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

BACKGROUND INFORMATION:

Location: 3720 Old US 1 Highway & 0 New Hill Olive Chapel Road
Applicant/Agent: Thurm Bowen, KB Home, Inc. Carolinas Division/Jeff Roach, Peak Engineering & Design, LLC.
Owners: Myrtle H. Horton, Helon Joy Wellons, & Ray E. Johnson

PROJECT DESCRIPTION:

Acreage: ±56.59 acres
PINs: 0710714834 & 0710736732
Current Zoning: Wake County Residential-40W (R-40W) & Wake County Residential-80W (R-80W)
Proposed Zoning: Planned Unit Development-Conditional Zoning (PUD-CZ)
2045 Land Use Map: Low Density Residential & Low Density Residential/Office Employment
Town Limits: Currently in Wake County jurisdiction; to be annexed with rezoning

Adjacent Zoning & Land Uses:

	Zoning	Land Use
North:	Planned Unit Development-Conditional Zoning (PUD-CZ #18CZ17)	Single-family Residential (Belterra Subdivision)
South:	Wake County Residential-40W (R-40W)	Single-family Residential; Old US 1 Highway
East:	Wake County Residential-40W (R-40W); Mixed Office-Residential-Retail-Conditional Zoning (MORR-CZ #19CZ19)	Single-family Residential; Place of Worship and Cemetery
West:	Planned Unit Development-Conditional Zoning (PUD-CZ #13CZ30 & #18CZ05); Wake County Residential-40W (R-40W)	Single-family Residential (Country Acres, Jordan Pointe and Jordan Oaks Subdivisions)

EXISTING CONDITIONS:

The properties are situated on the north side of Old US 1 Highway and west of New Hill Olive Chapel Road. The properties are south of the Belterra subdivision and east of the Jordan Pointe subdivision. The northern property is vacant with existing vegetation and a stream that bisects the property from north to south. The southern property contains existing historic structures and residential structures, a stream that bisects the property from north to south, and existing vegetation.

NEIGHBORHOOD MEETING:

The applicant conducted a neighborhood meeting on April 27, 2022. The neighborhood meeting report is attached.

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, middle, 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 elementary, middle, and high school grade level.

2045 LAND USE MAP:
The 2045 Land Use Map designates the subject properties as Low Density Residential and Low Density Residential/Office Employment. The proposed rezoning to Planned Unit Development-Conditional Zoning (PUD-CZ) is consistent with those Land Use Map designations.

PLANNED UNIT DEVELOPMENT PLAN:
The applicant is proposing a Planned Unit Development Plan with uses and development standards as follows:

Permitted Uses:
The development will include residential uses. The Rezoned Lands may be used for, and only for, the uses listed below. The permitted uses are subject to the limitation and regulations stated in the UDO and any additional limitation 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.

- Single-family
- Greenway
- Recreation facility, private
- Accessory apartment
- Park, active
- Park, passive
- Utility, minor

Proposed Design Controls:
Maximum Density: 2.0 units per acre
Maximum Number of units: 113 units
Minimum Lot Size: 6,000 sf
Maximum Built-Upon Area: 60%
Minimum Lot Width: 50 feet
Maximum Building Height: 36 feet, no more than 2 stories

Setbacks

	Proposed Minimum Setbacks	
Single-family	Front	10’
	Front (garage) (from sidewalk or back-of-curb where no sidewalk exists)	20’
	Side	5’
	Side (corner)	10’
	Rear	10’
	Building to buffer/RCA	10’
	Parking to buffer/RCA	5’
Private Recreation Facility	Front	10’
	Front (garage)	N/A
	Side	10’
	Side (corner)	10’

	Proposed Minimum Setbacks	
	Rear	10’
	Building to buffer/RCA	10’
	Parking to buffer/RCA	5’

Proposed RCA & Buffers

Per UDO Sec. 8.1.2.C *Size of the RCA*, this development is exempt from initially providing RCA since the proposed low density single-family development has a maximum density of two (2) dwelling units per gross acre. However, per UDO Sec. 7.2.5.B.8, if any mass grading is proposed in the single-family sections of the PUD, the development shall provide an additional five percent (5%) RCA.

Residential Buffers:

Perimeter Buffers:	UDO Required	Proposed
North (Belterra)	10’ Type B	10’ Type B
Northern boundary (along existing properties Miller, Vitek, & Burroughs)	20’ Type B	10’ Type B & 20’ Type B
West (Jordan Pointe & Country Acres Lane)	10’ Type B & 20’ Type B	10’ Type B
East (along existing properties, existing church, and cemetery)	20’ Type B & 20’ Type A	10’ Type B
Old US 1 Highway	30’ Type B	30’ Type B
New Hill Olive Chapel Road	30’ Type B	30’ Type B

Adjacent property redevelopment buffer:

The buffer can be removed in those locations along the following parcels or portion of parcels if the Wellons property (identified as the “Future Development Area” within the PUD Drawings) is redeveloped in conjunction with the adjacent N/F Andrew Martin (PIN 0710-83-5242), the N/F Ralph Miller property (PIN 0710-83-0487), and/or the N/F Richard Vitek property (PIN 0710-72-4872) as the Wellons property is too narrow to develop independent of such properties.

ZONING CONDITIONS

The following conditions shall also apply:

A) A maximum of 113 residential units shall be permitted upon the property.
B) No covenant shall be placed on the property which prohibits accessory apartment as a use.
C) All residential dwellings and any amenity constructed on the property shall provide solar conduit for the installation of rooftop solar panels.
D) Stormwater controls for development shall be increased to the 25-year storm as provided for in this PUD.
E) There shall not be any tree clearing, stormwater control measures (SCM), or other infrastructure in either zone of riparian buffers except for UDO permitted crossings and utilities.
F) Signage shall be provided by any homeowner’s association regarding the need to reduce pet waste and eliminate fertilizer near SCMs. The project shall install at least one (1) sign per SCM about not using fertilizer near an SCM drainage area to reduce pet waste and eliminate fertilizer near SCMs. The sign(s) shall be installed in locations that are publicly accessible, such as adjacent to amenity centers, sidewalks, greenways, or side paths.
G) The project shall provide diverse and abundant pollinator sources and install pollinator-friendly

flora within SCM Planting areas.

H) The project shall include plantings within perimeter buffers and along streetscapes; the selected species shall be native species chosen from the Apex Design & Development Manual or approved by Planning staff.

I) Deciduous shade trees shall be planted along southern sides of building elevations and the selected species shall be taken from the Apex Design & Development Manual or approved by Planning staff.

J) Evergreen trees shall be planted along northern elevations of buildings and the selected species shall be taken from the Apex Design & Development Manual or approved by Planning staff.

K) A minimum of three (3) native hardwood tree species shall be planted throughout the development.

L) The project shall increase biodiversity within the amenity area and recreational areas within the development by selecting and installing tree, shrub, and perennial species with special attention to providing diverse and abundant pollinator and bird food sources, including plants that bloom in succession from spring to fall. Subject to Condition K above, no single species shall constitute more than 20% of the selected plants for each landscaping type (trees, shrubs and perennials.)

M) The project shall include landscaping that requires less irrigation and chemical use by planting warm season grasses and drought tolerant species for drought-resistance within perimeter buffers, SCMs, and along streets.

N) The exterior lighting for all non-residential buildings, parking lots, and amenity areas will consist of entirely of LED fixtures. The project shall install light timers, motion sensors, or other smart lighting technology for all lighting within the parking lots and private amenity areas.

    a. The project within an amenity area shall use full cutoff LED fixtures that have a maximum color temperature of 3000K for all exterior lighting located within parking lot, private amenity areas, and building mounted fixtures on non-residential buildings.

O) A minimum of three (3) pet waste stations shall be installed within the development located around the SCMs, play lawns, and gathering areas.

P) A minimum 4kW solar PV system shall be installed on at least 3 homes 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 lots on which these homes are located shall be identified on Master Subdivision Final Plat, which may be amended from time to time.

Q) Of the permitted residential single family detached dwellings, at least two (2) restricted median-income affordable housing single family detached ownership units (Affordable Housing Units) shall be constructed on-site and sold at a mutually agreeable maximum affordable housing median-income ownership sales price (includes unit price and lot price) that is calculated based upon the one-hundred percent (100%) of the Raleigh, NC Metropolitan Statistical Area (MSA) Area Median Income (AMI) as most recently published by the U.S. Department of Housing and Urban Development (HUD). The Affordable Housing Units shall be occupied by households earning no more than one hundred percent (100% - Median-Income) of the Raleigh, NC MSA AMI, adjusted for family size as most recently published by HUD. The two (2) Affordable Housing Unit lots shall be identified on the Master Subdivision Final Plat, which may be amended from time to time. A restrictive covenant (i.e. lot reservation agreement) shall be recorded against the two (2) Affordable Housing Unit lots prior to the issuance of a building permit for such lots and a separate restrictive covenant (i.e. resale deed restriction) with a minimum affordability period of twenty (20) years shall be recorded against each of the Affordable Housing Units at purchase closing to memorialize the affordable housing terms and conditions of the approved zoning condition. Final

Affordable Housing Unit floor plan selection which includes the unit size and bedroom size will be at the discretion of the developer.

Architectural Standards

The proposed development offers the following architectural controls to ensure a consistency of character throughout the development, while allowing for enough variety to create interest and avoid monotony. Changes to the exterior materials, roof, windows, doors, process, trim, etc. are allowable with administrative approval at the staff level. Further details shall be provided at the time of Master Subdivision submittal. Except with respect to the existing historic home, the following conditions shall apply:

A. Vinyl siding is not permitted; however, vinyl windows, decorative elements, and trim are permitted.
B. Primary building materials shall be brick, stone, and fiber cement siding.
C. Windows that are not recessed shall be trimmed. Windows shall vary in size and/or type.
D. At least four of the following decorative features shall be used on each building: decorative shake, board and batten siding, decorative porch rails and posts, shutters, decorative functional foundation and roof vents, recessed windows, decorative windows, decorative brick or stone, decorative gables, decorative cornices, or metal roofing.
E. A varied color palette shall be utilized throughout the development to include a minimum of three-color families for siding and shall include varied trim, shutter, and accent colors complementing the siding color.
F. The rear and side elevations of the units that can be seen from the right-of-way shall have trim around the windows.
G. Front facing garage doors must have windows, decorative details, or carriage-style adornments.
H. Entrances for units with front-facing garages shall have a prominent covered porch/stoop area leading to the front door.
I. Porches constructed with a dwelling unit shall be a minimum of six feet (6') deep.
J. The front façade of any front-loaded garage shall not protrude farther than one (1) foot forward of (i) the front façade of the dwelling unit, or (ii) the front porch of the dwelling unit, whichever is closer to the right-of-way from which the dwelling unit is addressed.

HISTORIC STRUCTURES

The North Carolina State Historic Preservation Office (SHPO) shows the properties are located within the New Hill Historic District and include the existing Utley-Horton Farm (Nommie Horton Farm – SHPO ID WA1098). In coordination with Capital Area Preservation, the PUD proposes to retain and preserve the historic home (in its current location) and two barns on the property (one relocation and one preservation).

NATURAL RESOURCE AND ENVIRONMENTAL DATA

The project is located within the Little Beaver Creek Basin and Cape Fear River Basin. The Town's Watershed Protection Overlay District Map shows the site is within the Primary Watershed Protection Overlay District and contains FEMA designated 100-year floodplain.

PARKING

Parking for the development shall meet the requirements of UDO Section 8.3.

SIGNAGE
All signage for this PUD shall comply with Apex UDO Section 8.7 *Signs.*

PUBLIC FACILITIES:
The proposed PUD shall be designed to comply with the Town's Sewer and Water Master Plan and Standards and Specifications. The development will be served water and sewer by the Town of Apex.

STORMWATER MANAGEMENT:
The PUD stormwater control devices shall be designed and constructed to exceed UDO standards so that the post development peak runoff rate shall be limited to the pre-development peak runoff rate for the 2-year, 10-year, and 25-year, 24-hour storm events. The development shall meet all stormwater management requirements for quality and quantity treatment in accordance with UDO Section 6.1.7.

APEX TRANSPORTATION PLAN/ACCESS and CIRCULATION:
The proposed PUD is consistent with the Apex Transportation Plan and Bicycle Pedestrian System Plan.

- **Potential Access Points:**
  Potential Access Points shown on the Conceptual Site Plan / Conceptual Utility Plan (C100) are not shown in exact locations but show required connections. Connections can only be removed from the subdivision connectivity requirements of the PUD if the developer shows to the satisfaction of the Planning Director, in consultation with the Technical Review Committee (TRC), that the construction of the connection would be impractical based on environmental conditions found in the field at the time of Master Subdivision Plan approval.

- **Transportation Improvements**
  All proposed driveway access and improvements on state-maintained roadways are subject to NCDOT review and approval. Roadway improvements are subject to modification and final approval by the Town of Apex and NCDOT as part of the Master Subdivision Plan and Construction Document approval process. A Traffic Impact Analysis (TIA) has been performed as part of this PUD rezoning consistent with the Town's standards for the same. Based upon the TIA and staff review, the following traffic improvements are proposed for this development:

Old US 1 and New Hill Olive Chapel Road/New-Hill Holleman Road:

- Developer shall construct an eastbound right turn lane with 175 feet of storage and appropriate deceleration length and taper. In the event there is insufficient right-of-way for this off-site transportation improvement, Developer shall use commercially reasonable efforts to acquire the right-of-way through good faith negotiations starting with an offer to the third party land owner(s) based upon an appraised value of the right-of-way to be acquired. In the event such negotiations are unsuccessful and the Town of Apex is unable or unwilling to assist Developer in acquiring the requisite right-of-way, Developer shall pay a fee-in-lieu in the amount of the appraised cost of the required right-of-way plus estimated construction cost of the turn lane.

Old US 1 and Site Driveways:

The Developer shall construct two access points on Old US 1 consisting of:

- Site Drive 1: A full-movement stop-controlled public street intersection approximately 1,200 feet west of the intersection of New Hill Olive Chapel Road, including an eastbound

left turn lane on Old US 1 with 50 feet of storage and appropriate deceleration length and taper.

- Site Drive 2: A full-movement stop-controlled public street intersection approximately 1,050 feet west of the intersection of Old US 1 and Site Drive 1, including an eastbound left turn lane on Old US 1 with 50 feet of storage and appropriate deceleration length and taper.

ENVIROMENTAL ADVISORY BOARD:

The Apex Environmental Advisory Board (EAB) held a pre-application meeting for this rezoning on April 21, 2022. The zoning conditions suggested by the EAB are listed below along with the applicant's response to each condition.

EAB Suggested Condition	**Applicant's Response**
Recommend that all homes be pre-wired for solar PV systems	Added
Recommend the storm water management system provide for the minimum 25-year storm with preference for managing the 100-year storm	Added
Twenty homes each have a solar PV system of minimum 4kw (about 12 panels)	Added; zoning condition references at least three (3) homes.
Increase design storm pre- and post-attenuation requirement to the 25-year storm	Added
Add a permit condition which does not allow for tree clearing, stormwater control measures (SCM), or infrastructure in either zone of the riparian buffer	Added
Install signage near environmental sensitive areas in order to: ○ Reduce pet waste near SCM drainage areas ○ Eliminate fertilizer near SCM drainage areas	Added
Plant trees as designed for efficiency ○ Plant deciduous shade trees on southern side of buildings ○ Plant evergreen trees as a windbreak on northern side of buildings	Added
Increase biodiversity ○ Plant pollinator-friendly flora ○ Plant native flora (Refer to the Apex Design & Development Manual for approved native species)	Added
Increase landscaping that requires less irrigation and chemical use ○ Plant warm season grasses for drought-resistance	Added
Increase the number of native hardwood tree species planted to 3	Added
Add information signage or other marking at the boundary of lots when they are adjacent to a wooded or natural condition resource conservation area (RCA) indicating that the area beyond the sign is RCA and is not to be disturbed	Not added
Install pet waste stations in neighborhoods	Added
Include International Dark Sky Association compliance standards ○ Outdoor lighting shall be shielded in a way that focuses lighting to the ground ○ Lighting that minimizes the emission of blue light to reduce glare shall be used	Added

EAB Suggested Condition	Applicant's Response
○ Lighting with a color temperature of 3000K or less shall be used for outside installations	

PARKS, RECREATION, AND CULTURAL RESOURCES ADVISORY COMMISSION:
The Parks, Recreation, and Cultural Resources Advisory Commission reviewed the Utley Farms PUD project at their August 31, 2022 meeting. The Commission made a recommendation for a fee-in-lieu of dedication for 122 single-family detached units. The current 2022 rate of $3,753.89 per single family detached unit would be deposited with the Town at the time the first final subdivision plat is approved for the units within each phase.

PLANNING BOARD RECOMMENDATION:
The Planning Board held a public hearing on October 10, 2022 and unanimously recommended approval with conditions as proposed by the applicant.

PLANNING STAFF RECOMMENDATION:
Planning staff recommends approval of Rezoning #22CZ09 Utley Farms PUD as proposed by the applicant.

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 subject properties as Low Density Residential and Low Density Residential/Office Employment. The proposed rezoning to Planned Unit Development-Conditional Zoning (PUD-CZ) is consistent with that Land Use Map designation.

Approval of the proposed rezoning is reasonable and in the public interest because it will allow development for single-family residential uses in a manner to be generally consistent with the surrounding properties. The proposed rezoning also provides additional environmental conditions and a minimum of two affordable housing units.

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.*

(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 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.

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.

CONDITIONAL ZONING STANDARDS:
The Town Council shall find the PUD-CZ designation demonstrates compliance with the following standards. 2.3.3.F:

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

September 9, 2022

Danielle Troutman, E.I.
Ramey Kemp & Associates, Inc.
5808 Faringdon Place, Suite 100
Raleigh, NC 27609

Subject: **Staff summary and comments for the Utley Farms TIA (04/29/2022).**

Ms. Troutman:

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 includes analysis of two (2) new full movement access driveways off of Old US Hwy 1 as well as the intersection of Old US Hwy 1 and New Hill Olive Chapel Road/New Hill Holleman Road.

Trip Generation

The proposed development is proposed to consist of 140 single-family detached homes. The projected trip generation is approximately 26 new trips entering and 75 new trips exiting the site during the weekday A.M. peak hour and 86 new trips entering and 50 new trips exiting the site during the weekday P.M. peak hour. The development is expected to add a total of 1,380 new weekday trips to the adjacent roadway network.

Background traffic

Background traffic consists of 3% annual background traffic growth from base year (2022) compounded to projected build out year (2026), and traffic from the following approved developments:

- Gracewood PUD
- Belterra
- Olive Ridge
- Jordan Manors (20% of remaining build-out traffic)

Trip Distribution and Assignment

Trip distribution to and from the development is as follows:

- 10% to/from the north via New Hill Olive Chapel Road
- 50% to/from the south via New Hill-Holleman Road
- 35% to/from the east via Old US Hwy 1
- 5% to/from the west via Old US Hwy 1

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 3 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 2026** - Projected year (2026) with background growth and background improvements.
- **Build 2026** - Projected year (2026) with background traffic, background improvements, site build-out traffic, and recommended improvements.

Old US Hwy 1 and Site Drive 1

Table 1: Weekday A.M. / P.M. Unsignalized Peak Hour Levels of Service Old US Hwy 1 and Site Drive 1	
	Build 2026
Overall	NA
Eastbound (Old US Hwy 1)	*A / A[1]*
Westbound (Old US Hwy 1)	*NA*
Southbound (Site Drive 1)	*C / C[2]*

1. Level of service for major-street left turning vehicles
2. Level of service for stop controlled minor-street

TIA recommendations:

- The TIA recommends the construction of a full movement stop-controlled southbound approach with a single lane of ingress and a single lane of egress on Old US Hwy 1, approximately 1,200 feet west of the intersection of Old US Hwy 1 and New Hill Olive Chapel Road/New Hill Holleman Road. Additionally, the TIA recommends construction of a westbound right turn lane with 50 feet of storage and appropriate deceleration length and taper as it's warranted per NCDOT turn lane warrants. Alternatively, the TIA recommends construction of an eastbound left turn lane with 50 feet of storage and appropriate deceleration length and taper. Even though it's not warranted per NCDOT turn lane warrants, it's common safety practice to provide a left turn lane on rural type major thoroughfares with higher speed limits.

Apex staff recommendations:

- Apex staff recommends providing an eastbound left turn lane at Site Drive 1 in lieu of the westbound right turn lane, as recommended in the TIA.

- With the recommended improvements the stop-controlled minor street approach will operate at LOS C during both peak hours. Queues are projected to be minimal.

Old US Hwy 1 and Site Drive 2

Table 2: Weekday A.M. / P.M. Unsignalized Peak Hour Levels of Service Old US Hwy 1 and Site Drive 2	
	Build 2026
Overall	NA
Eastbound (Old US Hwy 1)	*A / A[1]*
Westbound (Old US Hwy 1)	*NA*
Southbound (Site Drive 2)	*C / C[2]*

1. Level of service for major-street left turning vehicles
2. Level of service for stop controlled minor-street

TIA recommendations:

- The TIA recommends the construction of a full movement stop-controlled southbound approach with a single lane of ingress and a single lane of egress on Old US Hwy 1, approximately 1,050 feet west of the intersection of Old US Hwy 1 and Site Drive 1. Additionally, the TIA recommends construction of a westbound right turn lane with 50 feet of storage and appropriate deceleration length and taper as it's warranted per NCDOT turn lane warrants. Alternatively, the TIA recommends construction of an eastbound left turn lane with 50 feet of storage and appropriate deceleration length and taper. Even though it's not warranted per NCDOT turn lane warrants, it's common safety practice to provide a left turn lane on rural type major thoroughfares with higher speed limits.

Apex staff recommendations:

- Apex staff recommends providing an eastbound left turn lane at Site Drive 2 in lieu of the westbound right turn lane, as recommended in the TIA.

- With the recommended improvements the stop-controlled minor street approach will operate at LOS C during both peak hours. Queues are projected to be minimal.

Table 3: Weekday A.M. / P.M. Signalized Peak Hour Levels of Service Old US 1 and New Hill Olive Chapel Road/New Hill Holleman Road					
	Existing 2022	**No Build 2026 w/out Gracewood**	**Build 2026 w/out Gracewood**	**No Build 2026 w/ Gracewood**	**Build 2026 w/ Gracewood**
Overall	B / B	C / F	C / E	D / E	D / E
Eastbound (Old US 1)	*B / B*	*C / B*	*C / C*	*D / E*	*E / E*
Westbound (Old US 1)	*B / B*	*B / C*	*B / F*	*D / D*	*D / E*
Northbound (New Hill Holleman Road)	*B / B*	*C / F*	*C / F*	*D / D*	*D / D*
Southbound (New Hill Olive Chapel Road)	*B / B*	*D / E*	*C / C*	*D / F*	*D / F*

TIA recommendations:

- The TIA recommends that an eastbound right turn lane with 175 feet of storage and appropriate deceleration length and taper be constructed to mitigate traffic impacts by the development. This recommendation was a result of a TIA Addendum submitted by the Engineer. The Addendum also notes that this length is shorter than the NCDOT recommendation of 225 feet of eastbound right turn storage. Based on Synchro and SimTraffic analysis the 175 feet of storage capacity is projected to adequately meet the right turn queue demand for this movement.

- It should be noted that previously the Gracewood development has also committed to constructing the following improvements at this intersection:

    - Eastbound and westbound left-turn lanes along Old US Highway 1 with a minimum of 250 feet of storage and appropriate deceleration and taper length.
    - Northbound left-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.
    - Southbound left-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.
    - Southbound right-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.

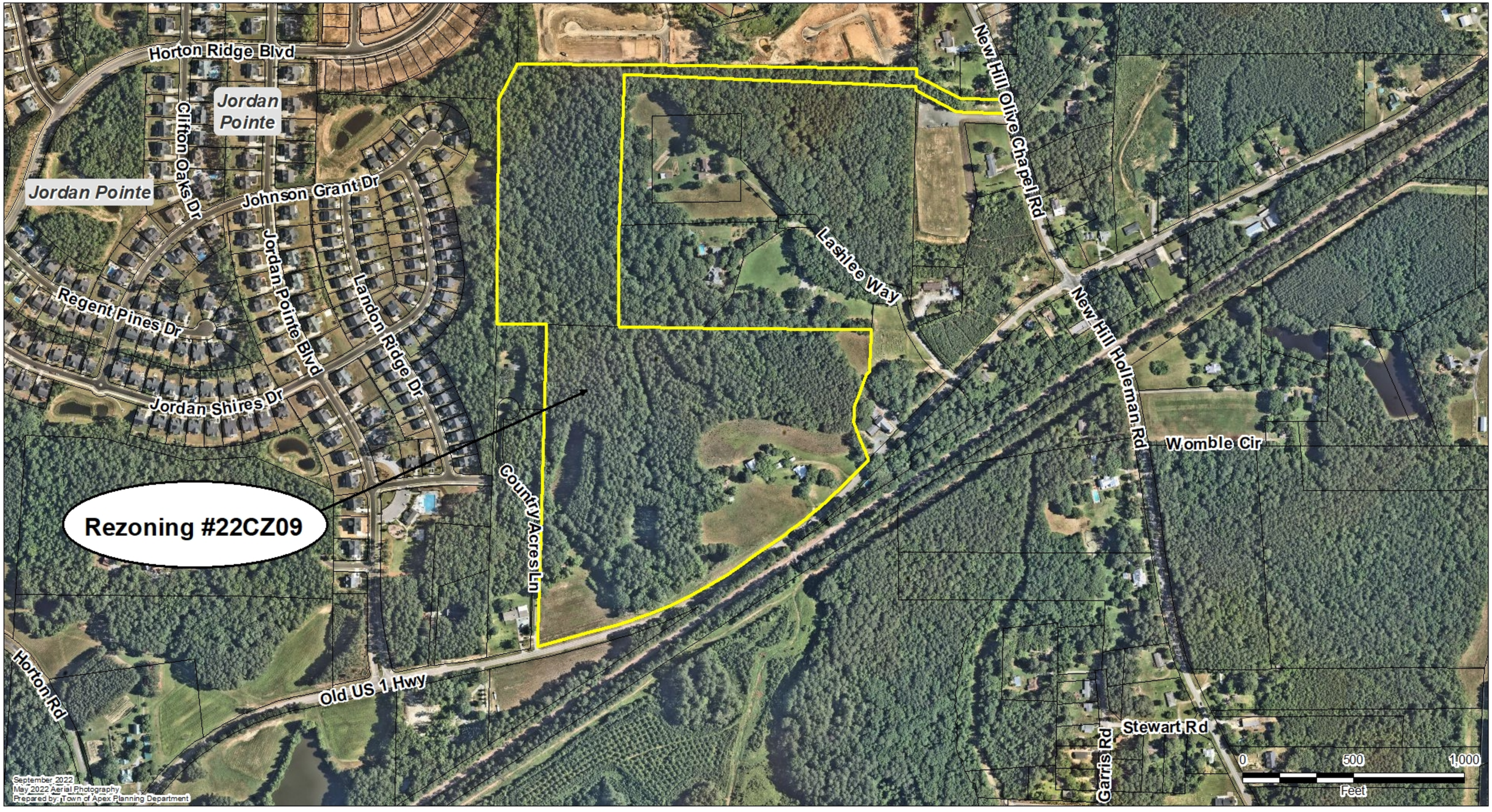
Apex staff recommendations:

- Apex staff concurs with the recommendation in the TIA. The 175-feet long eastbound right turn storage lane mitigates traffic impacts of the development at this intersection per the UDO. It should be noted that this intersection is still projected to operate with long delays and queues in the PM peak hour in the build condition without the improvements committed by Gracewood. Additional geometric improvements committed by the Gracewood development will further improve traffic operations at this intersection.

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

Sincerely,

Serge Grebenschikov, P.E.
Traffic Engineer
919-372-7448


Horton Ridge Blvd
Jordan Pointe
Clifton Oaks Dr
Jordan Pointe
Johnson Grant Dr
Jordan Pointe Blvd
Landon Ridge Dr
Regent Pines Dr
Jordan Shires Dr
Lashlee Way
New Hill Olive Chapel Rd
New Hill Holleman Rd
Womble Cir
County Acres Ln
Rezoning #22CZ09
Horton Rd
Old US 1 Hwy
Stewart Rd
Garris Rd
0
500
1,000
Feet
September 2022
May 2022 Aerial Photography
Prepared by: Town of Apex Planning Department

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 #: 22CZ09 Submittal Date: 5/2/2022

Fee Paid $ Check #

PETITION TO AMEND THE OFFICIAL ZONING DISTRICT MAP

Project Name: Utley Farms

Address(es): 3720 Old US 1 Highway (Horton) & 0 New Hill Olive Chapel Rd (Wellons)

PIN(s) 0710-71-4834 & 0710-73-6732

Acreage: 56.59

Current Zoning: R-40W & R-80W Proposed Zoning: PUD-CZ

Current 2045 LUM Designation: Low Density Residential and Low Density/Office Employment

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: N/A

Area proposed as non-residential development: Acreage: N/A

Percent of mixed use area proposed as non-residential: Percent: N/A

Applicant Information

Name: KB Home, Inc. - Carolinas Division (attn: Thurm Bowen)

Address: 4506 S. Miami Blvd #100

City: Durham State: NC Zip: 27703

Phone: (919) 768-7976 E-mail: rtbowen@kbhome.com

Owner Information

Name: See attached

Address:

City: State: Zip:

Phone: E-mail:

Agent Information

Name: Peak Engineering & Design, PLLC (attn: Jeff Roach, P.E.)

Address: 1125 Apex Peakway

City: Apex State: NC Zip: 27502

Phone: (919) 439-0100 E-mail: jroach@peakengineering.com

Other contacts: Jason Barron - Morningstar Law Group (jbarron@morningstarlawgroup.com)

UTLEY FARMS PUD

Property Owner – Exhibit 'A'

Lot No.	Property Owner	Contact Information	Property Address	PIN	Real Estate ID (REID)	DB/Pg Reference	Acreage (acres)	Current Zoning
1	Horton, Myrtle H.	P.O. Box 312 New Hill, NC 27560-0312	3720 Old US 1 Highway	0710-71-4834	0033299	DB 7883 Pg 737	43.27 (39.84)	R-40W
2	Wellons, Helon Joy Johnson, Ray E.	400 Johnson Farm Road New Hill, NC 27562-8839	0 New Hill Olive Chapel Road	0710-73-6732	0043207	DB 2367 Pg 693	17.96	R-40W R/80W

AREA TOTAL: 61.24 acres
AREA TOTAL (MINUS R/W): 58.89 acres
FINAL ZONING AREA: 56.59 acres

Applicant and Owners' Representative:
Mr. Thurm Bowen & Mr. Roman Acosta
KB Home, Inc. (Carolinas Division)
4506 S. Miami Blvd #100
Durham, NC 27703
(919) 768-7976 / (919) 768-7972
rtbowen@kbhome.com / racosta@kbhome.com

Civil Engineer and Applicant's Representative
Mr. Jeff Roach, P.E. - Peak Engineering & Design, PLLC
1125 Apex Peakway
Apex, NC 27502
(919) 439-0100
jroach@peakengineering.com

PLANNED UNIT DEVELOPMENT APPLICATION

Application #: 22CZ09 Submittal Date: 5/2/22

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 be 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.

Answered within the PD Text document.

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

Answered within the PD Text document.

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

Answered within the PD Text document.

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.

Answered within the PD Text document.

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.

Answered within the PD Text document.

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.

Answered within the PD Text document.

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.

Answered within the PD Text document.

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

Answered within the PD Text document.

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.

Answered within the PD Text document.

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.

Answered within the PD Text document.

DEVELOPMENT NAME APPROVAL APPLICATION

Application #: 22CZ09 Submittal Date: 5/2/22

Proposed Subdivision/Development Information

Description of location: north side of Old US 1 Highway west of New Hill Baptist Church & Cemetery

Nearest intersecting roads: Old US 1 Highway west of New Hill and west of Lashlee Lane

Wake County PIN(s): 0710-71-4834 (43.28 acres) & 0710-73-6732 (17.96 acres)

Township: Buckhorn Township

Contact Information (as appropriate)

Contact person: Jeff Roach, P.E. (Peak Engineering & Design, PLLC)

Phone number: (919) 439-0100 Fax number: N/A

Address: 1125 Apex Peakway, Apex, NC 27502

E-mail address: jroach@peakengineering.com

Owner: See attached documents

Phone number: Fax number:

Address:

E-mail address:

Proposed Subdivision/Development Name

1st Choice: Utley Farms

2nd Choice *(Optional)*:

Town of Apex Staff Approval:

Town of Apex Planning Department Staff Date

UTLEY FARMS PUD

Property Owner – Exhibit 'A'

Lot No.	Property Owner	Contact Information	Property Address	PIN	Real Estate ID (REID)	DB/Pg Reference	Acreage (acres)	Current Zoning
1	Horton, Myrtle H.	P.O. Box 312 New Hill, NC 27560-0312	3720 Old US 1 Highway	0710-71-4834	0033299	DB 7883 Pg 737	43.27 (39.84)	R-40W
2	Wellons, Helon Joy Johnson, Ray E.	400 Johnson Farm Road New Hill, NC 27562-8839	0 New Hill Olive Chapel Road	0710-73-6732	0043207	DB 2367 Pg 693	17.96	R-40W R/80W

AREA TOTAL: 61.24 acres
AREA TOTAL (MINUS R/W): 58.89 acres
FINAL ZONING AREA: 56.59 acres

Applicant and Owners' Representative:
Mr. Thurm Bowen & Mr. Roman Acosta
KB Home, Inc. (Carolinas Division)
4506 S. Miami Blvd #100
Durham, NC 27703
(919) 768-7976 / (919) 768-7972
rtbowen@kbhome.com / racosta@kbhome.com

Civil Engineer and Applicant's Representative
Mr. Jeff Roach, P.E. - Peak Engineering & Design, PLLC
1125 Apex Peakway
Apex, NC 27502
(919) 439-0100
jroach@peakengineering.com

UTLEY FARMS

PUD ZONING DOCUMENTS

MYRTLE H. HORTON PROPERTY

TOWN OF APEX UTILITIES OFFER AND AGREEMENT

Application #: _____ Submittal Date: _____

Town of Apex
73 Hunter Street
P.O. Box 250 Apex, NC 27502
919-249-3400
WAKE COUNTY, NORTH CAROLINA CUSTOMER SELECTION AGREEMENT

Utley Farms (Horton and Wellons properties)

_____

(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: _____ For Property owners
Authorized Agent

DATE: 8/26/2022

BY: _____
Authorized Agent

DATE: _____

AGENT AUTHORIZATION FORM

Application #: _____ Submittal Date: _____

Myrtle Holt Horton 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: 3720 Old US 1 (04710-71-4834)

The agent for this project is: Peak Engineering & Design, PLLC

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

Agent Name: Jeff Roach, P.E.

Address: 1125 Apex Peakway, Apex, NC 27502

Telephone Number: (919) 439-0100

E-Mail Address: jroach@peakengineering.com

Signature(s) of Owner(s)*

Myrtle Holt Horton

Myrtle Holt Horton — 4-27-22

Type or print name — 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 #: _____ Submittal Date: _____

The undersigned, Myrtle Holt Horton (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 3720 Old US 1 Highway, New Hill, 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 6/22/2012, and recorded in the Wake County Register of Deeds Office on 6/22/2012, in Book 13-E Page 2029.

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 6/22/2012, 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 6/22/2012, 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 27 day of April, 2022.

x Myrtle Holt Horton (seal)

Myrtle Holt Horton
Type or print name

STATE OF NORTH CAROLINA
COUNTY OF Forsyth

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

Mona Dodd
Notary Public
State of North Carolina
My Commission Expires: March 14, 2026

Mona Dodd
NOTARY PUBLIC
Forsyth County, NC
My Commission Expires March 14, 2026
[NOTARIAL SEAL]

AFFIDAVIT OF OWNERSHIP: EXHIBIT A – LEGAL DESCRIPTION

Application #: _____ Submittal Date: _____

Insert legal description below.

BEING THE OUTER BOUNDARY OF 2 PARCELS, ONE NOW OR FORMERLY OF HELON J. WELLONS AND RAY E. JOHNSON (PIN 0710-73-6732) AND THE OTHER NOW OR FORMERLY OF MYRTLE H. HORTON (PIN 0710-71-4834), EXCLUDING THAT PORTION OF THE MYRTLE H. HORTON PARCEL LYING TO THE SOUTH OF OLD U.S. HIGHWAY 1, LOCATED IN THE TOWN OF NEW HILL, BUCKHORN TOWNSHIP, WAKE COUNTY, NORTH CAROLINA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A 3/4" IRON PIPE FOUND ON THE NORTHEASTERN CORNER OF THE PROPERTY NOW OR FORMERLY OF HELON J. WELLONS AND RAY E. JOHNSON AND THE WESTERN RIGHT OF WAY OF NEW HILL OLIVE CHAPEL ROAD, SAID IRON BEING THE TRUE POINT OF BEGINNING AND HAVING NORTH CAROLINA STATE PLAIN COORDINATES OF N= 703,604.52' AND E= 2,018,799.66'; THENCE, FROM THE POINT OF BEGINNING AND WITH THE WESTERN RIGHT OF WAY OF NEW HILL OLIVE CHAPEL ROAD, S14°25'18"E A DISTANCE OF 66.83 FEET TO A 5/8" IRON REBAR FOUND; THENCE, LEAVING SAID RIGHT OF WAY, N88°11'18"W A DISTANCE OF 188.21 FEET TO A 5/8" IRON REBAR FOUND; THENCE N88°11'18"W A DISTANCE OF 25.93 FEET TO A 3/4" IRON PIPE SET; THENCE, N62°24'56"W A DISTANCE OF 207.03 FEET TO A 3/4" IRON PIPE FOUND; THENCE, N87°31'49"W A DISTANCE OF 1,326.61 FEET TO A 3/4" IRON PIPE FOUND; THENCE, S00°29'51"W A DISTANCE OF 657.49 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, S00°28'07"W A DISTANCE OF 459.96 FEET TO A 1" CAPPED IRON PIPE FOUND; THENCE, S88°54'39"E A DISTANCE OF 376.22 FEET TO A 1" CAPPED IRON PIPE FOUND; THENCE S88°54'39"E A DISTANCE OF 760.21 FEET TO A 1" IRON PIPE FOUND; THENCE, S04°27'54"W A DISTANCE OF 193.23 FEET TO A 2" IRON PIPE FOUND; THENCE S40°29'33"W A DISTANCE OF 39.06 FEET TO A 3/4" IRON PIPE SET; THENCE, S20°02'10"W A DISTANCE OF 148.77 FEET TO A 1" IRON PIPE FOUND; THENCE, S04°26'24"W A DISTANCE OF 74.66 FEET TO A 1" IRON PIPE FOUND; THENCE, S21°56'17"E A DISTANCE OF 90.03 FEET TO A 3/4" IRON PIPE SET; THENCE, S21°56'17"E A DISTANCE OF 82.07 FEET TO A 1/2" IRON PIPE FOUND ON THE NORTHERN RIGHT OF WAY OF OLD US HIGHWAY 1; THENCE, WITH SAID RIGHT OF WAY, S44°08'00"W A DISTANCE OF 57.11 FEET TO A 3/4" IRON PIPE SET; THENCE S04°26'41"W A DISTANCE OF 47.21 FEET TO A COMPUTED POINT IN THE CENTERLINE OF OLD US HIGHWAY 1; THENCE, WITH SAID CENTERLINE, S44°45'01"W A DISTANCE OF 117.34 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S46°50'07"W A DISTANCE OF 75.89 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S51°00'53"W A DISTANCE OF 86.92 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S54°38'28"W A DISTANCE OF 187.44 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S54°43'11"W A DISTANCE OF 166.66 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S55°37'49"W A DISTANCE OF 181.50 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE ALONG A CURVE TO THE RIGHT, HAVING A RADIUS OF 1,538.08 FEET AND A CHORD OF 222.64 FEET BEARING S62°15'39"W, A DISTANCE OF 222.83 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE ALONG A CURVE TO THE RIGHT, HAVING A RADIUS OF 1,502.64 FEET AND A CHORD OF 205.36 FEET BEARING S70°54'26"W, A DISTANCE OF 205.52 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID RIGHT OF WAY, S74°32'21"W A DISTANCE OF 335.97 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S76°14'37"W A DISTANCE OF 79.04 FEET TO A COMPUTED POINT; THENCE, LEAVING SAID CENTERLINE, N01°40'52"E A DISTANCE OF 31.15 FEET TO A 1" IRON PIPE FOUND ON THE NORTHERN RIGHT OF WAY OF OLD US HIGHWAY 1; THENCE, LEAVING SAID RIGHT OF WAY, N01°40'52"E A DISTANCE OF 525.44 FEET TO A 1" IRON PIPE FOUND; THENCE, N01°40'52"E A DISTANCE OF 164.11 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, N01°40'52"E A DISTANCE OF 87.06 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, N01°40'52"E A DISTANCE OF 296.27 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, N01°43'27"E A DISTANCE OF 154.39 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, N01°45'10"E A DISTANCE OF 230.39 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, N88°57'38"W A DISTANCE OF 226.32 FEET TO A 1.5" CAPPED IRON PIPE FOUND; THENCE, N00°29'37"E A DISTANCE OF 1,013.85 FEET TO A 1" CAPPED IRON PIPE FOUND THENCE, N27°07'07"E A DISTANCE OF 180.77 FEET TO A 3/4" PINCHED IRON PIPE FOUND; THENCE, S89°14'14"E A DISTANCE OF 677.99 FEET TO A 3/4" IRON PIPE SET; THENCE, S89°12'15"E A DISTANCE OF 1,126.48 FEET TO A 3/4" IRON PIPE FOUND; THENCE, S01°21'26"W A DISTANCE OF 33.00 FEET TO A 3/4" BENT IRON PIPE FOUND; THENCE, S62°23'27"E A DISTANCE OF 222.99 FEET TO A 1" BENT IRON PIPE FOUND; THENCE, S89°31'44"E A DISTANCE OF 181.71 FEET TO THE POINT OF BEGINNING. SAID BOUNDARY CONTAINING 2,465,206 SQUARE FEET (56.59 ACRES), MORE OR LESS.

UTLEY FARMS

PUD ZONING DOCUMENTS

HELON JOY WELLONS & RAY E. JOHNSON PROPERTY

TOWN OF APEX UTILITIES OFFER AND AGREEMENT

Application #: _____ Submittal Date: _____

Town of Apex
73 Hunter Street
P.O. Box 250 Apex, NC 27502
919-249-3400
WAKE COUNTY, NORTH CAROLINA CUSTOMER SELECTION AGREEMENT

Utley Farms (Horton and Wellons properties)

_____

(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: _____ For Property owners
Authorized Agent

DATE: 8/26/2022

BY: _____
Authorized Agent

DATE: _____

AGENT AUTHORIZATION FORM

Application #: _____ Submittal Date: _____

John V. Wellons Jr. is the owner* of the property for which the attached application is being submitted: Helon J. Wellons

- ☑ 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: 0 New Hill Olive Chapel Road (0710-73-6732)

The agent for this project is: Peak Engineering & Design, PLLC

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

Agent Name: Jeff Roach, P.E.

Address: 1125 Apex Peakway, Apex, NC 27502

Telephone Number: (919) 439-0100

E-Mail Address: jroach@peakengineering.com

Signature(s) of Owner(s)*

Helon J Wellons

Helon J. Wellons — Type or print name — 4/26/2022 — Date

John V. Wellons Jr. — Type or print name — 4/26/2022 — 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 #: _____ Submittal Date: _____

The undersigned, John V. Wellons Jr (the "Affiant") first being duly sworn, hereby swears or affirms as follows: Helon J. Wellons

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 0 New Hill Olive Chapel Road, New Hill, 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 10/1/2020, and recorded in the Wake County Register of Deeds Office on 10/1/2020, in Book 20-E Page 556.

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 10/1/2020, 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 10/1/2020, 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 _____ day of _____, 20____.

_____ (seal)
John V. Wellons Jr.
Helon J. Wellons
Type or print name
Helon J. Wellons

STATE OF NORTH CAROLINA
COUNTY OF WAKE

I, the undersigned, a Notary Public in and for the County of WAKE, hereby certify that JOHN + HELON WELLONS, Affiant, personally known to me or known to me by said Affiant's presentation of said Affiant's DRIVERS LICENSE, personally appeared before me this day and acknowledged the due and voluntary execution of the foregoing Affidavit.

DANIEL H. WOODS NOTARY PUBLIC WAKE COUNTY, NC My Commission Expires November 18, 2023

Daniel H. Woods
Notary Public DANIEL H. WOODS
State of North Carolina
My Commission Expires: 11/18/2023

AFFIDAVIT OF OWNERSHIP

Application #: _____ Submittal Date: _____

The undersigned, RAY E. JOHNSON JANET O JOHNSON (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 0 New Hill Olive Chapel Road, New Hill, 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 10/1/2020, and recorded in the Wake County Register of Deeds Office on 10/1/2020, in Book 20-E Page 556.

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This the 26th day of April, 2022.

Ray E Johnson RAY E JOHNSON (seal)

Janet O. Johnson Janet O. Johnson
Type or print name

STATE OF NORTH CAROLINA
COUNTY OF WAKE

I, the undersigned, a Notary Public in and for the County of WAKE, hereby certify that RAY & JANET JOHNSON, Affiant, personally known to me or known to me by said Affiant's presentation of said Affiant's DRIVERS LICENSE, personally appeared before me this day and acknowledged the due and voluntary execution of the foregoing Affidavit.

DANIEL H. WOODS My Commission Expires NOTARY PUBLIC November 18, 2023 WAKE COUNTY, NC NOTARIAL SEAL

Daniel H. Woods
Notary Public DANIEL H. WOODS
State of North Carolina
My Commission Expires: 11/18/2023

AGENT AUTHORIZATION FORM

Application #: _____ Submittal Date: _____

RAY E. Johnson Janet O. Johnson 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: 0 New Hill Olive Chapel Road (0710-73-6732)

The agent for this project is: Peak Engineering & Design, PLLC

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

Agent Name: Jeff Roach, P.E.

Address: 1125 Apex Peakway, Apex, NC 27502

Telephone Number: (919) 439-0100

E-Mail Address: jroach@peakengineering.com

Signature(s) of Owner(s)*

Ray E Johnson

RAY E JOHNON — Type or print name — 4/26/2022 — Date

Janet O Johnson

Janet O. Johnson — Type or print name — 4/26/2022 — 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: EXHIBIT A – LEGAL DESCRIPTION

Application #: _____ Submittal Date: _____

Insert legal description below.

BEING THE OUTER BOUNDARY OF 2 PARCELS, ONE NOW OR FORMERLY OF HELON J. WELLONS AND RAY E. JOHNSON (PIN 0710-73-6732) AND THE OTHER NOW OR FORMERLY OF MYRTLE H. HORTON (PIN 0710-71-4834), EXCLUDING THAT PORTION OF THE MYRTLE H. HORTON PARCEL LYING TO THE SOUTH OF OLD U.S. HIGHWAY 1, LOCATED IN THE TOWN OF NEW HILL, BUCKHORN TOWNSHIP, WAKE COUNTY, NORTH CAROLINA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A 3/4" IRON PIPE FOUND ON THE NORTHEASTERN CORNER OF THE PROPERTY NOW OR FORMERLY OF HELON J. WELLONS AND RAY E. JOHNSON AND THE WESTERN RIGHT OF WAY OF NEW HILL OLIVE CHAPEL ROAD, SAID IRON BEING THE TRUE POINT OF BEGINNING AND HAVING NORTH CAROLINA STATE PLAIN COORDINATES OF N= 703,604.52' AND E= 2,018,799.66'; THENCE, FROM THE POINT OF BEGINNING AND WITH THE WESTERN RIGHT OF WAY OF NEW HILL OLIVE CHAPEL ROAD, S14°25'18"E A DISTANCE OF 66.83 FEET TO A 5/8" IRON REBAR FOUND; THENCE, LEAVING SAID RIGHT OF WAY, N88°11'18"W A DISTANCE OF 188.21 FEET TO A 5/8" IRON REBAR FOUND; THENCE N88°11'18"W A DISTANCE OF 25.93 FEET TO A 3/4" IRON PIPE SET; THENCE, N62°24'56"W A DISTANCE OF 207.03 FEET TO A 3/4" IRON PIPE FOUND; THENCE, N87°31'49"W A DISTANCE OF 1,326.61 FEET TO A 3/4" IRON PIPE FOUND; THENCE, S00°29'51"W A DISTANCE OF 657.49 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, S00°28'07"W A DISTANCE OF 459.96 FEET TO A 1" CAPPED IRON PIPE FOUND; THENCE, S88°54'39"E A DISTANCE OF 376.22 FEET TO A 1" CAPPED IRON PIPE FOUND; THENCE S88°54'39"E A DISTANCE OF 760.21 FEET TO A 1" IRON PIPE FOUND; THENCE, S04°27'54"W A DISTANCE OF 193.23 FEET TO A 2" IRON PIPE FOUND; THENCE S40°29'33"W A DISTANCE OF 39.06 FEET TO A 3/4" IRON PIPE SET; THENCE, S20°02'10"W A DISTANCE OF 148.77 FEET TO A 1" IRON PIPE FOUND; THENCE, S04°26'24"W A DISTANCE OF 74.66 FEET TO A 1" IRON PIPE FOUND; THENCE, S21°56'17"E A DISTANCE OF 90.03 FEET TO A 3/4" IRON PIPE SET; THENCE, S21°56'17"E A DISTANCE OF 82.07 FEET TO A 1/2" IRON PIPE FOUND ON THE NORTHERN RIGHT OF WAY OF OLD US HIGHWAY 1; THENCE, WITH SAID RIGHT OF WAY, S44°08'00"W A DISTANCE OF 57.11 FEET TO A 3/4" IRON PIPE SET; THENCE S04°26'41"W A DISTANCE OF 47.21 FEET TO A COMPUTED POINT IN THE CENTERLINE OF OLD US HIGHWAY 1; THENCE, WITH SAID CENTERLINE, S44°45'01"W A DISTANCE OF 117.34 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S46°50'07"W A DISTANCE OF 75.89 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S51°00'53"W A DISTANCE OF 86.92 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S54°38'28"W A DISTANCE OF 187.44 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S54°43'11"W A DISTANCE OF 166.66 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S55°37'49"W A DISTANCE OF 181.50 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE ALONG A CURVE TO THE RIGHT, HAVING A RADIUS OF 1,538.08 FEET AND A CHORD OF 222.64 FEET BEARING S62°15'39"W, A DISTANCE OF 222.83 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE ALONG A CURVE TO THE RIGHT, HAVING A RADIUS OF 1,502.64 FEET AND A CHORD OF 205.36 FEET BEARING S70°54'26"W, A DISTANCE OF 205.52 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID RIGHT OF WAY, S74°32'21"W A DISTANCE OF 335.97 FEET TO A COMPUTED POINT; THENCE, CONTINUING WITH SAID CENTERLINE, S76°14'37"W A DISTANCE OF 79.04 FEET TO A COMPUTED POINT; THENCE, LEAVING SAID CENTERLINE, N01°40'52"E A DISTANCE OF 31.15 FEET TO A 1" IRON PIPE FOUND ON THE NORTHERN RIGHT OF WAY OF OLD US HIGHWAY 1; THENCE, LEAVING SAID RIGHT OF WAY, N01°40'52"E A DISTANCE OF 525.44 FEET TO A 1" IRON PIPE FOUND; THENCE, N01°40'52"E A DISTANCE OF 164.11 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, N01°40'52"E A DISTANCE OF 87.06 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, N01°40'52"E A DISTANCE OF 296.27 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, N01°43'27"E A DISTANCE OF 154.39 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, N01°45'10"E A DISTANCE OF 230.39 FEET TO A 3/4" CAPPED IRON PIPE FOUND; THENCE, N88°57'38"W A DISTANCE OF 226.32 FEET TO A 1.5" CAPPED IRON PIPE FOUND; THENCE, N00°29'37"E A DISTANCE OF 1,013.85 FEET TO A 1" CAPPED IRON PIPE FOUND THENCE, N27°07'07"E A DISTANCE OF 180.77 FEET TO A 3/4" PINCHED IRON PIPE FOUND; THENCE, S89°14'14"E A DISTANCE OF 677.99 FEET TO A 3/4" IRON PIPE SET; THENCE, S89°12'15"E A DISTANCE OF 1,126.48 FEET TO A 3/4" IRON PIPE FOUND; THENCE, S01°21'26"W A DISTANCE OF 33.00 FEET TO A 3/4" BENT IRON PIPE FOUND; THENCE, S62°23'27"E A DISTANCE OF 222.99 FEET TO A 1" BENT IRON PIPE FOUND; THENCE, S89°31'44"E A DISTANCE OF 181.71 FEET TO THE POINT OF BEGINNING. SAID BOUNDARY CONTAINING 2,465,206 SQUARE FEET (56.59 ACRES), MORE OR LESS.

