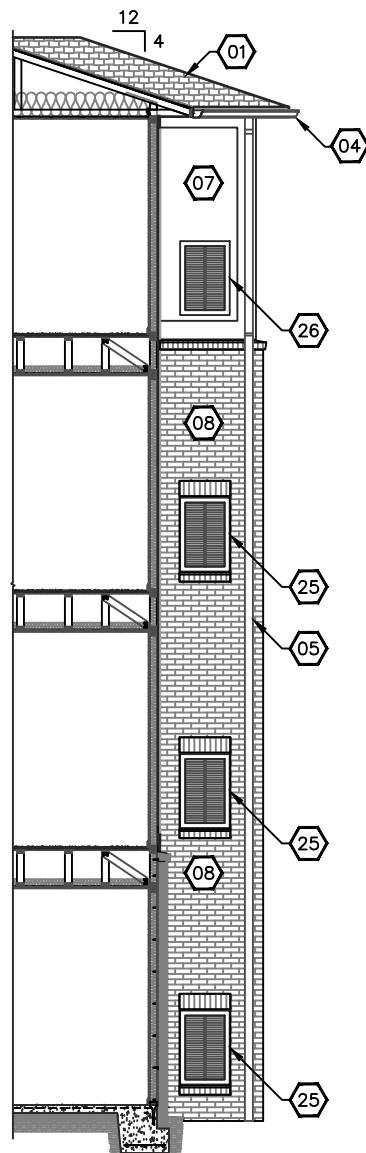
NOT USED



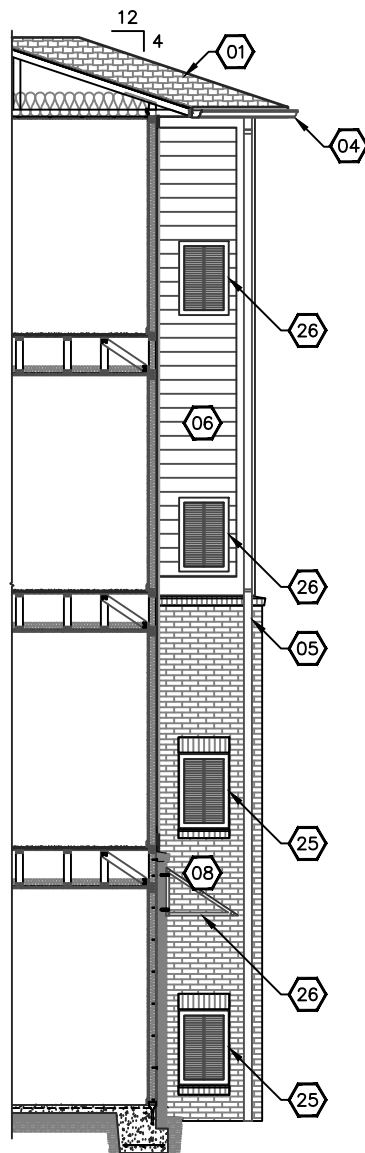
1 SIDE ELEVATION (BOTH SIDES SIMILAR)
1/8" = 1'

NOT USED

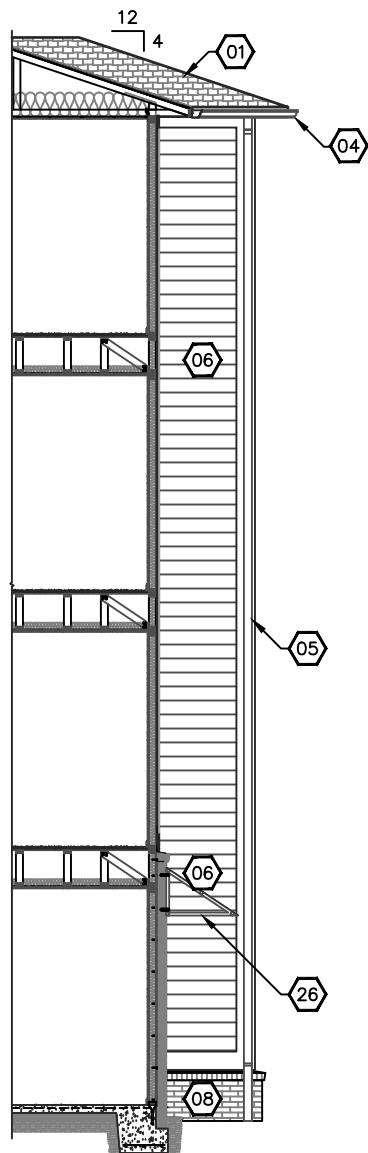
PORCH/SUNROOM
EXTERIOR SIDE WALL
(3 STORY BRICK MAIN
BLDG FACE)



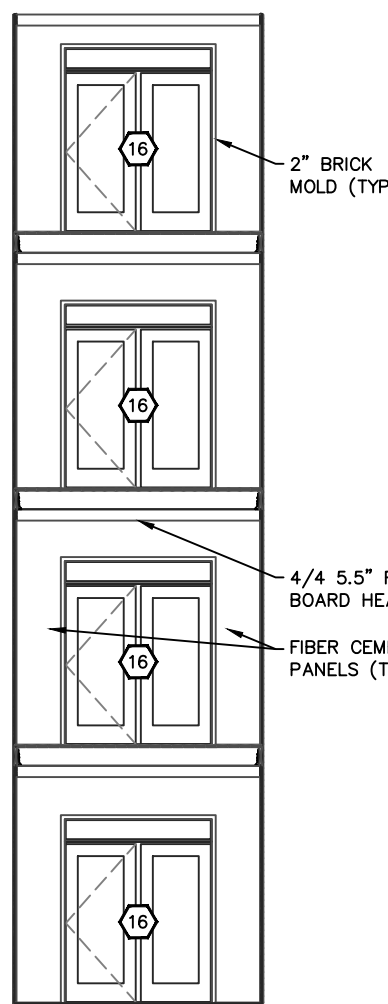
PORCH/SUNROOM
EXTERIOR SIDE WALL
(2 STORY BRICK
MAIN BLDG FACE)



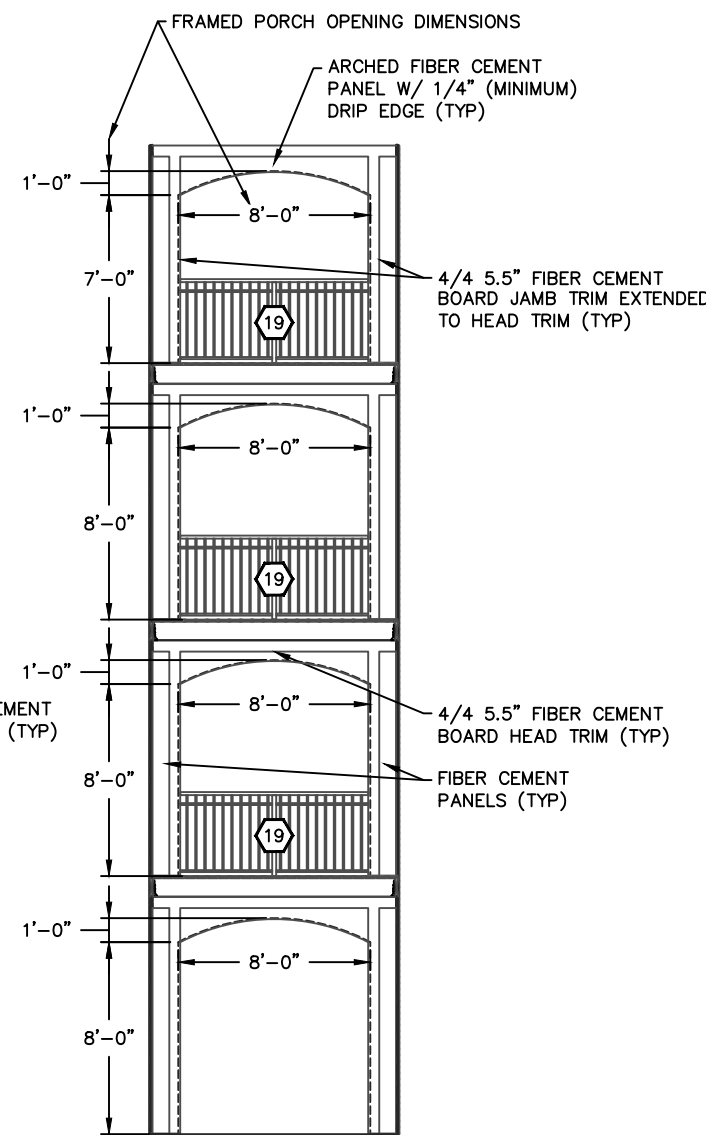
PORCH/SUNROOM
EXTERIOR SIDE WALL
(WINDOW SILL BRICK
MAIN BLDG FACE)



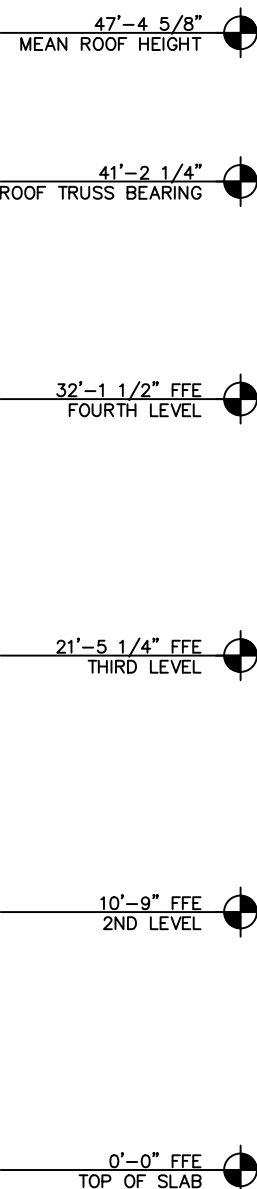
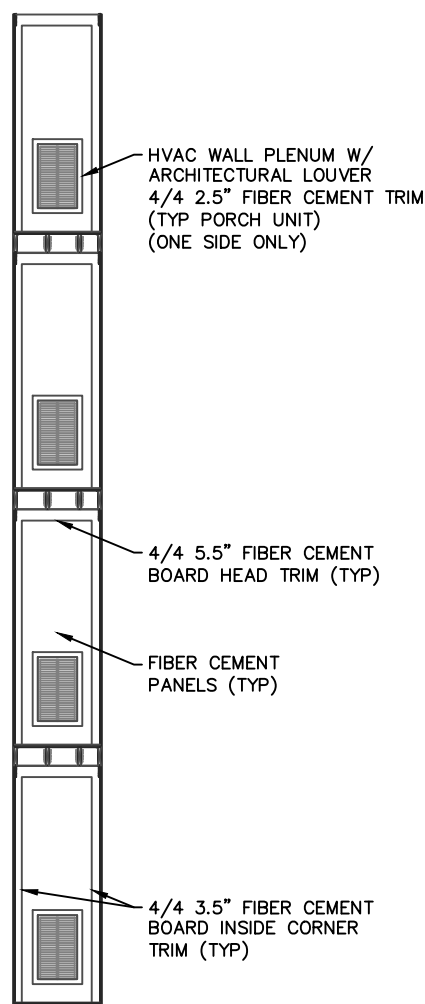
PORCH DOOR WALL
(ALL UNIT SIMILAR)



PORCH OPENING WALL
(ALL UNIT SIMILAR)



PORCH SIDE WALL
(ALL UNIT SIMILAR)
(BOTH SIDES SIMILAR)



2 PORCH & SUNROOM SIDE ELEVATIONS
1/8" = 1'

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Winston Salem, North Carolina 27101-4171
www.rehab-eng.com
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fax 336 722 9872



Version Name:	Construction Documents
Date:	2022-03-10
Version:	01

ELEVATIONS - SIDE & PORCH & SUNROOM SIDES

PROJECT NUMBER:
20-15

DRAWN BY:
JAD

SHEET:
**BLDG56-1
B3.2**

TRANSPORTATION IMPACT ANALYSIS

Signature Apex Development

Apex, NC

Prepared for FA Development, LLC





Transportation Impact Analysis

Signature Apex Development Apex, NC

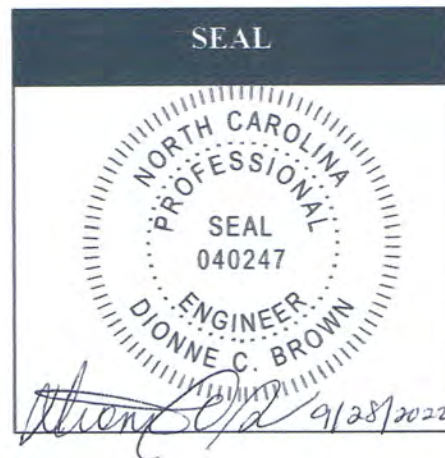
Prepared for FA Development, LLC
September 27, 2022

Analysis by: Dionne C. Brown, P.E.

Drafting/Graphics by: John Davenport, III

Reviewed by: Erin Govea, P.E.

Sealed by: Dionne C. Brown, P.E.



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**Transportation Impact Analysis
Signature Apex Development
Prepared for FA Development, LLC
September 27, 2022**

Executive Summary

The purpose of this report is to assess the transportation impact of the proposed Signature Apex Development. The proposed development is located between New Hill Olive Chapel Road and Lawson Lane south of US Highway 64 in Apex, NC. Signature Apex Development will consist of 392 apartment units and 34,000 square feet of medical office space. This development proposes two (2) access points on US Highway 64.

Trip Generation

Based on trip generation rates and equations published in Trip Generation (Institute of Transportation Engineers, 11th Edition), this development has a trip generation potential of 3,176 daily trips, with 252 trips in the AM peak hour and 288 trips in the PM peak hour.

Capacity Analysis and Recommendations

This analysis has been conducted based on NCDOT guidelines and has identified the potential traffic impacts of this development.

With the exception of US Highway 64 at Pinefield Road, all study intersections are expected to operate at LOS E or better. The proposed left-over access is expected to operate on US Highway 64 with a westbound 100-foot storage lane and appropriate taper. This access is far enough from Pinefield Road that there will not be a queuing issue. Both accesses are recommended to provide an eastbound right turn lanes of 100 feet of storage with appropriate taper. Table A summarizes the recommended improvements.

Conclusion

This TIA was performed in order to assess transportation impacts of the proposed site as well as background traffic. Recommendations have been given to accommodate these impacts. The analysis indicates that with the recommended improvements in place, the proposed site is not expected to have a detrimental effect on transportation capacity and mobility in the study area. Please note that the access points should be designed according to NCDOT and Town of Apex standards as applicable.

Table A – Recommended Improvements Summary	
Intersection	Recommendations
US Highway 64 at New Hill Road	No improvements recommended
US Highway 64 at New Hill Olive Chapel Road	No improvements recommended
US Highway 64 at Pinefield Road	No improvements recommended
US Highway 64 at Site Access 1 (LIRIRO)	- Construct the access as a left-in, right-in, right-out - Provide a westbound 100-foot storage lane with appropriate taper - Provide an eastbound 100-foot storage lane with appropriate taper - The site access should be designed in accordance with NCDOT and Town of Apex standards as applicable.
US Highway 64 at Site Access 2 (RI)	- Construct the access as a right-in - Provide an eastbound 100-foot storage lane with appropriate taper - The site access should be designed in accordance with NCDOT and Town of Apex standards as applicable.



**Transportation Impact Analysis
Signature Apex Development
Prepared for FA Development, LLC
September 27, 2022**

Introduction

The purpose of this report is to assess the transportation impact of the proposed Signature Apex Development. The proposed development is located between New Hill Olive Chapel Road and Lawson Lane south of US Highway 64 in Apex, NC. Signature Apex Development will consist of 392 apartment units and 34,000 square feet of medical office space. This development proposes two (2) access points on US Highway 64. Figure 1 illustrates a concept plan in the appendix and Figures 2A and 2B display approximate and potential site location and study vicinity of this analysis.

Traffic conditions were assessed during the weekday AM (7-9 AM) and PM (4-6 PM) peak hours for the following conditions:

- 2022 Existing Conditions
- 2025 Future No-Build Conditions
- 2025 Future Build Conditions
- 2025 Future Build Conditions + Improvements

The study was conducted according to the standards and best practices utilized in the transportation engineering profession. Field data were collected consistent with industry standards and best practices. Trip generation was calculated using the *Trip Generation Manual, 11th Edition* published by the Institute of Transportation Engineers (ITE). This is the industry-standard method for trip generation. Data were analyzed using the methodology outlined in the *Highway Capacity Manual, 6th Edition* (HCM) published by the Transportation Research Board (TRB). Both publications are industry-standard publications and are routinely used by North Carolina Department of Transportation (NCDOT). Capacity and level of service are the design criteria for this traffic study. Modeling and intersection analyses were performed using Synchro (Version 10.3), a state-of-the-art software package widely used and accepted by transportation professionals and governments all over the United States and the world. These data sources and tools are adequate to reach the conclusions contained within this study.

The scope for this development was determined through coordination with NCDOT and Town of Apex staff. This is documented in the Appendix. Information regarding the proposed development was provided by Signature Development Group.

Existing Study Area

Based on professional experience, the study area included the following intersections:

- US Highway 64 at New Hill Road
- US Highway 64 at New Hill Olive Chapel Road
- US Highway 64 at Pinefield Road/ Hattie Road
- US Highway 64 at Site Access 1 (LIRIRO)
- US Highway 64 at Site Access 2 (RIRO)

A field investigation was conducted by DAVENPORT staff to determine the existing roadway conditions in the study area. Table 1 summarizes this information. Figure 3 shows the existing lane geometry.

Table 1 - Street Inventory					
Facility Name	Route	Typical Cross Section	Pavement Width	Speed Limit	Maintained By
US Highway 64	US 64	4-Lane Divided Median	Approx. 93'	55 MPH	NCDOT
New Hill Road	NC 751/ SR 1001	2-Lane Undivided	Approx. 27'	45 MPH	NCDOT
New Hill Olive Chapel Road	SR 1141	2-Lane Undivided	Approx. 21'	45 MPH	NCDOT
Pinefield Road	SR 3115	2-Lane Undivided	Approx. 32'	Not Posted Otherwise Assumed 35 MPH	NCDOT

Base Traffic Volumes

Turning movement counts were collected for the following intersections by Quality Counts on December 8, 2021, and July 27, 2022:

- US Highway 64 at New Hill Road
- US Highway 64 at New Hill Olive Chapel Road
- US Highway 64 at Pinefield Road/ Hattie Road

The counts were projected to a Base Year 2022 by using a 3% growth rate. The traffic volumes were balanced between the study intersections to provide a more conservative analysis. Figure 4 shows existing AM and PM peak hour volumes. More information can be found in the Traffic Volume Data section of the appendix.

Approved Developments and Committed Improvements

Approved Developments

Approved developments are developments that have been recently approved in the area, but not yet constructed. According to the Town staff, there are two approved developments in the vicinity of the proposed development.

Triangle Math and Science Academy (TMSA) High School is planned south of US 64 between Amberlight Road and Dropseed Drive in Apex. The school is proposed to contain grades K-8 and be open by 2022. The site trips associated with this approved development will be incorporated in the analysis for the future conditions.

The Legacy Development is planned south of US 64 and west of the former Tee-to-Green site in Apex. The development is proposed to consist of up to 400 apartment units and be build by 2024. The site trips associated with this approved development will be incorporated in the analysis for the future conditions.

More information and Figure A shows the total approved development volumes in the appendix.

Committed Improvements

Committed Improvements are improvements that are planned by Town, NCDOT or a developer in the area, but not yet constructed. Per NCDOT and Town staff, an improvement at US 64 and NC 751 is in the planning stages that will convert the intersection into an offset-T. This improvement will be incorporated in the models for the future conditions. More information and rerouting volumes of this improvement is shown in Figure B in the appendix.

Methodology

The analysis for this TIA was conducted utilizing NCDOT standards. The following table contains a summary of the base assumptions:

Table 2 – Assumptions and Parameters	
Peak Hour Factor	0.90
Background Traffic Annual Growth Rate	3.0% per year for all roadways
Base Signal Timing/ Phasing	Provided by NCDOT
Analysis Software	Synchro/SimTraffic Version 10.3
Lane widths	12-feet unless measured otherwise
Truck percentages	2%

Trip Generation

The development is expected to consist of 360 apartment units and 34,000 square feet of medical office space. The trip generation potential of this site was projected based on the most recent edition (11th Edition) of the ITE *Trip Generation Manual*, which is the industry-standard methodology. Also, NCDOT Congestion Management provides guidance on the selection of appropriate rates and equations from the *Trip Generation Manual*, and these guidelines were applied. Table 3 presents the results.

Table 3 - ITE Trip Generation									
Signature Apex Development									
Average Weekday Driveway Volumes					24 Hour	AM Peak Hour		PM Peak Hour	
					Two-Way				
<u>Land Use</u>	<u>ITE Land Code</u>	<u>Size</u>		<u>Data Source</u>	<u>Volume</u>	<u>Enter</u>	<u>Exit</u>	<u>Enter</u>	<u>Exit</u>
Multifamily Housing (Mid-Rise)	221	392	Dwelling Units	Adj. Eq.	1823	37	124	93	60
Medical Office	720	34	Th. Sq. Ft.	Adj. Eq.	1353	72	19	41	94
Unadjusted Trips					3,176	109	143	134	154
Total Trips					3,176	109	143	134	154

Trip Distribution

The trip distribution patterns for future site traffic were projected based on existing traffic patterns. The directional percentages for site traffic are listed below. The primary trip distribution model for this project is shown in Figure 5.

- 55% to and from the east on US Highway 64
- 25% to and from the west on US Highway 64
- 15% to and from the north on NC 751/ New Hill Road
- 5% to and from the south on New Hill Olive Chapel Road

Future No Build Traffic

The 2025 future no-build traffic volumes were computed by applying a 3.0% compounded annual growth rate to the base traffic volumes. Figure 6 shows the 2025 future no-build traffic volumes for AM and PM peaks.

Total Traffic

The 2025 build-out traffic volume was obtained by summing the 2025 future no-build traffic volumes and site trips due to this project. Primary site trips are shown in Figure 7. The resulting build volume totals for AM and PM peaks are shown in Figure 8. More information can be found in the Traffic Volume Data section of the appendix.

Capacity Analysis

Level of Service Evaluation Criteria

The Transportation Research Board's Highway Capacity Manual (HCM) utilizes a term "level of service" to measure how traffic operates in intersections and on roadway segments. There are currently six levels of service ranging from A to F. Level of service "A" represents low-volume traffic operations and Level of Service "F" represents high-volume, oversaturated traffic operations. Synchro Traffic Modeling software was used to determine the level of service for studied intersections. All worksheet reports from the analyses can be found in the Appendix.

**Table 4 – Level of Service and Control Delay Criteria
from Highway Capacity Manual**

Levels of Service and Control Delay Criteria			
Signalized Intersection		Unsignalized Intersection	
Level of Service	Control Delay Per vehicle (sec)	Level of Service	Delay Range (sec)
A	≤ 10	A	≤ 10
B	> 10 and ≤ 20	B	> 10 and ≤ 15
C	> 20 and ≤ 35	C	> 15 and ≤ 25
D	> 35 and ≤ 55	D	> 25 and ≤ 35
E	> 55 and ≤ 80	E	> 35 and ≤ 50
F	> 80	F	> 50

Discussion of Results

US Highway 64 at New Hill Road

This signalized intersection operates at LOS D during the AM and PM peak hours under base scenarios. This intersection planned to be converted into an offset-T in the future conditions. In future no build and build conditions, this the intersection is expected to operate at LOS C in the AM and PM peak. No improvements are recommended.

US Highway 64 at New Hill Olive Chapel Road

This unsignalized intersection's worst approach operates at LOS B during the AM and PM peak hours under base scenarios. This intersection is planned to be converted into a signalized offset-T in the future conditions. In the future no build and future build conditions, LOS C is expected in the AM and PM peaks. No improvements are recommended.

US Highway 64 at Pinefield Road

This unsignalized intersection's worst approach operates at LOS C and D during the AM peak and PM peak hours under base scenarios. In the future no build condition, LOS D is expected in the AM and PM peaks. Pinefield Road has a low volume of traffic, less than 5 vehicles per hour during the peak hours, is expected to have a minimal queue. In the future build condition, LOS D is expected in AM peak and LOS E in the PM peak. LOS E is typical for unsignalized intersections due to the lack of gaps for left turn movements onto a major roadway. Therefore, no improvements are recommended. However, in the future, this intersection should be evaluated to be converted into a reduced conflict intersection (RCI).

US Highway 64 at Site Access 1 (LIRIRO)

In the future build conditions, a median break is requested to construct a left-in, right-in/right-out. This intersection's worst approach is expected to operate at LOS D in the AM peak hour and LOS E in the PM peak hour. The need for left and right turn lanes was reviewed based on NCDOT "Policy on Street and Driveway Access to North Carolina Highways." Based on the AADT on US Highway 64 being above 4,000 vpd, it is recommended to provide a 100-foot eastbound right turn lane with appropriate taper. It so also recommended to provide a westbound left turn lane of 100 feet of storage with appropriate taper for the crossover directional median break. The queues were evaluated, and the median break will not cause a queuing issue with the Pinefield Road median break. The site access should be designed in accordance with NCDOT and Town of Apex standards as applicable.

US Highway 64 at Site Access 2 (RI)

In the future build conditions, this intersection is expected to be constructed as a right-in only. Therefore a LOS is not computed; however, the need for right turn lane was reviewed based on NCDOT "Policy on Street and Driveway Access to North Carolina

Highways.” Based on the AADT on US Highway 64 being above 4,000 vpd, it is recommended to provide a 100-foot eastbound right turn lane with appropriate taper. The site access should be designed in accordance with NCDOT and Town of Apex standards as applicable.

Recommended improvements at the study intersections are illustrated in Figure 9.

Level of Service Summary

Table 5 presents the summary of the level of service analysis for all study intersections:

Table 5 - Level of Service Summary				
AM Peak	2022 Base Year	2025 No Build	2025 Build	2025 Build + Improvements
US Highway 64 at New Hill Road	D (41.6)	C (23.2)	C (23.9)	
US Highway 64 at New Hill Olive Chapel Road	B (10.1) NB Approach	C (28.5)	C (29.2)	
US Highway 64 at Pinefield Road	C (20.4) SB Approach	D (29.2) SB Approach	D (31.2) SB Approach	
US Highway 64 at Site Access 1 (LIRIRO)			D (33.1) NB Approach	D (31.5) NB Approach
US Highway 64 at Site Access 2 (RI)				
PM Peak	2022 Base Year	2025 No Build	2025 Build	2025 Build + Improvements
US Highway 64 at New Hill Road	D (37.6)	C (31.8)	C (33.0)	
US Highway 64 at New Hill Olive Chapel Road	B (10.2) NB Approach	C (24.6)	C (24.9)	
US Highway 64 at Pinefield Road	D (25.1) SB Approach	D (33.8) SB Approach	E (36.8) SB Approach	
US Highway 64 at Site Access 1 (LIRIRO)			E (47.1) NB Approach	E (43.8) NB Approach
US Highway 64 at Site Access 2 (RI)				
LOS (delay in seconds)				
Note for unsignalized conditions, LOS and delay indicates only minor street approach with longest delay				



Summary and Conclusion

The purpose of this report is to assess the transportation impact of the proposed Signature Apex Development. The proposed development is located between New Hill Olive Chapel Road and Lawson Lane south of US Highway 64 in Apex, NC. Signature Apex Development will consist of 392 apartment units and 34,000 square feet of medical office space. This development proposes two (2) access points on US Highway 64.

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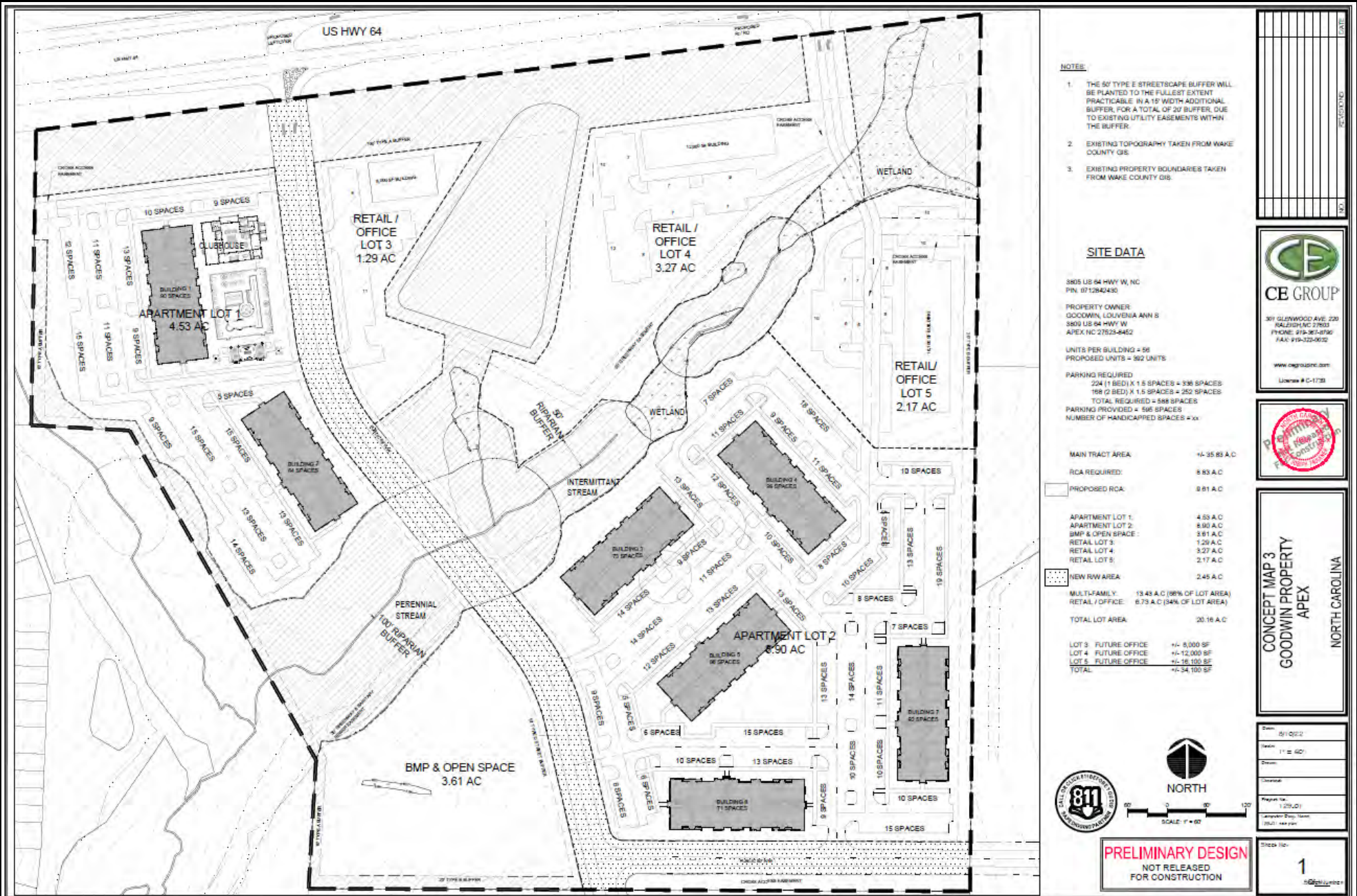
Conclusion

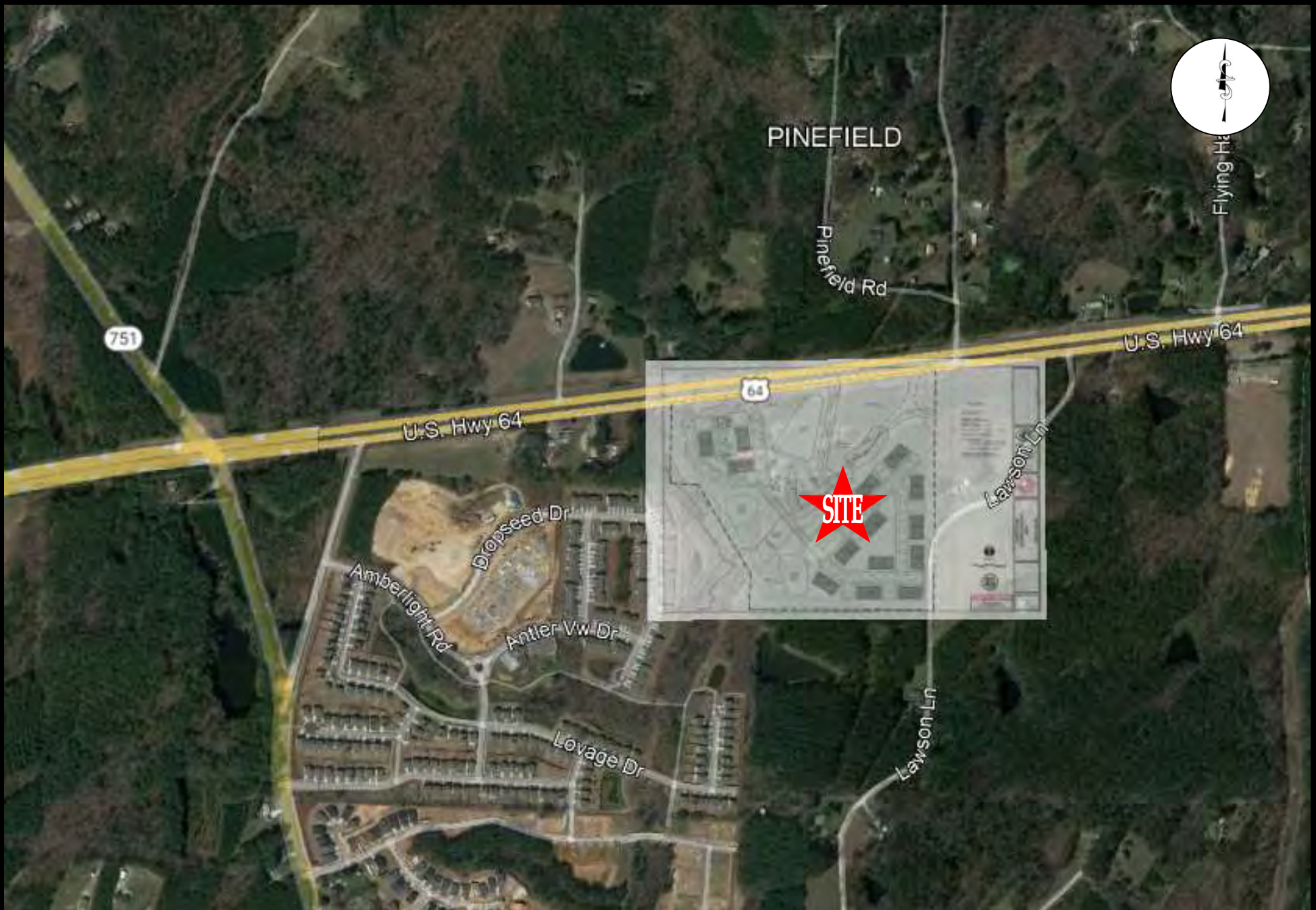
This TIA was performed in order to assess transportation impacts of the proposed site as well as background traffic. Recommendations have been given to accommodate these impacts. The analysis indicates that with the recommended improvements in place, the proposed site is not expected to have a detrimental effect on transportation capacity and mobility in the study area. Please note that the access points should be designed according to NCDOT and Town of Apex standards as applicable.

Table 6 – Recommended Improvements Summary

Intersection	Recommendations
US Highway 64 at New Hill Road	No improvements recommended
US Highway 64 at New Hill Olive Chapel Road	No improvements recommended
US Highway 64 at Pinefield Road	No improvements recommended
US Highway 64 at Site Access 1 (LIRIRO)	- Construct the access as a left-in, right-in, right-out - Provide a westbound 100-foot storage lane with appropriate taper - Provide an eastbound 100-foot storage lane with appropriate taper - The site access should be designed in accordance with NCDOT and Town of Apex standards as applicable.
US Highway 64 at Site Access 2 (RI)	- Construct the access as a right-in - Provide an eastbound 100-foot storage lane with appropriate taper - The site access should be designed in accordance with NCDOT and Town of Apex standards as applicable.

