



CITY OF HENDERSONVILLE CITY COUNCIL REGULAR MEETING

Operations Center - Assembly Room | 305 Williams St. | Hendersonville NC 28792
Thursday, March 03, 2022 – 5:45 PM

AGENDA

1. **CALL TO ORDER**
2. **INVOCATION AND PLEDGE OF ALLEGIANCE TO THE FLAG**
3. **PUBLIC COMMENT** - *Up to 15 minutes is reserved for comments from the public not listed on the agenda.*
4. **CONSIDERATION OF AGENDA**
5. **CONSENT AGENDA** - *Items are considered routine, noncontroversial in nature and are considered approved by a single motion and vote.*
 - A. Adoption of City Council Minutes – *Angela L. Reece, City Clerk*
 - B. Approval of Handbook and Resolution Establishing A Code Of Ethics and Attendance Policy for Members of Advisory Boards, Commissions, and Committees of The City Of Hendersonville – *Angela L. Reece, City Clerk*
 - C. Budget Amendments March FY22 – *Adam Murr, Budget Manager*
 - D. March 2022 Capital Project Ordinance– *Adam Murr, Budget Manager*
 - E. Henderson County Tax Adjustments -*Amanda Lofton, Deputy Tax Collector*
 - F. Resolution Accepting Proposal from Wildlands Engineering Inc. for Professional services to support the Mud Creek Stream, Wetland, and Stormwater Planning Project – *Mike Huffman, Stormwater Administrator*
 - G. Approval of Resolution Accepting North Carolina Land and Water Fund Grant funds for Mud Creek Stream, Wetland, and Stormwater Planning Project – *Mike Huffman, Stormwater Administrator*
 - H. Engineering Services to Support the Fleetwood Water Improvements Project – *Adam Steurer, Utilities Engineer*
 - I. Resolution to Approve Annexation Agreement – *Angela S. Beeker, City Attorney*
 - J. Resolution to Approve Duke Power Easement – *Angela S. Beeker, City Attorney*
6. **PRESENTATIONS**
 - A. MVP of the Year – *John Connet, City Manager*

- [B.](#) Proclamation - We Are Hope Week - *Mayor Barbara G. Volk*
- [C.](#) Proclamation - Developmental Disabilities Awareness Month - *Mayor Barbara G. Volk*
- [D.](#) Proclamation - 50th Anniversary of the National Senior Nutrition Program- *Mayor Barbara G. Volk*
- [E.](#) Proclamation - Fix A Leak Week - *Mayor Barbara G. Volk*
- [F.](#) Sidewalk Mural Connection -*Jamie Carpenter, Downtown Manager, Elizabeth Queen, Artist*
- [G.](#) Blue Ridge Literacy Council Update – *Katrina McGuire, Executive Director*

7. PUBLIC HEARINGS

- [A.](#) Rezoning/Map Amendment: Standard Rezoning– N. Harper Drive (P21-84-RZO) – *Tyler Morrow, Planner II*
- [B.](#) Rezoning: Conditional Zoning District – Greenville Highway Multi-Family (P21-78-CZD) – *Matthew Manley, AICP – Planning Manager*

8. UNFINISHED BUSINESS

9. NEW BUSINESS

- [A.](#) Presentation of North Carolina Governor’s Highway Safety Program (GHSP) grant application for Hendersonville Police Department – *Blair Myhand, Chief of Police*
- [B.](#) 7th Avenue Visioning Project Update - *Jamie Carpenter, Downtown Manager*

10. CITY COUNCIL COMMENTS

11. CITY MANAGER REPORT - John F. Connet, City Manager

- [A.](#) March 2022 Contingences Report – *Alex Norwood, Budget Analyst*

12. CLOSED SESSION

- [A.](#) Closed Session – *John Connet, City Manager*

13. ADJOURN

The City of Hendersonville is committed to providing accessible facilities, programs and services for all people in compliance with the Americans with Disabilities Act (ADA). Should you need assistance or an accommodation for this meeting please contact the City Clerk no later than 24 hours prior to the meeting at 697-3005.



CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER: Angela Reece, *MPA, CMC, NCCMC*, **MEETING DATE:** March 3, 2022
City Clerk

AGENDA SECTION: CONSENT **DEPARTMENT:** Administration

TITLE OF ITEM: Adoption of City Council Minutes – *Angela L. Reece, City Clerk*

SUGGESTED MOTION(S):

I move that City Council adopt the minutes of the January 26, 2022, Second Monthly Meeting and February 10, 2022 Regular Meeting as presented [or as amended].

SUMMARY:

The City Clerk has prepared minutes of the following meeting(s) for Council consideration:

- i. January 26, 2022, Second Monthly Meeting Minutes
- ii. February 10, 2022, Regular Session Minutes

BUDGET IMPACT: \$0

Is this expenditure approved in the current fiscal year budget? N/A

If no, describe how it will be funded. N/A

ATTACHMENTS:

- i. January 26, 2022, Second Monthly Meeting Minutes (DRAFT)
- ii. February 10, 2022, Regular Session Minutes (DRAFT)



MINUTES

January 26, 2022

SECOND MONTHLY MEETING OF THE CITY COUNCIL CITY OPERATIONS CENTER | 305 WILLIAMS ST. | 4:00 p.m.

Present: Mayor Barbara G. Volk and Council Members: Mayor Pro Tem Lyndsey Simpson, Dr. Jennifer Hensley, Debbie O'Neal-Roundtree, and Jerry Smith

Staff Present: City Manager John F. Connet, Assistant City Manager Brian Pahle, City Attorney Angela Beeker, City Clerk Angela Reece, Communications Manager Allison Justus, Budget Manager Adam Murr, and others

1. CALL TO ORDER

Mayor Volk called the meeting to order at 4:00 p.m. and welcomed those in attendance. A quorum was established with all members in attendance.

2. OTHER BUSINESS

A. **Approval of Designated Agents for FEMA Hazard Mitigation Grant Program Application—** *Michael Huffman, Stormwater Administrator*

City Manager John Connet advised city staff have been working with the NC Department of Public Safety to develop a Hazard Mitigation Grant Application on behalf of Mr. Karsten Masinick to apply for funding to elevate Mr. Masinick's home above the mapped base flood elevation. Manager Connet reminded everyone that in order to complete the application, the city must designate a primary and secondary agent with the authority to execute and file applications for federal and/or state assistance on behalf of the city.

Council Member Dr. Jennifer Hensley moved that City Council approve the Resolution authorizing City Manager John Connet and Assistant City Manager Brian Pahle as the Primary and Secondary Agents authorized to execute and file applications for federal and/or state assistance on behalf of the City of Hendersonville, NC. A unanimous vote of the Council followed. Motion carried.

Resolution #R-22-14

RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO AUTHORIZE THE CITY MANAGER AND ASSISTANT CITY MANAGER AS THE PRIMARY AND SECONDARY AGENTS AUTHORIZED TO EXECUTE AND FILE APPLICATIONS FOR FEDERAL AND/OR STATE ASSISTANCE ON BEHALF OF THE CITY OF HENDERSONVILLE, NC

WHEREAS, the City is working with the North Carolina Department of Public Safety to develop a Hazard Mitigation Grant Application on behalf of Mr. Karsten Masinick to apply for funding to elevate Mr. Masinick's residence above the mapped base flood elevation; and

WHEREAS, in order to complete the application, the City must designate a Primary and Secondary agent with the authority to execute and file applications for federal and/or state assistance on behalf of the City of Hendersonville, NC; and

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

1. The City Manager and Assistant City Manager are named as Primary and Secondary Agents and are hereby authorized to execute and file applications for federal and/or state assistance on behalf of the Organization for the purpose of obtaining certain state and federal financial assistance under the Robert T. Stafford Disaster Relief & Emergency Assistance Act, (Public Law 93-288 as amended) or as otherwise available.
2. The above-named agents are authorized to represent and act for the City of Hendersonville, NC in all dealings with the State of North Carolina and the Federal Emergency Management Agency for all matters pertaining to such disaster assistance required by the grant agreements and the assurances

printed on the reverse side of the Designation of Applicant's Agent form.

3. The above-named agents are authorized to act severally.

Adopted by the City Council of the City of Hendersonville, North Carolina this 26th day of January 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

B. 2022 Water and Sewer Revenue Bond Order – Adam Murr, Budget Manager

Budget Manager Adam Murr recalled prior approval and discussions related to the project and advised city staff have determined it is desirable to finance certain improvements related to the following; Clear Creek Sewer Interceptor Replacement; Ewart Hill Reservoir Rehabilitation; AMI Meter Upgrade; NCDOT Old Airport Road Utility Improvements; NCDOT Shepherd/Erkwood Utility Improvements; and Church Street Water/Sewer Replacement projects. Mr. Murr stated the not to exceed amount for the projects is \$7,100,000.

Council Member Jerry Smith moved that City Council adopt the Bond Order Authorizing the Issuance of Not to Exceed \$7,100,000 City of Hendersonville, North Carolina Water and Sewer System Revenue Bond; Authorizing the Approval, Execution, and Delivery of Various Documents in Connection with the Issuance of the Bond; Providing for the Issuance of the Bond; and Providing for Certain Other Matters in Connection with the Issuance and Delivery of the Bond as presented. A unanimous vote of the Council followed. Motion carried.

Resolution #R-22-15

BOND ORDER AUTHORIZING THE ISSUANCE OF NOT TO EXCEED \$7,100,000 CITY OF HENDERSONVILLE, NORTH CAROLINA WATER AND SEWER SYSTEM REVENUE BOND; AUTHORIZING THE APPROVAL, EXECUTION AND DELIVERY OF VARIOUS DOCUMENTS IN CONNECTION WITH THE ISSUANCE OF THE BOND; PROVIDING FOR THE ISSUANCE OF THE BOND; AND PROVIDING FOR CERTAIN OTHER MATTERS IN CONNECTION WITH THE ISSUANCE AND DELIVERY OF THE BOND

WHEREAS, the City of Hendersonville, North Carolina (the “City”) is authorized by the State and Local Government Revenue Bond Act, General Statutes of North Carolina, Section 159-80 *et seq.* (the “Act”), to issue, subject to the approval of the Local Government Commission of North Carolina (the “LGC”), at one time or from time to time, revenue bonds of the City for the purposes as specified in the Act; and,

WHEREAS, the City has determined to issue its Water and Sewer System Revenue Bond, Series 2022 (the “2022 Bond”) in an aggregate principal amount not to exceed \$7,100,000 to provide funds to (1) finance improvements to the City's water and sewer system, including, without limitation, (a) the installation of an interceptor line along Clear Creek, (b) the replacement and improvement of water and sewer mains on Church Street, (c) the replacement and installation of water meters, (d) the rehabilitation of one of the City's concrete water storage tanks and (e) payments to the North Carolina Department of Transportation related to the adjustment and relocation of certain city-owned water and sewer lines completed by the North Carolina Department of Transportation (the “2022 Projects”) and (2) pay the costs of issuing the 2022 Bond; and,

WHEREAS, the City has heretofore entered into a General Trust Indenture dated as of December 1, 2019 (as previously supplemented by Series Indenture Number 1 dated as of December 1, 2019, the “General Indenture”) between the City and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”), authorizing the issuance of revenue bonds thereunder for the purpose of financing and refinancing the cost of improvements to the City's water and sewer system; and,

WHEREAS, the City will issue the 2022 Bond under the General Indenture and Series Indenture, Number 2 to be dated as of February 1, 2022 (the “Series Indenture”) between the City and the Trustee; and,

WHEREAS, the City has filed with the LGC an application for the approval and private sale without advertisement of the 2022 Bond in accordance with Section 159-85 of the General Statutes of North Carolina, as amended; and,

WHEREAS, the City and the LGC have arranged for the issuance of the 2022 Bond to Pinnacle Public Finance, Inc. (the “Lender”); and,

WHEREAS, the General Indenture and a draft of the form of the Series Indenture are on file with the City and are available to the City Council; and,

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

1. The 2022 Bond is hereby authorized and will be issued pursuant to the Act, the General Indenture, and the Series Indenture to raise the money required, in addition to any funds which may be made available for such purpose from any other source, to (1) finance the 2022 Projects and (2) pay the costs of issuing the 2022 Bond. The use of the proceeds of the 2022 Bond, as described, is necessary to meet the demands of the users of the City's Water and Sewer System (as defined in the General Indenture).
2. The aggregate principal amount of the 2022 Bond authorized by this order will not exceed \$7,100,000 and the interest rate on the 2022 Bond will not initially exceed 2.15% per annum (which rate may be adjusted in accordance with the Series Indenture, including, without limitation, upon an Event of Default or a Determination of Taxability). The 2022 Bond hereby authorized will be a special obligation of the City, secured by and paid solely from the proceeds thereof or from revenues, income, receipts and other money received or accrued by or on behalf of the City from or in connection with the operation of the City's Water and Sewer System.
3. The City requests that the 2022 Bond be sold at a private sale without advertisement to the Lender at such price as the LGC determines to be in the best interest of the City and as provided in the City's application to the LGC. The City Council approves the sale of the 2022 Bond to the Lender on the terms provided in the term sheet provided by the Lender and as provided in the Series Indenture. The Authorized Officers (as defined below), are hereby authorized, empowered and directed to do all such acts and things and to execute all such documents as may be necessary to consummate the issuance of the 2022 Bond.
4. The City's issuance of the 2022 Bond, in substantially the form to be provided in the Series Indenture, is hereby in all respects approved and confirmed. The provisions of the General Indenture and the Series Indenture with respect to the 2022 Bond are hereby approved and confirmed and are incorporated herein by reference. The proceeds from the issuance of the 2022 Bond will be deposited in accordance with the Series Indenture. The principal of, premium, if any, and interest on the 2022 Bond will not be payable from the general funds of the City, nor will the 2022 Bond constitute a legal or equitable pledge, charge, lien or encumbrance on any of the City's property or on any of its income, receipts or revenues except the funds which are pledged under the General Indenture. Neither the credit nor the taxing power of the State of North Carolina (the "State") or the City is pledged for the payment of the principal of, premium, if any, or interest on the 2022 Bond, and no holder of the 2022 Bond has the right to compel the exercise of the taxing power by the State or the City or the forfeiture of any of its property in connection with any default thereon.
5. The form and content of the Series Indenture, including the exhibits thereto, are hereby in all respects approved and confirmed. The Mayor, the City Manager, the Assistant City Manager, the City Attorney, the Finance Director and the City Clerk, including anyone serving as such in an interim capacity, or their respective designees (collectively, the "Authorized Officers") are hereby authorized, empowered and directed to execute and deliver the Series Indenture and the 2022 Bond for and on behalf of the City, including necessary counterparts, in substantially the form and content presented to the City, but with such changes, modifications, additions or deletions therein as they may deem necessary, desirable or appropriate, their execution thereof to constitute conclusive evidence of the City Council's approval of any and all such changes, modifications, additions or deletions therein. From and after the execution and delivery of the Series Indenture, the Authorized Officers are hereby authorized, empowered and directed to do all such acts and things and to execute all such documents as may be necessary to carry out and comply with the provisions of the Series Indenture as executed. The Trustee is hereby appointed as Registrar and Paying Agent under the Series Indenture.
6. The City Manager, the Assistant City Manager or the Finance Director are each hereby authorized to execute a tax certificate to comply with Section 148 of the Internal Revenue Code of 1986, as amended, and the applicable regulations promulgated thereunder.
7. If any one or more of the covenants, agreements or provisions contained in this Bond Order is held contrary to any express provision of law or contrary to the policy of express law, though not expressly prohibited, or against public policy, or is for any reason whatsoever held invalid, then such covenants, agreements or provisions will be null and void and will be deemed separable from the remaining agreements and provisions and will in no way affect the validity of any of the other agreements and provisions of this Bond Order or of the 2022 Bond authorized hereunder.
8. No stipulation, obligation or agreement contained in this Bond Order or contained in the 2022 Bond, the General Indenture, the Series Indenture or any other instrument related to the issuance of the 2022 Bond is a stipulation, obligation or agreement of any officer, agent or employee of the City in his or her individual capacity, and no such officer, agent or employee is personally liable on the 2022 Bond or subject to personal liability or accountability by reason of the issuance thereof.

9. The Authorized Officers are hereby authorized, empowered and directed to do any and all other acts and to execute any and all other documents which they, in their discretion, deem necessary and appropriate to consummate the transactions contemplated by this Bond Order, the General Indenture or the Series Indenture; except that none of the above is hereby authorized or empowered to do anything or execute any document which is in contravention, in any way, of (a) the specific provisions of this Bond Order, (b) the specific provisions of the General Indenture or the Series Indenture, (c) any agreement to which the City is bound, (d) any rule or regulation of the City or (e) any applicable law, statute, ordinance, rule or regulation of the United States of America or the State.
10. The Authorized Officers are hereby authorized, empowered and directed to prepare and furnish, when the 2022 Bond is issued, certified copies of all the proceedings and records of the City Council relating to the 2022 Bond, and such other affidavits, certificates and documents as may be required to show the facts relating to the legality and marketability of the 2022 Bond as such facts appear on the books and records in such party's custody and control or as otherwise known to them; and all such certified copies, certificates, affidavits and documents, including any heretofore furnished, constitute representations of the City as to the truth of all statements contained therein.
- From and after the execution and delivery of the documents hereinabove authorized, the Authorized Officers, or their respective designees, are hereby authorized, empowered, and directed to do all such acts and things and to execute all such documents as may be necessary to carry out and comply with the provisions of said documents as executed, and are further authorized to take any and all further actions to execute and deliver any and all other documents as may be necessary in the issuance and on-going administration of the 2022 Bond.
11. All acts and doings of the Authorized Officers that are in conformity with the purposes and intent of this Bond Order and in the furtherance of the issuance of the 2022 Bond and the execution, delivery and performance of the 2022 Bond, the General Indenture and the Series Indenture are hereby in all respects approved and confirmed. Any provision in this Bond Order that authorizes more than one Authorized Officer to take certain actions will apply to the respective designees of the Authorized Officers, including any person serving in an interim capacity, and will be read to permit such persons to take the authorized actions either individually or collectively.
12. All resolutions or parts thereof of the City Council in conflict with the provisions herein contained are, to the extent of such conflict, hereby superseded and repealed.
13. This Bond Order is effective immediately on its adoption and, pursuant to Section 159-88 of the General Statutes of North Carolina, as amended, need not be published, or subjected to any procedural requirements governing the adoption of ordinances or resolutions by the City Council other than the procedures set out in the Act.

Adopted by the City Council of the City of Hendersonville, North Carolina this 26th day of January 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

3. PRESENTATIONS

A. Financial Update – *Brian Pahle, Assistant City Engineer and Adam Murr, Budget Manager*

Assistant City Manager Brian Pahle presented the financial update to City Council. Manager Pahle discussed the City's financial trends and data with Council and advised this information is available to the public on the [Budget Dashboard](#) located on the City's website.

General Fund

In the presentation Manager Pahle discussed the General Fund forecast model which includes a \$0.03 tax increase in FY23 and an estimated 20% revaluation projection in FY24. Manager Pahle discussed projections for major development, various projects, new positions and additional revenue options. Manager Pahle further presented information regarding expenditures and projects and discussed items that were not included in the forecast model such as the parks and greenways master plan, trail extensions, as well as various parking, street, and transportation projects. Manager Pahle discussed the effect of property tax revenues and discussed budget impacts during revaluation years stating projections reflect a 10 percent average increase over prior years. He further discussed sales tax revenues and distributions stating the city collected \$4.6 million in FY20-21 which is approximately 19.38% higher than the previous year.

Fund Balance

Manager Pahle reminded everyone that not everything has been included in the forecasting model and discussed debt ratio to expenditures with relation to available fund balance and said the Local Government Commission (LGC) now requires municipalities within the City's population grouping to have a 25 percent fund balance. Manager Pahle discussed percentages of available fund balance recalling the transfer of \$1M to the Capital Project Fund for the Parking Deck Project in FY21 stating that the transfer was temporary until the city receives the bond proceeds which will reimburse the fund balance. Manager Pahle stated he and staff will be meeting with the LGC in the coming weeks to discuss this. Manager Pahle reminded everyone there will be \$2M in revenue coming back into the Fund Balance from bond proceeds which will increase the percentage to 30 percent available and will ultimately lead to it being 5 percent above the LGC minimum requirement in the next fiscal year. Manager Pahle discussed deficits related to debt service of major projects heading into FY24. Manager Pahle reminded Council staff will be bringing back new policy to match the LGC requirements in the coming weeks.

Project Prioritization

Council Member Dr. Jennifer Hensley suggested Council weigh actual needs versus wants with regards to major projects and encouraged examining priorities such as recruitment and retention of high-quality staff and conserving funds. Council Member Hensley stated she does not support a \$3M City Hall renovation as presented. Council Member Lyndsey Simpson inquired regarding usage of the empty floors on the building and Manager Pahle stated the base floor is the highest priority due to customer service needs but confirmed costs could be reduced for the other floors.

Council Member Dr. Jennifer Hensley inquired regarding the difference a ¼ cent sales tax would make and Manager Pahle stated it would be approximately \$2.6M per year. Council Member Jerry Smith recalled prior discussions regarding this, and City Manager Connet stated the majority of the General Assembly argues it is a tax and said merchants oppose varying sales tax across the state to avoid administrative burdens. Council Member Hensley stated everyone shops and eats but said not everyone owns property and said she does not feel it is fair to continue to penalize property owners with the burden of tourism and increased demand on services. Council Member Lyndsey Simpson stated she feels raising property tax is more equitable to lower income persons and said she feels it would be a conflict in Council values with promoting equity to impose additional sales taxes.

City Manager John Connet discussed different focus areas with Council stating staff can definitely prioritize capital projects to reduce costs but cautioned against this for the pay-as-you-go capital items stating reductions would lead to adverse impacts in future years. Manager Connet stated staff will need direction regarding the pay and class study and discussed additional revenue sources such as American Rescue Plan (ARP) funding that will be available to help offset some costs.

After much discussion, Council agreed to focus on the structural repairs to the exterior of the City Hall building and to renovate the first floor.

Council Member Dr. Jennifer Hensley inquired regarding approaching the TDA to levy a one cent occupancy tax to support public parks as they are directly related to tourism. Assistant Manager Pahle stated the county would need to support the tax and the city may have to split the revenue with them if approved by the legislature. Council additionally expressed interest in pursuing any available grant options for structural repairs on the City Hall building or park amenities.

Water & Sewer Fund

Budget Manager Adam Murr discussed the Water & Sewer Fund rate differentials recalling Council's priority to equalize rates by FY29-30 and reminded everyone the rate differential is decreasing by 5 percent each year. Mr. Murr stated staff are recommending wastewater rates remain constant as there will be additional needs as the City continues to experience growth. Mr. Murr reminded everyone the city has contracted with STANTEC to conduct a rate study and system development fee analysis which will be provided to Council for further discussion and direction.

Environmental Services Fund

Budget Manager Adam Murr discussed the Environmental Services Fund outlining various cost of service delivery which includes increases to brush/leaf grinding, transfer station fees, purchase of

additional equipment and vehicles. Mr. Murr reminded everyone the FY22-23 route study will be underway later this year which will be beneficial in determining efficiencies with operations.

System Development Charges (SDC’s)

City Manager John Connet discussed consideration of system development charges to protect the rate payers and balancing growth demands. Manager Connet stated system development charges allow new system users to buy equity into the system and allows the city to manage capital costs.

B. Pay and Classification Guidance – John Connet, City Manager and Brain Pahle, Assistant City Manager

Assistant City Manager Brian Pahle presented options for consideration as outlined below:

Pay & Classification

• Option 1

(3% + 65th Jan. 22; 75th July 22)

• Option 2

(3% Jan. 22; 65th July 22; 75th Jan. 23)

• Option 3

(3% Jan. 22; 65th July 22; 75th July 23)

• Living Wage Calculator

	0 Children	1 Child	2 Children
Living Wage (2 Working Adults)	\$ 12.65	17.72	22.22
Living Wage (1 Working Adult)	16.88	32.64	40.65

• Dogwood Housing Study

- City Min. Monthly Affordability at 75th Percentile = \$860
- City Min. Wage at 75th Percentile = \$16.54 (prob. completion)
- City Min. Wage at 65th Percentile = \$15.75 (prob. completion)
- Monthly 2BR at FMV = \$1,255

Manager Pahle discussed living wage calculations stating at the 75th percentile the City does not meet the basic living wage for a single person at \$16.54 per hour. City Manager John Connet recalled discussions with other city managers and said recruitment and retention of public safety personnel is dependent upon living wages. Manager Connet stated the City is losing trained personnel to other municipalities offering higher wages.

Council Member Dr. Jennifer Hensley said she feels that if this is a priority for the city then implementation should be sooner rather than later as it affects recruitment and retention. Council Member Hensley stated she feels the City should be a leader in the community and show it values employees and wants to see them be able to live and work here and said she would rather see cuts to non-essential capital.

Council Member Jerry Smith stated he prefers option 3 and said he feels the entire pay scale does not need to be adjusted but rather the lowest paid employees’ scales should be adjusted to at least the minimum living wage and clarified he does not necessarily agree with compression all the way through the pay scale.

Council Member Lyndsey Simpson disagreed and said if compression is not accounted for all the way through then this will create problems with middle management positions and said she agreed with Council Member Hensley to proceed as soon as possible with implementation of the 75th percentile.

Council Member Jerry Smith clarified the difference in the cost between the 65th and 75th percentile is approximately \$450,000 annually, or two cents on the tax rate. Manager Pahle stated staff will incorporate supplementary ARP funds for CIP, reductions in CIP, and reductions in debt service into the budget forecast model and will bring back to Council for additional consideration at their next retreat. Council Member Hensley clarified if the City Hall renovation project was cut it would compensate for half of the cost to implement the 75th percentile pay plan.

After much discussion the majority of Council members, Hensley, Simpson and Roundtree, directed staff to proceed with option #1 which allows for a 3% increase plus moving all positions to 65th percentile effective immediately and moving all positions to the 75th percentile effective July 1, 2022. In additional, no position shall have probation completion salary below the living wage of \$16.88 per hour.

The living wage is calculated according to the [MIT Living Wage Calculator](#) which was developed by Dr. Amy K. Glasmeier. The living wage model generates a cost of living estimate that exceeds the federal poverty thresholds. As calculated, the living wage estimate accounts for the basic needs of a family.

3. ADJOURN

City Manager John Connet discussed how the City has grown and referenced key decisions prior Councils made one hundred years ago which resulted in the establishment of a modern water and sewer utility. Manager Connet reminded everyone the budget retreat will be held on March 11, 2022 from 8:00 a.m. to 4:00 p.m.

There being no further discussion, the meeting was adjourned at 6:25 p.m. upon unanimous assent of the Council.

Barbara G. Volk, Mayor

ATTEST:

Angela L. Reece, City Clerk



MINUTES

February 10, 2022

REGULAR MEETING OF THE CITY COUNCIL

CITY OPERATIONS CENTER | 305 WILLIAMS ST. | 5:45 p.m.

Present: Mayor Barbara G. Volk and Council Members: Mayor Pro Tem Lyndsey Simpson, Dr. Jennifer Hensley, Debbie O'Neal-Roundtree, and Jerry Smith

Staff Present: City Manager John F. Connet, Assistant City Manager Brian Pahle, City Clerk Angela Reece, City Attorney Angela Becker, Communications Manager Allison Justus, and others

1. **CALL TO ORDER**

Mayor Volk called the meeting to order at 5:45 p.m. and welcomed those in attendance. A quorum was established with all members in attendance.

2. **INVOCATION AND PLEDGE OF ALLEGIANCE TO THE FLAG**

The City Council observed a moment of silence for prayer or reflection followed by the Pledge of Allegiance to the Flag.

3. **PUBLIC COMMENT** *Up to 15 minutes is reserved for comments from the public not listed on the agenda.*

Indián Jackson of Mountain Rd. addressed City Council regarding Black History Month asking everyone to also recognize and celebrate the 50-year anniversary of the Green Meadows Community (formally known as Brooklyn).

Katy Gash of Ciccone Drive addressed City Council extending her thanks and praise for Council for actively celebrating Black History Month.

