Council Meeting Agenda
February 3, 2020
6:00 p.m.

1. Call to Order and Invocation ..... Mayor Ed Hooks
2. Public Comments ..... Mayor
3. Consent Agenda ..... Mayor
   a. Approval of Minutes – January 2, 2020 – Regular Meeting
   b. Resolution of Intent to Annex City Owned Property – Mebane Memorial Garden Cemetery
   c. Interlocal Agreement and Budget Amendment – Orange County- Small Area Plan
   d. Agreement with Alamance County – Radio Equipment on Tower
   e. Mebane Oaks-Hillsborough Road Intersection – Utility Construction Agreement
4. Bike and Pedestrian Advisory Committee Appointments/Reappointments..... Cy Stober, Development Director
5. Public Hearings
   a. Rezoning from B-3 to M-1 (CD) to Allow Equipment Rental & Leasing from Robert & Carmen Giggey
      Continued from January meeting..... Mr. Stober
   b. Ordinance to Extend the Corporate Limits- Voluntary Non-Contiguous Annexation – Airgas USA, LLC..... Lawson Brown, City Attorney
   c. Rezoning from M-2 (Light Manufacturing) to M-1 (Heavy Manufacturing) from Airgas USA, LLC..... Mr. Stober
   d. Rezoning from R-20 (Single Family Residential) to B-2 (CD) (General Business Conditional Zoning District) from Aubrey & Celine Meador..... Mr. Stober
   e. Ordinance to Extend the Corporate Limits – Voluntary Contiguous Annexation- TRG Capital, LLC ..... Mr. Brown
6. Preliminary Subdivision Plat – Summerhaven ..... Mr. Stober
   Continued from January meeting
7. Police Request to Purchase Capital Items Using Federal Forfeiture Funds ..... Terrence Caldwell, Police Chief
8. Request for New Position – Planner.....Mr. Stober or David Cheek, City Manager
9. Census Update ..... Mr. Cheek
10. Adjournment ..... Mayor

The Mebane City Council met for its regular monthly meeting at 6:00 p.m., Monday, January 6, 2020 in the Council Chambers of the Glendel Stephenson Municipal Building located at 106 East Washington Street.

Councilmembers Present:	Also Present:
Mayor Ed Hooks	David Cheek, City Manager
Mayor Pro-Tem Jill Auditori	Chris Rollins, Assistant City Manager
Councilmember Patty Philipps	Lawson Brown, City Attorney
Councilmember Tim Bradley	Stephanie Shaw, City Clerk
Councilmember Sean Ewing	Cy Stober, Development Director
Councilmember Everette Greene	

Mayor Hooks called the meeting to order. Mr. Bradley gave the invocation. No one spoke during the Public Comment period.

Mr. Cheek gave an overview of the Consent Agenda:

a. Approval of Minutes
   i. December 2, 2019 – Special Meeting
   ii. December 2, 2019 – Regular Meeting
b. Final Subdivision Plat –Recombination of Lot 24 in NCIC
c. Petition for Voluntary Non-Contiguous Annexation – Airgas USA, LLC
d. Petition for Voluntary Contiguous Annexation – TRG Capital, LLC
e. Interlocal Agreement and Budget – City of Burlington (BGMPO)
f. Insurance Proceeds – Budget Amendment
g. Municipal Agreement for NCDOT Mebane-Oaks Interchange Project I-5711
   i. Utility Construction Agreement
   ii. Sidewalk Construction Agreement

Ms. Auditori made a motion, seconded by Ms. Philipps, to approve the consent agenda as presented. The motion carried unanimously.

Item c.

RESOLUTION FIXING DATE OF PUBLIC HEARING ON
QUESTION OF ANNEXATION PURSUANT TO G.S. 160A-58.2

WHEREAS, a petition requesting annexation of the non-contiguous area described herein has been received; and

WHEREAS, the Mebane City Council directed the City Clerk to investigate the sufficiency of the petition; and

WHEREAS, certification by the City Clerk as to the sufficiency of the petition has been made;

NOW, THEREFORE, BE IT RESOLVED, by the Mebane City Council of the City of Mebane, North Carolina that:

Section 1. A public hearing on the question of annexation of the non-contiguous area described herein will be held at the Mebane Municipal Building at 6:00 p.m. on February 3, 2020.

Section 2. The area proposed for annexation is described as follows:

COMMENCE FROM A 1/2" IRON PIPE FOUND IN THE NORTHERN LINE OF THE DUKE POWER COMPANY 128' RIGHT OF WAY AS RECORDED IN DEED BOOK 41, PAGE 333 AND DEED BOOK 358, PAGE 631, ALAMANCE COUNTY REGISTRY AND THE WESTERN LINE OF TINNIN$ CREEK ROAD 30' PRIVATE RIGHT OF WAY AS SHOWN ON PLAT BOOK 6, PAGE 2, ALAMANCE COUNTY REGISTRY, SAID IRON PIPE FOUND HAVING A NC GRID NAD83 COORDINATE OF N:852,264.89 E:1,911,390.35, SAID IRON PIPE ALSO BEING THE SOUTHWESTERN MOST CORNER OF LOT 22 AS SHOWN ON PLAT BOOK 79, PAGE 252, ALAMANCE COUNTY

REGISTRY; THENCE ALONG THE WESTERN BOUNDARY OF SAID LOT 22 THE FOLLOWING THREE (3) COURSES: 1) N 51°08'35" EA DISTANCE OF 100.07 FEET TO A 1/2" IRON PIPE FOUND; THENCE 2) N 01°30'39" EA DISTANCE OF 28.91 FEET TO A 1/2" IRON PIPE FOUND; THENCE 3) N 33°22'26" EA DISTANCE OF 147.47 FEET TO A 1/2" IRON PIPE SET AND BEING THE TRUE POINT OF BEGINNING; THENCE FROM THE TRUE POINT OF BEGINNING A NEW LINE THROUGH THE CLIFFORD M. RAY, JR. FAMILY LIMITED PARTNERSHIP AS RECORDED IN DEED BOOK 2799, PAGE 569, ALAMANCE COUNTY REGISTRY THE FOLLOWING SIX (6) COURSES: 1) N 10°28'32" WA DISTANCE OF 38.92 FEET TO A 1/2" IRON PIPE SET; THENCE 2) N 33°53'31" EA DISTANCE OF 51.23 FEET TO A 1/2" IRON PIPE SET; THENCE 3) N 38°59'43" EA DISTANCE OF 31.30 FEET TO A 1/2" IRON PIPE SET; THENCE 4) N 53°27'31" E A DISTANCE OF 25.61 FEET TO A 1/2" IRON PIPE SET; THENCE 5) S 64°37'32" EA DISTANCE OF 14.78 FEET TO A 1/2" IRON PIPE SET; THENCE 6) S 33°22'26" WA DISTANCE OF 136.55 FEET TO THE POINT OF BEGINNING AND CONTAINING 2,998 SF OR 0.069 ACRES.

Section 3. Notice of the public hearing shall be published once in the Mebane Enterprise, a newspaper having general circulation in the City of Mebane, at least ten (10) days prior to the date of the public hearing.

_____
Ed Hooks, Mayor

ATTEST:

_____

Stephanie W. Shaw, City Clerk

Item d.

RESOLUTION FIXING DATE OF PUBLIC HEARING ON
QUESTION OF ANNEXATION PURSUANT TO G.S. 160A-31

WHEREAS, a petition requesting annexation of the area described herein has been received; and

WHEREAS, certification by the City Clerk as to the sufficiency of the petition has been made;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Mebane, North Carolina that:

Section 1. A public hearing on the question of annexation of the area described herein will be held at the Mebane Municipal Building at 6:00 p.m. on February 3, 2020.

Section 2. The area proposed for annexation is described as follows:

A certain tract or parcel of land located in Cheeks Township, Orange County, North Carolina, and being more particularly described as follows:

Beginning at a 1" flat bar in the southern R/W of E. Washington Street; thence with the southern R/W of said E Washington St. N 75°15'10" W a distance of 185.00'to a PK Nail set in Eleventh Street; thence with said Eleventh Street S 01°39'21" W a distance of 243.78'to a 5/8" rebar in said Eleventh Street; thence S 88°49'47" E a distance of 181.94'to a 3/4"EIP, (5/8" rebar on R/W of said Eleventh St. (5.28' from corner inside the R/W) ; thence N 01°09'31" E a distance of 200.35'to a 1" Flat Bar; which is the point of beginning, having an area of 0.92 Acres, and 0.0014 Sq. Miles.

Section 3. Notice of the public hearing shall be published once in the Mebane Enterprise, a newspaper having general circulation in the City of Mebane, at least ten (10) days prior to the date of the public hearing.

_____
Ed Hooks, Mayor

ATTEST:

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Stephanie W. Shaw, City Clerk

Mayor Hooks announced that the public hearing for *Item 4a. Rezoning from B-3 to M-1(CD) to Allow Equipment Rental & Leasing from Robert & Carmen Giggey* has been requested to be continued until the next per the applicant. As well as a request to continue *Item 5a- Preliminary Subdivision Plat-Summerhaven- Continued Pending Review of the Transportation Impact Analysis*

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(TIA) by NCDOT and City Transportation Consultant until the February meeting. Mr. Greene made a motion, seconded by Ms. Auditori to continue the rezoning public hearing and the Summerhaven item at next month's meeting. The motion carried unanimously.

Mr. Cheek recognized the City's IT Director Ray Smith with a Resolution as Mr. Smith will be retiring on January 31, 2020. Council unanimously adopted the resolution by motion of Mr. Bradley, seconded by Ms. Philipps. The motion carried unanimously. Mr. Cheek also presented Mr. Smith with his 5 years of service certificate.

RESOLUTION HONORING RAY SMITH,
INFORMATION TECHNOLOGY DIRECTOR FROM 2015-2020

WHEREAS, Mr. Ray Smith has announced his intention to retire as the City of Mebane's Information Technology Director effective February 1, 2020 with his final Council meeting being January 6, 2020; and

WHEREAS, Ray has been the catalyst in bringing the City of Mebane's information technology infrastructure into the twenty-first century; and

WHEREAS, Ray was instrumental in creating the City's first Information Technology Department designed to serve and assist the other City departments in providing and improving their technology-based services to the residents of Mebane; and

WHEREAS, during his five years as the City's Information Technology Director, Ray has created a robust, ten-location network, bringing interconnectivity between all City departments, improving communications and precipitating efficient business operations; and

WHEREAS, Ray produced public wireless fidelity (Wi-Fi) at all City locations including the Community Park, Lake Michael, the Mebane Arts and Community Center complex and downtown Mebane; and

WHEREAS, Ray used not only his management skills to facilitate his work, but would roll up his sleeves, crawling under desks, climbing ladders into ceilings, and running cable in all manner of facilities; and

WHEREAS, it would be remiss not to mention Ray's other significant accomplishments during his short tenure in Mebane including: moving the City's main server room to a more secure location; migrating the City's phone system to Voice Over Internet Protocol (VOIP) saving significant budget dollars; equipping all Fire and Police with rugged iPads for remote access improving public safety; installing security camera systems at all locations; upgrading presentation equipment throughout the City including the Council Chambers enhancing citizen participation; and numerous network security improvements protecting the City from cyber threats and intrusion; and

WHEREAS, Ray accomplished this important work, while earning the trust and respect of his colleagues with his strong work ethic, tenacious will to fix things, responsiveness at all hours of the week and weekend, good character and sense of humor;

NOW, THEREFORE, BE IT RESOLVED, by the City Council of Mebane, on behalf of the citizens and employees of Mebane, that the Mayor and City Councilmembers extend to Ray Smith their sincere appreciation for all his loyal and dedicated service to the betterment of the City of Mebane over the last five years.

Adopted this 6th day of January, 2020.

_____
Ed Hooks, Mayor

Mr. Stober explained that a Public Hearing was held at the December 2, 2019 Council meeting in which MRE MNC, LLC, requested approval to establish M-2 (Light Manufacturing) on two properties it owns with a total area of +/-48.51 ac, at 5504, 5510, 5512, & 5514 West Ten Road, which at the time was located outside of the City's Extra-Territorial Jurisdiction (ETJ) in Orange County. At that public hearing, neighboring residents and the City Council expressed concerns about the broad variety of uses permitted in a M-2 zoning district. The applicant offered to amend the request to a conditional zoning request to restrict the number of uses and conduct an appraisal of the zoning request to determine what the impacts upon surrounding property values may be.

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Mr. Stober stated the modified request being presented tonight is for Light Manufacturing Conditional Zoning District (M2-CD). The properties lie within the Buckhorn Economic Development District (BEDD) and in the Orange County utility service agreement area; however, the properties lie outside the geographic scope of the City's adopted Comprehensive Land Development Plan (CLP) *Mebane By Design*, but is adjacent to the City's G-2 Industrial Primary Growth area which includes the Medline site located to the north of the property. The properties were annexed into the City limits at the December 2, 2019 Council meeting. The applicant offered restrictions for the properties for the following uses:

1. Accessory Uses and Structures (customary)
2. Apparel and Finish Fabric Products
3. Bakery Products
4. Beverage Products
5. Bulk Mail and Packaging
6. Cabinet and Woodworking Shops
7. Communication Tower Under 50' in Height
8. Computer and Office Equipment
9. Courier Service
10. Dairy Products
11. Drugs and Pharmaceuticals
12. Fence, Wall
13. Food Preparation and Related Products, Miscellaneous
14. Office Supplies and Equipment
15. Outside Storage
16. Public Works and Public Utility Facilities Essential to the Immediate Area
17. Research, Development or Testing Services
18. Signs
19. Solar Farms
20. Small Wireless Facility
21. Temporary Portable Storage Containers
22. Temporary Construction, Storage or Office
23. Warehouse (general storage, enclosed)
24. Warehouse (self-storage)

Austin Watts, P.E., Vice President, with Kimley-Horn, 200 South Tryon Street, Suite 200, Charlotte, NC 28202 spoke on behalf of the applicant. He said pursuant to the comments last month from residents and the Council, he went back to Medline and expressed those concerns and Medline was more than willing to change the request to a conditional rezoning with the intent that the only allowable uses would be those comparable to a Medline type project. He stated being a hospital centric distribution center, they want to be able to control their neighbors. The properties currently consist of chicken houses and abandoned mobile homes.

Nicholas D. Kirkland, Trainee Appraiser, with Kirkland Appraisals, LLC, 9408 Northfield Court Raleigh, North Carolina 27603 began to give a summary of his findings when Mr. Brown requested that Council make a motion to reopen the public hearing, nunc pro tunc, since Mr. Stober and Mr. Watts have already spoken. Ms. Philipps made a motion, seconded by Mr. Ewing, to reopen the public hearing. The motion carried unanimously. Mr. Kirkland continued with his findings. He said he has reviewed other M-2 zonings within Mebane and researched adjoining home sales next to these existing M-2 zoned properties and he came to the conclusion that the proposed zoning is consistent with the area and, from talks with the Mr. Stober, will remain consistent with the area through limited potential uses post rezoning. The matched pairs of property sales indicate no significant impact to adjoining property values. Adjacency to M-2 zoning appears to not be a significant factor in purchase price for homes within the same subdivision and he considered this strong support for the proposed rezoning to have no negative impact on the adjoining properties. Furthermore, the surrounding zoning to the north, east and west is primarily zoned Economic Development Buckhorn Higher Intensity, which is intended for commercial and industrial growth. This is a natural addition to that area along the north side of West Ten Road with the homes on Preston Loop and Lacy Drive being the only residential uses north of West Ten Road in that area. This area is therefore already impacted by surrounding similar zoning to M-2. Therefore, the proposed project is harmonious with the location and surrounding uses and further that it will have no negative impact on those adjoining properties.

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Patty O'Connor, resident on Squires Road, questioned Mr. Kirkland about the property comparisons. Mr. Kirkland stated he did not look at particular buildings but parcels that are M-2 zoned. She then asked Mr. Watts what does Medline consider to be accessory uses and structures. Mr. Watts said it would be something associated with all the other uses, so in this case, more than likely it would be a warehouse use. Ms. O'Connor stated that some of the uses still give her concerns and she questioned if Council has any say so about the uses after Medline purchases the property and the rezoning is approved or can Medline just put any of the offered uses on the property. Mr. Stober replied that as a conditional zoning district the uses would be restricted to those listed and in addition must meet all the requirements of the City's UDO.

Ms. Philipps said the question was will the use when built affect the value of the homes adjacent and all Mr. Kirkland has shown Council is vacant lots that happen to be zoned M-2 that have not had an impact on the residential area and she feels it does not have any bearing on the current conversation. Mr. Kirkland replied that he understands, however he fulfilled the scope of work he was asked to do.

Mr. Bradley said that it is his understanding that Medline will be using this as their global location and one of the reasons they are buying the southern parcels is to clean them up and with that in mind he does not expect Medline to put anything ugly or noxious across from their headquarters.

Mr. Ewing asked Mr. Kirkland who identified his scope of work. Mr. Kirkland replied that the scope of work was determined by Rich Kirkland, co-signer of the report, and Mr. Watts. He said they were trying to isolate what impact there would be with the change in zoning to M-2 with any of the listed uses.

There was further discussion in regard to the appraisal report related to values of various residential areas adjacent to industrial areas within the City.

Logan Johnson, 1418 Squires Road, questioned again Medline's intention for the southern parcels and asked if they have any interest in keeping it rural residential. Mr. Watts replied that he is unsure but they do not have any immediate plans for the property, however in the future they will more than likely use the property for a high-end compatible use with their building. He shared his concerns with the appraisal not being independent. He fears the rezoning will change the feel of where he lives. He questioned why the rezoning could not take place at a later time since there are no immediate plans for the property. Ms. Auditori stated she asked the same question last month and the reason is because the property was annexed by the City and must be zoned per the City's UDO, not per Orange County's UDO.

Mr. Bradley said, so if Council rezones the property M-2 Conditional Use and Medline has no initial need for the property, they can clean it up and at such time they want to build an accessory storage or warehouse of medical equipment, they could come back with plans for Council approval at that time. Mr. Stober said Medline has requested two conditions, 1) the restricted list of uses; and 2) a waiver of Article 9, granting staff the authority to issue approval through the Technical Review Committee should the site plan meet all the Mebane UDO design standards; however, per state law, if Council does not take action to approve that condition, any site plan that is submitted within a conditional use zoning district must come back to Council in a public hearing for approval.

Ms. Auditori asked if the list of restricted uses came straight from Mebane's M-2 allowed uses. Mr. Stober stated yes, although there are some special uses that are permitted that would still require special use permits such as solar farms. She asked Mr. Stober to clarify because they are M-2 uses, none would be retail operations. Mr. Stober said that is correct. Ms. Auditori then asked if it is an option to deny the first condition with the requirement that they come back before Council but maintain the second condition or do they go hand in hand. Mr. Stober said they do not go hand in hand but the applicant would need to speak to whether they would want to proceed with the request under that condition. Mr. Brown said without the consent of the applicant, Council could not take that action. Mr. Watts said they specifically requested the waiver of Article 9 simply because it is a byproduct of Medline making the concessions to get rid of the deemed noxious uses.

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Mr. Greene made a motion, seconded by Ms. Philipps, to close the Public Hearing. The motion carried unanimously.

Ms. Philipps made a motion to approve the the M-2(CD) zoning as presented and a motion to find that **the application is consistent** with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design* **but** is beyond the geographic scope of the adopted plan. The request:

- ☐ Serves Mebane CLP Growth Management Goal 1.7 through the support [*of*] industrial development at existing industrial parks near I-40/85 (pp.17, 59 & 82); and

- ☐ Is for a property adjacent to the City's G-2 Industrial Primary (V) Growth Area "Part of BEDD and North of US-70", an "…area [*that*] is intended for more robust growth, primarily for light industrial purposes… [with] areas immediately outside of these corridors, though, [*that*] are rural residential lots… (Mebane CLP, p.72).

Therefore, the project will serve the City's economic development interests immediately outside of the City's industrial primary growth area and is not inconsistent with *Mebane By Design*. The plan is thereby amended to reflect this intention of Council, though it should be reflected in *Mebane By Design* through a planning effort to reevaluate the future land use and development potential of properties served by utilities that lie adjacent to Primary Growth Area V.

Mr. Greene seconded her motion. The motion passed with a 4-1 vote. Ayes- Tim Bradley, Patty Philipps, Everette Greene and Sean Ewing. Nays- Jill Auditori.

Ms. Tate presented the results of the 2018-2019 Comprehensive Annual Financial Report. Ms. Tate thanked all of the finance staff for their hard work.

Patricia Rhodes, Stout Stuart McGowen & King, LLP was present to report on the audit for the fiscal year ending June 30, 2019. Ms. Rhodes stated Mebane received an unmodified opinion. She reviewed highlights of the audit and shared a comparison of Mebane's fund balance vs. fund balances of similar municipalities. Mr. Bradley made a motion, seconded by Mr. Greene to accept the audit. The motion carried unanimously.

Mr. Stober presented an informational item in regard to Truck & Utility Trailer Rental Businesses. He explained during the public comment period of last month's meeting, a property owner on US Hwy 70/Center Street who has a primary business operating a barber shop and has an accessory business of renting U-Haul trucks and trailers, additionally Council also has a pending conditional rezoning request for a similar matter that should be presented in February. He said at the direction of Council, he began looking into what other municipalities in North Carolina are doing about truck and trailer rental businesses. He said we are not talking about the "one stop shop, U-Haul mega site, indoor-outdoor storage, truck, trailer, pod rentals". We are talking about U-Haul rentals as an accessory use or as a smaller scale business strictly regulated to trucks and trailers, possibly a couple of inside pods. This use is not defined in the Mebane Unified Development Ordinance (UDO), nor are the other two uses listed in Table 4-1-1 (Table of Permitted Uses): Equipment Rental and Leasing (no outside storage) and Moving and Storage Service. Furthermore, the three uses are not regulated consistently, though they all are allowed by right in M-1 (Heavy Manufacturing) zoning districts.

He explained that many – if not most – communities do not have multiple uses that could fit the description of a U-Haul-type business, indicating that the City's UDO needs to be amended to eliminate one or more of these uses and/or define them in Article 12 in order to distinguish their differences. Many of these communities do not permit such businesses by-right in a General Business zoning district, opting instead to allow them in Industrial/Manufacturing or Highway Business zoning districts. The City does not have a Highway Business zoning district. The Towns of Holly Springs and Fuquay-Varina allow such businesses in their General Business zoning districts, provided it complies with all setback and development requirements (e.g. 3-ac minimum lot size), including architectural and landscaping compliance. The Town of Waxhaw has a very similar UDO to the City of Mebane's and allows "Truck and Utility Trailer Rental and Leasing" businesses as a "Conditional Use" in its Heavy Industrial zoning districts; "Moving and Storage" businesses as a "Conditional Use" in Light Industrial zoning districts and as a permitted use in

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Heavy Manufacturing zoning districts; and "Equipment Rental and Leasing (no outside storage)" as a permitted use in its Commercial zoning districts.

Mr. Stober stated defining the uses would be most helpful for staff interpreting any requests that are received, particularly for the accessory uses. Council said defining the uses would be very beneficial and creating developmental standards seems to be the "cleanest" way. After considerable discussion, Council directed Mr. Stober to report back. No action was taken.

Mr. Cheek presented a request for approval of an amendment to the Pay Plan and a request for a new IT Position. He explained that in order to retain current employees, reduce turnover and improve recruiting for positions within the City, the following changes are recommended to the Position Classification and Pay Plan. Changes to the pay plan require Council approval.

- Police Cadet is a part time position with no benefits that's used when we are sending a cadet through Basic Law Enforcement Training (BLET) at Alamance Community College.
- Utilities Location Technician is not a new position, but the rewrite and renaming of a Utilities Crew Leader position. Utility location has become this employee's full-time job.
- Information Technology Specialist is a proposed new position. This position is being created because of the workload in the IT Department as the City now has over 200 devices on the network compared to half that many 5 years ago.
- After reviewing Information Technology Director salaries across the State and interviewing six candidates for the IT Director position, we found that our salary classification needs to be advanced to a Grade 24 in order to remain competitive.
- We are also removing two positions from the pay plan that are no longer needed – Telecommunicator and Tax Collector.

Ms. Philipps made a motion, seconded by Mr. Ewing, to adopt the resolution to amend the 2019-20 Position Classification and Pay Plan. The motion carried unanimously.

Resolution to Amend the 2019-20 Position Classification and Pay Plan:

The 2019-20 Position Classification and Pay Plan as adopted by City Council of the City of Mebane on June 3, 2019 is hereby amended as follows:

New positions added:
Grade 7 Police Cadet (Part-time)
Grade 10 Utilities Location Technician
Grade 17 Information Technology Specialist

Former positions removed:
Grade 8 Telecommunicator
Grade 16 Tax Collector

Reclassification:
Grade 19 Information Technology Director to Grade 24

This the 2nd day of December 2019.

By: _____
City Clerk
City of Mebane, North Carolina

By: _____
Mayor
City of Mebane, North Carolina

Mr. Stober announced that applications are open for three positions on its Bicycle and Pedestrian Advisory Commission (BPAC) with appointments to be made at the February 3, 2020 Council meeting. He also announced that a letter was received from the NC Department of Commerce stating the City of Mebane has been selected for the downtown associate community program, a NC Main Street Program. He thanked Council for their support in getting to this point. Mebane will join the program in August 2020.

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There being no further business, the meeting adjourned at 8:10pm.

Attest: _____ _____

Stephanie W. Shaw, City Clerk Ed Hooks, Mayor

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AGENDA ITEM #3B

Annexation of Mebane Memorial Garden

Meeting Date
February 3, 2020

Presenter
Lawson Brown, City Attorney

Public Hearing
Yes ☐ No ☒

Summary

Staff is requesting annexation of the Mebane Memorial Garden property. Per G.S. 160A-58.7, the City Council may initiate annexation of property non-contiguous to the primary corporate limits and owned by the city by adopting a resolution stating its intent to annex the property, in lieu of filing a petition. The next step in the process will be to advertise and hold a public hearing to adopt an ordinance to extend the corporate limits.

Background

The City purchased this property for the Mebane Memorial Garden Cemetery back in 2006. The property has never been annexed.

Financial Impact

None.

Recommendation

Adopt the Resolution Stating the Intent of the City of Mebane to Annex Property owned by the City which is Non-Contiguous to the Existing Municipal Boundaries and set a date of public hearing for March 2, 2020.

Suggested Motion

I make a motion to adopt the Resolution Stating the Intent of the City of Mebane to Annex Property owned by the City which is Non-Contiguous to the Existing Municipal Boundaries and set a date of public hearing for March 2, 2020

Attachments

1. Resolution
2. Plat

RESOLUTION STATING THE INTENT OF THE CITY OF MEBANE TO ANNEX PROPERTY OWNED BY THE CITY WHICH IS NOT CONTIGUOUS TO THE EXTISTING MUNICIPAL BOUNDARIES

BE IT RESOLVED by the City of Mebane that:

Section 1. It is the intent of the Council, pursuant to G.S. 160A-58.7, to annex property described in Section 2, which is owned by the City of Mebane.

Section 2. The legal description of the property is as follows:

All of that certain tract or parcel of land lying and being in Cheeks Township, Orange County, North Carolina adjoining E. Washington Street Extension (SR 1303), Byrds Warehouse, LLC (DB 2479 Pg 425), RMC Mid Atlantic LLC (DB 3437 Pg 84), General Electric Company (DB 1251 Pg 566) and Byrds Family Limited Partnership (DB 2479 Pg 423) and being more particularly described as follows:

Beginning at an iron stake in the southern margin of the right of way of E Washington St, a corner with RMC Mid Atlantic LLC and running thence with the line of RMC Mid Atlantic S 08 deg. 24'05"E 1069.56 ft to an existing railroad tie, continuing S 08 deg 24'05" E 599.85 ft to an existing iron pipe in the line of General Electric Company, a corner; running thence with the line of General Electric Company S 78 deg 38'53" W 499.43 ft to a railroad tie, a corner with Byrd Family Limited Partnership; running thence with the line of Byrd Family Limited Partnership and Byrds Warehouse LLC N 05 deg 45'00" W 2050.18 to a point in the right of way of SR 1303, said point being 93.70 ft from the centerline of the 200 ft right of way of NC Railroad; running thence S 63 deg 14' 28" E 494.09 ft to a point, a corner with RMC Mid Atlantic; running thence S 08 deg 24'05" E 68.34 ft to the point and place of beginning and containing 19.574 acres, more or less. This description was derived from a survey by Alley, Williams, Carmen & King, Inc. dated November 27, 2006 and entitled "Final Plat Survey for the City of Mebane", job No. 06224

This conveyance is made subject to all easements and rights of way of record in the Register of Deeds for Orange County, North Carolina.

Section 3. The property described in Section 2 is not contiguous to the current municipal boundaries, but will meet requirements of G.S. 160A-58.1(b).

Section 4. A public hearing on the question of annexation will be held at the Mebane Municipal Building at 6:00 p.m. on March 2, 2020.

Section 5. Notice of the public hearing shall be published once in the Mebane Enterprise, a newspaper having general circulation in the City of Mebane, at least ten (10) days prior to the date of the public hearing.

Adopted this 2nd day of March, 2020.

_____
Ed Hooks, Mayor

_____
Stephanie W. Shaw, City Clerk

SURVEYOR'S CERTIFICATION

I, GARY R. PARRISH, A PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT THIS PLAT WAS DRAWN FROM DEEDS AND PLATS OF RECORD AND NOT FROM AN ACTUAL FIELD SURVEY BY ME; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G. S. 47-30 AS AMENDED, THAT THIS SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET AND THAT THIS PLAT FALLS UNDER G.S. 47-30 (J), AREAS ANNEXED BY MUNICIPALITIES.

WITNESS MY HAND, SEAL AND REGISTRATION NUMBER THIS 15TH DAY OF JANUARY, 2020.

PROFESSIONAL LAND SURVEYOR L-3528

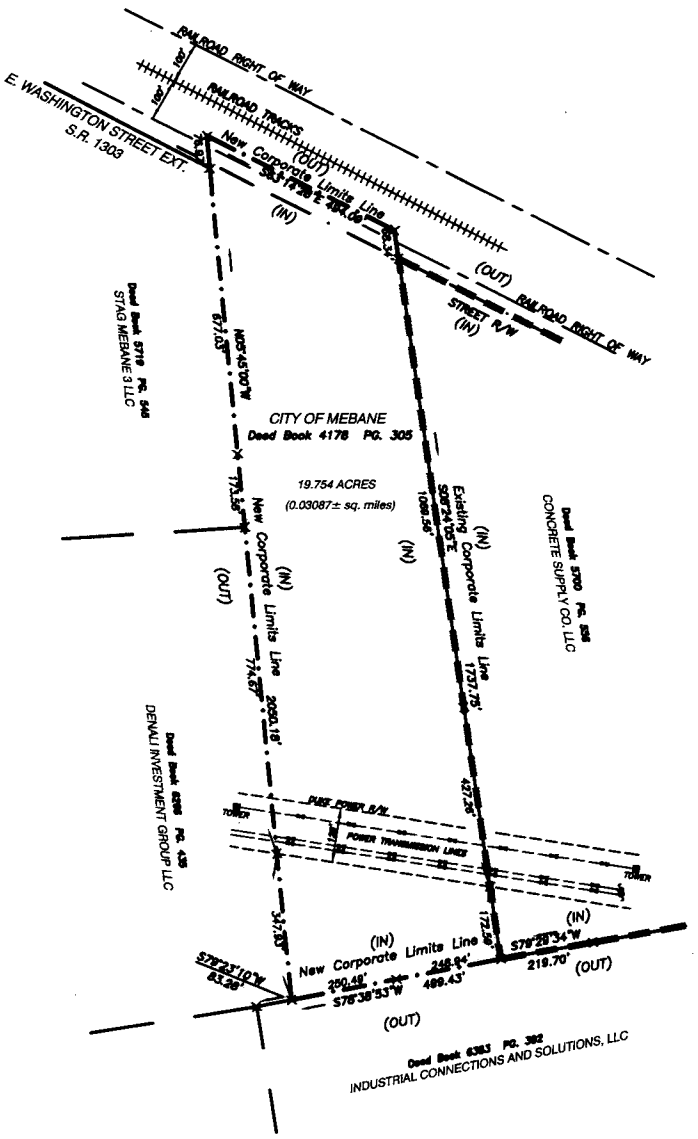
NORTH CAROLINA L-3528 PROFESSIONAL LAND SURVEYOR GARY R. PARRISH

PRELIMINARY

CITY OF MEBANE PLANNING DIRECTOR CERTIFICATION

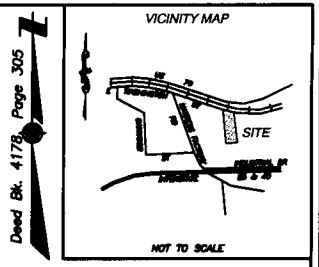
THIS TRACT OF LAND IS WITHIN THE CITY OF MEBANE'S JURISDICTION. NO APPROVAL IS REQUIRED OF THE PLANNING BOARD OR CITY COUNCIL.

PLANNING DIRECTOR DATE



SCALE: 1"=200' JANUARY 15, 2020

200 0 200 400 600 800



AREA ADDED TO CORPORATE LIMITS
19.754± acres
(0.03087± sq. miles)

PRELIMINARY PLAT
NOT FOR RECORDATION, CONVEYANCES, OR SALES

LEGEND
× – CALCULATED POINT
EXISTING CORPORATE LIMITS LINE
NEW CORPORATE LIMITS LINE

NON-CONTIGUOUS VOLUNTARY CORPORATE LIMITS EXTENSION
(Contiguous to Existing Satellite)

CITY OF MEBANE

PROPERTY OF THE CITY OF MEBANE
MEBANE MEMORIAL GARDEN

CHEEKS TOWNSHIP, ORANGE COUNTY, N. C.

alley, williams, carmen & king, inc.
Engineering Architecture Surveying
740 Chapel Hill Road Burlington, N.C. 27216
P.O. Box 1179 336/226-5534
Job # 20006

AGENDA ITEM #3C

Agreement with Orange County for Buckhorn Area Plan and Budget Amendment

Meeting Date
February 3, 2020

Presenter
Cy Stober, Development Director

Public Hearing
Yes ☐ No ☒

Summary

The City of Mebane and Orange County have partnered since 2004 to serve the Buckhorn Economic Development District (BEDD) with utilities to support the goals of this district. Orange County currently zones all of the properties north of West Ten Road for economic development and all properties south of the road for residential development. The Mebane City Council took action at their January 6, 2020, meeting to annex and zone two properties south of West Ten Road and outside the geographic scope of the BEDD delineated in the City's Comprehensive Land Development Plan (CLP), *Mebane By Design*. Per state law, this action effectively amends the CLP but also identifies a lack of guidance in this entire area south of the intersection of Buckhorn Road and West Ten Road, where the City maintains water and sewer utilities. Development interest in the area suggests that the current simple approach to the area in the CLP needs be revisited to better evaluate utility service potential, environmental conditions, and parcel sizes both north and south of Bowman and West Ten Roads in Orange County. Staff is requesting authorization to enter into an agreement with Orange County to conduct a plan for the area with public input.

Background

The City of Mebane and Orange County have partnered since 2004 to serve the BEDD with utilities to support the goals of this district, namely the construction of heavy commercial and light and heavy industrial employment centers. The City is now the operator of all utilities in the area. The BEDD is identified in the City's Comprehensive Land Development Plan (CLP) *Mebane By Design* as the properties north of West Ten Road and Bowman Road from Ben Wilson Road to nearly Gravelly Hill Middle School. No properties south of West Ten Road are currently identified for economic development in either the City or Orange County's long range plans or zoning maps. Similarly, both jurisdictions designate all properties north of West Ten Road and Bowman Road as solely serving economic development purposes, regardless of parcel size, cultural importance, and/or environmental conditions.

On January 6, 2020, the City Council approved a request from MRE MNC, LLC ("Medline") to annex and zone two properties south of West Ten Road to M-2 (Light Manufacturing) for the purpose of economic development. Action by the Council to approve the zoning request will require that the CLP be amended to reflect this action. Property conditions and development interest suggests that this simple, broad approach to the area should be revisited to better evaluate utility service potential, environmental conditions, and parcel sizes both north and south of Bowman and West Ten Roads in Orange County. A plan that assess these conditions throughout the area and redefines the boundaries of the BEDD, as

recognized by the City (and preferably Orange County) will comply with statute to bring the CLP into consistency with recent and possible future Council actions, as well as update the data and analysis of the properties potentially serviceable by municipal utilities to highlight those that can best serve BEDD goals.

Financial Impact

The City's share ($13,500) of the cost is available in the FY20 Planning Department budget. The City will be reimbursed by Orange County for all other related costs ($13,500) per the Agreement. The attached budget ordinance amendment would recognize Orange County's contribution and increase the Planning budget by the same amount ($13,500).

Recommendation

Recommend that the Council approve that the City enters into Agreement with Orange County to support the "Buckhorn Area Plan".

Suggested Motion

Motion to authorize staff to execute the Agreement with the Orange County to support the "Buckhorn Area Plan" and enact the related budget ordinance amendment.

Attachments

1. Agreement between the City of Mebane and Orange County
2. Budget ordinance amendment

INTERLOCAL AGREEMENT BETWEEN ORANGE COUNTY AND THE CITY OF MEBANE REGARDING THE PROVISION OF SERVICES RELATED TO A SMALL AREA PLAN STUDY

THIS AGREEMENT, made and entered into this ____ day of _____, 2019 between City of Mebane a municipal corporation in Orange County, North Carolina (hereinafter referred to as the "City"); and Orange County, a political subdivision of the State of North Carolina (hereinafter referred to as the "County"), for the provision of a small area plan study for the Greater Buckhorn Economic Development District within Orange County. (County and City may be referred to individually as "Party" and collectively as the "Parties").

WITNESSETH

WHEREAS, the County and City are public bodies, politic and corporate, under the laws of the State of North Carolina and are vested with the power and authority by Article 20 of North Carolina General Statutes Chapter 160A to enter into this Inter-local Agreement (hereinafter referred to as the "Agreement"); and

WHEREAS, the County and City desire to have the Piedmont Triad Regional Council ("PTRC") conduct a small area plan study for the Greater Buckhorn Economic Development District (the "Services").

NOW, THEREFORE, in consideration of the foregoing and on mutual promises and obligations set forth herein, the receipt and sufficiency of which is hereby acknowledged, the County and City agree as follows:

1. TERM AND TERMINATION

This Agreement will become effective upon execution by the City and the County and remain in effect until terminated by agreement of the Parties or by any Party upon giving the other Party a 6 month written notice of its intent to withdraw. By entering into this Agreement, the Parties do not intend to create any obligations express or implied other than those set out herein; further, this Agreement shall not create any rights in any party not a signatory hereto.

2. SMALL AREA PLAN STUDY

City shall engage PTRC to conduct a small area plan study for the Greater Buckhorn Economic Development District, the aforementioned Services. Such Services shall be done according to the proposal provided by PTRC to City dated November 21, 2019.

3. REIMBURSEMENT OF COSTS

County shall reimburse City for half the costs of the Services, but in no case shall the County's liability exceed $13,500.00. Such payment for reimbursement of costs shall only be made after completion of all Services and full payment of City to PTRC.

4. DISPUTE RESOLUTION

The Parties shall endeavor to resolve any disputes arising from or related to this Agreement amicably through a meeting of the County and City managers and when requested by the

managers the County Chair and City Mayor. Should such attempts at amicable resolution fail to resolve the dispute then such disputes shall be resolved in the General Court of Justice sitting in Orange County, North Carolina. It is agreed by the parties that no other court shall have venue or jurisdiction with respect to any suits or actions to enforce or interpret or seek damages with respect to any provision of or performance or non-performance of, this Agreement.

5. AMENDMENTS

This Agreement may be amended upon written approval executed by authorized individuals of all parties to this Agreement.

6. ENTIRE AGREEMENT

This Agreement constitutes the entire agreement of the Parties hereto and is effective the date first above recorded.

In witness whereof, the Parties, by and through their authorized agents, have hereunder set their hands and seal as of the day and year first above written.

_____
Manager, City of Mebane

_____
Manager, Orange County

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act:

_____
Mebane Finance Director

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act:

_____
Orange County Finance Director

BE IT ORDAINED by the Council of the City of Mebane that the Budget Ordinance for the Fiscal Year Beginning July 1, 2019 as duly adopted on June 3, 2019, is hereby amended as follows:

ARTICLE I

APPROPRIATIONS	Current Budget	Change	Revised Budget
GENERAL FUND			
Planning	$ 476,029	$ 13,500	$ 489,529

ARTICLE II

REVENUES	Current Budget	Change	Revised Budget
GENERAL FUND			
Orange Co Econ Development	$ 1,453	$ 13,500	$ 14,953

This the 3rd day of February, 2020.

AGENDA ITEM #3D

Agreement with Alamance County – Radio Equipment on Tower located at North Side Fire Station

Meeting Date
February 3, 2020

Presenter
Lawson Brown, City Attorney
Bob Louis, Fire Chief

Public Hearing
Yes ☐ No ☒

Summary

The Council will consider approving a re-written contract of an ongoing arrangement with Alamance County for the antenna system of County installed and operated at Mebane Fire Station #2, 415 N. 1st Street. With the equipment being upgraded by the County, the City Attorney took the opportunity to update the agreement to agree with the City's current insurance parameters.

Background

Alamance County provides emergency radio services to the City on a tower and console at the City's Fire Station #2. Upgraded equipment for the VHF Paging System will replace the existing equipment. This Agreement is a rewrite of a previous agreement updated to reflect the City's insurance requests.

Financial Impact

There is no out-of-pocket expense to the City.

Recommendation

Staff recommends approval of the Agreement.

Suggested Motion

I hereby move to approve the Agreement between Alamance County and the City for the radio equipment located at Fire Station #2.

Attachments

1. Agreement

STATE OF NORTH CAROLINA

AGREEMENT

COUNTY OF ALAMANCE

THIS AGREEMENT is made and entered into by and between the COUNTY OF ALAMANCE, a body politic and a political subdivision of the State of North Carolina (hereinafter called "COUNTY") and the CITY OF MEBANE (hereinafter called the "CITY"), a municipality organized under the laws of the State of North Carolina;

WITNESSETH:

That for and in consideration of the mutual covenants and agreements of the parties hereto, the County and the City hereby covenant and agree as follows:

1. The City shall allow the County to erect antenna and related equipment on the radio tower at 405 N. First Street, Mebane, NC 27302 (Mebane Fire Station No. 2) Exhibit "A" which is attached and incorporated herein.

2. The City shall allow the County access to said equipment for any repairs, adjustments, or replacements.

3. This agreement shall commence on the date of signing and continue for a period of ten (10) years.

4. The laws of the State of North Carolina shall govern and control this agreement.

5. This agreement shall be amended only by a subsequent written amendment signed by the County and the City.

6. County and City shall take all measures necessary to promote safety of all employees.

7. County shall indemnify and hold harmless the City and its officers, agents and employees from all loss, liability, claims or expense (including reasonable attorneys' fees) arising from bodily injury, including death or property damage to any person or persons caused in whole or in part by the negligence or willful misconduct of the County except to the extent same are caused by the negligence or misconduct of the City.

8. County shall show evidence of Contractor's current valid insurance (if applicable) during the duration of the named project. The required coverage limits are:

    - $1,000,000 per occurrence for Comprehensive General Liability and Business Automobile
    - $5,000,000 for Umbrella Liability/Excess Liability coverage

9. County shall show evidence of $500,000 for Workers' Compensation Insurance coverage and shall (to the extent allowed by law) waive and release the City, its agents, officers and employees from any and all claims which arise from this Agreement, whether such claims are based upon breach of contract, in tort, upon failure of County to maintain Worker's Compensation Insurance, or upon any other theory of liability.

10. County shall name the City of Mebane as an additional insured, and include a waiver of subrogation in favor of the City of Mebane with regard to General Liability and Workers Comp.

11. County shall promptly notify the Director of Risk Management and the insurer issuing the Comprehensive General Liability Insurance policy referred to above of any occurrence that might give rise to a claim for damages arising from this Agreement.

12. Installation or repair of the Agreement County shall complete all work in accordance with approved plans, should such be available.

13. County shall comply with the E-Verify requirements of Article 2 of Chapter 64 of the General Statutes. Further, if contractor utilizes a subcontractor, to require the subcontractor to comply with the requirements of Article 2 of Chapter 64 of the General Statutes.

(NCGS §147-86.58 requires that contractors with the State, a North Carolina local government, or any other political subdivision of the State of North Carolina must not utilize any subcontractor found on the State Treasurer's Final Divestment List.)

IN WITNESS WHEREOF, the County of Alamance has caused this Agreement to be signed in its name by the Chairman of the Board of Commissioners and its corporate seal to be affixed hereto and attested to by the Clerk to the Board of Commissioners, acting under and by virtue of the authority in them vested; and the City of Mebane has caused these presents to be signed in its name by its Mayor and its seal to be affixed hereto and attested by its Clerk all by order of the City Council acting under and by virtue of the authority in them vested.

CITY OF MEBANE

BY: _____ ATTEST: _____

Ed Hooks, Mayor Stephanie W. Shaw, Clerk

This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.

_____ _____

Jeanne Tate, Mebane Finance Officer Date

Approved as to legal form and sufficiency

_____

E. Lawson Brown, Jr, City Attorney

ALAMANCE COUNTY

BY: _____ ATTEST:_____
Amy Scott Galey, Board Chair Tory Frink, Clerk

This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.

_____ _____
Susan Roberts, Alamance County Finance Officer Date

Approved as to legal form and sufficiency

_____
Clyde B. Albright, County Attorney

MEBANE FD SITE

Items to be located here are the following.

TOWER ITEMS

Antenna System

One existing DB224, one additional DB224, both fed with 7/8" coaxial cable

- (1) existing DB224 with 7/8" coax
- (1) new DB224 with 7/8" coax

Microwave System

One dish, one ODU power box, CAT 5 cable

IN-BUILDING ITEMS

Rack

One microwave radio, three radio base stations, power supply

- (1) microwave radio
- (3) radio base stations
- (1) rack EIA 7'
- (1) miscellaneous grounding and surge protection materials

AGENDA ITEM #3E

Municipal Agreement with NCDOT – Utility Construction

Presenter
Franz Holt, City Engineer

Public Hearing
Yes ☐ No ☒

Summary

The Council will consider a Utility Construction Agreement with the NC Department of Transportation (NCDOT) for the Mebane Oaks Road and Old Hillsborough Road signalized intersection improvements. The proposed roadway improvements conflict with existing City of Mebane water and sewer lines.

Background

NCDOT Transportation Project WBS: 47786 includes signalized improvements to the Old Hillsborough Road and Mebane Oaks Road intersection. The required utility relocations will be completed by the City of Mebane (see attached Utility Construction Plan). Total costs are estimated at $15,000 (see attached cost estimate) with full reimbursement by NCDOT being made to the City. NCDOT has indicated the preference for the City to handle the conflicts ahead of their work with full reimbursement being made by NCDOT to the City for the related construction costs. The transportation project improvements are planned to start in April 2021. It is anticipated that the City's work will begin once the go ahead is given by NCDOT (anticipated this spring).

Financial Impact

Per the NCDOT Utility Construction Agreement the initial cost to the City for Mebane for water and sewer line relocation conflicting with NCDOT improvements is estimated at $15,000, which will be a full reimbursement by NCDOT once the project is completed and final costs are known. Funding is available in the Utility maintenance budget.

Recommendation

Staff recommends City Council approve the Utility Construction Agreement for the WBS: 47886 NCDOT Transportation Improvement Project addressing utility conflicts and related responsibilities.

Suggested Motion

Move to approve the Utility Construction Agreement for the WBS: 47886 Transportation Improvement Project addressing utility conflicts and related responsibilities.

Attachments

1. Utility Construction Agreement (UCA)
2. Utility Construction Plan
3. Cost Estimate

NORTH CAROLINA
ALAMANCE COUNTY

CONSTRUCTION BY OTHERS AGREEMENT

DATE: 9/30/2019

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

AND

WBS Element: 47786

CITY OF MEBANE

THIS AGREEMENT is made and entered into on the last date executed below, by and between the North Carolina Department of Transportation, an agency of the State of North Carolina, hereinafter referred to as the "Department" and the City of Mebane, hereinafter referred to as the "Municipality".

W I T N E S S E T H:

WHEREAS, the Department has plans to make intersection improvements at SR 1007 (Mebane Oaks Road) and SR 2126/SR 2128 (Old Hillsborough Road) Project 47786, in Alamance County; and,

WHEREAS, the Department and the Municipality are authorized by the following legislation, as applicable: G.S. 136-66.1 and 136.66.3 to participate in the planning and construction of a Project approved by the Board of Transportation for the safe and efficient utilization of transportation systems for the public good; and,

WHEREAS, the Department and the Municipality have agreed that the jurisdictional limits of the Municipality, as of this date of the awarding of the contract for the construction of the above-mentioned Project, are to be used in determining the duties, responsibilities, rights and legal obligations of the parties hereto for the purposes of this Agreement; and,

Whereas, the Department and the City entered into a previous agreement, executed 10/19/2018, where the City provided a lump sum funding amount for Project costs; and,

WHEREAS, the City has identified costs related to water/sewer improvements related to the Project after providing the funding to the Department; and,

WHEREAS, this agreement will enable the Department to return a portion of the City's money to assist with water/sewer costs.

NOW, THEREFORE, in consideration of the premises and the benefits accruing to the Department and the Municipality as the result of the construction of the Project it is agreed as follows:

SCOPE OF PROJECT AGREEMENT

1. This agreement is for needed hydrant/water extensions and sewer adjustments performed by the Municipality and reimbursed by the Department.

FUNDING

2. Subject to compliance by the Municipality with the provisions set forth in this Agreement, the Department shall participate in the costs of the Project in an amount estimated to be $15,000.

   A. The Municipality may bill the Department for actual costs as herein stated. Reimbursement to the Municipality shall be made upon approval of said invoice by the Division Engineer and the Department's Financial Division.

   B. The Municipality shall maintain all books, documents, papers, accounting records, and such other evidence as may be appropriate to substantiate costs incurred under this Agreement. Further, the Municipality shall make such materials available at its office at all reasonable times during the contract period, and for five (5) years from the date of final payment under this Agreement, for inspection and audit by the Department's Financial Division.

   C. The Municipality agrees that it shall bear all costs for which it is unable to substantiate actual costs. All invoices must be submitted within one (1) year of completion and acceptance of the Project by the Department.

MAINTENANCE

3. Upon completion of the work, the Municipality shall be responsible for the maintenance of the water/sewer lines.

ADDITIONAL PROVISIONS

4. A copy or facsimile copy of the signature of any party shall be deemed an original with each fully executed copy of the Agreement as binding as an original, and the parties agree that this Agreement can be executed in counterparts, as duplicate originals, with facsimile signatures sufficient to evidence an agreement to be bound by the terms of the Agreement.

5. It is the policy of the Department not to enter into any agreement with another party that has been debarred by any government agency (Federal or State). The Municipality certifies, by signature of this agreement, that neither it nor its agents or contractors are presently debarred, suspended,

By Executive Order 24, issued by Governor Perdue, and N.C. G.S.§ 133-32, it is unlawful for any vendor or contractor (i.e. architect, bidder, contractor, construction manager, design professional, engineer, landlord, offeror, seller, subcontractor, supplier, or vendor), to make gifts or to give favors to any State employee of the Governor's Cabinet Agencies (i.e., Administration, Commerce, Environmental Quality, Health and Human Services, Information Technology, Military and Veterans Affairs, Natural and Cultural Resources, Public Safety, Revenue, Transportation, and the Office of the Governor).

IT IS UNDERSTOOD AND AGREED that the approval of the Project by the Department is subject to the conditions of this Agreement

IN WITNESS WHEREOF, this Agreement has been executed the day and year heretofore set out, on the part of the Department and the Municipality by authority duly given.

ATTEST:

BY: _____

TITLE: _____

CITY OF MEBANE

BY: _____

TITLE: _____

DATE: _____

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

Federal Tax Identification Number

_____

(SEAL)

Remittance Address:

City of Mebane

_____

_____

DEPARTMENT OF TRANSPORTATION

BY: _____
(CHIEF ENGINEER)

DATE: _____

PRESENTED TO BOARD OF TRANSPORTATION ITEM O: _____

PROJECT REFERENCE NO.	SHEET NO.
47786	U0-1
THIS SHEET CORRESPONDS TO RDY-4	

Mead&Hunt
111 E. Hargett Street, Suite 300
Raleigh, North Carolina 27601
919-714-8670 | meadhunt.com
NC License No. F-1235

UTILITIES BY OTHERS

ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

NOTES:
1. ALL EXISTING UNDERGROUND TELEPHONE CABLE AND FO TO BE REPLACED WILL BE ABANDONDED IN PLACE.
2. THERE ARE NO PROPOSED GAS LINE RELOCATIONS.

NAD 83/NA 2011

EXTEND WATER LINE BEYOND LIMITS OF 1:1 PLANE OF PROPOSED EDGE OF PAVEMENT FOR FUTURE CONNECTION. AVOIDS FUTURE PAVEMENT CUT FOR CONNECTION TO EXISTING WATER LINE.

RELOCATE EXISTING HYDRANT. EXTEND HYDRANT BRANCH 18LF TO 1 FOOT INSIDE PROPOSED ROW, BEYOND LIMITS OF PROPOSED NCDOT ROADWAY AND DITCH IMPROVEMENTS.

RELOCATE (3) EXISTING SEWER SERVICES TO BEYOND LIMITS OF PROPOSED DRAINAGE SWALE. EXISTING CLEANOUTS TO BE MODIFIED ARE CURRENTLY LOCATED AT -L- STATIONS 17+33(L), 18+10(L) AND 19+20(L).

RELOCATE EXISTING HYDRANT. EXTEND HYDRANT BRANCH 12LF TO 1 FOOT INSIDE PROPOSED ROW, BEYOND LIMITS OF PROPOSED NCDOT ROADWAY AND DITCH IMPROVEMENTS.

BEGIN CONSTRUCTION
-Y- STA. 10+80.00

BEGIN PROJECT 47786
-L- STA. 11+50.00

END PROJECT 47786
-L- STA. 22+00.00

END CONSTRUCTION
-Y- STA. 21+65.00

-Y- PC Sta. 10+00.00
-Y- PT Sta. 14+36.34
-Y- PC Sta. 15+76.34
-L- PC Sta. 20+32.81
-L- POT Sta. 10+00.00
-L- PC Sta. 10+45.23
-L- PT Sta. 15+98.98
-L- PCC Sta. 13+58.01
-L- PCC Sta. 21+46.61
-L- PT Sta. 22+95.94

N 59° 40' 33.9" E
N 40° 46' E

-BY3-112
-BY-108
-BY-109
-BY-110
-BY3-111

1 ASH PARTNERS
DB 948 PG 553
PB 74 PG 106

2 JESSE & ELAINE HICKS
DB 1220 PG 319
PB 4 PG 79

3 CAROL BERRY
DB 1615 PG 194
PB 4 PG 79

4 RECYCLING AND SALVAGE SERVICES, INC., STEVEN BASS
DB 3738 PG 72
PB 4 PG 79

5 D.D. MEBANE HEIRS
DB 26 PG 392

CITY OF MEBANE
DB 2951 PG 334
PB 76 PG 89

BETTY K. MEBANE
DB 251 PG 100

HILDA MCCAULEY & SYLVIA PRICE
DB 2944 PG 673
PB 4 PG 79

RONALD & SYLVIA PRICE
DB 488 PG 713
PB 4 PG 79

JAMES & EVELYN MACE
DB 687 PG 924
PB 12 PG 76

ROGER MOORE
DB 2084 PG 359
PB 59 PG 8

T.W. KIRKPATRICK JR
DB 2811 PG 567
PB 12 PG 76

LYNWOOD & TAMMIE WORKMAN
DB 920 PG 610
PB 12 PG 76

RICKEY MOORE
DB 3373 PG 691
PB 12 PG 76

LYNWOOD WORKMAN & ROBERT WORKMAN
DB 3353 PG 973
PB 12 PG 76

RICKEY MOORE
DB 2664 PG 559
PB 12 PG 76

IRENE SHIELDS
DB 2664 PG 559
PB 12 PG 76

DO NOT DISTURB GAS VALVE

CROSS SECTIONS FOR DITCH GRADING/ELEVATIONS

SEE DETAIL 2

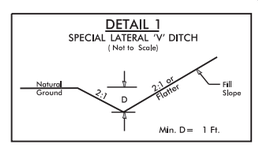
SPECIAL LATERAL DITCH SE DETAIL 1

GRADE CUT DITCH TO DRAIN – SEE CROSS SECTIONS

GRADE CUT DITCH TO DRAIN

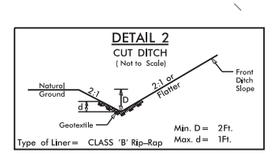
SEE CROSS SECTIONS FOR DITCH GRADING/ELEVATIONS

DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM -L- STA. 11+50 TO STA. 15+00 LT

DETAIL 2
CUT DITCH
(Not to Scale)



FROM -Y- STA. 11+50 TO STA. 15+00 LT

5/14/99
U1/7/2019
R:\Us\1\1\2\0\U0\47786_Ut_U0_PSH.dgn
3:10:13 PM

alley, williams, carmen, and king, inc

Engineering · Architecture · Land Surveying

Estimate of Probable Cost

NCDOT Project 47786 - Mebane Oaks/Old Hillsborough Road Improvements

Item No.	Description	Estimated Quantity	Unit	Estimated Unit Price	*Estimated Amount*
1	Hydrant Extensions	1	LS	$ 7,250.00	$ 7,250.00
2	12" Waterline Extension	1	LS	$ 4,250.00	$ 4,250.00
3	4" DIP Sewer Cleanout Relocation	3	EA	$ 850.00	$ 2,550.00
				Total Construction Costs	***$ 14,050.00***

Estimated Non-Construction Costs		
Sub-Total Of Construction Costs	**$**	**14,050.00**
Engineering Services		
Engineering Design	$	-
Inspection	$	*950.00*
Permitting	$	-
Land Surveying Costs	$	-
Contingency	$	-
Total Estimated Project Budget	***$***	***15,000.00***

AGENDA ITEM #4

Bicycle and Pedestrian Advisory Commission (BPAC) Appointments

Presenter
Cy Stober, Development Director

Public Hearing
Yes ☐ No ☒

Summary

Per Article 25 of the City of Mebane Code of Ordinances, the City Council has the authority to appoint up to seven (7) community members to its Bicycle and Pedestrian Advisory Commission (BPAC). The BPAC can include one member of City Council and one member of each of the City's two extraterritorial jurisdictions (ETJs) in its neighboring counties. There are currently three (3) City openings on the BPAC.

Background

The City Council adopted the *City of Mebane Bicycle and Pedestrian Transportation Plan* in January 2015. The first recommendation for implementation this Plan is the creation of a Bicycle and Pedestrian Advisory Commission (page 7-1), which will advise City Council on all matters regarding pedestrian and bicycle needs within the City of Mebane. Commission members "…should be chosen based on representation of key partner groups and community leaders who value biking, walking, and greenways facilities. Members should expect to contribute time, expertise, and resources towards accomplishing the tasks that lie ahead."

At its September 11, 2017, meeting, the City Council adopted a City ordinance (Article 25) that granted them the authority to appoint this Commission. There is a need to appoint three (3) City positions on the BPAC. The members shall serve three-year terms.

Financial Impact

N/A. Commission members serve without monetary compensation. Members shall be reimbursed for travel to professional meetings, conferences and workshops, with such reimbursement being made in compliance with budgeted amounts under the general policies of the City.

Recommendation

Staff recommends the two current BPAC members requesting reappointment to their positions due to their commitment and demonstrated service to the City: Sarah Elder and Sylvia Sichi.

Staff has no recommendation regarding the three qualified individuals who applied for the remaining position: Matt Engwall, Martha Hipskind, and Stephanie Rankin.

Suggested Motion

Motion to appoint _____ to serve on the City of Mebane Bicycle and Pedestrian Advisory Commission and provide guidance to the Mebane City Council on the implementation of the *Bicycle and Pedestrian Transportation Plan* and related matters.

Attachments

1. City of Mebane Code of Ordinances, Article 25
2. Sarah Elder application
3. Sylvia Sichi application
4. Matt Engwall application
5. Martha Hipskind application
6. Stephanie Rankin application

ARTICLE 25. – BICYCLE AND PEDESTRIAN ADVISORY COMMISSION [2]

Cross reference— Board, commissions and committees, § 2-131 et seq.

Sec. 25-01. - Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Commission means the advisory bicycle and pedestrian body to the Planning Department, Public Works Department, City Manager and the City Council.

Structures and areas mean the outdoor and indoor areas and structures on or in which people derive opportunities for the pursuit of happiness through recreation, whether or not these areas and structures are owned, leased, borrowed, controlled or operated within or outside of the corporate limits or boundary of the City.

City means the City of Mebane.

Cross reference— Definitions generally, § 1-2.

Sec. 25-02. - Membership; terms; vacancies.

(a) The Bicycle and Pedestrian Advisory Committee shall be composed of five (5) members who reside within the City of Mebane, one member from the extraterritorial jurisdiction in Alamance County, and one member from the extraterritorial jurisdiction in Orange County. The members shall be appointed by the City Council, and include at least one delegate from the City Council;

(b) For the initial term, members of the Bicycle and Pedestrian Advisory Commission shall serve staggered terms of one (1), two (2), and three (3) years as designated by the City Council. Thereafter members appointed shall serve for a term of three years and until their successors are appointed and qualify.

(c) Vacancies in the Bicycle and Pedestrian Advisory Commission shall be filled for the unexpired term by the City Council. The members of the Bicycle and Pedestrian Advisory Commission shall serve without compensation.

(d) A member of the Commission may be removed by the City Council for any of the following reasons:
1. Violation of the attendance, ethics, or conflict of interest provisions found herein;
2. Moving out of the City of Mebane's zoning and taxing jurisdiction; or
3. Non-payment of obligations to the City, including, without limitation, municipal taxes; or
4. Contribution of a felony or a misdemeanor which entails moral turpitude.

Sec. 25-03. - Powers and duties.

(a) The Commission shall serve as an advisory body for the Planning Department, Public Works Department, City Manager and the City Council. The Commission shall make recommendations and suggest policies to the department, the manager and the city council in matters affecting bicycle and pedestrian needs in the city. Input shall be guided, but not defined by, the City of Mebane *Bicycle and Pedestrian Transportation Plan*, originally adopted by the Mebane City Council in January 2015, as the *Plan* shall change with time and needs.

(b) The Commission shall assume duties for the City's bicycle and pedestrian needs. The Commission shall make recommendations:

(1) That advise the public and the City on matters affecting the relationship between bicycle and pedestrian transportation and parks, schools, recreation sites, and other major facilities;

(2) That ensure that the City's *Bicycle and Pedestrian Transportation Plan* as well as other City plans and ordinances are maintained as relevant and informed planning document for bicycle and pedestrian applications, with amendments to ensure their use;

(3) That engage and educate the public to advocate for implementing bicycle and pedestrian options throughout the City;

(4) That facilitate cooperation among governmental agencies and nonprofit partners for the development of networks that serve bicycle and pedestrian needs;

(5) That assist in the acceptance by the City and, with the approval of the City Council, grant, gift, bequest or donation, any personal or real property offered or made available for bicycle and pedestrian purposes and which is deemed to be of relevant present or possible future use. (Any gift, bequest of money or other property, any grant, devise of real or personal property so acquired shall be held by the City, used and finally disposed of in accordance with the terms under which such grant, gift or devise is made and accepted.); and

(6) That plan, design, construct, and/or operate and maintain infrastructure serving a bicycle and pedestrian need.

(c) It is the basic function of the City Commission to promote bicycling and pedestrian activities for citizens. In so doing, the Planning Department and Public Works Department and their Commissions are authorized to aid and assist agencies (in line with reasonable and legally correct policies recommended by the Bicycle and Pedestrian Advisory Commission and accepted by the City Council, which assistance may include public; private, commercial; those which are quasipublic in character, and which, although public in nature, are not under the City's direct jurisdiction (such as schools, churches, hospitals, military installations, orphanages, commercial recreation, business and industrial agencies); as well as civic, neighborhood and service groups in their recreation interests and needs.

Sec. 25-04. - Meetings.

Commission meetings shall be held on a quarterly basis unless when determined otherwise by the Commission. All meetings of the Committee shall be conducted in an informal manner unless otherwise specified herein. The Chair of the Commission or, in his absence, the Vice-Chair, may call a special meeting of the Commission at any time by giving each member 24 hours' notice. Special meetings will be scheduled upon request by four or more Commission members. A quorum of the Commission shall be in attendance before action of an official nature can be taken. A quorum is a majority of the appointed members of the Commission.

Sec. 25-05. - Attendance of members.

An appointed Commission member with unapproved absences from more than three (3) regular meetings loses his or her status as a member of the Commission until reappointed or replaced by the City Council. Notification of absence at least twenty-four (24) hours prior to the meeting shall be considered approved. Absences due to sickness, death or other emergencies of like nature shall be regarded as approved absences and shall not affect the member's status on the Commission except that in the event of a long illness, or other such cause for prolonged absence, the member may be replaced.

Sec. 25-06. – Conflicts of Interest

Commission members hold their positions for the benefit of the public. Pursuant to the requirements of NCGS 160A-388 (e1), a member of the City Council shall not participate in or vote on a matter in which a Commission member's duty to act in the public interest conflicts with a potential desire to

advance his or her own personal interest. Impermissible conflicts include, but are not limited to, a member having a fixed opinion prior to hearing the matter that is not susceptible to change; undisclosed *ex parte* communications; a close familial, business, or other associational relationship with an affected person; or a financial interest in the outcome of the matter. If an objection is raised to a member's participation and that member does not recuse himself or herself, the remaining members shall by majority vote rule on the objection.

Sec. 25-07. - Compensation.

Commission members shall serve without monetary compensation. Members shall be reimbursed for travel and subsistence to professional recreation meetings, conferences and workshops, with such reimbursement being made in compliance with budgeted amounts under the general policies of the City.

Sec. 25-08. - Officers.

There shall be a Chair, Vice-Chair and Secretary of the Commission. An annual election of the Chair and Vice-Chair shall be held by the Commission members and shall occur at the regular monthly meeting in June. Officers shall serve for one year from election with eligibility for reelection. New officers shall take office at the subsequent regular meeting in July. In the event an officer's appointment to the Commission is terminated, a replacement to this office shall be elected by the Commission, from its membership, at the meeting following the termination. The Secretary position will be fulfilled by staff from the City Planning Department.

Cross reference— Officers and employees, § 2-71 et seq.

Sec. 25-09. - Duties of officers.

The Commission Chair shall preside at all meetings and sign all documents relative to action taken by the Commission. The Chair shall appoint all subcommittees and designate their chairmen. When the chair is absent the Vice-Chair shall perform the duties of the Chair. When both the Chair and Vice-Chair are absent a Temporary Chair shall be selected by those members who are present. All meeting minutes shall be recorded and maintained by the Secretary, and shall available for review with the City. The Secretary shall mail to all members copies of official reports and the official minutes of all regular and special meetings prior to the next scheduled meeting.

Secs. 25-10 — 25-25. - Reserved.

City of Mebane

Boards and Commissions Application

The Mebane City Council has adopted this application for use by individuals interested in appointment to the City's advisory boards and commissions. To ensure that your application will receive full consideration, please answer all questions completely. Return this application either in person, by mail, or by fax to the Mebane Municipal Building, 106 East Washington Street, Mebane, NC 27302, Fax (919) 563-9506.

Personal Information

Name: Sarah Elder

Home Address: 204 Sam Snead Drive, Mebane

Mailing Address (if different): _____

Home Phone: 919-357-0922 Business Phone: _____

Do you live inside the Mebane City Limits? Yes ✓ No_____

In Alamance or Orange County? Alamance

Board Preference

Are you currently serving on a board or commission of the City of Mebane? Yes____ No ✓
If so, which one(s)?_____

Please list the name(s) of the board(s) to which you are applying or seeking reappointment (you may apply to more than one): Bicycle & Pedestrian Advisory Commission

Why do you wish to serve the City in this capacity? If additional space is needed please attach a separate sheet:

Please see attached word document.

Education

Please list your educational background. Include name of all schools attended:

Bachelor of Science in Business Administration, Marketing from the University of Florida

Graduated May 2004 with a 4.0

Employment

Please list the names and address of your current employer, the title of your current position, and a brief description of your job duties.

Name of Employer: Art is Love, LLC DBA Kalisher

Address: 406 E. Main Street, Carrboro

Title and Duties:
VP, Chief Operating Officer
Oversight of company operations for a 100 person, $15MM company that creates and curates artwork for Hospitality, Healthcare, Corporate, Cruise and more.

Civic Involvement

Please list the names of all civic organizations in which you currently hold membership:

Former member of the Mebane Woman's Club, not currently active

Thank you for your interest in appointment to the City of Mebane's Advisory Boards and Commissions. Individuals selected for appointment will be notified by mail within 5 working days from the City Council meeting at which they have been appointed.

I've been a resident of Mebane since 2006 and have watched this city grow and evolve in wonderful ways, and I would like very much to contribute through a position on the Bicycle & Pedestrian Advisory Commission. As the mother of two children, ages six and eight, and an avid runner and cyclist, bicycle and pedestrian safety and infrastructure is a priority when I consider what makes a city successful. I believe that Mebane is well on the way to rivaling Carrboro as one of the most desirable places to live in central North Carolina, and I greatly appreciate and admire our city's focus on continuous improvement. Safety and infrastructure for pedestrians and cyclists is a factor that has grown greatly in importance when people are considering where to move, and I'm excited about the opportunity to be a part of our city's efforts to bring the best of everything to our residents.

Thirteen years ago, I took a position as an administrative assistant for a husband and wife team working out of their home. Today Kalisher is a 100 person, $15MM company with a manufacturing facility in Mebane and clients all over the world, and I now hold the position of Chief Operating Officer. My experience in building our company from the ground up and now overseeing our operations, staffing, and client services will lend very well to my ability to contribute to this advisory commission and the growth of our community.

Lastly, I am now a resident of Mill Creek and would be honored to represent the North side of town in our endeavors to support pedestrians and cyclists.

City of Mebane

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Personal Information

Name: Sylvia Sichi

Home Address: 39 London Ln., Mebane, NC 27302

Mailing Address (if different): _____

Home Phone: 919-304-3366 Business Phone: 919-619-0034

Do you live inside the Mebane City Limits? Yes ✓ No ____

In Alamance or Orange County? Alamance

Board Preference

Are you currently serving on a board or commission of the City of Mebane? Yes ____ No ✓
If so, which one(s)? _____

Please list the name(s) of the board(s) to which you are applying or seeking reappointment (you may apply to more than one): BPAC

Why do you wish to serve the City in this capacity? If additional space is needed please attach a separate sheet:

-see attached.

Education

Please list your educational background. Include name of all schools attended:

ACC → R.N. in 2001

Eduard Stieler Schule, Fulda, Germany → Physician's Assistant 1995

Werner-von-Siemens Realschule

Employment

Please list the names and address of your current employer, the title of your current position, and a brief description of your job duties.

Name of Employer: Duke Hospital

Address: 2301 Erwin Rd., Durham, NC 27710

Title and Duties:
Nurse Clinician in the Dept. of Pediatric Rheumatology

Civic Involvement

Please list the names of all civic organizations in which you currently hold membership:
Alamance County Foster Adoptive Parent Association

Thank you for your interest in appointment to the City of Mebane's Advisory Boards and Commissions. Individuals selected for appointment will be notified by mail within 5 working days from the City Council meeting at which they have been appointed.

I live in Mebane with my husband and two children, as well as up to two foster children at times. We tend to walk and cycle (and drive ;) around Mebane quite a bit.

I was involved with the Mebane Bicycle and Pedestrian Plan, developed by Alta Planning & Design in 2014. Implementation steps were prioritized at that time, but to my knowledge not implemented as of yet. I would love to be part of the implementation process, making walking and cycling around our beautiful town safer.

On a side note, I do ride the ODX bus to work quite a bit, and am excited to see that there are plans to increase Mebane residents' access to public transportation. It is good for the people and the environment.

City of Mebane

Boards and Commissions Application

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Personal Information

Name: Matthew Engwall

Home Address: 117 Holly Ridge Lane

Mailing Address (if different): _____

Home Phone: 919 619 0557 Business Phone: 919 619 0557

Do you live inside the Mebane City Limits? Yes X No ____

In Alamance or Orange County? Alamance

Board Preference

Are you currently serving on a board or commission of the City of Mebane? Yes ____ No X

If so, which one(s)? _____

Please list the name(s) of the board(s) to which you are applying or seeking reappointment (you may apply to more than one): BPAC - Bicycle committee

Why do you wish to serve the City in this capacity? If additional space is needed please attach a separate sheet:

I would like to be part of the process for development of a cycling plan for Mebane. As Mebane grows, we need space for alternative modes of transportation. Cycling has many benefits besides the obvious reduction of cars on our roadways

Education

Please list your educational background. Include name of all schools attended:

Collingswood HS

Rutgers University

Employment

Please list the names and address of your current employer, the title of your current position, and a brief description of your job duties.

Name of Employer: Engwall Improvements

Address: 117 Holly Ridge Lane

Title and Duties: President - overseeing & implementing all duties

Civic Involvement

Please list the names of all civic organizations in which you currently hold membership:

TORC - Triangle off-road cyclists - Trail coordinator
Bike & Ped advisory committee - 2017?

Thank you for your interest in appointment to the City of Mebane's Advisory Boards and Commissions. Individuals selected for appointment will be notified by mail within 5 working days from the City Council meeting at which they have been appointed.

Received 1/3 CS

City of Mebane

Boards and Commissions Application

The Mebane City Council has adopted this application for use by individuals interested in appointment to the City's advisory boards and commissions. To ensure that your application will receive full consideration, please answer all questions completely. Return this application either in person, by mail, or by fax to the Mebane Municipal Building, 106 East Washington Street, Mebane, NC 27302, Fax (919) 563-9506.

Personal Information

Name: Martha Grove Hipskind

Home Address: 109 W. Graham Street, Mebane

Mailing Address (if different): _____

~~Home~~ Mobile Phone: 919.971.9584 Business Phone: N/A

Do you live inside the Mebane City Limits? Yes X No ____

In Alamance or Orange County? Alamance County

Board Preference

Are you currently serving on a board or commission of the City of Mebane? Yes ____ No X

If so, which one(s)? _____

Please list the name(s) of the board(s) to which you are applying or seeking reappointment (you may apply to more than one): Bicycle and Pedestrian Advisory Commission (BPAC)

Why do you wish to serve the City in this capacity? If additional space is needed please attach a separate sheet: Please See Attached

Education

Please list your educational background. Include name of all schools attended:

Richland Community College 1988-1990 Dallas, TX

University of North Texas 1992 B.S., Gerontology

University of North Carolina at Chapel Hill 1996 M.S.P.H. Health Policy & Administration

Employment

Please list the names and address of your current employer, the title of your current position, and a brief description of your job duties.

Name of Employer: Retired July 1, 2019 – Triangle J Council of Governments

Address: 4307 Emperor Blvd, #110, Durham 27703

Title and Duties: were: Aging Specialist
Coordinator for Wake County network of agencies serving Aging and Disabilities

Civic Involvement

Please list the names of all civic organizations in which you currently hold membership:

None Currently

Past
Served on Steering committee for Downtown Mebane Vision Plan
Founder and first Executive Director Midtown Raleigh Alliance

Thank you for your interest in appointment to the City of Mebane's Advisory Boards and Commissions. Individuals selected for appointment will be notified by mail within 5 working days from the City Council meeting at which they have been appointed.

I relocated from Raleigh to Mebane four years ago, living first at The Lofts at White Furniture and currently on West Graham Street, and am a passionate advocate for Downtown Mebane because of its walkability.

Dodging unaware and uncaring drivers while crossing Fifth Street from White Furniture demonstrated to me the critical need for education, awareness, and effective planning if there is to be safety for those who choose to walk and ride bicycles throughout our developing city. I feel my background and interests are a good match for the BPAC and would be honored to serve on this commission.

CY- Rec'd 12/18/19

City of Mebane

Boards and Commissions Application

The Mebane City Council has adopted this application for use by individuals interested in appointment to the City's advisory boards and commissions. To ensure that your application will receive full consideration, please answer all questions completely. Return this application either in person, by mail, or by fax to the Mebane Municipal Building, 106 East Washington Street, Mebane, NC 27302, Fax (919) 563-9506.

Personal Information

Name: Stephanie Rankin

Home Address: 110 Peppertree Drive, Mebane NC 27302

Mailing Address (if different): _____

Home Phone: 336-437-2885 Business Phone: _____

Do you live inside the Mebane City Limits? Yes ✓ No ____

In Alamance or Orange County? Alamance

Board Preference

Are you currently serving on a board or commission of the City of Mebane? Yes ____ No ✓
If so, which one(s)? _____

Please list the name(s) of the board(s) to which you are applying or seeking reappointment (you may apply to more than one): Bicycle and Pedestrian Advisory Commission.

Why do you wish to serve the City in this capacity? If additional space is needed please attach a separate sheet:

I am an avid runner and would like to help develop and implement an improved network of paths and trails for the citizens of Mebane and the surrounding area. Mebane has a lot of potential to develop a unique path/trail system which could serve people of all ages, which could improve the quality of life for many people.

Education

Please list your educational background. Include name of all schools attended:

Port Huron Central High School (Port Huron, Michigan) 1973
Lake Superior State University (Sault Ste. Marie, Michigan) 1978
- BSc Biological Science/Chemistry Minor

Employment

Please list the names and address of your current employer, the title of your current position, and a brief description of your job duties.

Name of Employer: Retired - Orange County Schools (2015)

Address: Hillsborough, NC

Title and Duties:
8th Grade Science Teacher

Civic Involvement

Please list the names of all civic organizations in which you currently hold membership:

Presently I am not involved with any civic organizations. This position would give me an opportunity to help in an area which I enjoy and which I can help others benefit from the proposed bicycle/pedestrian system.

Thank you for your interest in appointment to the City of Mebane's Advisory Boards and Commissions. Individuals selected for appointment will be notified by mail within 5 working days from the City Council meeting at which they have been appointed.

AGENDA ITEM #5A

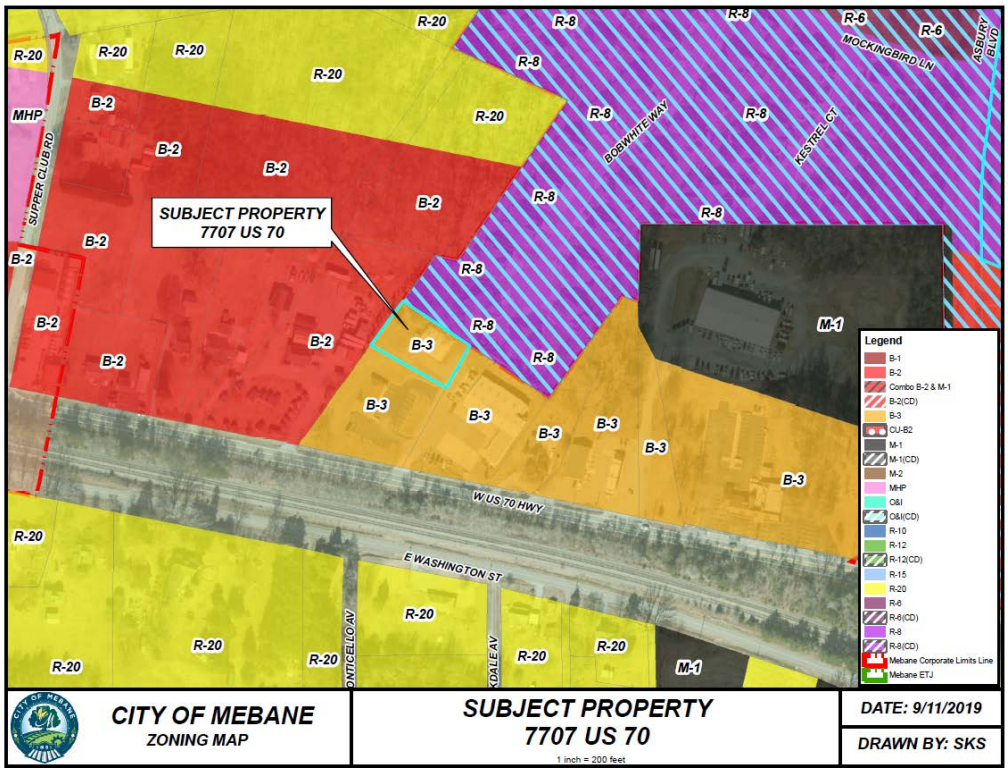
Rezoning Request – Giggey Property

Presenter
Cy Stober, Development Director

Applicant
Robert L. & Carmen L. Giggey
496 North Ridge Circle
Roxboro, NC 27573

Public Hearing
Yes ☒ No ☐

Zoning Map



Property
7707 US 70
Orange Co.
GPIN#9825531180

Proposed Zoning
M-1(CD)

Current Zoning
B-3

Size
+/-0.43 acres

Surrounding Zoning
B-2, B-3, & R-8

Surrounding Land Uses
Business, Outdoor Storage, Townhomes

Utilities
Present

Floodplain
No

Watershed
Yes

City Limits
No

Summary

Mr. Robert & Mrs. Carmen Giggey are requesting the rezoning of one property totaling +/-0.43 acres at 7707 US 70 from B-3 to M-1(CD) to primarily permit a Truck and Utility Trailer Rental and Leasing use, as well as a narrow menu of other light manufacturing and business uses. The property was reviewed by the Technical Review Committee, and comments are reflected on the submitted site plan. The request has primarily been reviewed by the Planning staff and the applicants have revised their requests based upon feedback.

Financial Impact

None. The owner will be required to make any improvements to the property they feel are necessary in the future, which would be reviewed by the Planning and Inspections staffs at that time.

Recommendation

The City of Mebane Planning Board voted 7 – 1 to recommend the project, with board member Oakley in opposition due to the failure of the request to comply with the 50-foot separation of uses required by the development standards specified in Article 4-7.7(D) of the Mebane UDO. The Planning staff has reviewed the request for harmony with the surrounding area and consistency with the City's adopted plans and recommends approval.

Suggested Motion

1. Motion to **approve** the rezoning request as presented; **and**
2. Motion to find that the request is consistent with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design* because the request:
    a. Is for a property within the City's G-1 Mixed Use Primary (I) Growth Area "Downtown", which is intended to "…support this central business district containing a mix of stores, restaurants, old industrial, institutional and residential land uses …" (Mebane CLP, p.72); and
    b. Serves Mebane CLP Growth Management Goal 1.1 by "…encourag[*ing*] a variety of uses in growth strategy areas and in the downtown, promot[*ing*]/encourage[*ing*] a village concept that supports compact and walkable environments (pp.17 & 84); **OR**

OR

3. Motion to **deny** the special use permit as presented due to a failure to satisfy any one of the four criteria required for approval (**NOTE: criterion for failure must be specified**)

Attachments

1. Rezoning Application and Letter from Applicant
2. Zoning Map
3. Site Plan
4. Planning Project Report

APPLICATION FOR M-1(CD) ZONING

August 14, 2019

We respectfully request Mebane's Planning Board and City Commissioners to permit conditional district zoning for property at **7707 US 70** from B3 to M-1(CD).

The change requested is based on conditional use for the purpose of running an equipment rental and leasing (with and without outside storage).

In fairness to the property owners filing this conditional zoning request, we'd like our Planning Board and Commissioners to consider the following problems:

- The building was designed with a closed shop and offices for manufacturing which did business under the M1 zoning originally assigned.
- Now that the zoning is B3, only 13% of the 130 types of businesses permitted for B3 zoning could practically be considered at all. For this reason, the businesses wishing to use this property are unable to do so, given its current zoning.
- Because the property has been unoccupied, it's more susceptible to criminal activity and a past haven for armed thieves of the nearby gas station and liquor store, with cameras showing the armed thieves ran behind the closed building and escaped apprehension by running onto the unfenced property of nearby residents.

A business wishes to lease the property under a five year lease agreement, but a conditional zoning district approval of M-1(CD) is required.

Intensity of use, by potential tenant, ranges from an average rental of one truck daily on Monday through Friday, with as many as nine trucks on a Saturday. The business will be closed on Sunday, as are the businesses bordering the property. Hours of operation will not begin before neighboring businesses and will end before the bordering liquor store closes. A detailed description of property use is as follows:

- Mounting cameras to cover all activity on the property
- Existing room relevant to office needs would be used while setting up tables, counters and displays for renting smaller equipment supplies in the remaining office section of building. Total office area is 1,000 square feet.
- The original shop area is 2,000 square feet and ideal for storing cargo trailers and containers.
    - Occasionally, a storage container may not be empty but steps are taken to ensure that nothing live, flammable, gaseous, etc. is stored. At no time is the public permitted access to the shop area, as the building will not be used in a self-storage capacity. Only employees would be allowed access to place, or remove. anything in the shop area of building.
- Anticipated activity of the movement of the 2-axle trucks - all of which run on unleaded gasoline, would **not** impact air quality or noise in the area as much as traffic on the highway and neighboring businesses bordering the property.

We believe such businesses requiring this conditional zoning approval will actually benefit nearby residents, as well as neighboring businesses and the community as a whole. Our reasons for this belief are as follows:

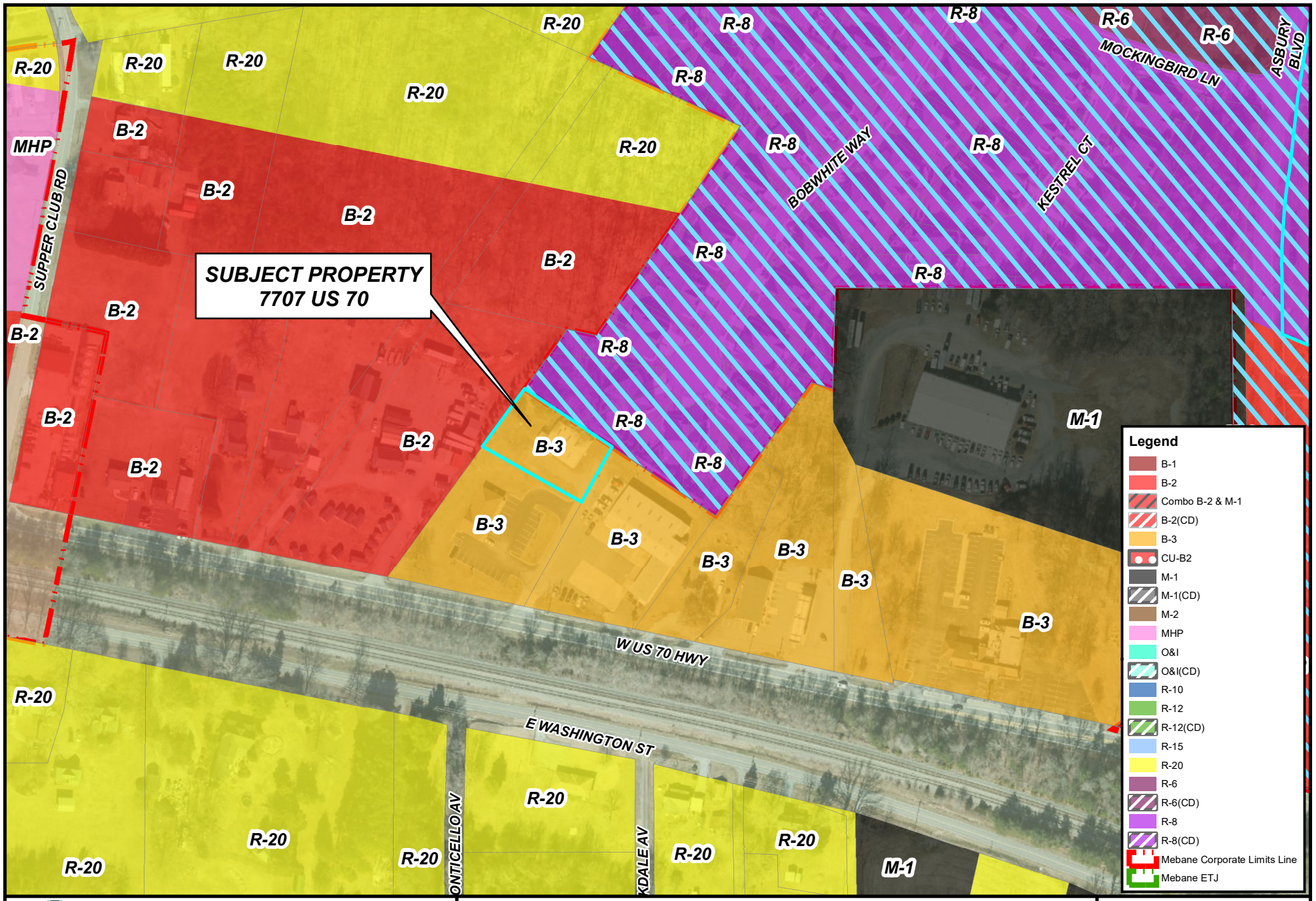
1. **Create a safer barrier for the residential community nearby.**
    a. Past criminal activity in the area has resulted, more than once, in armed thieves running behind the empty, closed building - where the border fence ends behind the building. They were then able to enter onto the unfenced backyards of the neighboring residents and avoid capture by the police.
    b. Utilization of existing lighting, as well as cameras set to capture all activity around the property, would be a deterrent that isn't there now.
2. **Increased income for a business bordering the property.**
    a. Tire King borders the property, making any needed servicing convenient for potential tenant.
3. **Provide a service Mebane currently doesn't have.**
    a. The nearest provider of the services offered by potential tenant is Burlington and Hillsborough. .

We thank you for your kind attention to this matter.

Sincerely,

Robert L. Giggey
Carmen L. Giggey

336 503-9222
giggey495@gmail.com



CITY OF MEBANE
ZONING MAP

SUBJECT PROPERTY
7707 US 70
1 inch = 200 feet

DATE: 9/11/2019

DRAWN BY: SKS

PARCEL NOTES:

ADDRESS: 7707 US HWY. 70W

PARCEL #: 9825531180

DEED REF.: D.B. 3557 PG. 460

PLAT REF.: MAP BY AWCK DATED 6-18-73, SURVEY FOR EMMITT I. KING, JOB #: 113-73

AREA: LOT: 0.36 AC. (15,634.1 S.F.), RIGHT OF WAY: 0.07 AC. (3,035.8 S.F.), TOTAL: 0.43 AC (18,678.8 S.F.)

EXISTING ZONING: B3

PROPOSED ZONING: M1 (CD)

SETBACKS
VARIANCE REQUESTED- ALL PROVIDED SETBACK ARE EXISTING
M1 BUILDING SETBACKS: FRONT: 30' (PROVIDED: 0.1' TO EASEMENT, 30.1' TO PROPERTY LINE), REAR: 20' (PROVIDED: 67.0') AND SIDE: 25' (PROVIDED NORTH: 9.6', PROVIDED SOUTH: 42.6')
WAIVER OF 50' MINIMUM SEPARATION OF USE.

POSSIBLE USES:
- Physical Fitness Center, Training Center
- Day Care Center, Adult and Child, 6-12 Clients (principal use);
- Government Office;
- Police Station;
- Furniture Refinishing and Repair, Upholstery;
- Television, Radio, or Electronics Repair;
- Convenience Store, no Gas Pumps;
- Restaurant (Drive-In or Take Out window only);
- Moving and Storage Service;
- Food Preparation and Related Products, Miscellaneous;
- Signs (manufacturing);
- Christmas Tree, Pumpkin, and Similar Seasonal Sales (temporary)
- Truck and Utility trailer rental and leasing
- Equipment rental and leasing (no outside storage)
- Heating Equipment and Plumbing fixtures
- Refrigerator or large appliance repair

DRIVEWAY TO PROPERTY- AS NOTED ON SITE PLAN

ALL LANDSCAPING SHALL MEET WITH THE CITY OF MEBANE UDO

VARIANCE REQUESTED FOR TYPE OF LANDSCAPE TREES AND SIZE OF LANDSCAPE BUFFER.

North side of property - Landscaping plans for the north side:

-The existing fence will be extended to the end of the property on the west side of the site plan.
-The area between the fence and the building will remain as is.
-Landscaping against the proposed fence to run along the northern border of property, where the building ends to the west side of the property line, continue south from the northern fence as noted on your site plan.
-East of the building, where the ground gets sun, landscaping will be planted from the fence area southward for about 5', using plants in keeping with the city's recommendations. The ground cover in front of the fencing in that area must allow for possible run off due to the slope of the land in front of the fencing. Landscape blocks like the type used along the south side to ease any possible runoff.

West side of property - Landscaping plans for the west side:

-There will be 5' of landscaping bordering the west side of the property, abutting the 5' of landscaping the neighboring business has. The type of landscaping planned will consist of evergreen plants, unless the city has a better recommendation.
-The ground east of this western border will consist of ground cover - grass, wood chips or gravel, for more than 10' as that area will not be used to park vehicles.

South side of property - Landscaping plans for the south side:

-There will be 5' of landscaping bordering the south side of the property, abutting the grassy area that is the north end of the ABC liquor store.
-Bushes will be planted there since any trees would block the view from the highway, negating passing cars from seeing the business.
-Landscaping blocks are planned to border the plants, as opposed to concrete curbing.

East side of property - Landscaping plans for the east side

-Because the east side of the property joins an old 60' road easement running from Highway 70 to where a fence marks the border of a development, running landscaping along the east border would require we bust up existing asphalt and that would interfere with existing use by customers frequenting Tire King or the ABC liquor store.
-We wish to continue the asphalt north to within 15' of the fence.
-We ask for a variance from the required landscaping barrier along the east side of the property which currently adjoins the road easement.

Parking:

-Planned use of the asphalt area along the south side of the property would allow for eight UHaul trucks. Sixteen (16) total spaces.
- There would be three (3) parking spots for vehicles facing the east side of the building, just south of the front entrance door. This will allow for the one employee and customers.

VARIANCE REQUESTED FOR NO CURB AND GUTTER REQUIRED.

GENERAL NOTES:

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RATIO OF PRECISION IS 1:30,000+.

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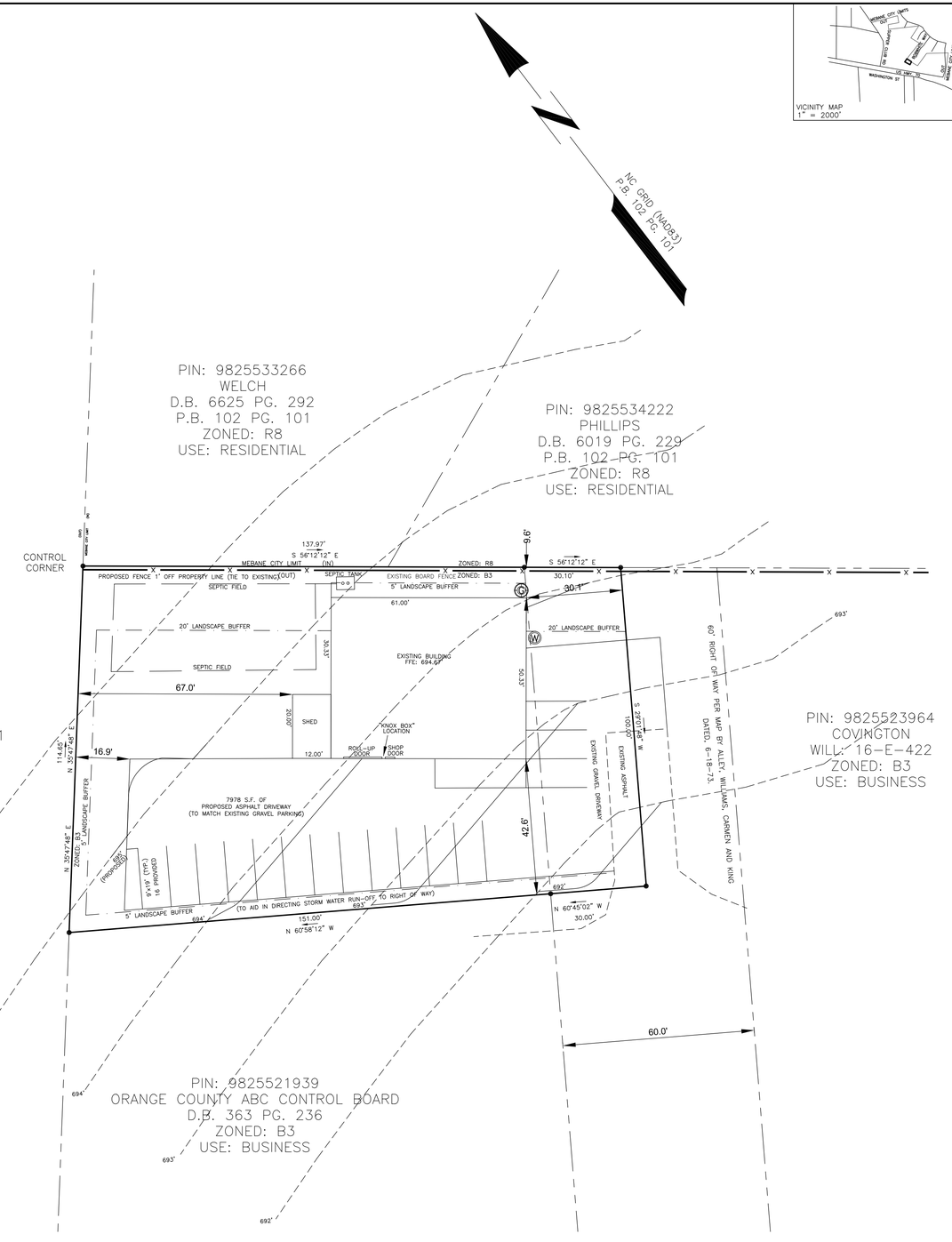

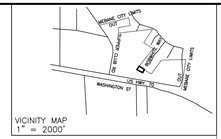

VICINITY MAP
1" = 2000'

LEGEND
- ◎ = FOUND IRON PIPE
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- P.B. = PLAT BOOK
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- PG. = PAGE
- Ⓖ = GAS METER
- Ⓦ = WATER METER (ALAMANCE-ORANGE COUNTY)

0' 20' 40'

ALLRED LAND SURVEYING, PLLC
JEFF ALLRED, PLS ~ L-4500
8065 COBLE MILL ROAD
SNOW CAMP, NC 27349
PHONE: 336-684-8202

SITE PLAN

GIGGEY PROPERTY ~ 7707 HWY. 70

PROJECT OWNER INFORMATION:
ROBERT AND CARMEN GIGGEY
495 NORTH RIDGE CIRCLE
RONDA, NC 28670

PROJECT LOCATION:
STATE: NORTH CAROLINA
COUNTY: ORANGE
TOWNSHIP: CHEEKS

NO.	DATE	REVISION NOTE
1	20200120	PER CITY OF MEBANE PLANNING
2	20200129	PER CITY OF MEBANE PLANNING
3		
4		
5		
6		

DRAWING FILE PATH:

DRAWN BY: JTA
CHECKED BY: JTA
DATE: 20191216
PROJECT NO.: 2019-144
REF. NO.:
SCALE: 1" = 20'

NORTH CAROLINA PROFESSIONAL LAND SURVEYOR REY T. ALLRED

SHEET
1 OF 1

PLANNING PROJECT REPORT

DATE	01/27/20
PROJECT NAME	Giggey Property Rezoning
APPLICANTS	Robert L. & Carmen L. Giggey 496 North Ridge Circle Roxboro, NC 27573

CONTENTS

PROJECT NAME & APPLICANT ..... PAGE 1
ZONING REPORT ..... PAGE 3
LAND USE REPORT ..... PAGE 5
UTILITIES REPORT ..... PAGE 7
STAFF ZONING REQUEST RECOMMENDATION ..... PAGE 8

PARCEL NOTES:

ADDRESS: 7707 US HWY. 70W

PARCEL #: 9825531180

DEED REF.: D.B. 3557 PG. 460

PLAT REF.: MAP BY AMICK DATED 6-18-73, SURVEY FOR EMMITT L. KING, JOB #: 113-73

AREA: LOT: 0.35 AC. (15,634.1 S.F.), RIGHT OF WAY: 0.07 AC. (3,035.8 S.F.), TOTAL: 0.43 AC (18,678.8 S.F.)

EXISTING ZONING: B3

PROPOSED ZONING: M1 (CD)

SETBACKS
VARIANCE REQUESTED ALL PROVIDED SETBACK ARE EXISTING***
M1 BUILDING SETBACKS: FRONT: 30' (PROVIDED: 0.1' TO EASEMENT, 30.1' TO PROPERTY LINE), REAR: 20' (PROVIDED: 67.0') AND SIDE: 25' (PROVIDED NORTH: 9.6', PROVIDED SOUTH: 42.6')
WAIVER OF 50' MINIMUM SEPARATION OF USE.

POSSIBLE USES:
- Physical Fitness Center, Training Center
- Day Care Center, Adult and Child, 8-12 Clients (principal use);
- Government Offices;
- Police Station;
- Furniture Refinishing and Repair, Upholstery;
- Television, Radio, or Electronics Repair;
- Convenience Store, no Gas Pumps;
- Restaurant (Drive-In or Take Out window only);
- Moving and Storage Service;
- Food Preparation and Related Products, Miscellaneous;
- Signs (manufacturing);
- Christmas Tree, Pumpkin, and Similar Seasonal Sales (temporary)
- Truck and Utility trailer rental and leasing
- Equipment rental and leasing (no outside storage)
- Heating Equipment and Plumbing Fixtures
- Refrigerator or large appliance repair

DRIVEWAY TO PROPERTY- AS NOTED ON SITE PLAN

ALL LANDSCAPING SHALL MEET WITH THE CITY OF MEBANE UDO

VARIANCE REQUESTED FOR TYPE OF LANDSCAPE TREES AND SIZE OF LANDSCAPE BUFFER.

North side of property - Landscaping plans for the north side:

-The existing fence will be extended to the end of the property on the west side of the site plan.
-The area between the fence and the building will remain as is.
-Landscaping against the proposed fence to run along the northern border of property, where the building ends to the west side of the property line, continue south from the northern fence as noted on your site plan.
-East of the building, where the ground gets sun, landscaping will be planted from the fence area southward for about 6', using plants in keeping with the city's recommendations. The ground cover in front of the fencing in that area must allow for possible run off due to the slope of the land in front of the fencing. Landscape blocks like the type used along the south side to ease any possible runoff.

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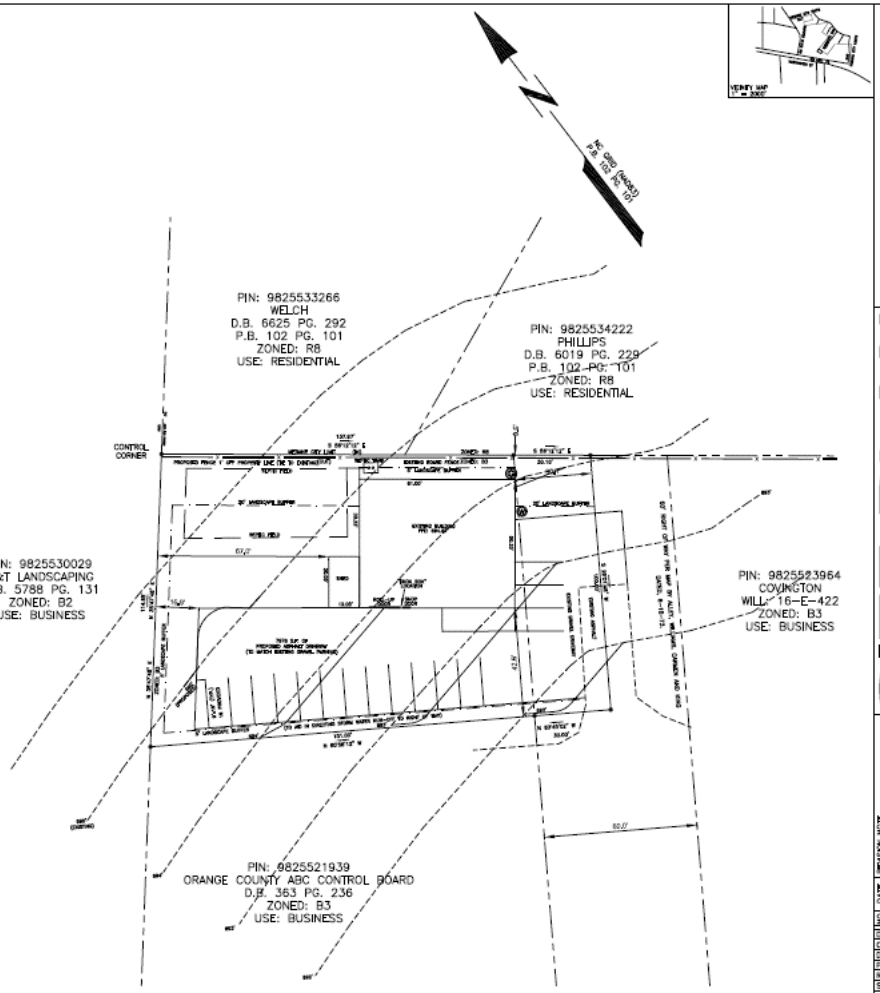

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8065 COBLE MILL ROAD
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SITE PLAN

GIGGEY PROPERTY ~ 7707 HWY. 70

NO	DATE	REVISION NOTE
A	20191216	PER CITY OF MEBANE PLANNING
B	20191219	PER CITY OF MEBANE PLANNING

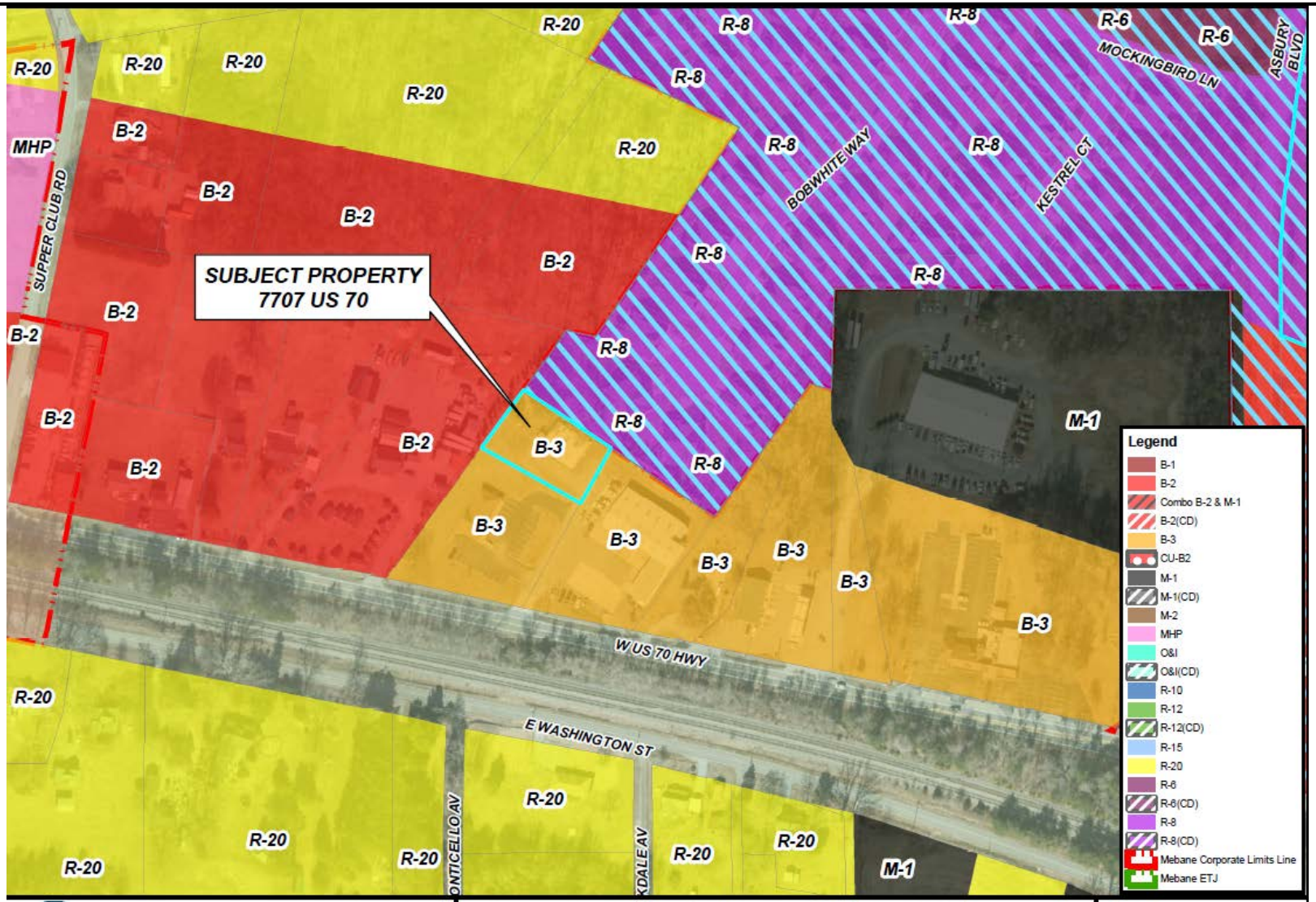
DRAWN BY: JTA
CHECKED BY: JTA
DATE: 20191216
PROJECT NO.: 2019-144
REF. NO.:
SCALE: 1" = 20'

NORTH CAROLINA PROFESSIONAL SURVEYOR SEAL L-4500 JEFFREY T. ALLRED

SHEET
1 OF 1

ZONING REPORT

EXISTING ZONE	B-3
REQUESTED ACTION	Zoning to M-1 (CD)
CONDITIONAL ZONE?	☒YES ☐NO
CURRENT LAND USE	Office/Commercial
PARCEL SIZE	+/-0.43 acres
PROPERTY OWNERS	Robert L. & Carmen L. Giggey 496 North Ridge Circle Roxboro, NC 27573 GPIN 9825531180
LEGAL DESCRIPTION	One property totaling 0.43 acres at 7707 US 70, is petitioning the City of Mebane for rezoning from B-3 to M-1(CD).
AREA ZONING & DISTRICTS	The zoning districts to the west is a B-2 zoning district and B-3 zoning districts are present on the eastern and southern property lines. The properties to the north are zoned R-8 and are townhomes in the Ashbury subdivision.
SITE HISTORY	Properties historically used for heavy manufacturing before being rezoned to B-3, at which point it continued to be operated as a non-conforming use. Following manufacturing operations, the building has been half-occupied and used for intermittent office and retail purposes.
	STAFF ANALYSIS
CITY LIMITS?	☐YES ☒NO
PROPOSED USE BY-RIGHT?	☐YES ☒NO
SPECIAL USE?	☐YES ☒NO
EXISTING UTILITIES?	☒YES ☐NO
POTENTIAL IMPACT OF PROPOSED ZONE	The potential developer is requesting a M-1(CD) rezoning primarily for a Truck and Utility Trailer Rental and Leasing use, which will be consistent with the City G-1 Mixed Use (I) primary growth area in *Mebane By Design*. A M-1 or M-2 general zoning district would not be recommended for this property but, due to the narrow menu of uses permitted by the conditional zoning request, their primarily retail nature, and hours of operation, the impacts to the surrounding residential and business districts should be minimal.



CITY OF MEBANE
ZONING MAP

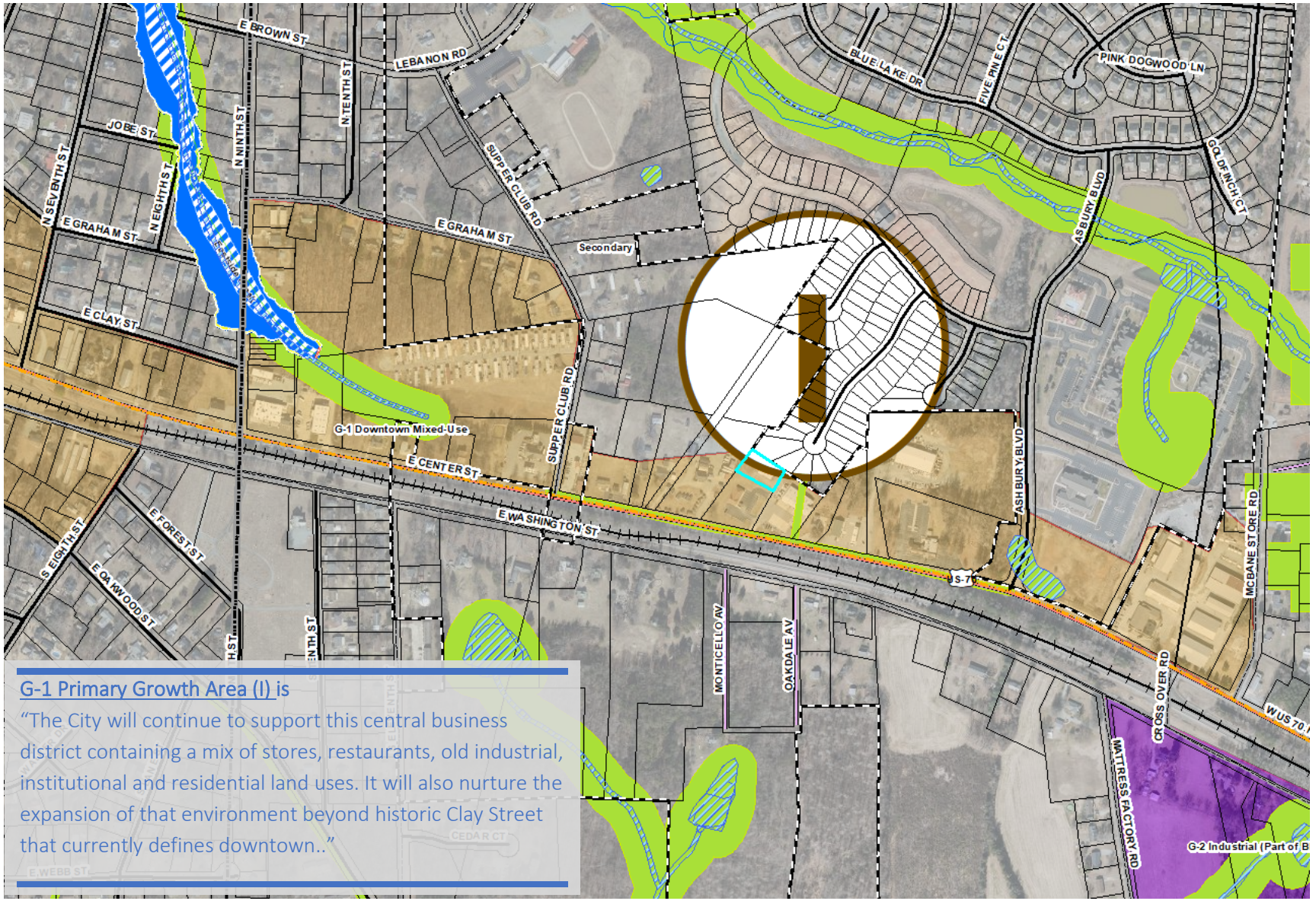
SUBJECT PROPERTY
7707 US 70
1 inch = 200 feet

DATE: 9/11/2019

DRAWN BY: SKS

LAND USE REPORT

EXISTING LAND USE	Office/Business
PROPOSED LAND USE & REQUESTED ACTION	One property totaling +/-0.43 acres at 7707 US 70, is petitioning the City of Mebane for rezoning from B-3 to M-1(CD).
PROPOSED ZONING	M-1(CD)
PARCEL SIZE	+/-0.43 acres
AREA LAND USE	The properties immediately to the north are townhome residences in the Ashbury subdivision. The property to the west is a landscaping business with a storage yard. The business properties to the south and east are an ABC Store and King Tire Service, respectively.
ONSITE AMENITIES & DEDICATIONS	The site plan provided commits to completing the fence on the northern perimeter of the property as well as providing 5' landscaped buffers to the south and west.
WAIVER REQUESTED	☐YES ☒NO
DESCRIPTION OF REQUESTED WAIVER(S)	
CONSISTENCY WITH *MEBANE BY DESIGN* STRATEGY	
LAND USE GROWTH STRATEGY DESIGNATION(S)	G-1 Mixed Use Primary (I) Growth Area "Downtown"
OTHER LAND USE CONSIDERATIONS	
MEBANE BY DESIGN GOALS & OBJECTIVES SUPPORTED	GROWTH MANAGEMENT 1.1 Encourage a variety of uses in growth strategy areas and in the downtown, promote/encourage a village concept that supports compact and walkable environments.
MEBANE BY DESIGN GOALS & OBJECTIVES NOT SUPPORTED	



G-1 Primary Growth Area (I) is

"The City will continue to support this central business district containing a mix of stores, restaurants, old industrial, institutional and residential land uses. It will also nurture the expansion of that environment beyond historic Clay Street that currently defines downtown.."

UTILITIES REPORT

AVAILABLE UTILITIES	☒YES ☐NO
PROPOSED UTILITY NEEDS	Orange -Alamance Water is present on the property. The property has a septic system that will need to be evaluated by the Orange County Department of Environmental Health prior to issuance of a Certificate of Occupancy. A finding of insufficiency of the septic system will necessitate connection to the municipal sewer system, per the Mebane City Ordinance. No changes to the use are proposed at this time. Any improvements in the future will be made and paid for by a property owner.
UTILITIES PROVIDED BY APPLICANT	N/A
MUNICIPAL CAPACITY TO ABSORB PROJECT	N/A
CONSISTENCY WITH MEBANE LONG RANGE UTILITY PLAN?	☐YES ☐NO N/A
ADEQUATE STORMWATER CONTROL?	☒YES ☐NO Stormwater controls not needed due to no increase in the onsite impervious surface
INNOVATIVE STORMWATER MANAGEMENT?	☐YES ☒NO
TRANSPORTATION NETWORK STATUS	
CURRENT CONDITIONS	US 70 is a secondary US highway receiving 6,900 TPD. It has an adequate level of service and is not estimated to be negatively affected by the proposed project.
TRAFFIC IMPACT ANALYSIS REQUIRED?	☐YES ☒NO
DESCRIPTION OR RECOMMENDED IMPROVEMENTS	N/A
CONSISTENCY WITH THE MEBANE BICYCLE AND PEDESTRIAN TRANSPORTATION PLAN?	☒YES ☐NO
MULTIMODAL IMPROVEMENTS PROVIDED BY APPLICANT?	☐YES ☒NO
DESCRIPTION OF MULTIMODAL IMPROVEMENTS	N/A

STAFF RECOMMENDATION

STAFF ZONING RECOMMENDATION	☒ APPROVE ☐ DISAPPROVE
STAFF SPECIAL USE FINDING	☐ CONSISTENT ☐ NOT CONSISTENT……..WITH *MEBANE BY DESIGN*
RATIONALE	The proposed development "Giggey Property Rezoning" is consistent with the guidance provided within *Mebane By Design*, the Mebane Comprehensive Land Development Plan. In particular, it is consistent with the description and goals for G-1 (I) Mixed Use Primary Growth Area and Growth Management Goal 1.1.
	PUBLIC INTEREST CONFORMANCE?
ENDANGER PUBLIC HEALTH OR SAFETY?	☐YES ☐NO
SUBSTANTIALLY INJURE THE VALUE OF ADJOINING OR ABUTTING PROPERTY?	☐YES ☐NO
HARMONIOUS WITH THE AREA IN WHICH IT IS LOCATED?	☐YES ☐NO
CONSISTENT WITH *MEBANE BY DESIGN*, THE MUNICIPAL COMPREHENSIVE LAND DEVELOPMENT PLAN?	☐ The application is consistent with the objectives and policies for growth and development contained in the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, and, as such, has been recommended for approval. ☐ The application is not fully consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, but is otherwise in the public interest and has been recommended for approval. The Comprehensive Land Development Plan must be amended to reflect this approval and ensure consistency for the City of Mebane's long-range planning objectives and policies. ☐ The application is not consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, and, as such, has been recommended for denial.

AGENDA ITEM #5B

Ordinance to Extend the Corporate Limits – Airgas USA, LLC (2nd smaller portion)

Presenter
Lawson Brown, City Attorney

Public Hearing
Yes ☒ No ☐

Summary
The Council will consider the approval of an Ordinance to Extend the Corporate Limits as the next step in the annexation process. This is a non-contiguous satellite annexation containing approximately 0.069 acres abutting their initial annexation that was annexed in July.

Background
At the January 6, 2020 Council Meeting, Council accepted the petition for annexation and the Clerk's certificate of sufficiency and adopted a Resolution setting a date of Public Hearing for February 3, 2020 to consider approval of extending Mebane's corporate limits. The Public Hearing Notice was properly advertised.

Financial Impact
The property and improvements will be added to the ad valorem tax base for the City once the property is annexed as determined by the state statute.

Recommendation
Staff recommends adoption of an Ordinance to Extend the Corporate Limits of the City of Mebane, North Carolina.

Suggested Motion
I make a motion to adopt of an Ordinance to Extend the Corporate Limits of the City of Mebane, North Carolina to include the 0.069 acres.