Figures





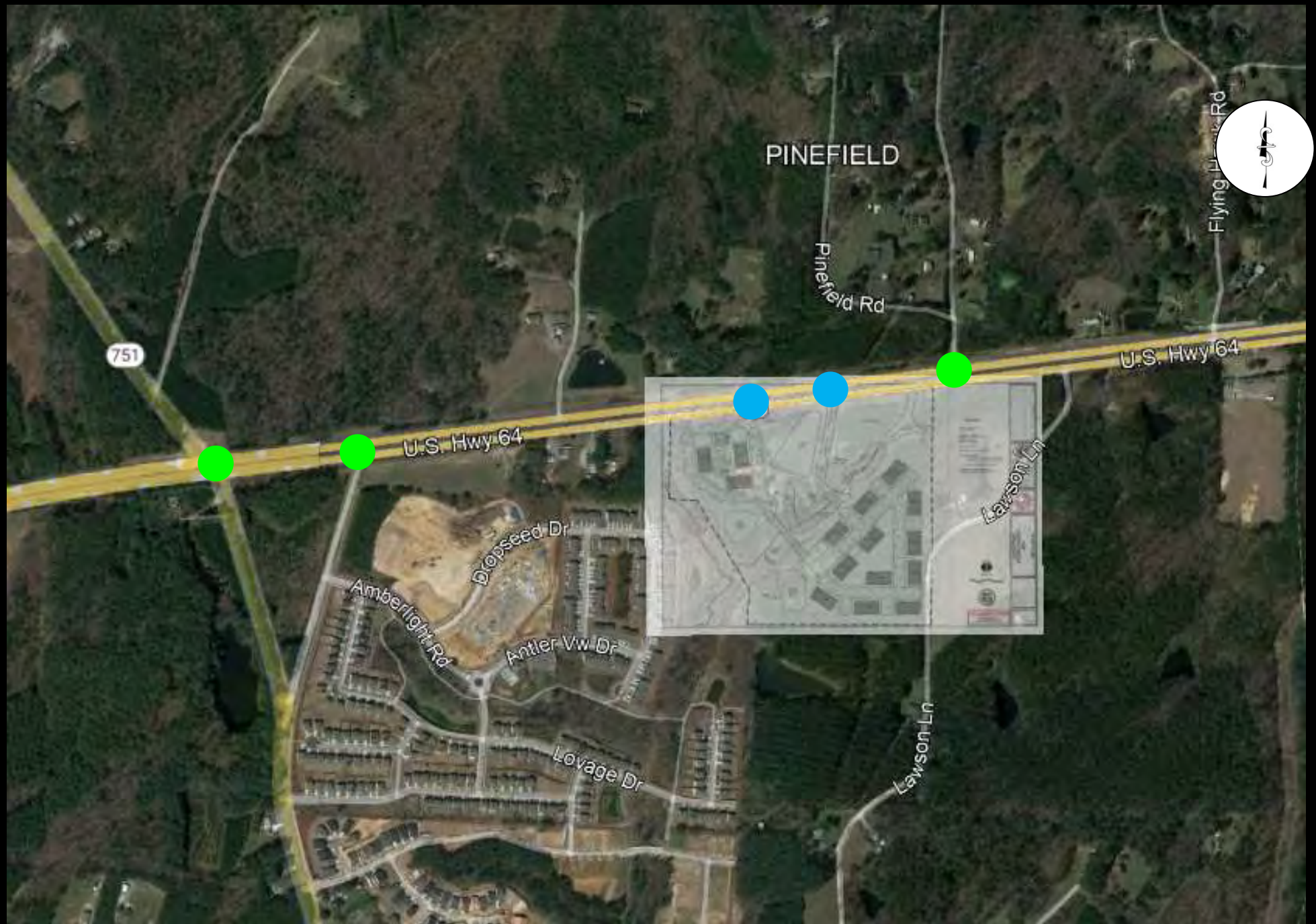
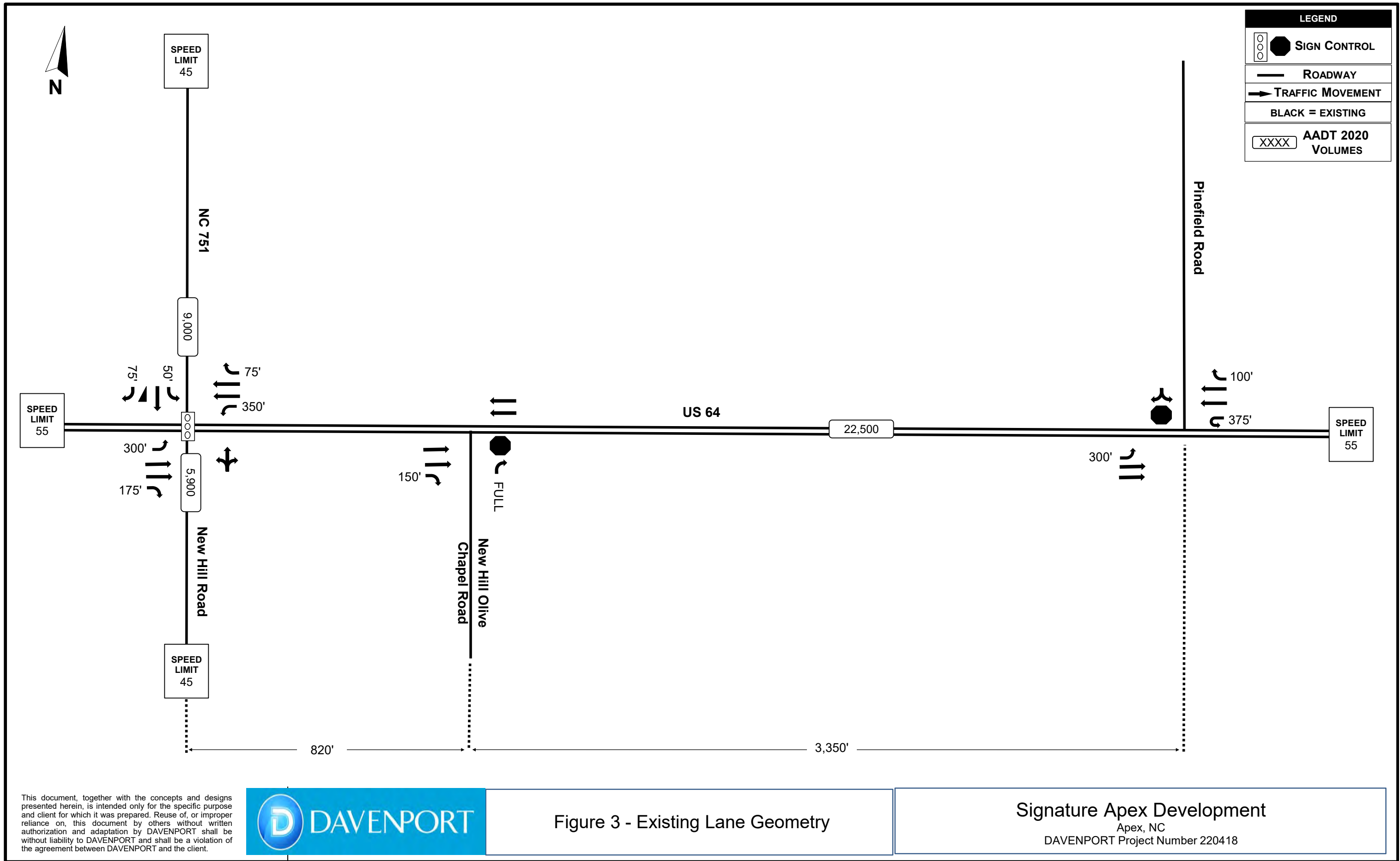


FIGURE 2B
VICINITY MAP



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Figure 3 - Existing Lane Geometry

Signature Apex Development
Apex, NC
DAVENPORT Project Number 220418



LEGEND	
	SIGN CONTROL
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING	
AM/PM PEAKS	

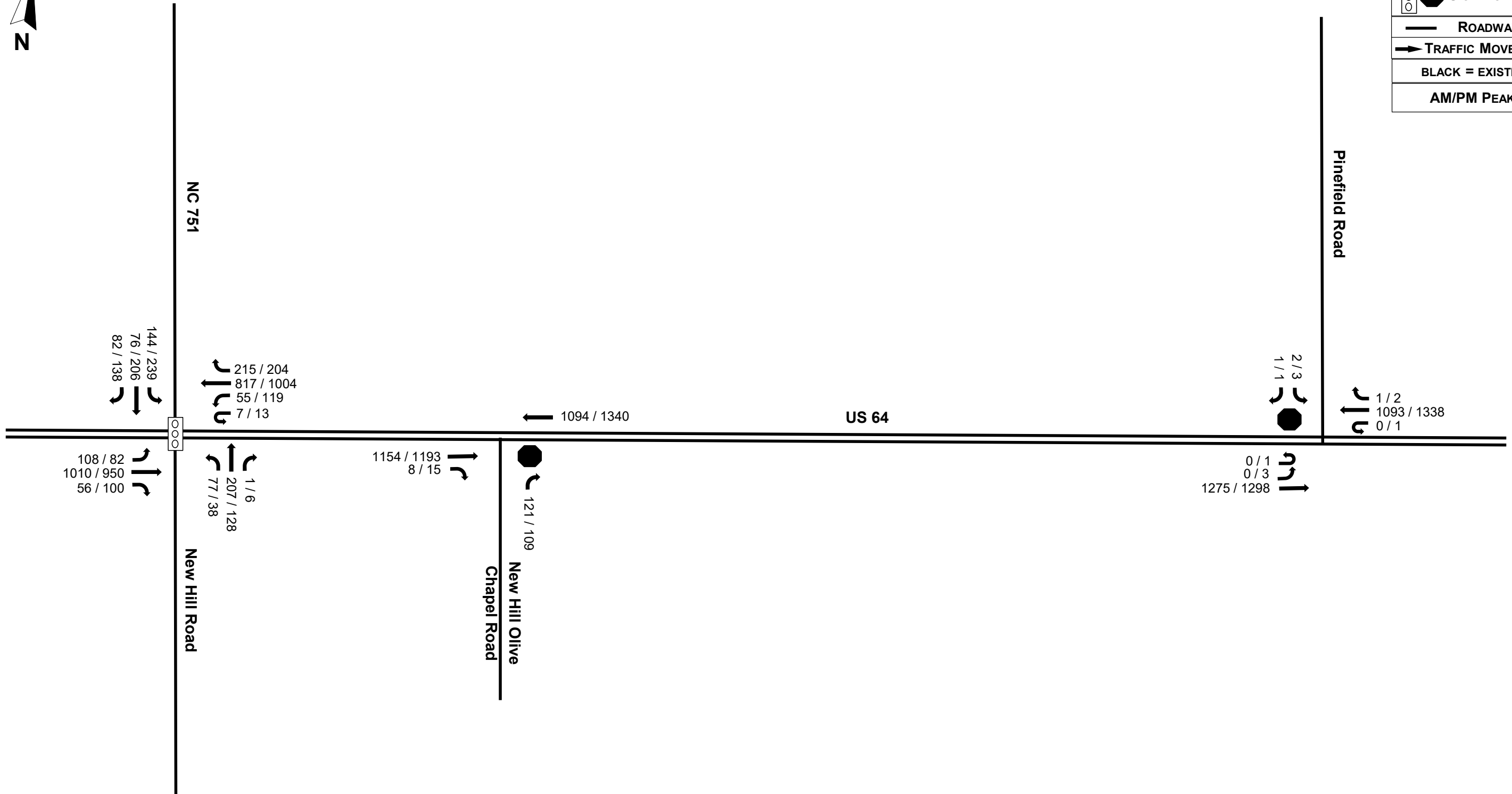
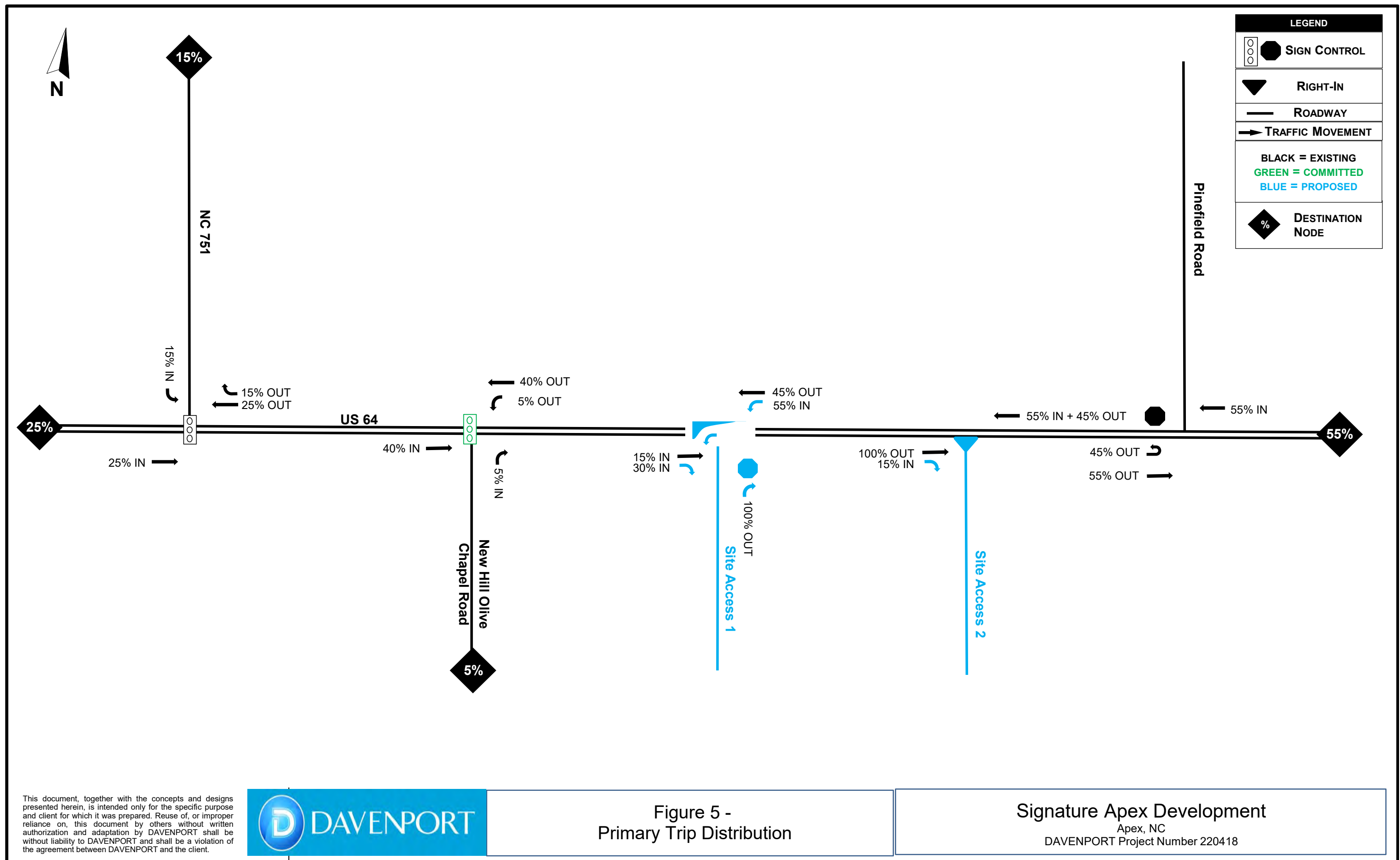


Figure 4 -
2022 Existing Traffic Volumes

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Apex, NC
DAVENPORT Project Number 220418

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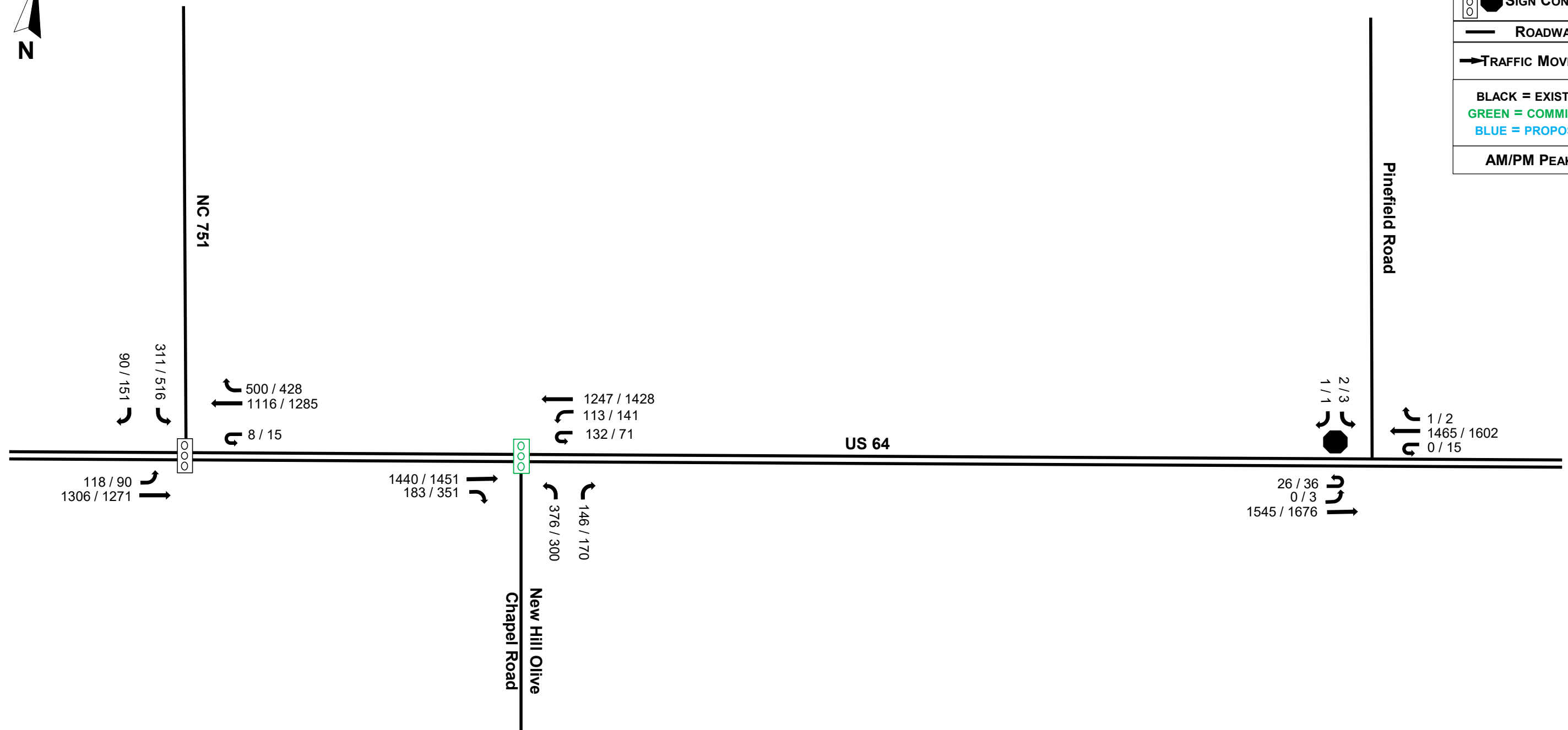


Figure 5 -
Primary Trip Distribution

Signature Apex Development
Apex, NC
DAVENPORT Project Number 220418



LEGEND	
	SIGN CONTROL
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING	
GREEN = COMMITTED	
BLUE = PROPOSED	
AM/PM PEAKS	

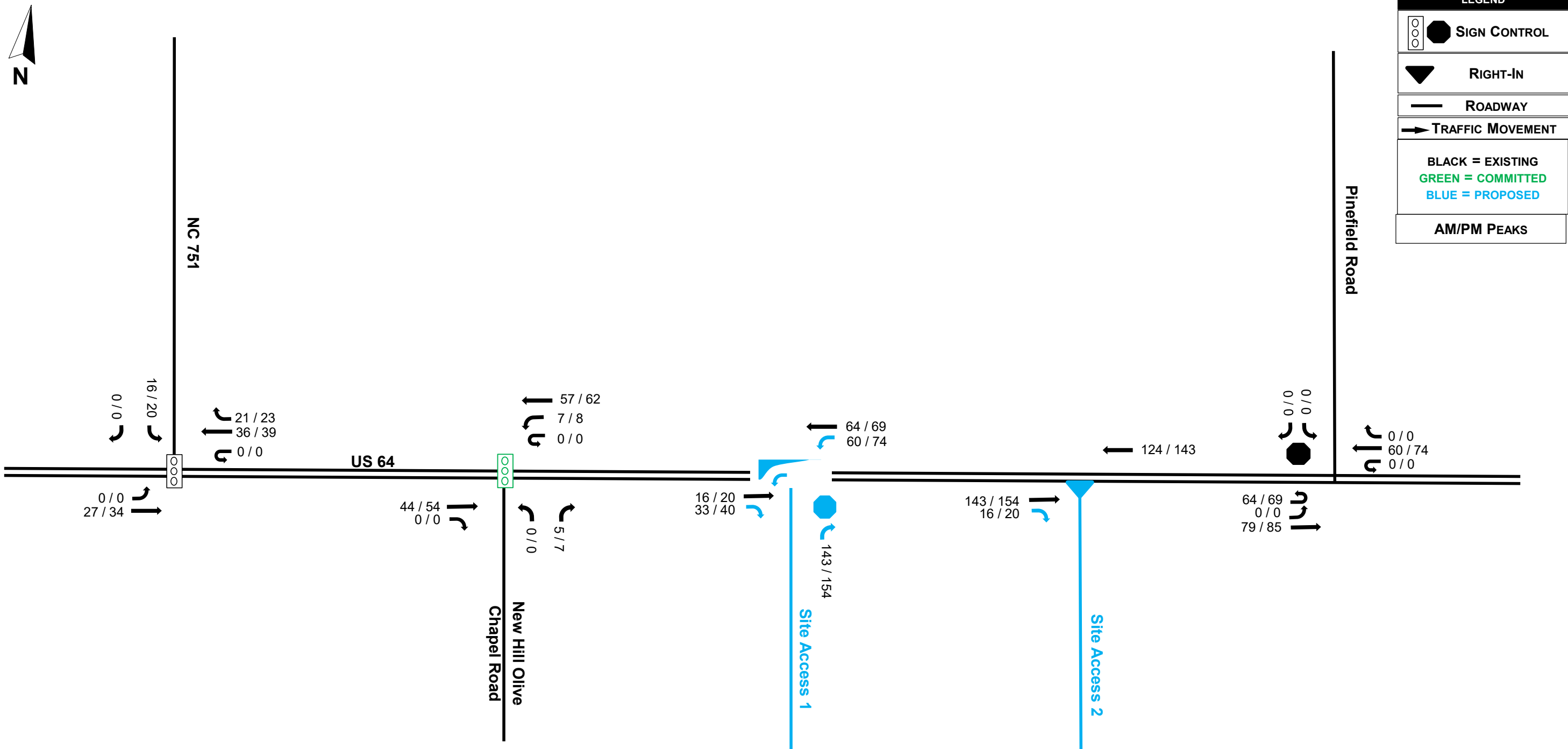


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Figure 6 -
2025 Future No Build Volumes

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DAVENPORT Project Number 220418



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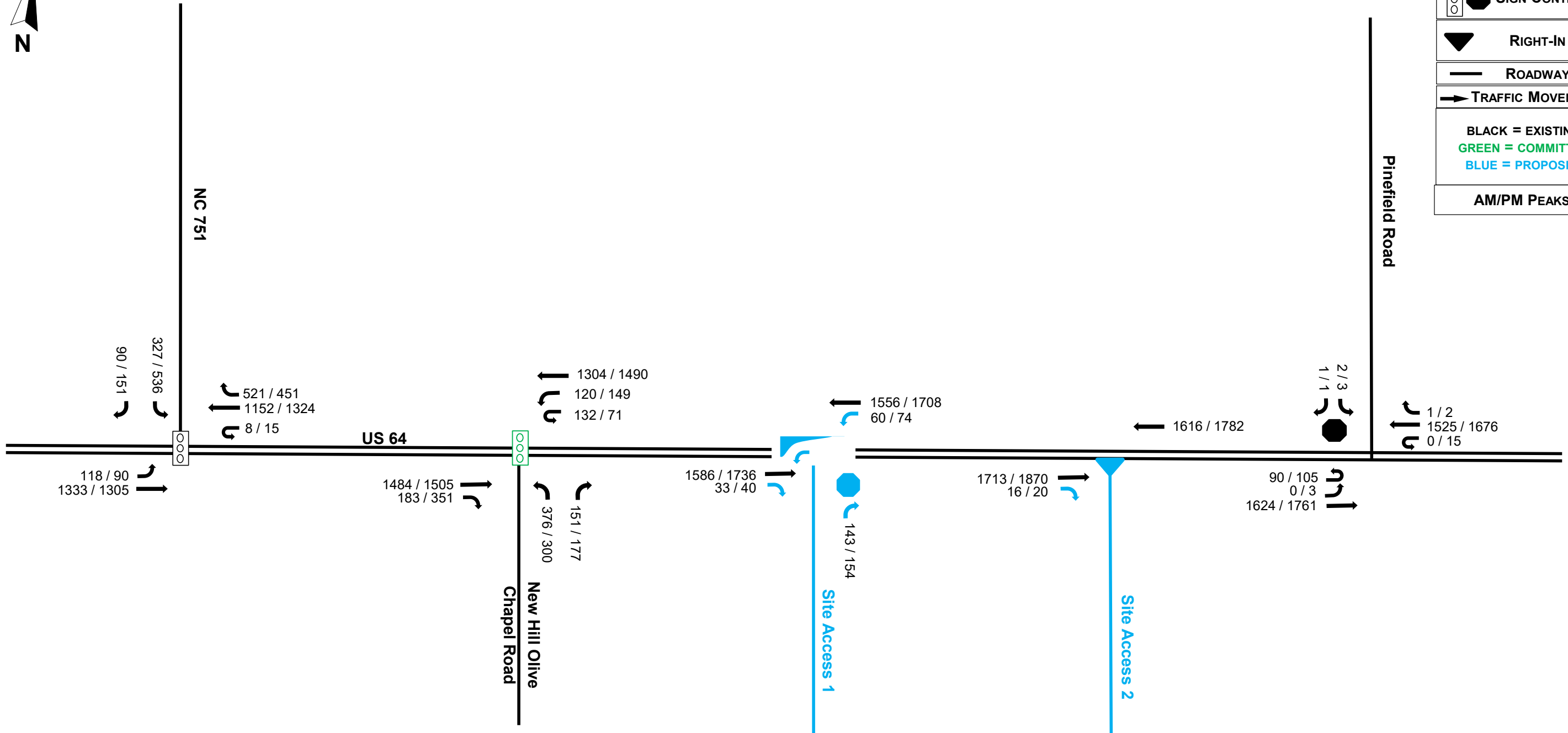


Figure 7 -
Primary Site Trips

Signature Apex Development
Apex, NC
DAVENPORT Project Number 220418



LEGEND	
	SIGN CONTROL
	RIGHT-IN
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING	
GREEN = COMMITTED	
BLUE = PROPOSED	
AM/PM PEAKS	

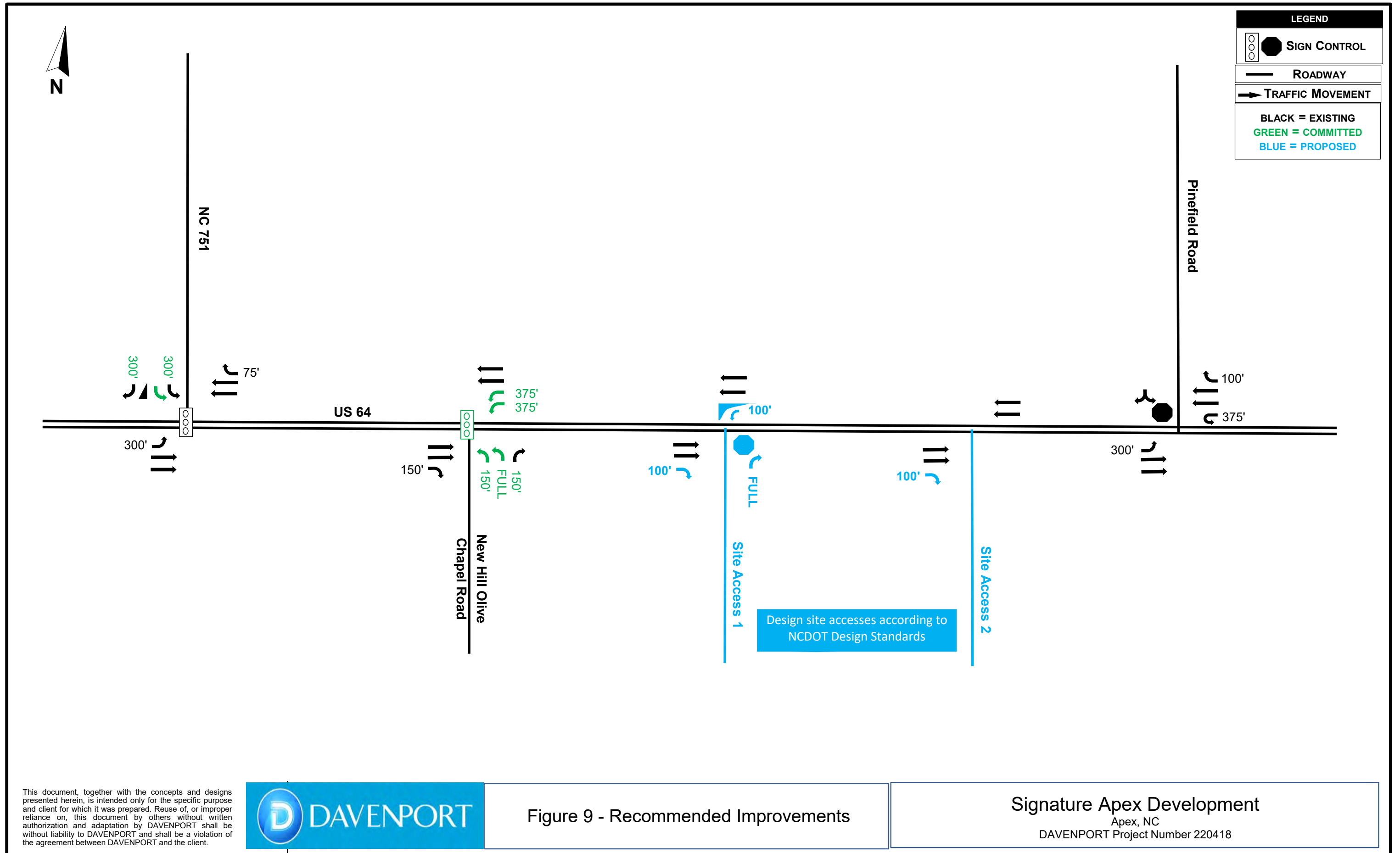


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Figure 8 -
2025 Future Build Volumes

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DAVENPORT Project Number 220418



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Figure 9 - Recommended Improvements

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Apex, NC
DAVENPORT Project Number 220418

Appendix

Trip Generation

Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

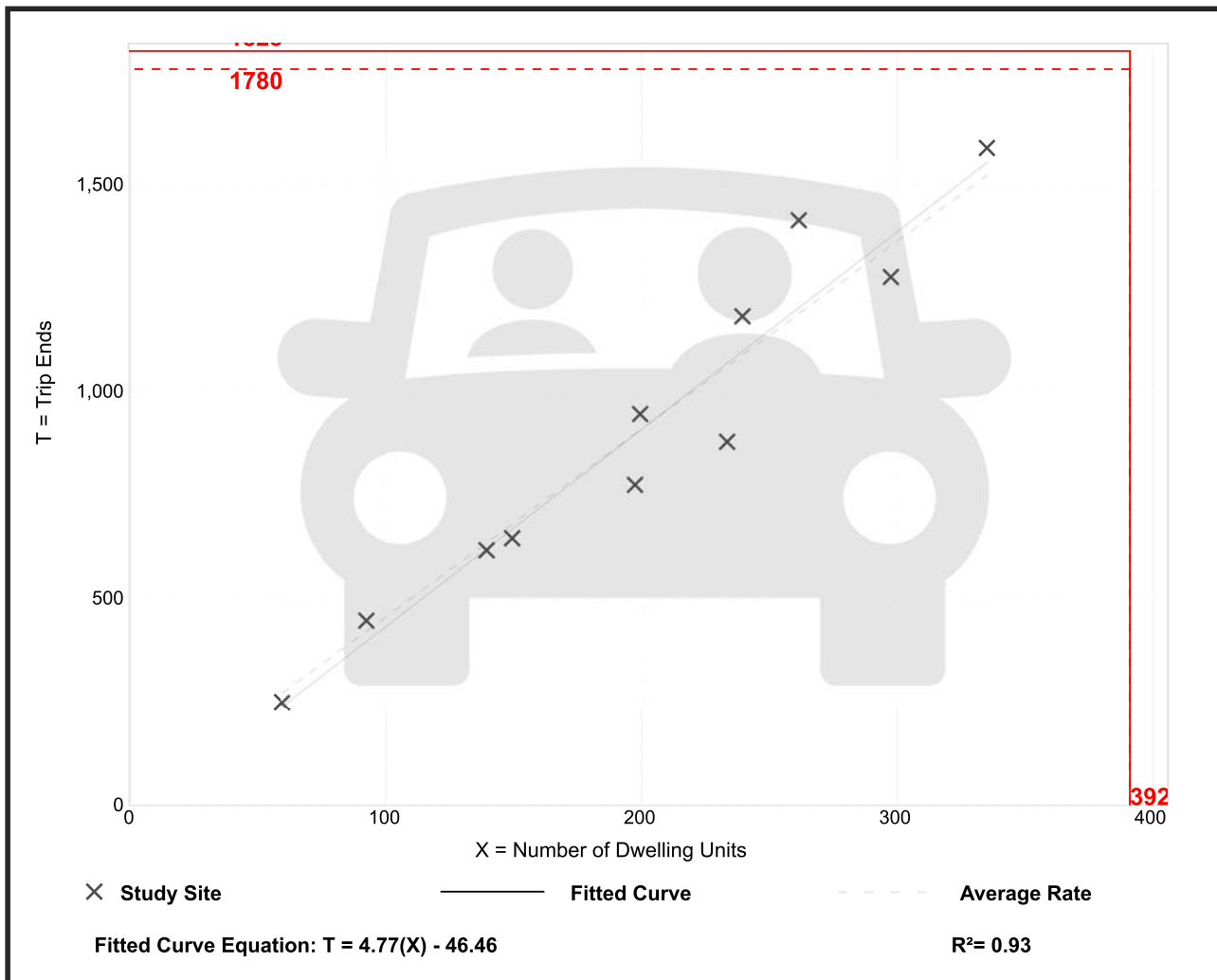
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. Num. of Dwelling Units: 201
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.54	3.76 - 5.40	0.51

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 30

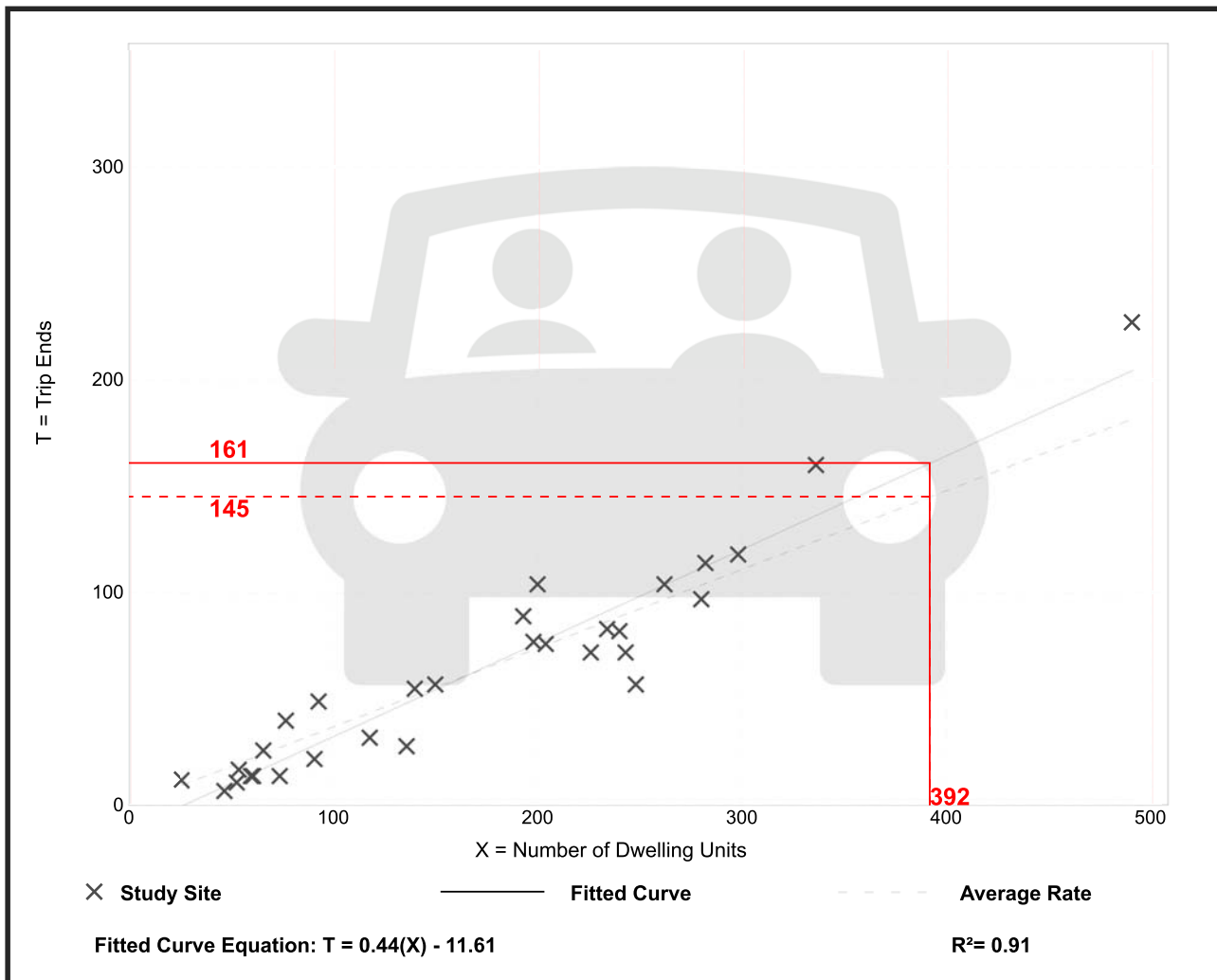
Avg. Num. of Dwelling Units: 173

Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 31

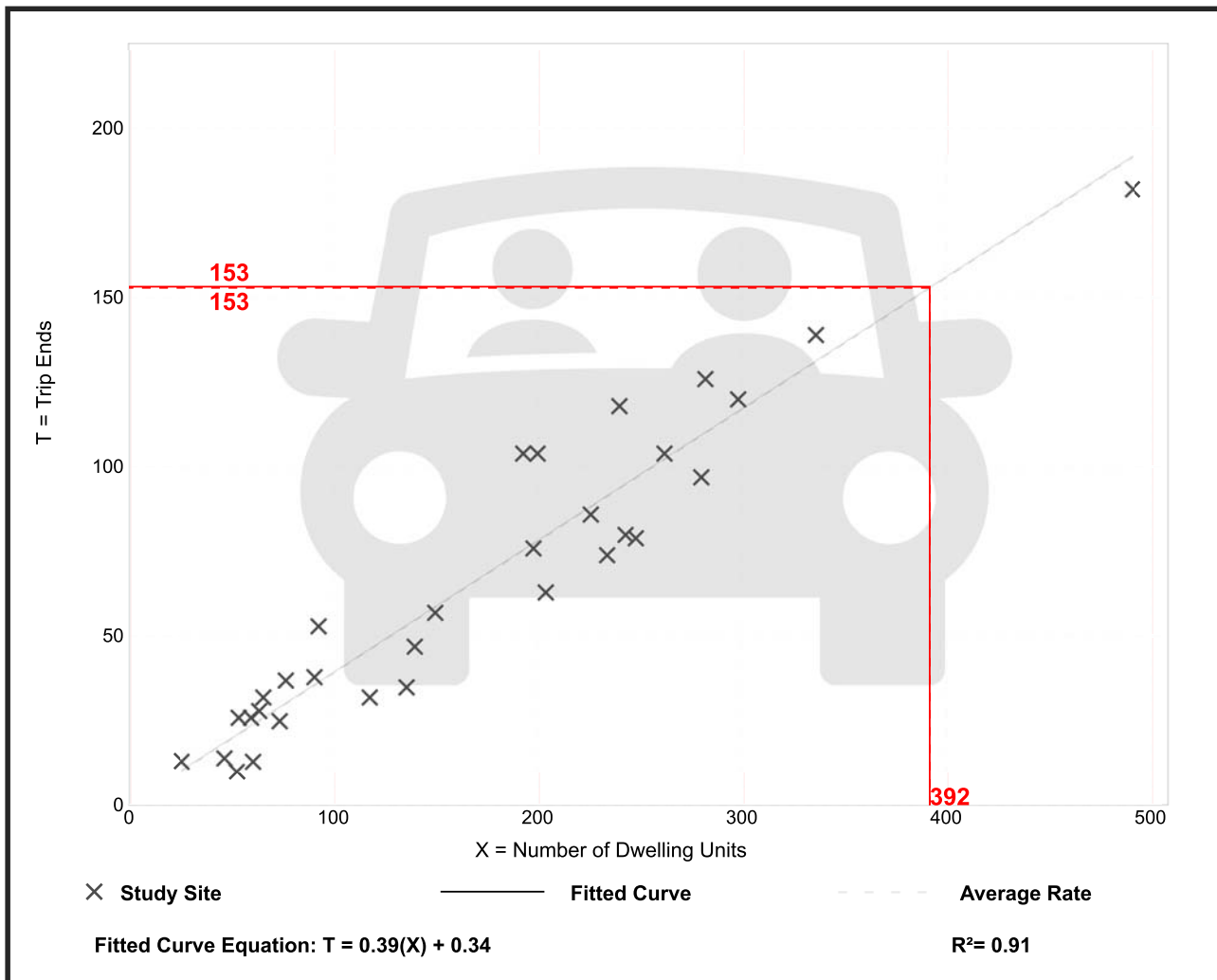
Avg. Num. of Dwelling Units: 169

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.57	0.08

Data Plot and Equation



Medical-Dental Office Building - Stand-Alone (720)

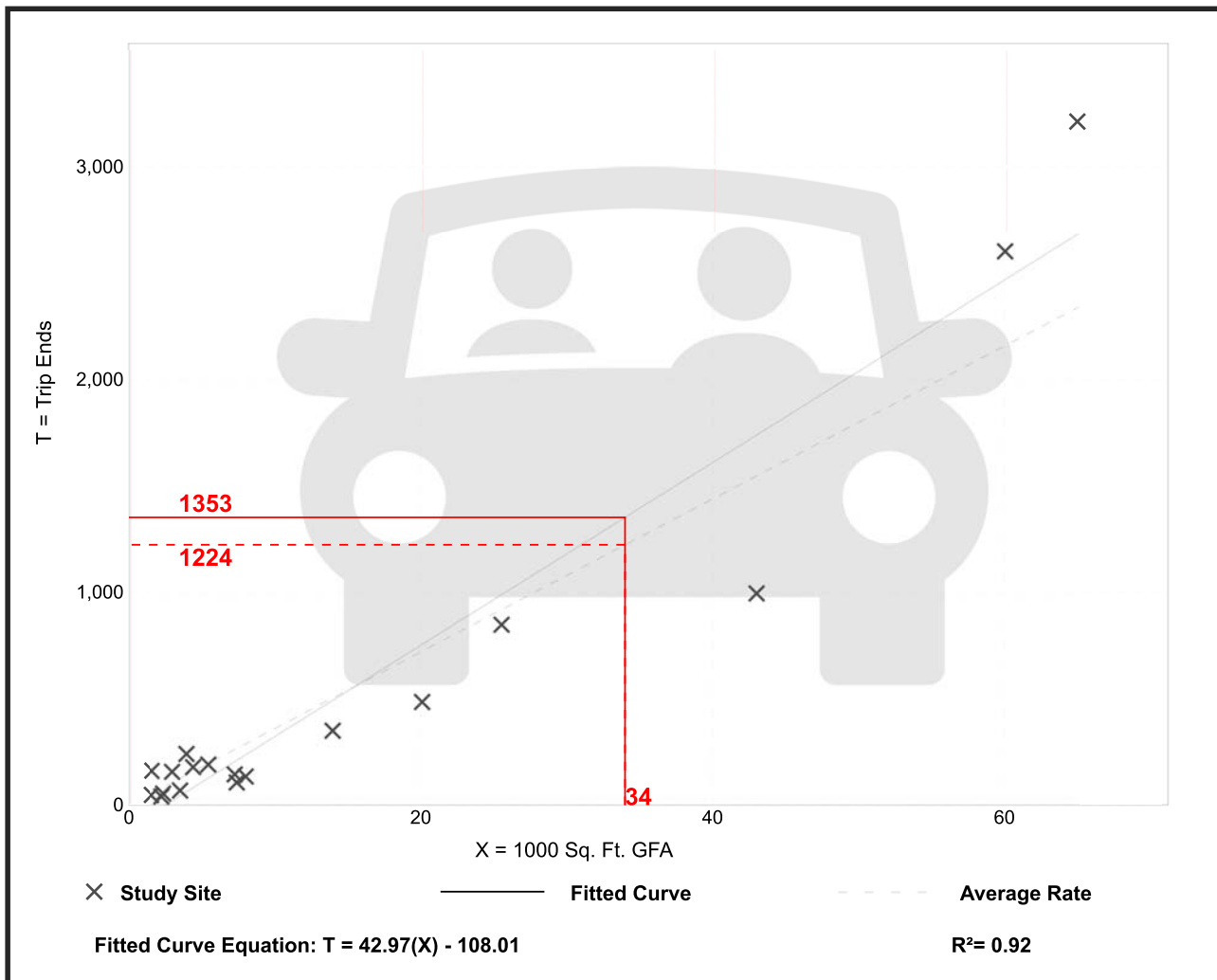
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 18
Avg. 1000 Sq. Ft. GFA: 15
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
36.00	14.52 - 100.75	13.38