Lynne Williams of Chadwick Ave. addressed City Council regarding Boyd Park requesting Council to follow suggestions recommended by the Historic Preservation Commission.

James Shakour of Glover St. submitted digital written comments requesting consideration of expansion of Boyd Park and relocation of Fire Station 1 to other areas.

4. **CONSIDERATION OF AGENDA**

Council Member Dr. Jennifer Hensley moved that City Council approve the agenda as presented. A unanimous vote of the Council followed. Motion carried.

5. **CONSENT AGENDA**

A. **Adoption of City Council Minutes** – Angela Reece, City Clerk

I move that City Council adopt the minutes of January 6, 2022 Regular Session as presented.

B. **Approval of General Fund Vehicle and Equipment Financing Agreement** – John Buchanan Finance Director

I move that City Council approve the Resolution Approving Financing Terms For The Purchase Of Vehicles And Equipment For The General Fund not to exceed \$639,400 for a term of 4 years.

Resolution #R-22-16

RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO APPROVE FINANCING TERMS FOR THE PURCHASE OF VEHICLES AND EQUIPMENT FOR THE GENERAL FUND

WHEREAS, The City of Hendersonville has previously determined to undertake a project for the financing of vehicles and equipment, and the Finance Director issued a request for proposals for the financing and;

WHEREAS, The City received three proposals and Santander Bank submitted a proposal with the best interest rate and terms to meet the City's needs; and

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

1. The City of Hendersonville hereby determines to finance the purchase of vehicles and equipment through Santander Bank in accordance with the proposal dated January 14, 2022. The amount financed shall not exceed \$639,440 with an annual interest rate of 1.48% for term of 4 years.
2. All financing contracts and all related documents for the closing of the financing shall be consistent with the foregoing terms. City staff are hereby authorized to and directed to execute and deliver any financing documents, and to take all such action as they may consider necessary to carry out the financing as contemplated by the proposal and this resolution.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

C. Approval of Environmental Services/Stormwater Vehicle and Equipment Financing Agreement – *John Buchanan Finance Director*

I move that City Council approve the Resolution Approving Financing Terms For The Purchase Of Vehicles And Equipment For The Environmental Services And Stormwater Funds In The Amount Not To Exceed \$409,113 For A Term Of 7 Years As Presented.

Resolution #R-22-17

RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO APPROVE FINANCING TERMS FOR THE PURCHASE OF VEHICLES AND EQUIPMENT FOR THE ENVIRONMENTAL SERVICES AND STORMWATER FUNDS

WHEREAS, The City of Hendersonville has previously determined to undertake a project for the financing of vehicles and equipment, and the Finance Director issued a request for proposals for the financing and;

WHEREAS, The City received five proposals and Santander Bank submitted a proposal with the best interest rate and terms to meet the City's needs; and

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

1. The City of Hendersonville hereby determines to finance the purchase of vehicles and equipment through Santander Bank in accordance with the proposal dated January 11, 2022. The amount financed shall not exceed \$409,113 with an annual interest rate of 1.79% for term of 7 years.
2. All financing contracts and all related documents for the closing of the financing shall be consistent with the foregoing terms. City staff are hereby authorized to and directed to execute and deliver any financing documents, and to take all such action as they may consider necessary to carry out the financing as contemplated by the proposal and this resolution.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

D. February 2022 Capital Project Ordinances and Reimbursement Resolutions – *Alex Norwood, Budget Analyst*

I move that the City Council adopt the capital project ordinance(s) for the City Hall Exterior Improvements Project #22002, the Sewer Infrastructure Streambank Restoration Project #21013, Reimbursement Resolution, and their budgets as presented.

Capital Project Ordinance #O-22-09

**CAPITAL PROJECT ORDINANCE FOR
THE EXECUTION, ACQUISITION, CONSTRUCTION, AND INSTALLATION OF THE CITY
HALL EXTERIOR IMPROVEMENTS PROJECT**

BE IT ORDAINED by the Governing Board of the City of Hendersonville, North Carolina that pursuant to Section 13.2 of Chapter 159 of the General Statutes of North Carolina, the following capital project ordinance is hereby adopted:

Section 1: The project authorized is a City project described as the City Hall Exterior Improvements Project.

Section 2: The following amounts are appropriated for the projects:

Account Codes				Account Name	Total Budget
Fund	Dept.	Account	Project		
410	1523	550103	22002	Capital Outlay - CIP	\$103,159
410	1523	550102	22002	Capital Outlay Services/Fees	\$20,000
460	1523	550103	22002	Capital Outlay - CIP	\$103,158
460	1523	550102	22002	Capital Outlay Services/Fees	\$20,000
Total Project Appropriation					\$ 246,317

Section 3: The following revenues are anticipated to be available via grant proceeds:

Account Codes				Account Name	Total Budget
Fund	Dept.	Account	Project		
410	0000	470100	22002	Transfer In (from 010)	\$123,159
460	0000	470100	22002	Transfer In (from 060)	\$123,158
Total Project Appropriation					\$ 246,317

PROJECT TO BE FUNDED USING

Section 4: The Finance Director is hereby directed to maintain within the capital project fund sufficient specific detailed accounting records to satisfy the disclosure requirements of all the contractual agreements, if applicable.

Section 5: Funds may be advanced from the General Fund and Water and Sewer Fund as necessary for the purpose of making payments as due. Reimbursement requests shall be made in an orderly and timely manner.

Section 6: The Finance Director is directed to report, on a quarterly basis, on the financial status of each project element in Section 3 and Section 4.

Section 7: The Finance Director is further instructed to include a detailed analysis of past and future revenues and expenses during each annual budget submission made to the Governing Board.

Section 8: Copies of this capital project shall be furnished to the City Clerk, Finance Director and City Manager for direction in carrying out this project.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor
Attest: /s/Angela L. Reece, City Clerk
Approved as to form: /s/Angela S. Beeker, City Attorney

Capital Project Ordinance #O-22-10

**CAPITAL PROJECT ORDINANCE FOR
THE EXECUTION, ACQUISITION, CONSTRUCTION, AND INSTALLATION OF THE
SEWER INFRASTRUCTURE STREAMBANK RESTORATION PROJECT**

BE IT ORDAINED by the Governing Board of the City of Hendersonville, North Carolina that pursuant to Section 13.2 of Chapter 159 of the General Statutes of North Carolina, the following capital project ordinance is hereby adopted:

Section 1: The project authorized is a City project described as the Sewer Infrastructure Streambank Restoration Project.

Section 2: The following amounts are appropriated for the projects:

Account Codes				Account Name	Total Budget
Fund	Dept.	Account	Project		
460	1014	551003	21013	Capital Outlay CIP	\$575,000
460	1014	550100	21013	Capital Outlay Land/ROW	\$25,000
Total Project Appropriation					\$600,000

Section 3: The following revenues are anticipated to be available via grant proceeds:

Account Codes				Account Name	Total Budget
Fund	Dept.	Account	Project		
460	0000	470020	21013	Bond Proceeds	\$600,000
Total Project Appropriation					\$600,000

PROJECT TO BE FUNDED USING

Section 4: The Finance Director is hereby directed to maintain within the grant project fund sufficient specific detailed accounting records to satisfy the disclosure requirements of all the contractual agreements, if applicable.

Section 5: Funds may be advanced from the Water and Sewer Capital Project Fund as necessary for the purpose of making payments as due. Reimbursement requests shall be made in an orderly and timely manner.

Section 6: The Finance Director is directed to report, on a quarterly basis, on the financial status of each project element in Section 3 and Section 4.

Section 7: The Finance Director is further instructed to include a detailed analysis of past and future revenues and expenses during each annual budget submission made to the Governing Board.

Section 8: Copies of this capital project shall be furnished to the City Clerk, Finance Director and City Manager for direction in carrying out this project.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor
Attest: /s/Angela L. Reece, City Clerk
Approved as to form: /s/Angela S. Beeker, City Attorney

Resolution #R-22-18

**HENDERSONVILLE, NORTH CAROLINA
DECLARATION OF OFFICIAL INTENT TO REIMBURSE**

BE IT RESOLVED by the City Council of the City of Hendersonville, North Carolina, this declaration (the "Declaration") is made pursuant to the requirements of the United States Treasury Regulations Section 1.150-2 and is intended to constitute a Declaration of Official Intent to Reimburse under such Treasury Regulations Section.

The undersigned is authorized to declare the official intent of HENDERSONVILLE, North Carolina (the "Issuer") with respect to the matters contained herein.

Expenditures to be Incurred. The Issuer anticipates incurring expenditures (the "Expenditures") for THE ACQUISITION, CONSTRUCTION, AND INSTALLATION OF THE SEWER INFRASTRUCTURE STREAMBANK RESTORATION PROJECT, ORDINANCE #O-22-10 (the "Projects").

Plan of Finance. The Issuer intends to finance the costs of the Projects with the proceeds of debt to be issued by the Issuer (the "Borrowing"), the interest on which is to be excluded from gross income for Federal income tax purposes.

Maximum Principal Amount of Debt to be Issued. The maximum principal amount of the Borrowing to be incurred by the Issuer to finance the Project is \$600,000.

Declaration of Official Intent to Reimburse. The Issuer hereby declares its official intent to reimburse itself with the proceeds of the Borrowing for any of the Expenditures incurred by it prior to the issuance of the Borrowing.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

E. Selection of Stantec's Proposal for Financial Services – Adam Murr, Budget Manager

I move that City Council adopt the resolution accepting Stantec's proposal for financial services for a water and sewer rate study, system development fee study, and future agreed upon procedures letters in the Not to Exceed amount of \$111,080.

Resolution #R-22-19

RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL ACCEPTING STANTEC'S PROPOSAL FOR FINANCIAL SERVICES FOR A WATER AND SEWER RATE STUDY IN THE NOT TO EXCEED AMOUNT OF \$111,080

WHEREAS, the City periodically consults with financial firms to examine water and sewer utility rates to keep on target with financial sustainability goals; and,

WHEREAS, Staff requested proposals from recommended financial firms qualified to provide rate study, system development fee study, and agreed upon procedures letter services; and,

WHEREAS, the City has determined Stantec is the most qualified firm to offer the required services; and,

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

1. The City of Hendersonville accepts Stantec's proposal to perform financial services for the water and sewer rate study, system development fee study, and future agreed upon procedures studies in the not to exceed amount of \$111,080.
2. The City Manager and City Attorney are authorized to negotiate and execute a final contract with Stantec for the financial services.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

F. Selection of ADW's Proposal for Edwards Park Redevelopment – Adam Murr, Budget Manager

I move that City Council adopt the resolution accepting ADW's proposal for architectural and engineering services for the Edwards Park Redevelopment in the Not to Exceed amount of \$129,695.

Resolution #R-22-20

RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL ACCEPTING ADW'S PROPOSAL FOR ARCHITECTURAL AND ENGINEERING SERVICES FOR EDWARDS PARK REDEVELOPMENT IN THE NOT TO EXCEED AMOUNT OF \$129,695

WHEREAS, City Council has determined a Fire Station 1 and Park Project is needed to provide sufficient fire safety and recreational opportunity in downtown Hendersonville; and,

WHEREAS, the City solicited proposals from architectural and engineering firms to provide design services for a mini-golf course relocation and associated amenities on the Edwards Park property in downtown Hendersonville, NC; and,

WHEREAS, the City made a good-faith effort to solicit proposals from historically underutilized businesses, and;

WHEREAS, the City has determined ADW is the most qualified firm to provide architectural and engineering services for the construction of the mini-golf course and related amenities; and,

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

1. The City of Hendersonville accepts ADW's proposal to perform architectural and engineering services for the Edwards Park Redevelopment project in the not to exceed amount of \$129,695 and finds that ADW is the best qualified firm.
2. The City Manager and City Attorney are authorized to negotiate and execute a final contract with ADW for architectural and engineering services.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

G. Selection of ADW's Proposal for Temporary Fire Station 3 Design – Adam Murr, *Budget Manager*

I move that City Council adopt the resolution accepting ADW's proposal for architectural and engineering services for the Temporary Fire Station 3 project in the Not to Exceed amount of \$110,040.

Resolution #R-22-21

RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL ACCEPTING ADW'S PROPOSAL FOR ARCHITECTURAL AND ENGINEERING SERVICES FOR A NEW TEMPORARY FIRE STATION 3 IN THE AMOUNT OF \$110,040

WHEREAS, City Council has determined a Fire Station 1 and Park Project is needed to provide sufficient fire safety and recreational opportunity in downtown Hendersonville; and,

WHEREAS, the City will need a temporary Fire Station 3 facility for Fire Department employees, equipment, and sustained service delivery; and,

WHEREAS, the City has determined that the Fire Station 3 services are closely related to the services described in the Fire Station 1 and Park Project request for qualifications; and,

WHEREAS, City have determined ADW is the most qualified firm to provide architectural and engineering services for the construction of the temporary Fire Station 3; and,

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

1. The City of Hendersonville accepts ADW's proposal to perform architectural and engineering services for the temporary Fire Station 3 in the not to exceed amount of \$110,040 and finds that ADW is the best qualified firm.
2. The City Manager and City Attorney are authorized to negotiate and execute a final contract with ADW for architectural and engineering services.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

H. Budget Amendments Mid-Year FY22 – Adam Murr, *Budget Manager*

I move that City Council adopt the budget amendments 02102022-01, 02102022-02, 02102022-03, 02102022-04, 02102022-05, and 02102022-06 (mid-year budget amendments) as presented.

I. Revision of the Personnel Policy –Amending Article VII. Section 4 – Holidays: Compensation When Work is Required or Regularly Scheduled Off for Shift Personnel – Jennifer Harrell, *HR Director*

I move that City Council adopt the Personnel Policy Amendment Resolution, as presented.

Resolution #R-22-22**RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL AMENDING THE CITY OF HENDERSONVILLE PERSONNEL POLICY**

WHEREAS, the City of Hendersonville maintains a personnel policy the purpose of which is to establish a system of personnel administration for recruiting, selecting, employing, developing, and maintaining an effective and responsible work force; and

WHEREAS, the City of Hendersonville wishes to amend Article VII. Section 4 – Holidays: Compensation When Work is Required or Regularly Scheduled Off for Shift Personnel by clarifying shift employees required to perform work on regularly scheduled holidays will be paid for actual hours worked; and

WHEREAS, any hours that qualify for overtime may be compensated with compensatory time in accordance with Article III. Section 13. Compensatory Time.

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Hendersonville, North Carolina that from and after the effective date of this resolution, Article VII. Section 4 of the Personnel Policy attached to this resolution, is hereby adopted.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

J. Downtown Events Assistant Position Change - Jamie Carpenter, Downtown Manager

I move that City Council approve the updated Downtown Events & Marketing Assistant job position and description as presented.

K. Utility Extension Agreement for the Landings of Flat Rock Assisted Living Facility – Brendan Shanahan, Engineering

I move that City Council the Resolution authorizing the City Manager to enter into a Utility Extension Agreement with Henderson Propco, LLC for the Landings of Flat Rock Assisted Living Facility as presented and recommended by staff.

Resolution #R-22-23**RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO AUTHORIZE THE CITY MANAGER TO ENTER INTO A UTILITY EXTENSION AGREEMENT WITH HENDERSON PROPCO, LLC FOR THE LANDINGS OF FLAT ROCK ASSISTED LIVING FACILITY**

WHEREAS, the City of Hendersonville owns, operates, and maintains a water distribution system to serve customers throughout Henderson County; and

WHEREAS, residential, commercial, and industrial developments often require public water service as a part of their development projects; and

WHEREAS, the Developer extends public water lines to their site, which upon completion and acceptance, are provided to the City to own, operate, and maintain; and

WHEREAS, the City requires a Utility Extension Agreement to be executed to establish requirements of both the Developer and the City for the water line extension process; and

WHEREAS, Henderson Propco, LLC, the “Developer” and “Owner”, will enter into a Utility Extension Agreement with the City to provide water service to the Landings of Flat Rock Assisted Living Facility.

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

1. The Utility Extension Agreement with Henderson Propco, LLC, the “Developer” and “Owner” to provide water service to the Landings of Flat Rock Assisted Living Facility is approved, as presented.
2. City Manager is authorized to execute the Utility Extension Agreement, and to approve and execute amendments to the Utility Extension Agreement in the future provided such amendments do not impose a financial obligation upon the City.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

L. Utility Extension Agreement for the Rutledge Road Subdivision – Brendan Shanahan, Engineering

I move that City Council approve the Resolution authorizing the City Manager to enter into a Utility Extension Agreement with Windsor Built Homes, Inc for the Rutledge Road Subdivision as presented and recommended by staff.

Resolution #R-22-24

RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO AUTHORIZE THE CITY MANAGER TO ENTER INTO A UTILITY EXTENSION AGREEMENT WITH WINDSOR BUILT HOMES, INC FOR THE RUTLEDGE ROAD SUBDIVISION

WHEREAS, the City of Hendersonville owns, operates, and maintains a water distribution system to serve customers throughout Henderson County; and

WHEREAS, residential, commercial, and industrial developments often require public water service as a part of their development projects; and

WHEREAS, the Developer extends public water lines to their site, which upon completion and acceptance, are provided to the City to own, operate, and maintain; and

WHEREAS, the City requires a Utility Extension Agreement to be executed to establish requirements of both the Developer and the City for the water line extension process; and

WHEREAS, Windsor Built Homes, Inc., the “Developer” and “Owner”, will enter into a Utility Extension Agreement with the City to provide water service to the Rutledge Road Subdivision.

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

1. The Utility Extension Agreement with Windsor Built Homes, Inc., the “Developer” and “Owner” to provide water service to the Rutledge Road Subdivision is approved, as presented.
2. City Manager is authorized to execute the Utility Extension Agreement, and to approve and execute amendments to the Utility Extension Agreement in the future provided such amendments do not impose a financial obligation upon the City.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

M. Change Order No. 2 Clear Creek Interceptor Replacement - Adam Steurer, Utilities Engineer

I move that City Council adopt the Resolution by the City of Hendersonville City Council to Authorize the City Manager to Execute Change Order No. 2 for the Clear Creek Interceptor Replacement as presented and recommended by Staff.

Resolution #R-22-25

RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO AUTHORIZE THE CITY MANAGER TO EXECUTE CHANGE ORDER NO. 2 FOR THE CLEAR CREEK INTERCEPTOR REPLACEMENT

WHEREAS, the Clear Creek Interceptor Replacement project was identified in the City’s Sanitary Sewer Asset Inventory and Assessment Master Plan Report to reduce Sanitary Sewer Overflows (SSOs) and provide additional capacity for projected wastewater demands within the Clear Creek Basin and surrounding Edneyville area; and

WHEREAS, the City entered into a contract with Don Moorhead Construction, Inc. (Contractor) on May 12, 2021 for the construction of the Clear Creek Interceptor Replacement; and

WHEREAS, as construction of the project has progressed, the Engineer and Staff have collaborated with the Contractor and have identified a more viable I-26 gravity sewer crossing; and

WHEREAS, Staff recommends proceeding with the re-designed I-26 crossing proposed in this Change Order No. 2, which results in a future savings of approximately \$150,000.00 from the NCDOT I-26 road widening project (I-4400), previously non-performed and removed from the NCDOT project's scope; and

WHEREAS, Staff recommends adding approximately 284 feet of 30" gravity sewer to the upstream portion of the contract to eliminate a portion of undersized sewer main, the cost of which is included in Change Order No. 2; and

WHEREAS, Staff recommends approving the Contractor's justified request for increased unit pricing for PVC pipe related to the altered/additional scope of work included in Change Order No. 2 as there has been a significant material price escalation from the bid date, the cost of which is included in Change Order No. 2;

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

N. Resolution to Accept Half Moon Trail Into City Street System – Angela S. Beeker, City Attorney

I move that City Council adopt the Resolution by the City Of Hendersonville City Council Authorizing Acceptance Of A Portion Of Half Moon Trail into the City Street System as presented.

Resolution #R-22-26

**RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL AUTHORIZING
ACCEPTANCE OF A PORTION OF HALF MOON TRAIL
INTO THE CITY STREET SYSTEM**

WHEREAS, Half Moon Land Holdings, LLC, a North Carolina limited liability company, hereinafter "Developer," was granted a conditional rezoning to allow the development of certain property, having a PIN number of 9568-00-1446, being that +/- 29.9-acre parcel of property described in Deed Book 1601 at Page 205 of the Henderson County Registry, having an address of 297 Rustling Pines Lane, hereinafter the "Subject Property," as a subdivision, on December 2, 2021; and

WHEREAS, Developer was granted a Major Subdivision Plat approval by the City of Hendersonville Planning Board on December 13, 2021; and

WHEREAS, the City of Hendersonville Subdivision Ordinance 4.03(B)(5)(i) requires that "[w]here access to a subdivision site is by a street that does not meet City or State standards, that street shall be improved by the developer in order to meet current City or State standards, as appropriate"; and

WHEREAS, access to the Subject Property from US Highway 64 is proposed via Half Moon Trail, a street that was offered for dedication to the public via those plats recorded in Plat Slides 7850, 9167, 9020, and 8839, hereinafter "Dedication Plats," along with other plats, whereby Half Moon Trail was designated as "public," and lots have been sold pursuant to these Dedication Plats; and

WHEREAS, Half Moon Trail, as offered for dedication, is an offsite street, not a part of the Subject Property; and

WHEREAS, a portion of Half Moon Trail was constructed to City standards and was accepted by the City into the City's street system, and is now a public street, said portion being shown on that plat recorded in Plat Slide 8499 of the Henderson County Registry; and

WHEREAS, the Developer has requested that the City accept the remaining portion of Half Moon Trail that was dedicated to the public by the Dedication Plats, said remaining portion beginning at the terminus of the accepted portion of Half Moon Trail as shown on Plat Slide 8499, and continuing to the northernmost property boundary of the Subject Property, said remaining portion being also described as all of the right of way for Half Moon Trail as shown on the Dedication Plats which has not already been accepted by the City of Hendersonville, said remaining portion being hereinafter referred to as the "Half Moon Trail Remnant"; said Half Moon Trail Remnant being shown on Exhibit A, attached hereto and incorporated herein by reference; and

WHEREAS, Developer has agreed to post a cash deposit in the amount of \$4,937.50 with the City of Hendersonville in order to guarantee the completion of the construction of the Half Moon Trail Remnant to City standards as shown on Exhibits B and C, both being incorporated herein by reference; and

WHEREAS, the City has agreed to accept the dedication of the Half Moon Trail Remnant as a City Street upon condition that the Developer complete the construction of the Half Moon Trail Remnant to City standards and post the cash deposit as a guarantee of completion;

NOW THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF HENDERSONVILLE, NORTH CAROLINA as follows:

1. The Road Acceptance Agreement is approved as presented.
2. The City Manager is authorized to sign the Agreement, accepting the Half Moon Trail Remnant into the City Street System upon the occurrence of both of the following:
 - a. Developer's depositing with the City certified funds in the amount of \$4,937.50 to guarantee the construction of the Half Moon Trail Remnant to City standards; and
 - b. Developer signing the Road Acceptance Agreement.
3. The City Manager is authorized to approve such changes to the Road Acceptance Agreement as he deems in the best interest of the City.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

O. Resolution Authorizing City Manager to Enter Into A Contract with Bullington Gardens, Inc., for the Management of Bee City USA-Hendersonville – Gracie Erwin, Environmental Compliance Coordinator

I move that City Council adopt the Resolution by the City Of Hendersonville City Council to Authorize the City Manager to Enter Into a Contract With Bullington Gardens, Inc., as presented.

Resolution #R-22-27

RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO AUTHORIZE THE CITY MANAGER TO ENTER INTO A CONTRACT WITH BULLINGTON GARDENS, INC.

WHEREAS, the City staff recommend that the City contract with Bullington Gardens, Inc., a North Carolina nonprofit corporation ("Bullington,") to manage the Bee City USA-Hendersonville program ("Bee City"); and

WHEREAS, Bullington has indicated its willingness to provide management services for Bee City; and

WHEREAS, Bullington has the requisite resources to provide effective and knowledgeable management for Bee City;

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

1. The City Manager is authorized to enter into a contract with Bullington Gardens, Inc., to provide management services for the Bee City USA-Hendersonville program, for the annual management fee of \$15,000.00, and an annual program expense budget of \$5,000.00, for a five (5) year term.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

P. Resolution to Approve Updated Uniform Guidance Procurement Policy – Angela S. Beeker, City Attorney

I move that City Council adopt the Resolution By The City Of Hendersonville City Council To Approve Amended City Of Hendersonville Uniform Guidance Procurement Policy as presented

Resolution #R-22-28

**RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL
TO APPROVE AMENDED CITY OF HENDERSONVILLE
UNIFORM GUIDANCE PROCUREMENT POLICY**

WHEREAS, the City is required to procure goods and services, including construction and repair services, in compliance with North Carolina General Statutes Chapter 143, Article 8 (“State Bid Laws”) and with Chapter 2, Part 2 of the Code of Federal Regulations (“Uniform Guidance”) when such goods and services are funded in whole or in part with federal funds; and

WHEREAS, on or about December 3, 2020, the City Council adopted the City of Hendersonville Uniform Guidance Procurement Policy (“UG Policy”) in order to comply with State Bid Laws and the Uniform Guidance; and

WHEREAS, City staff is proposing amendments to the UG Policy to provide more guidance and clarity regarding federal funding requirements;

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

1. The revised City of Hendersonville Uniform Guidance Policy is approved as presented.
2. As this is an administrative policy, the City Manager is authorized to approve changes to the policy except as to those changes for which State Bid Laws or Uniform Guidance requires the changes to be approved by City Council.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

Q. Resolution Approving Repairs to the Exterior of City Hall - Tom Wooten, Director of Public Works

I move that City Council adopt the Resolution By The City Of Hendersonville City Council To Authorize The City Manager To Enter Into A Contract For The Year One Repairs To The Exterior Of City Hall as presented.

Resolution #R-22-29

**RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO AUTHORIZE THE
CITY MANAGER TO ENTER INTO A CONTRACT FOR THE YEAR ONE REPAIRS TO THE
EXTERIOR OF CITY HALL**

WHEREAS, the City of Hendersonville desires to make repairs to the exterior of City Hall; and

WHEREAS, the City of Hendersonville worked with SKA Consulting Engineers to issue an RFP for year one repairs to the exterior of City Hall; and

WHEREAS, five bids were received and opened on January 6, 2022 at 2:00pm; and

WHEREAS, SKA Consulting Engineers reviewed the bids for completeness and accuracy. Western Specialty Contractors were the lowest responsive bidder; and

WHEREAS, only a portion of the funds required for this project were in this year’s budget. Staff will submit a capital project ordinance and budget amendment for the project,

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

1. The bid for year one repairs to the exterior of City Hall is awarded to Western Specialty Contractors, the lowest responsive bidder, in the total amount of \$206,317.00. The City Manager is authorized to execute a contract consistent with the terms of this Resolution.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

Council Member Jerry Smith moved that City Council approve the consent agenda as presented. A unanimous vote of the Council followed. Motion carried.

6. PRESENTATIONS

A. Quarterly MVP Recipients – John Connet, City Manager

City Manager John Connet presented the quarterly MVP recipient awards to Nathaniel Davis – Environmental Service Worker 1, Randall West – Environmental Services Equipment Operator, Brentley Orr – Line Maintenance Worker 1, Austin Williams – Line Maintenance Worker 2, Paul Williams – Utility Production Specialist, and Andrew Jones – Utility Systems Supervisor.

B. Black History Month Recognition – Landina Guest House Historical Marker – John Connet, City Manager

City Manager John Connet discussed the historical significance of the Landina Guest House and placement of a marker. Manager Connet stated the Landina Guest House served as a location where African Americans could rent a room during segregation with a private bath and meals and said the House was listed in the 1960-1961 Negro Motorist Green Book. Manager Connet added, the house served as a community gathering spot for African American residents in the area and said the Diversity and Inclusion Committee and Historic Preservation Commission recommend the placement of a historical marker to recognize the historical significance of the Landina Guest House to the African American community. Manager Connet stated he felt it was an appropriate and positive step in the history of the City. Mr. and Mrs. Lowrance as well as members from the Diversity and Inclusion Committee and Historic Preservation Commission were on hand to accept this honor. Melinda Lowrance extended thanks and appreciation to Council for fulfilling this long-time dream.