Developer Company *Information*	
Company *Name*	KB Home
Company Phone *Number*	(919) 768-7972
Developer Representative *Name*	Thurm Bowen
Developer Representative *Phone Number*	same
Developer Representative *Email*	rtbowen@kbhome.com

New Residential Subdivision *Information*	
Date of Application for Subdivision	May 2, 2022
City, Town or Wake County Jurisdiction	Town of Apex
Name of Subdivision	Utley Farms
Address of Subdivision (if unknown enter nearest cross streets)	3720 Old US 1 Highway, New Hill, NC
REID(s)	0033299 & 0080810
PIN(s)	0710-71-4834 & 0710-73-6732

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

Projected Dates *Information*	
Subdivision *Completion Date*	August 2026
Subdivision *Projected First Occupancy Date*	August 2024

Lot by Lot Development *Information*

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	113						113	1445	3174			2024	30	2025	50	2026	33
Townhomes																	
Condos																	
Apartments																	
Other																	

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.

April 13, 2022
Date

Dear Neighbor:

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

0 New Hill Olive Chapel Road	0710-73-6732
3720 Old US 1 Highway	0710-71-4834
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/Planning-Community-Development.

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

	Application Type	Approving Authority
☑	Rezoning (including Planned Unit Development)	Town Council
☐	Major Site Plan	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)):

KB Homes is proposing to annex and rezone the Property to facilitate the development of a residential community consisting of around 110 single family detached homes. Currently, the property is zone R-80W & R40-W in Wake County. KB Homes is proposing to rezone it to PUD-CZ in Apex.

Estimated submittal date: May 3, 2022

MEETING INFORMATION:

Property Owner(s) name(s):	Ray Wellons & Mrytle Horton
Applicant(s):	KB Homes
Contact information (email/phone):	jbarron@morningstarlawgroup.com/919-590-0371
Meeting Address:	https://morningstarlaw.group/04272022mtg
Date/Time of meeting**:	Wednesday, April 27, 2022 starting at 5PM

Welcome: 5:00PM Project Presentation: 5:03PM Question & Answer: 5:10PM

**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 and Community Development 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/Planning-Community-Development.

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: ~~Belterra~~ Utley Farms Zoning: PUD-CZ

Location: 0 New Hill Olive Chapel Road & 3720 Old Us 1 Hwy

Property PIN(s): 0710-71-4834& 0710-73-6732 Acreage/Square Feet: 59.32 acres

Property Owner: Mrytle Horton and Ray Wellons

Address:

City: State: Zip:

Phone: Email:

Developer: KB Homes

Address: 4506 S Miami Blvd Ste 100

City: Durham State: NC Zip: 27703

Phone: Fax: Email:

Engineer: Peak Engineering & Design

Address: 1125 Apex Peakway

City: Apex State: NC Zip: 27502

Phone: 919-439-0100 Fax: Email: jroach@peakengineering.com

Builder (if known): KB Homes

Address: 4506 S Miami Blvd Ste 100

City: Durham State: NC Zip: 27502

Phone: Fax: Email:

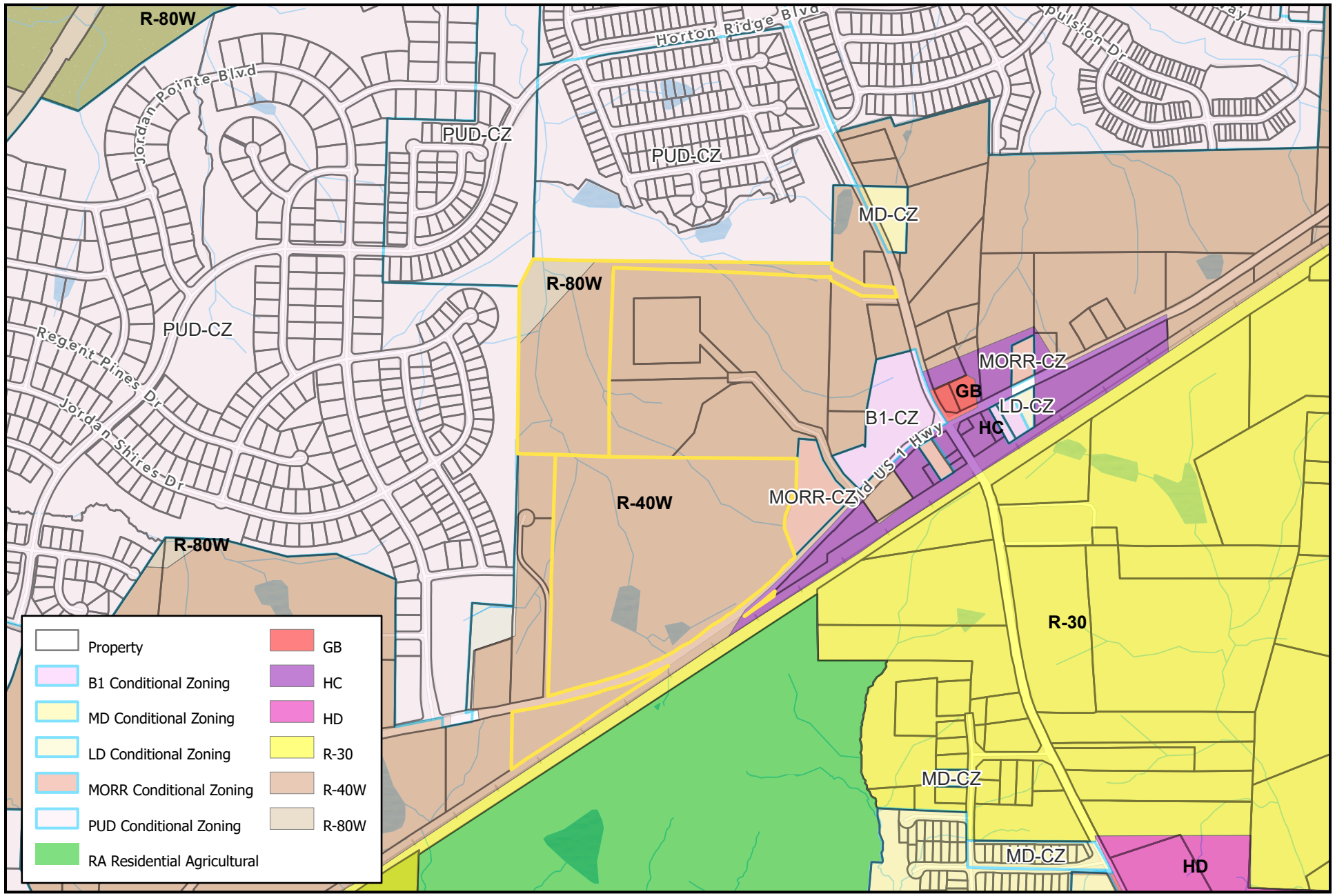
Please note that Town staff will not have complete information about a proposed development until the application is submitted for review. If you have a question about Town development standards and how they relate to the proposed development, please contact the appropriate staff person listed below.

Town of Apex Department Contacts	
Planning and Community Development 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, Senior Transportation Engineer	(919) 249-3358
Water Resources Department Jessica Bolin, Environmental Engineering Manager (Stormwater, Sedimentation & Erosion Control) James Gregg, Utility Engineering Manager (Water & Sewer)	(919) 249-3537 (919) 249-3324
Electric Utilities Division Rodney Smith, Electric Technical Services Manager	(919) 249-3342

SITE ADDRESS	OWNER	MAILING ADDRESS		
3500 RECLAMATION RD	APEX TOWN OF	PO BOX 250	APEX NC 27502-0250	
2625 NEW HILL OLIVE CHAPEL RD	ATKINS, LAURA B	PO BOX 217	NEW HILL NC 27562-0217	
3437 JORDAN SHIRES DR	BOISVERT-ROACH, NOELLE ROACH, SHAD	3437 JORDAN SHIRES DR	NEW HILL NC 27562-9310	
3429 JORDAN SHIRES DR	BOWERS, SARA BOWERS, MATTHEW	3429 JORDAN SHIRES DR	NEW HILL NC 27562-9310	
2704 NEW HILL OLIVE CHAPEL RD	BROADWELL, ANNIE RUTH L	2704 NEW HILL OLIVE CHAPEL RD	NEW HILL NC 27562-9176	
2508 LASHLEE WAY	BURROUGHS, RICHARD S TRUSTEE	2508 LASHLEE WAY	NEW HILL NC 27562-9607	
3507 JOHNSON GRANT DR	CAPANO, NICHOLAS G JR CAPANO, THERESA F	3507 JOHNSON GRANT DR	NEW HILL NC 27562-9313	
3413 JORDAN SHIRES DR	CLARK, MARSLYN KAY CLARK, JEFFERY ALAN	3413 JORDAN SHIRES DR	NEW HILL NC 27562-9310	
3409 JORDAN SHIRES DR	COSTAKES, GREGORY EUBANKS, AMBER	3409 JORDAN SHIRES DR	NEW HILL NC 27562-9310	
2609 NEW HILL OLIVE CHAPEL RD	CUSUMANO, JOSEPH DAVID CUSUMANO, REAGAN LAYNE	2609 NEW HILL OLIVE CHAPEL RD	NEW HILL NC 27562-9175	
2620 NEW HILL OLIVE CHAPEL RD	DHILLON, HARDIP SINGH DHILLON, GURMINDER KAUR	5785 OLD US 1 HWY	NEW HILL NC 27562-8965	
3445 JORDAN SHIRES DR	DICUS, DERRIN LEE DICUS, ANDREA KAY	3445 JORDAN SHIRES DR	NEW HILL NC 27562-9310	
3401 JORDAN SHIRES DR	EHRHARDT, VINCENT ROBERT SANTAMARIA, AMANDA DELIA	3401 JORDAN SHIRES DR	NEW HILL NC 27562-9310	
3912 OLD US 1 HWY	ESKRIDGE, CAMPBELL D JR ESKRIDGE, JO ANN	PO BOX 187	NEW HILL NC 27562-0187	
0 OLD US 1 HWY	ESKRIDGE, CAMPBELL D JR ESKRIDGE, JOANN	PO BOX 187	NEW HILL NC 27562-0187	
2912 NEW HILL HOLLEMAN RD	GARDNER, THELMA D	2912 NEW HILL HOLLEMAN RD	NEW HILL NC 27562-9242	
3405 JORDAN SHIRES DR	HAROLD, ADAM J HAROLD, LAUREN E	3405 JORDAN SHIRES DR	NEW HILL NC 27562-9310	
3433 JORDAN SHIRES DR	HENAO, MANUEL IGNACIO MALDONADO, MONICA	3433 JORDAN SHIRES DR	NEW HILL NC 27562-9310	
2537 LASHLEE WAY	HEPBURN, DAVID M	1976 OLD BYRE WAY	APEX NC 27502-9113	
2600 NEW HILL OLIVE CHAPEL RD	HICKS, MICHAEL N HICKS, ASHLEY FAY	2600 NEW HILL OLIVE CHAPEL RD	NEW HILL NC 27562-9174	
2937 LANDON RIDGE DR	HOPFER, PAUL A HOPFER, ELIZABETH N	2937 LANDON RIDGE DR	NEW HILL NC 27562-9305	
3720 OLD US 1 HWY	HORTON, MRYTLE H	PO BOX 312	NEW HILL NC 27562-0312	
2701 NEW HILL OLIVE CHAPEL RD	HUDSON, CLAUDE LEE JR HUDSON, JUDY A	PO BOX 7	NEW HILL NC 27562-0007	
0 JOHNSON GRANT DR	JORDAN POINTE HOMEOWNERS ASSOCIATION INC	PPM	11010 RAVEN RIDGE RD	RALEIGH NC 27614-8837
2713 LADOGA PL	KB HOME RALEIGH-DURHAM INC	4506 S MIAMI BLVD STE 100	DURHAM NC 27703-8001	
3425 JORDAN SHIRES DR	LISI, BETHANY A BUIE, RYAN P	3425 JORDAN SHIRES DR	NEW HILL NC 27562-9310	
8621 ATHLETE DR	MARTIN, ANDREW T	105 DUNEDIN CT	CARY NC 27511-6405	
3500 JOHNSON GRANT DR	MEYERS, BRADLEY C JOHNSTON-MEYERS, ERIN E	3500 JOHNSON GRANT DR	NEW HILL NC 27562-9313	
2509 LASHLEE WAY	MILLER, RALPH G JR MILLER, DENISE A	2509 LASHLEE WAY	NEW HILL NC 27562-9608	
3421 JORDAN SHIRES DR	NAFKE, ALEXA J	3421 JORDAN SHIRES DR	NEW HILL NC 27562-9310	
3701 OLD US 1 HWY	NAGLE, MICHAEL A NAGLE, DORIS J	3701 OLD US 1 HWY # 1	NEW HILL NC 27562-9763	
3700 OLD US 1 HWY	NEW HILL BAPTIST CHURCH & CEMETERY TRUSTEES	3700 OLD US 1 HWY	NEW HILL NC 27562-9762	

Mailing list provided by the Town of Apex Addressing and GIS staff.

3504 JOHNSON GRANT DR	RICE, OLIVIA RICE, JUSTIN P	3504 JOHNSON GRANT DR	NEW HILL NC 27562-9313
3917 OLD US 1 HWY	ROBERTS, SANDRA	PO BOX 512	HILLSBOROUGH NC 27278-0512
2941 LANDON RIDGE DR	ROCCARO, ANTHONY M ROCCARO, JERI M	2941 LANDON RIDGE DR	NEW HILL NC 27562-9305
3441 JORDAN SHIRES DR	SCHLUETER, UWE SCHLUETER, TAMARA	3441 JORDAN SHIRES DR	NEW HILL NC 27562-9310
3453 JORDAN SHIRES DR	SHOOK, JAMES BRIAN SHOOK, JESSICA HIPPO	3453 JORDAN SHIRES DR	NEW HILL NC 27562-9310
3600 OLD US 1 HWY	SHRI VARNI LLC	1812 VENEZIA WAY	APEX NC 27502-4740
3900 OLD US 1 HWY	SKOU, MARTIN JOHANNES HVIRVELKAER SKOU, VANESSA LEE	3900 OLD US 1 HWY	NEW HILL NC 27562-9766
3501 JOHNSON GRANT DR	STRANDH, DANIEL STRANDH, MARLA	3501 JOHNSON GRANT DR	NEW HILL NC 27562-9313
3431 HORTON RIDGE BLVD	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
3417 JORDAN SHIRES DR	TURNER, BENJAMIN S	3417 JORDAN SHIRES DR	NEW HILL NC 27562-9310
3449 JORDAN SHIRES DR	VETTER, CATHERINE L VETTER, RICHARD B	3449 JORDAN SHIRES DR	NEW HILL NC 27562-9310
2504 LASHLEE WAY	VITEK, RICHARD P	2504 LASHLEE WAY	NEW HILL NC 27562-9607
0 NEW HILL OLIVE CHAPEL RD	WELLONS, HELON JOY JOHNSON, RAY E	400 JOHNSON FARM RD	NEW HILL NC 27562-8839
2931 JORDAN POINTE BLVD	WS-JPA LLC	660 STEAMBOAT RD FL 3	GREENWICH CT 06830-7150
2709 NEW HILL OLIVE CHAPEL RD	YOUNG, LORETTA ROUNDY	2717 NEW HILL OLIVE CHAPEL RD	NEW HILL NC 27562-9177
3700 COUNTRY ACRES LN	ZIPSER, NEAL ZIPSER, CHERYL	5020 DARCY WOODS LN	FUQUAY VARINA NC 27526-7693
	Current Tenant	3700 Country Acres LN	NEW HILL NC 27562
	Current Tenant	3431 Horton Ridge BLVD	NEW HILL NC 27562
	Current Tenant	3435 Horton Ridge BLVD	NEW HILL NC 27562
	Current Tenant	3439 Horton Ridge BLVD	NEW HILL NC 27562
	Current Tenant	3443 Horton Ridge BLVD	NEW HILL NC 27562
	Current Tenant	3447 Horton Ridge BLVD	NEW HILL NC 27562
	Current Tenant	3451 Horton Ridge BLVD	NEW HILL NC 27562
	Current Tenant	2537 Lashlee WAY	NEW HILL NC 27562
	Current Tenant	2620 New Hill Olive Chapel RD	NEW HILL NC 27562
	Current Tenant	2701 New Hill Olive Chapel RD	NEW HILL NC 27562
	Current Tenant	3701 Old Us 1 HWY	NEW HILL NC 27562
	Current Tenant	3720 Old Us 1 HWY	NEW HILL NC 27562
	Current Tenant	3912 Old Us 1 HWY	NEW HILL NC 27562
	Current Tenant	3917 Old Us 1 HWY	NEW HILL NC 27562



Parcel and Current Zoning Map

N

0 400 800 1600 ft

1 inch equals 800 feet

Disclaimer

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

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: See attached information regarding the neighborhood meeting and sign in sheet

Date of meeting: April 27, 2022 Time of meeting: 5:00 - 7:00

Property Owner(s) name(s): See attached documents

Applicant(s): _____

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.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

Use additional sheets, if necessary.

UTLEY FARMS – NEIGHBORHOOD MEETING ATTENDEE LIST

Name	email address	Address 1	Address 2
David Hepburn	[redacted]	1976 Old Byre Way	Apex, NC 27502
Neal Zipser		5020 Darcy Woods Ln	Fuquay Varina, NC 27526
Cheryl Zipser		5020 Darcy Woods Ln	Fuquay Varina, NC 27526
Martin Skou		3900 Old US 1 Highway	New Hill, NC 27562
David Horton		1581 Martin Road	Mount Airy, NC 27030
Andrew MacNair			Apex, NC 27539
Daniel Strandh		3501 Johnson Grant Dr	New Hill, NC 27562
Leslie Fetzer		4208 Olive Branch Ln	New Hill, NC 27562
Cate Vetter		3449 Jordan Shires Dr	New Hill, NC 27562
Billy Jones		1024 Bolejack Road	Germanton, NC 27019
Jeff Roach		1125 Apex Peakway	Apex, NC 27502
Jason Barron		421 Fayetteville St Suite 350	Raleigh, NC 27601
Roman Acosta		4506 S. Miami Blvd	Durham, NC 27703
Thurm Bowen		4506 S. Miami Blvd	Durham, NC 27703
Doug Schwartz		4506 S. Miami Boulvard	Durham, NC 27703

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): Horton and Wellons/Johnson

Applicant(s): _____

Contact information (email/phone): Jeff Roach, Peak Engineering & Design & Jason Barron (Morningstar Law)

Meeting Address: VIRTUAL MEETING

Date of meeting: April 27, 2022 Time of meeting: 5:00 - 7:00

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:

See attached list of comments/questions from the neighborhood meeting

Applicant's Response:

Question/Concern #2:

Applicant's Response:

Question/Concern #3:

Applicant's Response:

Question/Concern #4:

Applicant's Response:

UTLEY FARMS

NEIGHBORHOOD MEETING REPORT

Q. Looking for the timeline. When will clearing begin? Start of construction?

A. "Zoning - Takes about 4 to 5.5 months;
B. Subdivision Process - Takes about 9 - 12 months;
C. Build out - Start about Fall of 2023. About an 11 month development cycle."

Q. What privacy barriers will be put in place between neighboring land?

A. Proposing perimeter buffers consistent with the Town's ordinances. 10-ft buffer along along most of the boundary. Along US-1, a 30-ft buffer. 20-ft buffer in some areas.

Q. Has apex already annexed the property?

A. No. We will be applying for annexation which should be voted upon at the same time as the rezoning.

Q. Also it seems this is a done deal if the land has already purchased by a developer. True?

A. The developer is under contract to purchase the land and has not yet purchased it. The developer would not close on the property if the rezoning is not approved.

Q. Units would be in the 'yellow' sections, correct?

A. Yes. Single-family homes are proposed in the areas shaded in yellow.

Q. Or rather - Not 'below' the red asterisks in the section w/ the 'arm' branch.

A. There will not be anything developed on the west side of the stream

Q. Will there be a wood fence with landscaping around the buffer zone?

A. Our plans do not include a wood fence at this time.

Q. So historic home would go across US1?

A. That is what we believe but this has not yet been decided.

Q. 10 foot buffer on country acres land seems narrow.

A. This was discussed with the attendees and due to the existing stream buffer and adjacent access easement (Country Acres Lane), the 10’ buffer is proposed in this location. We will continue to evaluate buffers throughout the development during zoning and MSP designs.

Q. This question is probably for Jeff, I'm wondering about the availability of water and sewer access for the future commercial properties to the north/east off Lashlee Way (Hepburn), plus Patel's gas station on the corner of NHOC and Old US1, plus Martin's property behind Miss Annie's property on NHOC Rd.

A. This project does not contemplate extending sewer towards Patel's gas station. The property in question is not upstream of the Utley Farm project and therefore will not be served through this development.

Q. On the Wellon's property, will all the trees be left in place to the west side of the larger creek? (between the creek and jordan pointe)

A. Yes. Anything shown in grey will be left along except where sewer crosses over. Specifically in a location along the western boundary of the Wellons property abutting the Jordan Pointe HOA property.

Q. Our Country Acres road is a legal easement that is to be maintained by our neighbor and us. It appears you have a road joining to our easement. Does that mean that be taken by the City and they would pave and manage the road?

A. No, it does not. We will not be sending traffic towards a privately maintained road. We will be providing street stubs to some adjacent properties to allow for future connectivity. This is one of those street stubs for future connection by others.

Q. Are you aware of the sewer odor from Jordan Pointe. Will this development use this as air relief ?

A. The pump station west of Jordan Point is a public pump station. The sewage from this project should be going north towards Beaver Creek. We are not aware of an odor issue or from where it may be stemming. Contact public works about this.

** Additional information was provided and the Town of Apex Public Works Department contacted concerning the Air Release Value (ARV) on Old US 1 near 3900 Old US 1 property. This has been an ongoing discussion with the property owner and Town of Apex staff.

Q. The easement along country acres lane is our property. Why only 10 feet?

A. The use adjacent to Utley Farms is a roadway access. Any redevelopment of the property would be in keeping with the proposed Utley Farms density/use which would require the 10' buffer. Being adjacent to the street dictates the 10' buffer as a reasonable transition between uses.

Q. If I understand correctly where the existing historic house temporary move was contemplated, across Us 1 that is not part of the current property under contract.

A. The property on the south side of Old US 1 **IS** part of the Horton property. The attendees were shown the Wake County GIS website for the property boundaries.

Q. We have tried.

A. A question concerning the Jordan Pointe pump station odor. Comment addressed above with a conversation with staff after the neighborhood meeting.

Q. If construction vehicles do use our road, who do we contact to prevent that? It can be expensive to maintain if big construction vehicles use it. It can get quite muddy and create ruts, and we would want recourse. We had to chain our driveway to to prevent Jordan Pointe construction folks from driving up and down our driveway, thinking it was an access.

A. This project has direct access and a large amount of frontage on Old US 1. The construction vehicles will not be directed to Country Acres Ln so we do not expect this to be an issue during construction. Signage will be posted on the site to notify contractors of the project access points.

Q. We live on old us 1. There have been several exchanges with govt. folks regarding the smell in JP.

A. (live answered) See above response concerning the Jordan Pointe pump station odor.

Q. 3900 old us 1. Air release is on our property (concerning the pump station ARV)

A. Comment related to the Jordan Pointe pump station ARV.

Q. Is the being recorded? If so will it be made available?

A. Yes.

Q. Just to be clear no land will be moved or trees taken down until fall 2023?

A. yes, it will take that long to go through the design and approval process (estimated approval time)

Q. Is the Wellons section of the neighborhood going to be developed at roughly the same time? It looks like there is no access to the wellons side from the horton side.

A. no, construction will not occur until access can be provided. Access from Horton to Wellons is restricted by buffers and other environmental features.

Q. And we presume all 2 story homes?

A. Yes, with the possibility of a ranch plans.

Q. How frequent will meetings like this be held so neighbors can stay informed?

A. No additional rezoning neighborhood meeting, but we are happy to meet to discuss further if folks desire. The design team and builder is also available to answer questions via email/phone.

Q. So to know when you are close to taking down trees, starting construction, etc. We can learn this by attending public hearings?

A. In addition to those public meetings, there also will be a neighborhood meeting for the subdivision that will occur after the rezoning. The design team also provided a link to the Town's Interactive Development Map and contacts for Jason Barron (Morningstar Law Group) and Jeff Roach (Peak Engineering & Design) to answer additional questions after this meeting.

Q. So roughly 9-12 months before commencement of activities would be the Master Subdivision meeting? And thank you!

A. That is correct.

Q. Do you know if the sewer air relief from new development will also be going to the one on our property? 3900 old us 1 We believe our sewer line with go north of Jordan Pointe. It will follow the same path, but we are not pumping directly to that point. So will get worse with new homes!

A. This was answered above and the Town contacted to determine what is going on. We hope that is not the case and will work with the town to help you get to the root of the issue.

Q. Maybe town of apex could move it to their land? (Jordan Pointe pump station question)

A. We are not sure, but will work with you and the Town to get to the root of the issue

Q. It can be moved but they didn't want to spend the $$. FYI (Jordan Pointe pump station ARV question)

A. Good to know. Thanks.

Q. Thank you all! Was helpful. very welcome

Q. In Martin's defense, that valve can smell pretty ripe. Anyone that lives along that row of homes on country acres and old US1 may have certain times of day they would not be comfortable sitting in their new backyard. 😬

A. Understand. We will talk with staff to see what the situation is. Thanks

Q. Is there somewhere we can get a PDF or equivalent of the map you showed? I took a screenshot but the image is scaled down.

A. Yes, we will send a pdf to everyone after the meeting. Please remember that the sketch are preliminary and WILL CHANGE through the Master Subdivision Plan design reviews.

Q. Thanks guys, signing off now. Will follow up with Jeff.

A. Thanks. I will let him know to be on the lookout.

Q. Did you say you'll send out the recording?

A. Yes, we will send out the recording as well as the maps that were shared.

Q. I remember seeing the 2045 map of Apex that showed the entire North-west corner of the Old US 1_New Hill Olive Chapel Road intersection (to include the horton and wellons property) as commercial/business. It sounds like you're anticipating the Lashlee properties to become residential neighborhoods as well at some point. Should be assume any of the north-west corner of that intersection becomes commercial?

A. yes, the Town updated its plans to shift the residential limits to the east. These parcels (north of the Horton property) are now designated low density residential.

Q. Gotcha. Thanks. Gas/grocery/coffee? (corner of Old US 1 and NHOC/NHH Road)

A. Not sure what type, but the land use plan calls for commercial for the parcels in the vicinity of the intersection of NHOC and Old HWY1.

Q. Did you mention anything regarding entrances to the property from Old US 1? Jordan point has a short dedicated turn lane to enter the neighborhood from the westbound direction. Would there be the same type of setup for Wellons property? I would guess in the future the road would need to be widened to handle the traffic increase. Any idea on future outlook in that regard?

A. Widening will occur along the frontage of our site, with two anticipated access points along Old HWY 1. We will know more details on turn lanes into the site when we get into the subdivision stage, as NCDOT will have to approve driveway permits for the property. This is also being reviewed as part of the TIA related to the zoning application but it will take some time to get the final improvements confirmed with Town and NCDOT staff.

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, Jeffrey A. Roach, P.E., do hereby declare as follows:
Print Name

1. I have conducted a Neighborhood Meeting for the proposed Rezoning, Major Site Plan, Residential Master Subdivision Plan, or Special Use Permit in accordance with UDO Sec. 2.2.7 *Neighborhood Meeting*.

2. The meeting invitations were mailed to the Apex Department of Planning and Community Development, 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 a ZOOM meetings (location/address) on April 27, 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.

April 28, 2022
Date

By: _____

STATE OF NORTH CAROLINA
COUNTY OF WAKE

Sworn and subscribed before me, DANIEL H. WOODS, a Notary Public for the above State and County, on this the 28 day of APRIL, 2022.

DANIEL H. WOODS
NOTARY PUBLIC
My Commission Expires November 18, 2023
WAKE COUNTY, NC

_____
Notary Public

DANIEL H. WOODS
Print Name

My Commission Expires: 11/18/2023

Utley Farms PUD

PD PLAN

APEX, NORTH CAROLINA

Submitted: April 29, 2022

Resubmitted: August 12, 2022

Resubmitted: September 9, 2022

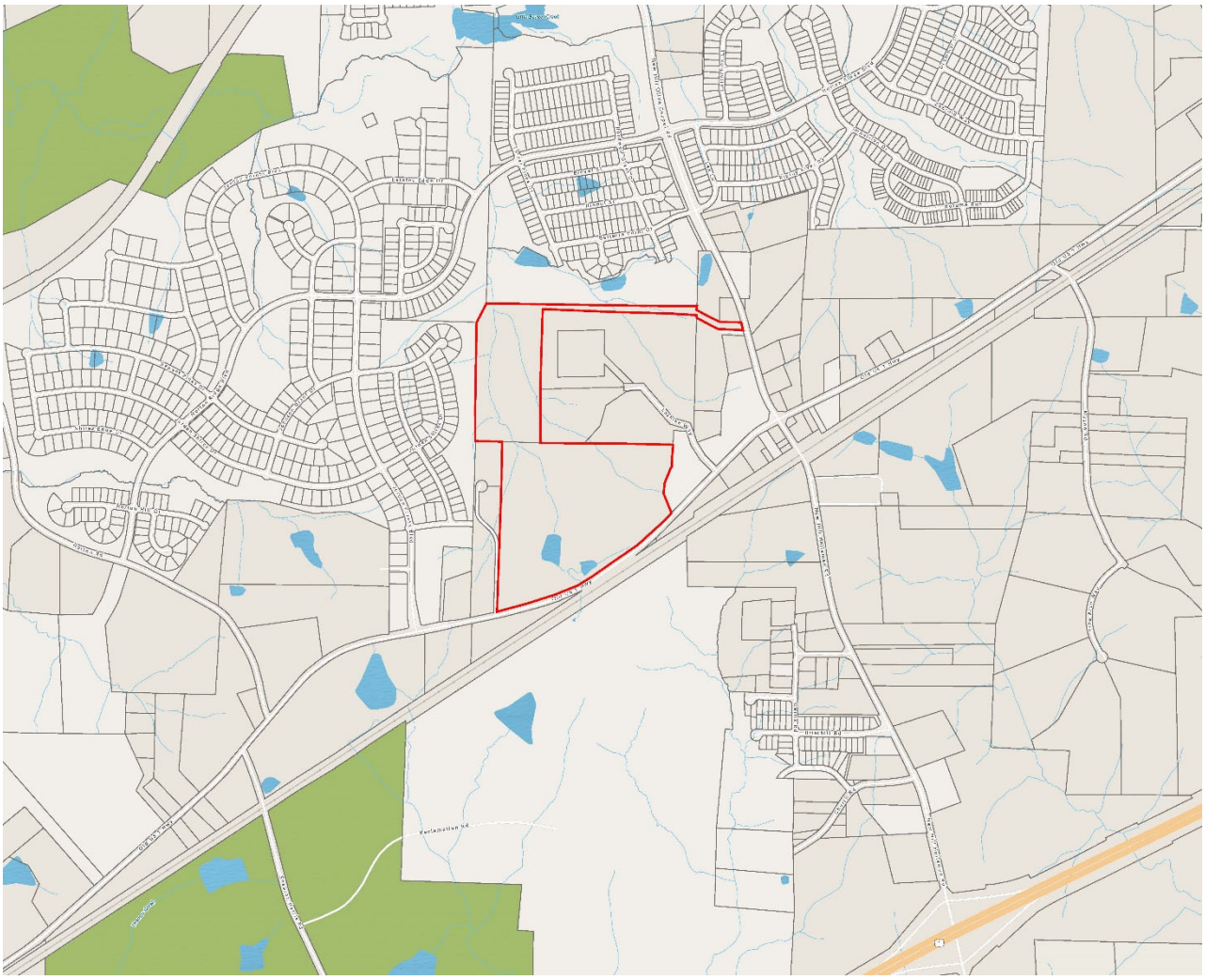
PREPARED BY:

MORNINGSTAR LAW GROUP

PEAK Engineering & Design

Section 1: Table of Contents – PUD Text

Section 2: Vicinity Map



The Utley Farms PUD is located in New Hill, Buckhorn Township, and is anticipated to be developed within the Town of Apex corporate limits. The property sits along the north side of Old US 1 Highway, with limited frontage along New Hill Olive Chapel Road. North and west of the site have been developed for single-family homes located within Belterra and Jordan Pointe, respectively. To the west of the site are rural developments on large lots. To the east are parcels planned for office and commercial uses.

Section 3: Project Data

A. Name of Project:
Utley Farms PUD

B. Property Owners:

Myrtle H. Morton
PO Box 312
New Hill, NC 27562-0312

Helon J. Wellons
Raye E. Johnson
400 Johnson Farm Road
New Hill, NC 27562-8839

Prepared By:
Jason Barron and Nil Ghosh
Morningstar Law Group
421 Fayetteville St | Ste 530
Raleigh, NC 27601

C. Current Zoning Designation:
R-40W and R-80W (Wake County)

D. Proposed Zoning Designation:
Planned Unit Development – Conditional Zoning (PUD-CZ)

E. Current 2045 Land Use Map Designation:
Low Density Residential

F. Proposed Use
- Single-family Residential

G. Size of Project
A total of +/-56.59 acres

Section 4: Purpose Statement

The Utley Farms PUD development will be a single-family detached residential community developed at low density residential along Old US 1 Highway west of its intersection with New Hill Olive Chapel Road. The intent is for the site to develop consistent with the land use intensities contemplated by the recent updates to the Town's 2045 Land Use Designation Map.

This concept is consistent with the Town's stated PUD goals to provide site-specific, high-quality neighborhoods that exhibit natural feature preservation as well as compatibility with, and connectivity to, surrounding land uses. More specifically, this plan will:

- Allow uses that are compatible with Section 4.2.2, *Use Table* of the UDO
- Provide for the preservation of existing environmentally sensitive areas.
- Provide for site specific and appropriate stormwater controls that exceed the requirements of the UDO.
- Provide appropriate buffering and screening from the proposed use to the existing residential areas.
- Offer low density housing in an area that was very recently updated by the Town to include such uses on the 2045 Land Use Designation Map.
- Demonstrate dimensional standards that are consistent with the UDO, and where variations occur, said variations will be included herein and subject to Council approval.
- Provide a high-quality community that is linked by a network of connected streets and pedestrian sidewalks that promotes connectivity, walkability, and healthy lifestyles.
- Exhibit character and quality that is compatible with surrounding communities, which is expected to enhance the value of surrounding land uses.
- Provide open space and walkable trails to promote pedestrian activity, while appropriately buffering adjacent residential areas.
- Preserve the existing historic home on the property along with two existing barns.

All site-specific standards and conditions of this PUD Plan shall be consistent with all Conditional Zoning (CZ) District standards set forth in UDO Section 2.3.3, *Conditional Zoning Districts* and UDO Section 2.3.4.F.1, *Planned Unit Development (PUD-CZ) District,* except as provided for herein. The proposed PUD will provide a development density that is consistent with principles found throughout *Advance Apex 2045*.

Section 5: Permitted Uses

The subject property 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, except as modified herein. 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. Specifically, the permitted uses include:

- Single-family
- Greenway
- Recreation facility, private
- Accessory apartment
- Park, active
- Park, passive
- Utility, minor

Additionally, the following conditions shall apply:

A. A maximum of 113 residential units shall be permitted upon the property.
B. No covenant shall be placed on the property which prohibits accessory apartment as a use.
C. All residential dwellings and any amenity constructed on the property shall provide solar conduit for the installation of rooftop solar panels.
D. Stormwater controls for development shall be increased to the 25-year storm as provided for in this PUD.
E. There shall not be any tree clearing, stormwater control measures (SCM), or other infrastructure in either zone of riparian buffers except for UDO permitted crossings and utilities.
F. Signage shall be provided by any homeowner's association regarding the need to reduce pet waste and eliminate fertilizer near SCMs. The project shall install at least one (1) sign per SCM about not using fertilizer near an SCM drainage area to reduce pet waste and eliminate fertilizer near SCMs. The sign(s) shall be installed in locations that are publicly accessible, such as adjacent to amenity centers, sidewalks, greenways, or side paths.
G. The project shall provide diverse and abundant pollinator sources and install pollinator-friendly flora within SCM Planting areas.
H. The project shall include plantings within perimeter buffers and along streetscapes; the selected species shall be native species chosen from the Apex Design & Development Manual or approved by Planning staff.
I. Deciduous shade trees shall be planted along southern sides of building elevations and the selected species shall be taken from the Apex Design & Development Manual or approved by Planning staff.
J. Evergreen trees shall be planted along northern elevations of buildings and the selected species shall be taken from the Apex Design & Development Manual or approved by Planning staff.
K. A minimum of three (3) native hardwood tree species shall be planted throughout the development.
L. The project shall increase biodiversity within the amenity area and recreational areas within the development by selecting and installing tree, shrub, and perennial species with special attention to providing diverse and abundant pollinator and bird food sources, including plants that bloom in succession from spring to fall. Subject to

Condition K above, no single species shall constitute more than 20% of the selected plants for each landscaping type (trees, shrubs and perennials.)

M. The project shall include landscaping that requires less irrigation and chemical use by planting warm season grasses and drought tolerant species for drought-resistance within perimeter buffers, SCMs, and along streets.

N. The exterior lighting for all non-residential buildings, parking lots, and amenity areas will consist of entirely of LED fixtures. The project shall install light timers, motion sensors, or other smart lighting technology for all lighting within the parking lots and private amenity areas.
   a. The project within an amenity area shall use full cutoff LED fixtures that have a maximum color temperature of 3000K for all exterior lighting located within parking lot, private amenity areas, and building mounted fixtures on non-residential buildings.

O. A minimum of three (3) pet waste stations shall be installed within the development located around the SCMs, play lawns, and gathering areas.

P. A minimum 4kW solar PV system shall be installed on at least 3 homes 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 lots on which these homes are located shall be identified on Master Subdivision Final Plat, which may be amended from time to time.

Q. Of the permitted residential single family detached dwellings, at least two (2) restricted median-income affordable housing single family detached ownership units (Affordable Housing Units) shall be constructed on-site and sold at a mutually agreeable maximum affordable housing median-income ownership sales price (includes unit price and lot price) that is calculated based upon the one-hundred percent (100%) of the Raleigh, NC Metropolitan Statistical Area (MSA) Area Median Income (AMI) as most recently published by the U.S. Department of Housing and Urban Development (HUD). The Affordable Housing Units shall be occupied by households earning no more than one-hundred percent (100% - Median-Income) of the Raleigh, NC MSA AMI, adjusted for family size as most recently published by HUD. The two (2) Affordable Housing Unit lots shall be identified on the Master Subdivision Final Plat, which may be amended from time to time. A restrictive covenant (i.e. lot reservation agreement) shall be recorded against the two (2) Affordable Housing Unit lots prior to the issuance of a building permit for such lots and a separate restrictive covenant (i.e. resale deed restriction) with a minimum affordability period of twenty (20) years shall be recorded against each of the Affordable Housing Units at purchase closing to memorialize the affordable housing terms and conditions of the approved zoning condition. Final Affordable Housing Unit floor plan selection which includes the unit size and bedroom size will be at the discretion of the developer.

Section 6: Proposed Design Controls

A. Residential Densities and Design Controls

Maximum Density:	2.0 Units/Acre (includes RCA and rights-of-way)
Maximum Number of Units:	113
Minimum Lot Size:	6,000 SF
Maximum Built-Upon Area:	60%
Minimum Lot Width:	50 feet
Maximum Building Height:	36 feet, no more than 2 stories

Note: Porches, patios, decks and other accessory structures may encroach into building setbacks as allowed by the Town of Apex UDO.

Minimum Building Setbacks:

	Single-family (feet)	Private Recreation Facility
Front	10	10
Front (garage)	20 (from sidewalk or back-of-curb where no sidewalk exists)	N/A
Side	5	10
Side (corner)	10	10
Rear	10	10
Building-to-buffer/RCA	10	10
Parking-to-buffer/RCA	5	5

B. Buffers

Perimeter Buffers: as per Sheet C100 of PUD Plan as noted below.

Location	***Buffer Provided***	***UDO Standard***	***Property Notes***
North (Belterra)	10' Type B	10' Type B	
Northern boundary (ex properties)	10' Type B & 20' Type B	20' Type B	Includes Miller, Vitek, & Burroughs property
West (Jordan Pointe & Country Acres Lane)	10' Type B	10' Type B & 20' Type B	Includes Jordan Pointe & Country Acres Lane property
East (ex properties)	10' Type B	20' Type B & 20' Type A	MORR-CZ for the ex Church and Cemetery
Old US 1 Highway	30' Type B	30' Type B	Frontage
New Hill Olive Chapel Road	30' Type B	30' Type B	Frontage

Note: Where perimeter buffers coincide with stream buffers or 100-year floodplain, existing vegetation will be used to meet the buffer width and opacity.

Thoroughfare and Collector Street Buffers

As depicted on the PD Plan, a 30' Type B Buffer shall be established along Old US 1 Highway.

Adjacent property redevelopment buffer:

The buffer can be removed in those locations along the following parcels or portion of parcels if the Wellons property (identified as the "Future Development Area" within the PUD Drawings) is redeveloped in conjunction with the adjacent N/F Andrew Martin (PIN 0710-83-5242), the N/F Ralph Miller property (PIN 0710-83-0487), and/or the N/F Richard Vitek property (PIN 0710-72-4872) as the Wellons property is too narrow to develop independent of such properties.

Section 7: Proposed Architectural Controls

The proposed development offers the following architectural controls to ensure a consistency of character throughout the development, while allowing for enough variety to create interest and avoid monotony. Changes to the exterior materials, roof, windows, doors, process, trim, etc. are allowable with administrative approval at the staff level. Further details shall be provided at the time of Master Subdivision submittal.

Except with respect to the existing historic home, the following conditions shall apply:

Single-family Residential:

A. Vinyl siding is not permitted; however, vinyl windows, decorative elements, and trim are permitted.
B. Primary building materials shall be brick, stone, and fiber cement siding.
C. Windows that are not recessed shall be trimmed. Windows shall vary in size and/or type.
D. At least four of the following decorative features shall be used on each building: decorative shake, board and batten siding, decorative porch rails and posts, shutters, decorative functional foundation and roof vents, recessed windows, decorative windows, decorative brick or stone, decorative gables, decorative cornices, or metal roofing.
E. A varied color palette shall be utilized throughout the development to include a minimum of three-color families for siding and shall include varied trim, shutter, and accent colors complementing the siding color.
F. The rear and side elevations of the units that can be seen from the right-of-way shall have trim around the windows.
G. Front facing garage doors must have windows, decorative details, or carriage-style adornments.
H. Entrances for units with front-facing garages shall have a prominent covered porch/stoop area leading to the front door.
I. Porches constructed with a dwelling unit shall be a minimum of six feet (6') deep.
J. The front façade of any front-loaded garage shall not protrude farther than one (1) foot forward of (i) the front façade of the dwelling unit, or (ii) the front porch of the dwelling unit, whichever is closer to the right-of-way from which the dwelling unit is addressed.

Section 8: Parking and Loading

Parking for the development shall meet requirements of UDO Section 8.3.

Section 9: Signage

All signage for this PUD shall comply with Apex UDO Section 8.7, *Signs*, of the Town of Apex UDO.

Section 10: Natural Resource and Environmental Data

A. River Basins and Watershed Protection Overlay Districts

The project is located within the Little Beaver Creek Basin and Cape Fear River Basin. The Town's Watershed Protection Overlay District Map shows the site is within the Primary Watershed Protection Overlay District and contains FEMA designated 100-year floodplain.

B. Resource Conservation Areas (RCA) – Required and Provided

This PUD will be subject to, and meet the requirements of, Section 8.1.2 of the UDO, *Resource Conservation Area* and Section 2.3.4, *Planned Development Districts*. Per UDO Section 7.2.5.B.8, if any mass grading is proposed in the single-family sections of the PUD, the following provision will apply to lot coverage area for single-family: An additional five percent (5%) Resource Conservation Area (RCA) shall be set aside. This requirement is added to the standard RCA percentage requirement found in Sec. 8.1.2.C Size of the RCA.

C. Historic structures

The North Carolina State Historic Preservation Office (SHPO) shows the properties within the new Hill Historic District and the existing Utley-Horton Farm (Nommie Horton Farm – SHPO ID WA1098). In coordination with Capital Area Preservation, the PUD proposes to retain and preserve the historic home (in its current location) and two barns on the property (one relocation and one preservation).

Section 11: Stormwater Management

Development shall meet all stormwater requirements listed in the UDO, including limiting the post-development stormwater flows to not exceed the pre-development rates. In addition, the post-development peak runoff rate shall be limited to the pre-development peak runoff rate for the 2-year, 10-year, and 25-year, 24-hour storm events. 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 rate for the storm events previously noted.

Section 12: Parks and Recreation

Utley Farms PUD #22CZ09 was reviewed at the August 31, 2022 PRCR Advisory Commission. Following is the recommendation which was provided:

> *Staff recommends a fee-in-lieu of dedication for 122 single-family detached units. The current 2022 rate of $3,753.89 per single family detached unit would be deposited with the Town at the time the first final subdivision plat is approved for the units within each phase.*

The language has been added to the PUD Drawing documents as well as the PD Text.

Per Article 14 of the UDO, any credit for greenway construction against fees requires the approval of construction plans, contingent upon approval of an engineer's estimate of probable cost for greenway construction.

Section 13: Public Facilities

The proposed PUD shall meet all Public Facilities requirements as set forth in UDO Section 2.3.4(F)(1)(f) and be designed according to sound engineering standards and shall comply with Town of Apex Sewer and Water Master Plan and the Town of Apex Standards and Specifications. Specifically, road and utility infrastructure shall be as follows:

- **General Roadway Infrastructure**
  Developer shall provide minimum frontage widening based on ½ of the ultimate cross section as shown on the adopted Transportation Plan in effect at time of Master Subdivision Plan submittal. The road network will promote connectivity wherever possible to adjacent neighborhoods and undeveloped property. Further, cul-de-sacs will be avoided except where environmental features make through streets unfeasible. Sidewalks will be provided on both sides of streets internal to the site as required by the UDO.

  Refer to sheet C100 of the PUD plan for proposed access points, stub street extensions, and planned vehicular connectivity.

- **Potential Access Points:**
  Potential Access Points shown on the Conceptual Site Plan / Conceptual Utility Plan (C100) are not shown in exact locations but show required connections. Connections can only be removed from the subdivision connectivity requirements of the PUD if the developer shows to the satisfaction of the Planning Director, in consultation with the Technical Review Committee (TRC), that the construction of the connection would be impractical based on environmental conditions found in the field at the time of Master Subdivision Plan approval.

- **Transportation Improvements**
  All proposed driveway access and improvements on state-maintained roadways are subject to NCDOT review and approval. Roadway improvements are subject to modification and final approval by the Town of Apex and NCDOT as part of the Master Subdivision Plan and Construction Document approval process. A Traffic Impact Analysis (TIA) has been performed as part of this PUD rezoning consistent with the Town's standards for the same. Based upon the TIA and staff review, the following traffic improvements are proposed for this development:

  a. Old US 1 and New Hill Olive Chapel Road/New-Hill Holleman Road.
     - Developer shall construct an eastbound right turn lane with 175 feet of storage and appropriate deceleration length and taper. In the event there is insufficient right-of-way for this off-site transportation improvement, Developer shall use commercially reasonable efforts to acquire the right-of-way through good faith negotiations starting with an offer to the third party land owner(s) based upon an appraised value of the right-of-way to be acquired. In the event such negotiations are unsuccessful and the Town of Apex is unable or unwilling to assist Developer in acquiring the requisite right-of-way, Developer shall pay a fee-in-lieu in the amount of the appraised cost of the required right-of-way plus estimated construction cost of the turn lane.

b. Old US 1 and Site Driveways
The Developer shall construct two access points on Old US 1 consisting of:
- Site Drive 1: A full-movement stop-controlled public street intersection approximately 1,200 feet west of the intersection of New Hill Olive Chapel Road, including an eastbound left turn lane on Old US 1 with 50 feet of storage and appropriate deceleration length and taper.
- Site Drive 2: A full-movement stop-controlled public street intersection approximately 1,050 feet west of the intersection of Old US 1 and Site Drive 1, including an eastbound left turn lane on Old US 1 with 50 feet of storage and appropriate deceleration length and taper.

- **Wayfinding Improvements**
Wayfinding measures at the site shall be provided to facilitate the movement of vehicles and pedestrians to and within the development.

- **Water and Sanitary Sewer**
All development within the project shall be served by the Town of Apex water and sanitary sewer facilities. The utility design will be finalized at the time of development plan review and approval upon available facilities adjacent to the site at that time. A conceptual utility plan is included in the PUD plan for reference. All utility infrastructure shall meet current Town Water and Sewer Master Plans.

- **Other Utilities**
Electricity will be provided by Apex Electric. Phone, cable, and gas will be provided by the developer and shall meet the Town of Apex standards as outlined in the UDO.

Section 14: Phasing Plan

This PUD and all improvements required to support the uses contemplated by the PUD, including without limitation infrastructure and public facilities, may be completed in multiple phases, with construction anticipated to begin in 2023. Project phasing will be planned to ensure the points of access, RCA, stormwater controls and other design standards are met in accordance with the UDO. A final phasing plan will be incorporated within the Master Subdivision Plans (MSP) for review and approval through the Technical Review Committee.

Section 15: Consistency with the 2045 Land Use Map

The proposed land use is consistent with the Town of Apex's 2045 Land Use Map.

Section 16: Compliance with the UDO

The development standards adopted for this PUD are in compliance with those set forth in the current version of the Town's Unified Development Ordinance (UDO). Any deviations from UDO requirements have been specifically defined within this document. No deviations from the UDO are currently anticipated with the project zoning documents.

Section 17: Compliance with Comprehensive Transportation Plan and Bicycle Plan

Development plans submitted pursuant to this rezoning shall comply with the adopted Advance Apex: The 2045 Transportation Plan in effect at the time of the development plan submittal, as provided for in the Unified Development Ordinance. Further, development of the property shall be consistent with the Town's adopted Bicycle and Pedestrian System Plan in effect at the time of the development plan submittal.