Data Plot and Equation



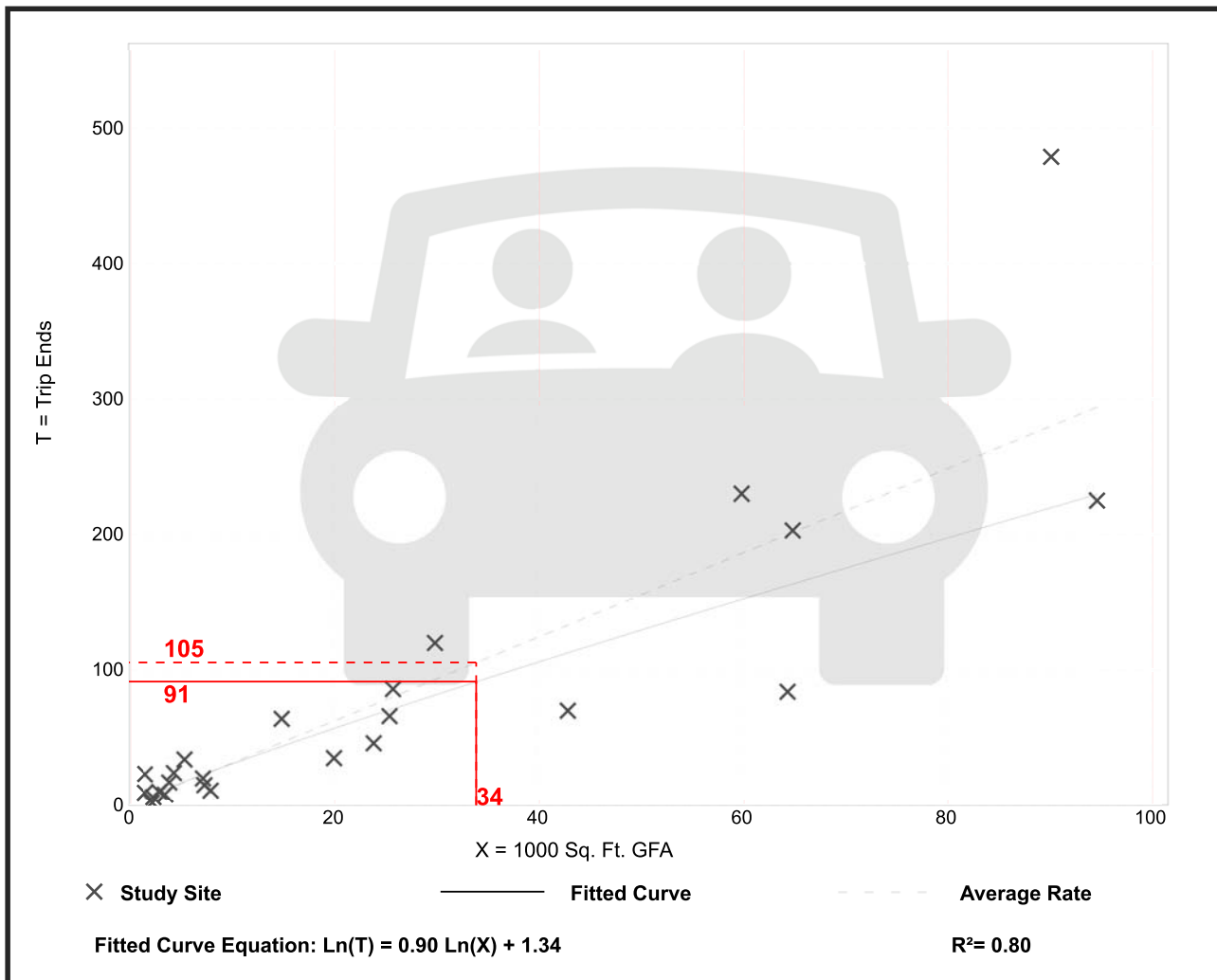
Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 24
 Avg. 1000 Sq. Ft. GFA: 25
 Directional Distribution: 79% entering, 21% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.10	0.87 - 14.30	1.49

Data Plot and Equation



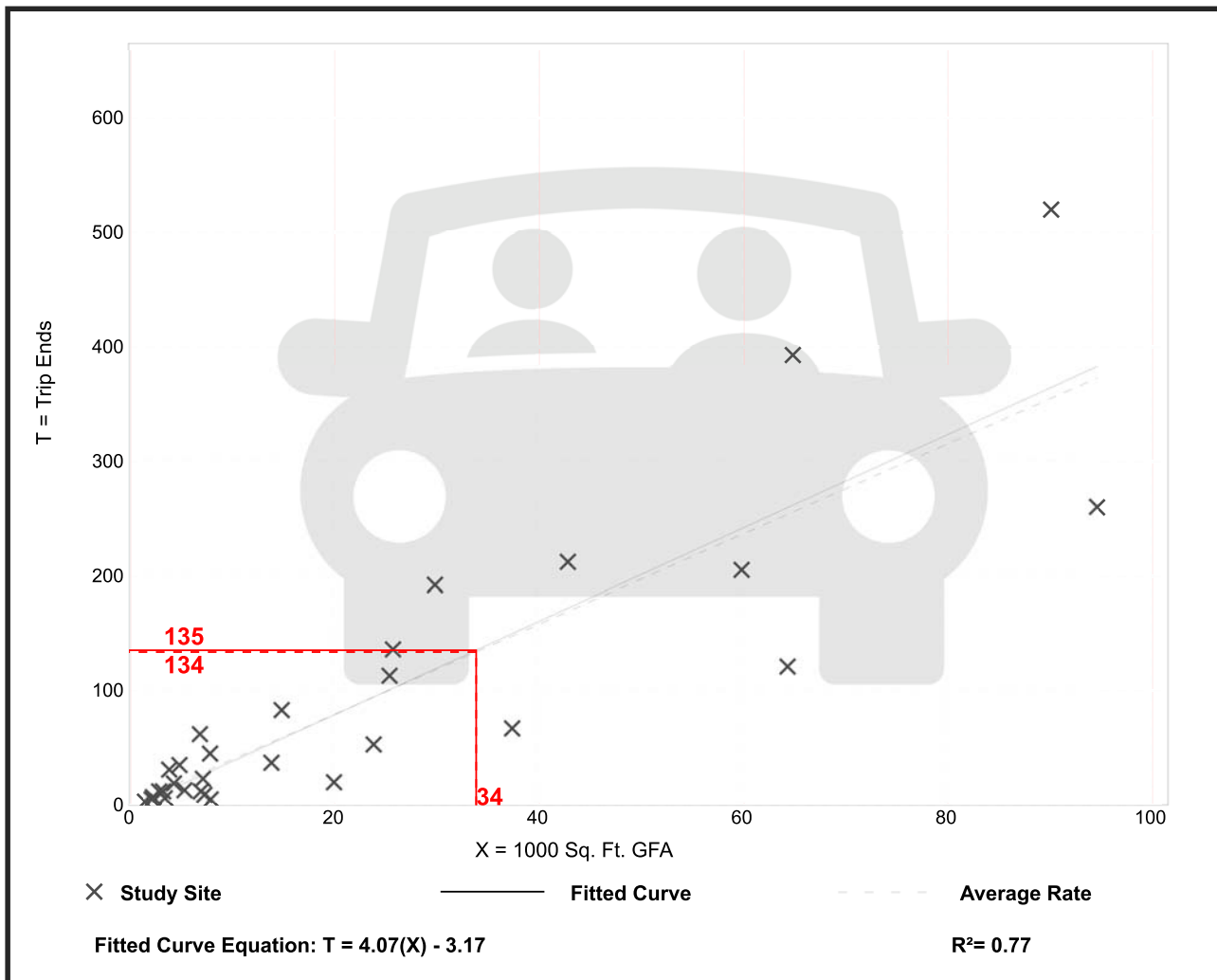
Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 30
 Avg. 1000 Sq. Ft. GFA: 23
 Directional Distribution: 30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.93	0.62 - 8.86	1.86

Data Plot and Equation



Level of Service Analysis

AM Base Conditions

Lanes, Volumes, Timings
100: New Hill Road & US Highway 64

09/28/2022

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	108	1010	56	7	55	817	215	77	207	4	144	76
Future Volume (vph)	108	1010	56	7	55	817	215	77	207	4	144	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		200		275		75	0		0	75	
Storage Lanes	1		1		1		1	0		0	1	
Taper Length (ft)	100				100			25			100	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850				0.850		0.998			0.922
Flt Protected	0.950				0.950				0.987		0.950	
Satd. Flow (prot)	1770	3539	1583	0	1770	3539	1583	0	1835	0	1770	1717
Flt Permitted	0.220				0.152				0.850		0.301	
Satd. Flow (perm)	410	3539	1583	0	283	3539	1583	0	1580	0	561	1717
Right Turn on Red			No				No			No		
Satd. Flow (RTOR)												
Link Speed (mph)		55				55			45			45
Link Distance (ft)		1019				859			1394			1003
Travel Time (s)		12.6				10.6			21.1			15.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	120	1122	62	8	61	908	239	86	230	4	160	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	1122	62	0	69	908	239	0	320	0	160	175
Turn Type	D.P+P	NA	Perm	D.P+P	D.P+P	NA	pm+ov	Perm	NA		pm+pt	NA
Protected Phases	5	2		1	1	6	7		8		7	4
Permitted Phases	6		2	2	2		6	8			4	
Detector Phase	5	2	2	1	1	6	7	8	8		7	4
Switch Phase												
Minimum Initial (s)	7.0	14.0	14.0	7.0	7.0	17.0	9.0	9.0	9.0		9.0	9.0
Minimum Split (s)	12.6	25.8	25.8	12.4	12.4	25.8	15.7	24.4	24.4		15.7	24.9
Total Split (s)	20.0	90.0	90.0	20.0	20.0	90.0	35.0	35.0	35.0		35.0	70.0
Total Split (%)	11.1%	50.0%	50.0%	11.1%	11.1%	50.0%	19.4%	19.4%	19.4%		19.4%	38.9%
Maximum Green (s)	14.4	82.2	82.2	14.6	14.6	82.2	28.3	28.6	28.6		28.3	63.1
Yellow Time (s)	3.0	5.8	5.8	3.0	3.0	5.8	3.0	4.4	4.4		3.0	5.3
All-Red Time (s)	2.6	2.0	2.0	2.4	2.4	2.0	3.7	2.0	2.0		3.7	1.6
Lost Time Adjust (s)	-0.6	-2.8	-2.8		-0.4	-2.8	-1.7		-1.4		-1.7	-1.9
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	Max	Max	None	None	Max	None	None	None		None	None
Act Effct Green (s)	95.9	87.2	87.2		95.9	85.1	111.7		30.0		56.6	56.6
Actuated g/C Ratio	0.57	0.52	0.52		0.57	0.51	0.67		0.18		0.34	0.34
v/c Ratio	0.37	0.61	0.08		0.29	0.51	0.23		1.13		0.47	0.30
Control Delay	18.4	30.6	21.7		17.9	29.3	11.7		152.7		45.1	42.6
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	18.4	30.6	21.7		17.9	29.3	11.7		152.7		45.1	42.6
LOS	B	C	C		B	C	B		F		D	D
Approach Delay		29.1				25.2			152.7			43.8
Approach LOS		C				C			F			D

Lanes, Volumes, Timings
100: New Hill Road & US Highway 64

09/28/2022

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	82
Future Volume (vph)	82
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	No
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.90
Adj. Flow (vph)	91
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Lanes, Volumes, Timings
100: New Hill Road & US Highway 64

09/28/2022

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	54	443	33		30	340	97		~404		128	142
Queue Length 95th (ft)	96	581	68		60	456	147		#665		196	216
Internal Link Dist (ft)		939				779			1314			923
Turn Bay Length (ft)	275		200		275		75				75	
Base Capacity (vph)	365	1843	824		303	1798	1135		283		406	667
Starvation Cap Reductn	0	0	0		0	0	0		0		0	0
Spillback Cap Reductn	0	0	0		0	0	0		0		0	0
Storage Cap Reductn	0	0	0		0	0	0		0		0	0
Reduced v/c Ratio	0.33	0.61	0.08		0.23	0.51	0.21		1.13		0.39	0.26

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 167.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 41.6

Intersection LOS: D

Intersection Capacity Utilization 74.8%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 100: New Hill Road & US Highway 64

		
Ø1	Ø2	Ø4
20 s	90 s	70 s
		
Ø5	Ø6	Ø7
20 s	90 s	35 s
		Ø8
		35 s



Lane Group	SBR
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM Unsignalized Intersection Capacity Analysis

200: New Hill Olive Chapel Road & US Highway 64

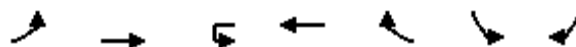
09/28/2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Volume (veh/h)	1154	8	0	1094	0	121
Future Volume (Veh/h)	1154	8	0	1094	0	121
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1282	9	0	1216	0	134
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised		Raised			
Median storage veh)	1		1			
Upstream signal (ft)	859					
pX, platoon unblocked			0.77		0.77	0.77
vC, conflicting volume			1291		1890	641
vC1, stage 1 conf vol					1282	
vC2, stage 2 conf vol					608	
vCu, unblocked vol			794		1567	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	84
cM capacity (veh/h)			638		212	840
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	641	641	9	608	608	134
Volume Left	0	0	0	0	0	0
Volume Right	0	0	9	0	0	134
cSH	1700	1700	1700	1700	1700	840
Volume to Capacity	0.38	0.38	0.01	0.36	0.36	0.16
Queue Length 95th (ft)	0	0	0	0	0	14
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.1
Lane LOS						B
Approach Delay (s)	0.0			0.0	10.1	
Approach LOS						B
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			46.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

300: US Highway 64 & Pinefield Road

09/28/2022



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR	
Lane Configurations								
Traffic Volume (veh/h)	4	1275	0	1093	4	4	4	
Future Volume (Veh/h)	4	1275	0	1093	4	4	4	
Sign Control	Free		Free		Stop			
Grade	0%		0%		0%			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly flow rate (vph)	4	1417	0	1214	4	4	4	
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	Raised		Raised					
Median storage veh	1		1					
Upstream signal (ft)								
pX, platoon unblocked			0.00					
vC, conflicting volume	1218	0		1930			607	
vC1, stage 1 conf vol						1214		
vC2, stage 2 conf vol						716		
vCu, unblocked vol	1218	0		1930			607	
tC, single (s)	4.1	0.0		6.8			6.9	
tC, 2 stage (s)						5.8		
tF (s)	2.2	0.0		3.5			3.3	
p0 queue free %	99	0		98			99	
cM capacity (veh/h)	568	0		167			439	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	4	708	708	607	607	4	0	8
Volume Left	4	0	0	0	0	0	0	4
Volume Right	0	0	0	0	0	4	0	4
cSH	568	1700	1700	1700	1700	1700	1700	242
Volume to Capacity	0.01	0.42	0.42	0.36	0.36	0.00	0.00	0.03
Queue Length 95th (ft)	1	0	0	0	0	0	0	3
Control Delay (s)	11.4	0.0	0.0	0.0	0.0	0.0	0.0	20.4
Lane LOS	B							C
Approach Delay (s)	0.0	0.0			20.4			
Approach LOS								C
Intersection Summary								
Average Delay			0.1					
Intersection Capacity Utilization			45.2%		ICU Level of Service		A	
Analysis Period (min)			15					

AM Future No-Build Conditions

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

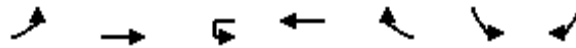
09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	118	1306	8	1116	500	311	90
Future Volume (vph)	118	1306	8	1116	500	311	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		275		75	300	300
Storage Lanes	1		0		1	1	1
Taper Length (ft)	100		100			200	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.97	1.00
Frt					0.850		0.850
Flt Protected	0.950					0.950	
Satd. Flow (prot)	1770	3539	0	3539	1583	3433	1583
Flt Permitted	0.950			0.937		0.950	
Satd. Flow (perm)	1770	3539	0	3316	1583	3433	1583
Right Turn on Red					No		No
Satd. Flow (RTOR)							
Link Speed (mph)		55		55		45	
Link Distance (ft)		1019		859		1003	
Travel Time (s)		12.6		10.6		15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	131	1451	9	1240	556	346	100
Shared Lane Traffic (%)							
Lane Group Flow (vph)	131	1451	0	1249	556	346	100
Turn Type	Prot	NA	Perm	NA	Perm	Prot	Perm
Protected Phases	5	2		6		3	
Permitted Phases			6		6		7
Detector Phase	5	2	6	6	6	3	7
Switch Phase							
Minimum Initial (s)	7.0	14.0	17.0	17.0	17.0	9.0	9.0
Minimum Split (s)	14.6	25.8	25.8	25.8	25.8	17.7	17.7
Total Split (s)	22.0	142.0	120.0	120.0	120.0	38.0	38.0
Total Split (%)	12.2%	78.9%	66.7%	66.7%	66.7%	21.1%	21.1%
Maximum Green (s)	15.0	135.0	113.0	113.0	113.0	31.0	31.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None
Act Effect Green (s)	16.4	137.0		115.6	115.6	24.5	24.5
Actuated g/C Ratio	0.10	0.80		0.67	0.67	0.14	0.14
v/c Ratio	0.78	0.51		0.56	0.52	0.71	0.44
Control Delay	104.3	6.9		16.3	16.8	78.4	73.6
Queue Delay	0.0	0.0		0.6	0.9	0.0	0.0
Total Delay	104.3	6.9		16.9	17.7	78.4	73.6
LOS	F	A		B	B	E	E
Approach Delay		15.0		17.1		77.3	
Approach LOS		B		B		E	

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	146	255		368	300	194	105
Queue Length 95th (ft)	#263	352		475	442	252	171
Internal Link Dist (ft)		939		779		923	
Turn Bay Length (ft)	275				75	300	300
Base Capacity (vph)	175	2828		2235	1067	660	304
Starvation Cap Reductn	0	0		550	251	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.75	0.51		0.74	0.68	0.52	0.33

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 171.5

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 23.2

Intersection LOS: C

Intersection Capacity Utilization 88.6%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 100: US Highway 64 & New Hill Road

→ Ø2	↖ Ø3
142 s	38 s
↗ Ø5	↖ Ø7
22 s	38 s
← Ø6	
120 s	

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022

							
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑	↑
Traffic Volume (vph)	1440	183	132	113	1247	376	146
Future Volume (vph)	1440	183	132	113	1247	376	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		375		150	150
Storage Lanes		1		2		1	1
Taper Length (ft)				200		200	
Lane Util. Factor	0.95	1.00	0.95	0.97	0.95	0.97	1.00
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	3433	3539	3433	1583
Flt Permitted				0.950		0.950	
Satd. Flow (perm)	3539	1583	0	3433	3539	3433	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	55				55	45	
Link Distance (ft)	859				3399	935	
Travel Time (s)	10.6				42.1	14.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1600	203	147	126	1386	418	162
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1600	203	0	273	1386	418	162
Turn Type	NA	pm+ov	Prot	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1!	1	6	8	1!
Permitted Phases		2					8
Detector Phase	2	8	1	1	6	8	1
Switch Phase							
Minimum Initial (s)	14.0	7.0	7.0	7.0	14.0	7.0	7.0
Minimum Split (s)	25.0	25.0	14.0	14.0	25.0	25.0	14.0
Total Split (s)	115.0	37.0	28.0	28.0	143.0	37.0	28.0
Total Split (%)	63.9%	20.6%	15.6%	15.6%	79.4%	20.6%	15.6%
Maximum Green (s)	108.0	30.0	21.0	21.0	136.0	30.0	21.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			Lead
Lead-Lag Optimize?	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	None	None	None	Max	None
Act Effect Green (s)	75.1	112.7		18.3	98.5	32.5	55.9
Actuated g/C Ratio	0.53	0.80		0.13	0.70	0.23	0.40
v/c Ratio	0.85	0.16		0.61	0.56	0.53	0.26
Control Delay	33.1	3.7		66.1	11.4	53.4	32.9
Queue Delay	0.1	0.0		0.0	0.0	0.0	0.0
Total Delay	33.2	3.7		66.1	11.4	53.4	32.9
LOS	C	A		E	B	D	C
Approach Delay	29.9				20.4	47.6	
Approach LOS	C				C	D	

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 50th (ft)	635	36		123	306	175	100
Queue Length 95th (ft)	778	64		197	352	281	192
Internal Link Dist (ft)	779				3319	855	
Turn Bay Length (ft)		150		375		150	150
Base Capacity (vph)	2801	1263		568	3331	790	683
Starvation Cap Reductn	230	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.62	0.16		0.48	0.42	0.53	0.24

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 141.2

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 28.5

Intersection LOS: C

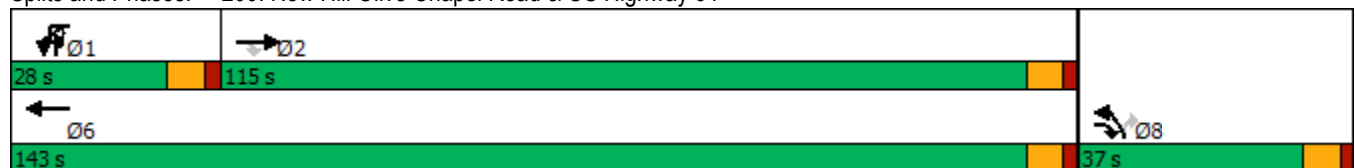
Intersection Capacity Utilization 70.0%

ICU Level of Service C

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 200: New Hill Olive Chapel Road & US Highway 64



HCM Unsignalized Intersection Capacity Analysis

300: US Highway 64 & Pinefield Road

09/28/2022

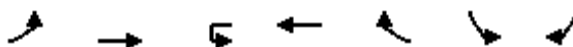


Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↰	↶↶	↰	↶↶	↰	↰	
Traffic Volume (veh/h)	26	4	1545	0	1465	4	4	4
Future Volume (Veh/h)	26	4	1545	0	1465	4	4	4
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	4	1717	0	1628	4	4	4
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			1		1			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1632		0			2494	814
vC1, stage 1 conf vol							1628	
vC2, stage 2 conf vol							866	
vCu, unblocked vol	0	1632		0			2494	814
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	99		0			96	99
cM capacity (veh/h)	0	394		0			104	321
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	4	858	858	814	814	4	0	8
Volume Left	4	0	0	0	0	0	0	4
Volume Right	0	0	0	0	0	4	0	4
cSH	394	1700	1700	1700	1700	1700	1700	157
Volume to Capacity	0.01	0.51	0.51	0.48	0.48	0.00	0.00	0.05
Queue Length 95th (ft)	1	0	0	0	0	0	0	4
Control Delay (s)	14.2	0.0	0.0	0.0	0.0	0.0	0.0	29.2
Lane LOS	B							D
Approach Delay (s)	0.0			0.0				29.2
Approach LOS								D
Intersection Summary								
Average Delay			0.1					
Intersection Capacity Utilization			52.7%		ICU Level of Service			A
Analysis Period (min)			15					

AM Future Build Conditions

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

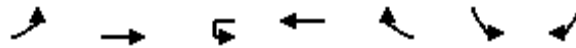
09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	118	1333	8	1152	521	327	90
Future Volume (vph)	118	1333	8	1152	521	327	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		275		75	300	300
Storage Lanes	1		0		1	1	1
Taper Length (ft)	100		100			200	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.97	1.00
Frt					0.850		0.850
Flt Protected	0.950					0.950	
Satd. Flow (prot)	1770	3539	0	3539	1583	3433	1583
Flt Permitted	0.950			0.936		0.950	
Satd. Flow (perm)	1770	3539	0	3313	1583	3433	1583
Right Turn on Red					No		No
Satd. Flow (RTOR)							
Link Speed (mph)		55		55		45	
Link Distance (ft)		1019		859		1003	
Travel Time (s)		12.6		10.6		15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	131	1481	9	1280	579	363	100
Shared Lane Traffic (%)							
Lane Group Flow (vph)	131	1481	0	1289	579	363	100
Turn Type	Prot	NA	Perm	NA	Perm	Prot	Perm
Protected Phases	5	2		6		3	
Permitted Phases			6		6		7
Detector Phase	5	2	6	6	6	3	7
Switch Phase							
Minimum Initial (s)	7.0	14.0	17.0	17.0	17.0	9.0	9.0
Minimum Split (s)	14.6	25.8	25.8	25.8	25.8	17.7	17.7
Total Split (s)	22.0	142.0	120.0	120.0	120.0	38.0	38.0
Total Split (%)	12.2%	78.9%	66.7%	66.7%	66.7%	21.1%	21.1%
Maximum Green (s)	15.0	135.0	113.0	113.0	113.0	31.0	31.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None
Act Effect Green (s)	16.4	137.1		115.7	115.7	25.4	25.4
Actuated g/C Ratio	0.10	0.79		0.67	0.67	0.15	0.15
v/c Ratio	0.78	0.53		0.58	0.55	0.72	0.43
Control Delay	105.3	7.4		17.1	17.8	78.6	72.7
Queue Delay	0.0	0.0		0.7	1.0	0.0	0.0
Total Delay	105.3	7.4		17.8	18.8	78.6	72.7
LOS	F	A		B	B	E	E
Approach Delay		15.3		18.1		77.3	
Approach LOS		B		B		E	

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	147	274		396	326	204	105
Queue Length 95th (ft)	#266	374		510	478	264	171
Internal Link Dist (ft)		939		779		923	
Turn Bay Length (ft)	275				75	300	300
Base Capacity (vph)	174	2812		2221	1061	657	303
Starvation Cap Reductn	0	0		534	244	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.75	0.53		0.76	0.71	0.55	0.33

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 172.5

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 23.9

Intersection LOS: C

Intersection Capacity Utilization 90.8%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 100: US Highway 64 & New Hill Road

→ Ø2		↵ Ø3	
142 s		38 s	
↵ Ø5	→ Ø6	↵ Ø7	
22 s	120 s	38 s	

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘↘	↑↑	↘↘	↑
Traffic Volume (vph)	1484	183	132	120	1304	376	151
Future Volume (vph)	1484	183	132	120	1304	376	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		375		150	150
Storage Lanes		1		2		1	1
Taper Length (ft)				200		200	
Lane Util. Factor	0.95	1.00	0.95	0.97	0.95	0.97	1.00
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	3433	3539	3433	1583
Flt Permitted				0.950		0.950	
Satd. Flow (perm)	3539	1583	0	3433	3539	3433	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	55				55	45	
Link Distance (ft)	859				2149	935	
Travel Time (s)	10.6				26.6	14.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1649	203	147	133	1449	418	168
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1649	203	0	280	1449	418	168
Turn Type	NA	pm+ov	Prot	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1!	1	6	8	1!
Permitted Phases		2					8
Detector Phase	2	8	1	1	6	8	1
Switch Phase							
Minimum Initial (s)	14.0	7.0	7.0	7.0	14.0	7.0	7.0
Minimum Split (s)	25.0	25.0	14.0	14.0	25.0	25.0	14.0
Total Split (s)	115.0	37.0	28.0	28.0	143.0	37.0	28.0
Total Split (%)	63.9%	20.6%	15.6%	15.6%	79.4%	20.6%	15.6%
Maximum Green (s)	108.0	30.0	21.0	21.0	136.0	30.0	21.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			Lead
Lead-Lag Optimize?	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	None	None	None	Max	None
Act Effect Green (s)	80.6	118.4		18.9	104.6	32.6	56.6
Actuated g/C Ratio	0.55	0.80		0.13	0.71	0.22	0.38
v/c Ratio	0.85	0.16		0.64	0.58	0.55	0.28
Control Delay	32.9	3.7		69.5	11.6	57.3	36.2
Queue Delay	0.2	0.0		0.0	0.0	0.0	0.0
Total Delay	33.1	3.7		69.5	11.6	57.3	36.2
LOS	C	A		E	B	E	D
Approach Delay	29.9				21.0	51.3	
Approach LOS	C				C	D	

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 50th (ft)	679	37		130	346	183	109
Queue Length 95th (ft)	813	63		219	386	305	221
Internal Link Dist (ft)	779				2069	855	
Turn Bay Length (ft)		150		375		150	150
Base Capacity (vph)	2692	1271		546	3249	759	656
Starvation Cap Reductn	285	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.69	0.16		0.51	0.45	0.55	0.26

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 147.4

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 29.2

Intersection LOS: C

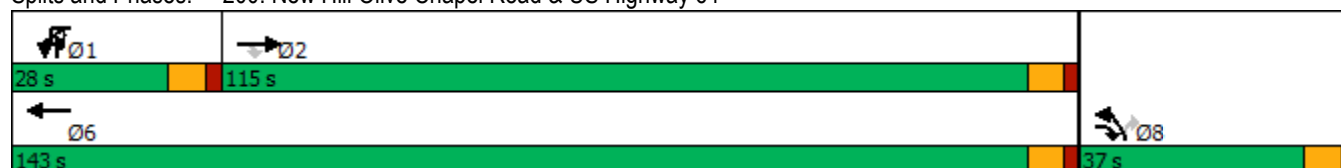
Intersection Capacity Utilization 71.4%

ICU Level of Service C

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 200: New Hill Olive Chapel Road & US Highway 64



HCM Unsignalized Intersection Capacity Analysis

300: US Highway 64 & Pinefield Road

09/28/2022



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↰	↶↶	↰	↶↶	↰	↰	
Traffic Volume (veh/h)	90	4	1624	0	1525	4	4	4
Future Volume (Veh/h)	90	4	1624	0	1525	4	4	4
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	4	1804	0	1694	4	4	4
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			1		1			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1698		0			2604	847
vC1, stage 1 conf vol							1694	
vC2, stage 2 conf vol							910	
vCu, unblocked vol	0	1698		0			2604	847
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	99		0			96	99
cM capacity (veh/h)	0	371		0			96	305
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	4	902	902	847	847	4	0	8
Volume Left	4	0	0	0	0	0	0	4
Volume Right	0	0	0	0	0	4	0	4
cSH	371	1700	1700	1700	1700	1700	1700	146
Volume to Capacity	0.01	0.53	0.53	0.50	0.50	0.00	0.00	0.05
Queue Length 95th (ft)	1	0	0	0	0	0	0	4
Control Delay (s)	14.8	0.0	0.0	0.0	0.0	0.0	0.0	31.2
Lane LOS	B							D
Approach Delay (s)	0.0			0.0				31.2
Approach LOS								D
Intersection Summary								
Average Delay			0.1					
Intersection Capacity Utilization			61.6%		ICU Level of Service			B
Analysis Period (min)			15					

HCM Unsignalized Intersection Capacity Analysis

400: Site Access 1 & US Highway 64

09/28/2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1586	33	60	1556	0	143
Future Volume (Veh/h)	1586	33	60	1556	0	143
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1762	37	67	1729	0	159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh	1			1		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1799		2779	900
vC1, stage 1 conf vol					1780	
vC2, stage 2 conf vol					998	
vCu, unblocked vol			1799		2779	900
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			80		100	44
cM capacity (veh/h)			339		79	282
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	1175	624	643	1153	159	
Volume Left	0	0	67	0	0	
Volume Right	0	37	0	0	159	
cSH	1700	1700	339	1700	282	
Volume to Capacity	0.69	0.37	0.20	0.68	0.56	
Queue Length 95th (ft)	0	0	18	0	80	
Control Delay (s)	0.0	0.0	6.8	0.0	33.1	
Lane LOS			A		D	
Approach Delay (s)	0.0		2.4		33.1	
Approach LOS					D	
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			90.2%		ICU Level of Service	
Analysis Period (min)			15			
					E	

HCM Unsignalized Intersection Capacity Analysis

500: Site Access 2 & US Highway 64

09/28/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		
Traffic Volume (veh/h)	1713	16	0	1616	0	0
Future Volume (Veh/h)	1713	16	0	1616	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1903	18	0	1796	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh	1			1		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1921		2810	960
vC1, stage 1 conf vol					1912	
vC2, stage 2 conf vol					898	
vCu, unblocked vol			1921		2810	960
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			304		77	257
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	1269	652	898	898		
Volume Left	0	0	0	0		
Volume Right	0	18	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.75	0.38	0.53	0.53		
Queue Length 95th (ft)	0	0	0	0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			51.2%		ICU Level of Service	A
Analysis Period (min)			15			

AM Future Build + Improvements Conditions

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

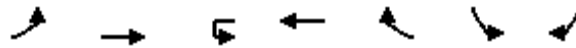
09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	118	1333	8	1152	521	327	90
Future Volume (vph)	118	1333	8	1152	521	327	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		275		75	300	300
Storage Lanes	1		0		1	1	1
Taper Length (ft)	100		100			200	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.97	1.00
Frt					0.850		0.850
Flt Protected	0.950					0.950	
Satd. Flow (prot)	1770	3539	0	3539	1583	3433	1583
Flt Permitted	0.950			0.936		0.950	
Satd. Flow (perm)	1770	3539	0	3313	1583	3433	1583
Right Turn on Red					No		No
Satd. Flow (RTOR)							
Link Speed (mph)		55		55		45	
Link Distance (ft)		1019		859		1003	
Travel Time (s)		12.6		10.6		15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	131	1481	9	1280	579	363	100
Shared Lane Traffic (%)							
Lane Group Flow (vph)	131	1481	0	1289	579	363	100
Turn Type	Prot	NA	Perm	NA	Perm	Prot	Perm
Protected Phases	5	2		6		3	
Permitted Phases			6		6		7
Detector Phase	5	2	6	6	6	3	7
Switch Phase							
Minimum Initial (s)	7.0	14.0	17.0	17.0	17.0	9.0	9.0
Minimum Split (s)	14.6	25.8	25.8	25.8	25.8	17.7	17.7
Total Split (s)	22.0	142.0	120.0	120.0	120.0	38.0	38.0
Total Split (%)	12.2%	78.9%	66.7%	66.7%	66.7%	21.1%	21.1%
Maximum Green (s)	15.0	135.0	113.0	113.0	113.0	31.0	31.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None
Act Effect Green (s)	16.4	137.1		115.7	115.7	25.4	25.4
Actuated g/C Ratio	0.10	0.79		0.67	0.67	0.15	0.15
v/c Ratio	0.78	0.53		0.58	0.55	0.72	0.43
Control Delay	105.3	7.4		17.1	17.8	78.6	72.7
Queue Delay	0.0	0.0		0.7	1.0	0.0	0.0
Total Delay	105.3	7.4		17.8	18.8	78.6	72.7
LOS	F	A		B	B	E	E
Approach Delay		15.3		18.1		77.3	
Approach LOS		B		B		E	

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	147	274		396	326	204	105
Queue Length 95th (ft)	#266	374		510	478	264	171
Internal Link Dist (ft)		939		779		923	
Turn Bay Length (ft)	275				75	300	300
Base Capacity (vph)	174	2812		2221	1061	657	303
Starvation Cap Reductn	0	0		534	244	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.75	0.53		0.76	0.71	0.55	0.33

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 172.5

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 23.9

Intersection LOS: C

Intersection Capacity Utilization 90.8%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 100: US Highway 64 & New Hill Road

 142 s		 38 s	
 22 s	 120 s	 38 s	

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022

	→	↘	↶	↙	←	↖	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘↘	↑↑	↘↘	↑
Traffic Volume (vph)	1484	183	132	120	1304	376	151
Future Volume (vph)	1484	183	132	120	1304	376	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		375		150	150
Storage Lanes		1		2		1	1
Taper Length (ft)				200		200	
Lane Util. Factor	0.95	1.00	0.95	0.97	0.95	0.97	1.00
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	3433	3539	3433	1583
Flt Permitted				0.950		0.950	
Satd. Flow (perm)	3539	1583	0	3433	3539	3433	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	55				55	45	
Link Distance (ft)	859				2149	935	
Travel Time (s)	10.6				26.6	14.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1649	203	147	133	1449	418	168
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1649	203	0	280	1449	418	168
Turn Type	NA	pm+ov	Prot	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1!	1	6	8	1!
Permitted Phases		2					8
Detector Phase	2	8	1	1	6	8	1
Switch Phase							
Minimum Initial (s)	14.0	7.0	7.0	7.0	14.0	7.0	7.0
Minimum Split (s)	25.0	25.0	14.0	14.0	25.0	25.0	14.0
Total Split (s)	115.0	37.0	28.0	28.0	143.0	37.0	28.0
Total Split (%)	63.9%	20.6%	15.6%	15.6%	79.4%	20.6%	15.6%
Maximum Green (s)	108.0	30.0	21.0	21.0	136.0	30.0	21.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			Lead
Lead-Lag Optimize?	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	None	None	None	Max	None
Act Effect Green (s)	80.6	118.4		18.9	104.6	32.6	56.6
Actuated g/C Ratio	0.55	0.80		0.13	0.71	0.22	0.38
v/c Ratio	0.85	0.16		0.64	0.58	0.55	0.28
Control Delay	32.9	3.7		69.5	11.6	57.3	36.2
Queue Delay	0.2	0.0		0.0	0.0	0.0	0.0
Total Delay	33.1	3.7		69.5	11.6	57.3	36.2
LOS	C	A		E	B	E	D
Approach Delay	29.9				21.0	51.3	
Approach LOS	C				C	D	

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 50th (ft)	679	37		130	346	183	109
Queue Length 95th (ft)	813	63		219	386	305	221
Internal Link Dist (ft)	779				2069	855	
Turn Bay Length (ft)		150		375		150	150
Base Capacity (vph)	2692	1271		546	3249	759	656
Starvation Cap Reductn	285	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.69	0.16		0.51	0.45	0.55	0.26

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 147.4

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 29.2

Intersection LOS: C

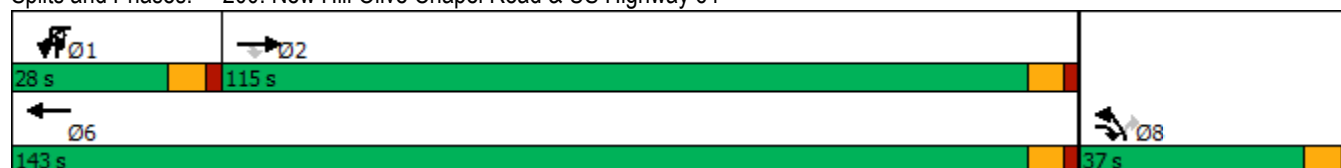
Intersection Capacity Utilization 71.4%

ICU Level of Service C

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 200: New Hill Olive Chapel Road & US Highway 64



HCM Unsignalized Intersection Capacity Analysis

300: US Highway 64 & Pinefield Road

09/28/2022



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↗	↗↗	↘	↗↗	↗	↗↗	
Traffic Volume (veh/h)	90	4	1624	0	1525	4	4	4
Future Volume (Veh/h)	90	4	1624	0	1525	4	4	4
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	4	1804	0	1694	4	4	4
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			1		1			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1698		0			2604	847
vC1, stage 1 conf vol							1694	
vC2, stage 2 conf vol							910	
vCu, unblocked vol	0	1698		0			2604	847
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	99		0			96	99
cM capacity (veh/h)	0	371		0			96	305
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	4	902	902	847	847	4	0	8
Volume Left	4	0	0	0	0	0	0	4
Volume Right	0	0	0	0	0	4	0	4
cSH	371	1700	1700	1700	1700	1700	1700	146
Volume to Capacity	0.01	0.53	0.53	0.50	0.50	0.00	0.00	0.05
Queue Length 95th (ft)	1	0	0	0	0	0	0	4
Control Delay (s)	14.8	0.0	0.0	0.0	0.0	0.0	0.0	31.2
Lane LOS	B							D
Approach Delay (s)	0.0			0.0				31.2
Approach LOS								D
Intersection Summary								
Average Delay			0.1					
Intersection Capacity Utilization			61.6%		ICU Level of Service			B
Analysis Period (min)			15					