Attachments
1. Ordinance
2. Map

AN ORDINANCE TO EXTEND THE CORPORATE LIMITS
OF THE CITY OF MEBANE, NORTH CAROLINA

Ordinance No. 133

WHEREAS, the City Council has been petitioned under G.S. 160A-58.1 to annex the area described below; and

WHEREAS, the City Council has by resolution directed the City Clerk to investigate the sufficiency of the petition; and

WHEREAS, the City Clerk has certified the sufficiency of the petition and a public hearing on the question of this annexation was held at the Mebane Municipal Building at 6:00 p.m. on February 3, 2020 after due notice by the Mebane Enterprise on January 22, 2020; and

WHEREAS, the City Council finds that the area described therein meets the standards of G.S. 160A-58.1 (b), to wit:

a. The nearest point on the proposed satellite corporate limits is not more than three (3) miles from the corporate limits of the City;

b. No point on the proposed satellite corporate limits is closer to another municipality than to the City;

c. The area described is so situated that the City will be able to provide the same services within the proposed satellite corporate limits that it provides within the primary corporate limits;

d. No subdivision, as defined in G.S. 160A-376, will be fragmented by this proposed annexation;

WHEREAS, the City Council further finds that the petition has been signed by all the owners of real property in the area who are required by law to sign; and

WHEREAS, the City Council further finds that the petition is otherwise valid, and that the public health, safety and welfare of the City and of the area proposed for annexation will be best served by annexing the area described;

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Mebane, North Carolina that:

Section 1. By virtue of the authority granted by G.S. 160A-58.2, the following described non-contiguous territory is hereby annexed and made part of the City of Mebane, as of February 3, 2020:

COMMENCE FROM A 1/2" IRON PIPE FOUND IN THE NORTHERN LINE OF THE DUKE POWER COMPANY 128' RIGHT OF WAY AS RECORDED IN DEED BOOK 41, PAGE 333 AND DEED BOOK 358, PAGE 631, ALAMANCE COUNTY REGISTRY AND THE WESTERN LINE OF TINNIN$ CREEK ROAD 30' PRIVATE RIGHT OF WAY AS SHOWN ON PLAT BOOK 6, PAGE 2, ALAMANCE COUNTY REGISTRY, SAID IRON PIPE FOUND HAVING A NC GRID NAD83 COORDINATE OF N:852,264.89 E:1,911,390.35, SAID IRON PIPE ALSO BEING THE SOUTHWESTERN MOST CORNER OF LOT 22 AS SHOWN ON PLAT BOOK 79, PAGE 252, ALAMANCE COUNTY REGISTRY; THENCE ALONG THE WESTERN BOUNDARY OF SAID LOT 22 THE FOLLOWING THREE (3) COURSES: 1) N 51°08'35" EA DISTANCE OF 100.07 FEET TO A 1/2" IRON PIPE FOUND; THENCE 2) N 01°30'39" EA DISTANCE OF 28.91 FEET TO A 1/2" IRON PIPE FOUND; THENCE 3) N 33°22'26" EA DISTANCE OF 147.47 FEET TO A 1/2" IRON PIPE SET AND BEING THE TRUE POINT OF BEGINNING; THENCE FROM THE TRUE POINT OF BEGINNING A NEW LINE THROUGH THE CLIFFORD M. RAY, JR. FAMILY LIMITED PARTNERSHIP AS RECORDED IN DEED BOOK 2799, PAGE 569, ALAMANCE COUNTY REGISTRY THE FOLLOWING SIX (6) COURSES: 1) N 10°28'32" WA DISTANCE OF 38.92 FEET TO A 1/2" IRON PIPE SET; THENCE 2) N 33°53'31" EA DISTANCE OF 51.23 FEET TO A 1/2" IRON PIPE SET; THENCE 3) N 38°59'43" EA DISTANCE OF 31.30 FEET TO A 1/2" IRON PIPE SET; THENCE 4) N 53°27'31" E A DISTANCE OF 25.61 FEET TO A 1/2" IRON PIPE SET; THENCE 5) S 64°37'32" EA DISTANCE OF 14.78 FEET TO A 1/2" IRON PIPE SET; THENCE 6) S 33°22'26" WA DISTANCE OF 136.55 FEET TO THE POINT OF BEGINNING AND CONTAINING 2,998 SF OR 0.069 ACRES.

Section 2. Upon and after February 3, 2020 the above described territory and its citizens and property shall be subject to all debts, laws, ordinances and regulations in force in the City of Mebane and shall be entitled to the same privileges and benefits as other parts of the City of Mebane. Said territory shall be subject to municipal taxes according to G.S. 160A-58.10.

Section 3. The Mayor of the City of Mebane shall cause to be recorded in the office of the Register of Deeds of Alamance County, and in the office of the Secretary of State at Raleigh, North Carolina, an accurate map of the annexed territory, described in Section 1 above, together with a duly certified copy of this ordinance. Such a map shall also be delivered to the Alamance County Board of Elections, as required by G.S. 163-288.1.

Adopted this 3rd day of February, 2020.

_____
Ed Hooks, Mayor

ATTEST:

_____
Stephanie W. Shaw, City Clerk

APPROVED AS TO FORM:

_____
Lawson Brown, City Attorney

SURVEYOR'S CERTIFICATE

"I, KIM R. LILLY , CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION, FROM DEED DESCRIPTION RECORDED IN DEED BOOK 2799, PAGE 569, DEED BOOK 3801, PAGE 90 , PLAT BOOK 79 , PAGE 252 AND PLAT BOOK 66, PAGES 76 ; THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN DEED BOOK 2799, PAGE 569 AND PLAT BOOK 66, PAGE 76; THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY AS CALCULATED IS 1:142,604; THAT THE PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED. WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS _____ DAY OF _____ A.D. 2019.

PURPOSE OF THIS PLAT:

(D). THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXEMPTION OR EXCEPTION TO THE DEFINITION OF SUBDIVISION.

NCGS 47-30(11)(j)
THE PROVISIONS OF THIS SECTION SHALL NOT APPLY TO BOUNDARY PLATS OF STATE LINES, COUNTY LINES, AREAS ANNEXED BY MUNICIPALITIES, NOR TO PLATS OF MUNICIPAL BOUNDARIES, WHETHER OR NOT REQUIRED BY LAW TO BE RECORDED.

NORTH CAROLINA PROFESSIONAL SEAL L-3612 LAND SURVEYOR KIM R. LILLY

PRELIMINARY

PROFESSIONAL LAND SURVEYOR

L-3612

LICENSE NUMBER

PLANNING DIRECTOR

THIS TRACT OF LAND IS WITHIN THE CITY OF MEBANE'S JURISDICTION. NO APPROVAL IS REQUIRED OF THE PLANNING BOARD OR CITY COUNCIL.

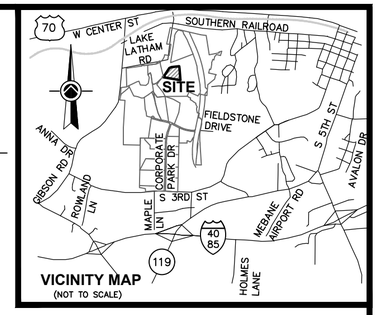
_____
PLANNING DIRECTOR DATE

ALAMANCE COUNTY
NORTH CAROLINA
REVIEW OFFICER CERTIFICATION

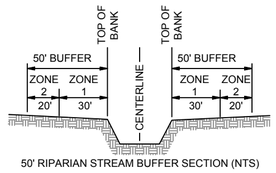
I, _____, REVIEW OFFICER FOR ALAMANCE COUNTY CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

_____
REVIEW OFFICER DATE

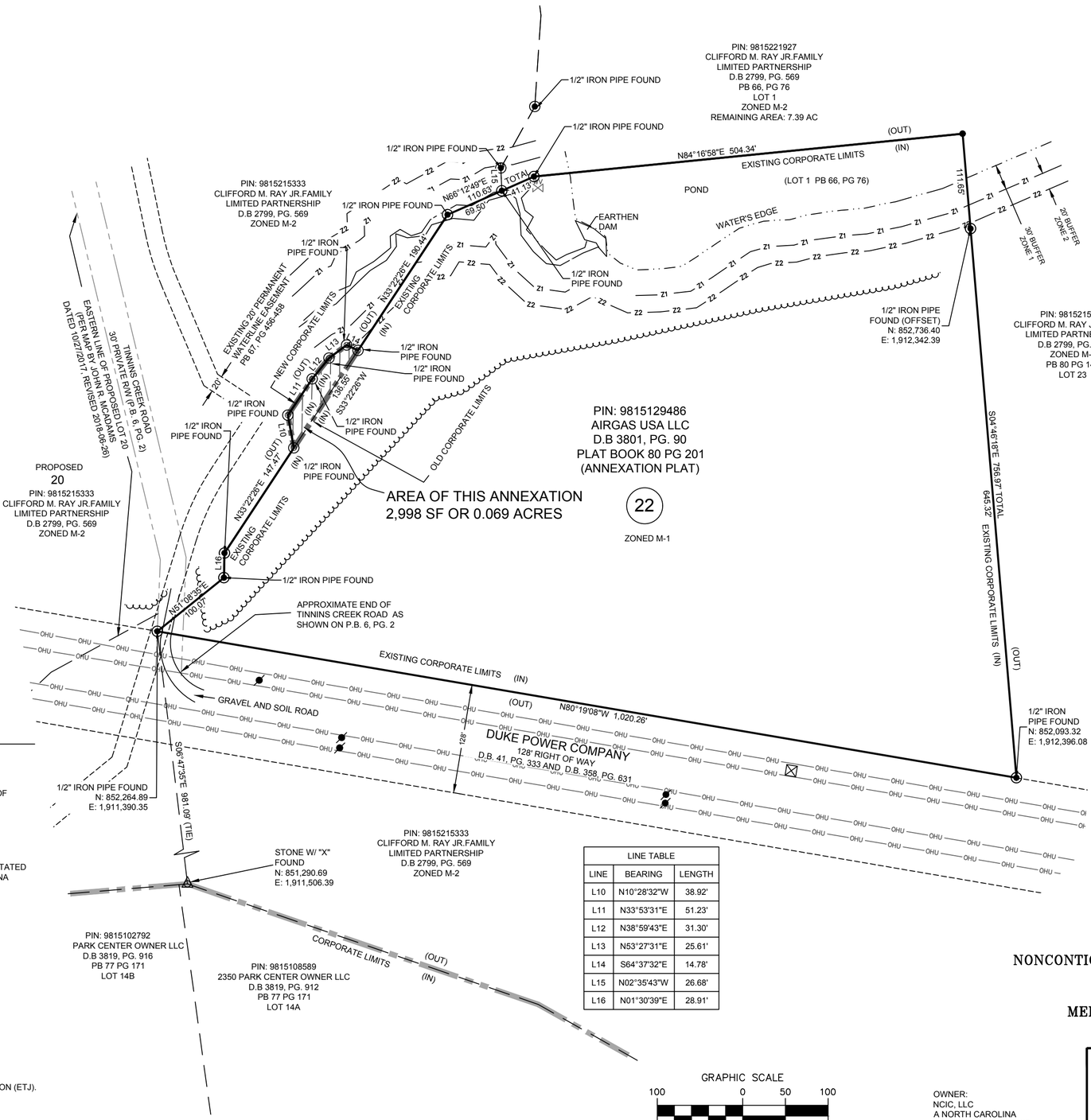
NC GRID NAD 83(2011)



VICINITY MAP
(NOT TO SCALE)



50' RIPARIAN STREAM BUFFER SECTION (NTS)



LINE TABLE		
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GRAPHIC SCALE
100 0 50 100
(IN FEET)
1 Inch = 100 Feet

LEGEND

- COMPUTED POINT
- IRON PIPE SET (SIZE AS NOTED) IPS
- IRON PIPE FOUND (SIZE AS NOTED) IPF
- STONE FOUND
- UTILITY POLE
- POWER TRANSMISSION TOWER
- ANNEXATION AREA
- EASEMENT
- SUBJECT BOUNDARY LINE (SURVEYED)
- RIGHT OF WAY
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- OHU — OHU — OVERHEAD UTILITIES
- EDGE OF WATER
- Z1 — Z1 — ZONE 1 BUFFER
- Z2 — Z2 — ZONE 2 BUFFER
- OLD PROPERTY LINES
- TREE LINE
- CORPORATE LIMITS LINE

D.B. DEED BOOK
P.B. PLAT BOOK
PG. PAGE
R/W RIGHT-OF-WAY

NOTES:

1. SITE BEING A PART OF PARCEL IDENTIFICATION NO.: 9815221927 AND 9815215333; CLIFFORD M. RAY FAMILY LIMITED PARTNERSHIP; DEED BOOK 2799 PAGE 569 AND PLAT BOOK 66 PAGE 76; AS RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS OF ALAMANCE COUNTY, NORTH CAROLINA AND PARCEL IDENTIFICATION NO.: 9815129486; AIRGAS USA LLC; DEED BOOK 3801, PAGE 90 AND PLAT BOOK 79, PAGE 252; AS RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS OF ALAMANCE COUNTY, NORTH CAROLINA
2. ALL DISTANCES ARE HORIZONTAL GROUND, UNLESS OTHERWISE NOTED.
3. TOTAL AREA: 11.751 ACRES
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9. NO ENCROACHMENTS OR CEMETERIES OBSERVED.
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PRELIMINARY

FINAL PLAT
CORPORATE LIMITS EXTENSION
NORTH CAROLINA INDUSTRIAL CENTER
NONCONTIGUOUS (SATELLITE) VOLUNTARY ANNEXATION
PHASE 3, LOT 22
PLAT BOOK 79, PAGE 252
MELVILLE TOWNSHIP, ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER:
NCIC, LLC
A NORTH CAROLINA
LIMITED PARTNERSHIP
309 GALLIMORE DAIRY ROAD
SUITE 102
GREENSBORO, NC. 27409

RLS SURVEYING & CONSULTING
REGIONAL LAND SURVEYORS, INC.
8642 WEST MARKET STREET, SUITE 100
GREENSBORO, NORTH CAROLINA 27409
NC FIRM LICENSE NO. C-1362

JOB#: 462.64 | DRAWN BY: SRM | DATE: 11-06-2018 | CREW CHIEF: MDC

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GRAPHIC SCALE

x 0 .5x x

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LEGEND

- IRON PIPE FOUND (SIZE AND TYPE AS NOTED)
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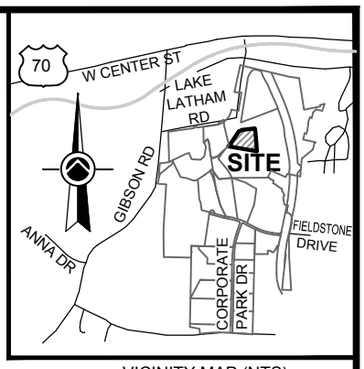
DB	DEED BOOK
PB	PLAT BOOK
PG	PAGE
R/W	RIGHT-OF-WAY
POB	POINT OF BEGINNING
POC	POINT OF COMMENCEMENT

NC GRID
REGIONAL LAND SURVEYORS
NAD 83(2011)



VICINITY MAP (NTS)

AREA TO BE ADDED TO LOT 22
2998 SF OR 0.069 ACRES

PIN: 9815215333
CLIFFORD M. RAY JR.FAMILY
LIMITED PARTNERSHIP
D.B 2799, PG. 569
ZONED M-2

1/2" IRON PIPE SET
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POB 1/2" IRON PIPE SET

L2 L3 L4 L5 L6

S33°22'26"W 136.55'

20'

EXISTING 20' PERMANENT WATERLINE EASEMENT PB 67, PG 456-458

22

PB 79 PG 252

PIN: 9815129486
AIRGAS USA, LLC
A DELAWARE LIMITED
LIABILITY COMPANY
D.B 3801, PG. 90

EASTERN LINE OF PROPOSED LOT 20
(PER MAP BY JOHN R. MCADAMS
DATED 10/27/2017, REVISED
2018-06-26)

TINNINS CREEK ROAD
30' PRIVATE R/W (P.B.
6, PG. 2)

N33°22'26"E 147.47' (TIE)

1/2" IRON PIPE FOUND
L1 (TIE)
1/2" IRON PIPE FOUND

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PIN: 9815029564
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D.B 3806, PG. 705
PB 79 PG 279
ZONED M-2

N51°08'35"E 100.07' (TIE)

POC
1/2" IRON PIPE FOUND
N: 852,264.89
E: 1,911,390.35

DUKE POWER COMPANY
128' RIGHT OF WAY
D.B. 41, PG. 333 AND D.B. 358, PG. 631

128'

APPROXIMATE END OF
TINNINS CREEK ROAD AS
SHOWN ON P.B. 6, PG. 2

OHU

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NORTH CAROLINA INDUSTRIAL CENTER
TINNINS CREEK ROAD
MELVILLE TOWNSHIP, ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

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NC FIRM LICENSE NO. C-1362

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AGENDA ITEM #5C

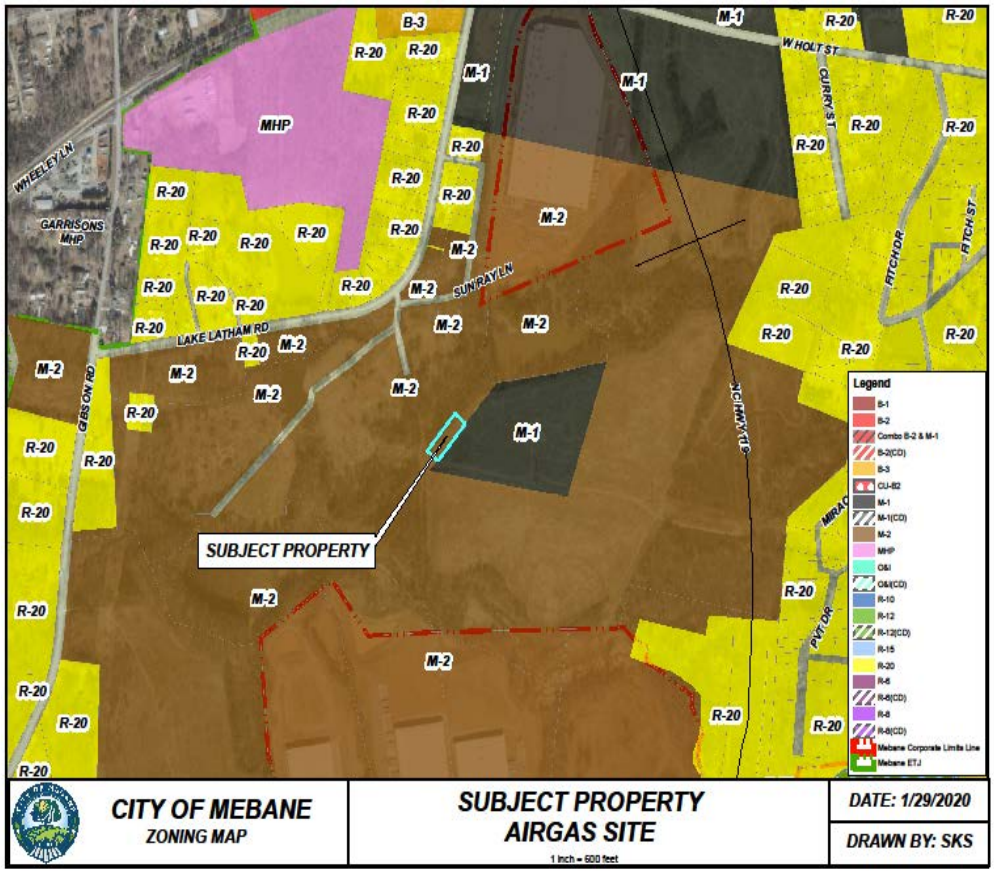
Rezoning – AIRGAS Additional Stormwater Pond Property

Presenter
Cy Stober, Development Director

Applicant
AIRGAS USA, LLC
259 North Radnor-Chester Road
Radnor, PA 19087

Public Hearing
Yes ☒ No ☐

Zoning Map



Property
NCIC vacant property adjacent to Airgas facility Alamance County GPIN #9815215333

Proposed Zoning
M-1

Current Zoning
M-2

Size
+/-0.069 acres

Surrounding Zoning
M-1 & M-2

Surrounding Land Uses
Vacant, Heavy Manufacturing

Utilities
To be extended at developer's expense

Floodplain
No

Watershed
No

City Limits
No

Summary

AIRGAS USA, LLC, is requesting approval to rezone +/-0.069 acres within the NC Industrial Center (NCIC) from M-2 (Light Manufacturing) to M-1 (Heavy Manufacturing) as part of a recombination with the property owned by AIRGAS USA, LLC, for their production facility located at 2025 Development Center Drive. The property is needed to accommodate the stormwater control measure for the facility. The property is within the City's extraterritorial jurisdiction, but AIRGAS USA is also seeking annexation this month.

Financial Impact

The developer will be required to make all of the improvements at his own expense.

Recommendation

The City of Mebane Planning Board recommended approval of the rezoning request 8 – 0. The Planning Staff recommends approval of the request.

Suggested Motion

1. Motion to **approve** the M-1 rezoning as presented; and
2. Motion to find that **the application is consistent** with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design* because the request:
   a. Is for a property within the City's NCIC and is serving the stormwater management needs of a previously approved project (Mebane CLP, pp.43 & 46); and
   b. Serves Mebane CLP Growth Management Goal 1.7 by "…support[*ing*] industrial development at existing industrial parks near I-40/85 (pp.17 & 84).

OR

3. Motion to **deny** the M-1 rezoning as presented due to a lack of:
   a. Harmony with the surrounding zoning or land use

   OR

   b. Consistency with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design*.

Attachments

1. Zoning Amendment Application
2. Zoning Map
3. Planning Project Report

APPLICATION FOR A ZONING AMENDMENT

Application is hereby made for an amendment to the Mebane Zoning Ordinance as follows:

Name of Applicant: **AIRGAS USA LLC.**

Address of Applicant: **259 North Radnor-Chester Rd. Randor, PA 19087**

Address and brief description of property to be rezoned: **As seen in the attachments the site will be .069 acres and will added to Airgas USA LLC. existing parcel (Parcel ID 175033) located within NCIC.**

Applicant's interest in property: (Owned, leased or otherwise) **Owner**

*Do you have any conflicts of interest with: Elected/Appointed Officials, Staff, etc.?

Yes ___ Explain: _____ No **X**

Type of re-zoning requested: **M-1 Heavy Manufacturing District**

Sketch attached: Yes **X** No _____

Reason for the requested re-zoning: **To satisfy the City of Mebane's requirements for CO on Airgas's existing facility.**

Signed: _____

Date: 5-28-19

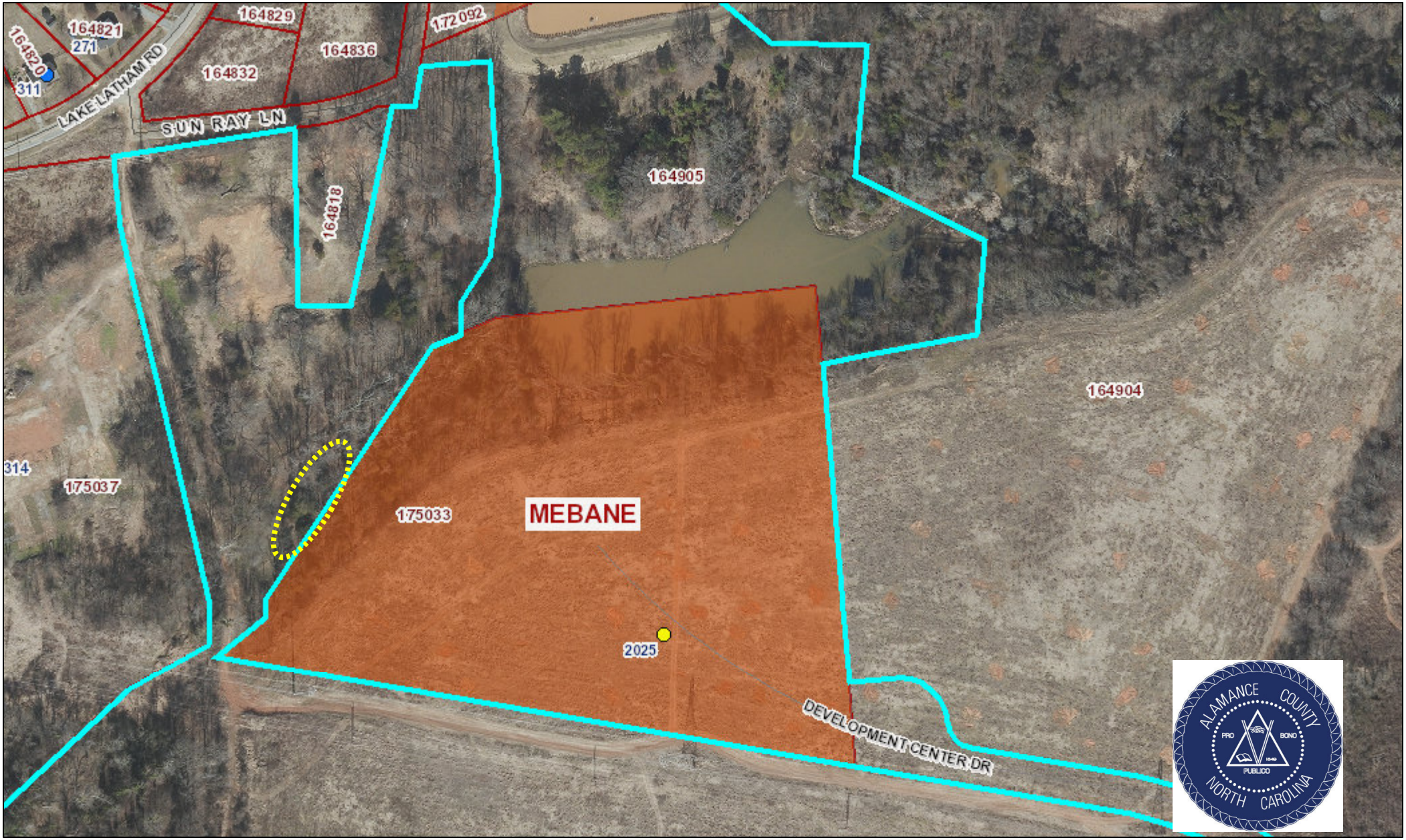
Action by Planning Board: _____

Public Hearing Date: _____ Action: _____

Zoning Map Corrected: _____

The following items should be included with the application for rezoning when it is returned:

1. Tax Map showing the area that is to be considered for rezoning. **SEE ATTACHMENT**
2. Names and addresses of all adjoining property owners within a 300' radius (Include those that are across the street). **There are no property owners with the 300' radius.**
3. $300.00 Fee to cover administrative costs.
4. The information is due 15 working days prior to the Planning Board meeting. The Planning Board meets the 2nd Monday of each month at 6:30 p.m. Then the request goes to the City Council for a Public Hearing the following month. The City Council meets the 1st Monday of each month at 6:00 p.m.



Owner Name: RAY CLIFFORD M JR FAMILY
LIMITED PARTNERSHIP
115 LYNN COVE LN
MOORESVILLE, NC 28117
GPIN: 9815215333
PID: 10-12-7

August 28, 2019

0 0.025 0.05 mi

Address Points

- Address
- Tax Address
- Preliminary Address

Heavy Industrial Development Applicants

Alamance County GIS
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan,

DISCLAIMER:
The datasets and maps available are not survey grade or a legal document. They are a best approximation of what is on the ground, but do contain errors. The data comes from various sources nationally, the state of North Carolina, and here in Alamance County. Alamance County will not be held responsible for the misuse, misrepresentation, or misinterpretation of the data or maps. These maps and data are a service provided for the benefit for Alamance County citizens. We constantly strive to improve the quality and expand the amount of data and maps available.

ALAMANCE COUNTY shall assume no liability for any errors, omissions, or inaccuracies in the information provided regardless of how caused; or any decision made or action taken or not taken by user in reliance upon any information or data furnished hereunder. The user INDEMNIFIES and HOLDS harmless for damages against any and all of the entities comprising the Alamance County GIS System that may arise from the mapping data. Date: 8/28/2019

SURVEYOR'S CERTIFICATE

"I, KIM R. LILLY , CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION, FROM DEED DESCRIPTION RECORDED IN DEED BOOK 2799, PAGE 569, DEED BOOK 3801, PAGE 90 , PLAT BOOK 79 , PAGE 252 AND PLAT BOOK 66, PAGES 76 ; THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN DEED BOOK 2799, PAGE 569 AND PLAT BOOK 66, PAGE 76; THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY AS CALCULATED IS 1:142,604; THAT THE PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED. WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS _____ DAY OF _____ A.D. 2019.

PURPOSE OF THIS PLAT:

(D). THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXEMPTION OR EXCEPTION TO THE DEFINITION OF SUBDIVISION.

NCGS 47-30(11)(j)
THE PROVISIONS OF THIS SECTION SHALL NOT APPLY TO BOUNDARY PLATS OF STATE LINES, COUNTY LINES, AREAS ANNEXED BY MUNICIPALITIES, NOR TO PLATS OF MUNICIPAL BOUNDARIES, WHETHER OR NOT REQUIRED BY LAW TO BE RECORDED.

NORTH CAROLINA PROFESSIONAL SEAL L-3612 LAND SURVEYOR KIM R. LILLY

PRELIMINARY

PROFESSIONAL LAND SURVEYOR

L-3612

LICENSE NUMBER

PLANNING DIRECTOR

THIS TRACT OF LAND IS WITHIN THE CITY OF MEBANE'S JURISDICTION. NO APPROVAL IS REQUIRED OF THE PLANNING BOARD OR CITY COUNCIL.

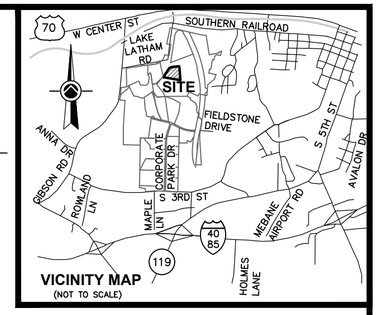
_____
PLANNING DIRECTOR DATE

ALAMANCE COUNTY
NORTH CAROLINA
REVIEW OFFICER CERTIFICATION

I, _____, REVIEW OFFICER FOR ALAMANCE COUNTY CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

_____
REVIEW OFFICER DATE

NC GRID NAD 83(2011)



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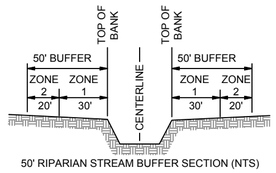

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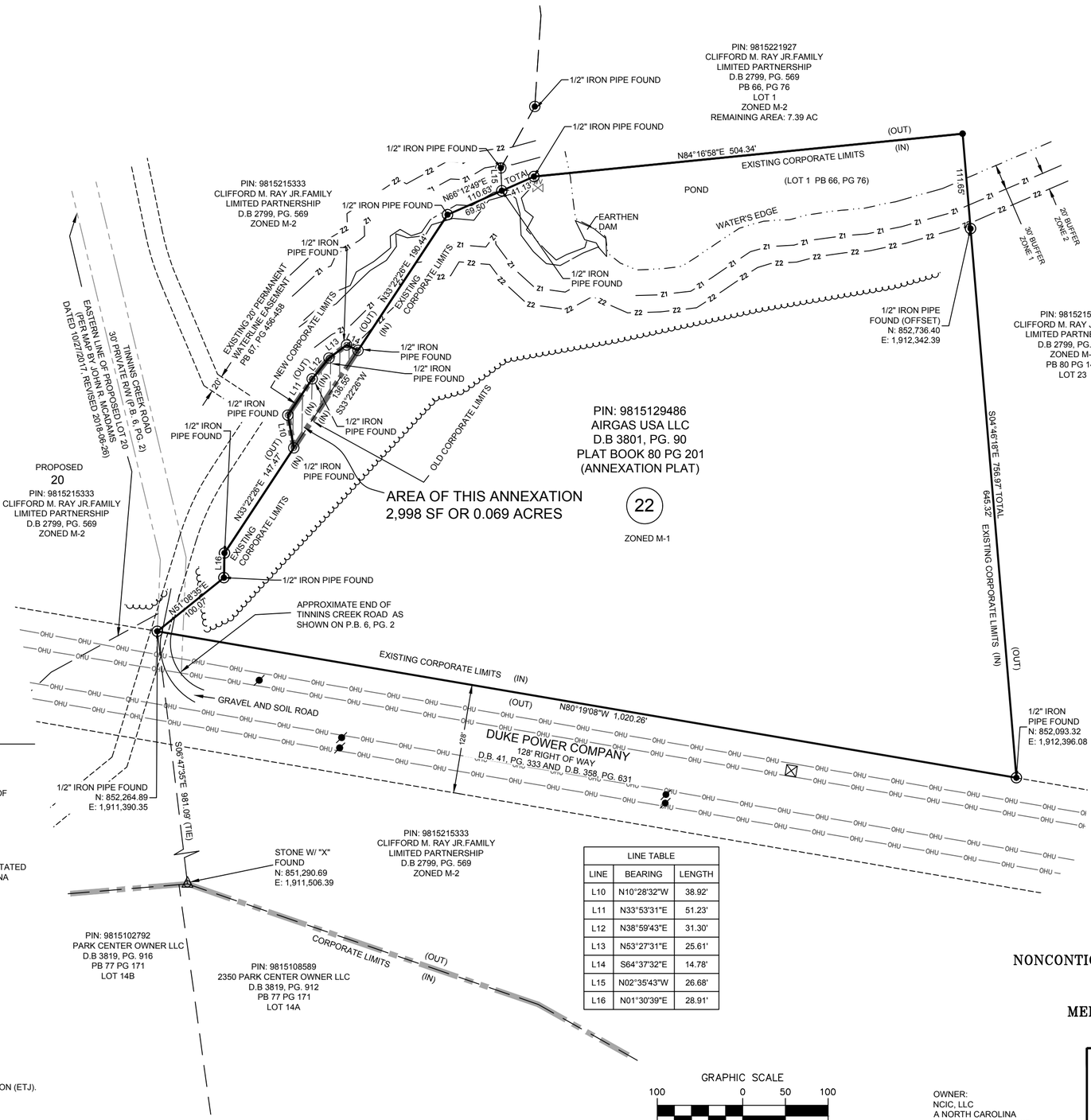

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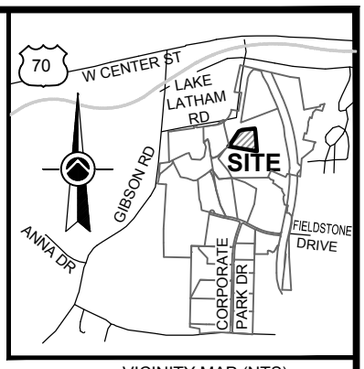

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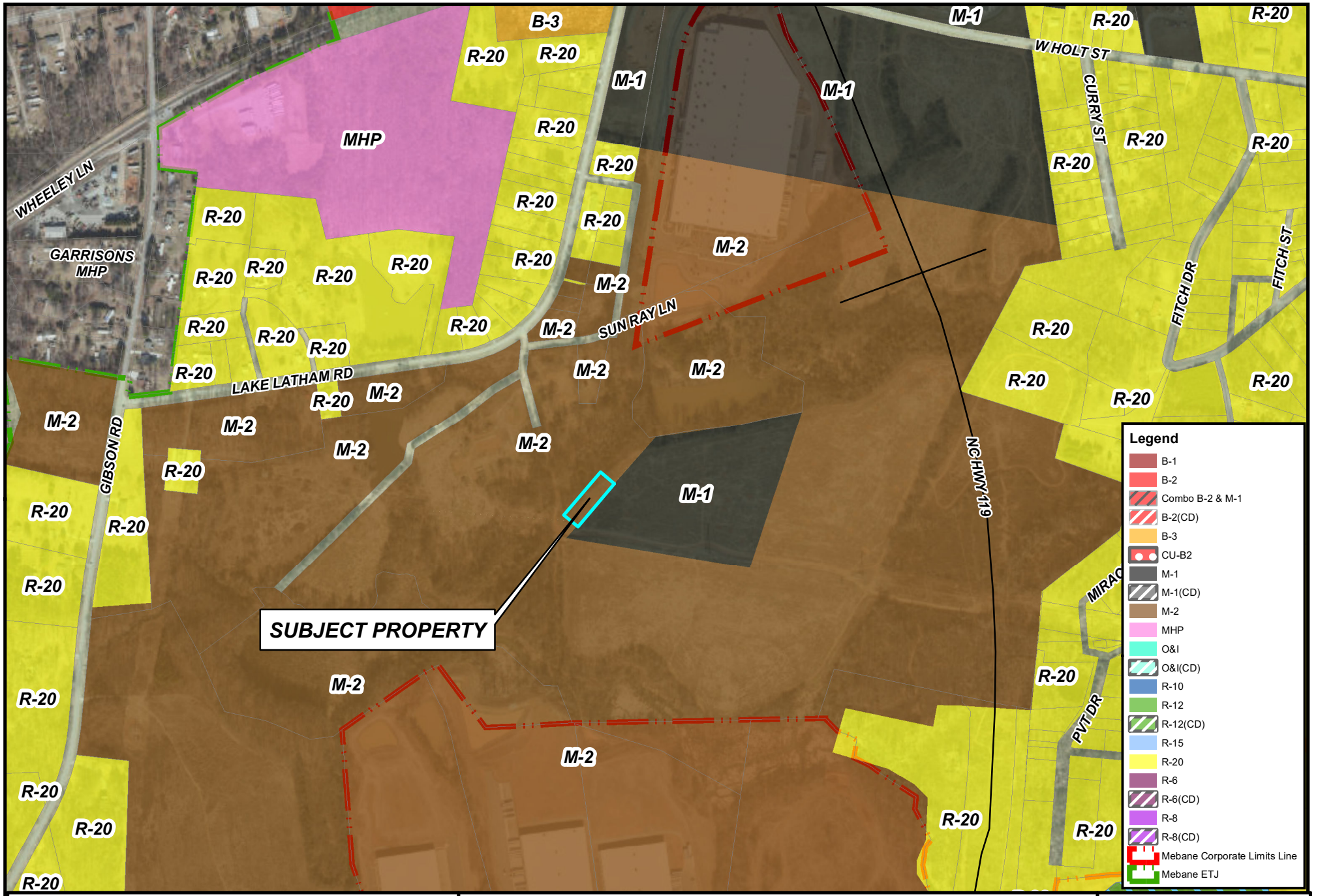
RLS SURVEYING & CONSULTING
REGIONAL LAND SURVEYORS, INC.
8642 WEST MARKET STREET, SUITE 100
GREENSBORO, NORTH CAROLINA 27409
NC FIRM LICENSE NO. C-1362

JOB#: 462.64	DRAWN BY: SRM	DATE: 2019-08-22	CREW CHIEF: WKO

S:\CurrentProj\46264-NCIC_ Phase3-Lot22-10AC-TRACT\dwg\46264-NCIC-Lot22-X.dwg, 8/26/2019 2:25:03 PM



CITY OF MEBANE
ZONING MAP

SUBJECT PROPERTY
AIRGAS SITE

1 inch = 600 feet

DATE: 1/29/2020

DRAWN BY: SKS

PLANNING PROJECT REPORT

DATE	01/02/20
PROJECT NAME	Airgas Stormwater Rezoning
APPLICANT	AIRGAS USA, LLC 259 North Radnor-Chester Road Radnor, PA 19087

CONTENTS

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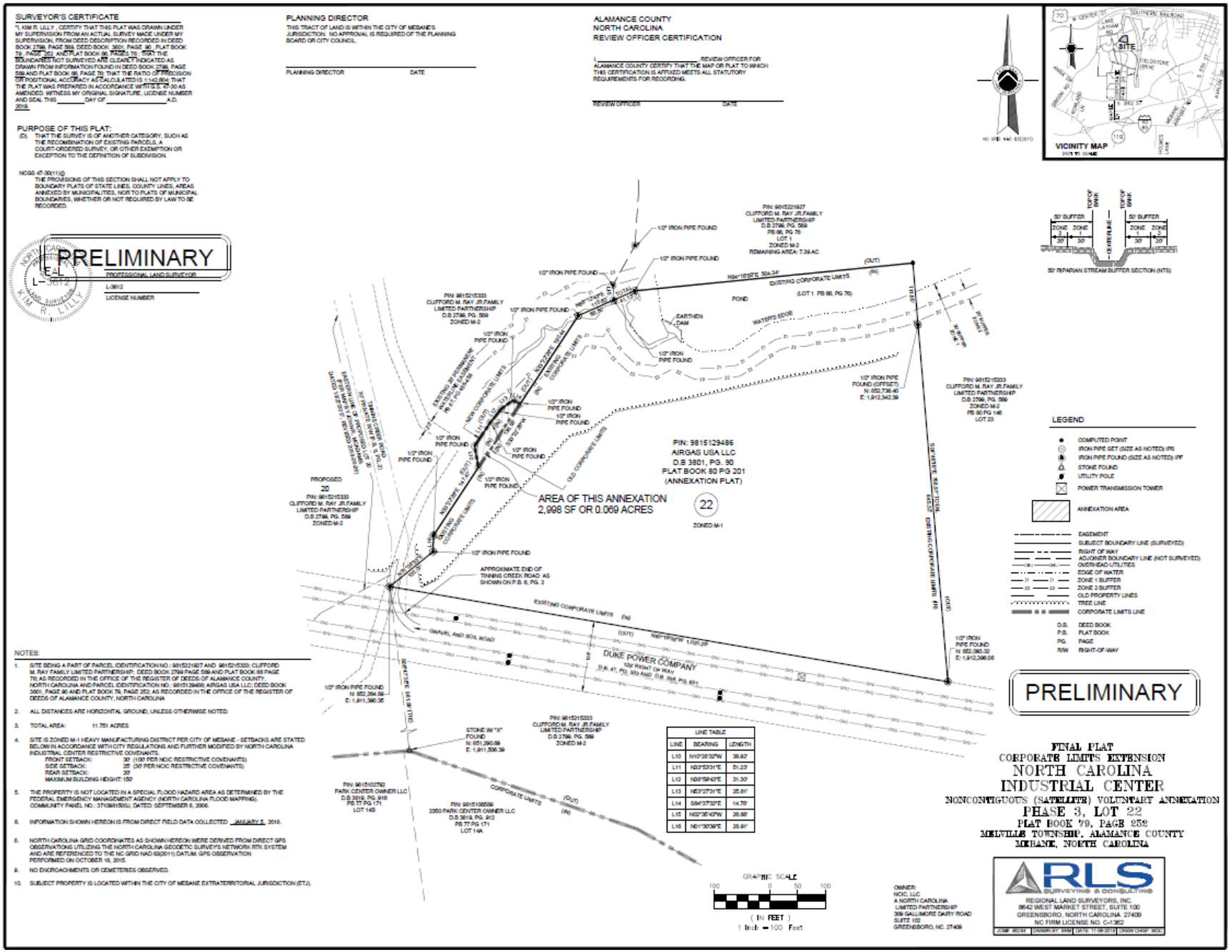
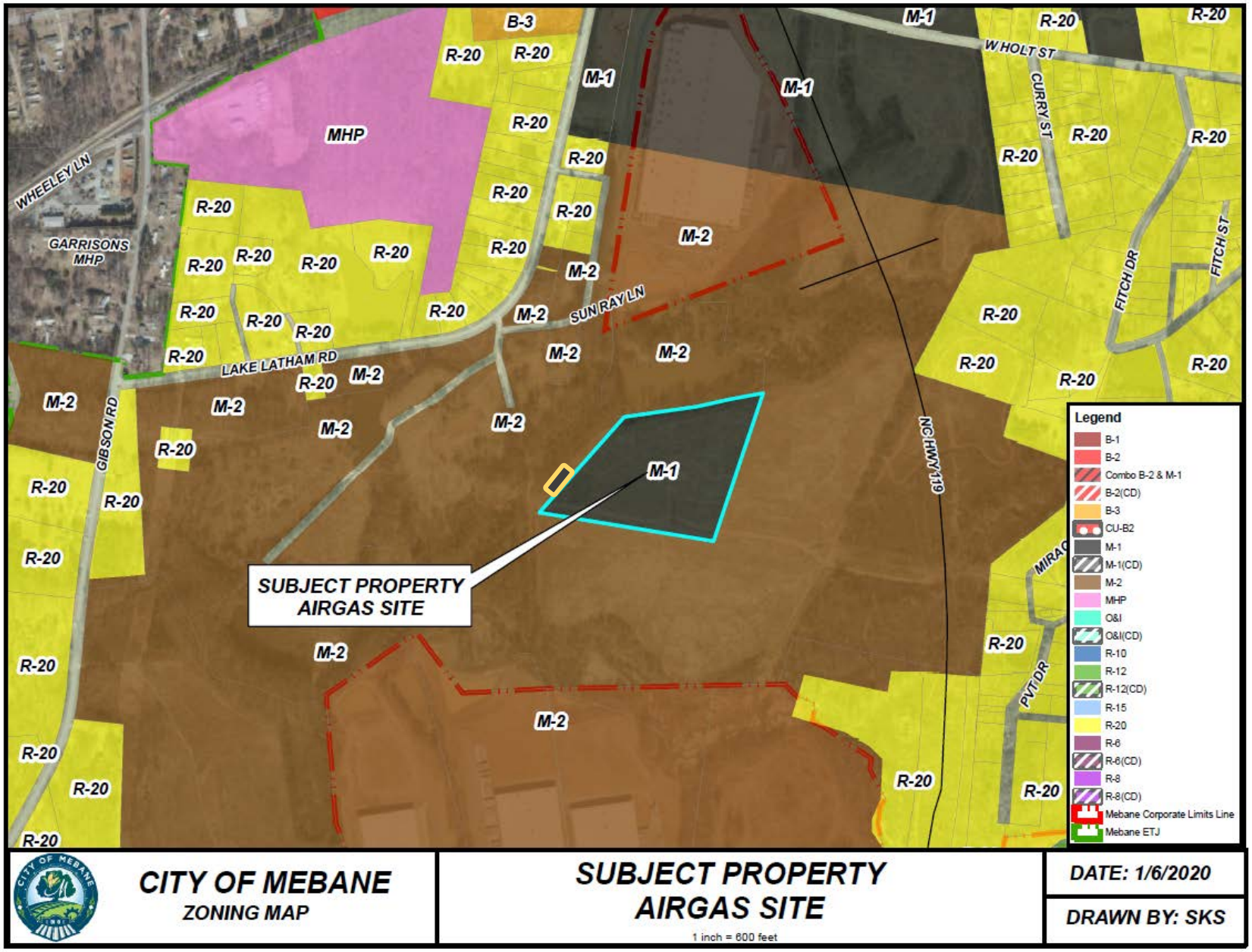
STAFF SPECIAL USE PERMIT CONSISTENCY FINDINGS ..... PAGE 8


SURVEYOR'S CERTIFICATE
PLANNING DIRECTOR
ALAMANCE COUNTY
NORTH CAROLINA
REVIEW OFFICER CERTIFICATION
PURPOSE OF THIS PLAT:
PRELIMINARY
VICINITY MAP
LEGEND
NOTES:
PRELIMINARY
FINAL PLAT
CORPORATE LIMITS EXTENSION
NORTH CAROLINA
INDUSTRIAL CENTER
NONCONTIGUOUS (SATELLITE) VOLUNTARY ANNEXATION
PHASE 3, LOT 22
PLAT BOOK 79, PAGE 252
MELVILLE TOWNSHIP, ALAMANCE COUNTY
MEBANE, NORTH CAROLINA
PIN: 9815129486
AIRGAS USA LLC
D.B 3801, PG. 90
PLAT BOOK 80 PG 201
(ANNEXATION PLAT)
AREA OF THIS ANNEXATION
2,998 SF OR 0.069 ACRES
DUKE POWER COMPANY
GRAPHIC SCALE
(IN FEET)
1 Inch = 100 Feet
RLS
REGIONAL LAND SURVEYORS, INC.
8542 WEST MARKET STREET, SUITE 100
GREENSBORO, NORTH CAROLINA 27409
NC FIRM LICENSE NO. C-1362

ZONING REPORT

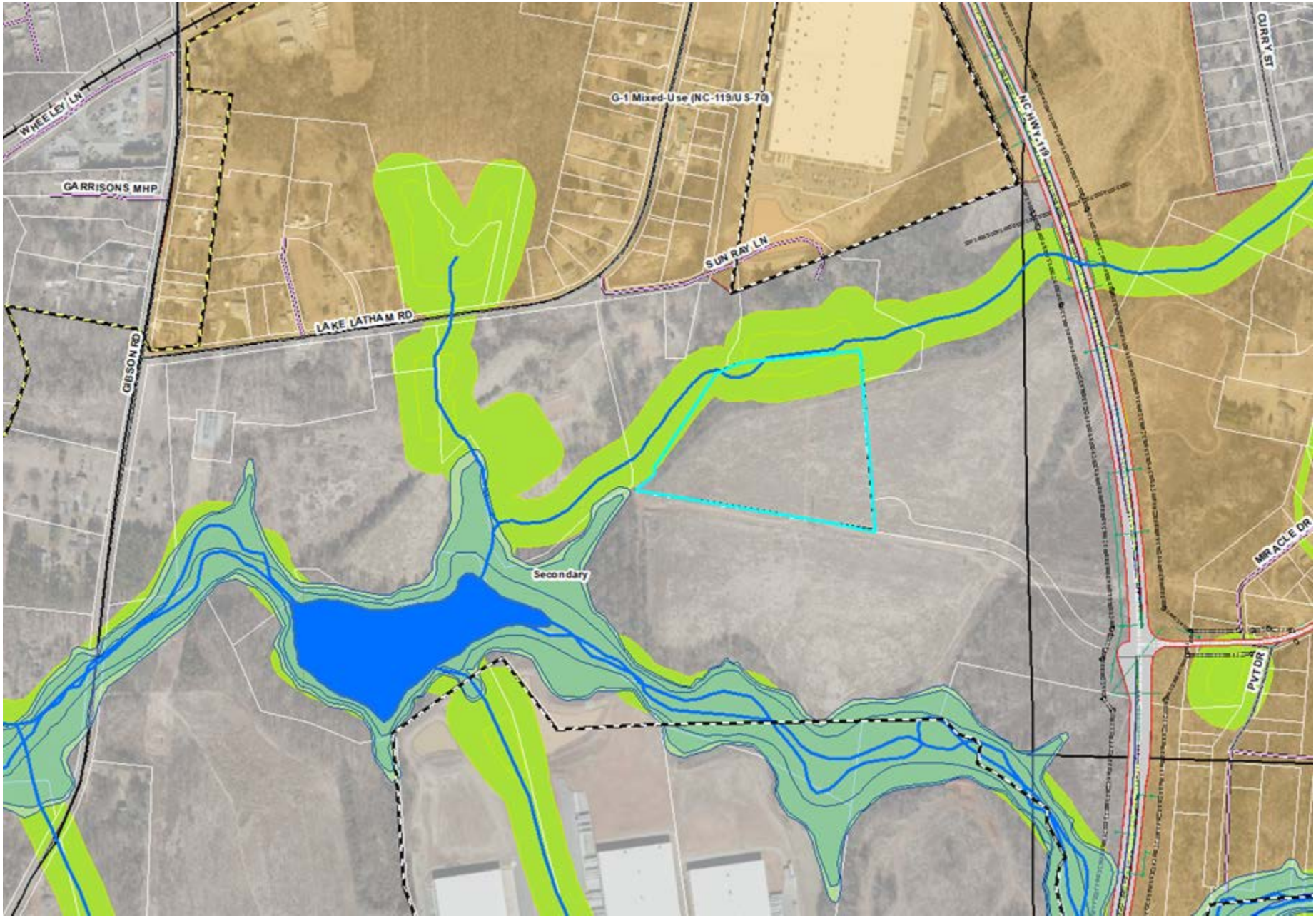
EXISTING ZONE	M-2 (Light Manufacturing)
REQUESTED ACTION	Rezoning to M-1 (Heavy Manufacturing)
CONDITIONAL ZONE?	☐YES ☒NO
CURRENT LAND USE	Vacant (NC Industrial Center)
PARCEL SIZE	+/-0.069 acres.
PROPERTY OWNERS	AIRGAS USA, LLC 259 North Radnor-Chester Road Radnor, PA 19087 GPIN 9815215333
LEGAL DESCRIPTION	One property measuring +/-0.069 acres in area is proposed for rezoning from M-2 (Light Manufacturing) to M-1 (Heavy Manufacturing) as part of a recombination with the property owned by AIRGAS USA, LCC, for their production facility. The property is needed to accommodate the stormwater control measure for the facility. The property is within the City's extraterritorial jurisdiction (ETJ) but AIRGAS USA is seeking annexation.
AREA ZONING & DISTRICTS	All properties surrounding the subject properties are within the North Carolina Industrial Center (NCIC) and are mostly zoned M-2 (Light Manufacturing). The AIRGAS USA property is zoned M-1 (Heavy Manufacturing).
SITE HISTORY	The property is a historically-vacant property within the NCIC.
	STAFF ANALYSIS
CITY LIMITS?	☐YES ☒NO
PROPOSED USE BY-RIGHT?	☒YES ☐NO
SPECIAL USE?	☐YES ☒NO
EXISTING UTILITIES?	☒YES ☐NO
POTENTIAL IMPACT OF PROPOSED ZONE	The proposed zoning district will accommodate the onsite utility needs of the adjacent AIRGAS USA production facility and therefore be consistent with it. The rezoning request will further expand the Heavy Manufacturing zoning district within the NCIC but away from the surrounding residential zones.


B-3
M-1
R-20
W HOLT ST
CURRY ST
MHP
WHEELEY LN
GARRISONS MHP
M-2
SUN RAY LN
FITCH DR
FITCH ST
LAKE LATHAM RD
GIBSON RD
NC HWY 119
SUBJECT PROPERTY
AIRGAS SITE
PVT DR
Legend
B-1
B-2
Combo B-2 & M-1
B-2(CD)
B-3
CU-B2
M-1
M-1(CD)
M-2
MHP
O&I
O&I(CD)
R-10
R-12
R-12(CD)
R-15
R-20
R-6
R-6(CD)
R-8
R-8(CD)
Mebane Corporate Limits Line
Mebane ETJ
CITY OF MEBANE
ZONING MAP
SUBJECT PROPERTY
AIRGAS SITE
1 inch = 600 feet
DATE: 1/6/2020
DRAWN BY: SKS

LAND USE REPORT

EXISTING LAND USE	Vacant
PROPOSED LAND USE & REQUESTED ACTION	The +/-0.069-ac property is seeking recombination into the AIRGAS USA facility property in order to accommodate a stormwater control measure. The rezoning will avoid split zoning on the property and directly serve the heavy manufacturing purpose of the entire property. The property is within the City's extraterritorial jurisdiction (ETJ) but AIRGAS USA is seeking annexation.
PROPOSED ZONING	M-1 (Heavy Manufacturing)
PARCEL SIZE	+/-0.069 acres
AREA LAND USE	All surrounding properties are within the NCIC and are either zoned M-1 or M-2. Except for AIRGAS USA's property and a Duke Energy substation, they are all vacant.
ONSITE AMENITIES & DEDICATIONS	None
WAIVER REQUESTED	☐YES ☒NO
DESCRIPTION OF REQUESTED WAIVER(S)	

CONSISTENCY WITH *MEBANE BY DESIGN* STRATEGY	
LAND USE GROWTH STRATEGY DESIGNATION(S)	G-4 Secondary Growth Area NC Industrial Center
OTHER LAND USE CONSIDERATIONS	Property is needed for the stormwater control measure at the AIRGAS USA production facility
MEBANE BY DESIGN GOALS & OBJECTIVES SUPPORTED	GROWTH MANAGEMENT 1.7 Continue to support industrial development at existing industrial parks near I-40/85.
MEBANE BY DESIGN GOALS & OBJECTIVES NOT SUPPORTED	


WHEELEY LN
GARRISONS MHP
GIBSON RD
LAKE LATHAM RD
SUN RAY LN
G-1 Mixed-Use (NC-119/US-70)
NC HWY 119
CURRY ST
MIRACLE DR
PVT DR
Secondary

UTILITIES REPORT

AVAILABLE UTILITIES	☒YES ☐NO
PROPOSED UTILITY NEEDS	Stormwater control measure needed for the AIRGAS USA production facility.
UTILITIES PROVIDED BY APPLICANT	Applicant has provided all onsite utilities as part of the construction for the production facility.
MUNICIPAL CAPACITY TO ABSORB PROJECT	The City has adequate Water & Sewer Supply to meet the domestic and fire flow demands of the project.
CONSISTENCY WITH MEBANE LONG RANGE UTILITY PLAN?	☒YES ☐NO
ADEQUATE STORMWATER CONTROL?	☒YES ☐NO
INNOVATIVE STORMWATER MANAGEMENT?	☐YES ☒NO
TRANSPORTATION NETWORK STATUS	
CURRENT CONDITIONS	N/A
TRAFFIC IMPACT ANALYSIS REQUIRED?	☐YES ☒NO
DESCRIPTION OR RECOMMENDED IMPROVEMENTS	Stormwater control measure will only be accessed for maintenance needs and will not impact internal nor external traffic patterns.
CONSISTENCY WITH THE MEBANE BICYCLE AND PEDESTRIAN TRANSPORTATION PLAN?	☐YES ☐NO N/A
MULTIMODAL IMPROVEMENTS PROVIDED BY APPLICANT?	☐YES ☐NO N/A
DESCRIPTION OF MULTIMODAL IMPROVEMENTS	N/A

STAFF RECOMMENDATION

STAFF ZONING RECOMMENDATION	☒ APPROVE ☐ DISAPPROVE
STAFF SPECIAL USE FINDING	☐ CONSISTENT ☐ NOT CONSISTENT……..WITH *MEBANE BY DESIGN*
RATIONALE	The proposed development "Airgas Stormwater Rezoning" is consistent with the guidance provided within *Mebane By Design*, the Mebane Comprehensive Land Development Plan. It specifically conforms Growth Management Goal 1.7. It is needed to have consistent zoning for the Airgas property and provide adequate stormwater control onsite.
PUBLIC INTEREST CONFORMANCE?	
ENDANGER PUBLIC HEALTH OR SAFETY?	☐YES ☐NO
SUBSTANTIALLY INJURE THE VALUE OF ADJOINING OR ABUTTING PROPERTY?	☐YES ☐NO
HARMONIOUS WITH THE AREA IN WHICH IT IS LOCATED?	☐YES ☐NO
CONSISTENT WITH *MEBANE BY DESIGN*, THE MUNICIPAL COMPREHENSIVE LAND DEVELOPMENT PLAN?	☐ The application is consistent with the objectives and policies for growth and development contained in the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, and, as such, has been recommended for approval. ☐ The application is not fully consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, but is otherwise in the public interest and has been recommended for approval. The Comprehensive Land Development Plan must be amended to reflect this approval and ensure consistency for the City of Mebane's long-range planning objectives and policies. ☐ The application is not consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, and, as such, has been recommended for denial.

AGENDA ITEM #5D

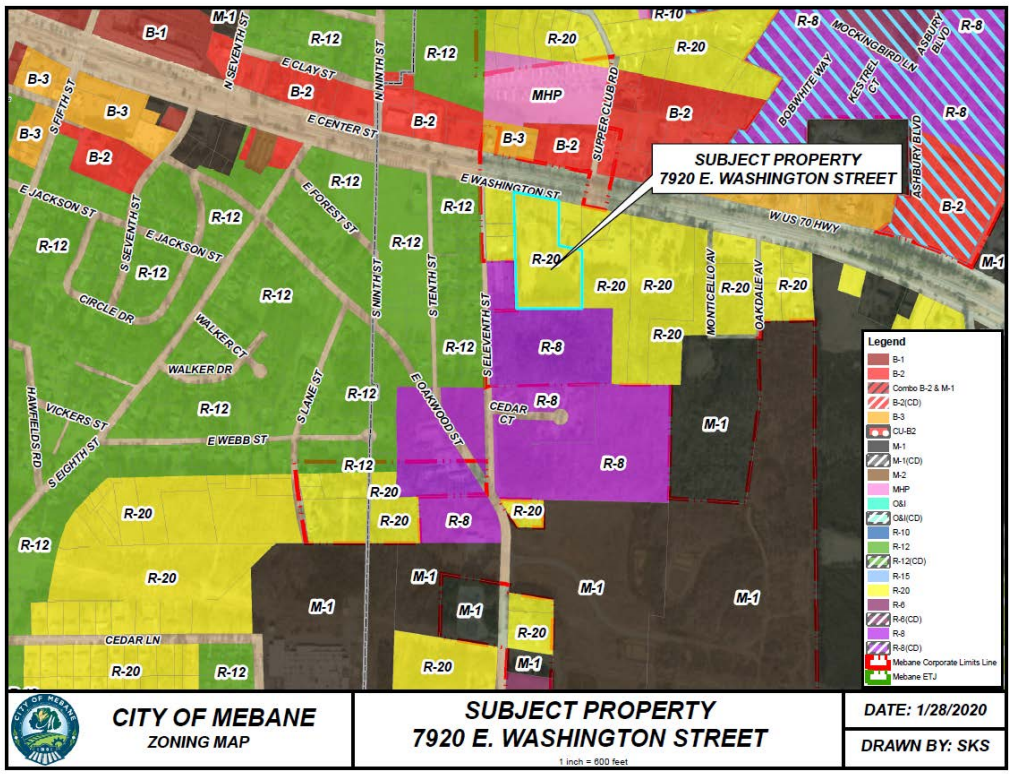
Rezoning – Meador "White House"

Presenter
Cy Stober, Development Director

Applicant
Aubrey & Celine Meador
408 South Fifth Street
Mebane, NC 27302

Public Hearing
Yes ☒ No ☐

Zoning Map



Property
7920 East Washington St.
Orange County GPIN #9825329585

Proposed Zoning
B-2(CD)

Current Zoning
R-20

Size
+/-5.61 acres

Surrounding Zoning
R-20 & R-8

Surrounding Land Uses
Single-Family Residential, Municipal Utility

Utilities
To be provided at developer's expense

Floodplain
No

Watershed
Yes

City Limits
No

Summary

Aubrey and Celine Meador are requesting approval to rezone the +/-5.61-acre property located at 7920 East Washington Street from R-20 (Single-Family Residential) to B-2 (CD) (General Business, Conditional District). Per the Mebane Unified Development Ordinance, a site plan that will apply to the property has been provided by the applicants and is included in the packet. Any significant changes to the property will require a formal amendment to the conditional zoning district within a public hearing. The Meadors own the property and have proposed to limit its use to the two (2) proposed primary uses:

1. Conference/Retreat Center; and
2. Bed and Breakfast or Tourist Home

and five (5) accessory uses:

1. Accessory Uses and Structures (Customary);
2. Fence, Wall;
3. Signs;
4. Swimming Pool; and
5. Arts and Crafts Show (Temporary)

During the discussion at the Planning Board meeting, these seven (7) total uses were reduced from 21 proposed uses, and all outdoor activities were restricted to end by 10 p.m., all of which are noted on the site plan. They are requesting the following waivers:

1. 42 parking spaces required; 34 provided;
2. Exemption from Mebane UDO 6-4.4.C(4) requiring curb and gutter for more than 12 parking spaces;
3. Exemption from Mebane UDO 6-4.4.C(1) requiring paving of all driveways and parking areas;
4. Exemption from removing the embankment and stone column from the western driveway sight triangle;
5. Exemption from providing the Type B landscaping buffers required in the Mebane UDO 6-3 and 4-7.6.M, as noted on the site plan; and
6. Exemption from providing the landscape buffers of adequate width and type, as required in the Mebane UDO 6-3 and 4-7.6.M, in exchange for preserving the front lawn area and the existing conditions within the buffer areas.

The intended primary use of the property ("Retreat/Conference Center") will satisfy the development standards of 4-7.6.M, excepting those identified above as waiver requests.

Financial Impact

The developer will be required to make all improvements at their own expense.

Recommendation

The City of Mebane Planning Board has no recommendation regarding this request: they voted 4 – 4 to not approve the request. The reasons for not recommending the project were that:

1. It is disharmonious with the residential zoning of the surrounding area;
2. It is a use inconsistent with the surrounding residential land uses;
3. The proposed uses would present conflicts to neighboring properties; and
4. The buffer waivers do not adequately protect the neighboring residential properties.

There was not a vote to deny the request.

The Planning Staff recommends approval of the request but notes that the waivers – largely to maintain existing conditions on the property – must be granted by the City Council.

Suggested Motion

1. Motion to **approve** the B-2 (CD) rezoning as presented; and
2. Motion to find that **the application is consistent** with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design* because the request:
   a. Is a conditional rezoning request that limits its potential "General Business" uses to ones that will use the existing residence for business purposes, thereby being largely harmonious with the residential area and minimizing negative impacts;
   b. Is for a property within the City's G-4 Secondary Growth Area and is "…generally residential and commercial in nature…" (Mebane CLP, p.66); and
   c. Serves Mebane CLP Growth Management Goal 1.2 by "…support[*ing*] historic Downtown Mebane's culture: aesthetic, walkability, bikeability, shopping, dining, and housing options.". (pp.17 & 82);

OR

3. Motion to **deny** the B-2(CD) rezoning as presented due to a lack of:
   a. Harmony with the surrounding zoning or land use.

   OR

   b. Consistency with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design*.

Attachments

1. Zoning Amendment Application
2. Zoning Map
3. White House site plan
4. Meador Property Survey
5. Planning Project Report

APPLICATION FOR A ZONING AMENDMENT

Application is hereby made for an amendment to the Mebane Zoning Ordinance as follows:

Name of Applicant: Aubrey & Celine Meador

Address of Applicant: 408 South Fifth Street, Mebane, NC 27302

Address and brief description of property to be rezoned: 7920 E Washington Street, Mebane, NC 27302

The White house, built circa 1890, and formerly owned by the White Furniture family. The house is approximately 5000 sq. ft. and is situated on 5.6 acres.

Applicant's interest in property: (Owned, leased or otherwise) Owned by Aubrey & Celine Meador

*Do you have any conflicts of interest with: Elected/Appointed Officials, Staff, etc.?

Yes ___ Explain: _____ No X

Type of re-zoning requested: Rezoning from R20 residential to a conditional commercial zoning B-2(CD) Corr

Sketch attached: Yes X No _____

Reason for the requested re-zoning: _____

We are requesting rezoning to be able to host parties, weddings, teas, bridal showers, as well as private and corporate events.

Signed: Celine Meador

Date: 3/1/2019 Dec 2, 2019

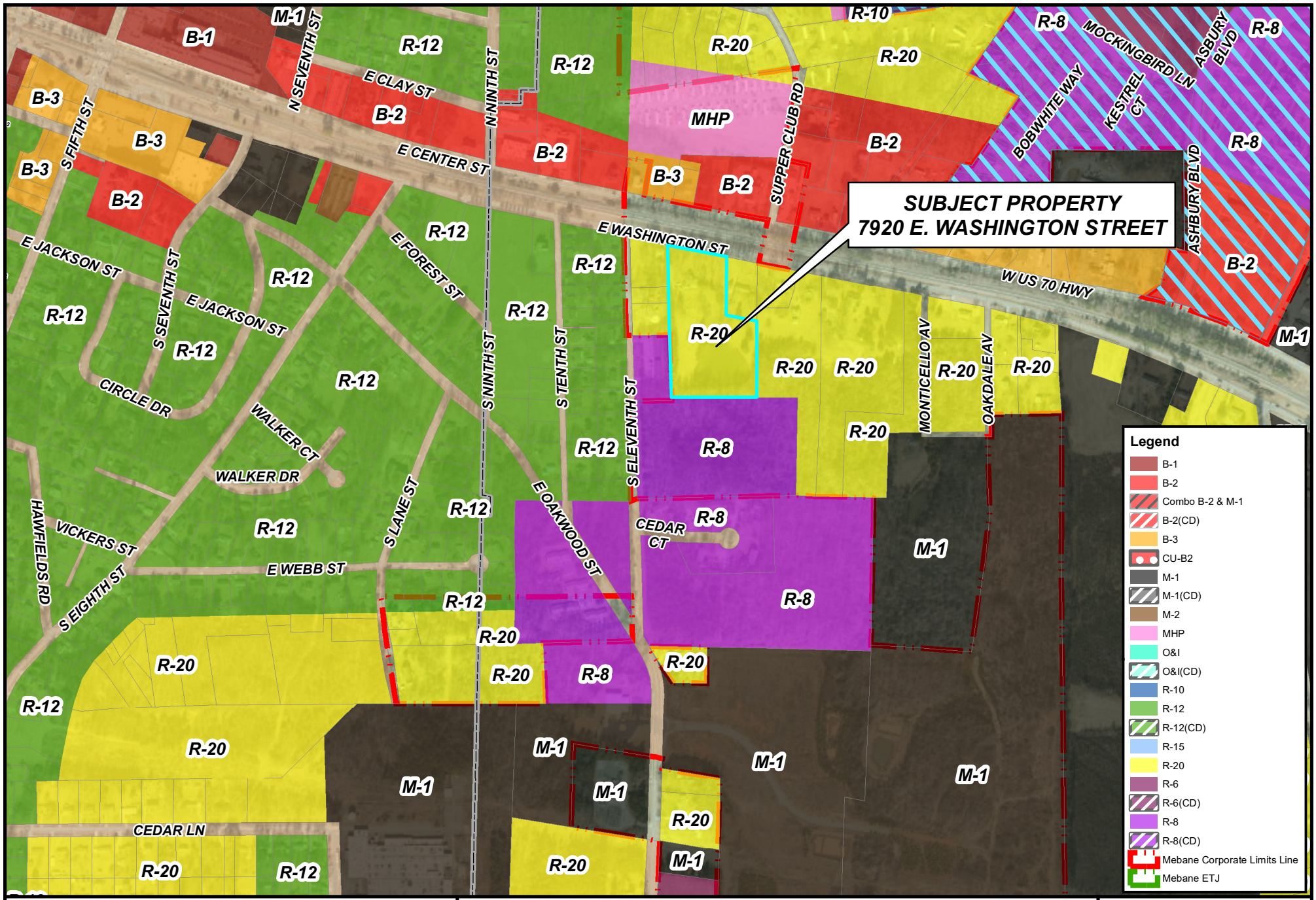
Action by Planning Board: _____

Public Hearing Date: _____ Action: _____

Zoning Map Corrected: _____

The following items should be included with the application for rezoning when it is returned:

1. Tax Map showing the area that is to be considered for rezoning.
2. Names and addresses of all adjoining property owners within a 300' radius (Include those that are across the street).
3. $200.00 Fee to cover administrative costs.
4. The information is due 15 working days prior to the Planning Board meeting. The Planning Board meets the 2nd Monday of each month at 6:30 p.m. Then the request goes to the City Council for a Public Hearing the following month. The City Council meets the 1st Monday of each month at 6:00 p.m.



CITY OF MEBANE
ZONING MAP

SUBJECT PROPERTY
7920 E. WASHINGTON STREET

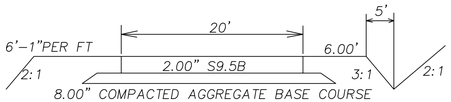
1 inch = 600 feet

DATE: 1/28/2020

DRAWN BY: SKS

NOTES:

1. THE FRONT LAWN, INCLUDING ALL IDENTIFIED TREES, WILL BE PRESERVED AS A LANDSCAPED AREA TO SATISFY THE STREETSCAPE AND SOME OF THE PERIMETER BUFFERING NEEDS. THIS AREA SHALL NOT BE USED FOR ANY OTHER PURPOSE, INCLUDING TEMPORARY USES.
2. ON STREET PARKING SHALL NOT BE PERMITTED.
3. RETREAT/CONFERENCE CENTER FOOTPRINT: 8399 SQ. FT.
   42 PARKING SPACES REQUIRED.
   34 PARKING SPACES PROVIDED.
4. WAVIER REQUEST FROM MEBANE UDO 6-4.4.C(4) REQUIRING CURB AND GUTTER FOR MORE THAN 12 PARKING SPACES.
5. WAIVER REQUEST FROM MEBANE UDO 6-4.4.C(1) REQUIRING PAVING OF ALL DRIVEWAYS AND PARKING AREAS.
6. DRIVEWAY OBSTRUCTIONS THAT LIMIT THE WEST SIDE ARE THE EMBANKMENT, STONE COLUMN, & CEDAR TREE.
7. REQUEST WAIVER FOR LANDSCAPING BUFFER REDUCTIONS DUE TO PRESERVATION OF IDENTIFIED TREES.
8. WAIVER REQUEST TO ACCEPT THE EXISTING CONDITIONS AS THE LANDSCAPED BUFFERS RATHER THAN IMPROVING THE BUFFERS TO 'SEMI-OPAQUE' BUFFERS AS REQUIRED BY THE MEBANE UDO ARTICLE 6-3.5.
9. OUTDOOR EVENTS WILL CEASE BY 10 P. M.



TYPICAL DRIVEWAY SECTION

BUFFER ZONE AREA CALCULATIONS

WEST SIDE BOUNDRARY AREA	1,520 SQ. FT.
WEST SIDE FRONT AREA	12,825 SQ. FT.
EAST SIDE AREA	4,770 SQ. FT.
TOTAL DISTURBED AREA IN BUFFERS	19,115 SQ.FT.

TOTAL UNDISTURBED FRONT LAWN AREA 19,397 SQ. FT.

BUILT UPON AREA CALCULATIONS

AREA IN GRAHAM-MEBANE WATERSHED	54,367 SQ. FT.
BUILT UPON AREA	14,960 SQ. FT.
AREA AVAILABLE FOR DEVELOPMENT	39,401 SQ. FT.
12% OF AREA AVAILABLE	4,728 SQ. FT.

NEW PROPOSED DRIVE AND PARKING AREA = 4,160 SQ. FT.
TOTAL BUILT UPON AREA IS LESS THAN 12 PERCENT.

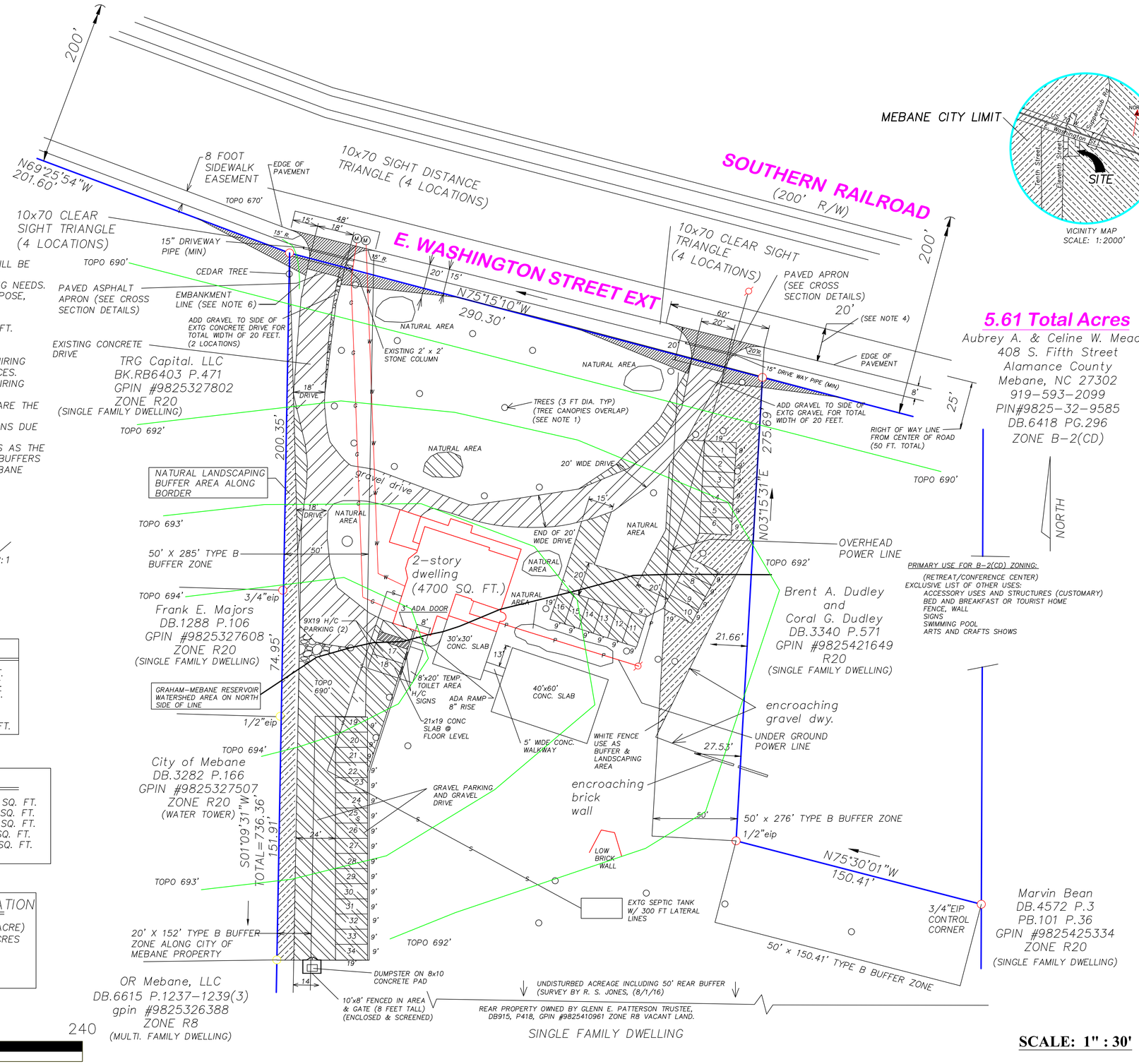
TOTAL AREA OF DISTURBANCE CALCULATION

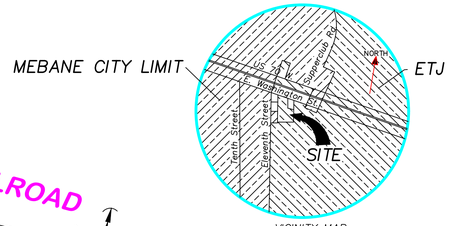
TOTAL DISTURBED AREA	35,060 SQ. FT. (0.805 ACRE)
TOTAL ACRES	224,372 SQ. FT. (5.61 ACRES

DISTURBED AREA LESS THAN 1.0 ACRE
TOTAL DISTURBED ACRES IS 15.6 PERCENT OF TOTAL. (LESS THAN 24%)

60 0 30 60 120 240

GRAPHIC SCALE





5.61 Total Acres

Aubrey A. & Celine W. Meador
408 S. Fifth Street
Alamance County
Mebane, NC 27302
919-593-2099
PIN#9825-32-9585
DB.6418 PG.296
ZONE B-2(CD)

NORTH

PRIMARY USE FOR B-2(CD) ZONING:
(RETREAT/CONFERENCE CENTER)
EXCLUSIVE LIST OF OTHER USES:
ACCESSORY USES AND STRUCTURES (CUSTOMARY)
BED AND BREAKFAST OR TOURIST HOME
FENCE, WALL
SIGNS
SWIMMING POOL
ARTS AND CRAFTS SHOWS

SCALE: 1" : 30'

JWA PE
6321 Stoney Mtn. Rd.
Burlington, NC 27217
(336) 421-7227
joasme@aol.com
John W. Allred, P.E.
Consulting Engineer

Drawn By:
JohnW. Allred

THE WHITE HOUSE
7920 E. WASHINGTON STREET
Mebane, North Carolina 27302

Date: 1/6/2020

Revisions:
Date: 1/20/2020

SITE PLAN

S1

SURVEYOR'S CERTIFICATE

I, ROBERT S. JONES, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION(DEED DESCRIPTION RECORDED IN BOOK _____ , PAGE _____) ; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10000+; THAT THE BOUNDARIES NOT SURVEYED ARE SHOWN AS BROKEN LINES PLOTTED FROM INFORMATION FOUND IN REFERENCES AS NOTED AND THAT THIS MAP WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED.

AND THAT:

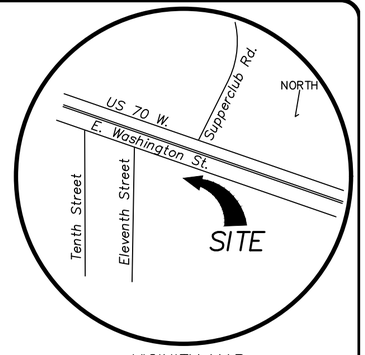
NC GS 47-30 (f)(11)(d) THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXCEPTION TO THE DEFINITION OF SUBDIVISION.

WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL THIS_____TH DAY OF_____, 2016.

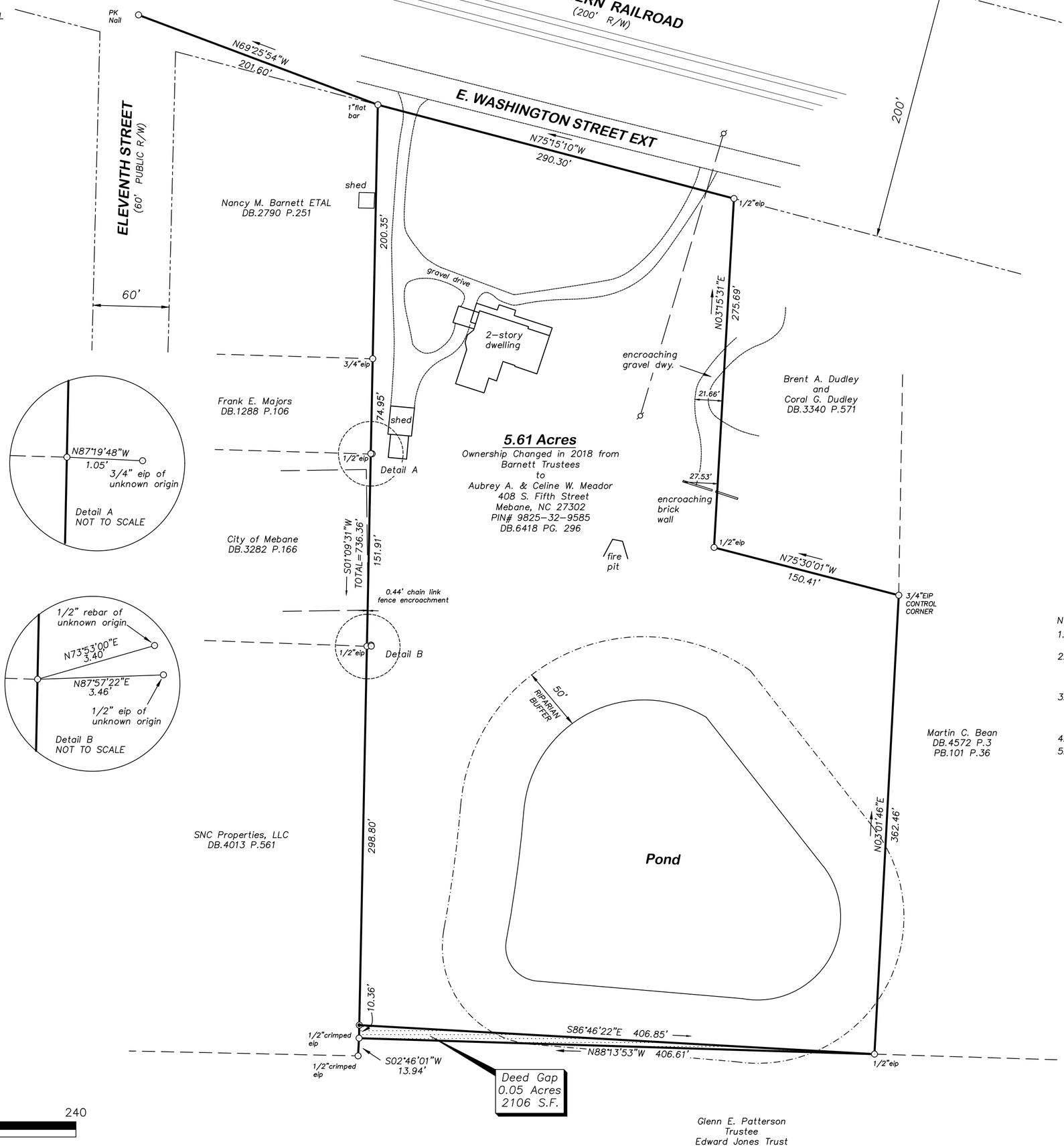
_____
PROFESSIONAL LAND SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-3939 LAND SURVEYOR ROBERT S. JONES

L-3939
REGISTRATION NUMBER



VICINITY MAP
(NOT TO SCALE)



NOTES:

1.)ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES UNLESS OTHERWISE NOTED.
2.)SURVEY PERFORMED WITHOUT THE BENEFIT OF A TITLE SEARCH. REFERENCED MATERIALS ONLY USED. THERE MAY EXIST OTHER DOCUMENTS OF RECORD THAT AFFECT THIS PROPERTY.
3.)NO ATTEMPT MADE TO LOCATE CEMETERIES, WETLANDS, HAZARDOUS MATERIALS SITES, UNDERGROUND UTILITIES, OR ANY OTHER FEATURES ABOVE OR BELOW GROUND OTHER THAN THOSE SHOWN.
4.)ALL AREAS BY COORDINATE COMPUTATION.
5.)NEW IRON RODS SET AT ALL CORNERS UNLESS OTHERWISE NOTED.

REFERENCES

DB.6022 PG.427
PB.101 PG.36
DB.2790 PG.251
DB.3340 PG.571
DB.915 PG.418
DB.3282 PG.166

CURRENT OWNER:

JOSEPH T. BARNETT TRUSTEE &
RITA C. BARNETT TRUSTEE
PO BOX 193
PALOS VERDES ESTS CA 90279

LEGEND

- EIP EXISTING IRON PIPE
- EIR EXISTING IRON ROD
- NIR NEW IRON ROD
- CP COMPUTED POINT
- R/W RIGHT OF WAY

60 0 30 60 120 240

GRAPHIC SCALE

SURVEY FOR:

JOSEPH T. BARNETT TRUSTEE AND RITA C. BARNETT TRUSTEE

SCALE: 1" = 60'
CHEEKS TWP - ORANGE CO., N.C.
DATE: AUGUST 1, 2016

R.S. JONES & ASSOCIATES, INC.
LAND SURVEYORS
LICENSE NO.: C-2565
201 WEST CLAY STREET
MEBANE, N.C. 27302
PH: (919)563-3623 FAX: (919)563-0086

PLANNING PROJECT REPORT

DATE	01/02/20
PROJECT NAME	Meador “White House”
APPLICANT	Aubrey & Celine Meador 408 South Fifth Street Mebane, NC 27302

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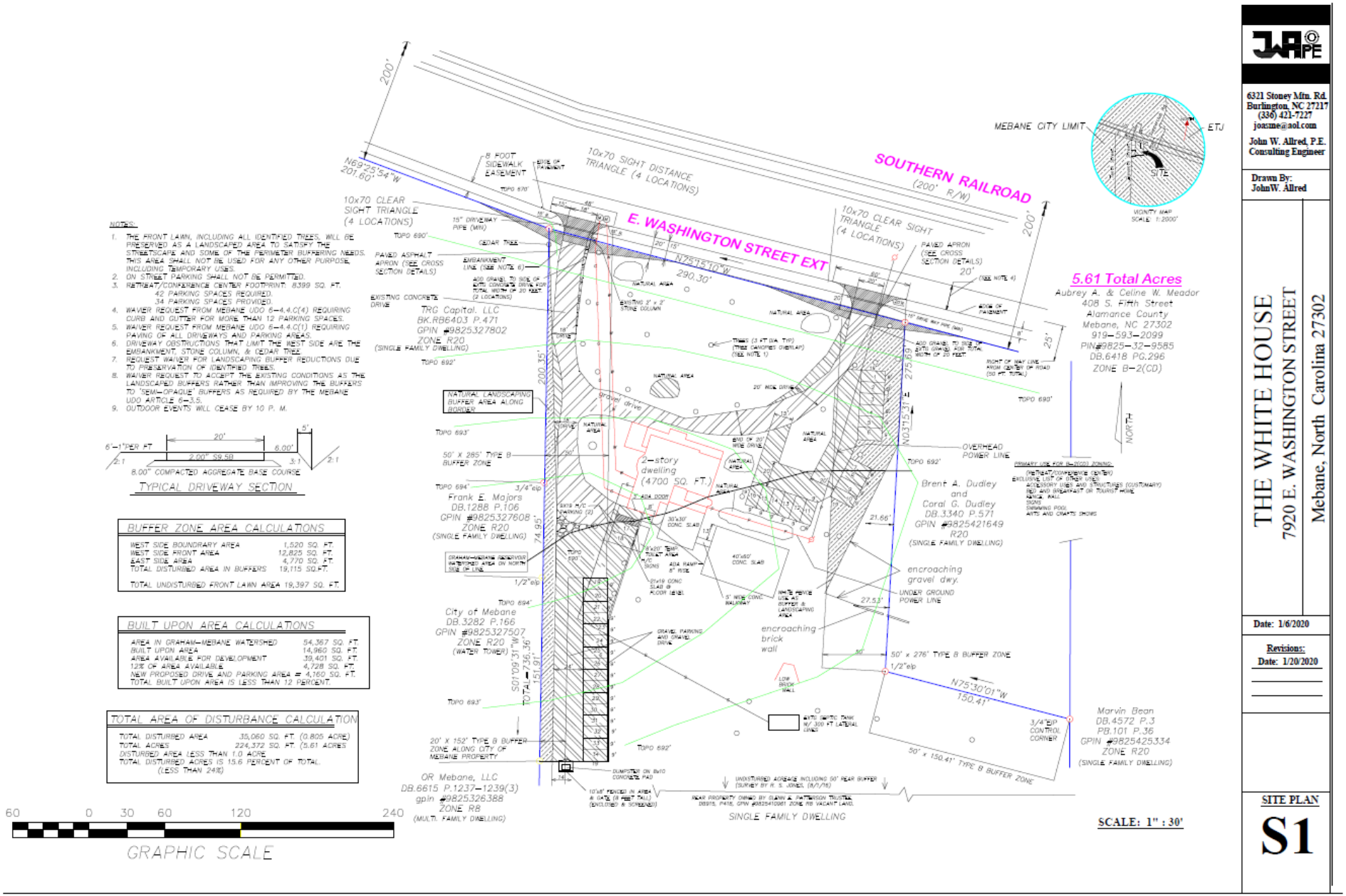
UTILITIES REPORT ..... PAGE 7
STAFF ZONING REQUEST RECOMMENDATION ..... PAGE 8



JWAPE
6321 Stoney Mtn. Rd.
Burlington, NC 27217
(336) 421-7227
joasme@aol.com
John W. Allred, P.E.
Consulting Engineer

Drawn By:
JohnW. Allred

THE WHITE HOUSE
7920 E. WASHINGTON STREET
Mebane, North Carolina 27302

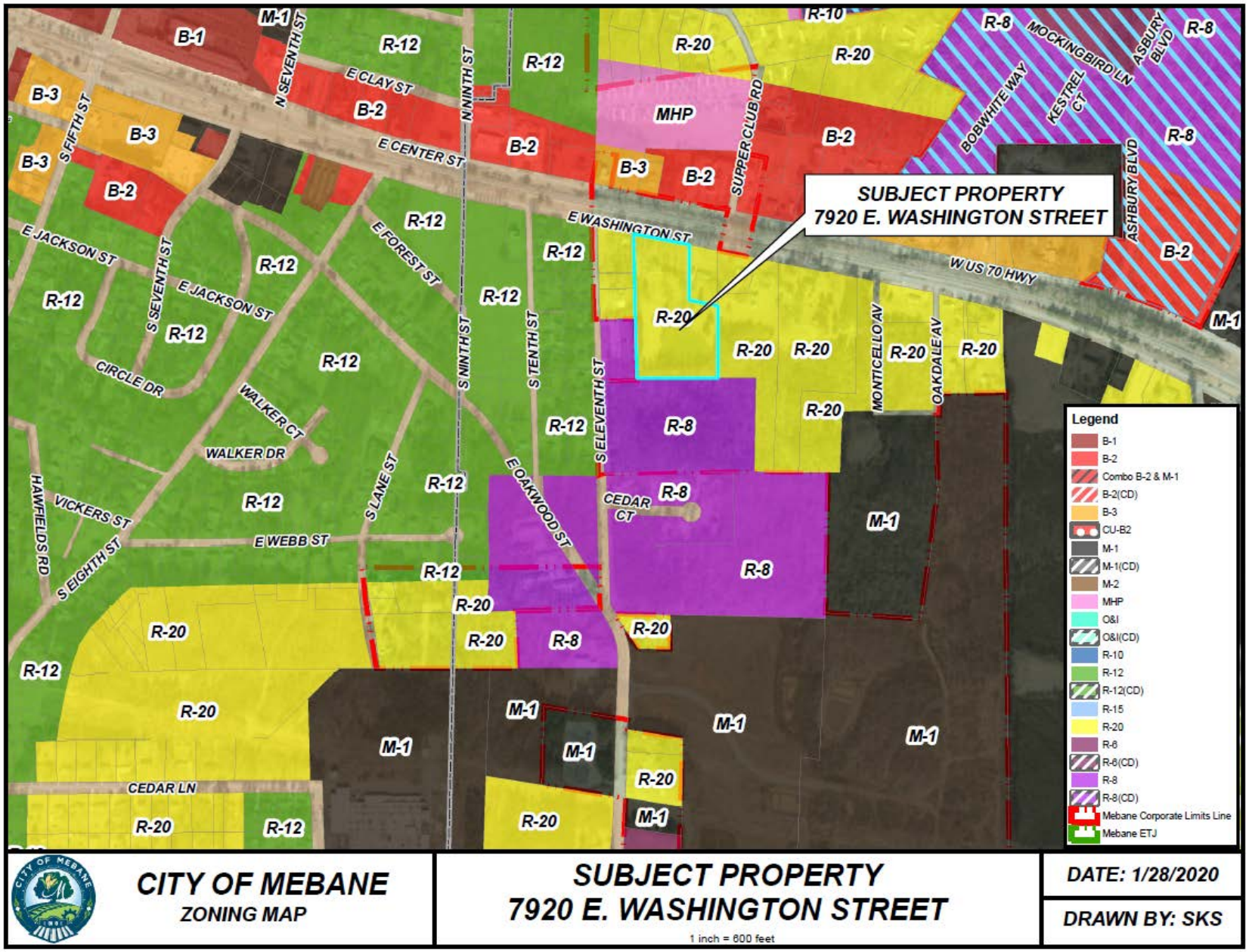
Date: 1/6/2020

Revisions:
Date: 1/20/2020

SITE PLAN
S1

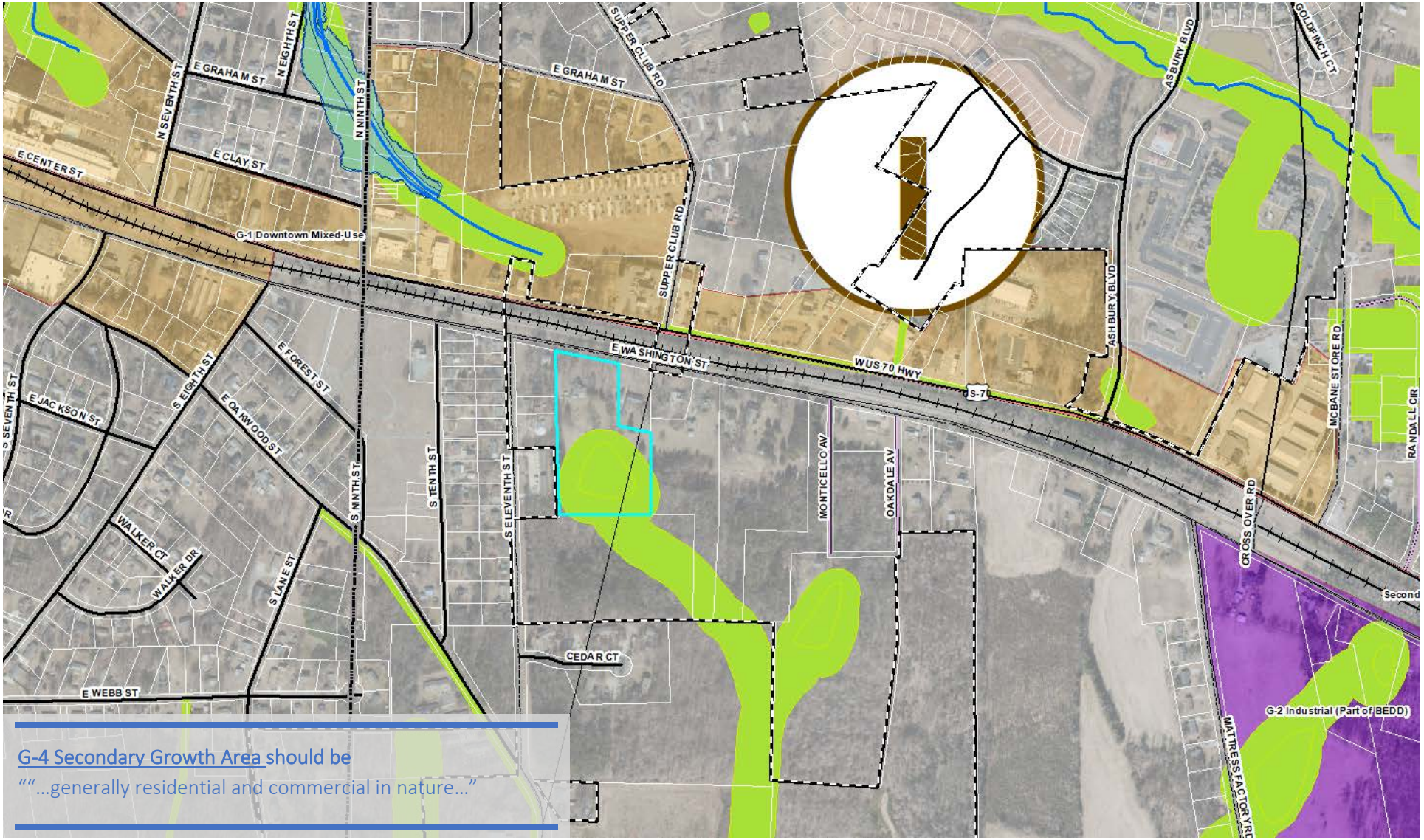
ZONING REPORT

EXISTING ZONE	R-20 (Single-Family Residential)
REQUESTED ACTION	Rezoning to B-2(CD) (General Business)
CONDITIONAL ZONE?	☒YES ☐NO
CURRENT LAND USE	Single-Family Residential
PARCEL SIZE	+/-5.61 acres
PROPERTY OWNERS	Aubrey A. & Celine W. Meador 408 South Fifth Street Mebane, NC 27302 GPIN 9825329585
LEGAL DESCRIPTION	One property measuring +/-5.61 acres in area at the address 7920 East Washington Street is proposed for rezoning from R-20 to B-2(CD) to host a limited number of non-residential uses, largely recreational or service retail in nature. The site-specific plan will require the use of the existing house for the specified business purposes. The property is within the City's extraterritorial jurisdiction (ETJ) in Orange County.
AREA ZONING & DISTRICTS	The property is surrounded by residential zoning districts except to the north, which is occupied by the NC Railroad Right Of Way. The property to the east is zoned R-20, as are nearly all of the properties to the west. However, the properties to the southwest and south are zoned R-8. One of the western R-20 properties is occupied by the City of Mebane water tower.
SITE HISTORY	The property was historically a large single-family residence but was vacant for years until purchased by the Meadors.
	STAFF ANALYSIS
CITY LIMITS?	☐YES ☒NO
PROPOSED USE BY-RIGHT?	☐YES ☒NO
SPECIAL USE?	☐YES ☒NO
EXISTING UTILITIES?	☒YES ☐NO
POTENTIAL IMPACT OF PROPOSED ZONE	The proposed zoning district will introduce two possible primary non-residential uses to this residential area: Retreat/Conference Center and a Bed and Breakfast/Tourist Home. The site plan shows that the residence will be preserved as the primary building and serve the proposed business purposes specified on the site plan. Any new structures being constructed on or new uses proposed for the property that are not shown on the site plan will necessitate an amendment to this conditional zoning district, including a revised site plan and a new public hearing to consider the proposed amendment(s). While a condition is being included for this zoning district to prohibit outdoor activities after 10 p.m., all events held at this property will need to meet the City's noise and nuisance ordinance requirements to minimize impacts to the neighbors.


SUBJECT PROPERTY
7920 E. WASHINGTON STREET
E WASHINGTON ST
E CENTER ST
E CLAY ST
W US 70 HWY
N SEVENTH ST
N NINTH ST
S FIFTH ST
S SEVENTH ST
S NINTH ST
S TENTH ST
S ELEVENTH ST
E JACKSON ST
E FOREST ST
CIRCLE DR
WALKER CT
WALKER DR
S LANE ST
E OAKWOOD ST
HAWFIELDS RD
VICKERS ST
E WEBB ST
S EIGHTH ST
CEDAR CT
CEDAR LN
SUPPER CLUB RD
MOCKINGBIRD LN
BOBWHITE WAY
KESTREL CT
ASBURY BLVD
MONTICELLO AV
OAKDALE AV
Legend
B-1
B-2
Combo B-2 & M-1
B-2(CD)
B-3
CU-B2
M-1
M-1(CD)
M-2
MHP
O&I
O&I(CD)
R-10
R-12
R-12(CD)
R-15
R-20
R-6
R-6(CD)
R-8
R-8(CD)
Mebane Corporate Limits Line
Mebane ETJ
CITY OF MEBANE
ZONING MAP
SUBJECT PROPERTY
7920 E. WASHINGTON STREET
1 inch = 600 feet
DATE: 1/28/2020
DRAWN BY: SKS

LAND USE REPORT

EXISTING LAND USE	Single-Family Residential
PROPOSED LAND USE & REQUESTED ACTION	The applicants propose a list of two (2) primary and five (5) accessory non-residential uses for this B-2(CD) conditional zoning request. They are requesting several waivers to generally allow the existing conditions for, especially, paving and landscaping, rather than improve them, per the Mebane UDO. The intended primary use of the property ("Retreat/Conference Center") will satisfy the development standards of 4-7.6.M, excepting those identified within waiver requests. The applicant is placing a condition within the zoning district to prohibit outdoor activities after 10 p.m.
PROPOSED ZONING	B-2(CD) (General Business)
PARCEL SIZE	+/-5.61 acres
AREA LAND USE	All surrounding properties are residential with the exception of the City of Mebane water tower and the NC Railroad.
ONSITE AMENITIES & DEDICATIONS	Applicant has pledged to preserve the landscaping and trees on the front lawn and not allow them to be used for any other purpose.
WAIVER REQUESTED	☒YES ☐NO
DESCRIPTION OF REQUESTED WAIVER(S)	1) 42 parking spaces required; 34 provided 2) Exemption from Mebane UDO 6-4.4.C(4) requiring curb and gutter for more than 12 parking spaces 3) Exemption from Mebane UDO 6-4.4.C(1) requiring paving of all driveways and parking areas 4) Exemption from removing the embankment and stone column from the western driveway sight triangle 5) Exemption from providing the Type B landscaping buffers required in the Mebane UDO 6-3 and 4-7.6.M, as noted on the site plan 6) Exemption from providing the landscape buffers of adequate width and type, as required in the Mebane UDO 6-3 and 4-7.6.M, in exchange for preserving the front lawn area and the existing conditions within the buffer areas
CONSISTENCY WITH *MEBANE BY DESIGN* STRATEGY	
LAND USE GROWTH STRATEGY DESIGNATION(S)	G-4 Secondary Growth Area
OTHER LAND USE CONSIDERATIONS	Graham-Mebane Reservoir Water Supply Watershed (partly on property)
MEBANE BY DESIGN GOALS & OBJECTIVES SUPPORTED	GROWTH MANAGEMENT 1.2 Continue to support historic Downtown Mebane's culture: aesthetics, walkability, bikeability, shopping, dining and housing options.
MEBANE BY DESIGN GOALS & OBJECTIVES NOT SUPPORTED	



G-4 Secondary Growth Area should be

""...generally residential and commercial in nature..."

UTILITIES REPORT

AVAILABLE UTILITIES	☒YES ☐NO
PROPOSED UTILITY NEEDS	None
UTILITIES PROVIDED BY APPLICANT	Applicant is using municipal water. Sewer service is not available within 500' of the property. The applicant intends to provide for staff sewage needs with its onsite septic service and for event needs with temporary toilets, as indicated on the site plan. The Orange County Department of Environmental Health is reviewing the sufficiency of these systems for their needs.
MUNICIPAL CAPACITY TO ABSORB PROJECT	The City has adequate Water & Sewer Supply to meet the domestic and fire flow demands of the project.
CONSISTENCY WITH MEBANE LONG RANGE UTILITY PLAN?	☒YES ☐NO
ADEQUATE STORMWATER CONTROL?	☐YES ☐NO N/A
INNOVATIVE STORMWATER MANAGEMENT?	☐YES ☒NO
TRANSPORTATION NETWORK STATUS	
CURRENT CONDITIONS	East Washington Street is a NCDOT secondary route with an average of 2,500 trips per day and a level of service (LOS) C. It is anticipated to decline to LOS D in 2040 without improvements. It has not been evaluated for safety but the intersection of East Washington and Mattress Factory Road experienced 10 crashes between 2014 and 2018.
TRAFFIC IMPACT ANALYSIS REQUIRED?	☐YES ☒NO
DESCRIPTION OR RECOMMENDED IMPROVEMENTS	Applicant is providing an 8' sidewalk easement across the Washington Street frontage.
CONSISTENCY WITH THE MEBANE BICYCLE AND PEDESTRIAN TRANSPORTATION PLAN?	☒YES ☐NO
MULTIMODAL IMPROVEMENTS PROVIDED BY APPLICANT?	☐YES ☒NO
DESCRIPTION OF MULTIMODAL IMPROVEMENTS	N/A

STAFF RECOMMENDATION

STAFF ZONING RECOMMENDATION	☒ APPROVE ☐ DISAPPROVE
STAFF SPECIAL USE FINDING	☐ CONSISTENT ☐ NOT CONSISTENT……..WITH *MEBANE BY DESIGN*
RATIONALE	The proposed development "Meador 'White House'" request is consistent with the guidance provided within *Mebane By Design*, the Mebane Comprehensive Land Development Plan. It specifically conforms Growth Management Goal 1.2. However, the applicant is requesting numerous waivers from the Mebane UDO that are only with the power of the City Council to grant.
PUBLIC INTEREST CONFORMANCE?	
ENDANGER PUBLIC HEALTH OR SAFETY?	☐YES ☐NO
SUBSTANTIALLY INJURE THE VALUE OF ADJOINING OR ABUTTING PROPERTY?	☐YES ☐NO
HARMONIOUS WITH THE AREA IN WHICH IT IS LOCATED?	☐YES ☐NO
CONSISTENT WITH *MEBANE BY DESIGN*, THE MUNICIPAL COMPREHENSIVE LAND DEVELOPMENT PLAN?	☐ The application is consistent with the objectives and policies for growth and development contained in the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, and, as such, has been recommended for approval. ☐ The application is not fully consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, but is otherwise in the public interest and has been recommended for approval. The Comprehensive Land Development Plan must be amended to reflect this approval and ensure consistency for the City of Mebane's long-range planning objectives and policies. ☐ The application is not consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, and, as such, has been recommended for denial.

AGENDA ITEM #5E

Ordinance to Extend the Corporate Limits – TRG Capital, LLC

Date
February 3, 2020

Presenter
Lawson Brown, City Attorney

Public Hearing
Yes ☒ No ☐

Summary

The Council will consider approval of an Ordinance to Extend the Corporate Limits as the next step in the annexation process. This is a contiguous annexation containing approximately 0.92 acres located at 7928 E. Washington Street.

Background

At the January 6, 2020 Council Meeting, Council accepted the petition for annexation and the Clerk's certificate of sufficiency and adopted a Resolution setting a date of Public Hearing for February 3, 2020 to consider approval of extending Mebane's corporate limits. The public hearing notice was advertised as required.

Financial Impact

The property and improvements will be added to the ad valorem tax base for the City once the property is annexed as determined by the state statute.

Recommendation

Staff recommends adoption of an Ordinance to Extend the Corporate Limits of the City of Mebane, North Carolina.

Suggested Motion

I make a motion to adopt of an Ordinance to Extend the Corporate Limits of the City of Mebane, North Carolina to include the 0.92 acres.

Attachments

1. Ordinance
2. Map

AN ORDINANCE TO EXTEND THE CORPORATE LIMITS
OF THE CITY OF MEBANE, NORTH CAROLINA

Ordinance No. 134

WHEREAS, the City Council has been petitioned under G.S. 160A-31 to annex the area described below; and

WHEREAS, the City Council has by resolution directed the City Clerk to investigate the sufficiency of the petition; and

WHEREAS, the City Clerk has certified the sufficiency of the petition and a public hearing on the question of this annexation was held at the Mebane Municipal Building at 6:00 p.m. on February 3, 2020, after due notice by the Mebane Enterprise on January 22, 2020; and

WHEREAS, the City Council finds that the petition meets the requirements of G.S. 160A-31;

NOW THEREFORE, BE IT ORDAINED by the City Council of the City of Mebane, North Carolina that:

Section 1. By virtue of the authority granted by G.S. 160A-31, the following described territory is hereby annexed and made part of the City of Mebane as of February 3, 2020:

A certain tract or parcel of land located in Cheeks Township, Orange County, North Carolina, and being more particularly described as follows:

Beginning at a 1” flat bar in the southern R/W of E. Washington Street; thence with the southern R/W of said E Washington St. N 75°15'10" W a distance of 185.00'to a PK Nail set in Eleventh Street; thence with said Eleventh Street S 01°39'21" W a distance of 243.78'to a 5/8” rebar in said Eleventh Street; thence S 88°49'47" E a distance of 181.94'to a 3/4”EIP, (5/8” rebar on R/W of said Eleventh St. (5.28’ from corner inside the R/W) ; thence N 01°09'31" E a distance of 200.35'to a 1” Flat Bar; which is the point of beginning, having an area of 0.92 Acres, and 0.0014 Sq. Miles.

Section 2. Upon and after February 3, 2020 the above described territory and its citizens and property shall be subject to all debts, laws, ordinances and regulations in force in the City of Mebane and shall be entitled to the same privileges and benefits as other parts of the City of Mebane. Said territory shall be subject to municipal taxes according to G.S. 160A-58.10.

Section 3. The Mayor of the City of Mebane shall cause to be recorded in the office of the Register of Deeds of Orange County, and in the office of the Secretary of State at Raleigh, North Carolina, an accurate map of the annexed territory, described in Section 1 above, together with duly certified copy of this ordinance. Such a map shall also be delivered to the Orange County Board of Elections, as required by G.S. 163-288.1.

Adopted this 3rd day of February, 2020.

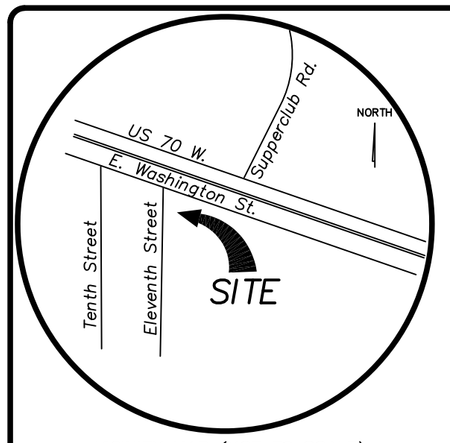
_____
Ed Hooks, Mayor

ATTEST:

_____
Stephanie W. Shaw, City Clerk

Approved as to form:

_____
Lawson Brown, City Attorney



VICINITY MAP (NOT TO SCALE)

DB.6022 PG.427

SURVEYOR'S CERTIFICATE
I, ROBERT S. JONES, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK _____ , PAGE _____) ; THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN BOOK ____, PAGE _____. THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10000+; AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600).THIS MAP WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED.

AND THAT:
PER NCGS 47-30 (f)(11)(c)(1) THAT THE SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET. (SEE ALSO NCGS 47-30 (j)).

WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL THIS_____TH DAY OF_____, 2019.

PROFESSIONAL LAND SURVEYOR

L-3939
REGISTRATION NUMBER

PRELIMINARY PLAT
NOT FOR RECORDATION, CONVEYANCE, OR SALES.

NORTH CAROLINA PROFESSIONAL SEAL L-3939 LAND SURVEYOR ROBERT S. JONES

PLANNING DIRECTOR CERTIFICATION

THIS TRACT OF LAND IS WITHIN THE CITY OF MEBANE'S JURISDICTION. NO APPROVAL IS REQUIRED OF THE PLANNING BOARD OR CITY COUNCIL.

AUTHORIZED STAFF DATE

LEGEND

These standard symbols will be found in the drawing.

UTILITY POLE.....
EXISTING IRON ROD.....
PK NAIL.....
EXISTING IRON PIPE.....
1/2" IRON PIPE SET.....
STONE FOUND.....
CONCRETE MONUMENT..
COMPUTED POINT.....
OVERHEAD ELECTRIC.....E E E
RIGHT OF WAY.....

30 0 15 30 60 120
GRAPHIC SCALE

SOUTHERN RAILROAD
(200' R/W)

200'

(IN) (OUT)

PK Nails (set)

E. WASHINGTON STREET EXT.

3.37'

N75°15'10"W Total=185.00'

NEW CORPORATE LIMITS

181.63'

(OUT)
(IN)

1"flat bar

(IN)
(IN)

ELEVENTH STREET
(30' PUBLIC R/W)

S01°39'21"W

243.78'

Tract two

Tract one

TRG CAPITAL, LLC
PIN: 9825-32-7802
DB.6403 PG.471
TRACTS 1-3

TOTAL ANNEXATION AREA=
0.92Acres
0.0014 SQ. MILES +/-

(IN)
(OUT)

N01°09'31"E

200.35'

AUBREY A. MEADOR
AND CELINE W. MEADOR
DB.6418 P.296

EXISTING CORPORATE LIMITS

NEW CORPORATE LIMITS

Tract three

5.28'

5/8" rebar

5/8" rebar

NEW CORPORATE LIMITS 176.65' (IN)

S88°49'47"E Total=181.94' (OUT)

3/4"eip

(IN)
(OUT)

Frank E. Majors
DB.1288 P.106

30'

REFERENCES
DB.6403 PG.471
PB.A PG.2

CURRENT OWNER:
TRG CAPITAL, LLC
304 E. WASHINGTON STREET
MEBANE, NC 27302

FINAL PLAT:

CITY OF MEBANE CORPORATE LIMITS EXTENSION

A CONTIGUOS VOLUNTARY ANNEXATION

SCALE: 1" = 30'
CHEEKS TOWNSHIP – ORANGE COUNTY, NC
DATE: DECEMBER 12, 2019

R.S. JONES & ASSOCIATES, INC.
LAND SURVEYORS
LICENSE NO.: C-2565
201 WEST CLAY STREET
MEBANE, N.C. 27302
PH.: (919)563-3623

D:\Carlson Projects\1711\17202\17202-Annex.dwg

AGENDA ITEM #6

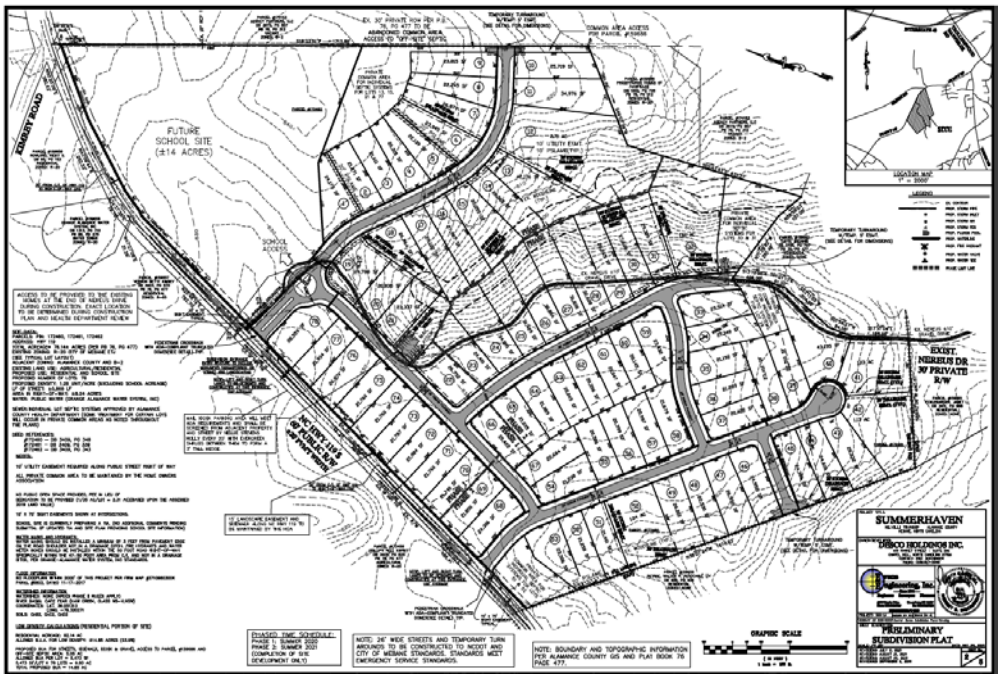
Preliminary Subdivision Plat- Summerhaven

Presenter
Cy Stober, Development Director

Applicant
Desco Holdings, LLC
600 Market Street, Suite 206
Chapel Hill, NC 27516

Public Hearing
Yes ☐ No ☒

Preliminary Plat



Property
NC Hwy 119 South, Nereus Drive, Alamance County GPIN #9803562278 , #9803557617 , #9803578217

Proposed Zoning
N/A

Current Zoning
R-20

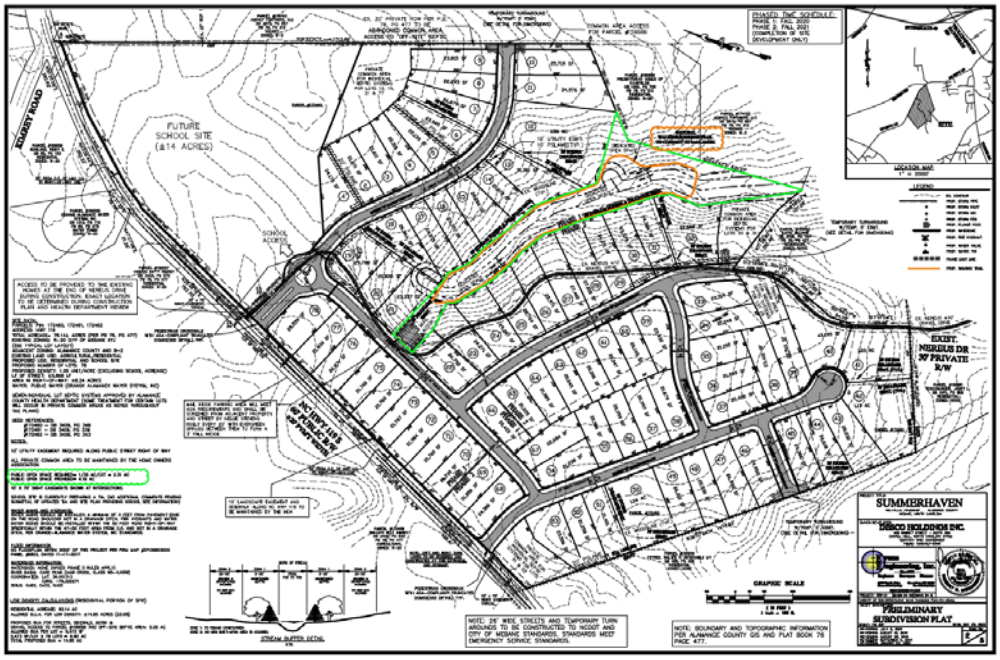
Size
+/-77.904 ac

Surrounding Zoning
R-20, B-2, MHP

Surrounding Land Uses
Residential, Business

Utilities
To be extended at developer's expense

Floodplain
No



Watershed
No

City Limits
No

Summary

Desco Holdings, LLC, is requesting approval to subdivide three (3) properties totaling +/-76.14 acres located on NC 119 Hwy South & Nereus Drive for 78 single-family properties. The applicant is not seeking annexation into the City and will be providing on-site septic treatment for wastewater needs and using Orange Alamance Water System, Inc., services for water service needs. No stormwater treatment is needed for the development due its use of the low-density (<24% impervious cover) option permitted by the Mebane UDO's Subdivision Article.

The project features 14 acres for a potential private school site, which has conducted a Traffic Impact Analysis for its development as a school for 450 students. The TIA summary included with this item was reviewed by both the NCDOT and City of Mebane. Neither found any outstanding concerns with its analysis or recommendation that the proposed improvements are sufficient to address traffic concerns for the development projects. The developer is also requesting either a payment *in lieu* of providing private recreational amenities or providing 4.16 ac in public open space along the stream buffer in the development. The trail's maintenance would be the responsibility of the City as a feature of the City's Parks properties. Further details may be found in the staff report. Desco Holdings, LLC, has the property under contract to purchase, contingent upon approval of the rezoning.