<REZONING>

UTLEY FARMS PUD

3720 OLD US 1 HIGHWAY
NEW HILL, NORTH CAROLINA 27562
PROJECT NUMBER: 210504
DATE MAY 2, 2022

OWNER
MYRTLE H. HORTON
3720 OLD US 1 HIGHWAY
NEW HILL, NC 27562

HELON J. WELLONS/RAY E. JOHNSON
0 NEW HILL OLIVE CHAPEL ROAD
NEW HILL, NC 27562

APPLICANT
KB HOME - RALEIGH
THURM BOWEN / ROMAN ACOSTA
4506 S. MIAMI BLVD #100
DURHAM, NC 27703
P: (919) 768-7976
www.KBHome.com

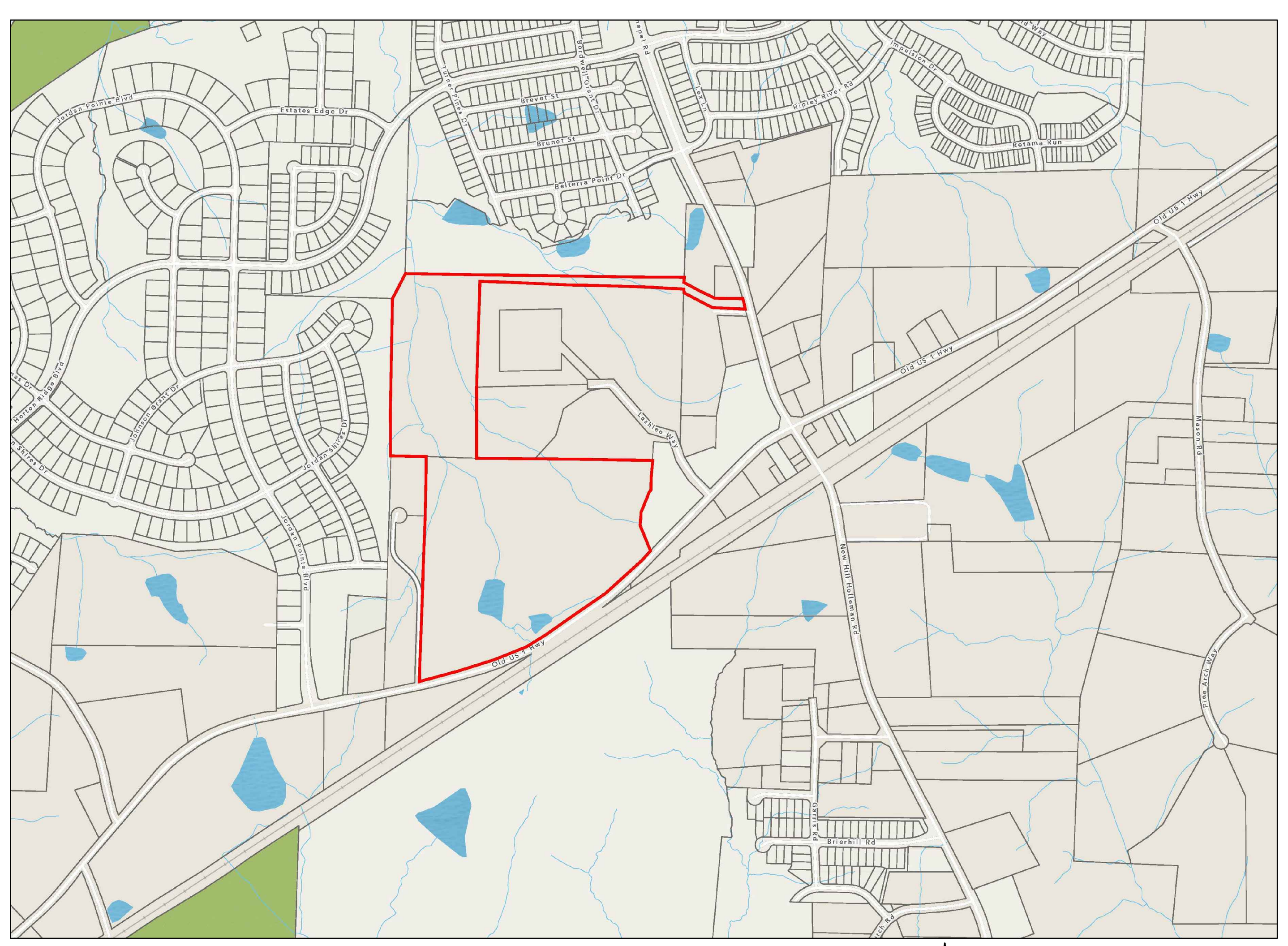
ENGINEER/LAND PLANNER
PEAK ENGINEERING & DESIGN, PLLC
JEFF ROACH, P.E.
1125 APEX PEAKWAY
APEX, NC 27502
P: (919) 439-0100
www.PeakEngineering.com

SURVEYOR
BATEMAN CIVIL SURVEY COMPANY
STEVEN CARSON
2524 RELIANCE AVENUE
APX, NC 27502
P: (919) 577-1080
www.batemancivilsurvey.com

ENVIRONMENTAL CONSULTANT
SOIL & ENVIRONMENTAL CONSULTANTS, PA
STEVEN BALL, RF, PWS
8412 FALLS OF NEUSE ROAD, SUITE 104
RALEIGH, NC 27615
P: (919) 846-5900
www.SandEC.com

TRAFFIC ENGINEER
RAMEY KEMP & ASSOCIATES, INC.
RYNAL STEPHENSON, P.E.
5805 FARINGDON PLACE, SUITE 100
RALEIGH, NC 27609
P: (919) 872-5115
www.RameyKemp.com

PROJECT AERIAL NOT TO SCALE



VICINITY MAP NOT TO SCALE

SITE INFORMATION:

Property Owner	Site Address	PIN	REID	Deeded Acreage	Deed Book/Plat Book
HORTON, MYRTLE H. PO BOX 312 NEW HILL, NC 27562-0312	3720 OLD US 1 HWY	0710-71-4834	0033299	43.27 acres 39.84 acres (area included in development)	DB 7883 PG 737/DB 686 PG 49 DB 422 PG 84/DB 730 PG 122 DB 7556 PG 521/DB 6711 PG 832
WELLONS, HELON J. JOHNSON, RAY E. 400 JOHNSON FARM ROAD NEW HILL, NC 27562-8839	0 NEW HILL OLIVE CHAPEL RD	0710-73-6732	0080810	17.96 acres	DB 02367 PG 0693

Total Deeded Acreage: **61.24 acres**
Total Project Acreage: **56.59 acres**
(area south of Old US 1 Highway centerline is excluded from the N/F Myrtle H. Horton property for this development)

Township: Buckhorn Township

Flood Zone Information: Firm Panel 3720071000K dated February 2, 2007
does not show the presence of flood zones on the properties.

Watershed Information: Primary Watershed Protection Overlay District, Little Beaver Creek Basin, Cape Fear River Basin.

Historical: NC SHPO shows the properties within the New Hill Historic District and the existing Utley-Horton Farm (Nommie Horton Farm) - SHPO ID WA1098

Annexation: annexation required as the property is located OUTSIDE of the Apex ETJ

Existing Zoning: R-40W and R-80W
Proposed Zoning: PUD - CZ (Planned Unit Development - Conditional Zoning)
2045 Land Use Map: Low Density Residential

Existing Use: Single Family Residential and vacant
Proposed Uses:
- Single-family
- Greenway
- Recreation facility, private
- Accessory apartment
- Park, active
- Park, passive
- Utility, minor

* Homeowners Association covenants shall not restrict the construction of accessory dwelling units

Maximum Number of Lots: 113 dwelling units
Proposed Project Density: 2.00 dwelling units/acre or less (< 3.0 units/acre for Low Density Residential districts)

Lots:

	Min Lot Size	Min Lot Width	Max Building Height
Single-family detached	6,000 SF	50 feet	36 feet

Building Setbacks (minimum setbacks unless otherwise noted):

	Residential	Private Recreation Facility
Front:	10 feet	10 feet
Front (garage):	20 feet from sidewalk or back-of-curb	N/A
Rear:	10 feet	10 feet
Side:	5 feet	10 feet
Side (Corner Lot):	10 feet	10 feet
From Buffer or RCA	10 feet	10 feet
Parking setback to buffer or RCA	5 feet	5 feet

Parking Requirements:
Single Family Detached: 2 spaces/dwelling unit required
Single Family parking provided by driveway and garage (min 2 spaces/lot)
Private Recreation Facility: Parking shall be based upon size and use within the recreation facility

Maximum Built Upon Area: 33.96 acres or 60%

RCA Required: UDO Section 8.1

Grading: Site to be "Mass Graded"
% of lots graded prior to first plat: 50% (limited by Apex UDO to a maximum acreage for mass grading)
maximum of 20 acres of clearing for single-family detached developments

% of pre-development drainage areas preserved within their natural basins: 90%

PARKS AND RECREATION DATA TABLE:

DATE REVIEWED BY PRCR ADVISORY COMMISSION: **AUGUST 31, 2022**
FEE-IN-LIEU:

SINGLE-FAMILY DETACHED UNITS	\$3,753.89 / DWELLING UNIT x 113 UNITS = \$424,189.57
SINGLE-FAMILY ATTACHED UNITS	\$0.00 / DWELLING UNIT
MULTI-FAMILY UNITS	\$0.00 / DWELLING UNIT

ACRES OF LAND DEDICATION: __n/a__ ACRES
PUBLIC GREENWAY TRAIL CONSTRUCTION YES ___ NO _X_.
Following is the recommendation from the PRCR Advisory Commission:
Staff recommends a fee-in-lieu of dedication for 122 single-family detached units. The current 2022 rate of \$3,753.89 per single family detached unit would be deposited with the Town at the time the first final subdivision plat is approved for the units within each phase.

RIPARIAN BUFFERS AND WETLANDS:
RIPARIAN BUFFERS AND WETLANDS LOCATED ON SITE BY S&EC TO BE CONFIRMED BY THE US ARMY CORPS OF ENGINEERS AND TOWN OF APEX.

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

INDEX OF DRAWINGS:

REZONING CASE # 22CZ09
(SUBMITTED ON MAY 2, 2022)

PEAK Engineering & Design
1125 Apex Peakway | Apex, NC 27502
ph: 919.439.0100
www.PeakEngineering.com
NC License #P-0673

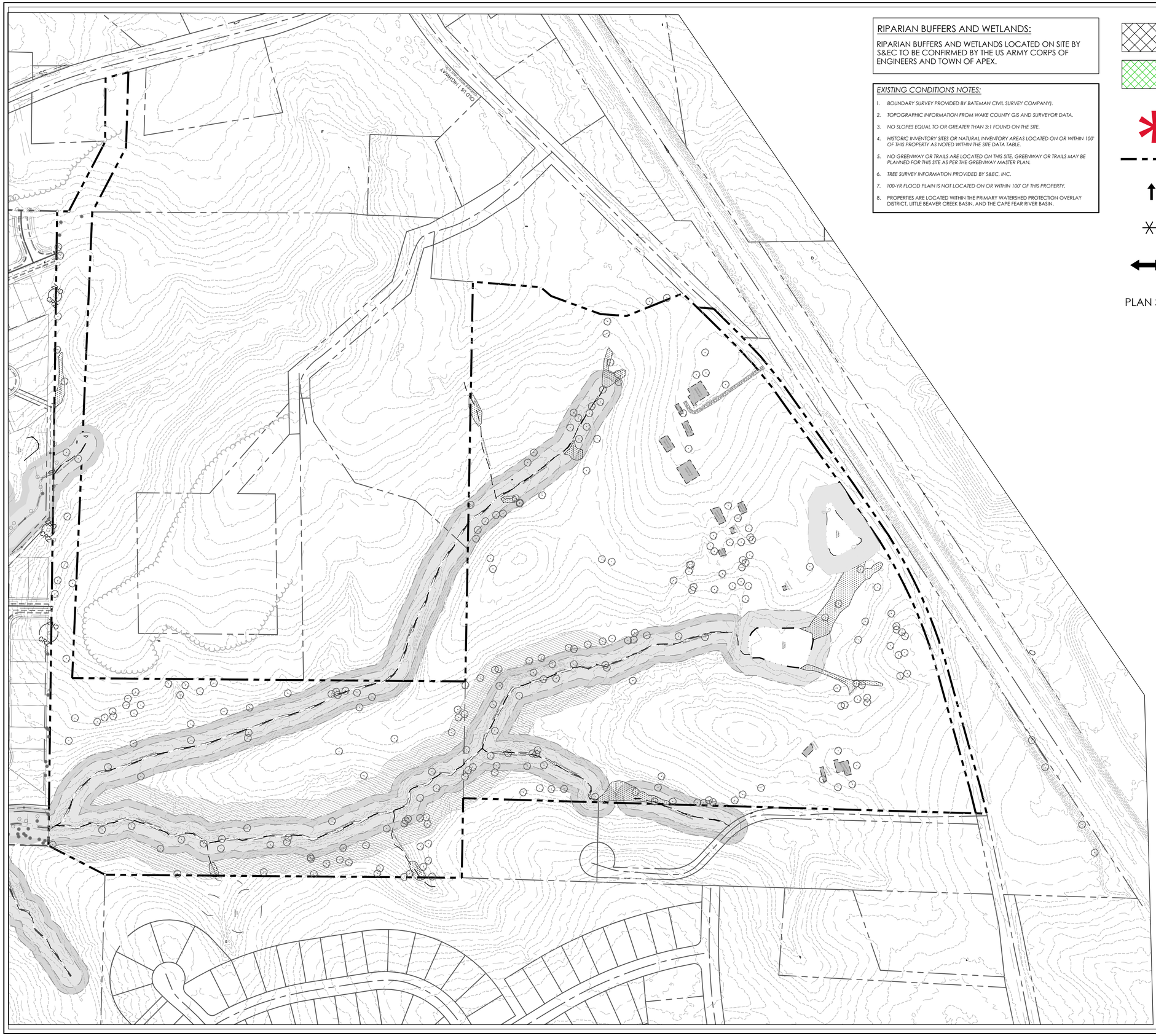
project:
UTLEY FARMS PUD
3720 OLD US 1 HIGHWAY
BUCKHORN TOWNSHIP
NEW HILL, NORTH CAROLINA 27562

seal:
NORTH CAROLINA PROFESSIONAL SEAL 24427 ENGINEER JEFFREY A. ROACH
PRELIMINARY NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
1	AUGUST 12, 2022	TOWN OF APEX – 1ST ZONING COMMENTS	JR
2	SEPTEMBER 9, 2022	TOWN OF APEX – 2ND ZONING COMMENTS	JR

title:
PUD COVER SHEET

proj #: 210504
date: MAY 2, 2022
dwg by: FS chkd by: JR
scale: As Noted
sheet: C000
(PUD PLAN)



RIPARIAN BUFFERS AND WETLANDS:

RIPARIAN BUFFERS AND WETLANDS LOCATED ON SITE BY S&EC TO BE CONFIRMED BY THE US ARMY CORPS OF ENGINEERS AND TOWN OF APEX.

EXISTING CONDITIONS NOTES:

1. *BOUNDARY SURVEY PROVIDED BY BATEMAN CIVIL SURVEY COMPANY).*
2. *TOPOGRAPHIC INFORMATION FROM WAKE COUNTY GIS AND SURVEYOR DATA.*
3. *NO SLOPES EQUAL TO OR GREATER THAN 3:1 FOUND ON THE SITE.*
4. *HISTORIC INVENTORY SITES OR NATURAL INVENTORY AREAS LOCATED ON OR WITHIN 100' OF THIS PROPERTY AS NOTED WITHIN THE SITE DATA TABLE.*
5. *NO GREENWAY OR TRAILS ARE LOCATED ON THIS SITE. GREENWAY OR TRAILS MAY BE PLANNED FOR THIS SITE AS PER THE GREENWAY MASTER PLAN.*
6. *TREE SURVEY INFORMATION PROVIDED BY S&EC, INC.*
7. *100-YR FLOOD PLAIN IS NOT LOCATED ON OR WITHIN 100' OF THIS PROPERTY.*
8. PROPERTIES ARE LOCATED WITHIN THE PRIMARY WATERSHED PROTECTION OVERLAY DISTRICT, LITTLE BEAVER CREEK BASIN, AND THE CAPE FEAR RIVER BASIN.

FUTURE DEVELOPMENT

SINGLE FAMILY - DETACHED

BUFFERS/ RCA

HISTORIC PRESERVATION AREA

PROJECT PERIMETER BOUNDARY

PROPOSED WATER CONNECTIONS

PROPOSED SEWER CONNECTIONS

POTENTIAL ACCESS POINTS

PLAN SHEETS ARE INTENDED FOR ILLUSTRATIVE USE ONLY

SITE AND UTILITY NOTES:

1. DEVELOPMENT ACCESS AND STUB STREET LOCATIONS SHALL BE FINALIZED AT MASTER SUBDIVISION PLAN DESIGN AND APPROVAL.
2. FINAL RESOURCE CONSERVATION AREA (RCA), OPEN SPACE, AND PLAY LAWN LOCATIONS SHALL BE COORDINATED WITH STAFF AND BUILDER DURING MASTER SUBDIVISION PLAN DESIGN AND APPROVAL.
3. ALL ZONING PLAN SHEETS ARE PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY. FINAL DESIGN COMPONENTS ARE DETERMINED AT MASTER SUBDIVISION PLAN.
4. REFER TO PD TEXT DOCUMENTS FOR A LIST OF ALLOWABLE USES, ZONING CONDITIONS, AND OTHER DESIGN STANDARDS FOR THE DEVELOPMENT.
5. ENVIRONMENTAL FEATURES ARE SUBJECT TO FINAL REVIEW CONCURRENCE WITH VARIOUS REGULATING AGENCIES.
6. PUBLIC PEDESTRIAN AND VEHICULAR ACCESS IS SHOWN FOR CONCEPTUAL PURPOSES AND ARE SUBJECT TO REVISIONS DURING THE MASTER SUBDIVISION PLAN DESIGN AND APPROVAL.
7. ALL SITE ELEMENTS ARE REQUIRED TO MEET OR EXCEED TOWN OF APEX, NCDOT, OR OTHER REVIEW AUTHORITY STANDARD DESIGN SPECIFICATIONS.
8. PROJECT WILL COMPLY WITH ADOPTED TOWN MASTER PLANS INCLUDING TRANSPORTATION, WATER, SEWER, AND GREENWAYS.
9. THE PROJECT IS REQUESTING FULL TOWN SERVICES, INCLUDING BUT NOT LIMITED TO WATER, SEWER AND ELECTRICITY.
10. THE PROJECT WILL NOT UTILIZE PRIVATE SEWAGE DISPOSAL.

N

0 75 150 300

SCALE: 1" = 150'

1 C001 EXISTING CONDITIONS PLAN

SCALE: 1"=150'

PEAK Engineering & Design
1125 Apex Peakway | Apex, NC 27502
ph: 919.439.0100
www.PeakEngineering.com

NC License #P-0673

project:
UTLEY FARMS PUD
3720 OLD US 1 HIGHWAY
BUCKHORN TOWNSHIP
NEW HILL, NORTH CAROLINA 27562

seal:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT MARY A. ROACH

PRELIMINARY NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
1	AUGUST 12, 2022	TOWN OF APEX - 1ST ZONING COMMENTS	
2	SEPTEMBER 9, 2022	TOWN OF APEX - 2ND ZONING COMMENTS	

title:
EXISTING CONDITIONS PLAN

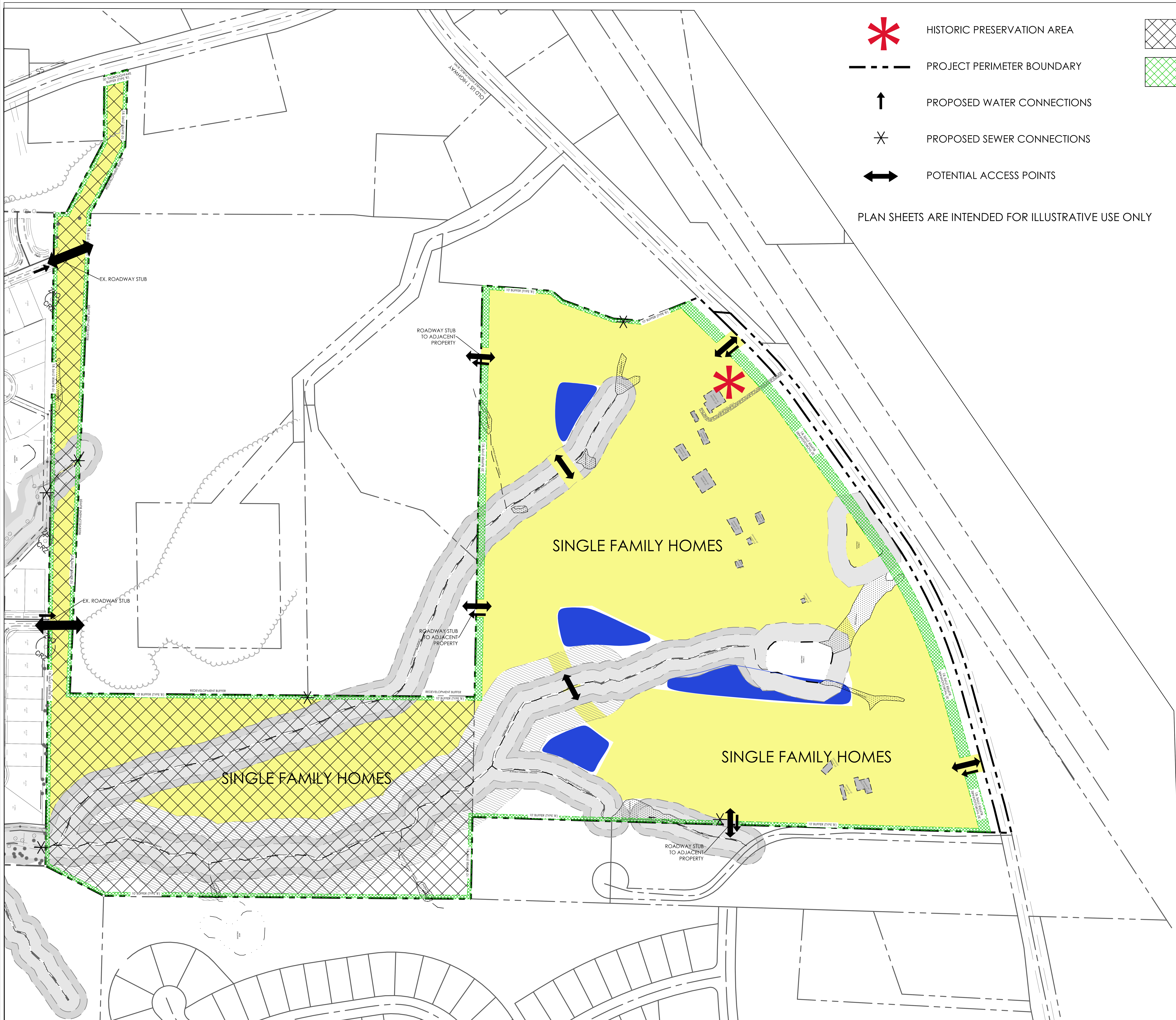
proj #: 210504

date: MAY 2, 2022

dwg by: FS chkd by: JR

scale: As Noted

sheet:
C001
(PUD PLAN)



HISTORIC PRESERVATION AREA

PROJECT PERIMETER BOUNDARY

PROPOSED WATER CONNECTIONS

PROPOSED SEWER CONNECTIONS

POTENTIAL ACCESS POINTS

FUTURE DEVELOPMENT

BUFFERS/ RCA

SINGLE FAMILY - DETACHED

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7. ALL SITE ELEMENTS ARE REQUIRED TO MEET OR EXCEED TOWN OF APEX, NCDOT, OR OTHER REVIEW AUTHORITY STANDARD DESIGN SPECIFICATIONS.
8. PROJECT WILL COMPLY WITH ADOPTED TOWN MASTER PLANS INCLUDING TRANSPORTATION, WATER, SEWER, AND GREENWAYS.
9. THE PROJECT IS REQUESTING FULL TOWN SERVICES, INCLUDING BUT NOT LIMITED TO WATER, SEWER AND ELECTRICITY.
10. THE PROJECT WILL NOT UTILIZE PRIVATE SEWAGE DISPOSAL.
11. NO SITE DEVELOPMENT ACTIVITY INCLUDING, BUT NOT LIMITED TO, TESTING, CLEARING, INSTALLATION OF S&E MEASURES, OR GRADING SHALL OCCUR UNTIL REQUIRED TREE PROTECTION FENCING HAS BEEN INSTALLED AND INSPECTED. A TREE PROTECTION FENCING INSTALLATION PERMIT MAY BE OBTAINED AT THE PLANNING DEPARTMENT OR ONLINE AT HTTP://WWW.APEXNC.ORG/215/APPLICATIONS-SCHEDULES.
12. TREE PROTECTION FENCING MUST BE PLACED:
    a. ONE FOOT AWAY FROM ANY SAVED TREE FOR EACH INCH OF DIAMETER AT BREAST HEIGHT;
    b. ALONG THE OUTSIDE LINE OF THE 100-YEAR FLOODPLAIN AND THE OUTSIDE EDGE OF ANY RIPARIAN BUFFER; AND
    c. AT LEAST 10 FEET AWAY FROM ANY OTHER DESIGNATED RCA SUCH AS, BUT NOT LIMITED TO, HISTORIC BUILDINGS AND STRUCTURES, WETLANDS, AND PONDS.
13. ADDITIONAL TREE PROTECTION FENCING MAY BE REQUIRED IN OTHER LOCATIONS CLOSE TO CONSTRUCTION ACTIVITY WHERE IT IS DEEMED NECESSARY BY THE ZONING ENFORCEMENT OFFICER. SUCH AREAS MAY INCLUDE, BUT ARE NOT LIMITED TO, COMMON PROPERTY LINES OR NEAR PUBLIC AREAS (SIDEWALKS, ETC.).

POTENTIAL ACCESS POINTS:

Potential Access Points shown on the Conceptual Site Plan / Conceptual Utility Plan (C100) are not shown in exact locations but show required connections. Connections can only be removed from the subdivision connectivity requirements of the PUD if the developer shows to the satisfaction of the Planning Director, in consultation with the Technical Review Committee (TRC), that the construction of the connection would be impractical based on environmental conditions found in the field at the time of Master Subdivision Plan approval.

N

0 75 150 300

SCALE: 1" = 150'

CONCEPTUAL SITE PLAN/ CONCEPTUAL UTILITY PLAN

1 / C100 SCALE: 1"=150'

PEAK Engineering & Design
1125 Apex Peakway | Apex, NC 27502
ph: 919.439.0100
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NC License #P-0673

project:
UTLEY FARMS PUD
3720 OLD US 1 HIGHWAY
BUCKHORN TOWNSHIP
NEW HILL, NORTH CAROLINA 27562

seal: NORTH CAROLINA PROFESSIONAL SEAL 044427 ENGINEER JEFFREY A. ROACH — PRELIMINARY NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
1	AUGUST 12, 2022	TOWN OF APEX – 1ST ZONING COMMENTS	JR
2	SEPTEMBER 9, 2022	TOWN OF APEX – 2ND ZONING COMMENTS	JR

title:
CONCEPTUAL SITE PLAN/ UTILITY PLAN

proj #: 210504

date: MAY 2, 2022

dwg by: FS chkd by: JR

scale: As Noted

sheet: *C100*

(PUD PLAN)

SINGLE FAMILY DETACHED
MODEL 1455

SINGLE FAMILY DETACHED
MODEL 1582

SINGLE FAMILY DETACHED
MODEL 2177

SINGLE FAMILY DETACHED
MODEL 2160 & 2338

SINGLE FAMILY DETACHED
MODEL 2539

SINGLE FAMILY DETACHED
MODEL 2723

SINGLE FAMILY DETACHED
MODEL 3174

TYPICAL BUILDING ELEVATIONS. WINDOW CONFIGURATIONS, DOOR STYLES, COLORS, AND OTHER ARCHITECTURAL STANDARDS WILL VARY FROM HOME-TO-HOME.

ELEVATIONS ARE FOR ILLUSTRATIVE PURPOSES ONLY. CONDITIONS ARE INCLUDED WITHIN THE ZONING PD TEXT DOCUMENT.

1
C120
CONCEPTUAL BUILDING ELEVATIONS
SCALE: 1"=N/A

PEAK Engineering & Design
1125 Apex Peakway | Apex, NC 27502
ph: 919.439.0100
www.PeakEngineering.com
NC License #P-0673

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NORTH CAROLINA PROFESSIONAL SEAL 044427 ENGINEER JEFFREY A. ROACH

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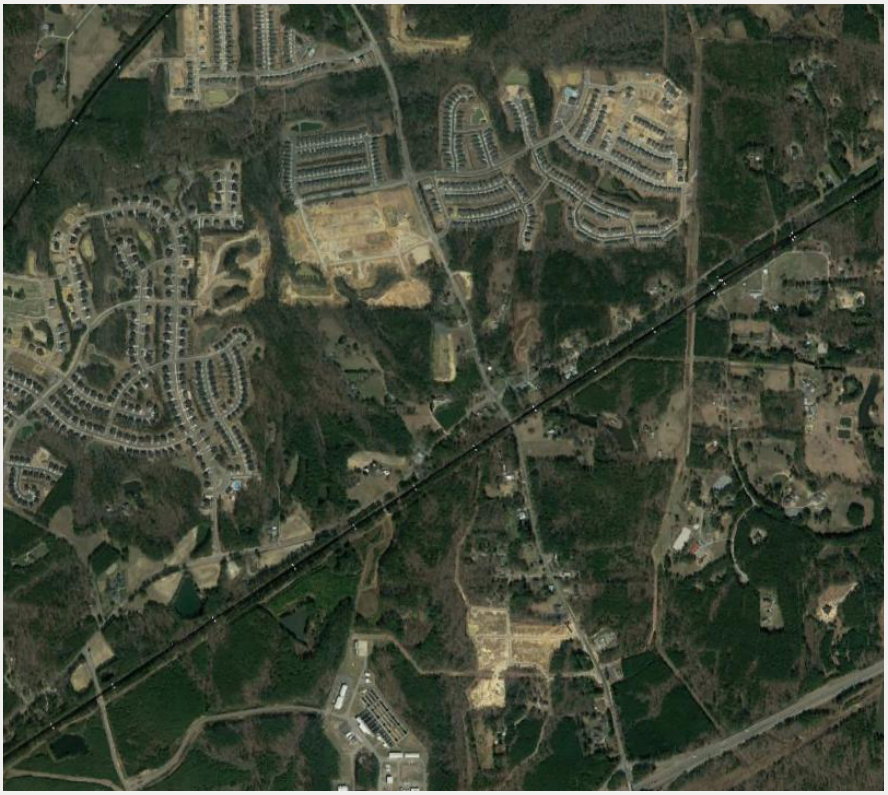
title:
CONCEPTUAL BUILDING ELEVATIONS

proj #: 210504
date: MAY 2, 2022
dwg by: FS chkd by: JR
scale: As Noted
sheet: C120
(PUD PLAN)

RAMEY KEMP ASSOCIATES

TOGETHER WE ARE LIMITLESS



Utley Farms

Traffic Impact Analysis

Apex, North Carolina

RKA

rameykemp.com

TRAFFIC IMPACT ANALYSIS

FOR

UTLEY FARMS

LOCATED

IN

APEX, NC

Prepared For:
Peak Engineering & Design, PLLC
1125 Apex Peakway
Apex, NC 27502

Prepared By:
Ramey Kemp & Associates, Inc.
5808 Faringdon Place, Suite 100
Raleigh, NC 27609
License #C-0910

APRIL 2022

RKA Project No. 22093

Prepared By: DT

Reviewed By: NB

TRAFFIC IMPACT ANALYSIS
UTLEY FARMS
APEX, NORTH CAROLINA

EXECUTIVE SUMMARY

1. Development Overview

A Traffic Impact Analysis (TIA) was conducted for the proposed Utley Farms development in accordance with the Apex (Town) Unified Development Ordinance (UDO) and North Carolina Department of Transportation (NCDOT) capacity analysis guidelines. The proposed development is to be located north of Old US Highway 1, west of New Hill-Olive Chapel Road in Apex, North Carolina. The proposed development is expected to be a maximum of 140 single-family home development and estimated to be built out by 2026. Site access is proposed via two (2) full movement driveways along Old US Highway 1.

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

- 2022 Existing Traffic Conditions
- 2026 No-Build Traffic Conditions without Gracewood Improvements
- 2026 No-Build Traffic Conditions with Gracewood Improvements
- 2026 Build Traffic Conditions without Gracewood Improvements
- 2026 Build Traffic Conditions with Gracewood Improvements

2. Existing Traffic Conditions

The study area for the TIA was determined through coordination with the Town and NCDOT and consists of the following existing intersection:

- Old US Highway 1 and New Hill – Olive Chapel Road / New Hill – Holleman Road

Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersection of Old US Highway 1 and New Hill – Olive Chapel Road / New Hill –

Holleman Road in February of 2022 during typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods, while schools were in session for in person learning.

3. Site Trip Generation

The proposed development is assumed to consist of a maximum of 140 single-family homes. Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE Trip Generation Manual, 10th Edition. Table E-1 provides a summary of the trip generation potential for the site.

Table E-1: Site Trip Generation

LAND USE (ITE Code)	INTENSITY	DAILY TRIPS (VPD)	WEEKDAY AM PEAK HOUR (VPH)		WEEKDAY PM PEAK HOUR (VPH)	
			Enter	Exit	Enter	Exit
Single Family Homes (210)	140 units	1,380	26	75	86	50

4. Future Traffic Conditions

Through coordination with the Town and NCDOT, it was determined that an annual growth rate of 3% would be used to generate 2026 projected weekday AM and PM peak hour traffic volumes. The following adjacent developments were identified to be considered under future conditions:

- Gracewood Residential
- Olive Ridge
- Jordan Manors – 80% built out, 20% included as adjacent development traffic
- Belterra (New Hill Assembly aka Jordan Vistas)

5. Capacity Analysis Summary

The analysis considered weekday AM and PM peak hour traffic for 2022 existing, 2026 no-build, and 2026 build conditions. Refer to Section 7 of the TIA for the capacity analysis summary performed at each study intersection.

6. Recommendations

Based on the findings of this study, specific geometric and traffic control improvements have been identified at study intersections. The improvements are summarized below and are illustrated in Figure E-1.

Background Improvements by Gracewood Residential Development

Old US Highway 1 and New Hill-Olive Chapel Road / New Hill-Holleman Road

- Construct exclusive eastbound and westbound left-turn lanes along Old US Highway 1 with a minimum of 250 feet of storage and appropriate deceleration and taper length.
- Construct an exclusive northbound left-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.
- Construct an exclusive southbound left-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.
- Construct an exclusive southbound right-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.

Recommended Improvements by Developer

Old US Highway 1 and New Hill-Olive Chapel Road / New Hill-Holleman Road

A proportional fee-in-lieu is recommended for these improvements based on an engineering estimate for their construction prior to the 51st unit.

- Construct exclusive eastbound and westbound left-turn lanes along Old US Highway 1 with a minimum of 250 feet of storage and appropriate deceleration and taper length.

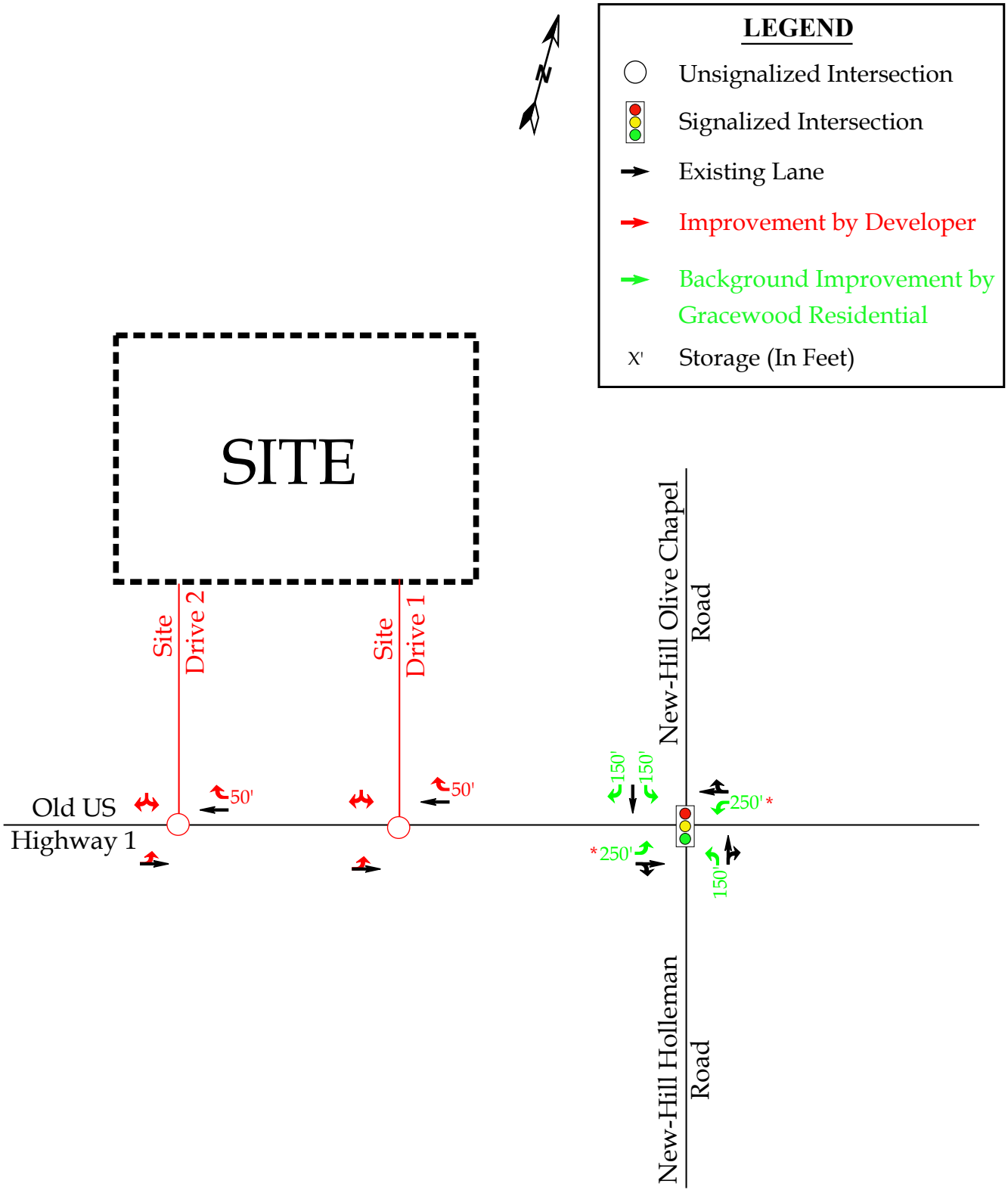
Old US Highway 1 and Site Drive 1

- Construct the southbound approach with one (1) ingress lane and one (1) egress lane.
- Provide an exclusive westbound right-turn lane with a minimum of 50 feet of storage and appropriate deceleration and taper length.
- Provide stop-control for the southbound approach.

- *Although an exclusive eastbound left-turn lane is not warranted, this improvement would not be uncommon along the major thoroughfare (Old US Highway 1) due to the high posted speed limit (55 mph) and the traffic growth expected in the future. At this site driveway, the proposed development could construct an exclusive eastbound left-turn lane in place of the recommended exclusive westbound right-turn lane.*

Old US Highway 1 and Site Drive 2

- Construct the southbound approach with one (1) ingress lane and one (1) egress lane.
- Provide an exclusive westbound right-turn lane with a minimum of 50 feet of storage and appropriate deceleration and taper length.
- Provide stop-control for the southbound approach.
- *Although an exclusive eastbound left-turn lane is not warranted, this improvement would not be uncommon along the major thoroughfare (Old US Highway 1) due to the high posted speed limit (55 mph) and the traffic growth expected in the future. At this site driveway, the proposed development could construct an exclusive eastbound left-turn lane in place of the recommended exclusive westbound right-turn lane.*



*Note: Proportional fee-in-lieu by Developer

RKA RAMEY KEMP ASSOCIATES	Utley Farms Apex, NC	Recommended Lane Configurations Scale: Not to Scale | Figure E-1

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TRAFFIC IMPACT ANALYSIS
UTLEY FARMS
APEX, NORTH CAROLINA

1. INTRODUCTION

The contents of this report present the findings of the Traffic Impact Analysis (TIA) conducted for the proposed Utley Farms development to be located north of Old US Highway 1, west of New Hill-Olive Chapel Road in Apex, North Carolina. The purpose of this study is to determine the potential impacts to the surrounding transportation system created by traffic generated by the proposed development, as well as recommend improvements to mitigate the impacts.

The proposed development, anticipated to be completed by 2026, is assumed to consist of a maximum amount of 140 single family homes.

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

- 2022 Existing Traffic Conditions
- 2026 No-Build Traffic Conditions without Gracewood Improvements
- 2026 No-Build Traffic Conditions with Gracewood Improvements
- 2026 Build Traffic Conditions without Gracewood Improvements
- 2026 Build Traffic Conditions with Gracewood Improvements

1.1. Site Location and Study Area

The development is proposed to be located north of Old US Highway 1, west of New Hill-Olive Chapel Road in Apex, North Carolina. Refer to Figure 1 for the site location map.

The study area for the TIA was determined through coordination with the North Carolina Department of Transportation (NCDOT) and the Town of Apex (Town) and consists of the following existing intersections:

- Old US Highway 1 and New Hill – Olive Chapel Road / New Hill – Holleman Road

Refer to Appendix A for the approved memorandum of understanding (MOU).

1.2. Proposed Land Use and Site Access

The site is expected to be located north of Old US Highway 1, west of New Hill – Olive Chapel Road. The proposed development, anticipated to be completed by 2026, is assumed to consist of a maximum amount of 140 single family homes.

Site access is proposed via two (2) full movement driveways along Old US Highway 1. Refer to Figure 2 for a copy of the preliminary site plan.

1.3. Adjacent Land Uses

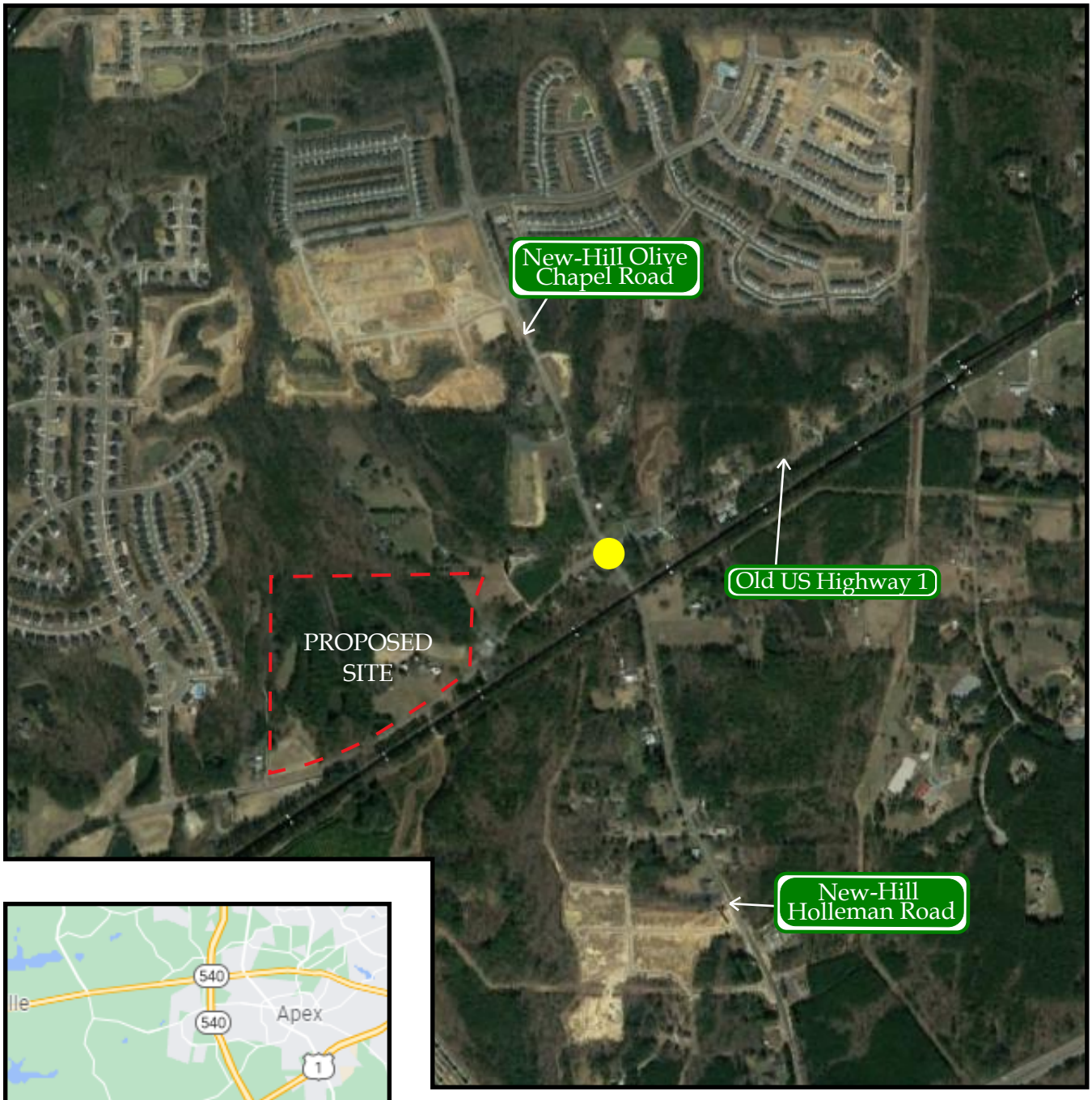
The proposed development is located in an area consisting primarily of undeveloped land and residential development.

1.4. Existing Roadways

Existing lane configurations (number of traffic lanes on each intersection approach), lane widths, storage capacities, and other intersection and roadway information within the study area are shown in Figure 3. Table 1 provides a summary of this information, as well.

Table 1: Existing Roadway Inventory

Road Name	Route Number	Typical Cross Section	Speed Limit	Maintained By	2020 AADT (vpd)
Old US Highway 1	SR 1011	2-lane undivided	55 mph	NCDOT	10,500
New Hill-Olive Chapel / New Hill-Holleman	SR 1141	2-lane undivided	45 mph	NCDOT	4,900

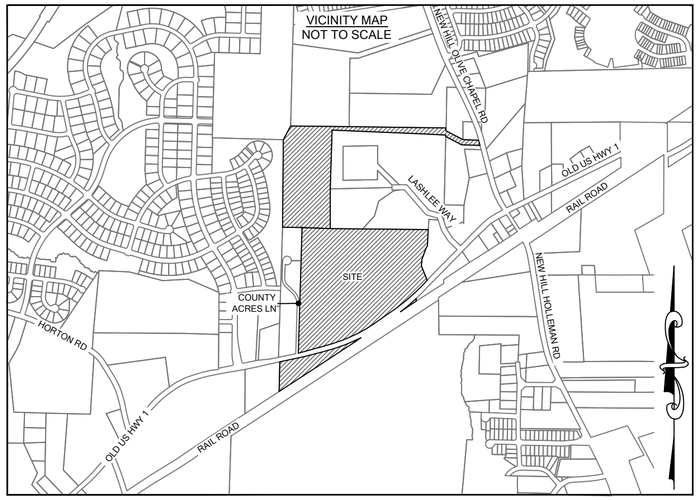


N

LEGEND

- Proposed Site Location
- Existing Study Intersection
- Study Area

RKA RAMEY KEMP ASSOCIATES	Utley Farms Apex, NC	Site Location Map Scale: Not to Scale | Figure 1



LEGEND

- EXISTING BOUNDARY CORNER FOUND
- BOUNDARY CORNER SET
- COMPUTED POINT
- PROPERTY LINE SURVEYED
- PROPERTY LINE NOT SURVEYED
- EASEMENTS
- PAVEMENT
- TOWN OF APEX CORPORATE LIMITS (PER WAKE COUNTY GIS)

EIP	EXISTING IRON PIPE
EIR	EXISTING IRON REBAR
BM	BOOK OF MAPS
DB	DEED BOOK
PG	PAGE
R/W	RIGHT OF WAY

NOTES

1. THIS SURVEY WAS PREPARED BY BATEMAN CIVIL SURVEY COMPANY UNDER THE SUPERVISION OF STEVEN P. CARSON, PLS.
2. ALL DISTANCE ARE HORIZONTAL GROUND DISTANCE AND ALL BEARINGS ARE BASED ON GPS OBSERVATIONS, NAD83 / NSRS 2011 / SPC, UNLESS OTHERWISE SHOWN.
3. PROPERTY LIES IN ZONE "X" PER NATIONAL INSURANCE PROGRAM FLOOD INSURANCE RATE MAP #3720071000K, DATED 02/02/2007.
4. SITE ZONED "R-40W" & "R-80W" FOR WAKE COUNTY PER COUNTY GIS.
5. AREAS COMPUTED BY COORDINATE METHOD.
6. THIS MAP HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
7. ALL BOUNDARY CORNERS SET ARE 3/4" IRON PIPE SET (3/4" IPS), UNLESS OTHERWISE NOTED.