HCM Unsignalized Intersection Capacity Analysis

400: Site Access 1 & US Highway 64

09/28/2022

							
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑	↗	↖	↑↑		↗	
Traffic Volume (veh/h)	1586	33	60	1556	0	143	
Future Volume (Veh/h)	1586	33	60	1556	0	143	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly flow rate (vph)	1762	37	67	1729	0	159	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	Raised			Raised			
Median storage veh)	1			1			
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume			1799		2760	881	
vC1, stage 1 conf vol					1762		
vC2, stage 2 conf vol					998		
vCu, unblocked vol			1799		2760	881	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			80		100	45	
cM capacity (veh/h)			339		81	290	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	881	881	37	67	864	864	159
Volume Left	0	0	0	67	0	0	0
Volume Right	0	0	37	0	0	0	159
cSH	1700	1700	1700	339	1700	1700	290
Volume to Capacity	0.52	0.52	0.02	0.20	0.51	0.51	0.55
Queue Length 95th (ft)	0	0	0	18	0	0	77
Control Delay (s)	0.0	0.0	0.0	18.2	0.0	0.0	31.5
Lane LOS				C			D
Approach Delay (s)	0.0			0.7			31.5
Approach LOS							D
Intersection Summary							
Average Delay			1.7				
Intersection Capacity Utilization			59.4%		ICU Level of Service		B
Analysis Period (min)			15				

HCM Unsignalized Intersection Capacity Analysis

500: Site Access 2 & US Highway 64

09/28/2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		
Traffic Volume (veh/h)	1713	16	0	1616	0	0
Future Volume (Veh/h)	1713	16	0	1616	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1903	18	0	1796	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh	1			1		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1921		2801	952
vC1, stage 1 conf vol					1903	
vC2, stage 2 conf vol					898	
vCu, unblocked vol			1921		2801	952
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			304		77	260
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	
Volume Total	952	952	18	898	898	
Volume Left	0	0	0	0	0	
Volume Right	0	0	18	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.56	0.56	0.01	0.53	0.53	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			50.7%	ICU Level of Service		A
Analysis Period (min)			15			

PM Base Conditions

Lanes, Volumes, Timings
100: New Hill Road & US Highway 64

09/28/2022

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	82	950	100	13	119	1004	204	38	128	6	239	206
Future Volume (vph)	82	950	100	13	119	1004	204	38	128	6	239	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		200		275		75	0		0	75	
Storage Lanes	1		1		1		1	0		0	1	
Taper Length (ft)	100				100			100			100	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850				0.850		0.995			0.940
Flt Protected	0.950				0.950				0.989		0.950	
Satd. Flow (prot)	1770	3539	1583	0	1770	3539	1583	0	1833	0	1770	1751
Flt Permitted	0.149				0.163				0.824		0.346	
Satd. Flow (perm)	278	3539	1583	0	304	3539	1583	0	1527	0	645	1751
Right Turn on Red			No				No			No		
Satd. Flow (RTOR)												
Link Speed (mph)		55				55			45			45
Link Distance (ft)		1019				859			1394			1003
Travel Time (s)		12.6				10.6			21.1			15.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	91	1056	111	14	132	1116	227	42	142	7	266	229
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	1056	111	0	146	1116	227	0	191	0	266	382
Turn Type	D.P+P	NA	Perm	D.P+P	D.P+P	NA	pm+ov	Perm	NA		pm+pt	NA
Protected Phases	5	2		1	1	6	7		8		7	4
Permitted Phases	6		2	2	2		6	8			4	
Detector Phase	5	2	2	1	1	6	7	8	8		7	4
Switch Phase												
Minimum Initial (s)	7.0	14.0	14.0	7.0	7.0	17.0	9.0	9.0	9.0		9.0	9.0
Minimum Split (s)	12.6	25.8	25.8	12.4	12.4	25.8	15.7	24.4	24.4		15.7	24.9
Total Split (s)	20.0	90.0	90.0	20.0	20.0	90.0	35.0	35.0	35.0		35.0	70.0
Total Split (%)	11.1%	50.0%	50.0%	11.1%	11.1%	50.0%	19.4%	19.4%	19.4%		19.4%	38.9%
Maximum Green (s)	14.4	82.2	82.2	14.6	14.6	82.2	28.3	28.6	28.6		28.3	63.1
Yellow Time (s)	3.0	5.8	5.8	3.0	3.0	5.8	3.0	4.4	4.4		3.0	5.3
All-Red Time (s)	2.6	2.0	2.0	2.4	2.4	2.0	3.7	2.0	2.0		3.7	1.6
Lost Time Adjust (s)	-0.6	-2.8	-2.8		-0.4	-2.8	-1.7		-1.4		-1.7	-1.9
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	Max	Max	None	None	Max	None	None	None		None	None
Act Effct Green (s)	97.2	85.3	85.3		97.2	87.3	119.6		25.9		58.2	58.2
Actuated g/C Ratio	0.57	0.50	0.50		0.57	0.51	0.70		0.15		0.34	0.34
v/c Ratio	0.37	0.60	0.14		0.53	0.62	0.20		0.82		0.67	0.64
Control Delay	20.1	33.3	25.4		23.4	32.7	10.0		97.9		52.2	52.7
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	20.1	33.3	25.4		23.4	32.7	10.0		97.9		52.2	52.7
LOS	C	C	C		C	C	B		F		D	D
Approach Delay		31.7				28.3			97.9			52.5
Approach LOS		C				C			F			D

Lanes, Volumes, Timings
100: New Hill Road & US Highway 64

09/28/2022

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	138
Future Volume (vph)	138
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	No
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.90
Adj. Flow (vph)	153
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Lanes, Volumes, Timings
100: New Hill Road & US Highway 64

09/28/2022

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	45	466	70		75	491	87		214		231	361
Queue Length 95th (ft)	76	565	118		116	594	135		#334		327	491
Internal Link Dist (ft)		939				779			1314			923
Turn Bay Length (ft)	275		200		275		75				75	
Base Capacity (vph)	297	1771	792		307	1811	1136		269		418	670
Starvation Cap Reductn	0	0	0		0	0	0		0		0	0
Spillback Cap Reductn	0	0	0		0	0	0		0		0	0
Storage Cap Reductn	0	0	0		0	0	0		0		0	0
Reduced v/c Ratio	0.31	0.60	0.14		0.48	0.62	0.20		0.71		0.64	0.57

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 170.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 37.6

Intersection LOS: D

Intersection Capacity Utilization 78.7%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 100: New Hill Road & US Highway 64

		
Ø1	Ø2	Ø4
20 s	90 s	70 s
		
Ø5	Ø6	Ø7
20 s	90 s	35 s
		
		Ø8
		35 s



Lane Group	SBR
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM Unsignalized Intersection Capacity Analysis

200: New Hill Olive Chapel Road & US Highway 64

09/28/2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (veh/h)	1193	15	0	1340	0	109
Future Volume (Veh/h)	1193	15	0	1340	0	109
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1326	17	0	1489	0	121
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	859					
pX, platoon unblocked			0.79		0.79	0.79
vC, conflicting volume			1343		2070	663
vC1, stage 1 conf vol					1326	
vC2, stage 2 conf vol					744	
vCu, unblocked vol			892		1817	27
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	85
cM capacity (veh/h)			594		182	819
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	663	663	17	744	744	121
Volume Left	0	0	0	0	0	0
Volume Right	0	0	17	0	0	121
cSH	1700	1700	1700	1700	1700	819
Volume to Capacity	0.39	0.39	0.01	0.44	0.44	0.15
Queue Length 95th (ft)	0	0	0	0	0	13
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.2
Lane LOS						B
Approach Delay (s)	0.0				0.0	10.2
Approach LOS						B
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			46.4%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

300: US Highway 64 & Pinefield Road

09/28/2022

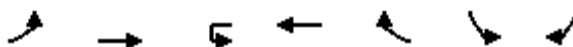


Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷	↶	↷	↶	↷	
Traffic Volume (veh/h)	1	4	1298	1	1338	4	4	4
Future Volume (Veh/h)	1	4	1298	1	1338	4	4	4
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	4	1442	0	1487	4	4	4
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			1		1			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1491		0			2216	744
vC1, stage 1 conf vol							1487	
vC2, stage 2 conf vol							729	
vCu, unblocked vol	0	1491		0			2216	744
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	99		0			97	99
cM capacity (veh/h)	0	446		0			127	357
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	4	721	721	744	744	4	0	8
Volume Left	4	0	0	0	0	0	0	4
Volume Right	0	0	0	0	0	4	0	4
cSH	446	1700	1700	1700	1700	1700	1700	187
Volume to Capacity	0.01	0.42	0.42	0.44	0.44	0.00	0.00	0.04
Queue Length 95th (ft)	1	0	0	0	0	0	0	3
Control Delay (s)	13.1	0.0	0.0	0.0	0.0	0.0	0.0	25.1
Lane LOS	B							D
Approach Delay (s)	0.0			0.0				25.1
Approach LOS								D
Intersection Summary								
Average Delay			0.1					
Intersection Capacity Utilization			47.0%		ICU Level of Service			A
Analysis Period (min)			15					

PM Future No-Build Conditions

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

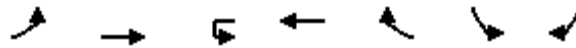
09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	90	1271	15	1285	428	516	151
Future Volume (vph)	90	1271	15	1285	428	516	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		275		75	300	300
Storage Lanes	1		0		1	1	1
Taper Length (ft)	100		100			200	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.97	1.00
Frt					0.850		0.850
Flt Protected	0.950			0.999		0.950	
Satd. Flow (prot)	1770	3539	0	3536	1583	3433	1583
Flt Permitted	0.950			0.913		0.950	
Satd. Flow (perm)	1770	3539	0	3231	1583	3433	1583
Right Turn on Red					No		No
Satd. Flow (RTOR)							
Link Speed (mph)		55		55		45	
Link Distance (ft)		1019		859		1003	
Travel Time (s)		12.6		10.6		15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	100	1412	17	1428	476	573	168
Shared Lane Traffic (%)							
Lane Group Flow (vph)	100	1412	0	1445	476	573	168
Turn Type	Prot	NA	Perm	NA	Perm	Prot	Perm
Protected Phases	5	2		6		3	
Permitted Phases			6		6		7
Detector Phase	5	2	6	6	6	3	7
Switch Phase							
Minimum Initial (s)	7.0	14.0	17.0	17.0	17.0	9.0	9.0
Minimum Split (s)	14.6	25.8	25.8	25.8	25.8	17.7	17.7
Total Split (s)	22.0	142.0	120.0	120.0	120.0	38.0	38.0
Total Split (%)	12.2%	78.9%	66.7%	66.7%	66.7%	21.1%	21.1%
Maximum Green (s)	15.0	135.0	113.0	113.0	113.0	31.0	31.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None
Act Effect Green (s)	15.6	137.0		116.4	116.4	32.6	32.6
Actuated g/C Ratio	0.09	0.76		0.65	0.65	0.18	0.18
v/c Ratio	0.65	0.52		0.69	0.46	0.92	0.59
Control Delay	99.2	9.3		22.6	18.0	92.6	76.5
Queue Delay	0.0	0.0		1.6	0.7	0.0	0.0
Total Delay	99.2	9.3		24.2	18.7	92.6	76.5
LOS	F	A		C	B	F	E
Approach Delay		15.2		22.8		89.0	
Approach LOS		B		C		F	

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	116	317		563	279	347	184
Queue Length 95th (ft)	188	360		645	368	#453	273
Internal Link Dist (ft)		939		779		923	
Turn Bay Length (ft)	275				75	300	300
Base Capacity (vph)	167	2699		2094	1026	630	291
Starvation Cap Reductn	0	0		436	263	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.60	0.52		0.87	0.62	0.91	0.58

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 179.6

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 31.8

Intersection LOS: C

Intersection Capacity Utilization 97.8%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 100: US Highway 64 & New Hill Road

 142 s		 38 s	
 22 s	 120 s	 38 s	

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022

	→	↘	↶	↙	←	↗	↘
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑	↑
Traffic Volume (vph)	1451	351	71	141	1428	300	170
Future Volume (vph)	1451	351	71	141	1428	300	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		375		150	150
Storage Lanes		1		2		1	1
Taper Length (ft)				200		200	
Lane Util. Factor	0.95	1.00	0.95	0.97	0.95	0.97	1.00
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	3433	3539	3433	1583
Flt Permitted				0.950		0.950	
Satd. Flow (perm)	3539	1583	0	3433	3539	3433	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	55				55	45	
Link Distance (ft)	859				3399	935	
Travel Time (s)	10.6				42.1	14.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1612	390	79	157	1587	333	189
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1612	390	0	236	1587	333	189
Turn Type	NA	pm+ov	Prot	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1!	1	6	8	1!
Permitted Phases		2					8
Detector Phase	2	8	1	1	6	8	1
Switch Phase							
Minimum Initial (s)	14.0	7.0	7.0	7.0	14.0	7.0	7.0
Minimum Split (s)	25.0	25.0	14.0	14.0	25.0	25.0	14.0
Total Split (s)	120.0	34.0	26.0	26.0	146.0	34.0	26.0
Total Split (%)	66.7%	18.9%	14.4%	14.4%	81.1%	18.9%	14.4%
Maximum Green (s)	113.0	27.0	19.0	19.0	139.0	27.0	19.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			Lead
Lead-Lag Optimize?	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	None	None	None	Max	None
Act Effect Green (s)	72.3	106.9		16.5	93.8	29.5	51.0
Actuated g/C Ratio	0.54	0.80		0.12	0.70	0.22	0.38
v/c Ratio	0.84	0.31		0.56	0.64	0.44	0.31
Control Delay	30.3	4.3		62.2	11.8	50.0	33.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	30.3	4.3		62.2	11.8	50.0	33.4
LOS	C	A		E	B	D	C
Approach Delay	25.3				18.3	44.0	
Approach LOS	C				B	D	

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 50th (ft)	590	74		100	356	129	114
Queue Length 95th (ft)	732	124		166	411	217	218
Internal Link Dist (ft)	779				3319	855	
Turn Bay Length (ft)		150		375		150	150
Base Capacity (vph)	3062	1267		549	3446	758	663
Starvation Cap Reductn	198	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.56	0.31		0.43	0.46	0.44	0.29

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 133.5

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 24.6

Intersection LOS: C

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 200: New Hill Olive Chapel Road & US Highway 64

 Ø1	 Ø2	
26 s	120 s	
 Ø6		 Ø8
146 s		34 s

HCM Unsignalized Intersection Capacity Analysis

300: US Highway 64 & Pinefield Road

09/28/2022



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↰	↶↶	↰	↶↶	↰	↰	
Traffic Volume (veh/h)	36	4	1676	15	1602	4	4	4
Future Volume (Veh/h)	36	4	1676	15	1602	4	4	4
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	4	1862	0	1780	4	4	4
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			1		1			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1784		0			2719	890
vC1, stage 1 conf vol							1780	
vC2, stage 2 conf vol							939	
vCu, unblocked vol	0	1784		0			2719	890
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	99		0			95	99
cM capacity (veh/h)	0	344		0			87	286
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	4	931	931	890	890	4	0	8
Volume Left	4	0	0	0	0	0	0	4
Volume Right	0	0	0	0	0	4	0	4
cSH	344	1700	1700	1700	1700	1700	1700	133
Volume to Capacity	0.01	0.55	0.55	0.52	0.52	0.00	0.00	0.06
Queue Length 95th (ft)	1	0	0	0	0	0	0	5
Control Delay (s)	15.6	0.0	0.0	0.0	0.0	0.0	0.0	33.8
Lane LOS	C							D
Approach Delay (s)	0.0			0.0				33.8
Approach LOS								D
Intersection Summary								
Average Delay			0.1					
Intersection Capacity Utilization			56.3%		ICU Level of Service			B
Analysis Period (min)			15					

PM Future Build Conditions

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

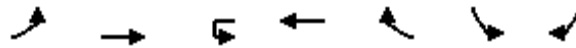
09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	90	1305	15	1324	451	536	151
Future Volume (vph)	90	1305	15	1324	451	536	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		275		75	300	300
Storage Lanes	1		0		1	1	1
Taper Length (ft)	100		100			200	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.97	1.00
Frt					0.850		0.850
Flt Protected	0.950			0.999		0.950	
Satd. Flow (prot)	1770	3539	0	3536	1583	3433	1583
Flt Permitted	0.950			0.912		0.950	
Satd. Flow (perm)	1770	3539	0	3228	1583	3433	1583
Right Turn on Red					No		No
Satd. Flow (RTOR)							
Link Speed (mph)		55		55		45	
Link Distance (ft)		1019		859		1003	
Travel Time (s)		12.6		10.6		15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	100	1450	17	1471	501	596	168
Shared Lane Traffic (%)							
Lane Group Flow (vph)	100	1450	0	1488	501	596	168
Turn Type	Prot	NA	Perm	NA	Perm	Prot	Perm
Protected Phases	5	2		6		3	
Permitted Phases			6		6		7
Detector Phase	5	2	6	6	6	3	7
Switch Phase							
Minimum Initial (s)	7.0	14.0	17.0	17.0	17.0	9.0	9.0
Minimum Split (s)	14.6	25.8	25.8	25.8	25.8	17.7	17.7
Total Split (s)	22.0	142.0	120.0	120.0	120.0	38.0	38.0
Total Split (%)	12.2%	78.9%	66.7%	66.7%	66.7%	21.1%	21.1%
Maximum Green (s)	15.0	135.0	113.0	113.0	113.0	31.0	31.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None
Act Effect Green (s)	15.6	137.0		116.4	116.4	33.0	33.0
Actuated g/C Ratio	0.09	0.76		0.65	0.65	0.18	0.18
v/c Ratio	0.65	0.54		0.71	0.49	0.95	0.58
Control Delay	99.2	9.6		23.5	18.7	96.7	76.1
Queue Delay	0.0	0.0		2.0	0.8	0.0	0.0
Total Delay	99.2	9.6		25.5	19.5	96.7	76.1
LOS	F	A		C	B	F	E
Approach Delay		15.4		24.0		92.2	
Approach LOS		B		C		F	

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	116	332		595	300	363	184
Queue Length 95th (ft)	188	376		680	395	#482	273
Internal Link Dist (ft)		939		779		923	
Turn Bay Length (ft)	275				75	300	300
Base Capacity (vph)	167	2693		2087	1023	629	290
Starvation Cap Reductn	0	0		425	257	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.60	0.54		0.90	0.65	0.95	0.58

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 33.0

Intersection LOS: C

Intersection Capacity Utilization 98.4%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 100: US Highway 64 & New Hill Road

Ø2	Ø3
142 s	38 s
Ø5	Ø6
22 s	120 s
	Ø7
	38 s

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022

	→	↘	↶	↙	←	↵	↗
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘↘	↑↑	↘↘	↑
Traffic Volume (vph)	1505	351	71	149	1490	300	177
Future Volume (vph)	1505	351	71	149	1490	300	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		375		150	150
Storage Lanes		1		2		1	1
Taper Length (ft)				200		200	
Lane Util. Factor	0.95	1.00	0.95	0.97	0.95	0.97	1.00
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	3433	3539	3433	1583
Flt Permitted				0.950		0.950	
Satd. Flow (perm)	3539	1583	0	3433	3539	3433	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	55				55	45	
Link Distance (ft)	859				2149	935	
Travel Time (s)	10.6				26.6	14.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1672	390	79	166	1656	333	197
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1672	390	0	245	1656	333	197
Turn Type	NA	pm+ov	Prot	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1!	1	6	8	1!
Permitted Phases		2					8
Detector Phase	2	8	1	1	6	8	1
Switch Phase							
Minimum Initial (s)	14.0	7.0	7.0	7.0	14.0	7.0	7.0
Minimum Split (s)	25.0	25.0	14.0	14.0	25.0	25.0	14.0
Total Split (s)	121.0	33.0	26.0	26.0	147.0	33.0	26.0
Total Split (%)	67.2%	18.3%	14.4%	14.4%	81.7%	18.3%	14.4%
Maximum Green (s)	114.0	26.0	19.0	19.0	140.0	26.0	19.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			Lead
Lead-Lag Optimize?	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	None	None	None	Max	None
Act Effct Green (s)	76.3	109.9		16.9	98.2	28.5	50.4
Actuated g/C Ratio	0.56	0.80		0.12	0.72	0.21	0.37
v/c Ratio	0.85	0.31		0.58	0.65	0.47	0.34
Control Delay	30.0	4.3		63.9	11.8	53.1	36.0
Queue Delay	0.1	0.0		0.0	0.0	0.0	0.0
Total Delay	30.1	4.3		63.9	11.8	53.1	36.0
LOS	C	A		E	B	D	D
Approach Delay	25.2				18.5	46.7	
Approach LOS	C				B	D	

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 50th (ft)	626	75		106	391	134	125
Queue Length 95th (ft)	767	123		176	447	225	239
Internal Link Dist (ft)	779				2069	855	
Turn Bay Length (ft)		150		375		150	150
Base Capacity (vph)	3025	1270		535	3416	714	635
Starvation Cap Reductn	237	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.60	0.31		0.46	0.48	0.47	0.31

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 136.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 24.9

Intersection LOS: C

Intersection Capacity Utilization 71.3%

ICU Level of Service C

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 200: New Hill Olive Chapel Road & US Highway 64

 Ø1	 Ø2	
26 s	121 s	
 Ø6		 Ø8
147 s		33 s

HCM Unsignalized Intersection Capacity Analysis

300: US Highway 64 & Pinefield Road

09/28/2022



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↰	↶↶	↰	↶↶	↰	↰	
Traffic Volume (veh/h)	105	4	1761	15	1676	4	4	4
Future Volume (Veh/h)	105	4	1761	15	1676	4	4	4
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	4	1957	0	1862	4	4	4
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			1		1			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1866		0			2848	931
vC1, stage 1 conf vol							1862	
vC2, stage 2 conf vol							986	
vCu, unblocked vol	0	1866		0			2848	931
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	99		0			95	99
cM capacity (veh/h)	0	319		0			78	268
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	4	978	978	931	931	4	0	8
Volume Left	4	0	0	0	0	0	0	4
Volume Right	0	0	0	0	0	4	0	4
cSH	319	1700	1700	1700	1700	1700	1700	121
Volume to Capacity	0.01	0.58	0.58	0.55	0.55	0.00	0.00	0.07
Queue Length 95th (ft)	1	0	0	0	0	0	0	5
Control Delay (s)	16.4	0.0	0.0	0.0	0.0	0.0	0.0	36.8
Lane LOS	C							E
Approach Delay (s)	0.0			0.0				36.8
Approach LOS								E
Intersection Summary								
Average Delay			0.1					
Intersection Capacity Utilization			65.7%		ICU Level of Service			C
Analysis Period (min)			15					

HCM Unsignalized Intersection Capacity Analysis

400: Site Access 1 & US Highway 64

09/28/2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1736	40	74	1708	0	154
Future Volume (Veh/h)	1736	40	74	1708	0	154
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1929	44	82	1898	0	171
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1973		3064	986
vC1, stage 1 conf vol					1951	
vC2, stage 2 conf vol					1113	
vCu, unblocked vol			1973		3064	986
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			72		100	31
cM capacity (veh/h)			290		62	247
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	1286	687	715	1265	171	
Volume Left	0	0	82	0	0	
Volume Right	0	44	0	0	171	
cSH	1700	1700	290	1700	247	
Volume to Capacity	0.76	0.40	0.28	0.74	0.69	
Queue Length 95th (ft)	0	0	28	0	114	
Control Delay (s)	0.0	0.0	11.4	0.0	47.1	
Lane LOS			B		E	
Approach Delay (s)	0.0		4.1		47.1	
Approach LOS					E	
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			104.9%		ICU Level of Service	G
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

500: Site Access 2 & US Highway 64

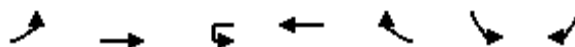
09/28/2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1870	20	0	1782	0	0
Future Volume (Veh/h)	1870	20	0	1782	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2078	22	0	1980	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2100			3079	1050	
vC1, stage 1 conf vol				2089		
vC2, stage 2 conf vol				990		
vCu, unblocked vol	2100			3079	1050	
tC, single (s)	4.1			6.8	6.9	
tC, 2 stage (s)				5.8		
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			100	100	
cM capacity (veh/h)	258			62	224	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	1385	715	990	990		
Volume Left	0	0	0	0		
Volume Right	0	22	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.81	0.42	0.58	0.58		
Queue Length 95th (ft)	0	0	0	0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	55.7%			ICU Level of Service	B	
Analysis Period (min)	15					

PM Future Build + Improvements Conditions

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

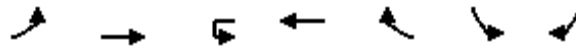
09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	90	1305	15	1324	451	536	151
Future Volume (vph)	90	1305	15	1324	451	536	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		275		75	300	300
Storage Lanes	1		0		1	1	1
Taper Length (ft)	100		100			200	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.97	1.00
Frt					0.850		0.850
Flt Protected	0.950			0.999		0.950	
Satd. Flow (prot)	1770	3539	0	3536	1583	3433	1583
Flt Permitted	0.950			0.912		0.950	
Satd. Flow (perm)	1770	3539	0	3228	1583	3433	1583
Right Turn on Red					No		No
Satd. Flow (RTOR)							
Link Speed (mph)		55		55		45	
Link Distance (ft)		1019		859		1003	
Travel Time (s)		12.6		10.6		15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	100	1450	17	1471	501	596	168
Shared Lane Traffic (%)							
Lane Group Flow (vph)	100	1450	0	1488	501	596	168
Turn Type	Prot	NA	Perm	NA	Perm	Prot	Perm
Protected Phases	5	2		6		3	
Permitted Phases			6		6		7
Detector Phase	5	2	6	6	6	3	7
Switch Phase							
Minimum Initial (s)	7.0	14.0	17.0	17.0	17.0	9.0	9.0
Minimum Split (s)	14.6	25.8	25.8	25.8	25.8	17.7	17.7
Total Split (s)	22.0	142.0	120.0	120.0	120.0	38.0	38.0
Total Split (%)	12.2%	78.9%	66.7%	66.7%	66.7%	21.1%	21.1%
Maximum Green (s)	15.0	135.0	113.0	113.0	113.0	31.0	31.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None
Act Effect Green (s)	15.6	137.0		116.4	116.4	33.0	33.0
Actuated g/C Ratio	0.09	0.76		0.65	0.65	0.18	0.18
v/c Ratio	0.65	0.54		0.71	0.49	0.95	0.58
Control Delay	99.2	9.6		23.5	18.7	96.7	76.1
Queue Delay	0.0	0.0		2.0	0.8	0.0	0.0
Total Delay	99.2	9.6		25.5	19.5	96.7	76.1
LOS	F	A		C	B	F	E
Approach Delay		15.4		24.0		92.2	
Approach LOS		B		C		F	

Lanes, Volumes, Timings
100: US Highway 64 & New Hill Road

09/28/2022



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	116	332		595	300	363	184
Queue Length 95th (ft)	188	376		680	395	#482	273
Internal Link Dist (ft)		939		779		923	
Turn Bay Length (ft)	275				75	300	300
Base Capacity (vph)	167	2693		2087	1023	629	290
Starvation Cap Reductn	0	0		425	257	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.60	0.54		0.90	0.65	0.95	0.58

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 33.0

Intersection LOS: C

Intersection Capacity Utilization 98.4%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 100: US Highway 64 & New Hill Road

Ø2	Ø3
142 s	38 s
Ø5	Ø7
22 s	38 s
Ø6	
120 s	

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022

	→	↘	↶	↙	←	↗	↘
Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↘↘	↑↑	↘↘	↑
Traffic Volume (vph)	1505	351	71	149	1490	300	177
Future Volume (vph)	1505	351	71	149	1490	300	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150		375		150	150
Storage Lanes		1		2		1	1
Taper Length (ft)				200		200	
Lane Util. Factor	0.95	1.00	0.95	0.97	0.95	0.97	1.00
Frt		0.850					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	3539	1583	0	3433	3539	3433	1583
Flt Permitted				0.950		0.950	
Satd. Flow (perm)	3539	1583	0	3433	3539	3433	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	55				55	45	
Link Distance (ft)	859				2149	935	
Travel Time (s)	10.6				26.6	14.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1672	390	79	166	1656	333	197
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1672	390	0	245	1656	333	197
Turn Type	NA	pm+ov	Prot	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1!	1	6	8	1!
Permitted Phases		2					8
Detector Phase	2	8	1	1	6	8	1
Switch Phase							
Minimum Initial (s)	14.0	7.0	7.0	7.0	14.0	7.0	7.0
Minimum Split (s)	25.0	25.0	14.0	14.0	25.0	25.0	14.0
Total Split (s)	121.0	33.0	26.0	26.0	147.0	33.0	26.0
Total Split (%)	67.2%	18.3%	14.4%	14.4%	81.7%	18.3%	14.4%
Maximum Green (s)	114.0	26.0	19.0	19.0	140.0	26.0	19.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			Lead
Lead-Lag Optimize?	Yes		Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	None	None	None	Max	None
Act Effct Green (s)	76.3	109.9		16.9	98.2	28.5	50.4
Actuated g/C Ratio	0.56	0.80		0.12	0.72	0.21	0.37
v/c Ratio	0.85	0.31		0.58	0.65	0.47	0.34
Control Delay	30.0	4.3		63.9	11.8	53.1	36.0
Queue Delay	0.1	0.0		0.0	0.0	0.0	0.0
Total Delay	30.1	4.3		63.9	11.8	53.1	36.0
LOS	C	A		E	B	D	D
Approach Delay	25.2				18.5	46.7	
Approach LOS	C				B	D	

Lanes, Volumes, Timings
200: New Hill Olive Chapel Road & US Highway 64

09/28/2022



Lane Group	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Queue Length 50th (ft)	626	75		106	391	134	125
Queue Length 95th (ft)	767	123		176	447	225	239
Internal Link Dist (ft)	779				2069	855	
Turn Bay Length (ft)		150		375		150	150
Base Capacity (vph)	3025	1270		535	3416	714	635
Starvation Cap Reductn	237	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.60	0.31		0.46	0.48	0.47	0.31

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 136.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 24.9

Intersection LOS: C

Intersection Capacity Utilization 71.3%

ICU Level of Service C

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 200: New Hill Olive Chapel Road & US Highway 64

Ø1	Ø2	
26 s	121 s	
Ø6		Ø8
147 s		33 s

HCM Unsignalized Intersection Capacity Analysis

300: US Highway 64 & Pinefield Road

09/28/2022



Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷	↶	↷	↶	↷	
Traffic Volume (veh/h)	105	4	1761	15	1676	4	4	4
Future Volume (Veh/h)	105	4	1761	15	1676	4	4	4
Sign Control			Free		Free		Stop	
Grade			0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	4	1957	0	1862	4	4	4
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			Raised		Raised			
Median storage veh			1		1			
Upstream signal (ft)								
pX, platoon unblocked	0.00			0.00				
vC, conflicting volume	0	1866		0			2848	931
vC1, stage 1 conf vol							1862	
vC2, stage 2 conf vol							986	
vCu, unblocked vol	0	1866		0			2848	931
tC, single (s)	0.0	4.1		0.0			6.8	6.9
tC, 2 stage (s)							5.8	
tF (s)	0.0	2.2		0.0			3.5	3.3
p0 queue free %	0	99		0			95	99
cM capacity (veh/h)	0	319		0			78	268
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	4	978	978	931	931	4	0	8
Volume Left	4	0	0	0	0	0	0	4
Volume Right	0	0	0	0	0	4	0	4
cSH	319	1700	1700	1700	1700	1700	1700	121
Volume to Capacity	0.01	0.58	0.58	0.55	0.55	0.00	0.00	0.07
Queue Length 95th (ft)	1	0	0	0	0	0	0	5
Control Delay (s)	16.4	0.0	0.0	0.0	0.0	0.0	0.0	36.8
Lane LOS	C							E
Approach Delay (s)	0.0			0.0				36.8
Approach LOS								E
Intersection Summary								
Average Delay			0.1					
Intersection Capacity Utilization			65.7%		ICU Level of Service			C
Analysis Period (min)			15					

HCM Unsignalized Intersection Capacity Analysis

400: Site Access 1 & US Highway 64

09/28/2022

							
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑	↗	↖	↑↑		↗	
Traffic Volume (veh/h)	1736	40	74	1708	0	154	
Future Volume (Veh/h)	1736	40	74	1708	0	154	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly flow rate (vph)	1929	44	82	1898	0	171	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	Raised			Raised			
Median storage veh)	1			1			
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume				1973	3042	964	
vC1, stage 1 conf vol					1929		
vC2, stage 2 conf vol					1113		
vCu, unblocked vol				1973	3042	964	
tC, single (s)				4.1	6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)				2.2	3.5	3.3	
p0 queue free %				72	100	33	
cM capacity (veh/h)				290	63	255	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	964	964	44	82	949	949	171
Volume Left	0	0	0	82	0	0	0
Volume Right	0	0	44	0	0	0	171
cSH	1700	1700	1700	290	1700	1700	255
Volume to Capacity	0.57	0.57	0.03	0.28	0.56	0.56	0.67
Queue Length 95th (ft)	0	0	0	28	0	0	108
Control Delay (s)	0.0	0.0	0.0	22.2	0.0	0.0	43.8
Lane LOS				C			E
Approach Delay (s)	0.0			0.9		43.8	
Approach LOS						E	
Intersection Summary							
Average Delay				2.3			
Intersection Capacity Utilization				64.2%	ICU Level of Service		C
Analysis Period (min)				15			

HCM Unsignalized Intersection Capacity Analysis

500: Site Access 2 & US Highway 64

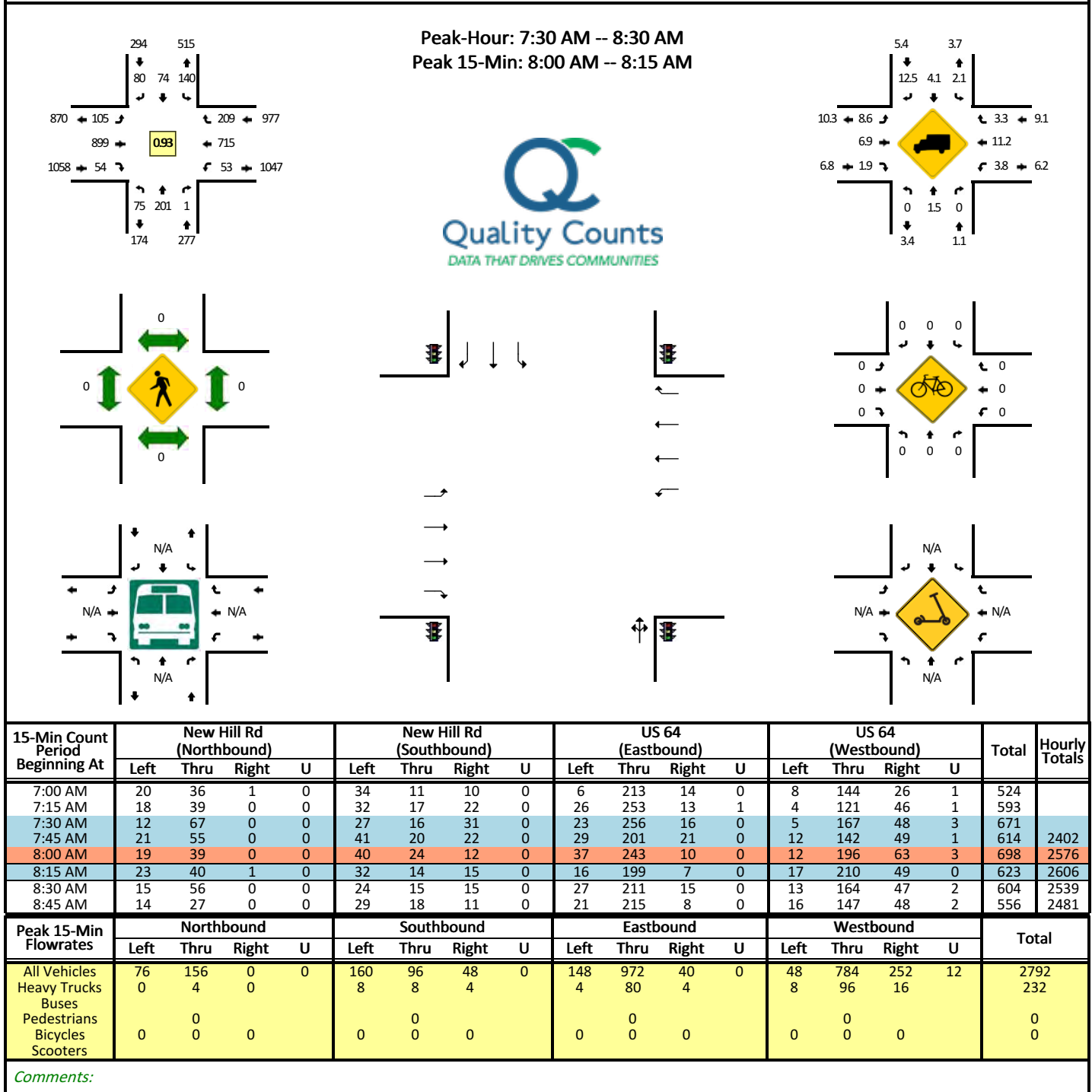
09/28/2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		
Traffic Volume (veh/h)	1870	20	0	1782	0	0
Future Volume (Veh/h)	1870	20	0	1782	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2078	22	0	1980	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh	1			1		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			2100		3068	1039
vC1, stage 1 conf vol					2078	
vC2, stage 2 conf vol					990	
vCu, unblocked vol			2100		3068	1039
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			258		62	227
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	
Volume Total	1039	1039	22	990	990	
Volume Left	0	0	0	0	0	
Volume Right	0	0	22	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.61	0.61	0.01	0.58	0.58	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			55.0%	ICU Level of Service		B
Analysis Period (min)			15			

Traffic Volume Data

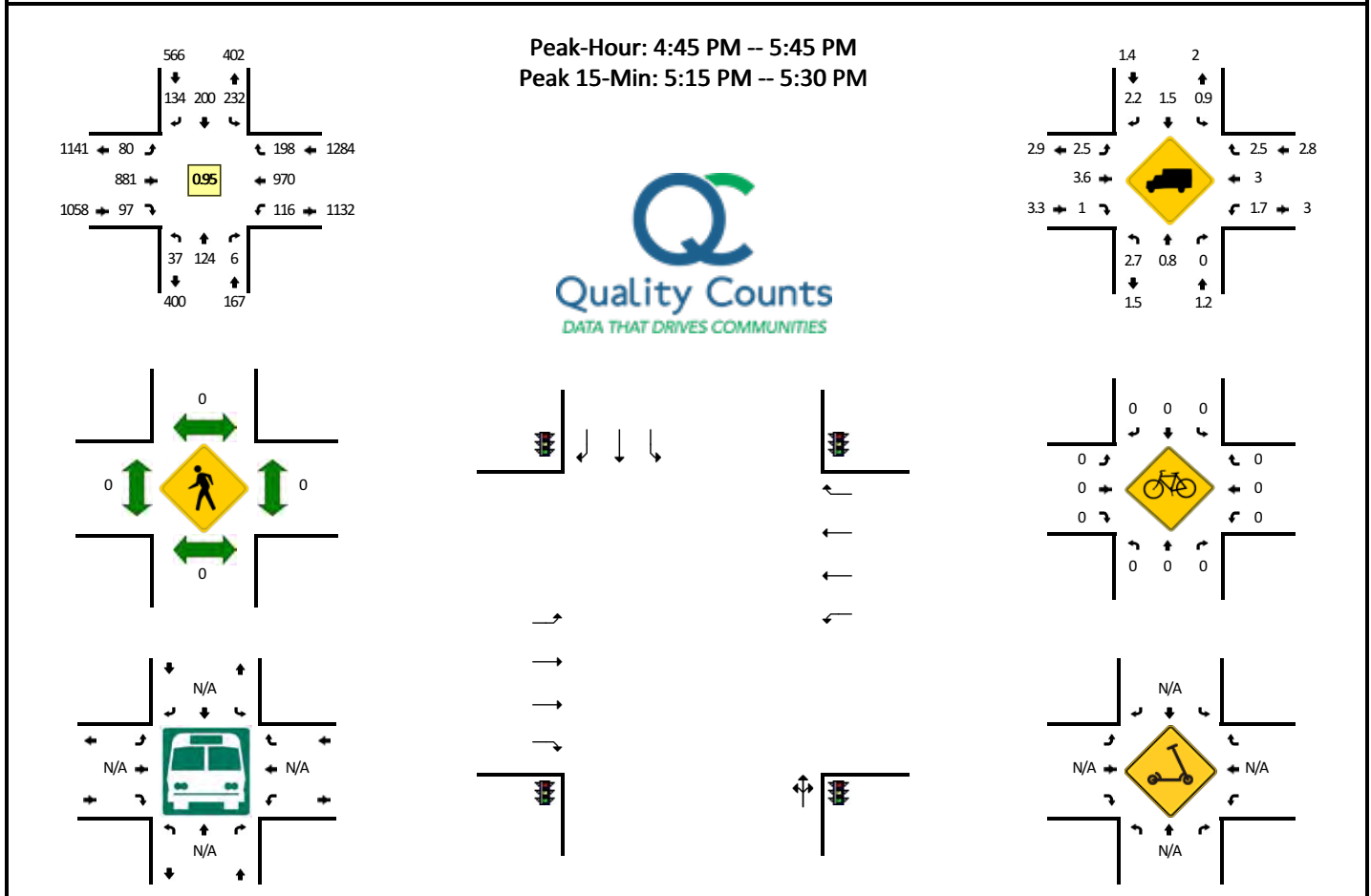
LOCATION: New Hill Rd -- US 64
CITY/STATE: Chatham, NC