Financial Impact

The developer will be required to make all the improvements at his own expense.

Recommendation

The Planning Board recommended approval of the preliminary plat, as presented, 8-0, at the September 16 meeting.

The Planning Staff finds that the presented plat complies with the criteria of the City of Mebane Unified Development Ordinance for a major subdivision in a R-20 zoning district. However, since staff did not

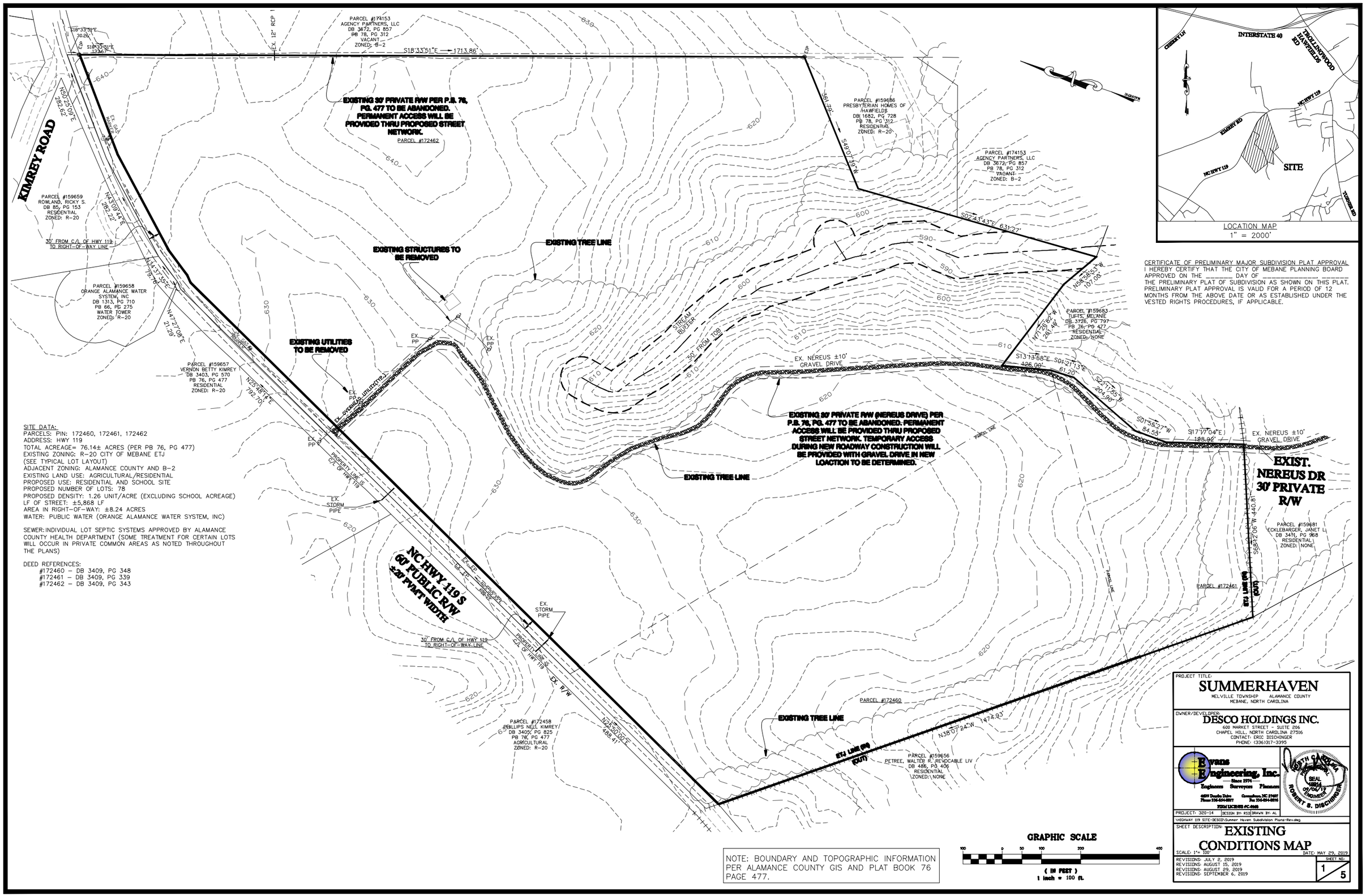
receive the revised plat until 4:30pm Wednesday, January 29th, the public recreation amenity proposed for the subdivision has not been evaluated by the Parks and Recreation Director for its Unity, Location, Physical Characteristics, and Accessibility, as required by the UDO.

Suggested Motion

Motion to continue the item until more information is available.

Attachments

1. Summerhaven Subdivision Preliminary Plat
2. Summerhaven Subdivision Preliminary Plat with Recreation Space
3. Planning Project Report
4. NC Department of Transportation letter regarding road network
5. Technical Memorandum – City Engineering Review
6. Bradford Academy Traffic Impact Analysis
7. NCDOT letter of findings for the Bradford Academy TIA
8. City of Mebane (Ramey, Kemp and Associates) letter of findings for the Bradford Academy TIA



SITE DATA:
PARCELS: PIN: 172460, 172461, 172462
ADDRESS: HWY 119
TOTAL ACREAGE= 76.14± ACRES (PER PB 76, PG 477)
EXISTING ZONING: R-20 CITY OF MEBANE ETJ
(SEE TYPICAL LOT LAYOUT)
ADJACENT ZONING: ALAMANCE COUNTY AND B-2
EXISTING LAND USE: AGRICULTURAL/RESIDENTIAL
PROPOSED USE: RESIDENTIAL AND SCHOOL SITE
PROPOSED NUMBER OF LOTS: 78
PROPOSED DENSITY: 1.26 UNIT/ACRE (EXCLUDING SCHOOL ACREAGE)
LF OF STREET: ±5,868 LF
AREA IN RIGHT-OF-WAY: ±8.24 ACRES
WATER: PUBLIC WATER (ORANGE ALAMANCE WATER SYSTEM, INC)

SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)

DEED REFERENCES:
#172460 – DB 3409, PG 348
#172461 – DB 3409, PG 339
#172462 – DB 3409, PG 343

CERTIFICATE OF PRELIMINARY MAJOR SUBDIVISION PLAT APPROVAL
I HEREBY CERTIFY THAT THE CITY OF MEBANE PLANNING BOARD APPROVED ON THE _____ DAY OF _____, _____ THE PRELIMINARY PLAT OF SUBDIVISION AS SHOWN ON THIS PLAT. PRELIMINARY PLAT APPROVAL IS VALID FOR A PERIOD OF 12 MONTHS FROM THE ABOVE DATE OR AS ESTABLISHED UNDER THE VESTED RIGHTS PROCEDURES, IF APPLICABLE.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER/DEVELOPER:
DESCO HOLDINGS INC.
600 MARKET STREET - SUITE 206
CHAPEL HILL, NORTH CAROLINA 27516
CONTACT: ERIC DISCHINGER
PHONE: (336)317-3395

Evans Engineering, Inc.
— Since 1974 —
Engineers Surveyors Planners
6409 Double Eagle Phone 336-854-0877 Greensboro, NC 27407 Fax 336-854-0876
NCBELS LICENSE #C-0968

SEAL 036713 ENGINEER ROBERT B. DISCHINGER

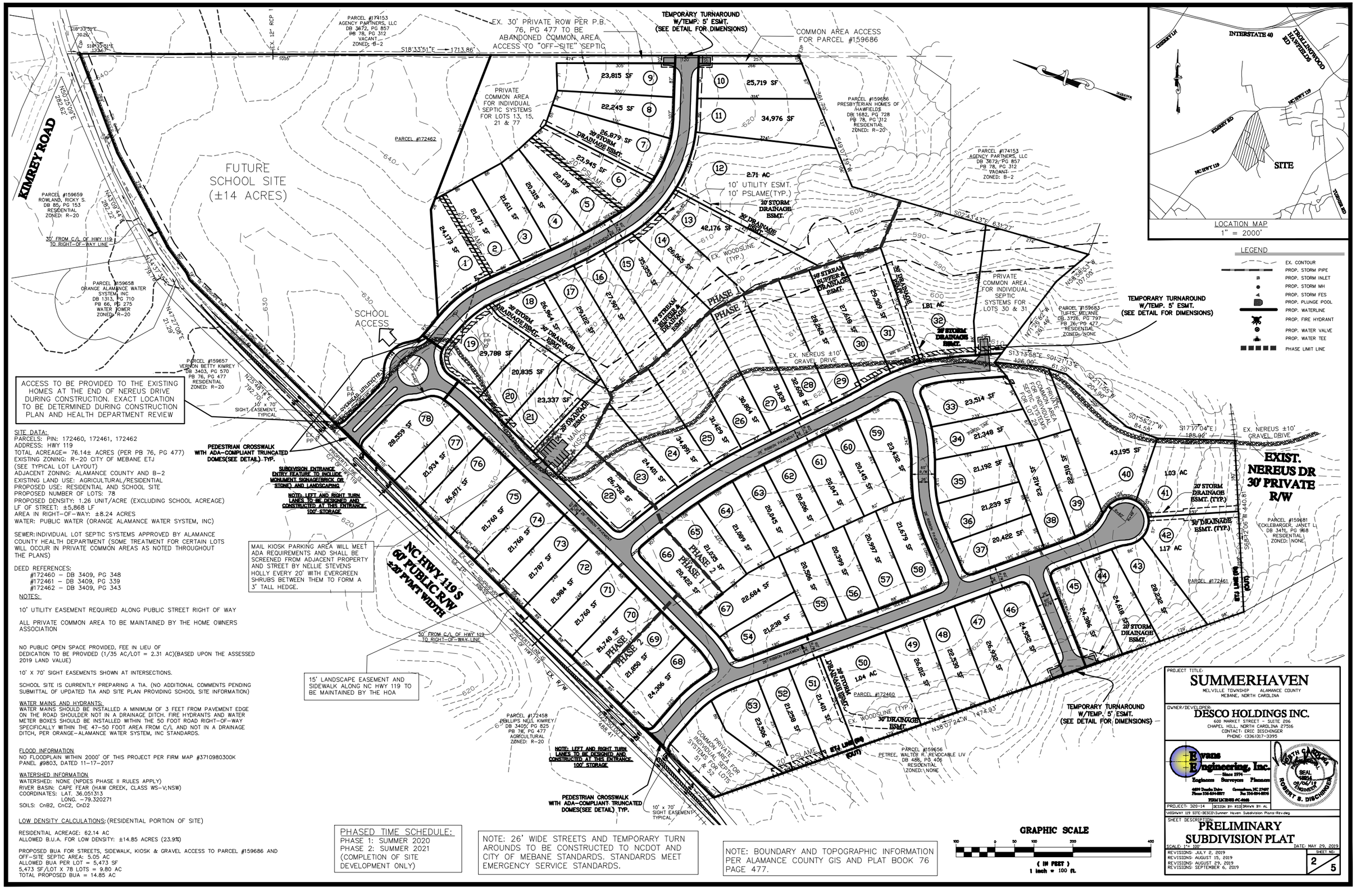
PROJECT: 320-14 | DESIGN BY: RBD | DRAWN BY: AL
\HIGHWAY 119 SITE-DESIGN\Summer Haven Subdivision Plans-Rev.dwg

SHEET DESCRIPTION:
EXISTING CONDITIONS MAP

SCALE: 1"= 100' DATE: MAY 29, 2019

REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019

SHEET NO. 1 / 5



ACCESS TO BE PROVIDED TO THE EXISTING HOMES AT THE END OF NEREUS DRIVE DURING CONSTRUCTION. EXACT LOCATION TO BE DETERMINED DURING CONSTRUCTION PLAN AND HEALTH DEPARTMENT REVIEW

SITE DATA:
PARCELS: PIN: 172460, 172461, 172462
ADDRESS: HWY 119
TOTAL ACREAGE= 76.14± ACRES (PER PB 76, PG 477)
EXISTING ZONING: R-20 CITY OF MEBANE ETJ (SEE TYPICAL LOT LAYOUT)
ADJACENT ZONING: ALAMANCE COUNTY AND B-2
EXISTING LAND USE: AGRICULTURAL/RESIDENTIAL
PROPOSED USE: RESIDENTIAL AND SCHOOL SITE
PROPOSED NUMBER OF LOTS: 78
PROPOSED DENSITY: 1.26 UNIT/ACRE (EXCLUDING SCHOOL ACREAGE)
LF OF STREET: ±5,868 LF
AREA IN RIGHT-OF-WAY: ±8.24 ACRES
WATER: PUBLIC WATER (ORANGE ALAMANCE WATER SYSTEM, INC)

SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)

DEED REFERENCES:
#172460 – DB 3409, PG 348
#172461 – DB 3409, PG 339
#172462 – DB 3409, PG 343

NOTES:

10' UTILITY EASEMENT REQUIRED ALONG PUBLIC STREET RIGHT OF WAY

ALL PRIVATE COMMON AREA TO BE MAINTAINED BY THE HOME OWNERS ASSOCIATION

NO PUBLIC OPEN SPACE PROVIDED, FEE IN LIEU OF DEDICATION TO BE PROVIDED (1/35 AC/LOT = 2.31 AC)(BASED UPON THE ASSESSED 2019 LAND VALUE)

10' X 70' SIGHT EASEMENTS SHOWN AT INTERSECTIONS.

SCHOOL SITE IS CURRENTLY PREPARING A TIA. (NO ADDITIONAL COMMENTS PENDING SUBMITTAL OF UPDATED TIA AND SITE PLAN PROVIDING SCHOOL SITE INFORMATION)

WATER MAINS AND HYDRANTS:
WATER MAINS SHOULD BE INSTALLED A MINIMUM OF 3 FEET FROM PAVEMENT EDGE ON THE ROAD SHOULDER NOT IN A DRAINAGE DITCH. FIRE HYDRANTS AND WATER METER BOXES SHOULD BE INSTALLED WITHIN THE 50 FOOT ROAD RIGHT-OF-WAY SPECIFICALLY WITHIN THE 47-50 FOOT AREA FROM C/L AND NOT IN A DRAINAGE DITCH, PER ORANGE-ALAMANCE WATER SYSTEM, INC STANDARDS.

FLOOD INFORMATION
NO FLOODPLAIN WITHIN 2000' OF THIS PROJECT PER FIRM MAP #3710980300K PANEL #9803, DATED 11-17-2017

WATERSHED INFORMATION
WATERSHED: NONE (NPDES PHASE II RULES APPLY)
RIVER BASIN: CAPE FEAR (HAW CREEK, CLASS WS-V;NSW)
COORDINATES: LAT. 36.051313
LONG. -79.320271
SOILS: CnB2, CnC2, CnD2

LOW DENSITY CALCULATIONS: (RESIDENTIAL PORTION OF SITE)

RESIDENTIAL ACREAGE: 62.14 AC
ALLOWED B.U.A. FOR LOW DENSITY: ±14.85 ACRES (23.9%)

PROPOSED BUA FOR STREETS, SIDEWALK, KIOSK & GRAVEL ACCESS TO PARCEL #159686 AND OFF-SITE SEPTIC AREA: 5.05 AC
ALLOWED BUA PER LOT = 5,473 SF
5,473 SF/LOT X 78 LOTS = 9.80 AC
TOTAL PROPOSED BUA = 14.85 AC

PEDESTRIAN CROSSWALK WITH ADA-COMPLIANT TRUNCATED DOMES(SEE DETAIL) TYP.

SUBDIVISION ENTRANCE ENTRY FEATURE TO INCLUDE MONUMENT SIGNAGE(BRICK OR STONE) AND LANDSCAPING

NOTE: LEFT AND RIGHT TURN LANES TO BE DESIGNED AND CONSTRUCTED AT THIS ENTRANCE. 100' STORAGE

MAIL KIOSK PARKING AREA WILL MEET ADA REQUIREMENTS AND SHALL BE SCREENED FROM ADJACENT PROPERTY AND STREET BY NELLIE STEVENS HOLLY EVERY 20' WITH EVERGREEN SHRUBS BETWEEN THEM TO FORM A 3' TALL HEDGE.

15' LANDSCAPE EASEMENT AND SIDEWALK ALONG NC HWY 119 TO BE MAINTAINED BY THE HOA

NOTE: LEFT AND RIGHT TURN LANES TO BE DESIGNED AND CONSTRUCTED AT THIS ENTRANCE. 100' STORAGE

PEDESTRIAN CROSSWALK WITH ADA-COMPLIANT TRUNCATED DOMES(SEE DETAIL) TYP.

PHASED TIME SCHEDULE:
PHASE 1: SUMMER 2020
PHASE 2: SUMMER 2021
(COMPLETION OF SITE DEVELOPMENT ONLY)

NOTE: 26' WIDE STREETS AND TEMPORARY TURN AROUNDS TO BE CONSTRUCTED TO NCDOT AND CITY OF MEBANE STANDARDS. STANDARDS MEET EMERGENCY SERVICE STANDARDS.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER/DEVELOPER:
DESCO HOLDINGS INC.
600 MARKET STREET - SUITE 206
CHAPEL HILL, NORTH CAROLINA 27516
CONTACT: ERIC DISCHINGER
PHONE: (336)317-3395

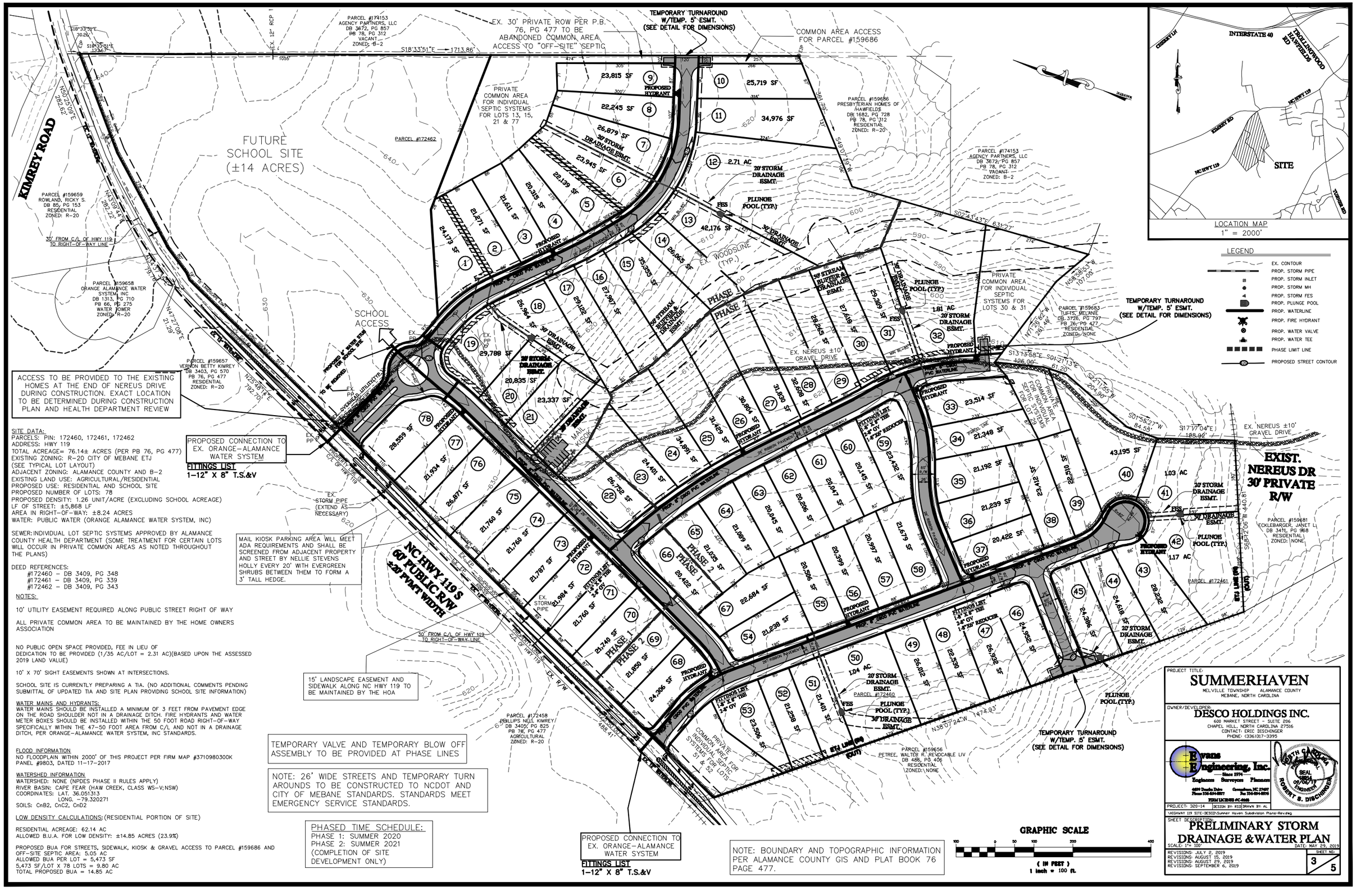
Evans Engineering, Inc.
Since 1974
Engineers Surveyors Planners
6809 Brooks Lake Road, Summerfield, NC 27407
Phone 336-854-0877 Fax 336-854-0876
NCBELS LICENSE #C-0968

NORTH CAROLINA PROFESSIONAL SEAL 19214 ENGINEER 09/06/19 ROBERT S. DISCHINGER

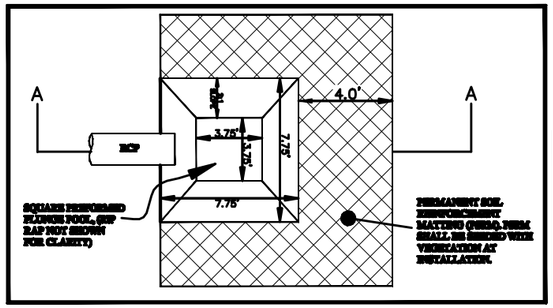
PROJECT: 320-14 | DESIGN BY: RSD | DRAWN BY: AL
HWY119 SITE-DESCO\Summer Haven Subdivision Plans-Rev.dwg

SHEET DESCRIPTION:
PRELIMINARY SUBDIVISION PLAT

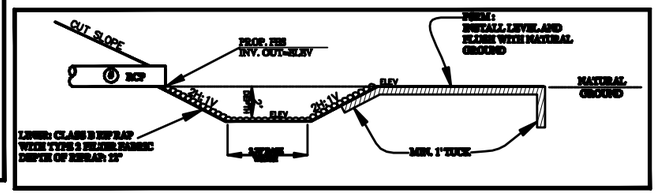
SCALE: 1"= 100' DATE: MAY 29, 2019
REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019
SHEET NO. 2 / 5

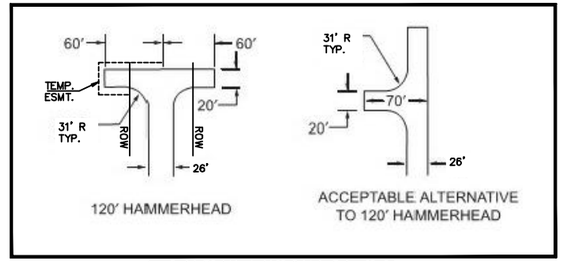

KIMREY ROAD
NC HWY 119 S
60' PUBLIC R/W
-22' PVMT WIDTH
FUTURE SCHOOL SITE (±14 ACRES)
SCHOOL ACCESS
PHASE 1
PHASE 2
TEMPORARY TURNAROUND W/TEMP. 5' ESMT. (SEE DETAIL FOR DIMENSIONS)
EX. 30' PRIVATE ROW PER P.B. 76, PG 477 TO BE ABANDONED COMMON AREA ACCESS TO "OFF-SITE" SEPTIC
COMMON AREA ACCESS FOR PARCEL #159686
PRIVATE COMMON AREA FOR INDIVIDUAL SEPTIC SYSTEMS FOR LOTS 13, 15, 21 & 77
PRIVATE COMMON AREA FOR INDIVIDUAL SEPTIC SYSTEMS FOR LOTS 30 & 31
PRIVATE COMMON AREA FOR INDIVIDUAL SEPTIC SYSTEMS FOR LOTS 51 & 52
EX. NEREUS ±10' GRAVEL DRIVE
EXIST. NEREUS DR 30' PRIVATE R/W
TEMPORARY TURNAROUND W/TEMP. 5' ESMT. (SEE DETAIL FOR DIMENSIONS)
TEMPORARY TURNAROUND W/TEMP. 5' ESMT. (SEE DETAIL FOR DIMENSIONS)
PARCEL #159659 ROWLAND, RICKY S. DB 85, PG 153 RESIDENTIAL ZONED: R-20
PARCEL #159658 ORANGE ALAMANCE WATER SYSTEM, INC DB 1313, PG 710 PB 66, PG 275 WATER TOWER ZONED: R-20
PARCEL #159657 VERNON BETTY KIMREY DB 3403, PG 570 PB 76, PG 477 RESIDENTIAL ZONED: R-20
PARCEL #172153 AGENCY PARTNERS, LLC DB 3672, PG 857 PB 78, PG 312 VACANT ZONED: B-2
PARCEL #159686 PRESBYTERIAN HOMES OF HAWFIELDS DB 1682, PG 728 PB 78, PG 312 RESIDENTIAL ZONED: R-20
PARCEL #172462
PARCEL #159683 TUFTS, MELANIE DB 3726, PG 797 PB 76, PG 477 RESIDENTIAL ZONED: NONE
PARCEL #172458 PHILLIPS NELL KIMREY G. DB 3405, PG 825 PB 76, PG 477 AGRICULTURAL ZONED: R-20
PARCEL #159656 PETREE, WALTER R. REVOCABLE LIV DB 486, PG 406 RESIDENTIAL ZONED: NONE
PARCEL #159681 ECKLEBARGER, JANET L. DB 3411, PG 968 RESIDENTIAL ZONED: NONE
PARCEL #172461
PARCEL #172460
30' FROM C/L OF HWY 119 TO RIGHT-OF-WAY LINE
PROPOSED HYDRANT
PLUNGE POOL (TYP.)
30' DRAINAGE ESMT.
20' STORM DRAINAGE ESMT.
50' STREAM BUFFER & DRAINAGE ESMT.
FES
PROPOSED 8" WATER STUB FOR SCHOOL USE
PROPOSED 6" WATER STUB FOR SCHOOL USE
PROP. 8" C900 PVC WATERLINE
PROP. 6" C900 PVC WATERLINE
EX. 12" RCP
EX. STORM PIPE (EXTEND AS NECESSARY)
EX. WOODSLINE (TYP.)
EX. R/W
EX. C/L
EX. 20' ROW
EX. 30' ROW
EX. 60' ROW
EX. 80' ROW
EX. 100' ROW
EX. 120' ROW
EX. 150' ROW
EX. 200' ROW
EX. 250' ROW
EX. 300' ROW
EX. 350' ROW
EX. 400' ROW
EX. 450' ROW
EX. 500' ROW
EX. 550' ROW
EX. 600' ROW
EX. 650' ROW
EX. 700' ROW
EX. 750' ROW
EX.

PLUNGE POOLS TO BE INSTALLED AT ALL PIPE OUTLETS (SEE TYPICAL DETAIL BELOW)

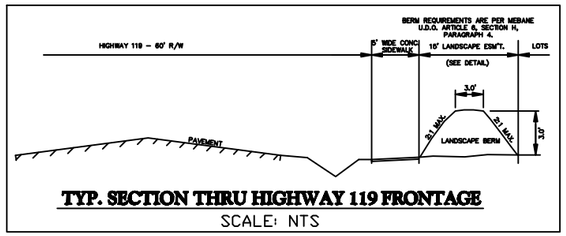


PREFORMED PLUNGE POOL SPECIFICATIONS:
RECEIVING PIPE SIZE: RCP
100-YR FLOW FROM HIGH FLOW BYPASS : Q CFS
SCOUR HOLE BOTTOM DIMENSIONS: 3.75' X 3.75'
SCOUR HOLE SIDE SLOPES: 2:1
SCOUR HOLE DEPTH: 2'
TOP ELEVATION: DESIGN
BOTTOM ELEVATION: DESIGN
RIP-RAP SIZE FOR PLUNGE POOL: CLASS B

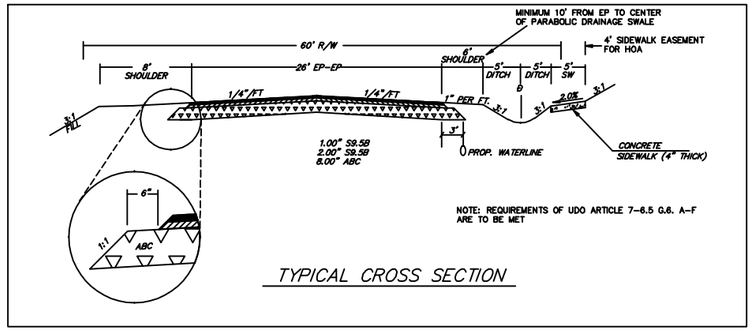




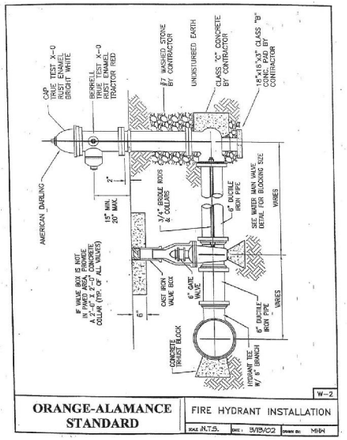
TEMPORARY TURNAROUND DETAILS
NOT TO SCALE



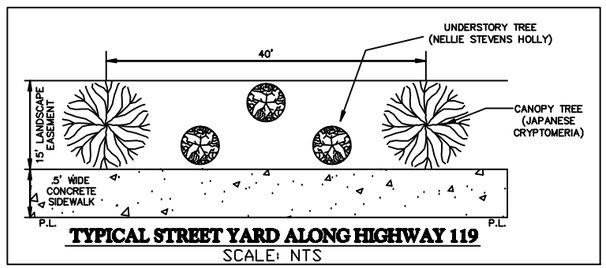
TYP. SECTION THRU HIGHWAY 119 FRONTAGE
SCALE: NTS



TYPICAL CROSS SECTION

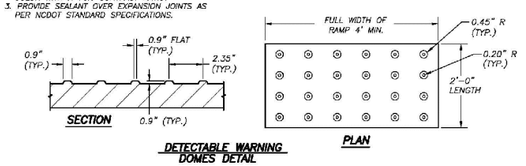


ORANGE-ALAMANCE STANDARD | FIRE HYDRANT INSTALLATION | W-2

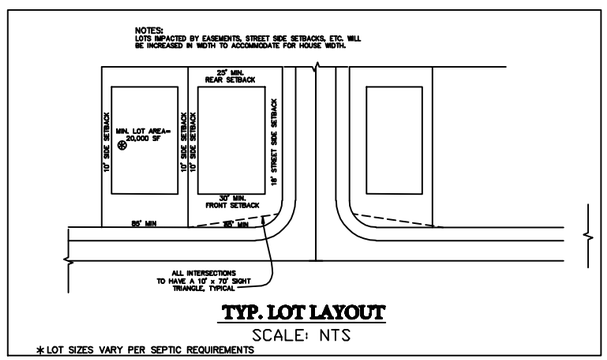


TYPICAL STREET YARD ALONG HIGHWAY 119
SCALE: NTS

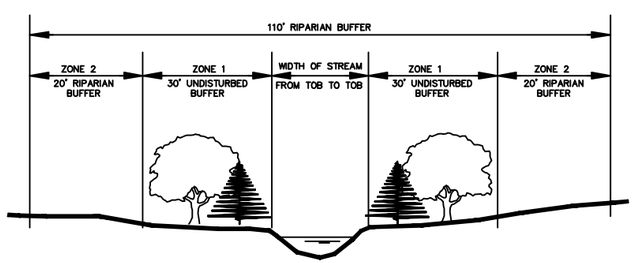
NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. THE RAMP MAY BE YELLOW IN COLOR OR ANY COLOR WITH A 70% CONTRAST RATIO.
3. PROVIDE SEALANT OVER EXPANSION JOINTS AS PER NCDOT STANDARD SPECIFICATIONS.



DETECTABLE WARNING DOMES DETAIL



TYP. LOT LAYOUT
SCALE: NTS
*LOT SIZES VARY PER SEPTIC REQUIREMENTS



STREAM BUFFER DETAIL
N.T.S.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER/DEVELOPER:
DESCO HOLDINGS INC.
600 MARKET STREET - SUITE 206
CHAPEL HILL, NORTH CAROLINA 27516
CONTACT: ERIC DISCHINGER
PHONE (336)317-3395

Evans Engineering, Inc.
Since 1994
Engineers Surveyors Planners

NORTH CAROLINA PROFESSIONAL SEAL 19014 ENGINEER ROBERT S. DISCHINGER

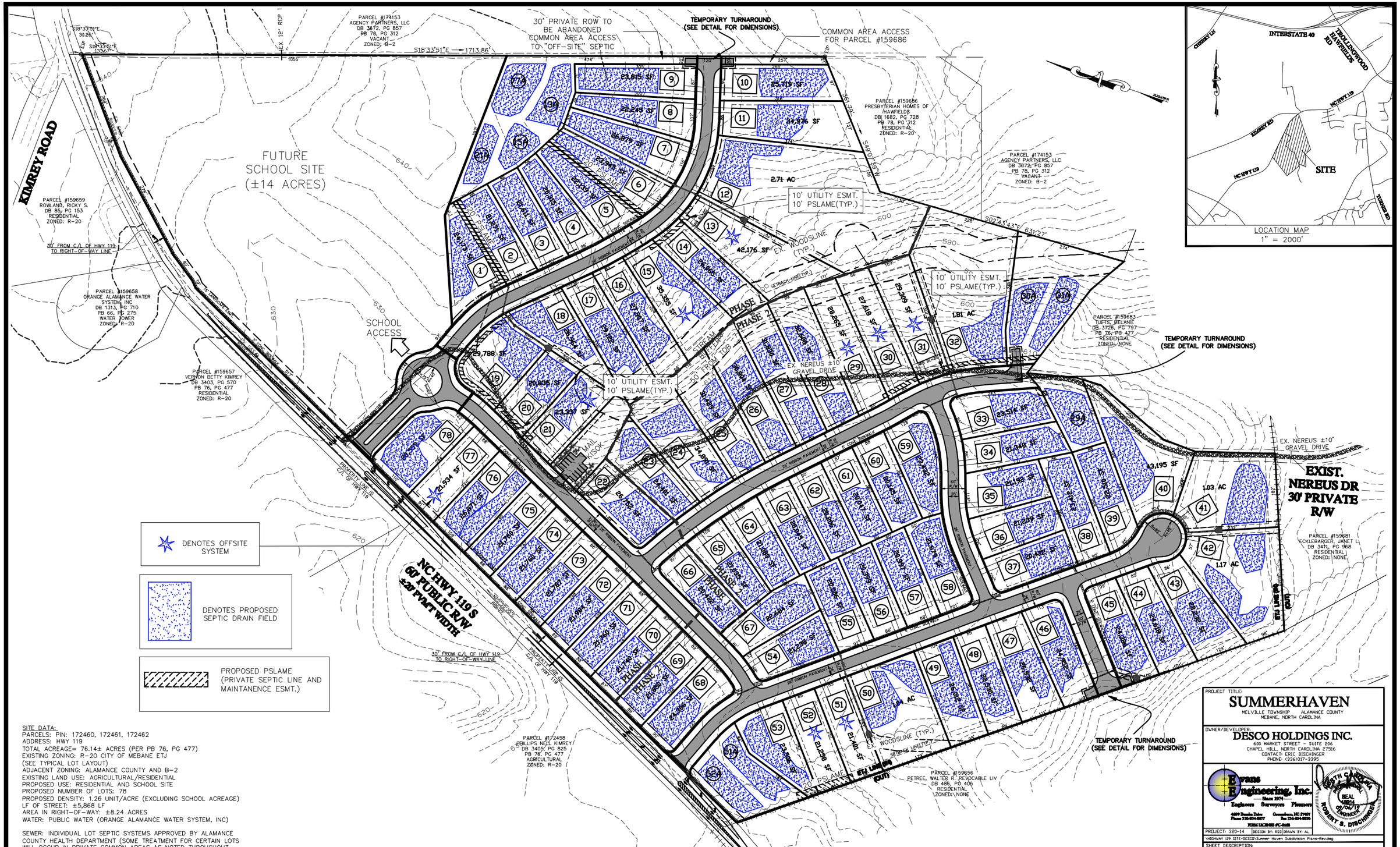
PROJECT: 320-14 | DESIGN BY: RSD | DRAWN BY: AL
V:\HIGHWAY 119 SITE-DESCO\Summer Haven Subdivision Plans-Rev.dwg

SHEET DESCRIPTION:
DETAIL PLAN

SCALE: N.T.S. DATE: MAY 29, 2019

REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019

SHEET NO. 4 5



SITE DATA:
PARCELS: PIN: 172460, 172461, 172462
ADDRESS: HWY 119
TOTAL ACREAGE= 76.14± ACRES (PER PB 76, PG 477)
EXISTING ZONING: R-20 CITY OF MEBANE ETJ
(SEE TYPICAL LOT LAYOUT)
ADJACENT ZONING: ALAMANCE COUNTY AND B-2
EXISTING LAND USE: AGRICULTURAL/RESIDENTIAL
PROPOSED USE: RESIDENTIAL AND SCHOOL SITE
PROPOSED NUMBER OF LOTS: 78
PROPOSED DENSITY: 1.26 UNIT/ACRE (EXCLUDING SCHOOL ACREAGE)
LF OF STREET: ±5,868 LF
AREA IN RIGHT-OF-WAY: ±8.24 ACRES
WATER: PUBLIC WATER (ORANGE ALAMANCE WATER SYSTEM, INC)

SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)

DEED REFERENCES:
#172460 – DB 3409, PG 348
#172461 – DB 3409, PG 339
#172462 – DB 3409, PG 343

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER/DEVELOPER:
DESCO HOLDINGS INC.
600 MARKET STREET - SUITE 206
CHAPEL HILL, NORTH CAROLINA 27516
CONTACT: ERIC DISCHINGER
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FIRM LICENSE #C-0468

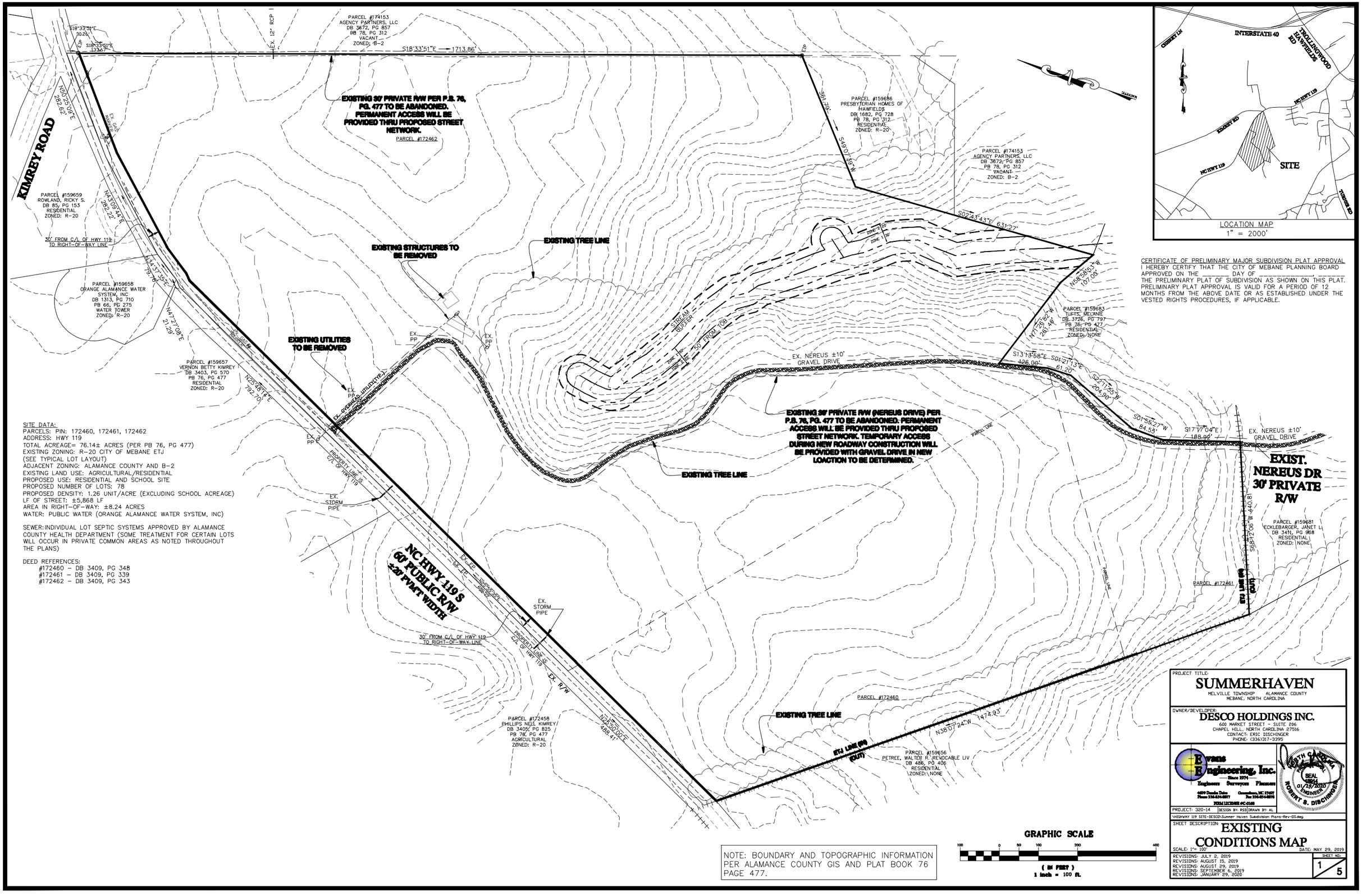
NORTH CAROLINA PROFESSIONAL SEAL 48914 09/06/19 ENGINEER ROBERT S. DISCHINGER

PROJECT: 320-14 | DESIGN BY: RSD | DRAWN BY: AL
\HIGHWAY 119 SITE-DESCO\Summer Haven Subdivision Plans-Rev.dwg

SHEET DESCRIPTION:
PRELIMINARY HEALTH PLAN
SCALE: 1"= 100' DATE: MAY 29, 2019

REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019

SHEET NO: 5 / 5



SITE DATA:
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ADDRESS: HWY 119
TOTAL ACREAGE= 76.14± ACRES (PER PB 76, PG 477)
EXISTING ZONING: R-20 CITY OF MEBANE ETJ
(SEE TYPICAL LOT LAYOUT)
ADJACENT ZONING: ALAMANCE COUNTY AND B-2
EXISTING LAND USE: AGRICULTURAL/RESIDENTIAL
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AREA IN RIGHT-OF-WAY: ±8.24 ACRES
WATER: PUBLIC WATER (ORANGE ALAMANCE WATER SYSTEM, INC)

SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)

DEED REFERENCES:
#172460 – DB 3409, PG 348
#172461 – DB 3409, PG 339
#172462 – DB 3409, PG 343

CERTIFICATE OF PRELIMINARY MAJOR SUBDIVISION PLAT APPROVAL
I HEREBY CERTIFY THAT THE CITY OF MEBANE PLANNING BOARD APPROVED ON THE _____ DAY OF _____, _____ THE PRELIMINARY PLAT OF SUBDIVISION AS SHOWN ON THIS PLAT. PRELIMINARY PLAT APPROVAL IS VALID FOR A PERIOD OF 12 MONTHS FROM THE ABOVE DATE OR AS ESTABLISHED UNDER THE VESTED RIGHTS PROCEDURES, IF APPLICABLE.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER/DEVELOPER:
DESCO HOLDINGS INC.
600 MARKET STREET - SUITE 206
CHAPEL HILL, NORTH CAROLINA 27516
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4609 Dundee Drive Greensboro, NC 27407
Phone 336-454-0977 Fax 336-454-0978
FIRM LICENSE #C-0168

NORTH CAROLINA PROFESSIONAL SEAL 024114 ENGINEER 01/13/2020 ROBERT S. DISCHINGER

PROJECT: 320-14 | DESIGN BY: RSD | DRAWN BY: AL
\HIGHWAY 119 SITE-DESCO\Sumner Haven Subdivision Plans-Rev-05.dwg

SHEET DESCRIPTION:
EXISTING CONDITIONS MAP
SCALE: 1"= 100' DATE: MAY 29, 2019

REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019
REVISIONS: JANUARY 29, 2020

SHEET NO. 1 / 5

PHASED TIME SCHEDULE:
PHASE 1: FALL 2020
PHASE 2: FALL 2021
(COMPLETION OF SITE DEVELOPMENT ONLY)

LOCATION MAP
1" = 2000'

LEGEND
- EX. CONTOUR
- PROP. STORM PIPE
- PROP. STORM INLET
- PROP. STORM MH
- PROP. STORM FES
- PROP. PLUNGE POOL
- PROP. WATERLINE
- PROP. FIRE HYDRANT
- PROP. WATER VALVE
- PROP. WATER TEE
- PHASE LIMIT LINE
- PROP. WALKING TRAIL

ACCESS TO BE PROVIDED TO THE EXISTING HOMES AT THE END OF NEREUS DRIVE DURING CONSTRUCTION. EXACT LOCATION TO BE DETERMINED DURING CONSTRUCTION PLAN AND HEALTH DEPARTMENT REVIEW

SITE DATA:
PARCELS: PIN: 172460, 172461, 172462
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SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)

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#172461 – DB 3409, PG 339
#172462 – DB 3409, PG 343

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PUBLIC OPEN SPACE REQUIRED= 1/35 AC/LOT = 2.31 AC
PUBLIC OPEN SPACE PROVIDED= 4.16 AC

10' X 70' SIGHT EASEMENTS SHOWN AT INTERSECTIONS.

SCHOOL SITE IS CURRENTLY PREPARING A TIA. (NO ADDITIONAL COMMENTS PENDING SUBMITTAL OF UPDATED TIA AND SITE PLAN PROVIDING SCHOOL SITE INFORMATION)

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FLOOD INFORMATION
NO FLOODPLAIN WITHIN 2000' OF THIS PROJECT PER FIRM MAP #3710980300K PANEL #9803, DATED 11-17-2017

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WATERSHED: NONE (NPDES PHASE II RULES APPLY)
RIVER BASIN: CAPE FEAR (HAW CREEK, CLASS WS-V;NSW)
COORDINATES: LAT. 36.051313
LONG. -79.320271
SOILS: CnB2, CnC2, CnD2

LOW DENSITY CALCULATIONS: (RESIDENTIAL PORTION OF SITE)

RESIDENTIAL ACREAGE: 62.14 AC
ALLOWED B.U.A. FOR LOW DENSITY: ±14.85 ACRES (23.9%)

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ALLOWED BUA PER LOT = 5,473 SF
5,473 SF/LOT X 78 LOTS = 9.80 AC
TOTAL PROPOSED BUA = 14.85 AC

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15' LANDSCAPE EASEMENT AND SIDEWALK ALONG NC HWY 119 TO BE MAINTAINED BY THE HOA

NOTE: LEFT AND RIGHT TURN LANES TO BE DESIGNED AND CONSTRUCTED AT THIS ENTRANCE. 100' STORAGE.

STREAM BUFFER DETAIL
N.T.S.
ZONE 1: TO REMAIN UNDISTURBED.
ZONE 2: NO NEW BUILT-UPON AREA IS ALLOWED.

NOTE: 26' WIDE STREETS AND TEMPORARY TURN AROUNDS TO BE CONSTRUCTED TO NCDOT AND CITY OF MEBANE STANDARDS. STANDARDS MEET EMERGENCY SERVICE STANDARDS.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

GRAPHIC SCALE
1 inch = 100 ft.

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

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CHAPEL HILL, NORTH CAROLINA 27516
CONTACT: ERIC DISCHINGER
PHONE: (336)317-3395

Evans Engineering, Inc.
Since 1974
Engineers Surveyors Planners
4609 Dundee Drive Greensboro, NC 27407
Phone 336-854-0877 Fax 336-854-0876
FIRM LICENSURE #C-0168

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036164 01/22/2020 ROBERT S. DISCHINGER

PROJECT: 320-14 | DESIGN BY: RSD | DRAWN BY: AL
V:\HIGHWAY 119 SITE-DESCO\Summer Haven Subdivision Plans-Rev-DS.dwg

SHEET DESCRIPTION:
PRELIMINARY SUBDIVISION PLAT
SCALE: 1"= 100' DATE: MAY 29, 2019

REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019
REVISIONS: JANUARY 29, 2020

SHEET NO. 2 5

PHASED TIME SCHEDULE:
PHASE 1: FALL 2020
PHASE 2: FALL 2021
(COMPLETION OF SITE DEVELOPMENT ONLY)

LOCATION MAP
1" = 2000'

LEGEND
- EX. CONTOUR
- PROP. STORM PIPE
- PROP. STORM INLET
- PROP. STORM MH
- PROP. STORM FES
- PROP. PLUNGE POOL
- PROP. WATERLINE
- PROP. FIRE HYDRANT
- PROP. WATER VALVE
- PROP. WATER TEE
- PHASE LIMIT LINE
- PROPOSED STREET CONTOUR
- PROP. WALKING TRAIL

ACCESS TO BE PROVIDED TO THE EXISTING HOMES AT THE END OF NEREUS DRIVE DURING CONSTRUCTION. EXACT LOCATION TO BE DETERMINED DURING CONSTRUCTION PLAN AND HEALTH DEPARTMENT REVIEW

SITE DATA:
PARCELS: PIN: 172460, 172461, 172462
ADDRESS: HWY 119
TOTAL ACREAGE= 76.14± ACRES (PER PB 76, PG 477)
EXISTING ZONING: R-20 CITY OF MEBANE ETJ
(SEE TYPICAL LOT LAYOUT)
ADJACENT ZONING: ALAMANCE COUNTY AND B-2
EXISTING LAND USE: AGRICULTURAL/RESIDENTIAL
PROPOSED USE: RESIDENTIAL AND SCHOOL SITE
PROPOSED NUMBER OF LOTS: 78
PROPOSED DENSITY: 1.26 UNIT/ACRE (EXCLUDING SCHOOL ACREAGE)
LF OF STREET: ±5,868 LF
AREA IN RIGHT-OF-WAY: ±8.24 ACRES
WATER: PUBLIC WATER (ORANGE ALAMANCE WATER SYSTEM, INC)

SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)

DEED REFERENCES:
#172460 – DB 3409, PG 348
#172461 – DB 3409, PG 339
#172462 – DB 3409, PG 343

NOTES:

10' UTILITY EASEMENT REQUIRED ALONG PUBLIC STREET RIGHT OF WAY

ALL PRIVATE COMMON AREA TO BE MAINTAINED BY THE HOME OWNERS ASSOCIATION

PUBLIC OPEN SPACE REQUIRED= 1/35 AC/LOT = 2.31 AC
PUBLIC OPEN SPACE PROVIDED= 4.16 AC

10' X 70' SIGHT EASEMENTS SHOWN AT INTERSECTIONS.

SCHOOL SITE IS CURRENTLY PREPARING A TIA. (NO ADDITIONAL COMMENTS PENDING SUBMITTAL OF UPDATED TIA AND SITE PLAN PROVIDING SCHOOL SITE INFORMATION)

WATER MAINS AND HYDRANTS:
WATER MAINS SHOULD BE INSTALLED A MINIMUM OF 3 FEET FROM PAVEMENT EDGE ON THE ROAD SHOULDER NOT IN A DRAINAGE DITCH. FIRE HYDRANTS AND WATER METER BOXES SHOULD BE INSTALLED WITHIN THE 50 FOOT ROAD RIGHT-OF-WAY SPECIFICALLY WITHIN THE 47-50 FOOT AREA FROM C/L AND NOT IN A DRAINAGE DITCH, PER ORANGE-ALAMANCE WATER SYSTEM, INC STANDARDS.

FLOOD INFORMATION
NO FLOODPLAIN WITHIN 2000' OF THIS PROJECT PER FIRM MAP #3710980300K PANEL #9803, DATED 11-17-2017

WATERSHED INFORMATION
WATERSHED: NONE (NPDES PHASE II RULES APPLY)
RIVER BASIN: CAPE FEAR (HAW CREEK, CLASS WS-V;NSW)
COORDINATES: LAT. 36.051313
LONG. -79.320271
SOILS: CnB2, CnC2, CnD2

LOW DENSITY CALCULATIONS: (RESIDENTIAL PORTION OF SITE)

RESIDENTIAL ACREAGE: 62.14 AC
ALLOWED B.U.A. FOR LOW DENSITY: ±14.85 ACRES (23.9%)

PROPOSED BUA FOR STREETS, SIDEWALK, KIOSK & GRAVEL ACCESS TO PARCEL #159686 AND OFF-SITE SEPTIC AREA: 5.05 AC
ALLOWED BUA PER LOT = 5,473 SF
5,473 SF/LOT X 78 LOTS = 9.80 AC
TOTAL PROPOSED BUA = 14.85 AC

PROPOSED CONNECTION TO EX. ORANGE-ALAMANCE WATER SYSTEM
FITTINGS LIST
1-12" X 8" T.S.&V

FITTINGS LIST
1-12" X 8" T.S.&V

MAIL KIOSK PARKING AREA WILL MEET ADA REQUIREMENTS AND SHALL BE SCREENED FROM ADJACENT PROPERTY AND STREET BY NELLIE STEVENS HOLLY EVERY 20' WITH EVERGREEN SHRUBS BETWEEN THEM TO FORM A 3' TALL HEDGE.

15' LANDSCAPE EASEMENT AND SIDEWALK ALONG NC HWY 119 TO BE MAINTAINED BY THE HOA

STREAM BUFFER DETAIL
N.T.S.

ZONE 1: TO REMAIN UNDISTURBED.
ZONE 2: NO NEW BUILT-UPON AREA IS ALLOWED.

PROPOSED CONNECTION TO EX. ORANGE-ALAMANCE WATER SYSTEM
FITTINGS LIST
1-12" X 8" T.S.&V

NOTE: 26' WIDE STREETS AND TEMPORARY TURN AROUNDS TO BE CONSTRUCTED TO NCDOT AND CITY OF MEBANE STANDARDS. STANDARDS MEET EMERGENCY SERVICE STANDARDS.

TEMPORARY VALVE AND TEMPORARY BLOW OFF ASSEMBLY TO BE PROVIDED AT PHASE LINES

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER/DEVELOPER:
DESCO HOLDINGS INC.
600 MARKET STREET - SUITE 206
CHAPEL HILL, NORTH CAROLINA 27516
CONTACT: ERIC DISCHINGER
PHONE: (336)317-3395

Evans Engineering, Inc.
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6809 Destiny Drive Greensboro, NC 27409
Phone 336-454-0877 Fax 336-854-0876
NCBELS LICENSE #C-0168

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 43814 01/23/2020 ROBERT S. DISCHINGER

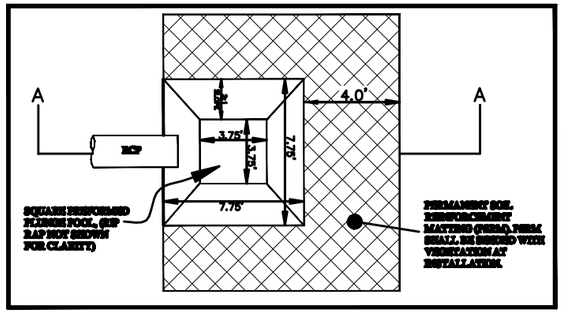
PROJECT: 320-14 DESIGN BY: RSD DRAWN BY: AL
I:\HIGHWAY 119 SITE-DESCO\Summer Haven Subdivision Plans-Rev-05.dwg

SHEET DESCRIPTION:
PRELIMINARY STORM DRAINAGE &WATER PLAN
SCALE: 1"= 100' DATE: MAY 29, 2019

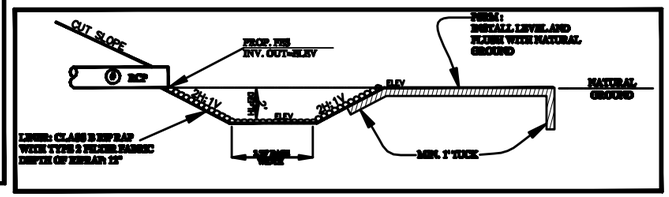
REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019
REVISIONS: JANUARY 29, 2020

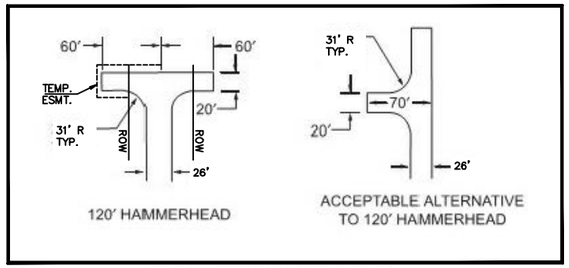
SHEET NO. 3 / 5

PLUNGE POOLS TO BE INSTALLED AT ALL PIPE OUTLETS (SEE TYPICAL DETAIL BELOW)

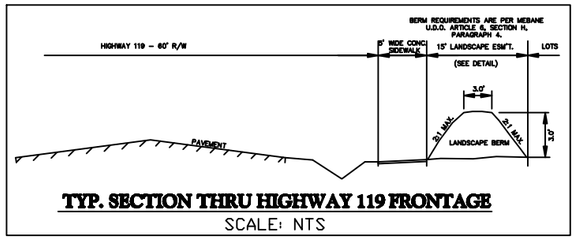


PREFORMED PLUNGE POOL SPECIFICATIONS:
RECEIVING PIPE SIZE: RCP
100-YR FLOW FROM HIGH FLOW BYPASS : Q CFS
SCOUR HOLE BOTTOM DIMENSIONS: 3.75' X 3.75'
SCOUR HOLE SIDE SLOPES: 2:1
SCOUR HOLE DEPTH: 2'
TOP ELEVATION: DESIGN
BOTTOM ELEVATION: DESIGN
RIP-RAP SIZE FOR PLUNGE POOL: CLASS B

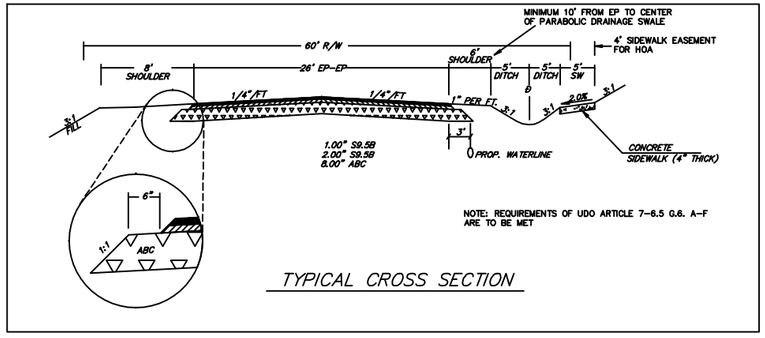




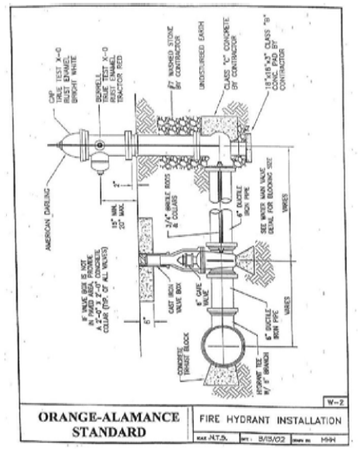
TEMPORARY TURNAROUND DETAILS
NOT TO SCALE

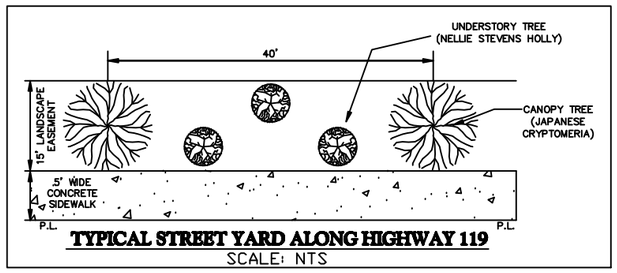


TYP. SECTION THRU HIGHWAY 119 FRONTAGE
SCALE: NTS

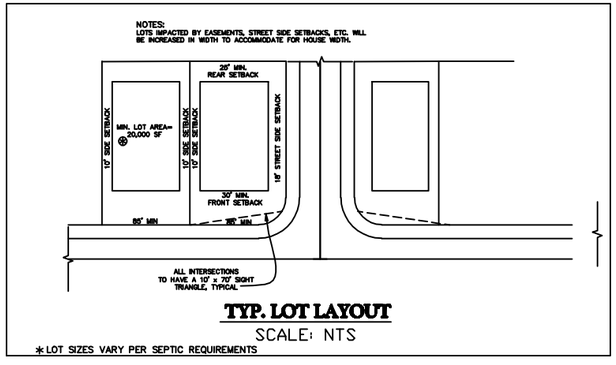


TYPICAL CROSS SECTION

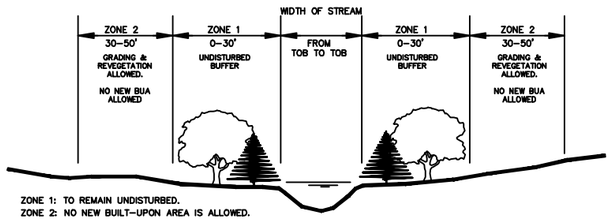




TYPICAL STREET YARD ALONG HIGHWAY 119
SCALE: NTS



TYP. LOT LAYOUT
SCALE: NTS
*LOT SIZES VARY PER SEPTIC REQUIREMENTS

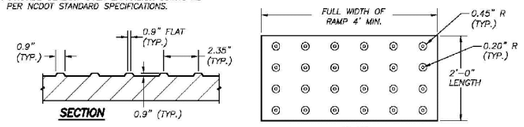


ZONE 1: TO REMAIN UNDISTURBED.
ZONE 2: NO NEW BUILT-UPON AREA IS ALLOWED.

STREAM BUFFER DETAIL
N.T.S.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. THE RAMP MAY BE YELLOW IN COLOR OR ANY COLOR WITH A 70% CONTRAST RATIO.
3. PROVIDE SEALANT OVER EXPANSION JOINTS AS PER NCDOT STANDARD SPECIFICATIONS.



DETECTABLE WARNING DOMES DETAIL

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER/DEVELOPER:
DESCO HOLDINGS INC.
600 MARKET STREET - SUITE 206
CHAPEL HILL, NORTH CAROLINA 27516
CONTACT: ERIC DISCHINGER
PHONE: (336)317-3995

Evans Engineering, Inc.
Since 1974
Engineers Surveyors Planners
4509 Tinsley Drive Greensboro, NC 27407
Phone: 336.294.4607 Fax: 336.294.4555
NORTH CAROLINA FIRM NO. C-0605

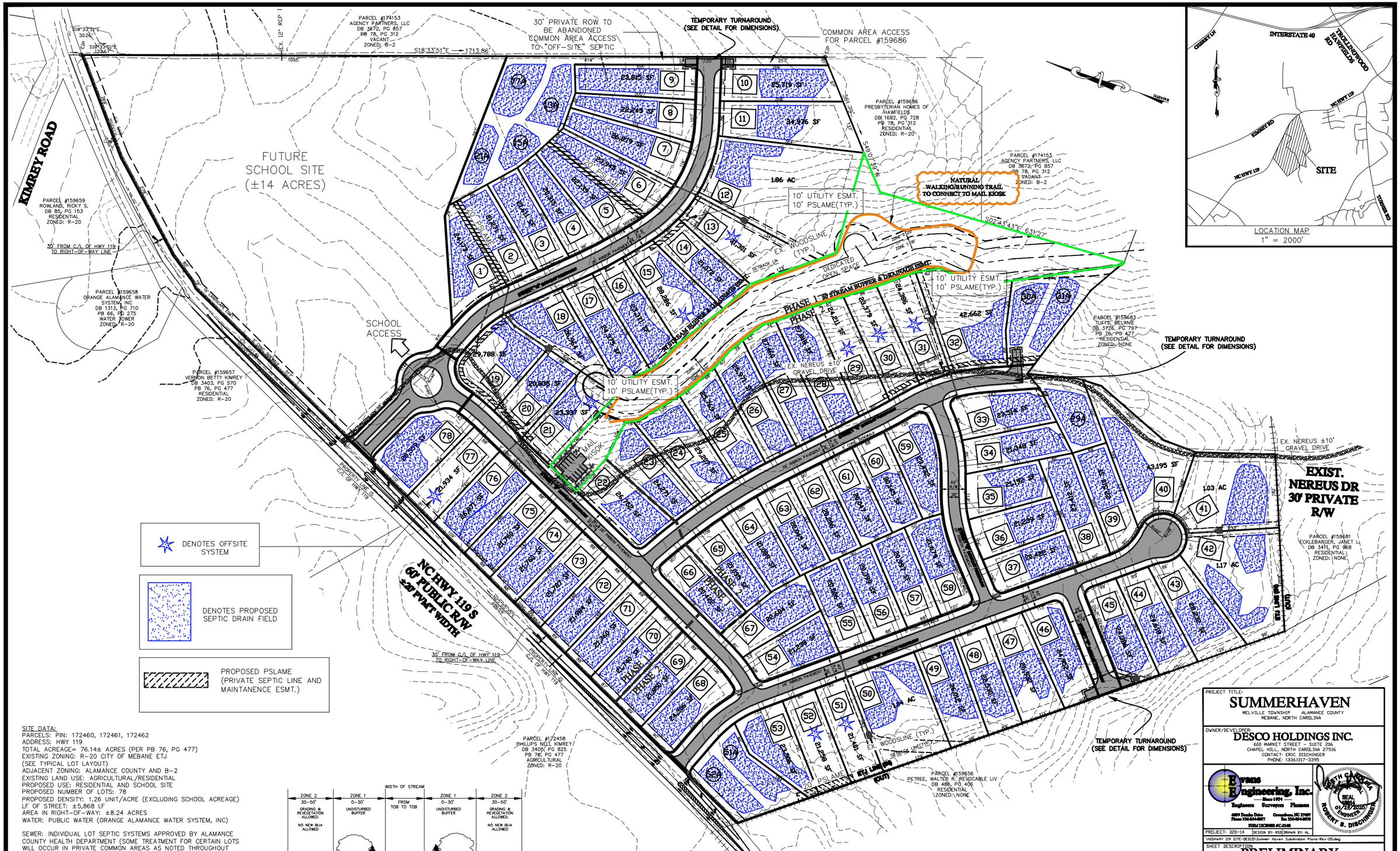
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19844 ROBERT S. DISCHINGER

PROJECT: 320-14 DESIGN BY: RSD DRAWN BY: AL
I:\HIGHWAY 119 SITE-DESIGN\Summer Haven Subdivision Plans-Rev-05.dwg

SHEET DESCRIPTION:
DETAIL PLAN

SCALE: N.T.S. DATE: MAY 29, 2019
REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019
REVISIONS: JANUARY 29, 2020

SHEET NO. 4 / 5


KIMREY ROAD
FUTURE SCHOOL SITE (±14 ACRES)
SCHOOL ACCESS
30' PRIVATE ROW TO BE ABANDONED
COMMON AREA ACCESS TO "OFF-SITE" SEPTIC
TEMPORARY TURNAROUND (SEE DETAIL FOR DIMENSIONS)
COMMON AREA ACCESS FOR PARCEL #159686
S18°33'51"E 1713.86'
PARCEL #174153 AGENCY PARTNERS, LLC DB 3672, PG 857 PB 78, PG 312 VACANT ZONED: B-2
PARCEL #159686 PRESBYTERIAN HOMES OF MAYFIELDS DB 1682, PG 728 PB 78, PG 312 RESIDENTIAL ZONED: R-20
PARCEL #159659 ROWLAND, RICKY S. DB 85, PG 153 RESIDENTIAL ZONED: R-20
PARCEL #159658 ORANGE ALAMANCE WATER SYSTEM, INC DB 1313, PG 710 PB 66, PG 275 WATER TOWER ZONED: R-20
PARCEL #159657 VERNON BETTY KIMREY DB 3403, PG 570 PB 76, PG 477 RESIDENTIAL ZONED: R-20
30' FROM C/L OF HWY 119 TO RIGHT-OF-WAY LINE
NC HWY 119 S 60' PUBLIC R/W ±20' PVMT WIDTH
PROPERTY LINE C/L OF HWY 119
10' UTILITY ESMT. 10' PSLAME(TYP.)
NATURAL WALKING/RUNNING TRAIL TO CONNECT TO MAIL KIOSK
MAIL KIOSK
EX. WOODSLINE (TYP.)
DEDICATED OPEN SPACE
50' STREAM BUFFER & DRAINAGE ESMT.
PHASE 1
PHASE 2
EX. NEREUS ±10' GRAVEL DRIVE
EXIST. NEREUS DR 30' PRIVATE R/W
PARCEL #159683 TUFTS, MELANIE DB 3726, PG 797 PB 26, PG 477 RESIDENTIAL ZONED: NONE
PARCEL #159681 ECKLEBARGER, JANET L DB 3411, PG 968 RESIDENTIAL ZONED: NONE
PARCEL #172458 PHILLIPS NELL KIMREY DB 3405, PG 825 PB 76, PG 477 AGRICULTURAL ZONED: R-20
PARCEL #159656 PETREE, WALTER R. REVOCABLE LIV DB 488, PG 406 RESIDENTIAL ZONED: NONE
1.86 AC
1.64 AC
1.03 AC
1.17 AC
42,662 SF
S49°07'59"W 361.23'
S02°43'43"E 631.27'
N49°07'59"E 361.23'
S18°33'51"E 30.26'
S18°33'51"E 1336.7'
EX. 12" RCP
1056'
474'
1120'
25'
318'
307'
1055'
1056'
1057'
1058'
1059'
1060'
1061'
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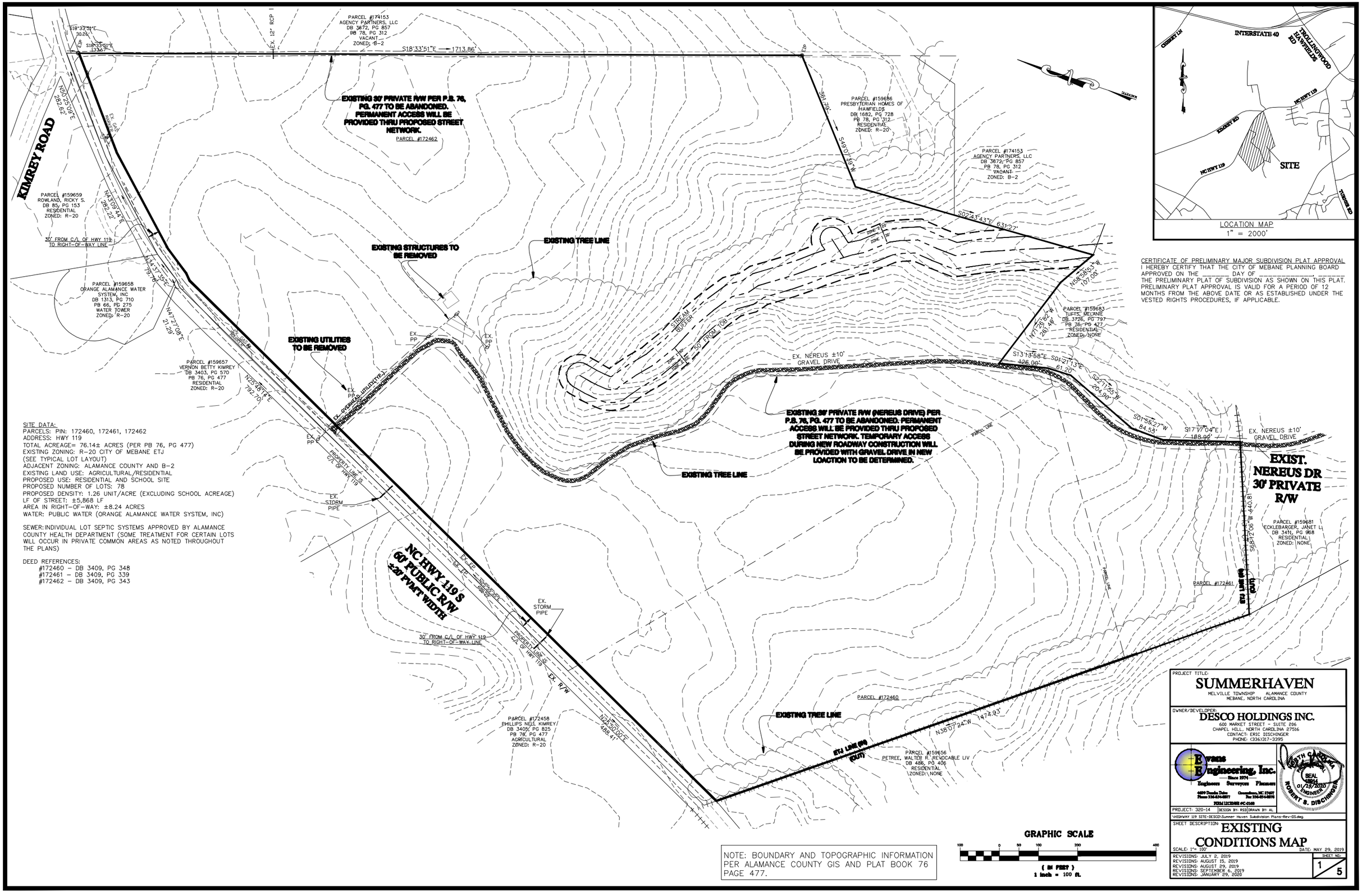
1094'



SITE DATA:
PARCELS: PIN: 172460, 172461, 172462
ADDRESS: HWY 119
TOTAL ACREAGE= 76.14± ACRES (PER PB 76, PG 477)
EXISTING ZONING: R-20 CITY OF MEBANE ETJ
(SEE TYPICAL LOT LAYOUT)
ADJACENT ZONING: ALAMANCE COUNTY AND B-2
EXISTING LAND USE: AGRICULTURAL/RESIDENTIAL
PROPOSED USE: RESIDENTIAL AND SCHOOL SITE
PROPOSED NUMBER OF LOTS: 78
PROPOSED DENSITY: 1.26 UNIT/ACRE (EXCLUDING SCHOOL ACREAGE)
LF OF STREET: ±5,868 LF
AREA IN RIGHT-OF-WAY: ±8.24 ACRES
WATER: PUBLIC WATER (ORANGE ALAMANCE WATER SYSTEM, INC)

SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)

DEED REFERENCES:
#172460 – DB 3409, PG 348
#172461 – DB 3409, PG 339
#172462 – DB 3409, PG 343

CERTIFICATE OF PRELIMINARY MAJOR SUBDIVISION PLAT APPROVAL
I HEREBY CERTIFY THAT THE CITY OF MEBANE PLANNING BOARD APPROVED ON THE _____ DAY OF _____, _____ THE PRELIMINARY PLAT OF SUBDIVISION AS SHOWN ON THIS PLAT. PRELIMINARY PLAT APPROVAL IS VALID FOR A PERIOD OF 12 MONTHS FROM THE ABOVE DATE OR AS ESTABLISHED UNDER THE VESTED RIGHTS PROCEDURES, IF APPLICABLE.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER/DEVELOPER:
DESCO HOLDINGS INC.
600 MARKET STREET - SUITE 206
CHAPEL HILL, NORTH CAROLINA 27516
CONTACT: ERIC DISCHINGER
PHONE: (336)317-3395

Evans Engineering, Inc.
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Phone 336-454-0977 Fax 336-454-0978
FIRM LICENSE #C-0168

NORTH CAROLINA PROFESSIONAL SEAL 024114 ENGINEER 01/13/2020 ROBERT S. DISCHINGER

PROJECT: 320-14 | DESIGN BY: RSD | DRAWN BY: AL
\HIGHWAY 119 SITE-DESCO\Sumner Haven Subdivision Plans-Rev-05.dwg

SHEET DESCRIPTION:
EXISTING CONDITIONS MAP
SCALE: 1"= 100' DATE: MAY 29, 2019

REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019
REVISIONS: JANUARY 29, 2020

SHEET NO. 1 / 5

PHASED TIME SCHEDULE:
PHASE 1: FALL 2020
PHASE 2: FALL 2021
(COMPLETION OF SITE DEVELOPMENT ONLY)

LOCATION MAP
1" = 2000'

LEGEND
- EX. CONTOUR
- PROP. STORM PIPE
- PROP. STORM INLET
- PROP. STORM MH
- PROP. STORM FES
- PROP. PLUNGE POOL
- PROP. WATERLINE
- PROP. FIRE HYDRANT
- PROP. WATER VALVE
- PROP. WATER TEE
- PHASE LIMIT LINE
- PROP. WALKING TRAIL

ACCESS TO BE PROVIDED TO THE EXISTING HOMES AT THE END OF NEREUS DRIVE DURING CONSTRUCTION. EXACT LOCATION TO BE DETERMINED DURING CONSTRUCTION PLAN AND HEALTH DEPARTMENT REVIEW

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(SEE TYPICAL LOT LAYOUT)
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SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)

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#172461 – DB 3409, PG 339
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NOTES:

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PUBLIC OPEN SPACE PROVIDED= 4.16 AC

10' X 70' SIGHT EASEMENTS SHOWN AT INTERSECTIONS.

SCHOOL SITE IS CURRENTLY PREPARING A TIA. (NO ADDITIONAL COMMENTS PENDING SUBMITTAL OF UPDATED TIA AND SITE PLAN PROVIDING SCHOOL SITE INFORMATION)

WATER MAINS AND HYDRANTS:
WATER MAINS SHOULD BE INSTALLED A MINIMUM OF 3 FEET FROM PAVEMENT EDGE ON THE ROAD SHOULDER NOT IN A DRAINAGE DITCH. FIRE HYDRANTS AND WATER METER BOXES SHOULD BE INSTALLED WITHIN THE 50 FOOT ROAD RIGHT-OF-WAY SPECIFICALLY WITHIN THE 47-50 FOOT AREA FROM C/L AND NOT IN A DRAINAGE DITCH, PER ORANGE-ALAMANCE WATER SYSTEM, INC STANDARDS.

FLOOD INFORMATION
NO FLOODPLAIN WITHIN 2000' OF THIS PROJECT PER FIRM MAP #3710980300K PANEL #9803, DATED 11-17-2017

WATERSHED INFORMATION
WATERSHED: NONE (NPDES PHASE II RULES APPLY)
RIVER BASIN: CAPE FEAR (HAW CREEK, CLASS WS-V;NSW)
COORDINATES: LAT. 36.051313
LONG. -79.320271
SOILS: CnB2, CnC2, CnD2

LOW DENSITY CALCULATIONS: (RESIDENTIAL PORTION OF SITE)

RESIDENTIAL ACREAGE: 62.14 AC
ALLOWED B.U.A. FOR LOW DENSITY: ±14.85 ACRES (23.9%)

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5,473 SF/LOT X 78 LOTS = 9.80 AC
TOTAL PROPOSED BUA = 14.85 AC

MAIL KIOSK PARKING AREA WILL MEET ADA REQUIREMENTS AND SHALL BE SCREENED FROM ADJACENT PROPERTY AND STREET BY NELLIE STEVENS HOLLY EVERY 20' WITH EVERGREEN SHRUBS BETWEEN THEM TO FORM A 3' TALL HEDGE.

15' LANDSCAPE EASEMENT AND SIDEWALK ALONG NC HWY 119 TO BE MAINTAINED BY THE HOA

NOTE: LEFT AND RIGHT TURN LANES TO BE DESIGNED AND CONSTRUCTED AT THIS ENTRANCE. 100' STORAGE.

STREAM BUFFER DETAIL
N.T.S.
ZONE 1: TO REMAIN UNDISTURBED.
ZONE 2: NO NEW BUILT-UPON AREA IS ALLOWED.

NOTE: 26' WIDE STREETS AND TEMPORARY TURN AROUNDS TO BE CONSTRUCTED TO NCDOT AND CITY OF MEBANE STANDARDS. STANDARDS MEET EMERGENCY SERVICE STANDARDS.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

GRAPHIC SCALE
1 inch = 100 ft.

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER/DEVELOPER:
DESCO HOLDINGS INC.
600 MARKET STREET - SUITE 206
CHAPEL HILL, NORTH CAROLINA 27516
CONTACT: ERIC DISCHINGER
PHONE: (336)317-3395

Evans Engineering, Inc.
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Phone 336-854-0877 Fax 336-854-0876
FIRM LICENSURE #C-0168

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036164 01/22/2020 ROBERT S. DISCHINGER

PROJECT: 320-14 | DESIGN BY: RSD | DRAWN BY: AL
V:\HIGHWAY 119 SITE-DESCO\Summer Haven Subdivision Plans-Rev-DS.dwg

SHEET DESCRIPTION:
PRELIMINARY SUBDIVISION PLAT
SCALE: 1"= 100' DATE: MAY 29, 2019

REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019
REVISIONS: JANUARY 29, 2020

SHEET NO. 2 5

PHASED TIME SCHEDULE:
PHASE 1: FALL 2020
PHASE 2: FALL 2021
(COMPLETION OF SITE DEVELOPMENT ONLY)

LOCATION MAP
1" = 2000'

LEGEND
- EX. CONTOUR
- PROP. STORM PIPE
- PROP. STORM INLET
- PROP. STORM MH
- PROP. STORM FES
- PROP. PLUNGE POOL
- PROP. WATERLINE
- PROP. FIRE HYDRANT
- PROP. WATER VALVE
- PROP. WATER TEE
- PHASE LIMIT LINE
- PROPOSED STREET CONTOUR
- PROP. WALKING TRAIL

ACCESS TO BE PROVIDED TO THE EXISTING HOMES AT THE END OF NEREUS DRIVE DURING CONSTRUCTION. EXACT LOCATION TO BE DETERMINED DURING CONSTRUCTION PLAN AND HEALTH DEPARTMENT REVIEW

SITE DATA:
PARCELS: PIN: 172460, 172461, 172462
ADDRESS: HWY 119
TOTAL ACREAGE= 76.14± ACRES (PER PB 76, PG 477)
EXISTING ZONING: R-20 CITY OF MEBANE ETJ
(SEE TYPICAL LOT LAYOUT)
ADJACENT ZONING: ALAMANCE COUNTY AND B-2
EXISTING LAND USE: AGRICULTURAL/RESIDENTIAL
PROPOSED USE: RESIDENTIAL AND SCHOOL SITE
PROPOSED NUMBER OF LOTS: 78
PROPOSED DENSITY: 1.26 UNIT/ACRE (EXCLUDING SCHOOL ACREAGE)
LF OF STREET: ±5,868 LF
AREA IN RIGHT-OF-WAY: ±8.24 ACRES
WATER: PUBLIC WATER (ORANGE ALAMANCE WATER SYSTEM, INC)

SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)

DEED REFERENCES:
#172460 – DB 3409, PG 348
#172461 – DB 3409, PG 339
#172462 – DB 3409, PG 343

NOTES:

10' UTILITY EASEMENT REQUIRED ALONG PUBLIC STREET RIGHT OF WAY

ALL PRIVATE COMMON AREA TO BE MAINTAINED BY THE HOME OWNERS ASSOCIATION

PUBLIC OPEN SPACE REQUIRED= 1/35 AC/LOT = 2.31 AC
PUBLIC OPEN SPACE PROVIDED= 4.16 AC

10' X 70' SIGHT EASEMENTS SHOWN AT INTERSECTIONS.

SCHOOL SITE IS CURRENTLY PREPARING A TIA. (NO ADDITIONAL COMMENTS PENDING SUBMITTAL OF UPDATED TIA AND SITE PLAN PROVIDING SCHOOL SITE INFORMATION)

WATER MAINS AND HYDRANTS:
WATER MAINS SHOULD BE INSTALLED A MINIMUM OF 3 FEET FROM PAVEMENT EDGE ON THE ROAD SHOULDER NOT IN A DRAINAGE DITCH. FIRE HYDRANTS AND WATER METER BOXES SHOULD BE INSTALLED WITHIN THE 50 FOOT ROAD RIGHT-OF-WAY SPECIFICALLY WITHIN THE 47-50 FOOT AREA FROM C/L AND NOT IN A DRAINAGE DITCH, PER ORANGE-ALAMANCE WATER SYSTEM, INC STANDARDS.

FLOOD INFORMATION
NO FLOODPLAIN WITHIN 2000' OF THIS PROJECT PER FIRM MAP #3710980300K PANEL #9803, DATED 11-17-2017

WATERSHED INFORMATION
WATERSHED: NONE (NPDES PHASE II RULES APPLY)
RIVER BASIN: CAPE FEAR (HAW CREEK, CLASS WS-V;NSW)
COORDINATES: LAT. 36.051313
LONG. -79.320271
SOILS: CnB2, CnC2, CnD2

LOW DENSITY CALCULATIONS: (RESIDENTIAL PORTION OF SITE)

RESIDENTIAL ACREAGE: 62.14 AC
ALLOWED B.U.A. FOR LOW DENSITY: ±14.85 ACRES (23.9%)

PROPOSED BUA FOR STREETS, SIDEWALK, KIOSK & GRAVEL ACCESS TO PARCEL #159686 AND OFF-SITE SEPTIC AREA: 5.05 AC
ALLOWED BUA PER LOT = 5,473 SF
5,473 SF/LOT X 78 LOTS = 9.80 AC
TOTAL PROPOSED BUA = 14.85 AC

PROPOSED CONNECTION TO EX. ORANGE-ALAMANCE WATER SYSTEM
FITTINGS LIST
1-12" X 8" T.S.&V

FITTINGS LIST
1-12" X 8" T.S.&V

MAIL KIOSK PARKING AREA WILL MEET ADA REQUIREMENTS AND SHALL BE SCREENED FROM ADJACENT PROPERTY AND STREET BY NELLIE STEVENS HOLLY EVERY 20' WITH EVERGREEN SHRUBS BETWEEN THEM TO FORM A 3' TALL HEDGE.

15' LANDSCAPE EASEMENT AND SIDEWALK ALONG NC HWY 119 TO BE MAINTAINED BY THE HOA

STREAM BUFFER DETAIL
N.T.S.

ZONE 1: TO REMAIN UNDISTURBED.
ZONE 2: NO NEW BUILT-UPON AREA IS ALLOWED.

PROPOSED CONNECTION TO EX. ORANGE-ALAMANCE WATER SYSTEM
FITTINGS LIST
1-12" X 8" T.S.&V

NOTE: 26' WIDE STREETS AND TEMPORARY TURN AROUNDS TO BE CONSTRUCTED TO NCDOT AND CITY OF MEBANE STANDARDS. STANDARDS MEET EMERGENCY SERVICE STANDARDS.

TEMPORARY VALVE AND TEMPORARY BLOW OFF ASSEMBLY TO BE PROVIDED AT PHASE LINES

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER/DEVELOPER:
DESCO HOLDINGS INC.
600 MARKET STREET - SUITE 206
CHAPEL HILL, NORTH CAROLINA 27516
CONTACT: ERIC DISCHINGER
PHONE: (336)317-3395

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6809 Destiny Drive Greensboro, NC 27409
Phone 336-454-0877 Fax 336-854-0876
NCBELS LICENSE #C-0168

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 43814 01/23/2020 ROBERT S. DISCHINGER

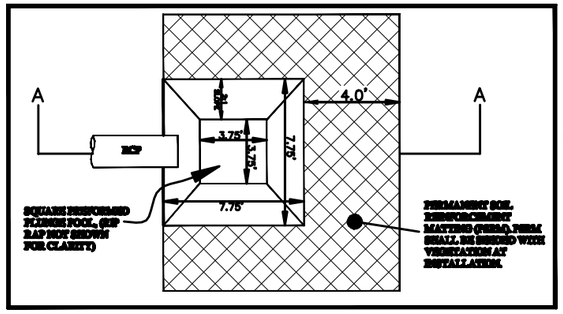
PROJECT: 320-14 DESIGN BY: RSD DRAWN BY: AL
I:\HIGHWAY 119 SITE-DESCO\Summer Haven Subdivision Plans-Rev-05.dwg

SHEET DESCRIPTION:
PRELIMINARY STORM DRAINAGE &WATER PLAN
SCALE: 1"= 100' DATE: MAY 29, 2019

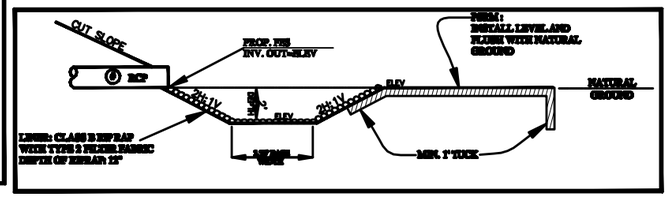
REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019
REVISIONS: JANUARY 29, 2020

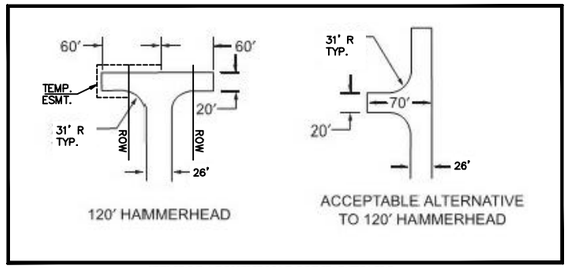
SHEET NO. 3 / 5

PLUNGE POOLS TO BE INSTALLED AT ALL PIPE OUTLETS (SEE TYPICAL DETAIL BELOW)

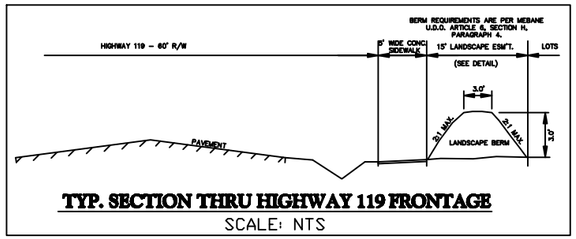


PREFORMED PLUNGE POOL SPECIFICATIONS:
RECEIVING PIPE SIZE: RCP
100-YR FLOW FROM HIGH FLOW BYPASS : Q CFS
SCOUR HOLE BOTTOM DIMENSIONS: 3.75' X 3.75'
SCOUR HOLE SIDE SLOPES: 2:1
SCOUR HOLE DEPTH: 2'
TOP ELEVATION: DESIGN
BOTTOM ELEVATION: DESIGN
RIP-RAP SIZE FOR PLUNGE POOL: CLASS B

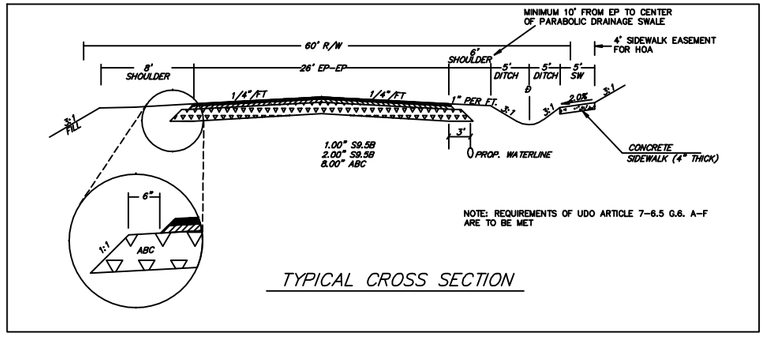




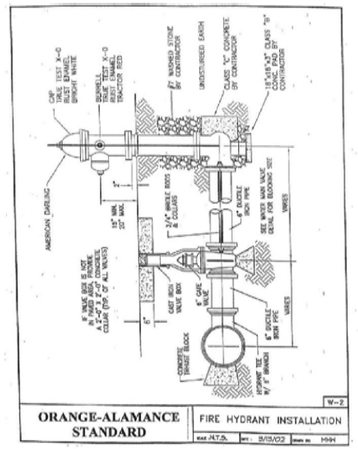
TEMPORARY TURNAROUND DETAILS
NOT TO SCALE

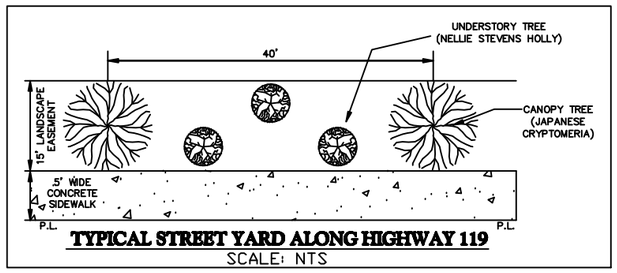


TYP. SECTION THRU HIGHWAY 119 FRONTAGE
SCALE: NTS

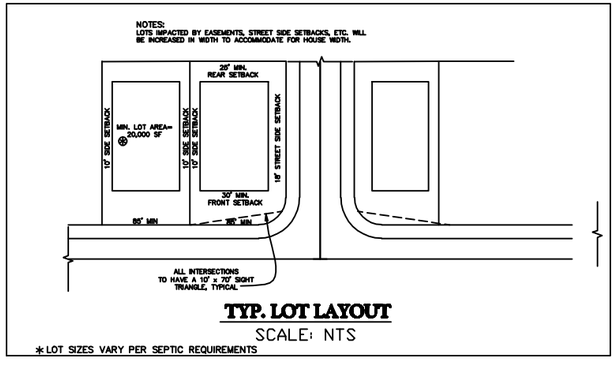


TYPICAL CROSS SECTION

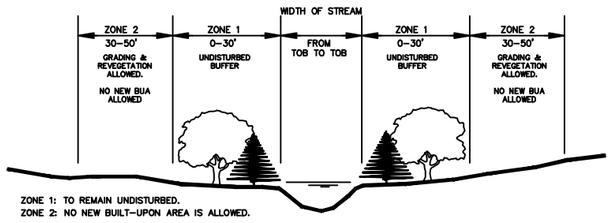




TYPICAL STREET YARD ALONG HIGHWAY 119
SCALE: NTS



TYP. LOT LAYOUT
SCALE: NTS
*LOT SIZES VARY PER SEPTIC REQUIREMENTS

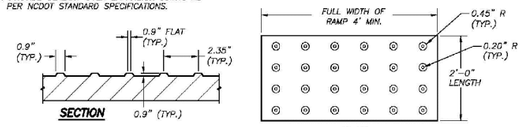


ZONE 1: TO REMAIN UNDISTURBED.
ZONE 2: NO NEW BUILT-UPON AREA IS ALLOWED.

STREAM BUFFER DETAIL
N.T.S.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.

NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. THE RAMP MAY BE YELLOW IN COLOR OR ANY COLOR WITH A 70% CONTRAST RATIO.
3. PROVIDE SEALANT OVER EXPANSION JOINTS AS PER NCDOT STANDARD SPECIFICATIONS.



DETECTABLE WARNING DOMES DETAIL

PROJECT TITLE:
SUMMERHAVEN
MELVILLE TOWNSHIP ALAMANCE COUNTY
MEBANE, NORTH CAROLINA

OWNER/DEVELOPER:
DESCO HOLDINGS INC.
600 MARKET STREET - SUITE 206
CHAPEL HILL, NORTH CAROLINA 27516
CONTACT: ERIC DISCHINGER
PHONE: (336)317-3995

Evans Engineering, Inc.
Since 1974
Engineers Surveyors Planners
4509 Tinsley Drive Greensboro, NC 27407
Phone: 336.294.4607 Fax: 336.294.4555
NORTH CAROLINA FIRM NO. C-0605

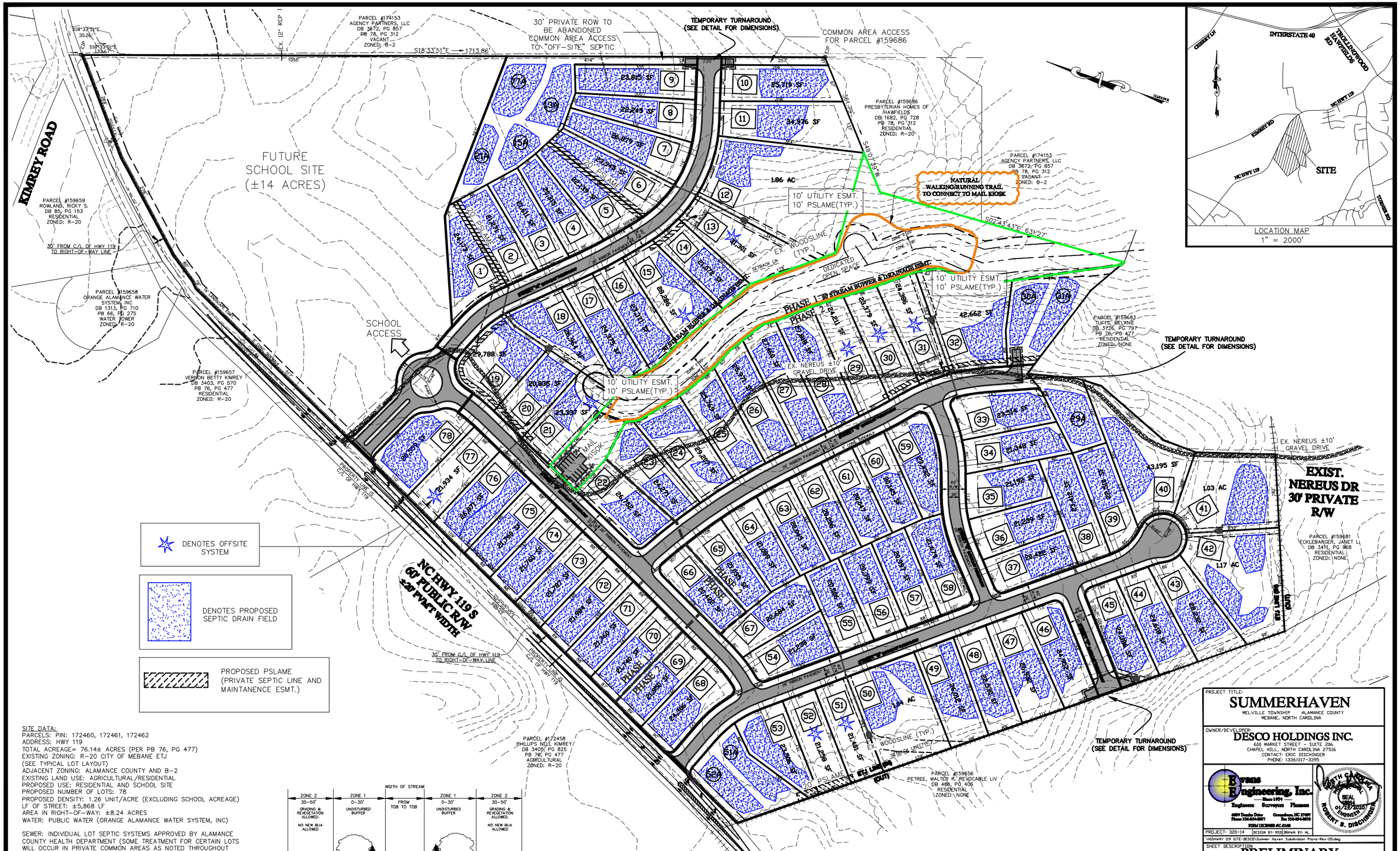
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19844 ROBERT S. DISCHINGER

PROJECT: 320-14 DESIGN BY: RSD DRAWN BY: AL
I:\HIGHWAY 119 SITE-DESIGN\Summer Haven Subdivision Plans-Rev-05.dwg

SHEET DESCRIPTION:
DETAIL PLAN

SCALE: N.T.S. DATE: MAY 29, 2019
REVISIONS: JULY 2, 2019
REVISIONS: AUGUST 15, 2019
REVISIONS: AUGUST 29, 2019
REVISIONS: SEPTEMBER 6, 2019
REVISIONS: JANUARY 29, 2020

SHEET NO. 4 / 5


KIMREY ROAD
FUTURE SCHOOL SITE (±14 ACRES)
SCHOOL ACCESS
30' PRIVATE ROW TO BE ABANDONED
COMMON AREA ACCESS TO "OFF-SITE" SEPTIC
TEMPORARY TURNAROUND (SEE DETAIL FOR DIMENSIONS)
COMMON AREA ACCESS FOR PARCEL #159686
S18°33'51"E 1713.86'
PARCEL #174153 AGENCY PARTNERS, LLC DB 3672, PG 857 PB 78, PG 312 VACANT ZONED: B-2
PARCEL #159686 PRESBYTERIAN HOMES OF MAYFIELDS DB 1682, PG 728 PB 78, PG 312 RESIDENTIAL ZONED: R-20
PARCEL #159659 ROWLAND, RICKY S. DB 85, PG 153 RESIDENTIAL ZONED: R-20
PARCEL #159658 ORANGE ALAMANCE WATER SYSTEM, INC DB 1313, PG 710 PB 66, PG 275 WATER TOWER ZONED: R-20
PARCEL #159657 VERNON BETTY KIMREY DB 3403, PG 570 PB 76, PG 477 RESIDENTIAL ZONED: R-20
30' FROM C/L OF HWY 119 TO RIGHT-OF-WAY LINE
NC HWY 119 S 60' PUBLIC R/W ±20' PVMT WIDTH
PROPERTY LINE C/L OF HWY 119
10' UTILITY ESMT. 10' PSLAME(TYP.)
NATURAL WALKING/RUNNING TRAIL TO CONNECT TO MAIL KIOSK
MAIL KIOSK
EX. WOODSLINE (TYP.)
DEDICATED OPEN SPACE
50' STREAM BUFFER & DRAINAGE ESMT.
PHASE 1
PHASE 2
EX. NEREUS ±10' GRAVEL DRIVE
EXIST. NEREUS DR 30' PRIVATE R/W
PARCEL #159683 TUFTS, MELANIE DB 3726, PG 797 PB 26, PG 477 RESIDENTIAL ZONED: NONE
PARCEL #159681 ECKLEBARGER, JANET L DB 3411, PG 968 RESIDENTIAL ZONED: NONE
PARCEL #172458 PHILLIPS NELL KIMREY DB 3405, PG 825 PB 76, PG 477 AGRICULTURAL ZONED: R-20
PARCEL #159656 PETREE, WALTER R. REVOCABLE LIV DB 488, PG 406 RESIDENTIAL ZONED: NONE
1.86 AC
1.64 AC
1.03 AC
1.17 AC
42,662 SF
S49°07'59"W 361.23'
S02°43'43"E 631.27'
N49°07'59"E 361.23'
S18°33'51"E 30.26'
S18°33'51"E 1336.7'
EX. 12" RCP
1056'
474'
1120'
25'
318'
307'
1055'
1056'
1057'
1058'
1059'
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1079'
1080'
1081'
1082'
1083'
1084'
1085'
1086'
1087'
1088'
1089'
1090'
1091'
1092'
1093'
1094'

PLANNING PROJECT REPORT

DATE	01/30/2020
PROJECT NAME	Summerhaven
APPLICANT	Desco Holdings, Inc. c/o Eric Dischinger 600 Market Street Suite 206 Chapel Hill, NC 27516 336-317-3395

CONTENTS

PROJECT NAME & APPLICANT ..... PAGE 1
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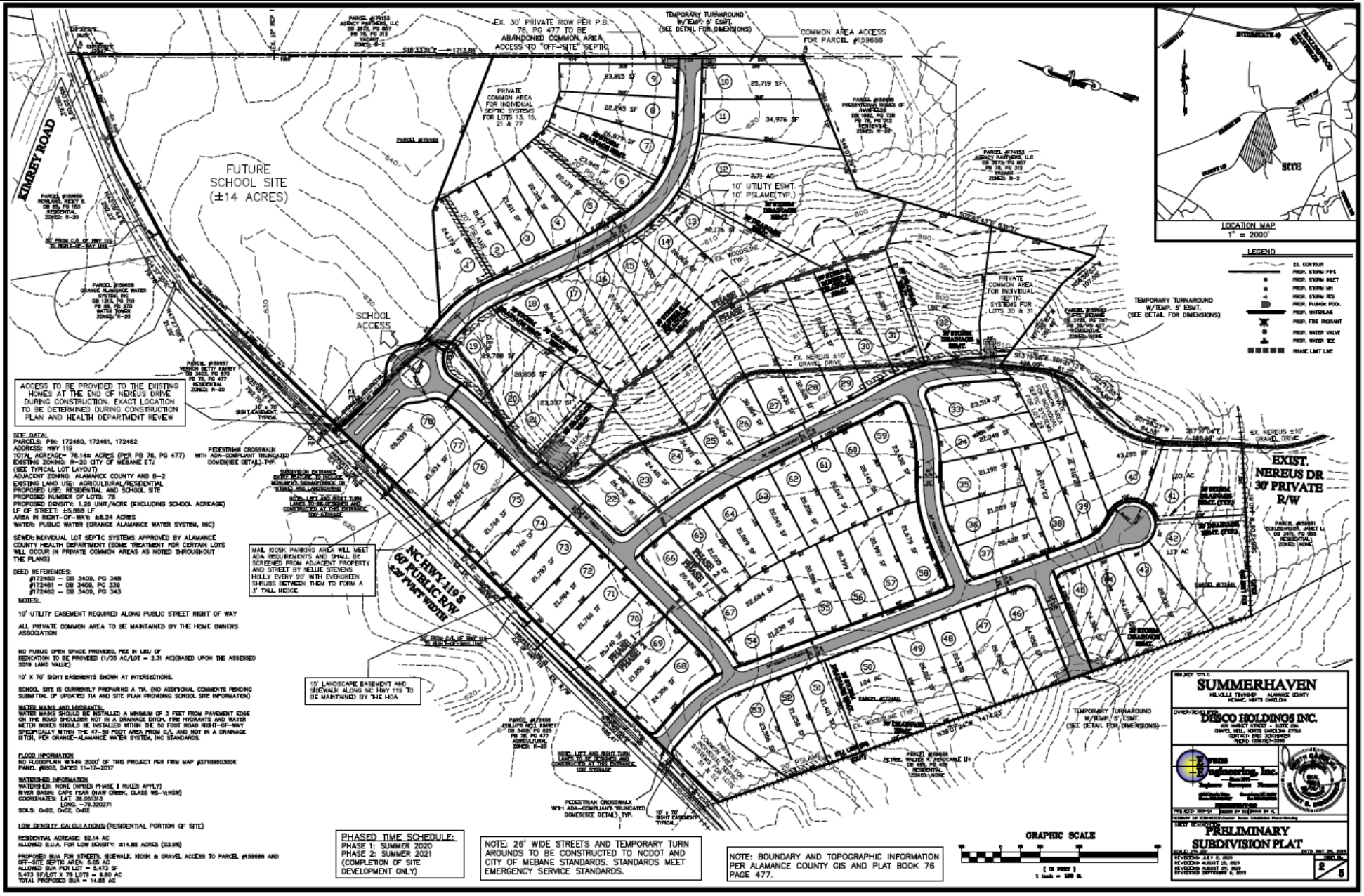
LAND USE REPORT ..... PAGE 5
UTILITIES REPORT ..... PAGE 7


KIMREY ROAD
FUTURE SCHOOL SITE (±14 ACRES)
SCHOOL ACCESS
EX. 30' PRIVATE ROW PER P.B. 76, PG 477 TO BE ABANDONED COMMON AREA ACCESS TO "OFF-SITE" SEPTIC
TEMPORARY TURNAROUND W/TEMP. 5' ESMT. (SEE DETAIL FOR DIMENSIONS)
COMMON AREA ACCESS FOR PARCEL #159686
PRIVATE COMMON AREA FOR INDIVIDUAL SEPTIC SYSTEMS FOR LOTS 13, 15, 21 & 77
PRIVATE COMMON AREA FOR INDIVIDUAL SEPTIC SYSTEMS FOR LOTS 30 & 31
10' UTILITY ESMT. 10' PSLAME (TYP.)
EX. NEREUS ±10' GRAVEL DRIVE
EXIST. NEREUS DR 30' PRIVATE R/W
NC HWY 119 S 60' PUBLIC R/W ±29' PVMT WIDTH
SITE
LOCATION MAP
1" = 2000'
LEGEND
ACCESS TO BE PROVIDED TO THE EXISTING HOMES AT THE END OF NEREUS DRIVE DURING CONSTRUCTION. EXACT LOCATION TO BE DETERMINED DURING CONSTRUCTION PLAN AND HEALTH DEPARTMENT REVIEW
MAIL KIOSK PARKING AREA WILL MEET ADA REQUIREMENTS AND SHALL BE SCREENED FROM ADJACENT PROPERTY AND STREET BY NELLIE STEVENS HOLLY EVERY 20' WITH EVERGREEN SHRUBS BETWEEN THEM TO FORM A 3' TALL HEDGE
15' LANDSCAPE EASEMENT AND SIDEWALK ALONG NC HWY 119 TO BE MAINTAINED BY THE HOA
PEDESTRIAN CROSSWALK WITH ADA-COMPLIANT TRUNCATED DOMES(SEE DETAIL)-TYP.
SUBDIVISION ENTRANCE (NOT A PART OF THIS SUBMITTAL) MONUMENT, SIGNAGE/BRICK OR STONE AND LANDSCAPING
NON-LEFT AND RIGHT TURN LANES TO BE DESIGNED AND CONSTRUCTED AT THIS ENTRANCE (BY OTHERS)
SITE DATA:
PARCELS: PIN: 172460, 172461, 172462
ADDRESS: HWY 119
TOTAL ACREAGE= 78.14± ACRES (PER PB 76, PG 477)
EXISTING ZONING: R-20 CITY OF MEBANE ETJ (SEE TYPICAL LOT LAYOUT)
ADJACENT ZONING: ALAMANCE COUNTY AND R-2
EXISTING LAND USE: AGRICULTURAL/RESIDENTIAL
PROPOSED USE: RESIDENTIAL AND SCHOOL SITE
PROPOSED NUMBER OF LOTS: 78
PROPOSED DENSITY: 1.28 UNIT/ACRE (EXCLUDING SCHOOL ACREAGE)
LF OF STREET: ±5,868 LF
AREA IN RIGHT-OF-WAY: ±8.24 ACRES
WATER: PUBLIC WATER (ORANGE ALAMANCE WATER SYSTEM, INC)
SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)
DEED REFERENCES:
#172460 – DB 3409, PG 348
#172461 – DB 3409, PG 339
#172462 – DB 3409, PG 343
NOTES:
10' UTILITY EASEMENT REQUIRED ALONG PUBLIC STREET RIGHT OF WAY
ALL PRIVATE COMMON AREA TO BE MAINTAINED BY THE HOME OWNERS ASSOCIATION
NO PUBLIC OPEN SPACE PROVIDED, FEE IN LIEU OF DEDICATION TO BE PROVIDED (1/35 AC/LOT = 2.31 AC)(BASED UPON THE ASSESSED 2019 LAND VALUE)
10' X 70' SIGHT EASEMENTS SHOWN AT INTERSECTIONS.
SCHOOL SITE IS CURRENTLY PREPARING A TIA. (NO ADDITIONAL COMMENTS PENDING SUBMITTAL OF UPDATED TIA AND SITE PLAN PROVIDING SCHOOL SITE INFORMATION)
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FLOOD INFORMATION
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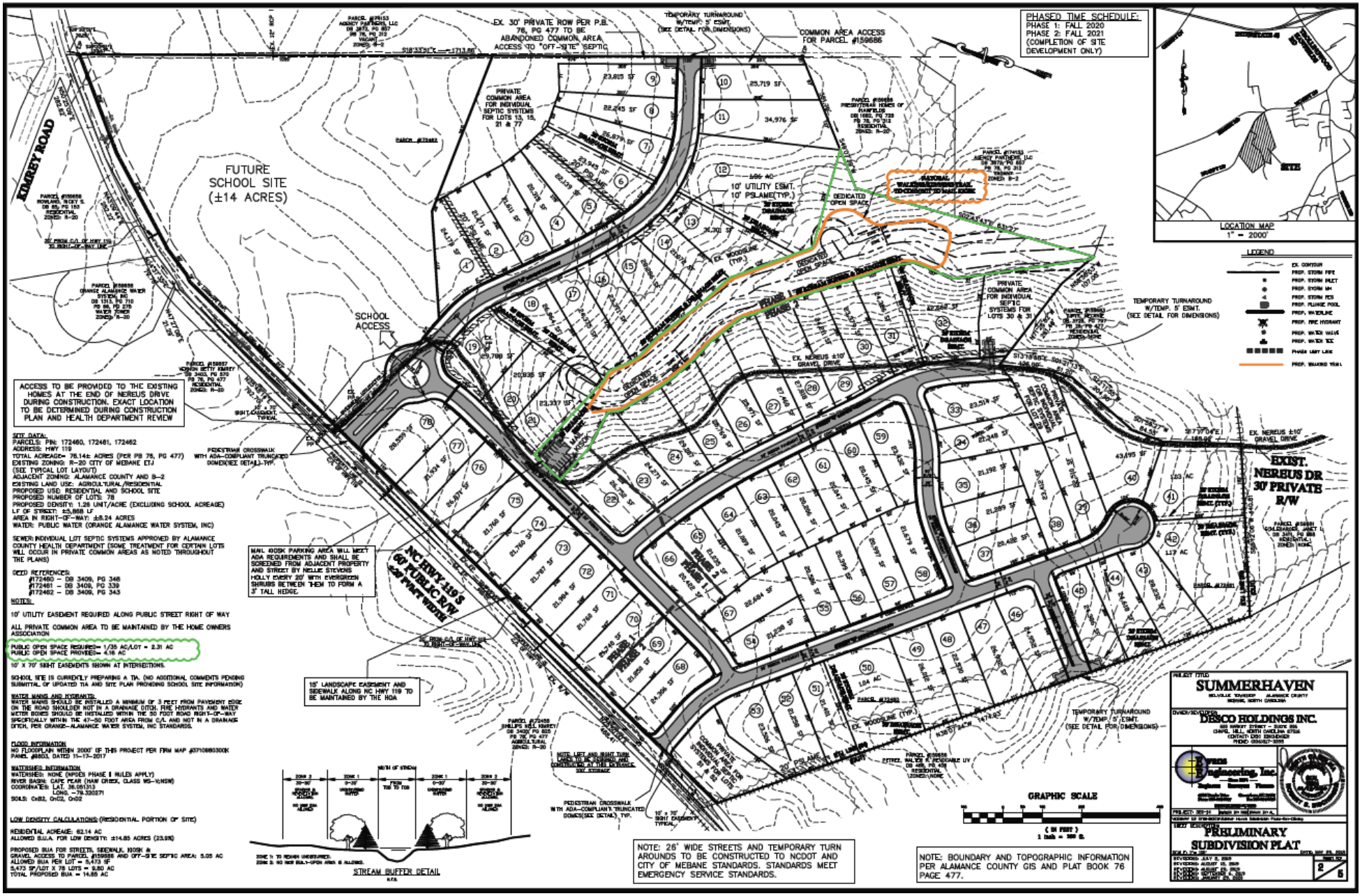
WATERSHED INFORMATION
WATERSHED: NONE (NPDES PHASE II RULES APPLY)
RIVER BASIN: CAPE FEAR (HAW CREEK, CLASS WS-V;NSW)
COORDINATES: LAT. 36.051913
LONG. -79.320271
SOILS: ChB2, ChC2, ChD2
LOW DENSITY CALCULATIONS (RESIDENTIAL PORTION OF SITE)
RESIDENTIAL ACREAGE: 52.14 AC
ALLOWED B.U.A. FOR LOW DENSITY: ±14.85 ACRES (23.9%)
PROPOSED BUA FOR STREETS, SIDEWALK, KIOSK & GRAVEL ACCESS TO PARCEL #159686 AND OFF-SITE SEPTIC AREA: 5.05 AC
ALLOWED BUA PER LOT = 5,473 SF
5,473 SF/LOT X 78 LOTS = 9.80 AC
TOTAL PROPOSED BUA = 14.85 AC
PHASED TIME SCHEDULE:
PHASE 1: SUMMER 2020
PHASE 2: SUMMER 2021
(COMPLETION OF SITE DEVELOPMENT ONLY)
NOTE: 26' WIDE STREETS AND TEMPORARY TURN AROUNDS TO BE CONSTRUCTED TO NCDOT AND CITY OF MEBANE STANDARDS. STANDARDS MEET EMERGENCY SERVICE STANDARDS.
NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.
GRAPHIC SCALE
SUMMERHAVEN
DESCO HOLDINGS INC.
PRELIMINARY SUBDIVISION PLAT


PHASED TIME SCHEDULE:
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PHASE 2: FALL 2021
(COMPLETION OF SITE DEVELOPMENT ONLY)
LOCATION MAP
1" = 2000'
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TEMPORARY TURNAROUND W/TEMP. 5' ESMT. (SEE DETAIL FOR DIMENSIONS)
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KIMREY ROAD
FUTURE SCHOOL SITE (±14 ACRES)
PRIVATE COMMON AREA FOR INDIVIDUAL SEPTIC SYSTEMS FOR LOTS 13, 15, 21 & 77
10' UTILITY ESMT. 10' PSLAME(TYP.)
DEDICATED OPEN SPACE
SCHOOL ACCESS
PRIVATE COMMON AREA FOR INDIVIDUAL SEPTIC SYSTEMS FOR LOTS 30 & 31
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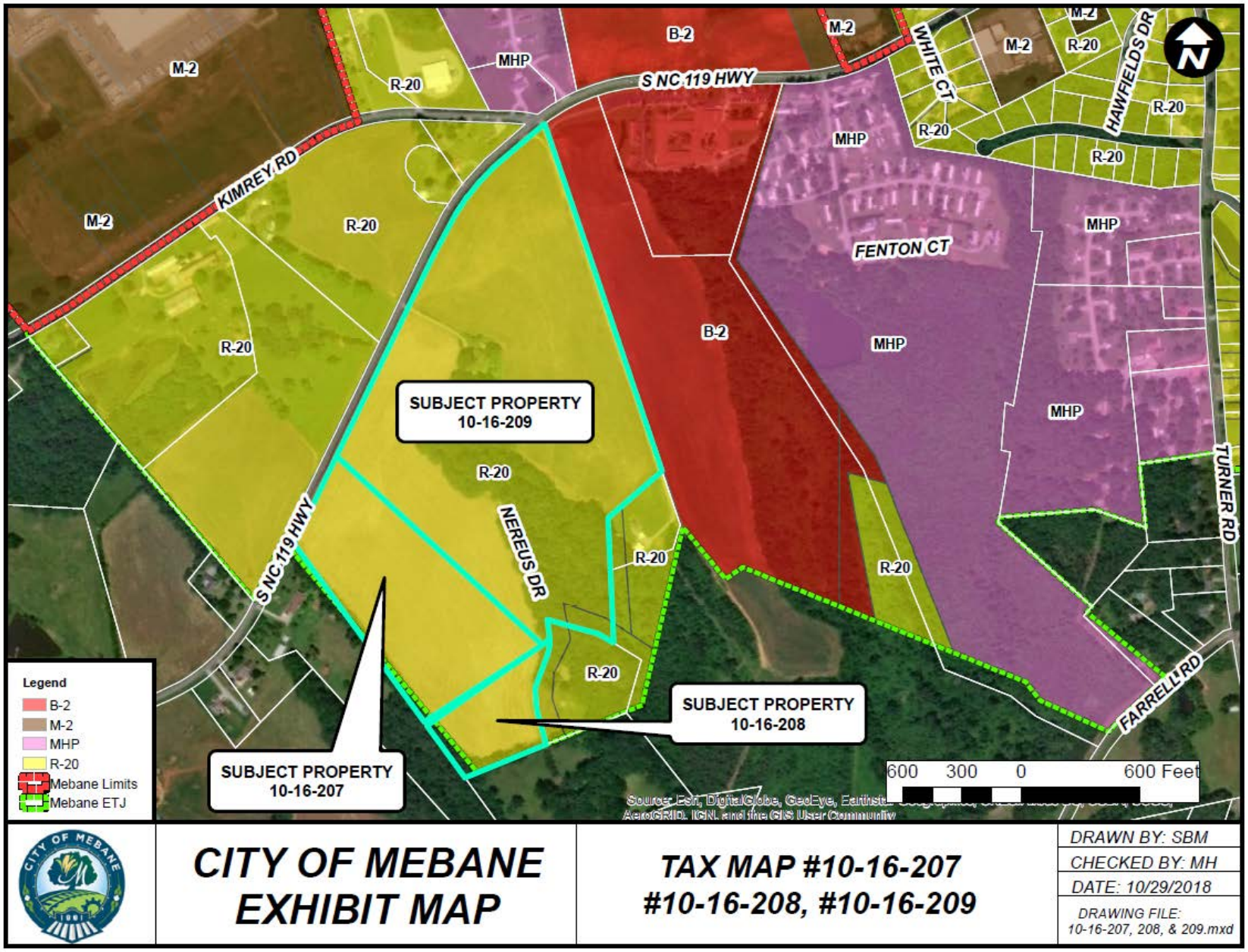
NC HWY 119 S 60' PUBLIC R/W 40' PAVT WIDTH
15' LANDSCAPE EASEMENT AND SIDEWALK ALONG NC HWY 119 TO BE MAINTAINED BY THE HOA
PEDESTRIAN CROSSWALK WITH ADA-COMPLIANT TRUNCATED DOMES(SEE DETAIL)-TYP.
NOTE: LEFT AND RIGHT TURN LANES TO BE DESIGNED AND CONSTRUCTED AS PER NCDOT REQUIREMENTS
STREAM BUFFER DETAIL
GRAPHIC SCALE
NOTE: 26' WIDE STREETS AND TEMPORARY TURN AROUNDS TO BE CONSTRUCTED TO NCDOT AND CITY OF MEBANE STANDARDS. STANDARDS MEET EMERGENCY SERVICE STANDARDS.
NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.
SUMMERHAVEN
DISCO HOLDINGS INC.
PRELIMINARY SUBDIVISION PLAT
SITE DATA:
PARCELS: PIN: 172460, 172461, 172462
ADDRESS: HWY 119
TOTAL ACREAGE= 76.14± ACRES (PCR PB 76, PG 477)
EXISTING ZONING: R-20 CITY OF MEBANE ETJ
(SEE TYPICAL LOT LAYOUT)
ADJACENT ZONING: ALAMANCE COUNTY AND B-2
EXISTING LAND USE: AGRICULTURAL/RESIDENTIAL
PROPOSED USE: RESIDENTIAL AND SCHOOL SITE
PROPOSED NUMBER OF LOTS: 78
PROPOSED DENSITY: 1.28 UNIT/ACRE (EXCLUDING SCHOOL ACREAGE)
LF OF STREET: ±5,868 LF
AREA IN RIGHT-OF-WAY: ±8.24 ACRES
WATER: PUBLIC WATER (ORANGE ALAMANCE WATER SYSTEM, INC)
SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)
DEED REFERENCES:
#172460 – DB 3409, PG 348
#172461 – DB 3409, PG 339
#172462 – DB 3409, PG 343
NOTES:
10' UTILITY EASEMENT REQUIRED ALONG PUBLIC STREET RIGHT OF WAY
ALL PRIVATE COMMON AREA TO BE MAINTAINED BY THE HOME OWNERS ASSOCIATION
PUBLIC OPEN SPACE REQUIRED= 1/35 AC/LOT = 2.31 AC
PUBLIC OPEN SPACE PROVIDED= 4.16 AC
10' x 70' SIGHT EASEMENTS SHOWN AT INTERSECTIONS.
SCHOOL SITE IS CURRENTLY PREPARING A TIA. (NO ADDITIONAL COMMENTS PENDING SUBMITTAL OF UPDATED TIA AND SITE PLAN PROVIDING SCHOOL SITE INFORMATION)
WATER MAINS AND HYDRANTS:
WATER MAINS SHOULD BE INSTALLED A MINIMUM OF 3 FEET FROM PAVEMENT EDGE ON THE ROAD SHOULDER NOT IN A DRAINAGE DITCH. FIRE HYDRANTS AND WATER METER BOXES SHOULD BE INSTALLED WITHIN THE 50 FOOT ROAD RIGHT-OF-WAY SPECIFICALLY WITHIN THE 47-50 FOOT AREA FROM C/L AND NOT IN A DRAINAGE DITCH, PER ORANGE-ALAMANCE WATER SYSTEM, INC STANDARDS.
FLOOD INFORMATION:
NO FLOODPLAIN WITHIN 2000' OF THIS PROJECT PER FIRM MAP #3710660300K PANEL #0603, DATED 11-17-2017
WATERSHED INFORMATION:
WATERSHED: NONE (WPOS PHASE II RULES APPLY)
RIVER BASIN: CAPE FEAR (HAW CREEK, CLASS WS-IV;NSW)
COORDINATES: LAT. 36.081313
LONG. -79.320271
SOILS: CnB2, CnC2, CnD2
LOW DENSITY CALCULATIONS: (RESIDENTIAL PORTION OF SITE)
RESIDENTIAL ACREAGE: 62.14 AC
ALLOWED BUA FOR LOW DENSITY: ±14.85 ACRES (23.9%)
PROPOSED BUA FOR STREETS, SIDEWALK, KIOSK & GRAVEL ACCESS TO PARCEL #159686 AND OFF-SITE SEPTIC AREA: 5.05 AC
ALLOWED BUA PER LOT = 5,473 SF
5,473 SF/LOT X 78 LOTS = 9.80 AC
TOTAL PROPOSED BUA = 14.85 AC

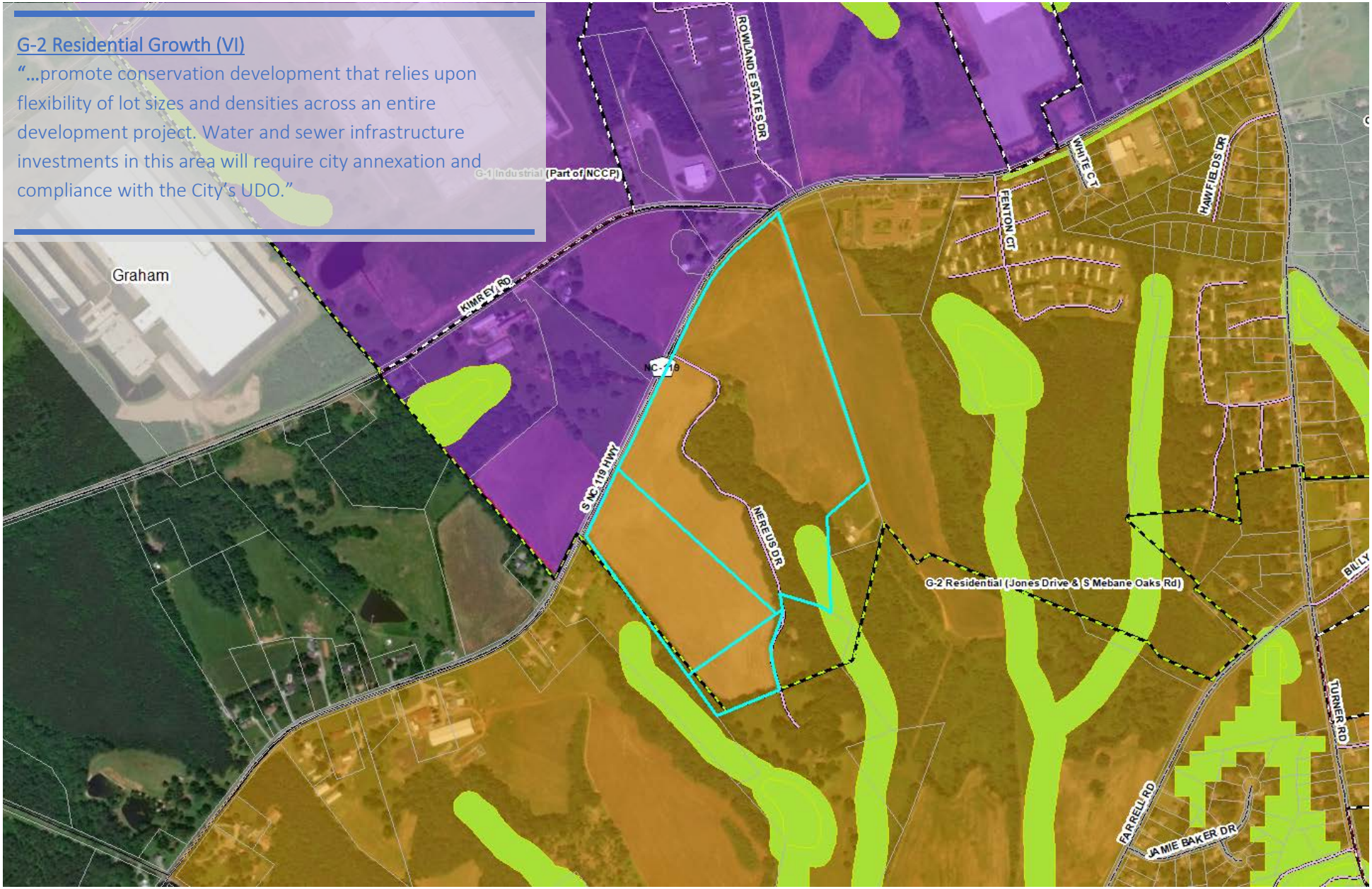
ZONING REPORT

EXISTING ZONE	R-20
REQUESTED ACTION	Subdivision
CONDITIONAL ZONE?	☐YES ☒NO
CURRENT LAND USE	Agriculture (General Farm)
PARCEL SIZE	+/-76.14 acres.
PROPERTY OWNERS	Kimrey Redlands, LLC 2425 Kimrey Road Mebane, NC 27302 GPINs 9803562278, 9803578217, 9803652931
LEGAL DESCRIPTION	Three properties totaling +/-76.14 acres on NC Highway 119 at Nereus Drive, a private unpaved road, are proposed for a 78-lot subdivision.
AREA ZONING & DISTRICTS	The properties to the south and west of the project site are all outside the City of Mebane extraterritorial jurisdiction (ETJ) and are not zoned. They are used for rural residential purposes. The properties north across NC 119 are zoned R-20 with the exception of the mobile home park on Rowland Estates Drive. The property immediately to the east is zoned B-2 and has historically supported a nursing and convalescent home and an agricultural lot. The proposed project lies within the City's G-2 Residential Primary Growth Area (Jones Drive & Mebane Oaks Road).
SITE HISTORY	All three properties are "General Farm Use" parcels and have historically been farmed for row crops.
	STAFF ANALYSIS
CITY LIMITS?	☐YES ☒NO
PROPOSED USE BY-RIGHT?	☒YES ☐NO
SPECIAL USE?	☐YES ☒NO
EXISTING UTILITIES?	☐YES ☒NO
POTENTIAL IMPACT OF PROPOSED ZONE	N/A – Use permitted by-right


M-2
B-2
MHP
R-20
S NC 119 HWY
KIMREY RD
WHITE CT
HAWFIELDS DR
FENTON CT
TURNER RD
FARRELL RD
NEREUS DR
SUBJECT PROPERTY
10-16-209
SUBJECT PROPERTY
10-16-208
SUBJECT PROPERTY
10-16-207
Legend
B-2
M-2
MHP
R-20
Mebane Limits
Mebane ETJ
600 300 0 600 Feet
CITY OF MEBANE
EXHIBIT MAP
TAX MAP #10-16-207
#10-16-208, #10-16-209
DRAWN BY: SBM
CHECKED BY: MH
DATE: 10/29/2018
DRAWING FILE:
10-16-207, 208, & 209.mxd

LAND USE REPORT

EXISTING LAND USE	Agriculture
PROPOSED LAND USE & REQUESTED ACTION	The applicant is requesting approval of a preliminary subdivision plat for 78 lots on three properties totaling +/-76.14 acres on NC Highway 119 at Nereus Drive, a private unpaved road.
PROPOSED ZONING	N/A
PARCEL SIZE	+/-76.14 acres (3 properties)
AREA LAND USE	The project site is completely surrounded by large-lot rural residential and agricultural properties. Caddy-corner to the northeast of the property is a mobile home park. Another mobile home park is close by to the east. Both the Lidl and Walmart Distribution Centers in the NC Commerce Park lie approximately 1,200 feet to the north, backing up to Kimrey Road.
ONSITE AMENITIES & DEDICATIONS	The applicant proposes to construct all internal roads with 5' sidewalks, as well as along NC 119. Approximately 14 acres of land has been proposed for a "Future School Site". Bradford Academy has submitted a traffic impact analysis (TIA) for a potential school development on this property but no site plan has been submitted to the City at this time. A school requires a special use permit that must be considered by the Board of Adjustment.
WAIVER REQUESTED	☐YES ☒NO
DESCRIPTION OF REQUESTED WAIVER(S)	Payment *in lieu* of providing +/-2.31 ac private recreation. According to Alamance County Tax Department, this payment would be $15,996. Since then, the developer is offering a public recreation amenity, per the City's UDO.
CONSISTENCY WITH *MEBANE BY DESIGN* STRATEGY	
LAND USE GROWTH STRATEGY DESIGNATION(S)	G-2 Secondary Residential Growth Area VI (Jones Dr. & Mebane Oaks Rd.)
OTHER LAND USE CONSIDERATIONS	The proposed project's stream is within the Conservation Area identified in *Mebane By Design*. The stream buffers are located on lots and will be recorded as such. The property owners will need to maintain the 50' buffers as required by the Jordan Lake Nutrient Management Strategy.
MEBANE BY DESIGN GOALS & OBJECTIVES SUPPORTED	PUBLIC FACILITIES AND INFRASTRUCTURE 2.1 Improve safety and confidence of pedestrian access across major streets, including I-40/85, US-70, NC-119, Mebane-Oaks Road and other highly-traveled roadways.
MEBANE BY DESIGN GOALS & OBJECTIVES NOT SUPPORTED	N/A


G-2 Residential Growth (VI)
"...promote conservation development that relies upon flexibility of lot sizes and densities across an entire development project. Water and sewer infrastructure investments in this area will require city annexation and compliance with the City's UDO."
Graham
KIMREY RD
ROWLAND ESTATES DR
G-1 Industrial (Part of NCCP)
S NC 119 HWY
NC-119
NEREUS DR
WHITE CT
FENTON CT
HAWFIELDS DR
G-2 Residential (Jones Drive & S Mebane Oaks Rd)
FARRELL RD
JAMIE BAKER DR
TURNER RD

UTILITIES REPORT

AVAILABLE UTILITIES	☐YES ☒NO
PROPOSED UTILITY NEEDS	The project's water and sewer services will not be served by the City.
UTILITIES PROVIDED BY APPLICANT	Applicant has pledged to provide all on- and off-site utilities for 78 residential units. An Orange Alamance Water System Inc., 12" service line on NC 119 will serve 8" & 6" PVC water lines to provide adequate supply and pressure. On-site septic systems will treat residential sewage needs. A preliminary evaluation of the soils made by a soil scientist shows soils appropriate for this purpose on each lot (see Sheet 5).
MUNICIPAL CAPACITY TO ABSORB PROJECT	N/A – the utilities will not be maintained or operated by the City.
CONSISTENCY WITH MEBANE LONG RANGE UTILITY PLAN?	☐YES ☐NO N/A - the City utilities will not serve the development
ADEQUATE STORMWATER CONTROL?	☐YES ☐NO Stormwater controls not required due to the use of the low-density (<24% impervious cover) option for development.
INNOVATIVE STORMWATER MANAGEMENT?	☐YES ☒NO
	TRANSPORTATION NETWORK STATUS
CURRENT CONDITIONS	NC 119 is a NC DOT route with a 2015 average traffic volume of 6,700 trips per day and a Level Of Service (LOS) C. NC 119 north of its intersection with Trollingwood Hawfields Road is funded for widening by STIP project U-6013 which should improve local conditions. Other improvements at the intersection of Turner Road and NC 119 are being made by the developer of the Cambridge Park major subdivision project but will not be tied to development of the Summerhaven project.
TRAFFIC IMPACT ANALYSIS REQUIRED?	☒YES ☒NO SEE DESCRIPTION BELOW
DESCRIPTION OR RECOMMENDED IMPROVEMENTS	The 14-acre potential school area is anticipated to have a student population of 450. A TIA was submitted 10/25/19 for the potential impacts and transportation needs of this school, both internal and external to the property. This TIA recommended road widening for right and left turn lanes with 100' of storage at both entrances. The TIA also recommended optimizing the traffic signals at the intersection of NC 119 and Trollingwood Hawfields Road. NC DOT provided a letter stating that the site and offsite improvements present no concerns. The City contracted with Ramey, Kemp, and Associates to similarly evaluate the TIA and they also found the proposed transportation improvement satisfactory.
CONSISTENCY WITH MEBANE'S TRANSPORTATION PLANS?	☒YES ☐NO
MULTIMODAL IMPROVEMENTS PROVIDED BY APPLICANT?	☒YES ☐NO
DESCRIPTION OF MULTIMODAL IMPROVEMENTS	Sidewalks will be provided throughout the project and along the 2,500-ft NC 119 frontage of the project site.