ANNEXATION # _____
I, DONNA B. HOSCH, MMC, NCCMC, TOWN CLERK, APEX, NORTH CAROLINA CERTIFY THIS A TRUE AND EXACT MAP OF ANNEXATION ADOPTED THE _____ DAY OF _____, 20___, BY THE TOWN COUNCIL. I SET MY HAND AND SEAL OF THE TOWN OF APEX, _____
DAY/MONTH/YEAR

_____
DONNA B. HOSCH, MMC, NCCMC, TOWN CLERK

-SEAL-

N/F
TAYLOR MORRISON OF CAROLINAS INC
PIN: 0710641147
DB 18227 PG 2378

N/F
KB HOME RALEIGH-DURHAM INC
PIN: 0710830916
DB 17618 PG 1002
BM 2021 PG 2192

N/F
MICHAEL N. HICKS
ASHLEY F. HICKS
PIN: 0710835932
DB 15907 PG 438

N/F
HARDIP S. DHILLON
GURMINDER K. DHILLON
PIN: 0710836780
DB 17579 PG 2414

3/4" EIP - PINCHED
S89° 14' 14"E
677.99'
S89° 12' 15"E
1126.48'
3/4" EIP
3/4" EIP - BENT
3/4" EIP (CONTROL CORNER)
NAD 83 / NSRS 2011 / SPC
N: 703,604.52'
E: 2,018,799.66'
N27° 07' 07"E
180.77'
1" EIP W/ CAP
N87° 31' 49"W
1326.61'
1" EIP - BENT
5/8" EIR
L12
L13
L14
L15
L16
L17
L18
L19 (TIE)

R-80W ZONE
R-40W ZONE
(SEE NOTE 4)

HELON J. WELLONS
RAY E. JOHNSON
PIN: 0710736732
DB 2367 PG 693
WAKE COUNTY ZONING: R-40W & R-80W

782,525 SF / 17.96 AC

0 NEW HILL OLIVE CHAPEL RD

S00° 29' 51"W
657.49'
N00° 29' 37"E
1013.85'
S00° 28' 07"W
459.96'

N/F
RALPH G. MILLER JR.
DENISE A. MILLER
PIN: 0710830487
DB 3149 PG 708
BM 1983 PG 823

N/F
ANDREW T. MARTIN
PIN: 0710835242
DB 17673 PG 2501
BM 2019 PG 2097

NEW HILL OLIVE CHAPEL RD
60' PUBLIC R/W
BM 2019 PG 2097

3/4" EIP W/ CAP

N/F
JORDAN POINTE HOME OWNERS ASSOCIATION
PIN: 0710623426
DB 18264 PG 159
BM 2016 PG 1940

N/F
RICHARD P. VITEK
PIN: 0710724872
DB 11819 PG 1614
BM 2005 PG 2301

N/F
RICHARD S. BURROUGHS, TRUSTEE
PIN: 0710728789
DB 13648 PG 1873
BM 2005 PG 2301

LASHLEE WAY
60' PRIVATE R/W
BM 2005 PG 2301

1" EIP W/ CAP
1.5" EIP W/ CAP
N88° 57' 38"W
226.32'
S88° 57' 38"E
331.99'
3/4" EIP W/ CAP
S88° 54' 39"E
376.22'
1" EIP W/ CAP
S88° 54' 39"E
760.21'
1" EIP

S04° 27' 54"W
193.23'
S40° 29' 33"W
39.06'
2" EIP
S20° 02' 10"W
148.77'
S04° 26' 24"W
74.66'
1" EIP
1" EIP
S21° 56' 17"E
90.03'
N44° 08' 00"E
57.13' (TIE)
S04° 26' 41"W
117.47'
1/2" EIP
S04° 26' 41"W
47.21'
S44° 45' 01"W
117.34'

N/F
NEAL ZIPSER
CHERYL ZIPSER
PIN: 0710626440
DB 17028 PG 1898
BM 1999 PG 325

N01° 45' 10"E
230.39'
3/4" EIP W/ CAP
N01° 43' 27"E
154.39'
3/4" EIP W/ CAP
N01° 40' 52"E
296.27'
3/4" EIP W/ CAP
N01° 40' 52"E
87.06'
3/4" EIP W/ CAP
N01° 40' 52"E
164.11'
1" EIP
N01° 40' 52"E
525.44'

TOTAL AREA TO BE ANNEXED TO THE TOWN OF APEX (INCLUDING R/W)
2,665,562 SF / 61.19 AC

N/F
NEW HILL BAPTIST CHURCH & CEMETERY TRUSTEES
PIN: 0710824319
DB 7883 PG 739
BM 1998 PG 93

MRYTLE H. HORTON
PIN: 0710714834
DB 7883 PG 737
WAKE COUNTY ZONING: R-40W

1,883,037 SF / 43.23 AC (TOTAL AREA)
102,470 SF / 2.35 AC (R/W AREA)
1,780,567 SF / 40.88 AC (NET AREA)

3720 OLD US 1 HWY

L1
L2
L3
L4
L5
L9
L10
R/W

N/F
MICHAEL A. NAGLE
DORIS J. NAGLE
PIN: 0710813926
DB 10956 PG 618

N/F
MARTIN JOHANNES H. SKOU
VANESSA LEE SKOU
PIN: 0710616604
DB 16774 PG 1716
BM 2017 PG 723

1" EIP (CONTROL CORNER)
NAD 83 / NSRS 2011 / SPC
N: 701,131.20'
E: 2,016,708.82'

RIGHT OF WAY BASED ON CENTERLINE OF ROAD

C1
C2
L11 (TIE)
L6
L7
L8
N78° 14' 48"E
234.86'

CSX TRANSPORTATION
(VARIABLE WIDTH R/W)
BM 2011 PG 412

MAG NAIL
R/W
R/W
OLD US HWY 1
(NCSR 1011)
60' PUBLIC R/W
BM 2017 PG 723

RAILROAD TRACKS

N/F
SANDRA ROBERTS
PIN: 0710602775
DB 16604 PG 2399

N01° 38' 49"E
354.19'
S56° 45' 18"W
1166.36'
1/2" EIP
N01° 38' 49"E
26.58'

NAD 83 / NSRS 2011 / SPC

GRAPHIC SCALE
200 0 100 200 400 800
(IN FEET)
1 inch = 200 ft.

LINE TABLE		
LINE#	DIRECTION	LENGTH
L1	S46° 50' 07"W	75.89'
L2	S51° 00' 53"W	86.92'
L3	S54° 38' 28"W	187.44'
L4	S54° 43' 11"W	166.66'
L5	S55° 37' 49"W	181.50'
L6	S74° 32' 21"W	335.97'
L7	S76° 14' 37"W	79.04'
L8	N01° 40' 52"E	31.15'
L9	S01° 26' 24"W	77.68'
L10	S56° 45' 18"W	450.03'
L11	S56° 45' 18"W	287.48'
L12	S01° 21' 26"W	33.00'
L13	S62° 23' 27"E	222.99'
L14	S89° 31' 44"E	181.71'
L15	S14° 25' 18"E	66.83'
L16	N88° 11' 18"W	188.21'
L17	N88° 11' 18"W	25.93'
L18	N62° 24' 56"W	207.03'
L19	S14° 13' 06"E	52.03'

CURVE TABLE				
CURVE#	LENGTH	RADIUS	BEARING	CHORD
C1	222.83'	1538.08'	S62° 15' 39"W	222.64'
C2	205.52'	1502.64'	S70° 54' 26"W	205.36'

CLASS OF SURVEY: A
POSITIONAL ACCURACY: 0.06'
TYPE OF GPS FIELD PROCEDURE: NC REAL TIME NETWORK
DATES OF SURVEY: JANUARY 2022
DATUM/EPOCH: NAD83/NSRS2011/SPC
GEOID MODEL: 18
COMBINED GRID FACTOR(S): 0.99988368
UNITS: US SURVEY FEET

THIS MAP IS CONSIDERED PRELIMINARY, NOT FOR RECORDATION, CONVEYANCE OR SALES UNLESS SIGNED AND SEALED BY THE LICENSED SURVEYOR.

I, STEVEN P. CARSON, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN DB 2367, PG 693 & DB 7883 PG 737); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND AS SHOWN HERE ON; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000+; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL THIS _____ DAY OF _____, A.D., 2022.

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

PRELIMINARY

_____ DATE
STEVEN P. CARSON, PLS
NC LICENSE NO. L-4752

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

ANNEXATION MAP FOR THE TOWN OF APEX

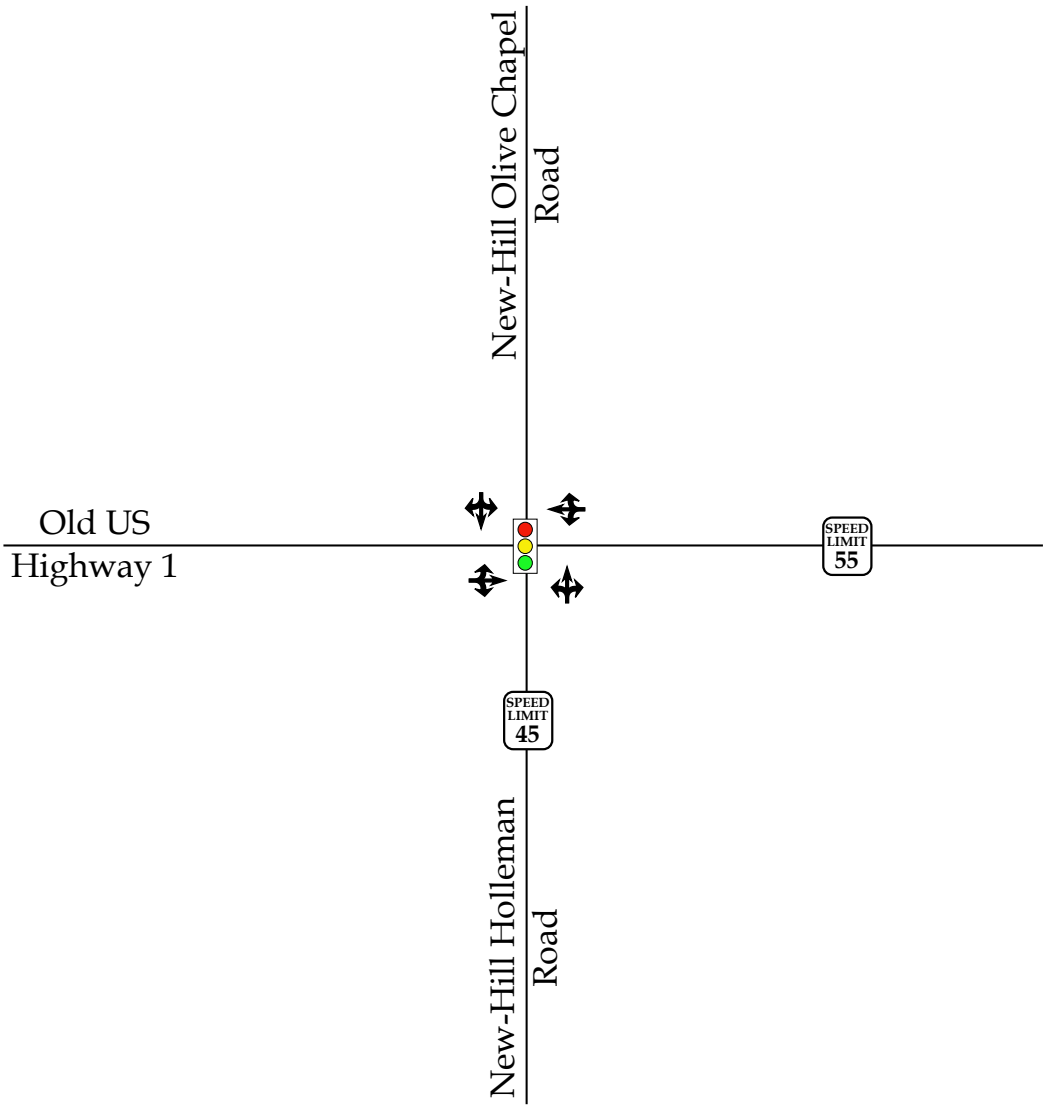
PARCEL ID NUMBER(S): 0710714834 & 0710736732
AS RECORDED IN DB 7883 PG 737 & DB 2367 PG 693
BUCKHORN TWSP • WAKE COUNTY • NORTH CAROLINA

REVISIONS
1.
2.
3.
4.
5.

DESIGNED BY: N/A
DRAWN BY: ELS
CHECKED BY: SPC
SCALE: 1" = 200'
DATE: 03/23/2022
JOB NUMBER: 210950

LEGEND

- Signalized Intersection
- Existing Lane
- X' Storage (In Feet)
- SPEED LIMIT XX Posted Speed Limit



RAMEY KEMP ASSOCIATES

Utley Farms
Apex, NC

2022 Existing Lane Configurations

Scale: Not to Scale | Figure 3

2. 2022 EXISTING PEAK HOUR CONDITIONS

2.1. 2022 Existing Peak Hour Traffic Volumes

Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersection of Old US Highway 1 and New Hill – Olive Chapel Road / New Hill – Holleman Road in February of 2022 during typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods, while schools were in session for in person learning.

Refer to Figure 4 for 2022 existing weekday AM and PM peak hour traffic volumes. A copy of the count data is located in Appendix B of this report.

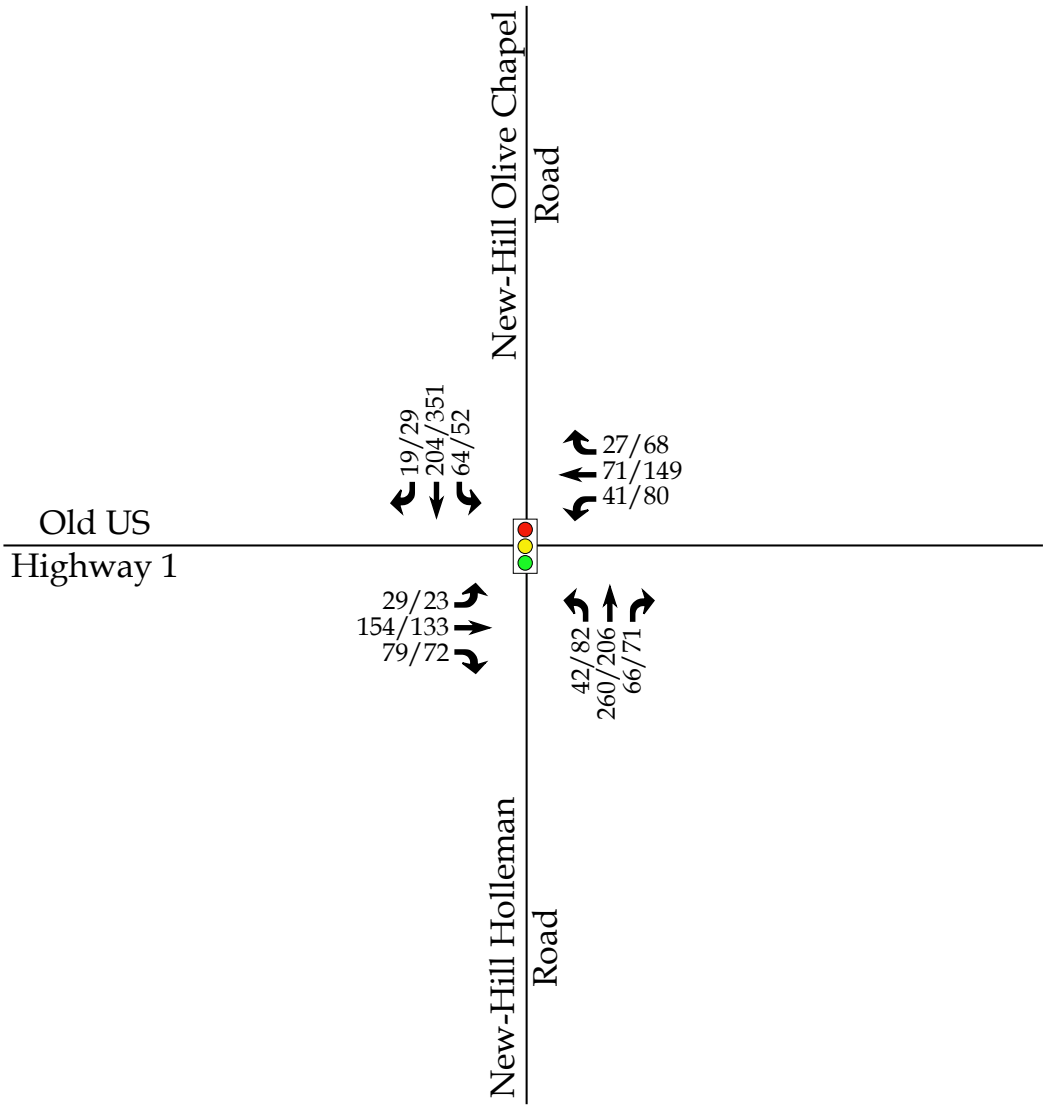
2.2. Analysis of 2022 Existing Peak Hour Traffic Conditions

The 2022 existing weekday AM and PM peak hour traffic volumes were analyzed to determine the current levels of service at the study intersections under existing roadway conditions. Signal information was obtained from NCDOT and is included in Appendix C. The results of the analysis are presented in Section 7 of this report.

LEGEND

Signalized Intersection

X / Y → Weekday AM / PM Peak Hour Traffic



RKA RAMEY KEMP ASSOCIATES	Utley Farms Apex, NC	2022 Existing Peak Hour Traffic
		Scale: Not to Scale | Figure 4

3. 2026 NO-BUILD PEAK HOUR CONDITIONS

In order to account for growth of traffic and subsequent traffic conditions at a future year, no-build traffic projections are needed. No-build traffic is the component of traffic due to the growth of the community and surrounding area that is anticipated to occur regardless of whether or not the proposed development is constructed. No-build traffic is comprised of existing traffic growth within the study area and additional traffic created as a result of adjacent approved developments.

3.1. Ambient Traffic Growth

Through coordination with the Town and NCDOT, it was determined that an annual growth rate of 3% would be used to generate 2026 projected weekday AM and PM peak hour traffic volumes. Refer to Figure 5 for 2026 projected peak hour traffic.

3.2. Adjacent Development Traffic

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

- Gracewood Residential
- Olive Ridge
- Jordan Manors – 80% built out, 20% included as adjacent development traffic
- Belterra (New Hill Assembly aka Jordan Vistas)

Table 2, on the following page, provides a summary of the adjacent developments.

Table 2: Adjacent Development Information

Development Name	Location	Build-Out Year	Land Use / Intensity	TIA Performed
Gracewood Residential	Northwest of the intersection of Old US 1 at Horton Road	2024	448 single family homes	April 2021 by KHA
Olive Ridge	East of New Hill Olive Chapel Road, across from Jordan Manors Drive	2022	169 single family homes	December 2018 by RKA
Jordan Manors	West side of New Hill Olive Chapel Road	2018	240 single family homes	May 2015 by KHA
Belterra (New Hill Assembly aka Jordan Vistas)	West of New Hill Olive Chapel Road, north of Old US 1	2022	152 single family homes	April 2018 by RKA

For the purposes of this study, future conditions were analyzed with and without future roadway improvements associated with the Gracewood Residential development. Under future conditions without Gracewood Improvements, the Gracewood Residential development is expected to consist of 270 single family homes. Analysis of future conditions with Gracewood Improvements includes 85% of the development's density at full build out as adjacent development trips as this study assumes 85% of the Gracewood Residential development is to be constructed prior to the build out of the proposed development. It should be noted that the adjacent developments were approved, during scoping, by the Town and NCDOT. Adjacent development trips are shown in Figure 6. Adjacent development information can be found in Appendix D.

3.3. Future Roadway Improvements

Based on coordination with the NCDOT and the Town, it was determined that the roadway improvements associated with the Gracewood Residential development would be analyzed under future conditions with Gracewood Improvements.

The following improvements are committed by the Gracewood Residential development:

Old US Highway 1 and New Hill-Olive Chapel Road / New Hill-Holleman Road

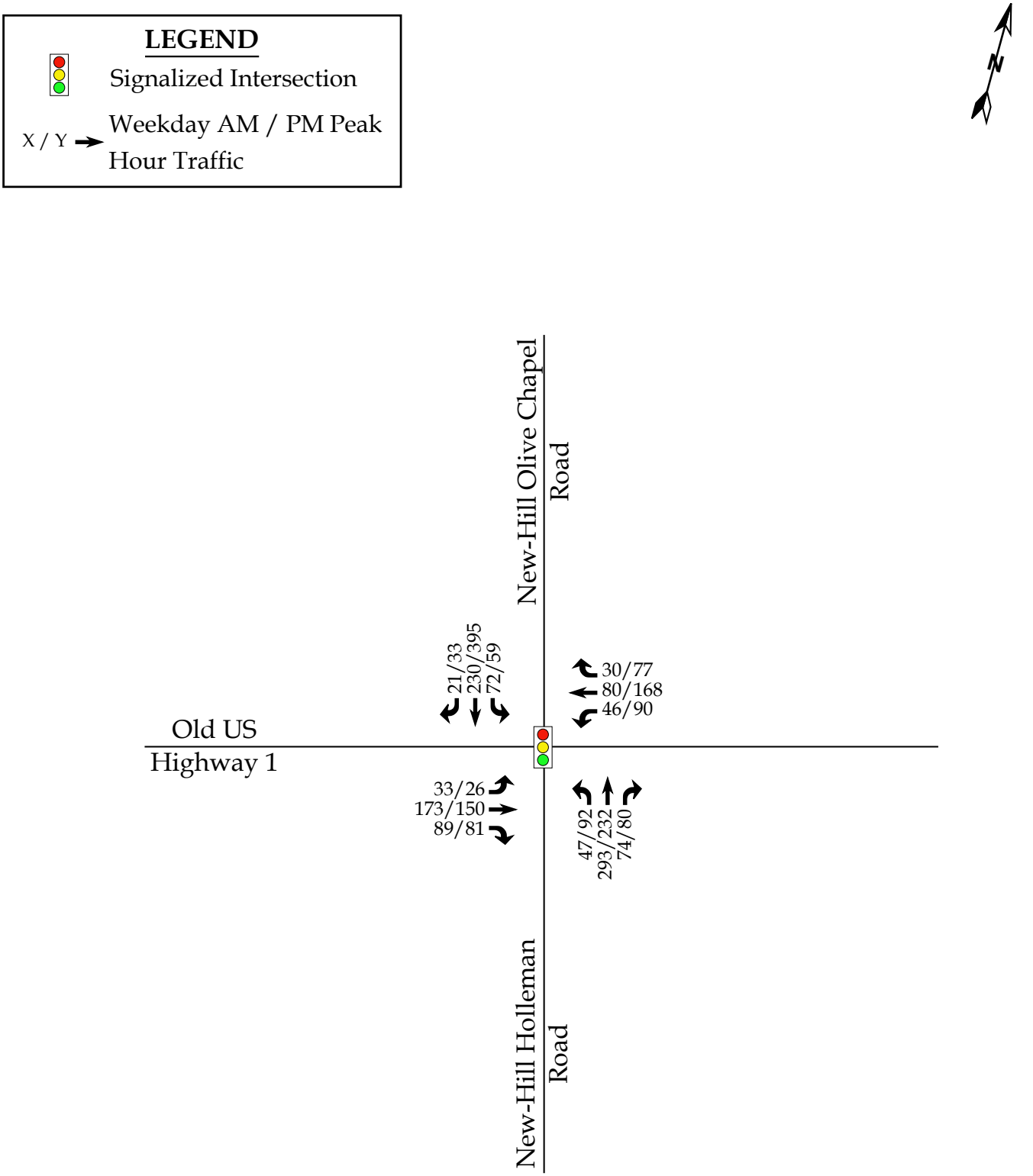
- Construct exclusive eastbound and westbound left-turn lanes along Old US Highway 1 with a minimum of 250 feet of storage and appropriate deceleration and taper length.
- Construct an exclusive northbound left-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.
- Construct an exclusive southbound left-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.
- Construct an exclusive southbound right-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.
- Install a traffic signal when warranted.

3.4. 2026 No-Build Peak Hour Traffic Volumes

The 2026 no-build traffic volumes were determined by projecting the 2022 existing peak hour traffic to the year 2022, and adding the adjacent development trips. Refer to Figure 7a for an illustration of the 2026 no-build peak hour traffic volumes without Gracewood Improvements and Figure 7b for the 2026 no-build peak hour traffic with Gracewood Improvements at the study intersections.

3.5. Analysis of 2026 No-Build Peak Hour Traffic Conditions

The 2026 no-build AM and PM peak hour traffic volumes at the study intersections were analyzed with future geometric roadway conditions and traffic control. The analysis results are presented in Section 7 of this report.



RAMEY KEMP ASSOCIATES

Utley Farms
Apex, NC

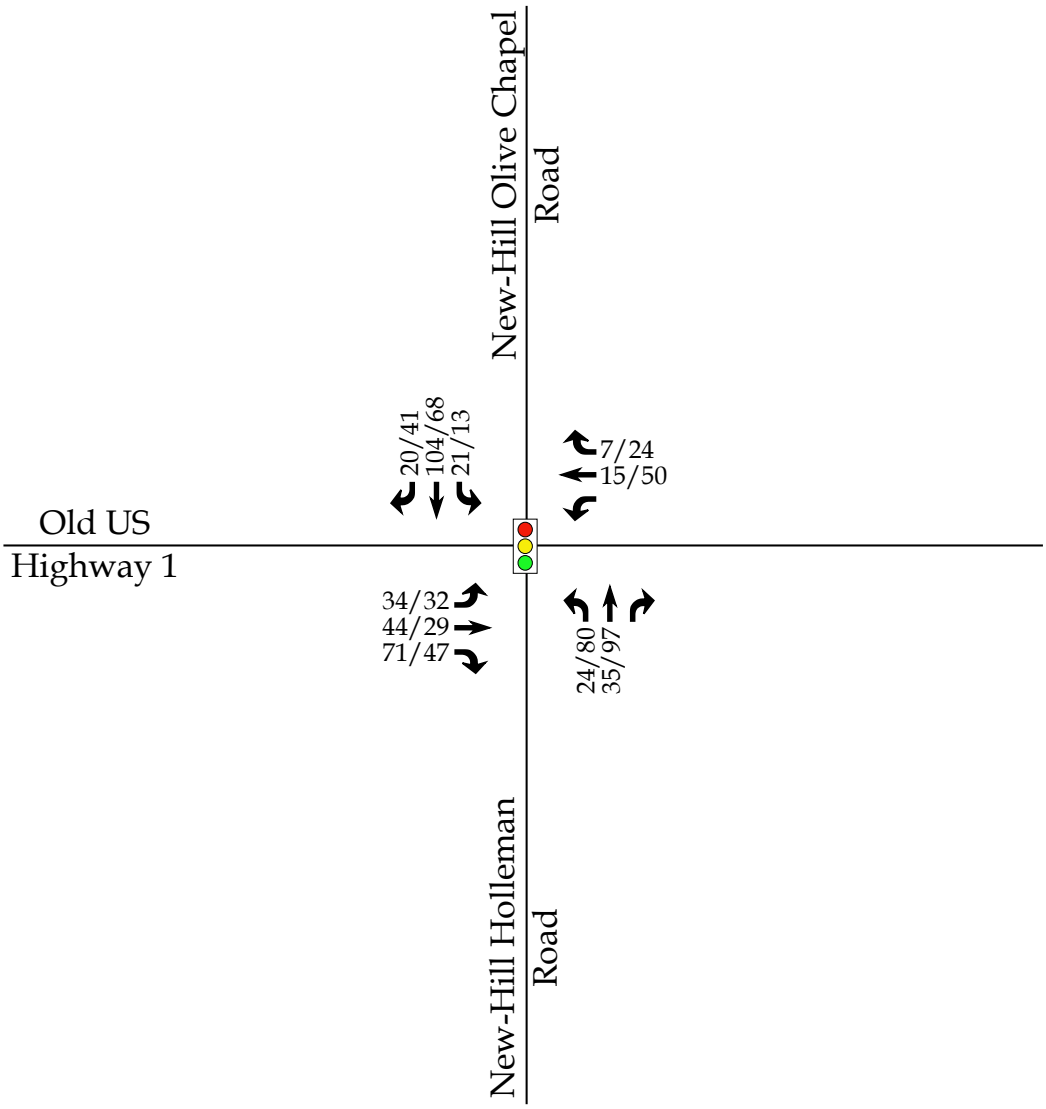
2026 Projected Peak Hour Traffic

Scale: Not to Scale | Figure 5

LEGEND

Signalized Intersection

X / Y → Weekday AM / PM Peak Hour Adjacent Development Trips



RAMEY KEMP ASSOCIATES

Utley Farms
Apex, NC

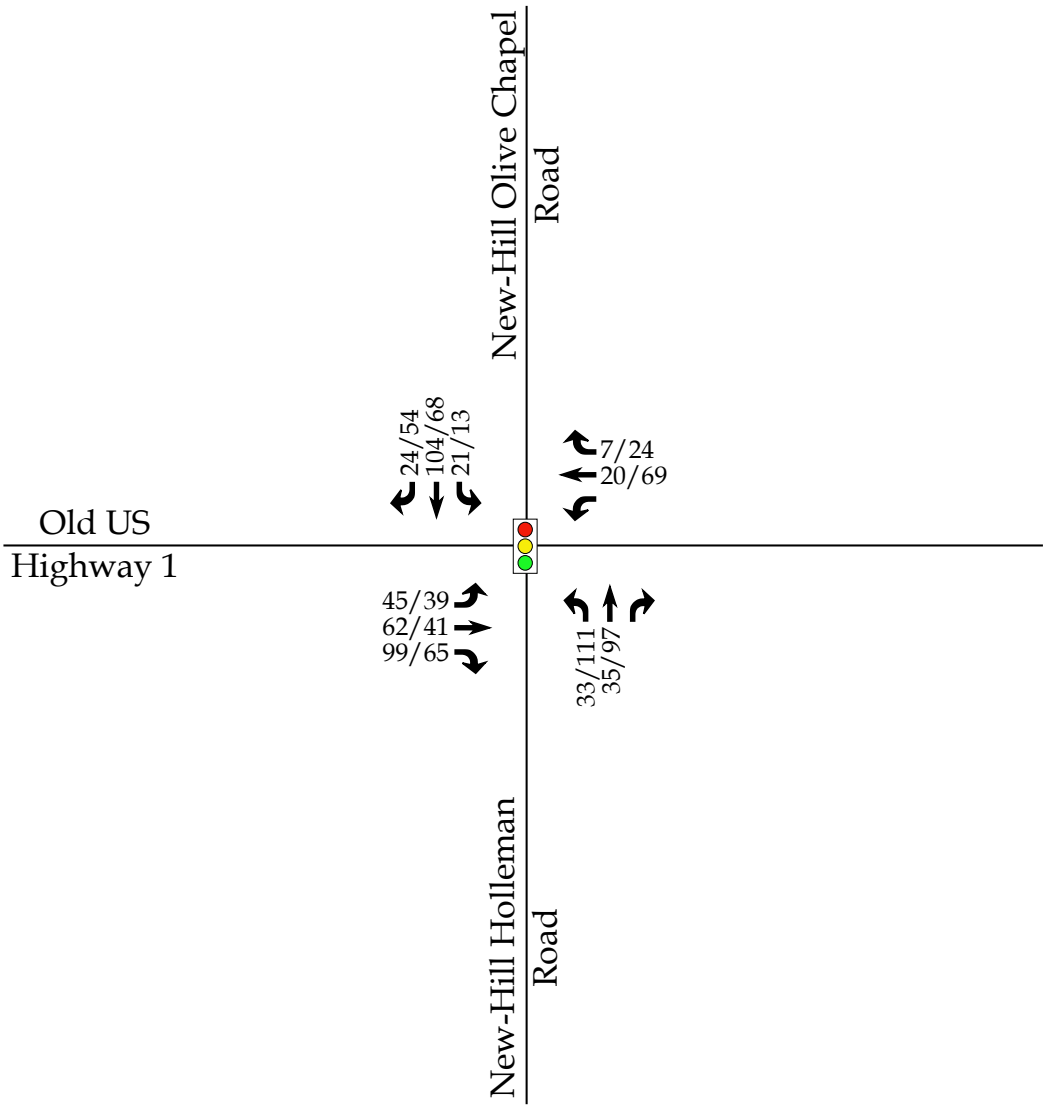
Adjacent Development Trips - without Gracewood Improvements

Scale: Not to Scale | Figure 6a

LEGEND

Signalized Intersection

X / Y → Weekday AM / PM Peak Hour Adjacent Development Trips



RAMEY KEMP ASSOCIATES

Utley Farms
Apex, NC

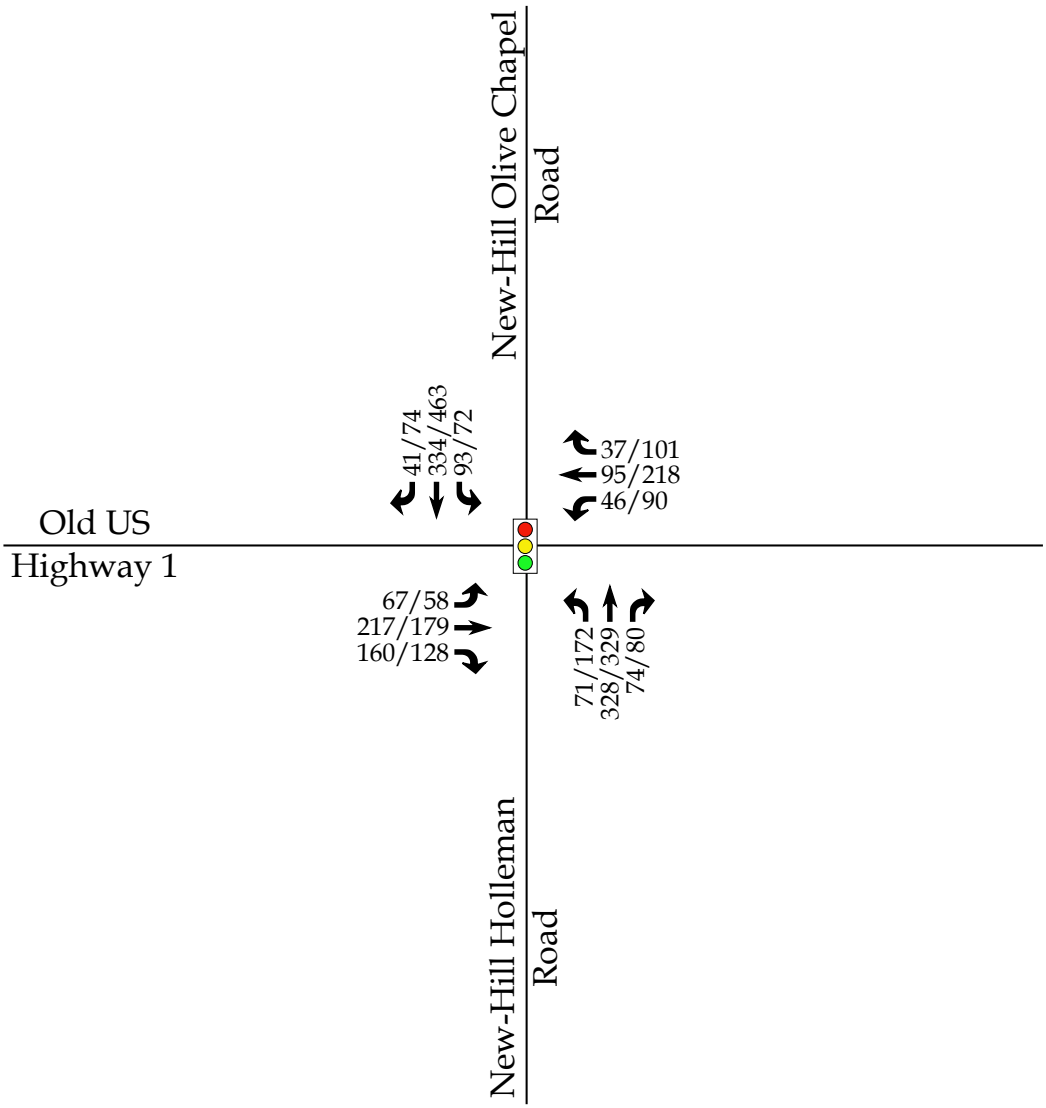
Adjacent Development Trips - with Gracewood Improvements

Scale: Not to Scale | Figure 6b

LEGEND

Signalized Intersection

X / Y → Weekday AM / PM Peak Hour Traffic

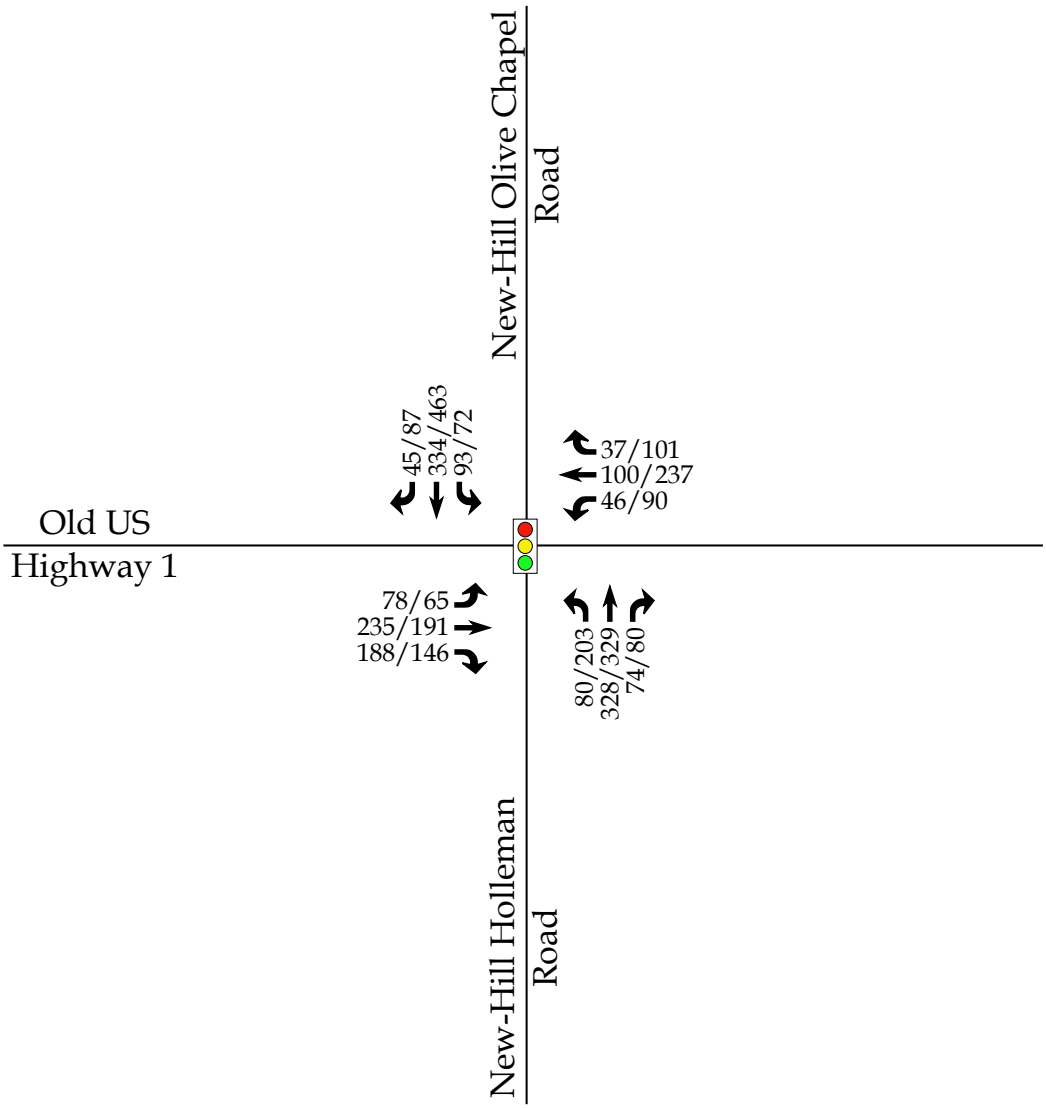


RKA RAMEY KEMP ASSOCIATES	Utley Farms Apex, NC	2026 No-Build Peak Hour Traffic - without Gracewood Improvements Scale: Not to Scale | Figure 7a

LEGEND

Signalized Intersection

X / Y → Weekday AM / PM Peak Hour Traffic



RKA RAMEY KEMP ASSOCIATES	Utley Farms Apex, NC	2026 No-Build Peak Hour Traffic - with Gracewood Improvements
		Scale: Not to Scale | Figure 7b

4. SITE TRIP GENERATION AND DISTRIBUTION

4.1. Trip Generation

The proposed development is assumed to consist of a maximum amount of 140 single family homes. Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE *Trip Generation Manual*, 11th Edition. Table 3 provides a summary of the trip generation potential for the site.

Table 3: Trip Generation Summary

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Single Family Homes	140 units	1,380	26	75	86	50

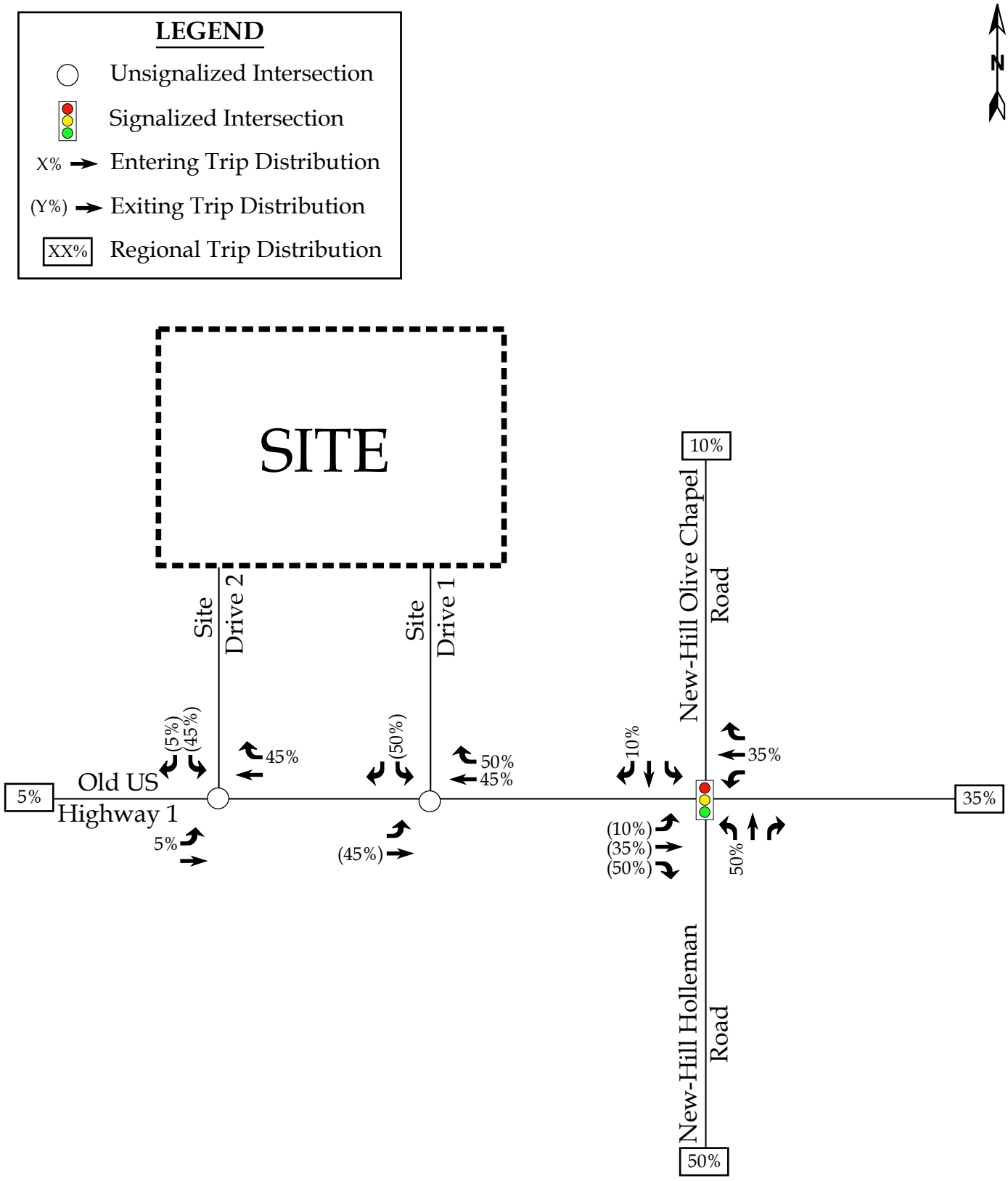
It is estimated that the proposed development will generate approximately 1,380 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 101 trips (26 entering and 75 exiting) will occur during the weekday AM peak hour and 136 trips (86 entering and 50 exiting) will occur during the weekday PM peak hour.

4.2. Site Trip Distribution and Assignment

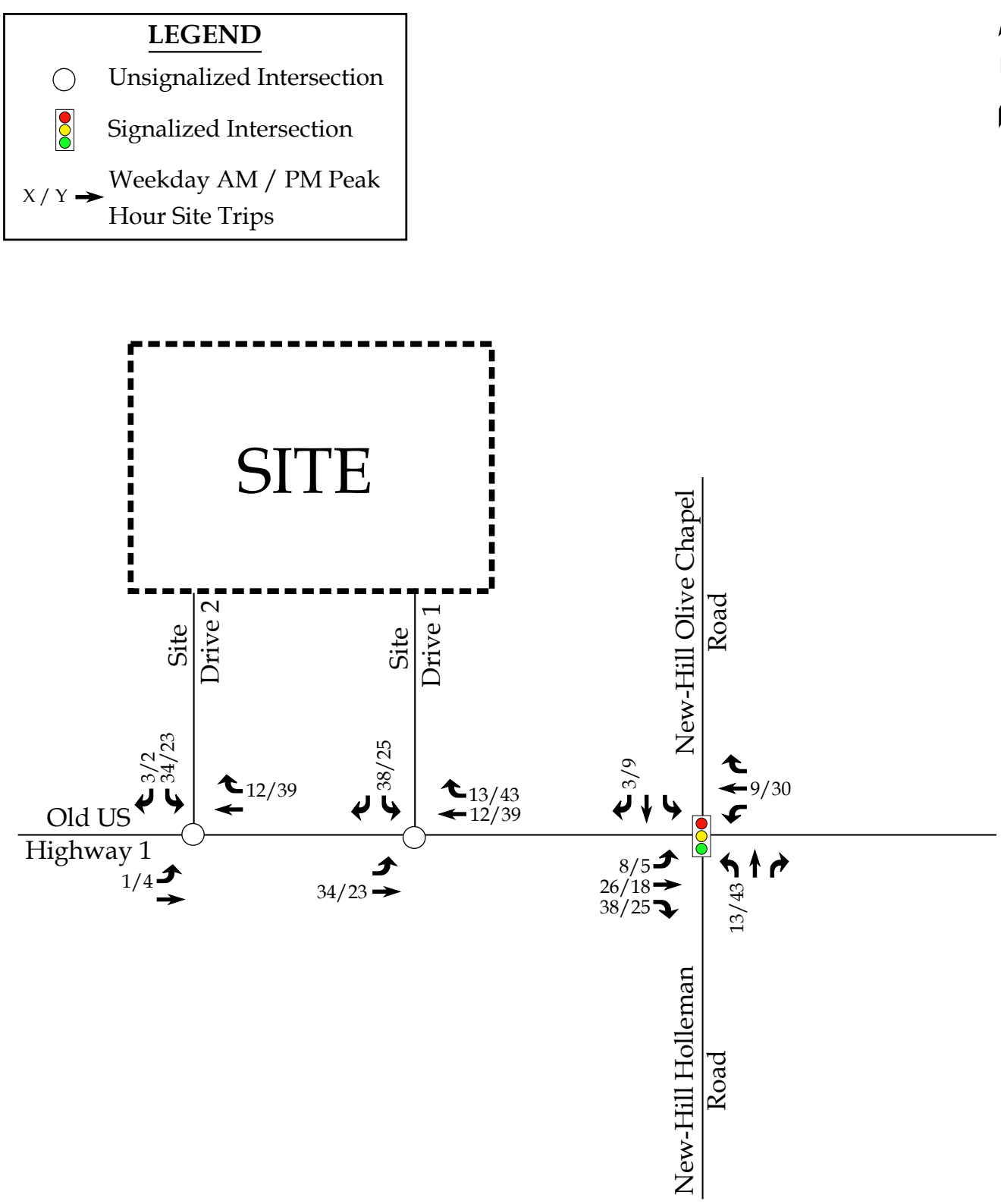
Trip distribution percentages used in assigning site traffic for this development were estimated based on a combination of existing traffic patterns, population centers adjacent to the study area, and engineering judgment. It is estimated that the site trips will be regionally distributed as follows:

- 10% to/from the north via New-Hill Olive Chapel Road
- 50% to/from the south via New-Hill Holleman Road
- 35% to/from the east via Old US Highway 1
- 5% to/from the west via Old US Highway 1

Refer to Figure 8 for the site trip distribution and Figure 9 for the site trip assignment.



RKA RAMEY KEMP ASSOCIATES	Utley Farms Apex, NC	Site Trip Distribution Scale: Not to Scale | Figure 8



RAMEY KEMP ASSOCIATES	Utley Farms Apex, NC	Site Trip Assignment Scale: Not to Scale | Figure 9

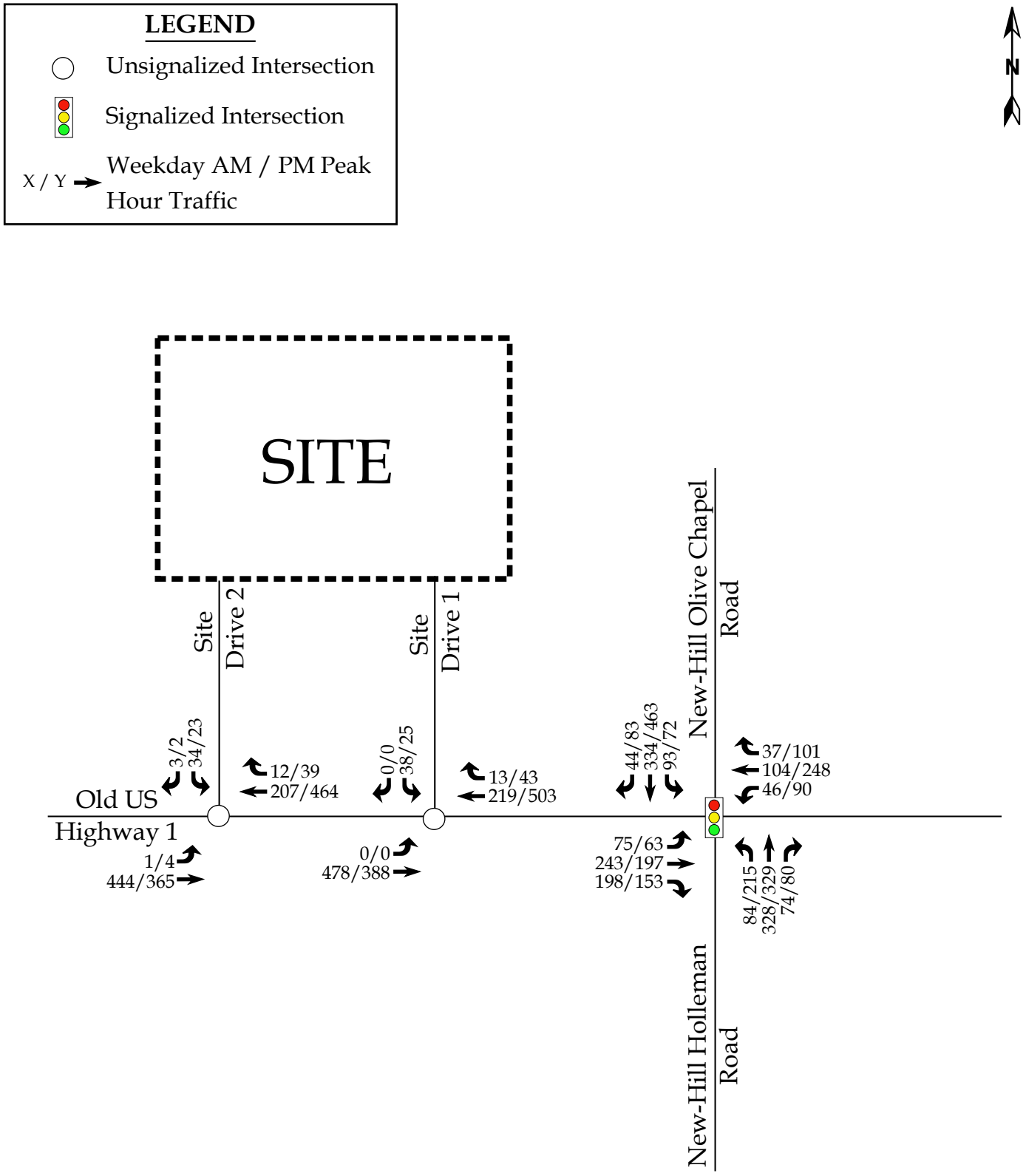
5. 2026 BUILD TRAFFIC CONDITIONS

5.1. 2026 Build Peak Hour Traffic Volumes

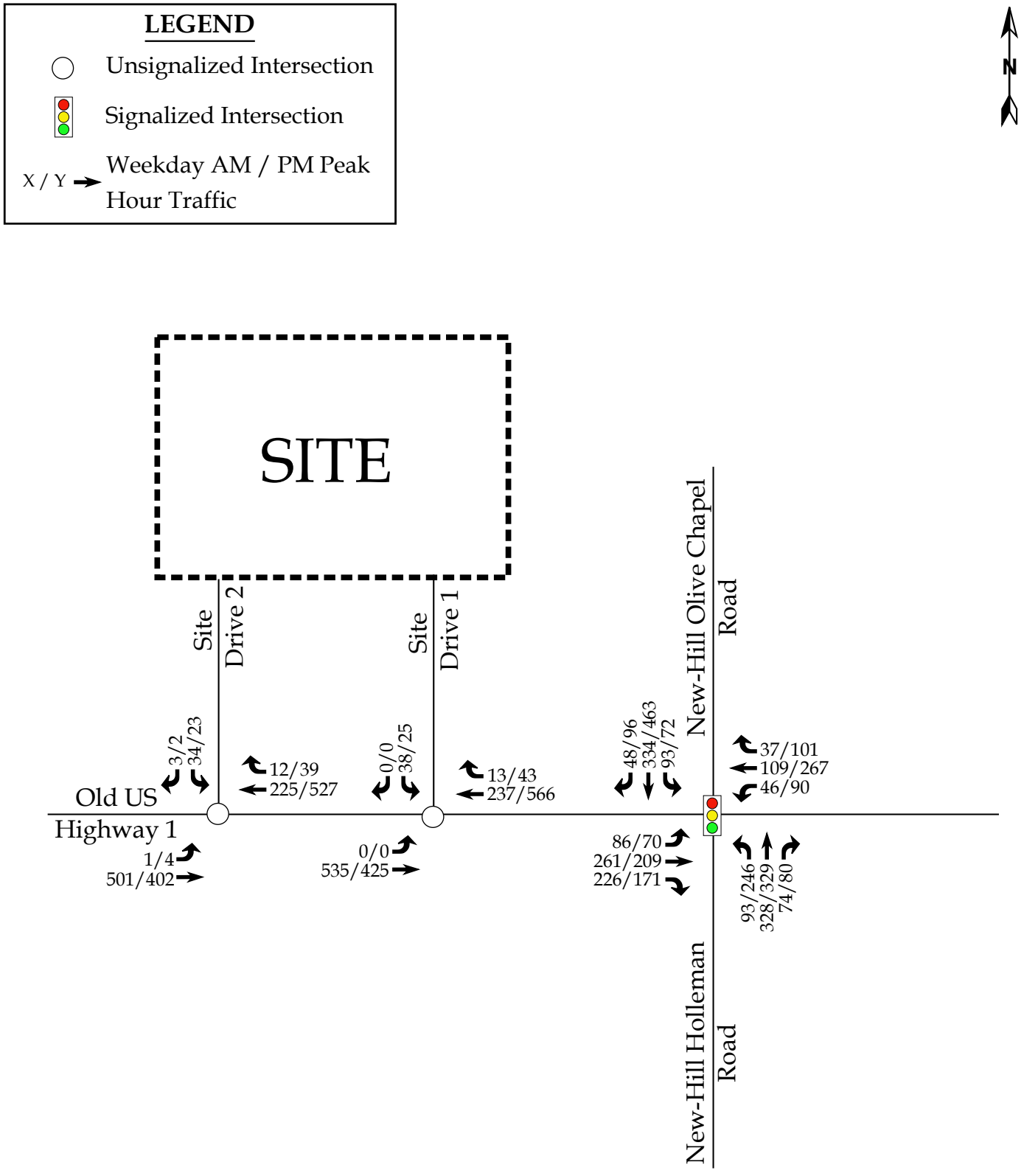
To estimate traffic conditions with the site fully built-out, the total site trips were added to the 2026 no-build traffic volumes to determine the 2026 build traffic volumes. Refer to Figure 10a and Figure 10b for an illustration of the 2026 build peak hour traffic volumes without and with the Gracewood Improvements, respectively, both with the proposed site fully developed.