QC JOB #: 15891301
DATE: Wed, Dec 8 2021



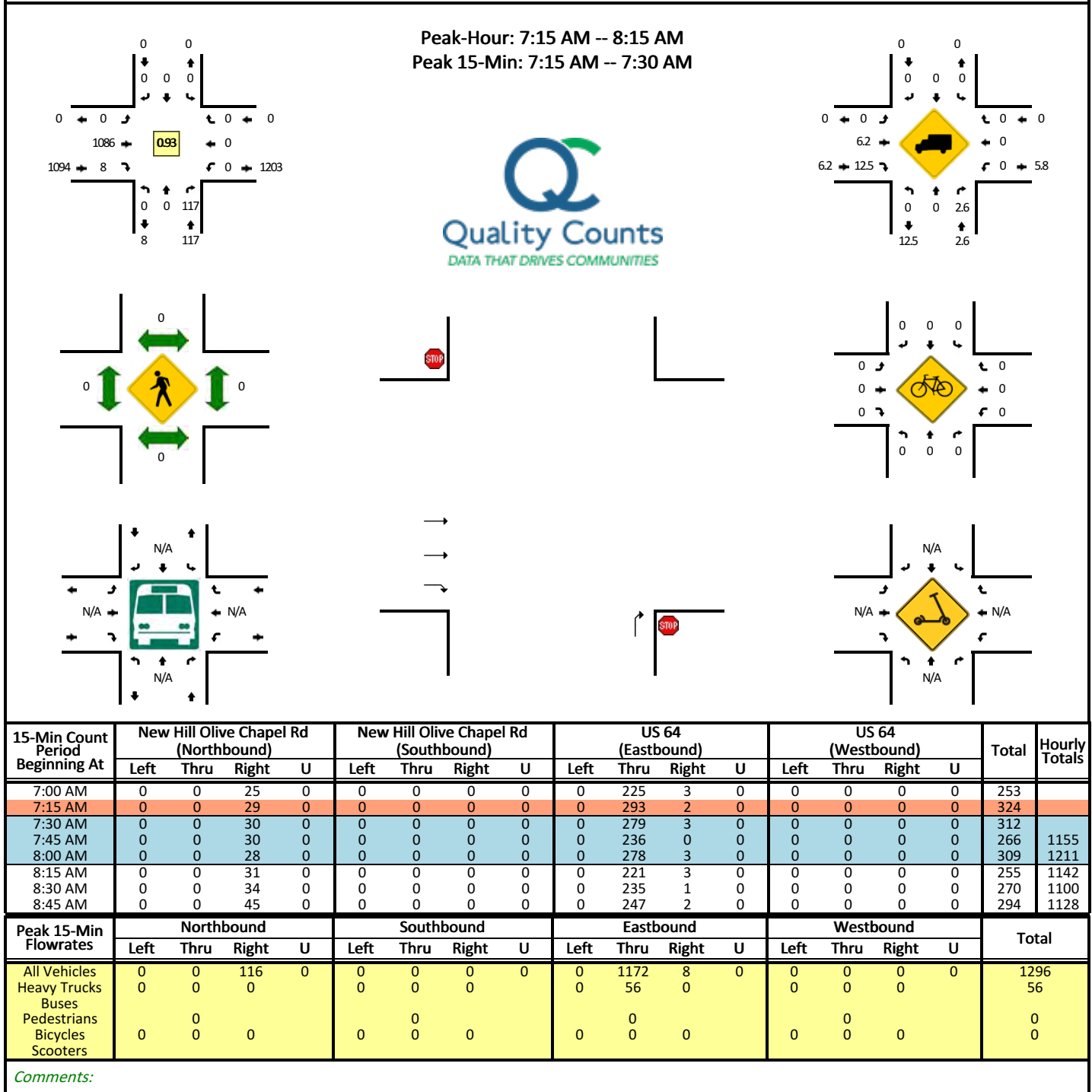
LOCATION: New Hill Rd -- US 64
CITY/STATE: Chatham, NC

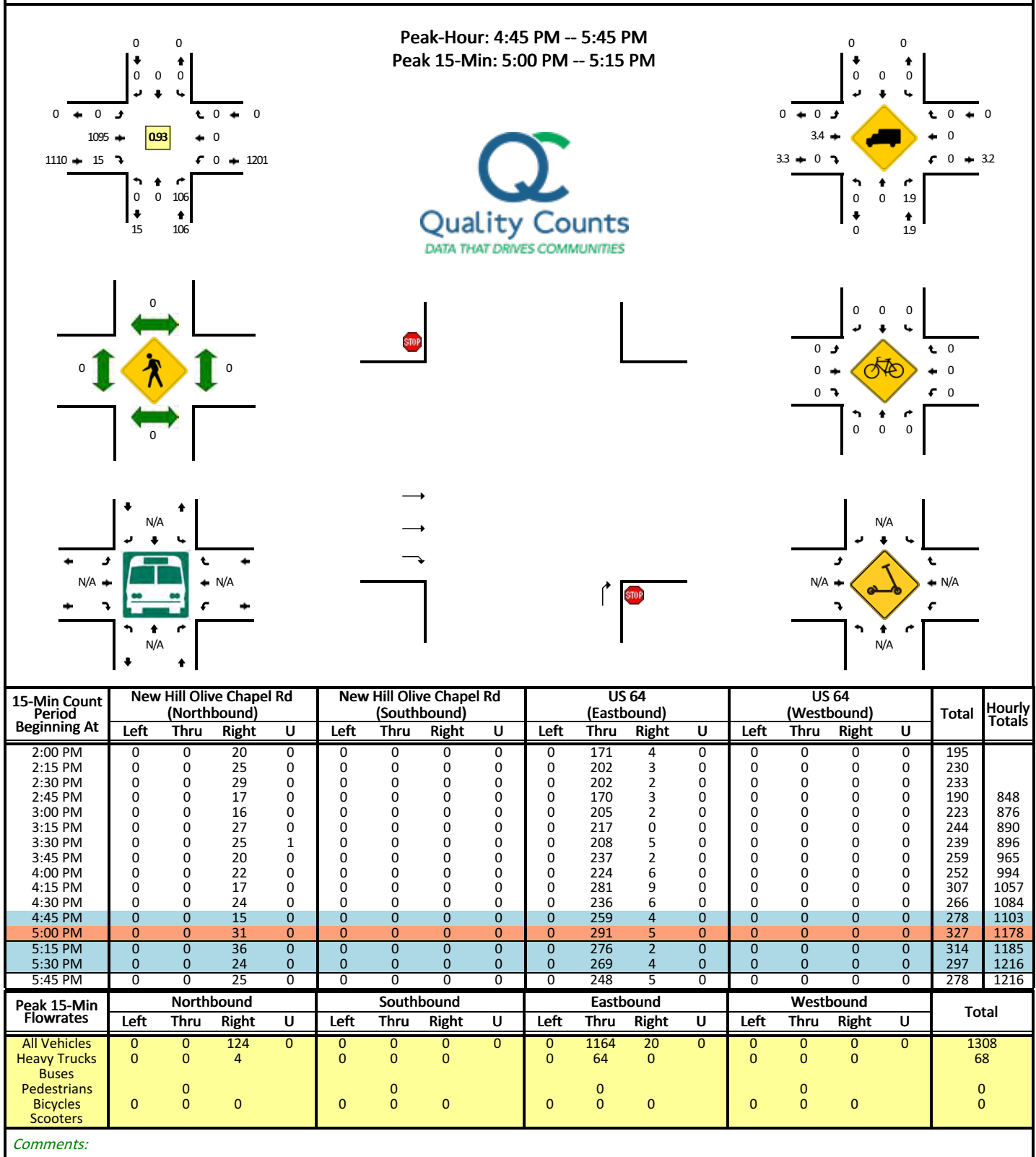
QC JOB #: 15891302
DATE: Wed, Dec 8 2021

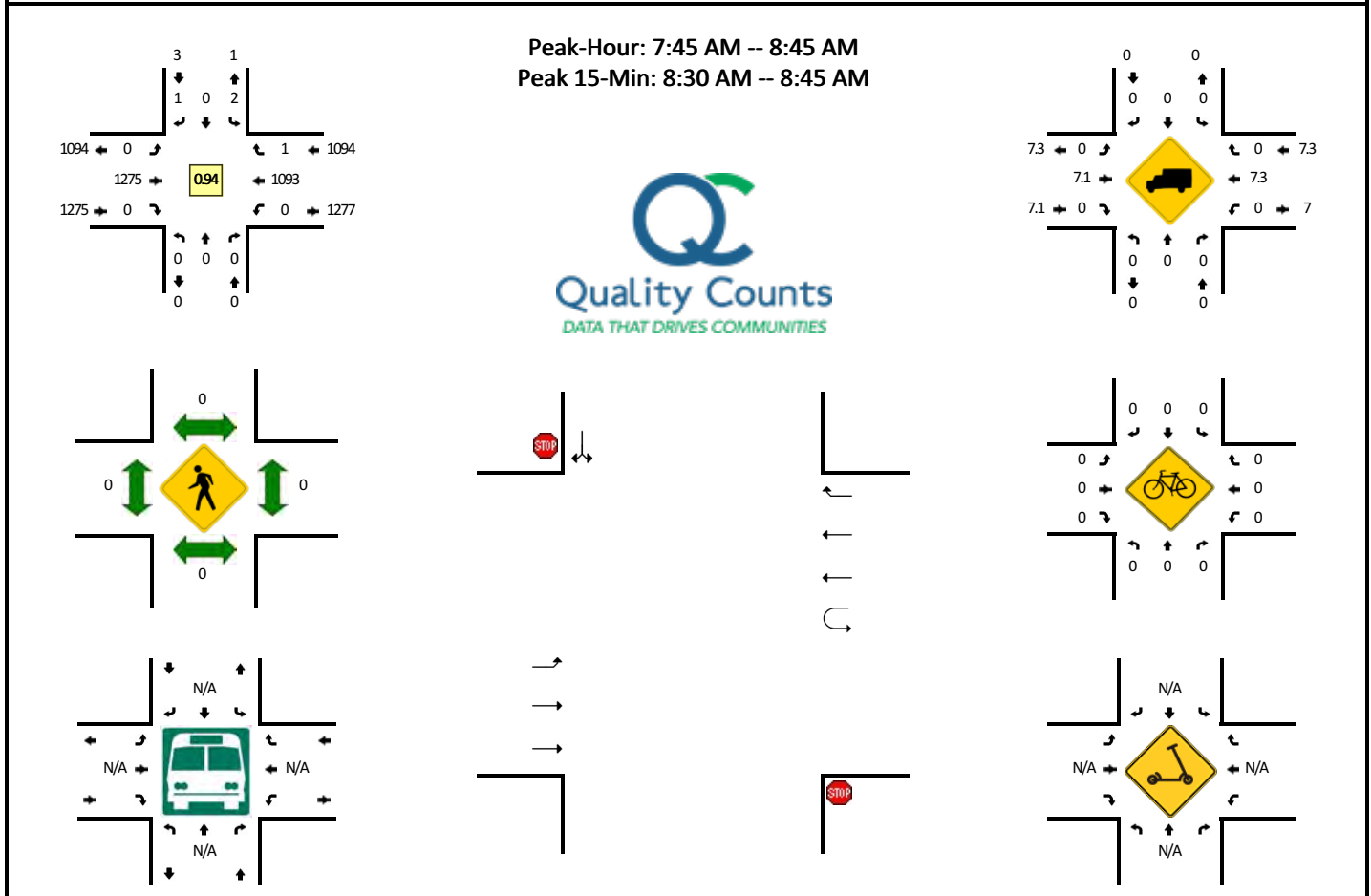


15-Min Count Period Beginning At	New Hill Rd (Northbound)				New Hill Rd (Southbound)				US 64 (Eastbound)				US 64 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	15	12	1	0	26	15	26	0	16	149	19	0	18	168	26	4	495	
2:15 PM	12	13	0	0	25	20	19	0	19	178	13	1	15	183	23	4	525	
2:30 PM	6	13	1	0	31	17	25	0	11	171	17	0	13	169	30	3	507	
2:45 PM	16	17	0	0	25	23	21	0	14	150	17	0	22	176	50	1	532	2059
3:00 PM	11	20	0	0	44	19	21	0	7	156	12	0	21	215	30	2	558	2122
3:15 PM	12	12	0	0	41	20	23	0	25	183	16	0	25	199	40	1	597	2194
3:30 PM	11	27	1	0	41	30	25	0	14	177	24	1	25	237	34	2	649	2336
3:45 PM	12	17	0	0	33	28	20	0	16	212	20	0	27	231	41	2	659	2463
4:00 PM	12	28	0	0	43	44	33	0	14	192	25	0	24	223	33	7	678	2583
4:15 PM	10	22	3	0	45	42	37	0	19	229	16	0	28	236	51	10	748	2734
4:30 PM	10	28	0	0	56	43	30	0	17	181	25	0	29	238	32	5	694	2779
4:45 PM	7	32	0	0	54	35	41	0	17	219	18	0	24	224	37	4	712	2832
5:00 PM	14	30	5	0	62	56	23	0	15	229	23	0	24	252	58	3	794	2948
5:15 PM	2	34	0	0	59	46	39	0	22	222	26	0	28	270	57	1	806	3006
5:30 PM	14	28	1	0	57	63	31	0	26	211	30	0	27	224	46	5	763	3075
5:45 PM	13	27	0	0	57	44	35	0	20	199	13	0	22	205	46	5	686	3049
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	136	0	0	236	184	156	0	88	888	104	0	112	1080	228	4	3224	
Heavy Trucks	0	0	0	0	0	0	0	0	8	8	0	0	0	20	0	0	36	
Buses																		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scoters																		

Comments:

LOCATION: New Hill Olive Chapel Rd -- US 64**QC JOB #:** 15891303**CITY/STATE:** Wake, NC**DATE:** Wed, Dec 8 2021

LOCATION: New Hill Olive Chapel Rd -- US 64**QC JOB #:** 15891304**CITY/STATE:** Wake, NC**DATE:** Wed, Dec 8 2021

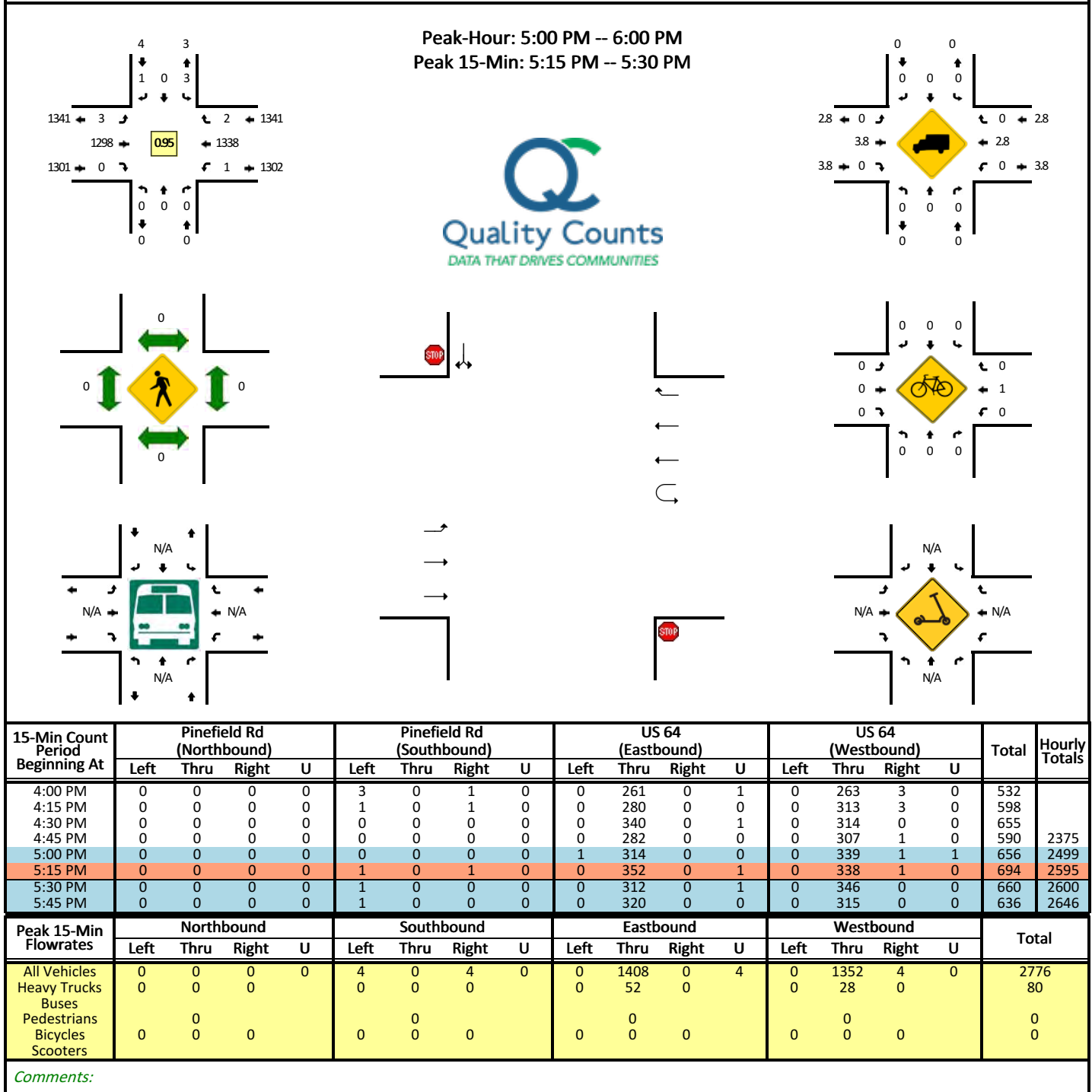
LOCATION: Pinefield Rd -- US 64**CITY/STATE:** Wake, NC**QC JOB #:** 15891305**DATE:** Wed, Jul 27 2022

15-Min Count Period Beginning At	Pinefield Rd (Northbound)				Pinefield Rd (Southbound)				US 64 (Eastbound)				US 64 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	241	0	0	0	206	1	0	448	
7:15 AM	0	0	0	0	0	0	0	0	0	300	0	1	0	241	0	0	542	
7:30 AM	0	0	0	0	0	0	0	0	0	328	0	0	0	253	0	0	581	
7:45 AM	0	0	0	0	0	0	0	0	0	346	0	0	0	276	0	0	622	2193
8:00 AM	0	0	0	0	0	0	0	0	0	298	0	0	0	274	0	0	572	2317
8:15 AM	0	0	0	0	1	0	0	0	0	297	0	0	0	251	0	0	549	2324
8:30 AM	0	0	0	0	1	0	1	0	0	334	0	0	0	292	1	0	629	2372
8:45 AM	0	0	0	0	1	0	0	0	0	302	0	1	0	268	3	0	575	2325
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	4	0	4	0	0	1336	0	0	0	1168	4	0	2516	
Heavy Trucks	0	0	0	0	0	0	0	0	0	120	0	0	0	120	0	0	240	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

Report generated on 8/1/2022 2:39 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: Pinefield Rd -- US 64**CITY/STATE:** Wake, NC**QC JOB #:** 15891306**DATE:** Wed, Jul 27 2022

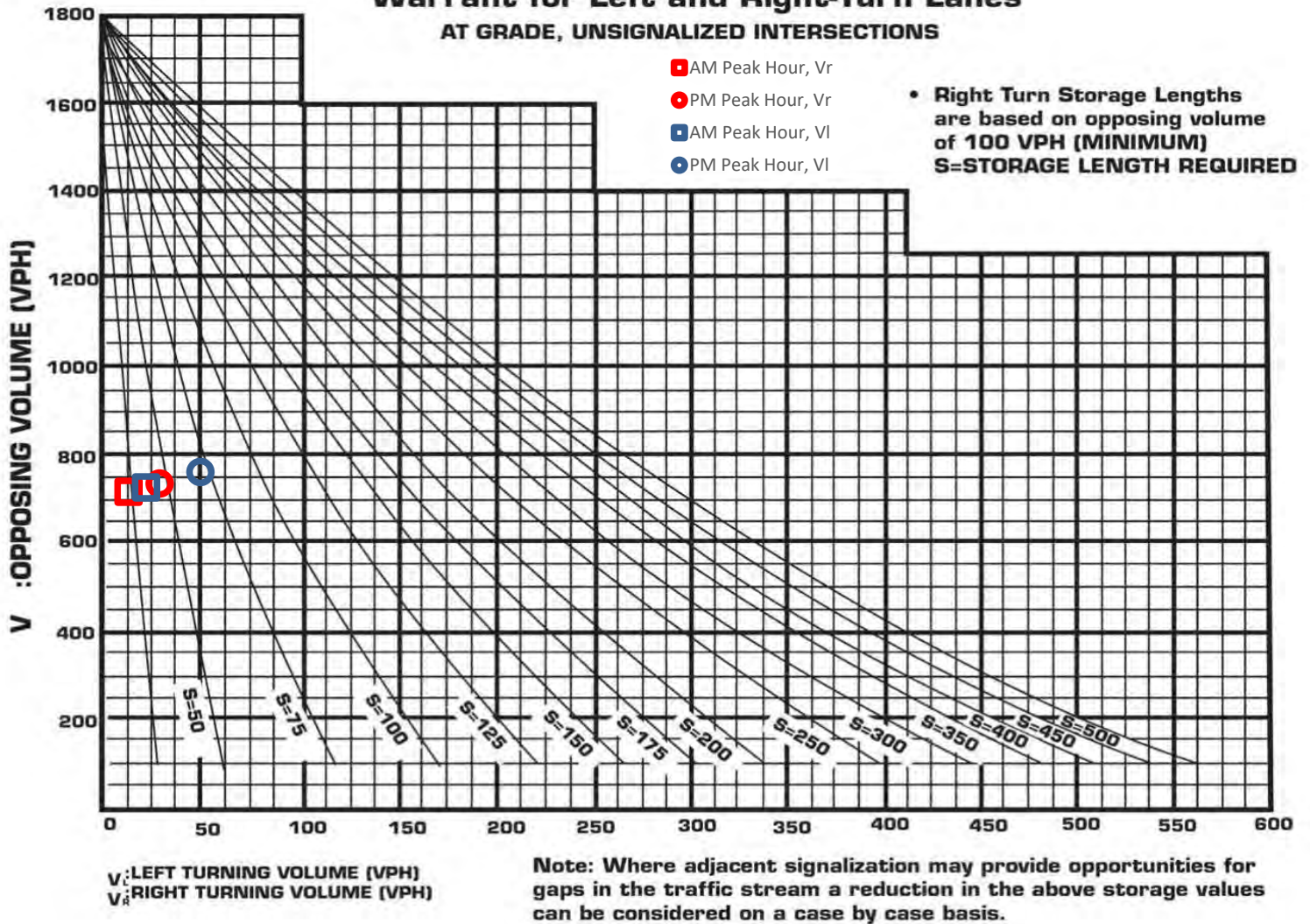
Report generated on 8/1/2022 2:39 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Supporting Documents

Peak Hour	Volumes		Peak Hour	Volumes	
	Opposing	Lefts		Opposing	Rights
AM	723	19	AM	713	10
PM	758	47	PM	732	26

Warrant for Left and Right-Turn Lanes AT GRADE, UNSIGNALIZED INTERSECTIONS

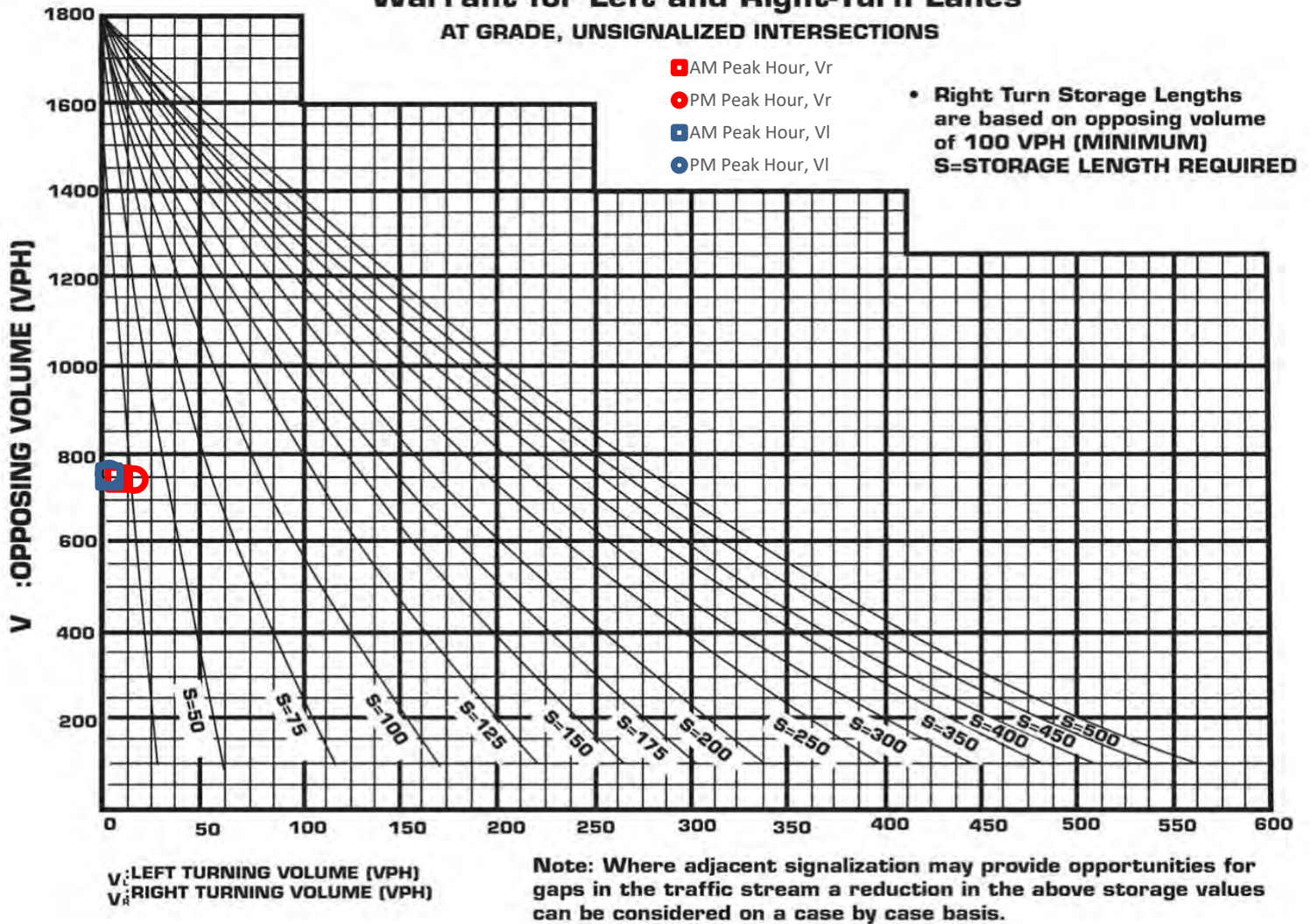


TURN LANE WARRANT SUMMARY

SITE ACCESS 1 - FULL BUILD

Peak Hour	Volumes		Peak Hour	Volumes	
	Opposing	Lefts		Opposing	Rights
AM	748	0	AM	743	5
PM	754	0	PM	741	13

Warrant for Left and Right-Turn Lanes AT GRADE, UNSIGNALIZED INTERSECTIONS





NCDOT Traffic Impact Analysis Need Screening / Scoping Request



TIA Need
Screening



TIA
Scoping



TIA
Submittal

A Traffic Impact Analysis (TIA) may be required for developments based on the site trip generation estimates, site context, or at the discretion of the NCDOT District Engineer. The Applicant or the TIA Consultant shall submit this form along with the site plan to the District Engineer to determine the TIA need and, if a TIA is required, initiate the TIA scoping process. Without an approved scope, the TIA is incomplete and will be rejected until the study is revised to conform to NCDOT's TIA requirements.

Project Name: Signature Apex Development Previous Name: If Applicable _____

Location: S of US 64 b/w New Hill Rd & Lawson Ln County: Wake Municipality: _____

Project Description: 392 proposed apartment units and 34,000 sq ft medical office with two (2) site accesses

Project Contact:	Applicant	TIA Consultant
Company Name	<u>Signature Property Group</u>	<u>DAVENPORT</u>
Contact Person	<u>Phillip Arrington</u>	<u>Dionne Brown, PE</u>
Phone Number	<u>(336) 706-3272</u>	<u>(919) 324-1665 ext: 24402</u>
Email	<u>parrington@signaturepropertygroup.com</u>	<u>dbrown@davenportworld.com</u>
Mailing Address	<u>305 Blandwood Avenue</u>	<u>4600 Marriott Drive, Suite 340</u>
	<u>Greensboro, NC 27401</u>	<u> Raleigh, NC 27612</u>

Site Plan Prepared By: C.E. Group, Inc.

Site Plan Date: 06/23/2022

See site plan/vicinity map requirements on page 2.

Parcel Size: 35.3 Acre(s) Anticipated Build-Out Year: 2025

Weekday Site Trip Generation - Do NOT adjust for mode split, pass-by, internal capture, or diverted trips.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
221	Mid-Rise Multi	392	Dw. Units	1823	Adj. Street	37	124	161	93	60	153	ITE Equation
	Medical Office	34	Th Sq Ft	1353	Adj. Street	72	19	91	41	94	135	ITE Equation
Total				3176		109	143	252	134	154	288	

Refer to the current [NCDOT Congestion Management Capacity Analysis Guidelines](#) for acceptable trip calculation methods and data sources.

**Explain local or other data sources, if used: _____

☒ The estimated site trips meet NCDOT's TIA trip threshold of 3,000 daily trips.

☒ The estimated site trips meet the municipal TIA trip threshold of 100

☐ This project is located in a known [STIP](#) and/ or local CIP project # _____

☐ This project includes a rezoning request.

☐ The proposed site access is located within 1,000 feet of an interchange.

☐ The Applicant requests for a new or modified control-of-access break.

☐ The Applicant requests for a new or modified median break.

Applicant's Signature

Print Name

Date

Effective Date: 10/01/2017 (Version 17-721)

Page 1 of 2



NCDOT Traffic Impact Analysis Need Screening / Scoping Request



Site Plan/Vicinity Map Requirement for TIA Need Screening: While the site plan may not be finalized during the TIA scoping stage, the graphic representation of the proposed development shall provide adequate details on the development scope and context. More specifically, the site plan/map shall clearly show the location and type of each access point, spacing to adjacent and opposing driveways or intersections, internal street network, proposed buildings/parcels with their anticipated uses and sizes at full build-out and, if applicable, any nearby interstate, US, NC or Secondary Roads (SR).

Project Name: _____ **Project Reference Number:** _____

☒ **A TIA is Required by the Local Government.** In addition, the study area is expected to include NCDOT maintained transportation facilities.

☒ **A TIA is Required by NCDOT,** per the [Policy on Street and Driveway Access to North Carolina Highways](#).

If either or both of the boxes above are checked, the Applicant/TIA Consultant is hereby requested to fill out as much as possible of the following TIA scoping checklist, and return it along with the supporting documents to NCDOT prior to the scoping meeting.

☐ **A TIA is NOT required.** This decision is based on the development information presented above. Changes in the development plan will require re-evaluation of the TIA need, and may necessitate a TIA. The Applicant should inform the District Engineer of any significant changes in a timely fashion to avoid delays or rejections of the driveway permit / encroachment agreement applications.

Additional Comments:

The TIA need decision is made by the NCDOT Division _____ District _____ on _____.

NCDOT District Representative's Signature
Email concurrence may be used in lieu of the signature.

Print Name



NCDOT TIA Scoping Checklist



Project Name: Signature Apex Development

TIA Scoping Date: 09/02/22

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

☒ **Site Plan and Access**

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

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

☒ Identify site access.

New Access	On Road	Access Type		Driveway Spacing		
	Road Name	Permitted Movements	Traffic Control	Distance (ft)	Direction	Nearest Intersection / Access
Access A	US 64	Other	2-Way Stop	438	West	Hattie Road
Access B	US 64	RIRO w/ Left-Over	2-Way Stop	1255	West	Hattie Road
Access C						
Access D						
Access E						
Access F						
Access G						
Access H						
Existing Access	Existing Intersection of		Access Modification	Proposed Interconnectivity (If Applicable)		
	Road A	Road B		Connector #	Road Connected	Adjacent Development
Access 1			Please Select	Connector 1		
Access 2				Connector 2		
Access 3				Connector 3		
Access 4				Connector 4		

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

☐ **Proposed K-12 School Site**

☐ NCDOT [MSTA School Traffic Calculator](#) for Select School Type shall be used.

☐ Peak Hour Factors (PHFs) shall be adjusted/weighted for new school trips (0.5 PHF by default).

☐ Internal school circulation analysis is required, and should be submitted in advance or concurrent with the TIA submittal.

☐ Clarify traffic operation plans (e.g. traffic circulation pattern, pedestrian access, drop-off/pick-up zone location and configuration, queue storage area and, if applicable, staggered start times).



NCDOT TIA Scoping Checklist



☒ Trip Generation

The TIA Consultant shall prepare trip generation estimates following the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), and submit the calculation sheets and supporting information to the District Engineer for approval prior to capacity analysis.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
221	Mid-Rise Multi	392	Dw. Units	1823	Adj. Street	37	124	161	93	60	153	ITE Equation
720	Medical Office	1353	Th Sq Ft	1353	Adj. Street	72	19	91	41	94	135	ITE Equation
Unadjusted Site Trips				3176		109	143	252	134	154	288	
Internal Capture Trips (Attach Calculation Sheets)												Please Select
Internal Capture % of Unadjusted Site Trips				%		%			%			
LUC	Proposed Land Use	Any Internal Trips?		Pass-By % of External Trips								
		Please Select		%		%			%			Please Select
				%		%			%			
				%		%			%			
				%		%			%			
				%		%			%			
Pass-By Trips (Attach Calculation Sheets)												
Adjacent Street Volumes												Please Select
Non-Pass-By Primary Trips												
Diverted Trips, if Applicable and Justifiable												Please Select

**Explain local or other data sources, if used:

Trip generation data was provided by the client from a similar site.

☐ Existing Site Trip Information for Redevelopment Projects (Attach separate sheets as needed)

ITE LUC	Existing Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
					Please Select							Please Select
Total Existing Site Trips												



NCDOT TIA Scoping Checklist



☒ Trip Distribution

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

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

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

☐ Mode Split

- ☐ Provide Data Source and Justification

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

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

☒ Analysis Peak Periods:

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



NCDOT TIA Scoping Checklist



☒ Study Area Intersections and Data Collection

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

External Intersection	Intersection of		Traffic Control	Intersection Turning Movement Counts			Notes
	Road A	Road B		New / Existing	Date of Counts	Growth Adjustment	
#1	US 64	New Hill	Signal	Use Existing Counts	12/08/21	3%	
#2	US 64	New Hill Olive	2-Way Stop	Use Existing Counts	12/08/21	3%	
#3	US 64	Hattie	2-Way Stop	Require New Counts			
#4	US 64	Site Access 1	2-Way Stop				Proposed
#5	US 64	Site Access 2	2-Way Stop				Proposed
#6							
#7							
#8							
#9							
#10							
#11							
#12							

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

The following data will be collected:

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



NCDOT TIA Scoping Checklist



☒ Future Year Conditions

☐ Project Build-Out Year: _____

☒ Future Analysis Year(s): _____ 2025

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

Funded STIP / Local CIP Project	Project Description		Year Complete
R-5887			Post
Nearby Approved Development	Location	Future Land Use (exclude any completed phases)	Committed Improvements
Triangle Math&Sci Acad	New Hill Olive Chapel & US 64		Multiple
Legacy PUD	Flying Hawk & US 64		Multiple

☒ Annual Growth Factor: 3 %

Justification/Data Source: _____

☐ Local Comprehensive Transportation Plan Compliance

☐ Identify Applicable Local Transportation Planning Documents

☐ Identify Applicable Roadways inside the Study Area

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



NCDOT TIA Scoping Checklist



☒ Study Method

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

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

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

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

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

☐ Submittals

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

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

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

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



NCDOT TIA Scoping Checklist



Agreement by All Parties

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

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

APPLICANT

_____ Signature	_____ Print Name	_____ Date
--------------------	---------------------	---------------

TIA CONSULTANT

_____ Signature	_____ Print Name	_____ Date
--------------------	---------------------	---------------

LOCAL GOVERNMENT REPRESENTATIVE (If Applicable)

_____ Signature	_____ Print Name	_____ Date
--------------------	---------------------	---------------

Email concurrence may be used in lieu of the signature.

NCDOT DISTRICT REPRESENTATIVE

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

_____ Signature	_____ Print Name
--------------------	---------------------

Email concurrence may be used in lieu of the signature.