Council Member Debbie O’Neal-Roundtree moved that in honor of Black History Month that the City Council approve the placement of a historical marker at 710 1st Avenue West in recognition of the Landina Guest House. A unanimous vote of the Council followed. Motion carried.

C. Hands On! Children’s’ Museum Update – Joseph Knight, Executive Director

Executive Director Joseph Knight presented an update on the Hands On! Children’s Museum announcing they have achieved their goal raising additional funds necessary to complete renovations at the museum. Director Knight stated they have raised over \$450,000 within 8 months in 2021 thanks to the support of the City Council and community.

D. Ecusta Trail Update – Chris Burns, Friends of the Ecusta

Chris Burns, board member of the Friends of the Ecusta Trail Board, and vice chair of the County Rails to Trails Advisory Committee provided a history and update on the Ecusta Trail Project. In his presentation Mr. Burns stated the county has moved forward with selection of an engineering firm to begin the planning and construction phase of the first part of the trail. He also announced that NCDOT has instructed the boards to proceed with phases 1-3 by consolidating them into one phase due to increased funding availability. Mr. Burns stated this portion will span 6 miles and said construction will be completed in approximately 18 months. Mr. Burns stated the cost of entire trail is approximately \$32M for portions in both Henderson and Transylvania Counties and said this is assuming a NCDOT funding of 80%. Mr. Burns stated the matching funds total around \$6.5M and said the boards have secured \$4M, with \$2.5M is coming from TDA. The additional funding is moving forward very well.

Mr. Burns outlined challenges along the section of Kanuga Rd. to Brevard stating the county applied for and received a grant from the MPO and were given an additional ½ mile portion of trail but said they still need 80% of the costs in additional funding to develop this portion and are actively looking for a way to fund this portion. Mr. Burns outlined additional challenges with increased construction costs and inflation stating value engineering can reduce costs.

Council Member Jerry Smith clarified the cost for the King Street portion is approximately \$1.6M and confirmed that the City of Brevard and Transylvania County is applying for grants to fund construction of the portion of trail that extends into their area.

Mayor Volk briefly recessed the meeting at 6:28 p.m. for a short break and reconvened at 6:32 p.m.

7. PUBLIC HEARINGS

A. Zoning Text Amendment: Addition and Definition of Micro-distilleries, Micro-cideries, and Micro-wineries with Supplementary Standards to existing Micro-brewery definition (P21-83-ZTA) - Alexandra Hunt, Planner I

Planner Alexandra Hunt stated the Community Development Department is in receipt of a Zoning Text Amendment (ZTA) application from M&T Distillery LLC and said the applicant is requesting that "micro-distilleries" be added as a use in zoning districts that currently allow microbreweries as either a permitted use or permitted use subject to supplementary standards under Article 16 of the Zoning Ordinance. Ms. Hunt stated in addition to the applicant's request, the department is proposing three (3) recommendations as follows: First, the department recommends that "micro-distilleries", "micro-cideries" and "micro-wineries" be added to the use, definition, and supplementary standards for "Microbreweries." Second, the department is proposing to add additional standards taken from the supplementary standards for Small Scale Manufacturing to the existing supplementary standards for Microbreweries. Third, the department recommends adding two (2) additional zoning districts, CHMU and Urban Village, to the zoning districts that already permit microbreweries as a permitted use subject to supplementary standards. Ms. Hunt reminded everyone that microbreweries are currently a permitted use in PCD CZD, I-1, and PMD CZD zoning districts and a permitted use subject to supplementary standards in C-1, C-2, C-3, CMU, GHMU and HMU.

Staff presented and discussed with City Council an analysis of the consistency with the relevant portions of the Comprehensive Land Use Plan and the Planning Board's recommendation. Both were considered by the City Council in addition to supporting maps and documents provided in the agenda packet.

The City Clerk confirmed this public hearing has been advertised in accordance with North Carolina General statutes. The public hearing was opened at 6:48 p.m.

Bill McDonald of M&T Distilling LLC addressed city Council requesting consideration of approval. Mr. McDonald stated he is promoting the usage of local ingredients and tourism to the county.

Lyle Chariff of Chariff Realty Group addressed City Council stating he is very supportive of Mr. McDonald's business plan and said it is beneficial to the 7th Avenue District.

There were no further comments. The public hearing was closed at 6:55p.m.

Council Member Dr. Jennifer Hensley moved that City Council approve an ordinance revising the definition, use and supplementary standards of Microbreweries to include Micro-distilleries, Micro-cideries, and Micro-wineries in the C-1, C-2, C-3, CMU, GHMU, HMU, I-1, PCD and PMD zoning districts and extending this amended use to the CHMU and Urban Village zoning districts as a Permitted Use subject to the Supplementary Standards finding that the text amendment is consistent with the City of Hendersonville 2030 Comprehensive Plan based on the information from the staff analysis and the public hearing, and because It encourages infill development and redevelopment in areas planned for high intensity development. (Goal LU-1); It contributes to downtown's role as the focal point of niche retailers within the city. (Goal CR-4), and It encourages mixed-use development that reduces the need to drive. (Goal TC-1).

Further, we find this petition for a zoning text amendment to be reasonable and in the public interest based on the information from the staff analysis and the public hearing, and because It will promote additional diversity of job opportunities within the City of Hendersonville, it encourages reinvestment in existing infrastructure and commercial real estate within the City of Hendersonville, and it reflects adaptation by the city to changing market trends in retail and the craft beverage industry. A unanimous vote of the Council followed. Motion carried.

Ordinance #O-22-11

AN ORDINANCE OF THE CITY OF HENDERSONVILLE CITY COUNCIL TO AMEND ARTICLE 5 - ZONING DISTRICT CLASSIFICATIONS: SECTION 5-6-1, SECTION 5-7-1, SECTION 5-8-1, SECTION 5-11-2, SECTION 5-12-1, SECTION 5-15-2, SECTION 5-19-1, SECTION 5-22-1; SECTION 5-23-1; ARTICLE 6 – GENERAL PROVISIONS: SECTION 6-5; ARTICLE 12 - DEFINITION OF TERMS: SECTION 12-2; AND ARTICLE 16 - SUPPLEMENTARY STANDARDS FOR CERTAIN USES: SECTION 16-4 OF THE CITY OF HENDERSONVILLE ZONING ORDINANCE TO ADD AND DEFINE MICRO-DISTILLERIES, MICRO-CIDERIES, AND MICRO-WINERIES TO ZONING DISTRICT CLASSIFICATIONS C-1, C-2, CMU, GHMU, HMU, CHMU AND URBAN VILLAGE.

WHEREAS, the City of Hendersonville’s Downtown Advisory Board and Planning Board have reviewed and recommended for adoption a zoning text amendment adding, defining, and providing Supplementary Standards for Micro-distilleries, Micro-cideries, and Micro-wineries in the City of Hendersonville Zoning Ordinance; and

WHEREAS, City Council desires to promote the efficient use and reuse of commercial space within City limits by permitting compatible development and redevelopment; and

WHEREAS, City Council desires to promote a diverse local economy which promotes and supports small business job creation; and

WHEREAS, the addition of Micro-distilleries, Micro-cideries, and Micro-wineries as a use represents a response to changing trends and opportunities within the craft beverage industry and economic development in the City of Hendersonville.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Hendersonville, North Carolina that Article 5 - Zoning District Classifications: Section 5-6-1, Section 5-7-1, Section 5-8-1, Section 5-11-2, Section 5-12-1, Section 5-15-2, Section 5-19-1, Section 5-22-1; Section 5-23-1; Article 6 – General Provisions: Section 6-5; Article 12 - Definition of Terms: Section 12-2; & Article 16 - Supplementary Standards for Certain Uses: Section 16-4 of the City of Hendersonville Zoning Ordinance to add, define and provide Supplementary Standards for Micro-distilleries, Micro-cideries, and Micro-wineries for Zoning District Classifications C-1, C-2, C-3, CMU, GHMU, HMU, I-1, PCD, PMD, CHMU and Urban Village:

ARTICLE V ZONING DISTRICT CLASSIFICATIONS**Section 5-6 C-1 Central Business Zoning District Classification****5-6-1 Permitted Uses**

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries, subject to the Supplementary Standards contained in Section 16-4, below

Section 5-7 C-2 Secondary Business Zoning District Classification**5-7-1 Permitted Uses**

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries, subject to the Supplementary Standards contained in Section 16-4, below

Section 5-8 C-3 Highway Business Zoning District Classification**5-8-1 Permitted Uses**

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries, subject to the Supplementary Standards contained in Section 16-4, below

5-11-2 Permissible Uses.

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries, subject to the Supplementary Standards contained in Section 16-4, below

Section 5-12 I-1 Industrial Zoning District Classification

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries, subject to the Supplementary Standards contained in Section 16-4, below

Section 5-15 PCD Planned Commercial Development Conditional Zoning District Classification

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries, subject to the Supplementary Standards contained in Section 16-4, below

Section 5-19 CMU Central Mixed Use Zoning District Classification

5-19-1 Permitted Uses

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries, subject to the Supplementary Standards contained in Section 16-4, below

Section 5-22 GHMU Greenville Highway Mixed Use Zoning District Classification**5-22-1 Permitted Uses**

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries, subject to the Supplementary Standards contained in Section 16-4, below

Section 5-23 HMU Highway Mixed Use Zoning District Classification**5-23-1 Permitted Uses**

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries, subject to the Supplementary Standards contained in Section 16-4, below

Section 5-24 UV Urban Village Conditional Zoning District Classification**5-24-2 Permitted Uses**

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries, subject to the Supplementary Standards contained in Section 16-4, below

Section 5-27 CHMU Commercial Highway Mixed Use Zoning District Classification**5-27-1 Permitted Uses**

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries, subject to the Supplementary Standards contained in Section 16-4, below

ARTICLE XI GENERAL PROVISIONS**Section 6-5 Off-Street Parking.**

Table 6-5-2: Microbreweries, Micro-distilleries, Micro-cideries, and Micro-wineries: 1 per each 3 seats or stools plus 1 per each 2 employees on the shift with the largest employment

ARTICLE XII DEFINITION OF TERMS**Section 12-2 Definition of Commonly Used Terms and Words**

Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries: An establishment that engages in the production of malt beverages or spiritous liquors or hard cider or wine as defined in North Carolina General Statute 18B-101. Annual production shall be less than 25,000 barrels 775,000 gallons per calendar year of final product.

ARTICLE XVI SUPPLEMENTARY STANDARDS FOR CERTAIN USES**Section 16-4 Standards****16-4-15 Micro-breweries, Micro-distilleries, Micro-cideries, and Micro-wineries**

- a) Shall include one or more accessory uses such as a tasting room, tap room, restaurant, retail, demonstration area, education and training facility or other uses incidental to the brewery, distillery, hard cidery, or winery and open and accessible to the public.
- b) Storage of materials used in the manufacturing, processing, and for distribution shall be located entirely within the building.
- c) Shall be designed such that all newly constructed loading and unloading facilities are internal to the site, in service alleys or at the back of the building.
- d) The sides and rear yard or setback requirement shall be increased to 25 feet for the C-2 Secondary Business, C-3 Highway Business, GHMU Greenville Highway Mixed Use and HMU Highway Mixed Use Zoning District Classifications.
- e) Shipping and receiving needs shall not exceed the equivalent of (1) FHWA Class 8 truck per week.
- f) Reuse of an existing building shall not exceed 20,000 square feet of building floor space.
- g) New construction shall not exceed 10,000 square feet of all building floor space.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

Mayor Volk briefly recessed the meeting at 7:15 pm for a short break and reconvened at 7:19 pm

8. UNFINISHED BUSINESS

There was no unfinished business.

9. NEW BUSINESS

A. Presentation of Letter Regarding Boyd Park from Historic Preservation Commission - *Historic Preservation Chair or Vice Chair*

Chairman Cheryl Jones and Vice Chair Jim Welter presented a letter to Council explaining the Historic Preservation Commission (HPC) was approached by the public regarding possible historical significance of Boyd Park. Chair Jones asked Council to consider collaboration with the Commission to preserve and recognize any historic significant features which may be present. Vice Chairman. Welter stated the Committee is asking for consideration of input with relocating amenities to a new park. Council Member Jerry Smith advised the process has officially begun and invited HPC to sit down with the architects regarding concerns for preservation and relocation of amenities. Chair Jones clarified it is unlikely that the site would be deemed a local landmark but said HPC believes it has local significance. Council Member Lyndsey Simpson stated she supports honoring the legacy and history and recalled prior Council direction for preserving certain aspects of the park and referenced the Laura E. Corn plaque. Council Member Dr. Jennifer Hensley referred to a petition which was circulated in the community regarding preserving mini golf and said she personally contacted fifty people who signed the petition who confirmed they through the golf was going to be taken away and were unaware of it being rebuilt. Council Member Hensley stated she thinks most people are excited about having an ADA accessible facility where more persons can enjoy playing mini golf in the city. Mayor Barbara G. Volk confirmed staff will provide updates to HPC.

B. Fire Station Project Update – Adam Murr, Budget Manager

Ashley Love with ADW Architects and Mike Carlisto with Edifice provided an update on Fire Station #1 stating the site will require seismic considerations due to soil issues. City Manager John Connet stated there is an underground stream beneath the football field which runs through the project site property which may contribute to the poor soil issues. Manager Connet stated there will be an additional \$1.2 M cost but said it should be manageable within the budget as it is spread out over a period of fifteen to twenty years. Council Member Dr. Jennifer Hensley and Council Member Lyndsey Simpson stated they wish to move forward with the project knowing this information.

C. Acceptance of Duke Energy Electric Vehicle Charging Station – John Connet, City Manager and Tom Wooten, Public Works Director

Public Works Director Tom Wooten provided information regarding an agreement with Duke Energy to place an electric vehicle charging station at Patton Park and clarified this is a customer fee-based installation similar to fuel rates.

Council Member Lyndsey Simpson moved that the City Council adopt the resolution authorizing the City Manager to execute the grant agreement with Duke Energy for the placement of an electric vehicle charging station at Patton Park. A unanimous vote of the Council followed. Motion carried.

Resolution #R-22-30

RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO AUTHORIZE THE CITY MANAGER TO ENTER INTO A CONTRACT WITH DUKE ENERGY

WHEREAS, the Hendersonville City Council has established a core value that states, “that it is our responsibility to protect all our natural resources and the environment through the implementation of sustainable and responsible projects”; and

WHEREAS, the City Council has directed staff to pursue grants for the placement of addition electric vehicle charging stations; and

WHEREAS, the Public Works Department has received a grant for the installation of an electrical vehicle charging station at Patton Park; and

WHEREAS, the charging station will be installed at no cost to the City of Hendersonville. However, vehicle owners will be charged by Duke Energy for the use of the charging station.

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

1. The City Manager is authorized to enter into a contract with Duke Energy for the placement of a pay as you go electric vehicle charging station at Patton Park.

Adopted by the City Council of the City of Hendersonville, North Carolina this 10th day of February 2022.

/s/Barbara G. Volk, Mayor

Attest: /s/Angela L. Reece, City Clerk

Approved as to form: /s/Angela S. Beeker, City Attorney

D. Lighting Ordinance Update – Lew Holloway, Community Development Director

Community Development Director Lew Holloway addressed City Council providing a history and update on the proposed lighting ordinance. Director Holloway outlined concerns regarding the impact of lumen limits on existing sites and on recently approved sites as well as the need to regulate light trespass between commercial properties with options such as shielding and lumen intensity.

Council Member Jerry Smith inquired regarding a compliance date and Director Holloway said it has been discussed and clarified lighting installed today will be beyond useful service life within 20 to 30 years and said any proposed sunset date should be roughly consistent with the service life of the replacement of the light fixture. City Manager John Connet discussed the economic impact of LED streetlight shielding and said the city is being charged extra fees to shield.

Council Member Dr. Jennifer Hensley stated there is a need for guidance and recalled many recent lighting discussions with developments and reminded everyone Council determined there was a need for an ordinance which led to a committee being formed. Council Member Hensley asked staff to keep safety and the business community needs in mind with drafting the ordinance. Council directed staff to continue working on a proposed ordinance with this in mind.

E. Formal Implementation of the 2022 Pay and Classification Plan – John Connet, City Manager

City Manager John Connet recalled past presentations and said this request to ask Council to formally approve the plan as discussed during the last meeting. Council Member Jerry Smith stated he is in favor of 3%, living wage, and 65th % but will vote against this as he is not comfortable with 75%. Mayor Barbara G. Volk stated she is not real comfortable going to 75% on July 1st and would like to see it phased in but will go along with the majority of Council. Mayor Volk clarified she does think employees deserve it. Council Member Smith stated he prefers to wait until the property revaluation comes out to see what the impact on the taxpayers will be in this timeframe.

Council Member Dr. Jennifer Hensley moved that the City Council direct staff to implement the new Pay and Classification Plan with a 3% increase plus moving all positions to 65th percentile effective immediately and moving all positions to the 75th percentile effective July 1, 2022. In addition, no position shall have probation completion salary below the living wage of \$16.88 per hour. The motion carried by a 3-2 vote with Roundtree-O’Neal and Smith voting no.

10. APPOINTMENTS TO BOARDS/COMMISSIONS/COMMITTEES

A. Board & Commission Vacant Seat Appointments – Angela L. Reece, City Clerk

Council Member Lyndsey Simpson moved that City Council appoint Joseph Dinan to serve an unexpired term ending June 30, 2023 on the Downtown Advisory Board as a Main Street Stakeholder.

Council Member Lyndsey Simpson moved that City Council appoint Joseph Dinan to serve an unexpired term ending June 30, 2026 as a member of the Henderson Tourism Development Authority.

11. CITY COUNCIL COMMENTS

Council Member Jerry Smith reminded everyone about the City's 175th celebration events throughout the year and encouraged everyone to visit the City's website for more information.

12. CITY MANAGER REPORT – *John F. Connet, City Manager***A. February 2022 Contingences Report – *Alex Norwood, Budget Analyst***

City Manager John Connet presented the February 2022 Contingencies Report to Council making them aware of the use of the funds necessary to clean up any overages in preparation for rest of the year.

13. ADJOURN

There being no further business, the meeting was adjourned at 9:15 p.m. upon unanimous assent of the Council.

Barbara G. Volk, Mayor

ATTEST:

Angela L. Reece, City Clerk



CITY OF HENDERSONVILLE
AGENDA ITEM SUMMARY

SUBMITTER: Angela Reece, *MPA, CMC, NCCMC*, **MEETING DATE:** March 3, 2022
City Clerk

AGENDA SECTION: CONSENT **DEPARTMENT:** ADMINISTRATION

TITLE OF ITEM: Approval of Handbook and Resolution Establishing A Code Of Ethics and Attendance Policy for Members of Advisory Boards, Commissions, and Committees of The City Of Hendersonville – *Angela L. Reece, City Clerk*

SUGGESTED MOTION(S): I move that City Council approve the Handbook and Resolution Establishing A Code Of Ethics and Attendance Policy for Members of Advisory Boards, Commissions, and Committees of The City Of Hendersonville as presented.

SUMMARY: To further City Council’s priority of open and transparent communication with the community and excellent service delivery staff has created a handbook for advisory board, commission and committee members which includes a code of ethics and attendance policy resolution. The purpose of the handbook and resolution is for it to be utilized as a guide to answer questions about what is required and expected of any City of Hendersonville advisory board member or staff person by City Council.

ATTACHMENTS:

- i. Handbook for Advisory Board, Commission, & Committee Members
- ii. Resolution Establishing A Code Of Ethics and Attendance Policy for Members of Advisory Boards, Commissions, and Committees of The City Of Hendersonville

Resolution #

**RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL ESTABLISHING
A CODE OF ETHICS AND ATTENDANCE POLICY FOR MEMBERS OF ADVISORY
BOARDS, COMMISSIONS, AND COMMITTEES OF THE CITY OF HENDERSONVILLE**

WHEREAS, Section 160A-86 of the North Carolina General Statutes requires local governing boards to adopt a code of ethics and, pursuant to Section 160A-86, the City Council has previously adopted a Code of Ethics Resolution #10-1151 on December 4, 2010 for the Mayor and City Council; and

WHEREAS, it is appropriate that members of City advisory boards, commissions, and committees as well as Mayoral and City Council appointees to non-city bodies (hereinafter "Advisory Board Members"), also adhere to a Code of Ethic; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Hendersonville in recognition of our blessings and obligations as citizens of the State of North Carolina and as public officials representing the citizens of the City of Hendersonville, and acting pursuant to the requirements of Section 160A-86 of the North Carolina General Statutes, we do hereby adopt the following General Principles and Code of Ethics & Attendance Policy to guide Advisory Board Members in their lawful decision-making.

GENERAL PRINCIPLES AND CODE OF ETHICS

The purpose of this Code of Ethics is to establish guidelines for ethical standards of conduct for advisory board members and to help determine what conduct is appropriate in particular cases. It should not be considered a substitute for the law or for a member's best judgment.

The stability and proper operation of democratic representative government depend upon public confidence in the integrity of the government and upon responsible exercise of the trust conferred by the people upon their elected officials.

Governmental decisions and policy must be made and implemented through proper channels and processes of the governmental structure.

Advisory board members must be able to act in a manner that maintains their integrity and independence yet is responsive to the interests and needs of those they represent and must always remain aware that they may, at various times, play different roles:

- As advisors, who balance the public interest and private rights in considering and recommending, among other things, ordinances, policies, and decisions.
- As decision-makers, who arrive at fair and impartial determinations.

Advisory board members must know how to distinguish among these roles, to determine when each role is appropriate, and to act accordingly.

Advisory board members must be aware of their obligation to conform their behavior to standards of ethical conduct that warrant the trust of the Mayor and City Council and the citizens of the City of Hendersonville. Each board member must find within his or her own conscience the touchstone by which to determine what conduct is appropriate.

Section 1

Advisory board members should obey all laws applicable to their official actions. Advisory board members should be guided by the spirit as well as the letter of the law in whatever they do.

At the same time, advisory board members should feel free to assert policy positions and opinions without fear of reprisal from fellow board members or citizens. However, in doing so, advisory board members:

- (a) shall be mindful that they were appointed by the Mayor or City Council, or by another appointing authority to a City board, commission, or committee and, therefore, if they are advising or advocating a position that is contrary to a Council policy, that they notify the Mayor and City Council of such as soon as practicable;
- (b) who serve in an advisory capacity shall be mindful that their chief responsibility is to advise the Mayor and City Council or other decision-making body rather than to advocate to the public at large, particularly when the position of advocacy is contrary to a Council policy;
- (c) shall understand that they hold a position of trust on behalf of the City and its citizens;
- (d) shall assert policy positions and opinions on matters within or related to the jurisdiction and subject matter of the body on which they serve only through the transparency of official proceedings of the body or in a capacity and manner appropriate for a member of such body. Advisory board members shall not represent their individual views as being representative of the full body unless they have been formally authorized by the body to do so.
- (e) shall faithfully attend regular and special meetings of the body.

These guidelines are especially important to Chairpersons who must recognize that they are often viewed as speaking for the body.

To declare that an advisory board member is behaving unethically because one disagrees with that official on a question of policy (and not because of the board member's behavior) is unfair, dishonest, irresponsible, and itself unethical.

Section 2

Advisory board members should act with integrity and independence from improper influence as they exercise the duties of their offices. Characteristics and behaviors consistent with this standard include the following:

- Adhering firmly to a code of sound values
- Exhibiting trustworthiness
- Using their best independent judgment to pursue the common good as they see it, presenting their opinions to all in a reasonable, forthright, consistent manner
- Remaining incorruptible, self-governing, and unaffected by improper influence while at the same time being able to consider the opinions and ideas of others
- For advisory board members who act in a quasi-judicial capacity, disclosing contacts and information about issues that they receive outside of public meetings and refraining from seeking or receiving information about quasi-judicial matters outside of the quasi-judicial proceedings themselves
- Treating other board members, staff and the public with respect and honoring the opinions of others even when the board members disagree with those opinions
- Showing respect for their offices and not behaving in ways that reflect badly on those offices
- Recognizing that individual advisory board members are not generally allowed to act on behalf of the body but may only do so if the body specifically authorizes it, and that the body must take official action as a body

Section 3

Advisory board members should avoid impropriety in the exercise of their official duties. Their official actions should be above reproach and they should not use their official position for personal gain. Although opinions may vary about what behavior is inappropriate, the Mayor and City Council will consider impropriety in terms of whether a reasonable person who is aware of all of the relevant facts and circumstances surrounding the advisory board member's action would conclude that the action was inappropriate.

If an advisory board member believes that his or her actions, while legal and ethical, may be misunderstood, the member should seek the advice of the staff liaison who will confer with his or her department supervisor and/or the City Attorney who will consider the facts of the situation and the steps necessary to resolve it.

Section 4

Advisory board members should faithfully perform the duties of their offices. They should act as the especially responsible citizens whom others can trust and respect. They should set a good example for others in the community, keeping in mind that trust and respect must continually be earned. Advisory board members should be willing to bear their fair share of the body's workload. To the extent appropriate, they should be willing to put the City's interests ahead of their own.

Section 5

Advisory board members should conduct the affairs of the board in an open and public manner. They should comply with all applicable laws governing open meetings and public records, recognizing that doing so is an important way to be worthy of the public's trust. They should remember when they meet that they are conducting the public's business. They should also remember that local government records belong to the public and not to them or city employees.

In order to ensure strict compliance with the laws concerning openness, the Mayor and City Council have made it clear that an environment of transparency and candor is to be maintained at all times in the governmental unit. They should take deliberate steps to make certain that any meetings held by the body are lawfully conducted and that such meetings do not stray from the purposes for which they are called.

Section 6

ATTENDANCE POLICY

Advisory board members should faithfully attend and adhere to the following attendance policy.

In order for an advisory board, commission, or committee to be effective and efficient, and to accomplish its purpose, its membership must be actively involved and attentive to the business of the body therefore the Mayor and City Council may dismiss any member who misses three consecutive meetings or one-half of the meetings held in a calendar year without good cause (such as temporary severe illness of a member or of a member of such member's family, or overriding but temporary business concerns). Such dismissal may be considered upon or complaint by the chairperson, a member of the advisory board, staff liaison, or on the City Council's own motion.

On January 1st of each year, a member of any advisory board appointed by the Mayor or City Council may be automatically removed from said body for failure to attend at least one half of all regular and special meetings of the body held during the immediately preceding calendar year.

Sanctions

In the event that a member of an advisory board fails to comply with the code of ethics or attendance policy the chairperson or staff liaison shall notify the City Clerk in writing, of the policy violation and

to request that said member to be replaced. The City Clerk will forward the complaint to the Mayor and City Council for review. Following the review of an allegation against a member of a city advisory board, the City Council may sanction the member who was the subject of the review. Potential sanctions include removal of the member, adoption of a resolution of censure, and any other lawful sanction within the City Council’s power.

Adopted by the City Council of the City of Hendersonville, North Carolina on this 3RD day of March 2022.

Attest:

Barbara G. Volk, Mayor, City of Hendersonville

Angela L. Reece, City Clerk



Handbook for Advisory Board, Commission & Committee Members

A Comprehensive Guide to the City of
Hendersonville's Advisory Boards,
Commissions and Committees

Questions may be directed to:

City Clerk
160 6th Ave. E.
Hendersonville, NC 28792
Phone: 828-697-3005 • Fax: 828-697-3014
Email: areece@hvlnc.gov
Website:
<https://www.hendersonvillenc.gov/>

Regular business hours:
Monday-Friday
8:00 a.m. to 5:00 p.m.