STAFF RECOMMENDATION

STAFF ZONING RECOMMENDATION	☐ APPROVE ☐ DISAPPROVE
STAFF SPECIAL USE FINDING	☐ CONSISTENT ☐ NOT CONSISTENT……..WITH *MEBANE BY DESIGN*
RATIONALE	Staff finds that the proposed development "Summerhaven" is compliant with most of the requirements of the City of Mebane Unified Development Ordinance for a major subdivision in a R-20 zoning district, though the public recreation amenity proposed for the subdivision has not been evaluated by the City Parks and Recreation Director, nor for its Unity, Location, Physical Characteristics, and Accessibility, as required by the UDO.
PUBLIC INTEREST CONFORMANCE?	
ENDANGER PUBLIC HEALTH OR SAFETY?	☐YES ☐NO
SUBSTANTIALLY INJURE THE VALUE OF ADJOINING OR ABUTTING PROPERTY?	☐YES ☐NO
HARMONIOUS WITH THE AREA IN WHICH IT IS LOCATED?	☐YES ☐NO
CONSISTENT WITH *MEBANE BY DESIGN*, THE MUNICIPAL COMPREHENSIVE LAND DEVELOPMENT PLAN?	☐ The application is consistent with the objectives and policies for growth and development contained in the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, and, as such, has been recommended for approval. ☐ The application is not fully consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, but is otherwise in the public interest and has been recommended for approval. The Comprehensive Land Development Plan must be amended to reflect this approval and ensure consistency for the City of Mebane's long-range planning objectives and policies. ☐ The application is not consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, and, as such, has been recommended for denial.

PLANNING PROJECT REPORT

DATE	01/30/2020
PROJECT NAME	Summerhaven
APPLICANT	Desco Holdings, Inc. c/o Eric Dischinger 600 Market Street Suite 206 Chapel Hill, NC 27516 336-317-3395

CONTENTS

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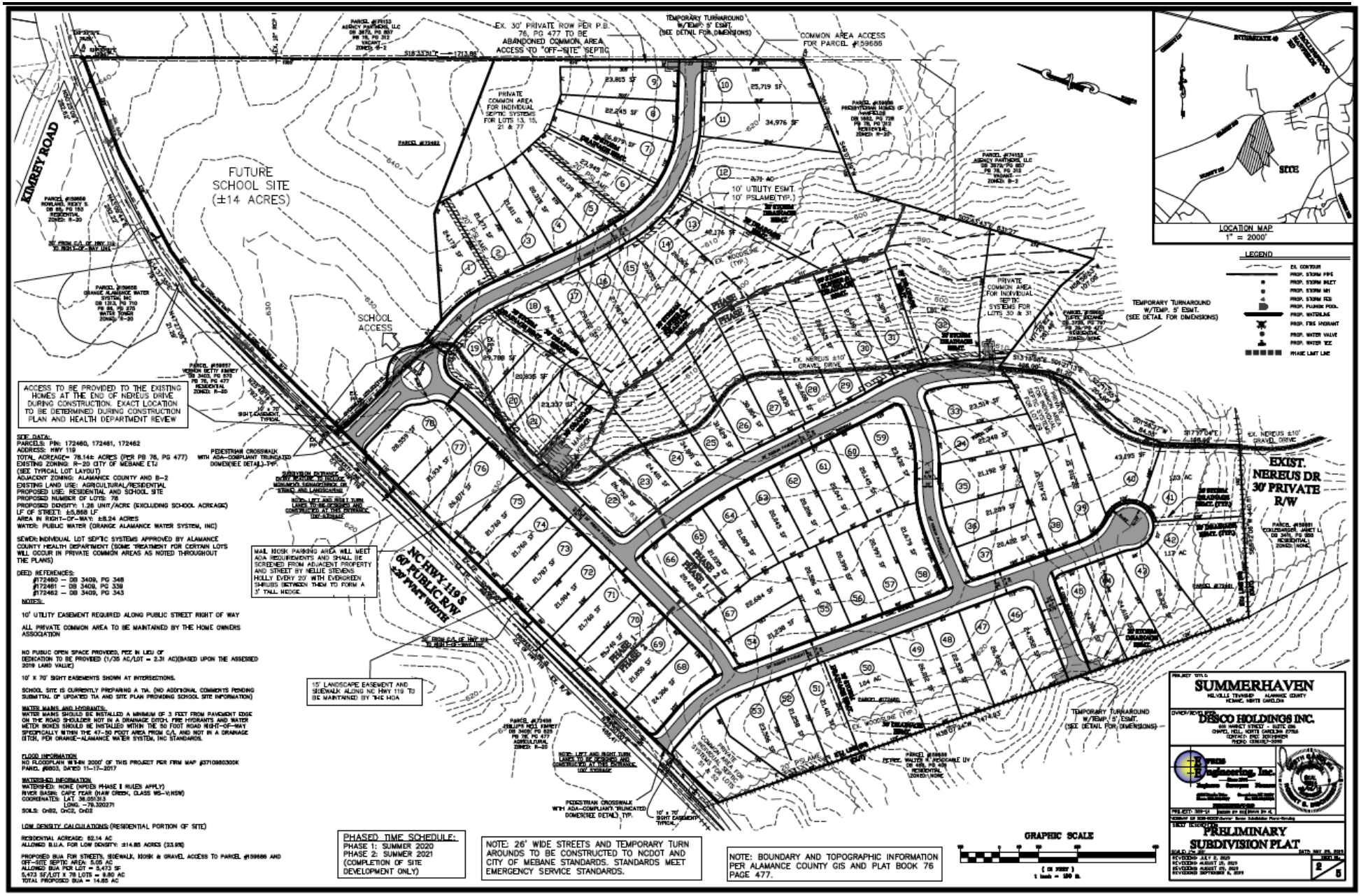
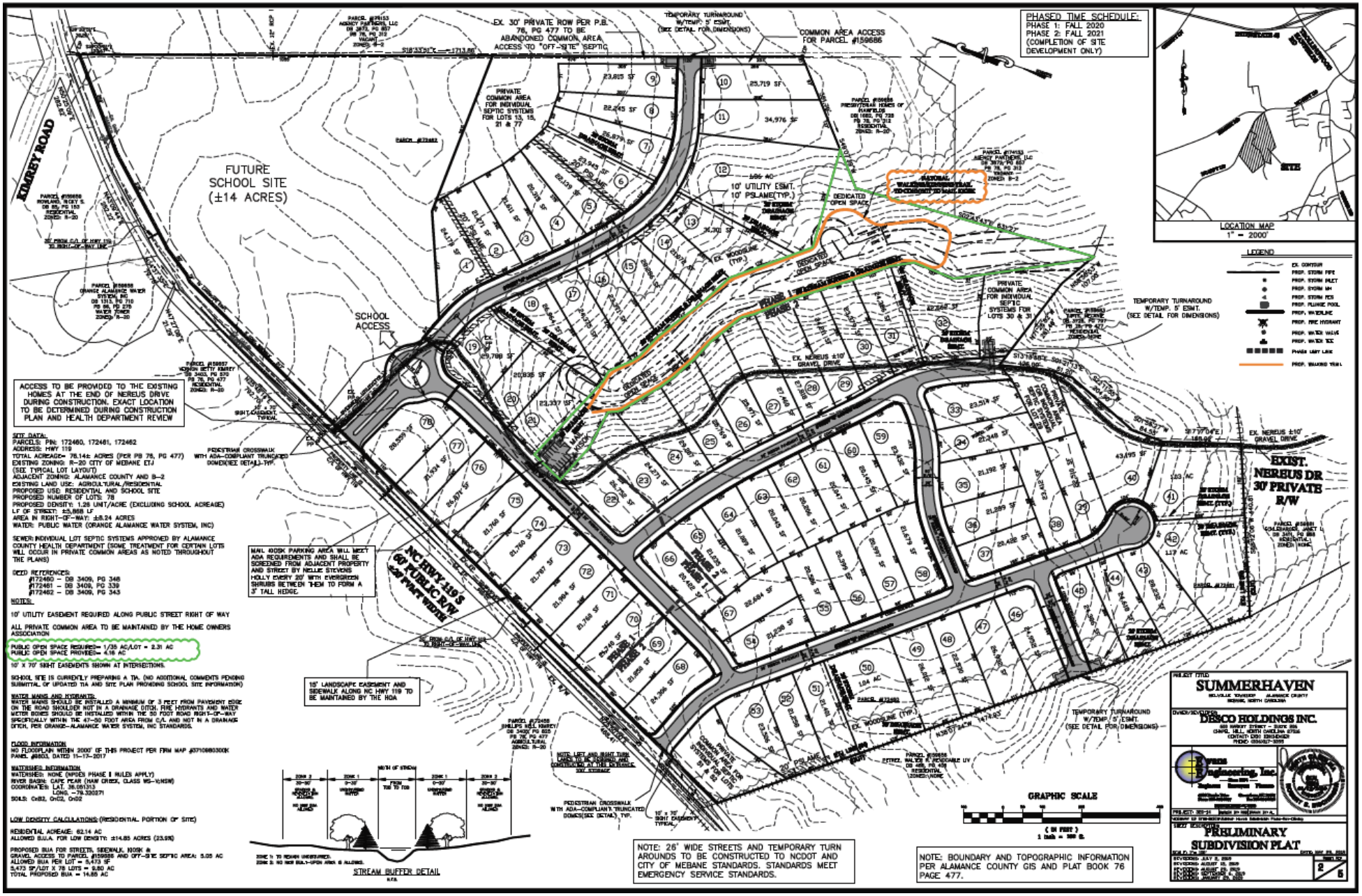

KIMREY ROAD
FUTURE SCHOOL SITE (±14 ACRES)
SCHOOL ACCESS
EX. 30' PRIVATE ROW PER P.B. 76, PG 477 TO BE ABANDONED COMMON AREA ACCESS TO "OFF-SITE" SEPTIC
TEMPORARY TURNAROUND W/TEMP. 5' ESMT. (SEE DETAIL FOR DIMENSIONS)
COMMON AREA ACCESS FOR PARCEL #159686
PRIVATE COMMON AREA FOR INDIVIDUAL SEPTIC SYSTEMS FOR LOTS 13, 15, 21 & 77
10' UTILITY ESMT. 10' PSLAMB(TYP.)
PRIVATE COMMON AREA FOR INDIVIDUAL SEPTIC SYSTEMS FOR LOTS 30 & 31
TEMPORARY TURNAROUND W/TEMP. 5' ESMT. (SEE DETAIL FOR DIMENSIONS)
EX. NEREUS ±10' GRAVEL DRIVE
EXIST. NEREUS DR 30' PRIVATE R/W
NC HWY 119 S 60' PUBLIC R/W ±99' PVMT WIDTH
TEMPORARY TURNAROUND W/TEMP. 5' ESMT. (SEE DETAIL FOR DIMENSIONS)
SITE
LOCATION MAP 1" = 2000'
LEGEND
ACCESS TO BE PROVIDED TO THE EXISTING HOMES AT THE END OF NEREUS DRIVE DURING CONSTRUCTION. EXACT LOCATION TO BE DETERMINED DURING CONSTRUCTION PLAN AND HEALTH DEPARTMENT REVIEW
SITE DATA:
PARCELS: PIN: 172460, 172461, 172462
ADDRESS: HWY 119
TOTAL ACREAGE= 78.14± ACRES (PER PB 76, PG 477)
EXISTING ZONING: R-20 CITY OF MEBANE ETJ (SEE TYPICAL LOT LAYOUT)
ADJACENT ZONING: ALAMANCE COUNTY AND R-2
EXISTING LAND USE: AGRICULTURAL/RESIDENTIAL
PROPOSED USE: RESIDENTIAL AND SCHOOL SITE
PROPOSED NUMBER OF LOTS: 78
PROPOSED DENSITY: 1.28 UNIT/ACRE (EXCLUDING SCHOOL ACREAGE)
LF OF STREET: ±5,868 LF
AREA IN RIGHT-OF-WAY: ±8.24 ACRES
WATER: PUBLIC WATER (ORANGE ALAMANCE WATER SYSTEM, INC)
SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)
DEED REFERENCES:
#172460 – DB 3409, PG 348
#172461 – DB 3409, PG 339
#172462 – DB 3409, PG 343
NOTES:
10' UTILITY EASEMENT REQUIRED ALONG PUBLIC STREET RIGHT OF WAY
ALL PRIVATE COMMON AREA TO BE MAINTAINED BY THE HOME OWNERS ASSOCIATION
NO PUBLIC OPEN SPACE PROVIDED, FEE IN LIEU OF DEDICATION TO BE PROVIDED (1/35 AC/LOT = 2.31 AC)(BASED UPON THE ASSESSED 2019 LAND VALUE)
10' X 70' SIGHT EASEMENTS SHOWN AT INTERSECTIONS.
SCHOOL SITE IS CURRENTLY PREPARING A TIA. (NO ADDITIONAL COMMENTS PENDING SUBMITTAL OF UPDATED TIA AND SITE PLAN PROVIDING SCHOOL SITE INFORMATION)
WATER MAINS AND HYDRANTS:
WATER MAINS SHOULD BE INSTALLED A MINIMUM OF 3 FEET FROM PAVEMENT EDGE ON THE ROAD SHOULDER NOT IN A DRAINAGE DITCH. FIRE HYDRANTS AND WATER METER BOXES SHOULD BE INSTALLED WITHIN THE 50 FOOT ROAD RIGHT-OF-WAY SPECIFICALLY WITHIN THE 47-50 FOOT AREA FROM C/L AND NOT IN A DRAINAGE DITCH, PER ORANGE-ALAMANCE WATER SYSTEM, INC STANDARDS.
FLOOD INFORMATION
NO FLOODPLAIN WITHIN 2000' OF THIS PROJECT PER FIRM MAP #3710980300K PANEL #9800, DATED 11-17-2017
WATERSHED INFORMATION
WATERSHED: NONE (NPDES PHASE II RULES APPLY)
RIVER BASIN: CAPE FEAR (HAW CREEK, CLASS WS-V;NSW)
COORDINATES: LAT. 36.055193 N
LONG. -79.320271
SOILS: ChB2, ChC2, ChD2
LOW DENSITY CALCULATIONS (RESIDENTIAL PORTION OF SITE)
RESIDENTIAL ACREAGE: 52.14 AC
ALLOWED B.U.A. FOR LOW DENSITY: ±14.85 ACRES (23.9%)
PROPOSED BUA FOR STREETS, SIDEWALK, HOSK & GRAVEL ACCESS TO PARCEL #159686 AND OFF-SITE SEPTIC AREA: 5.05 AC
ALLOWED BUA PER LOT = 5,472 SF
5,473 SF/LOT X 78 LOTS = 9.80 AC
TOTAL PROPOSED BUA = 14.85 AC
MAIL KIOSK PARKING AREA WILL MEET ADA REQUIREMENTS AND SHALL BE SCREENED FROM ADJACENT PROPERTY AND STREET BY NELLIE STEVENS HOLLY EVERY 20' WITH EVERGREEN SHRUBS BETWEEN THEM TO FORM A 3' TALL HEDGE
15' LANDSCAPE EASEMENT AND SIDEWALK ALONG NC HWY 119 TO BE MAINTAINED BY THE HOA
PHASED TIME SCHEDULE:
PHASE 1: SUMMER 2020
PHASE 2: SUMMER 2021
(COMPLETION OF SITE DEVELOPMENT ONLY)
NOTE: 26' WIDE STREETS AND TEMPORARY TURN AROUNDS TO BE CONSTRUCTED TO NCDOT AND CITY OF MEBANE STANDARDS. STANDARDS MEET EMERGENCY SERVICE STANDARDS.
NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PER ALAMANCE COUNTY GIS AND PLAT BOOK 76 PAGE 477.
GRAPHIC SCALE
SUMMERHAVEN
OWNER/DEVELOPER: DESCO HOLDINGS INC.
PRELIMINARY SUBDIVISION PLAT


PHASED TIME SCHEDULE:
PHASE 1: FALL 2020
PHASE 2: FALL 2021
(COMPLETION OF SITE DEVELOPMENT ONLY)
LOCATION MAP
1" = 2000'
LEGEND
EX. 30' PRIVATE ROW PER P.B. 76, PG 477 TO BE ABANDONED COMMON AREA ACCESS TO "OFF-SITE" SEPTIC
TEMPORARY TURNAROUND W/TEMP. 5' ESMT. (SEE DETAIL FOR DIMENSIONS)
COMMON AREA ACCESS FOR PARCEL #159686
KIMREY ROAD
FUTURE SCHOOL SITE (±14 ACRES)
PRIVATE COMMON AREA FOR INDIVIDUAL SEPTIC SYSTEMS FOR LOTS 13, 15, 21 & 77
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DEDICATED OPEN SPACE
SCHOOL ACCESS
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EXIST. NEREUS DR 30' PRIVATE R/W
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NC HWY 119 S 60' PUBLIC R/W 40' PAVT WIDTH
15' LANDSCAPE EASEMENT AND SIDEWALK ALONG NC HWY 119 TO BE MAINTAINED BY THE HOA
PEDESTRIAN CROSSWALK WITH ADA-COMPLIANT TRUNCATED DOMES(SEE DETAIL)-TYP.
NOTE: LEFT AND RIGHT TURN LANES TO BE DESIGNED AND CONSTRUCTED AS PER NCDOT REQUIREMENTS
STREAM BUFFER DETAIL
GRAPHIC SCALE
NOTE: 26' WIDE STREETS AND TEMPORARY TURN AROUNDS TO BE CONSTRUCTED TO NCDOT AND CITY OF MEBANE STANDARDS. STANDARDS MEET EMERGENCY SERVICE STANDARDS.
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DISCO HOLDINGS INC.
PRELIMINARY SUBDIVISION PLAT
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(SEE TYPICAL LOT LAYOUT)
ADJACENT ZONING: ALAMANCE COUNTY AND B-2
EXISTING LAND USE: AGRICULTURAL/RESIDENTIAL
PROPOSED USE: RESIDENTIAL AND SCHOOL SITE
PROPOSED NUMBER OF LOTS: 78
PROPOSED DENSITY: 1.28 UNIT/ACRE (EXCLUDING SCHOOL ACREAGE)
LF OF STREET: ±5,868 LF
AREA IN RIGHT-OF-WAY: ±8.24 ACRES
WATER: PUBLIC WATER (ORANGE ALAMANCE WATER SYSTEM, INC)
SEWER: INDIVIDUAL LOT SEPTIC SYSTEMS APPROVED BY ALAMANCE COUNTY HEALTH DEPARTMENT (SOME TREATMENT FOR CERTAIN LOTS WILL OCCUR IN PRIVATE COMMON AREAS AS NOTED THROUGHOUT THE PLANS)
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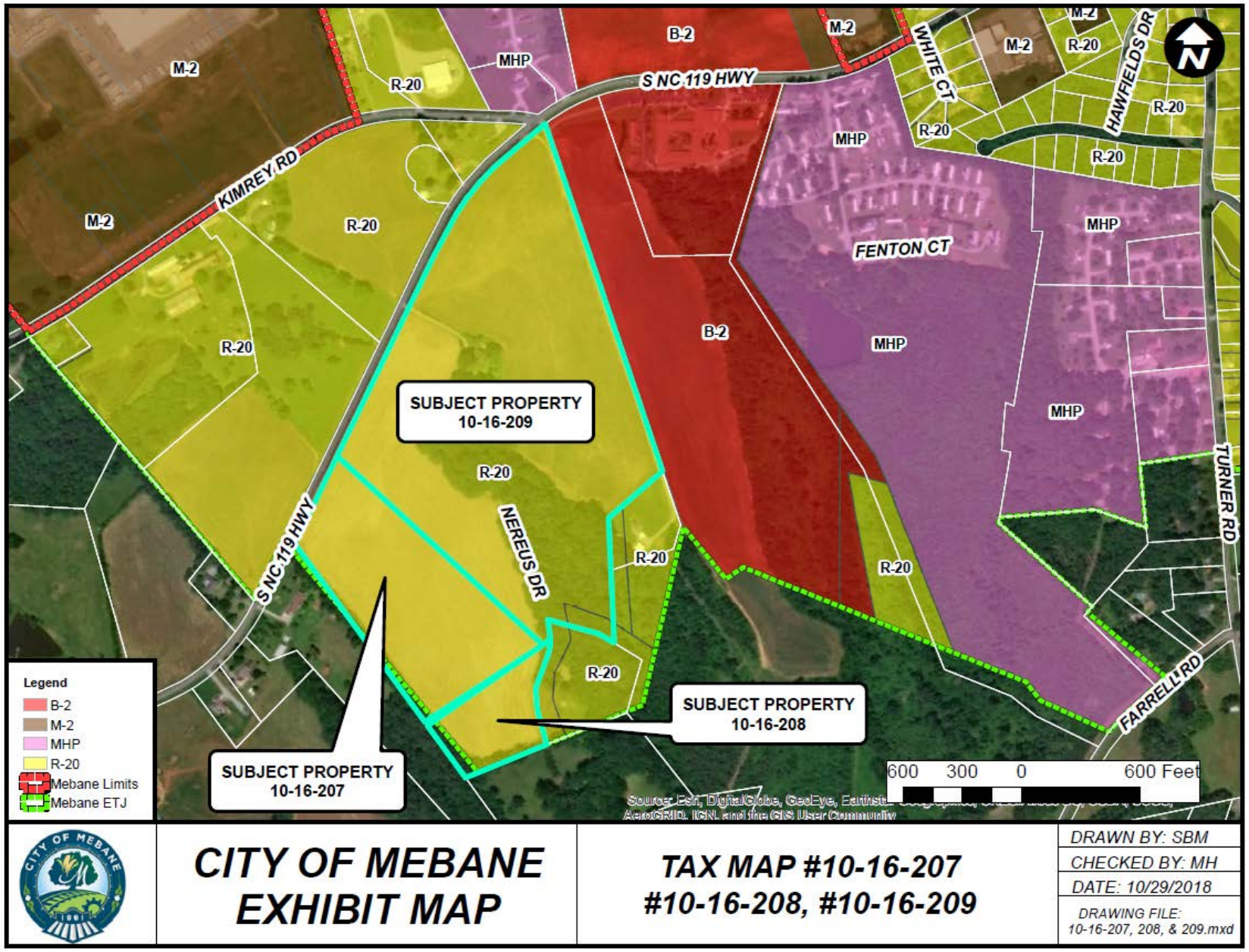
FLOOD INFORMATION:
NO FLOODPLAIN WITHIN 2000' OF THIS PROJECT PER FIRM MAP #3710660300K PANEL #0603, DATED 11-17-2017
WATERSHED INFORMATION:
WATERSHED: NONE (WPOS PHASE II RULES APPLY)
RIVER BASIN: CAPE FEAR (HAW CREEK, CLASS WS-IV;NSW)
COORDINATES: LAT. 36.081313
LONG. -79.320271
SOILS: CnB2, CnC2, CnD2
LOW DENSITY CALCULATIONS: (RESIDENTIAL PORTION OF SITE)
RESIDENTIAL ACREAGE: 62.14 AC
ALLOWED BUA FOR LOW DENSITY: ±14.85 ACRES (23.9%)
PROPOSED BUA FOR STREETS, SIDEWALK, KIOSK & GRAVEL ACCESS TO PARCEL #159686 AND OFF-SITE SEPTIC AREA: 5.05 AC
ALLOWED BUA PER LOT = 5,473 SF
5,473 SF/LOT X 78 LOTS = 9.80 AC
TOTAL PROPOSED BUA = 14.85 AC

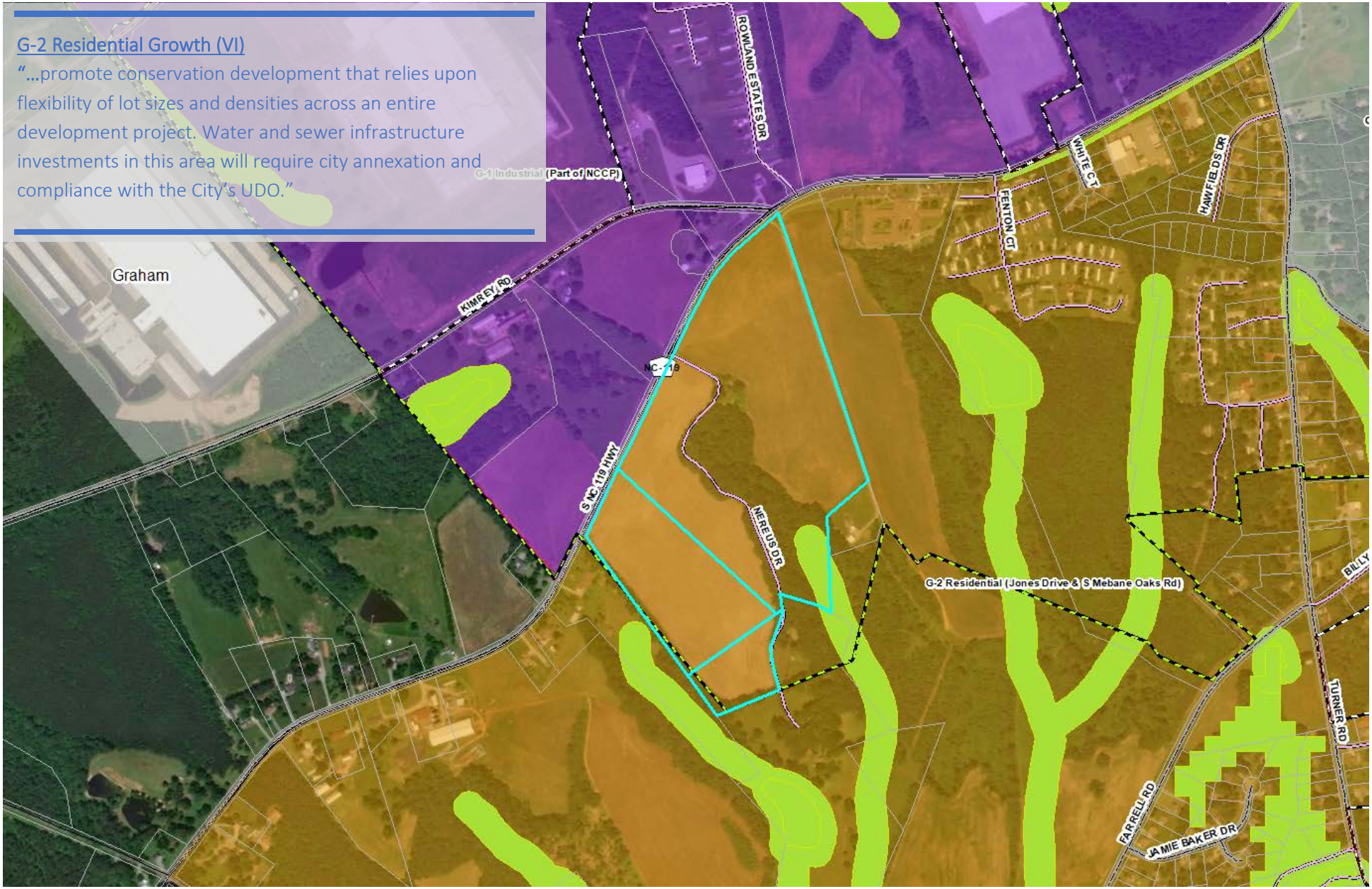
ZONING REPORT

EXISTING ZONE	R-20
REQUESTED ACTION	Subdivision
CONDITIONAL ZONE?	☐YES ☒NO
CURRENT LAND USE	Agriculture (General Farm)
PARCEL SIZE	+/-76.14 acres.
PROPERTY OWNERS	Kimrey Redlands, LLC 2425 Kimrey Road Mebane, NC 27302 GPINs 9803562278, 9803578217, 9803652931
LEGAL DESCRIPTION	Three properties totaling +/-76.14 acres on NC Highway 119 at Nereus Drive, a private unpaved road, are proposed for a 78-lot subdivision.
AREA ZONING & DISTRICTS	The properties to the south and west of the project site are all outside the City of Mebane extraterritorial jurisdiction (ETJ) and are not zoned. They are used for rural residential purposes. The properties north across NC 119 are zoned R-20 with the exception of the mobile home park on Rowland Estates Drive. The property immediately to the east is zoned B-2 and has historically supported a nursing and convalescent home and an agricultural lot. The proposed project lies within the City's G-2 Residential Primary Growth Area (Jones Drive & Mebane Oaks Road).
SITE HISTORY	All three properties are "General Farm Use" parcels and have historically been farmed for row crops.
	STAFF ANALYSIS
CITY LIMITS?	☐YES ☒NO
PROPOSED USE BY-RIGHT?	☒YES ☐NO
SPECIAL USE?	☐YES ☒NO
EXISTING UTILITIES?	☐YES ☒NO
POTENTIAL IMPACT OF PROPOSED ZONE	N/A – Use permitted by-right


M-2
R-20
MHP
B-2
S NC 119 HWY
KIMREY RD
WHITE CT
HAWFIELDS DR
FENTON CT
TURNER RD
FARRELL RD
NEREUS DR
SUBJECT PROPERTY
10-16-209
SUBJECT PROPERTY
10-16-208
SUBJECT PROPERTY
10-16-207
Legend
B-2
M-2
MHP
R-20
Mebane Limits
Mebane ETJ
600 300 0 600 Feet
CITY OF MEBANE
EXHIBIT MAP
TAX MAP #10-16-207
#10-16-208, #10-16-209
DRAWN BY: SBM
CHECKED BY: MH
DATE: 10/29/2018
DRAWING FILE:
10-16-207, 208, & 209.mxd

LAND USE REPORT

EXISTING LAND USE	Agriculture
PROPOSED LAND USE & REQUESTED ACTION	The applicant is requesting approval of a preliminary subdivision plat for 78 lots on three properties totaling +/-76.14 acres on NC Highway 119 at Nereus Drive, a private unpaved road.
PROPOSED ZONING	N/A
PARCEL SIZE	+/-76.14 acres (3 properties)
AREA LAND USE	The project site is completely surrounded by large-lot rural residential and agricultural properties. Caddy-corner to the northeast of the property is a mobile home park. Another mobile home park is close by to the east. Both the Lidl and Walmart Distribution Centers in the NC Commerce Park lie approximately 1,200 feet to the north, backing up to Kimrey Road.
ONSITE AMENITIES & DEDICATIONS	The applicant proposes to construct all internal roads with 5' sidewalks, as well as along NC 119. Approximately 14 acres of land has been proposed for a "Future School Site". Bradford Academy has submitted a traffic impact analysis (TIA) for a potential school development on this property but no site plan has been submitted to the City at this time. A school requires a special use permit that must be considered by the Board of Adjustment.
WAIVER REQUESTED	☐YES ☒NO
DESCRIPTION OF REQUESTED WAIVER(S)	Payment *in lieu* of providing +/-2.31 ac private recreation. According to Alamance County Tax Department, this payment would be $15,996. Since then, the developer is offering a public recreation amenity, per the City's UDO.
CONSISTENCY WITH *MEBANE BY DESIGN* STRATEGY	
LAND USE GROWTH STRATEGY DESIGNATION(S)	G-2 Secondary Residential Growth Area VI (Jones Dr. & Mebane Oaks Rd.)
OTHER LAND USE CONSIDERATIONS	The proposed project's stream is within the Conservation Area identified in *Mebane By Design*. The stream buffers are located on lots and will be recorded as such. The property owners will need to maintain the 50' buffers as required by the Jordan Lake Nutrient Management Strategy.
MEBANE BY DESIGN GOALS & OBJECTIVES SUPPORTED	PUBLIC FACILITIES AND INFRASTRUCTURE 2.1 Improve safety and confidence of pedestrian access across major streets, including I-40/85, US-70, NC-119, Mebane-Oaks Road and other highly-traveled roadways.
MEBANE BY DESIGN GOALS & OBJECTIVES NOT SUPPORTED	N/A


G-2 Residential Growth (VI)
"...promote conservation development that relies upon flexibility of lot sizes and densities across an entire development project. Water and sewer infrastructure investments in this area will require city annexation and compliance with the City's UDO."
Graham
KIMREY RD
ROWLAND ESTATES DR
G-1 Industrial (Part of NCCP)
WHITE CT
HAWFIELDS DR
FENTON CT
S NC 119 HWY
NC-119
NEREUS DR
G-2 Residential (Jones Drive & S Mebane Oaks Rd)
BILLY
TURNER RD
FARRELL RD
JAMIE BAKER DR

UTILITIES REPORT

AVAILABLE UTILITIES	☐YES ☒NO
PROPOSED UTILITY NEEDS	The project's water and sewer services will not be served by the City.
UTILITIES PROVIDED BY APPLICANT	Applicant has pledged to provide all on- and off-site utilities for 78 residential units. An Orange Alamance Water System Inc., 12" service line on NC 119 will serve 8" & 6" PVC water lines to provide adequate supply and pressure. On-site septic systems will treat residential sewage needs. A preliminary evaluation of the soils made by a soil scientist shows soils appropriate for this purpose on each lot (see Sheet 5).
MUNICIPAL CAPACITY TO ABSORB PROJECT	N/A – the utilities will not be maintained or operated by the City.
CONSISTENCY WITH MEBANE LONG RANGE UTILITY PLAN?	☐YES ☐NO N/A - the City utilities will not serve the development
ADEQUATE STORMWATER CONTROL?	☐YES ☐NO Stormwater controls not required due to the use of the low-density (<24% impervious cover) option for development.
INNOVATIVE STORMWATER MANAGEMENT?	☐YES ☒NO
	TRANSPORTATION NETWORK STATUS
CURRENT CONDITIONS	NC 119 is a NC DOT route with a 2015 average traffic volume of 6,700 trips per day and a Level Of Service (LOS) C. NC 119 north of its intersection with Trollingwood Hawfields Road is funded for widening by STIP project U-6013 which should improve local conditions. Other improvements at the intersection of Turner Road and NC 119 are being made by the developer of the Cambridge Park major subdivision project but will not be tied to development of the Summerhaven project.
TRAFFIC IMPACT ANALYSIS REQUIRED?	☒YES ☒NO SEE DESCRIPTION BELOW
DESCRIPTION OR RECOMMENDED IMPROVEMENTS	The 14-acre potential school area is anticipated to have a student population of 450. A TIA was submitted 10/25/19 for the potential impacts and transportation needs of this school, both internal and external to the property. This TIA recommended road widening for right and left turn lanes with 100' of storage at both entrances. The TIA also recommended optimizing the traffic signals at the intersection of NC 119 and Trollingwood Hawfields Road. NC DOT provided a letter stating that the site and offsite improvements present no concerns. The City contracted with Ramey, Kemp, and Associates to similarly evaluate the TIA and they also found the proposed transportation improvement satisfactory.
CONSISTENCY WITH MEBANE'S TRANSPORTATION PLANS?	☒YES ☐NO
MULTIMODAL IMPROVEMENTS PROVIDED BY APPLICANT?	☒YES ☐NO
DESCRIPTION OF MULTIMODAL IMPROVEMENTS	Sidewalks will be provided throughout the project and along the 2,500-ft NC 119 frontage of the project site.

STAFF RECOMMENDATION

STAFF ZONING RECOMMENDATION	☐ APPROVE ☐ DISAPPROVE
STAFF SPECIAL USE FINDING	☐ CONSISTENT ☐ NOT CONSISTENT……..WITH *MEBANE BY DESIGN*
RATIONALE	Staff finds that the proposed development "Summerhaven" is compliant with most of the requirements of the City of Mebane Unified Development Ordinance for a major subdivision in a R-20 zoning district, though the public recreation amenity proposed for the subdivision has not been evaluated by the City Parks and Recreation Director, nor for its Unity, Location, Physical Characteristics, and Accessibility, as required by the UDO.
PUBLIC INTEREST CONFORMANCE?	
ENDANGER PUBLIC HEALTH OR SAFETY?	☐YES ☐NO
SUBSTANTIALLY INJURE THE VALUE OF ADJOINING OR ABUTTING PROPERTY?	☐YES ☐NO
HARMONIOUS WITH THE AREA IN WHICH IT IS LOCATED?	☐YES ☐NO
CONSISTENT WITH *MEBANE BY DESIGN*, THE MUNICIPAL COMPREHENSIVE LAND DEVELOPMENT PLAN?	☐ The application is consistent with the objectives and policies for growth and development contained in the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, and, as such, has been recommended for approval. ☐ The application is not fully consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, but is otherwise in the public interest and has been recommended for approval. The Comprehensive Land Development Plan must be amended to reflect this approval and ensure consistency for the City of Mebane's long-range planning objectives and policies. ☐ The application is not consistent with the objectives and policies for growth and development of the City of Mebane Comprehensive Land Development Plan, *Mebane By Design*, and, as such, has been recommended for denial.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

September 5, 2019

Mr. David Cheek
City Manager
City of Mebane
106 E. Washington Street
Mebane, NC 27302

Subject: Proposed Summerhaven Development Located on NC 119
Review of Preliminary Plan

Dear Mr. Cheek,

District staff has reviewed the plan submittal received on August 29, 2019. We offer the following comments.

Trip Generation and Traffic Impacts:
The development, as currently proposed, consists of a 78-lot single family residential subdivision and a future school site. The site directly accesses NC 119 via two proposed subdivision street connections served by exclusive left and right turn lanes on NC 119 at each of the accesses. Based upon information provided in the plan and the traffic study dated November 21, 2018, the proposed access configuration is expected to adequately accommodate the trips generated by the residential component of the development and is expected to operate acceptably with installation of the proposed turn lanes. The submittal received does not provide detailed information on the proposed school and it is presumed that this component will be developed at a future time yet to be determined. Pursuant to NCGS 136-18(29a), and in accordance with 19A NCAC 02C.0116 Reimbursement of Schools for Transportation Improvements Completed on the State Highway System, a traffic study will be required prior to development of the school to assess traffic operations and determine any additional improvements required to ensure safe access.

Internal Subdivision Streets:
It is our understanding that the proposed development will remain outside of the City of Mebane Corporate limits and that the Applicant intends to pursue addition of the proposed streets to the State Highway System. Based upon review of the information provided, the streets as configured, would be eligible for addition to the State Highway System for maintenance subject to compliance with all requirements of the current

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
DIVISION 7, DISTRICT 1
PO BOX 766
GRAHAM, NC 27253-0766

Telephone: (336) 570-6833
Fax: (336) 570-6873
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
115 EAST CRESCENT SQUARE DRIVE
GRAHAM, NC 27253

edition of the NCDOT Subdivision Roads Minimum Construction Standards publication. As an exception, to the above, the proposed unnamed street terminating at the shared property line to the southwest of the development is not eligible for addition as configured due to an insufficient number of lots served. A minimum of 4 lots with frontage on the road are required. The road can be considered for future addition upon further extension and sufficient lot count to meet minimum requirements. We are amenable to the proposed street typical section provide in the plan which indicates 26' pavement width, and 8" ABC, 3" of Asphalt pavement design as stipulated by the City of Mebane

Required Permitting and Approvals:
Prior to beginning work, the Applicant will need to obtain the following:

- Approved NCDOT Driveway Permit
- Approved NCDOT Three-Party Encroachment Agreement with City of Mebane for proposed/stipulated sidewalk and appurtenances
- Approved NCDOT Three-Party Encroachment Agreement with Orange-Alamance Water System for water extension and connections
- NCDOT approval of final subdivision street design

Prior to issuance of the above, the Applicant will need to submit complete and detailed plans meeting NCDOT and City of Mebane requirements as applicable.

Feel free to contact me if you have any questions or if we can be of further assistance.

Sincerely,

C. N. Edwards Jr., PE
District Engineer

Cc: J. M. Mills, PE, Division Engineer
Bob Dischinger, PE, Evans Engineering, Inc.

Technical Memorandum

To: Montrena Hadley, Planning Officer
Subject: Summerhaven Subdivision – R-20
From: Franz Holt, P.E., Mebane City Engineer
Date: September 11, 2019

City Engineering has reviewed the proposed preliminary subdivision plat for Summerhaven (R-20 Single Family Development) – latest revision September 6, 2019 by Bob Dischinger, P.E. with Evans Engineering, Inc. and provides the following technical comments.

1. General - Summerhaven Subdivision is a proposed 76.14-acre residential development located on the south side of NC Hwy. 119 between Turner Road and Jim Minor Road and near Kimrey Road. The project includes 78 single family lots with a min. lot size in excess of 20,000 square feet and is to be completed in 2 phases. In addition, the plans include a future school site on approximately 14 acres.

2. Stormwater - The project is in the Little Haw Creek watershed (a class V watershed) and density restrictions do not apply to Class V watersheds. The Mebane Phase II Stormwater Post Construction Ordinance (SPCO) will apply to this project as more than 1 acre is being disturbed. The developer has chosen a low-density option allowed in the UDO which is met with less than 2 units per acre being provided and 24% or less built upon area (not requiring engineered stormwater controls for treatment). The future school site has not been evaluated regarding stormwater rules as plans have not been submitted to date. In addition, Jordan Lake Buffer rules apply to the on-site stream. All drainage easements will either be maintained by NCDOT (where appropriate) or the property owners association.

3. Water and Sewer Service – According to the Long-Range Utility Plan the site lies in a potential future service area. However, no City water and sewer infrastructure is immediately available to make connection to. In addition, the developer has not indicated that he would make the extensions necessary to serve the development as proposed. Therefore, the developer is not requesting annexation (a requirement for Mebane Water and Sewer Service). However, the plans do show public water service being provided by the Orange Alamance Water System. A letter has been provided to the City indicating the ability and willingness to serve through a 12-inch Orange Alamance water line existing in NC Hwy. 119. The internal water line sizes shown include 8 inch and 6 inch which are typical for a fire fighting system as well as domestic service. Sewer Service is proposed with individual lot septic systems as noted on the plans. There has been a preliminary evaluation of the soils made by a soil scientist (letter provided to the City of Mebane). In addition, the preliminary

plat includes an environmental health plan showing suitable soils for the septic systems (some off lot and in private common area). Final evaluation of each septic system will be completed through the Alamance County Environmental Health Department.

4. Fire Protection – The site lies within the Swepsonville Fire District. The water system layout shown on the plans will provide domestic service and fire protection. Additional hydraulic modeling most show that min. requirements of 1,000 gpm as being met at each proposed fire hydrant, which may affect final line sizing.

5. Internal Roadways - The roadway network includes ribbon pavement streets 26' wide with 8 inches of stone and 3 inches of asphalt meeting the City of Mebane's street standard without curb and gutter and as allowed by the UDO (less than 2 units per acre and 24% or less built upon area). Driveway culverts shall have common end walls and the grass lined drainage swales (side ditches) are required to be parabolic in shape. As the project is not proposed to be annexed into the City the roadways are to be constructed in a manner that meets all in NCDOT requirements so that they can be eligible for future NCDOT maintenance upon compliance (NCDOT letter provided to the City of Mebane). NCDOT is requiring a 60' right-of-way in lieu of 50' due to the ribbon pavement exceeding their standard of 20'. Roadway stubs are provided to the southern, eastern, and western property lines for possible future extension. A round-a-bout has been provided internal to the subdivision for future access to the school site. When under construction reasonable temporary access will also need to be provided to residents whose private roads/drives run through the project.

6. Sidewalks – Concrete sidewalks are shown along the internal roadways and NC Hwy. 119 frontage. The sidewalks are public and located either in public right-of-way and easements but will be maintained by the property owners association.

7. NC HWY. 119 Improvements – Exclusive left and right turn lanes are being provided at the two proposed connections with appropriate storage and tapers meeting NCDOT requirements.

8. Construction Drawings and Final Plat – Final drawings and permitting will be reviewed by the various applicable entities throughout the project development and will be deemed in compliance before final platting through the City of Mebane.

DAVENPORT

October 18, 2019

TRANSPORTATION IMPACT ANALYSIS

Bradford Academy

Mebane, NC

Prepared for
Bradford Academy

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Project #: 190020

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Transportation Impact Analysis

Bradford Academy
Mebane, NC

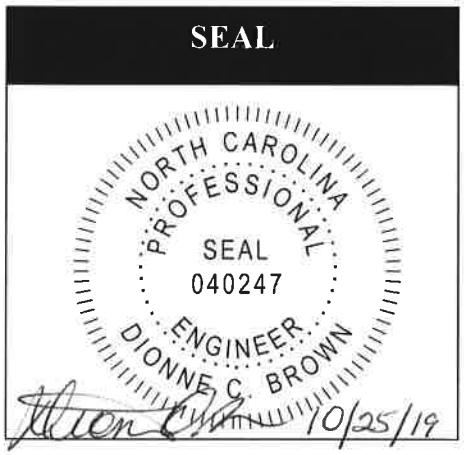
Prepared for Bradford Academy
October 18, 2019

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

Drafting/Graphics by: Dionne C. Brown, P.E.

Reviewed by: Nick Liguori, P.E.
Frank Amenya, P.E, PTOE

Sealed by: Dionne Brown, P.E.



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Home Office:
119 Brookstown Ave. Suite PH1
Winston-Salem, NC 27101
Main: 336.744.1636; Fax: 336.458.9377

Wilmington Regional Office:
3722 Shipyard Boulevard, Suite E
Wilmington, NC 28403
Main: 910.251.8912; Fax: 336.458.9377

Serving the Southeast since 2002

Bradford Academy – Transportation Impact Analysis
Mebane, NC
Prepared for Bradford Academy
October 18, 2019

Executive Summary

Site Overview

The existing Bradford Academy is located at 919 South Third Street in Mebane, NC. It is proposed to relocate a location south of I-40, on to Highway NC 119 between Kimrey Road and Nereus Drive with approximately 450 students from grade levels Pre-K to 12th grade by 2023. The new school will be located along NC 119 in front of a proposed subdivision, Summerhaven, that was completed by DAVENPORT in November 2018. The two developments will share one (1) full site access located on NC 119 and the school will have an additional exit only access on NC 119. The site is expected to be built out by 2023.

The proposed school will be in close proximity to the Summerhaven subdivision; therefore, it is required by North Carolina Department of Transportation (NCDOT) and City of Mebane to study two scenarios: with and without the Summerhaven subdivision.

Since the submittal of the Transportation Impact Analysis (TIA) of Summerhaven, the intensity of units has decreased. The TIA analyzed 244 single family homes, while now it is proposed to have 81 single family homes. **Scenario 1** analyzes the proposed school only and describes any recommended improvements from this development only. **Scenario 2** analyzes the Summerhaven subdivision in the background traffic while incorporating the proposed school, then describing any improvements needed for both of the developments.

Trip Generation

The MSTA calculator estimated that there would be 449 trips in the AM peak and 326 trips in the Dismissal peak. This would include parents, staff and student drivers. This school will not have any buses. The calculator determined that the school would need to provide at least 1,297 feet of queue on campus to accommodate the school traffic. The site plan is expected to provide 1,300 feet of queue on campus which will satisfy the MSTA requirement. To achieve the queue, it is recommended to have double stacking on campus. Other recommendations can be found on Exhibit A.

Summary and Conclusion

Based on the analysis there is expected queueing and capacity issues along NC 119 in future no build conditions and build conditions. Some mitigations were recommended as background improvements but it should be noted that queuing is still an issue along NC 119.

Based on the analysis, Summerhaven Subdivision is proposed to construct a 100 foot northbound right turn lane and 100 foot southbound lane with appropriate tapers at Site Access 1. It is recommended that the proposed Bradford Academy provide a southbound left turn lane of 150 feet of storage and a northbound right turn lane of 100 feet of storage with appropriate tapers. It should be noted that the Bradford Academy's recommendation is 50 feet longer than the Summerhaven Subdivision. Though all school traffic will enter through the internal roundabout, the traffic will exit to the north from a separate access point onto NC 119. Therefore, the internal roundabout is not expected to be an operational issue. The subdivision also proposes to construct a southern access on NC 119 that can serve as a relief valve if deemed necessary. **The continuation of the subdivision's approval process should not be an issue as long as the auxiliary lanes at Site Access 1 are constructed to 100 feet of storage for northbound right turn lane and 100 feet of storage for southbound left turn lane on NC 119 prior to the school opening.**

Table A summarizes the recommended improvements.

In conclusion, this study has reviewed the impacts of both background traffic and this development traffic, and has determined that with the recommended improvements in place, there will be adequate capacity to accommodate future traffic. Please note that all accesses to the site are required to be constructed to NCDOT and City of Mebane standards.

Table A – Recommended Improvements	
INTERSECTION	**RECOMMENDATIONS**
NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road	These improvements are suggested regardless of Bradford Academy: • Modify signal • Provide a northbound right turn lane of 150 feet storage with appropriate taper
NC 119 at Turner Road	No improvements recommended.
NC 119 at Kimrey Road	These improvements are suggested for the Hawfield Development: • Provide a northbound right turn lane of 100 feet storage with appropriate taper • Provide a southbound left turn lane of 100 feet storage with appropriate taper • Provide a westbound right turn lane of 100 feet storage with appropriate taper
NC 119 at Jim Minor Road	These improvements are suggested regardless of Bradford Academy: • Provide a signal
NC 54 at Jim Minor Road	No improvements recommended.
NC 119 at Site Access 1	• Provide a northbound right turn lane on NC 119 with 100 feet of storage and appropriate taper. • Provide a southbound left turn lane on NC 119 with 150 feet of storage and appropriate taper.
NC 119 at Site Access 2	• Provide a separate egress lane with left lane of 100 feet storage with appropriate taper.

Bradford Academy

450 Future School Population

1296 Feet Projected Queue

This Design Provides

1300 Feet Total Queue Storage

NOTES:

A = DENOTES LOADING ZONE OF (5) SPACES @ 8' X 20'

B = DENOTES SHORT TERM VISITOR PARKING (10) SPACES

C = DENOTES (2) LANE BEGINNING OF PARENT VEHICLE QUEUE PATTERN

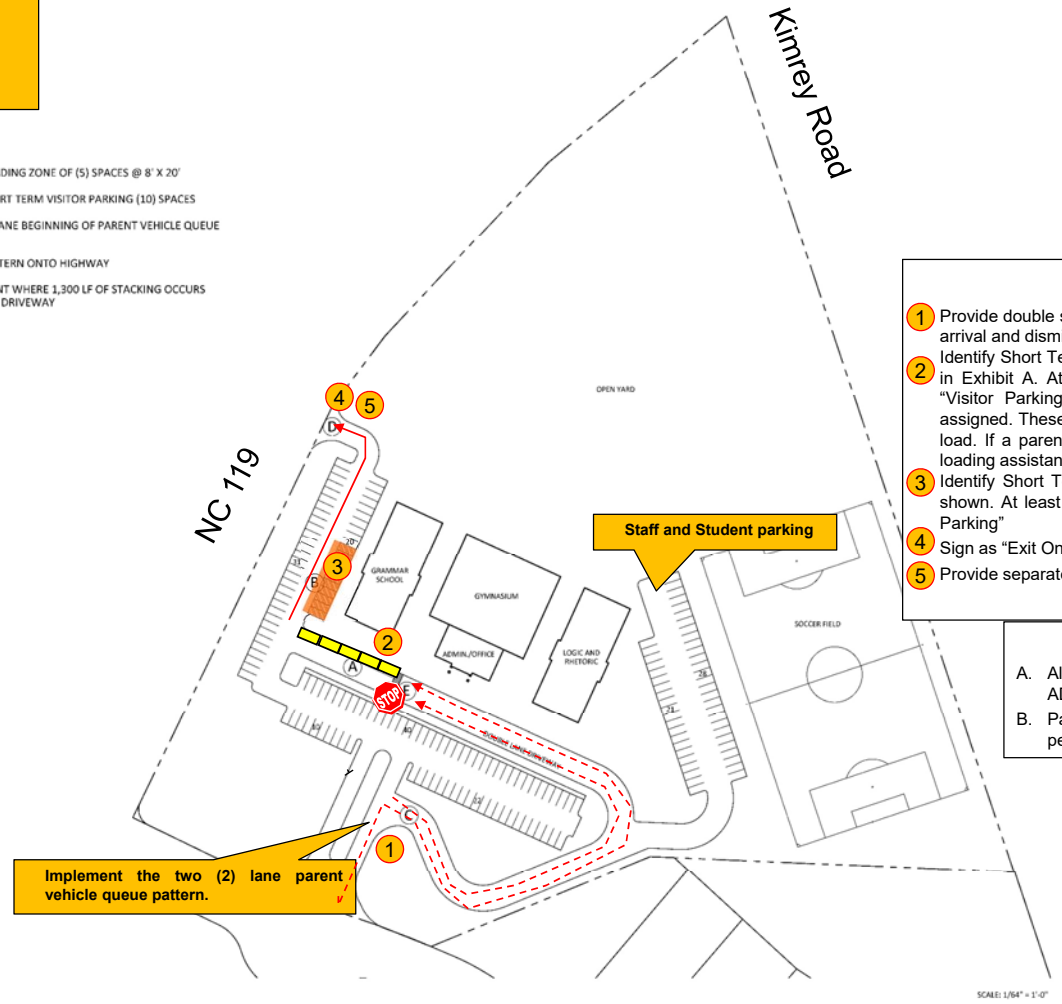
D = NEW EXIT PATTERN ONTO HIGHWAY

E = DENOTES POINT WHERE 1,300 LF OF STACKING OCCURS ALONG TWO LANE DRIVEWAY

LEGEND

- Recommendation
- Entering Parent Traffic
- Exiting Parent Traffic

N



NOTES

1. Provide double stacking where indicated on Exhibits during the peak hours of arrival and dismissal
2. Identify Short Term / Visitor Parking Spaces past the loading zone, as shown in Exhibit A. At least 10 parking spaces should be identified by installing "Visitor Parking" signs and/or pavement markings at the spaces to be assigned. These spaces are for parents requiring extended periods of time to load. If a parent stops in the loading zone, to wait to load their student, a loading assistant should direct that parent to the Visitor Parking.
3. Identify Short Term / Visitor Parking Spaces near the vehicle exit lane, as shown. At least 10 parking spaces should be identified by installing "Visitor Parking"
4. Sign as "Exit Only"
5. Provide separate left and right egress lanes

OTHER COMMENTS

A. All sidewalks, crosswalks, and curb cuts should comply with ADA standards.

B. Parking lots should be designed to safely accommodate pedestrians.

CONCEPT PLAN
NOT FOR CONSTRUCTION

DAVENPORT

Exhibit A
Bradford Academy
On-site Recommendations

Division 7	Alamance County	Mebane, NC
SCALE:	N. C. DEPARTMENT OF TRANSPORTATION	REVIEWED BY:
DATE: 10/18/2019	TRANSPORTATION MOBILITY AND SAFETY DIVISION	REVISIONS:
PREPARED BY: DCB		

DAVENPORT

Bradford Academy – Transportation Impact Analysis
Mebane, NC
Prepared for Bradford Academy
October 18, 2019

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Bradford Academy – Transportation Impact Analysis
Mebane, NC
Prepared for Bradford Academy
October 18, 2019

1.0 Introduction

The existing Bradford Academy is located at 919 South Third Street in Mebane, NC. It is proposed to relocate a location south of I-40, on to Highway NC 119 between Kimrey Road and Nereus Drive with approximately 450 students from grade levels Pre-K to 12th grade by 2023. The new school will be located along NC 119 in front of a proposed subdivision, Summerhaven, that was completed by DAVENPORT in November 2018. The two developments will share one (1) full site access located on NC 119 and the school will have an additional exit only access on NC 119. The site is expected to be built out by 2023. Figure 1 shows the site plan. Figures 2A and 2B show the site location map and vicinity map, respectively.

The proposed school will be in close proximity to the Summerhaven subdivision; therefore, it is required by North Carolina Department of Transportation (NCDOT) and City of Mebane to study two scenarios: with and without the Summerhaven subdivision.

Since the submittal of the Transportation Impact Analysis (TIA) of Summerhaven, the intensity of units has decreased. The TIA analyzed 244 single family homes, while now it is proposed to have 81 single family homes. **Scenario 1** analyzes the proposed school only and describes any recommended improvements from this development only. **Scenario 2** analyzes the Summerhaven subdivision in the background traffic while incorporating the proposed school, then describing any improvements needed for both of the developments.

DAVENPORT was retained to determine the potential traffic impacts of this development and to identify transportation improvements that may be required to accommodate the impacts of both background traffic and new development traffic. The following intersections were included in the study:

- NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road
- NC 119 at Turner Road
- NC 119 at Kimrey Road
- NC 119 at Jim Minor Road
- NC 54 at Jim Minor Road
- NC 119 at Shared Site Access
- Internal roundabout at School Site Access
- NC 119 at Exit Only Access

The study intersections were analyzed for Weekday Arrival (7-9 AM) and Dismissal (2-4 PM) peaks for the following conditions:

- Existing Conditions
- Scenario 1 (without Summerhaven): 2023 Future No Build Conditions
- Scenario 1 (without Summerhaven): 2023 Future Build Conditions
- Scenario 1 (without Summerhaven): 2023 Future Build with Improvements
- Scenario 2 (with Summerhaven): 2023 Future No Build Conditions
- Scenario 2 (with Summerhaven): 2023 Future Build Conditions
- Scenario 2 (with Summerhaven): 2023 Future Build with Improvements

The NCDOT and City of Mebane were contacted to obtain background information and to ascertain the elements to be covered in this TIA. The scope of the project was discussed and approved by NCDOT District Office, MSTA and City of Mebane, more information can be found in the appendix. Information regarding the property was provided by the architect, Plageman Architecture.

NOTES:

A = DENOTES LOADING ZONE OF (3) SPACES @ 8' X 20'

B = DENOTES SHORT TERM VISITOR PARKING (10) SPACES

C = DENOTES (2) LANE BEGINNING OF PARENT VEHICLE QUEUE PATTERN

D = NEW EXIT PATTERN ONTO HIGHWAY

E = DENOTES POINT WHERE 1,300 LF OF STACKING OCCURS ALONG TWO LANE DRIVEWAY

SCHEMATIC SITE PLAN FOR:

BRADFORD ACADEMY

MEBANE, NC

DATE: 9/24/18
PA1932

Plageman Architecture
408 S. Spring St.
Burlington, NC 27215
336-226-3633
plagemanarchitecture.com

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FIGURE 1
SITE PLAN

SITE ACCESS

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FIGURE 2A
SITE LOCATION MAP

SITE INDICATOR

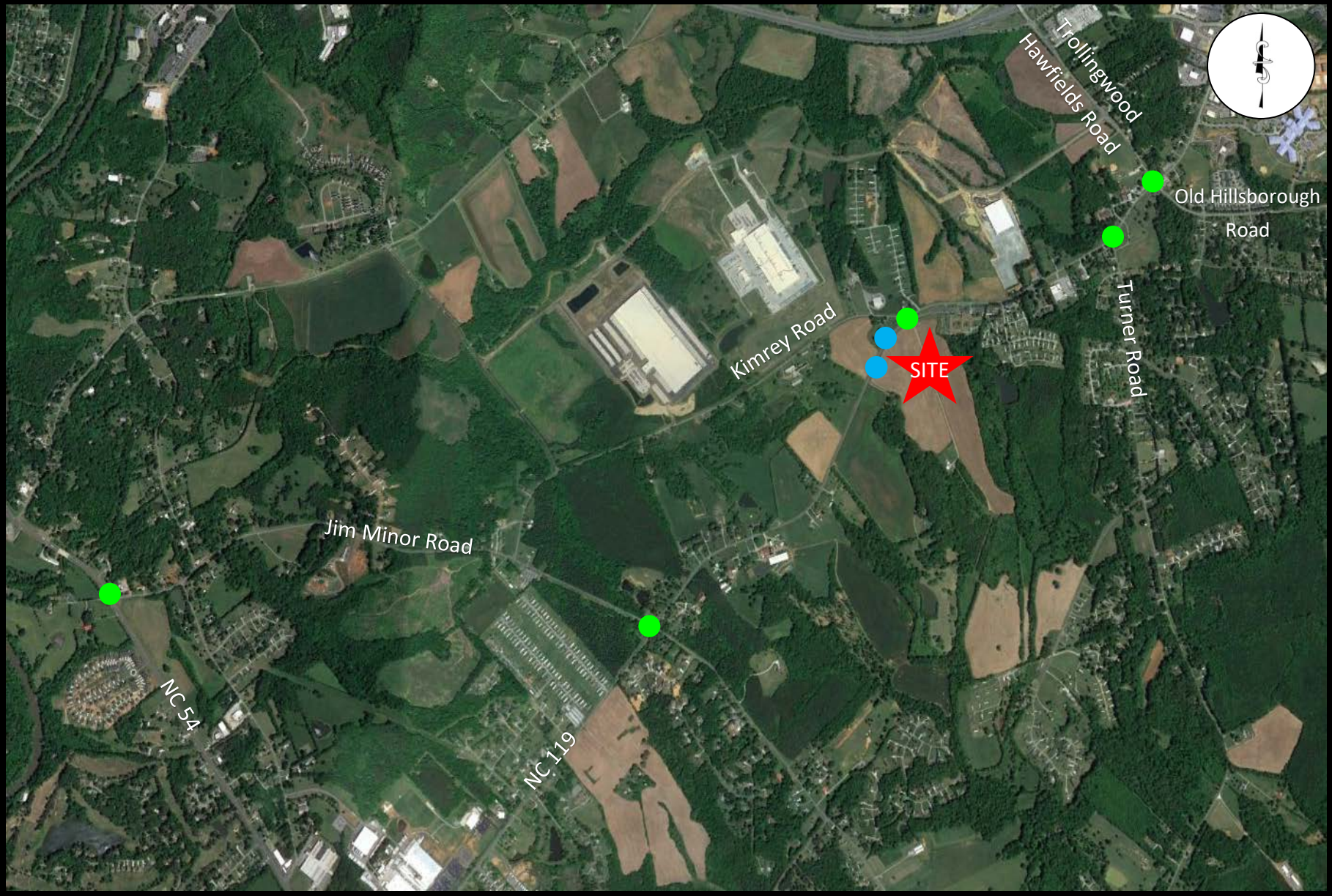

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FIGURE 2B
VICINITY MAP

STUDY INTERSECTIONS
EXISTING
PROPOSED

2.0 Existing Conditions

2.1 Inventory

A field investigation was conducted by DAVENPORT staff to determine the existing roadway conditions in the study area. Table 2.1 contains the results of this effort. Figure 3 illustrates the existing lane geometry.

Table 2.1 - Street Inventory					
Facility Name	**Route #**	**Typical Cross Section**	**Pavement Width**	**Speed Limit**	**Maintained By**
NC 119	NC 119	2-lane undivided	Approx. 21'	Varies between 35 and 45 MPH	NCDOT
NC 54 (East Hardin Street)	NC 54	5-lane with two-way center left turn lane	Approx. 60'	50 MPH	NCDOT
Trollingwood Hawfields Road	SR 1981	2-lane undivided	Approx. 23'	45 MPH	NCDOT
Old Hillsborough Road	SR 2126	2-lane undivided	Approx. 23'	45 MPH	NCDOT
Kimrey Road	SR 2125	2-lane undivided	Approx. 21'	Not Posted, but 55 MPH otherwise	NCDOT
Jim Minor Road	SR 2135	2-lane undivided	Approx. 22'	45 MPH	NCDOT
Turner Road	SR 2133	2-lane undivided	Approx. 20'	45 MPH	NCDOT

2.2 Existing Traffic Volumes

Existing traffic volumes for this project were collected by DAVENPORT staff. Table 2.2 on the following page contains the dates these counts were conducted. Existing traffic volumes were balanced between the study intersections by using the greater of adjacent volumes in order to provide a conservative analysis. School was in session at the time of traffic counts. Figure 4 shows existing AM and Dismissal peak hour volumes. More information can be found in the Traffic Volume Data section of the appendix.

Table 2.2 - Traffic Volume Data		
Count Location:	**Date Taken:**	**By:**
NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road	10/16/2018	DAVENPORT
NC 119 at Turner Road	5/7/2019	DAVENPORT
NC 119 at Kimrey Road	10/16/2018	DAVENPORT
NC 119 at Jim Minor Road	10/16/2018	DAVENPORT
NC 54 at Jim Minor Road	10/16/2018	DAVENPORT

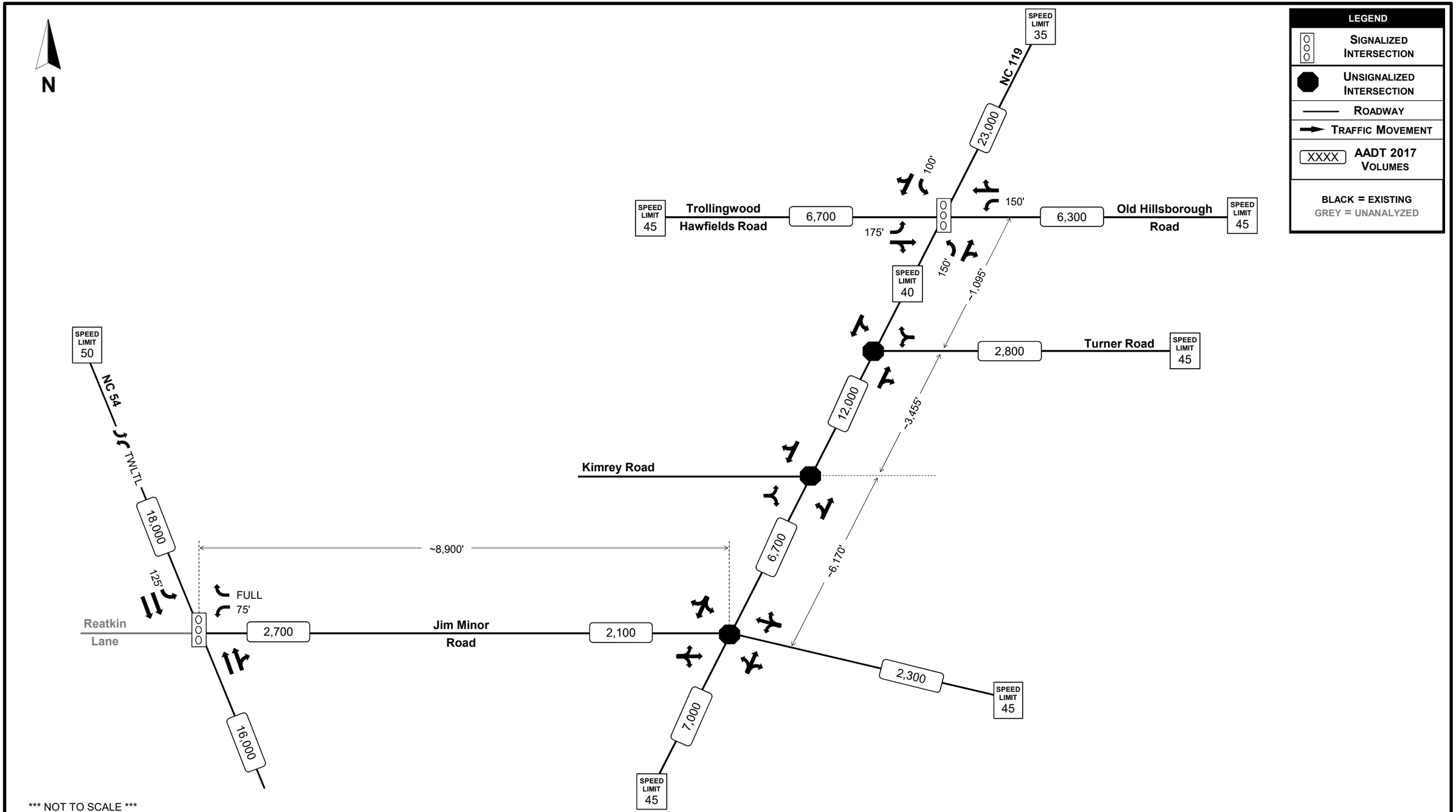

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Figure 3 - Existing Lane Geometry

Bradford Academy

Mebane, NC

DAVENPORT Project Number 190020

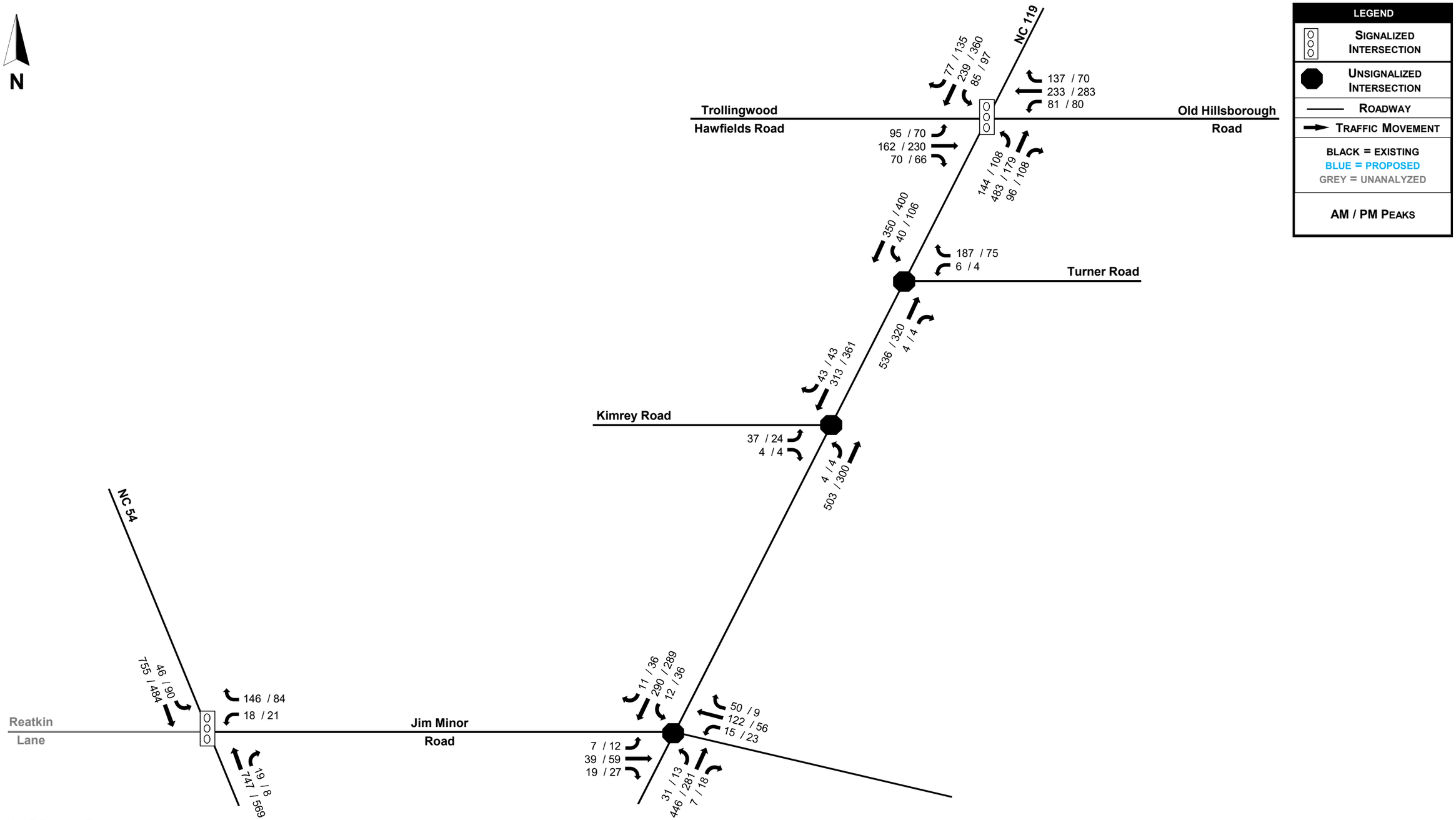

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Figure 4
Existing Traffic Volumes

Bradford Academy
Mebane, NC
DAVENPORT Project Number 190020

3.0 Approved Developments and Committed Improvements

3.1 Approved Developments

Approved developments are developments that have been recently approved in the area, but not yet constructed. There are three (3) nearby developments to account for in future conditions: The Meadows, Magnolia Glen, and Cambridge Park. Since these sites are not yet built out, the traffic associated with these developments was included in this analysis to project future no-build and build traffic volumes.

The **Meadows Residential Development** is to be located on the northwest quadrant of the intersection of Bowman Road and Ben Wilson Road. It is planned to consist of 330 single-family detached homes and 51 townhomes. A TIA was completed by DAVENPORT for this project in November 2015. Based on a field visit, it was determined that some homes have been built and occupied. It was estimated that 30% of the trips associated with this development were captured in the traffic counts. The remaining 70% of these trips were distributed at the study intersections based on the expected routing patterns.

The **Magnolia Glen Residential Development** is to be located on the south side of Old Hillsborough Road, approximately 0.5 mile east of Jones Drive. It is planned to consist of 138 single-family detached homes and 106 lots of active adult detached homes. A TIA was completed by DAVENPORT for this project in June 2015.

The **Cambridge Park Residential Development** is to be located east of Turner Road and west of Jones Drive. It is planned to consist of 599 single-family detached homes and 131 townhomes. A TIA was completed by Ramey Kemp & Associates, Inc. in November 2017.

Also, there is another planned development which has not yet been approved but has been accounted for in the analysis. **Hawfield Development** is to be located adjacent to the Bradford Academy and Summerhaven Subdivision. It is planned to consist of senior living homes, townhomes and single family homes. It is in the preliminary stages and a TIA by Ramey Kemp & Associates has not been completed at this moment. However, the proposed site trips for this development were taken into account in the analysis.

More information regarding these future developments can be found in the Supporting Documentation section of the Appendix.

3.2 Committed Improvements

Committed improvements are improvements that are planned by NCDOT, City of Mebane or a developer in the area, but not yet constructed. Per discussions with NCDOT and City of Mebane, the following committed roadway improvements along NC 119 corridor at the intersections of Trollingwood Hawfields Road / Old Hillsborough Road and Turner Road associated with the **Cambridge Park Residential Development**

were to be included in the traffic impact analysis in the future conditions:

- Extension of the southbound left turn lane along NC 119 at the intersection of Trollingwood Hawfields Road / Old Hillsborough Road to provide 225 feet of storage with appropriate taper.
- Construction of a westbound right turn lane along Old Hillsborough Road at the intersection of NC 119 with 150 feet of storage and appropriate taper.
- Construction of a southbound left turn lane along NC 119 at the intersection of Turner Road with 125 feet of storage and appropriate taper.
- Construction of a westbound right turn lane along Turner Road at the intersection of NC 119 with 50 feet of storage and appropriate taper.

4.0 Methodology

4.1 Base Assumptions and Standards

In general, the analysis for this project was conducted utilizing commonly accepted NCDOT and City of Mebane standards. The following table contains a summary of the base assumptions:

Table 4.1 - Assumptions	
Peak Hour Factor	0.50 for movements affected by school traffic only 0.75 for movements affected by both school and background traffic 0.90 for movements affected by background traffic only
Background Traffic Annual Growth Rate	1% per year for all roadways
Analysis Software	Synchro/SimTraffic Version 10.0
Lane widths	12-feet
Truck percentages	0% for school internal movements 2% for typical movements

4.2 Trip Generation

The North Carolina Department of Transportation Traffic Engineering Branch has compiled a database for school operation in North Carolina based on numerous studies conducted by the Municipal & School Transportation Assistance Unit (MSTA). NCDOT has developed a school trip calculator based on this database. This trip calculator is generally accepted as standard for school trip generation in North Carolina because it is specific to this region of the country.

Bradford Academy is proposed to have a full capacity of approximately 450 students from Pre-K to 12th grade. Bradford Academy is expected to have 35 staff members and no school buses. Table 4.2 illustrates the trips generated using the MSTA calculator.

Table 4.2 – MSTA Calculator

Bradford Academy

Average Weekday Driveway Volumes			AM Peak Hour		Dismissal Peak Hour	
Land Use	Size		Enter	Exit	Enter	Exit
Private School (Pre-K-12)	423	Parents	197	197	133	133
	25	Student Drivers	25	0	0	25
	35	Staff	35	0	0	35
Total Trips			**252**	**197**	**133**	**193**

The TIA was carried out based on NCDOT MSTA guidelines. The NCDOT MSTA calculator is used to calculate potential school volumes as well to determine the amount of queue NCDOT would require onsite.

This school provides adequate and accessible parking for parents of Pre-K and K students to park and walk into the building with their students. The MSTA School Calculator spreadsheet allows a reduction to the queue length in this case, which was applied.

4.3 Trip Distribution

Site trips for this school were distributed based on the existing traffic patterns and engineering judgment. The trip distribution for site trips is shown in Figure 5, and is based on the following directional patterns:

- 30% to and from the north on NC 119
- 18% to and from the north on NC 54
- 15% to and from the south on NC 119
- 12% to and from the west on Trollingwood Hawfields Road
- 10% to and from the east on Turner Road

- 8% to and from the east on Old Hillsborough Road
- 5% to and from the east on Jim Minor Road
- 2% to and from the west on Kimrey Road

4.4 Future No Build Traffic Volumes

The 2023 future no build traffic volumes were computed by applying a 1.0% compounded annual growth rate to the existing traffic volumes and adding approved development trips. Figure 6 shows the **Scenario 1**: 2023 future no build traffic volumes for AM and Dismissal peaks.

4.5 Future Build Traffic Volumes

The 2023 future build traffic volumes were computed by summing the 2023 future no build volumes and school trips due to the proposed project. School trips are shown in Figure 7. The **Scenario 1**: 2023 future build volumes are shown for AM and Dismissal peaks in Figure 8.

N

LEGEND

- Signalized Intersection
- Unsignalized Intersection
- Roadway
- Traffic Movement
- % Destination Node

BLACK = EXISTING
BLUE = PROPOSED
GREY = UNANALYZED

30%
30% IN
NC 119
12% IN
8%
Trollingwood
Hawfields Road
8% IN
Old Hillsborough
Road
12%
8% OUT
30% OUT
12% OUT
50% IN
10% IN
Turner Road
10%
50% OUT
10% OUT
60% IN
2%
Kimrey Road
2% IN
2% OUT
60% OUT
62% IN
62% OUT
38% OUT
38% OUT
62% IN
Site Access 2
Exit Only
Site Access 1
100% IN
38% IN
18%
NC 54
18% IN
18% OUT
15% OUT
5% OUT
Reatkin
Lane
18% OUT
Jim Minor
Road
5% IN
18% IN
15% IN
15%
5%

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Figure 5 - Trip Distribution

Bradford Academy

Mebane, NC
DAVENPORT Project Number 190020

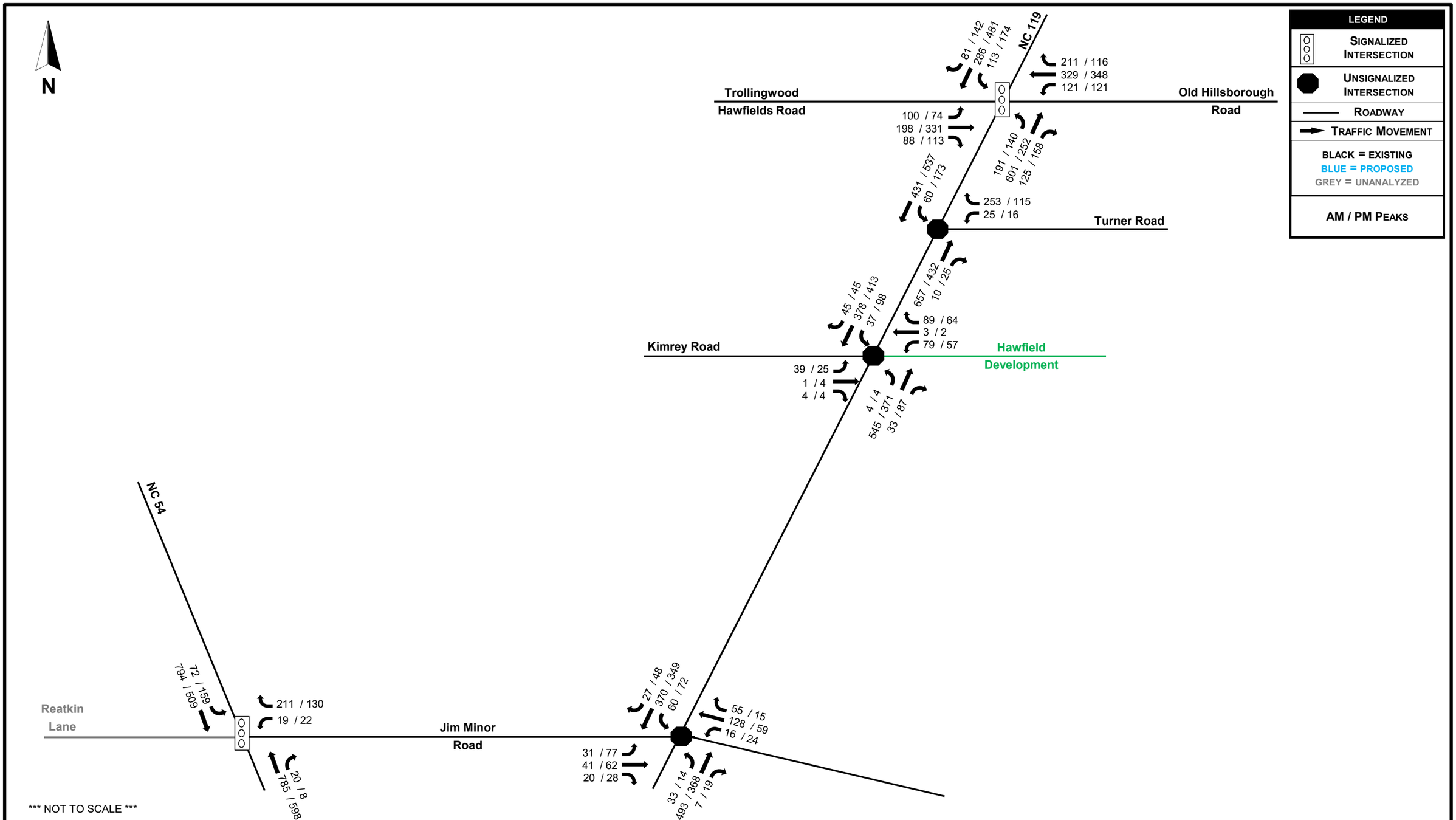

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Figure 6
Scenario 1: 2023 Future No Build Volumes

Bradford Academy
Mebane, NC
DAVENPORT Project Number 190020

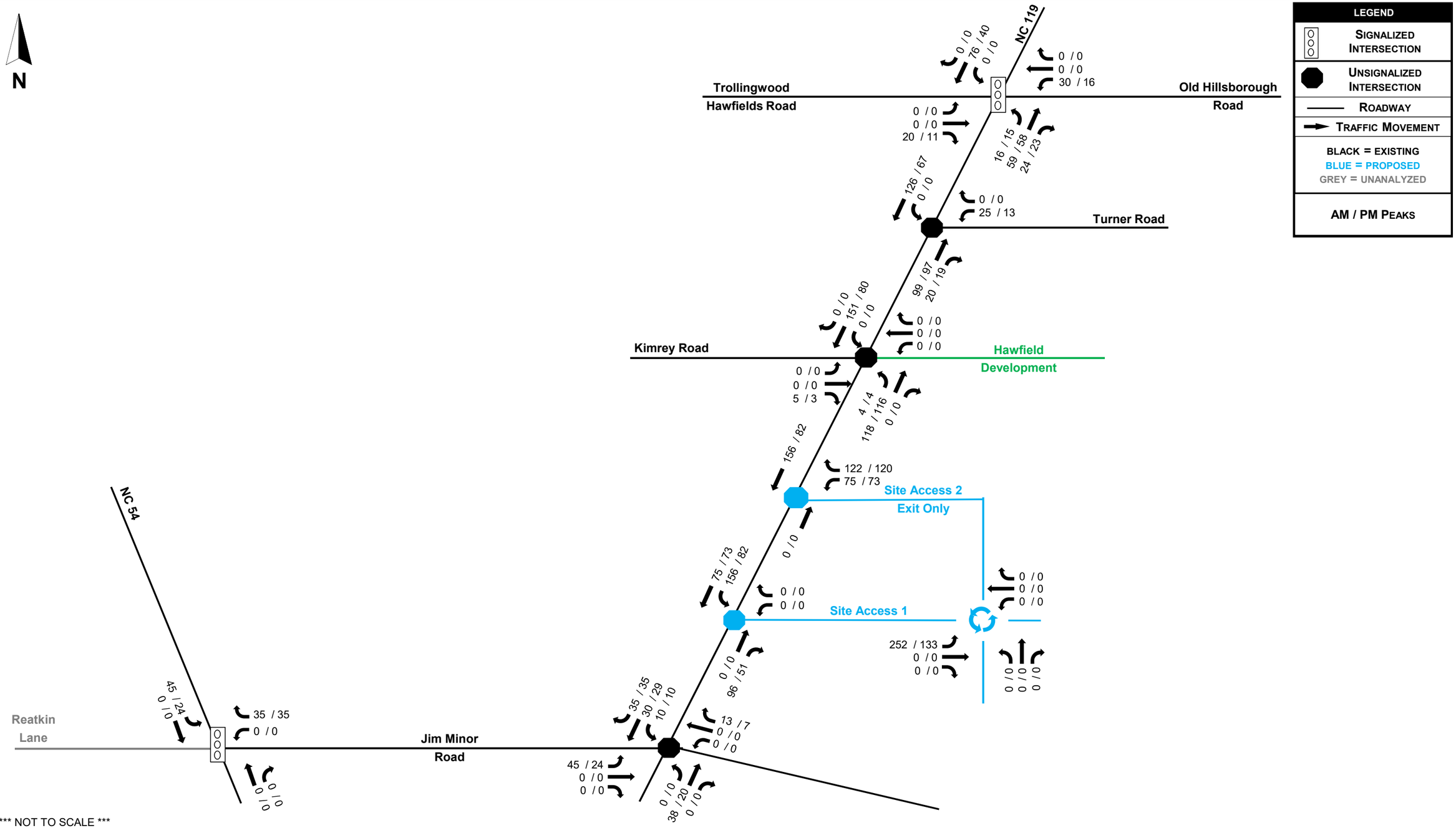

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Figure 7
School Trips

Bradford Academy
Mebane, NC
DAVENPORT Project Number 190020

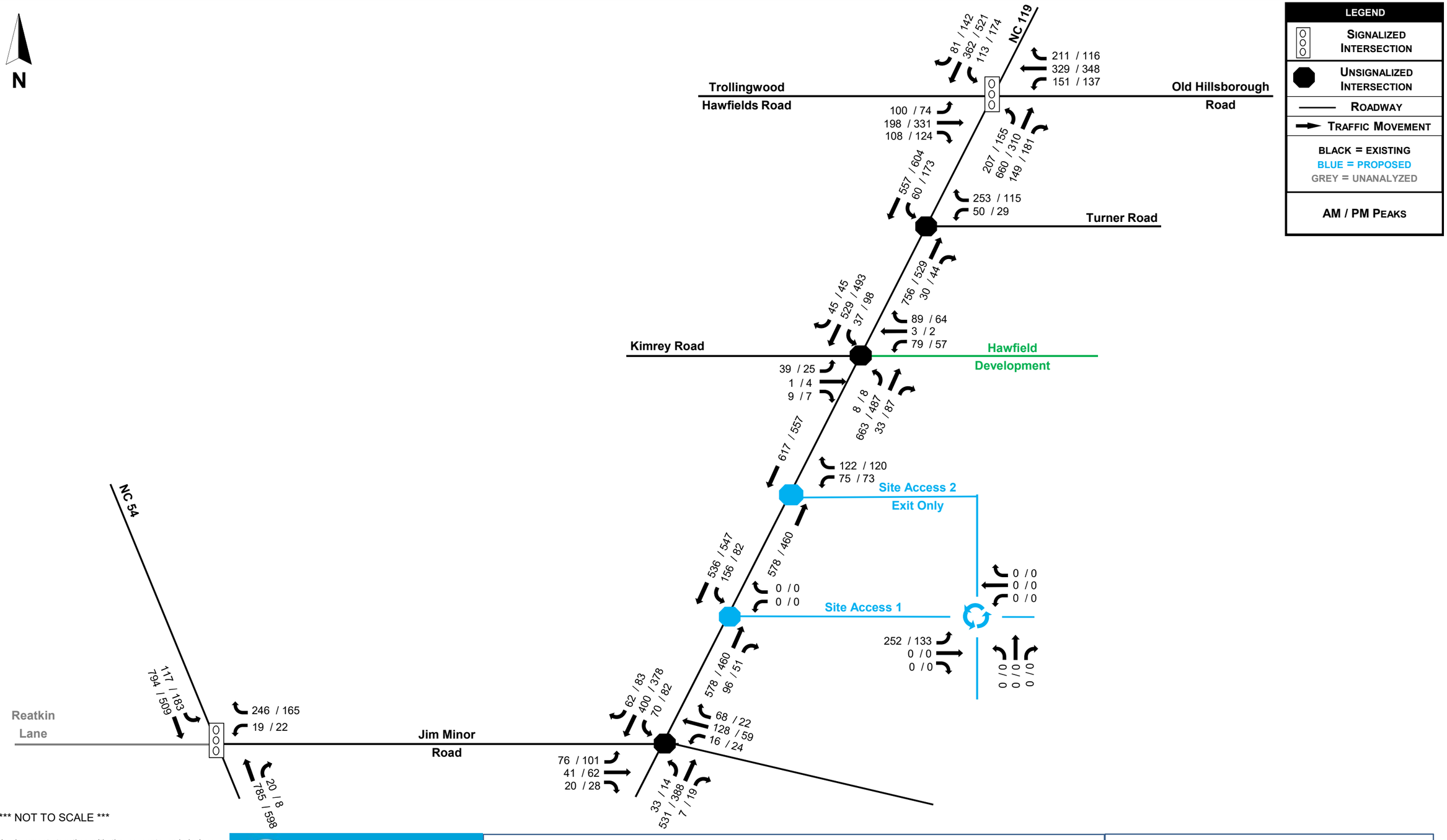

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Figure 8
Scenario 1: 2023 Future Build Volumes

Bradford Academy
Mebane, NC
DAVENPORT Project Number 190020

5.0 Intersection Capacity Analysis

5.1 Level of Service Evaluation Criteria

The Transportation Research Board's Highway Capacity Manual (HCM) utilizes a term "level of service" to measure how traffic operates in intersections and on roadway segments. There are currently six levels of service ranging from A to F. Level of service "A" represents low-volume traffic operations and Level of Service "F" represents high-volume, oversaturated traffic operations. Synchro Traffic Modeling software was used to determine the level of service for studied intersections. Note for unsignalized intersection analysis, the level of service noted is for the worst approach of the intersection. This is typically the left turn movement for the side street approach, due to the number of opposing movements. All worksheet reports from the analyses can be found in the Appendix.

Table 5.1 – Highway Capacity Manual

Levels of Service and Control Delay Criteria

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

5.2 Scenario 1: Proposed School Only – Discussion of Results

The results of the level of service analysis are discussed by intersection below.

NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road

This signalized intersection currently operates at LOS C during both the AM and Dismissal peak hours. In 2023 future no build conditions, this intersection is expected to operate at LOS E in the AM and Dismissal peaks. In 2023 future build conditions, it is expected to operate at LOS F during the AM and Dismissal peaks. New site traffic represents an increase of 8% during the AM peak and 6% during the Dismissal peak. Analysis indicates that a northbound right turn lane at this intersection will help improve the level of service. However, it should be noted this turn lane is needed regardless of the proposed project. To mitigate the level of service, it is recommended to provide northbound right turn lane of 150 feet of storage on NC 119 with appropriate taper and modify the signal.

NC 119 at Turner Road

This unsignalized intersection currently operates at LOS C during the AM peak hour and LOS B during the Dismissal peak hour. In 2023 future no build conditions, LOS D is anticipated in the AM peak and LOS C in the Dismissal peak. In 2023 future build conditions, it is expected to operate at LOS F during the AM peak and LOS E during the Dismissal peak.

This LOS E/F is a typical condition for stop-controlled movements onto major roads such as NC 119 and this condition is expected to be limited to the peak hours. There are constraints which pose challenges to widening at this intersection, including a cemetery, drainage features, and utilities. No improvements are recommended.

NC 119 at Kimrey Road

This unsignalized intersection currently operates at LOS C during both the AM and Dismissal peak hours. In 2023 future no build conditions, Hawfield Development will add a westbound leg to the intersection and is expected to operate at LOS F in the AM peak and LOS E in the Dismissal peak. In 2023 future build conditions this intersection is expected to operate at LOS F in the AM and Dismissal peaks. It is anticipated that traffic volumes for the Hawfield Development may warrant a northbound right turn lane of 100 feet of storage, a southbound left turn lane of 100 feet of storage and a westbound left turn lane of 100 feet of storage all with appropriate tapers. However, these improvements should be considered regardless of the proposed project.

NC 119 at Jim Minor Road

This unsignalized intersection currently operates at LOS D during the AM peak and LOS C during the Dismissal peak hour. In 2023 future no build conditions, it is expected to operate at LOS F during the AM and Dismissal peaks.

The LOS F condition occurs on the stop-controlled approach of Jim Minor Road and is mainly due to the high intersection volumes during the peak periods and lack of sufficient gaps on NC 119 for the traffic on the stop-controlled approaches to make left turns. It should be noted that this condition is expected in 2023 no-build conditions, regardless of the proposed project.

To mitigate the LOS F, a signal warrant analysis was conducted to determine if signalization at this intersection would be warranted based on the Federal Highway Administration criteria presented in The Manual on Uniform Traffic Control Devices (MUTCD).

DAVENPORT collected a thirteen (13) hour turning movement traffic count at the intersection of NC 119 at Jim Minor Road. The full report for this traffic count can be found in the Appendix.

The signal warrant analysis for this intersection was conducted using PC-Warrants software. The Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD 2009 Edition) has established nine criteria that can be used to justify the installation of a Traffic signal, which are the following:

- Warrant 1, Eight-Hour Vehicular Volume
- Warrant 2, Four-Hour Vehicular Volume
- Warrant 3, Peak Hour
- Warrant 4, Pedestrian Volume
- Warrant 5, School Crossing
- Warrant 6, Coordinated Signal System
- Warrant 7, Crash Experience
- Warrant 8, Roadway Network
- Warrant 9, Intersection Near a Grade Crossing

The warrants measured for existing conditions, future no-build conditions and for future build conditions included Warrants 1, 2 & 3.

Warrants 1-3, Traffic Volumes

Warrants 1-3 are related to traffic volumes and were considered for existing and future conditions. The 85th percentile speed on NC 119 was assumed to be 50 mph for this analysis; therefore, the 70% volumes were utilized for the warrants. Based on the background traffic volumes at this intersection, Warrants 2 and 3 are satisfied in the existing conditions and all volume warrants for the future conditions.

Signal Warrant Analysis Results

The results of the signal warrant analysis are summarized in Table 5.2, below. Based on the criteria for determining the need of a signal, a signal at this intersection is warranted under background conditions without the addition of site generated traffic. Additional information and reports from PC-Warrants can be found in the signal warrant analysis section of the appendix.

Table 5.2 – Signal Warrant Analysis

Warrant	Existing Conditions			Future No-Build Conditions			Future Build Conditions		
	Status			Status			Status		
	N/A	Not Met	Met	N/A	Not Met	Met	N/A	Not Met	Met
Warrant 1: Eight-Hour Vehicular Volume		X				**X**			**X**
Warrant 1A – Minimum Vehicular Volume		X			X			X	
Warrant 1B – Interruption of Continuous Traffic		X			X			X	
Warrant 1C – Combination of Warrants		X				**X**			**X**
Warrant 2: Four-Hour Vehicular Volume			**X**			**X**			**X**
Warrant 3: Peak Hour			**X**			**X**			**X**

The Manual on Uniform Traffic Control Devices (MUTCD) indicates that a traffic signal can be considered when one of the nine warrants is met. Our analysis indicates that in background conditions, one (1) signal warrant was met for the peak hour vehicular volume warrant. Therefore, the following is recommended to mitigate the background capacity issues:

- Signalize intersection

With these improvements in place, this intersection is anticipated to operate at LOS B during the AM and PM peaks.

NC 54 at Jim Minor Road

This signalized intersection currently operates at LOS A during both the AM and Dismissal peak hours. In 2023 future no build and build conditions, this intersection is expected to operate at LOS B in both peaks. No improvements are recommended.

NC 119 at Site Access 1

This unsignalized intersection is expected to operate at LOS A during both the AM and Dismissal peak hours in 2023 future build conditions. The need for auxiliary turn lanes was reviewed based on page 80 of the NCDOT “Policy on Street and Driveway Access

to North Carolina Highways". Based on projected volumes, a left and right turn lane are warranted on NC 119. The following improvements are recommended for the site access:

- Provide a northbound right turn lane on NC 119 with 100 feet of storage and appropriate taper
- Provide a southbound left turn lane on NC 119 with 150 feet of storage and appropriate taper

NC 119 at Site Access 2 (exit only)

This unsignalized intersection is expected to operate at LOS F during both the AM and Dismissal peak hours in 2023 future build conditions. The LOS F condition occurs on the stop-controlled approach of the exit only access and is mainly due to the high intersection volumes during the peak periods and lack of sufficient gaps on NC 119 for left turn movements. It is recommended to provide a westbound left turn lane on the egress approach with 100 feet of storage and appropriate taper.

Site Access 1 at Internal Roundabout

This proposed roundabout is expected to operate at LOS A in the AM and Dismissal peaks. With the school proposing a separate exiting access, this intersection is not expected to have a capacity nor queuing issue. The site plan shows approximately 190 feet of queue storage between NC 119 and the roundabout, which is greater than the maximum anticipated queue of 66 feet (see Table 7.7). The presence of a separate exit access for the School will help to keep expected queues from blocking the roundabout.

The recommended improvements are illustrated in Figure 9.

5.3 Level of Service and Queuing Summary

Table 5.3 presents the summary of the level of service analysis for the proposed development. Tables 5.4 – 5.11 present the summaries of the SimTraffic Queuing Analysis for each study intersection by movement.

Table 5.3 - Level of Service Summary – Scenario 1 (without Summerhaven Development)

AM Peak	2018 Existing	2023 Future No Build	2023 Future Build	2023 Future Build with Improvements
NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road	C (34.3)	E (58.7)	F (125.4)	E (76.2)
NC 119 at Turner Road	C (18.2) WB Approach	D (29.8) WB Approach	F (114.0) WB Approach	
NC 119 at Kimrey Road	C (19.5) EB Approach	F (54.5) EB Approach	F (507.2) WB Approach	F (374.9) EB Approach
NC 119 at Jim Minor Road	D (32.6) WB Approach	F (371.0) EB Approach	F (545.4) WB Approach	B (10.4) Signalized
NC 54 at Jim Minor Road / Reatkin Lane	A (7.7)	B (10.2)	B (12.4)	
NC 119 at Site Access 1			A (4.2) SB Approach	A (4.2) SB Approach
NC 119 at Site Access 2 (exit only)			F (442.1) WB Approach	F (105.2) WB Approach
Site Access 1 at Internal Roundabout			A (6.0) Roundabout	
Dismissal peak	**2018 Existing**	**2023 Future No Build**	**2023 Future Build**	**2023 Future Build with Improvements**
NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road	C (29.8)	E (74.2)	F (140.3)	F (125.8)
NC 119 at Turner Road	B (11.8) WB Approach	C (16.6) WB Approach	E (48.7) WB Approach	
NC 119 at Kimrey Road	C (15.4) EB Approach	E (42.8) EB Approach	F (221.6) WB Approach	F (128.3) EB Approach
NC 119 at Jim Minor Road	C (24.8) EB Approach	F (247.8) EB Approach	F (1451.2) EB Approach	B (10.4) Signalized
NC 54 at Jim Minor Road / Reatkin Lane	A (7.2)	B (10.4)	B (12.0)	
NC 119 at Site Access 1			A (1.8) SB Approach	A (1.8) SB Approach
NC 119 at Site Access 2 (exit only)			F (215.9) WB Approach	E (47.0) WB Approach
Site Access 1 at Internal Roundabout			A (4.2) Roundabout	

LOS (delay in seconds)
Note for unsignalized conditions, LOS and delay indicates only minor street approach with longest delay

Table 5.4 - Queue Summary NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road AM Peak Hour Queues										
2023 No Build	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBTR**	**SBL**	**SBTR**	
Max Queue (ft)	275	243	249	531	250	200	1045	300	368	
95th Percentile Queue (ft)	290	228	248	481	290	232	1054	286	355	
Storage Bay (ft)	175	-	150	-	150	150	-	225	-	
2023 Build	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBTR**	**SBL**	**SBTR**	
Max Queue (ft)	275	631	250	1004	250	200	1046	300	1120	
95th Percentile Queue (ft)	313	609	269	824	296	229	1208	352	1103	
Storage Bay (ft)	175	-	150	-	150	150	-	225	-	
2023 Build + Imp	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBTR**
Max Queue (ft)	275	1210	250	1002	250	249	1045	250	300	803
95th Percentile Queue (ft)	353	1485	271	1219	319	281	1051	318	366	775
Storage Bay (ft)	175	-	150	-	150	150	-	150	225	-
Dismissal peak Hour Queues										
2023 No Build	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBTR**	**SBL**	**SBTR**	
Max Queue (ft)	274	1209	249	595	250	200	624	300	1168	
95th Percentile Queue (ft)	306	1265	276	658	311	251	644	378	1223	
Storage Bay (ft)	175	-	150	-	150	150	-	225	-	
2023 Build	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBTR**	**SBL**	**SBTR**	
Max Queue (ft)	275	1233	250	488	250	200	1038	300	1157	
95th Percentile Queue (ft)	256	1230	277	445	296	218	1118	330	1147	
Storage Bay (ft)	175	-	150	-	150	150	-	225	-	
2023 Build + Imp	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBTR**
Max Queue (ft)	275	1233	250	643	250	250	734	250	300	1139
95th Percentile Queue (ft)	327	1359	283	681	327	295	640	272	355	1138
Storage Bay (ft)	175	-	150	-	150	150	-	150	225	-

Table 5.5 - Queue Summary NC 119 at Turner Road AM Peak Hour Queues					
2023 No Build	**WBL**	**WBR**	**NBTR**	**SBL**	
Max Queue (ft)	806	150	987	125	
95th Percentile Queue (ft)	1101	168	1022	102	
Storage Bay (ft)	-	50	125		
2023 Build	**WBL**	**WBR**	**NBTR**	**SBL**	**SBT**
Max Queue (ft)	843	150	1722	69	1030
95th Percentile Queue (ft)	905	198	1812	60	776
Storage Bay (ft)	-	50	-	125	-
2023 Build + Imp	**WBL**	**WBR**	**NBTR**	**SBL**	**SBT**
Max Queue (ft)	806	150	606	115	162
95th Percentile Queue (ft)	930	153	633	108	77
Storage Bay (ft)	-	50	-	125	-
Dismissal peak Hour Queues					
2023 No Build	**WBL**	**WBR**	**SBL**		
Max Queue (ft)	15	51	96		
95th Percentile Queue (ft)	17	36	87		
Storage Bay (ft)	-	50	125		
2023 Build	**WBL**	**WBR**	**NBTR**	**SBL**	
Max Queue (ft)	59	66	153	95	
95th Percentile Queue (ft)	47	54	96	81	
Storage Bay (ft)	-	50	-	125	
2023 Build + Imp	**WBL**	**WBR**	**NBTR**	**SBL**	
Max Queue (ft)	103	89	22	102	
95th Percentile Queue (ft)	85	75	11	99	
Storage Bay (ft)	-	50	-	125	

Table 5.6 - Queue Summary NC 119 at Kimrey Road AM Peak Hour Queues					
2023 No Build	**EBLTR**	**WBLTR**	**SBLTR**		
Max Queue (ft)	43	194	152		
95th Percentile Queue (ft)	40	182	89		
Storage Bay (ft)	-	-	-		
2023 Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**	
Max Queue (ft)	365	516	179	1407	
95th Percentile Queue (ft)	310	597	92	1795	
Storage Bay (ft)	-	-	-	-	
2023 Build + Imp	**EBLTR**	**WBLT**	**WBR**	**NBLT**	**SBL**
Max Queue (ft)	301	478	200	191	40
95th Percentile Queue (ft)	295	488	258	147	27
Storage Bay (ft)	-	-	100	-	100
Dismissal peak Hour Queues					
2023 No Build	**EBLTR**	**WBLTR**	**SBLTR**		
Max Queue (ft)	75	111	182		
95th Percentile Queue (ft)	65	90	126		
Storage Bay (ft)	-	-	-		
2023 Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**	
Max Queue (ft)	23	90	101	195	
95th Percentile Queue (ft)	23	82	58	177	
Storage Bay (ft)	-	-	-	-	
2023 Build + Imp	**EBLTR**	**WBLT**	**WBR**	**NBLT**	**SBL**
Max Queue (ft)	45	152	71	59	42
95th Percentile Queue (ft)	43	142	49	28	36
Storage Bay (ft)	-	-	100	-	100

Table 5.7 - Queue Summary NC 119 at Jim Minor Road AM Peak Hour Queues				
2023 No Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	113	165	24	164
95th Percentile Queue (ft)	96	151	23	115
Storage Bay (ft)	-	-	-	-
2023 Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	292	793	1382	114
95th Percentile Queue (ft)	285	741	815	98
Storage Bay (ft)	-	-	-	-
2023 Build + Imp	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	140	207	574	1018
95th Percentile Queue (ft)	138	179	534	815
Storage Bay (ft)	-	-	-	-
Dismissal peak Hour Queues				
2023 No Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	155	96	87	69
95th Percentile Queue (ft)	127	94	54	61
Storage Bay (ft)	-	-	-	-
2023 Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	286	118	45	119
95th Percentile Queue (ft)	233	109	27	104
Storage Bay (ft)	-	-	-	-
2023 Build + Imp	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	181	119	265	447
95th Percentile Queue (ft)	161	95	223	430
Storage Bay (ft)	-	-	-	-

Table 5.8 - Queue Summary NC 54 at Jim Minor Road AM Peak Hour Queues							
2023 No Build	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	37	156	138	118	73	72	53
95th Percentile Queue (ft)	25	134	122	107	69	70	58
Storage Bay (ft)	75	-	-	-	125	-	-
2023 Build	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	37	150	124	138	75	75	72
95th Percentile Queue (ft)	31	148	131	125	77	70	57
Storage Bay (ft)	75	-	-	-	125	-	-
2023 Build + Imp	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	174	178	175	165	190	208	94
95th Percentile Queue (ft)	92	173	150	164	180	145	69
Storage Bay (ft)	75	-	-	-	125	-	-
Dismissal peak Hour Queues							
2023 No Build	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	37	70	167	108	96	74	53
95th Percentile Queue (ft)	26	72	126	99	93	48	52
Storage Bay (ft)	75	-	-	-	125	-	-
2023 Build	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	15	71	93	74	199	94	52
95th Percentile Queue (ft)	15	73	79	71	168	51	39
Storage Bay (ft)	75	-	-	-	125	-	-
2023 Build + Imp	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	36	132	134	126	198	53	74
95th Percentile Queue (ft)	30	111	120	115	182	49	48
Storage Bay (ft)	75	-	-	-	125	-	-

Table 5.9 - Queue Summary NC 119 at Site Access 1 AM Peak Hour Queues		
2023 Build	**NBTR**	**SBLT**
Max Queue (ft)	529	514
95th Percentile Queue (ft)	695	599
Storage Bay (ft)	-	-
2023 Build + Imp	**NBR**	**SBL**
Max Queue (ft)	40	142
95th Percentile Queue (ft)	24	116
Storage Bay (ft)	100	150
Dismissal peak Hour Queues		
2023 Build	**SBLT**	
Max Queue (ft)	116	
95th Percentile Queue (ft)	114	
Storage Bay (ft)	-	
2023 Build + Imp	**NBR**	**SBL**
Max Queue (ft)	22	71
95th Percentile Queue (ft)	10	58
Storage Bay (ft)	100	150

Table 5.10 - Queue Summary NC 119 at Site Access 2 AM Peak Hour Queues		
2023 Build	**WBLR**	**SBT**
Max Queue (ft)	68	552
95th Percentile Queue (ft)	66	757
Storage Bay (ft)	-	-
2023 Build + Imp	**WBL**	**WBR**
Max Queue (ft)	152	114
95th Percentile Queue (ft)	154	107
Storage Bay (ft)	100	-
Dismissal peak Hour Queues		
2023 Build	**WBLR**	
Max Queue (ft)	68	
95th Percentile Queue (ft)	68	
Storage Bay (ft)	-	
2023 Build + Imp	**WBL**	**WBR**
Max Queue (ft)	162	176
95th Percentile Queue (ft)	124	146
Storage Bay (ft)	100	-

Table 5.11 - Queue Summary Site Access 1 at Internal Roundabout AM Peak Hour Queues	
2023 Build	**EBLTR**
Max Queue (ft)	25
Storage Bay (ft)	-
Dismissal peak Hour Queues	
2023 Build	**EBLTR**
Max Queue (ft)	11
Storage Bay (ft)	-

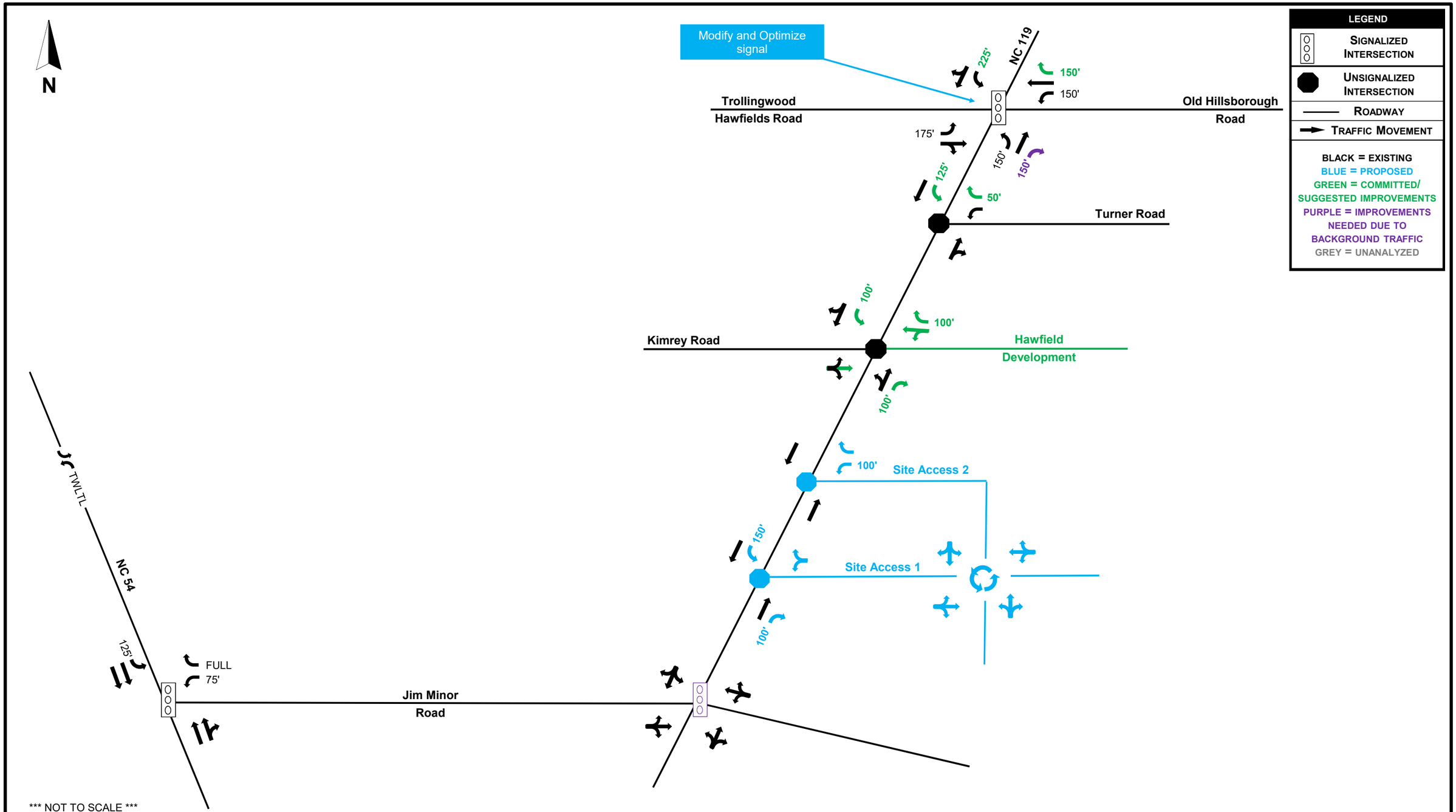

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Figure 9 - Recommended Improvements

Bradford Academy

Mebane, NC

DAVENPORT Project Number 190020

6.0 Internal Circulation

The proposed Bradford Academy will have one (1) access point on NC 119 for entry and one (1) access point on NC 119 for exit only. As shown in on-site traffic recommendations (Exhibit A), parents will turn left at the roundabout to enter then school, and then veer right toward the loading zone. The access road provides two (2) lanes of queue storage approaching the front of the school where the loading zone is located.