5.2. Analysis of 2026 Build Peak Hour Traffic Conditions

Study intersections were analyzed with the 2026 build traffic volumes using the same methodology previously discussed for existing and no-build traffic conditions. Intersections were analyzed with improvements necessary to accommodate future traffic volumes. The results of the capacity analysis for each intersection are presented in Section 7 of this report.



RKA RAMEY KEMP ASSOCIATES	Utley Farms Apex, NC	2026 Build Peak Hour Traffic - without Gracewood Improvements Scale: Not to Scale | Figure 10a



RAMEY KEMP ASSOCIATES

Utley Farms
Apex, NC

2026 Build
Peak Hour Traffic - with Gracewood Improvements

Scale: Not to Scale | Figure 10b

6. TRAFFIC ANALYSIS PROCEDURE

Study intersections were analyzed using the methodology outlined in the *Highway Capacity Manual* (HCM), 6th Edition published by the Transportation Research Board. Capacity and level of service are the design criteria for this traffic study. A computer software package, Synchro (Version 10.3), was used to complete the analyses for the study area intersections. Please note that the unsignalized capacity analysis does not provide an overall level of service for an intersection; only delay for an approach with a conflicting movement.

The HCM defines capacity as "the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions." Level of service (LOS) is a term used to represent different driving conditions, and is defined as a "qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers." Level of service varies from Level "A" representing free flow, to Level "F" where breakdown conditions are evident. Refer to Table 4 for HCM levels of service and related average control delay per vehicle for both signalized and unsignalized intersections. Control delay as defined by the HCM includes "initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay". An average control delay of 50 seconds at a signalized intersection results in LOS "D" operation at the intersection.

Table 4: Highway Capacity Manual – Levels-of-Service and Delay

UNSIGNALIZED INTERSECTION		SIGNALIZED INTERSECTION	
LEVEL OF SERVICE	AVERAGE CONTROL DELAY PER VEHICLE (SECONDS)	LEVEL OF SERVICE	AVERAGE CONTROL DELAY PER VEHICLE (SECONDS)
A	0-10	A	0-10
B	10-15	B	10-20
C	15-25	C	20-35
D	25-35	D	35-55
E	35-50	E	55-80
F	>50	F	>80

6.1. Adjustments to Analysis Guidelines

Capacity analysis at all study intersections was completed according to the NCDOT Congestions Management Guidelines.

7. CAPACITY ANALYSIS

7.1. Old US Highway 1 and New Hill-Olive Chapel Road / New Hill-Holleman Road

The existing unsignalized intersection of Old US Highway 1 and New Hill-Olive Chapel Road was analyzed under 2022 existing, 2026 no-build without Gracewood Improvements, 2026 no-build with Gracewood Improvements, 2026 build without Gracewood Improvements and 2026 build with Gracewood Improvements traffic conditions with lane configurations and traffic control shown in Table 5. Refer to Table 5 for a summary of the analysis results. The with Gracewood Improvement scenarios under 2026 no-build and 2026 build conditions analyzed the intersection with exclusive turn lanes on all approaches to be constructed by the Gracewood Residential development at its build out. Refer to Appendix E for the Synchro capacity analysis reports. SimTraffic queuing reports can be found in Appendix H.

Table 5: Analysis Summary of Old US Highway 1 and New Hill-Olive Chapel Road / New Hill-Holleman Road

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2022 Existing	EB	1 LT-TH-RT	B	B (14)	B	B (16)
	WB	1 LT-TH-RT	B		B	
	NB	1 LT-TH-RT	B		B	
	SB	1 LT-TH-RT	B		B	
2026 No-Build without Gracewood Improvements	EB	1 LT-TH-RT	C	C (29)	B	F (108)
	WB	1 LT-TH-RT	B		C	
	NB	1 LT-TH-RT	C		F	
	SB	1 LT-TH-RT	D		E	
2026 No-Build with Gracewood Improvements	EB	1 LT, 1 TH-RT	D	D (45)	E	E (60)
	WB	1 LT, 1 TH-RT	D		D	
	NB	1 LT, 1 TH-RT	D		D	
	SB	1 LT, 1 TH, 1 RT	D		F	
2026 Build without Gracewood Improvements	EB	1 LT-TH-RT	C	D (44)	B	F (160)
	WB	1 LT-TH-RT	B		C	
	NB	1 LT-TH-RT	E		F	
	SB	1 LT-TH-RT	E		F	

Background improvements by the Gracewood Residential development shown underlined.

Table 5: Analysis Summary of Old US Highway 1 and New Hill-Olive Chapel Road / New Hill-Holleman Road (*continued*)

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2026 Build with Gracewood Improvements	EB WB NB SB	1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH, 1 RT	E D D D	D (53)	E E D F	E (67)
2026 Build without Gracewood Improvements – 50 Lots	EB WB NB SB	1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT	C B C C	C (29)	D F F C	E (64)
2026 Build without Gracewood Improvements – **with FIL Improvements**	EB WB NB SB	**1 LT**, 1 TH-RT **1 LT**, 1 TH-RT 1 LT-TH-RT 1 LT-TH-RT	D C D D	D (43)	F F F C	E (79)
2026 Build with Gracewood Improvements – *Signal Timing Modifications*	EB WB NB SB	1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH, 1 RT	E D D D	D (47)	E E D E	E (58)

Background improvements by the Gracewood Residential development shown underlined.
Improvements to be paid via fee-in-lieu by the Developer shown in bold.

Capacity analysis of 2022 existing conditions indicates that the intersection of Old US Highway 1 and New Hill-Olive Chapel Road / New Hill-Holleman Road is expected to operate at an overall LOS B during the weekday AM peak hour and PM peak hours. Under 2026 no-build and 2026 build conditions without Gracewood Improvements the intersection is expected to operate at an overall LOS D or better during the weekday AM peak hour and an overall LOS F during the weekday PM peak hour. For the purposes of this study, future conditions were also analyzed with improvements committed to by the Gracewood Residential development. These improvements include providing exclusive turn lanes on all approaches. Capacity analysis of 2026 no-build and 2026 build conditions with the

Gracewood Improvements indicates that the intersection is expected to operate at an overall LOS D during the weekday AM peak hour and LOS E during the weekday PM peak hour.

Signal timing modifications were considered at this intersection under 2026 build conditions with the Gracewood Improvements to mitigate an overall poor level of service experienced during the weekday PM peak hour. With this improvement, the intersection is expected to operate at an overall LOS D during the weekday AM peak hour and LOS E during the weekday PM peak hour with delays better than 2026 no-build conditions during the weekday PM peak hour. The signal timing modifications are expected to improve delay to the better than 2026 no-build conditions during the weekday PM peak hour. While this study analyzes the signal with optimization, NCDOT periodically undertakes this at all signals to account for changes in traffic patterns.

2026 build conditions without Gracewood Improvements was analyzed with 50 single family homes built out to determine the impacts on the surrounding roadway network. With 50 single family homes, the intersection is expected to operate at an overall LOS C during the weekday AM peak hour and LOS E during the weekday PM peak hour with delays equal to or better than 2026 no-build conditions without Gracewood Improvements.

Under 2026 build – without Gracewood Improvements conditions, the intersection was analyzed with exclusive eastbound and westbound left-turn lanes along the major-street (Old US Highway 1) in order to mitigate poor levels-of-service experienced during the weekday PM peak hour. With these improvements, the intersection is expected to operate at an overall LOS D during the weekday AM peak hour and LOS E during the weekday PM peak hour under 2026 build conditions with delays better than 2026 no-build conditions during the weekday PM peak hour.

These improvements are not recommended to be constructed by the proposed development as they are already committed to by the Gracewood Residential development to be built out once completed. The Gracewood development has additional improvements at the subject intersection that will be constructed at time of their improvements. In order to not have

continuous intersection improvements being undertaken at the subject intersection, it is recommended that these turn lanes be constructed once triggered by the Gracewood Residential development. The costs of these improvements are significant and beyond the impacts caused solely by the proposed development; therefore, a proportional fee in lieu is recommended for the Utley Farms development. An additional phased analysis scenario was provided to demonstrate the operations at the intersection with buildout of 50 units. Acceptable levels of service are expected under this scenario; therefore, it is recommended that the proportional fee in lieu for these improvements be assessed prior to the 51st single family home.

Per Section 13.19.2 of the Town's Unified Development Ordinance (UDO), improvements to minimize delay are to be required for intersections operating at poor levels of service under future conditions when the traffic generated by the proposed development is at least 10% of the projected total weekday AM or PM peak hour traffic at the intersection. The proposed development is expected to only account for approximately 6% of the overall traffic at the intersection during the weekday AM and PM peak hours with the Gracewood Improvements. Without the Gracewood Improvements, the proposed development is expected to only account for approximately 6% of the overall traffic during the weekday AM peak hour and approximately 7% of overall traffic during the weekday PM peak hour. Additionally, the proposed development is only expected to add approximately eight seconds to the overall delay during the weekday AM peak hour and approximately seven seconds to the overall delay during the weekday PM peak hour under 2026 build conditions with Gracewood Improvements.

7.2. Old US Highway 1 and Site Drive 1

The proposed unsignalized intersection of Old US Highway 1 and Site Drive 1 was analyzed under 2026 build without Gracewood Improvements and 2026 build with Gracewood Improvements traffic conditions with lane configurations and traffic control shown in Table 6. Refer to Table 6 for a summary of the analysis results. Refer to Appendix F for the Synchro capacity analysis reports. SimTraffic queuing reports can be found in Appendix H.

Table 6: Analysis Summary of Old US Highway 1 and Site Drive 1

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2026 Build without Gracewood Improvements	EB WB **SB**	1 **LT**-TH 1 TH, **1 RT** **1 LT-RT**	A[1] -- C[2]	N/A	A[1] -- C[2]	N/A
2026 Build with Gracewood Improvements	EB WB **SB**	1 **LT**-TH 1 TH, **1 RT** **1 LT-RT**	A[1] -- C[2]	N/A	A[1] -- C[2]	N/A

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

Improvements by Developer shown in bold.

Capacity analysis of 2026 build with Gracewood Improvements and 2026 build without Gracewood Improvements indicates that the major-street left-turn movement and the minor-street approach at the intersection of Old US Highway 1 and Site Drive 1 are expected to operate at LOS C or better during the weekday AM and PM peak hours.

Turn lanes were considered at this intersection according to the NCDOT *Policy on Street and Driveway Access to NC Highways* (Driveway Manual). Based on the Driveway Manual, an exclusive westbound right-turn lane with a minimum of 50 feet of storage and appropriate deceleration and taper length is warranted and recommended by the proposed development. Turn lane warrant charts can be found in Appendix H. Due to a low volume of left-turning movements into the proposed development, an exclusive eastbound left-turn lane is not

warranted based on the criteria within the Driveway Manual. Although an exclusive eastbound left-turn lane is not warranted, this improvement would not be uncommon along the major thoroughfare (Old US Highway 1) due to the high posted speed limit (55 mph) and the traffic growth expected in the future. At this site driveway, the proposed development could construct an exclusive eastbound left-turn lane in place of the recommended exclusive westbound right-turn lane.

7.3. Old US Highway 1 and Site Drive 2

The proposed unsignalized intersection of Old US Highway 1 and Site Drive 2 was analyzed under 2026 build without Gracewood Improvements and 2026 build with Gracewood Improvements traffic conditions with lane configurations and traffic control shown in Table 7. Refer to Table 7 for a summary of the analysis results. Refer to Appendix G for the Synchro capacity analysis reports. SimTraffic queuing reports can be found in Appendix H.

Table 7: Analysis Summary of Old US Highway 1 and Site Drive 2

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2026 Build without Gracewood Improvements	EB WB **SB**	1 **LT**-TH 1 TH, **1 RT** **1 LT-RT**	A[1] -- B[2]	N/A	A[1] -- C[2]	N/A
2026 Build with Gracewood Improvements	EB WB **SB**	1 **LT**-TH 1 TH, **1 RT** **1 LT-RT**	A[1] -- C[2]	N/A	A[1] -- C[2]	N/A

3. Level of service for major-street left-turn movement.
4. Level of service for minor-street approach.

Improvements by Developer shown in bold.

Capacity analysis of 2026 build with Gracewood Improvements and 2026 build without Gracewood Improvements indicates that the major-street left-turn movement and the minor-street approach at the intersection of Old US Highway 1 and Site Drive 1 are expected to operate at LOS C or better during the weekday AM and PM peak hours.

Turn lanes were considered at this intersection according to the NCDOT *Policy on Street and Driveway Access to NC Highways* (Driveway Manual). Based on the Driveway Manual, an exclusive westbound right-turn lane with a minimum of 50 feet of storage and appropriate deceleration and taper length is warranted and recommended by the proposed development. Turn lane warrant charts can be found in Appendix H. Due to a low volume of left-turning movements into the proposed development, an exclusive eastbound left-turn lane is not

warranted based on the criteria within the Driveway Manual. Although an exclusive eastbound left-turn lane is not warranted, this improvement would not be uncommon along the major thoroughfare (Old US Highway 1) due to the high posted speed limit (55 mph) and the traffic growth expected in the future. At this site driveway, the proposed development could construct an exclusive eastbound left-turn lane in place of the recommended exclusive westbound right-turn lane.

8. CONCLUSIONS

This Traffic Impact Analysis was conducted to determine the potential traffic impacts of the proposed development, located north of Old Highway US 1, west of New Hill-Olive Chapel Road in Apex, North Carolina. The proposed development is expected to be a residential development and be built out by 2026. Site access is proposed via two (2) full movement driveways along Old US Highway 1.

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

- 2022 Existing Traffic Conditions
- 2026 No-Build Traffic Conditions without Gracewood Improvements
- 2026 No-Build Traffic Conditions with Gracewood Improvements
- 2026 Build Traffic Conditions without Gracewood Improvements
- 2026 Build Traffic Conditions with Gracewood Improvements

Trip Generation

It is estimated that the proposed development will generate approximately 1,380 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 101 trips (26 entering and 75 exiting) will occur during the weekday AM peak hour and 136 trips (86 entering and 50 exiting) will occur during the weekday PM peak hour.

Adjustments to Analysis Guidelines

Capacity analysis at all study intersections was completed according to NCDOT Congestion Management Guidelines. Refer to section 6.1 of this report for a detailed description of any adjustments to these guidelines made throughout the analysis.

Intersection Capacity Analysis Summary

All the study area intersections (including the proposed site driveways) are expected to operate at acceptable levels-of-service under existing and future year conditions with the

exception of the intersections listed below. A summary of the study area intersections that are expected to need improvements are as follows:

Old US Highway 1 and New Hill-Olive Chapel Road / New Hill-Holleman Road

Under 2026 no-build and 2026 build conditions without Gracewood Improvements the intersection is expected to operate at an overall LOS D or better during the weekday AM peak hour and an overall LOS F during the weekday PM peak hour. For the purposes of this study, future conditions were also analyzed with improvements committed to by the Gracewood Residential development. These improvements include installing a signal at the intersection and providing exclusive turn lanes on all approaches. Capacity analysis of 2026 no-build and 2026 build conditions with the Gracewood Improvements indicates that the intersection is expected to operate at an overall LOS D during the weekday AM peak hour and LOS E during the weekday PM peak hour.

Signal timing modifications were considered at this intersection under 2026 build conditions with the Gracewood Improvements to mitigate an overall poor level of service experienced during the weekday PM peak hour. With this improvement, the intersection is expected to operate at an overall LOS D during the weekday AM peak hour and LOS E during the weekday PM peak hour with delays better than 2026 no-build conditions during the weekday PM peak hour. The signal timing modifications are expected to improve delay to the better than 2026 no-build conditions during the weekday PM peak hour. While this study analyzes the signal with optimization, NCDOT periodically undertakes this at all signals to account for changes in traffic patterns.

2026 build conditions without Gracewood Improvements was analyzed with 50 single family homes built out to determine the impacts on the surrounding roadway network. With 50 single family homes, the intersection is expected to operate at an overall LOS C during the weekday AM peak hour and LOS E during the weekday PM peak hour with delays equal to or better than 2026 no-build conditions without Gracewood Improvements.

Under 2026 build – without Gracewood Improvements conditions, the intersection was analyzed with exclusive eastbound and westbound left-turn lanes along the major-street (Old US Highway 1) in order to mitigate poor levels-of-service experienced during the weekday PM peak hour. With these improvements, the intersection is expected to operate at an overall LOS D during the weekday AM peak hour and LOS E during the weekday PM peak hour under 2026 build conditions with delays better than 2026 no-build conditions during the weekday PM peak hour.

These improvements are not recommended to be constructed by the proposed development as they are already committed to by the Gracewood Residential development to be built out once completed. The Gracewood development has additional improvements at the subject intersection that will be constructed at time of their improvements. In order to not have continuous intersection improvements being undertaken at the subject intersection, it is recommended that these turn lanes be constructed once triggered by the Gracewood Residential development. The costs of these improvements are significant and beyond the impacts caused solely by the proposed development; therefore, a proportional fee in lieu is recommended for the Utley Farms development. An additional phased analysis scenario was provided to demonstrate the operations at the intersection with buildout of 50 units. Acceptable levels of service are expected under this scenario; therefore, it is recommended that the proportional fee in lieu for these improvements be assessed prior to the 51st single family home.

Per Section 13.19.2 of the Town's Unified Development Ordinance (UDO), improvements to minimize delay are to be required for intersections operating at poor levels of service under future conditions when the traffic generated by the proposed development is at least 10% of the projected total weekday AM or PM peak hour traffic at the intersection. The proposed development is expected to only account for approximately 6% of the overall traffic at the intersection during the weekday AM and PM peak hours with the Gracewood Improvements. Without the Gracewood Improvements, the proposed development is expected to only account for approximately 6% of the overall traffic during the weekday AM peak hour and approximately 7% of overall traffic during the weekday PM peak hour. Additionally, the

proposed development is only expected to add approximately eight seconds to the overall delay during the weekday AM peak hour and approximately seven seconds to the overall delay during the weekday PM peak hour under 2026 build conditions with Gracewood Improvements.

9. RECOMMENDATIONS

Based on the findings of this study, specific geometric improvements have been identified and are recommended to accommodate future traffic conditions. See a more detailed description of the recommended improvements below. Refer to Figure 11 for an illustration of the recommended lane configuration for the proposed development.

Background Improvements by Gracewood Residential Development

Old US Highway 1 and New Hill-Olive Chapel Road / New Hill-Holleman Road

- Construct exclusive eastbound and westbound left-turn lanes along Old US Highway 1 with a minimum of 250 feet of storage and appropriate deceleration and taper length.
- Construct an exclusive northbound left-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.
- Construct an exclusive southbound left-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.
- Construct an exclusive southbound right-turn lane with a minimum of 150 feet of storage and appropriate deceleration and taper length.

Recommended Improvements by Developer

Old US Highway 1 and New Hill-Olive Chapel Road / New Hill-Holleman Road

A proportional fee-in-lieu is recommended for these improvements based on an engineering estimate for their construction prior to the 51st unit.

- Construct exclusive eastbound and westbound left-turn lanes along Old US Highway 1 with a minimum of 250 feet of storage and appropriate deceleration and taper length.

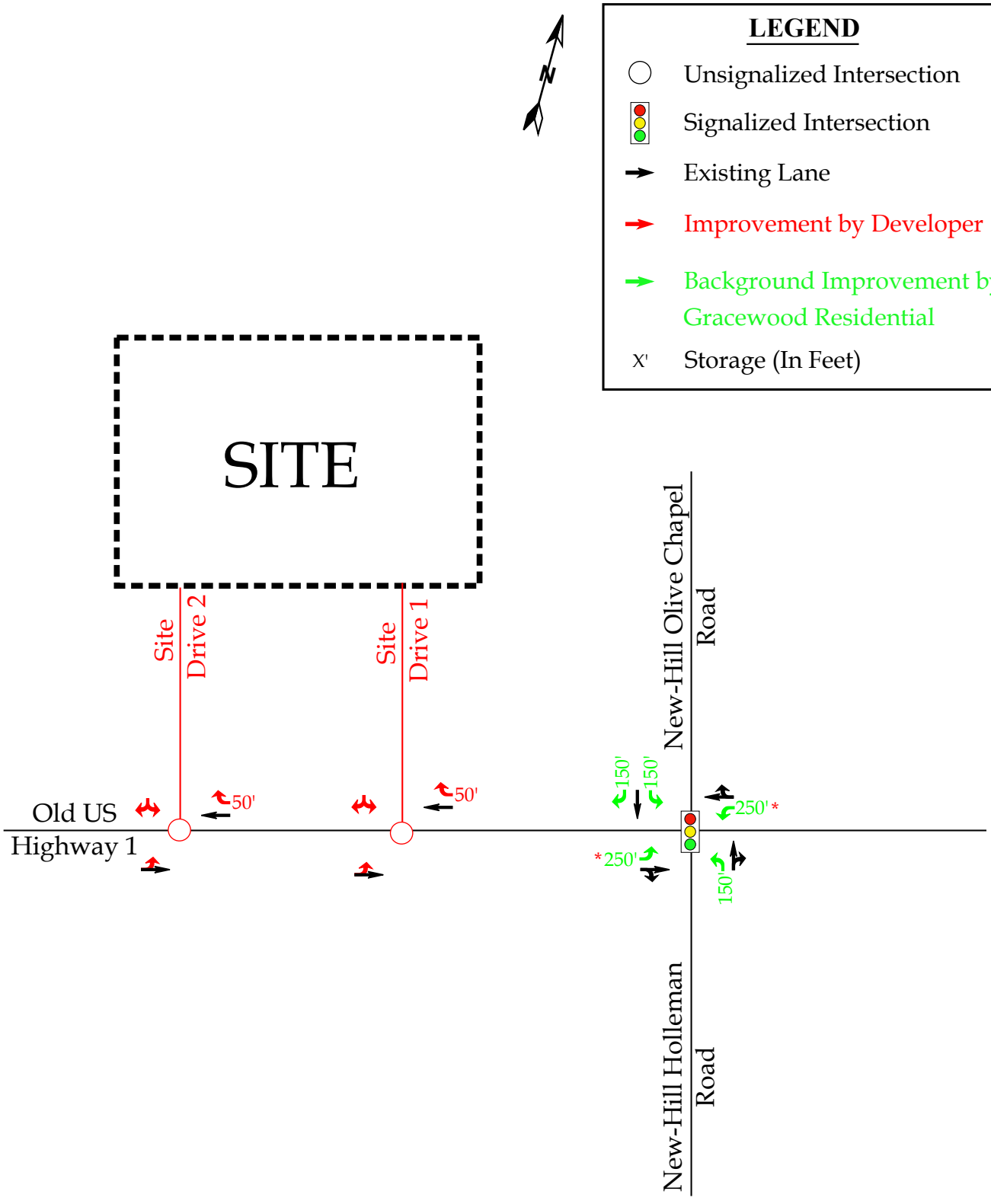
Old US Highway 1 and Site Drive 1

- Construct the southbound approach with one (1) ingress lane and one (1) egress lane.
- Provide an exclusive westbound right-turn lane with a minimum of 50 feet of storage and appropriate deceleration and taper length.
- Provide stop-control for the southbound approach.

- *Although an exclusive eastbound left-turn lane is not warranted, this improvement would not be uncommon along the major thoroughfare (Old US Highway 1) due to the high posted speed limit (55 mph) and the traffic growth expected in the future. At this site driveway, the proposed development could construct an exclusive eastbound left-turn lane in place of the recommended exclusive westbound right-turn lane.*

Old US Highway 1 and Site Drive 2

- Construct the southbound approach with one (1) ingress lane and one (1) egress lane.
- Provide an exclusive westbound right-turn lane with a minimum of 50 feet of storage and appropriate deceleration and taper length.
- Provide stop-control for the southbound approach.
- *Although an exclusive eastbound left-turn lane is not warranted, this improvement would not be uncommon along the major thoroughfare (Old US Highway 1) due to the high posted speed limit (55 mph) and the traffic growth expected in the future. At this site driveway, the proposed development could construct an exclusive eastbound left-turn lane in place of the recommended exclusive westbound right-turn lane.*



*Note: Proportional fee-in-lieu by Developer

RKA RAMEY KEMP ASSOCIATES	Utley Farms Apex, NC	Recommended Lane Configurations Scale: Not to Scale | Figure 11

TECHNICAL APPENDIX

APPENDIX A

SCOPING DOCUMENTATION

RAMEY KEMP ASSOCIATES
TOGETHER WE ARE LIMITLESS

T 919 872 5115
5808 Faringdon Pl,
Raleigh, NC 27609

February 23, 2022

Russell Dalton, PE
Town of Apex
73 Hunter Street
Apex, NC 27502
P: 919-429-3358
E: russell.dalton@apexnc.org

Subject: **Memorandum of Understanding –** Belterra Section II
Apex, North Carolina

Dear Mr. Dalton:

The following is a Memorandum of Understanding (MOU) outlining the proposed scope of work and assumptions related to the Traffic Impact Analysis (TIA) for the proposed Belterra Section II development, to be located north of Old US Highway 1 and west of New Hill - Olive Chapel Road in Apex, North Carolina.

It is our understanding that the proposed development is expected be fully built out by 2026 and consist of a maximum amount of 140 single family homes. Access to the development is proposed via two (2) full movement driveways along Old US Highway 1. An internal connection to the existing phase 1 of the Belterra development, north of the site, is expected to provide site access to the proposed development. For the purposes of this study, this access will not be analyzed under future conditions as the traffic that is is expected to utilize this connection is negligible. This MOU contains information based on a scoping call with the Town of Apex (Town) on December 29, 2021 and with the North Carolina Department of Transportation (NCDOT) on December 28, 2021. A site location map and preliminary site plan has been attached for your reference.

Study Area

Based on coordination with the Town and NCDOT, the study area is proposed to consist of the following existing intersection:

- Old US Highway 1 and New Hill - Olive Chapel Road / New Hill – Holleman Road

Analysis Scenarios

All capacity analyses will be performed utilizing Synchro (Version 10.3). All study intersections will be analyzed during typical weekday AM and PM peak hours under the following proposed traffic scenarios:

- 2022 Existing Traffic Conditions
- 2026 No-Build Traffic Conditions with Gracewood Improvements
- 2026 No-Build Traffic Conditions without Gracewood Improvements
- 2026 Build Traffic Conditions with Gracewood Improvements

- 2026 Build Traffic Conditions without Gracewood Improvements

Existing Traffic Volumes

Peak hour turning movement counts were collected at the study intersection in February 2022 during weekday AM (7:00 – 9:00 AM) and PM (4:00 – 6:00 PM) peak periods, while schools are in session, to determine 2022 existing peak hour traffic volumes.

No-Build Traffic Volumes

Per coordination with Town and NCDOT Staff, no-build traffic volumes will be determined by projecting 2022 existing traffic volumes to the build-out year using a proposed 3% annual growth rate.

Adjacent Developments

Based on coordination with the Town, the following adjacent developments are to be included in this study:

- Gracewood Residential – April 2021 by KHA
  - Without Gracewood Improvements – this study will assume Gracewood consist of 270 single family homes.
  - With Gracewood Improvements – this study will consider 85% of the Gracewood development as adjacent development traffic as 15% of the development is currently built-out.
- Olive Ridge – December 2018 by RKA
- Jordan Manors – May 2015 by KHA
  - 20% of the Jordan Manors development will be considered as adjacent development traffic as 80% of the development is currently built out.
- Belterra (New Hill Assembly aka Jordan Vistas) – April 2018 by RKA

All other future developments will be accounted for with the proposed 3% growth rate.

Future Roadway Improvements

Through coordination with NCDOT and the Town, future roadway improvements associated with the Gracewood Residential development are to be included in this study under future conditions. For the purposes of this study, under future conditions without Gracewood Improvements, the Gracewood adjacent development is expected to consist of 270 single family homes. Analysis of future conditions with Gracewood Improvements will include 85% of the development's density as adjacent development traffic as 15% of the development is currently built-out.

Trip Generation

Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE *Trip Generation Manual*, 11th Edition. Refer to Table 1, on the following page, for a detailed breakdown of the buildout site trip generation.

Table 1: Trip Generation Summary

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	AM Peak Hour Trips (vph)		PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Single-Family Homes (210)	140 units	1,380	26	75	86	50

It is estimated that the proposed site will generate approximately 1,380 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 101 trips (26 entering and 75 exiting) would occur during the weekday AM peak hour and 136 trips (86 entering and 50 exiting) would occur during the weekday PM peak hour.

Trip Distribution

The primary site trips are distributed based on a combination of existing traffic patterns, population centers adjacent to the study area, and engineering judgment. A summary of the proposed regional trip distributions is as follows:

- 10% to/from the north via New-Hill Olive Chapel Road
- 50% to/from the south via New-Hill Holleman Road
- 35% to/from the east via Old US Highway 1
- 5% to/from the west via Old US Highway 1

Refer to the attachments for a figure showing the anticipated site trip distributions for the site.

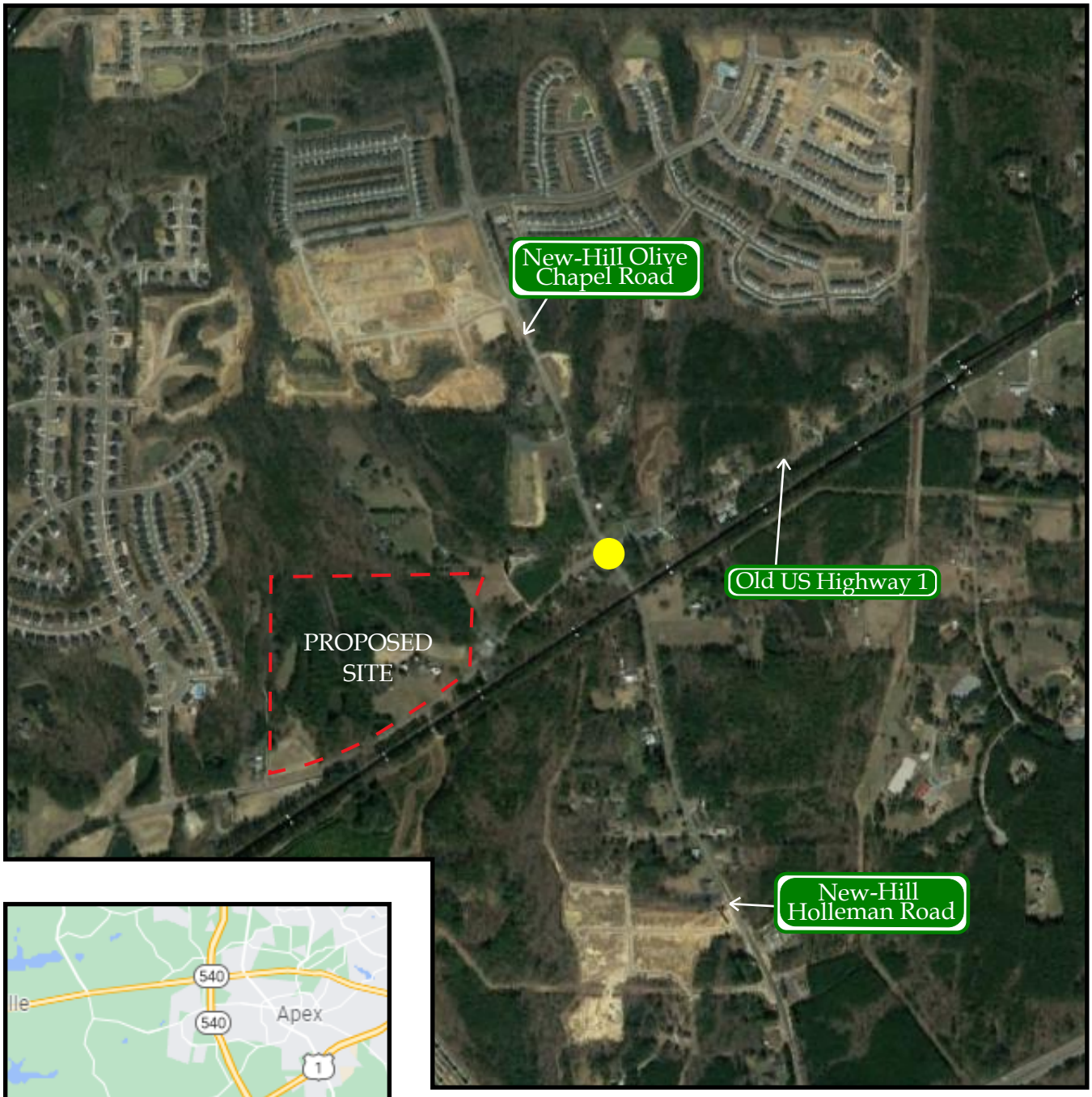
Report

The Traffic Impact Analysis report will be prepared based on the Town and NCDOT guidelines. If you find this memorandum of understanding acceptable, please let me know so that we may include it in the TIA report. If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,
Ramey Kemp & Associates, Inc.

Nate Bouquin, PE, PTOE
Traffic Engineering Project Manager

Attachments: Site Location Map
Preliminary Site Plan
2022 Existing Peak Hour Traffic
Proposed Site Trip Distribution Figure



N

LEGEND

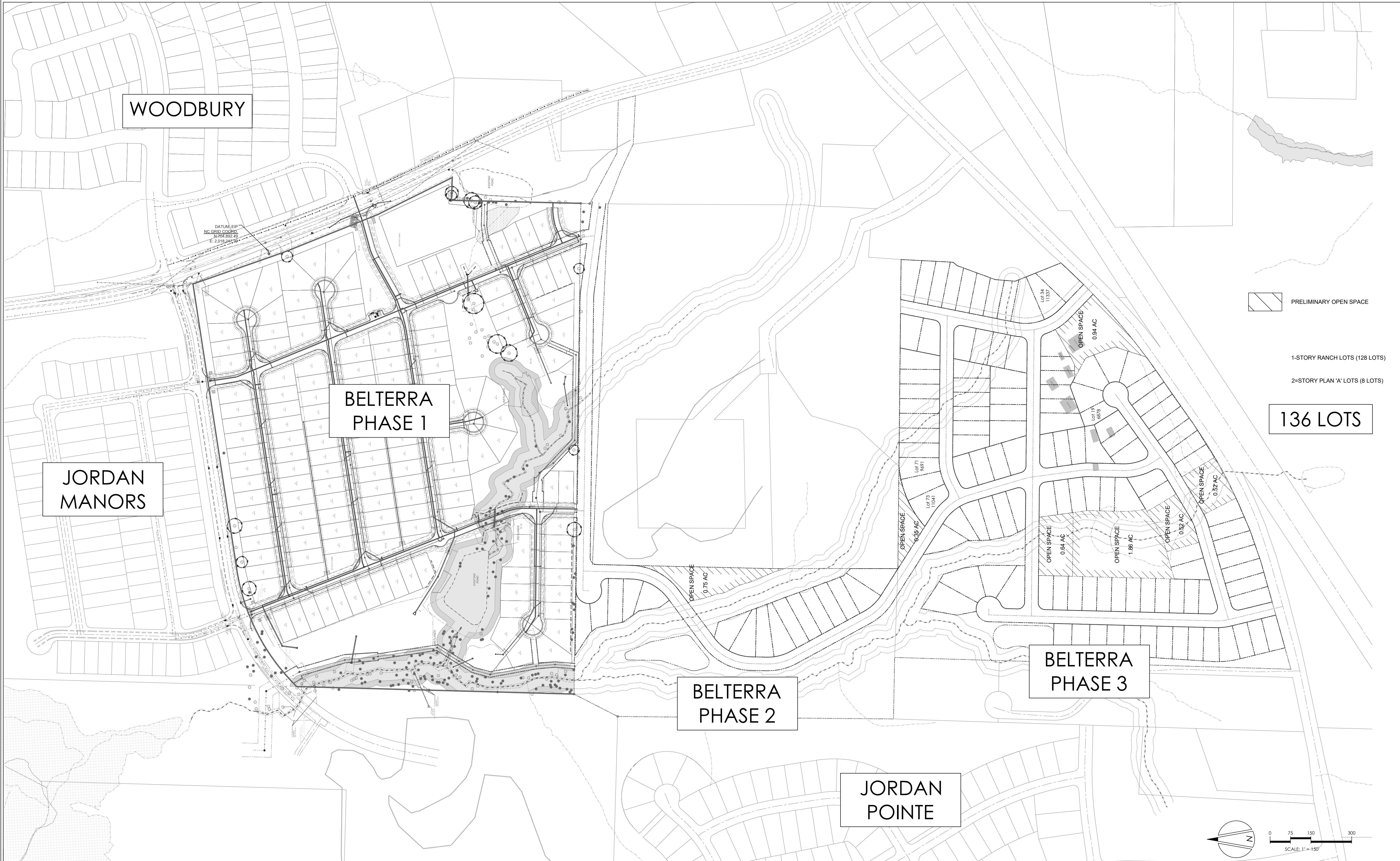
- Proposed Site Location
- Existing Study Intersection
- Study Area

RKA
RAMEY KEMP ASSOCIATES

Belterra Section II
Apex, NC

Site Location Map

Scale: Not to Scale



Designer: FS	Scale: 1" = 150'
Drawn By: FS	Date: 06/30/2021
Checked By: JR	Job No.: 210504

BELTERRA PHASE 2
NEW HILL, NORTH CAROLINA

SKETCH PLAN 1

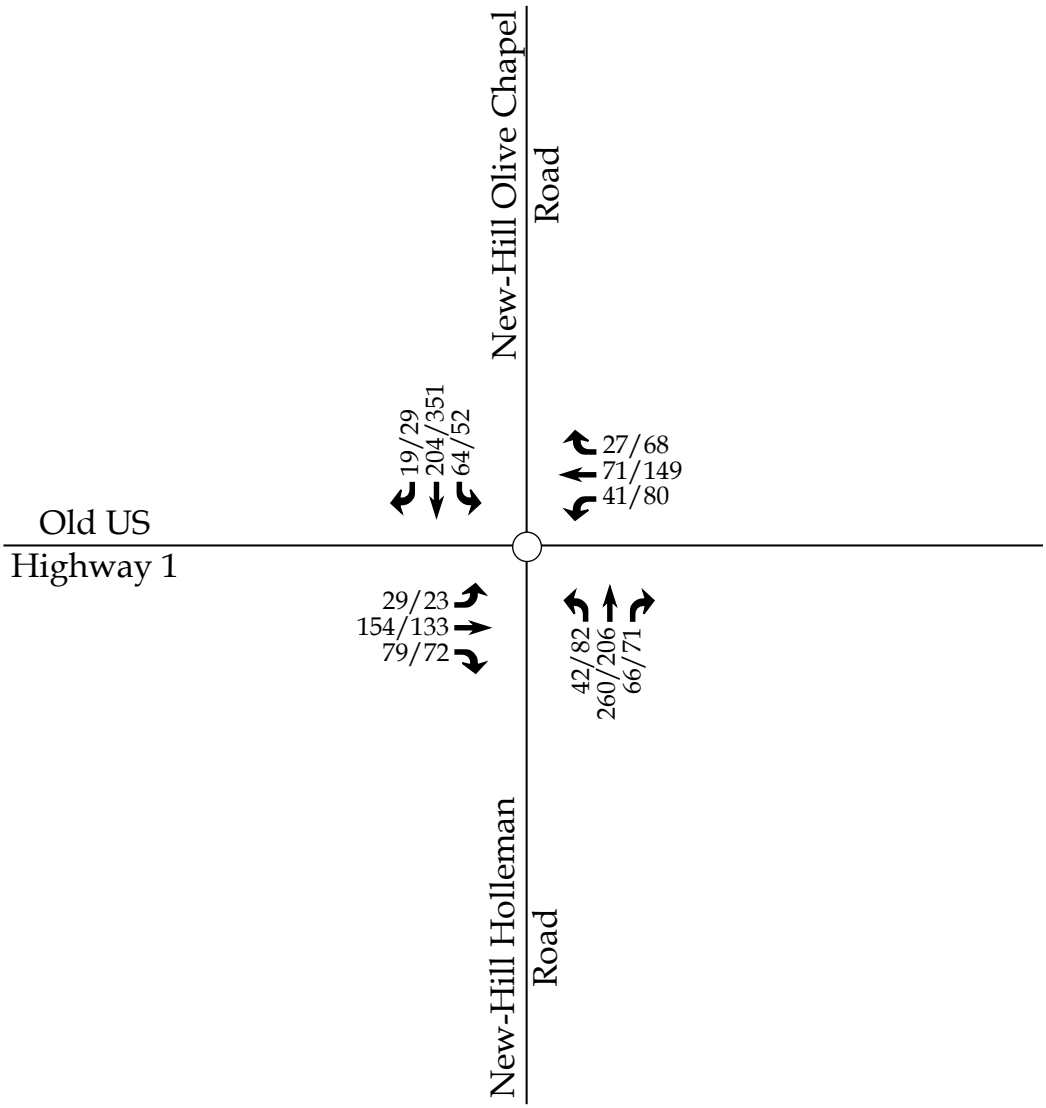
PEAK Engineering & Design
1125 Apex Peakway | Apex, NC 27502
ph: 919.439.0100
www.PeakEngineering.com

Sheet No.
SP-1

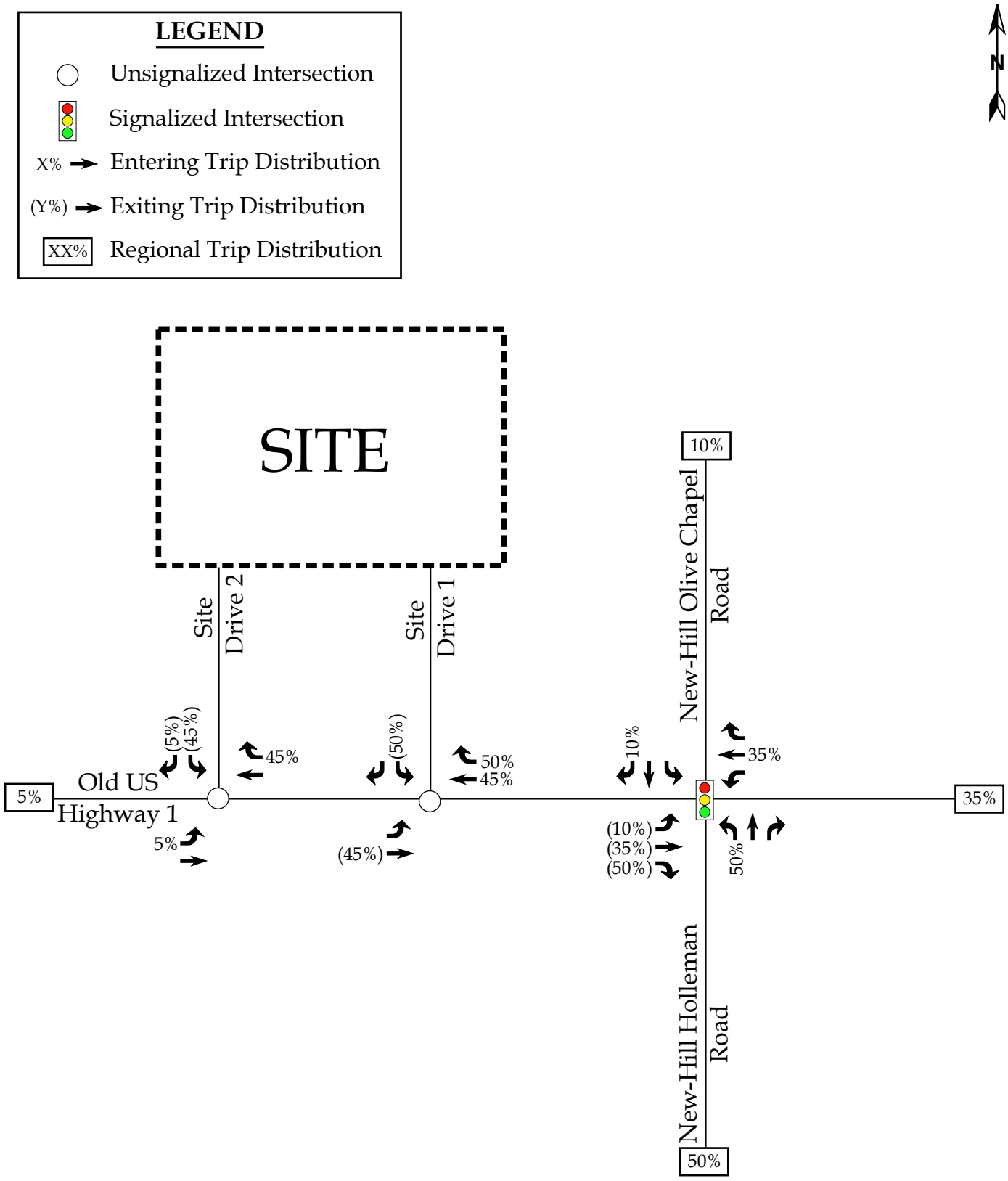
LEGEND

◯ Unsignalized Intersection

X / Y → Weekday AM / PM Peak Hour Traffic



RKA RAMEY KEMP ASSOCIATES	Belterra Section II Apex, NC	2022 Existing Peak Hour Traffic Scale: Not to Scale



RAMEY KEMP ASSOCIATES

Belterra Section II
Apex, NC

Proposed
Site Trip Distribution

Scale: Not to Scale

APPENDIX B

TRAFFIC COUNTS

TRAFFIC DATA COLLECTION

File Name : Apex(Old US Hwy 1 and New Hill)
Site Code :
Start Date : 2/16/2022
Page No : 1