Adopted by City Council on _____

Table of Contents

HANDBOOK FOR ADVISORY BOARD, COMMISSION & COMMITTEE MEMBERS

Introduction	3
Appointments to Boards, Commissions & Committees	4
Application	5
Qualifications for Board Members	6
New Appointees to Boards, Commissions & Committees	7
Council Policies/ Multiple Terms of Office	8
Resignations/Terminations and Replacements	9
Public Records	10
Creating Records and Record Requests	11
Advisory Board Member Roles & Responsibilities	12
Board Member	12
Board Chairperson	13
Board Staff Liaison/Secretary	14
Minutes	16
City Council Core Values and Beliefs	19
Code of Ethics Resolution	22
Attendance	26
Policies and Procedures for Administering Boards and Commissions	27
Roberts Rules of Order Newly Revised	28
Descriptions of Boards	29
Acknowledgement Page	33

Introduction

OVERVIEW

Thank you for your interest in serving your community through participation on a City of Hendersonville advisory board, commission, or committee. The City of Hendersonville currently has many advisory boards, commissions, and committees that are comprised of volunteers appointed by the City Council (herein after referred to as Council) or Mayor. The City of Hendersonville encourages participation by its residents in City government through service on City boards and commissions. Serving on a board is an opportunity to collaborate with local government and to help shape decisions and policies that impact our community.

Members of advisory boards and commissions provide an invaluable service to our city. Members advise the City Council on a wide variety of subjects by making recommendations on important policy matters. The mission, responsibilities and time commitments for each board vary. A brief description of each board, including meeting times and locations, can be found at the end of this handbook. Additional information and notices may be found on the City’s website at <https://www.hendersonvillenc.gov/>. The City of Hendersonville City Council is committed to appointing diverse, qualified, and dedicated people of all ages, interests, and backgrounds.

This handbook is for persons interested in volunteering on an advisory board, commission, or committee or who were recently appointed to one of the City’s advisory boards. In this handbook, you will find information on how the board functions, qualifications for members, information for new appointees, board roles and responsibilities, policies governing boards and board members, and a description of all City advisory boards or other boards to which the City Council appoints members.

If you have questions or require assistance, contact the Office of the City Clerk at 828-697-3005 or email areece@hvlnc.gov.

Appointment & Application Process

APPOINTMENTS TO BOARDS, COMMITTEES, & COMMISSIONS

The Hendersonville Mayor and City Council have a long history of providing many opportunities for resident participation on local government advisory boards, commissions, and committees. There are 16 standing advisory boards, commissions, and committees to which the Mayor and City Council make appointments.

The Mayor and the City Council may at times appoint residents to both ad hoc committees and standing committees. Ad hoc committees are temporary committees that have been given a very limited charge and are usually expected to provide recommendations to the Mayor and City Council within one year. Standing committees have ongoing responsibilities and are usually either regulatory or advisory in nature. Regulatory advisory boards or committees are involved in setting policy or operating procedures for the related activity, e.g., the Board of Adjustment. Other advisory boards or committees may be charged with reviewing and commenting on local plans and policies, e.g., the Planning Board. The Mayor and City Council also appoint from its membership, staff, or residents to non-city bodies such as the Land of Sky Regional Council Board of Delegates (LOSRC) or Hendersonville Tourism Development Authority (TDA).


Appointments to advisory boards, commissions, and committees are made bi-annually in June and December, or as needed. At least four weeks prior to the date for nominations, the City Clerk’s Office provides the Mayor and City Council with the list of upcoming vacancies eligible for appointment. The vacancies are publicized by providing and posting a list of vacancies through the City’s website, social media, and other opportunities.

Applicants seeking appointments to a specific advisory board are strongly urged to attend several meetings of the board prior to completing and submitting an application. Applicants are also encouraged to attend meetings of the City Council to observe proper procedure and decorum of meetings.

All discussion and consideration of appointments are made in open sessions of the City Council. After the announcement is made, each member of City Council has the opportunity to nominate a person(s) for appointment to each of the advisory board seats to be filled. After nominations are closed, City Council Members vote on the nominated persons to make appointments to fill the vacant positions. A majority vote of the Council is necessary for appointment. Once an appointment takes place, the City Clerk’s Office will notify that candidate of their appointment.

APPLICATION TO BOARDS, COMMITTEES, & COMMISSIONS

An application is required for consideration of an appointment or reappointment to an advisory board, commission, or committee. All information provided in completing the application becomes public information and is therefore subject to public records requests. Once an application for an appointment has been filed with the City Clerk, it is placed on file and remains active during the calendar year they are received. The City Clerk will include all filed applications in each pool of vacancies for consideration by Council during the calendar year. At the end of the calendar year, all non-appointed applications will be filed per the records retention schedule. Applicants wishing to be considered for the next years cycle will need to reapply.

To apply, please visit the City of Hendersonville's Website at <https://www.hendersonvillenc.gov/> and select the "Advisory Boards, Commissions and Committees" tab from the drop down menu to view advisory board information and to apply online by clicking the  icon at the top right of the page.

Qualifications

QUALIFICATIONS FOR ADVISORY BOARD MEMBERS

Appointees to advisory boards, commissions, and committees may be subject to certain residency requirements specified or provided for by law, ordinance, or City Council action establishing said advisory board, commission, committee, or in the rules or bylaws of said advisory board, commission, committee, as approved by Council.

No resident shall be eligible to hold concurrently more than two appointments to a standing advisory board, commission, or committee. This limitation shall not apply to ad hoc committees or appointments to regional boards, commissions, or committees appointed by the Council.

Current City employees shall not be eligible to serve on City advisory boards commissions or committees but may be appointed to serve on regional boards, commissions, or committees appointed by the Council.

An oath of office (or affirmation) is required for some boards. Where applicable, newly appointed board members will take and sign an oath of office or affirmation following their appointment. A new member may not vote on any matter until the oath of office has been administered. Reappointed members shall also be administered the oath of office, if applicable.

The following Boards require an oath of office:

- | | | |
|---------------------|---|----------------------------------|
| ABC Board | • | Historic Preservation Commission |
| Board of Adjustment | • | Planning Board |

All appointees are subject to the City Council’s Code of Ethics and Attendance Policy for Members of Advisory Boards, Commissions, and Committees. A Statement of Economic Interest Form may be required for members of some boards if the member would hold a financial interest in a matter in which the member would otherwise cast a vote. Where applicable, appointed board members will be asked to complete the form at the direction of the City Clerk and submit it within five business days to the Office of the City Clerk.

The following City boards and commissions which deal with land use or other regulations may be subject to this requirement:

- | | | |
|----------------------------------|---|---------------------|
| ABC Board | • | Planning Board |
| Historic Preservation Commission | | Board of Adjustment |

New Members

NEW APPOINTEES TO BOARDS, COMMISSIONS & COMMITTEES

Thank you for volunteering to serve your community through an appointment by the Mayor and City Council to an advisory board, commission, or committee. This handbook will acquaint you with the Mayor and Council’s policies in regard to advisory boards, commissions, and committees and the particular roles and responsibilities of members. This handbook is provided to new appointees by the Office of the City Clerk along with their notice of appointment.

Advisory boards, commissions, and committees are established to increase community input and participation in City government. Some of the advisory boards, commissions, and committees exist to advise and make recommendations to Council, while others have distinct regulatory responsibilities that are established by law.

By accepting this appointment, you are now in a position to work directly with your local government, on behalf of your fellow residents, to enrich community life on a wide variety of issues. The greater your participation in the work of the board, the greater will be the effectiveness of the board in carrying out its charge and ultimately improving the community.

While the Mayor and City Council set policy and make decisions affecting their constituency, they also consider community participation a vital aspect of good government. Working in partnership with the Mayor and City Council, city staff, and your community, we can continue to set the standards for excellence in good government and quality of life.

All advisory board, commission, and committee meetings shall comply with the North Carolina Open Meetings Law, which requires that all meetings of “public bodies” be open to the public after proper notice is given. The open meetings law (G.S. 143-318.9 through 143-318.18) defines the term *public body* as any elected or appointed board, commission, and committee, and so forth, in state or local government that (1) has at least two members and (2) exercises or is authorized to exercise any of these powers: legislative, policymaking, quasi-judicial, administrative, or advisory.

Unless otherwise specified in its charter or rules of procedure, a quorum is a majority of the actual members of the advisory board, commission, or committee. A quorum of the advisory board, commission, or committee shall be required in order for any action to be taken.

COUNCIL POLICIES

Appointees are subject to the covenants of this Handbook as well as the Code of Ethics and Attendance Policy for Advisory Boards. These policies are included in this handbook. In addition to the charter, members may be subject to any other resolutions or ordinances establishing policies and procedures for advisory boards. These policies shall apply to every member of an advisory board, commission, or committee that is part of the City of Hendersonville regardless of who appoints the member. In addition, these policies shall apply to all appointees by the City Council to an advisory board, commission, or committee that is not part of the City of Hendersonville.

MULTIPLE TERMS / TERMS OF OFFICE

Excluding elected officials acting in ex-officio capacity, an individual may not serve on more than two advisory boards, commissions, or committees at one time.

Advisory board, commission, or committee members are appointed by and serve at the pleasure of the Mayor and City Council. Appointments for all advisory bodies are made for three-year terms of office unless otherwise specified. Terms on various boards, commissions, or committees are overlapping (staggered) so as to avoid replacement of all members of any one board at a single time. All terms shall become effective on the date specified in the appointing motion by City Council, and upon the appointee having taken the oath of office if required.

The City Council has expressed their preference to limit most advisory board, commission, and committee members' terms of service to two consecutive terms unless otherwise specified in charter or rules of procedure; however, they have reserved the right to override that preference when they deem the circumstances of an individual's service to the community to be of such notable importance as to warrant a continuation of service. In those situations where the City Council deems special circumstances to exist that warrant the continuation of community service by an individual on an advisory board, commission, or committee, any member of the City Council may place the name of that individual into nomination and state that they believe special circumstance warrant a continuation of service. The City Council may then reappoint said individual by voting on the membership to reappoint the individual to another term of office. This process may be repeated as often as the City Council deems the special circumstances to warrant an additional appointment.

A person who has served more than two-thirds of a full term after being appointed to complete the term of a previous board member shall be considered to have served a full term for the purposes of determining eligibility under the provisions of this section.

RESIGNATIONS, TERMINATIONS AND REPLACEMENTS

Any member of an advisory board, commission, or committee who desires to resign shall do so in writing to the staff liaison and/or Office of the City Clerk.

Unless otherwise provided by law, ordinance or resolution, all appointments by the Mayor and City Council to an advisory board, commission, or committee serve at the pleasure of the appointing office and may be removed at the discretion of said office with or without cause. Members of advisory boards, commissions, or committees may be removed from said body for failure to meet attendance requirements.

In the event that a member of an advisory board fails to comply with the attendance policies contained herein, it shall be the responsibility of the chair of that advisory board to notify the Mayor and City Council, in writing, of the policy violation and to request that said member be replaced. City staff liaisons may also initiate notification. Notification should be sent to the City Clerk for dissemination to the Council.

Public Records

PUBLIC RECORDS & YOU

All public bodies receive and create public records while conducting regular business. You also produce public records when you function in your official City capacity as an advisory board member. For instance, if you communicate with another individual in your official City capacity or exchange information about matters under your board’s purview, you may create a public record even if you use your personal email, voicemail, or video recording to transmit that information. Many people misunderstand the law and assume communications on personal email accounts or via text messages are not subject to the public records law; this is untrue. **All board business-related communications are subject to public disclosure.**

Did you know?



Your social media posts can be considered public records.

No advisory board, commission, or committee member is authorized to create or administer social media pages representing the City or its advisory boards in any way.

WHAT IS A PUBLIC RECORD?

North Carolina’s public records law, enacted in 1935, is one of the most open public records laws in the United States. The law provides a very broad definition of what is a public record and stipulates that anyone can request a public record for any reason or without reason. Public records are designated by content and function, **it does not matter in which format it exists or what device was used to transmit the information.** By definition, public records are papers, photographs, videos, maps, emails, voicemail messages, instant messages, text messages, minutes, policies or directives, final drafts of reports or recommendations, or any other record created or received while transacting the public business by any agency of North Carolina government or its subdivisions, this includes advisory boards, commissions, and committees.

The purpose of making records public is to allow greater insight into government, provide accountability and transparency in the decision-making process, and ensure open access to the public. Not all information is considered a public record; for instance, personal messages to friends or family members and spam are excluded. In addition, there are records that are protected and not public; for instance, employee personnel file information and personal identifying information (social security numbers, etc.). If you have questions regarding public records, please contact the City Clerk.

CREATING RECORDS

Board members have a legal responsibility for retaining records pertaining to official City business. Members should identify if records are created or received for official City business and retain any such records.

Email and text messages are public records when created by officials and employees for the purpose of conducting official City business. If the content of an email or other electronic communication meets the definition of a public record, it is subject to disclosure, whether it is in a public or private email account, social media account, or personal cell phone or device. If you must conduct business via text messaging, a good practice for retention is to forward the message to your email account or capture the text message with a screen shot and upload the image to your email account. Members must manage migrated records in their email account through their lifecycle.

Do not destroy your public records! NC G.S. § 132-3(a) requires that you retain certain records for a period of time, and that you turn over certain records if a member of the public requests them when they contain content related to your official City capacity. This is true even if the records are on your personal computer, personal cellphone, or personal email account. To review retention schedules of records, please refer to the City of Hendersonville’s Records and Retention and Disposition Schedule which has been provided to your staff liaison or contact the City Clerk.

PUBLIC RECORDS REQUESTS

Inspection of public records must be made available promptly. If records are requested from you from a city staff member to fulfill a public records request, please make every effort to notify the City Clerk and to make arrangements to provide the requested information in a timely manner. Failure to provide access to records in accordance with the law may subject the City to lawsuits to compel production. Individuals can be held personally liable for attorneys’ fees if found to have knowingly or intentionally committed, caused, permitted, suborned, or participated in a violation of the public records law.

If you have any questions, please contact the City Clerk for assistance at areece@hvlnc.gov

Roles and Responsibilities

ROLES AND RESPONSIBILITIES OF ADVISORY BOARD MEMBERS, CHAIRPERSONS AND STAFF LIAISONS

The roles and responsibilities listed below are general guidelines. It is important that dialogue take place between the members, chairpersons, and staff on how the specific board can function at its optimum. The members and chairperson of a board serve as advisors and receive their charge from the Mayor and City Council. The staff liaison is an employee of the city, usually with other job responsibilities, and is accountable to their department head and/or City Manager. Responsibilities clearly defined by the chairperson and staff will make the board and its work more effective.

ADVISORY BOARD MEMBERS

Board members are an important part of the City of Hendersonville government process. They are selected to be part of an advisory board, commission, or committee that advises the Council on pertinent issues, policymaking, and project development and implementation. This can be accomplished in the following ways:

- It is important for every member to be aware of the time, energy, and commitment that is involved in being part of an advisory board.
- Meeting attendance is critical to the proper function of the board. A member must notify the chairperson and the staff liaison if he / she cannot attend a meeting.
- The majority of work of the advisory board is accomplished at its scheduled meetings. Therefore, all members in attendance contribute to the most effective work plan.
- Members may be asked by the chairperson to complete specific tasks which may include serving on subcommittees. Every member contributes to the problem-solving process. Individual members are encouraged to prepare materials that are substantive and meet required deadlines.
- All members are required to vote on recommendations and actions of the group unless a potential conflict of interests exists or is otherwise allowed by NC General Statutes, or the charter or rules of procedure.
- In order for the board to provide the most comprehensive information to the Mayor and Council, each member works in the spirit of compromise and negotiation in order to reach consensus when possible. Members are asked to keep up to date on information relating to board interest areas.

- Members shall not represent their individual views through any contacts they have with the media as being representative of the full board unless the board has formally taken a position on the matter.
- Members shall communicate through the chairperson upon taking a position on any matter of significance.

BOARD CHAIRPERSON

The board chairperson may be appointed by the Mayor, Council, or the members of their respective board, in accordance with the guidelines and/or charter establishing such board, and act as a link between the Mayor, Council, staff, fellow advisory board members, and the community. It is the duty of the chairperson of each advisory board, commission, or committee to be responsible for notifying the Mayor and Council when members of that board have not met the guidelines for faithful attendance. The chairperson's responsibilities include the following:

- The chairperson makes sure all meetings are open to the public and works with staff liaison and the City Clerk to issue meeting notices in compliance with NC Open Meetings Laws. The chairperson presides over the meetings and acts as meeting facilitator to keep to the agenda and meeting timeframe.
- The chair has the same duty to vote as other members, though in no event may the chair break a tie on a motion on which he or she has already voted.
- A member must be recognized by the chair (or other presiding officer) in order to address the committee.
- As presiding officer, the chair is to enforce rules and maintain order and decorum during committee meetings. To that end, the chair may (1) rule on points of parliamentary procedure, to include ruling out of order any motion clearly offered for obstructive or dilatory purposes; (2) determine whether a member or other speaker has gone beyond reasonable standards of courtesy in his or her remarks and entertain and rule on objections from other members on this ground; (3) entertain and answer questions of parliamentary procedure; (4) call a brief recess at any time; and (5) adjourn in an emergency.
- The chairperson advises the Mayor and City Council upon request or in reference to the mission of the advisory board and board policy.
- The chairperson and/or staff liaison conduct an orientation for new members to familiarize them with the work and operations of the board, as well as the information contained in this handbook.

- The chairperson promotes regular meeting attendance by all members. In the event that a member of an advisory board fails to comply with the attendance policy, or any policy contained herein the chairperson shall notify the Mayor and City Council, in writing, of the policy violation and to request that said member to be replaced. Correspondence shall be directed to the City Clerk for dissemination to the Mayor and City Council.
- The chairperson seeks the input of members on the work program and agenda formulation and uses consensus-building techniques to find optimum recommendations. The chairperson delegates assignments to members, recognizing skill, experience, and interest of individuals in the group; he/she makes sure all members get a chance to participate and uses subcommittees as much as possible to empower the group.
- The chairman in conjunction with the staff liaison develops annual reports which are due to the Mayor and City Council in accordance with adopted policy, or annually.
- The chairperson is encouraged to discuss the advisory board work with applicants seeking appointment to the board.
- The chairperson may recommend certain skill sets necessary to fill individual vacancies that are a reflection of the needs of the board and community.
- The chairperson shall not represent their individual views through any contacts they have with the media as being representative of the full board unless the board has formally taken a position on the matter. The chairperson shall communicate through the staff liaison upon taking a position on any matter of significance. The City's Communications Manager or City Clerk should be consulted with any questions.
- The chairperson keeps the Mayor and City Council apprised of all significant issues, either directly or through the staff liaison.

STAFF LIAISONS (SECRETARY)

Staff liaisons provide important resources to advisory boards. The resources and staff time available to each board varies. Advisory boards report to the Mayor and City Council and the staff liaisons report ultimately to the City Manager, an arrangement that works most effectively when the chairperson and the staff have a clear understanding of what needs to be done and what resources are available to get the job done.

The staff liaison carries out his/her responsibilities in the following ways:

- The staff liaison shall ensure that all meetings of the committee are properly noticed and are open to the public in compliance with NC Open Meetings Laws.
- The staff liaison shall maintain the sunshine list, a list of those persons or entities that have filed a written request indicating a desire to receive notice of all special meetings of the committee.
- The staff liaison shall take and record the actions of the committee and draft minutes of the meetings accordingly. Minutes shall be sent to committee members prior to their next regularly scheduled meeting. The secretary shall also forward a copy of the minutes as they are approved to the Clerk who will provide to the City Council and post on the City's website.
- The staff liaison shall be responsible for maintaining an accurate list of members of the committee, submitting to the City Clerk a quarterly attendance report for its members and notifying the City Clerk of any resignations of any of its members, or any other change in membership of the committee.
- The staff liaison shall provide assistance to clarify the role of the advisory board, commission, or committee, and with routine issues such as the time of meetings, quorums, etc.
- The staff liaison works with the chairperson to prepare each agenda and necessary meeting materials and gathers information, provides research, and makes it available to the board. The staff liaison provides technical and professional expertise to the board.
- The staff liaison updates the City's website calendar events to reflect any addition or omission of meetings and uploads all approved minutes to the portal for public inspection. Official minutes must also be kept in paper form as permanent records in a binder as indicated in the "Minutes" section of this handbook.
- The staff liaison provides attendance reports and notifies the City Clerk's Office of vacancies due to resignations, multiple absences, or other reasons.
- The staff liaison prepares draft reports and correspondence and makes sure all City Council presentations are prepared in the appropriate format and forwarded to the City Clerk.
- The staff liaison keeps his/her supervisor and department head informed on the work of the advisory board.

Minutes

Under the open meetings law, “full and accurate” minutes must also be kept of the meetings of “public bodies” that are part of municipal government. Included are all advisory boards, commissions, and committees of the city that perform either legislative, policymaking, quasi-judicial, administrative, or advisory functions, and all subcommittees of these boards. The City Council establishes this procedure to ensure that the minutes of advisory boards are properly recorded and maintained.

Minutes of a City advisory board, commission, or committee are the official written record of actions taken by the body. It is the responsibility of the chairperson, through either the secretary or the staff liaison, to keep a record of the proceedings of the board. Minutes shall be kept in a permanent minute book and shall open to public inspection. The minutes provide future generations with the past history of the public body. They are used for many types of research and can be consulted for purposes of verification that certain actions were taken, when those actions were taken, and why. It is imperative that the minutes be a clear, concise, informative, and accurate record of the proceedings of the meeting. Minutes are considered permanent records for purposes of archival.

The minutes must be “full and accurate” (G.S. 160A-72; G.S. 143-318.10e) for they are the legal evidence of what the advisory board has said and done. “Full and accurate” does not generally mean, however, that a verbatim transcript of a meeting’s proceedings must be made. Including a detailed record of comments may well be counterproductive and the board may find itself spending an excessive amount of time at its next meeting discussing the details of this record, which could have been omitted altogether. Rather, the minutes must record the results of each vote taken by the advisory board, and they should also show the existence of any condition that is required before a particular action may validly be taken. The full text of each motion and vote should be recorded indicating any action passed or recommended by the advisory board. The City Attorney will provide additional guidance and procedures for quasi-judicial boards regarding minutes. Minutes should include the following essential facts:

- The name of the board/commission/committee, date, time, and place (address) of the meeting.
- The minutes should state that the meeting was legally convened.
- The names of the members present and absent. The names of staff present and others as appropriate.

- Show that a quorum was present at all times during the meeting. The late arrival and the early departure of members (including whether someone leaving was excused by the remaining members) should be noted.
- The names of any person addressing the board, a summary of subject matter presented, and any action taken as a result of the person's appearance before the board.
- A record of all motions. A motion as finally adopted must be recorded verbatim, along with the name of the person making the motion. The results of each vote shall be recorded indicating votes for and against.
- A record of all ordinances and resolutions introduced (if applicable). Ordinances and resolutions must be recorded verbatim as adopted by the board. Short resolutions and ordinances should be incorporated into the body of the minutes. Lengthy resolutions and ordinances may be attached as an addendum to the minutes.
- A record of all subjects (agenda) before the board and actions taken.
- A statement that the meeting adjourned and at what time.

Draft copies of advisory board minutes are generally prepared by the staff liaison and included in the agenda packet which is submitted to all board members several days before the meeting at which they are to be considered for approval. The circulated draft minutes are a public record that must also be made available for public inspection. The minutes do not become the official record of the committee's action until it approves them. Once the minutes are approved any prior drafts should be destroyed as they no longer have administrative value and are unnecessary to retain. Minutes shall be uploaded into the Municode portal for public viewing and a signed original kept by the staff liaison in a minute book for permanent retention.

The advisory board may correct minutes that it has already approved if it later finds that they are incorrect. In such a case the correction should be noted in the minutes of the meeting at which the correction is made, with an appropriate notation and cross-reference at the place in the minute book where the provision being corrected appears. Non-substantive corrections, such as those pertaining to grammar or spelling, may be corrected outside of the meeting by way of individual members contacting the secretary or staff support for their particular board or commission. Substantive corrections must be taken back before the body for a vote and amendment.

Minutes should be signed by the respective board chair and staff liaison. The staff liaison may ask for assistance from the City Clerk in publishing the minutes.

The minutes should **not** include:

- Any personal opinions or comments (unless meeting is a bona fide public hearing).
- Irrelevant comments or discussion surrounding a topic under discussion or action being taken.

Order Of Business

The order of business may include additional items more appropriate for its work or which the board sets by policy, or by motion at the start of the meeting. Public comment periods may be added.

- Call meeting to order (ascertain quorum present)
- Discussion and revision of proposed agenda; adoption of agenda
- Approval of the minutes
- Unfinished business
- New business
- Other business (informal discussion)
- Adjourn

City Council Core Values & Beliefs

The City Council of the City of Hendersonville has established the following core values and beliefs.

The City of Hendersonville believes municipal government should be non-partisan.

- Political affiliations are not productive to solving problems of local communities.
- City leaders and staff must lead by example and meet regularly with people who have different points of view.
- City leaders and staff must maintain an awareness of local, state and national political trends but must lead the City in a manner that serves all community members.

The City of Hendersonville values open, transparent communication and trust with the community and each other.

- The City will openly communicate with the public and each other to ensure information about services, policies and programs are available to all.
- The City will build trust through ethical and transparent leadership.
- The City will share information and solicit feedback prior to the implementation of new programs and policies.
- The City will be open to concerns and comments from all stakeholders and will ensure the community can easily speak to leaders without fear of retribution/embarrassment.

The City of Hendersonville believes community members expect services to be delivered at a high level.

- The City will deliver services at a high level to make people feel their taxes and fees are being used effectively and to encourage others to live in our community.
- The City will deliver services in a manner that ensures the safety of the community.
- The City will deliver services in a manner that limits the disruption of our community members' daily lives to the greatest extent possible.

The City of Hendersonville values all community members through promoting diversity, equity, and inclusion.

- The City must evaluate all laws, policies, and rules to ensure that they can be implemented and enforced in a fair and equitable manner.
- The City must evaluate all current and future programs, projects, or initiatives to ensure they build a culture where differences are valued.
- The City must ensure that leaders and staff consistently work to build trust and positive relationships throughout our entire community.

The City of Hendersonville values its employees and must support them to ensure the provision of high-quality services to its residents.

- The City must provide growth opportunities to employees and educational tools to allow them to grow in their roles and responsibilities.
- The City must respect and pay employees fairly and competitively.
- The City must support employees by providing a safe and hazard free workplace.

The City of Hendersonville believes that it must pursue and provide opportunity for responsible growth.

- The City will establish and maintain policies and programs that encourage economic opportunity and help grow small business and entrepreneurship.
- The City will work with our community to provide educational opportunities about growth and its impact on economic vitality and quality of life .
- The City will encourage responsible growth that provides opportunities for success to all segments of our community.
- The City will make efforts to generate affordable housing options and reduce the impacts of the high cost of living within our community.
- The City will prioritize the protection of existing residential neighborhoods when making growth decisions.

The City of Hendersonville values the lives of all community members and must protect them through collective action.

- Our goal is to make the lives of all residents better through collective action.
- The City recognizes the sanctity of each person's life.
- The City must be open to change priorities and policies as circumstances change in the world around us.

The City of Hendersonville believes environmental sustainability is critical to preserving the community for future generations.

- The City will evaluate the environmental sustainability of all projects and programs while maintaining a solid relationship with residential and business development.
- The City believes that it is our responsibility to protect all our natural resources and the environment through the implementation of sustainable and responsible projects.
- The City must lead by example by evaluating all city operations to ensure they protect or repair the natural environment and are environmentally sustainable.
- The City will prioritize the protection of existing tree canopy and the development of greenspaces and parks.

Code of Ethics Resolution

Pursuant to the requirements of Section 160A-86 of the North Carolina General Statutes, the City Council adopted a General Principles and Code of Ethics by Resolution #10-1151 to guide Council Members in their lawful decision-making. It is the desire of Council for each Advisory Board, Commission, or Committee Member to acknowledge receipt of and abide by a Code of Ethics and Attendance Policy for Members of Advisory Boards, Commissions and Committees of the City of Hendersonville as set forth by Resolution. The purpose of this Code of Ethics & Attendance Policy is to establish guidelines for ethical standards of conduct for Advisory Board Members and to help determine what conduct is appropriate in particular cases. It should not be considered a substitute for the law or for a member's best judgment.