The NCDOT Division of Mobility and Safety has complied a database for school operation in North Carolina based on numerous studies conducted by the MSTA Unit. Projections from the MSTA school traffic generator indicate an average queue of 996 feet and a high demand day queue of 1,296 feet. The adequacy of the queue storage provided in the site plan was reviewed using both the MSTA School Calculator spreadsheet and a traffic simulation with SimTraffic software.

An analysis was conducted on the proposed site plan to simulate typical drop-off and pick-up operations for the proposed site. The traffic simulation was set to MSTA requirements. The provided onsite storage is anticipated to be adequate for the loading zones.

The following table summarizes the required and provided queue storage lengths.

Table 6.1 – School Loading Zone Queue Summary	
Student Capacity	450 Students (Grades Pre-K-12)
MSTA Maximum Queue	996 feet
Provided Storage Distance Based on MSTA Standards and SimTraffic Simulation	1,296 feet
Site Plan Accommodates	1,300 feet

We also offer the following recommendations related to the loading zones and traffic circulation:

- Provide double stacking where indicated on Exhibits during the peak hours of arrival and dismissal
- Identify Short Term / Visitor Parking Spaces past the loading zone, as shown in Exhibit A. At least 10 parking spaces should be identified by installing “Visitor Parking” signs and/or pavement markings at the spaces to be assigned. These spaces are for parents requiring extended periods of time to load. If a parent stops in the loading zone, to wait to load their student, a loading assistant should direct that parent to the Visitor Parking.
- Implement an organized loading process to expedite drop-off and pickup process.

- In the afternoon, the loading process may involve using an intercom system to notify students when their parent has arrived and directing them to the appropriate loading space to allow quick loading
- Coordination with City of Mebane and NCDOT will be required to install appropriate school zone signage.

Exhibit A illustrates the on-campus recommendations for the school.

Bradford Academy

450 Future School Population

1296 Feet Projected Queue

This Design Provides

1300 Feet Total Queue Storage

NOTES:

A = DENOTES LOADING ZONE OF (5) SPACES @ 8' X 20'

B = DENOTES SHORT TERM VISITOR PARKING (10) SPACES

C = DENOTES (2) LANE BEGINNING OF PARENT VEHICLE QUEUE PATTERN

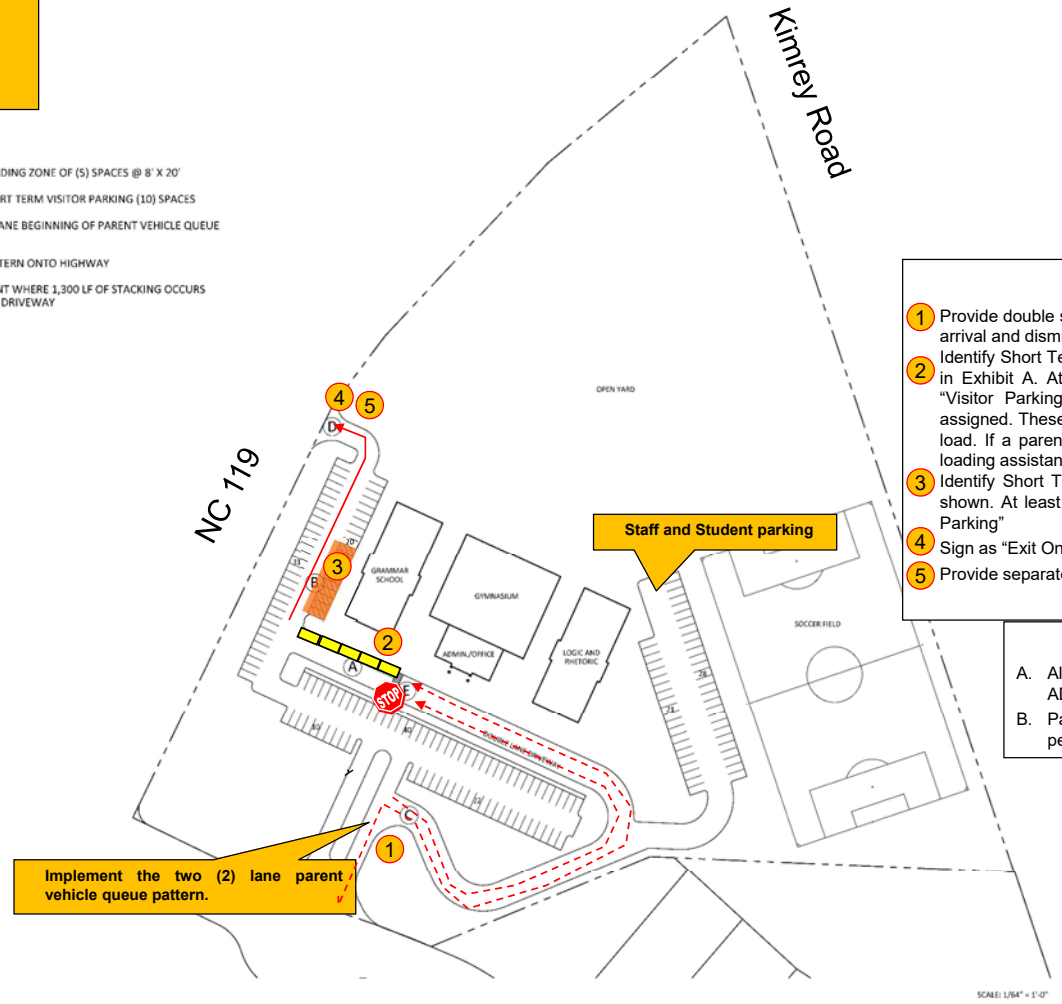
D = NEW EXIT PATTERN ONTO HIGHWAY

E = DENOTES POINT WHERE 1,300 LF OF STACKING OCCURS ALONG TWO LANE DRIVEWAY

LEGEND

- Recommendation
- Entering Parent Traffic
- Exiting Parent Traffic

N



NOTES

1. Provide double stacking where indicated on Exhibits during the peak hours of arrival and dismissal
2. Identify Short Term / Visitor Parking Spaces past the loading zone, as shown in Exhibit A. At least 10 parking spaces should be identified by installing "Visitor Parking" signs and/or pavement markings at the spaces to be assigned. These spaces are for parents requiring extended periods of time to load. If a parent stops in the loading zone, to wait to load their student, a loading assistant should direct that parent to the Visitor Parking.
3. Identify Short Term / Visitor Parking Spaces near the vehicle exit lane, as shown. At least 10 parking spaces should be identified by installing "Visitor Parking"
4. Sign as "Exit Only"
5. Provide separate left and right egress lanes

OTHER COMMENTS

A. All sidewalks, crosswalks, and curb cuts should comply with ADA standards.

B. Parking lots should be designed to safely accommodate pedestrians.

CONCEPT PLAN
NOT FOR CONSTRUCTION

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Exhibit A
Bradford Academy
On-site Recommendations

Division 7	Alamance County	Mebane, NC
SCALE:	N. C. DEPARTMENT OF TRANSPORTATION	REVIEWED BY:
DATE: 10/18/2019	TRANSPORTATION MOBILITY AND SAFETY DIVISION	REVISIONS:
PREPARED BY: DCB		

7.0 Scenario 2: Proposed School and Summerhaven Development

7.1 Future No Build Traffic Volumes

The 2023 future no build traffic volumes were computed by applying a 1.0% compounded annual growth rate to the existing traffic volumes, adding approved development trips and the Summerhaven subdivision. Figure 10 shows the **Scenario 2**: 2023 future no build traffic volumes for AM and Dismissal peaks.

7.2 Future Build Traffic Volumes

The 2023 future build traffic volumes were computed by summing the 2023 future no build volumes and school trips due to the proposed project. School trips remains the same in Scenario 1 which is shown in Figure 7. The **Scenario 2**: 2023 future build volumes are shown for AM and Dismissal peaks in Figure 11.

N

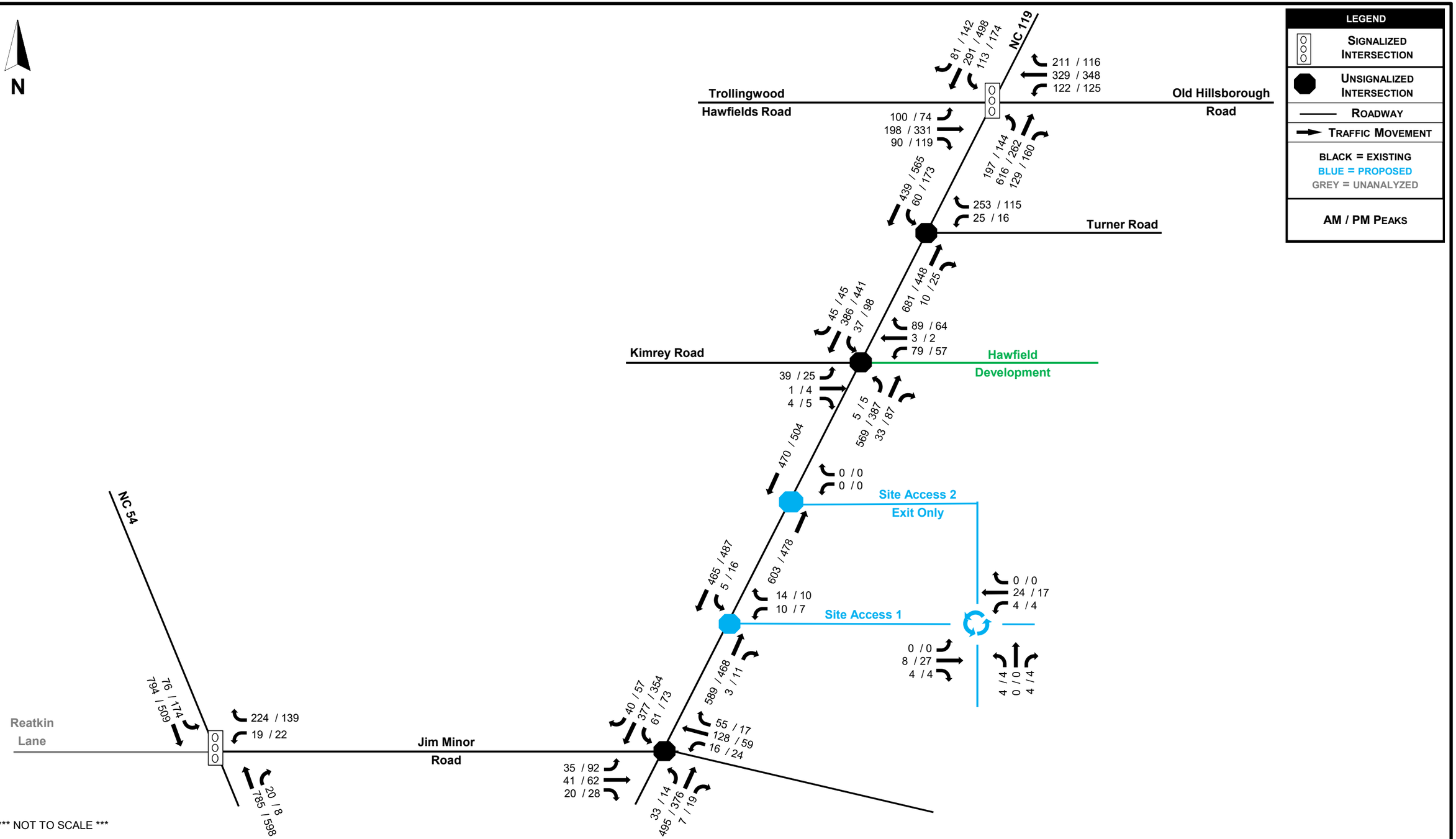

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Figure 10
Scenario 2: 2023 Future No Build Volumes

Bradford Academy
Mebane, NC
DAVENPORT Project Number 190020

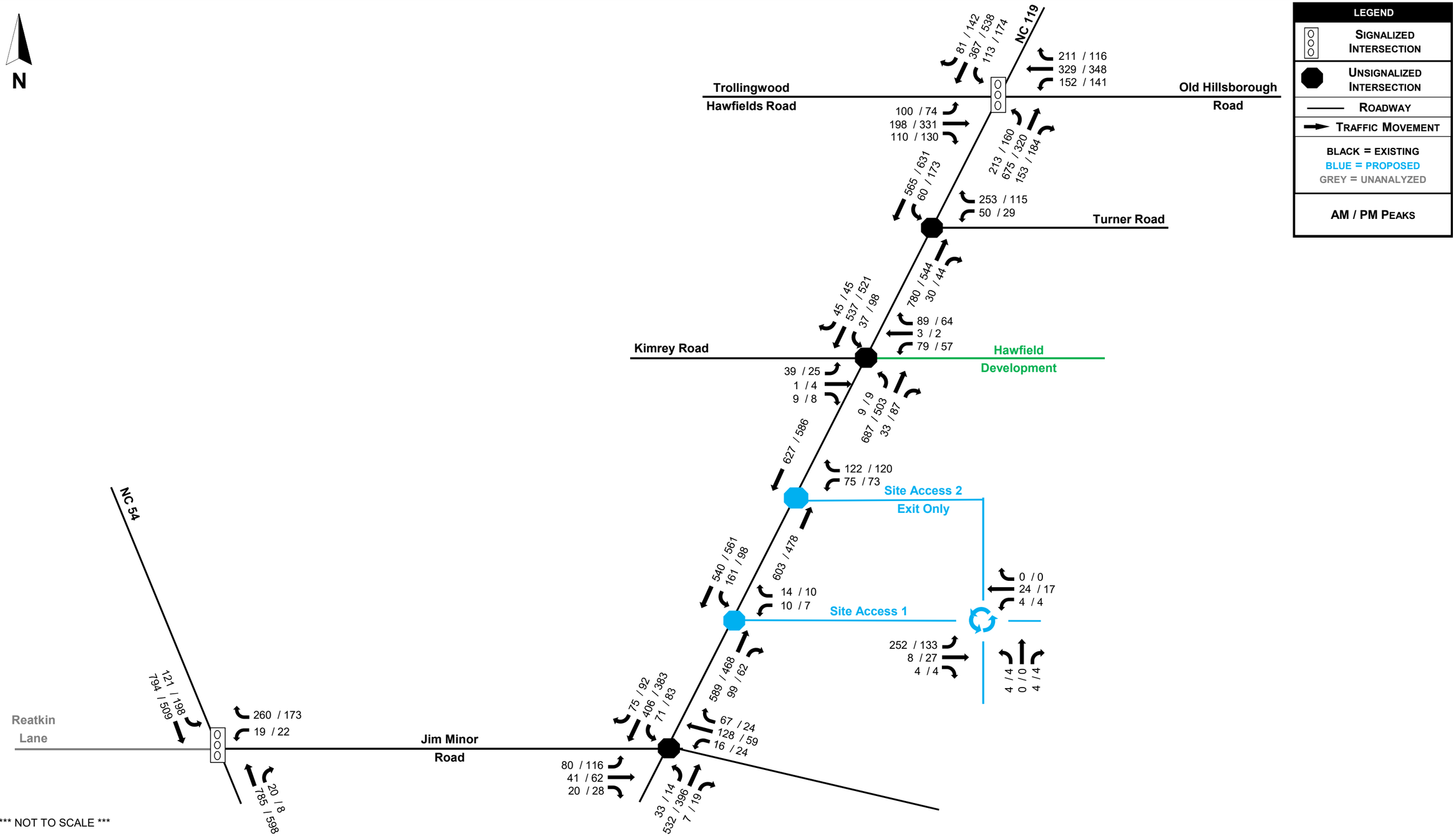

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Figure 11
Scenario 2: 2023 Future Build Volumes

Bradford Academy
Mebane, NC
DAVENPORT Project Number 190020

7.3 Scenario 2: Proposed School and Subdivision – Discussion of Results

The results of the level of service analysis remain the same as Scenario 1. The recommended improvements remain the same for each study intersection.

The recommended improvements are illustrated in Figure 12.

7.4 Level of Service and Queuing Summary

Table 7.1 presents the summary of the level of service analysis for the proposed development.

Table 7.1 - Level of Service Summary – Scenario 2

AM Peak	2018 Existing	2023 Future No Build	2023 Future Build	2023 Future Build with Improvements
NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road	C (34.3)	E (61.2)	F (132.4)	E (78.8)
NC 119 at Turner Road	C (18.2) WB Approach	D (32.2) WB Approach	F (129.3) WB Approach	
NC 119 at Kimrey Road	C (19.5) EB Approach	F (67.2) EB Approach	F (584.6) WB Approach	F (438.9) EB Approach
NC 119 at Jim Minor Road	D (32.6) WB Approach	F (506.0) EB Approach	F (623.7) WB Approach	B (10.7) Signalized
NC 54 at Jim Minor Road / Reatkin Lane	A (7.7)	B (10.5)	B (12.8)	
NC 119 at Site Access 1		C (17.7) WB Approach	F (149.4) WB Approach	F (149.4) WB Approach
NC 119 at Site Access 2 (exit only)			F (488.9) WB Approach	F (119.6) WB Approach
Site Access 1 at Internal Roundabout			A (6.0) Roundabout	
Dismissal peak	**2018 Existing**	**2023 Future No Build**	**2023 Future Build**	**2023 Future Build with Improvements**
NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road	C (29.8)	F (91.6)	F (147.8)	F (133.1)
NC 119 at Turner Road	B (11.8) WB Approach	C (17.3) WB Approach	F (55.3) WB Approach	
NC 119 at Kimrey Road	C (15.4) EB Approach	E (49.2) EB Approach	F (277.9) WB Approach	F (153.0) EB Approach
NC 119 at Jim Minor Road	C (24.8) EB Approach	F (344.8) EB Approach	F (1867.1) EB Approach	B (11.4)
NC 54 at Jim Minor Road / Reatkin Lane	A (7.2)	B (10.6)	B (12.9)	
NC 119 at Site Access 1		C (15.7) WB Approach	E (37.0) WB Approach	E (37.0) WB Approach
NC 119 at Site Access 2 (exit only)			F (258.4) WB Approach	F (57.4) WB Approach
Site Access 1 at Internal Roundabout			A (4.3) Roundabout	

LOS (delay in seconds)
Note for unsignalized conditions, LOS and delay indicates only minor street approach with longest delay

Tables 7.2- 7.9 present the summaries of the SimTraffic Queuing Analysis for each study intersection by movement.

Table 7.2 - Queue Summary NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road AM Peak Hour Queues										
2023 No Build	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBTR**	**SBL**	**SBTR**	
Max Queue (ft)	275	243	250	720	250	200	1045	299	725	
95th Percentile Queue (ft)	311	228	228	624	275	222	1054	334	564	
Storage Bay (ft)	175	-	150	-	150	150	-	225	-	
2023 Build	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBTR**	**SBL**	**SBTR**	
Max Queue (ft)	274	601	250	1013	250	200	1045	300	1157	
95th Percentile Queue (ft)	307	608	267	1206	274	228	1046	336	1396	
Storage Bay (ft)	175	-	150	-	150	150	-	225	-	
2023 Build + Imp	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBTR**
Max Queue (ft)	275	1209	250	1002	250	249	1044	250	300	774
95th Percentile Queue (ft)	364	1402	280	1147	310	274	1050	316	320	825
Storage Bay (ft)	175	-	150	-	150	150	-	150	225	-
Dismissal peak Hour Queues										
2023 No Build	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBTR**	**SBL**	**SBTR**	
Max Queue (ft)	275	1209	249	413	250	200	580	299	1157	
95th Percentile Queue (ft)	323	1445	258	378	238	243	615	379	1252	
Storage Bay (ft)	175	-	150	-	150	150	-	225	-	
2023 Build	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBTR**	**SBL**	**SBTR**	
Max Queue (ft)	275	1233	250	535	250	200	1045	300	1168	
95th Percentile Queue (ft)	316	1436	258	539	271	220	1118	357	1149	
Storage Bay (ft)	175	-	150	-	150	150	-	225	-	
2023 Build + Imp	**EBL**	**EBTR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBTR**
Max Queue (ft)	274	1246	250	943	250	250	521	250	300	1144
95th Percentile Queue (ft)	341	1302	285	1053	306	266	478	307	358	1142
Storage Bay (ft)	175	-	150	-	150	150	-	150	225	-

Table 7.3 - Queue Summary NC 119 at Turner Road AM Peak Hour Queues					
2023 No Build	**WBL**	**WBR**	**NBTR**	**SBL**	
Max Queue (ft)	806	150	1078	72	
95th Percentile Queue (ft)	980	154	1172	67	
Storage Bay (ft)	-	50	-	125	
2023 Build	**WBL**	**WBR**	**NBTR**	**SBL**	**SBT**
Max Queue (ft)	806	150	2004	81	161
95th Percentile Queue (ft)	814	159	2291	86	94
Storage Bay (ft)	-	50	-	125	-
2023 Build + Imp	**WBL**	**WBR**	**NBTR**	**SBL**	**SBT**
Max Queue (ft)	806	150	591	79	104
95th Percentile Queue (ft)	1011	155	518	77	50
Storage Bay (ft)	-	50	-	125	
Dismissal peak Hour Queues					
2023 No Build	**WBL**	**WBR**	**SBL**		
Max Queue (ft)	37	47	75		
95th Percentile Queue (ft)	25	32	75		
Storage Bay (ft)	-	50	125		
2023 Build	**WBL**	**WBR**	**NBTR**	**SBL**	**SBT**
Max Queue (ft)	150	108	396	111	108
95th Percentile Queue (ft)	78	84	291	112	52
Storage Bay (ft)	-	50	-	125	-
2023 Build + Imp	**WBL**	**WBR**	**SBL**		
Max Queue (ft)	15	74	132		
95th Percentile Queue (ft)	18	61	112		
Storage Bay (ft)	-	50	125		

Table 7.4 - Queue Summary
NC 119 at Kimrey Road
AM Peak Hour Queues

2023 No Build	EBLTR	WBLTR	NBLTR	SBLTR	
Max Queue (ft)	69	151	15	86	
95th Percentile Queue (ft)	63	143	7	76	
Storage Bay (ft)	-	-	-	-	
2023 Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**	
Max Queue (ft)	123	496	435	302	
95th Percentile Queue (ft)	112	532	341	240	
Storage Bay (ft)	-	-	-	-	
2023 Build + Imp	**EBLTR**	**WBLT**	**WBR**	**NBLT**	**SBL**
Max Queue (ft)	88	178	195	39	19
95th Percentile Queue (ft)	81	182	118	26	25
Storage Bay (ft)	-	-	100	-	100

Dismissal peak Hour Queues

2023 No Build	EBLTR	WBLTR	NBLTR	SBLTR	
Max Queue (ft)	18	133	35	169	
95th Percentile Queue (ft)	22	120	19	124	
Storage Bay (ft)	-	-			
2023 Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**	
Max Queue (ft)	66	215	78	130	
95th Percentile Queue (ft)	59	177	39	109	
Storage Bay (ft)	-	-			
2023 Build + Imp	**EBLTR**	**WBLT**	**WBR**	**NBLT**	**SBL**
Max Queue (ft)	67	153	45	112	40
95th Percentile Queue (ft)	46	115	39	58	30
Storage Bay (ft)	-	-	100	-	100

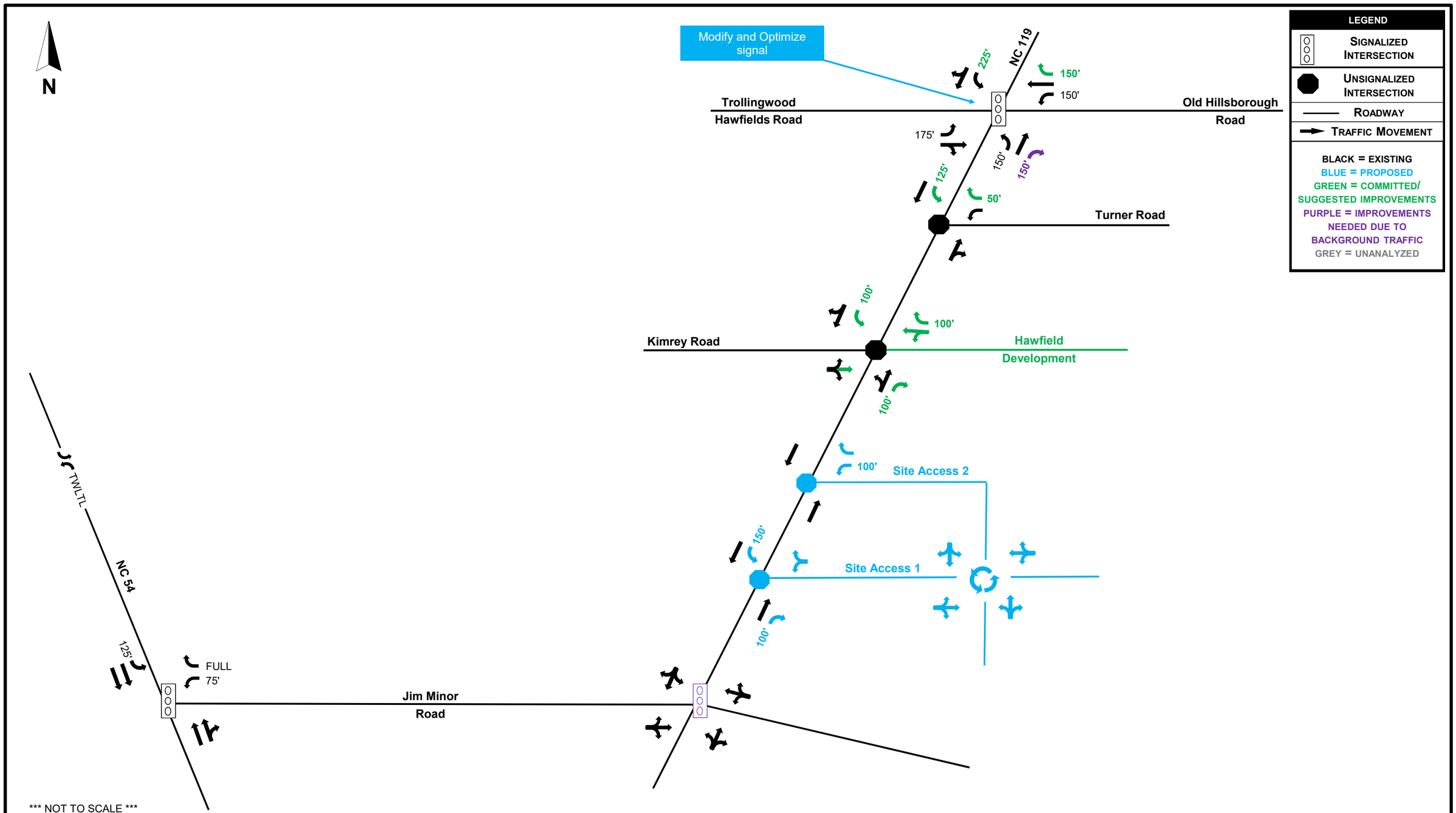
Table 7.5 - Queue Summary NC 119 at Jim Minor Road AM Peak Hour Queues				
2023 No Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	115	321	221	113
95th Percentile Queue (ft)	108	298	119	111
Storage Bay (ft)	-	-	-	-
2023 Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	549	1238	86	136
95th Percentile Queue (ft)	598	1454	52	112
Storage Bay (ft)	-	-	-	-
2023 Build + Imp	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	159	126	1691	1276
95th Percentile Queue (ft)	156	117	1553	1172
Storage Bay (ft)	-	-	-	-
Dismissal peak Hour Queues				
2023 No Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	174	135	23	74
95th Percentile Queue (ft)	167	111	19	73
Storage Bay (ft)	-	-	-	-
2023 Build	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	589	136	45	160
95th Percentile Queue (ft)	478	119	32	120
Storage Bay (ft)	-	-	-	-
2023 Build + Imp	**EBLTR**	**WBLTR**	**NBLTR**	**SBLTR**
Max Queue (ft)	175	184	335	605
95th Percentile Queue (ft)	166	135	274	616
Storage Bay (ft)	-	-	-	-

Table 7.6 - Queue Summary NC 54 at Jim Minor Road AM Peak Hour Queues							
2023 No Build	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	167	156	163	149	93	96	116
95th Percentile Queue (ft)	87	160	153	135	84	93	80
Storage Bay (ft)	75	-	-	-	125	-	-
2023 Build	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	16	208	138	116	140	52	30
95th Percentile Queue (ft)	13	182	115	88	123	32	20
Storage Bay (ft)	75	-	-	-	125	-	-
2023 Build + Imp	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	174	506	137	121	144	84	49
95th Percentile Queue (ft)	87	404	115	102	122	59	33
Storage Bay (ft)	75	-	-	-	125	-	-
Dismissal peak Hour Queues							
2023 No Build	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	35	112	174	138	116	53	54
95th Percentile Queue (ft)	24	103	129	110	118	48	50
Storage Bay (ft)	75	-	-	-	125	-	-
2023 Build	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	15	71	120	135	157	147	152
95th Percentile Queue (ft)	17	74	112	115	172	104	92
Storage Bay (ft)	75	-	-	-	125	-	-
2023 Build + Imp	**WBL**	**WBR**	**NBT**	**NBTR**	**SBL**	**SBT**	**SBT**
Max Queue (ft)	37	106	94	113	238	53	53
95th Percentile Queue (ft)	26	100	99	89	170	44	58
Storage Bay (ft)	75	-	-	-	125	-	-

Table 7.7 - Queue Summary NC 119 at Site Access 1 AM Peak Hour Queues				
2023 Build	**WBLR**	**NBR**	**SBL**	**SBT**
Max Queue (ft)	64	22	101	159
95th Percentile Queue (ft)	50	22	91	76
Storage Bay (ft)	-	100	100	-
2023 Build + Imp	**WBLR**	**NBR**	**SBL**	
Max Queue (ft)	66	38	128	
95th Percentile Queue (ft)	48	33	128	
Storage Bay (ft)	-	100	150	
Dismissal peak Hour Queues				
2023 Build	**WBLR**	**NBR**	**SBL**	
Max Queue (ft)	62	20	76	
95th Percentile Queue (ft)	46	9	73	
Storage Bay (ft)	-	100	100	
2023 Build + Imp	**WBLR**	**SBL**		
Max Queue (ft)	64	54		
95th Percentile Queue (ft)	42	65		
Storage Bay (ft)	-	150		

Table 7.8 - Queue Summary NC 119 at Site Access 2 AM Peak Hour Queues		
2023 Build	**WBLR**	
Max Queue (ft)	62	
95th Percentile Queue (ft)	62	
Storage Bay (ft)	-	
2023 Build + Imp	**WBL**	**WBR**
Max Queue (ft)	184	137
95th Percentile Queue (ft)	147	130
Storage Bay (ft)	100	-
Dismissal peak Hour Queues		
2023 Build	**WBLR**	
Max Queue (ft)	62	
95th Percentile Queue (ft)	63	
Storage Bay (ft)	-	
2023 Build + Imp	**WBL**	**WBR**
Max Queue (ft)	120	200
95th Percentile Queue (ft)	111	157
Storage Bay (ft)	100	-

Table 7.9 - Queue Summary Site Access 1 at Internal Roundabout AM Peak Hour Queues	
2023 Build	**EBLTR**
Max Queue (ft)	26
Storage Bay (ft)	-
Dismissal peak Hour Queues	
2023 Build	**EBLTR**
Max Queue (ft)	12
Storage Bay (ft)	-



*** NOT TO SCALE ***

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DAVENPORT

Figure 12 - Recommended Improvements

Bradford Academy
Mebane, NC
DAVENPORT Project Number 190020

8.0 Summary and Conclusion

The proposed Bradford Academy will have approximately 450 students from grade levels Pre-K to 12th grade by 2023. The analysis studied two (2) scenarios: **Scenario 1** analyzed the proposed school only and describe any recommended improvements from this development only. **Scenario 2** analyzed the Summerhaven subdivision in the background traffic while incorporating the proposed school.

The MSTA calculator estimated that there would be 449 trips in the AM peak and 326 trips in the Dismissal peak. This would include parents, staff and student drivers. This school will not have any buses. The calculator determined that the school would need to provide at least 1,297 feet of queue on campus to accommodate the school traffic. The site plan is expected to provide 1,300 feet of queue on campus which will satisfy the MSTA requirement. To achieve the queue, it is recommended to have double stacking on campus. Other recommendations can be found on Exhibit A.

Based on the analysis there is expected queueing and capacity issues along NC 119 in future no build conditions and build conditions. Some mitigations were recommended as background improvements but it should be noted that queuing is still an issue along NC 119.

Based on the analysis, Summerhaven Subdivision is proposed to construct a 100 foot northbound right turn lane and 100 foot southbound lane with appropriate tapers at Site Access 1. It is recommended that the proposed Bradford Academy provide a southbound left turn lane of 150 feet of storage and a northbound right turn lane of 100 feet of storage with appropriate tapers. It should be noted that the Bradford Academy's recommendation is 50 feet longer than the Summerhaven Subdivision. Though all school traffic will enter through the internal roundabout, the traffic will exit to the north from a separate access point onto NC 119. Therefore, the internal roundabout is not expected to be an operational issue. The subdivision also proposes to construct a southern access on NC 119 that can serve as a relief valve if deemed necessary. **The continuation of the subdivision's approval process should not be an issue as long as the auxiliary lanes at Site Access 1 are constructed to 100 feet of storage for northbound right turn lane and 100 feet of storage for southbound left turn lane on NC 119 prior to the school opening.**

Table 8.1 summarizes the recommended improvements.

In conclusion, this study has reviewed the impacts of both background traffic and this development traffic, and has determined that with the recommended improvements in place, there will be adequate capacity to accommodate future traffic. Please note that all accesses to the site are required to be constructed to NCDOT and City of Mebane standards.

Table 8.1 – Recommended Improvements	
INTERSECTION	**RECOMMENDATIONS**
NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road	These improvements are suggested regardless of Bradford Academy: • Modify signal • Provide a northbound right turn lane of 150 feet storage with appropriate taper
NC 119 at Turner Road	No improvements recommended.
NC 119 at Kimrey Road	These improvements are suggested for the Hawfield Development: • Provide a northbound right turn lane of 100 feet storage with appropriate taper • Provide a southbound left turn lane of 100 feet storage with appropriate taper • Provide a westbound right turn lane of 100 feet storage with appropriate taper
NC 119 at Jim Minor Road	These improvements are suggested regardless of Bradford Academy: • Provide a signal
NC 54 at Jim Minor Road	No improvements recommended.
NC 119 at Site Access 1	• Provide a northbound right turn lane on NC 119 with 100 feet of storage and appropriate taper. • Provide a southbound left turn lane on NC 119 with 150 feet of storage and appropriate taper.
NC 119 at Site Access 2	• Provide a separate egress lane with left lane of 100 feet storage with appropriate taper.

Appendix

Trip Generation

MSTA School Traffic Calculations

AM and PM Peak Traffic Estimates

(These numbers do not reflect peak hour traffic volumes)

School Name: Bradford Academy

Type: **Private / Non-urban Charter**

Version: 102816

AM Cars / Student	PM Cars / Student	Avg. Car Length	PM At one Time
55.94%	39.15%	22.19	48.67%
43.35%	26.30%	22.00	37.87%
52.91%	47.50%	22.19	46.12%
50.08%	47.58%	22.83	55.71%

MSTA School Queue Input / Calculations

Grade Level	Student Population	Number of Buses	Staff Members	Student Drivers	PM Total Vehicles	PM Peak Vehicles	Average Queue Length	Total AM Trips	Total PM Trips	High Demand Length
										30%
Pre-K & K	64		3		26	13		75	55	
		1								
1-10	320		28		85	33	726	305	198	944
		4								
11th	32		2	10	12	6	133	35	36	173
		1								
12th	32		2	15	10	6	137	33	37	179
		1								
Sum >>	448		35	25	133	58	996	374	271	1296

Yes - If Pre-K & K students are provided parking spaces at or above their PM Peak Vehicles >>>>>> yes 300

Pre-K & K loading is usually park and walk "PM Peak Vehicles" indicates minimum number of parking spaces needed.

Private & Non-Urban Charter data is based on few to no buses and uses the same percentages for all school types except 11th and 12th grades which makes adjustments for student drivers.

Pre-K & K

Direction	AM Trips Generated: Parents	Buses	Staff	Trips	PM Trips Generated: Parents	Buses	Staff	Trips
IN	36		3	39	26			26
OUT	36			36	26		3	29
		AM Pre-K-K Trips		75		PM PK-K Trips		55

1-10

Direction	AM Trips Generated: Parents	Buses	Staff	Trips	PM Trips Generated: Parents	Buses	Staff	Trips
IN	139		28	167	85			85
OUT	139			139	85		28	113
		AM K-10 Trips		305		PM K-10 Trips		198

11th

Direction	AM Trips Generated: Parents	Buses	Staff	Student Dvr	Trips	PM Trips Generated: Parents	Buses	Staff	Student Dvr	Trips
IN	12		2	8	22	12				12
OUT	12				12	12		2	10	24
			AM 11 Trips		35			PM 11 Trips		36

12th

Direction	AM Trips Generated: Parents	Buses	Staff	Student Dvr	Trips	PM Trips Generated: Parents	Buses	Staff	Student Dvr	Trips
IN	10		2	12	24	10				10
OUT	10				10	10		2	15	27
			AM 12 Trips		33			PM 12 Trips		37

			ADT
			130
			503
			71
			70

All AM TRIPS		
	In	252
	Out	197
	Total	448

All PM TRIPS		
	In	133
	Out	193
	Total	326

774

NOTES

- **Average Queue Length does not** include an alternative traffic pattern required for high traffic demand days which is usually 30% additional length.
- **Average Queue Length does not** include the Student Loading Zone.
- Peak traffic volumes at schools normally occur within a 30-minute time period. (justifying a PHF of 0.5)

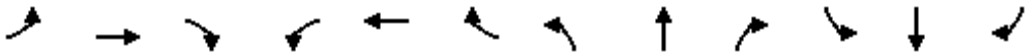
Calculated 9/5/2019 By:_____

Level of Service Analysis

NC 119 at Trollingwood Hawfields Road/ Old Hillsborough Road

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



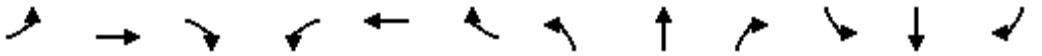
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	162	70	81	233	137	144	483	96	85	239	77
Future Volume (veh/h)	95	162	70	81	233	137	144	483	96	85	239	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	106	180	78	90	259	152	160	537	107	94	266	86
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	318	138	316	284	167	490	682	136	277	585	189
Arrive On Green	0.06	0.26	0.28	0.06	0.26	0.26	0.07	0.44	0.45	0.06	0.43	0.44
Sat Flow, veh/h	1731	1202	521	1731	1074	630	1818	1546	308	1781	1354	438
Grp Volume(v), veh/h	106	0	258	90	0	411	160	0	644	94	0	352
Grp Sat Flow(s),veh/h/ln	1731	0	1724	1731	0	1704	1818	0	1854	1781	0	1792
Q Serve(g_s), s	5.1	0.0	14.8	4.2	0.0	26.8	5.6	0.0	34.0	3.3	0.0	15.8
Cycle Q Clear(g_c), s	5.1	0.0	14.8	4.2	0.0	26.8	5.6	0.0	34.0	3.3	0.0	15.8
Prop In Lane	1.00		0.30	1.00		0.37	1.00		0.17	1.00		0.24
Lane Grp Cap(c), veh/h	195	0	455	316	0	451	490	0	818	277	0	775
V/C Ratio(X)	0.54	0.00	0.57	0.28	0.00	0.91	0.33	0.00	0.79	0.34	0.00	0.45
Avail Cap(c_a), veh/h	241	0	602	361	0	595	605	0	1376	406	0	1330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	36.2	28.5	0.0	40.9	17.3	0.0	27.3	21.3	0.0	22.8
Incr Delay (d2), s/veh	0.9	0.0	0.4	0.2	0.0	13.3	0.1	0.0	6.0	0.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	6.0	1.7	0.0	12.4	2.2	0.0	15.6	1.3	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	0.0	36.6	28.7	0.0	54.1	17.4	0.0	33.3	21.6	0.0	24.3
LnGrp LOS	C	A	D	C	A	D	B	A	C	C	A	C
Approach Vol, veh/h		364			501			804			446	
Approach Delay, s/veh		35.4			49.6			30.2			23.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	55.5	12.0	35.3	12.7	54.5	11.9	35.3
Change Period (Y+Rc), s	5.1	5.6	5.4	5.4	5.1	5.6	5.1	5.4
Max Green Setting (Gmax), s	14.9	84.4	9.6	39.6	14.9	84.4	9.9	39.6
Max Q Clear Time (g_c+I1), s	5.3	36.0	6.2	16.8	7.6	17.8	7.1	28.8
Green Ext Time (p_c), s	0.1	13.9	0.0	0.8	0.1	6.6	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



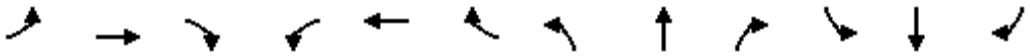
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	198	88	121	329	211	191	601	125	113	286	81
Future Volume (veh/h)	100	198	88	121	329	211	191	601	125	113	286	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	111	220	98	134	366	234	212	668	139	126	318	90
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	253	113	178	432	366	257	708	147	153	569	161
Arrive On Green	0.08	0.21	0.21	0.10	0.24	0.24	0.14	0.46	0.46	0.09	0.41	0.41
Sat Flow, veh/h	1731	1191	531	1731	1817	1540	1818	1533	319	1781	1402	397
Grp Volume(v), veh/h	111	0	318	134	366	234	212	0	807	126	0	408
Grp Sat Flow(s),veh/h/ln	1731	0	1722	1731	1817	1540	1818	0	1852	1781	0	1799
Q Serve(g_s), s	9.2	0.0	26.0	11.0	28.0	19.9	16.5	0.0	60.6	10.2	0.0	25.4
Cycle Q Clear(g_c), s	9.2	0.0	26.0	11.0	28.0	19.9	16.5	0.0	60.6	10.2	0.0	25.4
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.17	1.00		0.22
Lane Grp Cap(c), veh/h	134	0	366	178	432	366	257	0	855	153	0	731
V/C Ratio(X)	0.83	0.00	0.87	0.75	0.85	0.64	0.82	0.00	0.94	0.83	0.00	0.56
Avail Cap(c_a), veh/h	134	0	565	254	723	612	297	0	866	153	0	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.3	0.0	55.5	63.6	53.0	49.9	60.9	0.0	37.4	65.6	0.0	33.3
Incr Delay (d2), s/veh	31.4	0.0	5.8	3.9	2.1	0.7	13.4	0.0	19.4	27.9	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	11.6	5.0	12.8	7.6	8.5	0.0	31.0	5.8	0.0	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.7	0.0	61.2	67.5	55.1	50.6	74.2	0.0	56.9	93.5	0.0	35.8
LnGrp LOS	F	A	E	E	E	D	E	A	E	F	A	D
Approach Vol, veh/h		429			734			1019			534	
Approach Delay, s/veh		70.7			55.9			60.5			49.4	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	72.3	20.0	36.0	25.6	64.2	16.3	39.7
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	10.5	66.2	19.4	45.9	21.8	54.9	9.3	56.0
Max Q Clear Time (g_c+I1), s	12.2	62.6	13.0	28.0	18.5	27.4	11.2	30.0
Green Ext Time (p_c), s	0.0	2.7	0.1	1.0	0.1	6.4	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	58.7
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



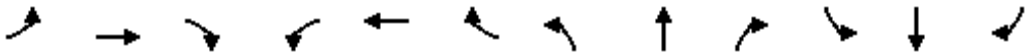
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	198	108	151	329	211	207	660	149	113	362	81
Future Volume (veh/h)	100	198	108	151	329	211	207	660	149	113	362	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	111	220	144	201	366	234	276	880	199	126	483	90
Peak Hour Factor	0.90	0.90	0.75	0.75	0.90	0.90	0.75	0.75	0.75	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	245	160	231	549	446	270	641	145	139	544	101
Arrive On Green	0.07	0.24	0.24	0.13	0.30	0.29	0.15	0.43	0.43	0.08	0.35	0.35
Sat Flow, veh/h	1731	1025	671	1731	1817	1540	1818	1507	341	1781	1533	286
Grp Volume(v), veh/h	111	0	364	201	366	234	276	0	1079	126	0	573
Grp Sat Flow(s),veh/h/ln	1731	0	1697	1731	1817	1540	1818	0	1848	1781	0	1819
Q Serve(g_s), s	10.2	0.0	33.4	18.3	28.2	20.4	23.8	0.0	68.2	11.3	0.0	47.6
Cycle Q Clear(g_c), s	10.2	0.0	33.4	18.3	28.2	20.4	23.8	0.0	68.2	11.3	0.0	47.6
Prop In Lane	1.00		0.40	1.00		1.00	1.00		0.18	1.00		0.16
Lane Grp Cap(c), veh/h	122	0	405	231	549	446	270	0	786	139	0	645
V/C Ratio(X)	0.91	0.00	0.90	0.87	0.67	0.53	1.02	0.00	1.37	0.91	0.00	0.89
Avail Cap(c_a), veh/h	122	0	507	231	657	538	270	0	786	139	0	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	74.1	0.0	59.2	68.2	49.0	47.8	68.3	0.0	46.1	73.4	0.0	48.8
Incr Delay (d2), s/veh	53.7	0.0	14.4	27.2	1.2	0.4	60.9	0.0	176.1	48.7	0.0	16.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	15.7	9.7	12.8	7.8	15.5	0.0	68.9	7.0	0.0	24.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	127.8	0.0	73.5	95.4	50.2	48.1	129.2	0.0	222.2	122.1	0.0	64.8
LnGrp LOS	F	A	E	F	D	D	F	A	F	F	A	E
Approach Vol, veh/h		475			801			1355			699	
Approach Delay, s/veh		86.2			60.9			203.2			75.1	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	73.2	26.4	43.3	28.8	61.9	16.3	53.4
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	10.5	66.2	19.4	45.9	21.8	54.9	9.3	56.0
Max Q Clear Time (g_c+I1), s	13.3	70.2	20.3	35.4	25.8	49.6	12.2	30.2
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	3.0	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	125.4
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



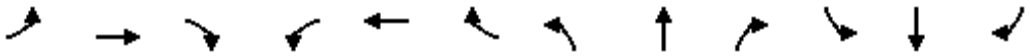
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	198	108	151	329	211	207	660	149	113	362	81
Future Volume (veh/h)	100	198	108	151	329	211	207	660	149	113	362	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	111	220	144	201	366	234	276	880	199	126	483	90
Peak Hour Factor	0.90	0.90	0.75	0.75	0.90	0.90	0.75	0.75	0.75	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	211	138	210	439	455	313	911	968	138	587	109
Arrive On Green	0.09	0.21	0.21	0.12	0.24	0.23	0.17	0.48	0.48	0.08	0.38	0.38
Sat Flow, veh/h	1731	1025	671	1731	1817	1540	1818	1909	1618	1781	1533	286
Grp Volume(v), veh/h	111	0	364	201	366	234	276	880	199	126	0	573
Grp Sat Flow(s),veh/h/ln	1731	0	1697	1731	1817	1540	1818	1909	1618	1781	0	1819
Q Serve(g_s), s	10.6	0.0	35.0	19.6	32.5	21.4	25.2	75.9	9.6	11.9	0.0	48.2
Cycle Q Clear(g_c), s	10.6	0.0	35.0	19.6	32.5	21.4	25.2	75.9	9.6	11.9	0.0	48.2
Prop In Lane	1.00		0.40	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	149	0	350	210	439	455	313	911	968	138	0	696
V/C Ratio(X)	0.75	0.00	1.04	0.96	0.83	0.51	0.88	0.97	0.21	0.91	0.00	0.82
Avail Cap(c_a), veh/h	149	0	350	210	439	455	340	913	970	138	0	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	75.8	0.0	67.4	74.2	61.2	49.7	68.6	43.1	15.6	77.7	0.0	47.3
Incr Delay (d2), s/veh	16.7	0.0	59.2	49.6	12.3	0.4	20.1	22.4	0.4	49.4	0.0	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	20.7	11.5	16.3	8.2	13.4	40.5	3.6	7.4	0.0	23.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.5	0.0	126.7	123.8	73.4	50.1	88.7	65.5	16.0	127.2	0.0	57.2
LnGrp LOS	F	A	F	F	E	D	F	E	B	F	A	E
Approach Vol, veh/h		475			801			1355			699	
Approach Delay, s/veh		118.7			79.2			62.9			69.8	
Approach LOS		F			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.2	86.0	25.6	40.0	34.3	70.0	19.6	46.0
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	11.2	79.2	18.6	33.0	29.8	60.6	12.6	39.0
Max Q Clear Time (g_c+I1), s	13.9	77.9	21.6	37.0	27.2	50.2	12.6	34.5
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	0.1	5.2	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	76.2
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



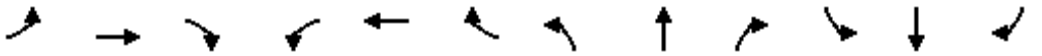
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	198	90	122	329	211	197	616	129	113	291	81
Future Volume (veh/h)	100	198	90	122	329	211	197	616	129	113	291	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	111	220	100	136	366	234	219	684	143	126	323	90
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	253	115	180	437	350	263	708	148	151	566	158
Arrive On Green	0.08	0.21	0.21	0.10	0.24	0.23	0.14	0.46	0.46	0.08	0.40	0.40
Sat Flow, veh/h	1731	1183	538	1731	1817	1540	1818	1531	320	1781	1408	392
Grp Volume(v), veh/h	111	0	320	136	366	234	219	0	827	126	0	413
Grp Sat Flow(s),veh/h/ln	1731	0	1721	1731	1817	1540	1818	0	1852	1781	0	1800
Q Serve(g_s), s	9.3	0.0	26.5	11.3	28.2	20.4	17.3	0.0	64.0	10.3	0.0	26.2
Cycle Q Clear(g_c), s	9.3	0.0	26.5	11.3	28.2	20.4	17.3	0.0	64.0	10.3	0.0	26.2
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.17	1.00		0.22
Lane Grp Cap(c), veh/h	133	0	367	180	437	350	263	0	856	151	0	724
V/C Ratio(X)	0.84	0.00	0.87	0.76	0.84	0.67	0.83	0.00	0.97	0.83	0.00	0.57
Avail Cap(c_a), veh/h	133	0	559	251	715	585	294	0	857	151	0	724
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.2	0.0	56.0	64.3	53.2	51.9	61.3	0.0	38.5	66.4	0.0	34.2
Incr Delay (d2), s/veh	33.4	0.0	6.4	4.7	2.1	0.8	15.0	0.0	23.3	29.8	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	11.9	5.1	12.9	7.8	9.0	0.0	33.5	5.9	0.0	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.6	0.0	62.4	69.0	55.3	52.8	76.4	0.0	61.9	96.3	0.0	36.8
LnGrp LOS	F	A	E	E	E	D	E	A	E	F	A	D
Approach Vol, veh/h		431			736			1046			539	
Approach Delay, s/veh		72.2			57.0			64.9			50.7	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	73.2	20.3	36.5	26.3	64.3	16.3	40.5
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	10.5	66.2	19.4	45.9	21.8	54.9	9.3	56.0
Max Q Clear Time (g_c+I1), s	12.3	66.0	13.3	28.5	19.3	28.2	11.3	30.2
Green Ext Time (p_c), s	0.0	0.2	0.1	1.0	0.1	6.5	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	61.2
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



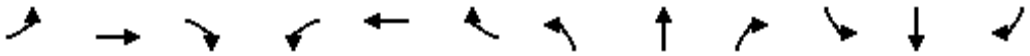
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	198	110	152	329	211	213	675	153	113	367	81
Future Volume (veh/h)	100	198	110	152	329	211	213	675	153	113	367	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	111	220	147	203	366	234	284	900	204	126	489	90
Peak Hour Factor	0.90	0.90	0.75	0.75	0.90	0.90	0.75	0.75	0.75	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	245	163	230	552	448	269	639	145	138	544	100
Arrive On Green	0.07	0.24	0.24	0.13	0.30	0.29	0.15	0.42	0.42	0.08	0.35	0.35
Sat Flow, veh/h	1731	1016	679	1731	1817	1540	1818	1506	341	1781	1537	283
Grp Volume(v), veh/h	111	0	367	203	366	234	284	0	1104	126	0	579
Grp Sat Flow(s),veh/h/ln	1731	0	1695	1731	1817	1540	1818	0	1848	1781	0	1819
Q Serve(g_s), s	10.2	0.0	33.7	18.5	28.2	20.4	23.8	0.0	68.2	11.3	0.0	48.5
Cycle Q Clear(g_c), s	10.2	0.0	33.7	18.5	28.2	20.4	23.8	0.0	68.2	11.3	0.0	48.5
Prop In Lane	1.00		0.40	1.00		1.00	1.00		0.18	1.00		0.16
Lane Grp Cap(c), veh/h	122	0	408	230	552	448	269	0	784	138	0	644
V/C Ratio(X)	0.91	0.00	0.90	0.88	0.66	0.52	1.06	0.00	1.41	0.91	0.00	0.90
Avail Cap(c_a), veh/h	122	0	505	230	656	536	269	0	784	138	0	644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	74.3	0.0	59.2	68.5	48.8	47.7	68.5	0.0	46.3	73.6	0.0	49.2
Incr Delay (d2), s/veh	54.4	0.0	14.8	29.3	1.2	0.4	70.1	0.0	191.5	49.4	0.0	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	15.9	10.0	12.8	7.8	16.2	0.0	72.1	7.1	0.0	25.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	128.7	0.0	74.0	97.7	50.0	48.0	138.6	0.0	237.8	123.0	0.0	66.5
LnGrp LOS	F	A	E	F	D	D	F	A	F	F	A	E
Approach Vol, veh/h		478			803			1388			705	
Approach Delay, s/veh		86.7			61.5			217.5			76.6	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	73.2	26.4	43.7	28.8	61.9	16.3	53.8
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	10.5	66.2	19.4	45.9	21.8	54.9	9.3	56.0
Max Q Clear Time (g_c+I1), s	13.3	70.2	20.5	35.7	25.8	50.5	12.2	30.2
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	2.5	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	132.4
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



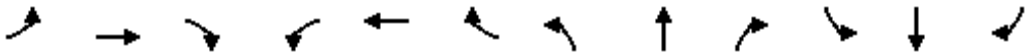
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	198	110	152	329	211	213	675	153	113	367	81
Future Volume (veh/h)	100	198	110	152	329	211	213	675	153	113	367	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	111	220	147	203	366	234	284	900	204	126	489	90
Peak Hour Factor	0.90	0.90	0.75	0.75	0.90	0.90	0.75	0.75	0.75	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	209	140	204	432	446	319	923	973	134	589	108
Arrive On Green	0.09	0.21	0.21	0.12	0.24	0.23	0.18	0.48	0.48	0.08	0.38	0.38
Sat Flow, veh/h	1731	1016	679	1731	1817	1540	1818	1909	1618	1781	1537	283
Grp Volume(v), veh/h	111	0	367	203	366	234	284	900	204	126	0	579
Grp Sat Flow(s),veh/h/ln	1731	0	1695	1731	1817	1540	1818	1909	1618	1781	0	1819
Q Serve(g_s), s	10.7	0.0	35.0	19.9	32.7	21.6	25.9	78.3	9.8	12.0	0.0	48.9
Cycle Q Clear(g_c), s	10.7	0.0	35.0	19.9	32.7	21.6	25.9	78.3	9.8	12.0	0.0	48.9
Prop In Lane	1.00		0.40	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	148	0	349	204	432	446	319	923	973	134	0	698
V/C Ratio(X)	0.75	0.00	1.05	1.00	0.85	0.52	0.89	0.97	0.21	0.94	0.00	0.83
Avail Cap(c_a), veh/h	149	0	349	204	432	446	319	923	973	134	0	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	75.9	0.0	67.5	75.0	61.8	50.6	68.5	42.9	15.5	78.2	0.0	47.4
Incr Delay (d2), s/veh	16.7	0.0	62.4	62.1	13.8	0.6	24.6	24.0	0.4	58.7	0.0	10.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	20.9	12.3	16.5	8.3	14.2	42.0	3.7	7.7	0.0	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.6	0.0	129.9	137.1	75.7	51.2	93.1	66.9	15.9	136.9	0.0	57.7
LnGrp LOS	F	A	F	F	E	D	F	E	B	F	A	E
Approach Vol, veh/h		478			803			1388			705	
Approach Delay, s/veh		121.2			84.0			64.7			71.8	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.8	87.2	25.0	40.0	34.8	70.2	19.6	45.4
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	10.8	80.2	18.0	33.0	27.8	63.2	12.6	38.4
Max Q Clear Time (g_c+I1), s	14.0	80.3	21.9	37.0	27.9	50.9	12.7	34.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	78.8
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



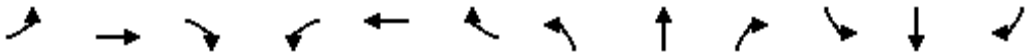
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	230	66	80	283	70	108	179	108	97	360	135
Future Volume (veh/h)	70	230	66	80	283	70	108	179	108	97	360	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	78	256	73	89	314	78	120	199	120	108	400	150
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	336	96	267	354	88	325	458	276	492	532	199
Arrive On Green	0.06	0.25	0.26	0.07	0.25	0.25	0.07	0.41	0.43	0.07	0.41	0.42
Sat Flow, veh/h	1731	1360	388	1731	1405	349	1818	1116	673	1781	1297	486
Grp Volume(v), veh/h	78	0	329	89	0	392	120	0	319	108	0	550
Grp Sat Flow(s),veh/h/ln	1731	0	1748	1731	0	1755	1818	0	1788	1781	0	1783
Q Serve(g_s), s	3.2	0.0	17.1	3.6	0.0	21.1	3.6	0.0	12.4	3.3	0.0	25.7
Cycle Q Clear(g_c), s	3.2	0.0	17.1	3.6	0.0	21.1	3.6	0.0	12.4	3.3	0.0	25.7
Prop In Lane	1.00		0.22	1.00		0.20	1.00		0.38	1.00		0.27
Lane Grp Cap(c), veh/h	217	0	432	267	0	442	325	0	735	492	0	731
V/C Ratio(X)	0.36	0.00	0.76	0.33	0.00	0.89	0.37	0.00	0.43	0.22	0.00	0.75
Avail Cap(c_a), veh/h	283	0	714	324	0	716	476	0	1552	642	0	1547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.9	0.0	34.0	25.8	0.0	35.3	18.4	0.0	20.5	15.3	0.0	24.5
Incr Delay (d2), s/veh	0.4	0.0	1.1	0.3	0.0	4.8	0.3	0.0	1.5	0.1	0.0	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	6.9	1.4	0.0	9.1	1.4	0.0	5.2	1.3	0.0	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	0.0	35.1	26.0	0.0	40.1	18.7	0.0	21.9	15.4	0.0	30.1
LnGrp LOS	C	A	D	C	A	D	B	A	C	B	A	C
Approach Vol, veh/h		407			481			439			658	
Approach Delay, s/veh		33.6			37.5			21.0			27.7	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	45.3	11.8	29.2	11.8	45.2	11.3	29.7
Change Period (Y+Rc), s	5.1	5.6	5.4	5.4	5.1	5.6	5.1	5.4
Max Green Setting (Gmax), s	14.9	84.4	9.6	39.6	14.9	84.4	9.9	39.6
Max Q Clear Time (g_c+I1), s	5.3	14.4	5.6	19.1	5.6	27.7	5.2	23.1
Green Ext Time (p_c), s	0.1	5.8	0.0	1.1	0.1	11.8	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



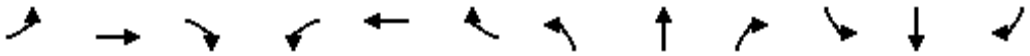
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	331	113	121	348	116	140	252	158	174	481	142
Future Volume (veh/h)	74	331	113	121	348	116	140	252	158	174	481	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	82	368	126	134	387	129	156	280	176	193	534	158
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	388	133	157	585	478	187	396	249	232	539	159
Arrive On Green	0.07	0.30	0.30	0.09	0.32	0.31	0.10	0.36	0.36	0.13	0.39	0.39
Sat Flow, veh/h	1731	1294	443	1731	1817	1540	1818	1096	689	1781	1386	410
Grp Volume(v), veh/h	82	0	494	134	387	129	156	0	456	193	0	692
Grp Sat Flow(s),veh/h/ln	1731	0	1738	1731	1817	1540	1818	0	1785	1781	0	1797
Q Serve(g_s), s	7.9	0.0	47.3	13.0	31.2	10.7	14.3	0.0	37.2	18.0	0.0	65.1
Cycle Q Clear(g_c), s	7.9	0.0	47.3	13.0	31.2	10.7	14.3	0.0	37.2	18.0	0.0	65.1
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.39	1.00		0.23
Lane Grp Cap(c), veh/h	119	0	521	157	585	478	187	0	646	232	0	699
V/C Ratio(X)	0.69	0.00	0.95	0.85	0.66	0.27	0.83	0.00	0.71	0.83	0.00	0.99
Avail Cap(c_a), veh/h	159	0	521	157	585	478	187	0	646	307	0	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	77.4	0.0	58.2	76.2	49.7	44.2	74.8	0.0	46.5	72.1	0.0	51.6
Incr Delay (d2), s/veh	3.6	0.0	26.6	32.9	2.2	0.1	25.0	0.0	5.6	10.7	0.0	31.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	24.2	7.1	14.3	4.1	8.0	0.0	17.4	8.9	0.0	35.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.0	0.0	84.8	109.1	51.9	44.3	99.8	0.0	52.1	82.9	0.0	83.4
LnGrp LOS	F	A	F	F	D	D	F	A	D	F	A	F
Approach Vol, veh/h		576			650			612			885	
Approach Delay, s/veh		84.2			62.2			64.3			83.3	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.1	66.5	20.4	56.0	22.5	71.1	16.7	59.7
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	27.3	52.3	13.4	49.0	15.5	64.1	13.6	48.8
Max Q Clear Time (g_c+I1), s	20.0	39.2	15.0	49.3	16.3	67.1	9.9	33.2
Green Ext Time (p_c), s	0.2	4.8	0.0	0.0	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	74.2
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	331	124	137	348	116	155	310	181	174	521	142
Future Volume (veh/h)	74	331	124	137	348	116	155	310	181	174	521	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	82	368	165	183	387	129	207	413	241	193	695	158
Peak Hour Factor	0.90	0.90	0.75	0.75	0.90	0.90	0.75	0.75	0.75	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	337	151	219	624	510	245	450	262	132	496	113
Arrive On Green	0.07	0.28	0.28	0.13	0.34	0.33	0.13	0.40	0.40	0.07	0.34	0.34
Sat Flow, veh/h	1731	1189	533	1731	1817	1540	1818	1131	660	1781	1475	335
Grp Volume(v), veh/h	82	0	533	183	387	129	207	0	654	193	0	853
Grp Sat Flow(s),veh/h/ln	1731	0	1721	1731	1817	1540	1818	0	1791	1781	0	1810
Q Serve(g_s), s	7.8	0.0	47.9	17.5	30.0	10.3	18.8	0.0	58.6	12.5	0.0	56.9
Cycle Q Clear(g_c), s	7.8	0.0	47.9	17.5	30.0	10.3	18.8	0.0	58.6	12.5	0.0	56.9
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.37	1.00		0.19
Lane Grp Cap(c), veh/h	116	0	488	219	624	510	245	0	712	132	0	609
V/C Ratio(X)	0.71	0.00	1.09	0.84	0.62	0.25	0.84	0.00	0.92	1.46	0.00	1.40
Avail Cap(c_a), veh/h	116	0	488	219	624	510	256	0	723	132	0	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	77.2	0.0	60.6	72.1	46.3	41.2	71.4	0.0	48.3	78.3	0.0	56.1
Incr Delay (d2), s/veh	15.7	0.0	68.2	22.3	1.4	0.1	19.9	0.0	18.2	245.9	0.0	189.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	29.7	9.0	13.6	3.9	10.1	0.0	29.3	14.7	0.0	57.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.9	0.0	128.8	94.4	47.7	41.3	91.3	0.0	66.5	324.1	0.0	245.8
LnGrp LOS	F	A	F	F	D	D	F	A	E	F	A	F
Approach Vol, veh/h		615			699			861			1046	
Approach Delay, s/veh		124.0			58.8			72.5			260.2	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	72.2	26.4	52.9	27.8	61.9	16.3	63.0
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	10.5	66.2	19.4	45.9	21.8	54.9	9.3	56.0
Max Q Clear Time (g_c+I1), s	14.5	60.6	19.5	49.9	20.8	58.9	9.8	32.0
Green Ext Time (p_c), s	0.0	3.5	0.0	0.0	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	140.3
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

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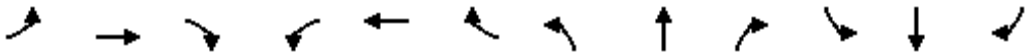


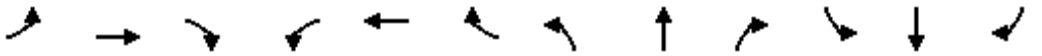
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	331	124	137	348	116	155	310	181	174	521	142
Future Volume (veh/h)	74	331	124	137	348	116	155	310	181	174	521	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	82	368	165	183	387	129	207	413	241	193	695	158
Peak Hour Factor	0.90	0.90	0.75	0.75	0.90	0.90	0.75	0.75	0.75	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	260	117	222	503	515	249	851	928	147	577	131
Arrive On Green	0.07	0.22	0.22	0.13	0.28	0.26	0.14	0.45	0.45	0.08	0.39	0.39
Sat Flow, veh/h	1731	1189	533	1731	1817	1540	1818	1909	1618	1781	1475	335
Grp Volume(v), veh/h	82	0	533	183	387	129	207	413	241	193	0	853
Grp Sat Flow(s),veh/h/ln	1731	0	1721	1731	1817	1540	1818	1909	1618	1781	0	1810
Q Serve(g_s), s	7.4	0.0	35.0	16.5	31.3	9.7	17.7	24.5	11.9	13.2	0.0	62.6
Cycle Q Clear(g_c), s	7.4	0.0	35.0	16.5	31.3	9.7	17.7	24.5	11.9	13.2	0.0	62.6
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	121	0	377	222	503	515	249	851	928	147	0	708
V/C Ratio(X)	0.68	0.00	1.42	0.83	0.77	0.25	0.83	0.49	0.26	1.31	0.00	1.20
Avail Cap(c_a), veh/h	158	0	377	223	503	515	361	969	1028	147	0	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	72.7	0.0	62.5	68.0	53.2	38.7	67.2	31.4	17.1	73.4	0.0	48.7
Incr Delay (d2), s/veh	3.5	0.0	202.1	20.5	6.4	0.1	7.0	1.6	0.5	181.1	0.0	105.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	36.2	8.5	15.0	3.7	8.7	11.6	4.5	13.4	0.0	48.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.2	0.0	264.6	88.5	59.6	38.8	74.2	32.9	17.6	254.5	0.0	153.9
LnGrp LOS	E	A	F	F	E	D	E	C	B	F	A	F
Approach Vol, veh/h		615			699			861			1046	
Approach Delay, s/veh		239.5			63.3			38.6			172.5	
Approach LOS		F			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.2	76.3	25.5	40.0	26.9	67.6	16.2	49.3
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	11.2	79.2	18.6	33.0	29.8	60.6	12.6	39.0
Max Q Clear Time (g_c+I1), s	15.2	26.5	18.5	37.0	19.7	64.6	9.4	33.3
Green Ext Time (p_c), s	0.0	11.2	0.0	0.0	0.2	0.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	125.8
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



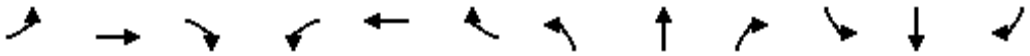
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	331	119	125	348	116	144	262	160	174	498	142
Future Volume (veh/h)	74	331	119	125	348	116	144	262	160	174	498	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	82	368	132	139	387	129	160	291	178	193	553	158
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	385	138	179	609	497	203	433	265	140	501	143
Arrive On Green	0.07	0.30	0.30	0.10	0.34	0.32	0.11	0.39	0.39	0.08	0.36	0.36
Sat Flow, veh/h	1731	1277	458	1731	1817	1540	1818	1109	678	1781	1399	400
Grp Volume(v), veh/h	82	0	500	139	387	129	160	0	469	193	0	711
Grp Sat Flow(s),veh/h/ln	1731	0	1735	1731	1817	1540	1818	0	1787	1781	0	1798
Q Serve(g_s), s	7.4	0.0	45.0	12.4	28.6	9.8	13.6	0.0	34.5	12.5	0.0	56.9
Cycle Q Clear(g_c), s	7.4	0.0	45.0	12.4	28.6	9.8	13.6	0.0	34.5	12.5	0.0	56.9
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.38	1.00		0.22
Lane Grp Cap(c), veh/h	121	0	523	179	609	497	203	0	698	140	0	644
V/C Ratio(X)	0.68	0.00	0.96	0.77	0.64	0.26	0.79	0.00	0.67	1.38	0.00	1.10
Avail Cap(c_a), veh/h	123	0	523	233	663	542	272	0	767	140	0	644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	72.2	0.0	54.5	69.4	44.7	39.8	68.8	0.0	40.0	73.2	0.0	51.0
Incr Delay (d2), s/veh	11.3	0.0	28.4	8.2	1.2	0.1	7.5	0.0	4.3	208.4	0.0	67.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	23.3	5.9	12.9	3.7	6.7	0.0	15.8	13.8	0.0	37.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.5	0.0	83.0	77.7	45.9	39.9	76.3	0.0	44.3	281.7	0.0	118.7
LnGrp LOS	F	A	F	E	D	D	E	A	D	F	A	F
Approach Vol, veh/h		582			655			629			904	
Approach Delay, s/veh		83.0			51.4			52.4			153.5	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	67.1	21.5	52.9	22.7	61.9	16.1	58.3
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	10.5	66.2	19.4	45.9	21.8	54.9	9.3	56.0
Max Q Clear Time (g_c+I1), s	14.5	36.5	14.4	47.0	15.6	58.9	9.4	30.6
Green Ext Time (p_c), s	0.0	7.8	0.1	0.0	0.1	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	91.6
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



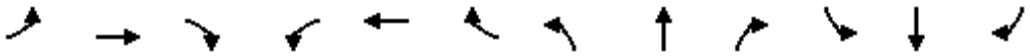
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	331	130	141	348	116	160	320	184	174	538	142
Future Volume (veh/h)	74	331	130	141	348	116	160	320	184	174	538	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	82	368	173	188	387	129	213	427	245	193	717	158
Peak Hour Factor	0.90	0.90	0.75	0.75	0.90	0.90	0.75	0.75	0.75	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	330	155	218	621	509	251	455	261	131	498	110
Arrive On Green	0.07	0.28	0.28	0.13	0.34	0.33	0.14	0.40	0.40	0.07	0.34	0.34
Sat Flow, veh/h	1731	1169	550	1731	1817	1540	1818	1138	653	1781	1484	327
Grp Volume(v), veh/h	82	0	541	188	387	129	213	0	672	193	0	875
Grp Sat Flow(s),veh/h/ln	1731	0	1718	1731	1817	1540	1818	0	1792	1781	0	1811
Q Serve(g_s), s	7.9	0.0	47.9	18.1	30.2	10.4	19.4	0.0	61.1	12.5	0.0	56.9
Cycle Q Clear(g_c), s	7.9	0.0	47.9	18.1	30.2	10.4	19.4	0.0	61.1	12.5	0.0	56.9
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.36	1.00		0.18
Lane Grp Cap(c), veh/h	115	0	485	218	621	509	251	0	716	131	0	608
V/C Ratio(X)	0.71	0.00	1.11	0.86	0.62	0.25	0.85	0.00	0.94	1.47	0.00	1.44
Avail Cap(c_a), veh/h	115	0	485	218	621	509	255	0	720	131	0	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	77.6	0.0	60.9	72.6	46.7	41.5	71.4	0.0	48.9	78.6	0.0	56.4
Incr Delay (d2), s/veh	16.0	0.0	76.1	26.6	1.5	0.1	21.3	0.0	21.1	248.1	0.0	207.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	30.7	9.5	13.7	4.0	10.5	0.0	31.0	14.8	0.0	60.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.6	0.0	136.9	99.3	48.1	41.6	92.7	0.0	69.9	326.7	0.0	263.5
LnGrp LOS	F	A	F	F	D	D	F	A	E	F	A	F
Approach Vol, veh/h		623			704			885			1068	
Approach Delay, s/veh		131.2			60.6			75.4			275.0	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	72.8	26.4	52.9	28.4	61.9	16.3	63.0
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	10.5	66.2	19.4	45.9	21.8	54.9	9.3	56.0
Max Q Clear Time (g_c+I1), s	14.5	63.1	20.1	49.9	21.4	58.9	9.9	32.2
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	147.8
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary
100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

10/25/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	331	130	141	348	116	160	320	184	174	538	142
Future Volume (veh/h)	74	331	130	141	348	116	160	320	184	174	538	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1817	1817	1817	1817	1817	1817	1909	1909	1909	1870	1870	1870
Adj Flow Rate, veh/h	82	368	173	188	387	129	213	427	245	193	717	158
Peak Hour Factor	0.90	0.90	0.75	0.75	0.90	0.90	0.75	0.75	0.75	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	251	118	212	487	496	254	881	945	140	594	131
Arrive On Green	0.07	0.21	0.21	0.12	0.27	0.26	0.14	0.46	0.46	0.08	0.40	0.40
Sat Flow, veh/h	1731	1169	550	1731	1817	1540	1818	1909	1618	1781	1484	327
Grp Volume(v), veh/h	82	0	541	188	387	129	213	427	245	193	0	875
Grp Sat Flow(s),veh/h/ln	1731	0	1718	1731	1817	1540	1818	1909	1618	1781	0	1811
Q Serve(g_s), s	7.5	0.0	35.0	17.4	32.3	10.1	18.6	25.3	12.1	12.8	0.0	65.2
Cycle Q Clear(g_c), s	7.5	0.0	35.0	17.4	32.3	10.1	18.6	25.3	12.1	12.8	0.0	65.2
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	120	0	369	212	487	496	254	881	945	140	0	725
V/C Ratio(X)	0.68	0.00	1.47	0.89	0.79	0.26	0.84	0.48	0.26	1.38	0.00	1.21
Avail Cap(c_a), veh/h	155	0	369	212	487	496	333	963	1015	140	0	725
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	74.1	0.0	64.0	70.4	55.5	40.9	68.3	30.5	16.6	75.1	0.0	48.9
Incr Delay (d2), s/veh	4.1	0.0	224.0	31.8	8.2	0.1	10.8	1.5	0.5	209.0	0.0	106.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	38.0	9.5	15.6	3.8	9.4	11.9	4.5	14.0	0.0	50.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.2	0.0	288.0	102.2	63.7	41.0	79.2	32.0	17.1	284.1	0.0	154.9
LnGrp LOS	E	A	F	F	E	D	E	C	B	F	A	F
Approach Vol, veh/h		623			704			885			1068	
Approach Delay, s/veh		260.4			69.8			39.2			178.2	
Approach LOS		F			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.8	80.2	25.0	40.0	27.8	70.2	16.3	48.7
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	10.8	80.2	18.0	33.0	27.8	63.2	12.6	38.4
Max Q Clear Time (g_c+I1), s	14.8	27.3	19.4	37.0	20.6	67.2	9.5	34.3
Green Ext Time (p_c), s	0.0	11.6	0.0	0.0	0.2	0.0	0.0	0.7

Intersection Summary		
HCM 6th Ctrl Delay		133.1
HCM 6th LOS		F

NC 119 at Turner Road

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	187	536	4	40	350
Future Vol, veh/h	6	187	536	4	40	350
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	208	596	4	44	389

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1075	598	0	0	600	0
Stage 1	598	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	243	502	-	-	977	-
Stage 1	549	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	229	502	-	-	977	-
Mov Cap-2 Maneuver	229	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	588	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.2	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	484	977	-
HCM Lane V/C Ratio	-	-	0.443	0.045	-
HCM Control Delay (s)	-	-	18.2	8.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.2	0.1	-

Intersection	
Int Delay, s/veh	6.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	253	657	10	60	431
Future Vol, veh/h	25	253	657	10	60	431
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	281	730	11	67	479

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1349	736	0	0	741	0
Stage 1	736	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	166	419	-	-	866	-
Stage 1	474	-	-	-	-	-
Stage 2	541	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	153	419	-	-	866	-
Mov Cap-2 Maneuver	153	-	-	-	-	-
Stage 1	474	-	-	-	-	-
Stage 2	499	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.8	0	1.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	153	419	866	-
HCM Lane V/C Ratio	-	-	0.182	0.671	0.077	-
HCM Control Delay (s)	-	-	33.7	29.4	9.5	-
HCM Lane LOS	-	-	D	D	A	-
HCM 95th %tile Q(veh)	-	-	0.6	4.8	0.2	-

Intersection	
Int Delay, s/veh	18.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	253	756	30	60	557
Future Vol, veh/h	50	253	756	30	60	557
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	75	90	75	75	90	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	281	1008	40	67	743

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1905	1028	0	0	1048	0
Stage 1	1028	-	-	-	-	-
Stage 2	877	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	75	284	-	-	664	-
Stage 1	345	-	-	-	-	-
Stage 2	407	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	67	284	-	-	664	-
Mov Cap-2 Maneuver	67	-	-	-	-	-
Stage 1	345	-	-	-	-	-
Stage 2	366	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	114	0	0.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	67	284	664	-
HCM Lane V/C Ratio	-	-	0.995	0.99	0.1	-
HCM Control Delay (s)	-	-	212.7	90.6	11	-
HCM Lane LOS	-	-	F	F	B	-
HCM 95th %tile Q(veh)	-	-	5	10.1	0.3	-

Intersection	
Int Delay, s/veh	6.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	253	681	10	60	439
Future Vol, veh/h	25	253	681	10	60	439
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	281	757	11	67	488

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1385	763	0	0	768	0
Stage 1	763	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	158	404	-	-	846	-
Stage 1	460	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	146	404	-	-	846	-
Mov Cap-2 Maneuver	146	-	-	-	-	-
Stage 1	460	-	-	-	-	-
Stage 2	493	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.2	0	1.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	146	404	846	-
HCM Lane V/C Ratio	-	-	0.19	0.696	0.079	-
HCM Control Delay (s)	-	-	35.4	31.9	9.6	-
HCM Lane LOS	-	-	E	D	A	-
HCM 95th %tile Q(veh)	-	-	0.7	5.1	0.3	-

Intersection	
Int Delay, s/veh	20.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	253	780	30	60	565
Future Vol, veh/h	50	253	780	30	60	565
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	75	90	75	75	90	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	281	1040	40	67	753

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1947	1060	0	0	1080	0
Stage 1	1060	-	-	-	-	-
Stage 2	887	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	71	~ 272	-	-	646	-
Stage 1	333	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 64	~ 272	-	-	646	-
Mov Cap-2 Maneuver	~ 64	-	-	-	-	-
Stage 1	333	-	-	-	-	-
Stage 2	360	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	129.3	0	0.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	64	272	646	-
HCM Lane V/C Ratio	-	-	1.042	1.033	0.103	-
HCM Control Delay (s)	-	-	233.3	104.6	11.2	-
HCM Lane LOS	-	-	F	F	B	-
HCM 95th %tile Q(veh)	-	-	5.2	10.9	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	75	320	4	106	400
Future Vol, veh/h	4	75	320	4	106	400
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	83	356	4	118	444

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1038	358	0	0	360	0
Stage 1	358	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	256	686	-	-	1199	-
Stage 1	707	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	222	686	-	-	1199	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	620	1199	-
HCM Lane V/C Ratio	-	-	0.142	0.098	-
HCM Control Delay (s)	-	-	11.8	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.3	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	115	432	25	173	537
Future Vol, veh/h	16	115	432	25	173	537
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	128	480	28	192	597

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1475	494	0	0	508	0
Stage 1	494	-	-	-	-	-
Stage 2	981	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	139	575	-	-	1057	-
Stage 1	613	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	114	575	-	-	1057	-
Mov Cap-2 Maneuver	114	-	-	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	297	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	2.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	114	575	1057	-
HCM Lane V/C Ratio	-	-	0.156	0.222	0.182	-
HCM Control Delay (s)	-	-	42.3	13	9.2	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.8	0.7	-

Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	115	529	44	173	604
Future Vol, veh/h	29	115	529	44	173	604
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	75	90	75	75	90	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	128	705	59	192	805

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1924	735	0	0	764	0
Stage 1	735	-	-	-	-	-
Stage 2	1189	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	73	420	-	-	849	-
Stage 1	474	-	-	-	-	-
Stage 2	289	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	57	420	-	-	849	-
Mov Cap-2 Maneuver	57	-	-	-	-	-
Stage 1	474	-	-	-	-	-
Stage 2	224	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	48.7	0	2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	57	420	849	-
HCM Lane V/C Ratio	-	-	0.678	0.304	0.226	-
HCM Control Delay (s)	-	-	152.4	17.3	10.5	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	2.8	1.3	0.9	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	115	448	25	173	565
Future Vol, veh/h	16	115	448	25	173	565
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	128	498	28	192	628

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1524	512	0	0	526	0
Stage 1	512	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	130	562	-	-	1041	-
Stage 1	602	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	106	562	-	-	1041	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	286	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	2.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	106	562	1041	-
HCM Lane V/C Ratio	-	-	0.168	0.227	0.185	-
HCM Control Delay (s)	-	-	45.7	13.3	9.2	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.9	0.7	-

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	115	544	44	173	631
Future Vol, veh/h	29	115	544	44	173	631
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	75	90	75	75	90	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	128	725	59	192	841

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1980	755	0	0	784	0
Stage 1	755	-	-	-	-	-
Stage 2	1225	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	68	409	-	-	834	-
Stage 1	464	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	52	409	-	-	834	-
Mov Cap-2 Maneuver	52	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	214	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	55.3	0	2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	52	409	834	-
HCM Lane V/C Ratio	-	-	0.744	0.312	0.23	-
HCM Control Delay (s)	-	-	179.3	17.8	10.6	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	3.1	1.3	0.9	-

NC 119 at Kimrey Road

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	4	4	503	313	43
Future Vol, veh/h	37	4	4	503	313	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	1	-	-	2	1	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	4	4	559	348	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	939	372	396	0	-	0
Stage 1	372	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Critical Hdwy	6.62	6.32	4.12	-	-	-
Critical Hdwy Stg 1	5.62	-	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	278	667	1163	-	-	-
Stage 1	683	-	-	-	-	-
Stage 2	550	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	277	667	1163	-	-	-
Mov Cap-2 Maneuver	277	-	-	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	550	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.5	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1163	-	294	-	-
HCM Lane V/C Ratio	0.004	-	0.155	-	-
HCM Control Delay (s)	8.1	0	19.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	39	1	4	79	3	89	4	545	33	37	378	45
Future Vol, veh/h	39	1	4	79	3	89	4	545	33	37	378	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	1	4	88	3	99	4	606	37	41	420	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1211	1178	445	1163	1185	625	470	0	0	643	0	0
Stage 1	527	527	-	633	633	-	-	-	-	-	-	-
Stage 2	684	651	-	530	552	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	149	179	606	172	189	485	1092	-	-	942	-	-
Stage 1	519	513	-	468	473	-	-	-	-	-	-	-
Stage 2	422	448	-	533	515	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	111	167	606	162	177	485	1092	-	-	942	-	-
Mov Cap-2 Maneuver	111	167	-	162	177	-	-	-	-	-	-	-
Stage 1	516	483	-	465	470	-	-	-	-	-	-	-
Stage 2	332	445	-	497	485	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	53.6	54.5	0.1	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1092	-	-	121	249	942	-	-
HCM Lane V/C Ratio	0.004	-	-	0.404	0.763	0.044	-	-
HCM Control Delay (s)	8.3	0	-	53.6	54.5	9	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.7	5.5	0.1	-	-

Intersection	
Int Delay, s/veh	61

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	39	4	9	79	4	89	8	663	33	37	529	45
Future Vol, veh/h	39	4	9	79	4	89	8	663	33	37	529	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	75	90	90	90	75	75	90	90	75	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	4	12	88	4	99	11	884	37	41	705	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1788	1755	730	1745	1762	903	755	0	0	921	0	0
Stage 1	812	812	-	925	925	-	-	-	-	-	-	-
Stage 2	976	943	-	820	837	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	57	77	414	~ 68	84	336	855	-	-	741	-	-
Stage 1	356	375	-	323	348	-	-	-	-	-	-	-
Stage 2	286	324	-	369	382	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 35	68	414	~ 57	74	336	855	-	-	741	-	-
Mov Cap-2 Maneuver	~ 35	68	-	~ 57	74	-	-	-	-	-	-	-
Stage 1	346	339	-	314	339	-	-	-	-	-	-	-
Stage 2	194	315	-	320	345	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 389.7	$ 507.2	0.1	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	855	-	-	45	101	741	-	-
HCM Lane V/C Ratio	0.012	-	-	1.328	1.892	0.055	-	-
HCM Control Delay (s)	9.3	0	-	$ 389.7	$ 507.2	10.1	0	-
HCM Lane LOS	A	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	5.7	15.8	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	31.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	4	9	79	4	89	8	663	33	37	529	45
Future Vol, veh/h	39	4	9	79	4	89	8	663	33	37	529	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	100	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	75	90	90	90	75	75	90	90	75	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	4	12	88	4	99	11	884	37	41	705	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1788	1755	730	1726	1743	884	755	0	0	921	0	0
Stage 1	812	812	-	906	906	-	-	-	-	-	-	-
Stage 2	976	943	-	820	837	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	57	77	414	~ 70	87	344	855	-	-	741	-	-
Stage 1	356	375	-	331	355	-	-	-	-	-	-	-
Stage 2	286	324	-	369	382	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 36	71	414	~ 61	80	344	855	-	-	741	-	-
Mov Cap-2 Maneuver	~ 36	71	-	~ 61	80	-	-	-	-	-	-	-
Stage 1	346	354	-	322	345	-	-	-	-	-	-	-
Stage 2	196	315	-	334	361	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 374.9	202.3	0.1	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	855	-	-	46	62	344	741	-	-
HCM Lane V/C Ratio	0.012	-	-	1.3	1.487	0.287	0.055	-	-
HCM Control Delay (s)	9.3	0	-	$ 374.9	$ 398.3	19.6	10.1	-	-
HCM Lane LOS	A	A	-	F	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	5.7	8.1	1.2	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	11.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	39	4	4	79	4	89	4	569	33	37	386	45
Future Vol, veh/h	39	4	4	79	4	89	4	569	33	37	386	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	4	4	88	4	99	4	632	37	41	429	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1246	1213	454	1199	1220	651	479	0	0	669	0	0
Stage 1	536	536	-	659	659	-	-	-	-	-	-	-
Stage 2	710	677	-	540	561	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	140	170	598	162	180	469	1083	-	-	921	-	-
Stage 1	513	508	-	453	461	-	-	-	-	-	-	-
Stage 2	408	435	-	526	510	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	103	159	598	149	168	469	1083	-	-	921	-	-
Mov Cap-2 Maneuver	103	159	-	149	168	-	-	-	-	-	-	-
Stage 1	510	477	-	450	458	-	-	-	-	-	-	-
Stage 2	317	432	-	486	479	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	60.9	67.2	0.1	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1083	-	-	114	231	921	-	-
HCM Lane V/C Ratio	0.004	-	-	0.458	0.827	0.045	-	-
HCM Control Delay (s)	8.3	0	-	60.9	67.2	9.1	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2	6.3	0.1	-	-

Intersection	
Int Delay, s/veh	69

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	39	4	9	79	4	89	9	687	33	37	537	45
Future Vol, veh/h	39	4	9	79	4	89	9	687	33	37	537	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	75	90	90	90	75	75	90	90	75	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	4	12	88	4	99	12	916	37	41	716	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1833	1800	741	1790	1807	935	766	0	0	953	0	0
Stage 1	823	823	-	959	959	-	-	-	-	-	-	-
Stage 2	1010	977	-	831	848	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	53	72	408	~ 63	79	322	847	-	-	721	-	-
Stage 1	351	370	-	309	335	-	-	-	-	-	-	-
Stage 2	273	312	-	364	378	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 32	63	408	~ 52	69	322	847	-	-	721	-	-
Mov Cap-2 Maneuver	~ 32	63	-	~ 52	69	-	-	-	-	-	-	-
Stage 1	340	333	-	300	325	-	-	-	-	-	-	-
Stage 2	181	303	-	314	340	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 457.1	$ 584.6	0.1	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	847	-	-	41	93	721	-	-
HCM Lane V/C Ratio	0.014	-	-	1.458	2.055	0.057	-	-
HCM Control Delay (s)	9.3	0	-	$ 457.1	$ 584.6	10.3	0	-
HCM Lane LOS	A	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	6.1	16.6	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	35.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	4	9	79	4	89	8	687	33	37	537	45
Future Vol, veh/h	39	4	9	79	4	89	8	687	33	37	537	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	100	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	75	90	90	90	75	75	90	90	75	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	4	12	88	4	99	11	916	37	41	716	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1831	1798	741	1769	1786	916	766	0	0	953	0	0
Stage 1	823	823	-	938	938	-	-	-	-	-	-	-
Stage 2	1008	975	-	831	848	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	53	72	408	~ 65	81	330	847	-	-	721	-	-
Stage 1	351	370	-	317	343	-	-	-	-	-	-	-
Stage 2	274	312	-	364	378	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 33	66	408	~ 56	74	330	847	-	-	721	-	-
Mov Cap-2 Maneuver	~ 33	66	-	~ 56	74	-	-	-	-	-	-	-
Stage 1	341	349	-	308	333	-	-	-	-	-	-	-
Stage 2	184	303	-	329	356	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 438.9	233.9	0.1	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	847	-	-	42	57	330	721	-	-
HCM Lane V/C Ratio	0.013	-	-	1.423	1.618	0.3	0.057	-	-
HCM Control Delay (s)	9.3	0	-	$ 438.9	$ 462.8	20.5	10.3	-	-
HCM Lane LOS	A	A	-	F	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	6	8.5	1.2	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	4	4	300	361	43
Future Vol, veh/h	24	4	4	300	361	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	1	-	-	2	1	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	4	4	333	401	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	766	425	449	0	-	0
Stage 1	425	-	-	-	-	-
Stage 2	341	-	-	-	-	-
Critical Hdwy	6.62	6.32	4.12	-	-	-
Critical Hdwy Stg 1	5.62	-	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	355	622	1111	-	-	-
Stage 1	644	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	354	622	1111	-	-	-
Mov Cap-2 Maneuver	354	-	-	-	-	-
Stage 1	641	-	-	-	-	-
Stage 2	707	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1111	-	377	-	-
HCM Lane V/C Ratio	0.004	-	0.083	-	-
HCM Control Delay (s)	8.3	0	15.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	4	4	57	4	64	4	371	87	98	413	45
Future Vol, veh/h	25	4	4	57	4	64	4	371	87	98	413	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	4	4	63	4	71	4	412	97	109	459	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1208	1219	484	1175	1196	461	509	0	0	509	0	0
Stage 1	702	702	-	469	469	-	-	-	-	-	-	-
Stage 2	506	517	-	706	727	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	150	168	575	168	186	600	1056	-	-	1056	-	-
Stage 1	412	424	-	575	561	-	-	-	-	-	-	-
Stage 2	534	519	-	427	429	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	115	143	575	144	158	600	1056	-	-	1056	-	-
Mov Cap-2 Maneuver	115	143	-	144	158	-	-	-	-	-	-	-
Stage 1	410	363	-	572	558	-	-	-	-	-	-	-
Stage 2	465	516	-	358	367	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	42.8	39.7	0.1	1.6
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1056	-	-	131	237	1056	-	-
HCM Lane V/C Ratio	0.004	-	-	0.28	0.586	0.103	-	-
HCM Control Delay (s)	8.4	0	-	42.8	39.7	8.8	0	-
HCM Lane LOS	A	A	-	E	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	3.3	0.3	-	-

Intersection	
Int Delay, s/veh	21.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	4	4	57	4	64	8	487	87	98	493	45
Future Vol, veh/h	25	4	4	57	4	64	8	487	87	98	493	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	75	90	90	90	75	75	90	90	75	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	4	5	63	4	71	11	649	97	109	657	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1657	1668	682	1625	1645	698	707	0	0	746	0	0
Stage 1	900	900	-	720	720	-	-	-	-	-	-	-
Stage 2	757	768	-	905	925	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	71	88	441	82	99	440	891	-	-	862	-	-
Stage 1	317	340	-	419	432	-	-	-	-	-	-	-
Stage 2	383	394	-	331	348	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	47	68	441	64	77	440	891	-	-	862	-	-
Mov Cap-2 Maneuver	47	68	-	64	77	-	-	-	-	-	-	-
Stage 1	310	269	-	410	423	-	-	-	-	-	-	-
Stage 2	311	386	-	254	275	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	153	221.6	0.1	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	891	-	-	56	115	862	-	-
HCM Lane V/C Ratio	0.012	-	-	0.671	1.208	0.126	-	-
HCM Control Delay (s)	9.1	0	-	153	221.6	9.8	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.8	8.9	0.4	-	-

Intersection	
Int Delay, s/veh	10.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	4	4	57	4	64	8	487	87	98	493	45
Future Vol, veh/h	25	4	4	57	4	64	8	487	87	98	493	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	100	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	75	90	90	90	75	75	90	90	75	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	4	5	63	4	71	11	649	97	109	657	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1657	1668	682	1576	1596	649	707	0	0	746	0	0
Stage 1	900	900	-	671	671	-	-	-	-	-	-	-
Stage 2	757	768	-	905	925	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	71	88	441	89	107	470	891	-	-	862	-	-
Stage 1	317	340	-	446	455	-	-	-	-	-	-	-
Stage 2	383	394	-	331	348	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	52	75	441	75	92	470	891	-	-	862	-	-
Mov Cap-2 Maneuver	52	75	-	75	92	-	-	-	-	-	-	-
Stage 1	310	297	-	437	445	-	-	-	-	-	-	-
Stage 2	315	386	-	281	304	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	128.3	89.2	0.1	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	891	-	-	62	76	470	862	-	-
HCM Lane V/C Ratio	0.012	-	-	0.606	0.892	0.151	0.126	-	-
HCM Control Delay (s)	9.1	0	-	128.3	168	14	9.8	-	-
HCM Lane LOS	A	A	-	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.5	4.6	0.5	0.4	-	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	4	4	57	4	64	7	387	87	98	441	45
Future Vol, veh/h	25	4	4	57	4	64	7	387	87	98	441	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	4	4	63	4	71	8	430	97	109	490	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1265	1276	515	1232	1253	479	540	0	0	527	0	0
Stage 1	733	733	-	495	495	-	-	-	-	-	-	-
Stage 2	532	543	-	737	758	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	136	155	552	154	172	587	1028	-	-	1040	-	-
Stage 1	396	409	-	556	546	-	-	-	-	-	-	-
Stage 2	516	504	-	410	415	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	102	130	552	131	144	587	1028	-	-	1040	-	-
Mov Cap-2 Maneuver	102	130	-	131	144	-	-	-	-	-	-	-
Stage 1	392	347	-	550	540	-	-	-	-	-	-	-
Stage 2	445	498	-	341	352	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	49.2	46.2	0.1	1.5
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1028	-	-	117	219	1040	-	-
HCM Lane V/C Ratio	0.008	-	-	0.313	0.634	0.105	-	-
HCM Control Delay (s)	8.5	0	-	49.2	46.2	8.9	0	-
HCM Lane LOS	A	A	-	E	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.2	3.8	0.3	-	-

Intersection	
Int Delay, s/veh	25.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	4	4	57	4	64	7	503	87	98	521	45
Future Vol, veh/h	25	4	4	57	4	64	7	503	87	98	521	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	75	90	90	90	75	75	90	90	75	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	4	5	63	4	71	9	671	97	109	695	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1713	1724	720	1681	1701	720	745	0	0	768	0	0
Stage 1	938	938	-	738	738	-	-	-	-	-	-	-
Stage 2	775	786	-	943	963	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	65	81	419	75	92	428	863	-	-	846	-	-
Stage 1	301	326	-	410	424	-	-	-	-	-	-	-
Stage 2	374	386	-	315	334	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	42	62	419	~ 57	70	428	863	-	-	846	-	-
Mov Cap-2 Maneuver	42	62	-	~ 57	70	-	-	-	-	-	-	-
Stage 1	295	254	-	402	416	-	-	-	-	-	-	-
Stage 2	303	379	-	238	260	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	186.7	277.9	0.1	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	863	-	-	50	104	846	-	-
HCM Lane V/C Ratio	0.011	-	-	0.751	1.335	0.129	-	-
HCM Control Delay (s)	9.2	0	-	186.7	277.9	9.9	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	3.1	9.7	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	12.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	4	4	57	4	64	7	503	87	98	521	45
Future Vol, veh/h	25	4	4	57	4	64	7	503	87	98	521	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	100	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	0	-	-	2	-	-	1	-
Peak Hour Factor	90	90	75	90	90	90	75	75	90	90	75	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	4	5	63	4	71	9	671	97	109	695	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1713	1724	720	1632	1652	671	745	0	0	768	0	0
Stage 1	938	938	-	689	689	-	-	-	-	-	-	-
Stage 2	775	786	-	943	963	-	-	-	-	-	-	-
Critical Hdwy	7.32	6.72	6.32	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.32	5.72	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	65	81	419	81	98	456	863	-	-	846	-	-
Stage 1	301	326	-	436	446	-	-	-	-	-	-	-
Stage 2	374	386	-	315	334	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	47	69	419	68	84	456	863	-	-	846	-	-
Mov Cap-2 Maneuver	47	69	-	68	84	-	-	-	-	-	-	-
Stage 1	295	284	-	428	438	-	-	-	-	-	-	-
Stage 2	307	379	-	267	291	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	153	107.4	0.1	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	863	-	-	56	69	456	846	-	-
HCM Lane V/C Ratio	0.011	-	-	0.671	0.982	0.156	0.129	-	-
HCM Control Delay (s)	9.2	0	-	153	205.1	14.3	9.9	-	-
HCM Lane LOS	A	A	-	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.8	5	0.5	0.4	-	-

NC 119 at Jim Minor Road

Intersection	
Int Delay, s/veh	8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	39	19	15	122	50	31	446	7	12	290	11
Future Vol, veh/h	7	39	19	15	122	50	31	446	7	12	290	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	43	21	17	136	56	34	496	8	13	322	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1018	926	328	954	928	500	334	0	0	504	0	0
Stage 1	354	354	-	568	568	-	-	-	-	-	-	-
Stage 2	664	572	-	386	360	-	-	-	-	-	-	-
Critical Hdwy	8.12	7.52	6.72	6.52	5.92	5.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	163	208	682	280	313	595	1225	-	-	1061	-	-
Stage 1	601	571	-	558	557	-	-	-	-	-	-	-
Stage 2	374	430	-	680	665	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	91	197	682	216	296	595	1225	-	-	1061	-	-
Mov Cap-2 Maneuver	91	197	-	216	296	-	-	-	-	-	-	-
Stage 1	578	562	-	536	535	-	-	-	-	-	-	-
Stage 2	243	413	-	599	655	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30	32.6	0.5	0.3
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1225	-	-	215	331	1061	-	-
HCM Lane V/C Ratio	0.028	-	-	0.336	0.628	0.013	-	-
HCM Control Delay (s)	8	0	-	30	32.6	8.4	0	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.4	4	0	-	-

Intersection	
Int Delay, s/veh	43.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	31	41	20	16	128	55	33	493	7	60	370	27
Future Vol, veh/h	31	41	20	16	128	55	33	493	7	60	370	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	46	22	18	142	61	37	548	8	67	411	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1288	1190	426	1220	1201	552	441	0	0	556	0	0
Stage 1	560	560	-	626	626	-	-	-	-	-	-	-
Stage 2	728	630	-	594	575	-	-	-	-	-	-	-
Critical Hdwy	8.12	7.52	6.72	6.52	5.92	5.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	98	135	592	192	226	558	1119	-	-	1015	-	-
Stage 1	439	437	-	524	529	-	-	-	-	-	-	-
Stage 2	339	399	-	543	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 33	117	592	117	196	558	1119	-	-	1015	-	-
Mov Cap-2 Maneuver	~ 33	117	-	117	196	-	-	-	-	-	-	-
Stage 1	418	399	-	499	504	-	-	-	-	-	-	-
Stage 2	206	380	-	422	504	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 371	102.7	0.5	1.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1119	-	-	70	224	1015	-	-
HCM Lane V/C Ratio	0.033	-	-	1.46	0.987	0.066	-	-
HCM Control Delay (s)	8.3	0	-	$ 371	102.7	8.8	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	8.5	8.9	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	73.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	76	41	20	16	128	68	33	531	7	70	400	62
Future Vol, veh/h	76	41	20	16	128	68	33	531	7	70	400	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	75	90	90	90	90	75	90	75	90	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	101	46	22	18	142	91	37	708	8	93	533	83

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1664	1551	575	1581	1588	712	616	0	0	716	0	0
Stage 1	761	761	-	786	786	-	-	-	-	-	-	-
Stage 2	903	790	-	795	802	-	-	-	-	-	-	-
Critical Hdwy	8.12	7.52	6.72	6.52	5.92	5.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 49	74	478	115	~ 140	459	964	-	-	885	-	-
Stage 1	322	335	-	439	460	-	-	-	-	-	-	-
Stage 2	258	322	-	435	453	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	58	478	33	~ 110	459	964	-	-	885	-	-
Mov Cap-2 Maneuver	-	58	-	33	~ 110	-	-	-	-	-	-	-
Stage 1	301	281	-	411	431	-	-	-	-	-	-	-
Stage 2	130	301	-	291	380	-	-	-	-	-	-	-

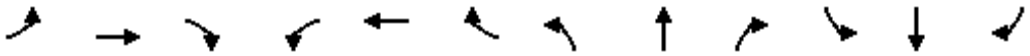
Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 545.4	0.4	1.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	964	-	-	-	124	885	-	-
HCM Lane V/C Ratio	0.038	-	-	-	2.022	0.105	-	-
HCM Control Delay (s)	8.9	0	-	-	$ 545.4	9.5	0	-
HCM Lane LOS	A	A	-	-	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	20.4	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th Signalized Intersection Summary
400: NC 119 & Jim Minor Road

10/25/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	41	20	16	128	68	33	531	7	70	400	62
Future Volume (veh/h)	76	41	20	16	128	68	33	531	7	70	400	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1988	1988	1988	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	46	22	18	142	91	37	708	8	93	533	83
Peak Hour Factor	0.75	0.90	0.90	0.90	0.90	0.75	0.90	0.75	0.90	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	118	44	112	258	158	116	920	10	176	686	101
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	754	499	188	81	1089	665	48	1758	19	150	1311	194
Grp Volume(v), veh/h	169	0	0	251	0	0	753	0	0	709	0	0
Grp Sat Flow(s),veh/h/ln	1440	0	0	1835	0	0	1825	0	0	1655	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.0	5.0	0.0	0.0	13.4	0.0	0.0	13.8	0.0	0.0
Prop In Lane	0.60		0.13	0.07		0.36	0.05		0.01	0.13		0.12
Lane Grp Cap(c), veh/h	479	0	0	527	0	0	1045	0	0	964	0	0
V/C Ratio(X)	0.35	0.00	0.00	0.48	0.00	0.00	0.72	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	779	0	0	969	0	0	1391	0	0	1265	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.5	0.0	0.0	14.0	0.0	0.0	7.9	0.0	0.0	7.9	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.7	0.0	0.0	1.2	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	1.6	0.0	0.0	2.8	0.0	0.0	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	0.0	0.0	14.7	0.0	0.0	9.2	0.0	0.0	9.5	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		169			251			753			709	
Approach Delay, s/veh		14.0			14.7			9.2			9.5	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.8		14.9		26.8		14.9				
Change Period (Y+Rc), s		7.0		7.0		7.0		7.0				
Max Green Setting (Gmax), s		28.0		18.0		28.0		18.0				
Max Q Clear Time (g_c+I1), s		15.4		5.6		15.8		7.0				
Green Ext Time (p_c), s		4.0		0.7		4.0		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			10.4									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	55.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	35	41	20	16	128	55	33	495	7	61	377	40
Future Vol, veh/h	35	41	20	16	128	55	33	495	7	61	377	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	46	22	18	142	61	37	550	8	68	419	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1307	1209	441	1239	1227	554	463	0	0	558	0	0
Stage 1	577	577	-	628	628	-	-	-	-	-	-	-
Stage 2	730	632	-	611	599	-	-	-	-	-	-	-
Critical Hdwy	8.12	7.52	6.72	6.52	5.92	5.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	95	131	580	187	219	557	1098	-	-	1013	-	-
Stage 1	428	427	-	523	528	-	-	-	-	-	-	-
Stage 2	338	398	-	533	542	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 30	113	580	111	189	557	1098	-	-	1013	-	-
Mov Cap-2 Maneuver	~ 30	113	-	111	189	-	-	-	-	-	-	-
Stage 1	407	388	-	497	502	-	-	-	-	-	-	-
Stage 2	205	378	-	411	493	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 506	114.8	0.5	1.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1098	-	-	61	216	1013	-	-
HCM Lane V/C Ratio	0.033	-	-	1.749	1.024	0.067	-	-
HCM Control Delay (s)	8.4	0	-	$ 506	114.8	8.8	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	9.8	9.4	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	81.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	80	41	20	16	128	67	33	532	7	71	406	75
Future Vol, veh/h	80	41	20	16	128	67	33	532	7	71	406	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	75	90	90	90	90	75	90	75	90	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	107	46	22	18	142	89	37	709	8	95	541	100

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1684	1572	591	1602	1618	713	641	0	0	717	0	0
Stage 1	781	781	-	787	787	-	-	-	-	-	-	-
Stage 2	903	791	-	815	831	-	-	-	-	-	-	-
Critical Hdwy	8.12	7.52	6.72	6.52	5.92	5.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 47	71	467	111	~ 135	458	943	-	-	884	-	-
Stage 1	312	326	-	439	459	-	-	-	-	-	-	-
Stage 2	258	322	-	425	442	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	55	467	28	~ 105	458	943	-	-	884	-	-
Mov Cap-2 Maneuver	-	55	-	28	~ 105	-	-	-	-	-	-	-
Stage 1	292	271	-	410	429	-	-	-	-	-	-	-
Stage 2	130	301	-	279	367	-	-	-	-	-	-	-

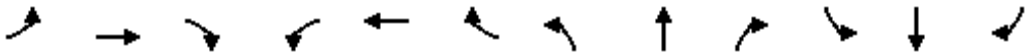
Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 623.7	0.4	1.2
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	943	-	-	-	114	884	-	-
HCM Lane V/C Ratio	0.039	-	-	-	2.187	0.107	-	-
HCM Control Delay (s)	9	0	-	-	$ 623.7	9.6	0	-
HCM Lane LOS	A	A	-	-	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	21.3	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th Signalized Intersection Summary
400: NC 119 & Jim Minor Road

10/25/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	41	20	16	128	67	33	532	7	71	406	75
Future Volume (veh/h)	80	41	20	16	128	67	33	532	7	71	406	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1988	1988	1988	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	46	22	18	142	89	37	709	8	95	541	100
Peak Hour Factor	0.75	0.90	0.90	0.90	0.90	0.75	0.90	0.75	0.90	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	109	41	109	256	153	113	939	10	174	683	120
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	771	468	178	82	1101	658	47	1756	19	149	1278	224
Grp Volume(v), veh/h	175	0	0	249	0	0	754	0	0	736	0	0
Grp Sat Flow(s),veh/h/ln	1416	0	0	1841	0	0	1823	0	0	1652	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	0.0	5.1	0.0	0.0	13.6	0.0	0.0	15.0	0.0	0.0
Prop In Lane	0.61		0.13	0.07		0.36	0.05		0.01	0.13		0.14
Lane Grp Cap(c), veh/h	464	0	0	518	0	0	1062	0	0	978	0	0
V/C Ratio(X)	0.38	0.00	0.00	0.48	0.00	0.00	0.71	0.00	0.00	0.75	0.00	0.00
Avail Cap(c_a), veh/h	752	0	0	944	0	0	1352	0	0	1231	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.2	0.0	0.0	14.6	0.0	0.0	7.8	0.0	0.0	7.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.7	0.0	0.0	1.3	0.0	0.0	2.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	1.7	0.0	0.0	2.9	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	0.0	0.0	15.3	0.0	0.0	9.0	0.0	0.0	10.0	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		175			249			754			736	
Approach Delay, s/veh		14.7			15.3			9.0			10.0	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.9		14.9		27.9		14.9				
Change Period (Y+Rc), s		7.0		7.0		7.0		7.0				
Max Green Setting (Gmax), s		28.0		18.0		28.0		18.0				
Max Q Clear Time (g_c+I1), s		15.6		6.0		17.0		7.1				
Green Ext Time (p_c), s		4.0		0.7		3.9		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		10.7
HCM 6th LOS		B

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	12	59	27	23	56	9	13	281	18	36	289	36
Future Vol, veh/h	12	59	27	23	56	9	13	281	18	36	289	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	66	30	26	62	10	14	312	20	40	321	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	807	781	341	819	791	322	361	0	0	332	0	0
Stage 1	421	421	-	350	350	-	-	-	-	-	-	-
Stage 2	386	360	-	469	441	-	-	-	-	-	-	-
Critical Hdwy	8.12	7.52	6.72	6.52	5.92	5.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	240	263	669	337	367	738	1198	-	-	1227	-	-
Stage 1	543	524	-	706	671	-	-	-	-	-	-	-
Stage 2	573	567	-	621	621	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	196	249	669	246	347	738	1198	-	-	1227	-	-
Mov Cap-2 Maneuver	196	249	-	246	347	-	-	-	-	-	-	-
Stage 1	535	503	-	696	662	-	-	-	-	-	-	-
Stage 2	505	559	-	495	596	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.8	20.5	0.3	0.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1198	-	-	289	329	1227	-	-
HCM Lane V/C Ratio	0.012	-	-	0.377	0.297	0.033	-	-
HCM Control Delay (s)	8	0	-	24.8	20.5	8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.7	1.2	0.1	-	-

Intersection	
Int Delay, s/veh	40.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	77	62	28	24	59	15	14	368	19	72	349	48
Future Vol, veh/h	77	62	28	24	59	15	14	368	19	72	349	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	69	31	27	66	17	16	409	21	80	388	53

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1068	1037	415	1077	1053	420	441	0	0	430	0	0
Stage 1	575	575	-	452	452	-	-	-	-	-	-	-
Stage 2	493	462	-	625	601	-	-	-	-	-	-	-
Critical Hdwy	8.12	7.52	6.72	6.52	5.92	5.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	148	173	602	235	270	656	1119	-	-	1129	-	-
Stage 1	429	429	-	633	615	-	-	-	-	-	-	-
Stage 2	486	497	-	524	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	104	154	602	133	240	656	1119	-	-	1129	-	-
Mov Cap-2 Maneuver	104	154	-	133	240	-	-	-	-	-	-	-
Stage 1	421	388	-	621	603	-	-	-	-	-	-	-
Stage 2	414	488	-	370	490	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	247.8	36.9	0.3	1.3
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1119	-	-	140	218	1129	-	-
HCM Lane V/C Ratio	0.014	-	-	1.325	0.499	0.071	-	-
HCM Control Delay (s)	8.3	0	-	247.8	36.9	8.4	0	-
HCM Lane LOS	A	A	-	F	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	11.7	2.5	0.2	-	-

Intersection	
Int Delay, s/veh	224.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	101	62	28	24	59	22	14	388	19	82	378	83
Future Vol, veh/h	101	62	28	24	59	22	14	388	19	82	378	83
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	75	90	90	90	90	75	90	75	90	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	135	69	31	27	66	29	16	517	21	109	504	111

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1385	1348	560	1388	1393	528	615	0	0	538	0	0
Stage 1	778	778	-	560	560	-	-	-	-	-	-	-
Stage 2	607	570	-	828	833	-	-	-	-	-	-	-
Critical Hdwy	8.12	7.52	6.72	6.52	5.92	5.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 82	104	488	151	179	575	965	-	-	1030	-	-
Stage 1	314	328	-	563	561	-	-	-	-	-	-	-
Stage 2	408	431	-	419	441	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 44	85	488	41	146	575	965	-	-	1030	-	-
Mov Cap-2 Maneuver	~ 44	85	-	41	146	-	-	-	-	-	-	-
Stage 1	306	274	-	549	548	-	-	-	-	-	-	-
Stage 2	333	421	-	245	369	-	-	-	-	-	-	-

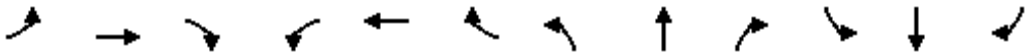
Approach	EB	WB	NB	SB
HCM Control Delay, $	1451.2	208.4	0.2	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	965	-	-	60	106	1030	-	-
HCM Lane V/C Ratio	0.016	-	-	3.911	1.147	0.106	-	-
HCM Control Delay (s)	8.8	0	-	$ 1451.2	208.4	8.9	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	25.3	7.8	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th Signalized Intersection Summary
400: NC 119 & Jim Minor Road