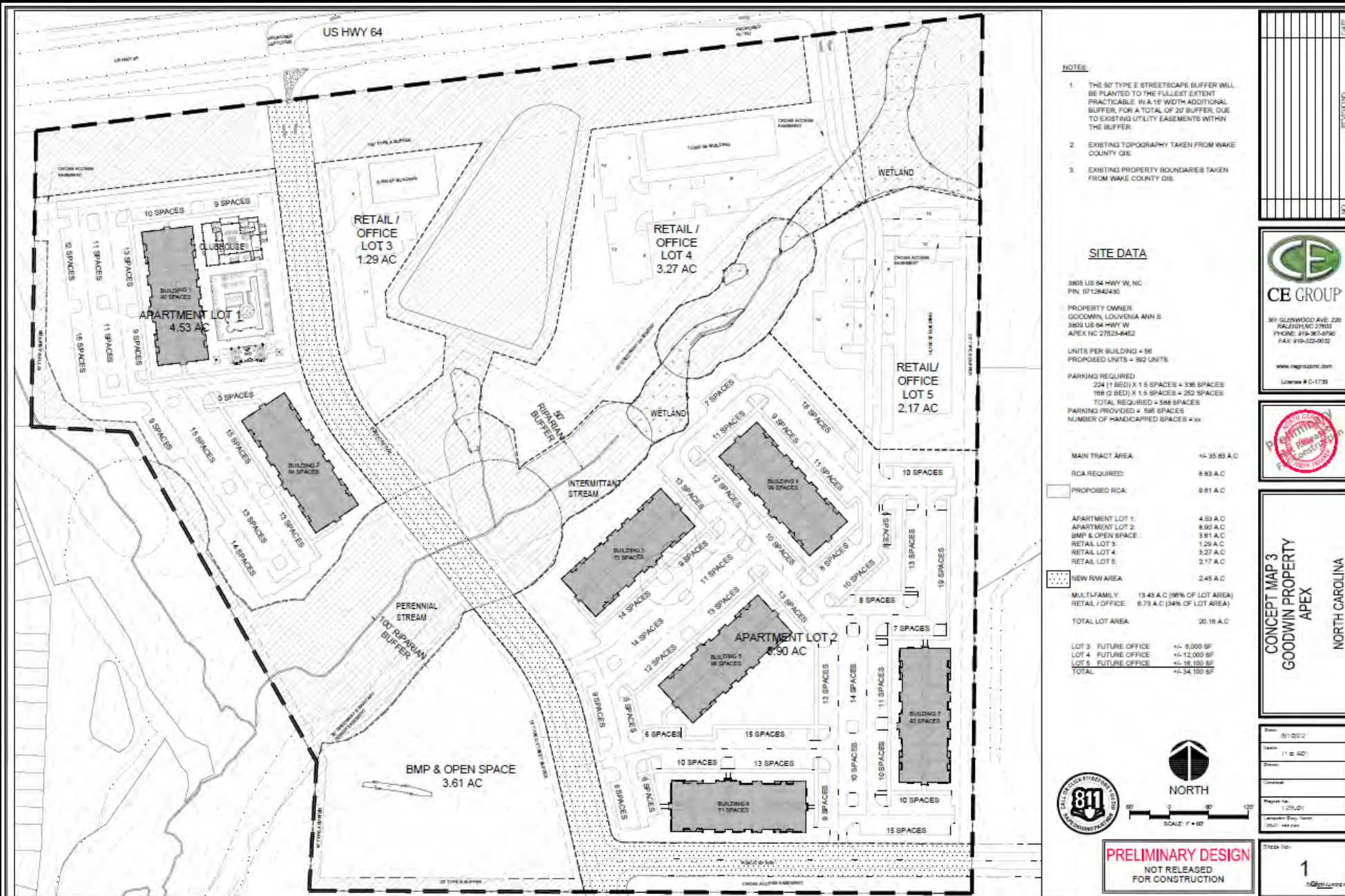
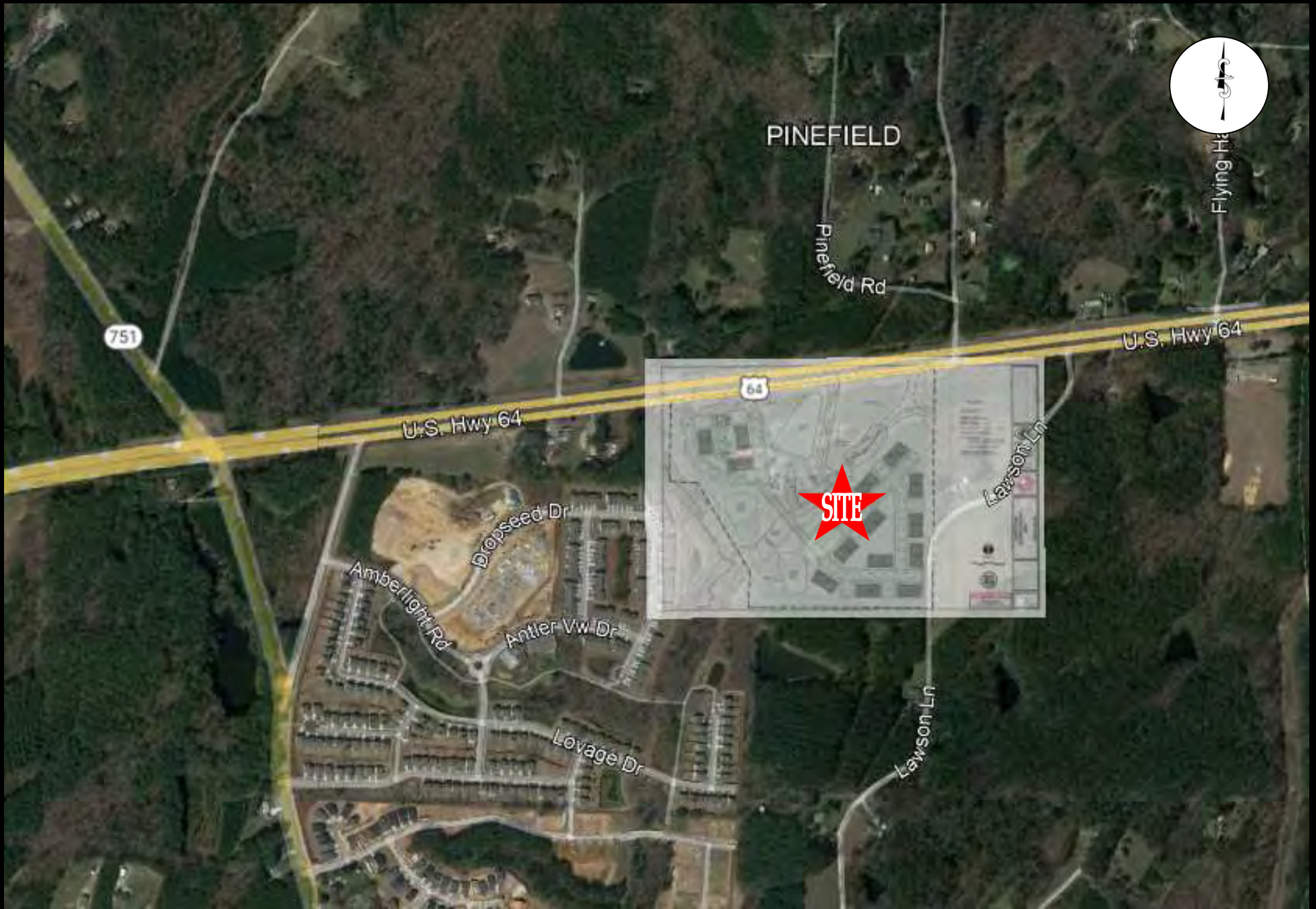


FIGURE 1
CONCEPT PLAN



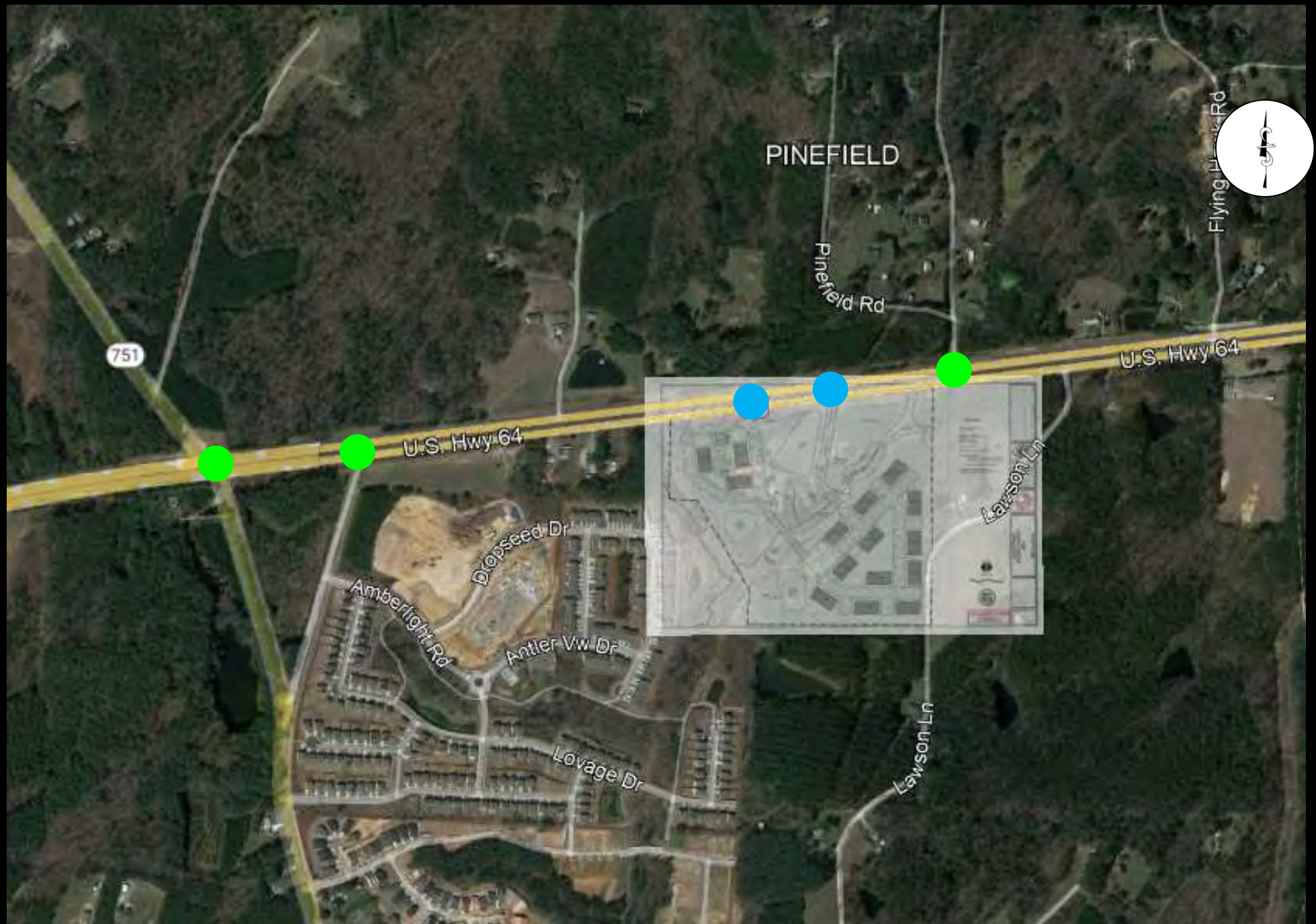


FIGURE 2B
VICINITY MAP



LEGEND	
	SIGN CONTROL
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING	
AM/PM PEAKS	

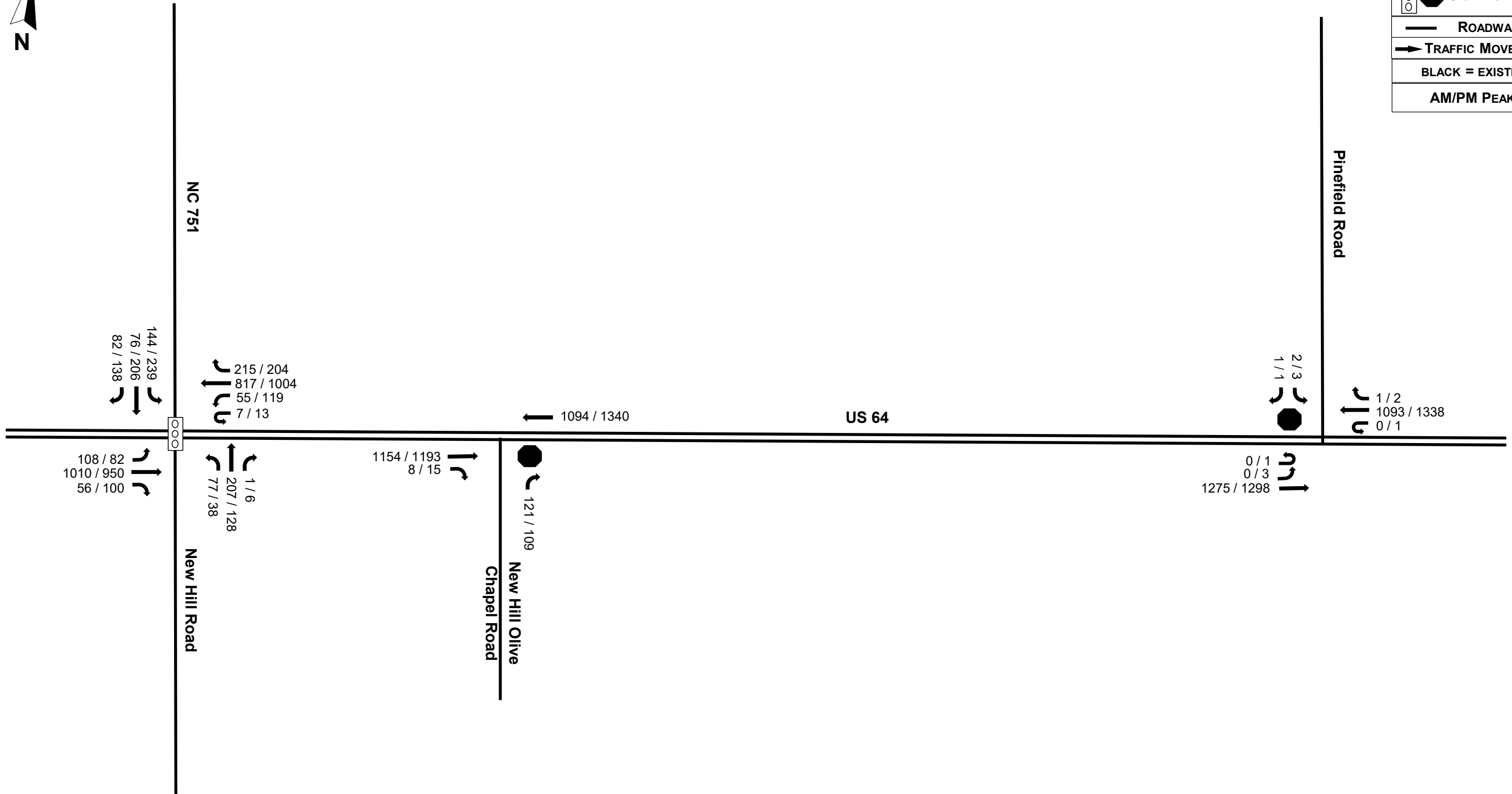
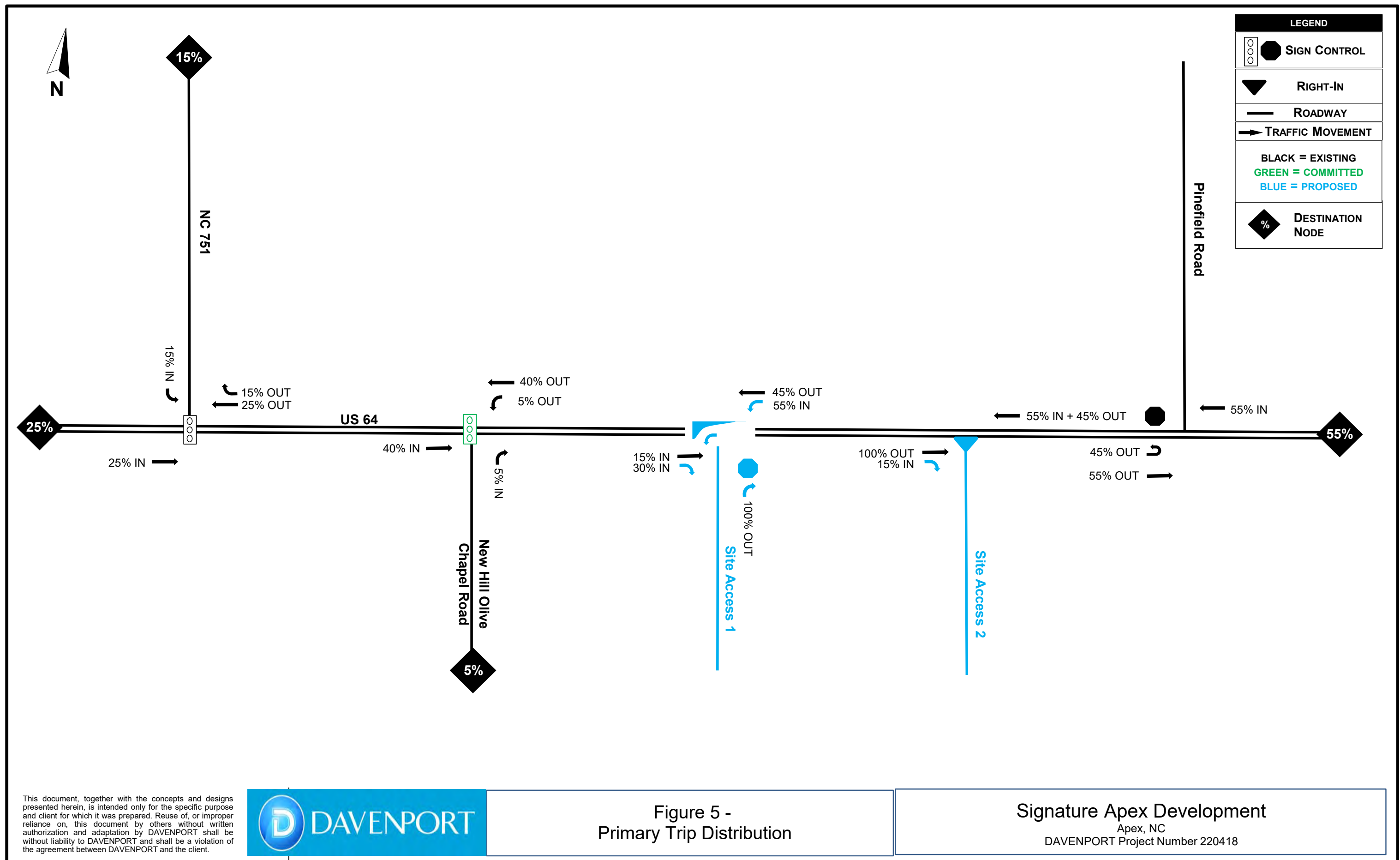


Figure 4 -
2022 Existing Traffic Volumes

Signature Apex Development
Apex, NC
DAVENPORT Project Number 220418

This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of, or improper reliance on, this document by others without written authorization and adaptation by DAVENPORT shall be without liability to DAVENPORT and shall be a violation of the agreement between DAVENPORT and the client.



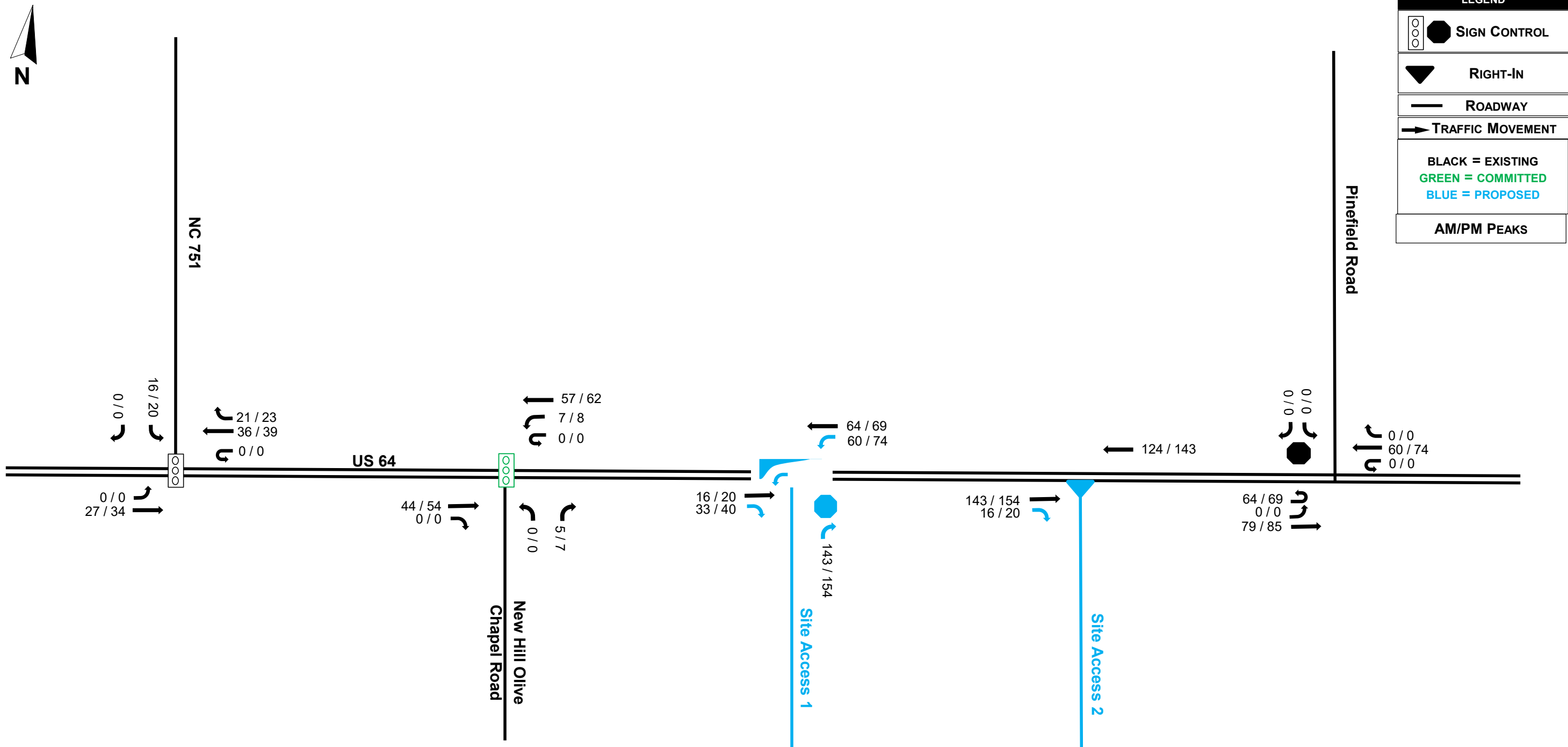


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Figure 5 -
Primary Trip Distribution

Signature Apex Development
Apex, NC
DAVENPORT Project Number 220418



This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of, or improper reliance on, this document by others without written authorization and adaptation by DAVENPORT shall be without liability to DAVENPORT and shall be a violation of the agreement between DAVENPORT and the client.



Figure 7 -
Primary Site Trips

Signature Apex Development
Apex, NC
DAVENPORT Project Number 220418

Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

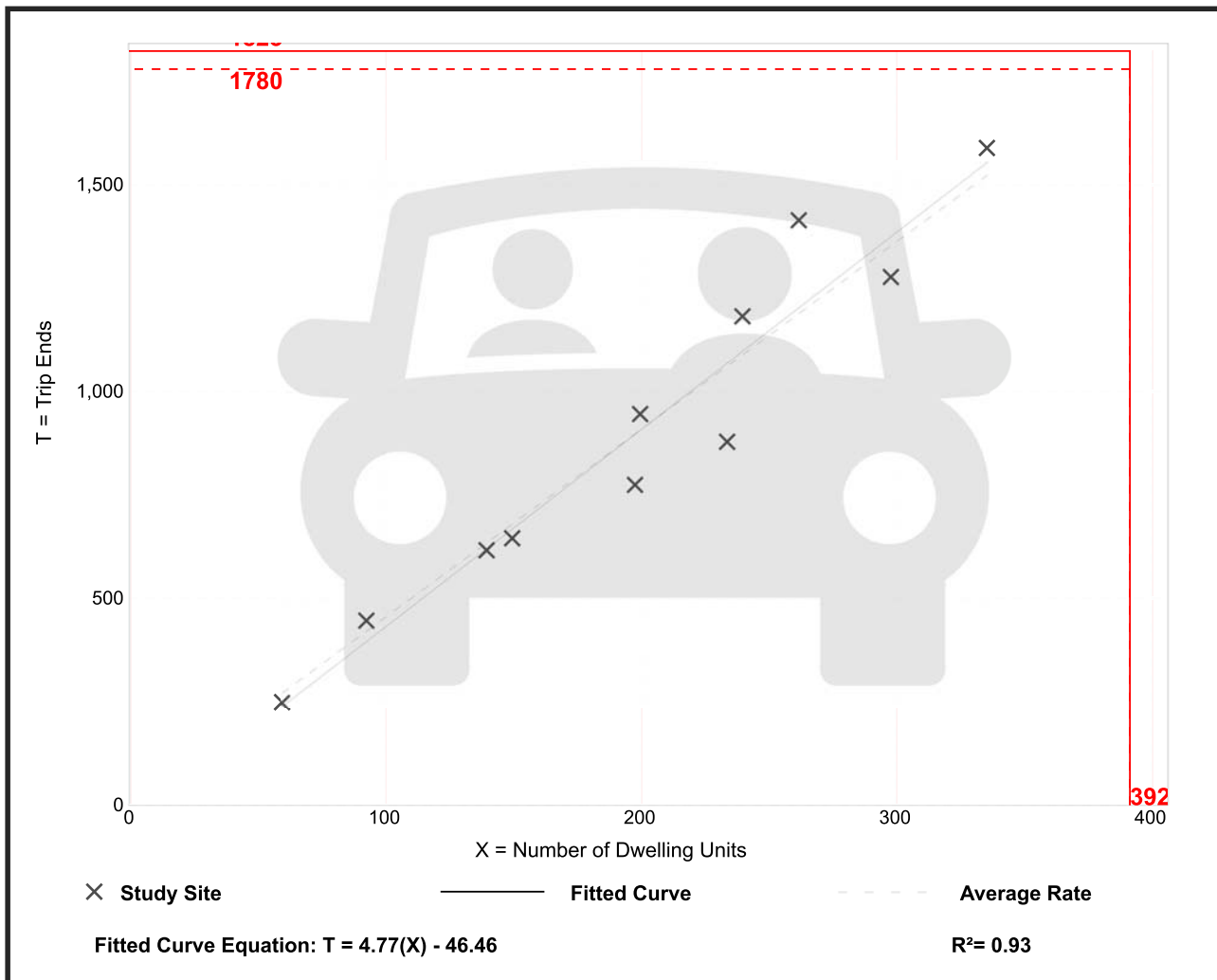
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. Num. of Dwelling Units: 201
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.54	3.76 - 5.40	0.51

Data Plot and Equation



Multifamily Housing (Mid-Rise)

Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 30

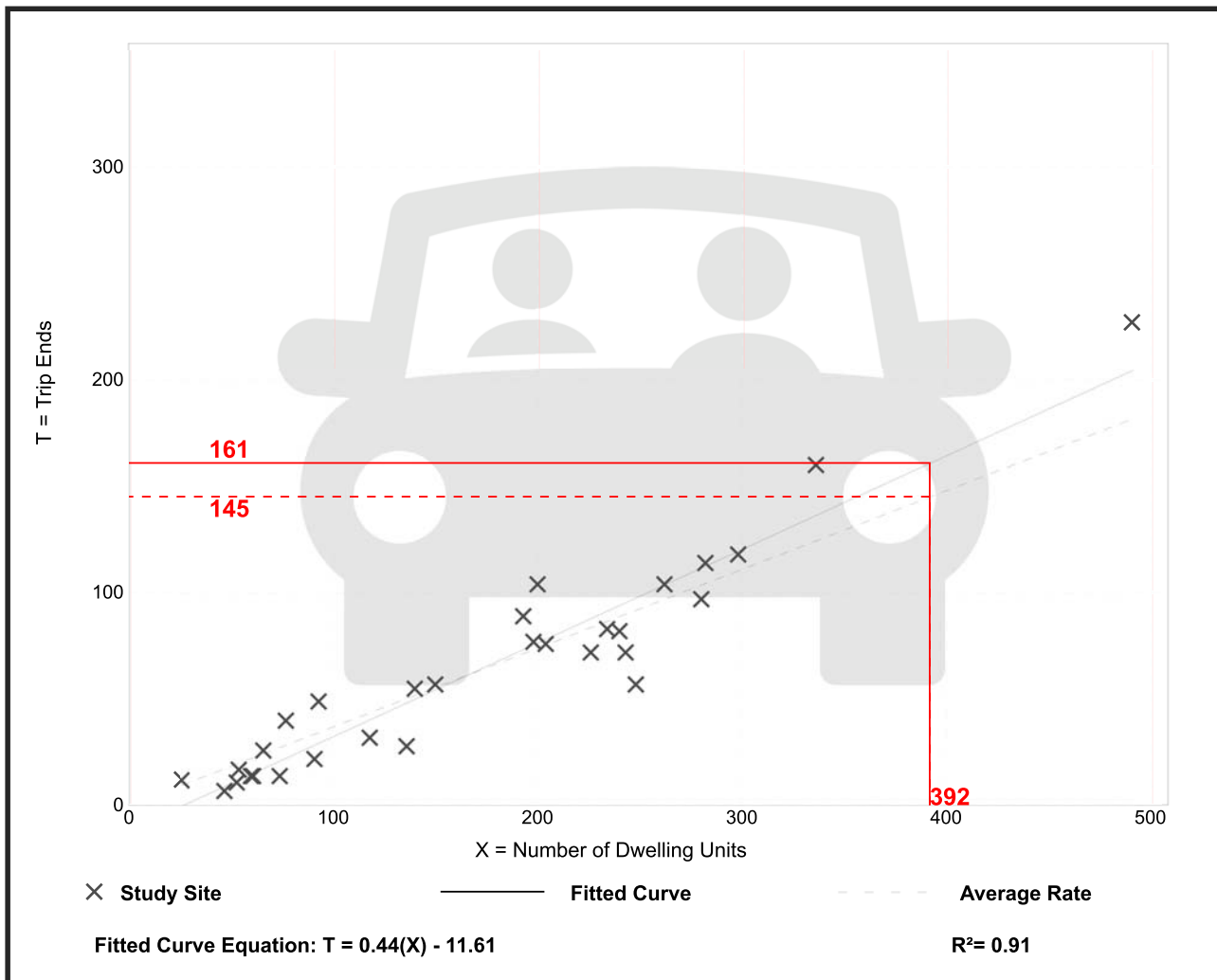
Avg. Num. of Dwelling Units: 173

Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 31

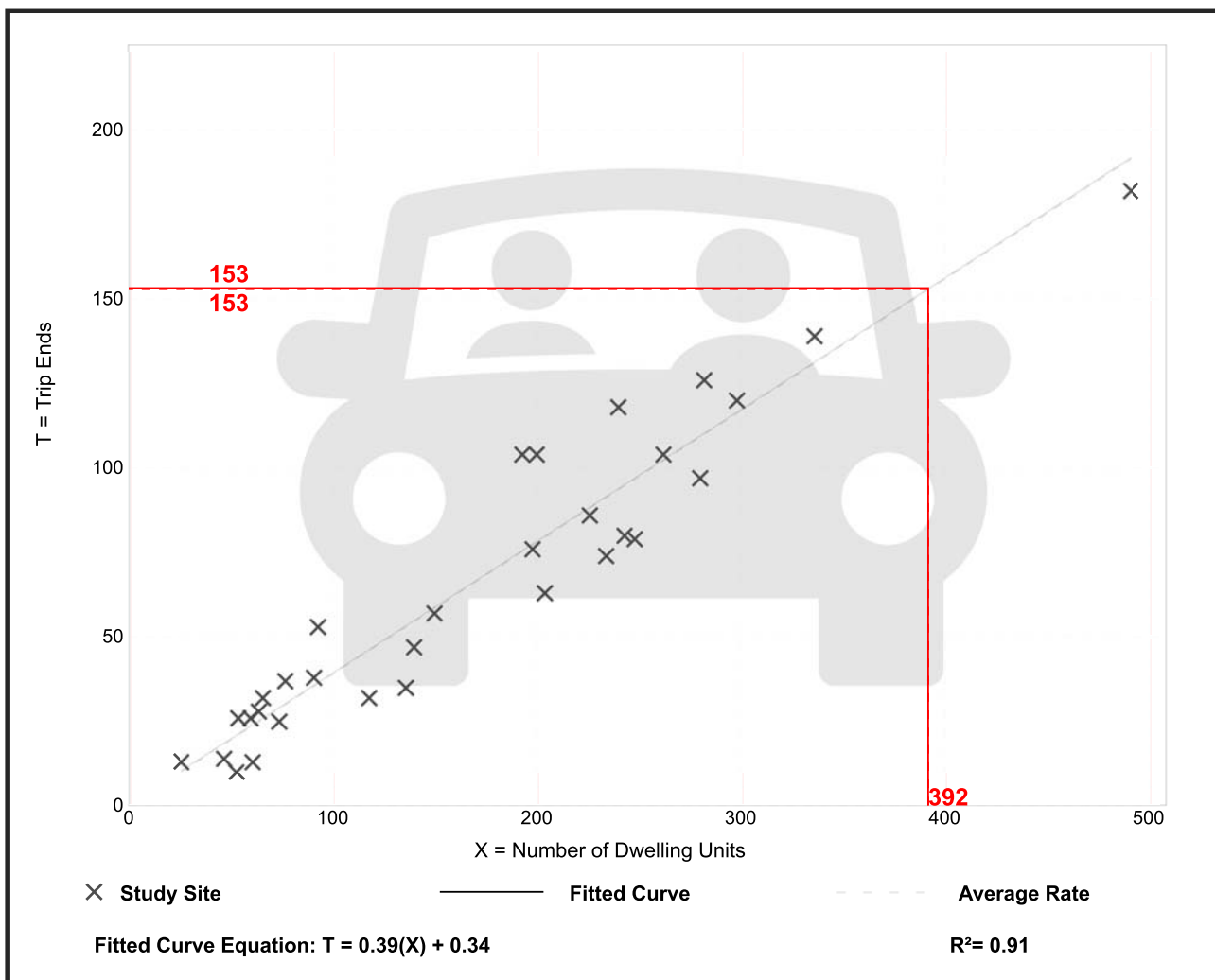
Avg. Num. of Dwelling Units: 169

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.57	0.08

Data Plot and Equation



Medical-Dental Office Building - Stand-Alone (720)

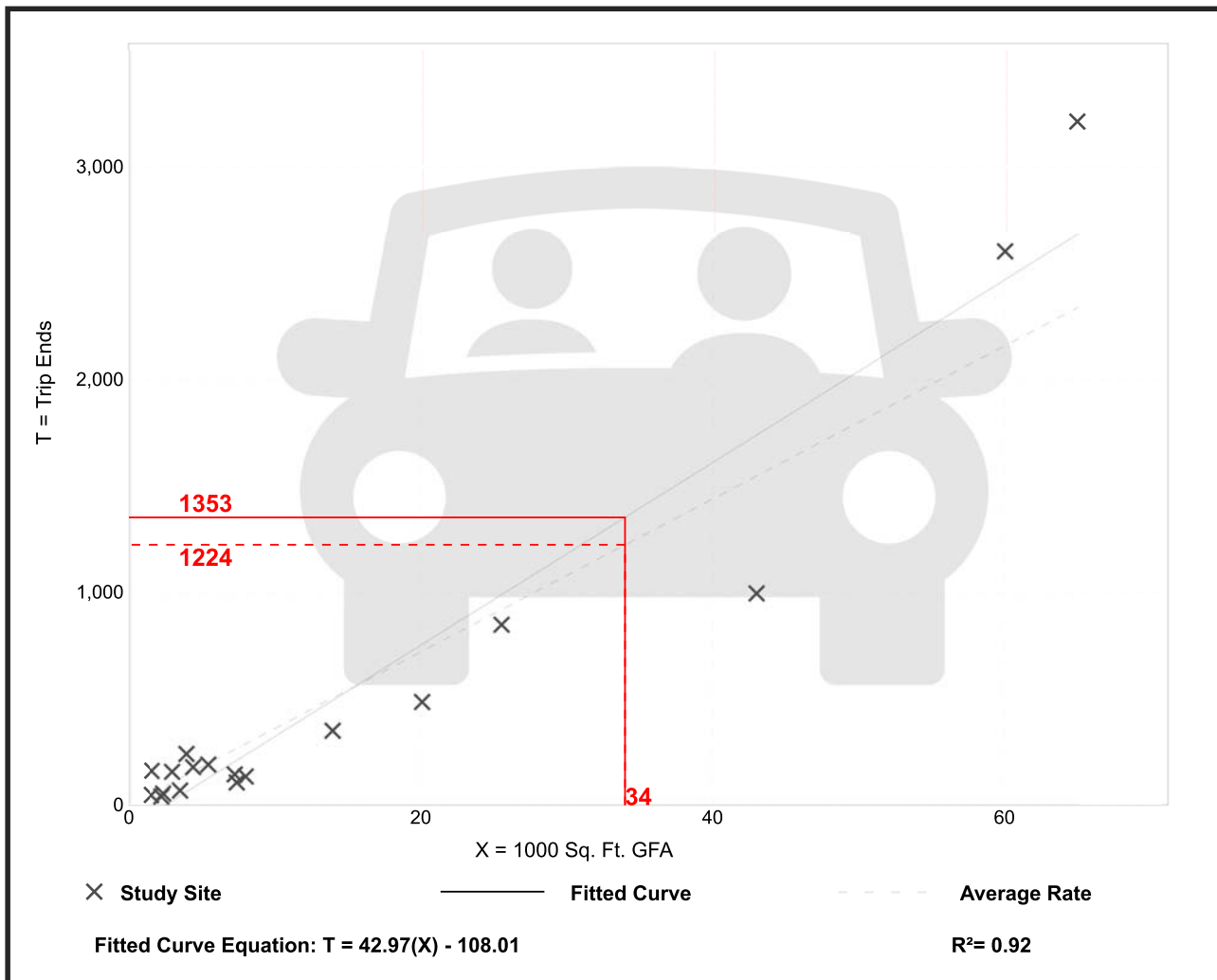
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 18
Avg. 1000 Sq. Ft. GFA: 15
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
36.00	14.52 - 100.75	13.38

Data Plot and Equation



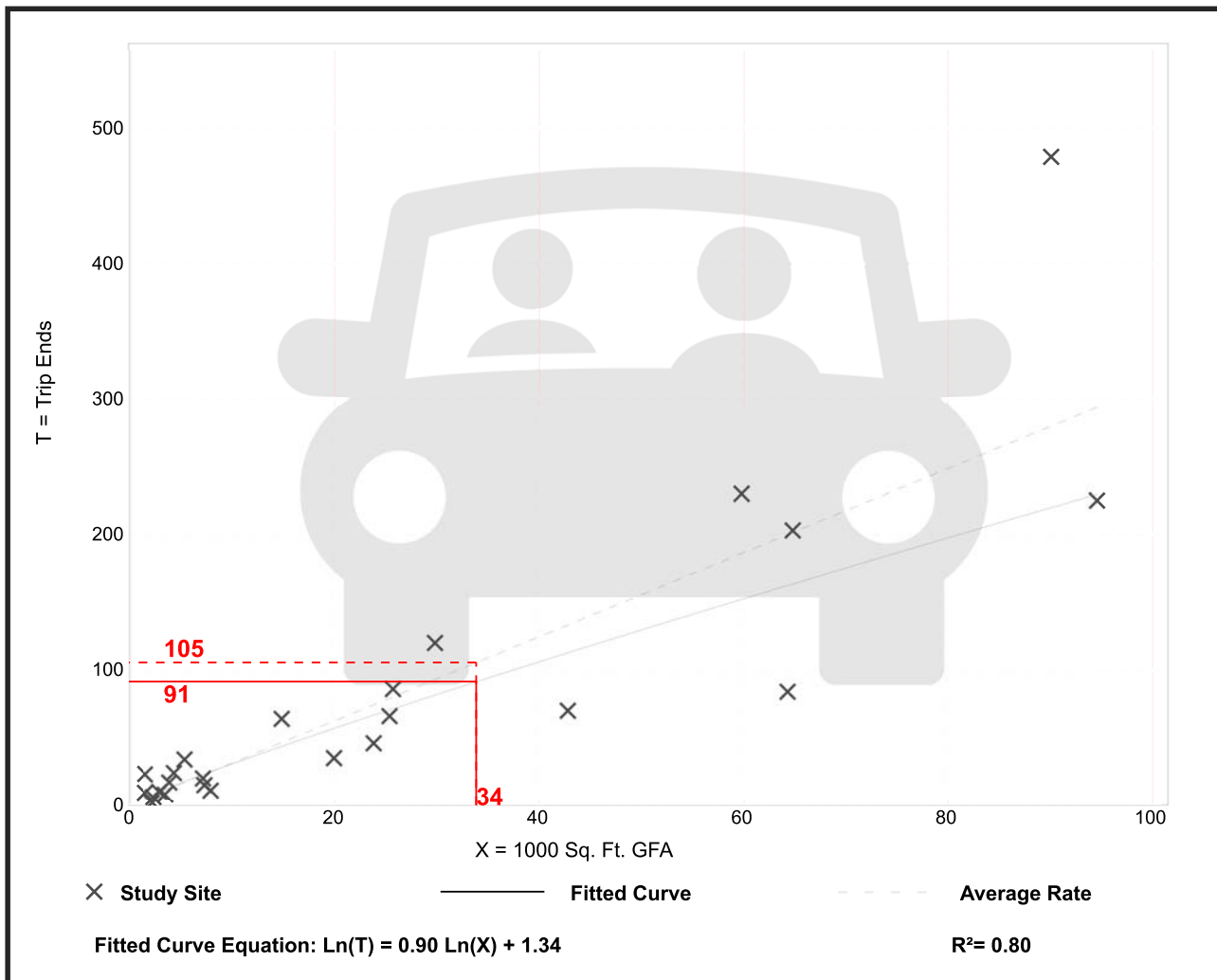
Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 24
 Avg. 1000 Sq. Ft. GFA: 25
 Directional Distribution: 79% entering, 21% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.10	0.87 - 14.30	1.49