Resolution # _____

RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL ESTABLISHING A CODE OF ETHICS AND ATTENDANCE POLICY FOR MEMBERS OF ADVISORY BOARDS, COMMISSIONS, AND COMMITTEES OF THE CITY OF HENDERSONVILLE

WHEREAS, Section 160A-86 of the North Carolina General Statutes requires local governing boards to adopt a code of ethics and, pursuant to Section 160A-86, the City Council has previously adopted a Code of Ethics Resolution #10-1151 on December 4, 2010 for the Mayor and City Council; and

WHEREAS, it is appropriate that members of City advisory boards, commissions, and committees as well as Mayoral and City Council appointees to non-city bodies (hereinafter "Advisory Board Members"), also adhere to a Code of Ethic; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Hendersonville in recognition of our blessings and obligations as citizens of the State of North Carolina and as public officials representing the citizens of the City of Hendersonville, and acting pursuant to the requirements of Section 160A-86 of the North Carolina General Statutes, we do hereby adopt the following General Principles and Code of Ethics & Attendance Policy to guide Advisory Board Members in their lawful decision-making.

GENERAL PRINCIPLES AND CODE OF ETHICS

The purpose of this Code of Ethics is to establish guidelines for ethical standards of conduct for advisory board members and to help determine what conduct is appropriate in particular cases. It should not be considered a substitute for the law or for a member's best judgment.

The stability and proper operation of democratic representative government depends upon public confidence in the integrity of the government and upon responsible exercise of the trust conferred by the people upon their elected officials.

Governmental decisions and policy must be made and implemented through proper channels and processes of the governmental structure.

Advisory board members must be able to act in a manner that maintains their integrity and independence yet is responsive to the interests and needs of those they represent and must always remain aware that they may, at various times, play different roles:

As advisors, who balance the public interest and private rights in considering and recommending, among other things, ordinances, policies, and decisions.

As decision-makers, who arrive at fair and impartial determinations.

Advisory board members must know how to distinguish among these roles, to determine when each role is appropriate, and to act accordingly.

Advisory board members must be aware of their obligation to conform their behavior to standards of ethical conduct that warrant the trust of the Mayor and City Council and the citizens of the City of Hendersonville. Each board member must find within his or her own conscience the touchstone by which to determine what conduct is appropriate.

Section 1

Advisory board members should obey all laws applicable to their official actions. Advisory board members should be guided by the spirit as well as the letter of the law in whatever they do.

At the same time, advisory board members should feel free to assert policy positions and opinions without fear of reprisal from fellow board members or citizens. However, in doing so, advisory board members:

(a) shall be mindful that they were appointed by the Mayor or City Council, or by another appointing authority to a City board, commission, or committee and, therefore, if they are advising or advocating a position that is contrary to a Council policy, that they notify the Mayor and City Council of such as soon as practicable;

(b) who serve in an advisory capacity shall be mindful that their chief responsibility is to advise the Mayor and City Council or other decision-making body rather than to advocate to the public at large, particularly when the position of advocacy is contrary to a Council policy;

(c) shall understand that they hold a position of trust on behalf of the City and its citizens;

(d) shall assert policy positions and opinions on matters within or related to the and subject matter of the body on which they serve only through the transparency or official proceedings of the body or in a capacity and manner appropriate for a member of such body. Advisory board members shall not represent their individual views as being representative of the full body unless they have been formally authorized by the body to do so;

(e) shall faithfully attend regular and special meetings of the body.

These guidelines are especially important to chairpersons who must recognize that they are often viewed as speaking for the body.

To declare that an advisory board member is behaving unethically because one disagrees with that official on a question of policy (and not because of the board member's behavior) is unfair, dishonest, irresponsible, and itself unethical.

Section 2

Advisory board members should act with integrity and independence from improper influence as they exercise the duties of their offices. Characteristics and behaviors consistent with this standard include the following:

- Adhering firmly to a code of sound values
- Exhibiting trustworthiness
- Using their best independent judgment to pursue the common good as they see it, presenting their opinions to all in a reasonable, forthright, consistent manner
- Remaining incorruptible, self-governing, and unaffected by improper influence while at the same time being able to consider the opinions and ideas of others
- For advisory board members who act in a quasi-judicial capacity, disclosing contacts and information about issues that they receive outside of public meetings and refraining from seeking or receiving information about quasi-judicial matters outside of the quasi-judicial proceedings themselves
- Treating other board members, staff and the public with respect and honoring the opinions of others even when the board members disagree with those opinions
- Showing respect for their offices and not behaving in ways that reflect badly on those offices

- Recognizing that individual advisory board members are not generally allowed to act on behalf of the body but may only do so if the body specifically authorizes it, and that the body must take official action as a body

Section 5, Item B.

Section 3

Advisory board members should avoid impropriety in the exercise of their official duties. Their official actions should be above reproach and they should not use their official position for personal gain. Although opinions may vary about what behavior is inappropriate, the Mayor and City Council will consider impropriety in terms of whether a reasonable person who is aware of all of the relevant facts and circumstances surrounding the advisory board member's action would conclude that the action was inappropriate.

If an advisory board member believes that his or her actions, while legal and ethical, may be misunderstood, the member should seek the advice of the staff liaison who will confer with his or her department supervisor and/or the City Attorney who will consider the facts of the situation and the steps necessary to resolve it.

Section 4

Advisory board members should faithfully perform the duties of their offices. They should act as the especially responsible citizens whom others can trust and respect. They should set a good example for others in the community, keeping in mind that trust and respect must continually be earned. Advisory board members should be willing to bear their fair share of the body's workload. To the extent appropriate, they should be willing to put the City's interests ahead of their own.

Section 5

Advisory board members should conduct the affairs of the board in an open and public manner. They should comply with all applicable laws governing open meetings and public records, recognizing that doing so is an important way to be worthy of the public's trust. They should remember when they meet that they are conducting the public's business. They should also remember that local government records belong to the public and not to them or City employees.

In order to ensure strict compliance with the laws concerning openness, the Mayor and City Council have made it clear that an environment of transparency and candor is to be maintained at all times in the governmental unit. They should take deliberate steps to make certain that any meetings held by the body are lawfully conducted and that such meetings do not stray from the purposes for which they are called.

Section 6 ATTENDANCE POLICY

Advisory board members should faithfully attend and prepare for meetings and adhere to the following attendance policy.

In order for an advisory board, commission, or committee to be effective and efficient, and to accomplish its purpose, its membership must be actively involved and attentive to the business of the body therefore the Mayor and City Council may dismiss any member who misses three consecutive meetings or one-half of the meetings held in a calendar year without good cause (such as temporary severe illness of a member or such member's family

or overriding but temporary business concerns). Such dismissal may be considered upon complaint by the chairperson, a member of the advisory board, staff liaison, or on the City Council's own motion.

On January 1st of each year, a member of any advisory board appointed by the Mayor or City Council may be automatically removed from said body for failure to attend at least one half of all regular and special meetings of the body held during the immediately preceding calendar year.

Sanctions

In the event that a member of an advisory board fails to comply with the code of ethics or attendance policy the chairperson or staff liaison shall notify the City Clerk in writing of the policy violation and to request that said member be replaced. The City Clerk will forward the complaint to the Mayor and City Council for review. Following the review of an allegation against a member of a City advisory board, the City Council may sanction the member who was the subject of the review. Potential sanctions include removal of the member, adoption of a resolution of censure, and any other lawful sanction within the City Council's power.

Adopted by the City Council of the City of Hendersonville, North Carolina on this __day of ___, 2022.

s:/Barbara G. Volk, Mayor

ATTEST:

s:/Angela L. Reece, City Clerk

Policy for Administering Boards

PROCESS FOR PUBLIC NOTIFICATION, NOMINATIONS AND APPOINTMENTS

Appointments to advisory boards, commissions and committees shall be made as necessary and in compliance with any North Carolina General Statutes, if applicable. City Council members may nominate applicants for appointment to each of the positions to be filled by Council during any scheduled meeting. Appointment may be made upon a motion and majority vote of Council at the same meeting at which the nomination is made or at any meeting to which City Council deems appropriate. The City Council reserves the right to alter this process as necessary and without notice.

At least four weeks prior to nominations, the City shall publicize vacancies to be filled by appointment of the Council as follows: (i) the City Clerk shall provide the Council with a list of upcoming vacancies; and (ii) the City Clerk shall provide such information to the public through the City’s website, social media and other opportunities. Any vacancies created by resignation or automatic removal shall be included with the next group of nominations or at any time City Council wishes to place nominations on their agenda for consideration.

By nominating a person who has not submitted an application for the subject advisory board, commission, or committee, the nominating Council member certifies that the person has indicated an interest in serving and that the nominee will submit an application to the City Clerk’s Office by noon the day before the appropriate Council agenda for appointment to be delivered to Council. If such application is not made, the nomination will be deemed to have been withdrawn. The City Clerk’s Office will notify the nominee of the actual deadline for submitting the application the day following the nomination.

OATHS OF OFFICE/ORIENTATION

For an advisory board, commission, or committee requiring an oath of office, a new member may not vote on any matter until the oath of office has been administered. Reappointed members shall also be administered the oath of office.

Staff liaisons shall conduct an orientation session for new members with the chair in attendance prior to or at the first regular meeting after appointment. Expectations shall be given concerning attendance, conflicts of interest, information on City government, etc.

RESIDENCY REQUIREMENTS

Appointees to advisory boards, commissions, and committees shall be domiciled in the City of Hendersonville, unless otherwise specified or provided for by law, ordinance, or City Council action establishing said advisory board, commission, committee, or in the rules or bylaws of said advisory board, commission, committee, if approved by the City Council.

ATTENDANCE

Staff liaisons shall file attendance reports with the City Clerk pursuant to the schedule established by the City Clerk. The City Clerk shall send a letter to any member who is in danger of violation of the attendance requirement, asking them to be mindful of said requirement.

Vacancies resulting from the removal of a member shall be filled by the same method as provided for initial appointments.

REPORTS OF BOARDS, COMMITTEES, AND COMMISSIONS

The Council finds it appropriate to periodically review each standing advisory board, commission, or committee, to which they make appointments for the purpose of assessing whether said advisory board, committee, or commission should be renewed, dismantled, expanded or its charge redefined. To this end, each advisory board, commission, and committee, that is part of the City, or that was established by the City Council, whether acting alone or in conjunction with one or more other local governments, is required to submit annual written reports that must contain in depth reviews of the body’s activities including goals, objectives, successes, problems, and/or the need for Council assistance. These reports shall be submitted to the City Clerk and will be staggered through the year according to a schedule established by the City Clerk or as established by the advisory board’s charter or rules of procedure. The City Clerk shall then provide the Mayor and City Council with copies of the reports and place on the City Council agenda at Council’s direction.

ROBERTS RULES OF ORDER

The Committee shall refer to the current edition of Robert’s Rules of Order Newly Revised for guidance when confronted with a procedural issue not covered by these rules or state law. Having consulted *Robert’s*, the presiding officer shall make a ruling on the issue subject to appeal to the committee.

Descriptions of Boards & Commissions

Visit the City's website at <https://www.hendersonvillenc.gov/> for additional information and to view specific membership requirements.

ABC Board

3 Member Board each serving a 3-year term.

Meetings will be held on the 3rd Tuesday of each month, 10:00 a.m. at the ABC Office, 205 S. Church St.

- The ABC Board is responsible for the general oversight of the City operated ABC store(s).
- All actions are subject to the review and oversight of the State Board of Alcoholic Control.
- City Council will appoint the chairperson of the ABC Board.

Animal Services Advisory Committee

8 Member Committee each serving a 3-year term.

Meetings will be held on 3rd Thursday, 5:30 p.m. in the Roll Call Room of the Police Department at 630 Ashe Street

- The Animal Services Advisory Committee assists the Hendersonville City Council by providing input on the operations and policies of the Hendersonville Police Department regarding the enforcement of the Animal Ordinance.
- This committee shall also hear dangerous dog appeals in a quasi-judicial format.
- Members are selected at-large from various affiliations and diverse backgrounds.
- One member must be a veterinarian.
- Committee will elect Chair and Vice Chair and may appoint subcommittees.

Board of Adjustment

10 Members and 2 Alternates (each serving a 3-year term) Any vacancy in the membership shall be filled by the appointing authority.

Meetings will be held on the 2nd Tuesday, 1:30 p.m. at the City Operations Center.

The Board of Adjustment shall operate according to powers granted under the authority of Article 19, Planning and Development Regulation - North Carolina G.S. 160A-360 and has the authority to:

- Hear and decide appeals from and review any order, requirement, decision, or determination made by any administrative official charged with the enforcement of the Zoning Ordinance or the Subdivision Ordinance.
- Hear and decide requests for variances from the requirements of the Zoning Ordinance.
- Review applications for conditional use permits and to issue conditional use permits in accordance with the provisions of the Zoning Ordinance.
- Make interpretations of the Official Zoning Map and to pass upon disputed questions of lot lines or district boundary lines and similar questions as arise in the administration of the Zoning Ordinance.
- Enter, at reasonable times, upon private lands and make examinations or surveys as necessary for the performance of its official duties.

- Request City Council to hold public hearings on matters within the purview of the board.
- Hear and decide any other matter as required by the provisions of the Zoning Ordinance and the Code of the City of Hendersonville.
- Adopt rules consistent with the Zoning Ordinance or General Statutes governing the organization of the board and proceedings before the board.
- The Board of Adjustment will appoint its Chair and Vice Chair.

Business Advisory Committee

9 Member Committee each serving a 3-year term.

Meetings will be held on the 2nd Monday of January, April, July, and October 11:30 a.m. at the City Operations Center

- The committee serves in an advisory capacity to the Council to review and discuss existing and/or proposed policies and ordinances that have an impact on businesses and to prevent unintended consequences from decisions made by the Council
- The committee will appoint the Chair.
- Vacancies are filled by the appointing authority.

Diversity & Inclusion Advisory Committee

7 Member Committee each serving a 3-year term.

Meetings will be held on the bi-monthly on the second Tuesday of January, March, May, July, September, and November at 5:30 p.m. at the City Operations Center

- The committee shall provide input and guidance for the City Council's strategic objective to prioritize equity and inclusion and create a culture of belonging, address past inequities, and treat everyone with respect and dignity, subject to such limitations as may be imposed by state law or by ordinances of the city.
- The committee will appoint the Chair and Vice Chair.

Downtown Advisory Board (Representing the Main Street and 7th Ave. Main Street Municipal Service Districts (MSD))

14 Member Board each serving a 3-year term.

Meetings will be held on the 2nd Monday of January, April, July, and October 11:30 a.m. at the City Operations Center

- The board serves in an advisory role to the City Council in matters pertaining to the Hendersonville Main Street Municipal Service District and 7th Avenue Municipal Service District subject to such limitations as may be imposed by state law or by ordinances of the City.
- The board works in concert with City Staff and City Council to implement the historic preservation based economic development strategy developed by the National Main Street Center and known as "The Four Point Approach." The board is an active member of the North Carolina Main Street Program.
- The board will appoint the Chair.

Environmental Sustainability Board

9 Member Committee each serving a 3-year term.

Meetings will be held on the 3rd Thursday of each month at 4:00 p.m. at the City Operations Center

- The Environmental Sustainability Board will advise the City Council on policies and practices dealing with the environment and energy conservation and assist with citizen-education efforts.
- The board will appoint the Chair.

Historic Preservation Commission

9 Member Commission each serving a 3-year term.

Meetings will be held on 3rd Wednesday of each month at 5:00 p.m. at the City Operations Center

- The Historic Preservation Commission's purpose is to designate historic districts and landmarks within the City of Hendersonville. In addition, this commission shall develop and recommend to the City Council rules and regulations governing the designation and maintenance of historic properties in the City.
- The commission is governed by City Ordinance and by authority of Chapter 160A-400.1 of the North Carolina General Statutes.
- Members must live within the territory subject to the zoning jurisdiction of the City.
- The commission will appoint the Chair and Vice Chair.

Planning Board

10 Member Board each serving a 3-year term.

Meetings will be held on the 2nd Monday of each month 4:00 p.m. at the City Operations Center.

- The Planning Board is established to advise the City Council on matters related to land use and community development. The board shall be governed by the terms of GS§§ 160D-301 of the North Carolina General Statutes, and by the terms of the City Zoning Ordinance and Subdivision Regulations, and any subsequent amendments thereto. All board members shall thoroughly familiarize themselves with the provisions of these statutes and ordinances.
- The board will appoint the Chair and Vice Chair.
- Vacancies are filled by the appointing authority.

Tree Board

7 Member Commission each serving a 3-year term.

Meetings will be held on the 3rd Tuesday of each month 2:00 p.m. at the City Operations Center.

- The board is to study, investigate, counsel, develop and/or update annually and administers a written plan to City Council for the care, preservation, pruning, planting, replanting, removal or disposition of trees and shrubs in parks, along streets and in other public areas
- The board will appoint the Chair.

Walk of Fame Steering Committee

5 Member Board each serving a 3-year term.

Meetings will be held on the 2nd Tuesday of each month, 10:00 a.m. at the City Operations Center.

- The Walk of Fame Steering Committee was established in 2016 by the Hendersonville City Council and Henderson County Board of Commissioners to honor those individuals who have made a significant and lasting contribution to the quality of life in Henderson County – who have, indeed, cast a long shadow on our county history.
- The committee will appoint the Chair.
- Vacancies are filled by the appointing authority.

Water & Sewer Advisory Council

11 Member Council – Elected Officials & Representatives of each municipality in Henderson County.

Meetings will be held on the 4th Monday of January, April, July, and October 6:00 p.m. at the City Operations Center.

- The Water and Sewer Advisory Council is a requirement of the 2002 Mud Creek Sewer District Purchase and Interlocal Cooperation and Settlement Agreement with Henderson County.
- Vacancies are filled by the appointing authority.

**ACKNOWLEDGEMENT OF RECEIPT OF HANDBOOK
FOR MEMBERS SERVING ON ADVISORY BOARDS,
COMMISSIONS, AND COMMITTEES**

On the date written below, I received the “Handbook for Advisory Board, Commission, and Committee Members — A Comprehensive Guide to the City of Hendersonville’s Boards and Commissions.” I acknowledge this handbook contains basic information related to serving as a volunteer on a Board or commission as well as specific policies as shown below:

- Code of Ethics & Attendance Policy
- Policies and Procedures for Administering Boards and Commissions

I understand that I am responsible for reviewing the contents of this handbook and asking questions if I do not understand any part of it.

DATE: _____

NAME: _____

BOARD OR COMMISSION: _____

SIGNATURE: _____

A signed copy of this form will be maintained in the Office of the City Clerk



CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER: Adam Murr **MEETING DATE:** 03/03/2022

AGENDA SECTION: CONSENT **DEPARTMENT:** Administration

TITLE OF ITEM: Budget Amendments March FY22 – *Adam Murr, Budget Manager*

SUGGESTED MOTION(S):

I move City Council adopt budget amendments 03032022-01 and 03032022-02 as presented.

SUMMARY:

An amendment increasing insurance proceeds budget following the receipt of reimbursement checks. The amendment increases supplies and materials and construction and repair supplies within the Public Works Department to perform repair work. The amendment increases the General Fund by \$3,581.00.

An amendment decreasing capital outlay equipment in the water and sewer operating fund (060) to increase capital outlay equipment in the capital project fund. This amendment is necessary to facilitate the purchase of generators via a capital project ordinance (#22003).

BUDGET IMPACT: Fund 010: \$3,581 increase.
Fund 460: \$140,000 increase

Is this expenditure approved in the current fiscal year budget? No.

If no, describe how it will be funded.

An amendment to increase insurance reimbursements and corresponding repair work budget.

ATTACHMENTS:

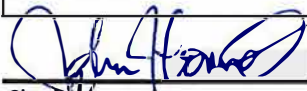
1. Budget Amendment 03032022-01 and 03032022-02

BUDGET AMENDMENT

FUND 010

ACCOUNT NUMBER	DESCRIPTION OF ACCOUNT	INCREASE	DECREASE
010-0000-470030	Insurance Proceeds	3,581	-
010-1560-521001	Supplies & Materials	2,516	-
010-1555-521040	Construction & Repair Supplies	1,065	-
FUND 010	TOTAL REVENUES	3,581	-
	TOTAL EXPENDITURES	3,581	-

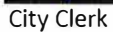
An amendment increasing insurance proceeds budget following the receipt of reimbursement checks. The amendment increases supplies and materials and construction and repair supplies within the Public Works Department to perform repair work.



 City Manager

2-21-22

Date



 City Clerk

Date

Approved:

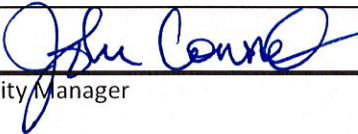
3/3/2022

BUDGET AMENDMENT

FUND 060 | 460

ACCOUNT NUMBER	DESCRIPTION OF ACCOUNT	INCREASE	DECREASE
060-7132-552001	Capital Outlay - Buildings	-	100,000
060-7132-554001	Capital Outlay - Equipment	100,000	-
060-7132-554001	Capital Outlay - Equipment	-	140,000
060-0000-598901	Transfer Out (to 460, #22003)	140,000	-
FUND 060	TOTAL REVENUES	-	-
	TOTAL EXPENDITURES	240,000	240,000
460-0000-470100-22003	Transfer In (from 060)	140,000	
460-7002-554001-22003	Capital Outlay - Equipment	140,000	
FUND 060	TOTAL REVENUES	140,000	-
	TOTAL EXPENDITURES	140,000	-

An amendment decreasing capital outlay equipment in the water and sewer operating fund (060) to increase capital outlay equipment in the capital project fund. This amendment is necessary to facilitate the purchase of generators via a capital project ordinance (#22003).


 City Manager

2-21-22
 Date

 City Clerk

Approved:

 Date

3/3/2022

Ordinance # _____

CAPITAL PROJECT ORDINANCE FOR THE EXECUTION, ACQUISITION, CONSTRUCTION, AND INSTALLATION OF THE WATER AND SEWER GENERATOR PROJECT

BE IT ORDAINED by the Governing Board of the City of Hendersonville, North Carolina that pursuant to Section 13.2 of Chapter 159 of the General Statutes of North Carolina, the following capital project ordinance is hereby adopted:

Section 1: The project authorized is a City project described as the Water and Sewer Generator Project.

Section 2: The following amounts are appropriated for the project:

Account Codes				Account Name	Total Budget
Fund	Dept.	Account	Project		
460	7002	554001	22003	Capital Outlay Equipment	\$140,000
Total Project Appropriation					\$140,000

Section 3: The following revenues are anticipated to be available for the project:

Account Codes				Account Name	Total Budget
Fund	Dept.	Account	Project		
460	0000	470100	22003	Transfer In (from 060)	\$140,000
Total Project Appropriation					\$140,000

PROJECT TO BE FUNDED USING

Section 4: The Finance Director is hereby directed to maintain within the grant project fund sufficient specific detailed accounting records to satisfy the disclosure requirements of all the contractual agreements, if applicable.

Section 5: Funds may be advanced from the Water and Sewer Fund (060) and the Water and Sewer Capital Project Fund (460) as necessary for the purpose of making payments as due. Reimbursement requests shall be made in an orderly and timely manner.

Section 6: The Finance Director is directed to report, on a quarterly basis, on the financial status of each project element in Section 3 and Section 4.

Section 7: The Finance Director is further instructed to include a detailed analysis of past and future revenues and expenses during each annual budget submission made to the Governing Board.

Section 8: Copies of this capital project shall be furnished to the City Clerk, Finance Director and City Manager for direction in carrying out this project.

ADOPTED by the City Council of the City of Hendersonville, North Carolina, on this 3rd day of March 2022.

Attest:

Barbara G. Volk, Mayor, City of Hendersonville

Angela L. Reece, City Clerk

Approved as to form:

Angela S. Beeker, City Attorney



CITY OF HENDERSONVILLE

AGENDA ITEM SUMMARY

SUBMITTER:	Amanda Lofton	MEETING DATE:	3/03/2022
AGENDA SECTION:	CONSENT	DEPARTMENT:	Finance
TITLE OF ITEM, Presenter Name, Title:	Henderson County Tax Adjustments - <i>Amanda Lofton, Deputy Tax Collector</i>		
<u>SUGGESTED MOTION(S):</u>	I move that City Council resolve to direct and authorize the tax releases and refunds submitted by Henderson County Tax Collector as presented and relieve the Henderson County Tax Collector and the Deputy Tax Collectors of the charges owed.		

SUMMARY:

The Deputy Tax Collector, Amanda Lofton, would like to submit for your approval the tax bill adjustments occurring between January 1st and January 31, 2022. These adjustments include all Discoveries, Releases, Refunds, and Forgiven Interest. These adjustments were provided by Henderson County Tax Department. Documentation is available in the Tax Office.

BUDGET IMPACT: \$ 0.00

Is this expenditure approved in the current fiscal year budget? YES / NO

If no, describe how it will be funded.