10/25/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	62	28	24	59	22	14	388	19	82	378	83
Future Volume (veh/h)	101	62	28	24	59	22	14	388	19	82	378	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1988	1988	1988	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	69	31	27	66	29	16	517	21	109	504	111
Peak Hour Factor	0.75	0.90	0.90	0.90	0.90	0.75	0.90	0.75	0.90	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	121	47	165	287	110	96	912	36	191	640	133
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	747	484	187	261	1149	440	22	1745	70	185	1224	255
Grp Volume(v), veh/h	235	0	0	122	0	0	554	0	0	724	0	0
Grp Sat Flow(s),veh/h/ln	1418	0	0	1849	0	0	1836	0	0	1664	0	0
Q Serve(g_s), s	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	2.3	0.0	0.0	8.9	0.0	0.0	15.3	0.0	0.0
Prop In Lane	0.57		0.13	0.22		0.24	0.03		0.04	0.15		0.15
Lane Grp Cap(c), veh/h	483	0	0	562	0	0	1044	0	0	964	0	0
V/C Ratio(X)	0.49	0.00	0.00	0.22	0.00	0.00	0.53	0.00	0.00	0.75	0.00	0.00
Avail Cap(c_a), veh/h	760	0	0	919	0	0	1329	0	0	1212	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	13.2	0.0	0.0	7.1	0.0	0.0	8.4	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.0	2.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	0.8	0.0	0.0	1.9	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.4	0.0	0.0	13.4	0.0	0.0	7.6	0.0	0.0	10.4	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	B	A	A
Approach Vol, veh/h		235			122			554			724	
Approach Delay, s/veh		15.4			13.4			7.6			10.4	
Approach LOS		B			B			A			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		16.0		28.0		16.0				
Change Period (Y+Rc), s		7.0		7.0		7.0		7.0				
Max Green Setting (Gmax), s		28.0		18.0		28.0		18.0				
Max Q Clear Time (g_c+I1), s		10.9		8.3		17.3		4.3				
Green Ext Time (p_c), s		3.1		0.8		3.7		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			10.4									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	57.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	92	62	28	24	59	17	14	376	19	73	354	57
Future Vol, veh/h	92	62	28	24	59	17	14	376	19	73	354	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	102	69	31	27	66	19	16	418	21	81	393	63

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1090	1058	425	1098	1079	429	456	0	0	439	0	0
Stage 1	587	587	-	461	461	-	-	-	-	-	-	-
Stage 2	503	471	-	637	618	-	-	-	-	-	-	-
Critical Hdwy	8.12	7.52	6.72	6.52	5.92	5.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	142	167	593	228	261	649	1105	-	-	1121	-	-
Stage 1	421	422	-	627	610	-	-	-	-	-	-	-
Stage 2	479	491	-	518	533	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 99	148	593	126	231	649	1105	-	-	1121	-	-
Mov Cap-2 Maneuver	~ 99	148	-	126	231	-	-	-	-	-	-	-
Stage 1	413	381	-	615	598	-	-	-	-	-	-	-
Stage 2	406	482	-	363	481	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 344.8	39.3	0.3	1.3
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1105	-	-	130	212	1121	-	-
HCM Lane V/C Ratio	0.014	-	-	1.556	0.524	0.072	-	-
HCM Control Delay (s)	8.3	0	-	$ 344.8	39.3	8.5	0	-
HCM Lane LOS	A	A	-	F	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	14.3	2.7	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	304.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	116	62	28	24	59	24	14	396	19	83	383	92
Future Vol, veh/h	116	62	28	24	59	24	14	396	19	83	383	92
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	75	90	90	90	90	75	90	75	90	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	155	69	31	27	66	32	16	528	21	111	511	123

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1415	1376	573	1416	1427	539	634	0	0	549	0	0
Stage 1	795	795	-	571	571	-	-	-	-	-	-	-
Stage 2	620	581	-	845	856	-	-	-	-	-	-	-
Critical Hdwy	8.12	7.52	6.72	6.52	5.92	5.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.12	6.52	-	5.52	4.92	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 78	99	479	145	171	567	949	-	-	1021	-	-
Stage 1	305	320	-	556	555	-	-	-	-	-	-	-
Stage 2	400	425	-	411	432	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 40	80	479	32	138	567	949	-	-	1021	-	-
Mov Cap-2 Maneuver	~ 40	80	-	32	138	-	-	-	-	-	-	-
Stage 1	298	265	-	543	542	-	-	-	-	-	-	-
Stage 2	324	415	-	236	358	-	-	-	-	-	-	-

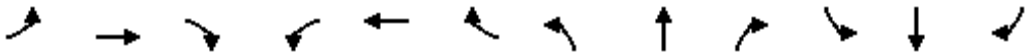
Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 1867.1	$ 302.9	0.2	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	949	-	-	53	91	1021	-	-
HCM Lane V/C Ratio	0.016	-	-	4.805	1.365	0.108	-	-
HCM Control Delay (s)	8.9	0	-	$ 1867.1	$ 302.9	9	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	28.6	9.2	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th Signalized Intersection Summary
400: NC 119 & Jim Minor Road

10/25/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	62	28	24	59	24	14	396	19	83	383	92
Future Volume (veh/h)	116	62	28	24	59	24	14	396	19	83	383	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1988	1988	1988	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	69	31	27	66	32	16	528	21	111	511	123
Peak Hour Factor	0.75	0.90	0.90	0.90	0.90	0.75	0.90	0.75	0.90	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	331	114	44	158	294	123	90	920	36	186	631	144
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	796	436	171	248	1131	475	21	1749	68	185	1200	274
Grp Volume(v), veh/h	255	0	0	125	0	0	565	0	0	745	0	0
Grp Sat Flow(s),veh/h/ln	1404	0	0	1854	0	0	1838	0	0	1659	0	0
Q Serve(g_s), s	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0
Cycle Q Clear(g_c), s	7.4	0.0	0.0	2.4	0.0	0.0	9.7	0.0	0.0	17.2	0.0	0.0
Prop In Lane	0.61		0.12	0.22		0.26	0.03		0.04	0.15		0.17
Lane Grp Cap(c), veh/h	489	0	0	576	0	0	1046	0	0	961	0	0
V/C Ratio(X)	0.52	0.00	0.00	0.22	0.00	0.00	0.54	0.00	0.00	0.77	0.00	0.00
Avail Cap(c_a), veh/h	713	0	0	868	0	0	1253	0	0	1141	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.4	0.0	0.0	13.7	0.0	0.0	7.5	0.0	0.0	9.0	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.0	2.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	0.8	0.0	0.0	2.2	0.0	0.0	4.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.2	0.0	0.0	13.9	0.0	0.0	8.0	0.0	0.0	11.9	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	B	A	A
Approach Vol, veh/h		255			125			565			745	
Approach Delay, s/veh		16.2			13.9			8.0			11.9	
Approach LOS		B			B			A			B	

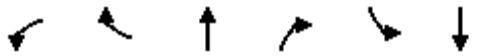
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.6		17.2		29.6		17.2				
Change Period (Y+Rc), s		7.0		7.0		7.0		7.0				
Max Green Setting (Gmax), s		28.0		18.0		28.0		18.0				
Max Q Clear Time (g_c+I1), s		11.7		9.4		19.2		4.4				
Green Ext Time (p_c), s		3.1		0.8		3.4		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			11.4									
HCM 6th LOS			B									

NC 54 at Jim Minor Road

HCM 6th Signalized Intersection Summary
500: NC 54 & Jim Minor Road

10/25/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	146	747	19	46	755
Future Volume (veh/h)	18	146	747	19	46	755
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1949	1949	1817	1817
Adj Flow Rate, veh/h	20	162	830	21	51	839
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	265	407	1431	36	452	2081
Arrive On Green	0.15	0.17	0.39	0.40	0.09	0.60
Sat Flow, veh/h	1781	1585	3787	93	1731	3544
Grp Volume(v), veh/h	20	162	416	435	51	839
Grp Sat Flow(s),veh/h/ln	1781	1585	1851	1932	1731	1726
Q Serve(g_s), s	0.4	3.4	7.1	7.1	0.6	5.1
Cycle Q Clear(g_c), s	0.4	3.4	7.1	7.1	0.6	5.1
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	265	407	718	749	452	2081
V/C Ratio(X)	0.08	0.40	0.58	0.58	0.11	0.40
Avail Cap(c_a), veh/h	886	959	1841	1921	726	4721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	12.4	9.7	9.7	6.2	4.2
Incr Delay (d2), s/veh	0.0	0.2	0.3	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.7	1.8	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.8	12.6	10.0	10.0	6.3	4.2
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h	182		851			890
Approach Delay, s/veh	12.9		10.0			4.4
Approach LOS	B		A			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		29.2		11.0	8.6	20.6
Change Period (Y+Rc), s		* 6.6		* 4.9	5.6	* 6.6
Max Green Setting (Gmax), s		* 53		* 20	9.4	* 38
Max Q Clear Time (g_c+I1), s		7.1		5.4	2.6	9.1
Green Ext Time (p_c), s		3.6		0.1	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	7.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
500: NC 54 & Jim Minor Road

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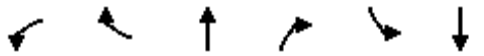

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	211	785	20	72	794
Future Volume (veh/h)	19	211	785	20	72	794
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1949	1949	1817	1817
Adj Flow Rate, veh/h	21	234	872	22	80	882
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	350	530	1291	33	239	2048
Arrive On Green	0.20	0.20	0.35	0.35	0.14	0.59
Sat Flow, veh/h	1781	1585	3787	93	1731	3544
Grp Volume(v), veh/h	21	234	437	457	80	882
Grp Sat Flow(s),veh/h/ln	1781	1585	1851	1932	1731	1726
Q Serve(g_s), s	0.5	5.5	9.6	9.6	2.0	6.6
Cycle Q Clear(g_c), s	0.5	5.5	9.6	9.6	2.0	6.6
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	350	530	648	676	239	2048
V/C Ratio(X)	0.06	0.44	0.68	0.68	0.33	0.43
Avail Cap(c_a), veh/h	750	886	1559	1627	364	3998
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.5	12.3	13.1	13.1	18.5	5.3
Incr Delay (d2), s/veh	0.0	0.2	0.5	0.4	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.2	2.8	2.9	0.7	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.6	12.6	13.6	13.6	18.8	5.3
LnGrp LOS	B	B	B	B	B	A
Approach Vol, veh/h	255		894			962
Approach Delay, s/veh	12.8		13.6			6.5
Approach LOS	B		B			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		33.2		14.3	11.6	21.6
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0
Max Green Setting (Gmax), s		53.0		18.0	8.0	38.0
Max Q Clear Time (g_c+I1), s		8.6		7.5	4.0	11.6
Green Ext Time (p_c), s		3.8		0.1	0.0	3.1

Intersection Summary						
HCM 6th Ctrl Delay			10.2			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
500: NC 54 & Jim Minor Road

10/25/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	246	785	20	117	794
Future Volume (veh/h)	19	246	785	20	117	794
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1949	1949	1817	1817
Adj Flow Rate, veh/h	21	328	872	22	156	882
Peak Hour Factor	0.90	0.75	0.90	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	418	616	1237	31	266	2006
Arrive On Green	0.23	0.23	0.34	0.34	0.15	0.58
Sat Flow, veh/h	1781	1585	3787	93	1731	3544
Grp Volume(v), veh/h	21	328	437	457	156	882
Grp Sat Flow(s),veh/h/ln	1781	1585	1851	1932	1731	1726
Q Serve(g_s), s	0.5	8.7	11.2	11.2	4.6	7.8
Cycle Q Clear(g_c), s	0.5	8.7	11.2	11.2	4.6	7.8
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	418	616	621	648	266	2006
V/C Ratio(X)	0.05	0.53	0.70	0.70	0.59	0.44
Avail Cap(c_a), veh/h	656	827	1364	1424	319	3499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	12.8	15.7	15.7	21.4	6.4
Incr Delay (d2), s/veh	0.0	0.3	0.6	0.5	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	8.0	3.7	3.8	1.6	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.1	13.1	16.3	16.2	22.1	6.5
LnGrp LOS	B	B	B	B	C	A
Approach Vol, veh/h	349		894			1038
Approach Delay, s/veh	13.3		16.2			8.8
Approach LOS	B		B			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.5		17.7	13.3	23.2
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0
Max Green Setting (Gmax), s		53.0		18.0	8.0	38.0
Max Q Clear Time (g_c+I1), s		9.8		10.7	6.6	13.2
Green Ext Time (p_c), s		3.8		0.1	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
500: NC 54 & Jim Minor Road

10/25/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	224	785	20	76	794
Future Volume (veh/h)	19	224	785	20	76	794
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1949	1949	1817	1817
Adj Flow Rate, veh/h	21	249	872	22	84	882
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	362	543	1283	32	241	2038
Arrive On Green	0.20	0.20	0.35	0.35	0.14	0.59
Sat Flow, veh/h	1781	1585	3787	93	1731	3544
Grp Volume(v), veh/h	21	249	437	457	84	882
Grp Sat Flow(s),veh/h/ln	1781	1585	1851	1932	1731	1726
Q Serve(g_s), s	0.5	5.9	9.8	9.8	2.1	6.8
Cycle Q Clear(g_c), s	0.5	5.9	9.8	9.8	2.1	6.8
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	362	543	644	672	241	2038
V/C Ratio(X)	0.06	0.46	0.68	0.68	0.35	0.43
Avail Cap(c_a), veh/h	736	876	1530	1597	358	3925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.5	12.4	13.5	13.5	18.8	5.5
Incr Delay (d2), s/veh	0.0	0.2	0.5	0.5	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.6	2.9	3.1	0.7	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.6	12.6	14.0	13.9	19.2	5.5
LnGrp LOS	B	B	B	B	B	A
Approach Vol, veh/h	270		894			966
Approach Delay, s/veh	12.9		13.9			6.7
Approach LOS	B		B			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		33.6		14.8	11.7	21.8
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0
Max Green Setting (Gmax), s		53.0		18.0	8.0	38.0
Max Q Clear Time (g_c+I1), s		8.8		7.9	4.1	11.8
Green Ext Time (p_c), s		3.8		0.1	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
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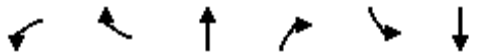


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	260	785	20	121	794
Future Volume (veh/h)	19	260	785	20	121	794
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1949	1949	1817	1817
Adj Flow Rate, veh/h	21	347	872	22	161	882
Peak Hour Factor	0.90	0.75	0.90	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	434	627	1230	31	263	1988
Arrive On Green	0.24	0.24	0.33	0.33	0.15	0.58
Sat Flow, veh/h	1781	1585	3787	93	1731	3544
Grp Volume(v), veh/h	21	347	437	457	161	882
Grp Sat Flow(s),veh/h/ln	1781	1585	1851	1932	1731	1726
Q Serve(g_s), s	0.5	9.4	11.4	11.4	4.8	8.1
Cycle Q Clear(g_c), s	0.5	9.4	11.4	11.4	4.8	8.1
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	434	627	617	644	263	1988
V/C Ratio(X)	0.05	0.55	0.71	0.71	0.61	0.44
Avail Cap(c_a), veh/h	644	814	1338	1396	313	3432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	12.9	16.1	16.1	21.9	6.7
Incr Delay (d2), s/veh	0.0	0.3	0.6	0.5	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.8	4.0	1.7	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.0	13.2	16.7	16.6	23.1	6.7
LnGrp LOS	B	B	B	B	C	A
Approach Vol, veh/h	368		894			1043
Approach Delay, s/veh	13.4		16.7			9.3
Approach LOS	B		B			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.9		18.5	13.4	23.4
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0
Max Green Setting (Gmax), s		53.0		18.0	8.0	38.0
Max Q Clear Time (g_c+I1), s		10.1		11.4	6.8	13.4
Green Ext Time (p_c), s		3.8		0.1	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	21	84	569	8	90	484
Future Volume (veh/h)	21	84	569	8	90	484
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1949	1949	1817	1817
Adj Flow Rate, veh/h	23	93	632	9	100	538
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	219	375	1422	20	578	2187
Arrive On Green	0.12	0.12	0.38	0.39	0.13	0.63
Sat Flow, veh/h	1781	1585	3835	53	1731	3544
Grp Volume(v), veh/h	23	93	313	328	100	538
Grp Sat Flow(s),veh/h/ln	1781	1585	1851	1939	1731	1726
Q Serve(g_s), s	0.5	2.0	5.2	5.2	1.2	2.8
Cycle Q Clear(g_c), s	0.5	2.0	5.2	5.2	1.2	2.8
Prop In Lane	1.00	1.00		0.03	1.00	
Lane Grp Cap(c), veh/h	219	375	705	738	578	2187
V/C Ratio(X)	0.11	0.25	0.44	0.44	0.17	0.25
Avail Cap(c_a), veh/h	869	954	1807	1892	774	4633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	12.7	9.5	9.5	5.4	3.3
Incr Delay (d2), s/veh	0.1	0.1	0.2	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.9	1.3	1.3	0.2	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.1	12.8	9.6	9.6	5.5	3.3
LnGrp LOS	B	B	A	A	A	A
Approach Vol, veh/h	116		641			638
Approach Delay, s/veh	13.5		9.6			3.6
Approach LOS	B		A			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		31.0		10.0	10.4	20.6
Change Period (Y+Rc), s		* 6.6		* 4.9	5.6	* 6.6
Max Green Setting (Gmax), s		* 53		* 20	9.4	* 38
Max Q Clear Time (g_c+I1), s		4.8		4.0	3.2	7.2
Green Ext Time (p_c), s		2.1		0.0	0.0	2.1

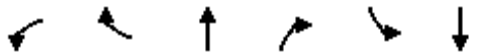
Intersection Summary	
HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
500: NC 54 & Jim Minor Road

10/25/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	130	598	8	159	509
Future Volume (veh/h)	22	130	598	8	159	509
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1949	1949	1817	1817
Adj Flow Rate, veh/h	24	144	664	9	177	566
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	309	552	1258	17	303	2129
Arrive On Green	0.17	0.17	0.34	0.34	0.18	0.62
Sat Flow, veh/h	1781	1585	3837	51	1731	3544
Grp Volume(v), veh/h	24	144	329	344	177	566
Grp Sat Flow(s),veh/h/ln	1781	1585	1851	1940	1731	1726
Q Serve(g_s), s	0.5	3.1	6.8	6.8	4.5	3.6
Cycle Q Clear(g_c), s	0.5	3.1	6.8	6.8	4.5	3.6
Prop In Lane	1.00	1.00		0.03	1.00	
Lane Grp Cap(c), veh/h	309	552	623	652	303	2129
V/C Ratio(X)	0.08	0.26	0.53	0.53	0.58	0.27
Avail Cap(c_a), veh/h	749	944	1557	1631	364	3993
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.5	11.1	12.7	12.7	18.0	4.2
Incr Delay (d2), s/veh	0.0	0.1	0.3	0.2	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.2	2.0	2.1	1.5	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.5	11.2	13.0	13.0	18.7	4.2
LnGrp LOS	B	B	B	B	B	A
Approach Vol, veh/h	168		673			743
Approach Delay, s/veh	12.0		13.0			7.7
Approach LOS	B		B			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		34.3		13.2	13.3	21.0
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0
Max Green Setting (Gmax), s		53.0		18.0	8.0	38.0
Max Q Clear Time (g_c+I1), s		5.6		5.1	6.5	8.8
Green Ext Time (p_c), s		2.2		0.1	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
500: NC 54 & Jim Minor Road

10/25/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	165	598	8	183	509
Future Volume (veh/h)	22	165	598	8	183	509
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1949	1949	1817	1817
Adj Flow Rate, veh/h	24	220	664	9	244	566
Peak Hour Factor	0.90	0.75	0.90	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	316	599	1200	16	347	2147
Arrive On Green	0.18	0.18	0.32	0.32	0.20	0.62
Sat Flow, veh/h	1781	1585	3837	51	1731	3544
Grp Volume(v), veh/h	24	220	329	344	244	566
Grp Sat Flow(s),veh/h/ln	1781	1585	1851	1940	1731	1726
Q Serve(g_s), s	0.6	5.0	7.3	7.3	6.5	3.7
Cycle Q Clear(g_c), s	0.6	5.0	7.3	7.3	6.5	3.7
Prop In Lane	1.00	1.00		0.03	1.00	
Lane Grp Cap(c), veh/h	316	599	594	622	347	2147
V/C Ratio(X)	0.08	0.37	0.55	0.55	0.70	0.26
Avail Cap(c_a), veh/h	715	954	1485	1556	347	3809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.1	11.2	14.0	14.0	18.5	4.3
Incr Delay (d2), s/veh	0.0	0.1	0.3	0.3	5.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.0	2.3	2.4	2.6	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.1	11.3	14.3	14.3	23.9	4.3
LnGrp LOS	B	B	B	B	C	A
Approach Vol, veh/h	244		673			810
Approach Delay, s/veh	11.9		14.3			10.2
Approach LOS	B		B			B

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.0		13.9	15.0	21.0
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0
Max Green Setting (Gmax), s		53.0		18.0	8.0	38.0
Max Q Clear Time (g_c+I1), s		5.7		7.0	8.5	9.3
Green Ext Time (p_c), s		2.2		0.1	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
500: NC 54 & Jim Minor Road

10/25/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	139	598	8	174	509
Future Volume (veh/h)	22	139	598	8	174	509
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1949	1949	1817	1817
Adj Flow Rate, veh/h	24	154	664	9	193	566
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	311	557	1252	17	306	2128
Arrive On Green	0.17	0.17	0.33	0.33	0.18	0.62
Sat Flow, veh/h	1781	1585	3837	51	1731	3544
Grp Volume(v), veh/h	24	154	329	344	193	566
Grp Sat Flow(s),veh/h/ln	1781	1585	1851	1940	1731	1726
Q Serve(g_s), s	0.5	3.3	6.9	6.9	4.9	3.6
Cycle Q Clear(g_c), s	0.5	3.3	6.9	6.9	4.9	3.6
Prop In Lane	1.00	1.00		0.03	1.00	
Lane Grp Cap(c), veh/h	311	557	620	649	306	2128
V/C Ratio(X)	0.08	0.28	0.53	0.53	0.63	0.27
Avail Cap(c_a), veh/h	745	944	1549	1623	362	3973
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.5	11.1	12.9	12.9	18.2	4.2
Incr Delay (d2), s/veh	0.0	0.1	0.3	0.3	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.1	2.2	1.7	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.5	11.2	13.1	13.1	19.6	4.2
LnGrp LOS	B	B	B	B	B	A
Approach Vol, veh/h	178		673			759
Approach Delay, s/veh	11.9		13.1			8.1
Approach LOS	B		B			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		34.5		13.3	13.5	21.0
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0
Max Green Setting (Gmax), s		53.0		18.0	8.0	38.0
Max Q Clear Time (g_c+I1), s		5.6		5.3	6.9	8.9
Green Ext Time (p_c), s		2.2		0.1	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	10.6
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
500: NC 54 & Jim Minor Road

10/25/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	173	598	8	198	509
Future Volume (veh/h)	22	173	598	8	198	509
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1949	1949	1817	1817
Adj Flow Rate, veh/h	24	231	664	9	264	566
Peak Hour Factor	0.90	0.75	0.90	0.90	0.75	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	326	606	1192	16	345	2133
Arrive On Green	0.18	0.18	0.32	0.32	0.20	0.62
Sat Flow, veh/h	1781	1585	3837	51	1731	3544
Grp Volume(v), veh/h	24	231	329	344	264	566
Grp Sat Flow(s),veh/h/ln	1781	1585	1851	1940	1731	1726
Q Serve(g_s), s	0.6	5.3	7.4	7.4	7.2	3.8
Cycle Q Clear(g_c), s	0.6	5.3	7.4	7.4	7.2	3.8
Prop In Lane	1.00	1.00		0.03	1.00	
Lane Grp Cap(c), veh/h	326	606	590	618	345	2133
V/C Ratio(X)	0.07	0.38	0.56	0.56	0.77	0.27
Avail Cap(c_a), veh/h	710	948	1476	1546	345	3784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	11.2	14.2	14.2	19.0	4.4
Incr Delay (d2), s/veh	0.0	0.1	0.3	0.3	8.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.2	2.3	2.4	3.1	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.0	11.4	14.5	14.4	27.9	4.4
LnGrp LOS	B	B	B	B	C	A
Approach Vol, veh/h	255		673			830
Approach Delay, s/veh	11.9		14.5			11.9
Approach LOS	B		B			B

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.0		14.2	15.0	21.0
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0
Max Green Setting (Gmax), s		53.0		18.0	8.0	38.0
Max Q Clear Time (g_c+I1), s		5.8		7.3	9.2	9.4
Green Ext Time (p_c), s		2.2		0.1	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

NC 119 at Site Access 1

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	578	96	156	532
Future Vol, veh/h	0	0	578	96	156	532
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	0	0	771	192	312	709

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2200	867	0	0	963	0
Stage 1	867	-	-	-	-	-
Stage 2	1333	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	50	355	-	-	723	-
Stage 1	415	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	14	355	-	-	723	-
Mov Cap-2 Maneuver	14	-	-	-	-	-
Stage 1	415	-	-	-	-	-
Stage 2	71	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	4.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	723	-
HCM Lane V/C Ratio	-	-	-	0.432	-
HCM Control Delay (s)	-	-	0	13.7	0
HCM Lane LOS	-	-	A	B	A
HCM 95th %tile Q(veh)	-	-	-	2.2	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	578	96	156	532
Future Vol, veh/h	0	0	578	96	156	532
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	0	0	771	192	312	709

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2104	771	0	0	963	0
Stage 1	771	-	-	-	-	-
Stage 2	1333	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	57	403	-	-	723	-
Stage 1	460	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	32	403	-	-	723	-
Mov Cap-2 Maneuver	32	-	-	-	-	-
Stage 1	460	-	-	-	-	-
Stage 2	141	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	4.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	723	-
HCM Lane V/C Ratio	-	-	-	0.432	-
HCM Control Delay (s)	-	-	0	13.7	-
HCM Lane LOS	-	-	A	B	-
HCM 95th %tile Q(veh)	-	-	-	2.2	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	14	589	3	5	461
Future Vol, veh/h	10	14	589	3	5	461
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	16	654	3	6	512

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1178	654	0	0	657	0
Stage 1	654	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	211	467	-	-	931	-
Stage 1	517	-	-	-	-	-
Stage 2	594	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	210	467	-	-	931	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	590	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.7	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	309	931	-
HCM Lane V/C Ratio	-	-	0.086	0.006	-
HCM Control Delay (s)	-	-	17.7	8.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	14	589	99	161	536
Future Vol, veh/h	10	14	589	99	161	536
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	20	28	785	198	322	715

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2144	785	0	0	983	0
Stage 1	785	-	-	-	-	-
Stage 2	1359	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	54	396	-	-	711	-
Stage 1	453	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	30	396	-	-	711	-
Mov Cap-2 Maneuver	30	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	132	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	149.4	0	4.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	65	711	-
HCM Lane V/C Ratio	-	-	0.738	0.453	-
HCM Control Delay (s)	-	-	149.4	14.2	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	3.3	2.4	-

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	14	589	99	161	536
Future Vol, veh/h	10	14	589	99	161	536
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	20	28	785	198	322	715

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2144	785	0	0	983	0
Stage 1	785	-	-	-	-	-
Stage 2	1359	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	54	396	-	-	711	-
Stage 1	453	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	30	396	-	-	711	-
Mov Cap-2 Maneuver	30	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	132	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	149.4	0	4.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	65	711	-
HCM Lane V/C Ratio	-	-	0.738	0.453	-
HCM Control Delay (s)	-	-	149.4	14.2	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	3.3	2.4	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	460	51	82	543
Future Vol, veh/h	0	0	460	51	82	543
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	0	0	613	102	164	724

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1716	664	0	0	715	0
Stage 1	664	-	-	-	-	-
Stage 2	1052	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	100	464	-	-	895	-
Stage 1	516	-	-	-	-	-
Stage 2	339	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	69	464	-	-	895	-
Mov Cap-2 Maneuver	69	-	-	-	-	-
Stage 1	516	-	-	-	-	-
Stage 2	235	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	1.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	895	-
HCM Lane V/C Ratio	-	-	-	0.183	-
HCM Control Delay (s)	-	-	0	9.9	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0.7	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	460	51	82	543
Future Vol, veh/h	0	0	460	51	82	543
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	0	0	613	102	164	724

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1665	613	0	0	715	0
Stage 1	613	-	-	-	-	-
Stage 2	1052	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	108	496	-	-	895	-
Stage 1	544	-	-	-	-	-
Stage 2	339	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	88	496	-	-	895	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	277	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	1.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	895	-
HCM Lane V/C Ratio	-	-	-	0.183	-
HCM Control Delay (s)	-	-	0	9.9	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.7	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	10	468	11	16	483
Future Vol, veh/h	7	10	468	11	16	483
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	11	520	12	18	537

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1093	520	0	0	532	0
Stage 1	520	-	-	-	-	-
Stage 2	573	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	237	556	-	-	1036	-
Stage 1	597	-	-	-	-	-
Stage 2	564	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	233	556	-	-	1036	-
Mov Cap-2 Maneuver	233	-	-	-	-	-
Stage 1	597	-	-	-	-	-
Stage 2	554	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.7	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	354	1036	-
HCM Lane V/C Ratio	-	-	0.053	0.017	-
HCM Control Delay (s)	-	-	15.7	8.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	10	468	62	98	556
Future Vol, veh/h	7	10	468	62	98	556
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	14	20	624	124	196	741

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1757	624	0	0	748	0
Stage 1	624	-	-	-	-	-
Stage 2	1133	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	94	489	-	-	870	-
Stage 1	538	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	73	489	-	-	870	-
Mov Cap-2 Maneuver	73	-	-	-	-	-
Stage 1	538	-	-	-	-	-
Stage 2	240	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	37	0	2.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	146	870	-
HCM Lane V/C Ratio	-	-	0.233	0.225	-
HCM Control Delay (s)	-	-	37	10.3	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	0.9	0.9	-

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	10	468	62	98	556
Future Vol, veh/h	7	10	468	62	98	556
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	14	20	624	124	196	741

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1757	624	0	0	748	0
Stage 1	624	-	-	-	-	-
Stage 2	1133	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	94	489	-	-	870	-
Stage 1	538	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	73	489	-	-	870	-
Mov Cap-2 Maneuver	73	-	-	-	-	-
Stage 1	538	-	-	-	-	-
Stage 2	240	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	37	0	2.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	146	870	-
HCM Lane V/C Ratio	-	-	0.233	0.225	-
HCM Control Delay (s)	-	-	37	10.3	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	0.9	0.9	-

NC 119 at Site Access 2

Intersection	
Int Delay, s/veh	87.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	75	122	578	0	0	613
Future Vol, veh/h	75	122	578	0	0	613
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	150	244	771	0	0	817

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1588	771	0	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	~ 120	403	-	0	0	-
Stage 1	460	-	-	0	0	-
Stage 2	438	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 120	403	-	-	-	-
Mov Cap-2 Maneuver	~ 120	-	-	-	-	-
Stage 1	460	-	-	-	-	-
Stage 2	438	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 442.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	212	-
HCM Lane V/C Ratio	-	1.858	-
HCM Control Delay (s)	-	$ 442.1	-
HCM Lane LOS	-	F	-
HCM 95th %tile Q(veh)	-	28	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	20.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	75	122	578	0	0	613
Future Vol, veh/h	75	122	578	0	0	613
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	150	244	771	0	0	817

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1588	771	0	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	~ 120	403	-	0	0	-
Stage 1	460	-	-	0	0	-
Stage 2	438	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 120	403	-	-	-	-
Mov Cap-2 Maneuver	~ 120	-	-	-	-	-
Stage 1	460	-	-	-	-	-
Stage 2	438	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	105.2	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBT
Capacity (veh/h)	-	120	403	-
HCM Lane V/C Ratio	-	1.25	0.605	-
HCM Control Delay (s)	-	232.8	26.7	-
HCM Lane LOS	-	F	D	-
HCM 95th %tile Q(veh)	-	9.6	3.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	95

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	75	122	603	0	0	622
Future Vol, veh/h	75	122	603	0	0	622
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	150	244	804	0	0	829

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1633	804	0	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	~ 113	386	-	0	0	-
Stage 1	444	-	-	0	0	-
Stage 2	432	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 113	386	-	-	-	-
Mov Cap-2 Maneuver	~ 113	-	-	-	-	-
Stage 1	444	-	-	-	-	-
Stage 2	432	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 488.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	201	-
HCM Lane V/C Ratio	-	1.96	-
HCM Control Delay (s)	-	$ 488.9	-
HCM Lane LOS	-	F	-
HCM 95th %tile Q(veh)	-	29.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	23.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	75	122	603	0	0	622
Future Vol, veh/h	75	122	603	0	0	622
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	150	244	804	0	0	829

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1633	804	0	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	~ 113	386	-	0	0	-
Stage 1	444	-	-	0	0	-
Stage 2	432	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 113	386	-	-	-	-
Mov Cap-2 Maneuver	~ 113	-	-	-	-	-
Stage 1	444	-	-	-	-	-
Stage 2	432	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	119.6	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBT
Capacity (veh/h)	-	113	386	-
HCM Lane V/C Ratio	-	1.327	0.632	-
HCM Control Delay (s)	-	266.9	29	-
HCM Lane LOS	-	F	D	-
HCM 95th %tile Q(veh)	-	10.2	4.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	48

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	120	460	0	0	552
Future Vol, veh/h	73	120	460	0	0	552
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	146	240	613	0	0	736

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1349	613	0	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	168	496	-	0	0	-
Stage 1	544	-	-	0	0	-
Stage 2	477	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	168	496	-	-	-	-
Mov Cap-2 Maneuver	168	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	215.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	285	-
HCM Lane V/C Ratio	-	1.354	-
HCM Control Delay (s)	-	215.9	-
HCM Lane LOS	-	F	-
HCM 95th %tile Q(veh)	-	19.9	-

Intersection	
Int Delay, s/veh	10.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	120	460	0	0	552
Future Vol, veh/h	73	120	460	0	0	552
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	146	240	613	0	0	736

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1349	613	0	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	168	496	-	0	0	-
Stage 1	544	-	-	0	0	-
Stage 2	477	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	168	496	-	-	-	-
Mov Cap-2 Maneuver	168	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	47	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBT
Capacity (veh/h)	-	168	496	-
HCM Lane V/C Ratio	-	0.869	0.484	-
HCM Control Delay (s)	-	93.1	18.9	-
HCM Lane LOS	-	F	C	-
HCM 95th %tile Q(veh)	-	6.2	2.6	-

Intersection	
Int Delay, s/veh	55.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	120	478	0	0	582
Future Vol, veh/h	73	120	478	0	0	582
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	146	240	637	0	0	776

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1413	637	0	-	-	-
Stage 1	637	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	153	481	-	0	0	-
Stage 1	531	-	-	0	0	-
Stage 2	457	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	153	481	-	-	-	-
Mov Cap-2 Maneuver	153	-	-	-	-	-
Stage 1	531	-	-	-	-	-
Stage 2	457	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	258.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	266	-
HCM Lane V/C Ratio	-	1.451	-
HCM Control Delay (s)	-	258.4	-
HCM Lane LOS	-	F	-
HCM 95th %tile Q(veh)	-	21.7	-

Intersection	
Int Delay, s/veh	12.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	120	478	0	0	582
Future Vol, veh/h	73	120	478	0	0	582
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	0
Peak Hour Factor	50	50	75	50	50	75
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	146	240	637	0	0	776

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1413	637	0	-	-	-
Stage 1	637	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	153	481	-	0	0	-
Stage 1	531	-	-	0	0	-
Stage 2	457	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	153	481	-	-	-	-
Mov Cap-2 Maneuver	153	-	-	-	-	-
Stage 1	531	-	-	-	-	-
Stage 2	457	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	57.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBT
Capacity (veh/h)	-	153	481	-
HCM Lane V/C Ratio	-	0.954	0.499	-
HCM Control Delay (s)	-	119.3	19.7	-
HCM Lane LOS	-	F	C	-
HCM 95th %tile Q(veh)	-	7	2.7	-

Site Access 1 at Internal Roundabout

DELAY (CONTROL)

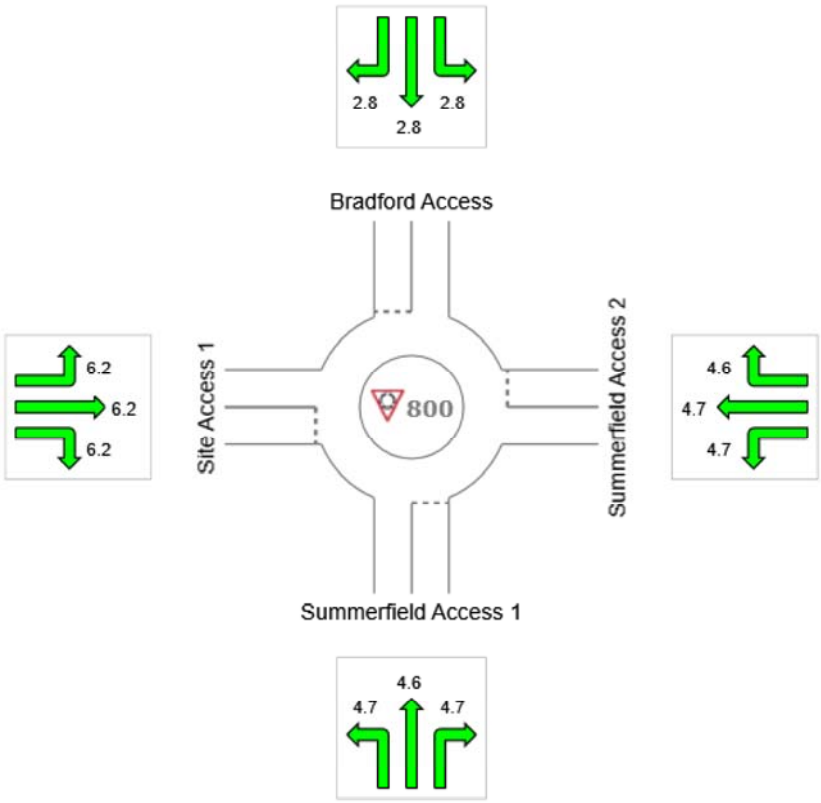
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: 800 [AM Peak Scenario 1]

Bradford Academy
Site Category: (None)
Roundabout

All Movement Classes

	Approaches				Intersection
	South	East	North	West	
Delay (Control)	4.7	4.7	2.8	6.2	6.0
LOS	A	A	A	A	A



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Roundabout Level of Service Method: Same as Sign Control
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

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DELAY (CONTROL)

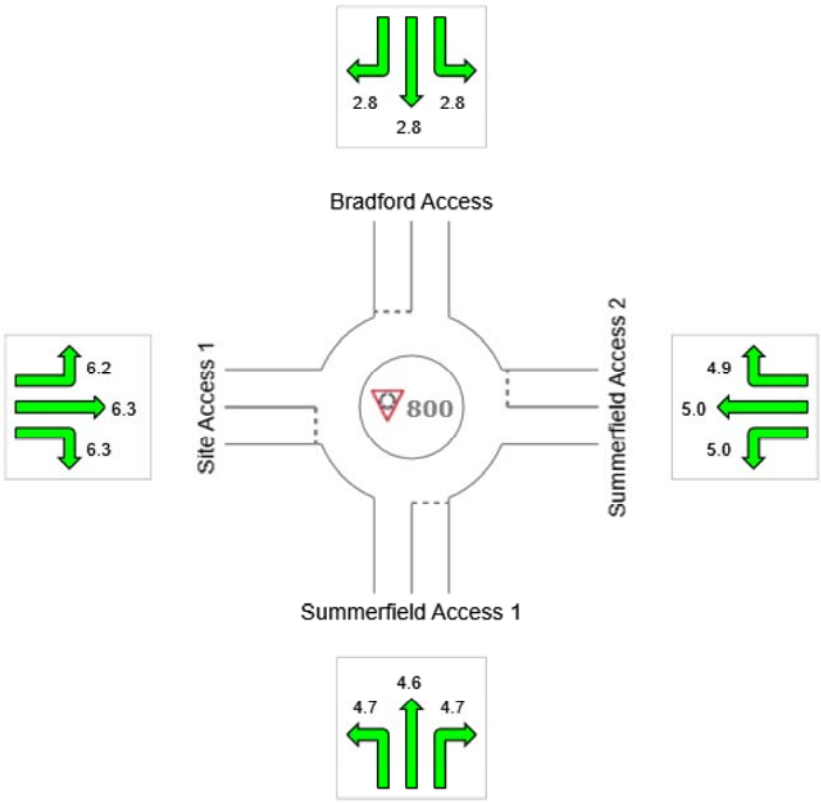
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: 800 [AM Peak Scenario 2]

Bradford Academy
Site Category: (None)
Roundabout

All Movement Classes

	Approaches				Intersection
	South	East	North	West	
Delay (Control)	4.7	5.0	2.8	6.2	6.0
LOS	A	A	A	A	A



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
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HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

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DELAY (CONTROL)

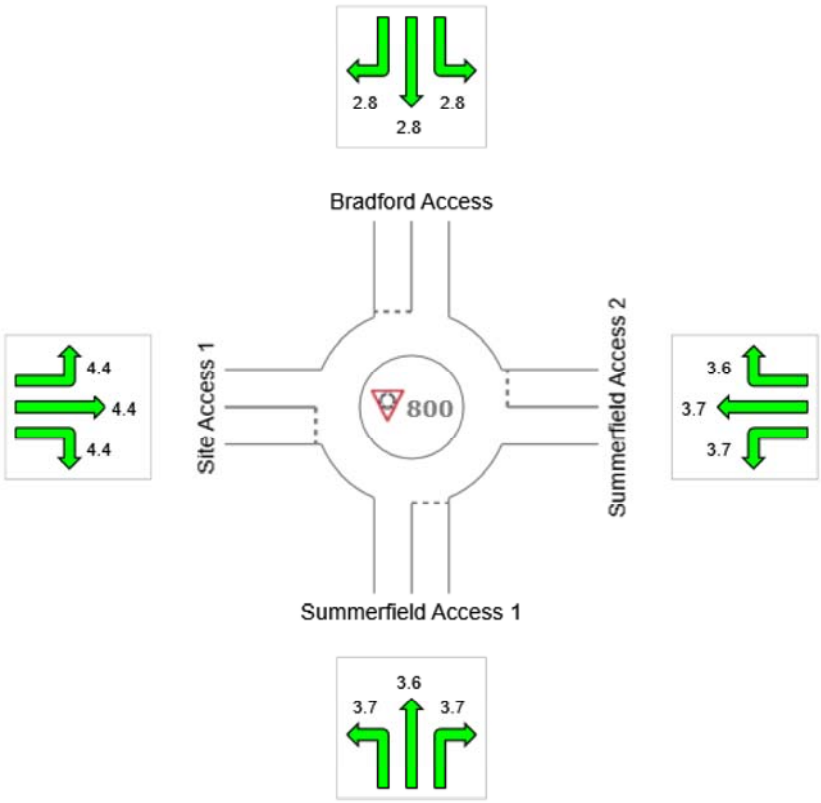
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: 800 [PM Peak Scenario 1]

Bradford Academy
Site Category: (None)
Roundabout

All Movement Classes

	Approaches				Intersection
	South	East	North	West	
Delay (Control)	3.6	3.6	2.8	4.4	4.2
LOS	A	A	A	A	A



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
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Roundabout Level of Service Method: Same as Sign Control
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

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DELAY (CONTROL)

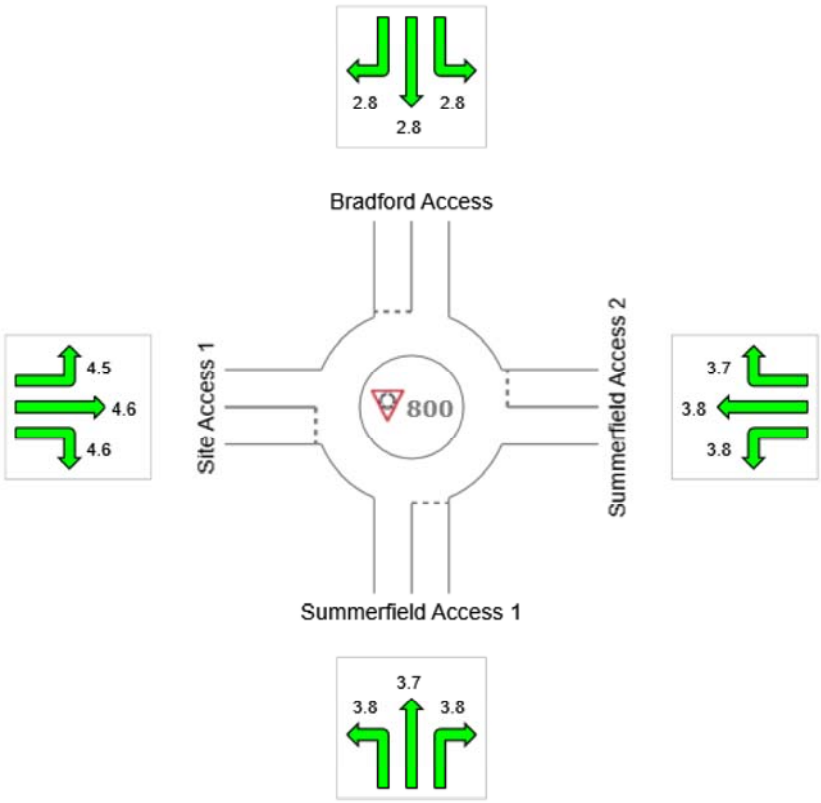
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: 800 [PM Peak Scenario 2]

Bradford Academy
Site Category: (None)
Roundabout

All Movement Classes

	Approaches				Intersection
	South	East	North	West	
Delay (Control)	3.7	3.8	2.8	4.5	4.3
LOS	A	A	A	A	A



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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Traffic Volume Data

DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

Counted by: P.Peek
*No U-turns observed

Weather: Cloudy

File Name : 1. NC 119 at Trollingwood Hawfields Rd_Old Hillsborough Rd
Site Code : 00180046
Start Date : 10/16/2018
Page No : 1

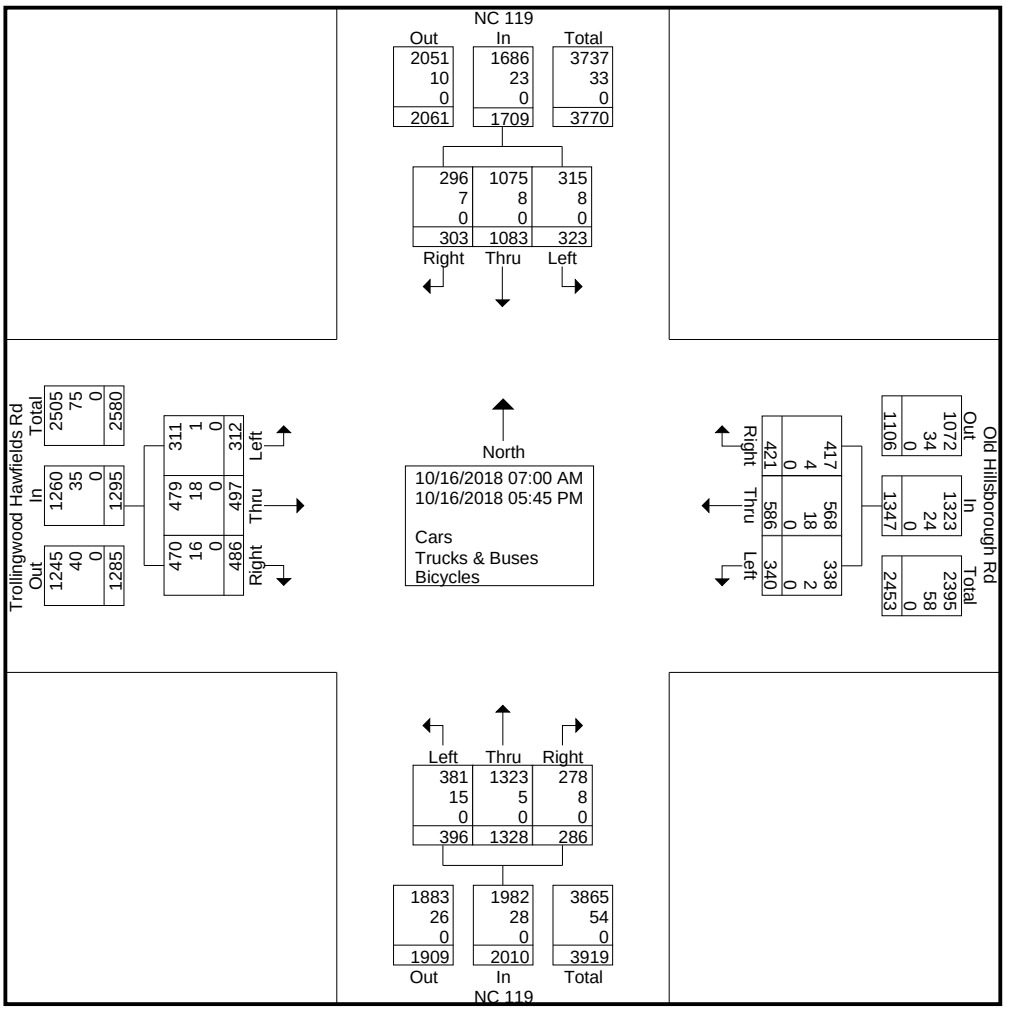
Groups Printed- Cars - Trucks & Buses - Bicycles

	NC 119 Southbound					Old Hillsborough Rd Westbound					NC 119 Northbound					Trollingwood Hawfields Rd Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	6	48	5	0	59	11	34	18	0	63	13	96	39	0	148	19	25	14	0	58	0	328	328
07:15 AM	14	58	11	0	83	22	37	18	0	77	31	134	29	0	194	11	33	25	0	69	0	423	423
07:30 AM	23	69	24	0	116	46	72	20	0	138	32	129	40	0	201	20	62	32	0	114	0	569	569
07:45 AM	21	47	23	0	91	42	76	18	0	136	20	141	33	0	194	26	38	18	0	82	0	503	503
Total	64	222	63	0	349	121	219	74	0	414	96	500	141	0	737	76	158	89	0	323	0	1823	1823
08:00 AM	22	52	19	0	93	27	37	16	1	80	10	85	31	0	126	28	27	19	0	74	1	373	374
08:15 AM	13	45	9	0	67	18	31	10	0	59	12	73	18	0	103	27	27	9	0	63	0	292	292
08:30 AM	15	40	9	0	64	15	23	10	0	48	13	55	26	0	94	17	20	19	0	56	0	262	262
08:45 AM	9	20	10	0	39	19	20	10	0	49	12	69	19	0	100	16	10	13	0	39	0	227	227
Total	59	157	47	0	263	79	111	46	1	236	47	282	94	0	423	88	84	60	0	232	1	1154	1155
*** BREAK ***																							
04:00 PM	26	98	31	0	155	27	33	18	0	78	18	71	18	0	107	34	36	15	0	85	0	425	425
04:15 PM	18	67	29	0	114	29	21	31	0	81	14	82	17	0	113	34	34	26	0	94	0	402	402
04:30 PM	20	65	25	0	110	22	26	20	0	68	13	68	23	0	104	51	28	22	0	101	0	383	383
04:45 PM	25	83	26	0	134	33	25	30	0	88	17	55	15	0	87	28	32	23	0	83	0	392	392
Total	89	313	111	0	513	111	105	99	0	315	62	276	73	0	411	147	130	86	0	363	0	1602	1602
05:00 PM	22	107	23	0	152	16	42	33	0	91	24	54	19	0	97	47	30	22	0	99	0	439	439
05:15 PM	23	113	24	0	160	30	20	37	0	87	25	74	23	0	122	54	37	23	0	114	0	483	483
05:30 PM	24	101	27	0	152	24	32	26	0	82	18	70	23	0	111	34	22	18	0	74	0	419	419
05:45 PM	22	70	28	0	120	40	57	25	0	122	14	72	23	0	109	40	36	14	0	90	0	441	441
Total	91	391	102	0	584	110	151	121	0	382	81	270	88	0	439	175	125	77	0	377	0	1782	1782
Grand Total	303	1083	323	0	1709	421	586	340	1	1347	286	1328	396	0	2010	486	497	312	0	1295	1	6361	6362
Apprch %	17.7	63.4	18.9			31.3	43.5	25.2			14.2	66.1	19.7			37.5	38.4	24.1					
Total %	4.8	17	5.1		26.9	6.6	9.2	5.3		21.2	4.5	20.9	6.2		31.6	7.6	7.8	4.9		20.4	0	100	
Cars	296	1075	315		1686	417	568	338		1324	278	1323	381		1982	470	479	311		1260	0	0	6252
% Cars	97.7	99.3	97.5	0	98.7	99	96.9	99.4	100	98.2	97.2	99.6	96.2	0	98.6	96.7	96.4	99.7	0	97.3	0	0	98.3
Trucks & Buses	7	8	8		23	4	18	2		24	8	5	15		28	16	18	1		35	0	0	110
% Trucks & Buses	2.3	0.7	2.5	0	1.3	1	3.1	0.6	0	1.8	2.8	0.4	3.8	0	1.4	3.3	3.6	0.3	0	2.7	0	0	1.7
Bicycles	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

File Name : 1. NC 119 at Trollingwood Hawfields Rd_Old Hillsborough Rd
Site Code : 00180046
Start Date : 10/16/2018
Page No : 2

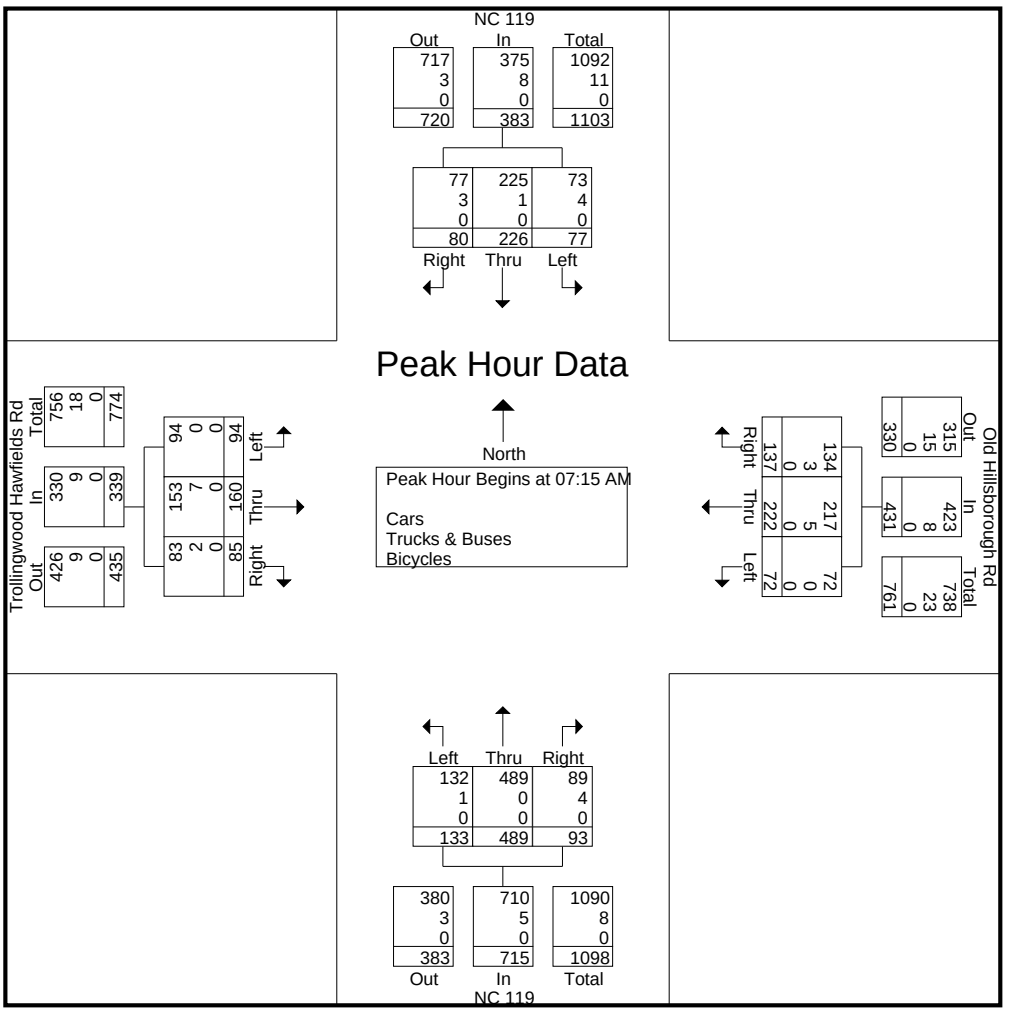


DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

File Name : 1. NC 119 at Trollingwood Hawfields Rd_Old Hillsborough Rd
Site Code : 00180046
Start Date : 10/16/2018
Page No : 3

	NC 119 Southbound				Old Hillsborough Rd Westbound				NC 119 Northbound				Trollingwood Hawfields Rd 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 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	14	58	11	83	22	37	18	77	31	134	29	194	11	33	25	69	423
07:30 AM	**23**	**69**	**24**	**116**	**46**	72	**20**	**138**	**32**	129	**40**	**201**	20	**62**	**32**	**114**	**569**
07:45 AM	21	47	23	91	42	**76**	18	136	20	**141**	33	194	26	38	18	82	503
08:00 AM	22	52	19	93	27	37	16	80	10	85	31	126	**28**	27	19	74	373
Total Volume	80	226	77	383	137	222	72	431	93	489	133	715	85	160	94	339	1868
% App. Total	20.9	59	20.1		31.8	51.5	16.7		13	68.4	18.6		25.1	47.2	27.7		
PHF	.870	.819	.802	.825	.745	.730	.900	.781	.727	.867	.831	.889	.759	.645	.734	.743	.821
Cars	77	225	73	375	134	217	72	423	89	489	132	710	83	153	94	330	1838
% Cars	96.3	99.6	94.8	97.9	97.8	97.7	100	98.1	95.7	100	99.2	99.3	97.6	95.6	100	97.3	98.4
Trucks & Buses	3	1	4	8	3	5	0	8	4	0	1	5	2	7	0	9	30
% Trucks & Buses	3.8	0.4	5.2	2.1	2.2	2.3	0	1.9	4.3	0	0.8	0.7	2.4	4.4	0	2.7	1.6
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

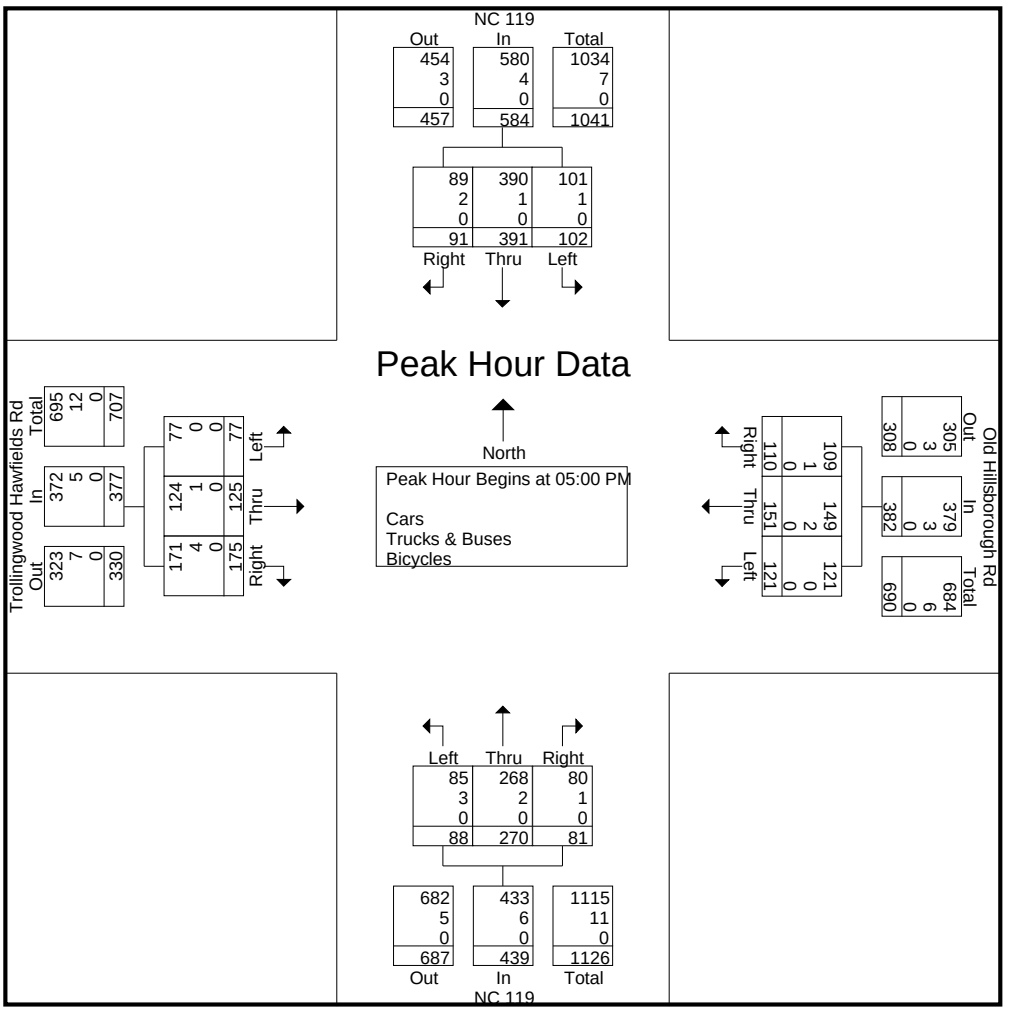


DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

File Name : 1. NC 119 at Trollingwood Hawfields Rd_Old Hillsborough Rd
Site Code : 00180046
Start Date : 10/16/2018
Page No : 4

	NC 119 Southbound				Old Hillsborough Rd Westbound				NC 119 Northbound				Trollingwood Hawfields Rd 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 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	22	107	23	152	16	42	33	91	24	54	19	97	47	30	22	99	439
05:15 PM	23	**113**	24	**160**	30	20	**37**	87	**25**	**74**	**23**	**122**	**54**	**37**	**23**	**114**	**483**
05:30 PM	**24**	101	27	152	24	32	26	82	18	70	23	111	34	22	18	74	419
05:45 PM	22	70	**28**	120	**40**	**57**	25	**122**	14	72	23	109	40	36	14	90	441
Total Volume	91	391	102	584	110	151	121	382	81	270	88	439	175	125	77	377	1782
% App. Total	15.6	67	17.5		28.8	39.5	31.7		18.5	61.5	20		46.4	33.2	20.4		
PHF	.948	.865	.911	.913	.688	.662	.818	.783	.810	.912	.957	.900	.810	.845	.837	.827	.922
Cars	89	390	101	580	109	149	121	379	80	268	85	433	171	124	77	372	1764
% Cars	97.8	99.7	99.0	99.3	99.1	98.7	100	99.2	98.8	99.3	96.6	98.6	97.7	99.2	100	98.7	99.0
Trucks & Buses	2	1	1	4	1	2	0	3	1	2	3	6	4	1	0	5	18
% Trucks & Buses	2.2	0.3	1.0	0.7	0.9	1.3	0	0.8	1.2	0.7	3.4	1.4	2.3	0.8	0	1.3	1.0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



DAVENPORT

119 Brookstown Aveue, Suite PH1
Winston-Salem, NC 27101

Counted By: N. Baskett
Weather: Clear

File Name : 190020 1. NC 119 at Trollingwood Hawfields Road.Old Hillsborough Road
Site Code : 00190020
Start Date : 10/16/2018
Page No : 1

Groups Printed- Cars - Buses and Trucks - Bikes

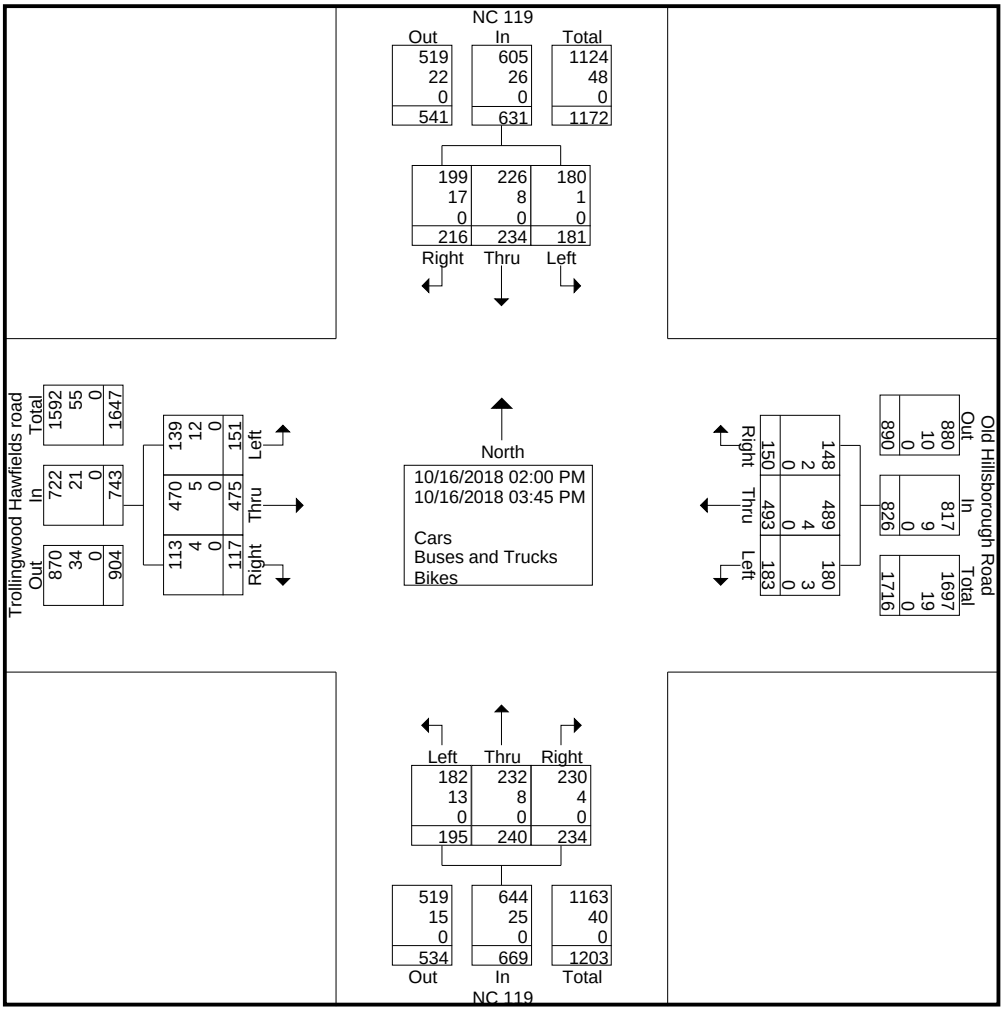
	NC 119 Southbound					Old Hillsborough Road Westbound					NC 119 Northbound					Trollingwood Hawfields road Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
02:00 PM	17	25	14	0	56	20	50	24	0	94	26	22	18	0	66	16	55	21	0	92	0	308	308
02:15 PM	30	21	26	1	77	18	46	27	0	91	26	17	15	0	58	10	51	17	0	78	1	304	305
02:30 PM	18	31	26	0	75	17	74	26	0	117	33	28	24	0	85	15	90	22	0	127	0	404	404
02:45 PM	16	27	18	0	61	25	40	26	0	91	41	44	30	0	115	10	49	21	0	80	0	347	347
Total	81	104	84	1	269	80	210	103	0	393	126	111	87	0	324	51	245	81	0	377	1	1363	1364
03:00 PM	19	32	26	0	77	13	52	14	0	79	22	32	22	0	76	13	49	20	0	82	0	314	314
03:15 PM	30	28	20	0	78	16	50	20	0	86	30	30	22	0	82	17	55	16	0	88	0	334	334
03:30 PM	42	41	23	0	106	23	87	28	0	138	24	35	35	2	94	16	71	18	0	105	2	443	445
03:45 PM	44	29	28	0	101	18	94	18	0	130	32	32	29	0	93	20	55	16	0	91	0	415	415
Total	135	130	97	0	362	70	283	80	0	433	108	129	108	2	345	66	230	70	0	366	2	1506	1508
Grand Total	216	234	181	1	631	150	493	183	0	826	234	240	195	2	669	117	475	151	0	743	3	2869	2872
Apprch %	34.2	37.1	28.7			18.2	59.7	22.2			35	35.9	29.1			15.7	63.9	20.3					
Total %	7.5	8.2	6.3		22	5.2	17.2	6.4		28.8	8.2	8.4	6.8		23.3	4.1	16.6	5.3		25.9	0.1	99.9	
Cars	199	226	180		605	148	489	180		817	230	232	182		646	113	470	139		722	0	0	2790
% Cars	92.1	96.6	99.4	0	95.7	98.7	99.2	98.4	0	98.9	98.3	96.7	93.3	100	96.3	96.6	98.9	92.1	0	97.2	0	0	97.1
Buses and Trucks	17	8	1		26	2	4	3		9	4	8	13		25	4	5	12		21	0	0	81
% Buses and Trucks	7.9	3.4	0.6	0	4.1	1.3	0.8	1.6	0	1.1	1.7	3.3	6.7	0	3.7	3.4	1.1	7.9	0	2.8	0	0	2.8
Bikes	0	0	0		1	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1
% Bikes	0	0	0	100	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DAVENPORT

119 Brookstown Aveue, Suite PH1
Winston-Salem, NC 27101

Counted By: N. Baskett
Weather: Clear

File Name : 190020 1. NC 119 at Trollingwood Hawfields Road.Old Hillsborough Road
Site Code : 00190020
Start Date : 10/16/2018
Page No : 2



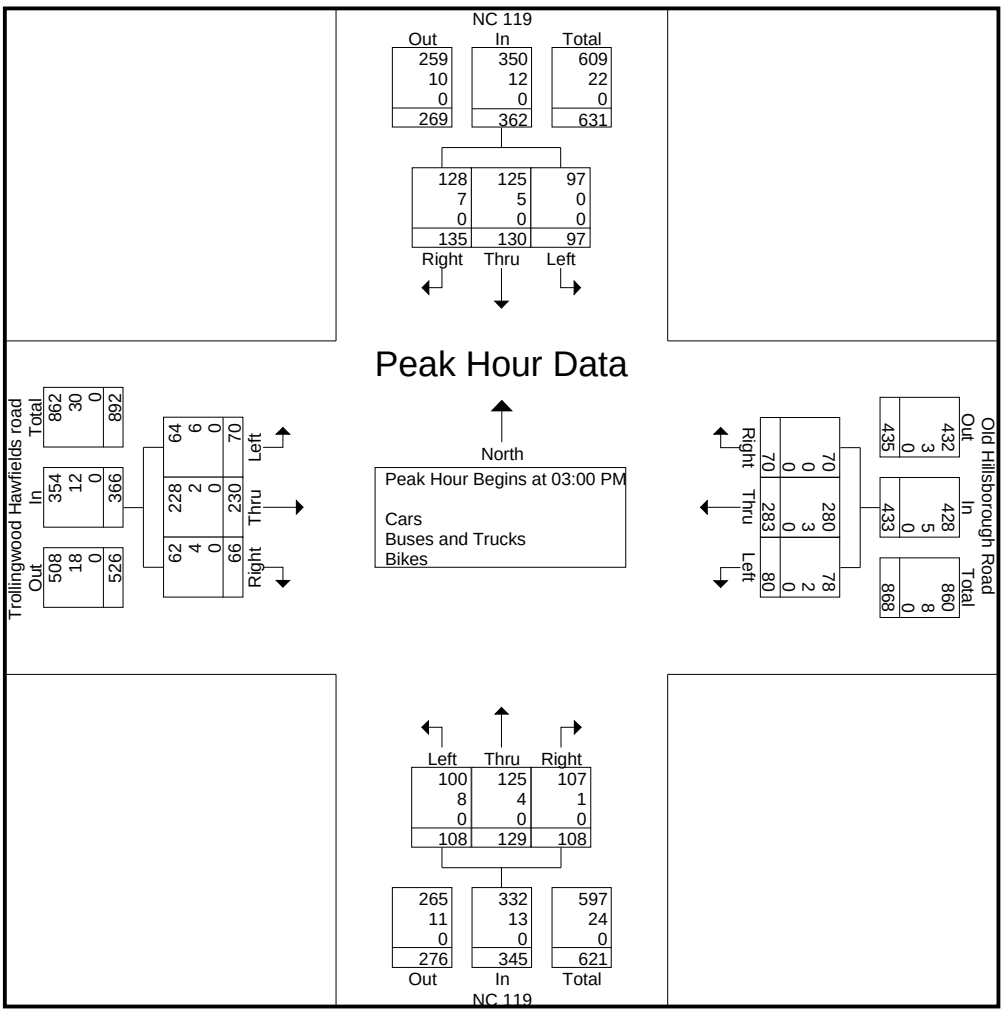
DAVENPORT

119 Brookstown Aveue, Suite PH1
Winston-Salem, NC 27101

Counted By: N. Baskett
Weather: Clear

File Name : 190020 1. NC 119 at Trollingwood Hawfields Road.Old Hillsborough Road
Site Code : 00190020
Start Date : 10/16/2018
Page No : 3

	NC 119 Southbound				Old Hillsborough Road Westbound				NC 119 Northbound				Trollingwood Hawfields road 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 2:00:00 PM to 3:45:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 3:00:00 PM																	
3:00:00 PM	19	32	26	77	13	52	14	79	22	32	22	76	13	49	**20**	82	314
3:15:00 PM	30	28	20	78	16	50	20	86	30	30	22	82	17	55	16	88	334
3:30:00 PM	42	**41**	23	**106**	**23**	87	**28**	**138**	24	**35**	**35**	**94**	16	**71**	18	**105**	**443**
3:45:00 PM	**44**	29	**28**	101	18	**94**	18	130	**32**	32	29	93	**20**	55	16	91	415
Total Volume	135	130	97	362	70	283	80	433	108	129	108	345	66	230	70	366	1506
% App. Total	37.3	35.9	26.8		16.2	65.4	18.5		31.3	37.4	31.3		18	62.8	19.1		
PHF	.767	.793	.866	.854	.761	.753	.714	.784	.844	.921	.771	.918	.825	.810	.875	.871	.850
Cars	128	125	97	350	70	280	78	428	107	125	100	332	62	228	64	354	1464
% Cars	94.8	96.2	100	96.7	100	98.9	97.5	98.8	99.1	96.9	92.6	96.2	93.9	99.1	91.4	96.7	97.2
Buses and Trucks	7	5	0	12	0	3	2	5	1	4	8	13	4	2	6	12	42
% Buses and Trucks	5.2	3.8	0	3.3	0	1.1	2.5	1.2	0.9	3.1	7.4	3.8	6.1	0.9	8.6	3.3	2.8
Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

Counted by: P.Peek
*No U-turns observed

Weather: Cloudy

File Name : 2. NC 119 at Kimrey Road
Site Code : 00180046
Start Date : 10/16/2018
Page No : 1

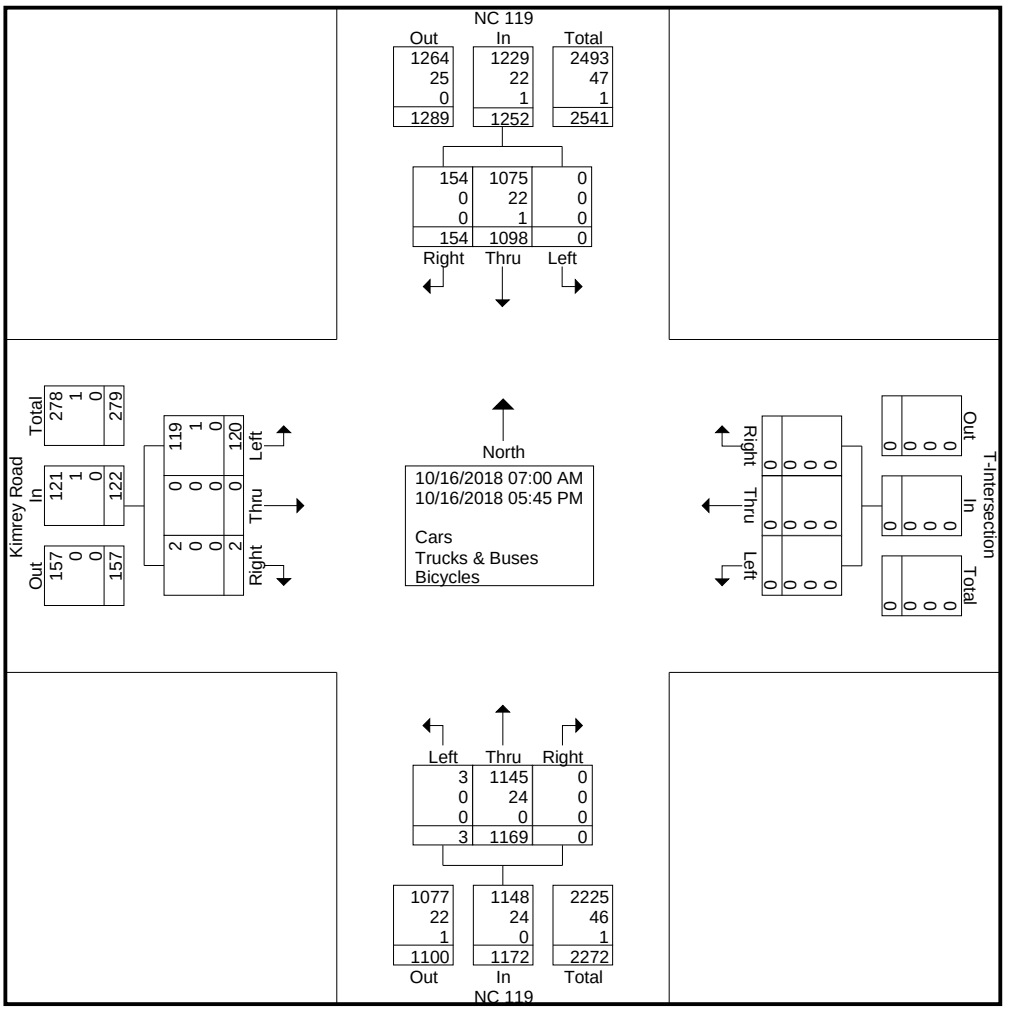
Groups Printed- Cars - Trucks & Buses - Bicycles

	NC 119 Southbound					T-Intersection Westbound					NC 119 Northbound					Kimrey Road Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	45	0	0	54	0	0	0	0	0	0	89	0	0	89	0	0	5	0	5	0	148	148
07:15 AM	16	52	0	0	68	0	0	0	0	0	0	120	0	0	120	0	0	9	0	9	0	197	197
07:30 AM	6	65	0	0	71	0	0	0	0	0	0	116	0	0	116	0	0	10	0	10	0	197	197
07:45 AM	12	56	0	0	68	0	0	0	0	0	0	102	0	0	102	0	0	13	0	13	0	183	183
Total	43	218	0	0	261	0	0	0	0	0	0	427	0	0	427	0	0	37	0	37	0	725	725
08:00 AM	6	48	0	0	54	0	0	0	0	0	0	71	0	0	71	0	0	8	0	8	0	133	133
08:15 AM	12	37	0	0	49	0	0	0	0	0	0	69	0	0	69	0	0	4	0	4	0	122	122
08:30 AM	5	47	0	0	52	0	0	0	0	0	0	52	0	0	52	0	0	4	0	4	0	108	108
08:45 AM	5	17	0	0	22	0	0	0	0	0	0	65	0	0	65	1	0	1	0	2	0	89	89
Total	28	149	0	0	177	0	0	0	0	0	0	257	0	0	257	1	0	17	0	18	0	452	452
*** BREAK ***																							
04:00 PM	8	94	0	0	102	0	0	0	0	0	0	61	1	0	62	0	0	10	0	10	0	174	174
04:15 PM	8	85	0	0	93	0	0	0	0	0	0	78	1	0	79	0	0	11	0	11	0	183	183
04:30 PM	10	76	0	0	86	0	0	0	0	0	0	55	0	0	55	0	0	9	0	9	0	150	150
04:45 PM	6	85	0	0	91	0	0	0	0	0	0	45	0	0	45	1	0	7	0	8	0	144	144
Total	32	340	0	0	372	0	0	0	0	0	0	239	2	0	241	1	0	37	0	38	0	651	651
05:00 PM	12	117	0	0	129	0	0	0	0	0	0	54	0	0	54	0	0	7	0	7	0	190	190
05:15 PM	15	106	0	0	121	0	0	0	0	0	0	69	1	0	70	0	0	7	0	7	0	198	198
05:30 PM	13	93	0	0	106	0	0	0	0	0	0	63	0	0	63	0	0	5	0	5	0	174	174
05:45 PM	11	75	0	0	86	0	0	0	0	0	0	60	0	0	60	0	0	10	0	10	0	156	156
Total	51	391	0	0	442	0	0	0	0	0	0	246	1	0	247	0	0	29	0	29	0	718	718
Grand Total	154	1098	0	0	1252	0	0	0	0	0	0	1169	3	0	1172	2	0	120	0	122	0	2546	2546
Apprch %	12.3	87.7	0			0	0	0			0	99.7	0.3			1.6	0	98.4					
Total %	6	43.1	0		49.2	0	0	0		0	0	45.9	0.1		46	0.1	0	4.7		4.8	0	100	
Cars	154	1075	0		1229	0	0	0		0	0	1145	3		1148	2	0	119		121	0	0	2498
% Cars	100	97.9	0	0	98.2	0	0	0	0	0	0	97.9	100	0	98	100	0	99.2	0	99.2	0	0	98.1
Trucks & Buses	0	22	0		22	0	0	0		0	0	24	0		24	0	0	1		1	0	0	47
% Trucks & Buses	0	2	0	0	1.8	0	0	0	0	0	0	2.1	0	0	2	0	0	0.8	0	0.8	0	0	1.8
Bicycles	0	1	0		1	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1
% Bicycles	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

File Name : 2. NC 119 at Kimrey Road
Site Code : 00180046
Start Date : 10/16/2018
Page No : 2

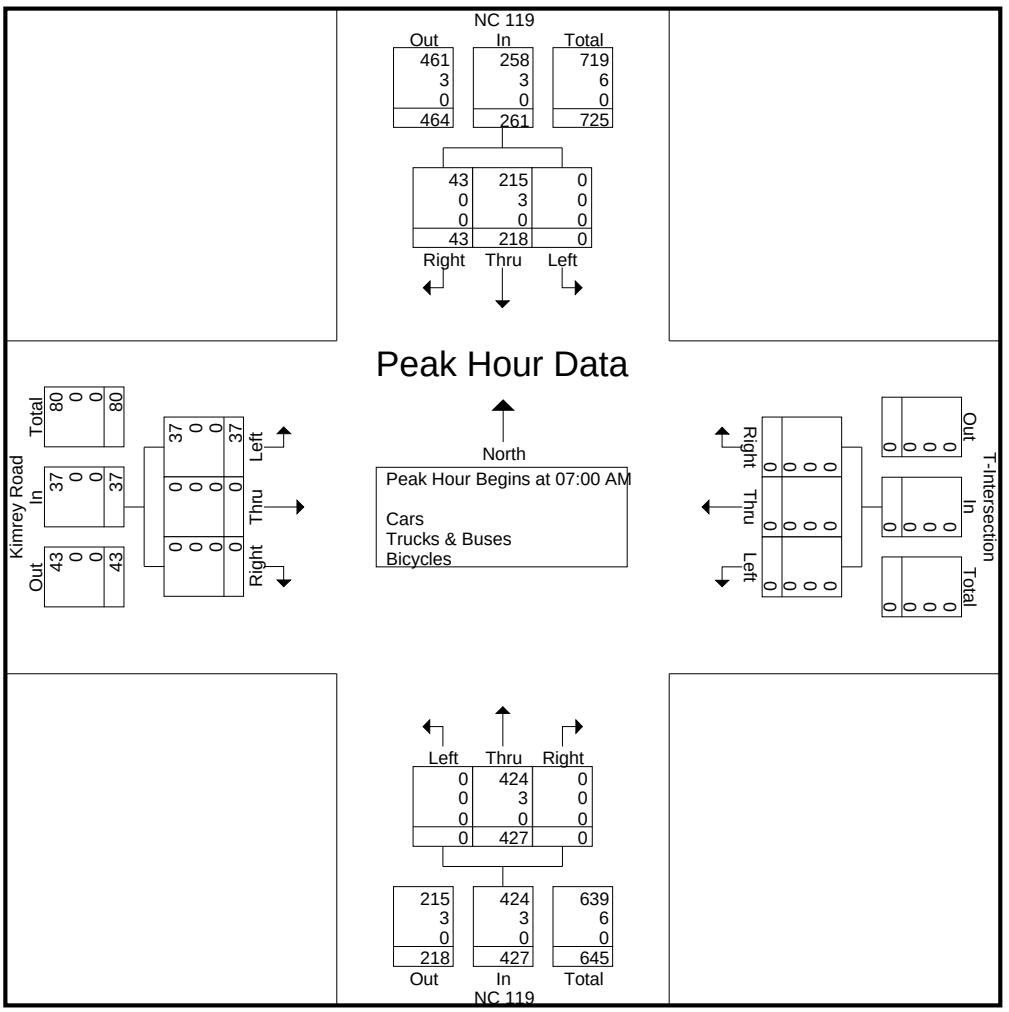


DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

File Name : 2. NC 119 at Kimrey Road
Site Code : 00180046
Start Date : 10/16/2018
Page No : 3

	NC 119 Southbound				T-Intersection Westbound				NC 119 Northbound				Kimrey Road 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 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	9	45	0	54	0	0	0	0	0	89	0	89	0	0	5	5	148
07:15 AM	**16**	52	0	68	0	0	0	0	0	**120**	0	**120**	0	0	9	9	**197**
07:30 AM	6	**65**	0	**71**	0	0	0	0	0	116	0	116	0	0	10	10	197
07:45 AM	12	56	0	68	0	0	0	0	0	102	0	102	0	0	**13**	**13**	183
Total Volume	43	218	0	261	0	0	0	0	0	427	0	427	0	0	37	37	725
% App. Total	16.5	83.5	0		0	0	0		0	100	0		0	0	100		
PHF	.672	.838	.000	.919	.000	.000	.000	.000	.000	.890	.000	.890	.000	.000	.712	.712	.920
Cars	43	215	0	258	0	0	0	0	0	424	0	424	0	0	37	37	719
% Cars	100	98.6	0	98.9	0	0	0	0	0	99.3	0	99.3	0	0	100	100	99.2
Trucks & Buses	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
% Trucks & Buses	0	1.4	0	1.1	0	0	0	0	0	0.7	0	0.7	0	0	0	0	0.8
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

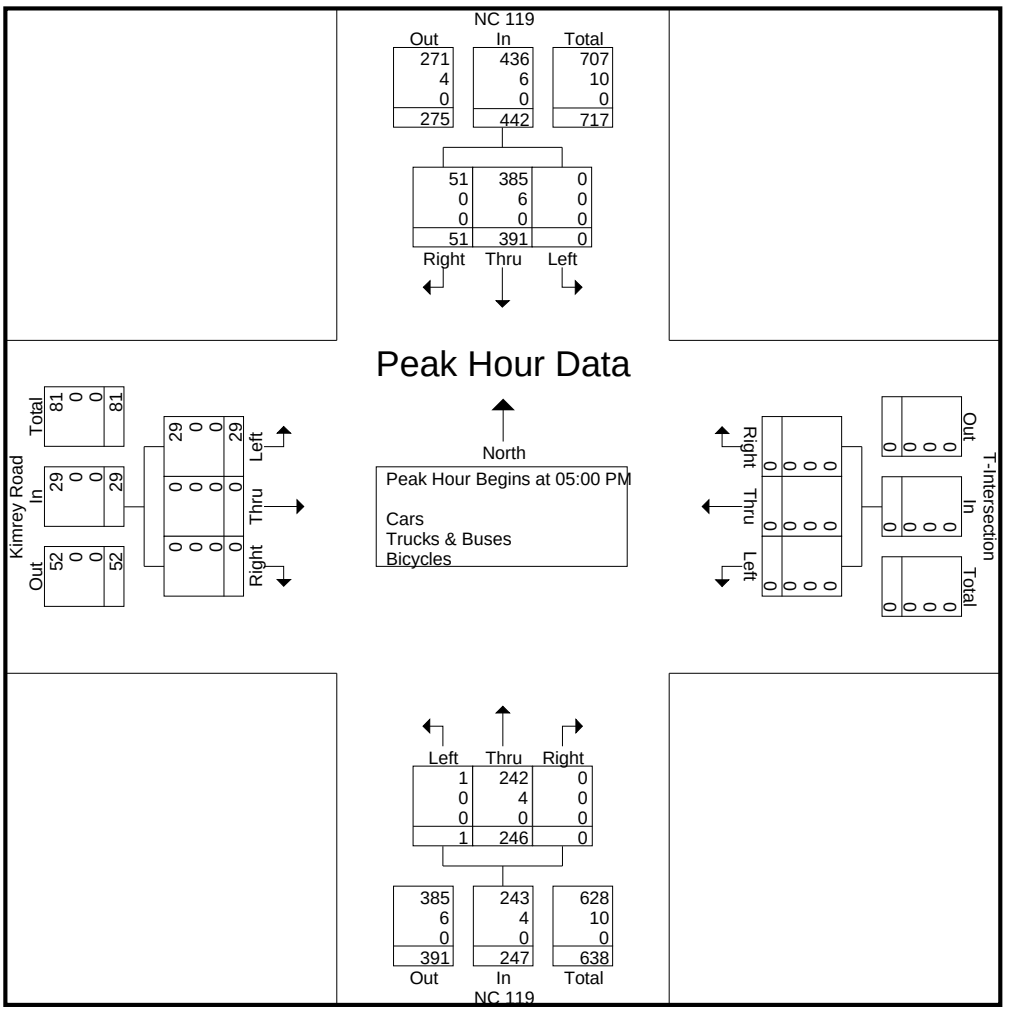


DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

File Name : 2. NC 119 at Kimrey Road
Site Code : 00180046
Start Date : 10/16/2018
Page No : 4

	NC 119 Southbound				T-Intersection Westbound				NC 119 Northbound				Kimrey Road 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 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	12	**117**	0	**129**	0	0	0	0	0	54	0	54	0	0	7	7	190
05:15 PM	**15**	106	0	121	0	0	0	0	0	**69**	**1**	**70**	0	0	7	7	**198**
05:30 PM	13	93	0	106	0	0	0	0	0	63	0	63	0	0	5	5	174
05:45 PM	11	75	0	86	0	0	0	0	0	60	0	60	0	0	**10**	**10**	156
Total Volume	51	391	0	442	0	0	0	0	0	246	1	247	0	0	29	29	718
% App. Total	11.5	88.5	0		0	0	0		0	99.6	0.4		0	0	100		
PHF	.850	.835	.000	.857	.000	.000	.000	.000	.000	.891	.250	.882	.000	.000	.725	.725	.907
Cars	51	385	0	436	0	0	0	0	0	242	1	243	0	0	29	29	708
% Cars	100	98.5	0	98.6	0	0	0	0	0	98.4	100	98.4	0	0	100	100	98.6
Trucks & Buses	0	6	0	6	0	0	0	0	0	4	0	4	0	0	0	0	10
% Trucks & Buses	0	1.5	0	1.4	0	0	0	0	0	1.6	0	1.6	0	0	0	0	1.4
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



DAVENPORT

119 Brookstown Aveue, Suite PH1
Winston-Salem, NC 27101

Counted By: N. Baskett

Weather: Clear

File Name : 190020 2. NC 119 at Kimrey Road
Site Code : 00190020
Start Date : 10/16/2018
Page No : 1

Groups Printed- Cars - Buses and Trucks - Bikes

	NC 119 Southbound					Driveway Westbound					NC 119 Northbound					Kimrey Road Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
02:00 PM	9	52	0	0	61	0	0	0	0	0	0	61	1	0	62	3	0	15	0	18	0	141	141
02:15 PM	4	71	0	0	75	0	0	0	0	0	0	56	0	0	56	0	0	3	0	3	0	134	134
02:30 PM	8	63	0	0	71	0	0	0	0	0	0	66	0	0	66	1	0	6	0	7	0	144	144
02:45 PM	8	68	0	0	76	0	0	0	0	0	0	58	0	0	58	0	0	6	0	6	0	140	140
Total	29	254	0	0	283	0	0	0	0	0	0	241	1	0	242	4	0	30	0	34	0	559	559
03:00 PM	3	62	0	0	65	0	0	0	0	0	0	47	1	0	48	0	0	5	0	5	0	118	118
03:15 PM	8	62	0	1	70	0	0	0	0	0	0	63	0	0	63	0	0	5	0	5	1	138	139
03:30 PM	17	85	0	0	102	0	0	0	0	0	0	74	0	0	74	0	0	11	0	11	0	187	187
03:45 PM	15	85	0	0	100	0	0	0	0	0	0	52	1	0	53	0	0	3	0	3	0	156	156
Total	43	294	0	1	337	0	0	0	0	0	0	236	2	0	238	0	0	24	0	24	1	599	600
Grand Total	72	548	0	1	620	0	0	0	0	0	0	477	3	0	480	4	0	54	0	58	1	1158	1159
Apprch %	11.6	88.4	0			0	0	0			0	99.4	0.6			6.9	0	93.1					
Total %	6.2	47.3	0		53.5	0	0	0		0	0	41.2	0.3		41.5	0.3	0	4.7		5	0.1	99.9	
Cars	71	525	0		596	0	0	0		0	0	462	3		465	4	0	53		57	0	0	1118
% Cars	98.6	95.8	0	0	96	0	0	0	0	0	0	96.9	100	0	96.9	100	0	98.1	0	98.3	0	0	96.5
Buses and Trucks	1	23	0		24	0	0	0		0	0	15	0		15	0	0	1		1	0	0	40
% Buses and Trucks	1.4	4.2	0	0	3.9	0	0	0	0	0	0	3.1	0	0	3.1	0	0	1.9	0	1.7	0	0	3.5
Bikes	0	0	0		1	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1
% Bikes	0	0	0	100	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1

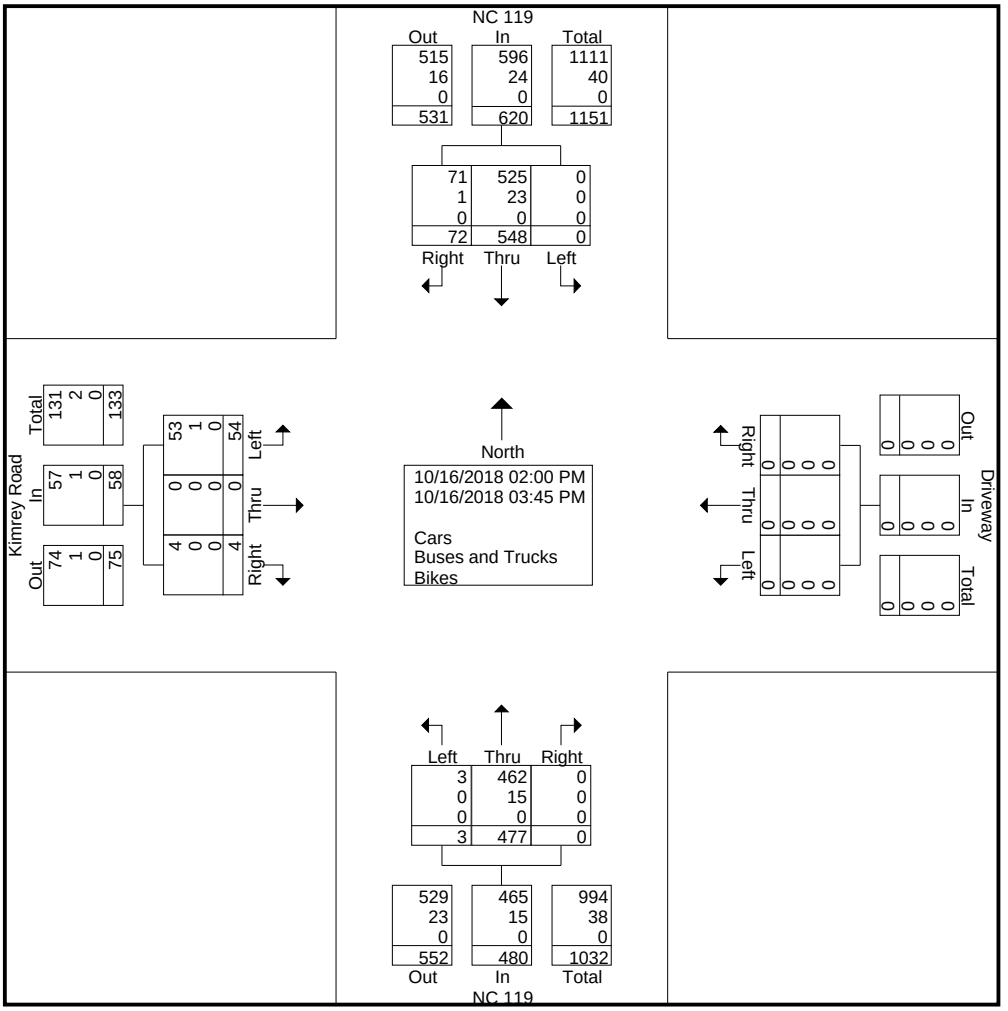
DAVENPORT

119 Brookstown Aveue, Suite PH1
Winston-Salem, NC 27101

Counted By: N. Baskett

Weather: Clear

File Name : 190020 2. NC 119 at Kimrey Road
Site Code : 00190020
Start Date : 10/16/2018
Page No : 2



DAVENPORT

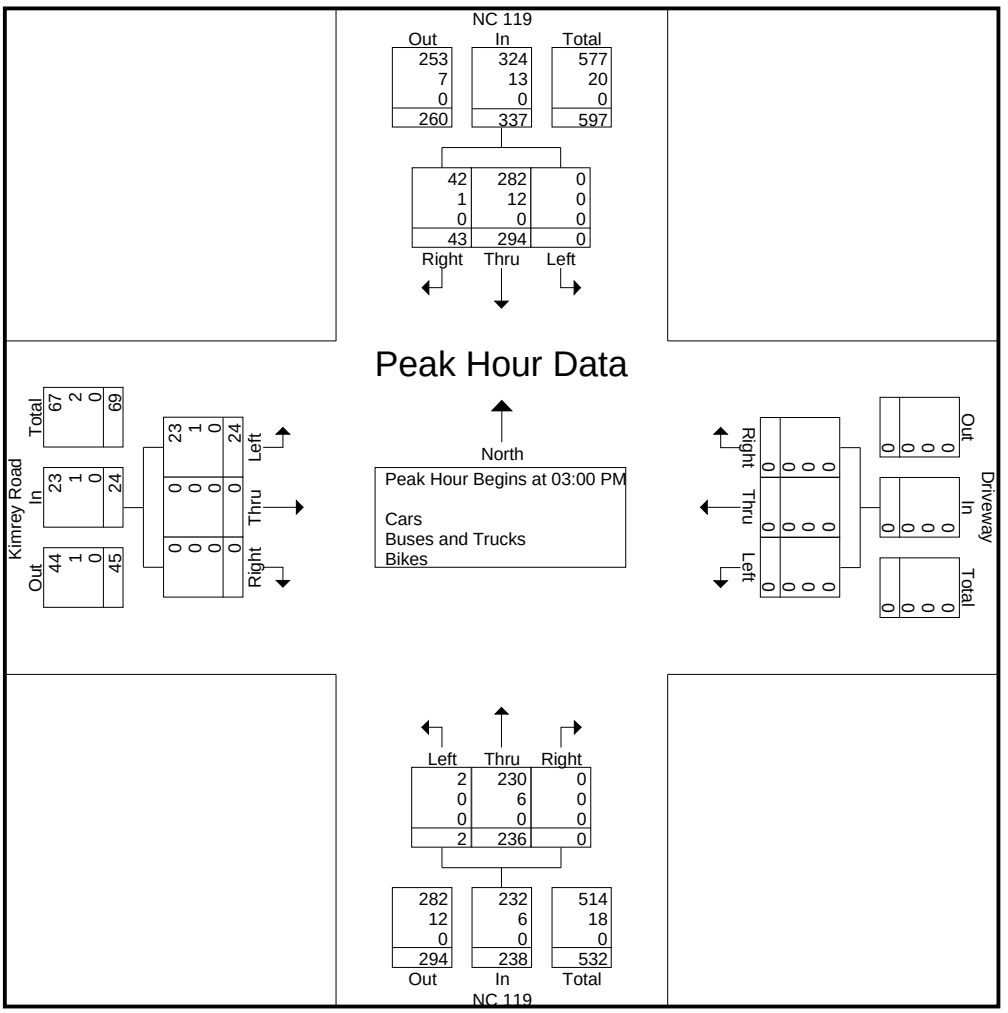
119 Brookstown Aveue, Suite PH1
Winston-Salem, NC 27101

Counted By: N. Baskett

Weather: Clear

File Name : 190020 2. NC 119 at Kimrey Road
Site Code : 00190020
Start Date : 10/16/2018
Page No : 3

	NC 119 Southbound				Driveway Westbound				NC 119 Northbound				Kimrey Road 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 2:00:00 PM to 3:45:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 3:00:00 PM																	
3:00:00 PM	3	62	0	65	0	0	0	0	0	47	**1**	48	0	0	5	5	118
3:15:00 PM	8	62	0	70	0	0	0	0	0	63	0	63	0	0	5	5	138
3:30:00 PM	**17**	**85**	0	**102**	0	0	0	0	0	**74**	0	**74**	0	0	**11**	**11**	**187**
3:45:00 PM	15	85	0	100	0	0	0	0	0	52	1	53	0	0	3	3	156
Total Volume	43	294	0	337	0	0	0	0	0	236	2	238	0	0	24	24	599
% App. Total	12.8	87.2	0		0	0	0		0	99.2	0.8		0	0	100		
PHF	.632	.865	.000	.826	.000	.000	.000	.000	.000	.797	.500	.804	.000	.000	.545	.545	.801
Cars	42	282	0	324	0	0	0	0	0	230	2	232	0	0	23	23	579
% Cars	97.7	95.9	0	96.1	0	0	0	0	0	97.5	100	97.5	0	0	95.8	95.8	96.7
Buses and Trucks	1	12	0	13	0	0	0	0	0	6	0	6	0	0	1	1	20
% Buses and Trucks	2.3	4.1	0	3.9	0	0	0	0	0	2.5	0	2.5	0	0	4.2	4.2	3.3
Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



DAVENPORT

119 Brookstown Avenue, Suite PH1
Winston-Salem, NC 27101
Ph: (336) 744-1636

Counted by: N. Baez

Weather: Clear

File Name : 3. NC 119 at Jim Minor Road
Site Code : 190020
Start Date : 10/16/2018
Page No : 1

Groups Printed- Cars - Trucks and Buses - Bicycles

	NC 119 Southbound					Jim Minor Road Westbound					NC 119 Northbound					Jim Minor Road Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
06:00 AM	1	11	5	0	17	4	9	0	0	13	0	41	2	0	43	2	0	1	0	3	0	76	76
06:15 AM	1	17	1	0	19	7	5	3	0	15	0	65	7	0	72	1	0	3	0	4	0	110	110
06:30 AM	1	27	2	0	30	14	17	0	0	31	0	91	11	0	102	4	2	3	0	9	0	172	172
06:45 AM	2	46	3	0	51	6	14	2	0	22	3	94	5	0	102	3	3	1	0	7	0	182	182
Total	5	101	11	0	117	31	45	5	0	81	3	291	25	0	319	10	5	8	0	23	0	540	540
07:00 AM	2	52	1	0	55	9	25	3	0	37	0	68	4	0	72	3	4	0	0	7	0	171	171
07:15 AM	3	43	4	0	50	18	24	7	0	49	2	110	11	0	123	7	5	4	0	16	0	238	238
07:30 AM	2	55	6	0	63	9	28	4	0	41	3	91	5	0	99	6	2	2	0	10	0	213	213
07:45 AM	4	45	1	0	50	11	21	1	0	33	1	84	11	0	96	3	4	1	0	8	0	187	187
Total	11	195	12	0	218	47	98	15	0	160	6	353	31	0	390	19	15	7	0	41	0	809	809
08:00 AM	5	42	5	0	52	6	14	1	0	21	2	71	5	0	78	3	6	1	0	10	0	161	161
08:15 AM	2	38	3	0	43	8	11	0	0	19	2	40	1	0	43	5	8	3	0	16	0	121	121
08:30 AM	2	34	4	0	40	5	11	0	0	16	1	48	4	0	53	5	4	0	0	9	0	118	118
08:45 AM	0	11	5	0	16	8	14	0	0	22	1	49	9	0	59	0	5	4	0	9	0	106	106
Total	9	125	17	0	151	27	50	1	0	78	6	208	19	0	233	13	23	8	0	44	0	506	506
09:00 AM	1	21	3	0	25	9	13	0	0	22	0	32	5	0	37	2	11	4	0	17	0	101	101
09:15 AM	2	30	5	0	37	5	11	2	0	18	3	33	2	0	38	3	5	1	0	9	0	102	102
09:30 AM	5	34	4	0	43	3	11	2	0	16	1	29	5	0	35	3	9	0	0	12	0	106	106
09:45 AM	3	25	4	0	32	3	6	2	0	11	1	43	4	0	48	1	1	0	0	2	0	93	93
Total	11	110	16	0	137	20	41	6	0	67	5	137	16	0	158	9	26	5	0	40	0	402	402
10:00 AM	1	25	4	0	30	5	9	1	0	15	0	42	3	0	45	1	6	1	0	8	0	98	98
10:15 AM	1	22	3	0	26	8	7	0	0	15	1	31	0	0	32	7	10	2	1	19	1	92	93
10:30 AM	3	23	5	0	31	4	6	1	0	11	1	32	1	0	34	1	5	2	0	8	0	84	84
10:45 AM	2	30	2	0	34	4	9	1	0	14	7	27	1	0	35	7	5	3	0	15	0	98	98
Total	7	100	14	0	121	21	31	3	0	55	9	132	5	0	146	16	26	8	1	50	1	372	373
11:00 AM	1	39	2	0	42	4	6	4	0	14	1	42	2	0	45	3	4	0	0	7	0	108	108
11:15 AM	4	26	4	0	34	4	9	0	0	13	2	43	1	0	46	1	7	2	0	10	0	103	103
11:30 AM	2	38	5	0	45	8	12	1	0	21	0	50	3	0	53	3	7	3	0	13	0	132	132
11:45 AM	2	30	6	0	38	3	7	1	0	11	2	40	3	0	45	3	5	0	0	8	0	102	102
Total	9	133	17	0	159	19	34	6	0	59	5	175	9	0	189	10	23	5	0	38	0	445	445
12:00 PM	2	38	4	0	44	5	7	0	0	12	3	37	2	0	42	6	8	4	0	18	0	116	116
12:15 PM	2	39	6	0	47	6	11	3	0	20	3	42	7	0	52	7	9	4	0	20	0	139	139
12:30 PM	0	46	6	0	52	7	10	2	0	19	2	37	2	0	41	3	9	3	0	15	0	127	127
12:45 PM	1	40	4	0	45	7	9	1	0	17	2	26	1	0	29	3	5	3	0	11	0	102	102
Total	5	163	20	0	188	25	37	6	0	68	10	142	12	0	164	19	31	14	0	64	0	484	484
01:00 PM	1	40	6	0	47	6	13	1	0	20	1	27	1	0	29	3	5	2	0	10	0	106	106
01:15 PM	0	45	2	0	47	5	13	0	0	18	0	32	2	0	34	3	10	0	0	13	0	112	112

DAVENPORT

119 Brookstown Avenue, Suite PH1
Winston-Salem, NC 27101
Ph: (336) 744-1636

File Name : 3. NC 119 at Jim Minor Road
Site Code : 190020
Start Date : 10/16/2018
Page No : 2

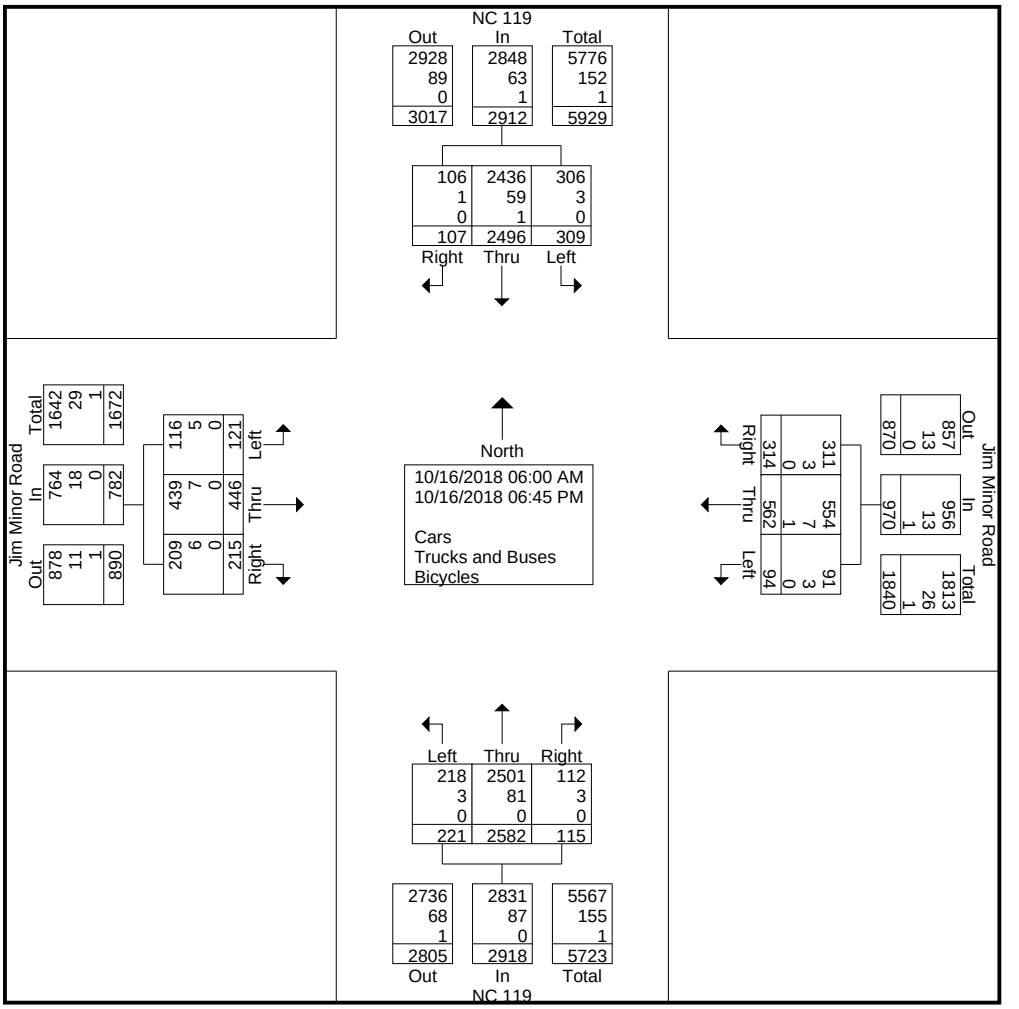
Groups Printed- Cars - Trucks and Buses - Bicycles

	NC 119 Southbound					Jim Minor Road Westbound					NC 119 Northbound					Jim Minor Road Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
01:30 PM	2	49	4	0	55	5	10	1	0	16	1	35	1	0	37	0	6	3	0	9	0	117	117
01:45 PM	0	52	7	0	59	6	12	2	0	20	2	38	1	0	41	1	4	1	0	6	0	126	126
Total	3	186	19	0	208	22	48	4	0	74	4	132	5	0	141	7	25	6	0	38	0	461	461
02:00 PM	2	51	13	0	66	6	14	0	0	20	2	44	2	0	48	2	6	2	0	10	0	144	144
02:15 PM	1	60	11	0	72	4	7	2	0	13	0	52	5	0	57	1	7	5	0	13	0	155	155
02:30 PM	1	49	10	0	60	9	2	3	0	14	3	61	5	0	69	6	18	2	0	26	0	169	169
02:45 PM	6	61	11	0	78	6	5	1	0	12	6	45	7	0	58	5	13	5	0	23	0	171	171
Total	10	221	45	0	276	25	28	6	0	59	11	202	19	0	232	14	44	14	0	72	0	639	639
03:00 PM	1	52	7	0	60	2	12	3	0	17	4	42	6	0	52	7	8	1	0	16	0	145	145
03:15 PM	2	51	6	0	59	7	8	1	0	16	3	40	2	0	45	5	9	3	0	17	0	137	137
03:30 PM	3	70	11	0	84	8	7	4	0	19	4	61	2	0	67	9	14	3	0	26	0	196	196
03:45 PM	4	83	7	0	94	5	10	2	0	17	3	45	1	0	49	5	17	3	0	25	0	185	185
Total	10	256	31	0	297	22	37	10	0	69	14	188	11	0	213	26	48	10	0	84	0	663	663
04:00 PM	4	78	12	0	94	1	6	2	0	9	6	73	27	0	106	7	18	4	0	29	0	238	238
04:15 PM	5	71	10	0	86	6	9	1	0	16	6	65	6	0	77	6	19	4	0	29	0	208	208
04:30 PM	0	72	5	0	77	8	3	1	0	12	6	47	2	0	55	8	13	5	0	26	0	170	170
04:45 PM	3	90	6	0	99	1	8	4	0	13	3	34	2	0	39	4	13	3	0	20	0	171	171
Total	12	311	33	0	356	16	26	8	0	50	21	219	37	0	277	25	63	16	0	104	0	787	787
05:00 PM	3	96	9	0	108	7	13	3	0	23	1	60	5	0	66	3	12	2	0	17	0	214	214
05:15 PM	1	87	11	0	99	3	11	1	0	15	4	60	0	0	64	8	17	2	0	27	0	205	205
05:30 PM	1	82	9	0	92	4	14	3	0	21	4	55	6	0	65	5	30	5	0	40	0	218	218
05:45 PM	0	68	10	0	78	6	14	4	0	24	5	56	5	0	66	8	12	1	0	21	0	189	189
Total	5	333	39	0	377	20	52	11	0	83	14	231	16	0	261	24	71	10	0	105	0	826	826
06:00 PM	6	79	9	0	94	3	12	2	0	17	2	42	4	0	48	1	18	3	0	22	0	181	181
06:15 PM	1	68	10	0	79	5	9	2	0	16	1	38	6	0	45	7	12	2	0	21	0	161	161
06:30 PM	2	55	5	0	62	7	6	3	0	16	3	48	4	0	55	6	10	1	0	17	0	150	150
06:45 PM	1	60	11	0	72	4	8	6	0	18	1	44	2	0	47	9	6	4	0	19	0	156	156
Total	10	262	35	0	307	19	35	13	0	67	7	172	16	0	195	23	46	10	0	79	0	648	648
Grand Total	107	2496	309	0	2912	314	562	94	0	970	115	2582	221	0	2918	215	446	121	1	782	1	7582	7583
Apprch %	3.7	85.7	10.6			32.4	57.9	9.7			3.9	88.5	7.6			27.5	57	15.5					
Total %	1.4	32.9	4.1		38.4	4.1	7.4	1.2		12.8	1.5	34.1	2.9		38.5	2.8	5.9	1.6		10.3	0	100	
Cars	106	2436	306		2848	311	554	91		956	112	2501	218		2831	209	439	116		765	0	0	7400
% Cars	99.1	97.6	99	0	97.8	99	98.6	96.8	0	98.6	97.4	96.9	98.6	0	97	97.2	98.4	95.9	100	97.7	0	0	97.6
Trucks and Buses	1	59	3		63	3	7	3		13	3	81	3		87	6	7	5		18	0	0	181
% Trucks and Buses	0.9	2.4	1	0	2.2	1	1.2	3.2	0	1.3	2.6	3.1	1.4	0	3	2.8	1.6	4.1	0	2.3	0	0	2.4
Bicycles	0	1	0		1	0	1	0		1	0	0	0		0	0	0	0		0	0	0	2
% Bicycles	0	0	0	0	0	0	0.2	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0

DAVENPORT

119 Brookstown Avenue, Suite PH1
Winston-Salem, NC 27101
Ph: (336) 744-1636

File Name : 3. NC 119 at Jim Minor Road
Site Code : 190020
Start Date : 10/16/2018
Page No : 3

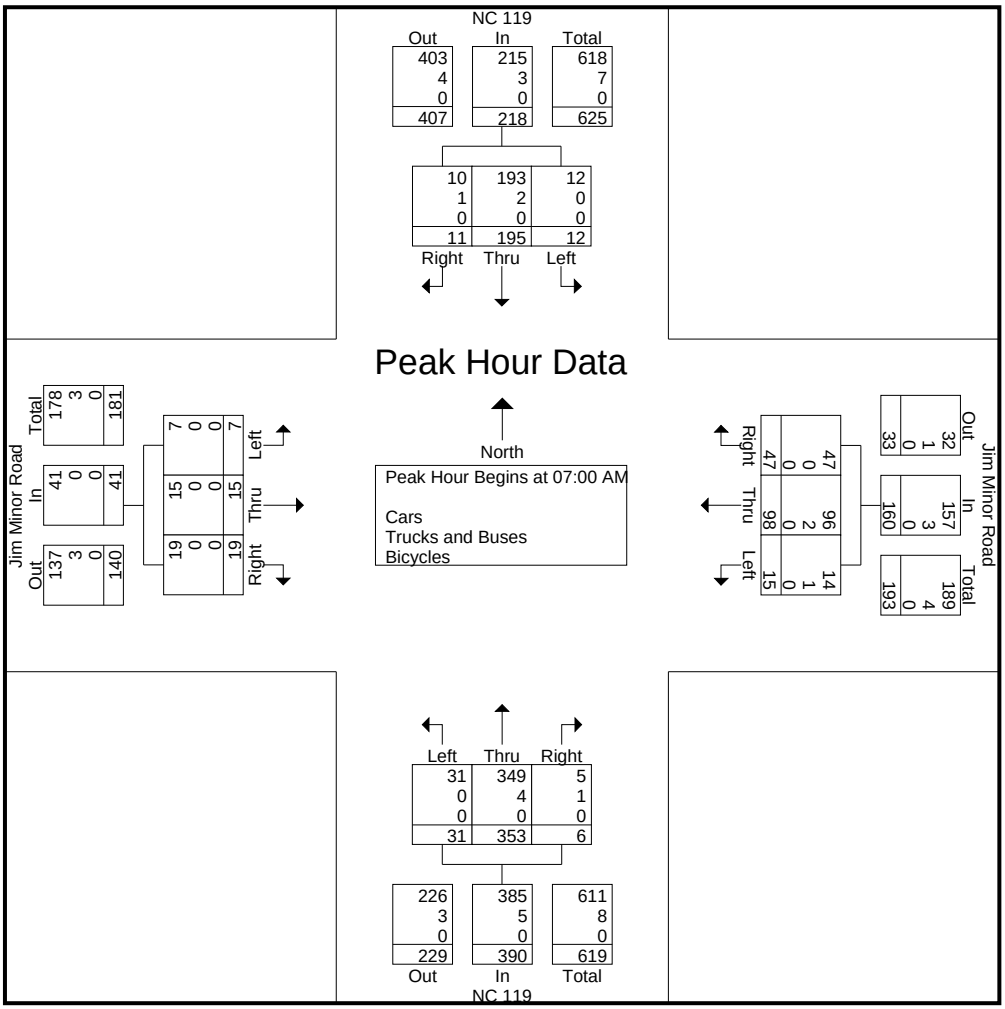


DAVENPORT

119 Brookstown Avenue, Suite PH1
Winston-Salem, NC 27101
Ph: (336) 744-1636

File Name : 3. NC 119 at Jim Minor Road
Site Code : 190020
Start Date : 10/16/2018
Page No : 4

	NC 119 Southbound				Jim Minor Road Westbound				NC 119 Northbound				Jim Minor Road 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 06:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	2	52	1	55	9	25	3	37	0	68	4	72	3	4	0	7	171
07:15 AM	3	43	4	50	**18**	24	**7**	**49**	2	**110**	**11**	**123**	**7**	**5**	**4**	**16**	**238**
07:30 AM	2	**55**	**6**	**63**	9	**28**	4	41	**3**	91	5	99	6	2	2	10	213
07:45 AM	**4**	45	1	50	11	21	1	33	1	84	11	96	3	4	1	8	187
Total Volume	11	195	12	218	47	98	15	160	6	353	31	390	19	15	7	41	809
% App. Total	5	89.4	5.5		29.4	61.2	9.4		1.5	90.5	7.9		46.3	36.6	17.1		
PHF	.688	.886	.500	.865	.653	.875	.536	.816	.500	.802	.705	.793	.679	.750	.438	.641	.850
Cars	10	193	12	215	47	96	14	157	5	349	31	385	19	15	7	41	798
% Cars	90.9	99.0	100	98.6	100	98.0	93.3	98.1	83.3	98.9	100	98.7	100	100	100	100	98.6
Trucks and Buses	1	2	0	3	0	2	1	3	1	4	0	5	0	0	0	0	11
% Trucks and Buses	9.1	1.0	0	1.4	0	2.0	6.7	1.9	16.7	1.1	0	1.3	0	0	0	0	1.4
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