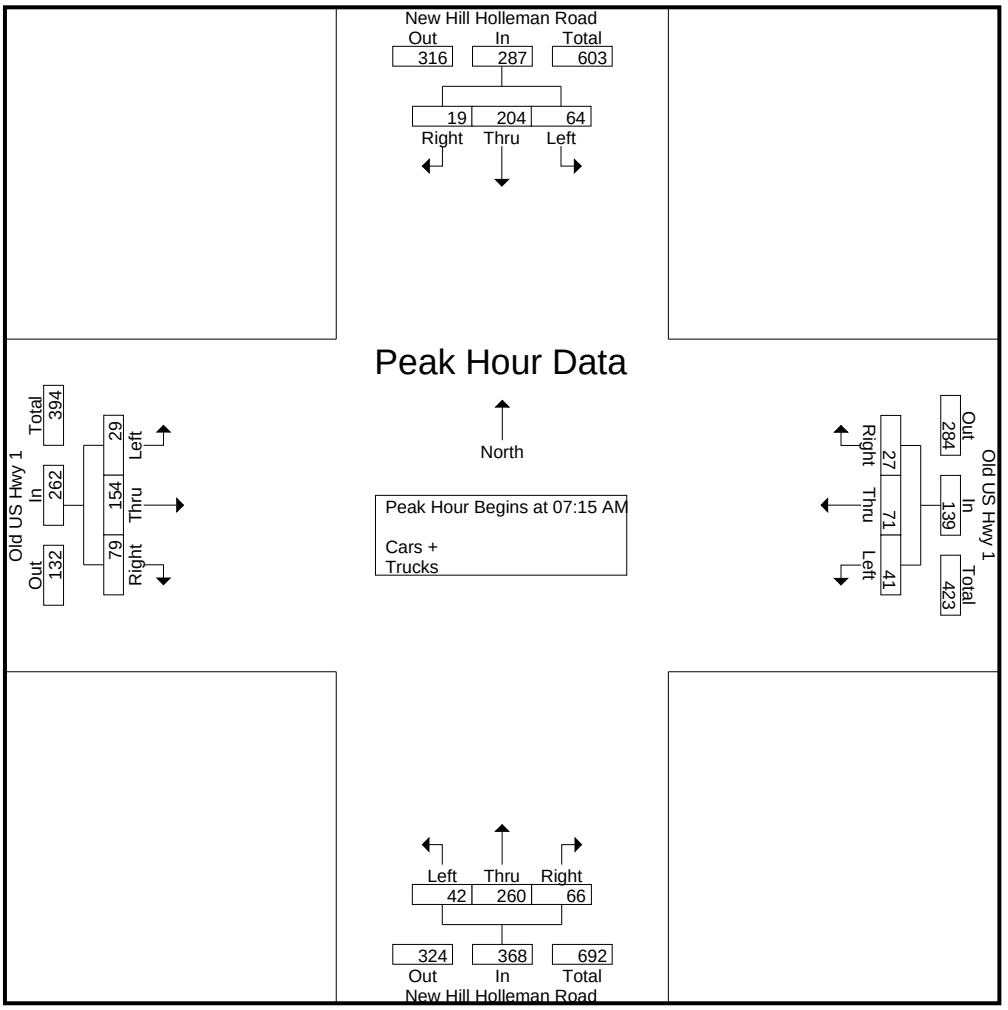
Groups Printed- Cars + - Trucks

	New Hill Holleman Road Southbound				Old US Hwy 1 Westbound				New Hill Holleman Road Northbound				Old US Hwy 1 Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	5	48	13	66	3	7	11	21	17	59	7	83	8	34	16	58	228
07:15 AM	2	76	24	102	7	10	8	25	15	54	9	78	29	35	6	70	275
07:30 AM	7	53	15	75	3	13	6	22	13	83	6	102	21	47	6	74	273
07:45 AM	6	39	7	52	6	23	17	46	19	63	14	96	14	45	8	67	261
Total	20	216	59	295	19	53	42	114	64	259	36	359	72	161	36	269	1037
08:00 AM	4	36	18	58	11	25	10	46	19	60	13	92	15	27	9	51	247
08:15 AM	11	42	18	71	7	24	10	41	14	83	5	102	14	31	10	55	269
08:30 AM	7	42	25	74	4	30	8	42	14	60	15	89	11	53	10	74	279
Grand Total	42	336	120	498	41	132	70	243	111	462	69	642	112	272	65	449	1832
Apprch %	8.4	67.5	24.1		16.9	54.3	28.8		17.3	72	10.7		24.9	60.6	14.5		
Total %	2.3	18.3	6.6	27.2	2.2	7.2	3.8	13.3	6.1	25.2	3.8	35	6.1	14.8	3.5	24.5	
Cars +	34	300	114	448	37	119	65	221	108	417	61	586	105	262	63	430	1685
% Cars +	81	89.3	95	90	90.2	90.2	92.9	90.9	97.3	90.3	88.4	91.3	93.8	96.3	96.9	95.8	92
Trucks	8	36	6	50	4	13	5	22	3	45	8	56	7	10	2	19	147
% Trucks	19	10.7	5	10	9.8	9.8	7.1	9.1	2.7	9.7	11.6	8.7	6.2	3.7	3.1	4.2	8

TRAFFIC DATA COLLECTION

File Name : Apex(Old US Hwy 1 and New Hill)
Site Code :
Start Date : 2/16/2022
Page No : 2

	New Hill Holleman Road Southbound				Old US Hwy 1 Westbound				New Hill Holleman Road Northbound				Old US Hwy 1 Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	2	**76**	**24**	**102**	7	10	8	25	15	54	9	78	**29**	35	6	70	**275**
07:30 AM	**7**	53	15	75	3	13	6	22	13	**83**	6	**102**	21	**47**	6	**74**	273
07:45 AM	6	39	7	52	6	23	**17**	**46**	**19**	63	**14**	96	14	45	8	67	261
08:00 AM	4	36	18	58	**11**	**25**	10	46	19	60	13	92	15	27	**9**	51	247
Total Volume	19	204	64	287	27	71	41	139	66	260	42	368	79	154	29	262	1056
% App. Total	6.6	71.1	22.3		19.4	51.1	29.5		17.9	70.7	11.4		30.2	58.8	11.1		
PHF	.679	.671	.667	.703	.614	.710	.603	.755	.868	.783	.750	.902	.681	.819	.806	.885	.960



TRAFFIC DATA COLLECTION

File Name : Apex(Old US Hwy 1 and New Hill)
Site Code :
Start Date : 2/16/2022
Page No : 1

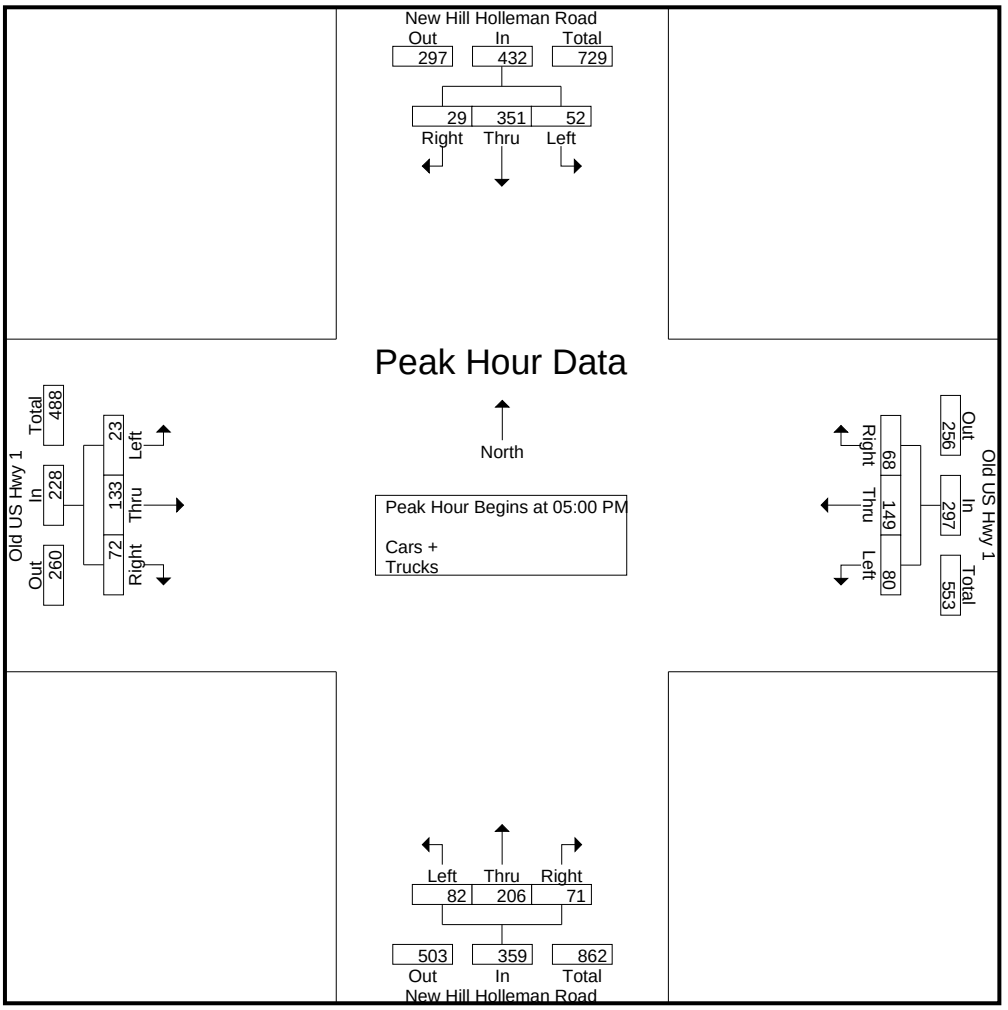
Groups Printed- Cars + - Trucks

	New Hill Holleman Road Southbound				Old US Hwy 1 Westbound				New Hill Holleman Road Northbound				Old US Hwy 1 Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	5	67	10	82	21	46	23	90	14	43	11	68	21	21	6	48	288
04:15 PM	13	73	5	91	17	33	25	75	16	56	10	82	16	18	8	42	290
04:30 PM	9	60	6	75	13	43	26	82	9	52	29	90	15	28	8	51	298
04:45 PM	7	68	8	83	15	39	27	81	18	45	17	80	20	18	7	45	289
Total	34	268	29	331	66	161	101	328	57	196	67	320	72	85	29	186	1165
05:00 PM	6	55	14	75	17	36	18	71	14	39	16	69	15	26	2	43	258
05:15 PM	6	135	15	156	18	31	26	75	25	59	24	108	24	38	11	73	412
05:30 PM	9	91	11	111	22	51	20	93	22	47	18	87	16	30	3	49	340
05:45 PM	8	70	12	90	11	31	16	58	10	61	24	95	17	39	7	63	306
Total	29	351	52	432	68	149	80	297	71	206	82	359	72	133	23	228	1316
Grand Total	63	619	81	763	134	310	181	625	128	402	149	679	144	218	52	414	2481
Apprch %	8.3	81.1	10.6		21.4	49.6	29		18.9	59.2	21.9		34.8	52.7	12.6		
Total %	2.5	24.9	3.3	30.8	5.4	12.5	7.3	25.2	5.2	16.2	6	27.4	5.8	8.8	2.1	16.7	
Cars +	56	587	78	721	133	305	175	613	124	384	147	655	137	211	51	399	2388
% Cars +	88.9	94.8	96.3	94.5	99.3	98.4	96.7	98.1	96.9	95.5	98.7	96.5	95.1	96.8	98.1	96.4	96.3
Trucks	7	32	3	42	1	5	6	12	4	18	2	24	7	7	1	15	93
% Trucks	11.1	5.2	3.7	5.5	0.7	1.6	3.3	1.9	3.1	4.5	1.3	3.5	4.9	3.2	1.9	3.6	3.7

TRAFFIC DATA COLLECTION

File Name : Apex(Old US Hwy 1 and New Hill)
Site Code :
Start Date : 2/16/2022
Page No : 2

	New Hill Holleman Road Southbound				Old US Hwy 1 Westbound				New Hill Holleman Road Northbound				Old US Hwy 1 Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	6	55	14	75	17	36	18	71	14	39	16	69	15	26	2	43	258
05:15 PM	6	**135**	**15**	**156**	18	31	**26**	75	**25**	59	**24**	**108**	**24**	38	**11**	**73**	**412**
05:30 PM	**9**	91	11	111	**22**	**51**	20	**93**	22	47	18	87	16	30	3	49	340
05:45 PM	8	70	12	90	11	31	16	58	10	**61**	24	95	17	**39**	7	63	306
Total Volume	29	351	52	432	68	149	80	297	71	206	82	359	72	133	23	228	1316
% App. Total	6.7	81.2	12		22.9	50.2	26.9		19.8	57.4	22.8		31.6	58.3	10.1		
PHF	.806	.650	.867	.692	.773	.730	.769	.798	.710	.844	.854	.831	.750	.853	.523	.781	.799



APPENDIX C

ADJACENT DEVELOPMENT INFORMATION

Traffic Impact Analysis
New Hill Assembly
Apex, NC

RAMEY KEMP & ASSOCIATES
TRANSPORTATION ENGINEERS

TRAFFIC IMPACT ANALYSIS

FOR

NEW HILL ASSEMBLY

LOCATED

IN

APEX, NORTH CAROLINA

Prepared For:
Forsyth Investments Company, LLC
414 Forsyth Street
Raleigh, NC 27609

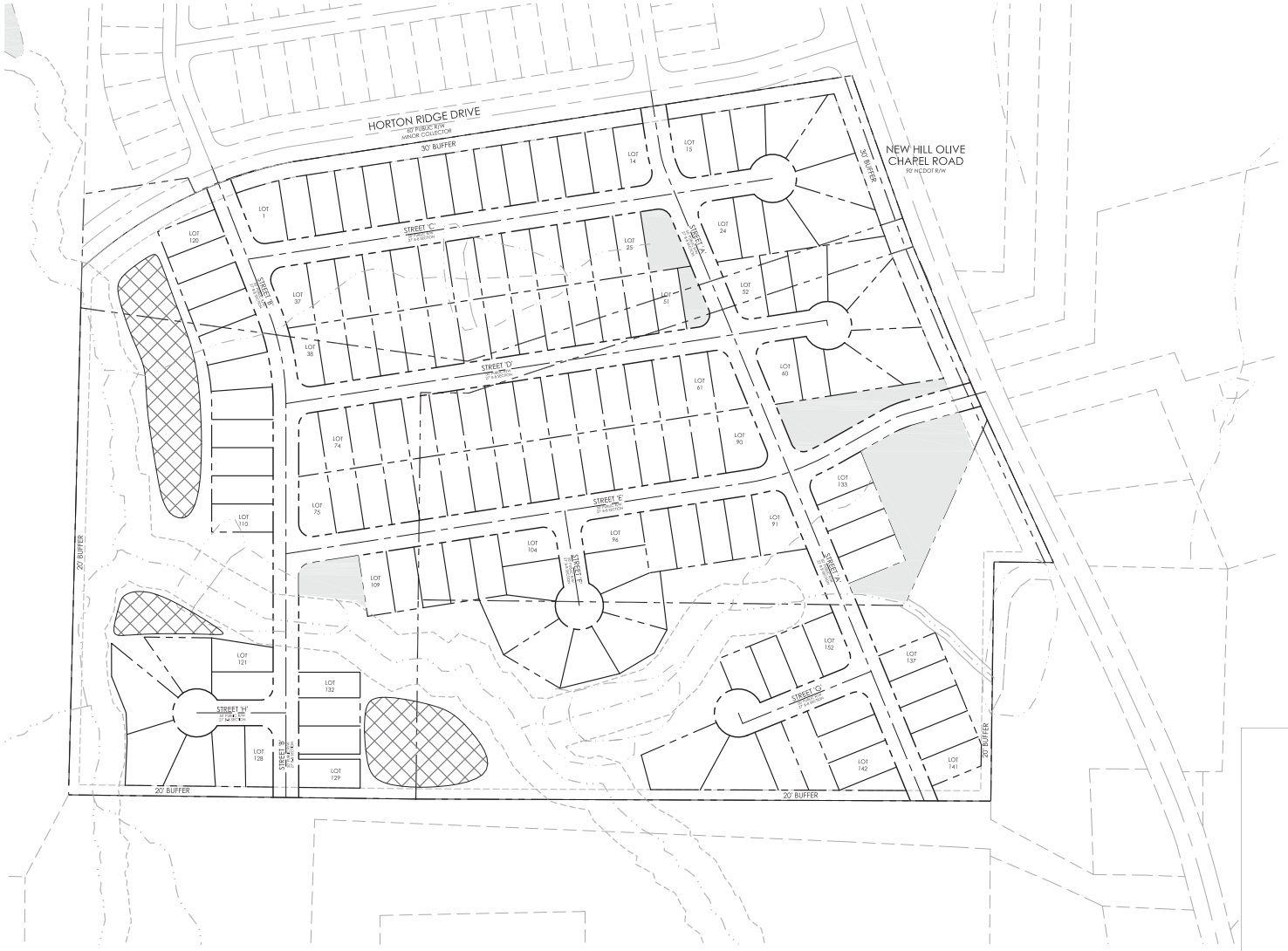
Prepared By:
Ramey Kemp & Associates, Inc.
5808 Faringdon Place, Suite 100
Raleigh, NC 27609
License #C-0910

April 2018

RKA Project No. 18120

Prepared By: NB

Reviewed By: JM



N

0 50 100 200

SCALE: 1" = 100'

1 SP-1 SKETCH PLAN 1

SCALE: 1"= 100'

PEAK Engineering & Design
3448 Apex Peakway #368 | Apex, NC 27502
ph: 919.439.0100 | fax: 919.439.0441
www.peakengineeringdesign.com

NC License #P-0673

project:
NEW HILL ASSEMBLY
NEW HILL OLIVE CHAPEL ROAD @
HORTON RIDGE ROAD
BUCKHORN TOWNSHIP
APEX, NORTH CAROLINA

seal:

no.	DATE	REVISION	BY
-			

title:
SKETCH PLAN

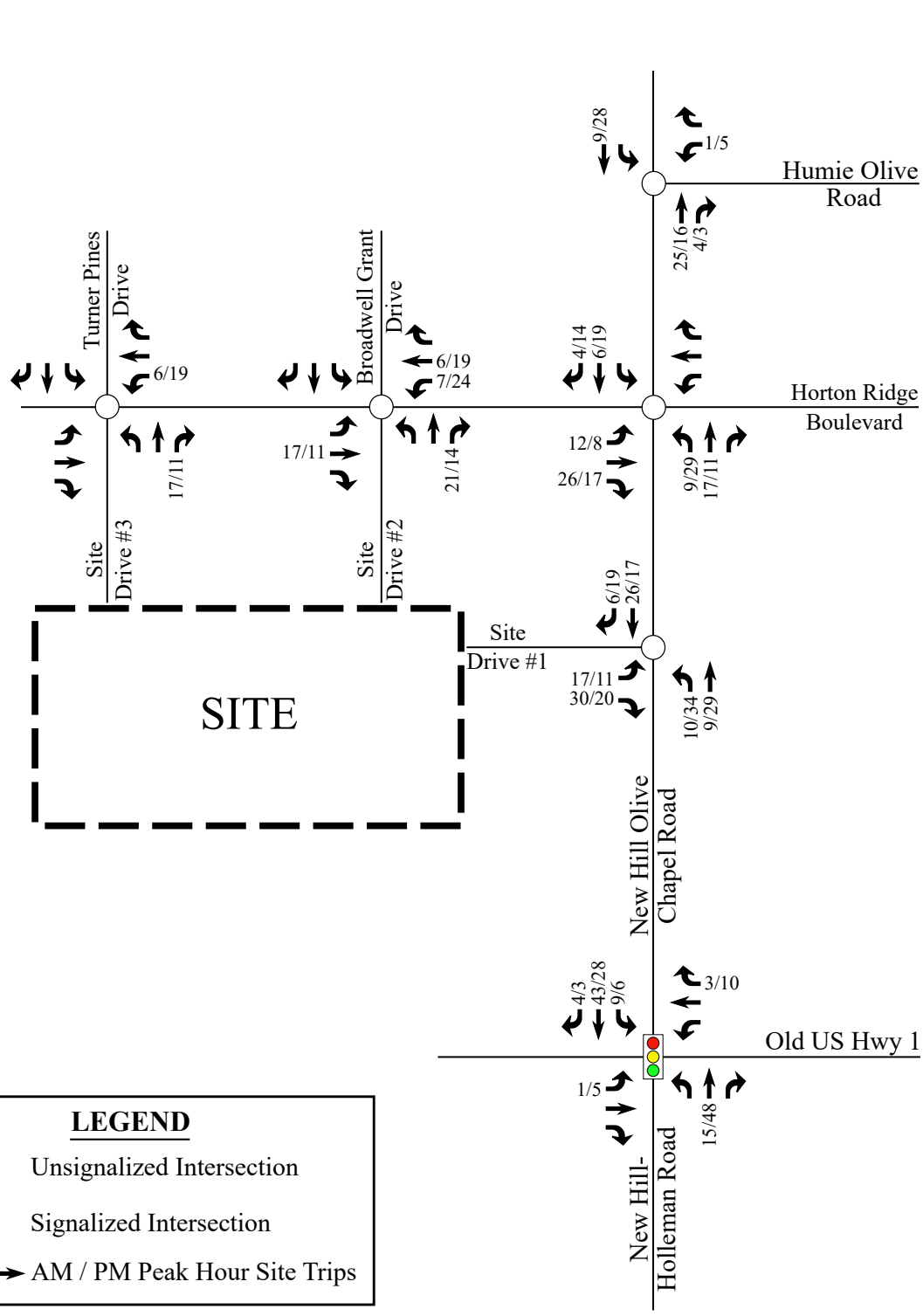
proj #:
170901

date:
March 5, 2018

dwg by: JE chkd by: JR

scale:
1" = 100'

sheet:
SP-1
Sketch Plan



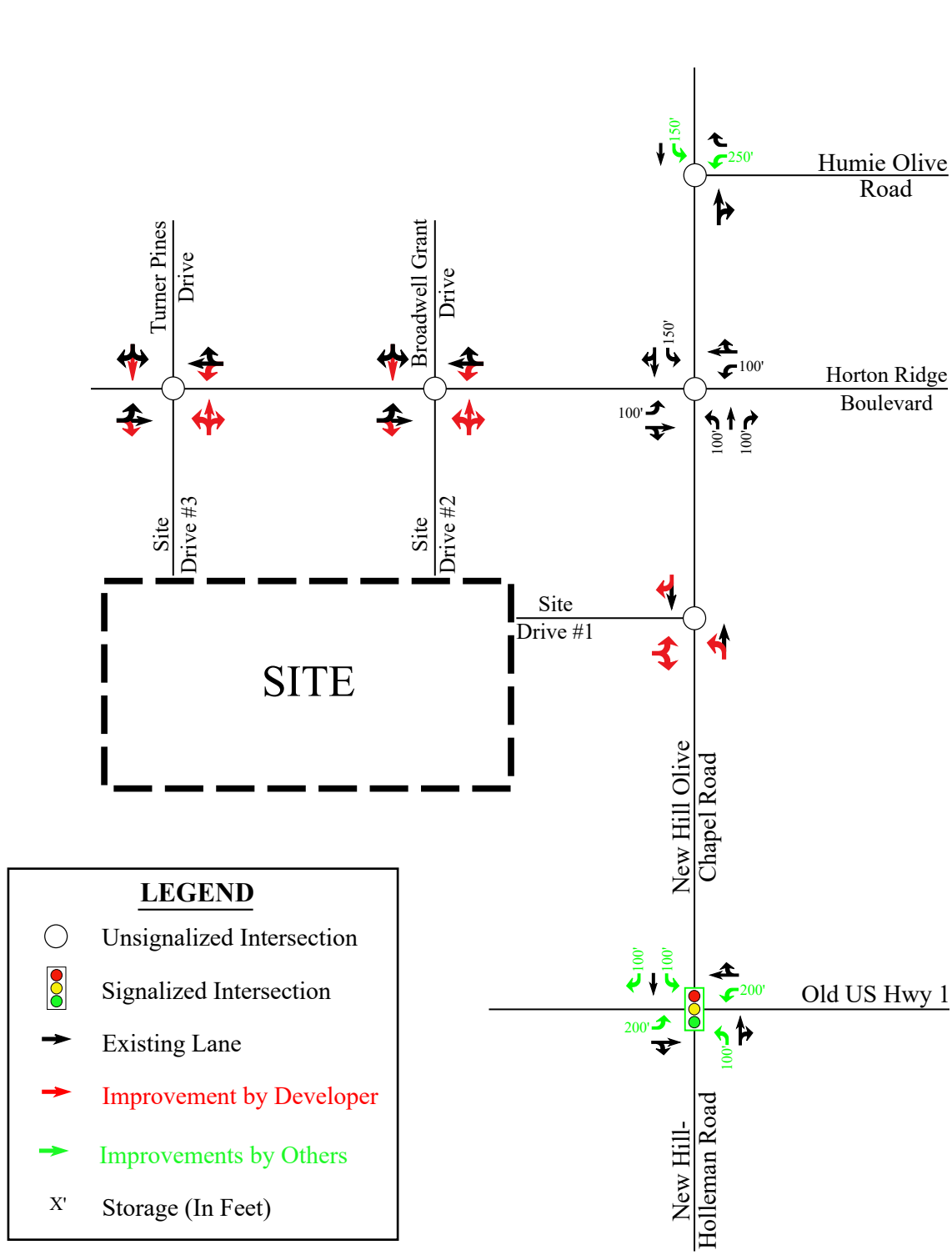
RAMEY KEMP & ASSOCIATES
TRANSPORTATION ENGINEERS

New Hill Assembly
Apex, NC

Site
Trip Assignment

Scale: Not to Scale

Figure 9



RAMEY KEMP & ASSOCIATES
TRANSPORTATION ENGINEERS

New Hill Assembly
Apex, NC

Recommended Lane Configurations

Scale: Not to Scale | Figure 11

Traffic Impact Analysis

Gracewood Residential
Apex, NC

Prepared for:

Community Properties, Inc.

Kimley»Horn

Updated Traffic Impact Analysis for

Gracewood Residential

Apex, North Carolina

Prepared for:

Community Properties, Inc.

Raleigh, NC

Prepared by:

Kimley-Horn and Associates, Inc.

NC License #F-0102
300 Morris Street, Suite 200
Durham, NC 27701
(919) 682-3583

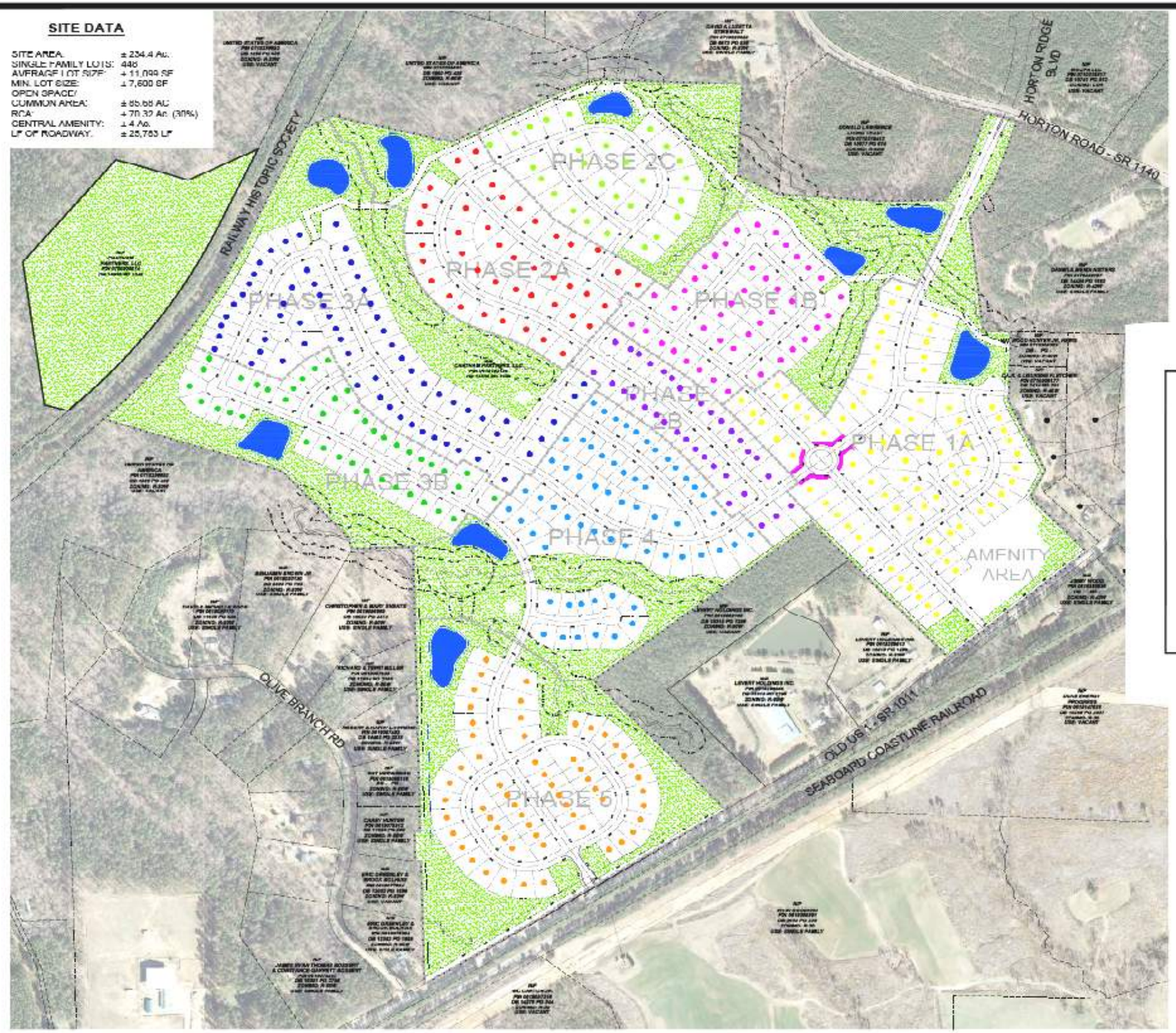
April 2021

018723000

DocuSigned by:
Kevin Dean
55FC287F6DDE4DA...
4/1/2021

SITE DATA

SITE AREA:	± 234.4 Ac.
SINGLE FAMILY LOTS:	448
AVERAGE LOT SIZE:	± 11,099 SF
MIN. LOT SIZE:	± 7,600 SF
OPEN SPACE/ COMMON AREA:	± 85.68 AC
ROA:	± 70.32 Ac. (30%)
CENTRAL AMENITY:	± 4 Ac.
LF OF ROADWAY:	± 25,763 LF



VICINITY MAP
NTS

PHASE 1 (120 LOTS)	
PHASE 1A	78 LOTS
PHASE 1B	42 LOTS
PHASE 2 (103 LOTS)	
PHASE 2A	42 LOTS
PHASE 2B	34 LOTS
PHASE 2C	27 LOTS
PHASE 3 (105 LOTS)	
PHASE 3A	64 LOTS
PHASE 3B	41 LOTS
PHASE 4	61 LOTS
PHASE 5	59 LOTS
TOTAL LOTS IN SUBDIVISION	448 LOTS

GRACEWOOD

RESIDENTIAL COMMUNITY

CONCEPTUAL PHASING PLAN

APEX, NORTH CAROLINA
MARCH 10, 2021

NORTH

FIGURE 2.2

PROPOSED SITE PLAN

GRACEWOOD RESIDENTIAL
APEX, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

LEGEND

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

FIGURE 5.3

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

GRACEWOOD RESIDENTIAL
APEX, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

LEGEND

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

FIGURE 5.4

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

GRACEWOOD RESIDENTIAL
APEX, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

LEGEND

- EXISTING LANE
- EXISTING STOP SIGN
- EXISTING TRAFFIC SIGNAL
- TRAFFIC SIGNAL (COMMITTED BY OTHERS)
- RECOMMENDED LANE
- RECOMMENDED STOP SIGN
- * RECOMMENDED TRAFFIC SIGNAL MODIFICATIONS
- XX' STORAGE LENGTH

FIGURE 7.1

COMMITTED AND RECOMMENDED ROADWAY LANEAGE

GRACEWOOD RESIDENTIAL
APEX, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

KIMLEY-HORN AND ASSOCIATES, INC
NC License #F-0102

May 29, 2015

Mr. Colen Davidson
Milestone Developments, LLC.
140 Towerview Ct.
Cary, NC 27513

DocuSigned by:
E9D325BFBC3E429...
5/29/2015

RE: ***Finkle and Haus Assemblage – Traffic Impact Analysis***

Dear Mr. Davidson:

Kimley-Horn and Associates, Inc. has revised the Traffic Impact Analysis (originally dated February 27, 2015) for the proposed residential development located on the west side of New Hill Olive Chapel Road in Apex, NC. The proposed development will consist of approximately 240 single-family homes split between 2 parcels (approximately 160 units in the northern parcel and 80 units in the southern parcel) and is expected to be completed (built-out) by the year 2018. The northern parcel is proposed to be accessed by two full-movement driveways on New Hill Olive Chapel Road, and the southern parcel is proposed to be access by two full-movement driveways on the Proposed Collector Road that will tie to New Hill Olive Chapel Road along the south end of the site. Figure 1 shows the site location, and Figure 2 shows the proposed site plan.

This report presents trip generation, distribution, traffic analyses, and recommendations for transportation improvements required to meet anticipated traffic demands in conjunction with the development. The three traffic conditions studied include the existing (2015) traffic condition, the projected (2018) background traffic condition, and the projected (2018) build-out traffic condition. Analyses were performed for the weekday AM and PM peak hours. The study area consists of the following intersections:

- New Hill Olive Chapel Road & Old US Hwy 1
- New Hill Olive Chapel Road & Humie Olive Road
- New Hill Olive Chapel Road & Proposed Site Access 1
- New Hill Olive Chapel Road & Proposed Site Access 2
- New Hill Olive Chapel Road & Proposed Collector Road (to connect with Site Access 3, 4)

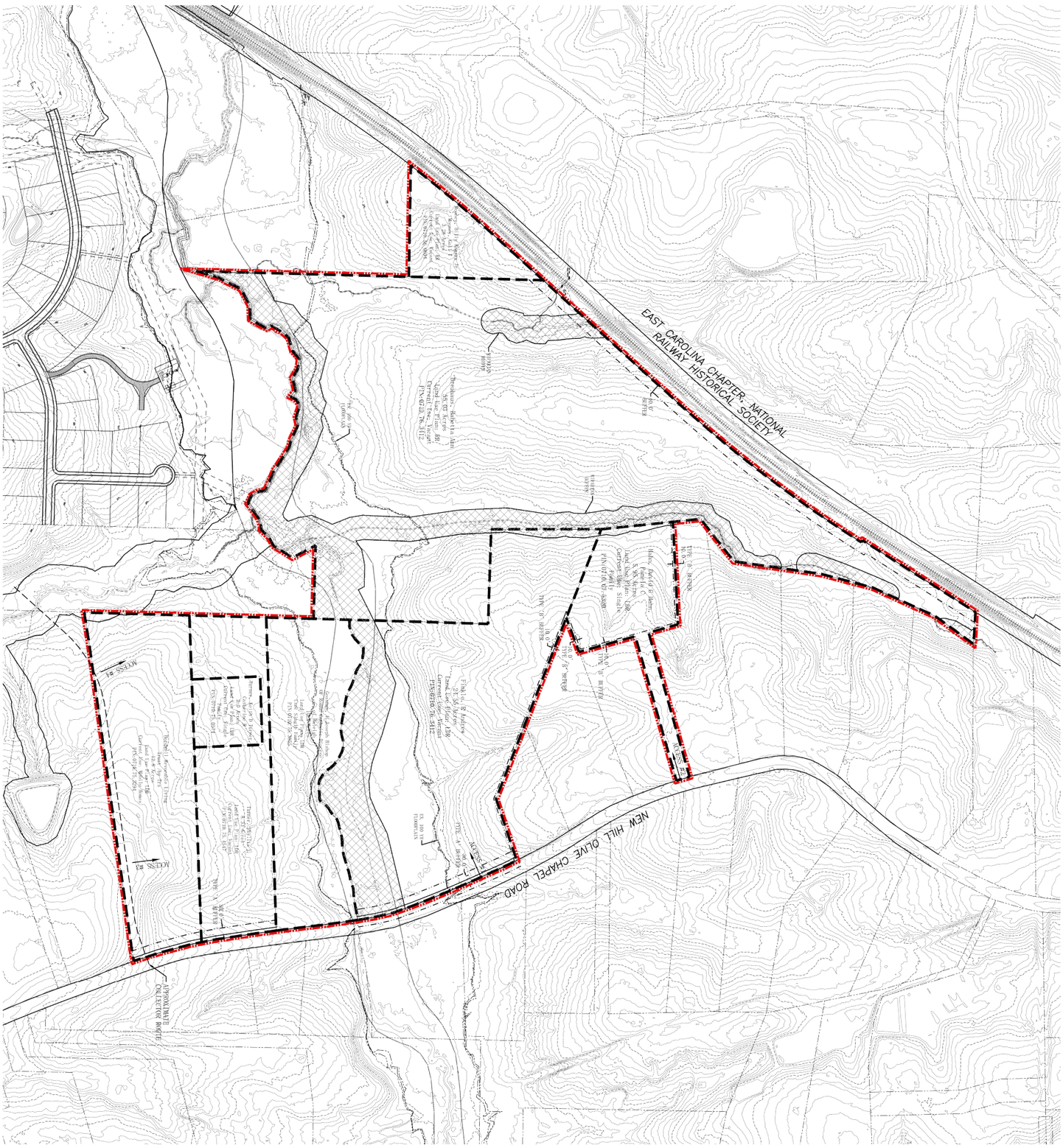
Background Traffic

AM and PM peak hour traffic counts were performed at the following intersections on January 22, 2015:

- New Hill Olive Chapel Road & Old US Hwy 1
- New Hill Olive Chapel Road & Humie Olive Road

The existing AM and PM peak hour turning movement volumes are shown on Figures 3 and 4, respectively. A 3% annual growth factor was applied to the existing volumes to account for ambient

K:\RAL_TPTO_Traffic\017000000 Finkle and Haus\T5 - Report-Submittals\Appendix\Figures\Finkle_Figures.dwg



240 UNITS

Wm. G. Daniel & Assoc.
Engineering Planning
Site Design
1150 SE MAYNARD ROAD
SUITE 210
CARY, NC 27511
(919) 467-9708
C-1029

Revisions
05/13/15 Added parcels and increased unit count to 240

DEVELOPER:
Milestone Developments, LLC
142 Towerview Court
Cary, NC 27513
(919) 417-4429

Project
Finkle and Haus
New Hill Olive Chapel Road

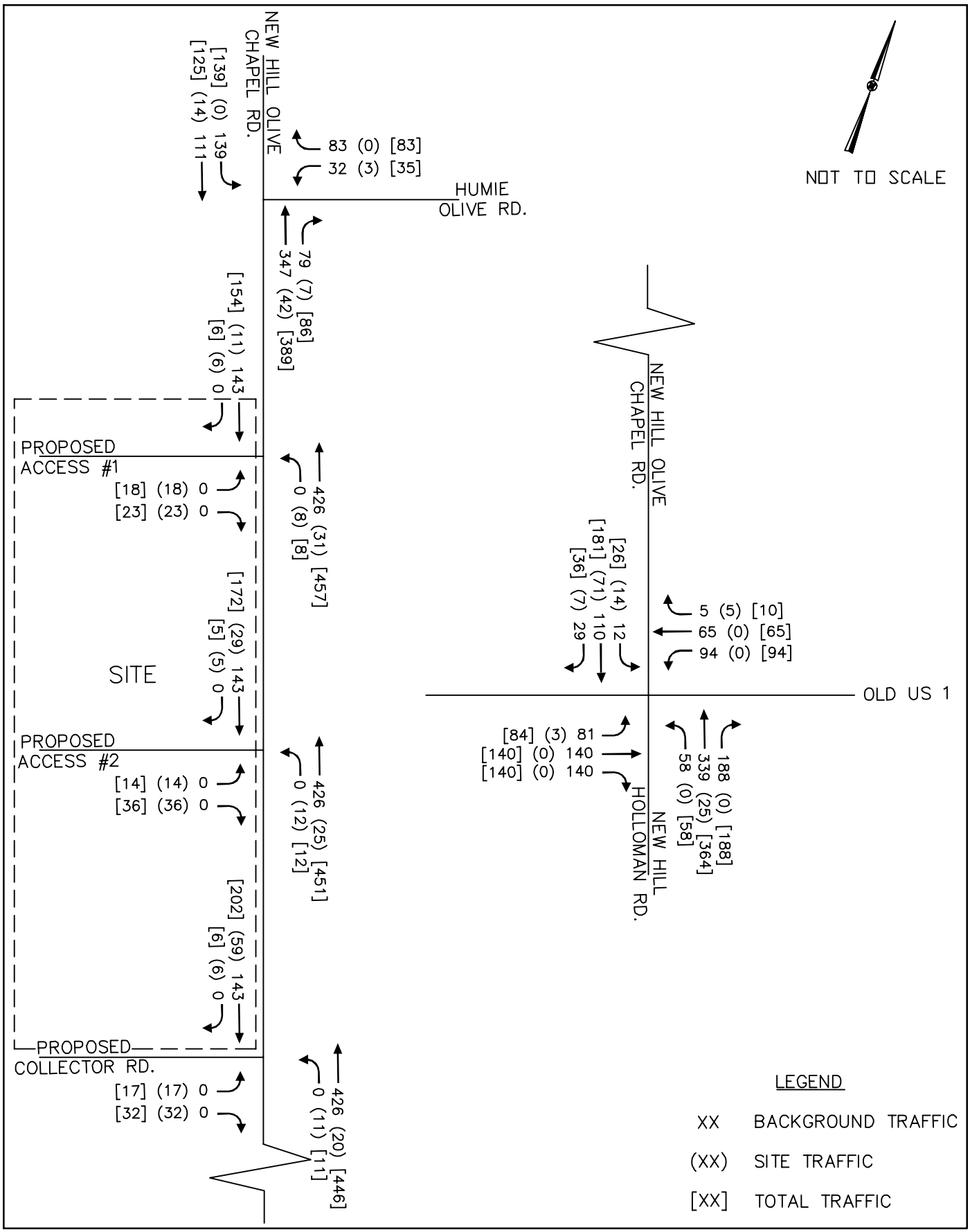
Basemap

Date
February 20, 2015

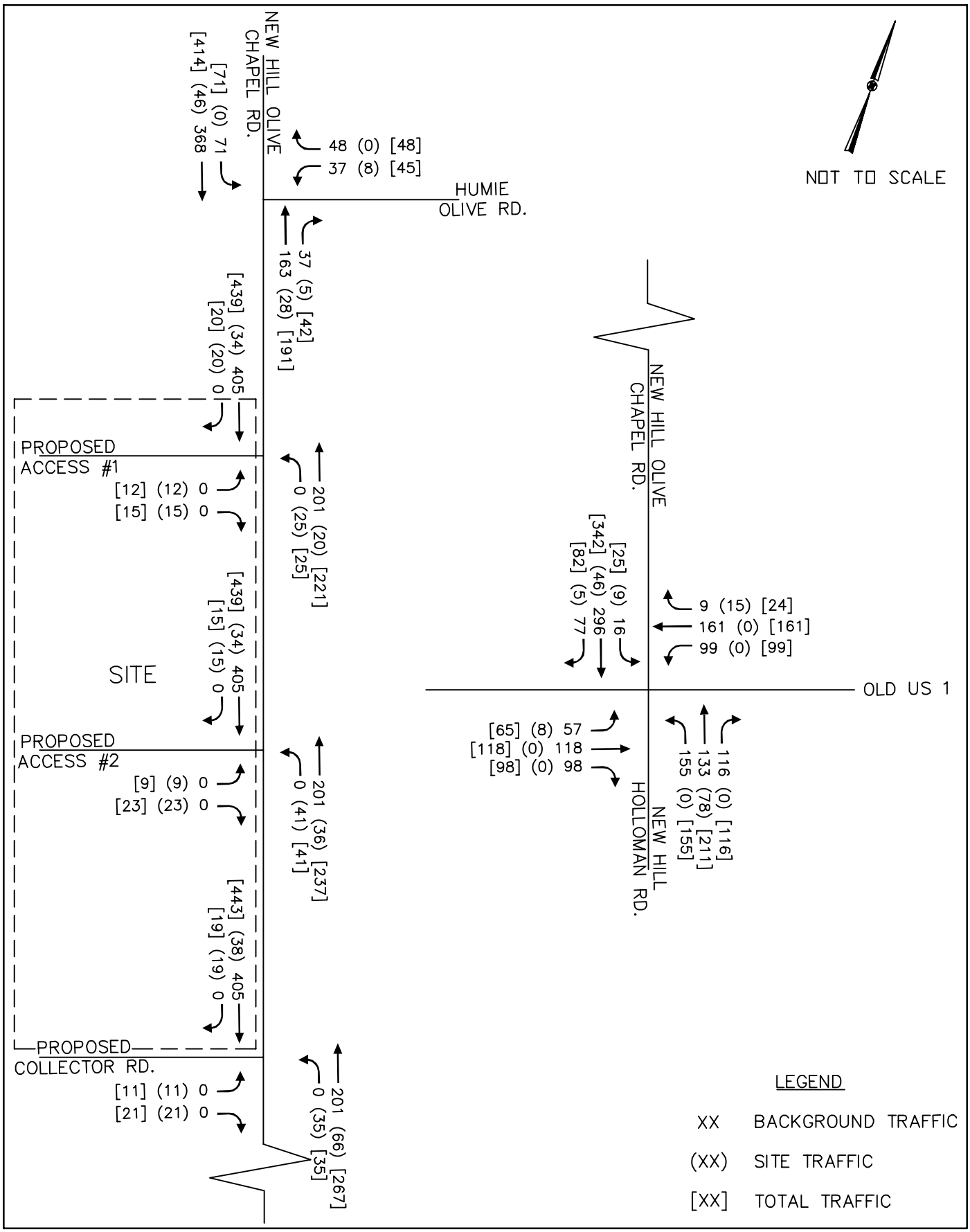
Scale
1" = 200'

Sheet
CS-0

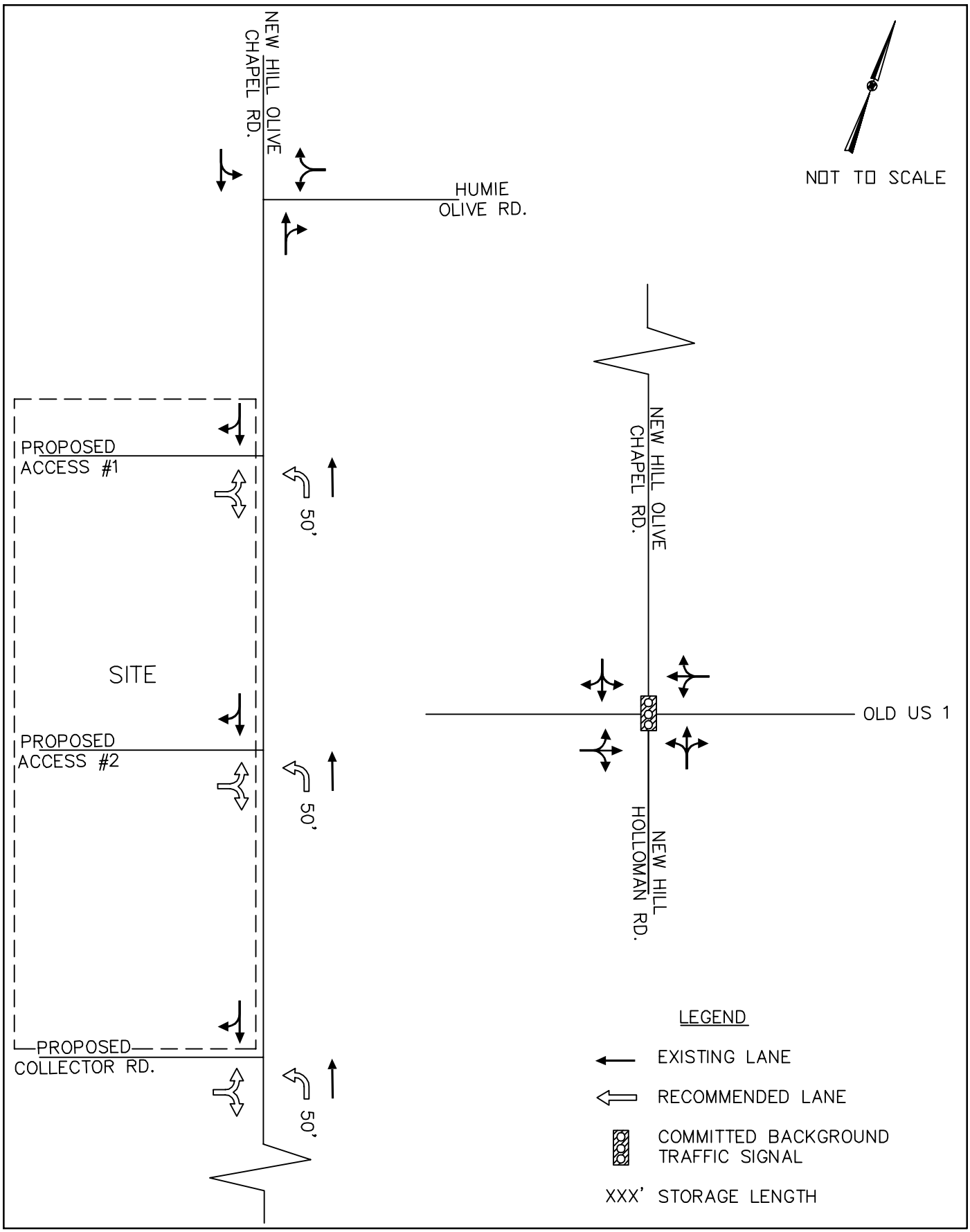
Kimley»Horn	FINKLE & HAUS ASSEMBLANGE APEX, NC TRAFFIC IMPACT ANALYSIS	SITE PLAN	FIGURE 2



Kimley»Horn	FINKLE & HAUS ASSEMBLAGE APEX, NC TRAFFIC IMPACT ANALYSIS	PROJECTED (2018) BUILD-OUT AM PEAK HOUR TRAFFIC VOLUMES	FIGURE 6



Kimley»Horn	FINKLE & HAUS ASSEMBLAGE APEX, NC TRAFFIC IMPACT ANALYSIS	PROJECTED (2018) BUILD-OUT PM PEAK HOUR TRAFFIC VOLUMES	FIGURE 7



Kimley»Horn	FINKLE & HAUS ASSEMBLAGE APEX, NC TRAFFIC IMPACT ANALYSIS	RECOMMENDED ROADWAY LANEAGE	FIGURE 8

Traffic Impact Analysis
Olive Ridge
Apex, North Carolina

RAMEY KEMP & ASSOCIATES

TRAFFIC IMPACT ANALYSIS

FOR

OLIVE RIDGE

LOCATED

IN

APEX, NORTH CAROLINA

Prepared For:
Rob Tessar
Weekley Homes, LLC
1901 N. Harrison Avenue, Suite 200
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License #C-0910

December 2018

RKA Project No. 18357

Prepared By: NB

Reviewed By: RS

PRELIMINARY STREET CONNECTIONS

PLAN SHEETS ARE INTENDED FOR ILLUSTRATIVE USE ONLY

0 50 100 200

SCALE: 1" = 100'

1 SP-2 SKETCH PLAN
SCALE: 1"= 100'

PEAK
Engineering & Design
5448 Apex Peakway #368 | Apex, NC 27502
ph: 919.439.0100 fax: 919.439.6411
www.PeakEngineeringDesign.com