EnterTextHere

PROJECT NUMBER: N/A

PETITION NUMBER: N/A

ADDITIONAL PETITION NUMBER: N/A

PETITIONER NAME: N/A

ATTACHMENTS:

Summary Total of Tax Adjustments

ICPTS Pending Release/Refund Report. Thursday, January 6, 2022*

CITY OF DISTRICT	OWNER	ABSTRACT	NOTE	VALUE CHANGE	ADJ. NUMBER	DISTRICT CODE	LEVY TYPE	BILLED	PAID	RELEASE
HENDERSONVILLE	BATTISTE, DANA LYNN	0003097020-2020-2020-0000	PER DOCUMENTATION PROVIDED, PROPERTY WAS MOVED TO KENTUCKY JUNE 2019. DOCUMENTATION ON FILE	(\$4,550)	8035	JURSC10	TAX	\$22.30	\$0.00	\$22.30
							LATE LIST FEE	\$2.23	\$0.00	\$2.23
							TOTAL:			\$24.53
							ABSTRACT TOTAL:			\$24.53
		0003097020-2021-2021-0000	PER DOCUMENTATION PROVIDED, PROPERTY WAS MOVED TO KENTUCKY JUNE 2019. DOCUMENTATION ON FILE	(\$4,350)	8036	JURSC10	TAX	\$22.62	\$0.00	\$22.62
							LATE LIST FEE	\$2.26	\$0.00	\$2.26
							TOTAL:			\$24.88
							ABSTRACT TOTAL:			\$24.88
							OWNER TOTAL:			\$0
										\$49.41
	HENDERSONVILLE AFFORDABLE HOUSING CORPORATION	0000607657-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$3,085,900)	8022	JURSC10	TAX	\$16,046.68	\$0.00	\$16,046.68
							LATE LIST FEE	\$0.00	\$0.00	\$0.00
							TOTAL:			\$16,046.68
							ABSTRACT TOTAL:			\$16,046.68
		0000607662-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$393,000)	8026	JURSC10	TAX	\$2,043.60	\$0.00	\$2,043.60
							LATE LIST FEE	\$0.00	\$0.00	\$0.00
							TOTAL:			\$2,043.60
							ABSTRACT TOTAL:			\$2,043.60
		0002317469-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$222,900)	8024	JURSC10	TAX	\$1,159.08	\$0.00	\$1,159.08
							LATE LIST FEE	\$0.00	\$0.00	\$0.00
							TOTAL:			\$1,159.08
							ABSTRACT TOTAL:			\$1,159.08
		0002317619-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$360,900)	8021	JURSC10	TAX	\$1,876.68	\$0.00	\$1,876.68
							LATE LIST FEE	\$0.00	\$0.00	\$0.00
							TOTAL:			\$1,876.68
							ABSTRACT TOTAL:			\$1,876.68
		0002318138-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$1,728,500)	8023	JURSC10	TAX	\$8,988.20	\$0.00	\$8,988.20
							LATE LIST FEE	\$0.00	\$0.00	\$0.00
							TOTAL:			\$8,988.20
							ABSTRACT TOTAL:			\$8,988.20

DISTRICT	OWNER	ABSTRACT	NOTE	VALUE CHANGE	ADJ. NUMBER	DISTRICT CODE	LEVY TYPE	BILLED	PAID	RELEASE
CITY OF HENDERSONVILLE	HENDERSONVILLE AFFORDABLE HOUSING CORPORATION	0002318138-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$1,728,500)	8023	JURSC10	TOTAL:			\$8,988.20
		0002740606-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$2,829,300)	8017	JURSC10	TAX	\$14,712.36	\$0.00	\$14,712.36
							LATE LIST FEE	\$0.00	\$0.00	\$0.00
							TOTAL:			\$14,712.36
							ABSTRACT TOTAL:			\$14,712.36
		0002849992-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$910,600)	8033	JURSC10	TAX	\$4,735.12	\$0.00	\$4,735.12
							LATE LIST FEE	\$0.00	\$0.00	\$0.00
							TOTAL:			\$4,735.12
							ABSTRACT TOTAL:			\$4,735.12
		0002853962-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$1,019,900)	8025	JURSC10	TAX	\$5,303.48	\$0.00	\$5,303.48
							LATE LIST FEE	\$0.00	\$0.00	\$0.00
							TOTAL:			\$5,303.48
							ABSTRACT TOTAL:			\$5,303.48
		0002857909-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$503,100)	8020	JURSC10	TAX	\$2,616.12	\$0.00	\$2,616.12
							LATE LIST FEE	\$0.00	\$0.00	\$0.00
							TOTAL:			\$2,616.12
							ABSTRACT TOTAL:			\$2,616.12
		0002857941-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$507,000)	8019	JURSC10	TAX	\$2,636.40	\$0.00	\$2,636.40
							LATE LIST FEE	\$0.00	\$0.00	\$0.00
							TOTAL:			\$2,636.40
							ABSTRACT TOTAL:			\$2,636.40
		0002859692-2021-2021-0000	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$190,800)	8030	JURSC10	TAX	\$992.16	\$0.00	\$992.16
							LATE LIST FEE	\$0.00	\$0.00	\$0.00
							TOTAL:			\$992.16
							ABSTRACT TOTAL:			\$992.16

DISTRICT	OWNER	ABSTRACT	NOTE	VALUE CHANGE	ADJ. NUMBER	DISTRICT CODE	LEVY TYPE	BILLED	PAID	RELEASE
Y OF HENDERSONVILLE AFFORDABLE HOUSING CORPORATION										
0000	0002859693-2021-2021-	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$322,300)	8029	JURSC10	TAX	\$1,675.96	\$0.00	\$1,675.96	\$0.00
						LATE LIST FEE	\$0.00	\$0.00	\$0.00	\$0.00
						TOTAL:				\$1,675.96
						ABSTRACT TOTAL:				\$1,675.96
0000	0002859694-2021-2021-	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$212,800)	8028	JURSC10	TAX	\$1,106.56	\$0.00	\$1,106.56	\$0.00
						LATE LIST FEE	\$0.00	\$0.00	\$0.00	\$0.00
						TOTAL:				\$1,106.56
						ABSTRACT TOTAL:				\$1,106.56
0000	0002859695-2021-2021-	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$158,800)	8027	JURSC10	TAX	\$825.76	\$0.00	\$825.76	\$0.00
						LATE LIST FEE	\$0.00	\$0.00	\$0.00	\$0.00
						TOTAL:				\$825.76
						ABSTRACT TOTAL:				\$825.76
0000	0002865876-2021-2021-	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$1,302,700)	8018	JURSC10	TAX	\$6,774.04	\$0.00	\$6,774.04	\$0.00
						LATE LIST FEE	\$0.00	\$0.00	\$0.00	\$0.00
						TOTAL:				\$6,774.04
						ABSTRACT TOTAL:				\$6,774.04
0000	0003098269-2021-2021-	LOST EXEMPTION AFTER 2020 TRANSFER, FAILED TO PUT BACK ON FOR 2021. GOVERNMENT HAS OWNERSHIP INTEREST IN PROPERTY.	(\$3,439,300)	8032	JURSC10	TAX	\$17,884.36	\$0.00	\$17,884.36	\$0.00
						LATE LIST FEE	\$0.00	\$0.00	\$0.00	\$0.00
						TOTAL:				\$17,884.36
						ABSTRACT TOTAL:				\$17,884.36
						OWNER TOTAL:				\$89,376.56
NEILL, SAMUEL D										
0000	0002130514-2015-2015-	VOID ABSTRACT 12/31/2014; TAXPAYER PROVIDED DOCUMENTATION AND A REQUEST FOR RELEASE/REFUND; TAXPAYER SOLD HIS WATERCRAFT; PER WILDLIFE, WATERCRAFT TRANSFERRED OWNERSHIP 05/28/2014	(\$3,290)	8059	JURSC10	TAX	\$0.00	\$0.00	\$0.00	\$15.13
						LATE LIST FEE	\$0.00	\$0.00	\$0.00	\$1.51
						TOTAL:				\$16.64
						ABSTRACT TOTAL:				\$16.64
0000	0002130514-2016-2016-	VOID ABSTRACT 12/31/2015; TAXPAYER PROVIDED DOCUMENTATION AND A REQUEST FOR RELEASE/REFUND; TAXPAYER SOLD HIS WATERCRAFT; PER WILDLIFE, WATERCRAFT TRANSFERRED OWNERSHIP 05/28/2014	(\$4,120)	8060	JURSC10	TAX	\$0.00	\$0.00	\$0.00	\$18.95
						LATE LIST FEE	\$0.00	\$0.00	\$0.00	\$1.90
						TOTAL:				\$20.85
						ABSTRACT TOTAL:				\$20.85

DISTRICT	OWNER	ABSTRACT	NOTE	VALUE CHANGE	ADJ. NUMBER	DISTRICT CODE	LEVY TYPE	BILLED	PAID	RELEASE
CITY OF HENDERSONVILLE	NELL, SAMUEL D	0002130514-2017-2017- 0000	VOID ABSTRACT. TAXPAYER PROVIDED DOCUMENTATION AND A REQUEST FOR RELEASE/REFUND. TAXPAYER SOLD HIS WATERCRAFT, PER WILDLIFE, WATERCRAFT TRANSFERRED OWNERSHIP 05/29/2014	(\$4,010)	8061	JURSC10	TAX LATE LIST FEE TOTAL:	 \$0.00 	\$0.00 \$0.00	\$18.85 \$1.88 \$20.73
OWNER TOTAL:				\$0						\$20.73
RTS AFFORDABLE HOUSING CORPORATION		0002319201-2021-2021- 0000	EXEMPTION REMOVED IN ERROR. WAS GOVERNMENT PROPERTY TO AN ENTITY THAT THE GOVERNMENT HAS SUBSTANTIAL INTEREST. EXEMPTION ADDED BACK AFTER ERROR FOUND.	(\$736,200)	8064	JURSC10	TAX LATE LIST FEE TOTAL:	 \$3,828.24 \$0.00	\$0.00 \$0.00	\$3,828.24 \$0.00 \$58.22
		0002319329-2021-2021- 0000	EXEMPTION REMOVED IN ERROR. WAS GOVERNMENT PROPERTY TO AN ENTITY THAT THE GOVERNMENT HAS SUBSTANTIAL INTEREST. EXEMPTION ADDED BACK AFTER ERROR FOUND.	(\$404,800)	8065	JURSC10	TAX LATE LIST FEE TOTAL:	 \$2,104.96 \$0.00	\$0.00 \$0.00	\$2,104.96 \$0.00 \$2,104.96
		0002852280-2021-2021- 0000	EXEMPTION REMOVED IN ERROR. WAS GOVERNMENT PROPERTY TO AN ENTITY THAT THE GOVERNMENT HAS SUBSTANTIAL INTEREST. EXEMPTION ADDED BACK AFTER ERROR FOUND.	(\$46,300)	8069	JURSC10	TAX LATE LIST FEE TOTAL:	 \$240.76 \$0.00	\$0.00 \$0.00	\$240.76 \$0.00 \$240.76
		0002861309-2021-2021- 0000	EXEMPTION REMOVED IN ERROR. WAS GOVERNMENT PROPERTY TO AN ENTITY THAT THE GOVERNMENT HAS SUBSTANTIAL INTEREST. EXEMPTION ADDED BACK AFTER ERROR FOUND.	(\$43,600)	8068	JURSC10	TAX LATE LIST FEE TOTAL:	 \$226.72 \$0.00	\$0.00 \$0.00	\$226.72 \$0.00 \$226.72
		0002863175-2021-2021- 0000	EXEMPTION REMOVED IN ERROR. WAS GOVERNMENT PROPERTY TO AN ENTITY THAT THE GOVERNMENT HAS SUBSTANTIAL INTEREST. EXEMPTION ADDED BACK AFTER ERROR FOUND.	(\$31,200)	8066	JURSC10	TAX LATE LIST FEE TOTAL:	 \$162.24 \$0.00	\$0.00 \$0.00	\$162.24 \$0.00 \$162.24
		0002869956-2021-2021- 0000	EXEMPTION REMOVED IN ERROR. WAS GOVERNMENT PROPERTY TO AN ENTITY THAT THE GOVERNMENT HAS SUBSTANTIAL INTEREST. EXEMPTION ADDED BACK AFTER ERROR FOUND.	(\$32,800)	8067	JURSC10	TAX LATE LIST FEE TOTAL:	 \$170.56 \$0.00	\$0.00 \$0.00	\$170.56 \$0.00 \$170.56
ABSTRACT TOTAL:										\$170.56

NCPTS Pending Release/Refund Report. Tuesday, January 25, 2022*

TAX DISTRICT	OWNER	ABSTRACT	NOTE	VALUE CHANGE	ADJ. NUMBER	DISTRICT CODE	LEVY TYPE	BILLED	PAID	RE
ITY OF ANDERSONVILLE	GE HFS LLC	0003088110-2021-2021-0000	CREATED ADJUSTMENT DUE TO THE 2020 VALUE FOR GROUP G1, SCHEDULE C10-8 NOT CARRYING FORWARD TO 2021; TAXPAYER COMPLETED 2020 BPP LISTING INFORMING OUR OFFICE THAT \$464852 ASSETS WERE DELETED DURING THE 2020 TAX YEAR FROM GROUP G1, SCHEDULE C10-8; OUR OFFICE COMPLETED SAID DELETION FOR 2020; THE CURRENT YEAR COST OF \$991707 DID NOT CARRY FORWARD ONTO THE 2021 ABSTRACT; \$1456559 CARRIED OVER ONTO THE 2021 ABSTRACT WHICH IS INCORRECT;	(\$116,213)	8073	JURSCIO	TAX LATE LIST FEE TOTAL:	\$4,948.90 \$0.00	\$4,948.90 \$0.00	\$604.31 \$0.00 \$604.31
OWNER TOTAL:				\$0					ABSTRACT TOTAL:	\$604.31
DISTRICT TOTAL:				(\$116,213)						\$604.31



CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER:	Michael Huffman	MEETING DATE:	March 3 rd , 2022
AGENDA SECTION:	CONSENT	DEPARTMENT:	Engineering - Stormwater
TITLE OF ITEM:	Resolution Accepting Proposal from Wildlands Engineering Inc. for Professional services to support the Mud Creek Stream, Wetland, and Stormwater Planning Project – <i>Mike Huffman, Stormwater Administrator</i>		

SUGGESTED MOTION(S): I move that City Council approve the Resolution Authorizing the City Manager to Enter Into a Contract with Wildlands Engineering, Inc. for Professional services to support the Mud Creek Stream, Wetland, and Stormwater Planning Project as presented.

SUMMARY:

Wildlands Engineering, Inc. has submitted a proposal to provide professional engineering services to support the Mud Creek Stream, Wetland, and Stormwater Planning project. This project is funded in part by a grant from the NC Land and Water Fund. Therefore, we request your approval of the attached resolution authorizing the City Manager and City Attorney to execute a contract with Wildlands Engineering, Inc. at a cost of \$49,620.00.

BUDGET IMPACT: \$49,620.00

Is this expenditure approved in the current fiscal year budget? Yes

If no, describe how it will be funded. N/A

ATTACHMENTS:

Resolution #__-____

**RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO
AUTHORIZE THE CITY MANAGER TO ENTER INTO A CONTRACT WITH
WILDLANDS ENGINEERING, INC.**

WHEREAS, Wildlands Engineering, Inc. has submitted a scope of services to provide professional engineering services to support the Mud Creek Stream, Wetland, and Stormwater Planning Project; and

WHEREAS, Wildlands Engineering, Inc. has extensive experience in developing and implementing stream, wetland, and floodplain restoration projects; and

WHEREAS, these professional engineering services will help City Staff complete a detailed analysis of several properties owned by the City for the purpose of identifying potential stream, wetland, and floodplain restoration projects; and

WHEREAS, projects identified by this planning project will help the City address water quality, stormwater, and flooding issues and apply for future funding to implement these project.

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

1. The City Manager is authorized to enter into a contract with Wildlands Engineering, Inc. to assist the City of Hendersonville with professional engineering services to complete the Mud Creek stream, wetland, and stormwater planning project.
2. The contract is exempted from the Mini-Brooks Act requirements found in NCGS § 143-64.31.

Adopted by the City Council of the City of Hendersonville, North Carolina on this 3rd day of March 2022.

Attest:

Barbara G. Volk, Mayor, City of Hendersonville

Angela L. Reece, City Clerk

Approved as to form:

Angela S. Beeker, City Attorney



THE CITY OF HENDERSONVILLE

160 6TH Avenue East
Hendersonville, NC 28792
(828) 697-3000

CONTRACT FOR PROFESSIONAL ENGINEERING SERVICES

FIRM: Wildlands Engineering, Inc.

**167-B Haywood Road
Asheville NC, 28806
828.774.5547**

**PROJECT: North Carolina Land & Water Fund Grant:
Mud Creek Stream, Wetland, and
Stormwater Planning Project**

**PROJECT DESCRIPTION: Professional services to support the Mud
Creek Stream, Wetland, and Stormwater
Planning Project ("Project").**

PROJECT NUMBER: 21001

This Contract for Professional Engineering Services, and all exhibits, (collectively this "Contract") is entered into this ____ day of _____, 20____ by and between, the City of Hendersonville, a municipal corporation of the State of North Carolina, (the "City") and, Wildlands Engineering, Inc., a North Carolina firm, having an address of 167-B Haywood Road Asheville, NC 28806 (the "Firm")

WITNESSETH

That for and in consideration of the mutual promises set forth in this Contract below, the sufficiency of which is acknowledged by the parties hereto, the parties do mutually agree as follows:

1. Scope of Services. The Firm agrees to perform for the City the following services according to the following requirements:

The Firm agrees to provide professional engineering services needed to complete the Project. Such professional engineering services shall constitute the "Work." The Scope of Services and Firm's Fee Schedule are attached as Exhibits B and C, which are incorporated herein by reference. Additional (extra) services are defined as any work not included in the Scope of Services in Exhibit B that are requested by the City or any review agencies ("Additional Services"). Additional Services will be billed at the Firm's billing rates as shown on the attached Exhibit D, which is incorporated herein by reference. The Firm represents to the City that the hourly billing rates are the Firms standard billing rates. The Firm's hourly rates shown on the attached Exhibit D shall apply throughout the duration of the Work. Any services not included in the Scope of Services in Exhibit B will be considered Additional Services. Additional Services will be identified either in writing or by verbal communication but must be approved in writing by the City before proceeding to perform such Additional Services. Unless otherwise specifically stated herein, all services will be provided on a time and materials basis, within the not-to-exceed sum as specified on Exhibit C. If the not-to-exceed sum is reached, the Firm shall complete the Work notwithstanding, with the exception that reimbursables will still be paid to the extent not included in the not-to-exceed limit.

The Firm will be responsible for providing properly licensed professionals to complete the Work in accordance with the standard of care ordinarily used by members of the Firm's engineering profession practicing under similar circumstances and at the same time in Henderson County. In addition to the indemnification obligations contained in the STANDARD TERMS AND CONDITIONS attached to this Contract, the Firm further agrees to indemnify and save harmless the City from claims and liabilities to the extent caused by the negligent errors or omissions of the Firm, including its engineers, technicians or subcontractors.

The Firm agrees to coordinate its Work with the work of any other separate professional services, contractors or with the work of the City's own forces to avoid delaying or interfering with their work.

The Firm must be properly registered with the North Carolina Board of Examiners for Engineers and Surveyors and must be properly authorized to conduct business in the state of North Carolina. The engineers performing the Work, and in responsible charge of the Work, must be a licensed Engineer in the State of North Carolina and must have a good ethical and professional standing.

The City reserves the right to terminate the professional service contract of the Firm based on the Firm's breach of this Contract (ex: schedule, responsiveness, quality of design, accuracy of documents etc.) or for convenience. The City reserves the right to modify the Scope of Work described in Exhibit B Scope of Services, and in such event the City and Firm shall negotiate in good faith to make corresponding modifications to the Fee Schedule in Exhibit C.

2. Required Insurance. Firm shall be required to purchase and maintain during its performance under this Contract insurance coverage as shown on the Insurance Requirements as stated in Exhibit A, which is incorporated herein by reference. With the exception of Worker's Compensation and Professional Liability policies, all insurance purchased shall have a specific endorsement, copy of which shall be provided to the City, naming the City as an additional insured and for all insurance purchased, an endorsement providing that such insurance will not be cancelled without providing thirty (30) days advance written notice to the City.
3. Standard Terms and Conditions. The attached Standard Terms and Conditions shall be a part of this Contract. Such Standard Terms and Conditions are hereby incorporated by reference, and all parties agree to be bound thereby.
4. Marketing Use. The use of this project for marketing and reference purposes is subject to the City's consent.
5. Time for Performance of the Work. The Work will begin within ten (10) days of receipt of the Notice to Proceed from the City and shall conclude within one year following the notice to proceed, unless sooner terminated as allowed by the Contract Documents.
6. Payment for Services. In consideration of the above services, the City will pay the Firm on a time and materials basis, in accordance with the submitted fee schedule in Exhibit C, attached hereto and incorporated by reference, up to, but not exceeding, the not-to-exceed-sum stated in the Fee Schedule in Exhibit C. Unless otherwise specifically stated in Exhibit C, reimbursables shall be billed at the Firm's actual cost, and shall count against the not-to-exceed sum stated. Firm will submit monthly invoices for Work performed during the month based upon the Work completed during the billing period which shall be paid thirty (30) days after receipt of undisputed invoices delivered. Invoices must be detailed as to time worked and tasks performed, materials used, and reimbursables billed. Additional Services will be billed as provided in Paragraph 1 above in accordance with the hourly fee schedule shown on Exhibit D, attached hereto and incorporated by reference. If any invoice is disputed by the City, in whole or in part, it shall provide a written explanation for such dispute to Firm within five days of receipt of the invoice and shall pay all undisputed amounts therein.

In witness thereof, the contracting parties, by their authorized agents, affix their signatures and seals at Hendersonville, North Carolina, this _____ day of _____, 20_____.

Wildlands Engineering, Inc.

THE CITY OF HENDERSONVILLE

BY: _____ (SEAL)
L)

Signature

Printed Name and Title

BY: _____ (SEAL)
L)

John Connet, City Manager

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

John Buchanan, Finance Director, City of Hendersonville

STANDARD TERMS & CONDITIONS

1. **Acceptance.** Firm's acknowledgment of the terms of this Contract constitutes an agreement to (i) all terms and conditions set forth or referenced herein, (ii) Exhibits A, B, C & D hereto, and (iii) any other terms and conditions of a written agreement signed by Firm and the City that deals with the same subject matter as this Contract (collectively, the "Contract Documents"). The terms and provisions set forth in the Contract Documents shall constitute the entire agreement between Firm and the City with respect to the performance of the Work as described in the Contract Documents. The agreements set forth in the Contract Documents are sometimes referred to herein as the "Contract." Except as provided herein, no additional or supplemental provision or provisions in variance herewith that may appear in Firm's quotation, acknowledgment, invoice or in any other communication from Firm to the City shall be deemed accepted by or binding on the City. The City hereby expressly rejects all such provisions which supplement, modify or otherwise vary from the terms of the Contract Documents, and such provisions are superseded by the terms and conditions stated in the Contract Documents, unless and until the City's authorized representatives expressly assent, in writing, to such provisions. Stenographic and clerical errors and omissions by the City are subject to correction.
2. **Entire Agreement.** The Contract Documents constitute and represent the complete and entire agreement between the City and Firm and supersede all previous communications, either written or verbal with respect to the subject matter of this Contract.
3. **Changes, Additions, Deletions.** No changes, additions, deletions or substitutions of scope of work, specifications, terms and conditions, quantity, unit of issue, delivery date, delivery charges or price will be permitted without the prior written approval from the City. However, the Firm will not be liable for delays caused by circumstances beyond its control including without limitation, delays caused by acts of God, the City or its other consultants/contractors, federal, state, and local government authorities, strikes, riots, civil unrest, war, or unknown or concealed conditions, and if such delays occur, the Firm will be entitled to an equitable adjustment in the time for the performance of the Work and compensation.
4. **Relationship of the Parties.** The Firm is an independent Professional Engineering Company and not an affiliate of the City. The conduct and control of the work will lie solely with the Firm. The Contract shall not be construed as establishing a joint venture, partnership or any principal-agent relationship for any purpose between the Firm and the City. Employees of the Firm shall remain subject to the exclusive control and supervision of the Firm, which is solely responsible for their compensation.
5. **(RESERVED).**
6. **Taxes.** Any applicable taxes paid shall be itemized on invoices.
7. **Substitutions.** No substitutions or cancellations shall be permitted without prior written approval from the City.
8. **Indemnification.** To the greatest extent allowed by the law the Firm shall indemnify and hold harmless the City, its officers, agents, employees and assigns from and against all claims, losses, costs, damages, expenses, attorneys' fees ("Claims"), but only to the extent the fault of the Consultant or its derivative parties (as defined in N.C.G.S §22B-1) is a proximate cause of the Claim. In the event that any portion of the Work performed under the Contract shall be defective in any respect whatsoever, the Firm shall indemnify and save harmless the City, its officers, agents, employees and assigns from all loss or the payment of all sums of money, but only to the extent the fault of the Consultant or its derivative parties (as defined in N.C.G.S §22B-1) is a proximate cause of the Claim.
9. **Invoices and Payment Terms.** Invoice and Payment Terms are set forth in Section 5 in the Contract for Professional Engineering Services. All invoices and statements shall reference the City's Purchase Order Number, Contract number (if applicable) and Project Number, and shall be submitted to: City of Hendersonville, Accounts Payable, 160 6th Avenue East, Hendersonville, North Carolina 28792.
10. **Anti-Discrimination.** During the performance of the Contract, the Firm shall not discriminate against or deny the Contract's benefits to any person on the basis of sexual orientation, national origin, race, ethnic background, color, religion, gender, age or disability.
11. **Insurance.** The Firm shall provide the insurance coverages shown on Exhibit A, attached hereto and incorporated herein by reference. The Firm shall provide the City with a North Carolina Certificate of Insurance and such endorsements as may be required by the Contract Documents PRIOR to the commencement of any work under the Contract and agrees to maintain such insurance until the completion of the Contract. Such certificates of insurance

shall be considered part of the Contract.

12. **Ethics in Public Contracting.** By submitting their prices and acceptance of this Contract, the Firm certifies that their proposal was made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other supplier, manufacturer or subcontractor in connection with their proposal, and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.
13. **Applicable Laws and Courts.** This Contract shall be governed in all respects by the laws of the State of North Carolina. All matters, whether sounding in contract or tort relating to the validity, construction, interpretation and enforcement of the Contract, shall be governed in all respects by the laws of the State of North Carolina and exclusive venue shall be in a court of competent jurisdiction for Henderson County, North Carolina. The Firm represents and warrants that it shall comply with all applicable federal, state and local laws, regulations and orders.
14. **Strict Compliance.** The City may at any time insist upon strict compliance with these terms and conditions notwithstanding any previous course of dealing or course of performance between the parties to the contrary.
15. **Assignment.** The Firm shall not assign, subcontract or otherwise transfer any interest in the Contract without the prior written approval of the City.
16. **General Provisions.** The City's remedies as set forth herein are not exclusive. Any delay or omission by the City in exercising any right hereunder, or any waiver by the City of any single breach or default hereunder, shall not be deemed to be a waiver of such right or of any other right, breach, or default.
17. **Obligations of the Firm.** The Firm shall adhere to all applicable laws, codes, ordinances, and regulations of the United States, the State of North Carolina, the County of Henderson, and the City of Hendersonville in the performance of the Work outlined in this Contract and any design documents, drawings and specifications applicable to the Work. The Work shall also adhere to all applicable federal, state and local laws, codes, ordinances, and regulations.
18. **Quality and Workmanship.** The Firm shall perform all Work in accordance with this Contract and the standard of care ordinarily used by members of the engineering profession practicing under similar circumstances and at the same time in Henderson County.
19. **Default.** Either Party may terminate the Contract, in whole or in part, upon thirty (30) days written notice upon a material breach by the other Party unless the alleged default is cured within the thirty (30) day notice period. The nonbreaching party shall have all remedies available at law or in equity in addition to any remedies provided in this Contract for material breach. In the event of a material breach by the Firm the City may procure upon such terms as the City shall deem appropriate, professional engineering services substantially similar to those so terminated, in which case the Firm shall be liable to the City for any excess costs for such similar services and any expenses incurred in connection therewith.
20. **Termination for Convenience.** The City shall have the right, without assigning any reason therefore, to terminate any Work under the Contract, in whole or in part, at any time at its complete discretion by providing ten (10) consecutive calendar days notice in writing from the City to the Firm. If the Contract is terminated by the City in accordance with this paragraph, the Firm will be paid for all Work performed and reimbursable expenses incurred at actual cost to the Firm up to the effective date of the termination. The City will not be liable to the Firm for any costs for materials acquired or contracted for, if such costs were incurred prior to the date of this Contract.
21. **Instruments of Service and Work for Hire.** All Work performed by the Firm, and all data compiled, shall be considered Instruments of Service and Work for Hire, and shall be the Property of the Owner. The Firm shall retain a license in the Work performed and data compiled to use for the Firm's own purposes, and not for the benefit of any third party without the City's consent. The terms of this Paragraph shall survive the termination of this Contract for any reason, including but limited to for a material breach of either Party, or for the convenience of the Owner. In the event this Contract is terminated for any reason, the City shall be entitled to keep and use all design work provided by the Engineer and all data compiled by the Engineer. All representations and obligations with respect to the Work by the Firm under this Contract shall survive termination of this Agreement unless this Contract is terminated by the Firm for the City's material breach, in which case use by the City of the Firm's design work and data compiled shall be at the City's own risk, and without any representation by the Engineer as to its accuracy or

fitness for any purpose.

22. **Assignment.** Firm may not assign, pledge, or in any manner encumber the Firm's rights under this Contract, or delegate the performance of any of its obligations hereunder, without the City's prior, express written consent.
23. **No Third Party Beneficiaries.** There shall be no intended nor incidental third party beneficiaries of this Contract. The Firm shall include in all contracts, subcontracts or other agreements relating to the Contract an acknowledgment by the contracting parties that the Contract creates no third party beneficiaries.
24. **Valid Contract.** In order for this Contract for Professional Engineering Services to be valid, it must be executed by the City Manager or his or her authorized designee, and must be pre-audited in that manner required by the Local Government Budget and Fiscal Control Act, as the same may be amended.
25. **Verification of Work Authorization.** The Firm shall comply with, and require all contractors and subcontractors to comply with, the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, "Verification of Work Authorization," sometimes known as E-verify for all contractors and subcontractors.
26. **Iran Divestment List.** With the execution hereof, Firm, certifies that they are not on the Iran Final Divestment List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.58, and will not contract with anyone on such List in performance of the work hereunder.
27. **Severability.** If any provision of this Contract is found to be invalid or unlawful, then remainder of this Agreement shall not be affected thereby, and each remaining provision shall be valid and enforced to the fullest extent permitted by law.
28. **Companies that Boycott Israel List.** With the execution hereof, Firm, certifies that they are not on the Companies that Boycott Israel List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.80, and will not contract with anyone on such List in performance of the work hereunder.