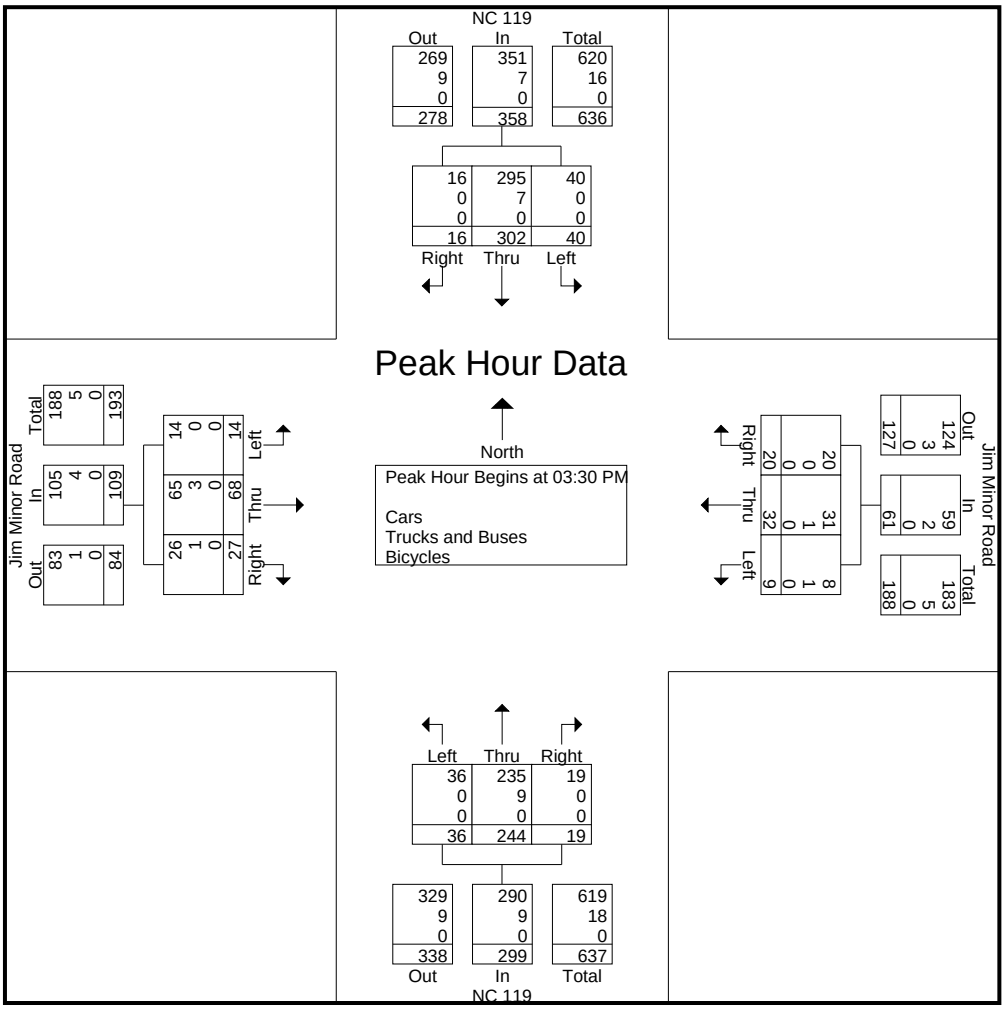


DAVENPORT

119 Brookstown Avenue, Suite PH1
Winston-Salem, NC 27101
Ph: (336) 744-1636

File Name : 3. NC 119 at Jim Minor Road
Site Code : 190020
Start Date : 10/16/2018
Page No : 5

	NC 119 Southbound				Jim Minor Road Westbound				NC 119 Northbound				Jim Minor Road 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 12:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	3	70	11	84	**8**	7	**4**	**19**	4	61	2	67	**9**	14	3	26	196
03:45 PM	4	**83**	7	**94**	5	**10**	2	17	3	45	1	49	5	17	3	25	185
04:00 PM	4	78	**12**	94	1	6	2	9	**6**	**73**	**27**	**106**	7	18	**4**	**29**	**238**
04:15 PM	**5**	71	10	86	6	9	1	16	6	65	6	77	6	**19**	4	29	208
Total Volume	16	302	40	358	20	32	9	61	19	244	36	299	27	68	14	109	827
% App. Total	4.5	84.4	11.2		32.8	52.5	14.8		6.4	81.6	12		24.8	62.4	12.8		
PHF	.800	.910	.833	.952	.625	.800	.563	.803	.792	.836	.333	.705	.750	.895	.875	.940	.869
Cars	16	295	40	351	20	31	8	59	19	235	36	290	26	65	14	105	805
% Cars	100	97.7	100	98.0	100	96.9	88.9	96.7	100	96.3	100	97.0	96.3	95.6	100	96.3	97.3
Trucks and Buses	0	7	0	7	0	1	1	2	0	9	0	9	1	3	0	4	22
% Trucks and Buses	0	2.3	0	2.0	0	3.1	11.1	3.3	0	3.7	0	3.0	3.7	4.4	0	3.7	2.7
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

Counted by: P.Peek
*No U-turns observed

Weather: Cloudy

File Name : 4. NC 54 at Jim Minor Road
Site Code : 00180046
Start Date : 10/16/2018
Page No : 1

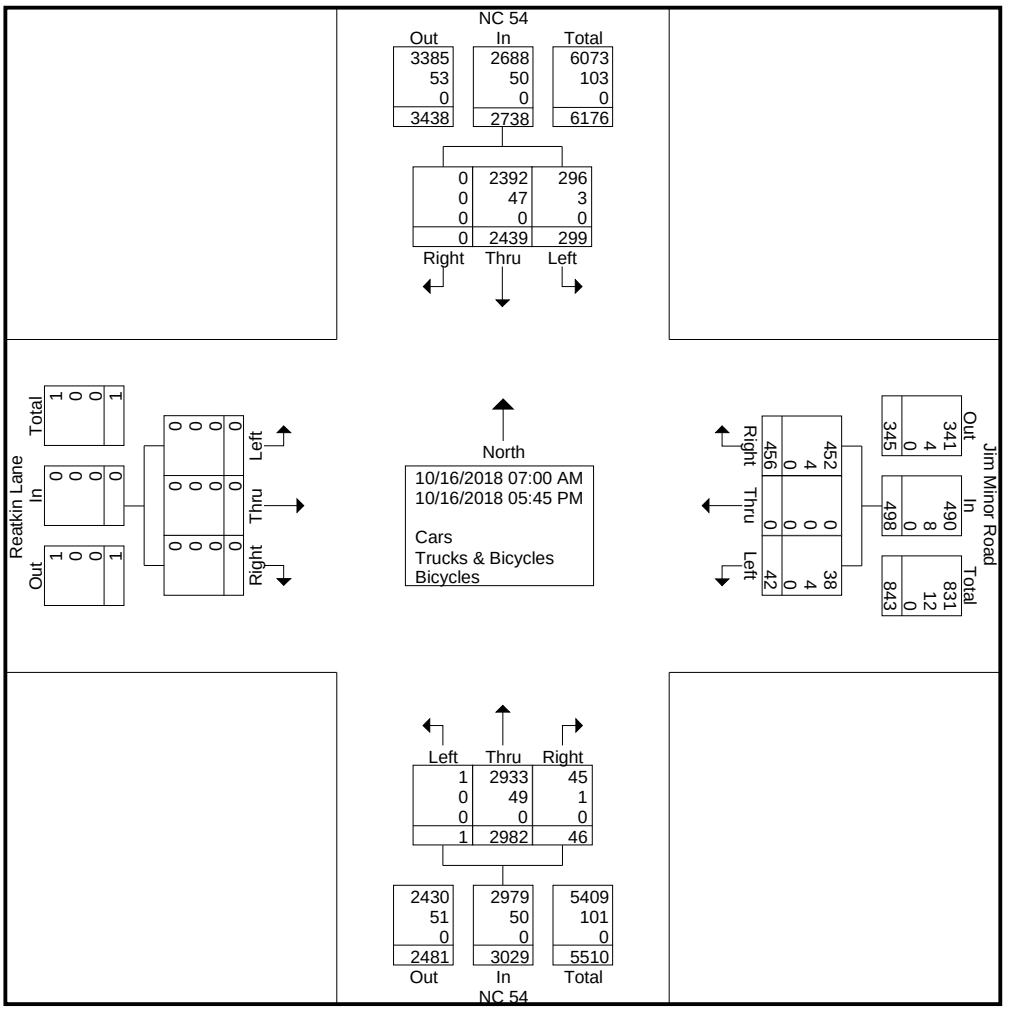
Groups Printed- Cars - Trucks & Bicycles - Bicycles

	NC 54 Southbound					Jim Minor Road Westbound					NC 54 Northbound					Reatkin Lane Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	236	7	0	243	33	0	1	0	34	2	124	0	0	126	0	0	0	0	0	0	403	403
07:15 AM	0	231	24	0	255	47	0	4	0	51	2	153	1	0	156	0	0	0	0	0	0	462	462
07:30 AM	0	166	10	0	176	35	0	7	0	42	11	248	0	0	259	0	0	0	0	0	0	477	477
07:45 AM	0	141	7	0	148	31	0	4	0	35	4	207	0	0	211	0	0	0	0	0	0	394	394
Total	0	774	48	0	822	146	0	16	0	162	19	732	1	0	752	0	0	0	0	0	0	1736	1736
08:00 AM	0	143	11	0	154	26	0	5	0	31	1	176	0	0	177	0	0	0	0	0	0	362	362
08:15 AM	0	101	11	0	112	29	0	0	0	29	2	113	0	0	115	0	0	0	0	0	0	256	256
08:30 AM	0	116	7	0	123	19	0	0	0	19	4	124	0	0	128	0	0	0	0	0	0	270	270
08:45 AM	0	109	9	0	118	16	0	1	0	17	1	110	0	0	111	0	0	0	0	0	0	246	246
Total	0	469	38	0	507	90	0	6	0	96	8	523	0	0	531	0	0	0	0	0	0	1134	1134
*** BREAK ***																							
04:00 PM	0	128	24	0	152	61	0	1	0	62	3	274	0	0	277	0	0	0	0	0	0	491	491
04:15 PM	0	131	28	0	159	28	0	4	0	32	1	261	0	0	262	0	0	0	0	0	0	453	453
04:30 PM	0	116	24	0	140	13	0	4	0	17	4	207	0	0	211	0	0	0	0	0	0	368	368
04:45 PM	0	142	21	0	163	14	0	3	0	17	2	167	0	0	169	0	0	0	0	0	0	349	349
Total	0	517	97	0	614	116	0	12	0	128	10	909	0	0	919	0	0	0	0	0	0	1661	1661
05:00 PM	0	202	22	0	224	26	0	4	0	30	1	228	0	0	229	0	0	0	0	0	0	483	483
05:15 PM	0	170	31	0	201	24	0	1	0	25	1	214	0	0	215	0	0	0	0	0	0	441	441
05:30 PM	0	156	37	0	193	21	0	3	0	24	4	199	0	0	203	0	0	0	0	0	0	420	420
05:45 PM	0	151	26	0	177	33	0	0	0	33	3	177	0	0	180	0	0	0	0	0	0	390	390
Total	0	679	116	0	795	104	0	8	0	112	9	818	0	0	827	0	0	0	0	0	0	1734	1734
Grand Total	0	2439	299	0	2738	456	0	42	0	498	46	2982	1	0	3029	0	0	0	0	0	0	6265	6265
Apprch %	0	89.1	10.9			91.6	0	8.4			1.5	98.4	0			0	0	0					
Total %	0	38.9	4.8		43.7	7.3	0	0.7		7.9	0.7	47.6	0		48.3	0	0	0		0	0	100	
Cars	0	2392	296		2688	452	0	38		490	45	2933	1		2979	0	0	0		0	0	0	6157
% Cars	0	98.1	99	0	98.2	99.1	0	90.5	0	98.4	97.8	98.4	100	0	98.3	0	0	0	0	0	0	0	98.3
Trucks & Bicycles	0	47	3		50	4	0	4		8	1	49	0		50	0	0	0		0	0	0	108
% Trucks & Bicycles	0	1.9	1	0	1.8	0.9	0	9.5	0	1.6	2.2	1.6	0	0	1.7	0	0	0	0	0	0	0	1.7
Bicycles	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

File Name : 4. NC 54 at Jim Minor Road
Site Code : 00180046
Start Date : 10/16/2018
Page No : 2

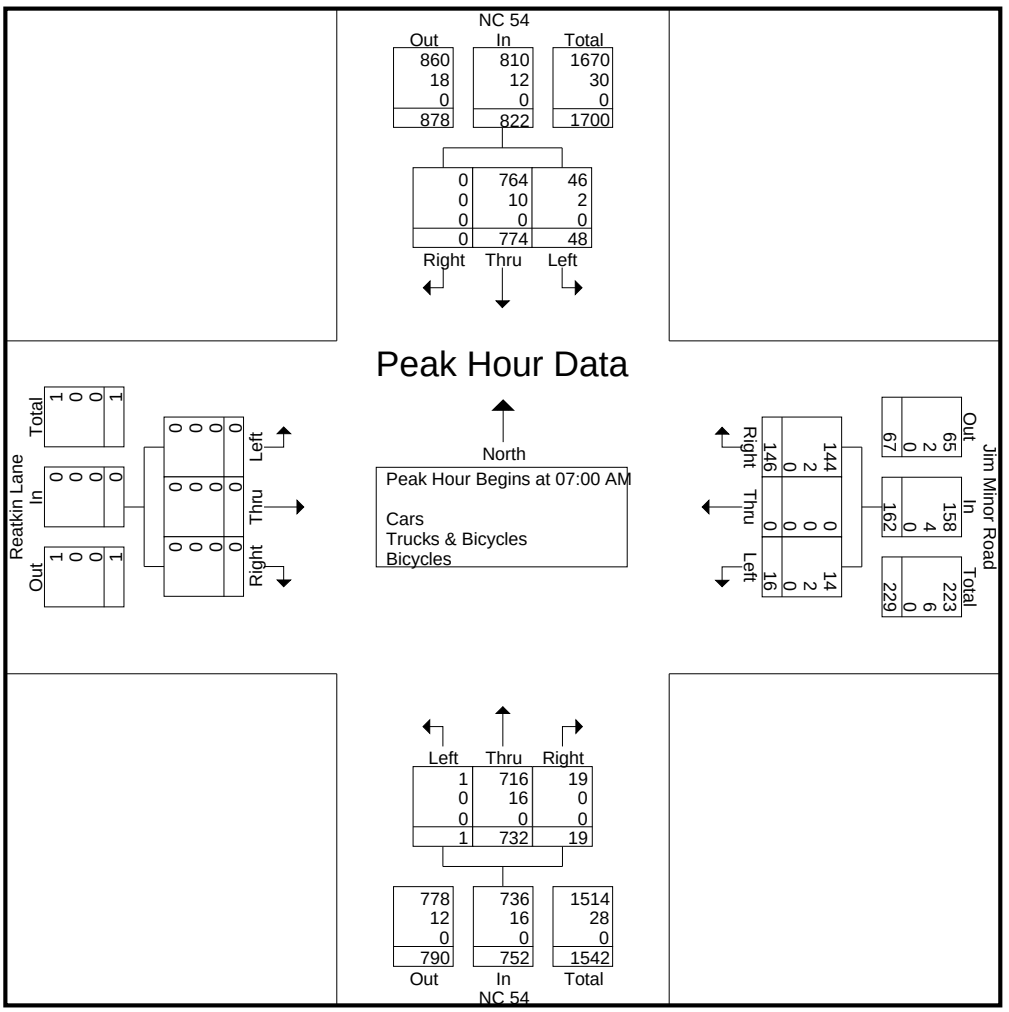


DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

File Name : 4. NC 54 at Jim Minor Road
Site Code : 00180046
Start Date : 10/16/2018
Page No : 3

	NC 54 Southbound				Jim Minor Road Westbound				NC 54 Northbound				Reatkin Lane 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 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**236**	7	243	33	0	1	34	2	124	0	126	0	0	0	0	403
07:15 AM	0	231	**24**	**255**	**47**	0	4	**51**	2	153	**1**	156	0	0	0	0	462
07:30 AM	0	166	10	176	35	0	**7**	42	**11**	**248**	0	**259**	0	0	0	0	**477**
07:45 AM	0	141	7	148	31	0	4	35	4	207	0	211	0	0	0	0	394
Total Volume	0	774	48	822	146	0	16	162	19	732	1	752	0	0	0	0	1736
% App. Total	0	94.2	5.8		90.1	0	9.9		2.5	97.3	0.1		0	0	0		
PHF	.000	.820	.500	.806	.777	.000	.571	.794	.432	.738	.250	.726	.000	.000	.000	.000	.910
Cars	0	764	46	810	144	0	14	158	19	716	1	736	0	0	0	0	1704
% Cars	0	98.7	95.8	98.5	98.6	0	87.5	97.5	100	97.8	100	97.9	0	0	0	0	98.2
Trucks & Bicycles	0	10	2	12	2	0	2	4	0	16	0	16	0	0	0	0	32
% Trucks & Bicycles	0	1.3	4.2	1.5	1.4	0	12.5	2.5	0	2.2	0	2.1	0	0	0	0	1.8
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

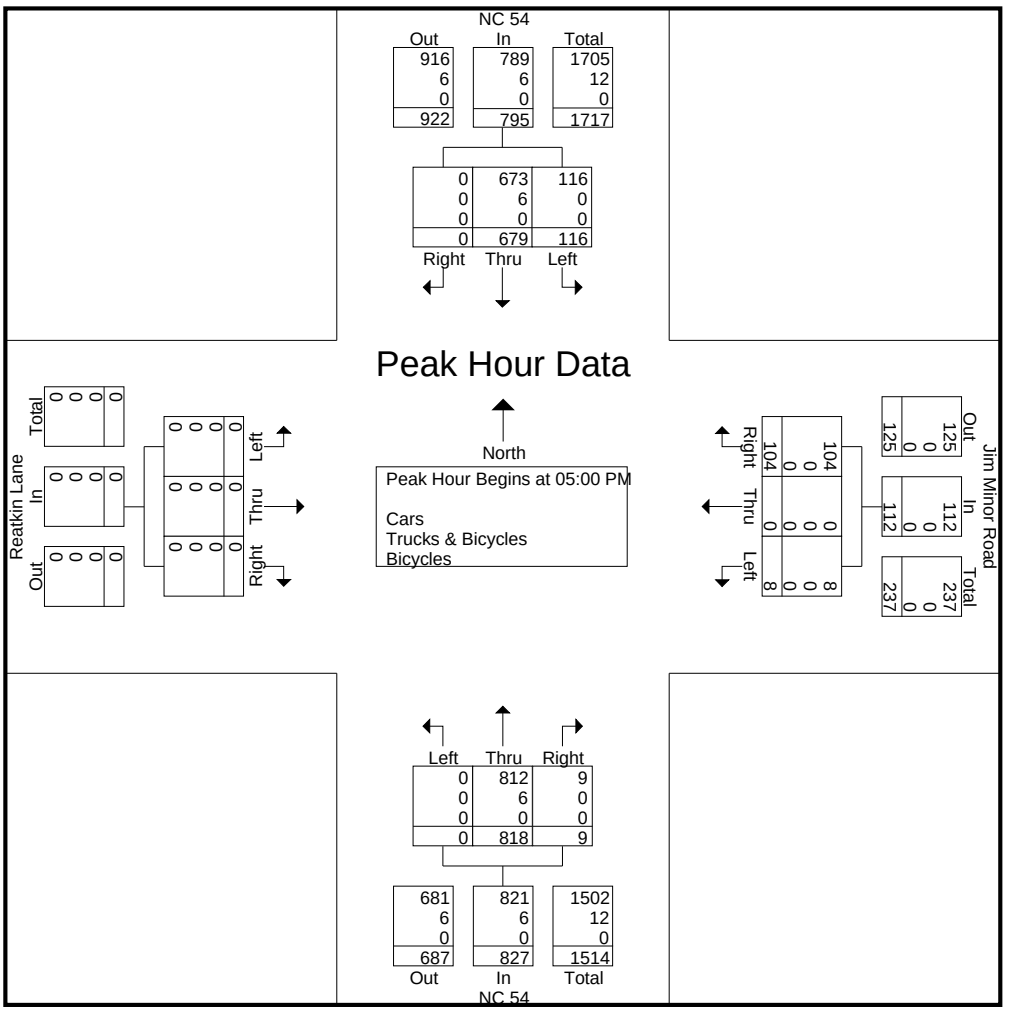


DAVENPORT

119 Brookstown Ave., Suite PH1,
Winston Salem, NC 27101
Ph:(336)744-1636

File Name : 4. NC 54 at Jim Minor Road
Site Code : 00180046
Start Date : 10/16/2018
Page No : 4

	NC 54 Southbound				Jim Minor Road Westbound				NC 54 Northbound				Reatkin Lane 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 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	**202**	22	**224**	26	0	**4**	30	1	**228**	0	**229**	0	0	0	0	**483**
05:15 PM	0	170	31	201	24	0	1	25	1	214	0	215	0	0	0	0	441
05:30 PM	0	156	**37**	193	21	0	3	24	**4**	199	0	203	0	0	0	0	420
05:45 PM	0	151	26	177	**33**	0	0	**33**	3	177	0	180	0	0	0	0	390
Total Volume	0	679	116	795	104	0	8	112	9	818	0	827	0	0	0	0	1734
% App. Total	0	85.4	14.6		92.9	0	7.1		1.1	98.9	0		0	0	0		
PHF	.000	.840	.784	.887	.788	.000	.500	.848	.563	.897	.000	.903	.000	.000	.000	.000	.898
Cars	0	673	116	789	104	0	8	112	9	812	0	821	0	0	0	0	1722
% Cars	0	99.1	100	99.2	100	0	100	100	100	99.3	0	99.3	0	0	0	0	99.3
Trucks & Bicycles	0	6	0	6	0	0	0	0	0	6	0	6	0	0	0	0	12
% Trucks & Bicycles	0	0.9	0	0.8	0	0	0	0	0	0.7	0	0.7	0	0	0	0	0.7
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



DAVENPORT

119 Brookstown Avenue, Suite PH1
Winston-Salem, NC 27101
Ph: (336) 744-1636

Counted by: N. Baez

Weather: Clear

File Name : 4. NC 54 at Jim Minor Road
Site Code : 190020
Start Date : 10/16/2018
Page No : 1

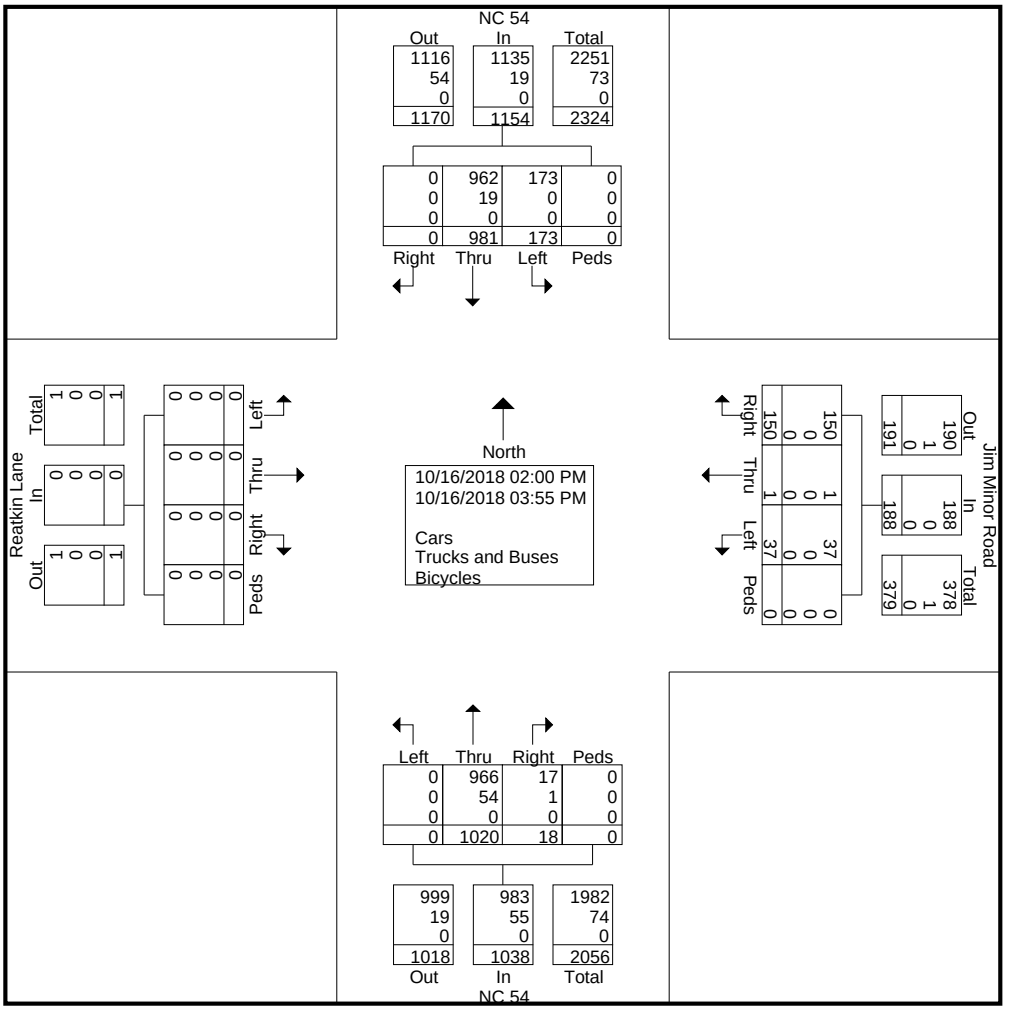
Groups Printed- Cars - Trucks and Buses - Bicycles

	NC 54 Southbound					Jim Minor Road Westbound					NC 54 Northbound					Reatkin Lane Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	0	35	5	0	40	11	0	1	0	12	0	24	0	0	24	0	0	0	0	0	76
02:05 PM	0	45	9	0	54	7	0	2	0	9	0	35	0	0	35	0	0	0	0	0	98
02:10 PM	0	43	6	0	49	6	0	0	0	6	2	33	0	0	35	0	0	0	0	0	90
02:15 PM	0	33	4	0	37	4	0	2	0	6	0	44	0	0	44	0	0	0	0	0	87
02:20 PM	0	42	2	0	44	2	0	1	0	3	2	38	0	0	40	0	0	0	0	0	87
02:25 PM	0	34	5	0	39	5	0	0	0	5	2	35	0	0	37	0	0	0	0	0	81
02:30 PM	0	39	12	0	51	6	0	0	0	6	1	34	0	0	35	0	0	0	0	0	92
02:35 PM	0	48	14	0	62	8	0	1	0	9	1	34	0	0	35	0	0	0	0	0	106
02:40 PM	0	36	12	0	48	2	0	3	0	5	0	48	0	0	48	0	0	0	0	0	101
02:45 PM	0	43	2	0	45	2	0	3	0	5	1	49	0	0	50	0	0	0	0	0	100
02:50 PM	0	56	7	0	63	8	0	2	0	10	1	38	0	0	39	0	0	0	0	0	112
02:55 PM	0	43	5	0	48	5	0	1	0	6	0	39	0	0	39	0	0	0	0	0	93
Total	0	497	83	0	580	66	0	16	0	82	10	451	0	0	461	0	0	0	0	0	1123
03:00 PM	0	37	4	0	41	5	0	1	0	6	0	42	0	0	42	0	0	0	0	0	89
03:05 PM	0	59	4	0	63	8	0	2	0	10	0	39	0	0	39	0	0	0	0	0	112
03:10 PM	0	39	7	0	46	12	0	1	0	13	1	34	0	0	35	0	0	0	0	0	94
03:15 PM	0	41	6	0	47	8	0	2	0	10	0	46	0	0	46	0	0	0	0	0	103
03:20 PM	0	42	6	0	48	7	0	2	0	9	2	37	0	0	39	0	0	0	0	0	96
03:25 PM	0	38	5	0	43	6	0	0	0	6	0	43	0	0	43	0	0	0	0	0	92
03:30 PM	0	29	5	0	34	4	0	2	0	6	2	46	0	0	48	0	0	0	0	0	88
03:35 PM	0	49	13	0	62	3	0	2	0	5	0	49	0	0	49	0	0	0	0	0	116
03:40 PM	0	47	13	0	60	11	0	3	0	14	0	66	0	0	66	0	0	0	0	0	140
03:45 PM	0	31	12	0	43	7	1	0	0	8	1	50	0	0	51	0	0	0	0	0	102
03:50 PM	0	37	9	0	46	5	0	3	0	8	1	58	0	0	59	0	0	0	0	0	113
03:55 PM	0	35	6	0	41	8	0	3	0	11	1	59	0	0	60	0	0	0	0	0	112
Total	0	484	90	0	574	84	1	21	0	106	8	569	0	0	577	0	0	0	0	0	1257
Grand Total	0	981	173	0	1154	150	1	37	0	188	18	1020	0	0	1038	0	0	0	0	0	2380
Apprch %	0	85	15	0		79.8	0.5	19.7	0		1.7	98.3	0	0		0	0	0	0		
Total %	0	41.2	7.3	0	48.5	6.3	0	1.6	0	7.9	0.8	42.9	0	0	43.6	0	0	0	0	0	
Cars	0	962	173	0	1135	150	1	37	0	188	17	966	0	0	983	0	0	0	0	0	2306
% Cars	0	98.1	100	0	98.4	100	100	100	0	100	94.4	94.7	0	0	94.7	0	0	0	0	0	96.9
Trucks and Buses	0	19	0	0	19	0	0	0	0	0	1	54	0	0	55	0	0	0	0	0	74
% Trucks and Buses																					
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DAVENPORT

119 Brookstown Avenue, Suite PH1
Winston-Salem, NC 27101
Ph: (336) 744-1636

File Name : 4. NC 54 at Jim Minor Road
Site Code : 190020
Start Date : 10/16/2018
Page No : 2

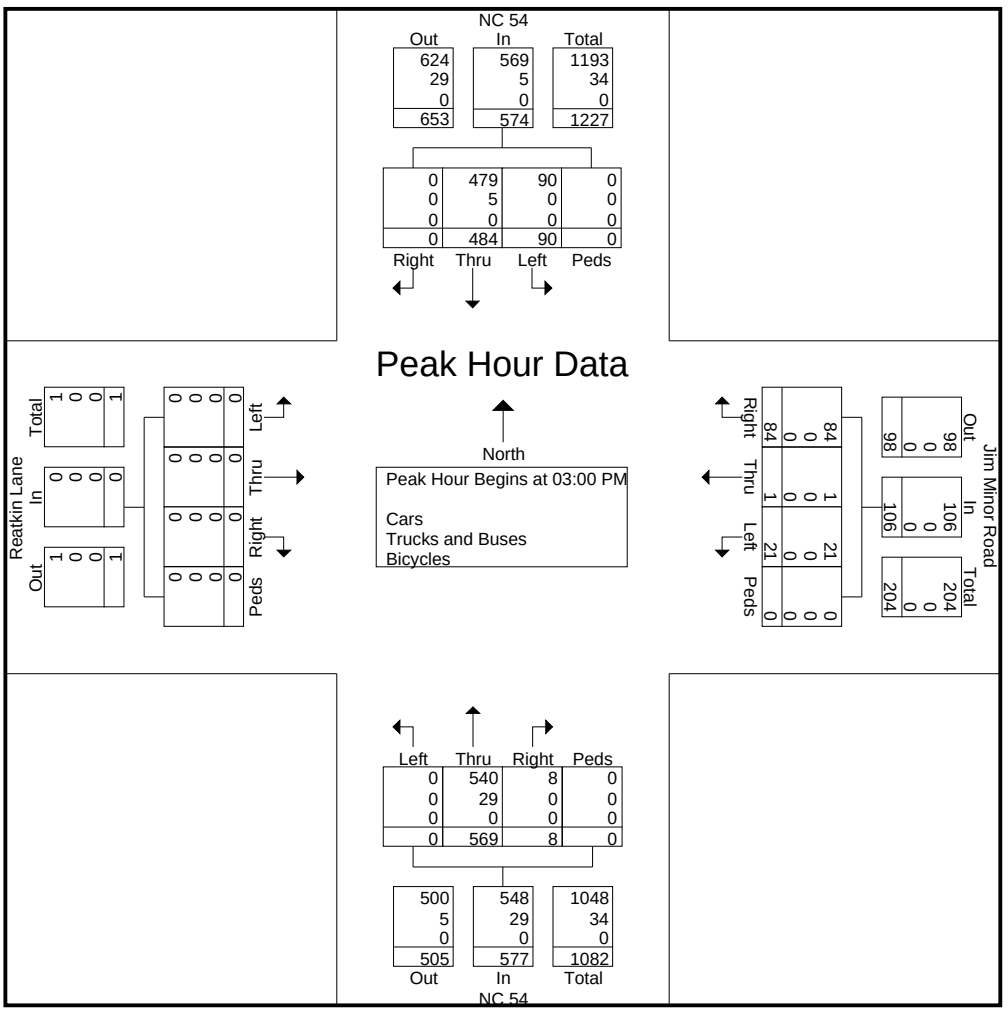


DAVENPORT

119 Brookstown Avenue, Suite PH1
Winston-Salem, NC 27101
Ph: (336) 744-1636

File Name : 4. NC 54 at Jim Minor Road
Site Code : 190020
Start Date : 10/16/2018
Page No : 3

	NC 54 Southbound					Jim Minor Road Westbound					NC 54 Northbound					Reatkin Lane Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:55 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	37	4	0	41	5	0	1	0	6	0	42	0	0	42	0	0	0	0	0	89
03:05 PM	0	**59**	4	0	**63**	8	0	2	0	10	0	39	0	0	39	0	0	0	0	0	112
03:10 PM	0	39	7	0	46	**12**	0	1	0	13	1	34	0	0	35	0	0	0	0	0	94
03:15 PM	0	41	6	0	47	8	0	2	0	10	0	46	0	0	46	0	0	0	0	0	103
03:20 PM	0	42	6	0	48	7	0	2	0	9	**2**	37	0	0	39	0	0	0	0	0	96
03:25 PM	0	38	5	0	43	6	0	0	0	6	0	43	0	0	43	0	0	0	0	0	92
03:30 PM	0	29	5	0	34	4	0	2	0	6	2	46	0	0	48	0	0	0	0	0	88
03:35 PM	0	49	**13**	0	62	3	0	2	0	5	0	49	0	0	49	0	0	0	0	0	116
03:40 PM	0	47	13	0	60	11	0	**3**	0	**14**	0	**66**	0	0	**66**	0	0	0	0	0	**140**
03:45 PM	0	31	12	0	43	7	**1**	0	0	8	1	50	0	0	51	0	0	0	0	0	102
03:50 PM	0	37	9	0	46	5	0	3	0	8	1	58	0	0	59	0	0	0	0	0	113
03:55 PM	0	35	6	0	41	8	0	3	0	11	1	59	0	0	60	0	0	0	0	0	112
Total Volume	0	484	90	0	574	84	1	21	0	106	8	569	0	0	577	0	0	0	0	0	1257
% App. Total	0	84.3	15.7	0		79.2	0.9	19.8	0		1.4	98.6	0	0		0	0	0	0		
PHF	.000	.684	.577	.000	.759	.583	.083	.583	.000	.631	.333	.718	.000	.000	.729	.000	.000	.000	.000	.000	.748
Cars	0	479	90	0	569	84	1	21	0	106	8	540	0	0	548	0	0	0	0	0	1223
% Cars	0	99.0	100	0	99.1	100	100	100	0	100	100	94.9	0	0	95.0	0	0	0	0	0	97.3
Trucks and Buses	0	5	0	0	5	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	34
% Trucks and Buses																					
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



DAVENPORT

305 West 4th Street,
Winston Salem NC, 27101
Ph:(336)744-1636

Counted by: R. Steiss
*U-Turns under peds column
in bicycle category
Weather: Clear

File Name : NC 119 at Turner Road
Site Code : 00190020
Start Date : 5/7/2019
Page No : 1

Groups Printed- Cars - Trucks and Buses - Bicycles

	T-intersection Southbound					NC 119 Westbound					Turner Road Northbound					NC 119 Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	21	0	0	21	10	0	0	0	10	0	34	0	0	34	0	65	65
07:05 AM	0	0	0	0	0	0	27	3	0	30	18	0	0	0	18	1	26	0	0	27	0	75	75
07:10 AM	0	0	0	0	0	0	30	2	0	32	13	0	0	0	13	0	41	0	0	41	0	86	86
07:15 AM	0	0	0	0	0	0	20	0	0	20	19	0	0	0	19	0	40	0	0	40	0	79	79
07:20 AM	0	0	0	0	0	0	20	3	0	23	10	0	1	0	11	0	38	0	0	38	0	72	72
07:25 AM	0	0	0	0	0	0	33	2	0	35	17	0	0	0	17	1	49	0	0	50	0	102	102
07:30 AM	0	0	0	0	0	0	21	4	0	25	15	0	1	0	16	1	52	0	0	53	0	94	94
07:35 AM	0	0	0	0	0	0	25	3	0	28	20	0	1	0	21	0	37	0	0	37	0	86	86
07:40 AM	0	0	0	0	0	0	23	3	0	26	21	0	1	0	22	1	61	0	0	62	0	110	110
07:45 AM	0	0	0	0	0	0	25	2	0	27	23	0	1	0	24	0	41	0	0	41	0	92	92
07:50 AM	0	0	0	0	0	0	18	6	0	24	10	0	0	0	10	0	43	0	0	43	0	77	77
07:55 AM	0	0	0	0	0	0	22	4	0	26	10	0	0	0	10	0	46	0	0	46	0	82	82
Total	0	0	0	0	0	0	285	32	0	317	186	0	5	0	191	4	508	0	0	512	0	1020	1020
08:00 AM	0	0	0	0	0	0	26	5	0	31	11	0	0	0	11	1	59	0	0	60	0	102	102
08:05 AM	0	0	0	0	0	0	25	6	0	31	18	0	1	0	19	0	29	0	0	29	0	79	79
08:10 AM	0	0	0	0	0	0	27	3	0	30	4	0	1	0	5	1	32	0	0	33	0	68	68
08:15 AM	0	0	0	0	0	0	24	4	0	28	11	0	1	0	12	1	26	0	0	27	0	67	67
08:20 AM	0	0	0	0	0	0	6	5	0	11	9	0	1	0	10	1	18	0	0	19	0	40	40
08:25 AM	0	0	0	0	0	0	20	2	0	22	13	0	0	0	13	1	23	0	0	24	0	59	59
08:30 AM	0	0	0	0	0	0	16	4	0	20	12	0	0	0	12	0	15	0	0	15	0	47	47
08:35 AM	0	0	0	0	0	0	8	3	0	11	7	0	0	0	7	1	30	0	0	31	0	49	49
08:40 AM	0	0	0	0	0	0	15	5	0	20	8	0	1	0	9	1	21	0	0	22	0	51	51
08:45 AM	0	0	0	0	0	0	14	6	0	20	4	0	1	0	5	0	23	0	0	23	0	48	48
08:50 AM	0	0	0	0	0	0	12	3	0	15	5	0	0	0	5	0	16	0	0	16	0	36	36
08:55 AM	0	0	0	0	0	0	12	3	0	15	4	0	0	0	4	1	22	0	0	23	0	42	42
Total	0	0	0	0	0	0	205	49	0	254	106	0	6	0	112	8	314	0	0	322	0	688	688
*** BREAK ***																							
02:00 PM	0	0	0	0	0	0	21	11	0	32	7	0	0	0	7	0	21	0	0	21	0	60	60
02:05 PM	0	0	0	0	0	0	23	7	0	30	6	0	0	0	6	0	26	0	0	26	0	62	62
02:10 PM	0	0	0	0	0	0	21	14	0	35	9	0	1	0	10	0	20	0	0	20	0	65	65
02:15 PM	0	0	0	0	0	0	28	6	0	34	10	0	1	0	11	0	24	0	0	24	0	69	69
02:20 PM	0	0	0	0	0	0	15	10	0	25	8	0	0	0	8	0	19	0	0	19	0	52	52
02:25 PM	0	0	0	0	0	0	27	7	0	34	6	0	0	0	6	0	15	0	0	15	0	55	55
02:30 PM	0	0	0	0	0	0	32	9	0	41	6	0	0	0	6	0	16	0	0	16	0	63	63
02:35 PM	0	0	0	0	0	0	29	5	0	34	1	0	0	0	1	0	28	0	0	28	0	63	63
02:40 PM	0	0	0	0	0	0	24	7	0	31	7	0	1	0	8	1	27	0	0	28	0	67	67
02:45 PM	0	0	0	0	0	0	25	5	0	30	5	0	0	0	5	0	27	0	0	27	0	62	62
02:50 PM	0	0	0	0	0	0	36	14	0	50	2	0	0	0	2	0	25	0	0	25	0	77	77
02:55 PM	0	0	0	0	0	0	37	5	0	42	5	0	0	0	5	0	23	0	0	23	0	70	70
Total	0	0	0	0	0	0	318	100	0	418	72	0	3	0	75	1	271	0	0	272	0	765	765

DAVENPORT

305 West 4th Street,
Winston Salem NC, 27101
Ph:(336)744-1636

File Name : NC 119 at Turner Road
Site Code : 00190020
Start Date : 5/7/2019
Page No : 2

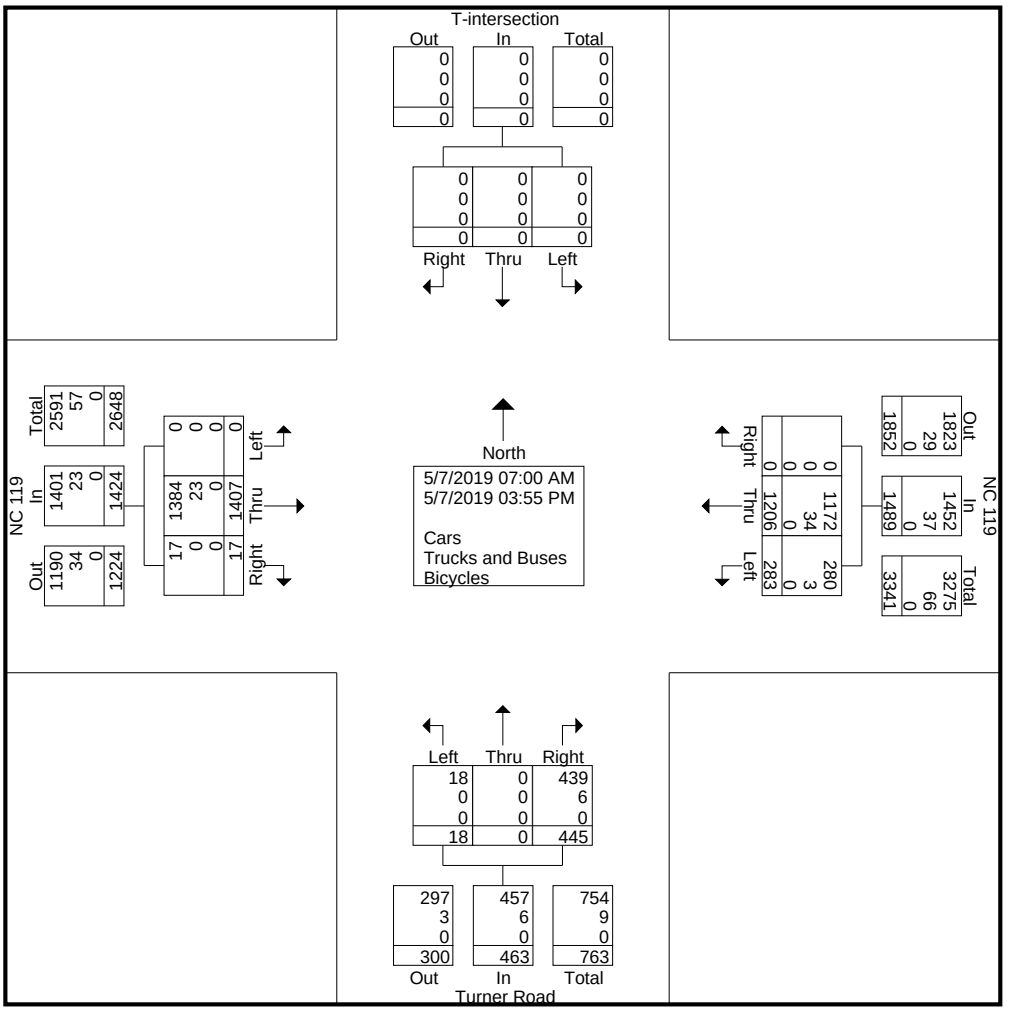
Groups Printed- Cars - Trucks and Buses - Bicycles

	T-intersection Southbound					NC 119 Westbound					Turner Road Northbound					NC 119 Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
03:00 PM	0	0	0	0	0	0	20	5	0	25	6	0	0	0	6	0	28	0	0	28	0	59	59
03:05 PM	0	0	0	0	0	0	27	8	0	35	10	0	0	0	10	0	28	0	0	28	0	73	73
03:10 PM	0	0	0	0	0	0	33	11	0	44	7	0	0	0	7	1	29	0	0	30	0	81	81
03:15 PM	0	0	0	0	0	0	34	6	0	40	8	0	1	0	9	1	23	0	0	24	0	73	73
03:20 PM	0	0	0	0	0	0	25	7	0	32	10	0	0	0	10	0	23	0	0	23	0	65	65
03:25 PM	0	0	0	0	0	0	25	9	0	34	4	0	1	0	5	0	15	0	0	15	0	54	54
03:30 PM	0	0	0	0	0	0	37	13	0	50	10	0	0	0	10	0	41	0	0	41	0	101	101
03:35 PM	0	0	0	0	0	0	55	7	0	62	3	0	0	0	3	1	22	0	0	23	0	88	88
03:40 PM	0	0	0	0	0	0	39	10	0	49	5	0	0	0	5	1	29	0	0	30	0	84	84
03:45 PM	0	0	0	0	0	0	32	11	0	43	5	0	2	0	7	0	34	0	0	34	0	84	84
03:50 PM	0	0	0	0	0	0	45	7	0	52	5	0	0	0	5	0	19	0	0	19	0	76	76
03:55 PM	0	0	0	0	0	0	26	8	0	34	8	0	0	0	8	0	23	0	0	23	0	65	65
Total	0	0	0	0	0	0	398	102	0	500	81	0	4	0	85	4	314	0	0	318	0	903	903
Grand Total	0	0	0	0	0	0	1206	283	0	1489	445	0	18	0	463	17	1407	0	0	1424	0	3376	3376
Apprch %	0	0	0			0	81	19			96.1	0	3.9			1.2	98.8	0					
Total %	0	0	0		0	0	35.7	8.4		44.1	13.2	0	0.5		13.7	0.5	41.7	0		42.2	0	100	
Cars	0	0	0		0	0	1172	280		1452	439	0	18		457	17	1384	0		1401	0	0	3310
% Cars	0	0	0	0	0	0	97.2	98.9	0	97.5	98.7	0	100	0	98.7	100	98.4	0	0	98.4	0	0	98
Trucks and Buses	0	0	0		0	0	34	3		37	6	0	0		6	0	23	0		23	0	0	66
% Trucks and Buses	0	0	0	0	0	0	2.8	1.1	0	2.5	1.3	0	0	0	1.3	0	1.6	0	0	1.6	0	0	2
Bicycles	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DAVENPORT

305 West 4th Street,
Winston Salem NC, 27101
Ph:(336)744-1636

File Name : NC 119 at Turner Road
Site Code : 00190020
Start Date : 5/7/2019
Page No : 3



DAVENPORT

305 West 4th Street,
Winston Salem NC, 27101
Ph:(336)744-1636

File Name : NC 119 at Turner Road
Site Code : 00190020
Start Date : 5/7/2019
Page No : 4

	T-intersection Southbound				NC 119 Westbound				Turner Road Northbound				NC 119 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 11:55 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:10 AM																	
07:10 AM	0	0	0	0	0	30	2	32	13	0	0	13	0	41	0	41	86
07:15 AM	0	0	0	0	0	20	0	20	19	0	0	19	0	40	0	40	79
07:20 AM	0	0	0	0	0	20	3	23	10	0	**1**	11	0	38	0	38	72
07:25 AM	0	0	0	0	0	**33**	2	**35**	17	0	0	17	**1**	49	0	50	102
07:30 AM	0	0	0	0	0	21	4	25	15	0	1	16	1	52	0	53	94
07:35 AM	0	0	0	0	0	25	3	28	20	0	1	21	0	37	0	37	86
07:40 AM	0	0	0	0	0	23	3	26	21	0	1	22	1	**61**	0	**62**	**110**
07:45 AM	0	0	0	0	0	25	2	27	**23**	0	1	**24**	0	41	0	41	92
07:50 AM	0	0	0	0	0	18	**6**	24	10	0	0	10	0	43	0	43	77
07:55 AM	0	0	0	0	0	22	4	26	10	0	0	10	0	46	0	46	82
08:00 AM	0	0	0	0	0	26	5	31	11	0	0	11	1	59	0	60	102
08:05 AM	0	0	0	0	0	25	6	31	18	0	1	19	0	29	0	29	79
Total Volume	0	0	0	0	0	288	40	328	187	0	6	193	4	536	0	540	1061
% App. Total	0	0	0		0	87.8	12.2		96.9	0	3.1		0.7	99.3	0		
PHF	.000	.000	.000	.000	.000	.727	.556	.781	.678	.000	.500	.670	.333	.732	.000	.726	.804
Cars	0	0	0	0	0	276	40	316	186	0	6	192	4	526	0	530	1038
% Cars	0	0	0	0	0	95.8	100	96.3	99.5	0	100	99.5	100	98.1	0	98.1	97.8
Trucks and Buses	0	0	0	0	0	12	0	12	1	0	0	1	0	10	0	10	23
% Trucks and Buses	0	0	0	0	0	4.2	0	3.7	0.5	0	0	0.5	0	1.9	0	1.9	2.2
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DAVENPORT

305 West 4th Street,
Winston Salem NC, 27101
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File Name : NC 119 at Turner Road
Site Code : 00190020
Start Date : 5/7/2019
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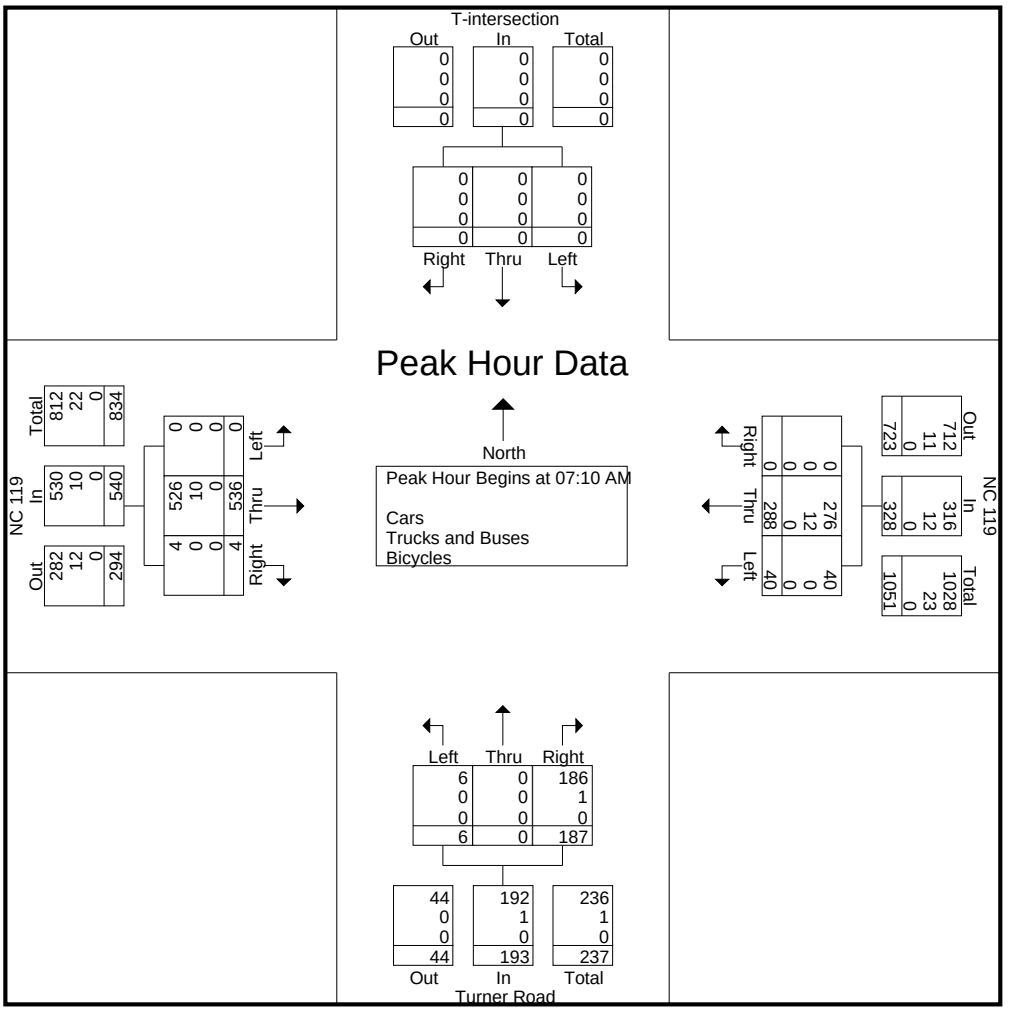

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305 West 4th Street,
Winston Salem NC, 27101
Ph:(336)744-1636

File Name : NC 119 at Turner Road
Site Code : 00190020
Start Date : 5/7/2019
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	T-intersection Southbound				NC 119 Westbound				Turner Road Northbound				NC 119 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 12:00 PM to 03:55 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:50 PM																	
02:50 PM	0	0	0	0	0	36	**14**	50	2	0	0	2	0	25	0	25	77
02:55 PM	0	0	0	0	0	37	5	42	5	0	0	5	0	23	0	23	70
03:00 PM	0	0	0	0	0	20	5	25	6	0	0	6	0	28	0	28	59
03:05 PM	0	0	0	0	0	27	8	35	**10**	0	0	**10**	0	28	0	28	73
03:10 PM	0	0	0	0	0	33	11	44	7	0	0	7	**1**	29	0	30	81
03:15 PM	0	0	0	0	0	34	6	40	8	0	1	9	1	23	0	24	73
03:20 PM	0	0	0	0	0	25	7	32	10	0	0	10	0	23	0	23	65
03:25 PM	0	0	0	0	0	25	9	34	4	0	1	5	0	15	0	15	54
03:30 PM	0	0	0	0	0	37	13	50	10	0	0	10	0	**41**	0	**41**	**101**
03:35 PM	0	0	0	0	0	**55**	7	**62**	3	0	0	3	1	22	0	23	88
03:40 PM	0	0	0	0	0	39	10	49	5	0	0	5	1	29	0	30	84
03:45 PM	0	0	0	0	0	32	11	43	5	0	**2**	7	0	34	0	34	84
Total Volume	0	0	0	0	0	400	106	506	75	0	4	79	4	320	0	324	909
% App. Total	0	0	0		0	79.1	20.9		94.9	0	5.1		1.2	98.8	0		
PHF	.000	.000	.000	.000	.000	.606	.631	.680	.625	.000	.167	.658	.333	.650	.000	.659	.750
Cars	0	0	0	0	0	390	104	494	72	0	4	76	4	313	0	317	887
% Cars	0	0	0	0	0	97.5	98.1	97.6	96.0	0	100	96.2	100	97.8	0	97.8	97.6
Trucks and Buses	0	0	0	0	0	10	2	12	3	0	0	3	0	7	0	7	22
% Trucks and Buses	0	0	0	0	0	2.5	1.9	2.4	4.0	0	0	3.8	0	2.2	0	2.2	2.4
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DAVENPORT

305 West 4th Street,
Winston Salem NC, 27101
Ph:(336)744-1636

File Name : NC 119 at Turner Road
Site Code : 00190020
Start Date : 5/7/2019
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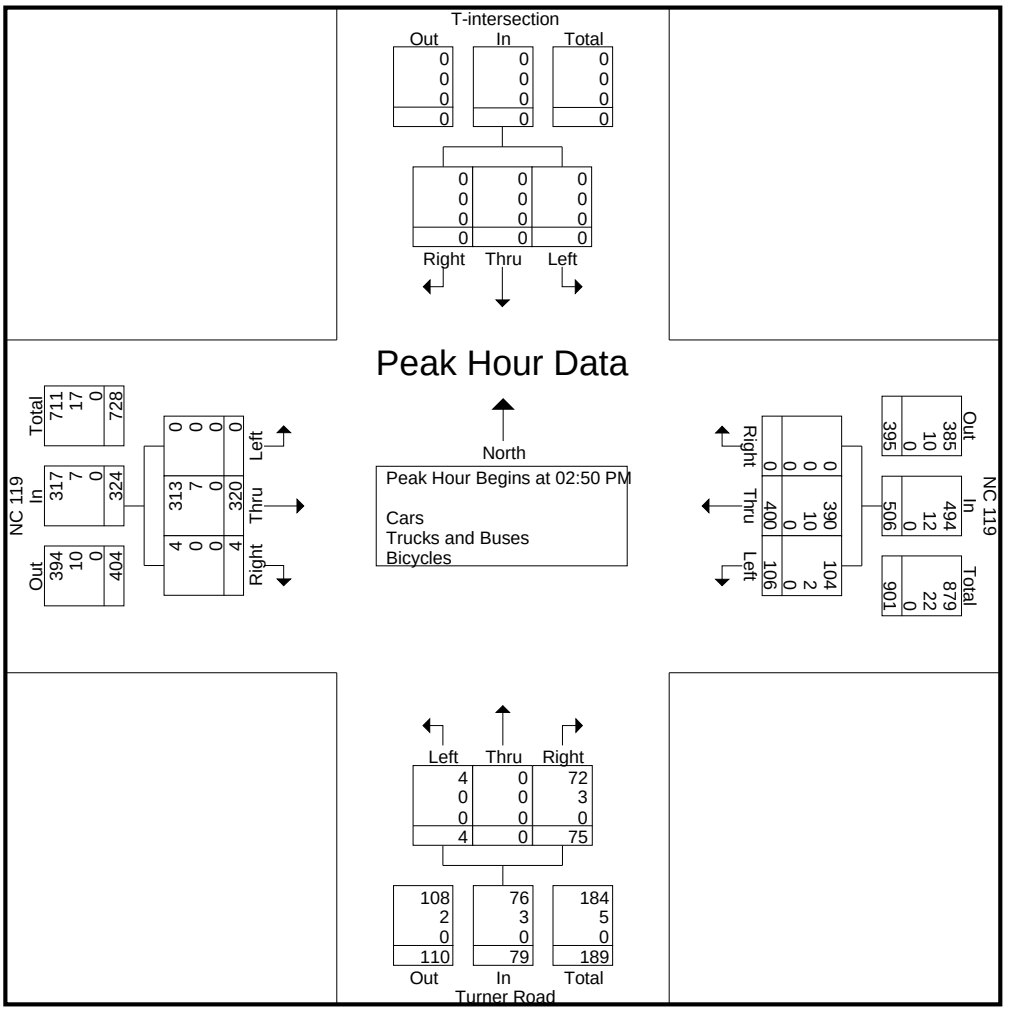


100

NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road

AM Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	95		95	100					0	100		100		100	100
EBT	162		162	170	4	4	19		27	198		198		198	198
EBR	70		70	74			6	9	15	88	20	108	2	90	110
WBL	81		81	85	5	6	19	6	36	121	30	151	1	122	152
WBT	233		233	245	15	11	58		84	329		329		329	329
WBR	137		137	144	9	39	19		67	211		211		211	211
NBL	144		144	151			19	21	40	191	16	207	6	197	213
NBT	469	14	483	508			39	55	94	601	59	660	15	616	675
NBR	96		96	101	3	2	6	14	24	125	24	149	4	129	153
SBL	85		85	89	2	15	6		23	113		113		113	113
SBT	239		239	251			12	23	35	286	76	362	5	291	367
SBR	77		77	81					0	81		81		81	81
Total	1888	14	1902	1999	38	77	203	126	444	2443	225	2669			

200

NC 119 at Turner Road

AM Peak	2019 TMC	Balancing	2019 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	0		0	0					0	0		0		0	0
EBT	0		0	0					0	0		0		0	0
EBR	0		0	0					0	0		0		0	0
WBL	6		6	6			19		19	25	25	50		25	50
WBT	0		0	0					0	0		0		0	0
WBR	187		187	195			58		58	253		253		253	253
NBL	0		0	0					0	0		0		0	0
NBT	536		536	558	3	2	6	89	99	657	99	756	24	681	780
NBR	4		4	4			6		6	10	20	30		10	30
SBL	40		40	42			18		18	60		60		60	60
SBT	288	62	350	364	5	6	19	37	67	431	126	557	8	439	565
SBR	0		0	0					0	0		0		0	0
Total	1061	62	1123	1169	8	8	126	126	268	1436	269	1706			

100

NC 119 at Trollingwood Hawfields Road / Old Hillsborough Road

Dismissal Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	70		70	74					0	74		74		74	74
EBT	230		230	242	13	12	64		89	331		331		331	331
EBR	66		66	69			21	23	44	113	11	124	6	119	130
WBL	80		80	84	6	4	12	15	37	121	16	137	4	125	141
WBT	283		283	297	7	7	37		51	348		348		348	348
WBR	70		70	74	5	25	12		42	116		116		116	116
NBL	108		108	114			12	15	27	140	15	155	4	144	160
NBT	129	50	179	188			25	39	64	252	58	310	10	262	320
NBR	108		108	114	8	6	21	10	45	158	23	181	2	160	184
SBL	97		97	102	10	41	21		72	174		174		174	174
SBT	130	230	360	378			42	60	102	481	40	521	17	498	538
SBR	135		135	142					0	142		142		142	142
Total	1506	280	1786	1877	49	95	267	162	573	2450	163	2613			

200

NC 119 at Turner Road

Dismissal Peak	2019 TMC	Balancing	2019 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	0		0	0					0	0		0		0	0
EBT	0		0	0					0	0		0		0	0
EBR	0		0	0					0	0		0		0	0
WBL	4		4	4			12		12	16	13	29		16	29
WBT	0		0	0					0	0		0		0	0
WBR	75		75	78			37		37	115		115		115	115
NBL	0		0	0					0	0		0		0	0
NBT	320		320	333	8	6	21	64	99	432	97	529	16	448	544
NBR	4		4	4			21		21	25	19	44		25	44
SBL	106		106	110			63		63	173		173		173	173
SBT	400		400	416	6	4	12	98	120	537	67	604	28	565	631
SBR	0		0	0					0	0		0		0	0
Total	909	0	909	946	14	10	166	162	352	1298	196	1494			

300

NC 119 at Kimrey Road

AM Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	37		37	39					0	39		39		39	39
EBT	0		0	0				1	1	1		1		1	1
EBR	0	4	4	4					0	4	5	9	0	4	9
WBL	0		0	0				79	79	79		79		79	79
WBT	0		0	0				3	3	3		3		3	3
WBR	0		0	0				89	89	89		89		89	89
NBL	0	4	4	4					0	4	4	8	1	5	9
NBT	426	77	503	529	3	2	12		17	545	118	663	24	569	687
NBR	0		0	0				33	33	33		33		33	33
SBL	0		0	0				37	37	37		37		37	37
SBT	216	97	313	329	5	6	38		49	378	151	529	8	386	537
SBR	43		43	45					0	45		45		45	45
Total	722	182	904	950	8	8	50	242	308	1258	278	1535			

400

NC 119 at Jim Minor Road

AM Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	7		7	7	1	0	2	20	23	31	45	76	4	35	80
EBT	14	25	39	41					0	41		41		41	41
EBR	19		19	20					0	20		20		20	20
WBL	15		15	16					0	16		16		16	16
WBT	98	24	122	128					0	128		128		128	128
WBR	50		50	53				2	2	55	13	68	0	55	67
NBL	31		31	33					0	33		33		33	33
NBT	351	95	446	469	2	2	10	11	24	493	38	531	2	495	532
NBR	7		7	7					0	7		7		7	7
SBL	12		12	13				48	48	60	10	70	1	61	71
SBT	192	98	290	305	4	5	30	26	65	370	30	400	7	377	406
SBR	11		11	12	1	1	8	5	15	27	35	62	13	40	75
Total	807	242	1049	1103	8	8	50	111	177	1280	171	1452			

500

NC 54 at Jim Minor Road / Reatkin Lane

AM Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	0		0	0					0	0		0		0	0
EBT	0		0	0					0	0		0		0	0
EBR	0		0	0					0	0		0		0	0
WBL	18		18	19					0	19		19		19	19
WBT	0		0	0					0	0		0		0	0
WBR	146		146	153	1	1	8	48	58	211	35	246	13	224	260
NBL	0		0	0					0	0		0		0	0
NBT	747		747	785					0	785		785		785	785
NBR	19		19	20					0	20		20		20	20
SBL	46		46	48	1	0	2	20	23	72	45	117	4	76	121
SBT	755		755	794					0	794		794		794	794
SBR	0		0	0					0	0		0		0	0
Total	1731	0	1731	1819	2	2	10	68	81	1900	81	1981			

300

NC 119 at Kimrey Road

Dismissal Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	24		24	25					0	25		25		25	25
EBT	0		0	0				4	4	4		4		4	4
EBR	0	4	4	4					0	4	3	7	1	5	8
WBL	0		0	0				57	57	57		57		57	57
WBT	0		0	0				2	2	2		2		2	2
WBR	0		0	0				64	64	64		64		64	64
NBL	2	2	4	4					0	4	4	8	1	5	9
NBT	236	64	300	315	8	6	42		56	371	116	487	16	387	503
NBR	0		0	0				87	87	87		87		87	87
SBL	0		0	0				98	98	98		98		98	98
SBT	294	67	361	379	6	4	24		34	413	80	493	28	441	521
SBR	43		43	45					0	45		45		45	45
Total	599	137	736	774	14	10	66	312	402	1176	202	1377			

400

NC 119 at Jim Minor Road

Dismissal Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	12		12	13	2	1	8	53	64	77	24	101	15	92	116
EBT	52	7	59	62					0	62		62		62	62
EBR	27		27	28					0	28		28		28	28
WBL	23		23	24					0	24		24		24	24
WBT	33	23	56	59					0	59		59		59	59
WBR	9		9	9				6	6	15	7	22	2	17	24
NBL	13		13	14					0	14		14		14	14
NBT	194	87	281	295	6	5	34	28	73	368	20	388	8	376	396
NBR	18		18	19					0	19		19		19	19
SBL	36		36	38				34	34	72	10	82	1	73	83
SBT	241	48	289	304	5	3	19	18	46	349	29	378	5	354	383
SBR	36		36	38	1	1	5	4	10	48	35	83	9	57	92
Total	694	165	859	903	14	10	66	144	233	1136	124	1260			

500

NC 54 at Jim Minor Road / Reatkin Lane

Dismissal Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	0		0	0					0	0		0		0	0
EBT	0		0	0					0	0		0		0	0
EBR	0		0	0					0	0		0		0	0
WBL	21		21	22					0	22		22		22	22
WBT	1		1	1					0	1		1		1	1
WBR	84		84	88	1	1	5	34	41	130	35	165	9	139	173
NBL	0		0	0					0	0		0		0	0
NBT	569		569	598					0	598		598		598	598
NBR	8		8	8					0	8		8		8	8
SBL	90		90	95	2	1	8	53	64	159	24	183	15	174	198
SBT	484		484	509					0	509		509		509	509
SBR	0		0	0					0	0		0		0	0
Total	1257	0	1257	1321	3	2	13	87	105	1426	59	1486			

600

NC 119 at Site Access															
AM Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	0		0	0					0	0		0		0	0
EBT	0		0	0					0	0		0		0	0
EBR	0		0	0					0	0		0		0	0
WBL	0		0	0					0	0		0	10	10	10
WBT	0		0	0					0	0		0		0	0
WBR	0		0	0					0	0		0	14	14	14
NBL	0		0	0					0	0		0		0	0
NBT	408	95	503	529	3	2	12	33	49	578		578	11	589	589
NBR	0		0	0					0	0	96	96	3	3	99
SBL	0		0	0					0	0	156	156	5	5	161
SBT	216	101	317	333	5	6	38	79	128	461	75	536	4	465	540
SBR	0		0	0					0	0		0		0	0
Total	624	196	820	862	8	8	50	111	177	1039	327	1366			

700

NC 119 at Site Access 2 (exit only															
AM Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	2023 Future No Build	Site Trips	2023 Future Build	Desco 119 Development	2023 Future No Build	2023 Future Build
EBL	0		0	0					0	0		0		0	0
EBT	0		0	0					0	0		0		0	0
EBR	0		0	0					0	0		0		0	0
WBL	0		0	0					0	0	75	75		0	75
WBT	0		0	0					0	0		0		0	0
WBR	0		0	0					0	0	122	122		0	122
NBL	0		0	0					0	0		0		0	0
NBT	408	95	503	529	3	2	12	33	50	578		578	25	603	603
NBR	0		0	0					0	0		0		0	0
SBL	0		0	0					0	0		0		0	0
SBT	216	101	317	333	5	6	38	79	128	461	156	617	9	470	627
SBR	0		0	0					0	0		0		0	0
Total	624	196	820	862	8	8	50		178	1040	353	1392			

600

NC 119 at Site Access															
Dismissal Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	Scenario 1 - 2023 Future No Build	Site Trips	Scenario 1 - 2023 Future Build	Desco 119 Development	Scenario 2 - 2023 Future No Build	Scenario 2 - 2023 Future Build
EBL	0		0	0					0	0		0		0	0
EBT	0		0	0					0	0		0		0	0
EBR	0		0	0					0	0		0		0	0
WBL	0		0	0					0	0		0	7	7	7
WBT	0		0	0					0	0		0		0	0
WBR	0		0	0					0	0		0	10	10	10
NBL	0		0	0					0	0		0		0	0
NBT	215	87	302	317	8	6	42	87	143	460		460	8	468	468
NBR	0		0	0					0	0	51	51	11	11	62
SBL	0		0	0					0	0	82	82	16	16	98
SBT	294	71	365	384	6	4	24	57	91	474	73	547	13	487	561
SBR	0		0	0					0	0		0		0	0
Total	509	158	667	701	14	10	66	144	234	935	206	1140			

700

NC 119 at Site Access 2 (exit only															
Dismissal Peak	2018 TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	2023 Future No Build	Site Trips	2023 Future Build	Desco 119 Development	2023 Future No Build	2023 Future Build
EBL	0		0	0					0	0		0		0	0
EBT	0		0	0					0	0		0		0	0
EBR	0		0	0					0	0		0		0	0
WBL	0		0	0					0	0	73	73		0	73
WBT	0		0	0					0	0		0		0	0
WBR	0		0	0					0	0	120	120		0	120
NBL	0		0	0					0	0		0		0	0
NBT	215	87	302	317	8	6	42	87	143	460		460	18	478	478
NBR	0		0	0					0	0		0		0	0
SBL	0		0	0					0	0		0		0	0
SBT	294	71	365	384	6	4	24	57	91	475	82	557	29	504	586
SBR	0		0	0					0	0		0		0	0
Total	509	158	667	701	14	10	66		234	935	275	1210			

800

Internal Roundabout															
AM Peak	TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	2023 Future No Build	Site Trips	2023 Future Build	Desco 119 Development	2023 Future No Build	2023 Future Build
EBL			0	0					0	0	252	252		0	252
EBT	0	0	0	0	0	0	0	0	0	0		0	8	8	8
EBR			0	0					0	0		0	4	4	4
WBL			0	0					0	0		0	4	4	4
WBT	0	0	0	0	0	0	0	0	0	0		0	24	24	24
WBR			0	0					0	0		0		0	0
NBL			0	0					0	0		0	4	4	4
NBT			0	0					0	0		0		0	0
NBR			0	0					0	0		0	4	4	4
SBL			0	0					0	0		0		0	0
SBT			0	0					0	0		0		0	0
SBR			0	0					0	0		0		0	0
Total	0	0	0	0			0				252	252			

800

Internal Roundabout															
Dismissal Peak	TMC	Balancing	2018 Base	2023 Projected	The Meadows	Magnolia Glen	Cambridge Park	Hawfiled Develp	Appd Dev Total	2023 Future No Build	Site Trips	2023 Future Build	Desco 119 Development	2023 Future No Build	2023 Future Build
EBL			0	0					0	0	133	133		0	133
EBT	0	0	0	0	0	0	0	0	0	0		0	27	27	27
EBR			0	0					0	0		0	4	4	4
WBL			0	0					0	0		0	4	4	4
WBT	0	0	0	0	0	0	0	0	0	0		0	17	17	17
WBR			0	0					0	0		0		0	0
NBL			0	0					0	0		0	4	4	4
NBT			0	0					0	0		0		0	0
NBR			0	0					0	0		0	4	4	4
SBL			0	0					0	0		0		0	0
SBT			0	0					0	0		0		0	0
SBR			0	0					0	0		0		0	0
Total	0	0	0	0					0	0	133	133			

Queue Reports

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	275	537	249	531	250	200	1045	300	368
Average Queue (ft)	202	298	166	328	199	170	1033	167	254
95th Queue (ft)	290	454	248	481	290	232	1054	286	355
Link Distance (ft)		1194		989			1030		1105
Upstream Blk Time (%)							24		
Queuing Penalty (veh)							245		
Storage Bay Dist (ft)	175		150		150	150		225	
Storage Blk Time (%)	18	37	21	29	19	39	52		12
Queuing Penalty (veh)	58	41	126	107	94	318	110		16

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	806	150	987	125
Average Queue (ft)	597	129	561	49
95th Queue (ft)	1101	168	1022	102
Link Distance (ft)	791		1909	
Upstream Blk Time (%)	64			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		50		125
Storage Blk Time (%)	0	92		0
Queuing Penalty (veh)	1	26		1

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	43	194	152
Average Queue (ft)	19	110	22
95th Queue (ft)	40	182	89
Link Distance (ft)	1656	585	1339
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	113	165	24	164
Average Queue (ft)	50	91	7	41
95th Queue (ft)	96	151	23	115
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	37	156	138	118	73	72	53
Average Queue (ft)	8	72	84	69	41	26	22
95th Queue (ft)	25	134	122	107	69	70	58
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		11					
Queuing Penalty (veh)		2					

Network Summary

Network wide Queuing Penalty: 1144

Intersection: 20:

Movement	NB	NB	B13	B13	B17	B17
Directions Served	L	LR	T	T	T	T
Maximum Queue (ft)	194	207	196	176	112	78
Average Queue (ft)	144	156	137	123	65	46
95th Queue (ft)	267	288	278	250	141	99
Link Distance (ft)	144	144	128	128	79	79
Upstream Blk Time (%)	73	73	66	66	61	61
Queuing Penalty (veh)	183	185	166	166	153	153
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 25:

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	202	226	26
Average Queue (ft)	179	189	11
95th Queue (ft)	249	280	23
Link Distance (ft)	197	197	163
Upstream Blk Time (%)	79	78	
Queuing Penalty (veh)	154	154	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 27:

Movement	WB	SB
Directions Served	T	R
Maximum Queue (ft)	120	74
Average Queue (ft)	109	24
95th Queue (ft)	117	67
Link Distance (ft)	106	216
Upstream Blk Time (%)	91	
Queuing Penalty (veh)	359	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	275	631	250	1004	250	200	1046	300	1120
Average Queue (ft)	190	465	232	444	195	184	999	220	874
95th Queue (ft)	313	609	269	824	296	229	1208	352	1103
Link Distance (ft)		1194		989			1030		1105
Upstream Blk Time (%)				3			29		1
Queuing Penalty (veh)				0			379		0
Storage Bay Dist (ft)	175		150		150	150		225	
Storage Blk Time (%)	20	60	58	35	19	43	28	4	67
Queuing Penalty (veh)	72	67	348	152	110	468	78	26	85

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	843	150	1722	69	1030
Average Queue (ft)	786	137	767	22	175
95th Queue (ft)	905	198	1812	60	776
Link Distance (ft)	791		1909		1030
Upstream Blk Time (%)	87				9
Queuing Penalty (veh)	0				71
Storage Bay Dist (ft)		50		125	
Storage Blk Time (%)	16	91			17
Queuing Penalty (veh)	44	61			11

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	NB	SB	B11
Directions Served	LTR	LTR	LTR	LTR	T
Maximum Queue (ft)	365	516	179	1407	1923
Average Queue (ft)	113	429	17	736	617
95th Queue (ft)	310	597	92	1795	1989
Link Distance (ft)	1667	482	544	1337	1909
Upstream Blk Time (%)		70		41	18
Queuing Penalty (veh)		0		328	145
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	292	793	1382	114
Average Queue (ft)	146	610	172	30
95th Queue (ft)	285	741	815	98
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	37	150	124	138	75	75	72
Average Queue (ft)	12	83	84	70	48	20	19
95th Queue (ft)	31	148	131	125	77	70	57
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		10					
Queuing Penalty (veh)		2					

Intersection: 600: NC 119 & Site Access

Movement	NB	B12	B7	SB
Directions Served	TR	T	T	LT
Maximum Queue (ft)	529	2608	1899	514
Average Queue (ft)	294	1178	531	487
95th Queue (ft)	695	3156	1841	599
Link Distance (ft)	463	2537	1888	510
Upstream Blk Time (%)	52	32	17	67
Queuing Penalty (veh)	467	291	157	643
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 700: NC 119

Movement	WB	B23	B22	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	68	269	51	552
Average Queue (ft)	57	262	35	433
95th Queue (ft)	66	269	53	757
Link Distance (ft)	17	209	-11	544
Upstream Blk Time (%)	100	99	28	53
Queuing Penalty (veh)	392	390	109	425
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 800: Site Access

Movement	EB
Directions Served	LTR
Maximum Queue (ft)	138
Average Queue (ft)	80
95th Queue (ft)	175
Link Distance (ft)	125
Upstream Blk Time (%)	56
Queuing Penalty (veh)	283
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 7276

Intersection: 20:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25:

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	121	125	26
Average Queue (ft)	53	49	3
95th Queue (ft)	87	94	18
Link Distance (ft)	197	197	163
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 27:

Movement	WB	SB
Directions Served	T	R
Maximum Queue (ft)	127	31
Average Queue (ft)	97	2
95th Queue (ft)	139	15
Link Distance (ft)	106	216
Upstream Blk Time (%)	12	
Queuing Penalty (veh)	45	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	275	1210	250	1002	250	249	1045	250	300	803
Average Queue (ft)	177	1004	240	829	157	215	1032	123	221	497
95th Queue (ft)	353	1485	271	1219	319	281	1051	318	366	775
Link Distance (ft)		1194		987			1030			1105
Upstream Blk Time (%)		21		22			14			
Queuing Penalty (veh)		0		0			187			
Storage Bay Dist (ft)	175		150		150	150		150	225	
Storage Blk Time (%)	11	79	72	32	8	43	48		17	35
Queuing Penalty (veh)	40	88	429	140	47	465	228		99	44

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	806	150	606	115	162
Average Queue (ft)	761	147	299	56	11
95th Queue (ft)	930	153	633	108	77
Link Distance (ft)	791		1909		1030
Upstream Blk Time (%)	85				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		50		125	
Storage Blk Time (%)	0	100		0	0
Queuing Penalty (veh)	0	67		1	0

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LT	L
Maximum Queue (ft)	301	478	200	191	40
Average Queue (ft)	171	268	126	39	9
95th Queue (ft)	295	488	258	147	27
Link Distance (ft)	1659	463		525	
Upstream Blk Time (%)		9			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)			100		100
Storage Blk Time (%)		83	1	3	
Queuing Penalty (veh)		83	1	1	

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	140	207	574	1018
Average Queue (ft)	85	103	304	455
95th Queue (ft)	138	179	534	815
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	174	178	175	165	190	208	94
Average Queue (ft)	21	105	96	91	101	41	23
95th Queue (ft)	92	173	150	164	180	145	69
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		18			7	0	
Queuing Penalty (veh)		4			33	0	

Intersection: 600: NC 119 & Site Access

Movement	NB	SB
Directions Served	R	L
Maximum Queue (ft)	40	142
Average Queue (ft)	5	64
95th Queue (ft)	24	116
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	150
Storage Blk Time (%)		0
Queuing Penalty (veh)		1

Intersection: 700: NC 119

Movement	WB	WB	B22
Directions Served	L	R	T
Maximum Queue (ft)	152	114	51
Average Queue (ft)	85	64	3
95th Queue (ft)	154	107	25
Link Distance (ft)		208	1
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)	14	1	
Queuing Penalty (veh)	34	1	

Intersection: 800: Site Access

Movement	EB
Directions Served	LTR
Maximum Queue (ft)	31
Average Queue (ft)	4
95th Queue (ft)	21
Link Distance (ft)	105
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 2037

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	274	1209	249	595	250	200	624	300	1168
Average Queue (ft)	130	998	219	433	167	157	457	250	1095
95th Queue (ft)	306	1265	276	658	311	251	644	378	1223
Link Distance (ft)		1194		989			1030		1105
Upstream Blk Time (%)		16							46
Queuing Penalty (veh)		0							0
Storage Bay Dist (ft)	175		150		150	150		225	
Storage Blk Time (%)	0	71	52	48	0	34	44	30	56
Queuing Penalty (veh)	0	58	270	126	0	156	69	205	109

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	SB
Directions Served	L	R	L
Maximum Queue (ft)	15	51	96
Average Queue (ft)	7	12	46
95th Queue (ft)	17	36	87
Link Distance (ft)	791		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	125
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	75	111	182
Average Queue (ft)	33	51	43
95th Queue (ft)	65	90	126
Link Distance (ft)	1671	993	1307
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	155	96	87	69
Average Queue (ft)	79	54	10	22
95th Queue (ft)	127	94	54	61
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	37	70	167	108	96	74	53
Average Queue (ft)	10	35	76	55	65	11	18
95th Queue (ft)	26	72	126	99	93	48	52
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		0					
Queuing Penalty (veh)		0					

Network Summary

Network wide Queuing Penalty: 994

Intersection: 20:

Movement	WB	NB	NB
Directions Served	T	L	LR
Maximum Queue (ft)	52	28	22
Average Queue (ft)	33	6	1
95th Queue (ft)	53	24	10
Link Distance (ft)	215	144	144
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 25:

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	58	76	24
Average Queue (ft)	47	43	2
95th Queue (ft)	66	67	12
Link Distance (ft)	197	197	163
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 27:

Movement	WB	SB
Directions Served	T	R
Maximum Queue (ft)	122	30
Average Queue (ft)	112	2
95th Queue (ft)	128	14
Link Distance (ft)	106	216
Upstream Blk Time (%)	12	
Queuing Penalty (veh)	47	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	275	1233	250	488	250	200	1038	300	1157
Average Queue (ft)	99	1215	198	282	151	193	897	216	1127
95th Queue (ft)	256	1230	277	445	296	218	1118	330	1147
Link Distance (ft)		1194		989			1030		1105
Upstream Blk Time (%)		86					3		68
Queuing Penalty (veh)		0					22		0
Storage Bay Dist (ft)	175		150		150	150		225	
Storage Blk Time (%)		74	29	35	0	56	23	19	67
Queuing Penalty (veh)		60	150	108	3	366	47	162	129

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	59	66	153	95
Average Queue (ft)	21	20	26	50
95th Queue (ft)	47	54	96	81
Link Distance (ft)	791		1909	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		50		125
Storage Blk Time (%)	2	6		
Queuing Penalty (veh)	2	2		

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	23	90	101	195
Average Queue (ft)	8	50	12	64
95th Queue (ft)	23	82	58	177
Link Distance (ft)	1667	482	544	1337
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	286	118	45	119
Average Queue (ft)	126	67	6	54
95th Queue (ft)	233	109	27	104
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	15	71	93	74	199	94	52
Average Queue (ft)	4	37	56	38	100	10	11
95th Queue (ft)	15	73	79	71	168	51	39
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		0			9		
Queuing Penalty (veh)		0			24		

Intersection: 600: NC 119 & Site Access

Movement	SB
Directions Served	LT
Maximum Queue (ft)	116
Average Queue (ft)	59
95th Queue (ft)	114
Link Distance (ft)	510
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 700: NC 119

Movement	WB	B23	B22
Directions Served	LR	T	T
Maximum Queue (ft)	68	199	51
Average Queue (ft)	68	105	51
95th Queue (ft)	68	184	51
Link Distance (ft)	17	209	-11
Upstream Blk Time (%)	82	0	0
Queuing Penalty (veh)	319	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 800: Site Access

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 1442

Intersection: 20:

Movement	WB	NB	NB
Directions Served	T	L	LR
Maximum Queue (ft)	70	28	13
Average Queue (ft)	45	9	1
95th Queue (ft)	68	30	6
Link Distance (ft)	215	144	144
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 25:

Movement	WB	WB
Directions Served	T	T
Maximum Queue (ft)	112	131
Average Queue (ft)	56	53
95th Queue (ft)	94	102
Link Distance (ft)	197	197
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27:

Movement	WB
Directions Served	T
Maximum Queue (ft)	126
Average Queue (ft)	112
95th Queue (ft)	136
Link Distance (ft)	106
Upstream Blk Time (%)	23
Queuing Penalty (veh)	88
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	275	1233	250	643	250	250	734	250	300	1139
Average Queue (ft)	135	1176	225	472	154	212	365	122	213	1125
95th Queue (ft)	327	1359	283	681	327	295	640	272	355	1138
Link Distance (ft)		1194		987			1030			1105
Upstream Blk Time (%)		74								69
Queuing Penalty (veh)		0								0
Storage Bay Dist (ft)	175		150		150	150		150	225	
Storage Blk Time (%)		81	35	55		29	24	2	3	62
Queuing Penalty (veh)		66	183	172		187	108	15	28	119

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	103	89	22	102
Average Queue (ft)	30	33	1	56
95th Queue (ft)	85	75	11	99
Link Distance (ft)	791		1909	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		50		125
Storage Blk Time (%)	13	5		
Queuing Penalty (veh)	16	2		

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LT	L
Maximum Queue (ft)	45	152	71	59	42
Average Queue (ft)	19	67	26	4	18
95th Queue (ft)	43	142	49	28	36
Link Distance (ft)	1659	463		525	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100		100
Storage Blk Time (%)		8			
Queuing Penalty (veh)		5			

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	181	119	265	447
Average Queue (ft)	98	60	134	255
95th Queue (ft)	161	95	223	430
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	36	132	134	126	198	53	74
Average Queue (ft)	11	54	73	66	108	17	14
95th Queue (ft)	30	111	120	115	182	49	48
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		4			8		
Queuing Penalty (veh)		1			23		

Intersection: 600: NC 119 & Site Access

Movement	NB	SB
Directions Served	R	L
Maximum Queue (ft)	22	71
Average Queue (ft)	1	32
95th Queue (ft)	10	58
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 700: NC 119

Movement	WB	WB
Directions Served	L	R
Maximum Queue (ft)	162	176
Average Queue (ft)	67	95
95th Queue (ft)	124	146
Link Distance (ft)		208
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)	4	6
Queuing Penalty (veh)	9	9

Intersection: 800: Site Access

Movement	EB
Directions Served	LTR
Maximum Queue (ft)	31
Average Queue (ft)	2
95th Queue (ft)	15
Link Distance (ft)	105
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 1031

Intersection: 20:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 27:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	275	420	250	720	250	200	1045	299	725
Average Queue (ft)	214	290	134	335	206	175	1035	248	379
95th Queue (ft)	311	392	228	624	275	222	1054	334	564
Link Distance (ft)		1194		989			1030		1105
Upstream Blk Time (%)							28		
Queuing Penalty (veh)							286		
Storage Bay Dist (ft)	175		150		150	150		225	
Storage Blk Time (%)	37	29	7	30	20	29	45	32	21
Queuing Penalty (veh)	118	33	41	111	100	241	99	134	27

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	806	150	1078	72
Average Queue (ft)	616	145	768	34
95th Queue (ft)	980	154	1172	67
Link Distance (ft)	791		1909	
Upstream Blk Time (%)	32			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		50		125
Storage Blk Time (%)	0	98		
Queuing Penalty (veh)	0	28		

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	69	151	15	86
Average Queue (ft)	32	88	1	27
95th Queue (ft)	63	143	7	76
Link Distance (ft)	1666	481	542	1337
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	115	321	221	113
Average Queue (ft)	66	166	28	52
95th Queue (ft)	108	298	119	111
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	15	176	118	95	75	93	31
Average Queue (ft)	7	89	72	57	43	22	4
95th Queue (ft)	19	160	110	91	78	71	21
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		20					
Queuing Penalty (veh)		4					

Intersection: 600: NC 119 & Site Access

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	22	27
Average Queue (ft)	13	3
95th Queue (ft)	31	16
Link Distance (ft)	105	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 700: NC 119

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 800: Site Access

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 1222

Intersection: 20:

Movement	NB	NB
Directions Served	L	LR
Maximum Queue (ft)	193	181
Average Queue (ft)	44	42
95th Queue (ft)	153	150
Link Distance (ft)	144	144
Upstream Blk Time (%)	3	3
Queuing Penalty (veh)	8	9
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25:

Movement	WB	WB
Directions Served	T	T
Maximum Queue (ft)	224	227
Average Queue (ft)	130	137
95th Queue (ft)	256	272
Link Distance (ft)	197	197
Upstream Blk Time (%)	28	31
Queuing Penalty (veh)	55	61
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27:

Movement	WB
Directions Served	T
Maximum Queue (ft)	128
Average Queue (ft)	119
95th Queue (ft)	128
Link Distance (ft)	106
Upstream Blk Time (%)	48
Queuing Penalty (veh)	190
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	274	601	250	1013	250	200	1045	300	1157
Average Queue (ft)	168	425	243	849	125	178	1037	239	1042
95th Queue (ft)	307	608	267	1206	274	228	1046	336	1396
Link Distance (ft)		1194		989			1030		1105
Upstream Blk Time (%)				34			36		55
Queuing Penalty (veh)				0			476		0
Storage Bay Dist (ft)	175		150		150	150		225	
Storage Blk Time (%)	18	49	72	26	0	31	53	8	62
Queuing Penalty (veh)	65	55	434	115	0	342	150	44	78

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	NB	B11	SB	SB
Directions Served	L	R	TR	T	L	T
Maximum Queue (ft)	806	150	2004	1339	81	161
Average Queue (ft)	796	141	1845	624	46	18
95th Queue (ft)	814	159	2291	1509	86	94
Link Distance (ft)	791		1909	1337		1030
Upstream Blk Time (%)	98		62	3		
Queuing Penalty (veh)	0		659	32		
Storage Bay Dist (ft)		50			125	
Storage Blk Time (%)		100				0
Queuing Penalty (veh)		67				0

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	123	496	435	302
Average Queue (ft)	57	364	91	75
95th Queue (ft)	112	532	341	240
Link Distance (ft)	1666	481	542	1337
Upstream Blk Time (%)		24		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	549	1238	86	136
Average Queue (ft)	434	925	13	52
95th Queue (ft)	598	1454	52	112
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	41	196	133	76	113	74	54
Average Queue (ft)	7	68	70	57	64	17	18
95th Queue (ft)	25	142	116	77	105	54	53
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		10			0		
Queuing Penalty (veh)		2			0		

Intersection: 600: NC 119 & Site Access

Movement	WB	NB	SB	SB
Directions Served	LR	R	L	T
Maximum Queue (ft)	88	22	162	128
Average Queue (ft)	37	4	74	14
95th Queue (ft)	75	19	141	77
Link Distance (ft)	105			511
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		100	100	
Storage Blk Time (%)			4	0
Queuing Penalty (veh)			30	1

Intersection: 700: NC 119

Movement	WB	B23	B22
Directions Served	LR	T	T
Maximum Queue (ft)	62	270	51
Average Queue (ft)	62	263	51
95th Queue (ft)	62	298	52
Link Distance (ft)	11	209	-11
Upstream Blk Time (%)	91	82	11
Queuing Penalty (veh)	360	323	42
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 800: Site Access

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	52	52
Average Queue (ft)	8	16
95th Queue (ft)	34	46
Link Distance (ft)	105	182
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 3598

Intersection: 20:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25:

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	137	169	26
Average Queue (ft)	75	75	2
95th Queue (ft)	134	154	13
Link Distance (ft)	197	197	163
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 27:

Movement	WB	SB
Directions Served	T	R
Maximum Queue (ft)	127	30
Average Queue (ft)	114	2
95th Queue (ft)	136	14
Link Distance (ft)	106	216
Upstream Blk Time (%)	34	
Queuing Penalty (veh)	134	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	275	1209	250	1002	250	249	1044	250	300	774
Average Queue (ft)	187	1072	227	809	171	225	1027	129	168	529
95th Queue (ft)	364	1402	280	1147	310	274	1050	316	320	825
Link Distance (ft)		1194		987			1030			1105
Upstream Blk Time (%)		57		19			8			
Queuing Penalty (veh)		0		0			105			
Storage Bay Dist (ft)	175		150		150	150		150	225	
Storage Blk Time (%)		82	53	57	5	46	46		1	41
Queuing Penalty (veh)		91	316	249	28	504	222		4	51

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	806	150	591	79	104
Average Queue (ft)	716	145	237	38	7
95th Queue (ft)	1011	155	518	77	50
Link Distance (ft)	791		1909		1030
Upstream Blk Time (%)	74				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		50		125	
Storage Blk Time (%)	0	99			
Queuing Penalty (veh)	0	66			

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LT	L
Maximum Queue (ft)	88	178	195	39	19
Average Queue (ft)	42	104	49	5	11
95th Queue (ft)	81	182	118	26	25
Link Distance (ft)	1659	463		525	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100		100
Storage Blk Time (%)		30			
Queuing Penalty (veh)		29			

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	159	126	1691	1276
Average Queue (ft)	95	74	1009	728
95th Queue (ft)	156	117	1553	1172
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	36	179	142	115	96	74	55
Average Queue (ft)	8	97	80	63	72	27	20
95th Queue (ft)	25	174	122	104	109	73	60
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		19					
Queuing Penalty (veh)		4					

Intersection: 600: NC 119 & Site Access

Movement	WB	NB	SB
Directions Served	LR	R	L
Maximum Queue (ft)	44	22	177
Average Queue (ft)	18	6	96
95th Queue (ft)	45	22	164
Link Distance (ft)	105		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		100	150
Storage Blk Time (%)			2
Queuing Penalty (veh)			14

Intersection: 700: NC 119

Movement	WB	WB	B22
Directions Served	L	R	T
Maximum Queue (ft)	200	257	60
Average Queue (ft)	151	158	16
95th Queue (ft)	236	281	58
Link Distance (ft)		208	1
Upstream Blk Time (%)	18	15	2
Queuing Penalty (veh)	0	57	9
Storage Bay Dist (ft)	100		
Storage Blk Time (%)	63	3	
Queuing Penalty (veh)	153	5	

Intersection: 800: Site Access

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	31	31
Average Queue (ft)	8	4
95th Queue (ft)	30	21
Link Distance (ft)	105	182
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2042

Intersection: 20:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 27:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	275	1209	249	413	250	200	580	299	1157
Average Queue (ft)	140	943	172	234	123	169	425	249	1100
95th Queue (ft)	323	1445	258	378	238	243	615	379	1252
Link Distance (ft)		1194		989			1030		1105
Upstream Blk Time (%)		36							70
Queuing Penalty (veh)		0							0
Storage Bay Dist (ft)	175		150		150	150		225	
Storage Blk Time (%)		72	21	21	1	22	30	33	47
Queuing Penalty (veh)		59	106	55	4	104	48	237	92

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	SB
Directions Served	L	R	L
Maximum Queue (ft)	37	47	75
Average Queue (ft)	7	10	45
95th Queue (ft)	25	32	75
Link Distance (ft)	791		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	125
Storage Blk Time (%)	0	1	
Queuing Penalty (veh)	0	0	

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	18	133	35	169
Average Queue (ft)	9	65	3	53
95th Queue (ft)	22	120	19	124
Link Distance (ft)	1666	481	542	1337
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	174	135	23	74
Average Queue (ft)	115	68	5	30
95th Queue (ft)	167	111	19	73
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	35	112	174	138	116	53	54
Average Queue (ft)	8	55	76	56	85	16	16
95th Queue (ft)	24	103	129	110	118	48	50
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		3			0		
Queuing Penalty (veh)		1			1		

Intersection: 600: NC 119 & Site Access

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	23	27
Average Queue (ft)	12	9
95th Queue (ft)	30	29
Link Distance (ft)	105	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 700: NC 119

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 800: Site Access

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 706

Intersection: 20:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25:

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	172	168	26
Average Queue (ft)	70	63	3
95th Queue (ft)	136	137	18
Link Distance (ft)	197	197	163
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 27:

Movement	WB	SB
Directions Served	T	R
Maximum Queue (ft)	125	28
Average Queue (ft)	108	2
95th Queue (ft)	138	14
Link Distance (ft)	106	216
Upstream Blk Time (%)	19	
Queuing Penalty (veh)	75	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	275	1233	250	535	250	200	1045	300	1168
Average Queue (ft)	158	1070	182	307	137	181	971	227	1127
95th Queue (ft)	316	1436	258	539	271	220	1118	357	1149
Link Distance (ft)		1194		989			1030		1105
Upstream Blk Time (%)		56					8		72
Queuing Penalty (veh)		0					66		0
Storage Bay Dist (ft)	175		150		150	150		225	
Storage Blk Time (%)		73	23	31	1	54	34	19	67
Queuing Penalty (veh)		60	120	99	5	362	72	166	130

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	150	108	396	111	108
Average Queue (ft)	19	35	75	62	7
95th Queue (ft)	78	84	291	112	52
Link Distance (ft)	791		1909		1030
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		50		125	
Storage Blk Time (%)	0	15		0	0
Queuing Penalty (veh)	0	6		0	0

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	66	215	78	130
Average Queue (ft)	28	93	6	36
95th Queue (ft)	59	177	39	109
Link Distance (ft)	1666	481	542	1337
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	589	136	45	160
Average Queue (ft)	225	64	7	49
95th Queue (ft)	478	119	32	120
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	15	71	120	135	157	147	152
Average Queue (ft)	6	43	71	57	121	28	20
95th Queue (ft)	17	74	112	115	172	104	92
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		1			9	0	
Queuing Penalty (veh)		0			26	0	

Intersection: 600: NC 119 & Site Access

Movement	WB	NB	SB
Directions Served	LR	R	L
Maximum Queue (ft)	62	20	76
Average Queue (ft)	18	1	34
95th Queue (ft)	46	9	73
Link Distance (ft)	105		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		100	100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 700: NC 119

Movement	WB	B23	B22
Directions Served	LR	T	T
Maximum Queue (ft)	62	270	51
Average Queue (ft)	62	134	51
95th Queue (ft)	63	268	52
Link Distance (ft)	11	209	-11
Upstream Blk Time (%)	70	12	1
Queuing Penalty (veh)	275	46	2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 800: Site Access

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	31
Average Queue (ft)	2	4
95th Queue (ft)	14	21
Link Distance (ft)	105	182
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1511

Intersection: 20:

Movement	WB	NB
Directions Served	T	L
Maximum Queue (ft)	96	53
Average Queue (ft)	47	11
95th Queue (ft)	85	42
Link Distance (ft)	215	144
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25:

Movement	WB	WB
Directions Served	T	T
Maximum Queue (ft)	92	112
Average Queue (ft)	53	61
95th Queue (ft)	83	104
Link Distance (ft)	197	197
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27:

Movement	WB
Directions Served	T
Maximum Queue (ft)	125
Average Queue (ft)	112
95th Queue (ft)	137
Link Distance (ft)	106
Upstream Blk Time (%)	18
Queuing Penalty (veh)	69
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 100: NC 119 & Trollingwood Hawfields Road/Old Hillsborough Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	274	1246	250	943	250	250	521	250	300	1144
Average Queue (ft)	157	1181	194	570	162	220	300	149	280	1126
95th Queue (ft)	341	1302	285	1053	306	266	478	307	358	1142
Link Distance (ft)		1194		987			1030			1105
Upstream Blk Time (%)		75								72
Queuing Penalty (veh)		0								0
Storage Bay Dist (ft)	175		150		150	150		150	225	
Storage Blk Time (%)		82	36	45	5	37	26	2	63	33
Queuing Penalty (veh)		67	188	143	29	251	118	14	552	63

Intersection: 200: NC 119 & Turner Road

Movement	WB	WB	SB
Directions Served	L	R	L
Maximum Queue (ft)	15	74	132
Average Queue (ft)	8	22	58
95th Queue (ft)	18	61	112
Link Distance (ft)	791		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	125
Storage Blk Time (%)		2	0
Queuing Penalty (veh)		1	3

Intersection: 300: NC 119 & Kimrey Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LT	L
Maximum Queue (ft)	67	153	45	112	40
Average Queue (ft)	16	44	24	11	14
95th Queue (ft)	46	115	39	58	30
Link Distance (ft)	1659	463		525	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100		100
Storage Blk Time (%)		4		0	
Queuing Penalty (veh)		3		0	

Intersection: 400: NC 119 & Jim Minor Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	175	184	335	605
Average Queue (ft)	104	66	148	446
95th Queue (ft)	166	135	274	616
Link Distance (ft)	3454	1457	3179	1888
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 500: NC 54 & Jim Minor Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	37	106	94	113	238	53	53
Average Queue (ft)	10	43	70	49	102	13	22
95th Queue (ft)	26	100	99	89	170	44	58
Link Distance (ft)		3222	2576	2576		1803	1803
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				125		
Storage Blk Time (%)		3			5		
Queuing Penalty (veh)		1			14		

Intersection: 600: NC 119 & Site Access

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	64	54
Average Queue (ft)	15	40
95th Queue (ft)	42	65
Link Distance (ft)	105	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 700: NC 119

Movement	WB	WB
Directions Served	L	R
Maximum Queue (ft)	120	200
Average Queue (ft)	61	92
95th Queue (ft)	111	157
Link Distance (ft)		208
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	100	
Storage Blk Time (%)	1	7
Queuing Penalty (veh)	3	11

Intersection: 800: Site Access

Movement	WB
Directions Served	LTR
Maximum Queue (ft)	29
Average Queue (ft)	4
95th Queue (ft)	20
Link Distance (ft)	182
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 1530

QUEUE DISTANCE (AVER)

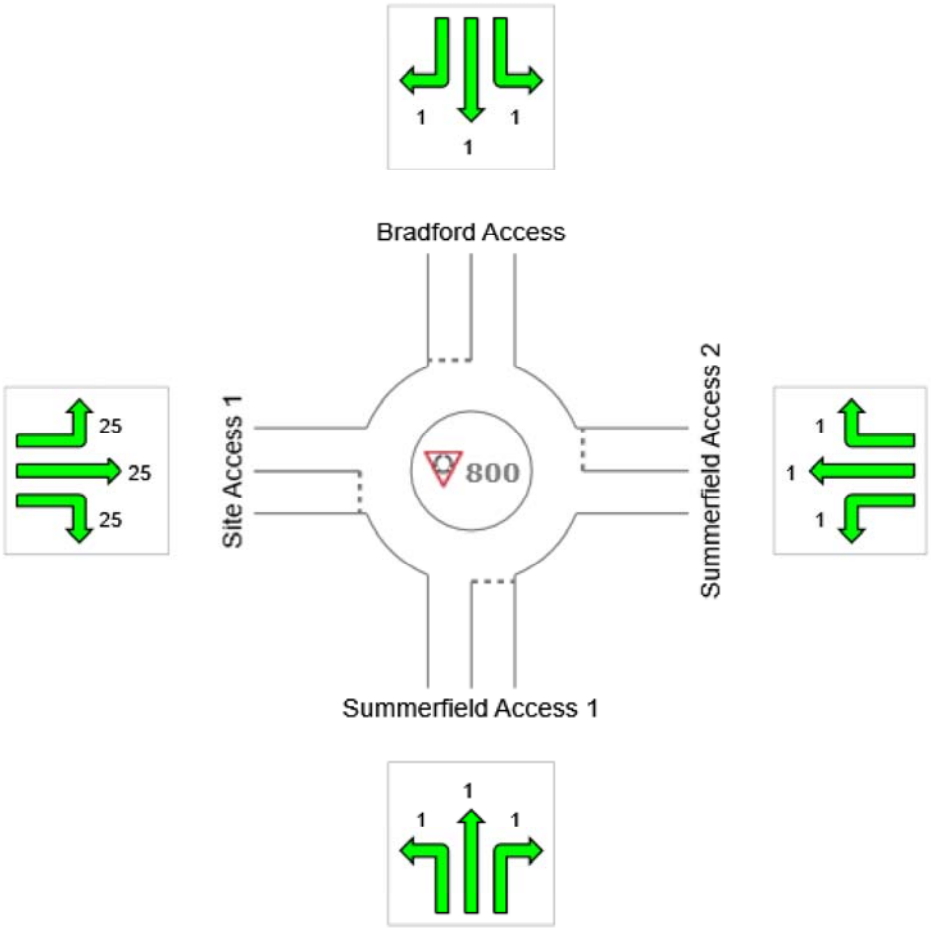
Average Back of Queue Distance for any lane used by vehicle movement (feet)

Site: 800 [AM Peak Scenario 1]

Bradford Academy
Site Category: (None)
Roundabout

All Movement Classes

	Approaches				Intersection
	South	East	North	West	
Queue Distance (Aver)	1	1	1	25	25



Colour code based on Queue Storage Ratio

[< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]

QUEUE DISTANCE (AVER)

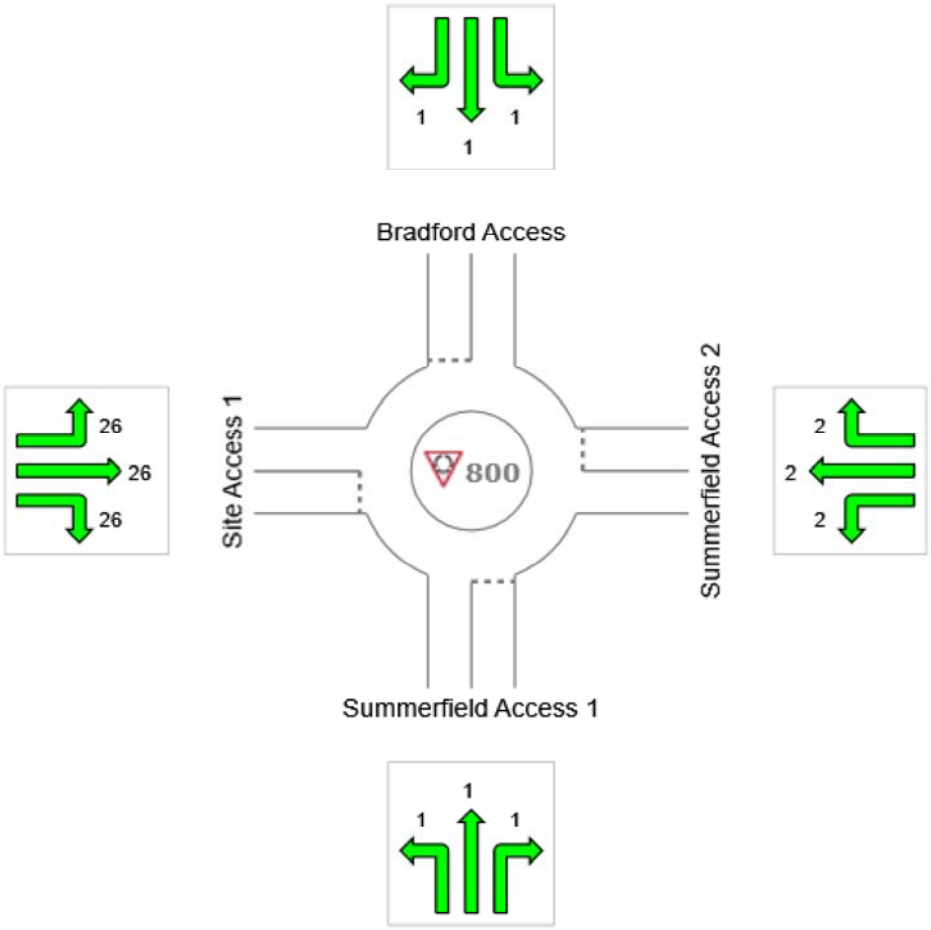
Average Back of Queue Distance for any lane used by vehicle movement (feet)

Site: 800 [AM Peak Scenario 2]

Bradford Academy
Site Category: (None)
Roundabout

All Movement Classes

	Approaches				Intersection
	South	East	North	West	
Queue Distance (Aver)	1	2	1	26	26



Colour code based on Queue Storage Ratio

[< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]

QUEUE DISTANCE (AVER)

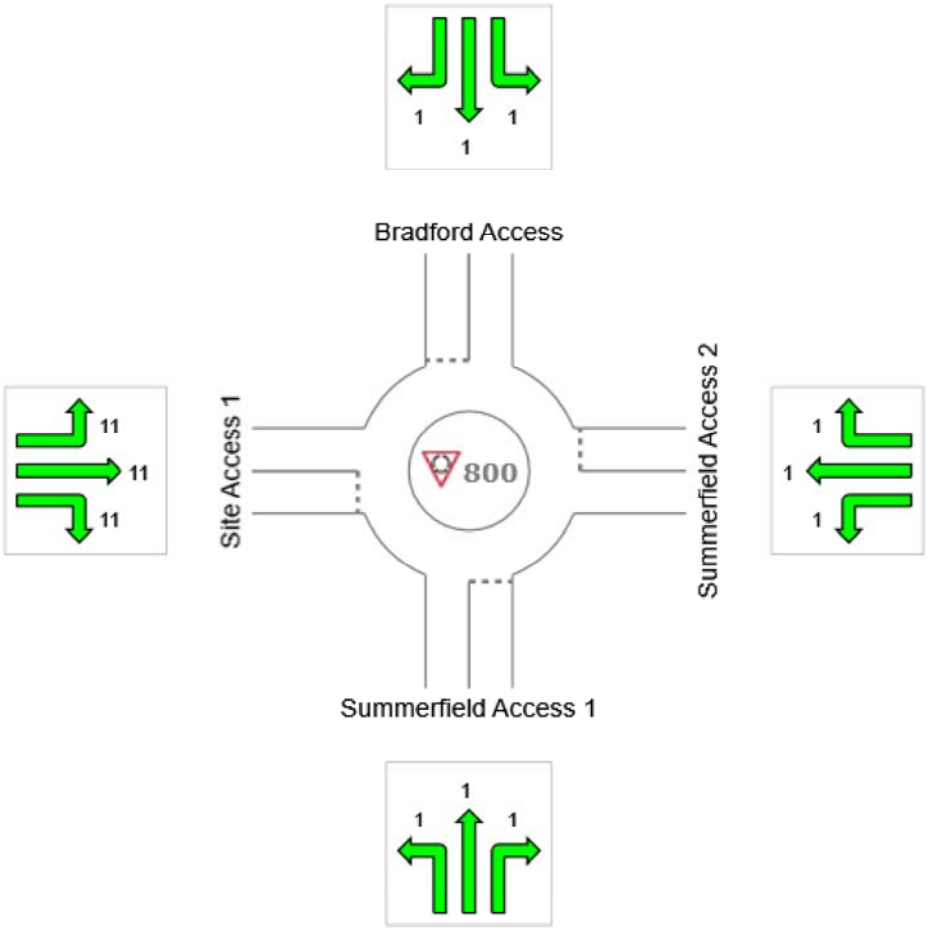
Average Back of Queue Distance for any lane used by vehicle movement (feet)

Site: 800 [PM Peak Scenario 1]

Bradford Academy
Site Category: (None)
Roundabout

All Movement Classes

	Approaches				Intersection
	South	East	North	West	
Queue Distance (Aver)	1	1	1	11	11



Colour code based on Queue Storage Ratio

[< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]

QUEUE DISTANCE (AVER)

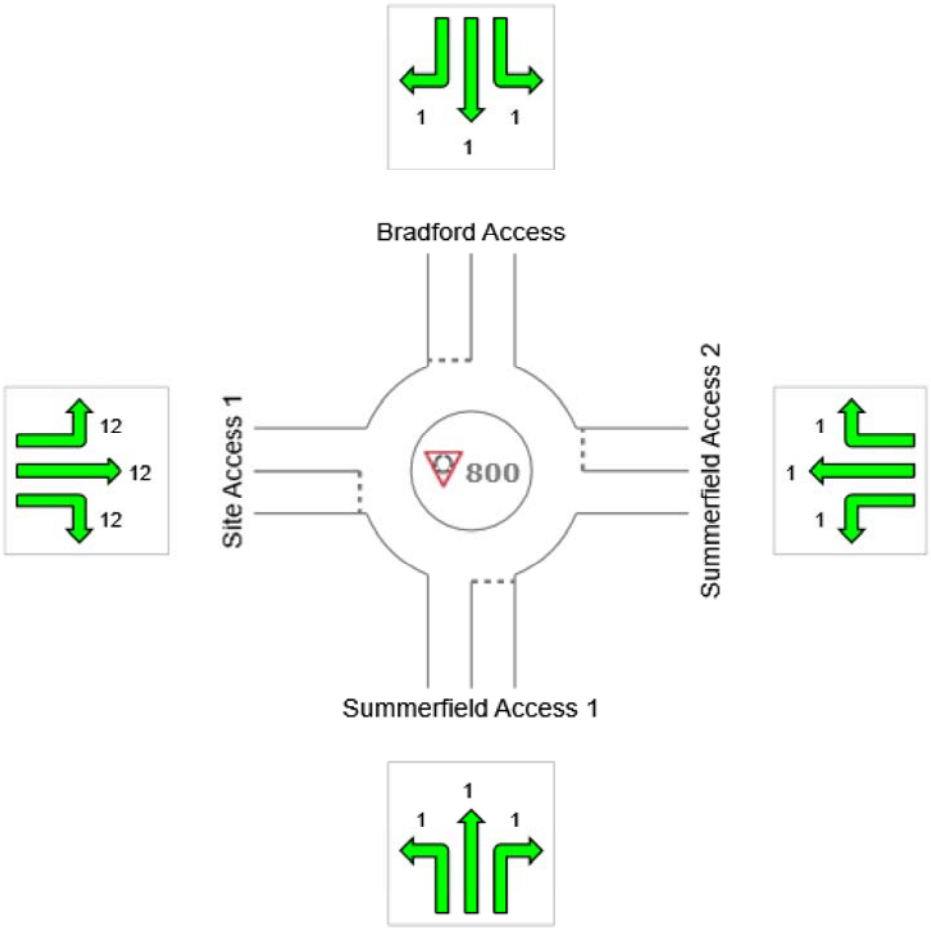
Average Back of Queue Distance for any lane used by vehicle movement (feet)

Site: 800 [PM Peak Scenario 2]

Bradford Academy
Site Category: (None)
Roundabout

All Movement Classes

	Approaches				Intersection
	South	East	North	West	
Queue Distance (Aver)	1	1	1	12	12



Colour code based on Queue Storage Ratio

[< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]

Supporting Documentation

Dionne Brown

From: Edwards, Charles N <cnedwards@ncdot.gov>
Sent: Monday, April 22, 2019 3:00 PM
To: Dionne Brown; Cy Stober; Montrena W. Hadley; fholt@awck.com; Franz Holt
Cc: Frank Amenya; Desiree Tillman; Hinton, Kimberly D; Keith@civildesignspa.com
Subject: RE: [External] Bradford Academy Mebane
Attachments: Information Needed when Requesting NCDOT Prepare School Traffic Study 4192018.pdf

Dionne,

Thank you for the requested information. I recommend that the Applicant proceed with the TIA in accordance with NCDOT Congestion Management and MSTA guidelines to include the intersection listed below and to evaluate and to clearly differentiate impacts and needed improvements exclusively attributable to the two distinct land uses.

1) NC 119 at Trollingwood Hawfields Road/ Old Hillsborough Road
2) NC 119 at Kimrey Road
3) NC 119 at Jim Minor Road
4) NC 54 and Jim Minor Road/ Reatkin Lane
5) NC 119 and Turner Road

C. N. Edwards Jr., PE (Chuck)
District Engineer
North Carolina Department of Transportation
Division of Highways
Division 7, District 1

336 570 6833
cnedwards@ncdot.gov

115 East Crescent Square Drive
P. O. Box 766
Graham, NC 27253

From: Dionne Brown <DBrown@davenportworld.com>
Sent: Wednesday, April 17, 2019 1:36 PM
To: Edwards, Charles N <cnedwards@ncdot.gov>; Cy Stober <cstober@cityofmebane.com>; Montrena W. Hadley <mhadley@cityofmebane.com>; fholt@awck.com; Franz Holt <fholt@cityofmebane.com>
Cc: Frank Amenya <famenya@davenportworld.com>; Desiree Tillman <DTillman@davenportworld.com>; Hinton, Kimberly D <kdhinton@ncdot.gov>; Keith@civildesignspa.com
Subject: RE: [External] Bradford Academy Mebane

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Hello Everyone,

Attached you will find the form filled out by the school representative. I have cc'd the site civil on the e-mail as well if you have any questions. The client has "n/a" for loading bays but I'm sure he may not understand what that is as there will need to be a carpool loading zone.

Dionne C. Brown, PE | Project Manager
DAVENPORT
4600 Marriott Drive Suite 350 | Raleigh, NC 27612
t (919) 324-1665 ext: 24402 | d (919) 948-3289
website | map | email

From: Edwards, Charles N <cnedwards@ncdot.gov>
Sent: Monday, April 15, 2019 1:04 PM
To: Dionne Brown <DBrown@davenportworld.com>; Cy Stober <cstober@cityofmebane.com>; Montrena W. Hadley <mhadley@cityofmebane.com>; fholt@awck.com; Franz Holt <fholt@cityofmebane.com>
Cc: Frank Amenya <famenya@davenportworld.com>; Nina Baez <NBaez@davenportworld.com>; Hinton, Kimberly D <kdhinton@ncdot.gov>
Subject: RE: [External] Bradford Academy Mebane

Dionne,

I believe that the intersections listed would be sufficient to study and assess impacts attributable to the development. However, before moving forward too quickly, the information on the MSTA information form that you previously referenced is critical. When can we expect this to be available? Also, please note that the study not only needs to evaluate the school traffic but also, the traffic associated with the residential component and to clearly differentiate impacts and needed improvements exclusively attributable to the two distinct uses. I also noted that the site plan you provided with the school site overlayed is distinctly different from that which was recently submitted to the City of Mebane TRC. Of particular interest is it appears that the northern access to NC 119 and internal roundabout now only serves the school site rather than also serving the residential component as was previously shown. Can you advise if this is the Applicant's intent?

C. N. Edwards Jr., PE (Chuck)
District Engineer
North Carolina Department of Transportation
Division of Highways
Division 7, District 1

336 570 6833
cnedwards@ncdot.gov

115 East Crescent Square Drive
P. O. Box 766
Graham, NC 27253

From: Dionne Brown <DBrown@davenportworld.com>
Sent: Monday, April 15, 2019 9:33 AM
To: Cy Stober <cstober@cityofmebane.com>; Edwards, Charles N <cnedwards@ncdot.gov>; Montrena W. Hadley <mhadley@cityofmebane.com>; fholt@awck.com; Franz Holt <fholt@cityofmebane.com>
Cc: Frank Amenya <famenya@davenportworld.com>; Nina Baez <NBaez@davenportworld.com>; Hinton, Kimberly D <kdhinton@ncdot.gov>
Subject: RE: [External] Bradford Academy Mebane

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Morning All,

Since the client is under a tight deadline, I don't think a meeting in May will work.

Based on the site plan and the previous TIA, is it safe to say that we can assume the same intersections and use the counts from Oct?

1) NC 119 at Trollingwood Hawfields Road/ Old Hillsborough Road
2) NC 119 at Kimrey Road
3) NC 119 at Jim Minor Road
4) NC 54 and Jim Minor Road/ Reatkin Lane
5) NC 119 and Turner Road

At the moment, they are predicting 425 students. We will use the MSTA calculator to determine the queue and trips for the future build/new school.

When we get a better site plan, we will share that and any information.

Dionne C. Brown, PE | Project Manager
DAVENPORT
4600 Marriott Drive Suite 350 | Raleigh, NC 27612
t (919) 324-1665 ext: 24402 | d (919) 948-3289
website | map | email

From: Cy Stober <cstober@cityofmebane.com>
Sent: Monday, April 15, 2019 8:28 AM
To: Dionne Brown <DBrown@davenportworld.com>; Edwards, Charles N <cnedwards@ncdot.gov>; Montrena W. Hadley <mhadley@cityofmebane.com>; fholt@awck.com; Franz Holt <fholt@cityofmebane.com>
Cc: Frank Amenya <famenya@davenportworld.com>; Nina Baez <NBaez@davenportworld.com>; Hinton, Kimberly D <kdhinton@ncdot.gov>
Subject: RE: [External] Bradford Academy Mebane

Hi all,

I am happy to make myself available at any of the times Chuck is free with the exception of the afternoon of 4/17 and 11 11- 2 on 4/18. I can do my best to be free the following week, but it is unlikely due to the NCAMPO Conference. If you would like to discuss the sketch at the 5/14 Mebane TRC meeting, that may be the most appropriate and convenient time and place for all parties. If necessary, we could host a video conference from the TRC meeting room.