NC License #P-0673

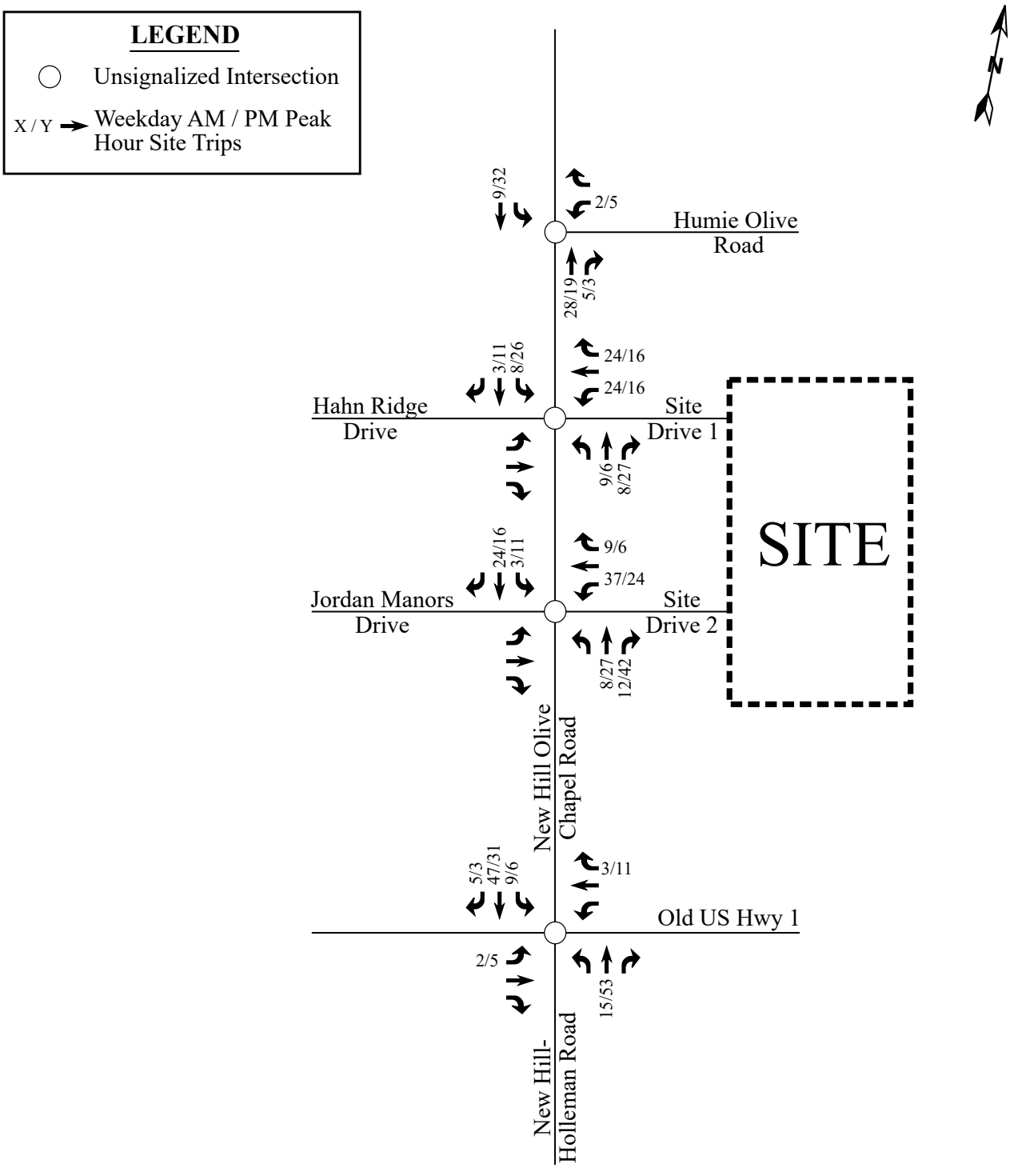
project:
OLIVE RIDGE SUBDIVISION
NEW HILL OLIVE CHAPEL ROAD
BUCKHORN TOWNSHIP
APEX, NORTH CAROLINA

seal:

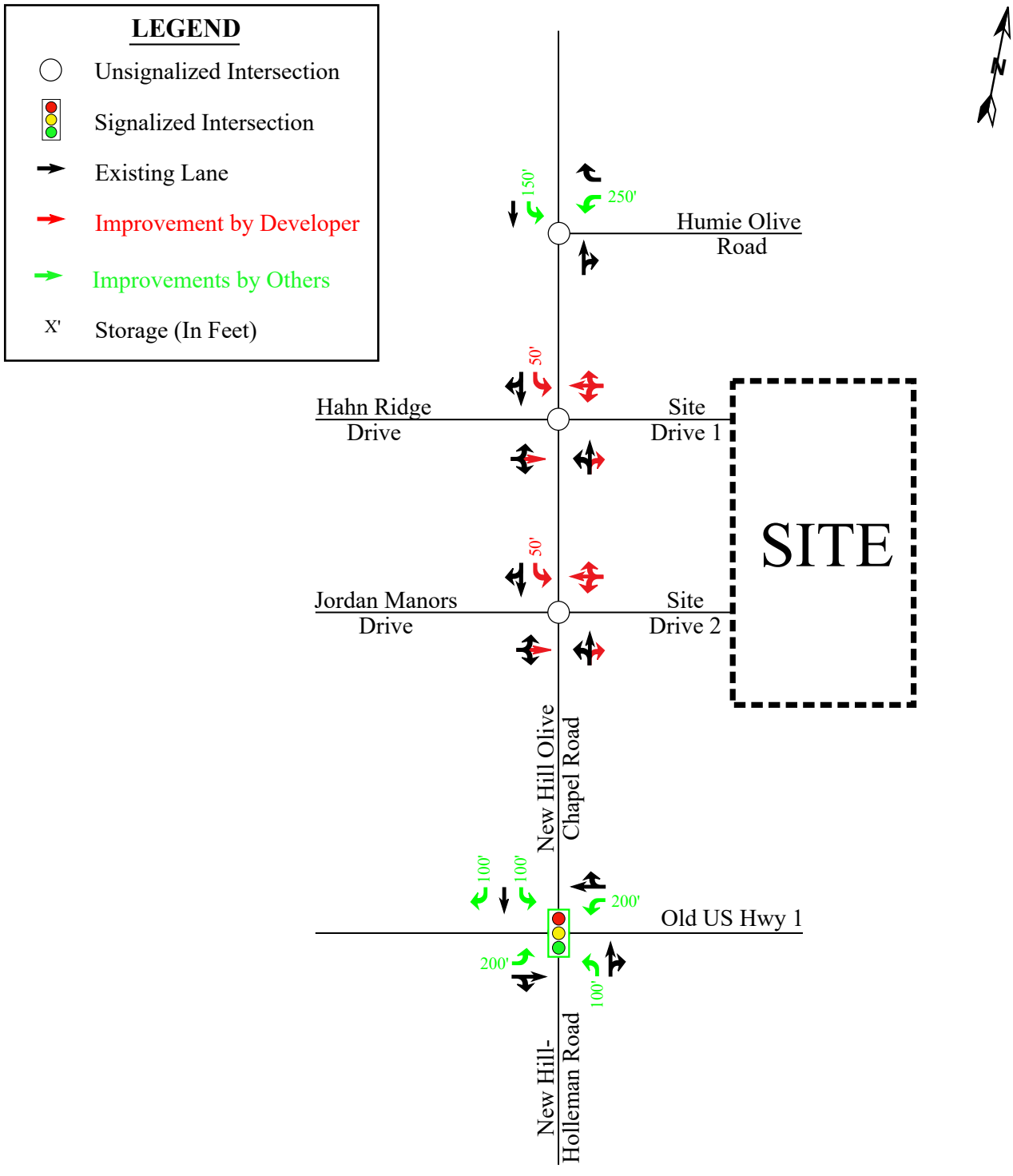
No.	DATE	REVISION	BY
1			

title:
SKETCH PLAN

proj #: 180701
date: August 31, 2018
dwg by: JE chkd by: JR
scale: 1" = 100'
sheet: *SP-2*
Sketch Plan



RAMEY KEMP & ASSOCIATES TRANSPORTATION ENGINEERS	Olive Ridge Residential Apex, NC	Site Trip Assignment Scale: Not to Scale | Figure 9



RAMEY KEMP & ASSOCIATES
TRANSPORTATION ENGINEERS

Olive Ridge Residential
Apex, NC

Recommended Lane Configurations

Scale: Not to Scale | Figure 11

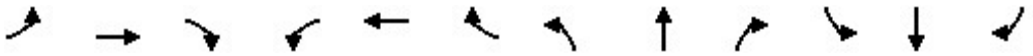
APPENDIX D

CAPACITY ANALYSIS CALCULATIONS

OLD US HIGHWAY 1

&

NEW HILL-OLIVE CHAPEL ROAD / NEW HILL-HOLLEMAN ROAD

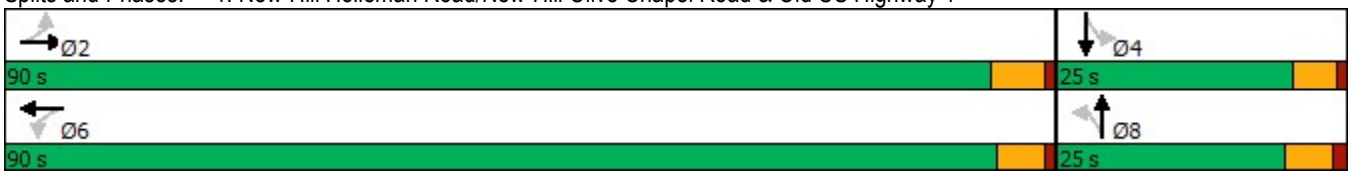


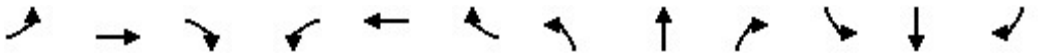
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	154	79	41	71	27	42	260	66	64	204	19
Future Volume (vph)	29	154	79	41	71	27	42	260	66	64	204	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.974			0.976			0.991	
Flt Protected		0.995			0.985			0.994			0.989	
Satd. Flow (prot)	0	1777	0	0	1787	0	0	1807	0	0	1826	0
Flt Permitted		0.954			0.842			0.931			0.853	
Satd. Flow (perm)	0	1704	0	0	1528	0	0	1693	0	0	1575	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	32	171	88	46	79	30	47	289	73	71	227	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	291	0	0	155	0	0	409	0	0	319	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	17.7	17.7		17.1	17.1		12.4	12.4		11.8	11.8	
Total Split (s)	90.0	90.0		90.0	90.0		25.0	25.0		25.0	25.0	
Total Split (%)	78.3%	78.3%		78.3%	78.3%		21.7%	21.7%		21.7%	21.7%	
Maximum Green (s)	84.3	84.3		84.9	84.9		19.6	19.6		20.2	20.2	
Yellow Time (s)	4.7	4.7		4.1	4.1		4.1	4.1		3.8	3.8	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.0	1.0	
Lost Time Adjust (s)		-0.7			-0.1			-0.4			0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		0.0	0.0		30.0	30.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		16.2			16.2			20.1			20.1	
Actuated g/C Ratio		0.35			0.35			0.43			0.43	
v/c Ratio		0.49			0.29			0.56			0.47	
Control Delay		14.8			12.3			14.2			12.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.8			12.3			14.2			12.9	
LOS		B			B			B			B	
Approach Delay		14.8			12.3			14.2			12.9	
Approach LOS		B			B			B			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		59			29			75			55	
Queue Length 95th (ft)		109			61			168			129	
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)												
Base Capacity (vph)		1704			1528			734			682	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.17			0.10			0.56			0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 46.3			
Natural Cycle: 40			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 13.8		Intersection LOS: B	
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1





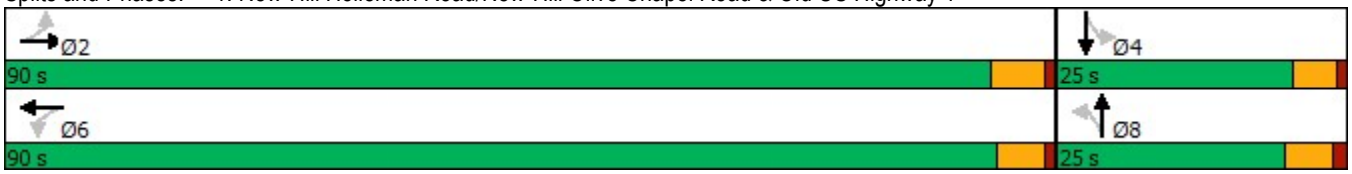
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	133	72	80	149	68	82	206	71	52	351	29
Future Volume (vph)	23	133	72	80	149	68	82	206	71	52	351	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.957			0.969			0.973			0.991	
Flt Protected		0.995			0.987			0.989			0.994	
Satd. Flow (prot)	0	1774	0	0	1782	0	0	1793	0	0	1835	0
Flt Permitted		0.939			0.859			0.829			0.914	
Satd. Flow (perm)	0	1674	0	0	1550	0	0	1503	0	0	1687	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	26	148	80	89	166	76	91	229	79	58	390	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	254	0	0	331	0	0	399	0	0	480	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	17.7	17.7		17.1	17.1		12.4	12.4		11.8	11.8	
Total Split (s)	90.0	90.0		90.0	90.0		25.0	25.0		25.0	25.0	
Total Split (%)	78.3%	78.3%		78.3%	78.3%		21.7%	21.7%		21.7%	21.7%	
Maximum Green (s)	84.3	84.3		84.9	84.9		19.6	19.6		20.2	20.2	
Yellow Time (s)	4.7	4.7		4.1	4.1		4.1	4.1		3.8	3.8	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.0	1.0	
Lost Time Adjust (s)		-0.7			-0.1			-0.4			0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		0.0	0.0		30.0	30.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		15.1			15.1			20.1			20.1	
Actuated g/C Ratio		0.33			0.33			0.44			0.44	
v/c Ratio		0.46			0.64			0.60			0.64	
Control Delay		14.6			19.1			15.1			15.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.6			19.1			15.1			15.9	
LOS		B			B			B			B	
Approach Delay		14.6			19.1			15.1			15.9	
Approach LOS		B			B			B			B	

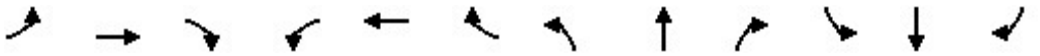
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		50			70			70			86	
Queue Length 95th (ft)		96			133			#170			#213	
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)												
Base Capacity (vph)		1674			1550			667			749	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.15			0.21			0.60			0.64	

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 45.2			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 75.4%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1





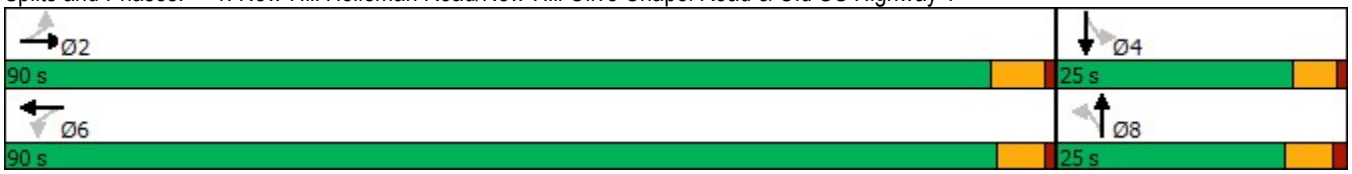
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	217	160	46	95	37	71	328	74	93	334	41
Future Volume (vph)	67	217	160	46	95	37	71	328	74	93	334	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.951			0.972			0.979			0.988	
Flt Protected		0.993			0.987			0.993			0.990	
Satd. Flow (prot)	0	1759	0	0	1787	0	0	1811	0	0	1822	0
Flt Permitted		0.920			0.838			0.859			0.795	
Satd. Flow (perm)	0	1630	0	0	1517	0	0	1566	0	0	1463	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	74	241	178	51	106	41	79	364	82	103	371	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	493	0	0	198	0	0	525	0	0	520	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	17.7	17.7		17.1	17.1		12.4	12.4		11.8	11.8	
Total Split (s)	90.0	90.0		90.0	90.0		25.0	25.0		25.0	25.0	
Total Split (%)	78.3%	78.3%		78.3%	78.3%		21.7%	21.7%		21.7%	21.7%	
Maximum Green (s)	84.3	84.3		84.9	84.9		19.6	19.6		20.2	20.2	
Yellow Time (s)	4.7	4.7		4.1	4.1		4.1	4.1		3.8	3.8	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.0	1.0	
Lost Time Adjust (s)		-0.7			-0.1			-0.4			0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		0.0	0.0		30.0	30.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		20.6			20.6			20.2			20.2	
Actuated g/C Ratio		0.40			0.40			0.40			0.40	
v/c Ratio		0.75			0.32			0.85			0.90	
Control Delay		20.6			11.5			32.5			39.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		20.6			11.5			32.5			39.5	
LOS		C			B			C			D	
Approach Delay		20.6			11.5			32.5			39.5	
Approach LOS		C			B			C			D	

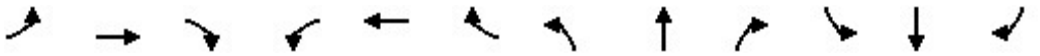
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		118			38			136			139	
Queue Length 95th (ft)		207			74			#349			#357	
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)												
Base Capacity (vph)		1630			1517			620			579	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.30			0.13			0.85			0.90	

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 50.9			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 28.8		Intersection LOS: C	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1





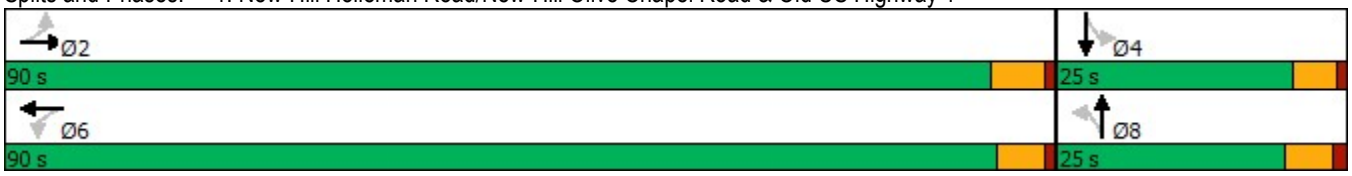
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	179	128	90	218	101	172	329	80	72	463	74
Future Volume (vph)	58	179	128	90	218	101	172	329	80	72	463	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.953			0.967			0.981			0.984	
Flt Protected		0.992			0.989			0.985			0.994	
Satd. Flow (prot)	0	1761	0	0	1781	0	0	1800	0	0	1822	0
Flt Permitted		0.884			0.833			0.584			0.869	
Satd. Flow (perm)	0	1569	0	0	1500	0	0	1067	0	0	1593	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	64	199	142	100	242	112	191	366	89	80	514	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	405	0	0	454	0	0	646	0	0	676	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	17.7	17.7		17.1	17.1		12.4	12.4		11.8	11.8	
Total Split (s)	90.0	90.0		90.0	90.0		25.0	25.0		25.0	25.0	
Total Split (%)	78.3%	78.3%		78.3%	78.3%		21.7%	21.7%		21.7%	21.7%	
Maximum Green (s)	84.3	84.3		84.9	84.9		19.6	19.6		20.2	20.2	
Yellow Time (s)	4.7	4.7		4.1	4.1		4.1	4.1		3.8	3.8	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.0	1.0	
Lost Time Adjust (s)		-0.7			-0.1			-0.4			0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		0.0	0.0		30.0	30.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		19.9			19.9			20.2			20.2	
Actuated g/C Ratio		0.40			0.40			0.40			0.40	
v/c Ratio		0.65			0.76			1.51			1.06	
Control Delay		17.5			22.2			261.0			73.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.5			22.2			261.0			73.0	
LOS		B			C			F			E	
Approach Delay		17.5			22.2			261.0			73.0	
Approach LOS		B			C			F			E	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		91			109			~274			~226	
Queue Length 95th (ft)		162			195			#520			#477	
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)												
Base Capacity (vph)		1569			1500			429			640	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.26			0.30			1.51			1.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 50.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.51			
Intersection Signal Delay: 107.8		Intersection LOS: F	
Intersection Capacity Utilization 106.1%		ICU Level of Service G	
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: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



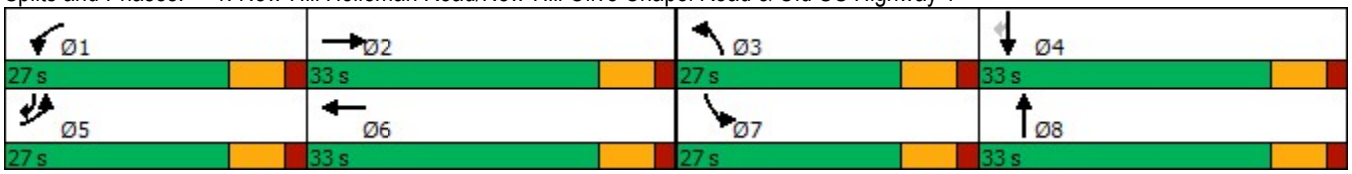
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	235	188	46	100	37	80	328	74	93	334	45
Future Volume (vph)	78	235	188	46	100	37	80	328	74	93	334	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	100		0	150		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.933			0.960			0.972				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1738	0	1770	1788	0	1770	1811	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1738	0	1770	1788	0	1770	1811	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	87	261	209	51	111	41	89	364	82	103	371	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	470	0	51	152	0	89	446	0	103	371	50
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases												4
Detector Phase	5	2		1	6		3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	14.0		7.0	14.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	21.0		14.0	21.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	27.0	33.0		27.0	33.0		27.0	33.0		27.0	33.0	27.0
Total Split (%)	22.5%	27.5%		22.5%	27.5%		22.5%	27.5%		22.5%	27.5%	22.5%
Maximum Green (s)	20.0	26.0		20.0	26.0		20.0	26.0		20.0	26.0	20.0
Yellow Time (s)	5.0	5.0		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	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-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		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	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
Recall Mode	None	Min		None	Min		None	None		None	None	None
Act Effct Green (s)	12.4	28.9		10.7	27.2		12.5	28.9		13.1	29.5	47.1
Actuated g/C Ratio	0.13	0.31		0.11	0.29		0.13	0.31		0.14	0.31	0.50
v/c Ratio	0.37	0.88		0.25	0.29		0.38	0.81		0.42	0.64	0.06
Control Delay	45.6	54.7		45.3	32.7		45.6	46.4		45.4	37.0	15.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	45.6	54.7		45.3	32.7		45.6	46.4		45.4	37.0	15.5
LOS	D	D		D	C		D	D		D	D	B
Approach Delay		53.2			35.9			46.3			36.6	
Approach LOS		D			D			D			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	52	292		30	78		53	268		61	208	17
Queue Length 95th (ft)	102	#547		69	149		104	#495		116	342	40
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)	250			250			100			150		150
Base Capacity (vph)	426	532		426	547		426	554		426	583	963
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	0.20	0.88		0.12	0.28		0.21	0.81		0.24	0.64	0.05

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 94.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 44.5 Intersection LOS: D
Intersection Capacity Utilization 73.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	191	146	90	237	101	203	329	80	72	463	87
Future Volume (vph)	65	191	146	90	237	101	203	329	80	72	463	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	100		0	150		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.935			0.955			0.971				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1742	0	1770	1779	0	1770	1809	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1742	0	1770	1779	0	1770	1809	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	72	212	162	100	263	112	226	366	89	80	514	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	374	0	100	375	0	226	455	0	80	514	97
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases												4
Detector Phase	5	2		1	6		3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	14.0		7.0	14.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	21.0		14.0	21.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	27.0	33.0		27.0	33.0		27.0	33.0		27.0	33.0	27.0
Total Split (%)	22.5%	27.5%		22.5%	27.5%		22.5%	27.5%		22.5%	27.5%	22.5%
Maximum Green (s)	20.0	26.0		20.0	26.0		20.0	26.0		20.0	26.0	20.0
Yellow Time (s)	5.0	5.0		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	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-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		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	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
Recall Mode	None	Min		None	Min		None	None		None	None	None
Act Effct Green (s)	12.0	27.1		13.5	28.5		19.4	38.3		12.4	28.1	45.2
Actuated g/C Ratio	0.11	0.25		0.12	0.26		0.18	0.35		0.11	0.26	0.42
v/c Ratio	0.37	0.86		0.45	0.80		0.71	0.71		0.39	1.06	0.15
Control Delay	51.4	59.7		51.7	52.0		55.8	40.5		51.5	98.4	21.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	51.4	59.7		51.7	52.0		55.8	40.5		51.5	98.4	21.4
LOS	D	E		D	D		E	D		D	F	C
Approach Delay		58.4			51.9			45.6			82.1	
Approach LOS		E			D			D			F	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	49	255		67	249		150	287		54	~415	43
Queue Length 95th (ft)	96	#447		123	#413		247	#508		104	#663	80
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)	250			250			100			150		150
Base Capacity (vph)	361	453		361	486		361	640		361	484	808
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	0.20	0.83		0.28	0.77		0.63	0.71		0.22	1.06	0.12

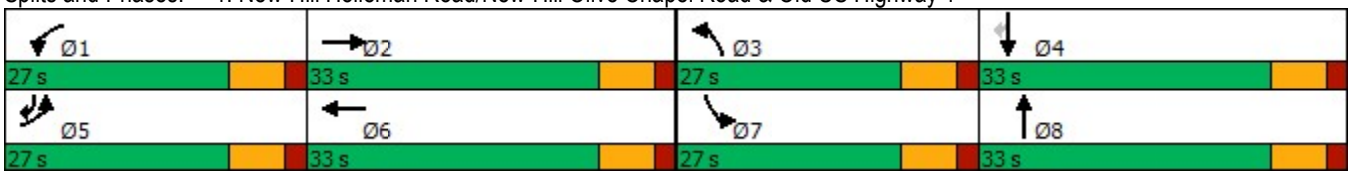
Intersection Summary

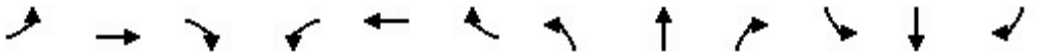
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 108.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 60.4 Intersection LOS: E
Intersection Capacity Utilization 77.1% ICU Level of Service D
Analysis Period (min) 15

~ 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: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1





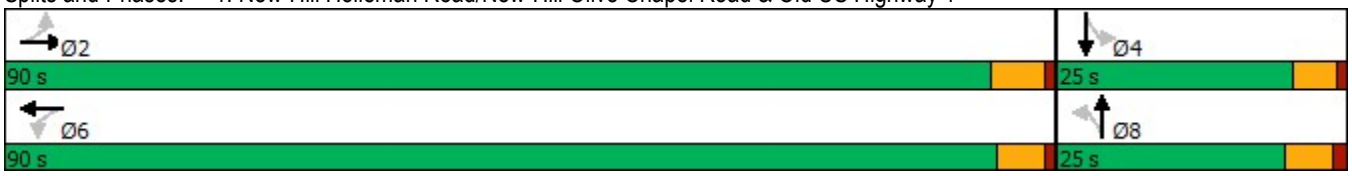
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	243	198	46	104	37	84	328	74	93	334	44
Future Volume (vph)	75	243	198	46	104	37	84	328	74	93	334	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.948			0.973			0.979			0.987	
Flt Protected		0.993			0.988			0.991			0.990	
Satd. Flow (prot)	0	1754	0	0	1791	0	0	1807	0	0	1820	0
Flt Permitted		0.921			0.829			0.805			0.766	
Satd. Flow (perm)	0	1626	0	0	1503	0	0	1468	0	0	1408	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	83	270	220	51	116	41	93	364	82	103	371	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	573	0	0	208	0	0	539	0	0	523	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	17.7	17.7		17.1	17.1		12.4	12.4		11.8	11.8	
Total Split (s)	90.0	90.0		90.0	90.0		25.0	25.0		25.0	25.0	
Total Split (%)	78.3%	78.3%		78.3%	78.3%		21.7%	21.7%		21.7%	21.7%	
Maximum Green (s)	84.3	84.3		84.9	84.9		19.6	19.6		20.2	20.2	
Yellow Time (s)	4.7	4.7		4.1	4.1		4.1	4.1		3.8	3.8	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.0	1.0	
Lost Time Adjust (s)		-0.7			-0.1			-0.4			0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		0.0	0.0		30.0	30.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		24.2			24.2			20.2			20.2	
Actuated g/C Ratio		0.44			0.44			0.37			0.37	
v/c Ratio		0.79			0.31			0.99			1.00	
Control Delay		21.9			10.7			60.3			64.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		21.9			10.7			60.3			64.3	
LOS		C			B			E			E	
Approach Delay		21.9			10.7			60.3			64.3	
Approach LOS		C			B			E			E	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		148			40			~169			~168	
Queue Length 95th (ft)		251			75			#424			#417	
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)												
Base Capacity (vph)		1626			1503			544			521	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.35			0.14			0.99			1.00	

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 54.6			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 43.9		Intersection LOS: D	
Intersection Capacity Utilization 77.8%		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: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



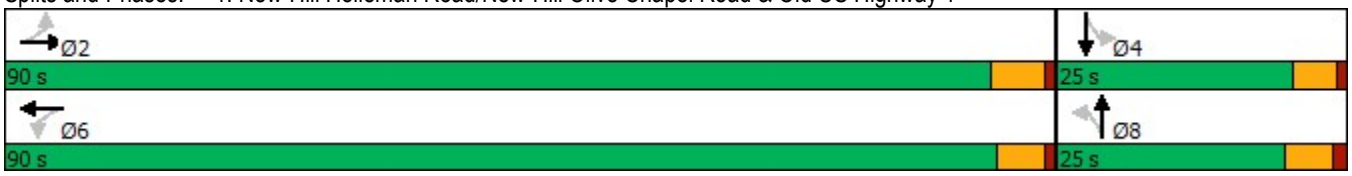
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	197	153	90	248	101	215	329	80	72	463	83
Future Volume (vph)	63	197	153	90	248	101	215	329	80	72	463	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.969			0.983			0.982	
Flt Protected		0.992			0.990			0.983			0.994	
Satd. Flow (prot)	0	1755	0	0	1787	0	0	1800	0	0	1818	0
Flt Permitted		0.879			0.828			0.526			0.865	
Satd. Flow (perm)	0	1555	0	0	1495	0	0	963	0	0	1582	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	70	219	170	100	276	112	239	366	89	80	514	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	459	0	0	488	0	0	694	0	0	686	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	17.7	17.7		17.1	17.1		12.4	12.4		11.8	11.8	
Total Split (s)	90.0	90.0		90.0	90.0		25.0	25.0		25.0	25.0	
Total Split (%)	78.3%	78.3%		78.3%	78.3%		21.7%	21.7%		21.7%	21.7%	
Maximum Green (s)	84.3	84.3		84.9	84.9		19.6	19.6		20.2	20.2	
Yellow Time (s)	4.7	4.7		4.1	4.1		4.1	4.1		3.8	3.8	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.0	1.0	
Lost Time Adjust (s)		-0.7			-0.1			-0.4			0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		0.0	0.0		30.0	30.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		21.7			21.7			20.2			20.2	
Actuated g/C Ratio		0.42			0.42			0.39			0.39	
v/c Ratio		0.71			0.78			1.86			1.12	
Control Delay		19.0			22.8			415.2			94.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		19.0			22.8			415.2			94.8	
LOS		B			C			F			F	
Approach Delay		19.0			22.8			415.2			94.8	
Approach LOS		B			C			F			F	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		109			121			~334			~249	
Queue Length 95th (ft)		190			214			#601			#514	
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)												
Base Capacity (vph)		1555			1495			374			615	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.30			0.33			1.86			1.12	

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 52			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.86			
Intersection Signal Delay: 160.3		Intersection LOS: F	
Intersection Capacity Utilization 115.9%		ICU Level of Service H	
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: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	261	226	46	109	37	93	328	74	93	334	48
Future Volume (vph)	86	261	226	46	109	37	93	328	74	93	334	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	100		0	150		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.930			0.962			0.972				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1732	0	1770	1792	0	1770	1811	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1732	0	1770	1792	0	1770	1811	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	96	290	251	51	121	41	103	364	82	103	371	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	541	0	51	162	0	103	446	0	103	371	53
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases												4
Detector Phase	5	2		1	6		3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	14.0		7.0	14.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	21.0		14.0	21.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	27.0	33.0		27.0	33.0		27.0	33.0		27.0	33.0	27.0
Total Split (%)	22.5%	27.5%		22.5%	27.5%		22.5%	27.5%		22.5%	27.5%	22.5%
Maximum Green (s)	20.0	26.0		20.0	26.0		20.0	26.0		20.0	26.0	20.0
Yellow Time (s)	5.0	5.0		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	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-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		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	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
Recall Mode	None	Min		None	Min		None	None		None	None	None
Act Effct Green (s)	12.8	28.9		10.7	26.8		13.1	28.9		13.1	28.9	46.8
Actuated g/C Ratio	0.14	0.31		0.11	0.28		0.14	0.31		0.14	0.31	0.50
v/c Ratio	0.40	1.02		0.25	0.32		0.42	0.81		0.42	0.65	0.07
Control Delay	45.5	81.3		45.3	33.5		45.4	46.4		45.4	38.3	15.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	45.5	81.3		45.3	33.5		45.4	46.4		45.4	38.3	15.7
LOS	D	F		D	C		D	D		D	D	B
Approach Delay		75.9			36.3			46.2			37.4	
Approach LOS		E			D			D			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	57	~393		30	84		61	268		61	210	18
Queue Length 95th (ft)	110	#660		69	159		116	#495		116	#367	42
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)	250			250			100			150		150
Base Capacity (vph)	426	530		426	549		426	554		426	570	952
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	0.23	1.02		0.12	0.30		0.24	0.81		0.24	0.65	0.06

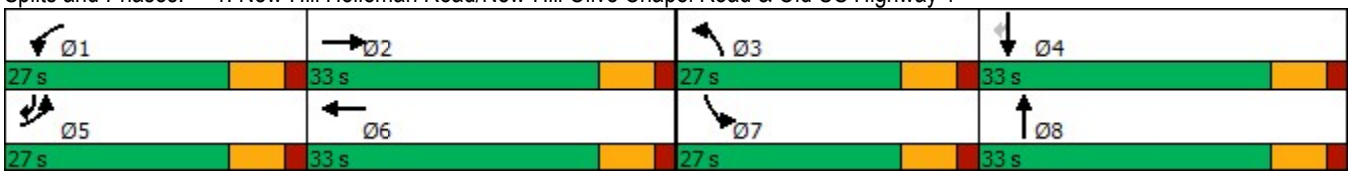
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 94.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 52.5 Intersection LOS: D
Intersection Capacity Utilization 77.6% 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: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	209	171	90	267	101	246	329	80	72	463	96
Future Volume (vph)	70	209	171	90	267	101	246	329	80	72	463	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	100		0	150		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932			0.959			0.971				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1736	0	1770	1786	0	1770	1809	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1736	0	1770	1786	0	1770	1809	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	78	232	190	100	297	112	273	366	89	80	514	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	422	0	100	409	0	273	455	0	80	514	107
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases												4
Detector Phase	5	2		1	6		3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	14.0		7.0	14.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	21.0		14.0	21.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	27.0	33.0		27.0	33.0		27.0	33.0		27.0	33.0	27.0
Total Split (%)	22.5%	27.5%		22.5%	27.5%		22.5%	27.5%		22.5%	27.5%	22.5%
Maximum Green (s)	20.0	26.0		20.0	26.0		20.0	26.0		20.0	26.0	20.0
Yellow Time (s)	5.0	5.0		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	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-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		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	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
Recall Mode	None	Min		None	Min		None	None		None	None	None
Act Effct Green (s)	12.3	28.0		13.6	29.3		21.1	39.7		12.5	28.0	45.4
Actuated g/C Ratio	0.11	0.25		0.12	0.26		0.19	0.36		0.11	0.25	0.41
v/c Ratio	0.40	0.96		0.46	0.87		0.81	0.70		0.40	1.09	0.17
Control Delay	52.2	76.6		52.5	59.4		62.9	40.2		52.2	108.6	21.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	52.2	76.6		52.5	59.4		62.9	40.2		52.2	108.6	21.8
LOS	D	E		D	E		E	D		D	F	C
Approach Delay		72.8			58.0			48.7			88.9	
Approach LOS		E			E			D			F	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	53	301		68	281		187	287		54	~419	48
Queue Length 95th (ft)	101	#531		123	#477		#335	#508		104	#663	87
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)	250			250			100			150		150
Base Capacity (vph)	351	439		351	471		351	648		351	471	787
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	0.22	0.96		0.28	0.87		0.78	0.70		0.23	1.09	0.14

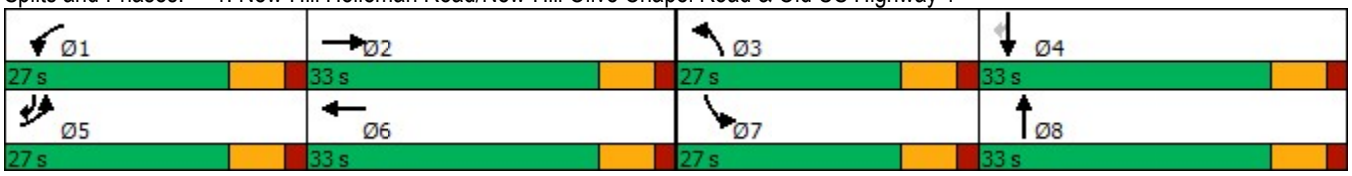
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 110.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 67.2 Intersection LOS: E
Intersection Capacity Utilization 81.9% 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: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



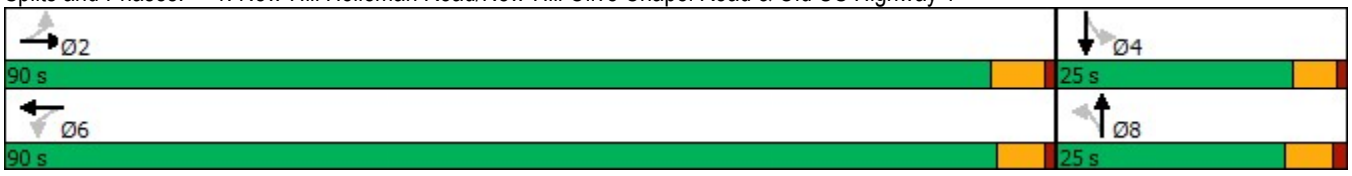
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	226	173	46	98	37	76	328	74	93	334	42
Future Volume (vph)	70	226	173	46	98	37	76	328	74	93	334	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.972			0.979			0.988	
Flt Protected		0.993			0.987			0.992			0.990	
Satd. Flow (prot)	0	1757	0	0	1787	0	0	1809	0	0	1822	0
Flt Permitted		0.920			0.835			0.842			0.786	
Satd. Flow (perm)	0	1628	0	0	1512	0	0	1535	0	0	1447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	78	251	192	51	109	41	84	364	82	103	371	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	521	0	0	201	0	0	530	0	0	521	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	17.7	17.7		17.1	17.1		12.4	12.4		11.8	11.8	
Total Split (s)	90.0	90.0		90.0	90.0		25.0	25.0		25.0	25.0	
Total Split (%)	78.3%	78.3%		78.3%	78.3%		21.7%	21.7%		21.7%	21.7%	
Maximum Green (s)	84.3	84.3		84.9	84.9		19.6	19.6		20.2	20.2	
Yellow Time (s)	4.7	4.7		4.1	4.1		4.1	4.1		3.8	3.8	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.0	1.0	
Lost Time Adjust (s)		-0.7			-0.1			-0.4			0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		0.0	0.0		30.0	30.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		21.7			21.7			20.2			20.2	
Actuated g/C Ratio		0.42			0.42			0.39			0.39	
v/c Ratio		0.77			0.32			0.89			0.93	
Control Delay		21.1			11.2			38.6			45.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		21.1			11.2			38.6			45.4	
LOS		C			B			D			D	
Approach Delay		21.1			11.2			38.6			45.4	
Approach LOS		C			B			D			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		128			39			147			148	
Queue Length 95th (ft)		222			74			#374			#378	
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)												
Base Capacity (vph)		1628			1512			595			561	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.32			0.13			0.89			0.93	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 52
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 32.4 Intersection LOS: C
Intersection Capacity Utilization 75.5% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	185	137	90	229	101	187	329	80	72	463	77
Future Volume (vph)	60	185	137	90	229	101	187	329	80	72	463	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.952			0.968			0.982			0.983	
Flt Protected		0.992			0.989			0.985			0.994	
Satd. Flow (prot)	0	1759	0	0	1783	0	0	1802	0	0	1820	0
Flt Permitted		0.802			0.711			0.589			0.859	
Satd. Flow (perm)	0	1422	0	0	1282	0	0	1077	0	0	1573	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	67	206	152	100	254	112	208	366	89	80	514	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	425	0	0	466	0	0	663	0	0	680	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	17.7	17.7		17.1	17.1		12.4	12.4		11.8	11.8	
Total Split (s)	45.0	45.0		45.0	45.0		70.0	70.0		70.0	70.0	
Total Split (%)	39.1%	39.1%		39.1%	39.1%		60.9%	60.9%		60.9%	60.9%	
Maximum Green (s)	39.3	39.3		39.9	39.9		64.6	64.6		65.2	65.2	
Yellow Time (s)	4.7	4.7		4.1	4.1		4.1	4.1		3.8	3.8	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.0	1.0	
Lost Time Adjust (s)		-0.7			-0.1			-0.4			0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		0.0	0.0		30.0	30.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		40.0			40.0			65.0			65.0	
Actuated g/C Ratio		0.35			0.35			0.57			0.57	
v/c Ratio		0.86			1.05			1.09			0.76	
Control Delay		53.5			92.9			89.7			26.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		53.5			92.9			89.7			26.3	
LOS		D			F			F			C	
Approach Delay		53.5			92.9			89.7			26.3	
Approach LOS		D			F			F			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		291			~375			~553			366	
Queue Length 95th (ft)		#473			#580			#780			534	
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)												
Base Capacity (vph)		494			445			608			889	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.86			1.05			1.09			0.76	

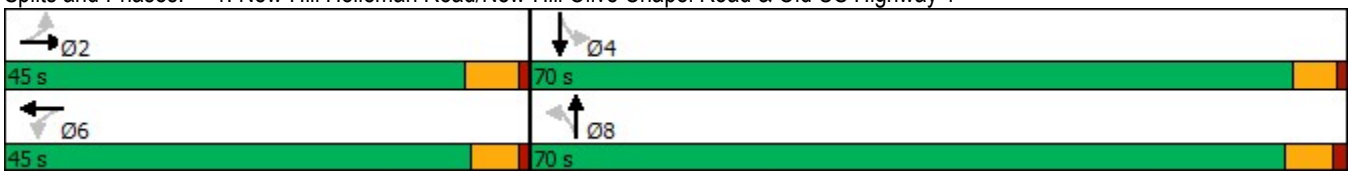
Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 64.2 Intersection LOS: E
Intersection Capacity Utilization 111.0% ICU Level of Service H
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: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



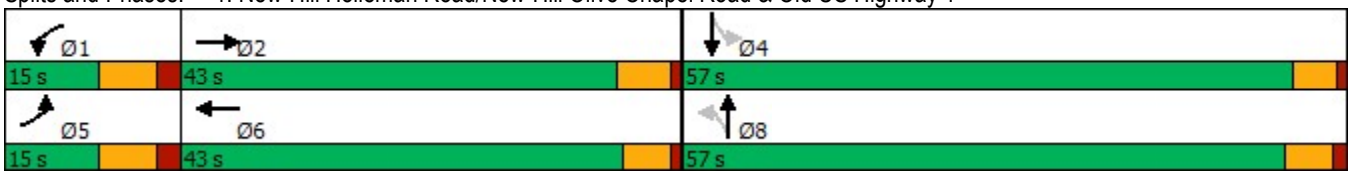
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	243	198	46	104	37	84	328	74	93	334	44
Future Volume (vph)	75	243	198	46	104	37	84	328	74	93	334	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.933			0.961			0.979			0.987	
Flt Protected	0.950			0.950				0.991			0.990	
Satd. Flow (prot)	1770	1738	0	1770	1790	0	0	1807	0	0	1820	0
Flt Permitted	0.950			0.950				0.796			0.754	
Satd. Flow (perm)	1770	1738	0	1770	1790	0	0	1452	0	0	1386	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	83	270	220	51	116	41	93	364	82	103	371	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	490	0	51	157	0	0	539	0	0	523	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	17.7		14.0	17.1		12.4	12.4		11.8	11.8	
Total Split (s)	15.0	43.0		15.0	43.0		57.0	57.0		57.0	57.0	
Total Split (%)	13.0%	37.4%		13.0%	37.4%		49.6%	49.6%		49.6%	49.6%	
Maximum Green (s)	8.0	37.3		8.0	37.9		51.6	51.6		52.2	52.2	
Yellow Time (s)	5.0	4.7		5.0	4.1		4.1	4.1		3.8	3.8	
All-Red Time (s)	2.0	1.0		2.0	1.0		1.3	1.3		1.0	1.0	
Lost Time Adjust (s)	-2.0	-0.7		-2.0	-0.1			-0.4			0.2	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	6.0		3.0	6.0		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	30.0		0.0	0.0		30.0	30.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	10.8	31.9		10.6	31.7			40.8			40.8	
Actuated g/C Ratio	0.11	0.34		0.11	0.34			0.43			0.43	
v/c Ratio	0.41	0.84		0.26	0.26			0.86			0.87	
Control Delay	54.6	46.2		51.1	28.2			41.3			43.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	54.6	46.2		51.1	28.2			41.3			43.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D		D	C			D			D	
Approach Delay		47.4			33.8			41.3			43.5	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	56	310		33	78			330			323	
Queue Length 95th (ft)	113	#521		77	140			#539			#535	
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)	250			250								
Base Capacity (vph)	210	785		210	808			864			825	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.40	0.62		0.24	0.19			0.62			0.63	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 94.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 43.0 Intersection LOS: D
Intersection Capacity Utilization 78.8% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	197	153	90	248	101	215	329	80	72	463	83
Future Volume (vph)	63	197	153	90	248	101	215	329	80	72	463	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.934			0.957			0.983			0.982	
Flt Protected	0.950			0.950				0.983			0.994	
Satd. Flow (prot)	1770	1740	0	1770	1783	0	0	1800	0	0	1818	0
Flt Permitted	0.950			0.950				0.569			0.856	
Satd. Flow (perm)	1770	1740	0	1770	1783	0	0	1042	0	0	1566	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	70	219	170	100	276	112	239	366	89	80	514	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	389	0	100	388	0	0	694	0	0	686	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	17.7		14.0	17.1		12.4	12.4		11.8	11.8	
Total Split (s)	15.0	28.0		15.0	28.0		72.0	72.0		72.0	72.0	
Total Split (%)	13.0%	24.3%		13.0%	24.3%		62.6%	62.6%		62.6%	62.6%	
Maximum Green (s)	8.0	22.3		8.0	22.9		66.6	66.6		67.2	67.2	
Yellow Time (s)	5.0	4.7		5.0	4.1		4.1	4.1		3.8	3.8	
All-Red Time (s)	2.0	1.0		2.0	1.0		1.3	1.3		1.0	1.0	
Lost Time Adjust (s)	-2.0	-0.7		-2.0	-0.1			-0.4			0.2	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	6.0		3.0	6.0		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	30.0		0.0	0.0		30.0	30.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	9.8	23.0		9.9	25.9			67.0			67.0	
Actuated g/C Ratio	0.09	0.20		0.09	0.23			0.58			0.58	
v/c Ratio	0.47	1.12		0.66	0.97			1.14			0.75	
Control Delay	60.7	126.5		72.0	83.2			107.8			24.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	60.7	126.5		72.0	83.2			107.8			24.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	F		E	F			F			C	
Approach Delay		116.5			80.9			107.8			24.4	
Approach LOS		F			F			F			C	
Queue Length 50th (ft)	50	~332		73	~323			~602			357	
Queue Length 95th (ft)	98	#524		#148	#515			#831			520	
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)	250			250								
Base Capacity (vph)	153	348		153	401			607			913	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.46	1.12		0.65	0.97			1.14			0.75	

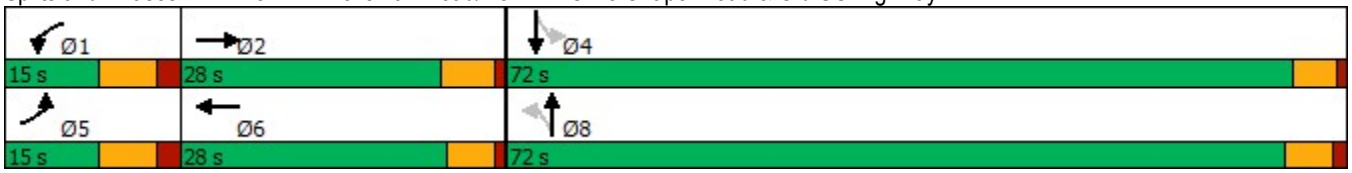
Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 114.9
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 79.3 Intersection LOS: E
Intersection Capacity Utilization 109.7% ICU Level of Service H
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: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	261	226	46	109	37	93	328	74	93	334	48
Future Volume (vph)	86	261	226	46	109	37	93	328	74	93	334	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	100		0	150		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.930			0.962			0.972				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1732	0	1770	1792	0	1770	1811	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1732	0	1770	1792	0	1770	1811	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	96	290	251	51	121	41	103	364	82	103	371	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	541	0	51	162	0	103	446	0	103	371	53
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases												4
Detector Phase	5	2		1	6		3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	14.0		7.0	14.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	21.0		14.0	21.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	15.0	38.0		15.0	38.0		26.0	50.0		17.0	41.0	15.0
Total Split (%)	12.5%	31.7%		12.5%	31.7%		21.7%	41.7%		14.2%	34.2%	12.5%
Maximum Green (s)	8.0	31.0		8.0	31.0		19.0	43.0		10.0	34.0	8.0
Yellow Time (s)	5.0	5.0		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	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-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		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	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
Recall Mode	None	Min		None	Min		None	None		None	None	None
Act Effct Green (s)	10.2	34.9		10.1	30.1		13.8	32.8		11.6	30.6	46.2
Actuated g/C Ratio	0.10	0.34		0.10	0.30		0.14	0.32		0.11	0.30	0.46
v/c Ratio	0.54	0.91		0.29	0.30		0.43	0.76		0.51	0.66	0.07
Control Delay	61.7	58.0		53.7	32.6		50.6	41.5		57.6	39.3	19.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	61.7	58.0		53.7	32.6		50.6	41.5		57.6	39.3	19.1
LOS	E	E		D	C		D	D		E	D	B
Approach Delay		58.5			37.6			43.2			40.9	
Approach LOS		E			D			D			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	65	~402		34	86		67	284		69	227	21
Queue Length 95th (ft)	#149	#706		80	163		128	401		138	352	49
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)	250			250			100			150		150
Base Capacity (vph)	184	595		184	615		386	848		221	704	725
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	0.52	0.91		0.28	0.26		0.27	0.53		0.47	0.53	0.07

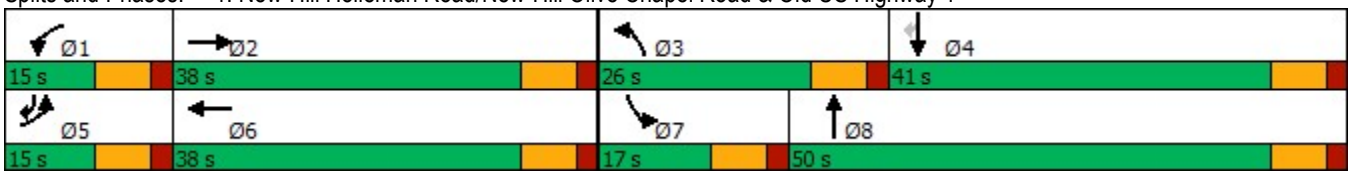
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 101.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 47.0 Intersection LOS: D
Intersection Capacity Utilization 77.6% 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: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