EXHIBIT A

MINIMUM INSURANCE REQUIREMENTS

The Work under this Contract shall not commence until the Firm has obtained all required insurance and verifying certificates of insurance have been approved in writing by the City. The City shall be named as additional insured on all policies, except Worker’s Compensation and Professional Liability policies. These certificates shall document that coverages afforded under the policies will not be cancelled until at least thirty (30) days after mailing written notice, by certified mail, return receipt requested, to the insured and the City of such cancellation. If endorsements are needed to comply with the notification or other requirements of this article copies of the endorsements shall be submitted with the certificates.

a. **Worker’s Compensation and Employer's Liability**

The Firm shall provide and maintain, until final acceptance, workmen's compensation insurance, as required by law, as well as employer's liability coverage with minimum limits of \$100,000.

b. **Comprehensive General Liability Insurance**

The Firm shall provide and maintain, until final acceptance, comprehensive general liability insurance, including coverage for premises operations, independent contractors, completed operations, products and contractual exposures, as shall protect such contractors from claims arising out of any bodily injury, including accidental death, as well as from claims for property damages which may arise from operations under this contract, whether such operations be by the Firm or by any subcontractor, or by anyone directly or indirectly employed by either of them and the minimum limits of such insurance shall be as follows:

Bodily Injury: \$1,000,000 per occurrence / \$2,000,000 aggregate
Property Damage: \$100,000 per occurrence / \$300,000 aggregate
Or,
Bodily Injury and Property Damage, combined single limit (CSL): \$1,000,000 per occurrence / \$2,000,000 aggregate

Such coverage for completed operations must be maintained for at least two (2) years following final acceptance of the Work performed under the contract.

c. **Deductible**

Any deductible, if applicable to loss covered by insurance provided, is to be borne by the Firm.

d. **Other Insurance**

The Firm shall obtain such additional insurance as may be required by the City or by the General Statutes of North Carolina including motor vehicle insurance, in amounts not less than the statutory limits.

e. **Proof of Carriage**

The Firm shall furnish the City with satisfactory proof of carriage of the insurance required before written approval is granted by the City

EXHIBIT B

FIRM’S SCOPE OF SERVICES

Wildlands Engineering, Inc. will provide the following professional services in coordination with City staff:

Professional Services to Support Mud Creek Stream, Wetland, and Stormwater Planning Project

Background

The City of Hendersonville (City) owns multiple vacant parcels, totaling 38.16 acres, along Mud Creek that have been prioritized and preserved for the purpose of water resource restoration potential. The City proposes to conduct a planning, assessment, and concept development project on these sites to facilitate the implementation of restoration objectives. Additionally, the City would like to further assess whether the acquisition of additional properties would facilitate holistic solutions to water resources challenges and restoration efforts and/or enhance connectivity to existing and proposed park and greenway systems. These sites present many opportunities for restoring ecological services through floodplain reconnection, wetland restoration, stream realignment, riparian vegetation restoration, and innovative stormwater treatment. As stated above, the City is interested in facilitating and enhancing connectivity to greenways, and the use of City-owned land for passive recreation and educational opportunities consistent with restoration goals.

The goals of this scope are to:

- Complete a thorough assessment of three City-owned properties for the purpose of stream restoration, wetland restoration, and stormwater management.
- Evaluate options and costs for restoring and enhancing resources for ecological uplift purposes identified on all sites.
- Explore opportunities for creating public passive recreation areas with educational opportunities.
- Evaluate options for innovative stormwater treatment of runoff from the adjacent commercial properties or to treat base or first flush flows from adjacent streams and ditches.
- Identify and research the feasibility and cost-benefits of properties for acquisition or easement targeting to support project goals and enhance viability of identified projects.
- Develop Level 1 design and fact sheet for all proposed projects.
- Work with stakeholders to prioritize identified projects.
- Develop a 30% design concept plan-set (Level 2 Design) for one site.

Site Descriptions

Site 1, the Wilson Tract, is a 13.07-acre parcel held in a permanent conservation easement through an agreement between the City and the North Carolina Wetland Restoration Program (NCWRP). The consevation easement allows for stream and wetland restoration activities, construction of a greenway, and maintenance of the property as a green space. The site contains sections of Mud Creek and multiple tributaries thought to be the headwaters of Johnson Ditch. All water bodies are highly channelized and bermed from the floodplain, appear to have been straightened, and have poor riparian vegetative cover. Evidence of wide-spread historic and current floodplain wetlands exist across this site. Developed property and City road infrastructure below the site is highly impervious and is known to flood frequently. This property presents an opportunity for floodplain reconnection and channel realignment of the tributary, and floodplain wetland restoration to achieve improved water quality downstream, increased floodplain storage during

higher flows, and to provide ecological uplift in a highly urban setting.

Site 2, the Brevard Church Property, is a 14-acre parcel owned by the City and is also held in a permanent conservation easement through an agreement between the City and NCWRP. Three water bodies intercept this site, including Mud Creek, Johnson Drainage Ditch, and an unnamed tributary. Johnson Drainage Ditch carries untreated stormwater from an adjacent commercial property that does not have stormwater management facilities. Central to the property runs a second urban drainage tributary that is channelized and appears to be have been straightened. A 10-15’ berm and Mud Creek bounds the site to the west. Previous aquatic resource inventory identified multiple jurisdictional wetland areas along these tributaries. The City of Hendersonville Water and Sewer Department is planning the Mud Creek Sewer Interceptor Project that will run through this property. The project is being designed with future restoration and stormwater potential in mind, and the City intends to pursue a sewer alignment that will have minimal impact on the site’s viability for the purposes proposed in the grant. A future greenway trail is planned to run along the completed sewer alignment.

Site 3, unofficially called the Jackson Park Dog Park, is a 11.09 acre City-owned parcel adjacent to Henderson County’s (County) Jackson Park. The primary project to be evaluated at this site would propose a partnership with the County to complete stream restoration of a section of Johnson Ditch that connects the two properties to enhance instream habitat, bank stability and floodplain connectivity. This site presents an excellent opportunity for public education and interaction with restoration efforts. This project also proposes the acquisition of three (3) adjacent properties to the Jackson Park Dog Park that total 24.88 acres.

Scope of Work for All Sites

The scope presents general tasks pertaining to project front-end planning and final deliverables as well as site-specific analyses.

Milestone A: Project Initiation

Task 1: Project Kickoff

- a. Identify and coordinate with project partners and stakeholders. To date, stakeholders identified may include City Parks & Rec, Hendersonville Water and Sewer, MountainTrue, Conserving Carolina, NCWRC, US Army Corps of Engineers, and USFWS.
- b. Create a detailed project schedule.
- c. Prepare a meeting agenda and summary of known project site histories to review with stakeholders.
- d. Conduct a project kickoff meeting with the City, project partners, and stakeholders:
 - i. Review project scope, geographic area of interest, and schedule,
 - ii. Solicit additional information about site history,
 - iii. Gather preliminary project input, ideas, goals, objectives, etc., and
 - iv. Prepare meeting minutes and follow-up actions.
- e. Conduct site walk to review conditions and goals with staff and the project team.
- f. Request a meeting with NCDMS to understand site history as pertains to their program – it is understood that the site was acquired but never carried forward as a restoration project site. NCDMS may have data for review relevant to project activities.

Task 1 deliverables will be:

- Kickoff meeting notes and finalize detailed project schedule.

Milestone B: Assessment

Task 2: Existing Data Review

The existing data review task will download/acquire and compile all known existing data sources and identify critical data gaps. All GIS data will be assembled in an ArcGIS online (AGOL) map to facilitate efficient collaboration between project members for the duration of the project.

- a. Compile and review existing GIS, modeling, and other environmental data relevant to project sites.
- b. Preliminary analysis of GIS identified constraints and opportunities with QL1 LiDAR, historical aerials, utility data and ROWs, flood zones, infrastructure, data from previous projects, current and projected landuse/landcover at the site and watershed scales.
- c. Create an ArcGIS online (AGOL) mapping tool to allow team members to interact with existing data and communicate about project ideas.

Task 2 deliverables with be:

- Compiled AGOL GIS map with all available GIS data

Task 3: Biological Assessment

The biological assessment task will evaluate City-owned parcels for the purpose of characterizing current issues/stressors and identifying opportunities for ecological uplift. Adjacent parcels will be evaluated in a cursory manner to determine the potential connectivity of design and management recommendations to adjacent parcels that may be acquisition targets. This task will also document regulatory permitting concerns and needs to help guide the future implementation phase.

1. Collect field data to validate data from Task 2.
2. Conduct a habitat assessment and identify community types, potential habitat for T&E species.
3. Complete an invasive vegetation species inventory.
4. Conduct landscape scale assessment of vegetative communities based on remote data (topo, veg cover).
5. Prescribe habitat restoration initiatives based on target community types and current conditions.

Task 3 deliverable will be:

- Biological Assessment Documentation and Maps

Task 4: Stream Geomorphic Assessment

The stream assessment task will assess approximately 6,900 LF of stream on City-owned properties. There are approximately 3,000 LF of additional streams on properties targeted for acquisition. This task will identify and map all streams within the projects study area and adjacent potential acquisition targets through remote sensing and ground truthing wherever possible.

1. City-owned properties will be field assessed to observe the existing condition of all streams, ditches, stormwater outfalls and conveyances, and any other visible drainage patterns.
2. Develop stream hydrologic and hydraulic geometry data using regional curve and reference reach data.
3. Identify areas of streambank erosion and develop conceptual restoration, enhancement or stabilization measures.
4. Map stream existing conditions noting erosion and stream alterations as well as morphology and trends in stability as evidenced from departure from stability and erosional and depositional patterns.
5. Develop reach breaks based on existing conditions, drainage area, and potential management recommendations.

Task 4 deliverables will be:

- Stream Geomorphic Assessment Documentation and Maps

Task 5: Floodplain and Wetland Hydrologic Assessment

Under this task, fieldwork will be conducted to understand the locations of potential stream-floodplain reconnection, wetland restoration and/or SCM siting. Constraints and limiting factors will be evaluated through field and design analysis in AutoCAD. At locations where potential treatment options are viable, hydrologic modeling analysis will be

Contract for Professional Engineering Services

used to provide data for evaluating geometry, sizing, and function of streambank, levy or floodplain as well as for SCMs whose purpose is treatment and/or conveyance.

Field work will:

1. Conduct an abbreviated soils exploration to locate limits and depths of hydric soils in areas that, based on historic and recent aerial photographs and topographic analysis, may be suitable for wetland restoration or enhancement.
2. Develop rough mapping of jurisdictional wetland areas and wetland restoration potential areas.

Mud Creek and is characterized by wide floodplains, ditches and various urban stormwater inputs in this corridor. To understand the rainfall-runoff relationships within the project area, and at specific points of interest, hydrologic models or equations will be developed at a preliminary design level of detail to fit the development of targeted data needs. The approach will identify points of input (stormwater outfalls, drainage channels, etc.) where treatment is anticipated or where stable natural conveyances are to be proposed. At these locations, peak flows for low and high magnitude design storms will be developed for use in hydraulic modeling (HEC-RAS, Manning's equation) to evaluate stage-discharge relationships in channels and floodplain inundation frequency. Where applicable, hydrologic data may also be used to size proposed SCM treatment and conveyance projects identified.

Modeling efforts will:

1. Review existing hydrologic and hydraulic data – FEMA hydraulic models, prior studies, City stormwater mapping, empirical data (USGS gages, USGS regression equations, regional curves).
2. Use existing conditions land use and cover data to develop hydrologic information at outfall points of interest.
3. Using empirical data and USGS gage data (located on Mud Creek approximately 8,650 LF downstream of site 3) to extent practicable.
4. Assess hydrologic alterations (levies, ditches, fill, structures, channelization), evaluate variation from historic conditions and reference reaches/conditions.

Task 5 deliverables will be:

- Hydrologic Documentation and Description of Use for Design.

Milestone C: Analysis

Task 6: Hydraulic modeling

In order to understand the behavior of the sites under flood conditions, identified opportunities that exhibit greater complexity will be analyzed using existing models or models developed for the project. The low gradient and modified nature of existing streams and myriad ditches greatly increases the complexity of floodplain flow patterns and hydraulic controls on the project properties and adjacent areas. In some cases, these factors may require evaluation to understand how high flow conditions affect existing and proposed conditions. The most viable proposed activities will be evaluated for their level of risk, future maintenance needs, hydrologic trespass considerations, etc. Flooding regimes and treatment potential in existing or proposed management areas will be analyzed. There is an interest to explore the viability of the anabranching stormwater wetland design, an innovative approach funded under a prior NCLWF project. This is an example of a management area (proposed SCM) that would require preliminary modeling to evaluate siting viability and the factors mentioned above. Under this task, project efforts will include the following:

1. Evaluate existing hydraulic/flood models, including:
 - a. Review of older models for consistency with QL1 Lidar and field conditions.
 - b. Incorporate data from Task 5.
 - c. Evaluate and map flooding, including:
 1. Known issues/complaints, and
 2. Where possible with existing models, evaluate level of service for roads and evaluate flood frequency associated with riverine flooding of urbanized areas, structures, etc.
2. Evaluate floodplain inundation frequency, channel sizing, levies, breached areas.

3. Evaluate measures to improve stream-to-floodplain connectivity along both Mud Creek, Johnson Drainage Ditch, and other tributaries with a specific focus on levee breaching or removal.

Task 6 deliverables will be:

- Hydraulic Documentation of Design Considerations

Task 7: Property and Easement Acquisition Evaluation

It is anticipated that many of the projects identified will not naturally terminate or maximize treatment potential within City-owned parcels that are the focus of this evaluation. In such cases, the potential for property or easement acquisition will be identified, along with the purpose and limits of the necessary acquisition to fulfill future project objectives. The level of need will also be identified (e.g. Project A may only work if Property 1 is acquired, or an easement obtained). This task will:

1. Identify projects or project buffering that would be enhanced through acquisition or easements.
2. Describe the purpose and level of need for acquisition or easements.
3. Report the per acreage cost of acquisition or easement targets and identify the critical areas on proposed target parcels to facilitate future project needs.
4. Map targeted parcels overlaying layers relevant to future development.

Task 7 deliverables will be:

- Map, list and prioritization of properties targeted for acquisition or easements.

Task 8: Restoration Concept Development

For identified project opportunities, concept development will entail Level 1 design for all viable concepts. Level 2 design will be completed for one of the 3 City-owned sites. The Level 2 design is likely to involve multiple concepts, along with conceptual incorporation and layout of other site amenities (trails, educational facilities, etc.)

1. An overview corridor sheet or plan will be developed to show sites and large-scale planning concepts such as invasive species and riparian corridor management.
2. A large-scale overview will be completed for each site and adjacent areas showing existing and proposed conditions, including Level 1 concepts. The overview will identify (map or describe) restoration activities and primary projects (components) by site, including contiguous properties with potential for level of hydrologic continuity.
3. For identified projects, a Level 1 fact sheet will be developed to include project information (description, regulatory considerations, constraints, significant cost factors and order of magnitude cost ranges, and representative existing and proposed images or graphics). Projects for which Level 1 fact sheets will be developed include viable stream restoration and stream-floodplain connectivity projects, stormwater management and treatment options, and wetland restoration or creation opportunities.
4. Work with stakeholders to prioritize the identified projects on City parcels, as well as acquisition or easement targets in the corridor.
5. Conduct additional preliminary design work for one of the sites in order to develop a 30% design plan set, and more detailed cost estimates, permitting considerations, and schedule requirements.

Task 8 deliverables will be:

- Level 1 design concepts and cost-estimate.
- Project ranking.
- Level 2 design concept planset, cost-estimate, and supporting information described above.

Milestone D: Reporting

Task 9: Final Report Preparation and Presentation

1. Complete a final report documenting all assessment data, project opportunities, prioritized properties for acquisition, and Level 1 and 2 design concepts and cost-estimates.

2. Conduct a final meeting to present design concepts to project team and stakeholders to build and continue support for the implementation phase.

Task 10: Public Education

During the course of the project, the City will conduct the following outreach activities:

1. On-site public educational events
2. Website promotion and education
3. Public-facing AGOL interactive map

EXHIBIT C

Hourly Fee Schedule for the Work

Wildlands Rate Table - 2022 Mud Creek Planning Grant NCLWF Project*		
Senior Engineer II / Senior Project Manager	\$175.00	Jake McLean, PE, CFM
Senior Scientist	\$140.00	Scott Gregory, GISP, PLS, Ian Eckardt, PWS
Engineer I / Designer II	\$135.00	Jacob Wiseman, PE, CFM, Jesse Kelley
Designer / EIT	\$125.00	Aaron Reeser
Scientist I-III / Designer I	\$110.00	Jordan Hessler, Mimi Caddell, Jane Margaret Bell, Jess Waller
PE: Professional Engineer CFM: Certified Floodplain Manager GISP: GIS Professional PWS: Professional Wetland Scientist		
*Rates have been discounted from Standard 2022 Hourly Rates		

Professional Services to Support Mud Creek Stream, Wetland, and Stormwater Planning Project

Description	BUDGET RANGE
Milestone A: Project Initiation	
Task 1: Project Kickoff	\$1,870
Milestone B: Assessment	
Task 2: Existing Data Review	\$2,470
Task 3: Biological Site Assessment	\$3,540
Task 4: Stream Geomorphic Assessment	\$7,520
Task 5: Floodplain and Wetland Hydrologic Assessment	\$11,090
Milestone C: Analysis	
Task 6: Hydraulic Analysis	\$6,835
Task 7: Acquisition Properties Evaluation	\$3,225
Task 8: Level 1 & 2 Design Concepts & Cost-Estimate Development	\$10,840
Milestone D: Reporting	
Task 9: Final Report Preparation and Presentation	\$2,230
Task 10: Public Education	City to perform
TOTAL:	\$49,620

The total fee for the completion of all Work contained in the Scope of Services for the Professional Services to Support Mud Creek Stream, Wetland, and Stormwater Planning Project shall not exceed \$49,620.00, including all reimbursable expenses, which shall be billed at the Firm's actual costs.

EXHIBIT D**FIRM'S HOURLY RATES FOR ADDITIONAL SERVICES**

Additional Services to be performed in accordance with the Firm's Fee Schedule attached hereto and incorporated herein by reference. Allowable reimbursable expenses will be paid at the Firm's actual costs. Allowable reimbursable expenses associated with the provision of additional services will be determined by the Firm and the City at the time the additional services are requested by the City.

Wildlands Rate Table - 2022 Mud Creek Planning Grant NCLWF Project*		
Senior Engineer II / Senior Project Manager	\$175.00	Jake McLean, PE, CFM
Senior Scientist	\$140.00	Scott Gregory, GISP, PLS, Ian Eckardt, PWS
Engineer I / Designer II	\$135.00	Jacob Wiseman, PE, CFM, Jesse Kelley
Designer / EIT	\$125.00	Aaron Reeser
Scientist I-III / Designer I	\$110.00	Jordan Hessler, Mimi Caddell, Jane Margaret Bell, Jess Waller
PE: Professional Engineer CFM: Certified Floodplain Manager GISP: GIS Professional PWS: Professional Wetland Scientist		
*Rates have been discounted from Standard 2022 Hourly Rates		



CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER: Michael Huffman **MEETING DATE:** March 3rd, 2022

AGENDA SECTION: CONSENT **DEPARTMENT:** Engineering - Stormwater

TITLE OF ITEM: Approval of Resolution Accepting North Carolina Land and Water Fund Grant funds for Mud Creek Stream, Wetland, and Stormwater Planning Project – *Mike Huffman, Stormwater Administrator*

SUGGESTED MOTION(S): I move that City Council approve the Resolution Authorizing the City Manager to Enter Into a Grant Agreement with the State of North Carolina Land and Water Fund for the Mud Creek Stream, Wetland and Stormwater Planning Projects as presented.

SUMMARY:

The Mud Creek Stream, Wetland, and Stormwater Planning Project proposes to address water quality and flooding issues in the Mud Creek Watershed using ecological restoration and innovative stormwater management at three sites owned by the City of Hendersonville. Two project parcels already have conservation easements on them (Funded by what is now Division of Mitigation Services) but these easements specifically allow for wetland and/or stream restoration. The planning effort will evaluate restoration and acquisition options and deliver conceptual designs. The total matching contribution for this grant from the City is \$27,000. The total grant award is \$24,620. Therefore, we request your approval of the attached resolution authorizing the City Manager and City Attorney to execute a contract accepting grant funds from NC Land and Water Fund in the amount of \$24,620.

BUDGET IMPACT: \$51,620.00

Is this expenditure approved in the current fiscal year budget? Yes

If no, describe how it will be funded. N/A

ATTACHMENTS:

Resolution #__-____

**RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO
AUTHORIZE THE CITY MANAGER TO ENTER INTO A GRANT AGREEMENT WITH
THE STATE OF NORTH CAROLINA LAND AND WATER FUND**

WHEREAS, N.C.G.S Chapter 143B, Article 2. Part authorizes the North Carolina Land and Water Fund (NCLWF) to restore previously degraded lands to reestablish their ability to protect water quality and to acquire conservation easements and other interest in real property to protect and conserve surface waters and drinking water supplies; and

WHEREAS, the City of Hendersonville (City) is a qualified grant recipient as defined by N.C.G.S. §143B-135.238(a); and

WHEREAS, portions of Mud Creek are listed as impaired waters and the City proposes to address water quality issues in the Mud Creek Watershed using ecological restoration and innovative stormwater management at three sites owned by the City of Hendersonville.

WHEREAS, the NCLWF has awarded the City a grant in the amount of \$24,620 to perform the ecological restoration and innovative stormwater management on Mud Creek.

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

1. The City Manager is authorized to enter into a grant agreement with the State of North Carolina Land and Water Fund.
2. The City Manager is authorized to appropriate \$27,000 in matching funds from the City Stormwater Fund to perform the tasks associated with this project.

Adopted by the City Council of the City of Hendersonville, North Carolina on this 1st day of April 2021.

Attest:

Barbara G. Volk, Mayor, City of Hendersonville

Angela L. Reece, City Clerk

Approved as to form:

Angela S. Beeker, City Attorney

**STATE OF NORTH CAROLINA
NORTH CAROLINA LAND AND WATER FUND
GRANT AGREEMENT
(PLANNING GRANT)**

NCLWF PROJECT NUMBER: 2021-808

GRANTOR: North Carolina Land and Water Fund (“NCLWF”), also known as the Clean Water Management Trust Fund, a division of the Department of Natural and Cultural Resources, acting through its Board of Trustees solely in its official capacity pursuant to North Carolina General Statutes (“N.C.G.S.”) Chapter 143B, Article 2, Part 41

CONTRACT ADMINISTRATOR: Stephen Bevington
North Carolina Land and Water Fund
1651 Mail Service Center
Raleigh, NC 27699-1651
Phone: 919.707.9128
Email: steve.bevington@ncdcr.gov

GRANT RECIPIENT: City of Hendersonville, a North Carolina Local Government Unit, (“Grant Recipient”)

CONTRACT ADMINISTRATOR: John Connet, City Manager
City of Hendersonville
305 Williams St.
Hendersonville, NC, 28792
Phone: (828) 697-3013
Email: mhuffman@hvlnc.gov

GRANT AWARD DATE: September 15, 2021 (the “Award Date”)

CONTRACT EFFECTIVE DATE: _____ (the “Effective Date”)

CONTRACT EXPIRATION DATE: August 31, 2023 (the “Expiration Date”)

REIMBURSEMENT DATE: September 14, 2023

GRANT AMOUNT: Up to \$24,620 (the “Grant”)

THIS GRANT CONTRACT (this “Grant Contract”) is made and entered into, as of the Effective Date by and between the NCLWF and the Grant Recipient (both sometimes hereinafter referred to individually as a “Party” or collectively as the “Parties”).

W I T N E S S E T H:

WHEREAS, the Grant Recipient submitted to NCLWF an application for a grant of funds (the “Grant Application”) to undertake a project to engage in planning for restoration of degraded lands for their ability to protect the quality of surface waters.

WHEREAS, N.C.G.S. Chapter 143B, Article 2, Part 41 authorizes NCLWF to, among other things, restore previously degraded lands to reestablish their ability to protect water quality and to acquire conservation easements and other interests in real property to protect and conserve surface waters and drinking water supplies.

WHEREAS, the Grant Recipient is a qualified applicant as defined in N.C.G.S. §143B-135.238(a).

WHEREAS, at its meeting on the Award Date, NCLWF approved the Grant Recipient’s application on the terms and conditions in this Grant Contract.

WHEREAS, the Grant Recipient agrees to conduct the project approved by NCLWF’s Board of Trustees for the purposes and according to the scope of work, conditions, and schedule in **Exhibit A** (the “Project”) and according to the project budget in **Exhibit B** of this Grant Contract.

WHEREAS, the Parties desire to enter into this Grant Contract and intend to be bound by its terms.

NOW, THEREFORE, for and in consideration of the Grant, the mutual promises each to the other made, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties mutually agree as follows:

1. **Grant Contract Documents**. The Grant Contract consist of, and only of, the documents described below, which are hereinafter collectively referred to as the “Grant Contract.” In the case of conflict, specific and special terms, conditions, and requirements shall control over general terms, conditions, and requirements. Upon execution and delivery of the Grant Contract, including the execution of all the Exhibits that require execution, the Grant Contract shall constitute a valid, binding contract between the Parties. The Grant Contract constitutes the entire contract between the Parties, superseding all prior oral and written statements or contracts. Only changes deemed non-material in type by NCLWF’s Executive Director may be made to the Grant Contract without the consent of NCLWF’s Board of Trustees.

The Grant Contract Documents consist of:

- (a) Cover page
- (b) The main body of the Grant Contract
- (c) Exhibit A – Project Summary
- (d) Exhibit B – Project Budget
- (e) Exhibit C – NCLWF Pre-Disbursement Checklist
- (f) Exhibit D – Additional Definitions
- (g) Exhibit E – General Terms and Conditions

2. **Purpose**. The purpose of the Grant is to restore degraded streams to protect the quality of surface waters as particularly described in **Exhibit A**. Grant funds may not be used for the purchase of improvements or for the removal of debris on any property, or for any other purpose not set forth herein. Further, Grant funds may not be used for any eminent domain litigation or any action or expenditure related to eminent domain, unless approved by NCLWF’s Board of Trustees in writing prior to the action. The Board of Trustees shall review requests to use Grant funds for

eminent domain on a case-by-case basis. The Grant Recipient shall provide such requests in writing.

3. **NCLWF's Duties.** Subject to the appropriation, allocation, and availability to NCLWF of Grant funds for the Project, NCLWF hereby agrees to pay the Grant funds to the Grant Recipient in accordance with the payment procedures set forth herein. Neither of the Parties is obligated to perform and the Grant Contract is not a binding agreement on all Parties until all Parties have executed the main body of the Grant Contract and all exhibits that require execution, the Department of Natural and Cultural Resources has notified NCLWF that funds for the Grant contemplated hereunder have been encumbered, and the Grant Recipient has received its counterpart original of the Grant Contract, fully executed and with all dates inserted where indicated on the cover page to the Grant Contract.

4. **Grant Recipient's Duties.** The Grant Recipient shall carry out the Project pursuant to the terms of this Grant Contract.

5. **Contract Period.** NCLWF's commitment to disburse Grant funds under this Grant Contract shall cease on the Reimbursement Date. The Grant Recipient is responsible to ensure that the Project is completed by the Expiration Date and that all costs to be reimbursed have been submitted to NCLWF by the Reimbursement Date. After the Expiration Date, any Grant monies remaining under this Grant Contract will no longer be available to the Grant Recipient except to pay proper invoices for budgeted costs incurred by the Expiration Date and that are submitted to NCLWF no later than the Reimbursement Date. **The burden is on the Grant Recipient to request an extension of the Grant Contract if the Grant Recipient anticipates that the Project will not be completed by the Expiration Date.** The request for an extension must give complete details of the reasons why an extension is needed, propose a new expiration date for the Grant Contract, and be submitted online via NCLWF's online grants management system. This request must be submitted to and received by NCLWF at least **60 days** prior to the Expiration Date. Approval of any requested extension is at the sole discretion of NCLWF. The approval or denial of the requested extension will be based upon Project performance, among other factors. **NCLWF is not obligated to send reminders or other notification of an approaching Expiration Date.**

6. **Pre-Disbursement Requirements.** Prior to the disbursement of any Grant monies under this Grant Contract, the Grant Recipient shall deliver to NCLWF all of the documentation described in **Exhibit C**.