Data Plot and Equation



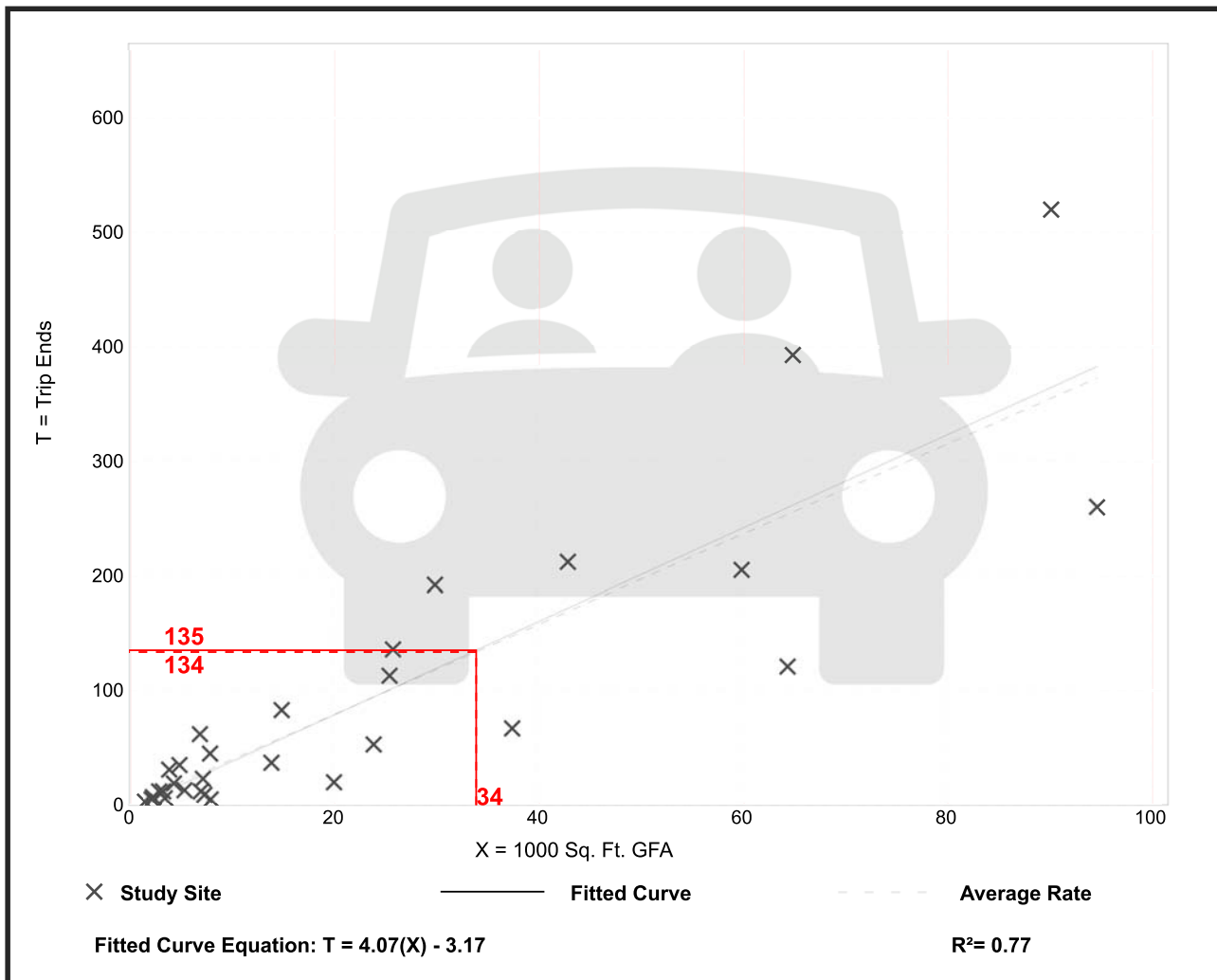
Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 30
 Avg. 1000 Sq. Ft. GFA: 23
 Directional Distribution: 30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

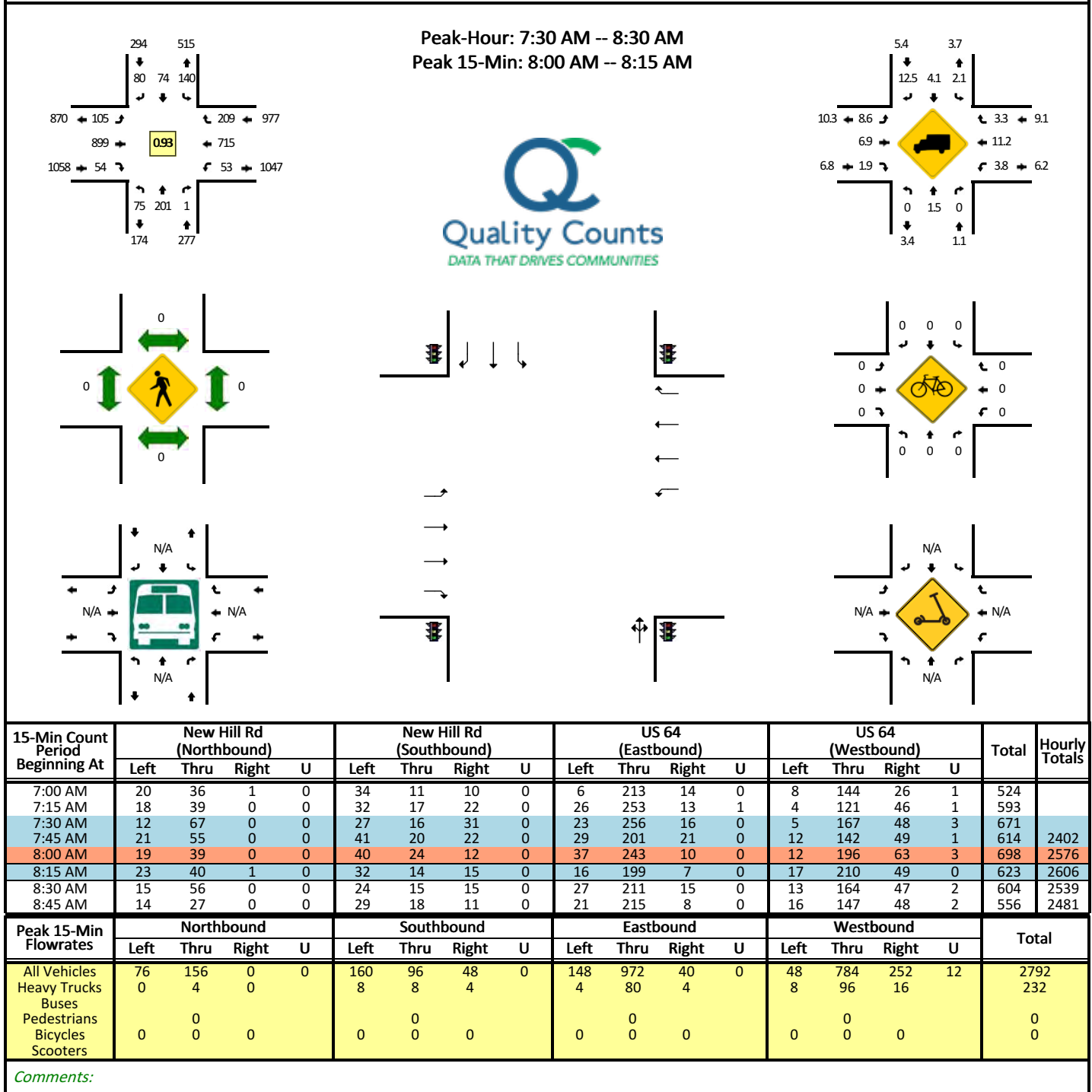
Average Rate	Range of Rates	Standard Deviation
3.93	0.62 - 8.86	1.86

Data Plot and Equation



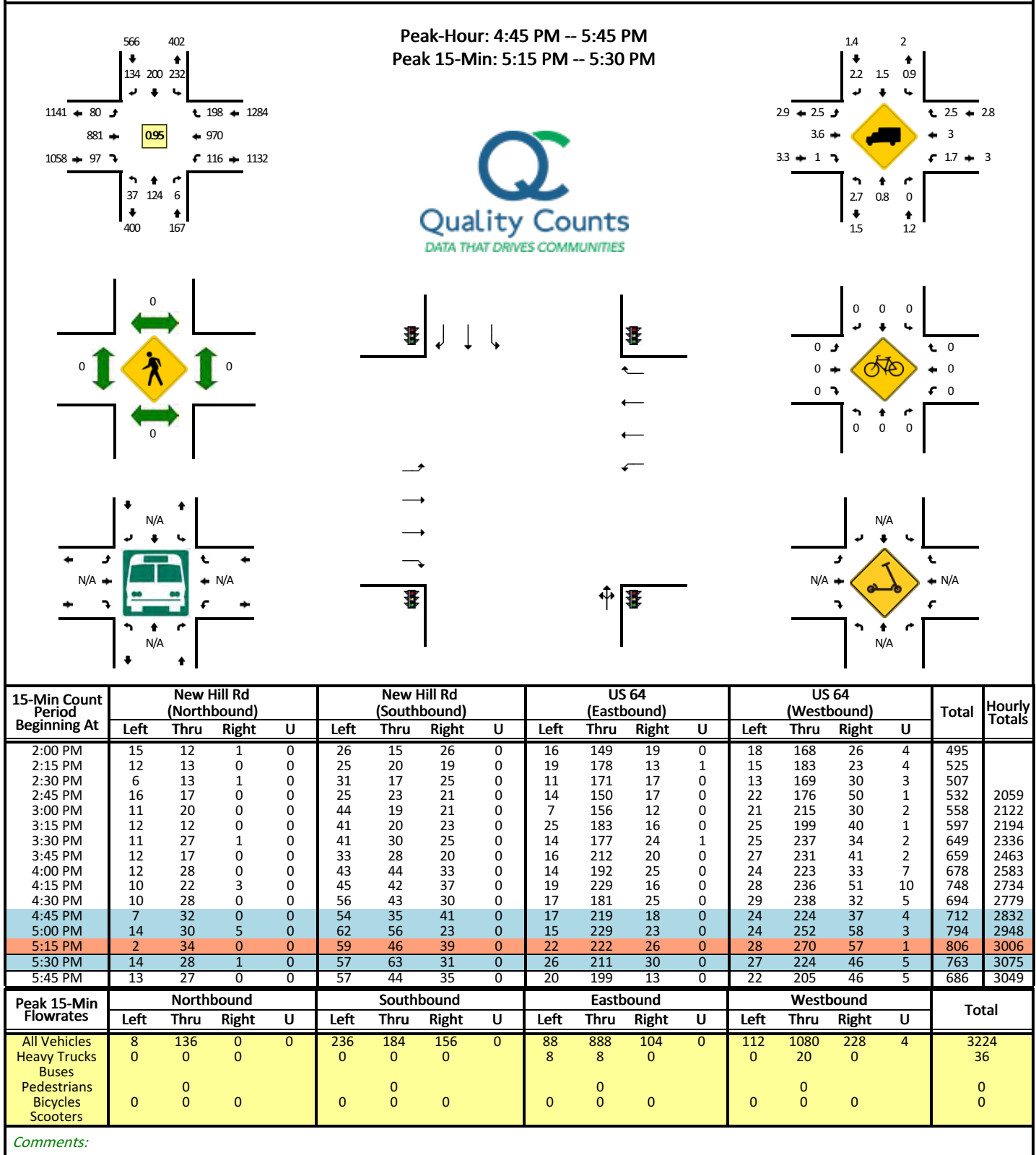
LOCATION: New Hill Rd -- US 64
CITY/STATE: Chatham, NC

QC JOB #: 15891301
DATE: Wed, Dec 8 2021

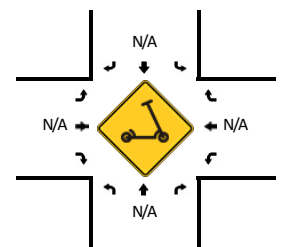


LOCATION: New Hill Rd -- US 64
CITY/STATE: Chatham, NC

QC JOB #: 15891302
DATE: Wed, Dec 8 2021

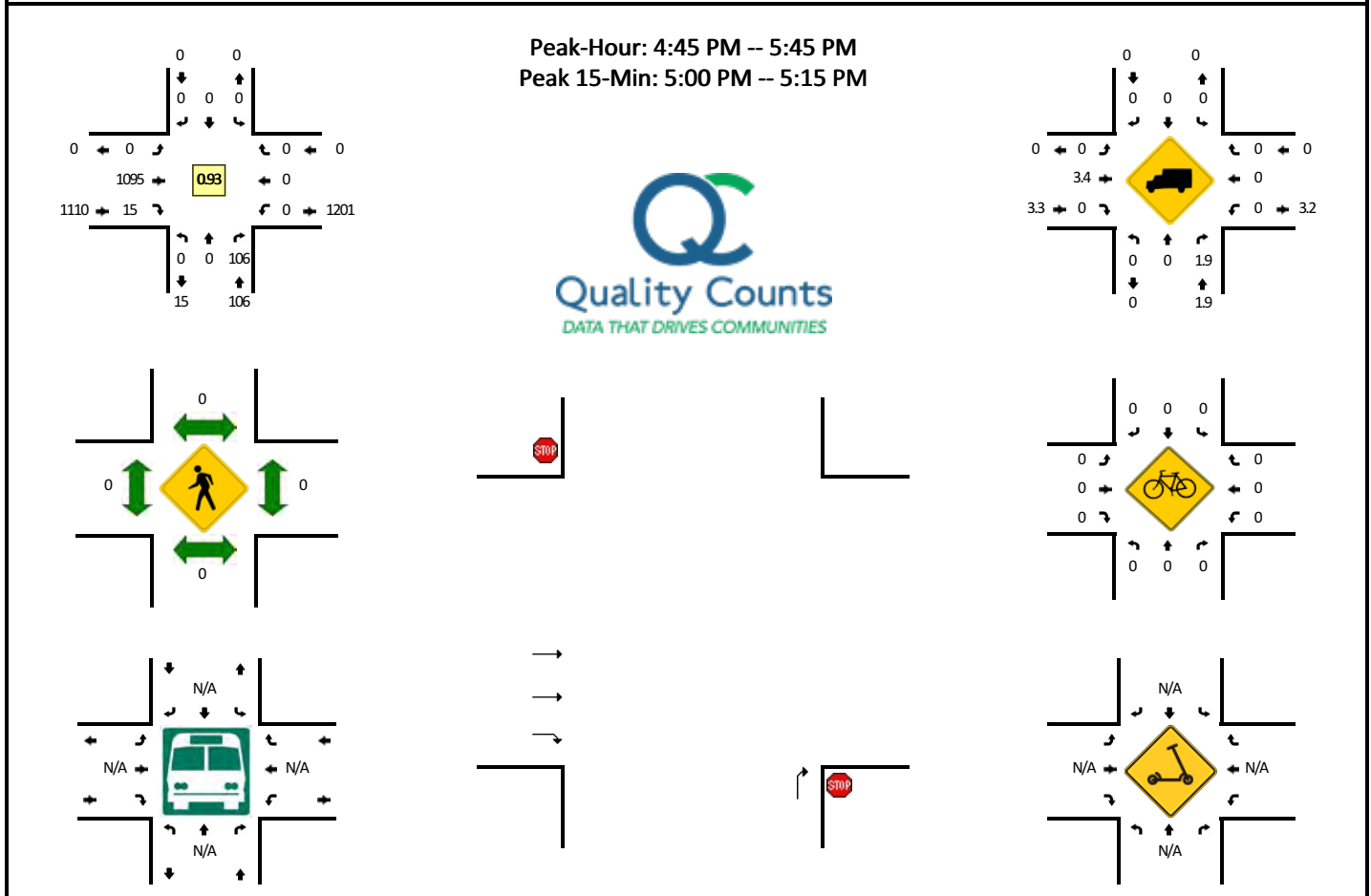


QC JOB #: 15891303
DATE: Wed, Dec 8 2021



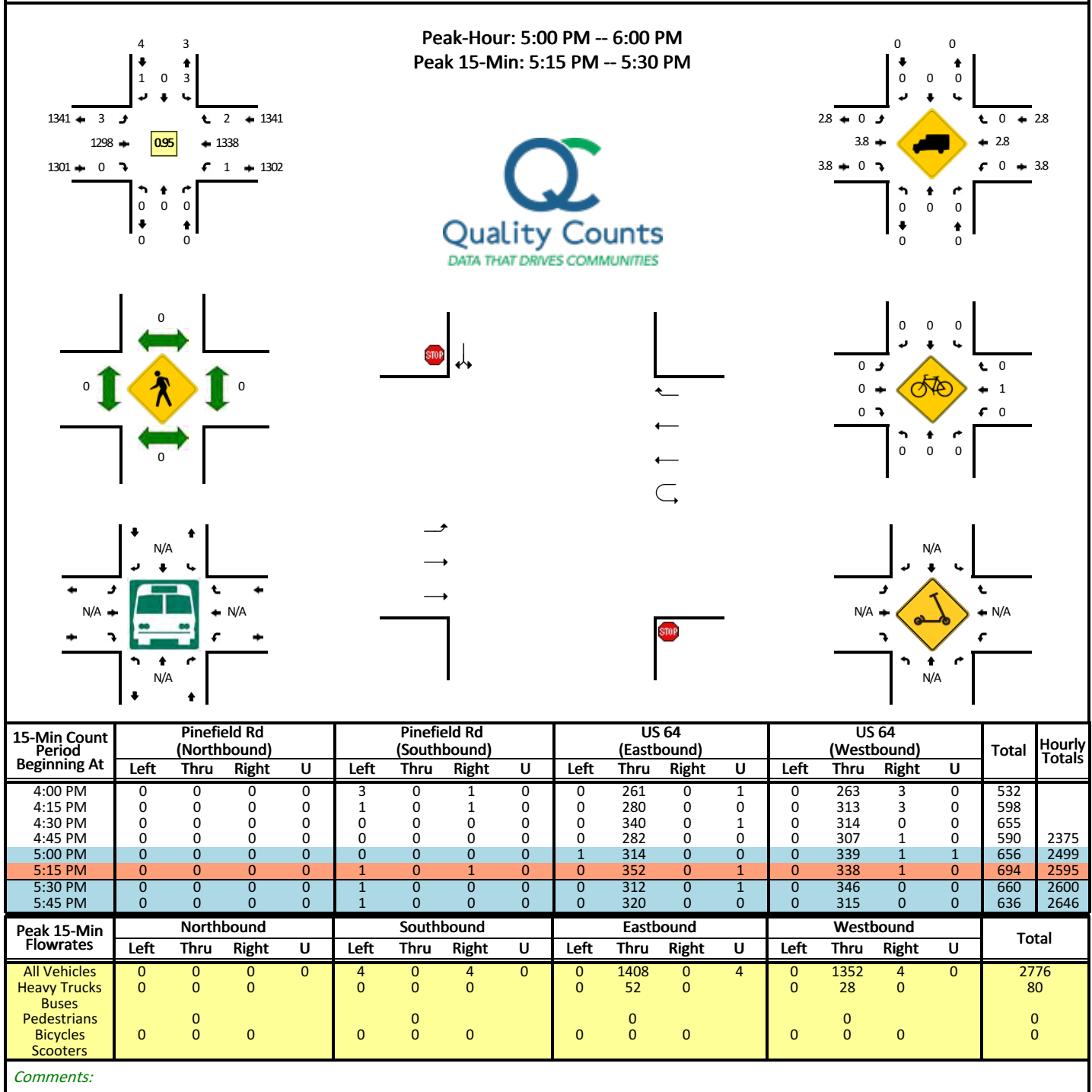
Comments:

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: New Hill Olive Chapel Rd -- US 64**QC JOB #:** 15891304**CITY/STATE:** Wake, NC**DATE:** Wed, Dec 8 2021

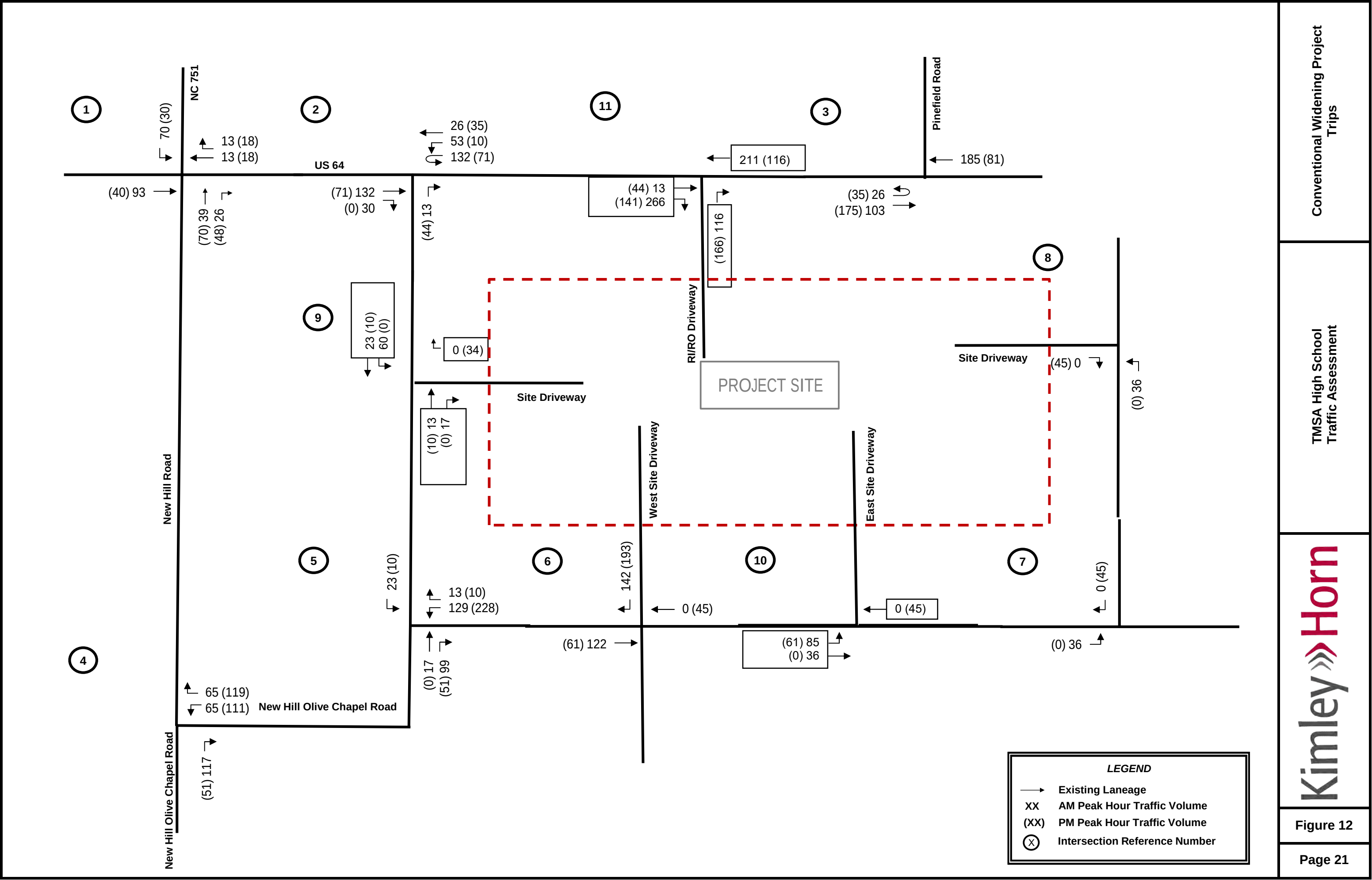
15-Min Count Period Beginning At	New Hill Olive Chapel Rd (Northbound)				New Hill Olive Chapel Rd (Southbound)				US 64 (Eastbound)				US 64 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	0	20	0	0	0	0	0	0	171	4	0	0	0	0	0	195	
2:15 PM	0	0	25	0	0	0	0	0	0	202	3	0	0	0	0	0	230	
2:30 PM	0	0	29	0	0	0	0	0	0	202	2	0	0	0	0	0	233	
2:45 PM	0	0	17	0	0	0	0	0	0	170	3	0	0	0	0	0	190	848
3:00 PM	0	0	16	0	0	0	0	0	0	205	2	0	0	0	0	0	223	876
3:15 PM	0	0	27	0	0	0	0	0	0	217	0	0	0	0	0	0	244	890
3:30 PM	0	0	25	1	0	0	0	0	0	208	5	0	0	0	0	0	239	896
3:45 PM	0	0	20	0	0	0	0	0	0	237	2	0	0	0	0	0	259	965
4:00 PM	0	0	22	0	0	0	0	0	0	224	6	0	0	0	0	0	252	994
4:15 PM	0	0	17	0	0	0	0	0	0	281	9	0	0	0	0	0	307	1057
4:30 PM	0	0	24	0	0	0	0	0	0	236	6	0	0	0	0	0	266	1084
4:45 PM	0	0	15	0	0	0	0	0	0	259	4	0	0	0	0	0	278	1103
5:00 PM	0	0	31	0	0	0	0	0	0	291	5	0	0	0	0	0	327	1178
5:15 PM	0	0	36	0	0	0	0	0	0	276	2	0	0	0	0	0	314	1185
5:30 PM	0	0	24	0	0	0	0	0	0	269	4	0	0	0	0	0	297	1216
5:45 PM	0	0	25	0	0	0	0	0	0	248	5	0	0	0	0	0	278	1216
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	124	0	0	0	0	0	0	1164	20	0	0	0	0	0	1308	
Heavy Trucks	0	0	4		0	0	0		0	64	0		0	0	0		68	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Pinefield Rd -- US 64**CITY/STATE:** Wake, NC**QC JOB #:** 15891306**DATE:** Wed, Jul 27 2022

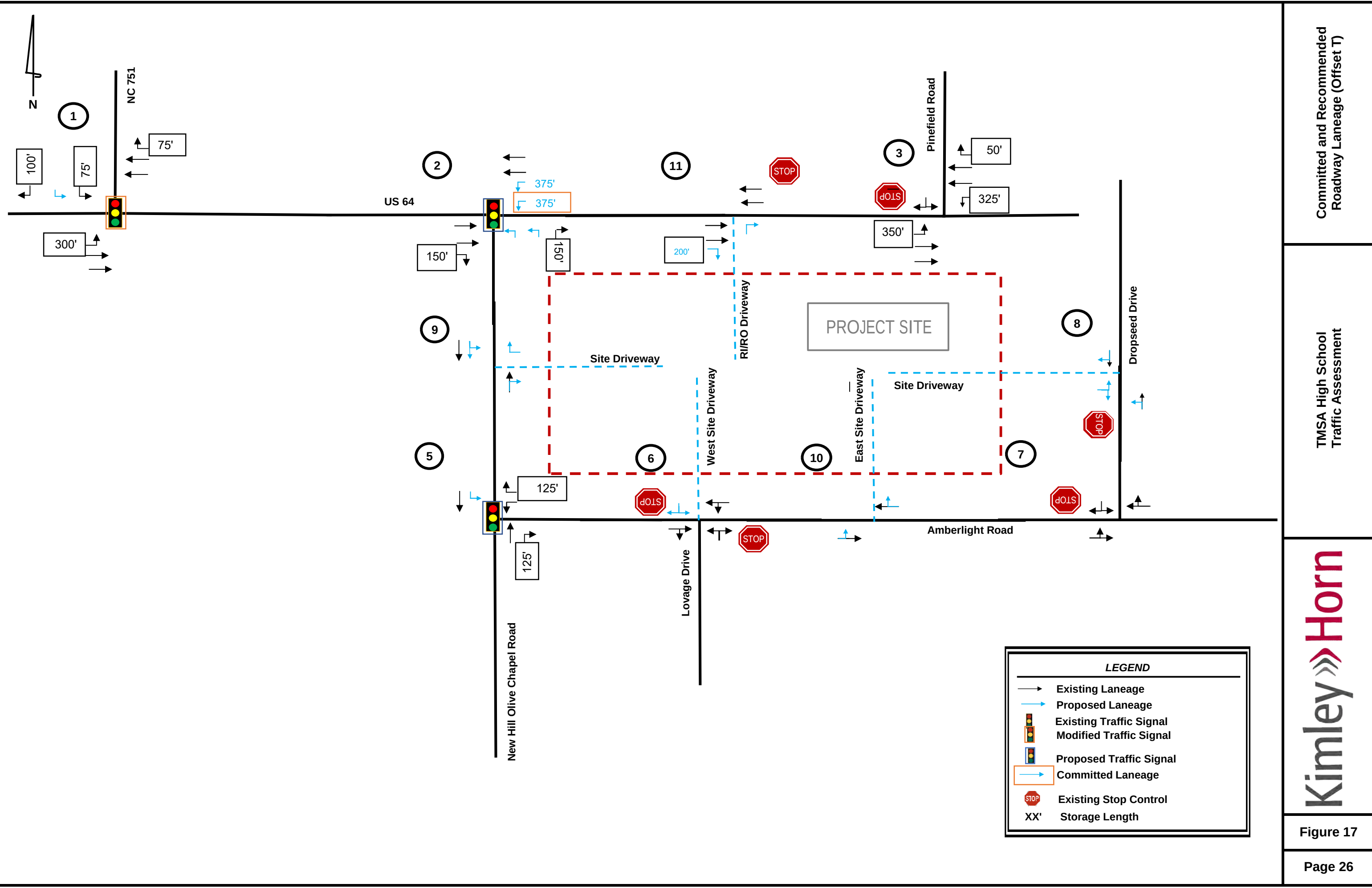
Report generated on 8/1/2022 2:39 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212



Conventional Widening Project
Trips

TMSA High School
Traffic Assessment

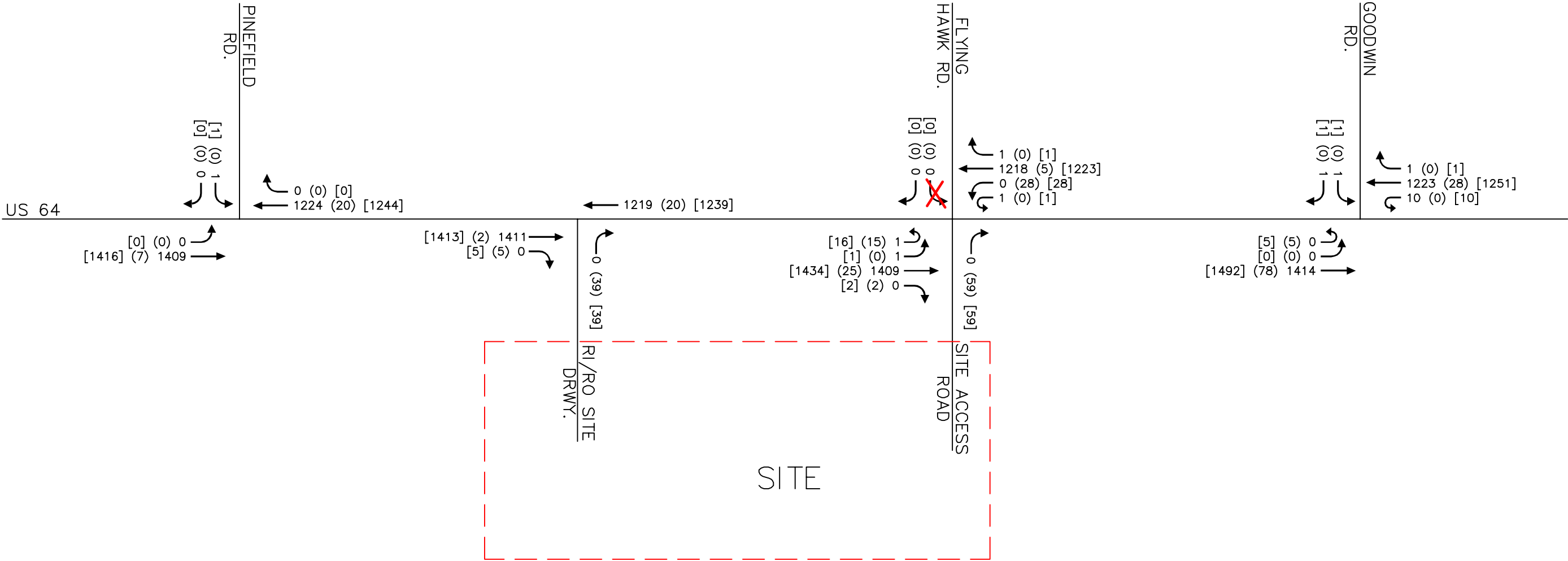


Committed and Recommended
Roadway Laneage (Offset T)

TMSA High School
Traffic Assessment

- LEGEND
- XX BACKGROUND TRAFFIC
 - (XX) SITE TRAFFIC
 - [XX] TOTAL BUILD-OUT TRAFFIC

NOT TO SCALE



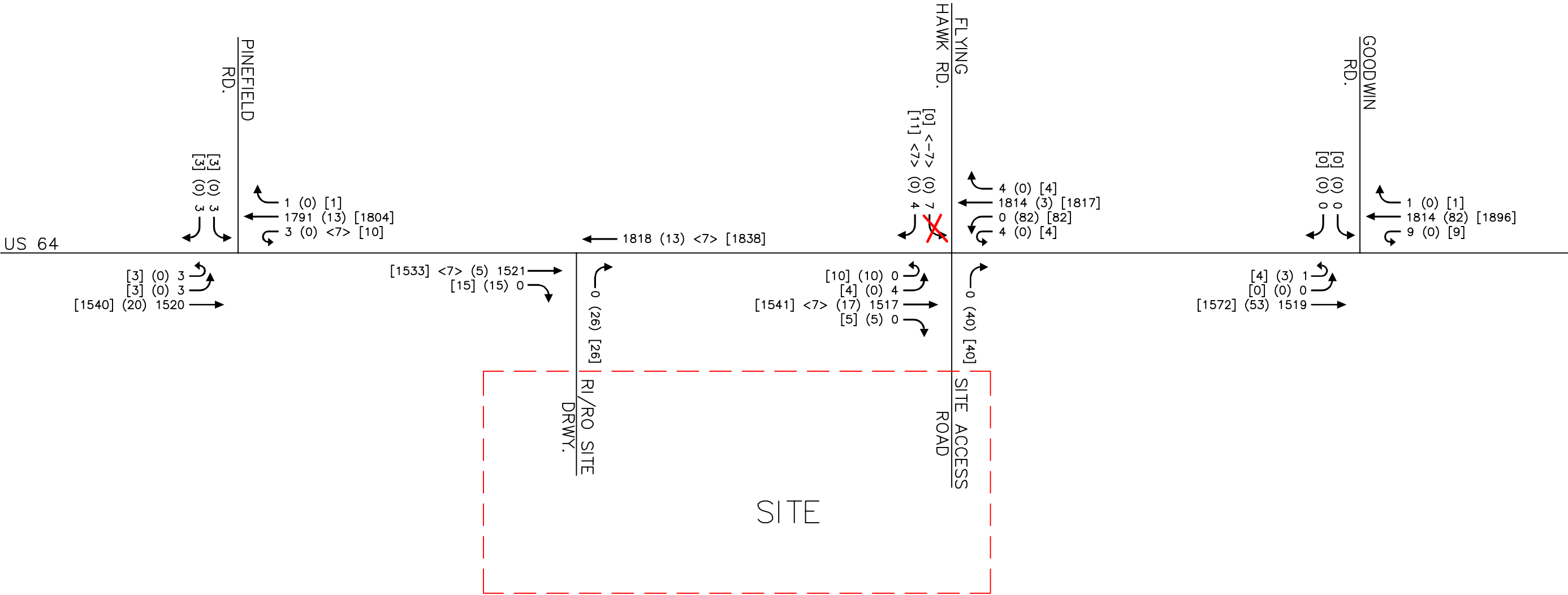
US 64 RESIDENTIAL
APEX, NC
TRAFFIC IMPACT ANALYSIS

PROJECTED (2024) BUILD-OUT
AM PEAK HOUR TRAFFIC VOLUMES
- WITH RI/RO DRIVEWAY

FIGURE
5.3

- LEGEND
- XX BACKGROUND TRAFFIC
 - (XX) SITE TRAFFIC
 - <XX> ACCESS DIVERSION
 - [XX] TOTAL BUILD-OUT TRAFFIC

NOT TO SCALE

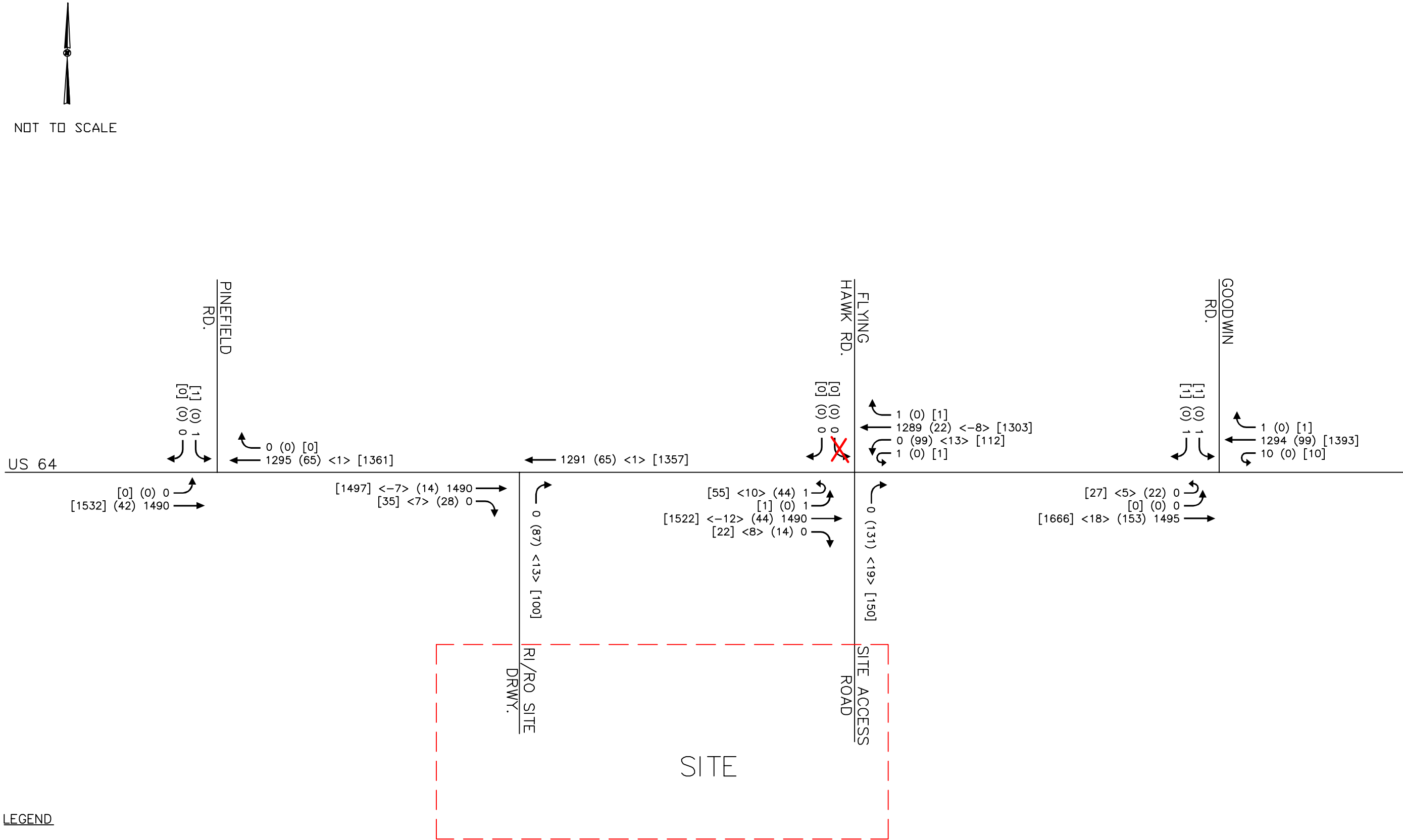


US 64 RESIDENTIAL
APEX, NC
TRAFFIC IMPACT ANALYSIS

PROJECTED (2024) BUILD-OUT
PM PEAK HOUR TRAFFIC VOLUMES
- WITH RI/RO DRIVEWAY

FIGURE
5.4

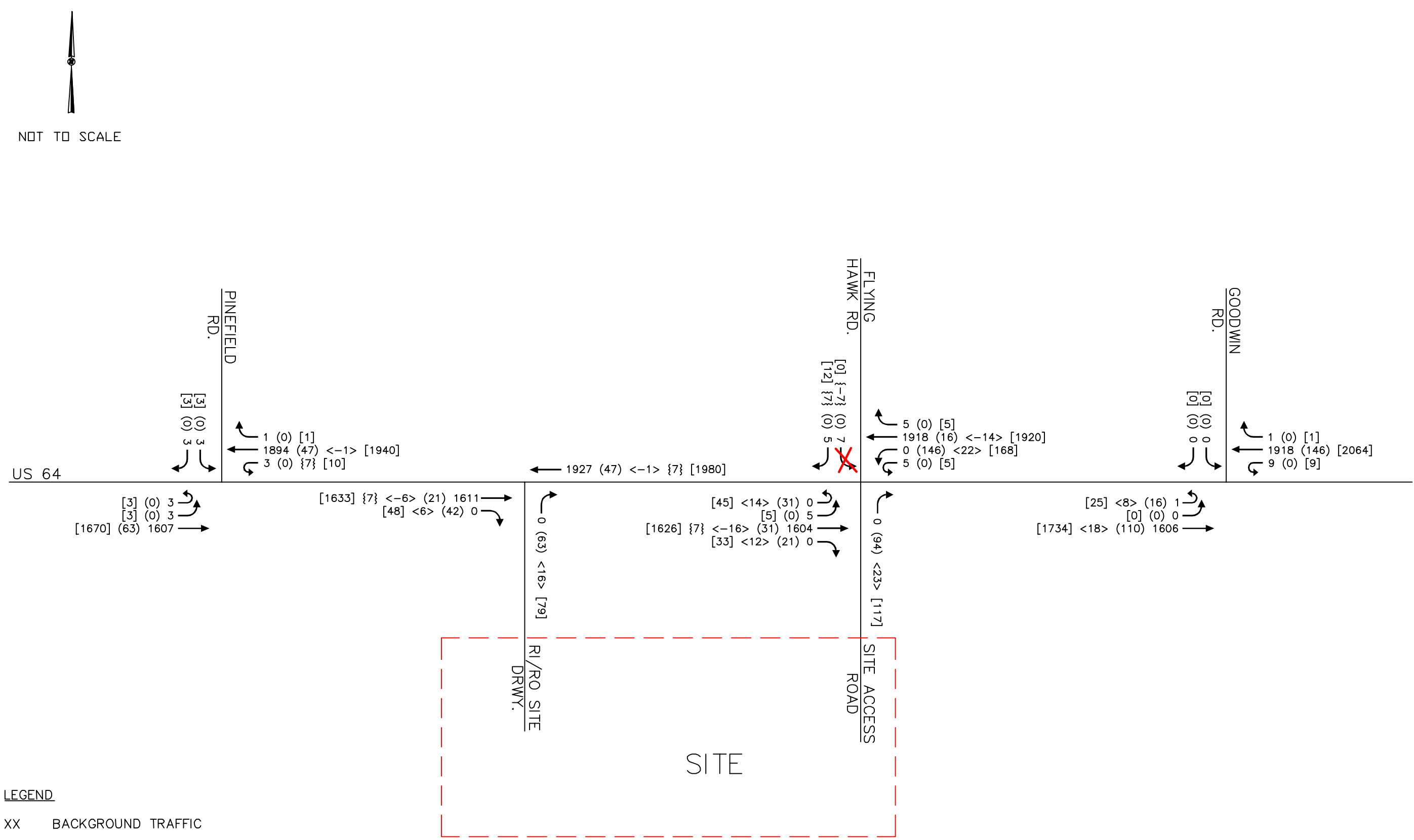
K:\RAL_TPTO\Traffic\013329004 US 64 Residential\Phase 2 Addendum\T5 - Report-Submittals\US 64 Residential (Phase 2 Addendum) - TIA Figures.dwg



US 64 RESIDENTIAL - PHASE 2
APEX, NC
TRAFFIC IMPACT ANALYSIS

PROJECTED (2026) PHASE 2 BUILD-OUT
AM PEAK HOUR TRAFFIC VOLUMES
- WITH RI/RO DRIVEWAY

FIGURE
1





240' (12/11)

200' TAPER

300' STORAGE

NC 751

US 64

US 64

150' STORAGE

200' TAPER

100' STORAGE

200' TAPER

SR 1001 (NEW HILL RD)

SR 1141 (NEW HILL OLIVE CHAPEL RD)

SR 1001 (NEW HILL RD)

SR 1141 (NEW HILL OLIVE CHAPEL RD)

PLANNING BOARD REPORT TO TOWN COUNCIL

Rezoning Case: 22CZ22 Elevate 64 West

Planning Board Meeting Date: March 13, 2023



Report Requirements:

Per NCGS §160D-604(b), all proposed amendments to the zoning ordinance or zoning map shall be submitted to the Planning Board for review and comment. If no written report is received from the Planning Board within 30 days of referral of the amendment to the Planning Board, the Town Council may act on the amendment without the Planning Board report. The Town Council is not bound by the recommendations, if any, of the Planning Board.