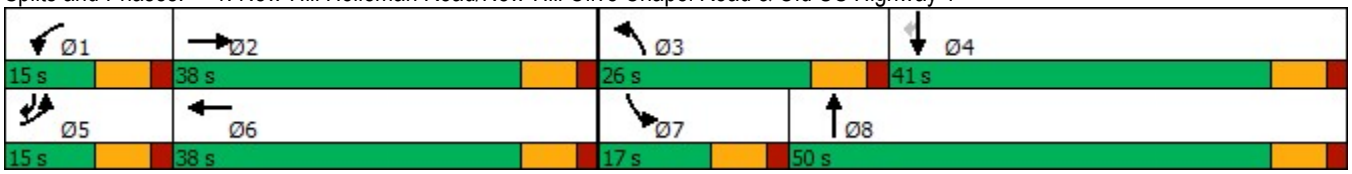
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	209	171	90	267	101	246	329	80	72	463	96
Future Volume (vph)	70	209	171	90	267	101	246	329	80	72	463	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	100		0	150		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932			0.959			0.971				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1736	0	1770	1786	0	1770	1809	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1736	0	1770	1786	0	1770	1809	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1174			1039			1284			1091	
Travel Time (s)		14.6			12.9			19.5			16.5	
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)	78	232	190	100	297	112	273	366	89	80	514	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	422	0	100	409	0	273	455	0	80	514	107
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases												4
Detector Phase	5	2		1	6		3	8		7	4	5
Switch Phase												
Minimum Initial (s)	7.0	14.0		7.0	14.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	21.0		14.0	21.0		14.0	14.0		14.0	14.0	14.0
Total Split (s)	15.0	38.0		15.0	38.0		26.0	50.0		17.0	41.0	15.0
Total Split (%)	12.5%	31.7%		12.5%	31.7%		21.7%	41.7%		14.2%	34.2%	12.5%
Maximum Green (s)	8.0	31.0		8.0	31.0		19.0	43.0		10.0	34.0	8.0
Yellow Time (s)	5.0	5.0		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	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-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		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	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
Recall Mode	None	Min		None	Min		None	None		None	None	None
Act Effct Green (s)	9.8	31.6		9.9	31.8		20.6	47.3		11.2	34.8	49.6
Actuated g/C Ratio	0.08	0.27		0.08	0.27		0.18	0.40		0.10	0.30	0.42
v/c Ratio	0.53	0.90		0.67	0.85		0.88	0.62		0.47	0.93	0.16
Control Delay	66.1	65.0		74.9	57.7		76.2	34.1		60.8	64.9	22.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	66.1	65.0		74.9	57.7		76.2	34.1		60.8	64.9	22.0
LOS	E	E		E	E		E	C		E	E	C
Approach Delay		65.2			61.1			49.9			57.9	
Approach LOS		E			E			D			E	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	59	314		77	298		208	292		59	385	50
Queue Length 95th (ft)	112	#495		#157	#462		#363	411		112	#591	89
Internal Link Dist (ft)		1094			959			1204			1011	
Turn Bay Length (ft)	250			250			100			150		150
Base Capacity (vph)	151	491		151	505		318	732		182	574	674
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	0.52	0.86		0.66	0.81		0.86	0.62		0.44	0.90	0.16

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 117
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 57.7 Intersection LOS: E
Intersection Capacity Utilization 81.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1



APPENDIX E

CAPACITY ANALYSIS CALCULATIONS

OLD US HIGHWAY 1

&

SITE DRIVE 1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	478	219	13	38	4
Future Vol, veh/h	4	478	219	13	38	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	531	243	14	42	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	257	0	-	0	782	243
Stage 1	-	-	-	-	243	-
Stage 2	-	-	-	-	539	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1308	-	-	-	363	796
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	585	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1308	-	-	-	362	796
Mov Cap-2 Maneuver	-	-	-	-	362	-
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	585	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1308	-	-	-	382
HCM Lane V/C Ratio	0.003	-	-	-	0.122
HCM Control Delay (s)	7.8	0	-	-	15.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	388	503	43	25	4
Future Vol, veh/h	4	388	503	43	25	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	431	559	48	28	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	607	0	-	0	998	559
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	439	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	971	-	-	-	270	529
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	650	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	971	-	-	-	269	529
Mov Cap-2 Maneuver	-	-	-	-	269	-
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	650	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	19
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	971	-	-	-	289
HCM Lane V/C Ratio	0.005	-	-	-	0.111
HCM Control Delay (s)	8.7	0	-	-	19
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	535	237	13	38	4
Future Vol, veh/h	4	535	237	13	38	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	594	263	14	42	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	277	0	-	0	865	263
Stage 1	-	-	-	-	263	-
Stage 2	-	-	-	-	602	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1286	-	-	-	324	776
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	547	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1286	-	-	-	322	776
Mov Cap-2 Maneuver	-	-	-	-	322	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	547	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1286	-	-	-	341
HCM Lane V/C Ratio	0.003	-	-	-	0.137
HCM Control Delay (s)	7.8	0	-	-	17.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	425	566	43	25	4
Future Vol, veh/h	4	425	566	43	25	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	472	629	48	28	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	677	0	-	0	1109	629
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	480	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	915	-	-	-	232	482
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	622	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	915	-	-	-	231	482
Mov Cap-2 Maneuver	-	-	-	-	231	-
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	622	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	21.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	915	-	-	-	249
HCM Lane V/C Ratio	0.005	-	-	-	0.129
HCM Control Delay (s)	9	0	-	-	21.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

APPENDIX F

CAPACITY ANALYSIS CALCULATIONS

OLD US HIGHWAY 1

&

SITE DRIVE 2

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	444	207	12	34	4
Future Vol, veh/h	4	444	207	12	34	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	493	230	13	38	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	243	0	-	0	731	230
Stage 1	-	-	-	-	230	-
Stage 2	-	-	-	-	501	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1323	-	-	-	389	809
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	609	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1323	-	-	-	387	809
Mov Cap-2 Maneuver	-	-	-	-	387	-
Stage 1	-	-	-	-	805	-
Stage 2	-	-	-	-	609	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1323	-	-	-	409
HCM Lane V/C Ratio	0.003	-	-	-	0.103
HCM Control Delay (s)	7.7	0	-	-	14.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	365	464	39	23	4
Future Vol, veh/h	4	365	464	39	23	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	406	516	43	26	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	559	0	-	0	930	516
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	414	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1012	-	-	-	297	559
Stage 1	-	-	-	-	599	-
Stage 2	-	-	-	-	667	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1012	-	-	-	296	559
Mov Cap-2 Maneuver	-	-	-	-	296	-
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	667	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	17.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1012	-	-	-	318
HCM Lane V/C Ratio	0.004	-	-	-	0.094
HCM Control Delay (s)	8.6	0	-	-	17.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	501	225	12	34	4
Future Vol, veh/h	4	501	225	12	34	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	557	250	13	38	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	263	0	-	0	815	250
Stage 1	-	-	-	-	250	-
Stage 2	-	-	-	-	565	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1301	-	-	-	347	789
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	569	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1301	-	-	-	346	789
Mov Cap-2 Maneuver	-	-	-	-	346	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	569	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1301	-	-	-	368
HCM Lane V/C Ratio	0.003	-	-	-	0.115
HCM Control Delay (s)	7.8	0	-	-	16
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	402	527	39	23	4
Future Vol, veh/h	4	402	527	39	23	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	447	586	43	26	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	629	0	-	0	1041	586
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	455	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	953	-	-	-	255	510
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	639	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	953	-	-	-	253	510
Mov Cap-2 Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	639	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	19.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	953	-	-	-	273
HCM Lane V/C Ratio	0.005	-	-	-	0.11
HCM Control Delay (s)	8.8	0	-	-	19.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

APPENDIX G

SIMTRAFFIC QUEUING REPORTS

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	111	110	332	233
Average Queue (ft)	50	47	126	84
95th Queue (ft)	97	88	255	146
Link Distance (ft)	1134	1004	1249	1051
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	132	149	614	377
Average Queue (ft)	54	81	193	154
95th Queue (ft)	96	127	432	295
Link Distance (ft)	1134	1004	1249	1051
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	306	221	1224	767
Average Queue (ft)	135	75	505	406
95th Queue (ft)	229	165	1130	797
Link Distance (ft)	1134	1004	1249	1051
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	399	381	1312	1103
Average Queue (ft)	127	185	1266	633
95th Queue (ft)	247	330	1282	1301
Link Distance (ft)	1134	1004	1249	1051
Upstream Blk Time (%)			100	39
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	350	1129	113	190	200	482	250	283	65
Average Queue (ft)	172	518	35	72	92	226	58	156	19
95th Queue (ft)	427	1013	83	144	185	410	130	261	53
Link Distance (ft)		1114		997		1242		1040	
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		0							
Storage Bay Dist (ft)	250		250		100		150		150
Storage Blk Time (%)		47			4	37	0	11	
Queuing Penalty (veh)		37			17	30	0	15	

Network Summary

Network wide Queuing Penalty: 100

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	350	834	350	428	200	433	250	1074	250
Average Queue (ft)	110	295	84	244	144	253	141	611	101
95th Queue (ft)	319	619	181	373	233	411	311	1246	271
Link Distance (ft)		1114		997		1242		1040	
Upstream Blk Time (%)								33	
Queuing Penalty (veh)								0	
Storage Bay Dist (ft)	250		250		100		150		150
Storage Blk Time (%)		25		12	21	40		55	0
Queuing Penalty (veh)		17		11	89	81		89	0

Network Summary

Network wide Queuing Penalty: 286

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	408	91	1301	928
Average Queue (ft)	164	52	894	401
95th Queue (ft)	302	91	1545	737
Link Distance (ft)	1106	1004	1249	1051
Upstream Blk Time (%)			43	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Old US Highway 1 & Site Drive 1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	23	41
Average Queue (ft)	1	15
95th Queue (ft)	8	32
Link Distance (ft)	935	953
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Old US Highway 1 & Site Drive 2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	15
95th Queue (ft)	31
Link Distance (ft)	1153
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	349	517	1283	1103
Average Queue (ft)	156	207	1263	673
95th Queue (ft)	279	361	1273	1207
Link Distance (ft)	1106	1004	1249	1051
Upstream Blk Time (%)			100	23
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Old US Highway 1 & Site Drive 1

Movement	SB
Directions Served	LR
Maximum Queue (ft)	17
Average Queue (ft)	7
95th Queue (ft)	21
Link Distance (ft)	953
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Old US Highway 1 & Site Drive 2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	24	22
Average Queue (ft)	2	15
95th Queue (ft)	12	32
Link Distance (ft)	1076	1153
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	350	853	114	191	200	393	249	517	51
Average Queue (ft)	192	481	33	71	88	238	68	187	19
95th Queue (ft)	435	761	80	133	197	370	148	373	49
Link Distance (ft)		1086		997		1242		1040	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250		100		150		150
Storage Blk Time (%)		60			0	41	1	15	
Queuing Penalty (veh)		52			0	39	5	22	

Intersection: 2: Old US Highway 1 & Site Drive 1

Movement	SB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	17
95th Queue (ft)	37
Link Distance (ft)	972
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Old US Highway 1 & Site Drive 2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	50
Average Queue (ft)	24
95th Queue (ft)	46
Link Distance (ft)	1068
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 118

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	350	487	349	442	200	637	250	1103	250
Average Queue (ft)	79	237	61	212	167	275	112	791	145
95th Queue (ft)	213	418	168	355	232	471	273	1348	331
Link Distance (ft)		1086		997		1242		1040	
Upstream Blk Time (%)								36	
Queuing Penalty (veh)								0	
Storage Bay Dist (ft)	250		250		100		150		150
Storage Blk Time (%)		14		7	35	41		64	
Queuing Penalty (veh)		10		6	146	101		108	

Intersection: 2: Old US Highway 1 & Site Drive 1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	26	36
Average Queue (ft)	2	10
95th Queue (ft)	12	27
Link Distance (ft)	996	972
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Old US Highway 1 & Site Drive 2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	73	50
Average Queue (ft)	9	17
95th Queue (ft)	41	41
Link Distance (ft)	1064	1068
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 371

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	510	334	476	530
Average Queue (ft)	302	152	186	228
95th Queue (ft)	450	289	324	456
Link Distance (ft)	1106	1004	1249	1051
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Old US Highway 1 & Site Drive 1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	22	17
Average Queue (ft)	1	8
95th Queue (ft)	8	21
Link Distance (ft)	935	953
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Old US Highway 1 & Site Drive 2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	51	47
Average Queue (ft)	2	14
95th Queue (ft)	17	37
Link Distance (ft)	1076	1153
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	823	1038	1301	713
Average Queue (ft)	440	975	1265	356
95th Queue (ft)	735	1169	1279	602
Link Distance (ft)	1106	1004	1249	1051
Upstream Blk Time (%)		77	97	
Queuing Penalty (veh)		0	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Old US Highway 1 & Site Drive 1

Movement	SB
Directions Served	LR
Maximum Queue (ft)	42
Average Queue (ft)	9
95th Queue (ft)	26
Link Distance (ft)	953
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Old US Highway 1 & Site Drive 2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	53	42
Average Queue (ft)	2	8
95th Queue (ft)	18	28
Link Distance (ft)	1076	1153
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	350	619	73	148	1004	1108
Average Queue (ft)	101	329	29	61	319	514
95th Queue (ft)	295	554	64	122	706	1083
Link Distance (ft)		1105		1003	1242	1045
Upstream Blk Time (%)						17
Queuing Penalty (veh)						0
Storage Bay Dist (ft)	250		250			
Storage Blk Time (%)		33				
Queuing Penalty (veh)		25				

Intersection: 2: Old US Highway 1 & Site Drive 1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	51	40
Average Queue (ft)	2	15
95th Queue (ft)	17	34
Link Distance (ft)	935	952
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Old US Highway 1 & Site Drive 2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	15
95th Queue (ft)	31
Link Distance (ft)	1153
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 25

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	EB	B4	WB	WB	NB	SB
Directions Served	L	TR	T	L	TR	LTR	LTR
Maximum Queue (ft)	350	1213	458	350	937	1294	834
Average Queue (ft)	162	689	29	210	516	1261	283
95th Queue (ft)	410	1379	147	435	867	1279	533
Link Distance (ft)		1105	436		1003	1242	1045
Upstream Blk Time (%)		20	0			96	
Queuing Penalty (veh)		80	1			0	
Storage Bay Dist (ft)	250			250			
Storage Blk Time (%)		59		2	62		
Queuing Penalty (veh)		38		7	56		

Intersection: 2: Old US Highway 1 & Site Drive 1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	53	17
Average Queue (ft)	2	7
95th Queue (ft)	18	20
Link Distance (ft)	935	952
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Old US Highway 1 & Site Drive 2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	24	22
Average Queue (ft)	1	15
95th Queue (ft)	8	32
Link Distance (ft)	1076	1153
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 182

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	350	963	113	130	200	356	250	437	250
Average Queue (ft)	223	563	38	57	73	212	83	224	26
95th Queue (ft)	464	849	87	108	157	328	174	384	104
Link Distance (ft)		1086		997		1242		1040	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250		100		150		150
Storage Blk Time (%)		68			1	36	3	21	
Queuing Penalty (veh)		59			4	34	11	30	

Intersection: 2: Old US Highway 1 & Site Drive 1

Movement	SB
Directions Served	LR
Maximum Queue (ft)	39
Average Queue (ft)	17
95th Queue (ft)	34
Link Distance (ft)	972
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Old US Highway 1 & Site Drive 2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	70	49
Average Queue (ft)	4	24
95th Queue (ft)	31	48
Link Distance (ft)	1064	1068
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 139

Intersection: 1: New-Hill Holleman Road/New-Hill Olive Chapel Road & Old US Highway 1

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	350	472	349	456	200	444	250	948	250
Average Queue (ft)	84	228	75	228	175	269	88	486	131
95th Queue (ft)	217	376	212	368	228	383	232	844	302
Link Distance (ft)		1086		997		1242		1040	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	250		250		100		150		150
Storage Blk Time (%)		9		10	46	31		55	
Queuing Penalty (veh)		6		10	191	76		92	

Intersection: 2: Old US Highway 1 & Site Drive 1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	26	36
Average Queue (ft)	2	9
95th Queue (ft)	13	24
Link Distance (ft)	996	972
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Old US Highway 1 & Site Drive 2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	53	47
Average Queue (ft)	4	17
95th Queue (ft)	23	41
Link Distance (ft)	1064	1068
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

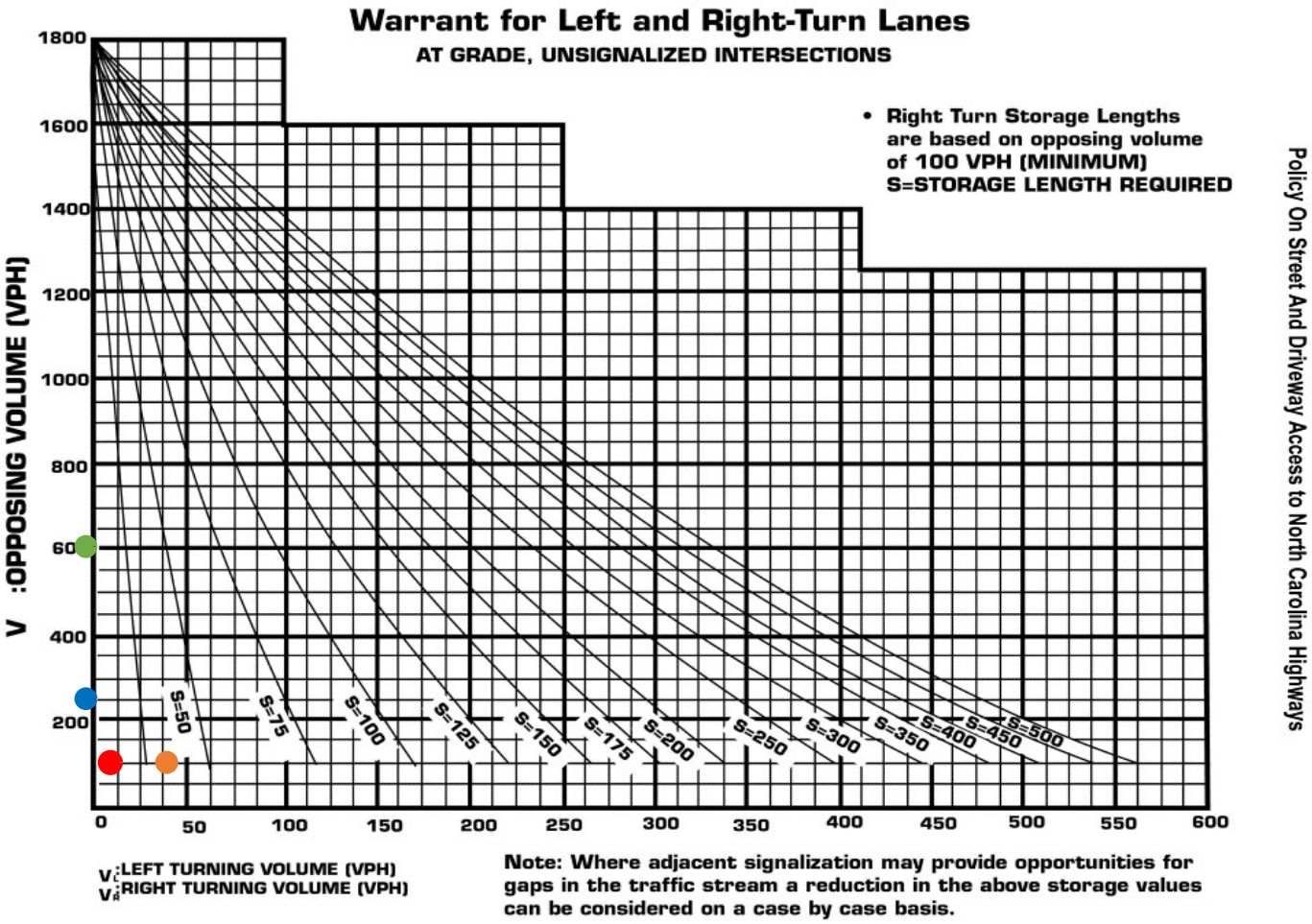
Network wide Queuing Penalty: 374

APPENDIX H

TURN LANE WARRANT CHARTS

UTLEY FARMS

TURN LANE STORAGE WARRANTS



INTERSECTION: OLD US HIGHWAY 1 & SITE DRIVE 1

SCENARIO	Movement	Turn Lane	Turning Volume (V_R/V_L)	Approach / Opposing Volume (V_A/V_O)	Symbol
AM Build	WBR	Right	13	100	
AM Build	EBL	Left	0	250	
PM Build	WBR	Right	43	100	
PM Build	EBL	Left	0	609	

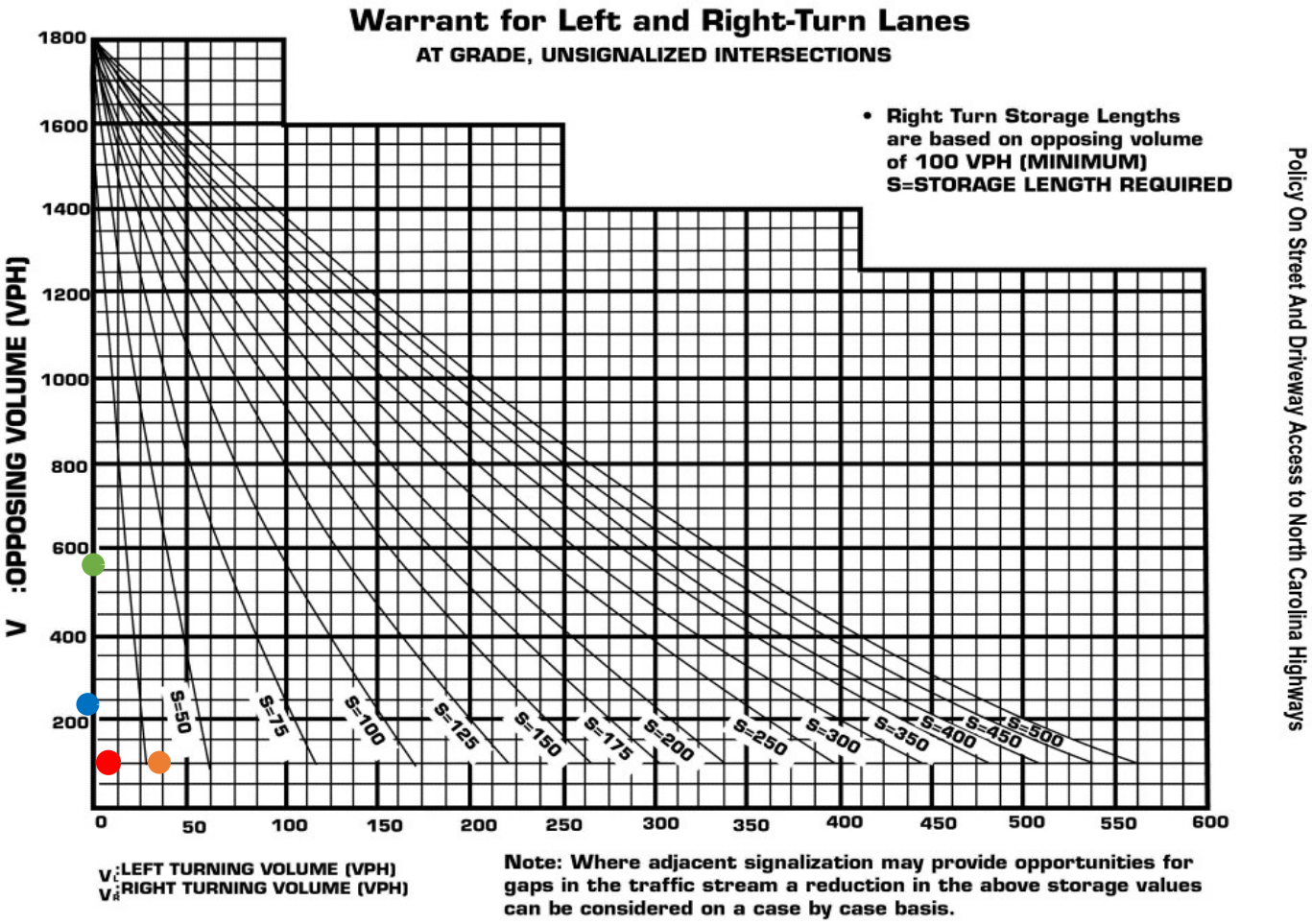
Moving forward.

RKA

RAMEY KEMP ASSOCIATES

UTLEY FARMS

TURN LANE STORAGE WARRANTS



INTERSECTION: OLD US HIGHWAY 1 & SITE DRIVE 2

SCENARIO	Movement	Turn Lane	Turning Volume (V_R/V_L)	Approach / Opposing Volume (V_A/V_O)	Symbol
AM Build	WBR	Right	12	100	
AM Build	EBL	Left	1	237	
PM Build	WBR	Right	39	100	
PM Build	EBL	Left	4	566	

Moving forward.

RKA

RAMEY KEMP ASSOCIATES

PLANNING BOARD REPORT TO TOWN COUNCIL

Rezoning Case: 22CZ09 Utley Farms PUD

Planning Board Meeting Date: October 10, 2022

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: ±56.59 acres

PIN(s): 0710714843 & 0710736732

Current Zoning: Wake County Residential-40W (R-40W) & Wake County Residential-80W (R-80W)

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

2045 Land Use Map: Low Density Residential & Low Density Residential/Office Employment

Town Limits: Currently in Wake County jurisdiction; to be annexed with rezoning

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: _____

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: _____

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 Recommendation:

Motion: To recommend approval as presented.

Introduced by Planning Board member: Ryan Akers

Seconded by Planning Board member: Tina Sherman

☐ *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 presented.

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

With 7 Planning Board Member(s) voting "aye"

With 0 Planning Board Member(s) voting "no"

Reasons for dissenting votes:

This report reflects the recommendation of the Planning Board, this the 10th day of October 2022.

Attest:

Reginald Skinner, Planning Board Chair

Dianne Khin Digitally signed by Dianne Khin Date: 2022.10.10 17:52:11 -04'00'

Dianne Khin, Director of Planning and Community Development

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

PUBLIC NOTIFICATION OF PUBLIC HEARINGS

CONDITIONAL ZONING #22CZ09
Utley Farms 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: Thurm Bowen, KB Homes, Inc. Carolinas Division
Authorized Agents: Jeff Roach, Peak Engineering & Design
Property Addresses: 3720 Old US 1 Highway and 0 New Hill Olive Chapel Road
Acreage: ±56.59 acres
Property Identification Numbers (PINs): 0710714834 and 0710736732
Current 2045 Land Use Map Designation: Low Density Residential and Low Density/Office Employment
Existing Zoning of Properties: Wake County Residential-40W (R-40W) and Wake County Residential-80W (R-80W)
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: October 10, 2022 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.

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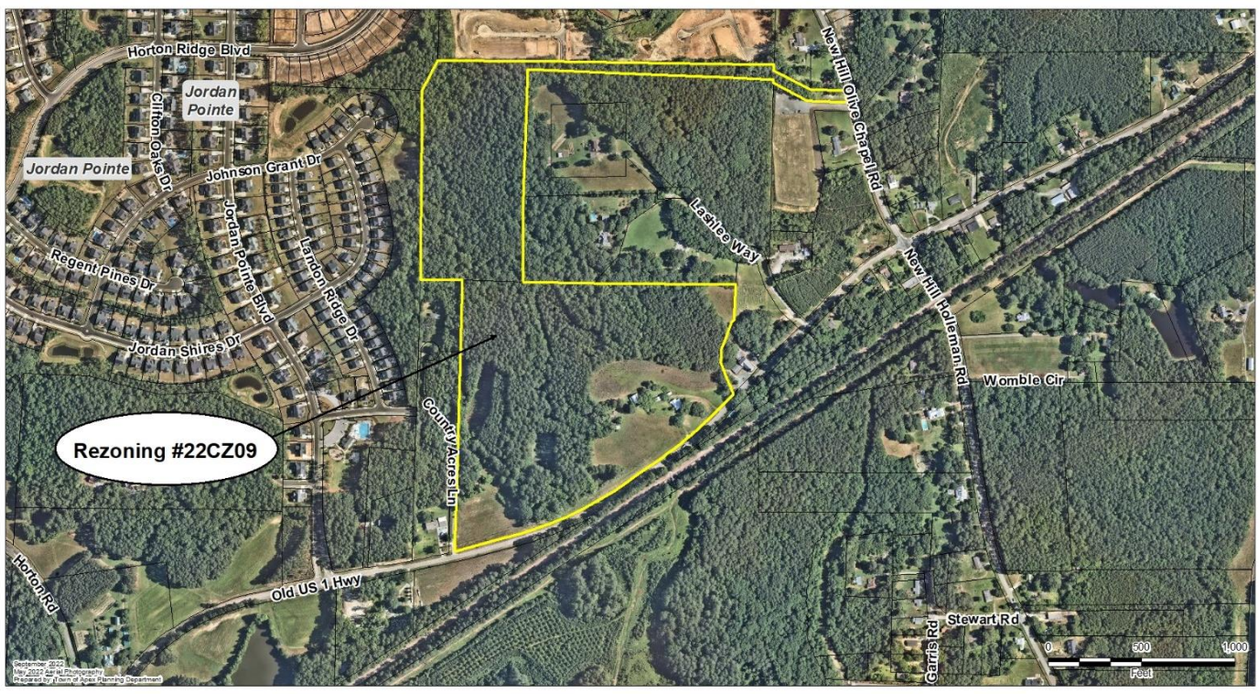
A separate notice of the Town Council public hearing on this project will be mailed and posted in order to comply with State public notice requirements.

Vicinity Map:



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Dianne F. Khin, AICP
Director of Planning and Community Development

Published Dates: September 26-October 10, 2022

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Dianne F. Khin, AICP
Director of Planning and Community Development

Published Dates: September 26-October 10, 2022

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

NOTIFICACIÓN PÚBLICA DE AUDIENCIAS PÚBLICAS
ORDENAMIENTO TERRITORIAL CONDICIONAL #22CZ09
Utley Farms 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: Thurm Bowen, KB Homes, Inc. Carolinas Division
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TOWN OF APEX
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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

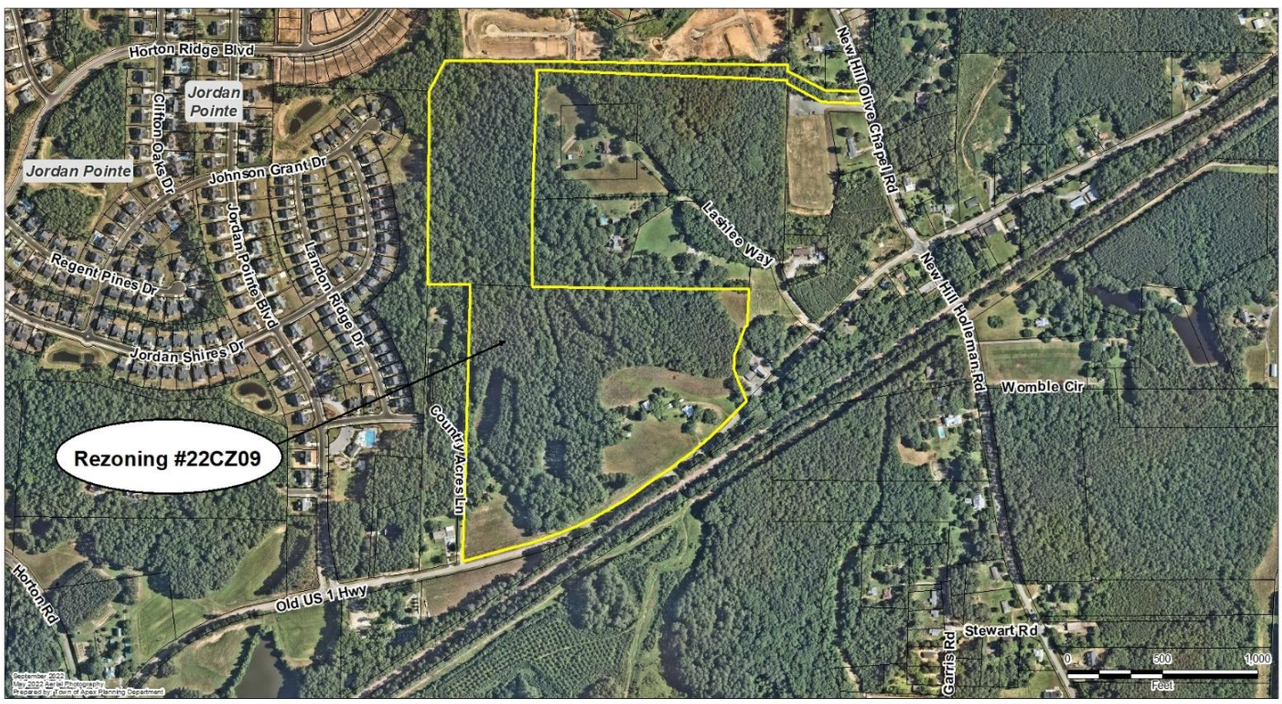
Fecha y hora de la audiencia pública de la Junta de Planificación: 10 de octubre de 2022 4:30 P.M.

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 secretaría 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 y Desarrollo Comunitario al 919-249-3426. Puede ver la solicitud y otros documentos relacionados aquí: https://www.apexnc.org/DocumentCenter/View/39388.

Dianne F. Khin, AICP
Directora de Planificación y Desarrollo Comunitario

Fechas de publicación: 26 de septiembre – 10 de octubre de 2022

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Dianne F. Khin, AICP
Director of Planning and Community Development

Published Dates: September 26-October 10, 2022

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

NOTIFICACIÓN PÚBLICA DE AUDIENCIAS PÚBLICAS
ORDENAMIENTO TERRITORIAL CONDICIONAL #22CZ09
Utley Farms PUD (Desarrollo de Unidad Planificada)

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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 #22CZ09 Utley Farms PUD
Project Location:	3720 Old US 1 Highway and 0 New Hill Olive Chapel Road
Applicant or Authorized Agent:	Thurm Bowen, KB Homes, Inc. Carolinas Division

This is to certify that I, as Director of Planning and Community Development, mailed or caused to have mailed by first class postage for the above mentioned project on September 26, 2022, 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.

9/26/2022
Date

Director of Planning and Community Development

STATE OF NORTH CAROLINA
COUNTY OF WAKE

Sworn and subscribed before me, Joshua Killian, a Notary Public for the above State and County, this the 27 day of Septembes, 2022.

JOSHUA KILLIAN
Notary Public
Wake
County
My Comm. Exp.
6/27/2023
NORTH CAROLINA

Notary Public

My Commission Expires: 6/27/2027

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

PUBLIC NOTIFICATION OF PUBLIC HEARINGS

CONDITIONAL ZONING #22CZ09
Utley Farms PUD

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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: October 25, 2022 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.

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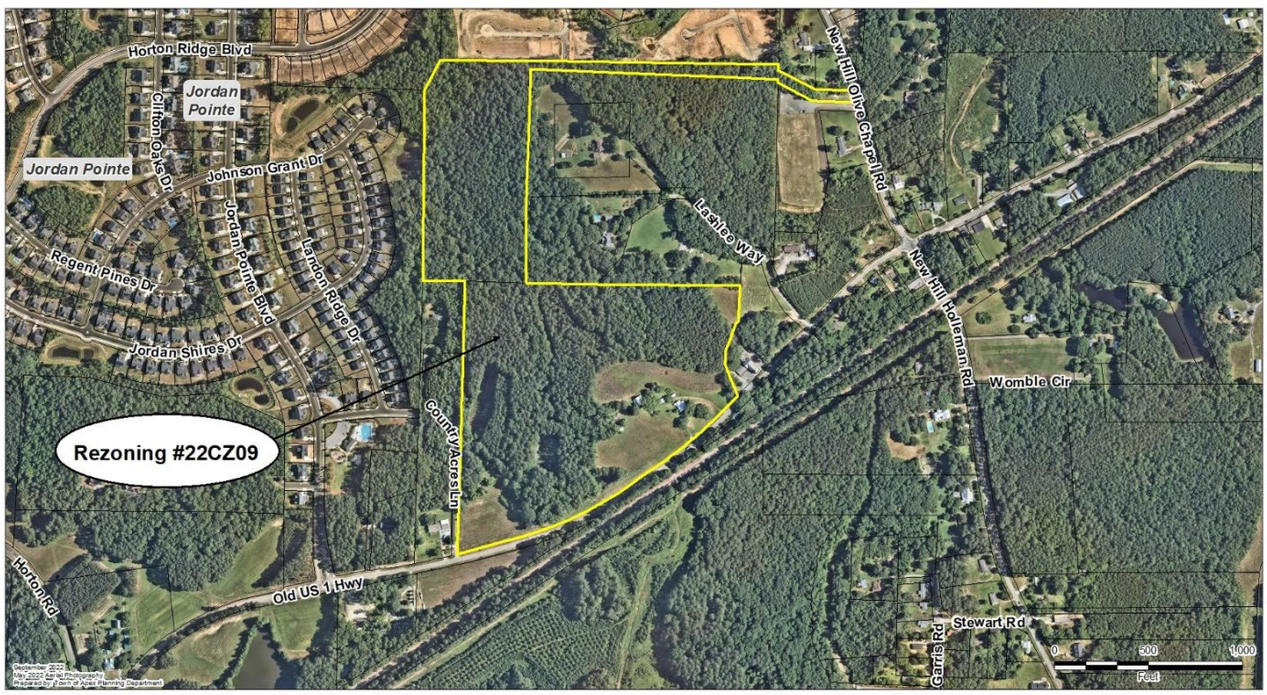

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Dianne F. Khin, AICP
Director of Planning and Community Development

Published Dates: October 3 - 25, 2022

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APEX, NORTH CAROLINA 27502
TELÉFONO 919-249-3426

NOTIFICACIÓN PÚBLICA DE AUDIENCIAS PÚBLICAS

ORDENAMIENTO TERRITORIAL CONDICIONAL #22CZ09
Utley Farms 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: Thurm Bowen, KB Homes, Inc. Carolinas Division
Agente autorizado: Jeff Roach, Peak Engineering & Design
Dirección de las propiedades: 3720 Old US 1 Highway and 0 New Hill Olive Chapel Road
Superficie: ±56.59 acres
Números de identificación de las propiedades: 0710714834 and 0710736732
Designación actual en el Mapa de Uso Territorial para 2045: Low Density Residential and Low Density/Office Employment
Ordenamiento territorial existente de las propiedades: Wake County Residential-40W (R-40W) and Wake County Residential-80W (R-80W)
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

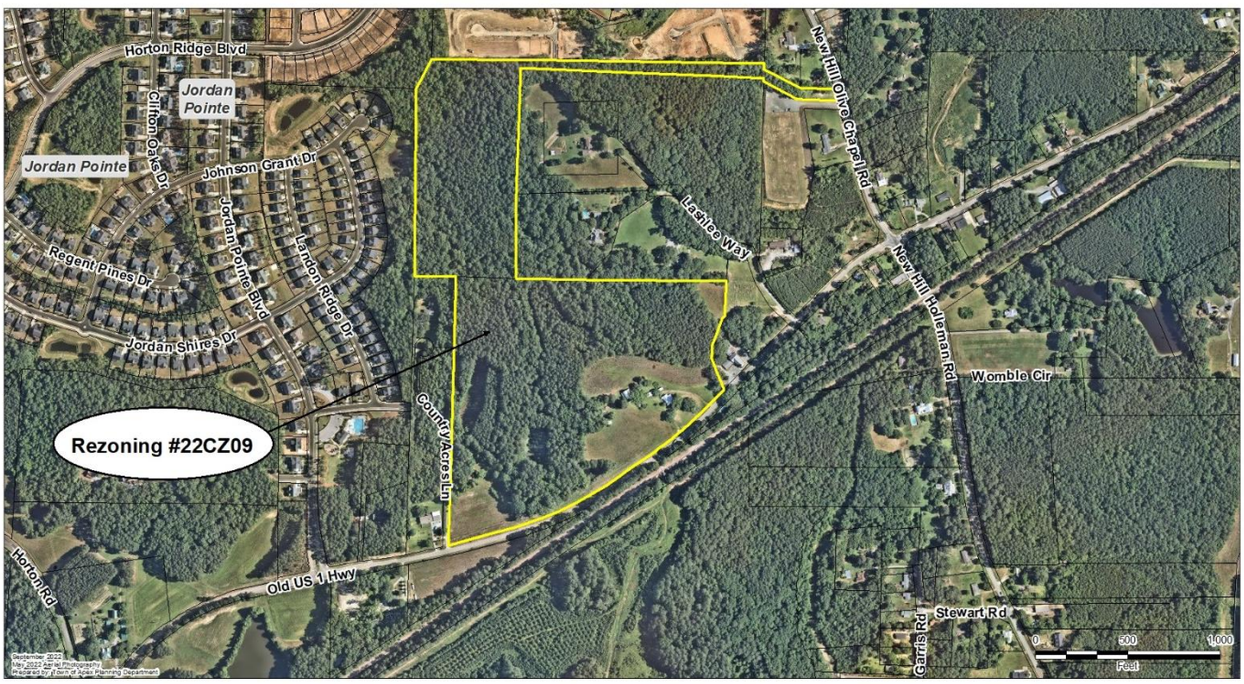
Los comentarios recibidos antes de la audiencia pública de la Junta de Planificación no se proporcionarán al Consejo Municipal. Los comentarios para la audiencia pública del Consejo Municipal deben presentarse por separado en el plazo especificado a continuación.

Fecha y hora de la audiencia pública del Consejo Municipal: 25 de octubre de 2022 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 y Desarrollo Comunitario al 919-249-3426. Puede ver la solicitud y otros documentos relacionados aquí: https://www.apexnc.org/DocumentCenter/View/39388.

Dianne F. Khin, AICP
Directora de Planificación y Desarrollo Comunitario

Fechas de publicación: 3 octubre- 25 de octubre de 2022

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

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Dianne F. Khin, AICP
Directora de Planificación y Desarrollo Comunitario

Fechas de publicación: 3 octubre- 25 de octubre de 2022

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 #22CZ09 Utley Farms PUD
Project Location:	3720 Old US 1 Highway and 0 New Hill Olive Chapel Road
Applicant or Authorized Agent:	Thurm Bowen, KB Homes, Inc. Carolinas Division

This is to certify that I, as Director of Planning and Community Development, mailed or caused to have mailed by first class postage for the above mentioned project on October 3, 2022, 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.

10/3/2022
Date

Director of Planning and Community Development

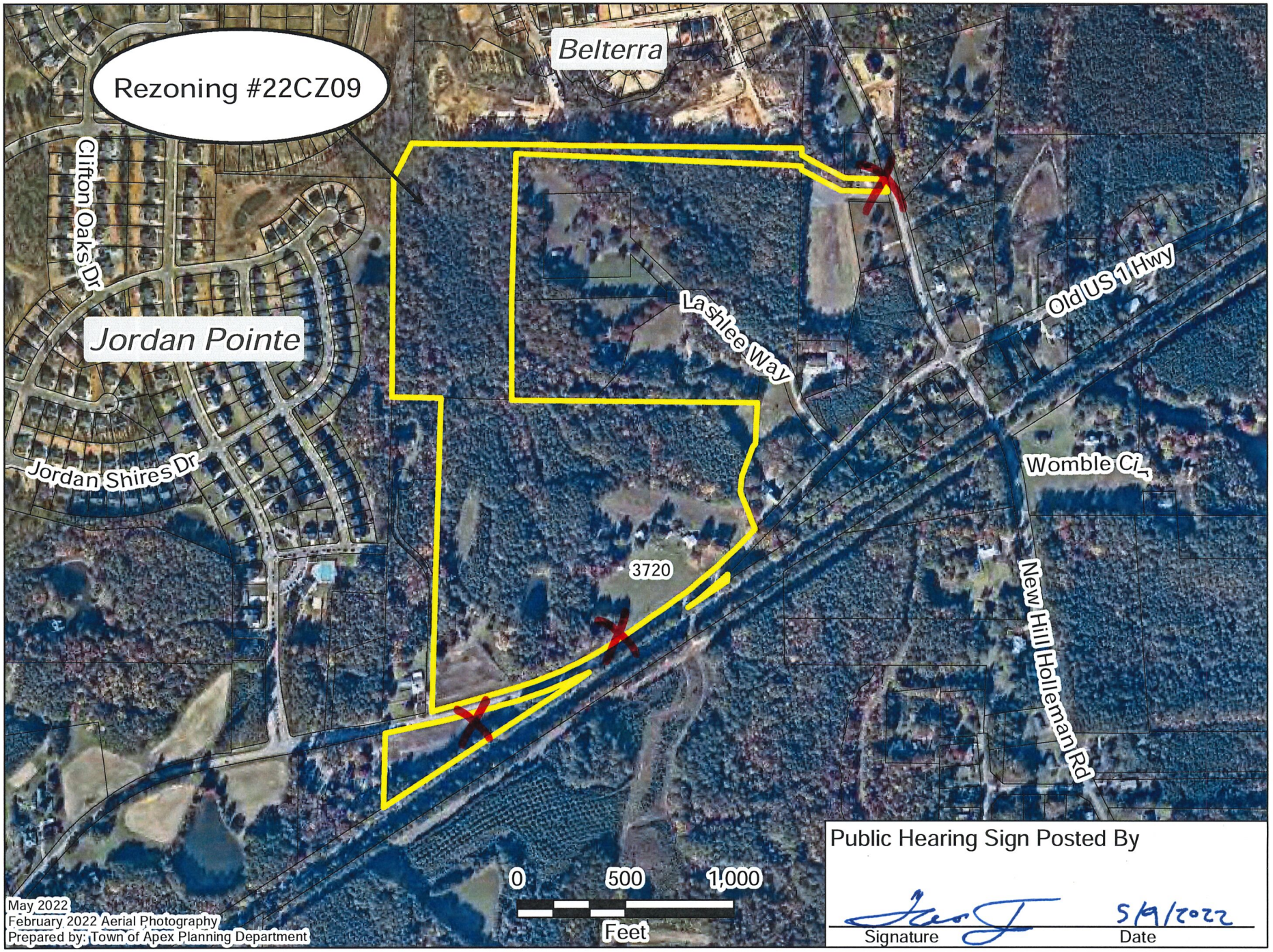
STATE OF NORTH CAROLINA
COUNTY OF WAKE

Sworn and subscribed before me, Joshua Killian, a Notary Public for the above State and County, this the 3 day of October, 2022.

JOSHUA KILLIAN Notary Public Wake County My Comm. Exp. SEAL NORTH CAROLINA

Notary Public

My Commission Expires: 6/17/2027


Rezoning #22CZ09
Belterra
Clifton Oaks Dr
Jordan Pointe
Jordan Shires Dr
Lashlee Way
Old US 1 Hwy
Womble Ci
New Hill Holleman Rd
3720
0
500
1,000
Feet
May 2022
February 2022 Aerial Photography
Prepared by: Town of Apex Planning Department
Public Hearing Sign Posted By
Signature
5/9/2022
Date

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

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

June 24, 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: May 1, 2022
- Name of development: 22CZ09 Utley Farms PUD
- Address of rezoning: 3720 Old US 1 Hwy & 0 New Hill Olive Chapel Rd (PINs 0710704834 & 0710736732
- Total number of proposed residential units: 122
- Type(s) of residential units proposed: Single-family detached

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 W. Pullium

CAPITAL AREA PRESERVATION

PROTECT • PROMOTE • EDUCATE

P.O. Box 28072
Raleigh, NC 27611

Phone: 919.833.6404 Fax: 919.834.7314
www.cappresinc.org

October 7, 2022

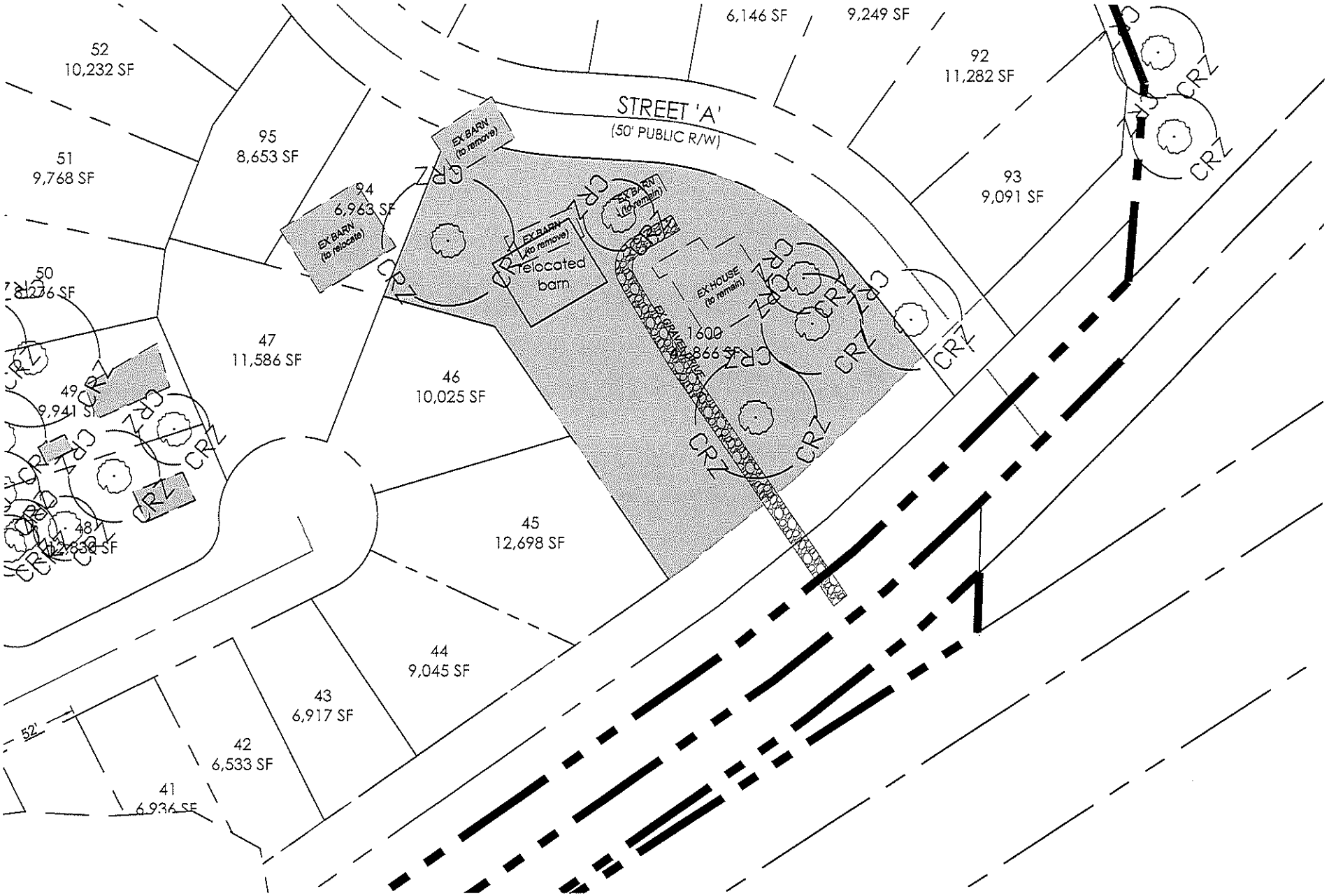
Lauren Staudenmaier
Planner II, Town of Apex
PO Box 250
Apex, NC 27502

Lauren,

CAP has been working with the developer (KB Homes) and their team for most of 2022 developing a plan to save the Utley-Horton Farmhouse and two contributing outbuildings. A large lot for the house and two outbuildings has been designated for preservation purposes. I have attached the most recent sketch plan that was presented to CAP that satisfies the preservation goals of the property. The developer's intention is to donate the property to CAP, where it will be rehabilitated and protected with a rehabilitation agreement and preservation easement to protect the property in perpetuity.

Sincerely,

Gary G. Roth
President/CEO


6,146 SF
9,249 SF
52
10,232 SF
92
11,282 SF
STREET 'A'
(50' PUBLIC R/W)
95
8,653 SF
51
9,768 SF
EX.BARN
(to remove)
94
6,963 SF
EX.BARN
(to relocate)
EX.BARN
(to remain)
EX.BARN
(to remove)
relocated
barn
93
9,091 SF
CRZ
50
12,276 SF
EX.HOUSE
(to remain)
1600
866 SF
47
11,586 SF
46
10,025 SF
49
9,941 SF
48
12,938 SF
45
12,698 SF
44
9,045 SF
43
6,917 SF
42
6,533 SF
41
6,936 SF
52'