Thanks,

Cy Stober, AICP
Development Director
Mebane
Positively Charming
106 East Washington Street
Mebane, NC 27302
919 563-9990
www.cityofmebane.com

From: Dionne Brown <DBrown@davenportworld.com>
Sent: Friday, April 12, 2019 9:34 AM
To: Edwards, Charles N <cnedwards@ncdot.gov>; Montrena W. Hadley <mhadley@cityofmebane.com>; Cy Stober <cstober@cityofmebane.com>; fholt@awck.com; Franz Holt <fholt@cityofmebane.com>
Cc: Frank Amenya <famenya@davenportworld.com>; Nina Baez <NBaez@davenportworld.com>; Hinton, Kimberly D <kdhinton@ncdot.gov>
Subject: RE: [External] Bradford Academy Mebane

Morning All,

I spoke with the client this morning. He will be getting back with me on the questions to the scoping form that MSTA goes by.
Attached you will see a sketch of the school. It is in the very preliminary phase so they do not have all the details. It is the shaded part above the subdivision.
Their current school is located at 939 S. Third Street, so this will be a relocation to max capacity.

I think a video conference would probably be best as everyone's schedules are busy and traveling could take us away from other things.

MSTA and City if you could let me know which of those times/dates work well for you I'll send a zoom meeting. If not next week, let's try and get it for the following.

Dionne C. Brown, PE | Project Manager
DAVENPORT
4600 Marriott Drive Suite 350 | Raleigh, NC 27612
t (919) 324-1665 ext: 24402 | d (919) 948-3289
website | map | email

From: Edwards, Charles N <cnedwards@ncdot.gov>
Sent: Thursday, April 11, 2019 1:59 PM
To: Dionne Brown <DBrown@davenportworld.com>; mhadley@cityofmebane.com
Cc: Frank Amenya <famenya@davenportworld.com>; Nina Baez <NBaez@davenportworld.com>; Hinton, Kimberly D <kdhinton@ncdot.gov>
Subject: RE: [External] Bradford Academy Mebane

My current availably in the immediate future is indicated below. I have copied Kim Hinton with MSTA in the event that the school is subject to the requirements of NCGS 136-18(29a). Hopefully a conference call will meet your needs.

04/15 8-11
04/16 2-5
04/17 8-4
04/18 8-4

C. N. Edwards Jr., PE (Chuck)
District Engineer
North Carolina Department of Transportation
Division of Highways
Division 7, District 1

336 570 6833
cnedwards@ncdot.gov

115 East Crescent Square Drive
P. O. Box 766
Graham, NC 27253

From: Dionne Brown <DBrown@davenportworld.com>
Sent: Monday, April 8, 2019 11:21 AM
To: Edwards, Charles N <cnedwards@ncdot.gov>; mhadley@cityofmebane.com
Cc: Frank Amenya <famenya@davenportworld.com>; Nina Baez <NBaez@davenportworld.com>
Subject: [External] Bradford Academy Mebane

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to report.spam@nc.gov

Hello Everyone,

We have been contacted by Bradford Academy on producing a TIA for their new school. It is our understanding that the school will be in the vicinity of the previous TIA we completed, Desco Highway 119, off of NC 119 and Kimrey Road.

I have asked the school to provide some information in regards to the future school as well as a site plan. I wanted to know your availability to conduct a scoping meeting for this project?

If you can provide that information, it would be greatly appreciated. When I receive the scoping information from the client I will provide so we are all informed prior to the meeting.

Dionne C. Brown, PE | Project Manager
DAVENPORT
4600 Marriott Drive Suite 350 | Raleigh, NC 27612
t (919) 324-1665 ext: 24402 | d (919) 948-3289
website | map | email

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Information Needed when Requesting NCDOT Prepare School Traffic Study

www.ncdot.gov/~msta

Name of School: Bradford Academy **Division/County:** Alamance

1. School Traffic Study Type: ☐ New ■ Relocating ☐ Expanding Existing
2. School Type: ☐ Public ■ Private ☐ Non-urban Charter ☐ Urban Charter
   If Charter, Final Approval of Application date: Date
3. Grade Levels: Enter grade level and number of students in each grade:

(Pre-K	K	1	2	3	4	5	6	7	8	9	10	11	12)
32	32	32	32	32	32	32	32	32	32	32	32	32	32

4. School Physical location: Proposed or Existing (indicate both, if applicable)
   Proposed Address: Address Hwy 119, Mebane, NC
   Existing Address: Address 919 S Third St. Mebane, NC
5. Is the Physical location for the School Traffic Study: ■ Permanent ☐ Temporary
   If temporary when are your plans to move to Permanent location: Months / Years
6. Is there Joint use of property, between two or more schools? ☐ Yes ☒ No
   Will they operate at the same time or be offset? Provide Bell Schedules:
7. Program Type: ☒ Traditional ☐ Year Round
8. Will a Day Care be on the same site? ☐ Yes ☒ No
9. Is there a decided Handicap program on site? ☐ Yes ☒ No
10. Does this school have a non-traditional instructional focus? ☒ Yes ☒ No
    (i.e., At Risk Teens, College Prep, Leadership and Trade Careers)
    If so, explain the program; also explain how travel patterns will be different.
    College Prep - no affect on traffic
11. School hours of operation (include any staggered times, pre-school and/or after-school programs)
    TK: 8am-12pm, K-5th: 8am-2:45pm, 6th-12th: 7:45am - 3pm
12. Maximum Student population: 450
13. Plans to increase the student population (i.e., future construction/install mobile units)?
    ☐ Yes ☒ No If so, when: Date
14. Student drivers: ☒ Yes ☐ No
    If so, how many Student Drivers/Parking Permits assigned: 25
    How many total student parking spaces/parking permits allotted? 25
15. Number of faculty/staff: 35
16. Faculty arrive same time as the students? ☐ Yes ☒ No
17. Number of Students that ride the bus: 0
18. Buses: ☐ Yes ☒ No Number of buses:
    Housed on the campus: ☐ Yes ☐ No All Standard Size: ☐ Yes ☐ No
    Shuttle Bus: ☐ Yes ☐ No Shared with another school: ☐ Yes ☐ No
19. Does the site promote walkable communities/Bicycle (sidewalks/paths) and/or take advantage of existing transit systems? ☒ Yes ☐ No If so, what type: mixed use How many:
20. Are any grades required to Park & Walk in? (i.e., Pre-K) ☒ Yes ☐ No
    List the number of students in each grade: 32

Site Plan

21. Provide a scalable electronic copy of the site plan.

22. Show proposed traffic routes/patterns for Parents, Student drivers, buses, and staff.

23. Indicate location of the Parent Loading Zone for student pickup/drop-off.

24. Number of loading bays in the parent loading zone? na

25. Indicate location of the Bus loading Zone for student pickup/drop-off.

26. Number of loading bays in the Bus loading zone na

27. Indicate Short Term/Visitor Parking location.

28. Number of parking spaces dedicated to Short Term/Visitor parking?

29. Enough parking for faculty, staff, student drivers and buses? ☐ Yes ☒ No

30. Will Day Care buses/shuttles be transporting on/off the campus? ☐ Yes ☒ No
    If yes, show proposed traffic route/pattern and loading zone.

31. Will Handicap buses be transporting on/off the campus? ☐ Yes ☒ No
    If yes, show proposed traffic route/pattern and loading zone.

32. Provide number of parents entering and exiting:
    In what direction will your school traffic be coming from, what percentages?
    North 60% South 40% East West

33. Provide a brief description of the parent/student-loading zone process

34. Describe the bus loading/parking process

Developments Planned

35. School located in or adjacent to a planned development? ☒ Yes ☒ No
    If yes, explain. Summerhaven

36. Any businesses or housing developments in the area that may affect school operations? ☐ Yes ☒ No
    If yes, explain.

37. Any business or developments planned for the area that may affect school-related traffic? ☒ Yes ☐ No
    If yes, explain. Summerhaven shared entra

38. List any concerns that need to be addressed

Submitted and Completed by:

Name (Responsible Party): Tony Fairchild
Signature: Tony Fairchild Digitally signed by Tony Fairchild Date: 2019.04.16 09:41:25 -04'00'
Address: 939 S Third St, Mebane, NC
Email: tony.fairchild@bldr.com
Phone: 919-669-5069
Date: 4/16/19

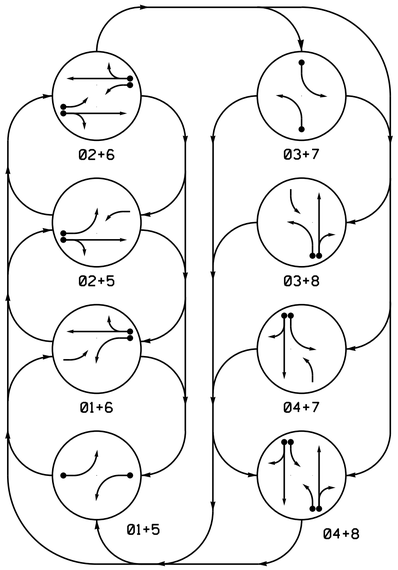
Approved by (Board Chairman or Superintendent)**:**

Name:
Signature:
Address:
Email:
Phone:
Date:

DocuSign Envelope ID: 9FB8057F-62B5-40ED-9AFC-B73F22E3B61D

PROJECT REFERENCE NO.	SHEET NO.
U-5538C	Sig. 3.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

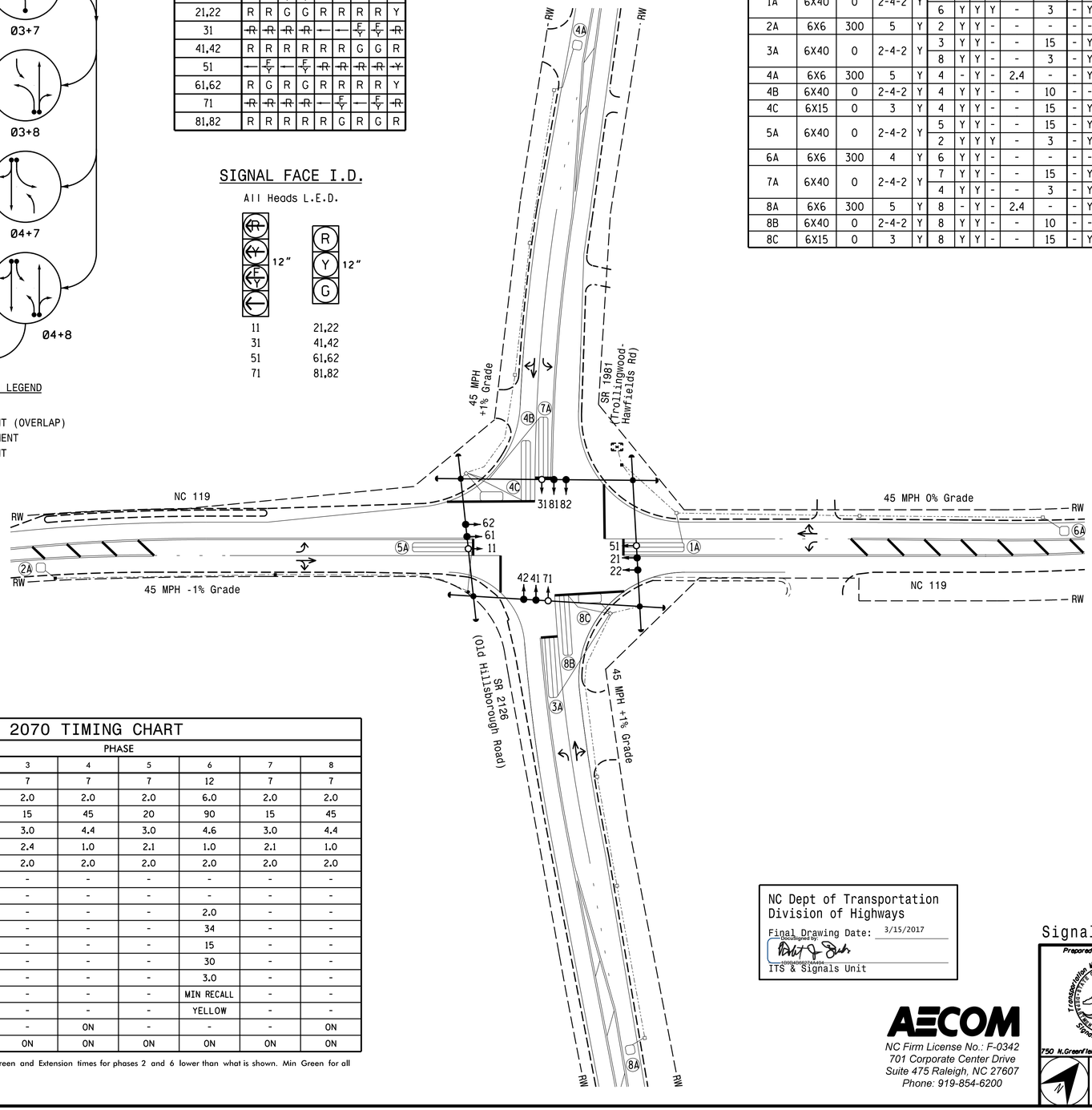
TABLE OF OPERATION

SIGNAL FACE	PHASE 01+05	01+06	02+05	02+06	03+07	03+08	04+07	04+08	FLASH
11	←	←	F.Y.	F.Y.	~~R~~	~~R~~	~~R~~	~~R~~	~~Y~~
21,22	R	R	G	G	R	R	R	R	Y
31	~~R~~	~~R~~	~~R~~	~~R~~	←	←	F.Y.	F.Y.	~~R~~
41,42	R	R	R	R	R	R	G	G	R
51	←	F.Y.	←	F.Y.	~~R~~	~~R~~	~~R~~	~~R~~	~~Y~~
61,62	R	G	R	G	R	R	R	R	Y
71	~~R~~	~~R~~	~~R~~	~~R~~	←	F.Y.	←	F.Y.	~~R~~
81,82	R	R	R	R	R	G	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.

11	21,22
31	41,42
51	61,62
71	81,82



OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	Y
					6	Y	Y	Y	-	3	-	Y
2A	6X6	300	5	Y	2	Y	Y	-	-	-	-	-
3A	6X40	0	2-4-2	Y	3	Y	Y	-	-	15	-	Y
					8	Y	Y	-	-	3	-	Y
4A	6X6	300	5	Y	4	-	Y	-	2.4	-	-	Y
4B	6X40	0	2-4-2	Y	4	Y	Y	-	-	10	-	-
4C	6X15	0	3	Y	4	Y	Y	-	-	15	-	Y
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	Y
					2	Y	Y	Y	-	3	-	Y
6A	6X6	300	4	Y	6	Y	Y	-	-	-	-	-
7A	6X40	0	2-4-2	Y	7	Y	Y	-	-	15	-	Y
					4	Y	Y	-	-	3	-	Y
8A	6X6	300	5	Y	8	-	Y	-	2.4	-	-	Y
8B	6X40	0	2-4-2	Y	8	Y	Y	-	-	10	-	-
8C	6X15	0	3	Y	8	Y	Y	-	-	15	-	Y

8 Phase
Fully Actuated
(Isolated)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012, "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Reposition all existing signal heads as shown.
6. Set all detector units to presence mode.

OASIS 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green 1 *	7	12	7	7	7	12	7	7
Extension 1 *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Max Green 1 *	20	90	15	45	20	90	15	45
Yellow Clearance	3.0	4.6	3.0	4.4	3.0	4.6	3.0	4.4
Red Clearance	2.1	1.0	2.4	1.0	2.1	1.0	2.1	1.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-	-	-	-	-
Don't Walk 1	-	-	-	-	-	-	-	-
Seconds Per Actuation *	-	2.0	-	-	-	2.0	-	-
Max Variable Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	30	-	-	-	30	-	-
Minimum Gap	-	3.0	-	-	-	3.0	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW	-	-
Dual Entry	-	-	-	ON	-	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Signal Pole with Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	

NC Dept of Transportation
Division of Highways
Final Drawing Date: 3/15/2017
DocuSigned by: [signature] 3/15/2017
ITS & Signals Unit

AECOM
NC Firm License No.: F-0342
701 Corporate Center Drive
Suite 475 Raleigh, NC 27607
Phone: 919-854-6200

Signal Upgrade - Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

NC 119
at
SR 1981 (Trollingwood-Hawfields Rd)/
SR 2126 (Old Hillsborough Rd)
Division 7 Alamance County S. of Mebane

PLAN DATE: October 2016 | REVIEWED BY: C. L. Kalencik
PREPARED BY: S. W. Cox | REVIEWED BY:

SCALE 0 40' 1"=40'

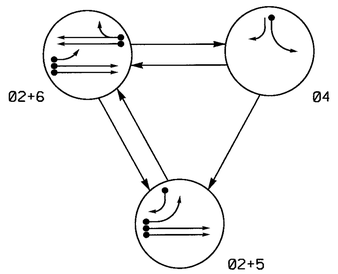
REVISIONS	INIT.	DATE

NORTH CAROLINA PROFESSIONAL SEAL 040715 ENGINEER COURTNEY L. KALENCIK
DocuSigned by: Courtney L. Kalencik DFE918CE2B64FE... 3/13/2017
SIG. INVENTORY NO. 07-0397

3/10/2017
P:\#GDOT0621 U-5538C\#900_Work\#910_CAD\#70_NCDOT_TIP\#Traffic\#Signals\#Design\#Signals\#070397_sig_dsn_20170310.dgn
coxsw

PROJECT REFERENCE NO.	SHEET NO.
Alamance Co. FYA	Sig. 14D

PHASING DIAGRAM



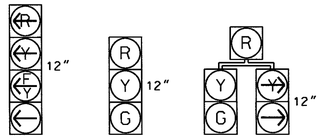
PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION				
SIGNAL FACE	PHASE 02+5	PHASE 02+6	PHASE 04	FLASH
21, 22	G	G	R	Y
41	R	R	G	R
42	R→	R	G	R
51	←	F Y	~~R~~	~~Y~~
61, 62	R	G	R	Y

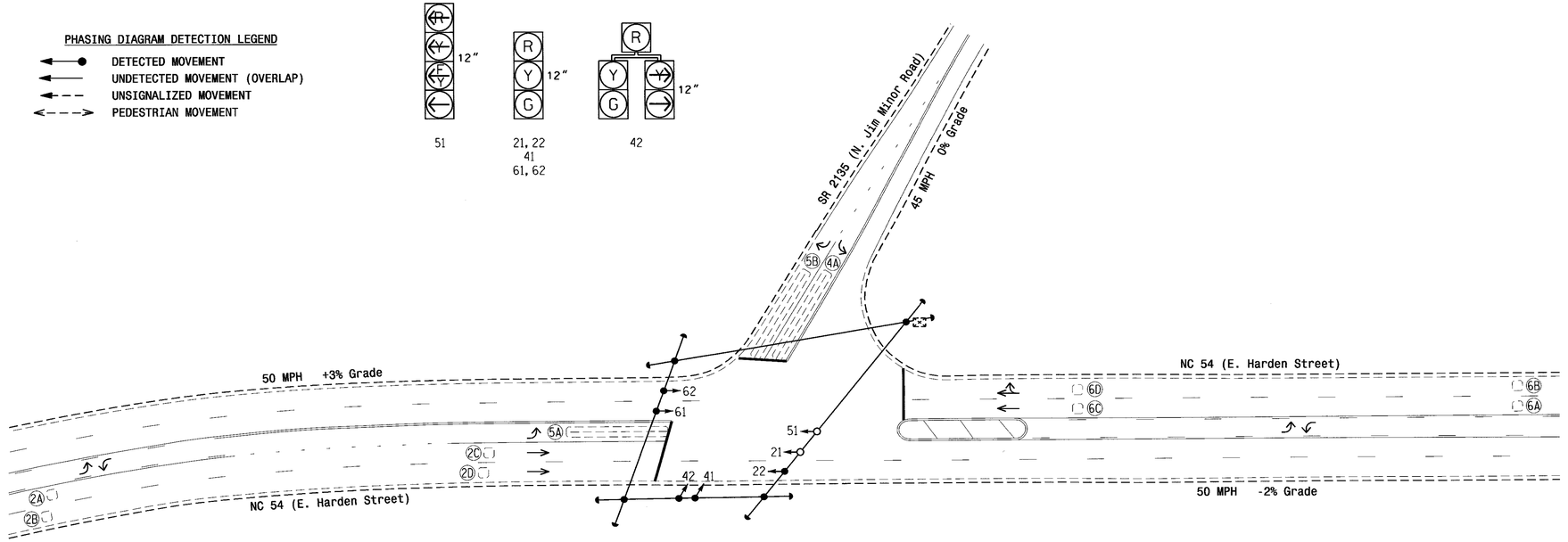
SIGNAL FACE I.D.

All Heads L.E.D.



SE-PAC 2070 LOOP & DETECTOR UNIT INSTALLATION CHART

INDUCTIVE LOOPS						DETECTOR PROGRAMMING																
							TIMING		OPERATION MODE											STATUS	
									0	1	2	3	4	5	6	7					
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	ASSIGNED PHASE	DELAY	EXTEND (STRETCH)	VEHICLE	PEDESTRIAN	1 CALL	STOP A	STOP B	PED/PER LEFT	PED/PER THROUGH	AND	SWITCH	SYSTEM LOOPS	NEW	EXISTING
2A, 2B	6X6	EXIST	360	-	X	2	- SEC.	2.0 SEC.	X	-	-	-	-	-	-	-	-	-	-	X
2C, 2D	6X6	EXIST	100	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
4A	6X60	2-4-2	0	-	X	4	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
5A	6X60	2-4-2	0	-	X	5	15 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
						2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
5B	6X60	2-4-2	0	-	X	5	15 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
6A, 6B	6X6	EXIST	360	-	X	6	- SEC.	2.0 SEC.	X	-	-	-	-	-	-	-	-	-	-	X
6C, 6D	6X6	EXIST	100	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X



SE-PAC 2070 TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 5	PHASE 6
Min Green *	14	7	7	14
Passage Gap *	2.0	1.0	1.0	2.0
Maximum Green *	45	25	15	45
Yellow Change	5.0	3.0	3.0	5.0
Red Clear	1.6	1.9	2.6	1.6
Walk *	-	-	-	-
Pedestrian Clear	-	-	-	-
Added Initial *	-	-	-	-
Maximum Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	LOCK	NON-LOCK	NON-LOCK	LOCK
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

3 Phase
Fully Actuated
(Burlington-Graham Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Remove existing backup protection.
4. Phase 5 may be lagged.
5. Reposition existing signal head number 22.
6. Set all detector units to presence mode.
7. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
8. Install Auxiliary Output file into existing cabinet.
9. Pavement markings are existing.
10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
□↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●—
○	Signal Pole with Sidewalk Guy	●—
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
----------	2-in Underground Conduit	----------
N/A	Right of Way	----------
→	Directional Arrow	→

Signal Upgrade

Prepared in the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

NC 54 (E. Harden Street)
at
SR 2135 (N. Jim Minor Road)

Division 7 Alamance County Graham

PLAN DATE: November 2013 REVIEWED BY:
PREPARED BY: N. Zinser REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA
SIGNATURE DATE 12/10/13
SIG. INVENTORY NO. 07-1719

10-DEC-2013 12:37
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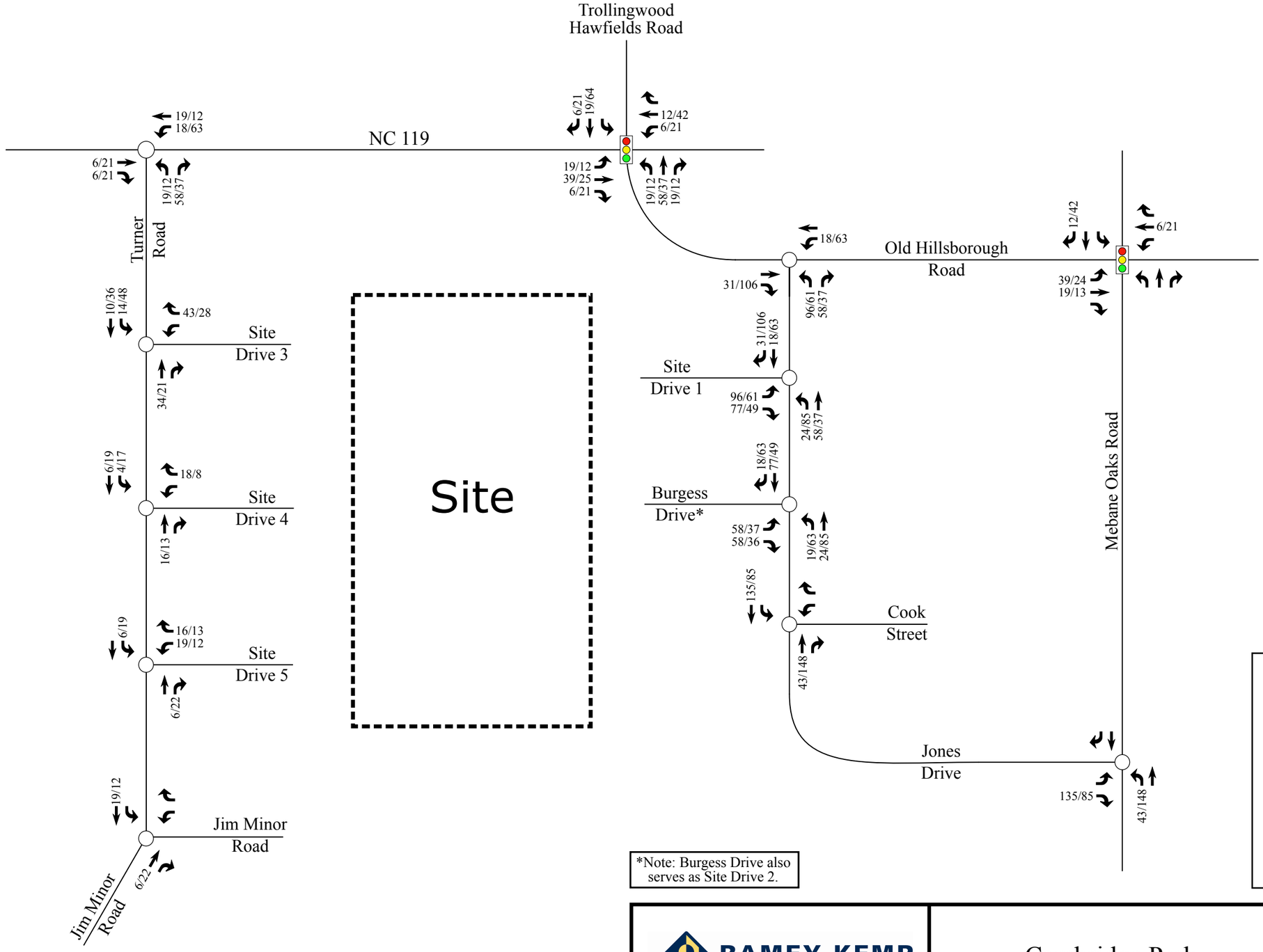
rziemba


Trollingwood
Hawfields Road
NC 119
Turner
Road
Old Hillsborough
Road
Mebane Oaks Road
Site
Drive 3
Site
Drive 4
Site
Drive 5
Site
Drive 1
Burgess
Drive*
Cook
Street
Jones
Drive
Jim Minor
Road
Jim Minor
Road
Site
19/12
18/63
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6/21
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58/37
6/21
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96/61
77/49
24/85
58/37
6/19
4/17
18/8
16/13
18/63
77/49
58/37
58/36
19/63
24/85
135/85
6/19
16/13
19/12
6/22
43/148
19/12
6/22
135/85
43/148
*Note: Burgess Drive also serves as Site Drive 2.
LEGEND
Unsignalized Intersection
Signalized Intersection
X% Entering Trip Distribution
(Y%) Exiting Trip Distribution
XX% Regional Trip Distribution
RAMEY KEMP & ASSOCIATES
TRANSPORTATION ENGINEERS
Cambridge Park
Mebane, NC
Site Trip Assignment - Full Build-Out
Scale: Not to Scale
Figure 9C

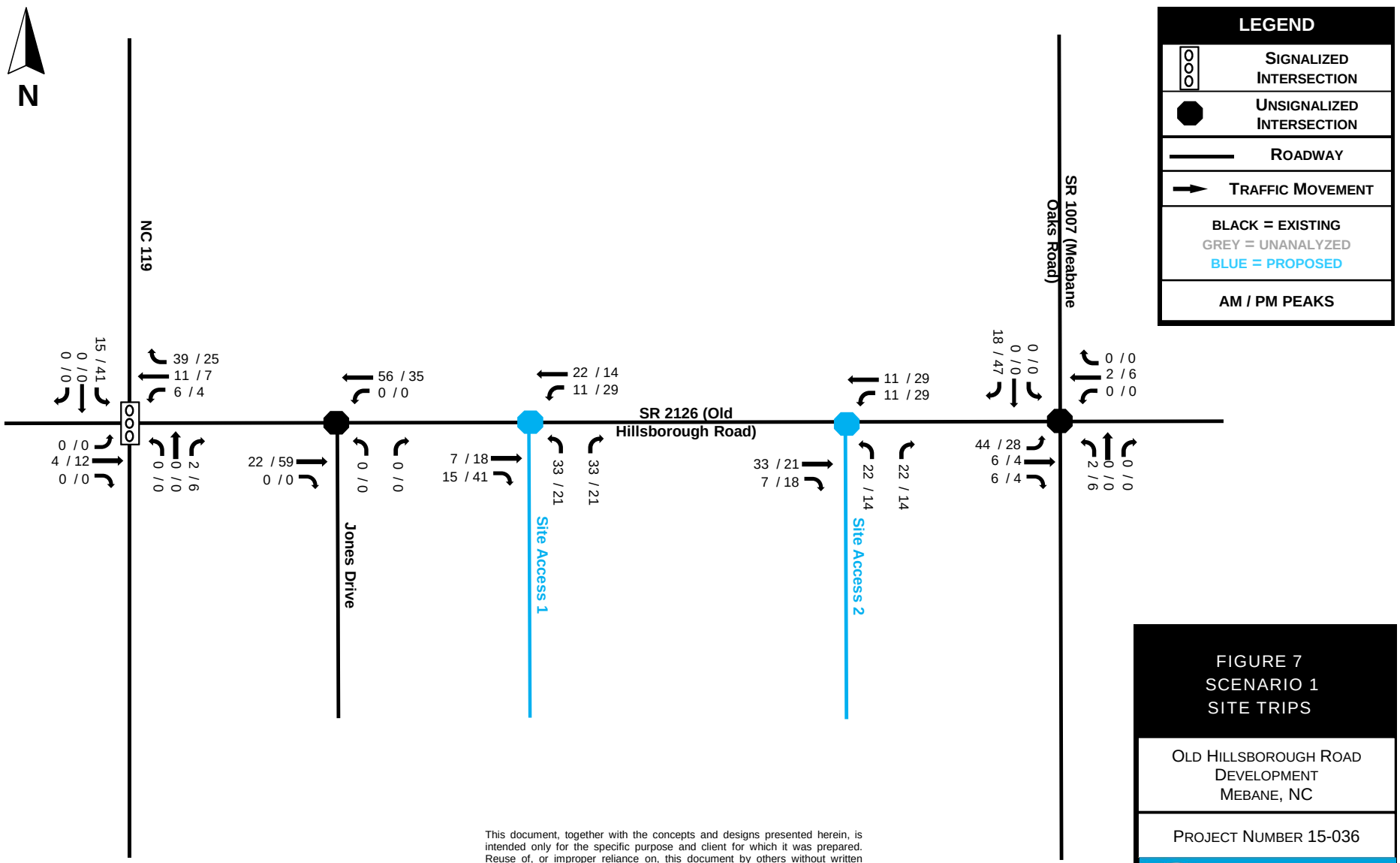

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FIGURE 7
SCENARIO 1
SITE TRIPS

OLD HILLSBOROUGH ROAD
DEVELOPMENT
MEBANE, NC

PROJECT NUMBER 15-036

DAVENPORT

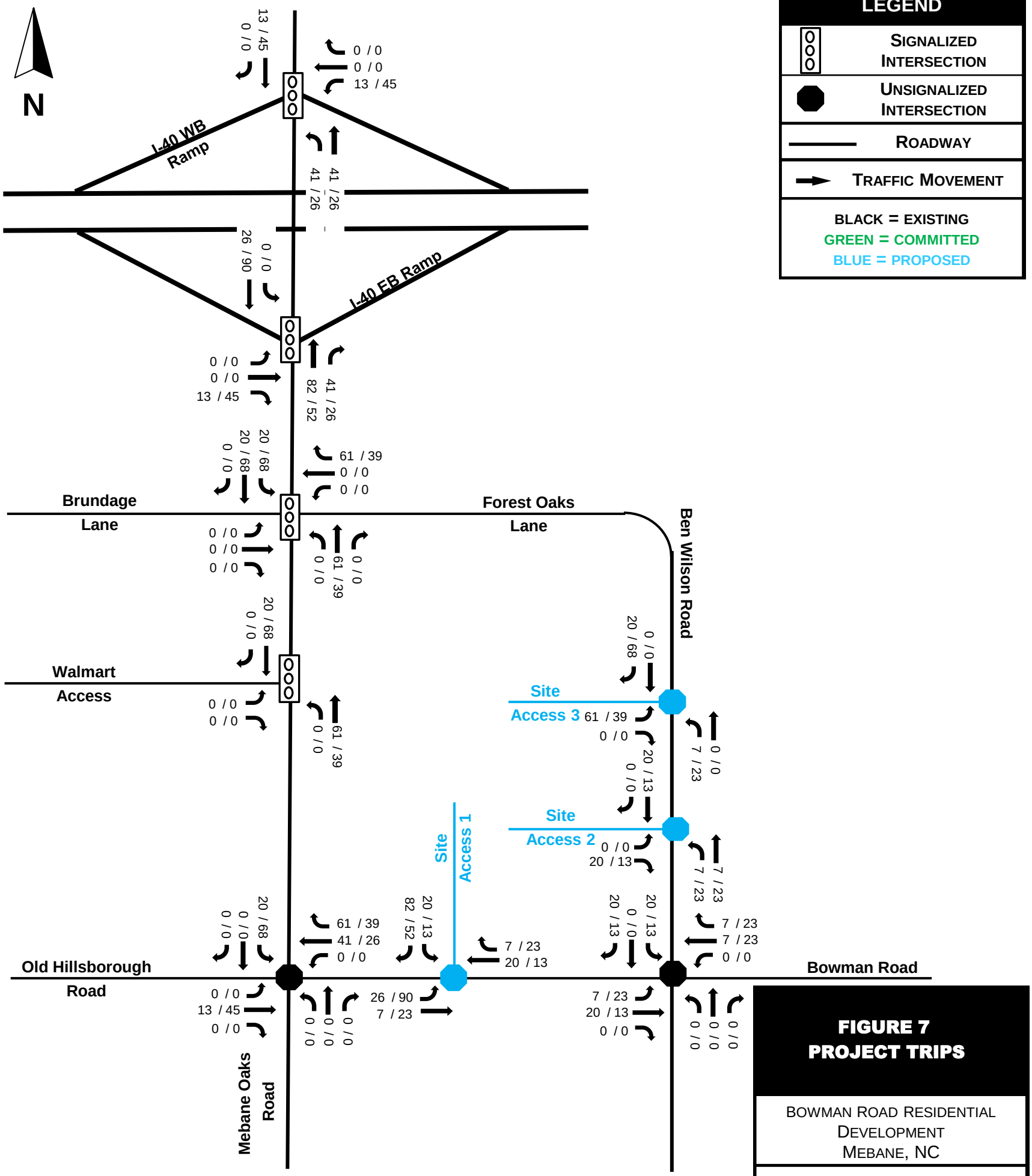

FIGURE 7
PROJECT TRIPS

BOWMAN ROAD RESIDENTIAL DEVELOPMENT
MEBANE, NC

PROJECT NUMBER 15-066

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Trip Generation Summary

Alternative: Alternative 1
Phase:
Project: 190020

Open Date: 9/18/2019
Analysis Date: 9/18/2019

ITE	Land Use	*	Weekday Average Daily Trips Enter	Exit	Total	*	Weekday AM Peak Hour of Adjacent Street Traffic Enter	Exit	Total	*	Weekday PM Peak Hour of Adjacent Street Traffic Enter	Exit	Total
210	SFHOUSE 1		834	833	1667		31	92	123		105	61	166
	167 Dwelling Units												
221	MID-RISE 1		92	92	184		3	9	12		10	6	16
	34 Dwelling Units												
251	SENIORDETACHED 1		316	315	631		15	30	45		32	21	53
	114 Dwelling Units												
252	SENIORATTACHED 1		611	610	1221		22	40	62		42	35	77
	310 Dwelling Units												
Unadjusted Volume			1853	1850	3703		71	171	242		189	123	312
Internal Capture Trips			0	0	0		0	0	0		0	0	0
Pass-By Trips			0	0	0		0	0	0		0	0	0
Volume Added to Adjacent Streets			1853	1850	3703		71	171	242		189	123	312

Total Weekday Average Daily Trips Internal Capture = 0 Percent
Total Weekday AM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent
Total Weekday PM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

* - Custom rate used for selected time period.

Source: Institute of Transportation Engineers, Trip Generation Manual 10th Edition

EXISTING VOLUMES															
	NB				SB				EB				WB		
Start Time	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right
6:00 AM	2	41	0		5	11	1		1	0	2		0	9	4
6:15 AM	7	65	0		1	17	1		3	0	1		3	5	7
6:30 AM	11	91	0		2	27	1		3	2	4		0	17	14
6:45 AM	5	94	3		3	46	2		1	3	3		2	14	6
	0	0	0		0	0	0		0	0	0		0	0	0
07:00 AM	4	68	0		1	52	2		0	4	3		3	25	9
07:15 AM	11	110	2		4	43	3		4	5	7		7	24	18
07:30 AM	5	91	3		6	55	2		2	2	6		4	28	9
07:45 AM	11	84	1		1	45	4		1	4	3		1	21	11
	0	0	0		0	0	0		0	0	0		0	0	0
08:00 AM	5	71	2		5	42	5		1	6	3		1	14	6
08:15 AM	1	40	2		3	38	2		3	8	5		0	11	8
08:30 AM	4	48	1		4	34	2		0	4	5		0	11	5
08:45 AM	9	49	1		5	11	0		4	5	0		0	14	8
	0	0	0		0	0	0		0	0	0		0	0	0
09:00 AM	5	32	0		3	21	1		4	11	2		0	13	9
09:15 AM	2	33	3		5	30	2		1	5	3		2	11	5
09:30 AM	5	29	1		4	34	5		0	9	3		2	11	3
09:45 AM	4	43	1		4	25	3		0	1	1		2	6	3
	0	0	0		0	0	0		0	0	0		0	0	0
10:00 AM	3	42	0		4	25	1		1	6	1		1	9	5
10:15 AM	0	31	1		3	22	1		2	10	7		0	7	8
10:30 AM	1	32	1		5	23	3		2	5	1		1	6	4
10:45 AM	1	27	7		2	30	2		3	5	7		1	9	4
	0	0	0		0	0	0		0	0	0		0	0	0
11:00 AM	2	42	1		2	39	1		0	4	3		4	6	4
11:15 AM	1	43	2		4	26	4		2	7	1		0	9	4
11:30 AM	3	50	0		5	38	2		3	7	3		1	12	8
11:45 AM	3	40	2		6	30	2		0	5	3		1	7	3
	0	0	0		0	0	0		0	0	0		0	0	0
12:00 PM	2	37	3		4	38	2		4	8	6		0	7	5
12:15 PM	7	42	3		6	39	2		4	9	7		3	11	6
12:30 PM	2	37	2		6	46	0		3	9	3		2	10	7
12:45 PM	1	26	2		4	40	1		3	5	3		1	9	7
	0	0	0		0	0	0		0	0	0		0	0	0
01:00 PM	1	27	1		6	40	1		2	5	3		1	13	6
01:15 PM	2	32	0		2	45	0		0	10	3		0	13	5
01:30 PM	1	35	1		4	49	2		3	6	0		1	10	5
01:45 PM	1	38	2		7	52	0		1	4	1		2	12	6
	0	0	0		0	0	0		0	0	0		0	0	0
02:00 PM	2	44	2		13	51	2		2	6	2		0	14	6
02:15 PM	5	52	0		11	60	1		5	7	1		2	7	4
02:30 PM	5	61	3		10	49	1		2	18	6		3	2	9
02:45 PM	7	45	6		11	61	6		5	13	5		1	5	6
	0	0	0		0	0	0		0	0	0		0	0	0
03:00 PM	6	42	4		7	52	1		1	8	7		3	12	2
03:15 PM	2	40	3		6	51	2		3	9	5		1	8	7
03:30 PM	2	61	4		11	70	3		3	14	9		4	7	8
03:45 PM	1	45	3		7	83	4		3	17	5		2	10	5
	0	0	0		0	0	0		0	0	0		0	0	0
04:00 PM	27	73	6		12	78	4		4	18	7		2	6	1
04:15 PM	6	65	6		10	71	5		4	19	6		1	9	6
04:30 PM	2	47	6		5	72	0		5	13	8		1	3	8
04:45 PM	2	34	3		6	90	3		3	13	4		4	8	1
	0	0	0		0	0	0		0	0	0		0	0	0
05:00 PM	5	60	1		9	95	3		2	12	3		3	13	7
05:15 PM	0	60	4		11	87	1		2	17	8		1	11	3
05:30 PM	6	55	4		9	82	1		5	30	5		3	13	4
05:45 PM	5	56	5		10	68	0		1	12	8		4	14	6
	0	0	0		0	0	0		0	0	0		0	0	0
06:00 PM	4	42	2		9	79	6		3	18	1		2	12	3
06:15 PM	6	38	1		10	68	1		2	12	7		2	9	5
06:30 PM	4	48	3		5	55	2		1	10	6		3	6	7
06:45 PM	2	44	1		11	60	1		4	6	9		6	8	4

DAVENPORT

190020 Bradford Academy Signal Warrant

Existing Conditions

Study Name **: Existing Signal Warrant_2019.10.21**

Signal Warrants - Summary

Major Street Approaches

Northbound: **NC 119**
Number of Lanes: **1**
85% Speed > 40 MPH.
Total Approach Volume: **2,918**

Southbound: **NC 119**
Number of Lanes: **1**
85% Speed > 40 MPH.
Total Approach Volume: **2,911**

Minor Street Approaches

Eastbound: **Jim Minor Rd**
Number of Lanes: **1**
Total Approach Volume: **782**

Westbound: **Jim Minor Rd**
Number of Lanes: **1**
Total Approach Volume: **969**

Warrant Summary **(Rural values apply.)**

Warrant 1 - Eight Hour Vehicular Volumes ..... **Not Satisfied**

Warrant 1A - Minimum Vehicular Volume .....**Not Satisfied**
Required volumes reached for 4 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic .....**Not Satisfied**
Required volumes reached for 4 hours, 8 are needed

Warrant 1C - Combination of Warrants .....**Not Satisfied**
Required 1A volumes reached for 4 hours, 8 are needed
Required 1B volumes reached for 7 hours, 8 are needed

Warrant 2 - Four Hour Volumes ..... **Satisfied**
Number of hours (4) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour ..... **Satisfied**

Warrant 3A - Peak Hour Delay .....**Satisfied**
Number of hours (2) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes .....**Not Satisfied**
Volumes do not exceed minimums for any hour.

Warrant 4 - Pedestrian Volumes ..... **Not Evaluated**

Warrant 5 - School Crossing ..... **Not Evaluated**

Warrant 6 - Coordinated Signal System ..... **Not Evaluated**

Warrant 7 - Crash Experience ..... **Not Evaluated**

Warrant 8 - Roadway Network ..... **Not Evaluated**

Warrant 9 - Intersection Near a Grade Crossing ..... **Not Evaluated**

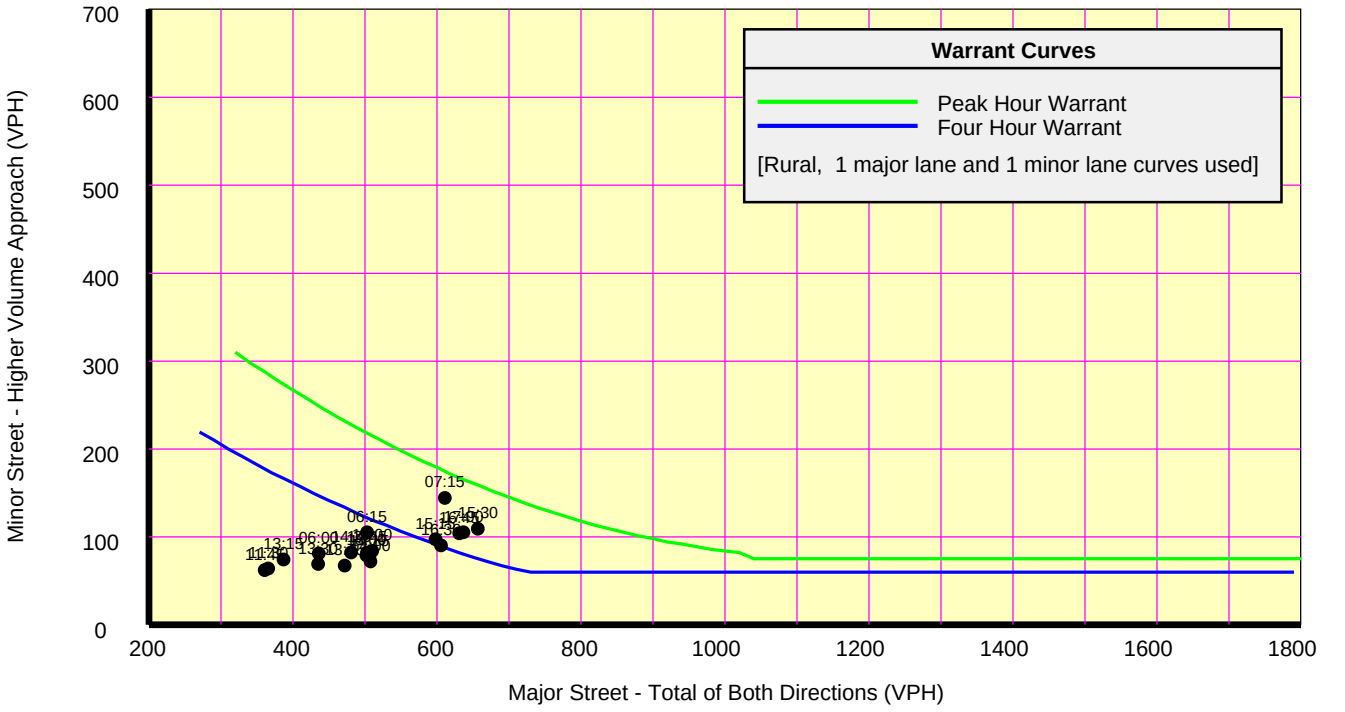
DAVENPORT

190020 Bradford Academy Signal Warrant

Existing Conditions

Study Name **: Existing Signal Warrant_2019.10.21**

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

War 1A-Minimum Volume **War 1B-Interruption of Traffic** **War 1C-Combination of Warrants**

Hour Begin	Major Total	Minor Vol	Minor Dir	Maj 350	Min 105	Hour Begin	Major Total	Minor Vol	Minor Dir	Maj 525	Min 53	Hour Begin	Major Total	Minor Vol	Minor Dir	1A Met	1B Met
15:30	657	109	EB	Yes	Yes	17:15	606	110	EB	Yes	Yes	15:30	657	109	EB	-	Yes
17:00	637	105	EB	Yes	Yes	16:15	606	92	EB	Yes	Yes	17:00	637	105	EB	Yes	-
07:15	611	144	W	Yes	Yes	15:15	598	97	EB	Yes	Yes	16:00	633	104	EB	Yes	-
06:15	503	105	W	Yes	Yes	06:30	585	139	W	Yes	Yes	07:15	611	144	W	Yes	-
16:45	631	104	EB	Yes	No	07:30	524	114	W	No	Yes	07:00	608	160	W	-	Yes
16:30	606	90	EB	Yes	No	15:00	510	84	EB	No	Yes	16:30	606	90	EB	-	Yes
15:15	598	97	EB	Yes	No	14:00	508	72	EB	No	Yes	17:30	567	104	EB	-	Yes
15:00	510	84	EB	Yes	No	14:15	506	78	EB	No	Yes	15:00	510	84	EB	Yes	-
14:00	508	72	EB	Yes	No	14:45	503	82	EB	No	Yes	06:15	503	105	W	Yes	-
14:15	506	78	EB	Yes	No	06:15	503	105	W	No	Yes	14:30	481	82	EB	No	Yes
14:45	503	82	EB	Yes	No	14:30	481	82	EB	No	Yes	06:00	436	81	W	No	Yes
18:00	502	79	EB	Yes	No	13:45	472	67	W	No	Yes	13:30	435	69	W	No	Yes
14:30	481	82	EB	Yes	No	07:45	455	89	W	No	Yes	14:00	508	72	EB	No	-
13:45	472	67	W	Yes	No	06:00	436	81	W	No	Yes	14:15	506	78	EB	No	-
06:00	436	81	W	Yes	No	13:30	435	69	W	No	Yes	14:45	503	82	EB	No	-
13:30	435	69	W	Yes	No	13:15	387	74	W	No	Yes	18:00	502	79	EB	No	-
13:15	387	74	W	Yes	No	08:00	384	78	W	No	Yes	13:45	472	67	W	No	-
11:30	366	64	W	Yes	No	11:30	366	64	W	No	Yes	13:15	387	74	W	No	No
11:45	361	62	W	Yes	No	11:45	361	62	W	No	Yes	08:00	384	78	W	-	No
18:15	360	57	EB	Yes	No	18:15	360	57	EB	No	Yes	11:30	366	64	W	No	No
12:00	352	68	W	Yes	No	12:00	352	68	W	No	Yes	11:45	361	62	W	No	No
13:00	349	74	W	No	No	13:00	349	74	W	No	Yes	18:15	360	57	EB	No	-
11:00	348	59	W	No	No	11:00	348	59	W	No	Yes	12:00	352	68	W	No	No
11:15	347	57	W	No	No	11:15	347	57	W	No	Yes	13:00	349	74	W	No	No

2023 NO-BUILD VOLUMES															
	NB				SB				EB				WB		
Start Time	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right
6:00 AM	2	49	0		7	14	2		7	0	2		0	9	7
6:15 AM	7	75	0		3	20	2		9	0	1		3	5	10
6:30 AM	12	102	0		4	31	2		9	2	4		0	18	17
6:45 AM	5	105	3		5	51	3		7	3	3		2	15	9
07:00 AM	4	77	0		13	71	6		6	4	3		3	26	10
07:15 AM	12	122	2		16	61	7		10	5	7		7	25	20
07:30 AM	5	102	3		18	74	6		8	2	6		4	29	10
07:45 AM	12	94	1		13	63	8		7	4	3		1	22	13
08:00 AM	5	80	2		8	47	6		5	6	3		1	15	8
08:15 AM	1	47	2		6	43	3		7	8	5		0	12	11
08:30 AM	4	55	1		7	39	3		4	4	5		0	12	7
08:45 AM	9	57	1		8	15	1		9	5	0		0	15	11
09:00 AM	5	38	0		6	26	2		8	12	2		0	14	11
09:15 AM	2	39	3		8	35	3		5	5	3		2	12	7
09:30 AM	5	35	1		7	39	6		4	9	3		2	12	5
09:45 AM	4	49	1		7	30	4		4	1	1		2	6	5
10:00 AM	3	49	0		7	30	2		5	6	1		1	9	7
10:15 AM	0	37	1		6	27	2		6	11	7		0	7	10
10:30 AM	1	38	1		8	28	4		6	5	1		1	6	6
10:45 AM	1	33	7		5	35	3		7	5	7		1	9	6
11:00 AM	2	49	1		5	45	2		4	4	3		4	6	6
11:15 AM	1	50	2		7	31	5		6	7	1		0	9	6
11:30 AM	3	57	0		8	44	3		7	7	3		1	13	10
11:45 AM	3	47	2		10	35	3		4	5	3		1	7	5
12:00 PM	2	43	3		8	44	3		8	8	6		0	7	7
12:15 PM	7	48	3		10	45	3		8	9	7		3	12	8
12:30 PM	2	43	2		10	52	1		7	9	3		2	11	9
12:45 PM	1	31	2		8	46	2		7	5	3		1	9	9
01:00 PM	1	32	1		10	47	2		5	5	3		1	14	8
01:15 PM	2	37	0		6	52	1		3	11	3		0	14	7
01:30 PM	1	40	1		8	56	3		6	6	0		1	11	7
01:45 PM	1	44	2		11	59	1		4	4	1		2	13	8
02:00 PM	2	50	2		18	58	3		5	6	2		0	15	8
02:15 PM	5	59	0		15	68	2		9	7	1		2	7	6
02:30 PM	5	68	3		14	56	2		5	19	6		3	2	11
02:45 PM	7	51	6		15	69	8		9	14	5		1	5	8
03:00 PM	6	62	4		16	67	4		17	8	7		3	13	4
03:15 PM	2	60	3		15	66	5		19	9	5		1	8	9
03:30 PM	2	82	4		21	86	6		19	15	9		4	7	10
03:45 PM	1	65	3		16	99	7		19	18	5		2	11	7
04:00 PM	28	80	6		17	87	6		7	19	7		2	6	2
04:15 PM	6	72	6		15	79	7		7	20	6		1	9	8
04:30 PM	2	53	6		9	80	1		8	14	8		1	3	10
04:45 PM	2	39	3		10	99	5		6	14	4		4	8	2
05:00 PM	5	66	1		14	105	5		5	13	3		3	14	9
05:15 PM	0	66	4		16	96	2		5	18	8		1	12	5
05:30 PM	6	61	4		14	91	2		8	32	5		3	14	6
05:45 PM	5	62	5		15	76	1		4	13	8		4	15	8
06:00 PM	4	47	2		14	88	8		6	19	1		2	13	5
06:15 PM	6	43	1		15	76	2		5	13	7		2	9	7
06:30 PM	4	54	3		10	63	4		4	11	6		3	6	9
06:45 PM	2	49	1		16	68	2		7	6	9		6	8	6

DAVENPORT

190020 Bradford Academy Signal Warrant

No Build Conditions

Study Name **: No Build Signal Warrant_2019.10.21**

Signal Warrants - Summary

Major Street Approaches

Northbound: **NC 119**

Number of Lanes: **1**

85% Speed > 40 MPH.

Total Approach Volume: **3,333**

Southbound: **NC 119**

Number of Lanes: **1**

85% Speed > 40 MPH.

Total Approach Volume: **3,656**

Minor Street Approaches

Eastbound: **Jim Minor Rd**

Number of Lanes: **1**

Total Approach Volume: **1,056**

Westbound: **Jim Minor Rd**

Number of Lanes: **1**

Total Approach Volume: **1,103**

Warrant Summary **(Rural values apply.)**

Warrant 1 - Eight Hour Vehicular Volumes ..... **Satisfied**

Warrant 1A - Minimum Vehicular Volume .....**Not Satisfied**

Required volumes reached for 6 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic .....**Not Satisfied**

Required volumes reached for 7 hours, 8 are needed

Warrant 1C - Combination of Warrants .....**Satisfied**

Required 1A volumes reached for 9 hours, 8 are needed

Required 1B volumes reached for 8 hours, 8 are needed

Warrant 2 - Four Hour Volumes ..... **Satisfied**

Number of hours (6) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour ..... **Satisfied**

Warrant 3A - Peak Hour Delay .....**Satisfied**

Number of hours (13) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes .....**Satisfied**

Volumes exceed minimums for at least one hour.

Warrant 4 - Pedestrian Volumes ..... **Not Evaluated**

Warrant 5 - School Crossing ..... **Not Evaluated**

Warrant 6 - Coordinated Signal System ..... **Not Evaluated**

Warrant 7 - Crash Experience ..... **Not Evaluated**

Warrant 8 - Roadway Network ..... **Not Evaluated**

Warrant 9 - Intersection Near a Grade Crossing ..... **Not Evaluated**

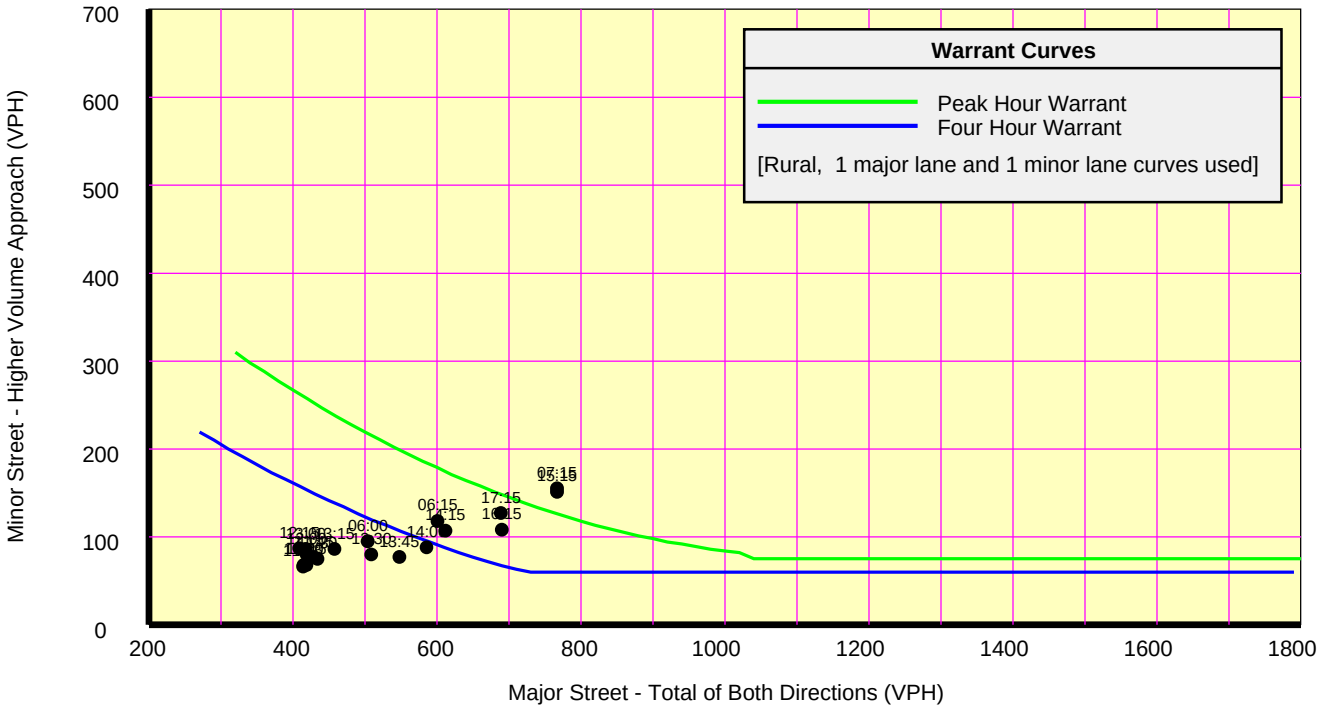
DAVENPORT

190020 Bradford Academy Signal Warrant

No Build Conditions

Study Name : **No Build Signal Warrant_2019.10.21**

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

War 1A-Minimum Volume

Hour Begin	Major Total	Minor Vol	Minor Dir	Maj 350	Min 105
15:15	767	151	EB	Yes	Yes
07:15	767	155	W	Yes	Yes
16:15	690	108	EB	Yes	Yes
17:15	689	127	EB	Yes	Yes
14:15	612	107	EB	Yes	Yes
06:15	601	118	W	Yes	Yes
14:00	586	88	EB	Yes	No
13:45	548	77	W	Yes	No
13:30	509	80	W	Yes	No
06:00	504	95	W	Yes	No
13:15	458	86	W	Yes	No
11:30	434	75	EB	Yes	No
11:45	429	77	EB	Yes	No
18:15	419	68	EB	Yes	No
12:00	419	80	EB	Yes	No
13:00	418	86	W	Yes	No
11:00	415	68	W	Yes	No
11:15	414	66	W	Yes	No
12:15	409	87	W	Yes	No
10:45	399	71	W	Yes	No
12:30	391	85	W	Yes	No
12:45	390	82	W	Yes	No
08:15	379	93	W	Yes	No
09:15	369	70	W	Yes	No

War 1B-Interruption of Traffic

Hour Begin	Major Total	Minor Vol	Minor Dir	Maj 525	Min 53
07:15	767	155	W	Yes	Yes
15:45	751	138	EB	Yes	Yes
16:45	716	121	EB	Yes	Yes
14:45	667	136	EB	Yes	Yes
17:45	608	97	EB	Yes	Yes
06:15	601	118	W	Yes	Yes
13:45	548	77	W	Yes	Yes
13:30	509	80	W	No	Yes
06:00	504	95	W	No	Yes
13:15	458	86	W	No	Yes
11:30	434	75	EB	No	Yes
11:45	429	77	EB	No	Yes
12:00	419	80	EB	No	Yes
13:00	418	86	W	No	Yes
11:00	415	68	W	No	Yes
11:15	414	66	W	No	Yes
12:15	409	87	W	No	Yes
10:45	399	71	W	No	Yes
12:30	391	85	W	No	Yes
12:45	390	82	W	No	Yes
08:15	379	93	W	No	Yes
09:15	369	70	W	No	Yes
10:30	364	60	W	No	Yes

War 1C-Combination of Warrants

Hour Begin	Major Total	Minor Vol	Minor Dir	1A Met	1B Met
07:00	790	170	W	Yes	Yes
15:15	767	151	EB	Yes	Yes
16:15	690	108	EB	Yes	Yes
17:15	689	127	EB	Yes	Yes
14:15	612	107	EB	Yes	Yes
06:00	504	95	W	Yes	Yes
13:15	458	86	W	Yes	Yes
08:00	450	92	W	Yes	Yes
11:30	434	75	EB	No	Yes
12:15	409	87	W	Yes	-
11:45	429	77	EB	No	-
18:15	419	68	EB	No	No
12:00	419	80	EB	No	-
13:00	418	86	W	-	No
11:00	415	68	W	No	No
11:15	414	66	W	No	No
10:45	399	71	W	No	No
12:30	391	85	W	-	No
12:45	390	82	W	-	No
09:15	369	70	W	No	No
10:30	364	60	W	No	No
09:00	355	78	W	No	No
09:30	352	66	W	No	No
10:15	341	66	EB	No	No

2023 BUILD VOLUMES															
	NB				SB				EB				WB		
Start Time	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right
6:00 AM	2	49	0		7	14	2		7	0	2		0	9	7
6:15 AM	7	75	0		3	20	2		9	0	1		3	5	10
6:30 AM	12	102	0		4	31	2		9	2	4		0	18	17
6:45 AM	5	105	3		5	51	3		7	3	3		2	15	9
07:00 AM	4	87	0		15	78	15		18	4	3		3	26	13
07:15 AM	12	132	2		18	68	16		22	5	7		7	25	23
07:30 AM	5	112	3		20	81	15		20	2	6		4	29	13
07:45 AM	12	104	1		15	70	17		19	4	3		1	22	16
08:00 AM	5	80	2		8	47	6		5	6	3		1	15	8
08:15 AM	1	47	2		6	43	3		7	8	5		0	12	11
08:30 AM	4	55	1		7	39	3		4	4	5		0	12	7
08:45 AM	9	57	1		8	15	1		9	5	0		0	15	11
09:00 AM	5	38	0		6	26	2		8	12	2		0	14	11
09:15 AM	2	39	3		8	35	3		5	5	3		2	12	7
09:30 AM	5	35	1		7	39	6		4	9	3		2	12	5
09:45 AM	4	49	1		7	30	4		4	1	1		2	6	5
10:00 AM	3	49	0		7	30	2		5	6	1		1	9	7
10:15 AM	0	37	1		6	27	2		6	11	7		0	7	10
10:30 AM	1	38	1		8	28	4		6	5	1		1	6	6
10:45 AM	1	33	7		5	35	3		7	5	7		1	9	6
11:00 AM	2	49	1		5	45	2		4	4	3		4	6	6
11:15 AM	1	50	2		7	31	5		6	7	1		0	9	6
11:30 AM	3	57	0		8	44	3		7	7	3		1	13	10
11:45 AM	3	47	2		10	35	3		4	5	3		1	7	5
12:00 PM	2	43	3		8	44	3		8	8	6		0	7	7
12:15 PM	7	48	3		10	45	3		8	9	7		3	12	8
12:30 PM	2	43	2		10	52	1		7	9	3		2	11	9
12:45 PM	1	31	2		8	46	2		7	5	3		1	9	9
01:00 PM	1	32	1		10	47	2		5	5	3		1	14	8
01:15 PM	2	37	0		6	52	1		3	11	3		0	14	7
01:30 PM	1	40	1		8	56	3		6	6	0		1	11	7
01:45 PM	1	44	2		11	59	1		4	4	1		2	13	8
02:00 PM	2	50	2		18	58	3		5	6	2		0	15	8
02:15 PM	5	59	0		15	68	2		9	7	1		2	7	6
02:30 PM	5	68	3		14	56	2		5	19	6		3	2	11
02:45 PM	7	51	6		15	69	8		9	14	5		1	5	8
03:00 PM	6	67	4		18	74	13		23	8	7		3	13	6
03:15 PM	2	65	3		17	73	14		25	9	5		1	8	11
03:30 PM	2	87	4		23	93	15		25	15	9		4	7	12
03:45 PM	1	70	3		18	106	16		25	18	5		2	11	9
04:00 PM	28	80	6		17	87	6		7	19	7		2	6	2
04:15 PM	6	72	6		15	79	7		7	20	6		1	9	8
04:30 PM	2	53	6		9	80	1		8	14	8		1	3	10
04:45 PM	2	39	3		10	99	5		6	14	4		4	8	2
05:00 PM	5	66	1		14	105	5		5	13	3		3	14	9
05:15 PM	0	66	4		16	96	2		5	18	8		1	12	5
05:30 PM	6	61	4		14	91	2		8	32	5		3	14	6
05:45 PM	5	62	5		15	76	1		4	13	8		4	15	8
06:00 PM	4	47	2		14	88	8		6	20	1		2	14	5
06:15 PM	6	43	1		15	76	2		5	14	7		2	10	7
06:30 PM	4	54	3		10	63	4		4	12	6		3	7	9
06:45 PM	2	49	1		16	68	2		7	7	9		6	9	6

DAVENPORT

190020 Bradford Academy Signal Warrant

Build Conditions

Study Name **: Build Signal Warrant_2019.10.21**

Signal Warrants - Summary

Major Street Approaches

Northbound: **NC 119**
Number of Lanes: **1**
85% Speed > 40 MPH.
Total Approach Volume: **3,393**

Southbound: **NC 119**
Number of Lanes: **1**
85% Speed > 40 MPH.
Total Approach Volume: **3,800**

Minor Street Approaches

Eastbound: **Jim Minor Rd**
Number of Lanes: **1**
Total Approach Volume: **1,132**

Westbound: **Jim Minor Rd**
Number of Lanes: **1**
Total Approach Volume: **1,127**

Warrant Summary **(Rural values apply.)**

Warrant 1 - Eight Hour Vehicular Volumes ..... **Satisfied**

Warrant 1A - Minimum Vehicular Volume .....**Not Satisfied**
Required volumes reached for 6 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic .....**Not Satisfied**
Required volumes reached for 7 hours, 8 are needed

Warrant 1C - Combination of Warrants .....**Satisfied**
Required 1A volumes reached for 9 hours, 8 are needed
Required 1B volumes reached for 8 hours, 8 are needed

Warrant 2 - Four Hour Volumes ..... **Satisfied**
Number of hours (6) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour ..... **Satisfied**

Warrant 3A - Peak Hour Delay .....**Satisfied**
Number of hours (17) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes .....**Satisfied**
Volumes exceed minimums for at least one hour.

Warrant 4 - Pedestrian Volumes ..... **Not Evaluated**

Warrant 5 - School Crossing ..... **Not Evaluated**

Warrant 6 - Coordinated Signal System ..... **Not Evaluated**

Warrant 7 - Crash Experience ..... **Not Evaluated**

Warrant 8 - Roadway Network ..... **Not Evaluated**

Warrant 9 - Intersection Near a Grade Crossing ..... **Not Evaluated**

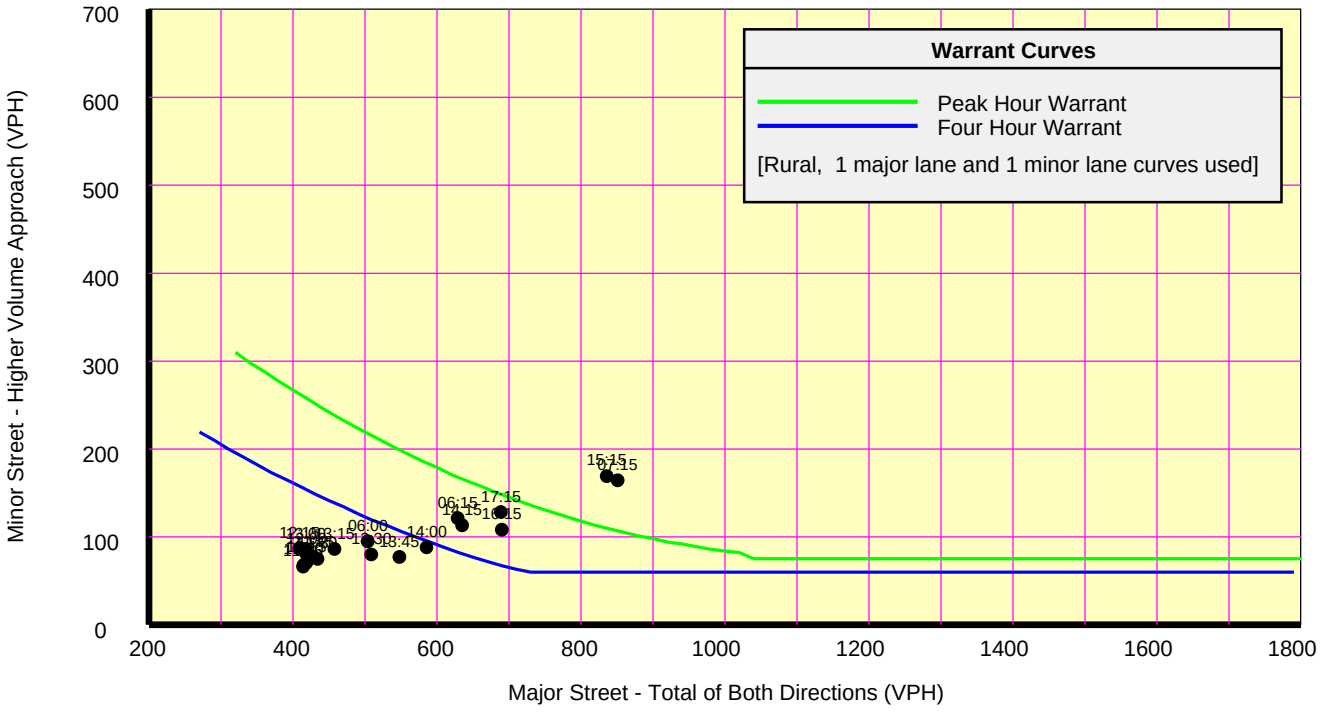
DAVENPORT

190020 Bradford Academy Signal Warrant

Build Conditions

Study Name **: Build Signal Warrant_2019.10.21**

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

War 1A-Minimum Volume

Hour Begin	Major Total	Minor Vol	Minor Dir	Maj 350	Min 105
07:15	851	164	W	Yes	Yes
15:15	836	169	EB	Yes	Yes
16:15	690	108	EB	Yes	Yes
17:15	689	128	EB	Yes	Yes
14:15	635	113	EB	Yes	Yes
06:15	629	121	W	Yes	Yes
14:00	586	88	EB	Yes	No
13:45	548	77	W	Yes	No
13:30	509	80	W	Yes	No
06:00	504	95	W	Yes	No
13:15	458	86	W	Yes	No
11:30	434	75	EB	Yes	No
11:45	429	77	EB	Yes	No
18:15	419	71	EB	Yes	No
12:00	419	80	EB	Yes	No
13:00	418	86	W	Yes	No
11:00	415	68	W	Yes	No
11:15	414	66	W	Yes	No
12:15	409	87	W	Yes	No
10:45	399	71	W	Yes	No
12:30	391	85	W	Yes	No
12:45	390	82	W	Yes	No
08:15	379	93	W	Yes	No
09:15	369	70	W	Yes	No

War 1B-Interruption of Traffic

Hour Begin	Major Total	Minor Vol	Minor Dir	Maj 525	Min 53
07:15	851	164	W	Yes	Yes
15:45	774	144	EB	Yes	Yes
14:45	736	154	EB	Yes	Yes
16:45	716	121	EB	Yes	Yes
06:15	629	121	W	Yes	Yes
17:45	608	100	EB	Yes	Yes
13:45	548	77	W	Yes	Yes
13:30	509	80	W	No	Yes
06:00	504	95	W	No	Yes
13:15	458	86	W	No	Yes
11:30	434	75	EB	No	Yes
11:45	429	77	EB	No	Yes
12:00	419	80	EB	No	Yes
13:00	418	86	W	No	Yes
11:00	415	68	W	No	Yes
11:15	414	66	W	No	Yes
12:15	409	87	W	No	Yes
10:45	399	71	W	No	Yes
12:30	391	85	W	No	Yes
12:45	390	82	W	No	Yes
08:15	379	93	W	No	Yes
09:15	369	70	W	No	Yes
08:30	367	91	W	No	Yes
10:30	364	60	W	No	Yes

War 1C-Combination of Warrants

Hour Begin	Major Total	Minor Vol	Minor Dir	1A Met	1B Met
07:00	902	182	W	Yes	Yes
15:15	836	169	EB	Yes	Yes
16:15	690	108	EB	Yes	Yes
17:15	689	128	EB	Yes	Yes
14:15	635	113	EB	Yes	Yes
06:00	504	95	W	Yes	Yes
13:15	458	86	W	Yes	Yes
08:00	450	92	W	Yes	Yes
11:30	434	75	EB	No	Yes
12:15	409	87	W	Yes	-
11:45	429	77	EB	No	-
18:15	419	71	EB	No	No
12:00	419	80	EB	No	-
13:00	418	86	W	-	No
11:00	415	68	W	No	No
11:15	414	66	W	No	No
10:45	399	71	W	No	No
12:30	391	85	W	-	No
12:45	390	82	W	-	No
09:15	369	70	W	No	No
10:30	364	60	W	No	No
09:00	355	78	W	No	No
09:30	352	66	W	No	No
10:15	341	66	EB	No	No

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

January 22, 2020

ALAMANCE COUNTY

Dionne Brown, PE
Davenport
305 West Fourth Street. Suite 2A
Winston-Salem, NC 27101

Subject: Proposed Bradford Academy (Private) Located on NC 119
Review of Traffic Analysis (TIA)

Dear Ms. Brown,

Per your request, NCDOT Congestion Management, MSTA and District staff have reviewed the TIA and preliminary site plan for the above subject. Based upon the information provided, I offer the following comments.

General:

The proposed site consists of a private school serving 450 students in grade levels Pre-K thru 12 with 35 faculty and staff and 25 student drivers. The site is located immediately adjacent to the previously approved Summerhaven residential subdivision. Pursuant to NCGS 136-29, NCDOT has previously required construction of exclusive left and right turn lanes on NC 119 with 100' of storage at each of the Summerhaven subdivision accesses. The school will share one of these accesses located on NC 119 and a roundabout located internal to the subdivision. The school will have an additional exit-only access on NC 119. The school is expected to achieve the design maximum student population by 2023.

Required Improvements:

Pursuant to NCGS 136-18(29a) and 19A NCAC 02C.0116 and as a condition of the pending NCDOT Driveway Permit, the Applicant will need to provide the following design and operational elements determined by NCDOT as necessary and required to ensure acceptable traffic operation and adequately mitigate the traffic impacts attributable to the new school.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
DIVISION 7, DISTRICT 1
PO BOX 766
GRAHAM, NC 27253-0766

Telephone: (336) 570-6833
Fax: (336) 570-6873
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
115 EAST CRESCENT SQUARE DRIVE
GRAHAM, NC 27253

External to Site:

There are no required, reimbursable improvements associated with this school as provided for by NCGS 136-(29a) and 19ANCAC 02C.0116.

- The 100' exclusive right and left turn lanes on NC 119 at the shared residential/school access which were previously stipulated in association with the residential development are expected to adequately accommodate traffic generated by both the school and residential uses. No additional improvements are required to accommodate school traffic.

- Prior to opening of the school, coordinate with NCDOT for establishment of school zone and installation of related signs and markings to be funded and installed by NCDOT.

Internal to Site:

- Provide a minimum internal storage length of 1296' to accommodate the anticipated queue demand in advance of the parent loading/unloading zone. Utilize a double queue process if dictated by site constraints and final site design.

- Designate a 5-bay parent loading zone with appropriate dimensions, signing and marking

- Designate 10 short term parking spaces downstream of the parent loading zone

- Designate 13 parking spaces for pre-K and K loading as indicated on the MSTA calculator.

- Provide adequate long-term parking for expected faculty/staff, student drivers and visitors

- Provide appropriate on-site facilities for pedestrian and ADA accommodation

- Provide a traffic management plan for routine and high demand days detailing internal operations to include but not limited to:
    - Establishment/adjustment of bell times relative to internal operations and other schools in the area to minimize traffic impacts.
    - Implementation of an organized student loading and unloading process identifying specific staff roles and responsibilities and methods of communication.
    - Implementation of traffic control measures to ensure appropriate one-way ingress, egress and internal circulation and identification of routes used by Pre-K and K and student drivers independent of the parent loading queue.

- Construct an exit-only access to NC 119 per NCDOT guidelines consisting of an exclusive right turn lane and an exclusive left turn lane with a minimum of 100' of storage and appropriate transitions.

These internal site improvements are the responsibility of the school and are not reimbursable by NCDOT.

General Requirements:

It is necessary to obtain an approved driveway permit and/or encroachment agreement(s) prior to performing work on the NCDOT right of way. As a condition of the permit, the permitee shall be responsible for design and construction of the above stipulated elements in accordance with NCDOT requirements. An approved permit will be issued upon receipt of approved site plan, roadway and plans, inspection fee, and any necessary performance and indemnity bonds.

The applicant shall dedicate any additional right of way necessary to accommodate the required road improvements or future improvements as stipulated.

Intersection radii and geometry shall be designed to accommodate turning movements of the largest anticipated vehicle.

All pavement markings shall be long life thermoplastic. Pavement markers shall be installed if they previously existed on the roadway.

The permitee shall be responsible for the installation and relocation of any additional highway signs that may be necessary due to these improvements and shall comply with the requirements of the MUTCD.

Feel free to contact me if you have any questions.

Sincerely,

C. N. Edwards Jr., PE
District Engineer

Cc: J. M. Mills, PE, Division Engineer
Kimberly Hinton, NCDOT MSTA
Brian Thomas, PE, Regional Traffic Engineer
Dawn McPherson, Division Traffic Engineer
City Mebane

RAMEY KEMP & ASSOCIATES, INC.
5808 Faringdon Place
Raleigh, NC 27609
Phone: 919-872-5115
www.rameykemp.com

January 23, 2020

TO: Cy Stober, AICP
Development Director – City of Mebane
E: cstober@cityofmebane.com

FROM: Jessica McClure, PE
Ramey Kemp and Associates, Inc.
E: jmcclure@rameykemp.com

SUBJECT: **Bradford Academy TIA Review Comments**

Mr. Stober:

Ramey Kemp and Associates, Inc. (RKA) has reviewed the subject TIA and issues the following comments.

Study Summary

The subject development is a relocation of the existing Bradford Academy (919 South Third St, Mebane, NC) to NC 119 south of Kimrey Road. The maximum enrollment of the school (Pre-K to 12th grade) will be approximately 450 students by 2023. Access is provided via a shared driveway with the Summerhaven residential development on NC 119 and an exit-only driveway on NC 119. Two analysis scenarios were considered – Scenario 1: without Summerhaven traffic; Scenario 2: with Summerhaven traffic; to determine impacts specific to the school development.

A roundabout is proposed at the school driveway on the shared access with Summerhaven. The roundabout is anticipated to operate without significant queueing or delay based on conservative traffic assumptions reviewed by RKA. Egress from the school is allowed at the roundabout based on the site plan in the traffic study. However, preferred operations during the school AM and dismissal peak hours is that no traffic uses this egress point. Steps should be taken to reinforce this during school operations (cones restricting access to the parking lot, etc.).

Significant queuing and delay are present at several study area intersection, regardless of the construction of the school or Summerhaven development. The TIA indicates improvements that would be needed to address these issues. NCDOT is reviewing the feasibility of improvements at NC 119 and Trollingwood Hawfields Rd due to existing historic properties and Hawfields Cemetery.

The Summerhaven residential development is required to construct a 100’ southbound left-turn lane on NC 119 and 100’ northbound right-turn lane on NC 119 at the shared access. **Based on the review of the Bradford Academy TIA, no additional improvements within the study area are required to accommodate anticipated school traffic.**

The following comments relate to deviations from various NCDOT and/or City analysis guidelines. However, these variations have either been approved by NCDOT or are not anticipated to significantly impact the analysis results. A revised TIA based on these comments is <u>not</u> requested.

<u>MSTA Guidelines / Internal Analysis Review</u>
Per a conference call held between MSTA, NCDOT District, and RKA staff on 1/15/2020, the following deviations from typical MSTA guidelines were noted as approved and allowable by MSTA staff for this study.

1. Zero (0) volume movements were modelled within the site in Synchro on allowable movements. Typically, zero (0) volume movements are modelled with a volume of '4' per NCDOT CM guidelines.

2. Site plan shows both ingress and egress at the school's driveway from the roundabout, but egress was not modelled in Synchro or SIDRA. Recommended lane configurations also show egress at this location. RKA reviewed the operations of the roundabout with consideration for exiting traffic at this location and anticipate the roundabout will function acceptably under future build conditions.

3. Synchro shows ~1,650' of available stacking length whereas the site plan and report show 1,300'. Per the internal stacking analysis, 1,300' of stacking is sufficient.

4. Loading/Unloading zone is modelled with 152' in length resulting in 5 or 6 vehicles to load/unload per cycle (typically 130' for 5 loading bays per NCDOT MSTA Guidelines).

5. TIA report indicates the proposed Bradford Academy will consist of approximately 450 students and the analysis was prepared for a total of 448 students. This difference is not anticipated to significantly impact the analysis results.

6. Number of staff and student trips utilized for analysis purposes does not match the output from the MSTA School Traffic Calculator based on the proposed student population. The TIA assumes lower numbers of staff members and student drivers, as provided in the school information sheet in the Appendix.

7. Total number of parents utilizing the unloading zone during the AM peak scenarios in Synchro (196 vph) does not match Table 4.2 in the TIA for number of entering/exiting parent trips during the AM peak (197 vph). This difference is not anticipated to significantly impact the analysis results.

8. Total number of staff and student trips entering the designated parking lot during the AM peak scenarios in Synchro (56 vph) does not match Table 4.2 in the TIA for the number of staff and student entering AM peak hour trips (60 vph). This difference is not anticipated to significantly impact the analysis results.

9. Staff and student trips leaving the site should have a bypass lane or alternative access to/from the parking lot so that they do not need to traverse through the designated loading/unloading zone with parent vehicles. This assumption during the dismissal peak scenarios provides for conservative analysis of dismissal loading operations.

10. Peak hour traffic volumes in Synchro show pre-K/K traffic utilizing the loading/unloading zone whereas the TIA explains there will be parking provided for parents of pre-K/K students to park and walk into the

building with their students. This assumption provides for conservative analysis of loading/unloading operations.

11. Table 4.1 indicates that a PHF of 0.75 was utilized for movements affected by both school and background traffic. It may be more appropriate to calculate a weighted average of school and non-school trips to determine an adjusted PHF for the specific movements that have a combination of school and non-school trips.

TIA Report

12. The trip distribution is reasonable. The percentages listed on Pages 12 and 13 for Trollingwood Hawfields and Old Hillsborough Road should be switched. The analysis considers 12% of the trips to/from the east on Old Hillsborough Road and 8% to/from the west on Trollingwood Hawfields Road.

13. Figure 7 School Trips – the entering and exiting trips into the analysis network are imbalanced by one trip. This is likely due to rounding in a spreadsheet used to distribute the trips. This will not significantly impact the results of the analysis as the number of trips entering / exiting the school site itself are correct.

14. Figure 4 Existing Traffic Volumes – a volume of 4 vehicles is shown for movements at which no vehicles or a volume less than 4 was counted. Though Congestion Management requires a minimum volume of 4 on any allowable movement in the analysis, the count values should be shown on the Figures. This is not expected to significantly impact the analysis results.

15. The trip generation for the Summerhaven development is unclear as the trips generated are not consistent with the single-family unit count per TRC plans (78 units) nor the unit count described in the original TIA for Summerhaven. However, the volumes generated by the Summerhaven development are anticipated to be low enough that moderate changes in volume are not anticipated to significantly impact the analysis results.

Synchro Analyses

16. Southbound left-turn storage on NC 119 at the intersection of NC 119 & Trollingwood Hawfields Rd / Old Hillsborough Rd modelled in Synchro (125') does not match the Existing Lane Configurations Figure (100') under AM and dismissal existing conditions. Under future conditions, this turn lane is proposed to be extended by the Cambridge Park development and is modeled at a correct extended length in those files.

17. The provided signal plan at the intersection of NC 119 & Trollingwood Hawfields Rd / Old Hillsborough Rd shows Dallas protected + permitted left-turn phasing whereas this intersection in Synchro was modelled with protected + permitted left-turn phasing under AM and dismissal existing conditions. Protected + permitted left-turn phasing provides for a more conservative analysis.

18. The provided signal plan at the intersection of NC 54 and Jim Minor Rd shows this intersection being a part of the Burlington-Graham signal system. Signal timings from the signal plan were modelled in Synchro under all analysis scenarios. Actual timings operating in the field as part of the signal system

may differ slightly from those modelled in Synchro; however, this is not expected to significantly change the capacity analysis results at this intersection.

19. There are inconsistencies regarding lost time adjustment factors between analysis scenarios / peak hours for the following movements at the study intersections (not expected to significantly change capacity analysis results):

    - Westbound right-turn movement at NC 119 & Trollingwood Hawfields Rd / Old Hillsborough Rd
    - Westbound right-turn movement at NC 54 and Jim Minor Rd

20. Improvements associated with the Cambridge Park Residential Development were analyzed under FNB, FB, and FB+imp analysis scenarios (shown in green on Figure 12 – Recommended Improvements); however, potential improvements associated with the Hawfield Development were only analyzed under the FB+imp analysis scenario (also shown in green on Figure 12). The Hawfield Development has not yet been approved and improvements will be recommended based on a traffic study for that development.

21. The exclusive westbound right-turn lane improvement at the intersection of NC 119 & Trollingwood Hawfields Rd / Old Hillsborough Rd associated with Cambridge Park was analyzed under FNB, FB, and FB+imp analysis scenarios but a right-turn overlap phase was only considered under FB+imp conditions. It should be noted that with the addition of an exclusive northbound right-turn lane at this intersection under FB+imp conditions, a right-turn overlap phase was also considered under FB+imp conditions. NCDOT is currently reviewing the feasibility of several improvements at this intersection.

22. There are two improvements identified as "Improvements needed due to background traffic" in the TIA: 150' northbound right-turn lane on NC 119 at Trollingwood Hawfields Rd / Old Hillsborough Rd and the installation of a signal at NC 119 and Jim Minor Rd (shown in purple in Figure 12). Per NCDOT Congestion Management Guidelines, "Mitigation dependent on unfunded or uncommitted improvements provided by others are not acceptable" and typically not allowable in analysis scenarios. NCDOT is currently reviewing the feasibility of several improvements at these intersections.

<u>General</u>

23. Two NCDOT TIP Projects are in the study area. U-5538C consists of adding turn lanes at NC 119 and Trollingwood Hawfields Rd and is under evaluation. U-6013 consists of widening NC 119 from Trollingwood Hawfields Rd to Lowes Blvd – right-of-way is scheduled for 2021 and construction in 2023. These improvements will help address queueing and delays expected in the network regardless of the proposed development.

24. The development is generally consistent with City of Mebane long-range plans.

AGENDA ITEM #7

Purchase Police Capital with Federal Equitable Funds

Meeting Date
February 3, 2020

Presenter
Terrence E. Caldwell, Chief of Police

Public Hearing
Yes ☐ No ☒

Summary

The US Department of Justice shares the proceeds of asset forfeiture with local police departments that aide in their efforts. The Police Department would like to use some of the collected funds, and Council approval is required to appropriate the amount from fund balance.

Background

Police Department requests to appropriate Federal Equitable Sharing Funds for the following:

1. We plan to replace 2 Special Service Vehicles assigned within the Support Services Division:
    a. Ford Explorer – $37,786 (Replacing 2009 Ford Edge – 107,612 miles)
    b. Chevrolet Tahoe – $39,510 (Replacing 2011 Chevrolet Tahoe – 105,000 miles)
2. Alpha Card-ID Card Machine – $2,102 (Updating the department's ID Card Machine to be more efficient with producing ID Cards for our employees. This will ensure that our sworn personnel have updated Police Identification that is required when carrying weapons while not on-duty).
3. Brady Integrated Security-Door Access – $10,950 (The door access control system needs upgrading to ensure building security.
4. Technical Server/Systems Migration – $8,960 (Our current Records Management System needs to be upgraded to ensure records retention and operability.

Financial Impact

The proposed purchases would use $99,308 of the accumulated $220,845 of funds currently on hand from the equitable sharing program.

Recommendation

Staff recommends approval of the use of federal equitable funds, and approval of the attached budget ordinance amendment.

Suggested Motion

I make a motion to approve the allocation of funds for purchasing the items listed below with Federal Equitable Sharing Funds and the necessary budget amendment.

Attachments

1. Budget Ordinance Amendment

BE IT ORDAINED by the Council of the City of Mebane that the Budget Ordinance for the Fiscal Year Beginning July 1, 2019 as duly adopted on June 3, 2019, is hereby amended as follows:

ARTICLE I

APPROPRIATIONS	Current Budget	Change	Revised Budget
GENERAL FUND			
Police	$4,189,118	$ 99,308	$4,288,426

ARTICLE II

REVENUES	Current Budget	Change	Revised Budget
GENERAL FUND			
Appropriated Fund Balance	$3,195,204	$ 99,308	$3,294,512

This the 3rd day of February, 2020.

AGENDA ITEM #8

New Planner Position in Planning Department

Presenter
Cy Stober, Planning Director
David Cheek, City Manager

Public Hearing
Yes ☐ No ☒

Summary

The Council will consider a request to create a Planner position in the Planning Department to assist with the City of Mebane's unprecedented growth.

Background

The Planning Department needs an additional planner to respond to the unprecedented growth in the City. Alamance County is the fastest growing county in the Triad, and Mebane is one of the fastest-growing cities in North Carolina. The year 2020 is expected to be the largest construction of residential dwellings in the City of Mebane's history. With over 2,700 approved residential lots (2,242 single-family and 516 apartments), the City is on the cusp of sustained growth like none we've seen before. We are expecting 60 apartments and between 300 and 400 homes to be permitted in 2020. In addition, we are projecting 270 apartments and more than 1,000 homes to be permitted for construction by 2023. Added to that, the department is attempting to begin work on the Buckhorn Area Plan, the Lowe's Boulevard Plan, and the UDO rewrite.

Financial Impact

The Planner position is recommended at a Grade 14 ($44,777-$69,403). The experience needed for the position will likely require hiring at the mid-range pay for this position. The City did not invest in the part-time Downtown Coordinator position this year ($30,000). With the Main Street program not beginning until August 2020, these funds can easily support this position from the likely hire date in April to end of the fiscal year. The annual financial impact beginning in FY 2021 will depend on how the hiring process goes, but the experience needed for the position will likely require hiring at the mid-range pay for this position plus benefits.

Recommendation

Staff recommends approval of the new Planner position at Grade 14.

Suggested Motion

Motion to approve the new Planner position at Grade 14.

Attachments

1. Request for Planner Position – Justification
2. Planner Job Description

Request for Planner Position – Justification

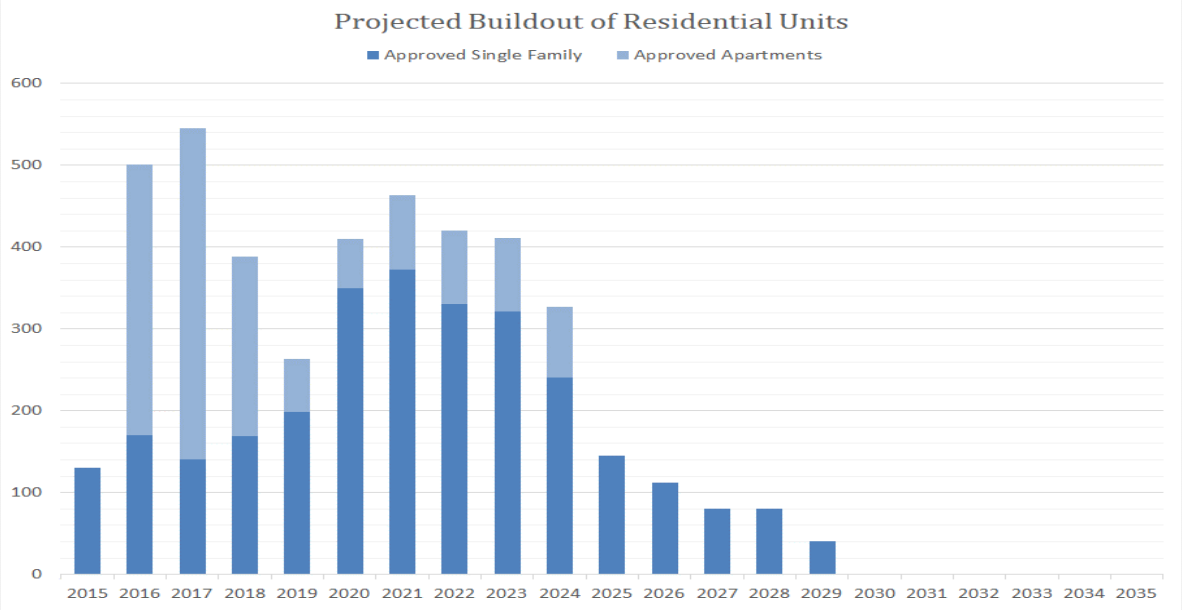
City of Mebane Planning Department

Request

We are requesting the Council's approval to add the new position of Planner at a Grade 14 ($44,777-$69,403). The experience needed for the position will likely require hiring at the mid-range pay for this position.

Mebane is Growing – Help Needed

The year 2020 is expected to be the largest construction of residential dwellings in the City of Mebane's history. With over 2,700 approved residential lots (2,242 single-family and 516 apartments), the City is on the cusp of sustained growth like none we've seen before. We are expecting 60 apartments and between 300 and 400 homes to be permitted in 2020. In addition, we are projecting 270 apartments and more than 1,000 homes to be permitted for construction by 2023. Added to that, the department is attempting to begin work on the Buckhorn Area Plan, the Lowe's Boulevard Plan, and the UDO rewrite.



With all this growth, the department needs additional resources to be focused on permit and plan review. The staff must review construction plans, subdivision plats, and zoning permits, as well as conduct onsite inspections to ensure compliance with Council-approved developer agreements. We are proposing to expand our staff with a qualified planner to serve the City's small area and long-range planning needs. This will free up existing staff to focus more on pressing and current planning needs.

There are many examples of cities that failed to adequately plan during rapid growth over the last twenty years. We are concerned that we are falling behind in the implementation of our plans and the consequence may be a disconnected, inconsistently planned city that does not attain its "Positively Charming" goal.

Basic Duties

Some of the prominent duties the new planner would be responsible for:

1. Conducting the needed studies in-house;
2. Serving as administrative staff for the Bicycle and Pedestrian Advisory Commission;
3. Proactively pursuing recommendations in *Mebane By Design* and other adopted long-range plans, such as the Lowes Boulevard Corridor Plan and an overlay district for Downtown; and
4. Working with Public Works on implementation of the City's wayfinding and bicycle and pedestrian projects.

Workload in Planning

This description of work does not include new developments that City staff will have to process for the Technical Review Committee, which is now meeting twice per month to keep up with volume. Based upon ongoing development activity, staff projects as many as 11 new developments including 7 single family residential, 2 mixed used and 2 apartment projects in all areas of the City. Furthermore, the department needs to conduct essential planning studies with third-party consultants on:

- a Buckhorn Area Plan to expand the economic development zone in Orange County;
- a Lowes Boulevard Corridor Plan to relieve congestion at a failing intersection;
- pedestrian and bicycle improvements to Jackson Street;
- continued service to the Bicycle and Pedestrian Advisory Commission;
- participation in the Orange County Transit Plan;
- participation in the Burlington-Graham Metropolitan Planning Organization in a critical project prioritization year; and
- a substantial revision to the Unified Development Ordinance that will both improve the UDO's ability to serve the City's wants and needs, while complying with new state laws.

Whether administered directly by City staff or with the City is as stakeholder, these studies require significant amounts of time and are very important for future development and quality of life in Mebane. Lastly, the City was selected for the North Carolina Main Street program, requiring further attention from the Development Director to manage the Downtown Coordinator position that will begin in August.

The following graph shows the City of Mebane compared to our peers (population between 10,000 and 24,999) in the number of planning and GIS positions.

In addition, the City's peers identified in *Mebane By Design* all have planning staffs larger than ours. Not included above are

- Belmont, 4 Planners, 2 Main Street staff;
- Fuquay Varina, 9 staff;
- Holly Springs, 9 staff;
- Kernersville, 6 staff;
- Knightdale, 5 staff;
- Waxhaw, 6 staff.

The department needs to devote more time to focus on both current and long-range needs. Current plan review and construction permitting demands are diluting needed economic development and comprehensive planning efforts and this strain will only increase as the approved developments begin to be constructed and the City's residents expect the same or improved public service from the Planning Department.

Planning Payroll Comparison

The following graph shows the City of Mebane compared to our peers (population between 10,000 and 24,999) in the payrolls for Planning Departments.

PLANNER
Salary Range: Grade 14, Min. $44,777/ Mid $55,632/Max $69,403
FLSA Status: Non-exempt

General Statement of Duties

Performs responsible professional work in the handling of short and long-range planning, project management, and plan implementation within the planning department.

Distinguishing Features of the Class

An employee in this class performs research and background work for the implementation of the City's adopted long-range plans, provides demographic and socio-economic data to the public, facilitates the realization of planning projects and goals, revises plans as-needed to maintain their relevance, and assists the Director with drafting design and zoning standards that will implement planning goals and objectives. Work includes public meeting facilitation and involves giving information, answering inquiries, and serving as primary staff for the City's Bicycle and Pedestrian Advisory Commission. The employee will also be expected to work on small area plans that realize the City's land use, transportation, and comprehensive planning goals, as specified in its adopted plans. Work requires the performance of technical support duties such as doing research work for any planning project for the City. Work on nights and weekends will periodically be required. Work is supervised by the Development Director and is evaluated through conferences, review of assigned projects, and overall completion of assigned tasks.

Illustrative Examples of Work

- Serves as staff support for the Mebane Bicycle and Pedestrian Advisory Commission.
- Reviews long-range plans and promotes the completion of such plans.
- Does research of data and statistics for reports for the department.
- Prepares planning data; interprets maps and data; prepares special growth projections; assists Director in preparation of a variety of planning projects.
- Assists Director with data for planning efforts and provides population and socio-economic interpretation of census, land use and other data on which this plan is based.
- Applies GIS technologies to analyze the needs of small areas and transportation corridors.
- Is able to converse with Public Works and Engineering staff to realize Planning projects.
- Presents oral reports to the various boards and commissions and attends meetings as required.
- Performs special projects for the planning function that implement goals and objectives of the City's adopted plans.
- Can assist with the drafting of language to define development and form-based standards for construction in specific areas
- Performs related duties as required.

Knowledge, Skills, and Abilities

- Working knowledge of principles and practices of municipal planning.
- Experience in bicycle and pedestrian planning at small area and regional scales.

- Working knowledge of the small area planning process.
- Experience with facilitating public conversations, such as charettes, open meetings, and proctored community design workshops.
- Working knowledge of governmental laws, programs, and services pertinent to the planning process, including environmental regulations.
- Working knowledge of planning data and ability to perform research functions and draft reports and position papers for higher level review and actions.
- Skill in GIS analysis and basic map creation for presentation purposes.
- Ability to work effectively with employees and the general public and answer basic land use questions for the City.
- Ability to communicate effectively in oral and written forms.
- Ability to coordinate special work efforts and projects for the department.

Physical Requirements

Must be able to physically perform the basic life operational functions of reaching, standing, walking, fingering, talking, hearing and repetitive motions. Must be able to perform light work exerting up to 20 pounds of force occasionally, and/or up to 10 pounds of force frequently, and/or a negligible amount of force constantly to move objects. Must possess the visual acuity to prepare and analyze data figures, do extensive reading, operate a computer terminal, and do visual inspection of land areas for zoning purposes.

Working Conditions

Majority of work is performed in an office setting. Employee is also required to travel throughout the City to address current conditions with planning solutions, including, but not limited, environmental, transportation, and aesthetic concerns.

Educations and Experience

Graduation from an accredited college or university with a Bachelor's degree in urban planning or other related field; a Master's degree and AICP certification are preferred. GIS use must be proficient. And, at least 3 - 5 years professional level experience in urban planning preferably with a government entity in North Carolina; or an equivalent combination of education and experience sufficient to perform the essential duties.

Special Requirements

Valid Driver's License, AICP credentials preferred.

AGENDA ITEM #9

Census Update

Presenter
David Cheek, City Manager
Cy Stober, Development Director

Public Hearing
Yes ☐ No ☒

Summary
The Council will receive a short update on the 2020 Census as an informational item.

Background
Planning for the 2020 Census is underway and Alamance County has formed a Complete Count Committee. Some of the key dates coming up in the process are:

- **March 12-20:** Households will begin receiving official Census Bureau mail with detailed information on how to respond to the 2020 Census online, by phone, or by mail.
- **April 1:** Census Day is observed nationwide. By this date, every home will receive an invitation to participate in the 2020 Census.
- **May - July:** Census takers will begin visiting homes that haven't responded to the 2020 Census to help make sure everyone is counted.
- **December:** The Census Bureau will deliver apportionment counts to the President and Congress as required by law.

Financial Impact
N/A

Recommendation
N/A

Suggested Motion
N/A

Attachments
1. None.

Mebane Fire Dept. Monthly Report

		December		Year to Date		% Change from 2018
Structural Response						
Totals		**18**		**263**		**-8%**
Average Personnel Per Response		**11**		**10**		
Average Volunteer Response		**3**		**2**		
Non Structural Responses						
Totals		**42**		**666**		**5%**
Total Fire Response		**60**		**929**		**1%**
Location (Year to Date)		**North**		**South**		
Total Number/Precentage		**479/52%**		**450/48%**		
		North		**South**		
Average Fire Response Time		**5:41**		**5:58**		
Precentage of Calls Inside City		**46%**		**55%**		
Precentage of Calls Outside City		**25%**		**32%**		
Precentage of Calls for Mutual Aid		**29%**		**13%**		
EMT Response		**184**		**2030**		**17%**
Location (Year to Date)		**North**		**South**		
Total Number/ Precentage		**981/48%**		**1049/52%**		
CPS Seats Checked		**23**		**268**		
Seats Distributed		**0**		**0**		
Smoke Alarms Checked/Installed		**2**		**80**		
Station Tours/Programs		**2**		**77**		
# of Participants		**8**		**4654**		
Events Conducted/Attended		**1**		**32**		

Planning Board
Minutes to the Meeting
Mebane Municipal Building
January 13, 2020
6:30 p.m.

Members Present: Kevin Brouwer, Keith Hoover, Lori Oakley, Kurt Pearson, Gale Pettiford, Vice Chairman Judy Taylor, Larry Teague, Chairman Edward Tulauskas

Members Absent: Thomas Vinson

Also Present: Montrena Hadley, Planning Officer, and Cy Stober, Development Director

1. **Call to Order**
   At 6:30 p.m. Vice Chairman Edward Tulauskas called the meeting to order.

2. **Approval of November 12, 2019 Minutes**
   Vice Chairman Judy Taylor made a motion to approve the minutes from the November 12, 2019 meeting. Larry Teague seconded the motion which passed unanimously (8-0).

3. **Request to Rezone +/-0.069 Acres Within the North Carolina Industrial Center (NCIC) and Adjacent to 2025 Development Center Drive (Airgas USA) From M-2 (Light Manufacturing) to M-1 (Heavy Manufacturing) From Airgas USA, LLC**
   RZ-20-01
   Staff presented an application/tax map from AIRGAS USA, LLC, 259 North Radnor-Chester Road, Radnor, PA 19087 requesting approval to rezone +/-0.069 acres located within the North Carolina Industrial Center (NCIC) from M-2 (Light Manufacturing) to M-1 (Heavy Manufacturing) as part of a recombination with the property owned by AIRGAS USA, LLC, for their production facility located at 2025 Development Center Drive. The property is needed to accommodate the stormwater control measure for the facility. The applicant owns the property. The property is located within the City's Extra-Territorial Jurisdiction (ETJ). AIRGAS USA has submitted a petition for annexation. The property is also identified as Alamance County GPIN #9815215333-TM#10-12-7. Morgan Beam, with Samet Corporation, attended the Planning Board meeting to answer any question in regards to this application.

   Cy Stober, Development Director, provided a brief overview and PowerPoint of the request.

   Morgan Beam, Market Development Manager, with Samet Corporation, 5420 Wade Park Blvd., Suite 104, Raleigh, NC 27607, provided a brief overview of the rezoning.

   Chairman Edward Tulauskas asked if there were any questions or comments concerning this request from the Planning Board and there were none.

Chairman Edward Tulauskas asked if there were any questions or comments concerning this request from the public and there were none.

Kurt Pearson made a motion to recommend approval of the rezoning as follows:

1. Motion to approve the M-1 rezoning as presented; and
2. Motion to find that the application is consistent with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design*. The request:

☐ Is for a property within the City's NCIC and is serving the stormwater management needs of a previously-approved project (Mebane CLP, pp.43 & 46);

☐ Serves Mebane CLP Growth Management Goal 1.7 by "…support[*ing*] industrial development at existing industrial parks near I-40/85. (pp.17 & 84);

Gale Pettiford seconded the motion, which passed (8-0).

4. Request to Rezone +/-5.61 Acres Located at 7920 East Washington Street From R-20 (Single Family Residential) to B-2 (CD) (General Business Conditional Zoning District) From Aubrey & Celine Meador

RZ-20-02

Staff presented an application/tax map/site plan from Aubrey and Celine Meador, 408 South Fifth Street, Mebane, NC 27302 requesting approval to rezone the +/-5.61-acre property located at 7920 East Washington Street from R-20 (Single Family Residential) to B-2(CD) (General Business Conditional Zoning District) to allow development as "The White House". Per the Mebane Unified Development Ordinance, a site plan that will apply to the property has been provided by the applicants and is included in the packet. Any significant changes to the property will require a formal amendment to the conditional zoning district within a public hearing. The Meadors own the property and have proposed to limit its use to the 21 proposed uses noted on the site plan, which will apply to the conditional zoning district. They are requesting the following waivers:

1) 42 parking spaces required; 34 provided;

2) Exemption from Mebane UDO 6-4.4.C (4) requiring curb and gutter for more than 12 parking spaces;

3) Exemption from Mebane UDO 6-4.4.C (1) requiring paving of all driveways and parking areas;

4) Exemption from removing the embankment and stone column from the western driveway sight triangle;

5) Exemption from providing the Type B landscaping buffers required in the Mebane UDO 6-3 and 4-7.6.M, as noted on the site plan; and

6) Exemption from providing the landscape buffers of adequate width and type, as required in the Mebane UDO 6-3 and 4-7.6.M, in exchange for preserving the front lawn area and the existing conditions within the buffer areas.

All development standards not requested by the applicant and waived by the appointed and elected bodies of the City of Mebane will have to be complied with upon application of a Zoning Permit and/or Business Occupancy Permit for a specific use from the City of Mebane Planning Department. The intended primary use of the property ("Retreat/Conference Center") will satisfy the development standards of 4-7.6.M, excepting those identified above as waiver requests.

The Technical Review Committee (TRC) has reviewed the site plan and the applicant has revised the plan to reflect the comments. The property is located within the City's Extra-Territorial Jurisdiction (ETJ). The property is also identified as Orange County GPIN #9825329585. The applicants attended the Planning Board meeting to answer any question in regards to this application.

Cy Stober, Development Director, provided a brief overview and PowerPoint of the request.

Aubrey Meador, owner of the property, provided a brief overview of the request. He explained that the existing house was built in 1890, had been vacant for 10-15 years, that they renovated it as a house first, but now would like to rezone the house for events such as parties, weddings, teas, bridal showers as well as private and corporate events, and to maintain the historic feel. He concluded with before and after photos.

Chairman Edward Tulauskas asked if there were any questions or comments concerning this request from the Planning Board.

Kurt Pearson stated you have listed other uses.

Aubrey Meador explained there would be no cooking and that his wife Celine owns The Downtown Table restaurant which will provide catering so I named a restaurant just in case.

Kurt Pearson replied you've asked for so many waivers.

Aubrey Meador explained each of the waiver requests.

Kurt Pearson replied you say you don't want to look like a business but you're rezoning to business.

Aubrey Meador further explained.

Lori Oakley replied since this is a principle use maybe waive accessory use, swim center.

Aubrey Meador replied we would like to host weddings and teas offering a house feel setting.

Kurt Pearson replied once it's approved, it's approved, it's not compatible, too much noise with a band, it's not conducive to R-20, and the City's hands would be tied.

Celine Meador, owner of the property, replied this would not be a rowdy place, it has beautiful antiques, it's a nice wonderful addition to the town, and we've been working on this for two years.

Lori Oakley asked can we condition to the principle use?

Cy replied yes by amending the site plan.

Aubrey Meador stated R-20 is listed for a retreat center if it meets the guidelines.

Cy Stober replied it's not R-20 but RA-20.

Kurt Pearson replied I think a place in Burlington has this problem.

Larry Teague asked how will you handle the septic system since you're not annexing, will you use port-a-johns, and how will this affect the neighbors?

Kurt Pearson asked will this be a permanent trailer but not stay there?

Celine Meador replied it has four bedrooms and they're looking at it.

Aubrey Meador replied the neighbors wouldn't see it because it'll be located in front of the handicap space.

Kurt Pearson replied I'm concerned about the location.

Lori Oakley expressed concerns about the location.

Aubrey Meador explained it will be opaque in the summer, semi-opaque in the winter, you can't see it.

Kurt Pearson stated what if you decide to sale it and the new tenants cut the trees. There are just so many waivers.

Larry Teague inquired about the gravel parking and gravel driveway.

Kurt Pearson inquired about the watershed.

Cy Stober replied the applicants volunteered to use gravel.

Vice Chairman Judy Taylor inquired about the existing conditions.

Cy Stober explained they're offering to maintain the existing conditions by maintaining the buffer.

Aubrey Meador replied it's thick, 10'-15' wide with under growth.

Kurt Pearson replied I'm really not trying to give you a hard time, but we have to consider all the issues, business creeping, the surrounding zoning, it just doesn't fit in, it changes the whole landscape of the area, to me, it's too intrusive, you could hear loud music every Saturday and that can be a nuisance, it's beautiful, and I'm glad you bought it.

Celine Meador replied it's very beautiful!

Kevin Brouwer stated my concern is the other permitted uses and so many waivers.

Larry Teague commented this needs to be more focused before going to City Council. It is a beautiful property.

Lori Oakley inquired about the waiver from removing the embankment and stone column from the western driveway sight triangle.

Aubrey Meador replied we met with NCDOT today to discuss those issues. We cut the embankment the best we can.

Kurt Pearson stated others might want to rezone.

Cy Stober added the city doesn't and can't issue driveway permits that's why they're requesting a waiver from the UDO.

Larry Teague asked have you meet with Orange County?

Aubrey Meador replied yes; Orange County will do a test and an engineer study for flow.

Vice Chairman Judy Taylor inquired about the noise ordinance.

Cy Stober explained that the city is qualitative, the neighbors decide the time since there is no time limit, and the police handles those calls.

Vice Chairman Judy Taylor asked what time is considered reasonable.

Cy Stober replied not after 10pm and not before 8am. The police powers matter but it's not in the ordinance.

Lori Oakley asked will you reduce some of the uses?

Aubrey Meador replied yes; we just want an event center.

Kurt Pearson stated look at the zoning map, can you say the use fits in?

Aubrey Meador replied the property values have increased.

Kurt Pearson replied properties all over Mebane have increased.

Celine Meador replied maybe a covered pavilion.

Kurt Pearson replied a pavilion scares me.

Lori Oakley asked how do you feel about keeping the existing zoning and tie it to the uses?

Cy Stober replied they can do an amendment.

Lori Oakley asked conditions with a timeframe?

Cy Stober read the development standards for RA-20 event center.

Kurt Pearson replied the uses around you are residential and not compatible.

Lori Oakley replied the other properties could rezone.

Aubrey Meador asked what would our request look like then?

Kurt Pearson replied it means you would start the process over.

Cy Stober replied I would have to seek the city attorney.

Kurt Pearson inquired about restrictions.

Aubrey Meador asked can we take these extra uses off?

Cy Stober replied you would have to come back to City Council for any changes.

Aubrey Meador replied I'd like to eliminate some of the uses.

Cy Stober stated you could keep some uses like fence, sign, wall, arts and crafts shows.

Aubrey Meador replied events end at 10 p.m. and pack up and leave between 10pm-11pm.

Celine Meador replied we can delete swim & tennis club, arts and crafts shows, concerts, and restaurant.

Aubrey Meador replied we can keep arts and crafts shows, bed and breakfast.

Kurt Pearson replied add time restrictions.

Aubrey and Celine Meador replied yes.

Cy Stober replied the police will enforce since outside city limits and not inside city limits.

Kurt Pearson added City Council can amend the restrictions.

Chairman Edward Tulauskas asked if there were any questions or comments concerning this request from the public.

Curtis E. & Jeanette S. Sellars, 200 S. 11th Street, stated we live within a 300' radius and we can see the place, it's very pretty, how will it affect us, our property taxes, traffic, big trucks are tearing up our street now.

Kurt Pearson asked how do you feel about hearing bands, concerts?

Jeanette Sellars replied yes, some things do bother us, the townhouses across the street from us has lots of noise, and I'm concerned about the safety of the pond on the property.

Curtis Sellars replied we're concerned about trash at the townhouses, people just don't care.

Lori Oakley inquired about parking.

Aubrey Meador explained the parking layout and shuttle service.

Cy Stober explained the parking waiver.

Kurt Pearson replied it's not harmonious and I'll vote against it.

Vice Chairman Judy Taylor inquired about the occupancy limit.

Aubrey Meador replied not yet but the fire chief has looked at it.

Vice Chairman Judy Taylor made a motion to recommend approval of the rezoning as follows:

1. Motion to approve the B-2(CD) rezoning with the following two conditions:
    - Primary Uses - Retreat/Conference Center, Accessory Uses and Structures (Customary), Bed and Breakfast or Tourist Home, Signs, Swimming Pool, and Arts and Crafts Shows
    - Noise Restriction – Outside activity noise will cease at 10 p.m.
2. Motion to find that the application is consistent with the objectives and goals in the City's 2017 Comprehensive Land Development Plan *Mebane By Design*. The request:

☐ Is a conditional rezoning request that limits its potential "General Business" uses to ones that will use the existing residence for business purposes, thereby being largely harmonious with the residential area and minimizing negative impacts;

☐ Is for a property within the City's G-4 Secondary Growth Area and is "…generally residential and commercial in nature…" (Mebane CLP, p.66);

☐ Serves Mebane CLP Growth Management Goal 1.2 by "…support[*ing*] historic Downtown Mebane's culture: aesthetic, walkability, bikeability, shopping, dining, and housing options.". (pp.17 & 82);

Gale Pettiford seconded the motion, the motion failed by a split vote (4-4). Chairman Edward Tulauskas, Vice Chairman Judy Taylor, Gale Pettiford, and Kevin Brouwer voted in favor of the motion. Larry Teague, Keith Hoover, Lori Oakley, and Kurt Pearson voted in opposition of the motion citing the following four reasons:

- Not in harmony with the area
- Not in favor of B-2 commercial zoning
- Concern of proposed uses
- Concern of lack of buffers

5. New & Other Business

a. Lowe's Boulevard Corridor Plan - Cy Stober informed the board that the city is applying for $50,000 MPO funds in March for Hwy 119 South to Hwy 54 and has fast tracked the RFP for $25,00 for Hwy 119 South to Trollingwood-Hawfields Road.

b. Buckhorn Area Plan – Cy Stober informed the board that the plan is underway.

c. Mebane UDO RFQ – Cy Stober informed the board that the state requires an update every 10 years and it has to be revised and updated in January 2021 per Chapter 160D.

Cy Stober informed the board that the City Council approved the Medline rezoning request on January 6, 2020 and the annexation request on December 2, 2019.

Cy Stober informed the board that the City of Mebane was approved for the NC Main Street Program effective August 2020 and that the City of Graham was accepted too.

Cy Stober provided an update on the Burlington-Graham MPO Metropolitan Transportation Plan. The website is http://www.bgmpogettingthere2045.com/ for "Getting There 2045". Once complete, this plan will establish the future vision for the region's transportation system and lay out strategies to help achieve this vision over the next 25 years. The next BGMPO Public Meeting is scheduled on Tuesday, January 14, 2020, 5–7 p.m., Gibsonville Community Center, 314 Tenth Avenue, Gibsonville, N.C. Another public meeting will be held on March 10, 2020.

Kurt Pearson inquired about the Mebane Oaks Road proposed road improvements and the proposed traffic light at London Lane.

Cy Stober provided a brief update.

6. Adjournment

There being no further business, the meeting was adjourned at 7:50 p.m.

Advanced Search Results

Select View

Case #	Date	Parcel Address	Date of Complaint	Property Owner	Address of violation	City, State, Zip	County	Description	Status	Letter	
65	12/31/2019	301 W WASHINGTON ST APT 219	12/10/2019	MEBANE MILLS LOFTS LLC	301 W WASHINGTON ST APT 219	MEBANE NC 27302	ALAMANCE	WORK DONE WITH NO PERMITS	Closed		Edit/View
64	12/30/2019	118 W CLAY ST	12/29/2019	ADAM GUTTMAN	118 W CLAY ST	MEBANE NC 27302	ALAMANCE	NUISANCE	Closed		Edit/View
63	12/30/2019	318 ANACONDA TR	12/30/2019	JENNIFER & CHARLES BUCHANAN	318 ANACONDA TR	MEBANE NC 27302	ORANGE	WORK DONE WITH NO PERMITS	Closed		Edit/View
62	12/31/2019	520 N SECOND ST	12/31/2019	DONALD URBANY	520 N SECOND ST	MEBANE NC 27302	MEBANE	BASKETBALL GOAL	Closed		Edit/View
58	12/17/2019	107 N SEVENTH ST	12/17/2019	BRIGHT PENNY BREWERY	107 N SEVENTH ST	MEBANE NC 27302	ALAMANCE	SIGN VIOLATIONS	Closed		Edit/View
57	12/12/2019	208 S FOURTH ST	12/12/2019	HENRY ENGLER	208 S FOURTH ST	MEBANE NC 27302	ALAMANCE	REPAIRS	Closed		Edit/View
56	12/18/2019	716 N NINTH ST	12/18/2019	CAROL EDWARDS	716 N NINTH ST	MEBANE NC 27302	ALAMANCE	TRASH ON PROPERTY	Closed		Edit/View
55	12/17/2019	136 HOLLY RIDGE LN	12/17/2019	WALTER LEE MASTIN	136 HOLLY RIDGE LN	MEBANE NC 27302	ALAMANCE	JUNK CARS	Open		Edit/View
44	12/9/2019	103 EDDIETON CT	12/6/2019	KATHRYN KUREK	103 EDDIETON CT	MEBANE NC 27302	ALAMANCE	NUISANCE	Closed		Edit/View
43	12/4/2019	414 W CENTER ST	12/4/2019	FISHERMAN COVE	414 W CENTER ST	MEBANE NC 27302	ALAMANCE	NUISANCE	Open		Edit/View
24	12/4/2019	1234 S THIRD ST	8/22/2019	BARBARA MINOR	1234 S THIRD ST	MEBANE NC 27302	ALAMANCE	STRUCTURAL DAMAGE	Closed		Edit/View
23	12/3/2019	107 N SEVENTH ST	12/2/2019	BRIGHT PENNY BREWERY	107 N SEVENTH ST	207302	ALAMANCE	LIGHT VIOLATION	Closed		Edit/View