Per NCGS §160D-604(d), the Planning Board shall advise and comment on whether the proposed action is consistent with all applicable officially adopted plans, and provide a written recommendation to the Town Council that addresses plan consistency and other matters as deemed appropriate by the Planning Board, but a comment by the Planning Board that a proposed amendment is inconsistent with the officially adopted plans shall not preclude consideration or approval of the proposed amendment by the Town Council.

PROJECT DESCRIPTION:

Acreage: +/- 35.15 acres

PIN(s): 0712749870 & 071282430

Current Zoning: Rural Residential (RR)

Proposed Zoning: Planned Unit Development-Conditional Zoning (PUD-CZ)

2045 Land Use Map: Mixed Use: High Density Residential/Office Employment/Commercial Services

Town Limits: Inside the ETJ

Applicable Officially Adopted Plans:

The Board must state whether the project is consistent or inconsistent with the following officially adopted plans, if applicable. Applicable plans have a check mark next to them.

☒ 2045 Land Use Map
☒ Consistent ☐ Inconsistent Reason: _____

☒ Apex Transportation Plan
☒ Consistent ☐ Inconsistent Reason: _____

☒ Parks, Recreation, Open Space, and Greenways Plan
☒ Consistent ☐ Inconsistent Reason: _____

PLANNING BOARD REPORT TO TOWN COUNCIL

Rezoning Case: 22CZ22 Elevate 64 West

Planning Board Meeting Date: March 13, 2023



Legislative Considerations:

The applicant shall propose site-specific standards and conditions that take into account the following considerations, which are considerations that are relevant to the legislative determination of whether or not the proposed conditional zoning district rezoning request is in the public interest. These considerations do not exclude the legislative consideration of any other factor that is relevant to the public interest.

1. *Consistency with 2045 Land Use Plan.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and consistency with the purposes, goals, objectives, and policies of the 2045 Land Use Plan.

☒ Consistent ☐ Inconsistent Reason: _____

2. *Compatibility.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and compatibility with the character of surrounding land uses.

☒ Consistent ☐ Inconsistent Reason: _____

3. *Zoning district supplemental standards.* The proposed Conditional Zoning (CZ) District use's compliance with Sec. 4.4 *Supplemental Standards*, if applicable.

☒ Consistent ☐ Inconsistent Reason: _____

4. *Design minimizes adverse impact.* The design of the proposed Conditional Zoning (CZ) District use's minimization of adverse effects, including visual impact of the proposed use on adjacent lands; and avoidance of significant adverse impacts on surrounding lands regarding trash, traffic, service delivery, parking and loading, odors, noise, glare, and vibration and not create a nuisance.

☐ Consistent ☐ Inconsistent Reason: _____

5. *Design minimizes environmental impact.* The proposed Conditional Zoning District use's minimization of environmental impacts and protection from significant deterioration of water and air resources, wildlife habitat, scenic resources, and other natural resources.

☒ Consistent ☐ Inconsistent Reason: _____

PLANNING BOARD REPORT TO TOWN COUNCIL

Rezoning Case: 22CZ22 Elevate 64 West

Planning Board Meeting Date: March 13, 2023



6. *Impact on public facilities.* The proposed Conditional Zoning (CZ) District use's avoidance of having adverse impacts on public facilities and services, including roads, potable water and wastewater facilities, parks, schools, police, fire and EMS facilities.

☒ Consistent ☐ Inconsistent Reason: _____

7. *Health, safety, and welfare.* The proposed Conditional Zoning (CZ) District use's effect on the health, safety, or welfare of the residents of the Town or its ETJ.

☒ Consistent ☐ Inconsistent Reason: _____

8. *Detrimental to adjacent properties.* Whether the proposed Conditional Zoning (CZ) District use is substantially detrimental to adjacent properties.

☒ Consistent ☐ Inconsistent Reason: _____

9. *Not constitute nuisance or hazard.* Whether the proposed Conditional Zoning (CZ) District use constitutes a nuisance or hazard due to traffic impact or noise, or because of the number of persons who will be using the Conditional Zoning (CZ) District use.

☒ Consistent ☐ Inconsistent Reason: _____

10. *Other relevant standards of this Ordinance.* Whether the proposed Conditional Zoning (CZ) District use complies with all standards imposed on it by all other applicable provisions of this Ordinance for use, layout, and general development characteristics.

☒ Consistent ☐ Inconsistent Reason: _____

PLANNING BOARD REPORT TO TOWN COUNCIL

Rezoning Case: 22CZ22 Elevate 64 West

Planning Board Meeting Date: March 13, 2023



Planning Board Recommendation:

Motion: Approve

Introduced by Planning Board member: Soh

Seconded by Planning Board member: Akers

- ☐ *Approval:* the project is consistent with all applicable officially adopted plans and the applicable legislative considerations listed above.
- ☒ *Approval with conditions:* the project is not consistent with all applicable officially adopted plans and/or the applicable legislative considerations as noted above, so the following conditions are recommended to be included in the project in order to make it fully consistent:

As proposed by the applicant.

- ☐ *Denial:* the project is not consistent with all applicable officially adopted plans and/or the applicable legislative considerations as noted above.

With 4 Planning Board Member(s) voting "aye"

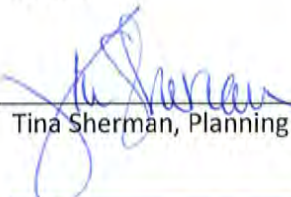
With 3 Planning Board Member(s) voting "no"

Reasons for dissenting votes:

See attached.

This report reflects the recommendation of the Planning Board, this the 13th day of March 2023.

Attest:


Tina Sherman, Planning Board Vice-Chair

Digitally signed by Amanda Bunce
Bunce
Date: 2023.03.13 18:10:23
-04'00'
Amanda Bunce
Amanda Bunce, Current Planning Manager

PLANNING BOARD REPORT TO TOWN COUNCIL
Dissenting Member Comments



Planning Board Member Name: DANIEL KHODAPARAST

Meeting Date: 03/13/2023

☒ Rezoning # 22CZ22

☐ Long Range Plan amendment(s) _____

☐ Other _____

Reason(s) for dissenting vote:

WHILE I APPROVE OF THE DESIGN/SCOPE OF
THE PROJECT, I DO NOT FEEL THAT A SINGLE
ACCESS ON 64 WILL BE ADEQUATE FOR THE
VOLUME OF UNITS. THERE IS TOO MUCH UNCERTAINTY
AROUND FUTURE DEVELOPMENT CONNECTIONS.

PLANNING BOARD REPORT TO TOWN COUNCIL
Dissenting Member Comments



Planning Board Member Name: Keith Braswell

Meeting Date: March 13 2023

☒ Rezoning # 22CZ22

☐ Long Range Plan amendment(s) _____

☐ Other _____

Reason(s) for dissenting vote:

The reason for my dissenting vote is the 1 access for a property with almost 400 units. This access directly onto Hwy 64 will be dangerous. 400 units with the only access is a major Highway needs another access.

PLANNING BOARD REPORT TO TOWN COUNCIL

Dissenting Member Comments



Planning Board Member Name: Tim Royal

Meeting Date: 3/13/2023

☒ Rezoning # 22CZ22 Elevate 64 West

☐ Long Range Plan amendment(s) _____

☐ Other _____

Reason(s) for dissenting vote:

392 total residential units with commercial added with only 1 access point. During the Smith Farm and Sweetwater PUD's, a ribbon street was laid out which connected US HWY 64 to Olive Chapel giving well needed connectivity. On this project, we are unsure if the property owners to the south and east will ever sale which could render this project to forever have only 1 access point.



TOWN OF APEX

POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

PUBLIC NOTIFICATION OF PUBLIC HEARINGS CONDITIONAL ZONING #22CZ22 Elevate 64 West PUD

Pursuant to the provisions of North Carolina General Statutes §160D-602 and to the Town of Apex Unified Development Ordinance (UDO) Section 2.2.11, notice is hereby given of public hearings before the Planning Board of the Town of Apex. The purpose of these hearings is to consider the following:

Applicant: FA Develop, LLC

Authorized Agent: FA Develop, LLC

Property Addresses: 3805 & 3809 US Hwy 64 W

Acreage: ± 35.15 acres

Property Identification Numbers (PINs): 0712842430 & 0712749870

2045 Land Use Map Designation: Mixed Use: High Density Residential/Office Employment/Commercial Services

Existing Zoning of Properties: Rural Residential (RR)

Proposed Zoning of Properties: Planned Unit Development-Conditional Zoning (PUD-CZ)

Public Hearing Location: Apex Town Hall

Council Chamber, 2nd Floor

73 Hunter Street, Apex, North Carolina

Planning Board Public Hearing Date and Time: March 13, 2023 4:30 PM

You may attend the meeting in person or view the meeting through the Town's YouTube livestream at:
<https://www.youtube.com/c/townofapexgov>.

If you are unable to attend, you may provide a written statement by email to public.hearing@apexnc.org or submit it to the clerk of the Planning Board, Jeri Pederson (73 Hunter Street or USPS mail - P.O. Box 250, Apex, NC 27502), at least two business days prior to the Planning Board vote. You must provide your name and address for the record. The written statements will be delivered to the Planning Board prior to their vote. Please include the Public Hearing name in the subject line.

A separate notice of the Town Council public hearing on this project will be mailed and posted in order to comply with State public notice requirements.

Vicinity Map:



Property owners, tenants, and neighborhood associations within 300 feet of the proposed conditional zoning have been sent this notice via first class mail. All interested parties may submit comments with respect to the application by the means specified above. In addition to the above map, the location of the property may be viewed online at <https://maps.raleighnc.gov/imaps>. The 2045 Land Use Map may be viewed online at www.apexnc.org/DocumentCenter/View/478. You may call 919-249-3426, Planning Department, with questions or for further information. To view the petition and related documents on-line: <https://www.apexnc.org/DocumentCenter/View/41113>.

Dianne F. Khin, AICP
Planning Director



TOWN OF APEX
PO BOX 250
APEX, NORTH CAROLINA 27502
TELÉFONO 919-249-3426

NOTIFICACIÓN PÚBLICA DE AUDIENCIAS PÚBLICAS
ORDENAMIENTO TERRITORIAL CONDICIONAL #22CZ22
Elevate 64 West PUD (Desarrollo de Unidad Planificada)

De conformidad con las disposiciones de los Estatutos Generales de Carolina del Norte §160D-602 y con la Sección 2.2.11 de la Ordenanza de Desarrollo Unificado (UDO) del ayuntamiento de Apex, por la presente se notifican las audiencias públicas ante la Junta de Planificación de Apex. El propósito de estas audiencias es considerar lo siguiente:

- Solicitante:** FA Develop, LLC
- Agente autorizado:** FA Develop, LLC
- Dirección de la propiedades:** 3805 y 3809 US Hwy 64 W
- Superficie:** ±35.15 acres
- Números de identificación de la propiedades:** 0712842430 y 0712749870
- Designación actual en el Mapa de Uso Territorial para 2045:** Mixed Use: High Density Residential/Office Employment/Commercial Services
- Ordenamiento territorial existente de la propiedades:** Rural Residential (RR)
- Ordenamiento territorial propuesto para la propiedades:** Planned Unit Development-Conditional Zoning (PUD-CZ)

Lugar de la audiencia pública: Ayuntamiento de Apex
Cámara del Consejo, 2º piso
73 Hunter Street, Apex, Carolina del Norte

Fecha y hora de la audiencia pública de la Junta de Planificación: 13 de marzo de 2023 4:30 P.M.
Puede asistir a la reunión de manera presencial o seguir la transmisión en directo por YouTube a través del siguiente enlace: <https://www.youtube.com/c/townofapexgov>.

Si no puede asistir, puede enviar una declaración escrita por correo electrónico a public.hearing@apexnc.org, o presentarla a la secretaria de la Junta de Planificación, Jeri Pederson (73 Hunter Street o por correo USPS a P.O. Box 250, Apex, NC 27502), al menos dos días hábiles antes de la votación de la Junta de Planificación. Debe proporcionar su nombre y dirección para que conste en el registro. Las declaraciones escritas se entregarán a la Junta de Planificación antes de la votación. No olvide incluir el nombre de la audiencia pública en el asunto.

De conformidad con los requisitos estatales de notificaciones públicas, se enviará por correo y se publicará por separado una notificación de la audiencia pública del Consejo Municipal sobre este proyecto.

Mapa de las inmediaciones:



Los propietarios, inquilinos y asociaciones de vecinos en un radio de 300 pies del Ordenamiento Territorial Condicional propuesto han recibido esta notificación por correo postal de primera clase. Todas las partes interesadas pueden presentar comentarios sobre la solicitud a través de los medios especificados anteriormente. La ubicación de la propiedad también puede verse aquí: <https://maps.raleighnc.gov/maps>. Puede ver el Mapa de Uso Territorial para 2045 aquí: www.apexnc.org/DocumentCenter/View/478. Si tiene preguntas o desea obtener más información, puede comunicarse con el Departamento de Planificación al 919-249-3426. Puede ver la solicitud y otros documentos relacionados aquí: <https://www.apexnc.org/DocumentCenter/View/41113>.

Dianne F. Khin, AICP
Directora de Planificación



TOWN OF APEX

POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

PUBLIC NOTIFICATION OF PUBLIC HEARINGS CONDITIONAL ZONING #22CZ22 Elevate 64 West PUD

Pursuant to the provisions of North Carolina General Statutes §160D-602 and to the Town of Apex Unified Development Ordinance (UDO) Section 2.2.11, notice is hereby given of public hearings before the Planning Board of the Town of Apex. The purpose of these hearings is to consider the following:

Applicant: FA Develop, LLC

Authorized Agent: FA Develop, LLC

Property Addresses: 3805 & 3809 US Hwy 64 W

Acreage: ± 35.15 acres

Property Identification Numbers (PINs): 0712842430 & 0712749870

2045 Land Use Map Designation: Mixed Use: High Density Residential/Office Employment/Commercial Services

Existing Zoning of Properties: Rural Residential (RR)

Proposed Zoning of Properties: Planned Unit Development-Conditional Zoning (PUD-CZ)

Public Hearing Location: Apex Town Hall
Council Chamber, 2nd Floor
73 Hunter Street, Apex, North Carolina

Planning Board Public Hearing Date and Time: March 13, 2023 4:30 PM

You may attend the meeting in person or view the meeting through the Town's YouTube livestream at:
<https://www.youtube.com/c/townofapexgov>.

If you are unable to attend, you may provide a written statement by email to public.hearing@apexnc.org, or submit it to the clerk of the Planning Board, Jeri Pederson (73 Hunter Street or USPS mail - P.O. Box 250, Apex, NC 27502), at least two business days prior to the Planning Board vote. You must provide your name and address for the record. The written statements will be delivered to the Planning Board prior to their vote. Please include the Public Hearing name in the subject line.

A separate notice of the Town Council public hearing on this project will be mailed and posted in order to comply with State public notice requirements.

Vicinity Map:



Property owners, tenants, and neighborhood associations within 300 feet of the proposed conditional zoning have been sent this notice via first class mail. All interested parties may submit comments with respect to the application by the means specified above. In addition to the above map, the location of the property may be viewed online at <https://maps.raleighnc.gov/imaps>. The 2045 Land Use Map may be viewed online at www.apexnc.org/DocumentCenter/View/478. You may call 919-249-3426, Planning Department, with questions or for further information. To view the petition and related documents on-line: <https://www.apexnc.org/DocumentCenter/View/41113>.

Dianne F. Khin, AICP
Planning Director



TOWN OF APEX
PO BOX 250
APEX, NORTH CAROLINA 27502
TELÉFONO 919-249-3426

NOTIFICACIÓN PÚBLICA DE AUDIENCIAS PÚBLICAS

ORDENAMIENTO TERRITORIAL CONDICIONAL #22CZ22

Elevate 64 West PUD (Desarrollo de Unidad Planificada)

De conformidad con las disposiciones de los Estatutos Generales de Carolina del Norte §160D-602 y con la Sección 2.2.11 de la Ordenanza de Desarrollo Unificado (UDO) del ayuntamiento de Apex, por la presente se notifican las audiencias públicas ante la Junta de Planificación de Apex. El propósito de estas audiencias es considerar lo siguiente:

Solicitante: FA Develop, LLC

Agente autorizado: FA Develop, LLC

Dirección de la propiedades: 3805 y 3809 US Hwy 64 W

Superficie: ±35.15 acres

Números de identificación de la propiedades: 0712842430 y 0712749870

Designación actual en el Mapa de Uso Territorial para 2045: Mixed Use: High Density Residential/Office Employment/Commercial Services

Ordenamiento territorial existente de la propiedades: Rural Residential (RR)

Ordenamiento territorial propuesto para la propiedades: Planned Unit Development-Conditional Zoning (PUD-CZ)

Lugar de la audiencia pública: Ayuntamiento de Apex
Cámara del Consejo, 2º piso
73 Hunter Street, Apex, Carolina del Norte

Fecha y hora de la audiencia pública de la Junta de Planificación: 13 de marzo de 2023 4:30 P.M.

Puede asistir a la reunión de manera presencial o seguir la transmisión en directo por YouTube a través del siguiente enlace: <https://www.youtube.com/c/townofapexgov>.

Si no puede asistir, puede enviar una declaración escrita por correo electrónico a public.hearing@apexnc.org, o presentarla a la secretaria de la Junta de Planificación, Jeri Pederson (73 Hunter Street o por correo USPS a P.O. Box 250, Apex, NC 27502), al menos dos días hábiles antes de la votación de la Junta de Planificación. Debe proporcionar su nombre y dirección para que conste en el registro. Las declaraciones escritas se entregarán a la Junta de Planificación antes de la votación. No olvide incluir el nombre de la audiencia pública en el asunto.

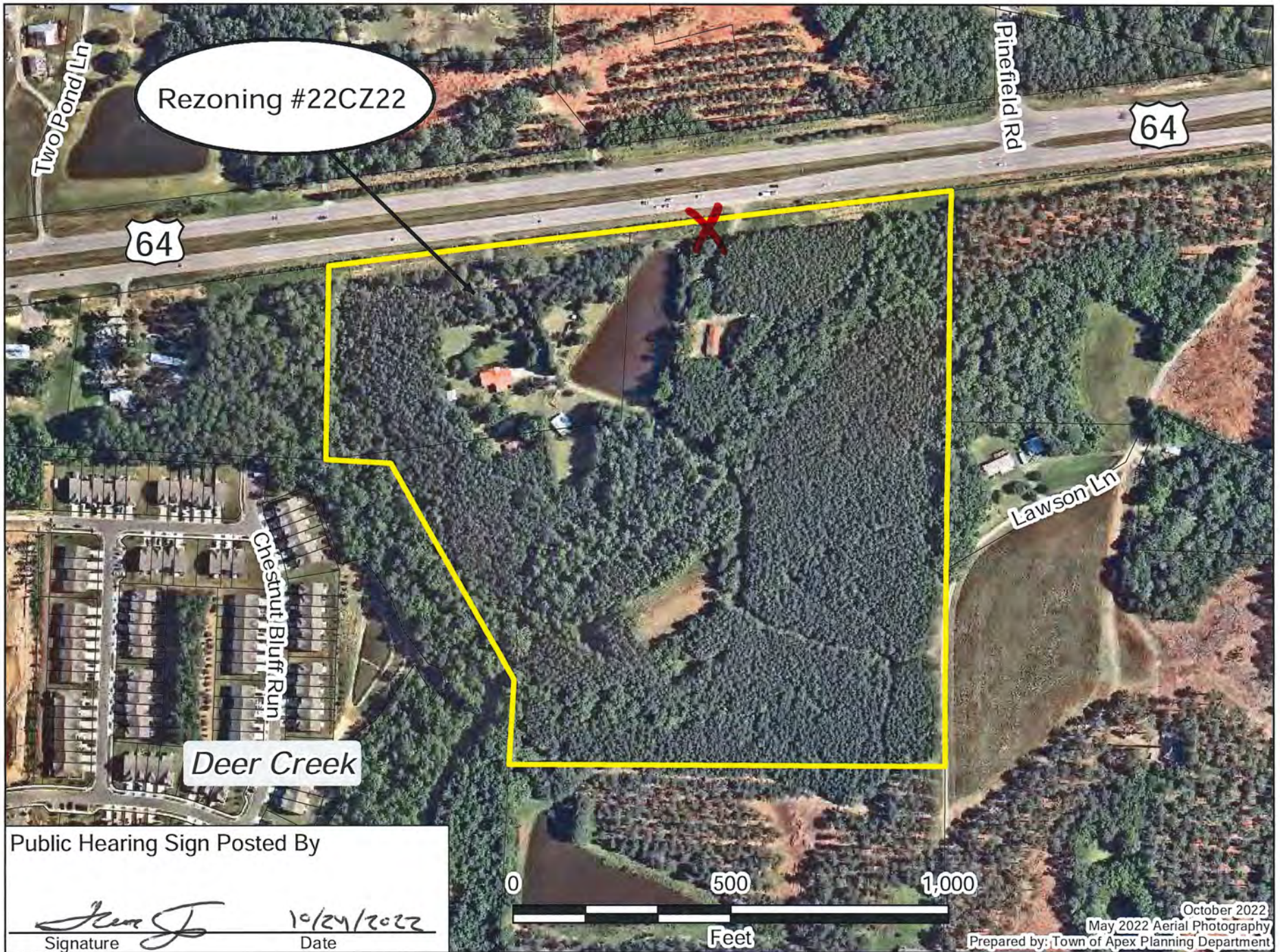
De conformidad con los requisitos estatales de notificaciones públicas, se enviará por correo y se publicará por separado una notificación de la audiencia pública del Consejo Municipal sobre este proyecto.

Mapa de las inmediaciones:



Los propietarios, inquilinos y asociaciones de vecinos en un radio de 300 pies del Ordenamiento Territorial Condicional propuesto han recibido esta notificación por correo postal de primera clase. Todas las partes interesadas pueden presentar comentarios sobre la solicitud a través de los medios especificados anteriormente. La ubicación de la propiedad también puede verse aquí: <https://maps.raleighnc.gov/imaps>. Puede ver el Mapa de Uso Territorial para 2045 aquí: www.apexnc.org/DocumentCenter/View/478. Si tiene preguntas o desea obtener más información, puede comunicarse con el Departamento de Planificación al 919-249-3426. Puede ver la solicitud y otros documentos relacionados aquí: <https://www.apexnc.org/DocumentCenter/View/41113>.

Dianne F. Khin, AICP
Directora de Planificación



Rezoning #22CZ22

64

64

Pinefield Rd

Two Pond Ln

Lawson Ln

Chestnut Bluff Run

Deer Creek

Public Hearing Sign Posted By

[Signature] 10/24/2022

Signature Date

0 500 1,000

Feet

October 2022
May 2022 Aerial Photography
Prepared by: Town of Apex Planning Department



TOWN OF APEX

POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

AFFIDAVIT CERTIFYING Public Notification – Written (Mailed) Notice

Section 2.2.11
Town of Apex Unified Development Ordinance

Project Name: Conditional Zoning #22CZ22
Elevate 64 West PUD

Project Location: 3805 & 3809 US Hwy 64 W

Applicant or Authorized Agent: FA Develop, LLC

Firm: FA Develop, LLC

This is to certify that I, as the Planning Director, mailed or caused to have mailed by first class postage for the above mentioned project on February 24, 2023, a notice containing the time and place, location, nature and scope of the application, where additional information may be obtained, and the opportunity for interested parties to be heard, to the property owners and tenants within 300' of the land subject to notification. I further certify that I relied on information from the Wake County Tax Assessor and the Town of Apex Master Address Repository provided to me by Town of Apex GIS Staff as to accuracy of the list and accuracy of mailing addresses of property owners and tenants within 300' of the land subject to notification.

2/27/2023

Date

Sharon F. Klein

Planning Director

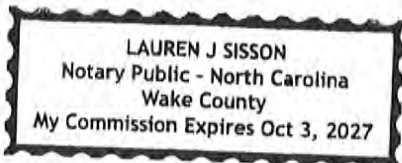
STATE OF NORTH CAROLINA
COUNTY OF WAKE

Sworn and subscribed before me, LAUREN J Sisson, a Notary Public for the above

State and County, this the 27th day of FEBRUARY, 2023.

[Signature]

Notary Public



My Commission Expires: 10 / 03 / 2027



TOWN OF APEX

POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

PUBLIC NOTIFICATION OF PUBLIC HEARINGS CONDITIONAL ZONING #22CZ22 Elevate 64 West PUD

Pursuant to the provisions of North Carolina General Statutes §160D-602 and to the Town of Apex Unified Development Ordinance (UDO) Section 2.2.11, notice is hereby given of public hearings before the Town Council of the Town of Apex. The purpose of these hearings is to consider the following:

Applicant: FA Develop, LLC

Authorized Agent: FA Develop, LLC

Property Addresses: 3805 & 3809 US Hwy 64 W

Acreage: ± 35.15 acres

Property Identification Numbers (PINs): 0712842430 & 0712749870

2045 Land Use Map Designation: Mixed Use: High Density Residential/Office Employment/Commercial Services

Existing Zoning of Properties: Rural Residential (RR)

Proposed Zoning of Properties: Planned Unit Development-Conditional Zoning (PUD-CZ)

Public Hearing Location: Apex Town Hall
Council Chamber, 2nd Floor
73 Hunter Street, Apex, North Carolina

*Comments received prior to the Planning Board public hearing will not be provided to the Town Council.
Separate comments for the Town Council public hearing must be provided by the deadline specified below.*

Town Council Public Hearing Date and Time: March 28, 2023 6:00 PM

You may attend the meeting in person or view the meeting through the Town's YouTube livestream at:

<https://www.youtube.com/c/townofapexgov>.

If you are unable to attend, you may provide a written statement by email to public.hearing@apexnc.org, or submit it to the Office of the Town Clerk (73 Hunter Street or USPS mail - P.O. Box 250, Apex, NC 27502), at least two business days prior to the Town Council vote. You must provide your name and address for the record. The written statements will be delivered to the Town Council members prior to their vote. Please include the Public Hearing name in the subject line.

Vicinity Map:



Property owners, tenants, and neighborhood associations within 300 feet of the proposed conditional zoning have been sent this notice via first class mail. All interested parties may submit comments with respect to the application by the means specified above. In addition to the above map, the location of the property may be viewed online at <https://maps.raleighnc.gov/lmapc>. The 2045 Land Use Map may be viewed online at www.apexnc.org/DocumentCenter/View/478. You may call 919-249-3426, Planning Department, with questions or for further information. To view the petition and related documents on-line: <https://www.apexnc.org/DocumentCenter/View/41113>

Dianne F. Khin, AICP
Planning Director



Todoist



Apps & Sched



Maps & Plans



UDO



Other bookmarks



22CZ22-...

2 / 2



60%

**TOWN OF APEX**PO BOX 250
APEX, NORTH CAROLINA 27502
TELEFONO 919-249-3426**NOTIFICACIÓN PÚBLICA DE AUDIENCIAS PÚBLICAS****ORDENAMIENTO TERRITORIAL CONDICIONAL #22CZ22**
Elevate 64 West PUD (Desarrollo de Unidad Planificada)

De conformidad con las disposiciones de los Estatutos Generales de Carolina del Norte §160D-602 y con la Sección 2.2.11 de la Ordenanza de Desarrollo Unificado (UDO) del ayuntamiento de Apex, por la presente se notifican las audiencias públicas ante el Consejo Municipal del Ayuntamiento de Apex. El propósito de estas audiencias es considerar lo siguiente:

Solicitante: FA Develop, LLC**Agente autorizado:** FA Develop, LLC**Dirección de las propiedades:** 3805 y 3809 US Hwy 64 W**Superficie:** ±35.15 acres**Números de identificación de las propiedades:** 0712842430 y 0712749870**Designación actual en el Mapa de Uso Territorial para 2045:** Mixed Use: High Density Residential/Office Employment/Commercial Services**Ordenamiento territorial existente de las propiedades:** Rural Residential (RR)**Ordenamiento territorial propuesto para las propiedades:** Planned Unit Development-Conditional Zoning (PUD-CZ)**Lugar de la audiencia pública:** Ayuntamiento de Apex

Cámara del Consejo, 2º piso

73 Hunter Street, Apex, Carolina del Norte

Los comentarios recibidos antes de la audiencia pública de la Junta de Planificación no se proporcionarán al Consejo Municipal. Los comentarios para la audiencia pública del Consejo Municipal deben presentarse por separado en el plazo especificado a continuación.

Fecha y hora de la audiencia pública del Consejo Municipal: 28 de marzo de 2023 6:00 P.M.

Puede asistir a la reunión de manera presencial o seguir la transmisión en directo por YouTube a través del siguiente enlace: <https://www.youtube.com/c/townofapexgov>.

Si no puede asistir, puede enviar una declaración escrita por correo electrónico a public.hearing@apexnc.org, o presentarla a la oficina del Secretario Municipal (73 Hunter Street) o por correo USPS a P.O. Box 250, Apex, NC 27502, al menos dos días hábiles antes de la votación del Consejo Municipal. Debe proporcionar su nombre y dirección para que conste en el registro. Las declaraciones escritas se entregarán al Consejo Municipal antes de la votación. No olvide incluir el nombre de la audiencia pública en el asunto.

Mapa de las inmediaciones:

Los propietarios, inquilinos y asociaciones de vecinos en un radio de 300 pies del Ordenamiento Territorial Condicional propuesto han recibido esta notificación por correo postal de primera clase. Todas las partes interesadas pueden presentar comentarios sobre la solicitud a través de los medios especificados anteriormente. La ubicación de la propiedad también puede verse aquí: <https://maps.raleighnc.gov/maps>. Puede ver el Mapa de Uso Territorial para 2045 aquí: www.apexnc.org/DocumentCenter/View/478. Si tiene preguntas o desea obtener más información, puede comunicarse con el Departamento de Planificación al 919-249-3426. Puede ver la solicitud y otros documentos relacionados aquí: <https://www.apexnc.org/DocumentCenter/View/41113>.

Dianne F. Khin, AICP
Directora de Planificación

Fechas de publicación: 3 de marzo de 2023 - 28 de marzo de 2023



TOWN OF APEX

POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

PUBLIC NOTIFICATION OF PUBLIC HEARINGS CONDITIONAL ZONING #22CZ22 Elevate 64 West PUD

Pursuant to the provisions of North Carolina General Statutes §160D-602 and to the Town of Apex Unified Development Ordinance (UDO) Section 2.2.11, notice is hereby given of public hearings before the Town Council of the Town of Apex. The purpose of these hearings is to consider the following:

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Public Hearing Location: Apex Town Hall
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73 Hunter Street, Apex, North Carolina

***Comments received prior to the Planning Board public hearing will not be provided to the Town Council.
Separate comments for the Town Council public hearing must be provided by the deadline specified below.***

Town Council Public Hearing Date and Time: March 28, 2023 6:00 PM

You may attend the meeting in person or view the meeting through the Town's YouTube livestream at:
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Dianne F. Khin, AICP
Planning Director



TOWN OF APEX
PO BOX 250
APEX, NORTH CAROLINA 27502
TELÉFONO 919-249-3426

NOTIFICACIÓN PÚBLICA DE AUDIENCIAS PÚBLICAS

ORDENAMIENTO TERRITORIAL CONDICIONAL #22CZ22

Elevate 64 West PUD (Desarrollo de Unidad Planificada)

De conformidad con las disposiciones de los Estatutos Generales de Carolina del Norte §160D-602 y con la Sección 2.2.11 de la Ordenanza de Desarrollo Unificado (UDO) del ayuntamiento de Apex, por la presente se notifican las audiencias públicas ante el Consejo Municipal del Ayuntamiento de Apex. El propósito de estas audiencias es considerar lo siguiente:

Solicitante: FA Develop, LLC

Agente autorizado: FA Develop, LLC

Dirección de la propiedades: 3805 y 3809 US Hwy 64 W

Superficie: ±35.15 acres

Números de identificación de la propiedades: 0712842430 y 0712749870

Designación actual en el Mapa de Uso Territorial para 2045: Mixed Use: High Density Residential/Office Employment/Commercial Services

Ordenamiento territorial existente de la propiedades: Rural Residential (RR)

Ordenamiento territorial propuesto para la propiedades: Planned Unit Development-Conditional Zoning (PUD-CZ)

Lugar de la audiencia pública: Ayuntamiento de Apex
Cámara del Consejo, 2º piso
73 Hunter Street, Apex, Carolina del Norte

Los comentarios recibidos antes de la audiencia pública de la Junta de Planificación no se proporcionarán al Consejo Municipal. Los comentarios para la audiencia pública del Consejo Municipal deben presentarse por separado en el plazo especificado a continuación.

Fecha y hora de la audiencia pública del Consejo Municipal: 28 de marzo de 2023 6:00 P.M.

Puede asistir a la reunión de manera presencial o seguir la transmisión en directo por YouTube a través del siguiente enlace: <https://www.youtube.com/c/townofapexgov>.

Si no puede asistir, puede enviar una declaración escrita por correo electrónico a public.hearing@apexnc.org, o presentarla a la oficina del Secretario Municipal (73 Hunter Street o por correo USPS a P.O. Box 250, Apex, NC 27502), al menos dos días hábiles antes de la votación del Consejo Municipal. Debe proporcionar su nombre y dirección para que conste en el registro. Las declaraciones escritas se entregarán al Consejo Municipal antes de la votación. No olvide incluir el nombre de la audiencia pública en el asunto.

Mapa de las inmediaciones:



Los propietarios, inquilinos y asociaciones de vecinos en un radio de 300 pies del Ordenamiento Territorial Condicional propuesto han recibido esta notificación por correo postal de primera clase. Todas las partes interesadas pueden presentar comentarios sobre la solicitud a través de los medios especificados anteriormente. La ubicación de la propiedad también puede verse aquí: <https://maps.raleighnc.gov/imaps>. Puede ver el Mapa de Uso Territorial para 2045 aquí: www.apexnc.org/DocumentCenter/View/478. Si tiene preguntas o desea obtener más información, puede comunicarse con el Departamento de Planificación al 919-249-3426. Puede ver la solicitud y otros documentos relacionados aquí: <https://www.apexnc.org/DocumentCenter/View/41113>.

Dianne F. Khin, AICP
Directora de Planificación

Fechas de publicación: 3 de marzo de 2023 - 28 de marzo de 2023



TOWN OF APEX

POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

AFFIDAVIT CERTIFYING Public Notification – Written (Mailed) Notice

Section 2.2.11
Town of Apex Unified Development Ordinance

Project Name: Conditional Zoning #22CZ22
Elevate 64 West PUD

Project Location: 3805 & 3809 US Hwy 64 W

Applicant or Authorized Agent: FA Develop, LLC

Firm: FA Develop, LLC

This is to certify that I, as the Planning Director, mailed or caused to have mailed by first class postage for the above mentioned project on March 3, 2023, a notice containing the time and place, location, nature and scope of the application, where additional information may be obtained, and the opportunity for interested parties to be heard, to the property owners and tenants within 300' of the land subject to notification. I further certify that I relied on information from the Wake County Tax Assessor and the Town of Apex Master Address Repository provided to me by Town of Apex GIS Staff as to accuracy of the list and accuracy of mailing addresses of property owners and tenants within 300' of the land subject to notification.

3-16-23

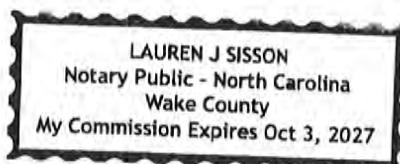
Date

Carol Bruce for Dianne Kohn
Planning Director

STATE OF NORTH CAROLINA
COUNTY OF WAKE

Sworn and subscribed before me, LAUREN J Sisson, a Notary Public for the above

State and County, this the 16th day of MARCH, 2023.



[Signature]
Notary Public

My Commission Expires: 10 / 3 / 2023



Student Assignment
5625 Dillard Drive
Cary, NC, 27518
Email: studentassignment@wcpss.net

tel: (919) 431-7333
fax: (919) 694-7753

November 15, 2022

Dianne Khin, AICP
Director, Department of Planning and Community Development
Town of Apex
Dianne.Khin@apexnc.org

Dear Dianne,

The Wake County Public School System (WCPSS) Office of School Assignment received information about a proposed rezoning/development within the Town of Apex planning area. We are providing this letter to share information about WCPSS's capacity related to the proposal. The following information about the proposed rezoning/development was provided through the Wake County Residential Development Notification database:

- Date of application: October 3, 2022
- Name of development: 22CZ22 Elevate 64 West PUD
- Address of rezoning: 3805 & 3809 US Hwy 64 West
- Total number of proposed residential units: 392
- Type(s) of residential units proposed: Apartments

Based on the information received at the time of application, the Office of School Assignment is providing the following assessment of possible impacts to the Wake County Public School System:

- ☐ Schools at all grade levels within the current assignment area for the proposed rezoning/development are anticipated to have sufficient capacity for future students.
- ☒ Schools at the following grade levels within the current assignment area for the proposed rezoning/development are anticipated to have insufficient capacity for future students; transportation to schools outside of the current assignment area should be anticipated:
 - ☒ Elementary ☐ Middle ☒ High

The following mitigation of capacity concerns due to school construction or expansion is anticipated:

- ☐ Not applicable – existing school capacity is anticipated to be sufficient.
- ☐ School expansion or construction within the next five years is not anticipated to address concerns.
- ☐ School expansion or construction within the next five years may address concerns at these grade levels:
 - ☐ Elementary ☐ Middle ☒ High

Thank you for sharing this information with the Town of Apex Planning Board and Town Council as they consider the proposed rezoning/development.

Sincerely,

Susan Pullium

www.wcpss.net