7. **Disbursement of Grant Funds.**

- (a) **Proportionate Spending of Matching Funds.** Grant monies are awarded based on a commitment of matching funds to the Project. NCLWF's final, cumulative portion of the total Project cost will be no more than the percentage of funds originally committed to in the Grant Contract as given in **Exhibit B**. The Grant Recipient must demonstrate expenditure of matching funds as payments by NCLWF are requested.
- (b) **Requests for Payment.** NCLWF will not disburse Grant funds until receipt by the NCLWF Contract Administrator of the following documentation via NCLWF's online grants management system and the appropriate forms contained thereon:
 - i. Appropriate itemized documentation supporting all expenses claimed and clearly identifying each expenditure for which payment is requested. Supporting documentation must be organized in a manner that clearly relates expenditures in the supporting documentation to the line items in the project budget. Any request for payment that does not clearly identify each expenditure or does not relate each expenditure to the line items on the payment request form will not be processed and will be returned to the Grant Recipient for correction and resubmittal.

- ii. Identification of all amounts of sales tax for which the Grant Recipient and/or its vendors have or will obtain payment from the North Carolina Department of Revenue. NCLWF will not reimburse the Grant Recipient for such amounts.
 - iii. A written report containing a detailed narrative of the progress of the Project submitted within three (3) months prior to the reimbursement request.
 - iv. A completed request for reimbursement via NCLWF's online grants management system, stating that the Grant Recipient complied with all terms of this Grant Contract in incurring the expenses.
- (c) Alternate Disbursement of Grant Funds. NCLWF may, upon request by the Grant Recipient, disburse Grant funds prior to the Grant Recipient's actual payment to its vendors if such expenditures are documented by vendors' third-party invoices. In order for NCLWF to disburse Grant funds to the Grant Recipient based on unpaid third-party invoices, the Grant Recipient must submit the following documentation via NCLWF's online grants management system and the appropriate forms contained thereon.
- i. Appropriate itemized documentation supporting all expenses claimed and clearly identifying each expenditure for which payment is requested. Supporting documentation must be organized in a manner that clearly relates expenditures in the supporting documentation to the line items in the project budget. Any request for payment that does not clearly identify each expenditure or does not relate each expenditure to the line items on the payment request form will not be processed and will be returned to the Grant Recipient for correction and resubmittal.
 - ii. Identification of all amounts of sales tax for which the Grant Recipient and/or its vendors have or will obtain payment from the North Carolina Department of Revenue. NCLWF will not reimburse the Grant Recipient for such amounts.
 - iii. A written report containing a detailed narrative of the progress of the Project submitted within three (3) months prior to the reimbursement request.
 - iv. A completed request for reimbursement, stating that the Grant Recipient complied with all terms of this Grant Contract in incurring the expense, reviewed and has approved the unpaid third-party invoice, and certifies to NCLWF that the unpaid third-party invoice will be paid within three (3) working days of receipt of the disbursed Grant fund.

The Grant Recipient will confirm in writing to NCLWF, via the appropriate form provided on NCLWF's online grant management system, that the required payment has been made within thirty (30) days of payment.

- (d) Limited Grant Funds Disbursement in January, June, July, and December. Funds will not be disbursed during the first week of January, the last three weeks of June, the first week of July, and the last two weeks of December.
- (e) Certification by Licensed Professional. At the option of NCLWF, payments may be made only on the certificate and seal of an appropriately qualified licensed professional (e.g., licensed Professional Engineer) that the work for which the payment is requested has been completed in accordance with approved plans and specifications, to which certificate shall be attached an estimate by the construction contractor setting forth items to be paid out of the proceeds of each

such payment. NCLWF, at its option, may further require a certificate from such appropriately qualified licensed professional that the portion of the Project completed as of the date of the request for payment has been completed according to schedule and otherwise as approved by NCLWF and according to applicable standards and requirements. However, NCLWF may, at its discretion, make payments without requiring such certificates or construction contractor's estimate, in which event the Grant Recipient shall furnish NCLWF a list of and the amounts of items to be paid out of the payment, or such other evidence as NCLWF may require.

- (f) Payment Based on Progress. The Grant Recipient agrees to proceed with diligence to complete the Project according to the schedule set out in **Exhibit A** and shall show appropriate progress prior to each payment. Payment may be withheld or delayed if the Grant Recipient fails to make progress on the Project satisfactory to NCLWF. Amounts withheld shall be reimbursed with subsequent payments in the event that the Grant Recipient is able to demonstrate an ability to resume satisfactory progress toward completion of the Project.
- (g) Proof of Payment. The Grant Recipient agrees to pay, as the work progresses, all bills for expenses incurred on the Project and agrees to submit to NCLWF all such receipts, affidavits, canceled checks, or other evidences of payment as may be requested from time to time and, when and if requested by NCLWF, to furnish adequate proof of payment of all indebtedness incurred on the Project.
- (h) NCLWF's Retaining Portion of Funds until Project Completion. NCLWF will withhold payment from the Grant Recipient in the amount of **\$2,500** of the Grant until the Grant Recipient has satisfactorily submitted its grant contract final report.
 - i. No Excess Costs. NCLWF agrees to pay or reimburse the Grant Recipient only for reasonable costs actually incurred by the Grant Recipient that do not exceed the funds budgeted for the Project in **Exhibit B**.
- (i) Period for Incurring Expenditures. NCLWF will reimburse the Grant Recipient for allowable Project expenditures that are incurred by the Grant Recipient or its vendors only during the period between the Award Date and the Expiration Date of the Grant Contract. NCLWF will not reimburse the Grant Recipient for Project expenditures that are not incurred during this period.
- (j) Costs of Project Administration. NCLWF agrees to reimburse the Grant Recipient for administrative costs consisting only of costs of labor for administrative work conducted exclusively on this Project. The Grant Recipient's requests for such payment shall be made under the Project Administration line item of **Exhibit B** and shall conform to the following.
 - i. Costs allowable under the Project Administration line item shall be only reasonable costs of labor needed to comply with the general conditions of the Grant Contract (e.g., progress reports, payment requests, preparing the grant contract final report, revisions to the Grant Contract). Allowable Project Administration labor costs may include any of the following:
 - (a) compensation to the Grant Recipient's employees, plus the Grant Recipient's cost of paying benefits on such compensation (i.e., employees' pay times an audited or auditable benefits multiplier);
 - (b) compensation to the Grant Recipient's independent contractors (e.g., temporary office support), payable at the Grant Recipient's actual cost, without application of a benefits multiplier; and/or
 - (c) cost of professional services contracted by the Grant Recipient (e.g., engineering firm or consultant), payable at the Grant Recipient's actual cost.

- ii. Costs of any other work described in the Project Scope of Work in **Exhibit A** are not allowable under the Project Administration line item.

8. Refunds, Reversion of Unexpended Funds, and Reduction of the Grant based on Construction Cost less than Budgeted Construction Cost.

- (a) Refunds. The Grant Recipient shall repay to NCLWF any compensation it has received that exceeds the payment to which it is entitled herein, including any interest earned on funds reimbursed pursuant to the Grant Contract.
- (b) Reversion of Unexpended Funds. Any unexpended Grant monies shall revert to NCLWF upon termination of the Grant Contract.

9. **Reporting Requirements.** Beginning three (3) months after the Effective Date, the Grant Recipient must submit to NCLWF a quarterly report on the status of the Project, via the appropriate form provided on NCLWF's online grant management system. In addition, N.C.G.S. Chapter §143C, Article 6, Part 3 and Title 09, Subchapter 3M of the North Carolina Administrative Code (N.C.A.C.) require each Grant Recipient of State funds to comply with certain reporting requirements, as applicable. The Grant Recipient must also provide the required documentation as set forth in **Exhibit C**. The Grant Recipient shall submit to NCLWF's Contract Administrator a grant contract final report via the appropriate form available on NCLWF's website and on the NCLWF grant management system (GMS). If the grant contract final report is not acceptable to NCLWF, NCLWF shall return it to the Grant Recipient for revision. Final payment will not be made until the grant contract final report is acceptable to NCLWF.

10. **Notice; Contract Administrators.** All notices, requests or other communications permitted or required to be made under this Grant Contract shall be given to the respective Contract Administrator. Notice shall be in writing, signed by the Party giving such notice. Notice shall be deemed given on the third business day after the date when deposited in the mail, postage prepaid, registered, or certified mail, return receipt requested, unless another form is otherwise noted herein.

11. **Signature Warranty.** Each individual signing below warrants that he or she is duly authorized to sign this Contract for the respective Party, and to bind said Party to the terms and conditions of this Grant Contract.

(The remainder of this page is intentionally left blank)

IN WITNESS WHEREOF, the Grant Recipient and NCLWF have executed this Grant Contract in one (1) original as of the Effective Date. One original shall be retained by NCLWF and a copy of the original will be sent to the Grant Recipient. If there is any controversy among the documents, the document on file in NCLWF's office shall control.

GRANT RECIPIENT:

By: _____

Name: _____

Title: _____

[SEAL]

ATTEST:

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM:

City Attorney

NCLWF:

NORTH CAROLINA LAND AND WATER FUND

By: _____

Name: John B. Wilson, Jr.

Title: Chairman, Board of Trustees

By: _____

Name: William B. Summer

Title: Executive Director

EXHIBIT A
NCLWF PROJECT NO. 2021-808

Stream of the Project Site: Mud Creek Stream

Water bodies downstream: French Broad River

River basin: French Broad

County: Henderson

Amount requested from NCLWF: \$24,620

NCLWF approved grant amount: up to \$24,620

Total matching contributions: \$27,000

Total project budget: \$51,620

Percent match: 52%

Grant award date: September 15, 2021

Project Site: The Project sites are three vacant City owned properties in the watershed of Mud Creek. These parcels make up approximately 38 acres near Hendersonville, NC.

Site Conditions and Water Quality Objectives: Many streams in the study are listed by the State as impaired waters. Since destabilizing channel modifications have been made in the past restoration opportunities exist at each of the three sites.

Project Summary: The Mud Creek Stream, Wetland, and Stormwater Planning Project proposes to address water quality issues in the Mud Creek Watershed using ecological restoration and innovative stormwater management at three sites owned by the City of Hendersonville. Two project parcels already have conservation easements on them (Funded by what is now Division of Mitigation Services) but these easements specifically allow for wetland and/or stream restoration. The planning effort will evaluate restoration and acquisition options and deliver conceptual designs.

Scope of Work, NCLWF funds and matching funds will be used to:

1. Conduct Stakeholder meetings
2. Conduct ecological and stream restoration assessments
3. Assess floodplain conditions and on-site hydrology
4. Assess additional conservation opportunities where beneficial to wetland restoration plans
5. Develop conceptual designs and costs analysis for restoration projects at the three locations
6. locations Prioritize projects on one site for development into a 30% design deliverable
7. Administer the Project and report to the Fund.

Special Contract Conditions

1. The Grant Recipient shall provide or otherwise ensure that the matching funds identified in **Exhibit B** are provided to the project.
2. As part of or along with quarterly progress reports and/or the grant contract final report, the Grant Recipient shall provide to the NCLWF a copy of each of the following reports or other documents resulting from this project, as given under Scope of Work in **Exhibit A**: the Mud Creek watershed acquisition plan, and restoration plans for the three Project parcels.
3. Other conditions special to this grant: none.

Project Schedule

1. **Contract Expiration Date: August 31, 2023.** The Grant Recipient shall complete the Project Scope of Work and submit the grant contract final report (Grant Contract Section 9 and as otherwise specified in **Exhibit A**) by this date. NCLWF will not reimburse the Grant Recipient for Project costs incurred after this date.
2. **Reimbursement Date: September 14, 2023.** NCLWF must receive the Final Request for Payment for the Project by this date. NCLWF will not accept or process for payment any request for payment received after this date. NCLWF will not reimburse the Grant Recipient for costs incurred after the Contract Expiration Date.

(The remainder of this page is intentionally left blank)

EXHIBIT B
NCLWF PROJECT NO. 2021-808

PROJECT BUDGET

Item	NCLWF Grant Funds¹	Matching Funds²	Total Item Budget
1. Labor (salary and benefits – does not include overhead)	\$0	\$0	\$0
2. Outside consulting, including all expenses	\$24,620	\$25,000	\$49,620
3. Mapping/GIS expenses	\$0	\$0	\$0
4. Supplies	\$0	\$0	\$0
5. Project administration	\$0	\$0	\$2,000
Total Project Budget	\$24,620	\$27,000	\$51,620
% of Total Project Budget	48%	52%	100%

Notes:

¹ To obtain payment, the Grant Recipient must submit itemized documentation substantiating direct costs incurred in implementing the project.

² Matching funds are contributed by: City of Hendersonville, \$27,000.

(The remainder of this page is intentionally left blank)

EXHIBIT C
NCLWF PROJECT NO. 2021-808

Pre-Disbursement Checklist
Documents to Be Submitted to NCLWF Before any Funds will be Disbursed under the Grant

Requirement		Description/What to Submit
Submit before first request for payment		
1	Authorization to obligate*	Does not apply to this contract
2	Matching funds**	Proof of availability of matching funds included in the project budget.
3	Documents in Exhibit A	Documents as identified in Exhibit A "Special Contract Conditions" (if any) as required prior to the release of NCLWF funds.
Submit before or accompanying request for final payment		
4	Grant contract final report	Report per Grant Contract Section 9.
5	Documents in Exhibit A	Documents as identified in Exhibit A "Special Contract Conditions" (if any) as required prior to the release of NCLWF funds.

* Examples of proof of authorization to obligate include:

- resolution of the governing board to obligate
- certified copy of board meeting minutes documenting giving of authority to obligate

**Examples of proof of availability of matching funds include:

- grants from other sources:
 - copy of grant agreement
 - copy of grant award letter
- local agency matching funds:
 - resolution of the governing board
 - budget showing allocation of matching funds to the Project, accompanied by a certified copy of board meeting minutes approving the budget or by a certified copy of board meeting minutes authorizing use of local matching funds for the Project
 - certified copy of board meeting minutes attesting to the use and amount of local funds for match
 - letters from other sources of matching funds attesting to contribution of the funds

EXHIBIT C.1
ASSURANCES FOR NON-FEDERALLY FUNDED CONTRACTS

Does not apply to this Grant Contract.

(The remainder of this page is intentionally left blank)

EXHIBIT D

ADDITIONAL DEFINITIONS

The definitions set forth in N.C.G.S. Chapter 143C shall apply to this Grant Contract except as otherwise provided herein below. The definitions provided by 09 N.C.A.C. 03M shall apply to this Grant Contract to the extent they are not in conflict with N.C.G.S. Chapter 143C or this Grant Contract. In the event of conflict, N.C.G.S. Chapter 143C shall control over 09 N.C.A.C. 03M, and this Grant Contract shall control over N.C.G.S. Chapter 143C.

1. “Grant Contract” means a legal instrument that is used to reflect a relationship between the Grantor and the Grant Recipient and is used interchangeably herein with the term “Contract.”
2. “Construction contract” means a legally binding agreement between the Grant Recipient and another party for implementing construction work described in the project scope of work given in **Exhibit A**.
3. “Enter into a construction contract” means signature of a construction contract by both the Grant Recipient and another party for the construction work described in the project scope of work given in **Exhibit A**.
4. “Grant” and “grant funds” as defined in N.C.G.S. §143C-6-23 means State funds disbursed as a grant by a State agency; however, the terms do not include any payment made by the Medicaid program, the State Health Plan for Teachers' and State Employees, or other similar medical programs. For purposes of this Grant Contract, both “grant” and “grant funds” shall be referred to as the Grant that is provided to the Grant Recipient to carry out the objectives of the Grant Contract.
5. “Grantee” as defined in the N.C.G.S. § 143C-6-23 means a non-State entity that receives State funds as a grant from a State agency but does not include any non-State entity subject to the audit and other reporting requirements of the Local Government Commission. For purposes of this Grant Contract, however, a “grantee” as defined in N.C.G.S. §143C-6-23 shall be referred to as the Grant Recipient and the term “grantee” shall mean and refer to an entity that is the recipient of an interest in real property.
6. “Grantor” means an entity that provides resources, generally financial, to another entity in order to achieve a specified goal or objective. For purposes of this Grant Contract, the Grantor is the NC Land and Water Fund.
7. “Stream enhancement” means the process of implementing certain stream rehabilitation practices in order to improve water quality and/or ecological function. These practices typically are conducted on the stream bank or in the flood prone area. An enhancement procedure may include fencing cattle out of a stream and re-establishing vegetation in order to provide streambank stability. These types of practices should be conducted only on a stream reach that is not experiencing severe aggradation or erosion. Enhancement also may include placing in-stream habitat structures, provided that the in-stream structures do not affect the overall dimension, pattern, or profile of a stream that is in dynamic equilibrium.
8. “Stream restoration” means the process of converting an unstable, altered, or degraded stream corridor including adjacent riparian zone and flood prone areas, to its natural or referenced, stable conditions considering recent and future watershed conditions. This process also includes restoring the geomorphic dimension, pattern, and profile and biological and chemical integrity, including transport of water and sediment produced by the stream’s watershed in order to achieve dynamic equilibrium.
9. “Stream stabilization” means the in-place stabilization of a severely eroding streambank. Stabilization techniques that include “soft” methods or natural materials (such as root wads, rock vanes, and vegetated crib walls) may be considered as part of a restoration design. However, stream stabilization techniques that rely heavily on “hard” engineering, such as concrete-lined channels, rip rap, or gabions to stabilize streambanks will not be considered to be stream restoration or stream enhancement.
10. “State agency” shall mean a unit of the executive, legislative, or judicial branch of State government, such as a department, institution, division, commission, board, council, or The University of North Carolina. The term does not include a unit of local government or a public authority. For purposes of this Grant Contract,

both the North Carolina Department of Natural and Cultural Resources and the NC Land and Water Fund are State agencies.

11. For purposes of this Grant Contract, a “Subgrantee,” as defined in N.C.G.S. §143C-6-23, and “Subrecipient,” as defined in 09 NCAC 03M .0102 and applicable to 09 N.C.A.C. 03M, shall be referred to as a “Sub-grant Recipient.”

(The remainder of this page is intentionally left blank)

EXHIBIT E GENERAL TERMS AND CONDITIONS

A. Affirmative Covenants

1. **Title.** If the property right to be acquired is fee title, the Grant Recipient shall acquire good and marketable title to the property free and clear of any liens, other charges or encumbrances that would materially affect the use of the Property as intended under this Grant Contract.
2. **No Mitigation.** The Grant Recipient shall not use the Property or any portion thereof to satisfy compensatory mitigation requirements under 33 USC § 1344 or N.C.G.S. §143-214.11.
3. **Right of Entry and Inspections.** The Grant Recipient shall permit NCLWF's representatives to enter the Property for inspection of the Property and to enter any other premises of the Grant Recipient associated with the activities of the Grant Recipient pursuant to the Grant, including to review books and records in any way related to the Grant or the Property.
4. **Retention, Operation, Maintenance and Use.**
 - (a) The Grant Recipient agrees to complete the Project as approved by NCLWF. The descriptions, purpose, schedules, scope of work, and budgets set out in **Exhibits A and B**, and accompanying or related plans, specifications, estimates, procedures, and maps submitted to NCLWF by the Grant Recipient are the foundation of this Grant Contract. Only changes deemed non-material in type by the Executive Director may be made without the consent of NCLWF's Board of Trustees.
 - (b) For a period of ten (10) years after Project completion, the Grant Recipient agrees to maintain and manage, at maximum functional utility, the end product of the Project. The Grant Recipient shall inspect the Project on a routine basis and make routine repairs to restore the infrastructure to its full function within two (2) weeks of the need for the repair. The Grant Recipient shall make additional inspections following major storm events and shall make all necessary repairs to return the infrastructure to its full function within the sooner of four (4) months after the major storm event or as soon as is commercially practicable after the major storm event.
 - (c) Property acquired, developed, or improved with grant assistance from NCLWF shall be retained and used for the purposes identified in **Exhibit A**, and the Grant Recipient hereby agrees to file or record such restrictions as may be required to ensure such continued use and such restrictions shall be in form and substance satisfactory to NCLWF.
 - (d) If at some future date, NCLWF and the Grant Recipient agree in writing that the Project should no longer continue on as property(ies) of the Project Site, then the Grant Recipient will abandon the Project and allow such property to return to its natural state.
5. **Signage.** If funds are available in the Grant Contract at the end of the Project, the Grant Recipient agrees to post signs, acknowledging NCLWF as the source of monies for conservation of the Property, on publicly visible areas of those Properties that have public access and/or where private property owners are amenable to signage.
6. **Publicity.** To the extent possible, the Grant Recipient will use its best efforts to appropriately publicize the Project's benefits to the general public, local government, and State representatives, including the role of NCLWF in the funding and development of the project.
7. **Conflicts of Interest.** The Grant Recipient shall at all times comply with the Grant Recipient's conflict of interest policy.

8. **Compliance with Reporting Requirements.** The Grant Recipient shall comply with the reporting requirements contained in Section 9 of the Grant Contract, and in N.C.G.S. Chapter 143C, Article 6, Part 3, and 09 N.C.A.C. Subchapter 03M-Uniform Administration of State Grants, including audit oversight by the Office of the State Auditor, the provision of access to the accounting records by both the funding entity and the Office of the State Auditor in accordance with N.C.G.S. §147-64.7, and availability of audit work papers in the possession of any auditor of any recipient of State funding. If a Grant Recipient has not met these reporting requirements and fails to submit revised reports in accordance with a grantor agency determination letter, the grantor agency shall suspend further payments to the Grant Recipient and report the Grant Recipient to the Office of the State Auditor and the Office of the State Controller.
9. **Books and Records.** The Grant Recipient agrees to maintain and make available for inspection by NCLWF, at all reasonable times, all documents, books, and records of all expenditures for costs applicable to this Grant Contract, and to submit properly certified billings for such costs on forms prescribed by NCLWF and supported by detailed data sheets, which will facilitate the audit of the Grant Recipient's records. Further, the Grant Recipient shall maintain all Grant records for a period of five (5) years or until all audit exceptions have been resolved, whichever is longer.
10. **Additional Requirements.** The Grant Recipient shall comply with all legal requirements applicable to the use of the Grant funds.
11. **Permits and Approvals.** The Grant Recipient has or shall obtain all required regulatory approvals to use the Property and the Conservation Easement area in accordance with **Exhibit A**.
12. **Compliance with Laws.** The Grant Recipient agrees to perform and maintain the Project in compliance with all Federal, State, and local laws and regulations, including, without limitation, environmental, zoning, and other land use laws and regulations. The Grant Recipient agrees to take reasonable steps to advise Project participants that they shall comply in the same manner.
13. **Insurance.** The Grant Recipient agrees to keep structures or improvements of any sort constituting the Project fully insured at all times during construction and to keep fully insured all building materials at any time located on the Project. The Grant Recipient will ensure that all contractors furnish adequate payment and performance bonds.
14. **No Pollution Credits.** If the Project enables the Grant Recipient to qualify for pollution credits by reducing the discharge of phosphorus, nitrogen, or any other nutrient or pollutant below, or further below, applicable regulatory limits, or otherwise ("Pollution Credits"), the Grant Recipient shall not sell, trade, or give to another person or entity that percentage of any resulting Pollution Credits achieved by the Project corresponding to the percentage of the Project costs provided by NCLWF.
15. **Material Modifications.** Any proposed material modification of the Project shall be subject to approval by NCLWF.
16. **Data Requests.** If NCLWF so requests, the Grant Recipient shall provide data to the North Carolina Rural Economic Development Center's Water Resources Inventory and Data Management Project and/or to the North Carolina Geographic Information Coordinating Council's NC One Map Project.
17. **Conservation Easement or Other Land Use Restrictions.** The Grant Recipient shall obtain Conservation Easements or other land use restrictions for this Project satisfactory to NCLWF in its sole discretion.
18. **Boundary Marking of Riparian Buffer Easement Areas.** The Grant Recipient shall mark the outside limits of riparian buffer conservation easement areas in a manner that is clearly visible and identifiable as the limit of the easement area.

B. Representations and Warranties

In order to induce NCLWF to enter into this Grant Contract and to make the Grant as herein provided, the Grant Recipient after reasonable inquiry makes the following representations, warranties, and covenants, which shall remain in effect after the execution and delivery of this Grant Contract and any other documents required hereunder, any inspection or examinations at any time made by or on behalf of NCLWF, and the completion of the Project by the Grant Recipient.

1. **No Actions.** There are no actions, suits, or proceedings pending, or, to the knowledge of the Grant Recipient, threatened against or affecting the Grant Recipient before any court, arbitrator, or governmental or administrative body or agency that might affect the Grant Recipient's ability to observe and perform its obligations under this Grant Contract.
2. **No Untrue Statements.** Neither this Grant Contract nor any information, certificate, statement, or other document furnished by the Grant Recipient in connection with the Grant contains any untrue statement of a material fact or omits disclosure of a material fact that affects a property(ies) of the Project Site, the Conservation Easement, or the ability of the Grant Recipient to perform this Grant Contract.
3. **Validity of Grant.** Upon execution and delivery of this Grant Contract, it will be a valid and binding agreement, enforceable in accordance with the terms thereof.
4. **Zoning.** The present and proposed use of the Property, including, without limitation, the purpose of the Conservation Easement, is in compliance with all applicable zoning ordinances, and all applicable municipal and other governmental and regulatory approvals have been or will be obtained for the use and for operation of the Property according to this Grant Contract.
5. **Tax Exempt Status.** As applicable, the Grant Recipient shall maintain tax-exempt status under Section 501(c)(3) of the Internal Revenue Code of 1986, as amended (or any successor section) and the regulations promulgated there under (the "Code") and shall notify NCLWF within thirty (30) days upon any change in its status under the Code.

C. Termination; Events of Default

1. **Termination by Mutual Consent.** The Parties may terminate this Grant Contract by mutual written consent with sixty (60) days prior notice, or as otherwise provided by law.
2. **Termination for Cause.** The happening of any of the following, after the expiration of any applicable cure period without the cure thereof, shall constitute an event of default ("Event(s) of Default") by the Grant Recipient of its obligations to NCLWF, and shall entitle NCLWF to exercise all rights and remedies under this Grant Contract and as otherwise available at law or equity.
 - (a) **Property Unsuitable.** A determination by NCLWF, prior to the disbursement of the Grant funds, that a property(ies) of the Project Site is unsuitable for the purposes of the Grant Contract.
 - (b) **Unsuitable Use.** A property(ies) of the Project Site is used in a manner materially inconsistent with the purposes of this Grant Contract or the Project.
 - (c) **Default in Performance.** The default by the Grant Recipient in the observance or performance of any of the terms, conditions, or covenants of this Grant Contract; provided, however, that no such default shall occur until the Grant Recipient has been given written notice of the default and 30 days to cure have elapsed.

- (d) **Misrepresentation.** If any representation or warranty made by the Grant Recipient in connection with the Grant or any information, certificate, statement, or report heretofore or hereafter made shall be untrue or misleading in any material respect at the time made.
- (e) **Eligibility of the Grant Recipient.** If the Grant Recipient ceases to be qualified to receive Grant funds, is dissolved, or otherwise ceases to exist.
- (f) **Failure to Monitor Conservation Easement.** If the Grant Recipient fails to notify NCLWF of any potential violation of the Conservation Easement, which is known or reasonably should be known by the Grant Recipient, within a reasonable period of time so as to avert or cure any potential violation.
- (g) **Abandonment of the Project.** If the Grant Recipient abandons or otherwise ceases to continue to make reasonable progress towards completion of the Project.

D. NCLWF's Rights and Remedies

If an Event of Default shall occur, NCLWF shall have the following rights and remedies, all of which are exercisable at NCLWF's sole discretion, and are cumulative, concurrent, and independent rights:

1. **Project Termination.** If an Event of Default occurs, NCLWF may, at its discretion, suspend and/or terminate all obligations of NCLWF hereunder. If, in the judgment of NCLWF, such failure was due to no fault of the Grant Recipient, amounts required to resolve, at the minimum cost practical, any irrevocable obligations properly incurred by the Grant Recipient shall, in the discretion of NCLWF, be eligible for assistance under this Grant Contract.
2. **Additional Remedies.** If an Event of Default occurs, NCLWF shall have the power and authority, consistent with its statutory authority: (a) to prevent any impairment of the Project by any acts that may be unlawful or in violation of this Grant Contract or any other item or document required hereunder, (b) to obtain title to or otherwise preserve or protect its interest in the Project and any property acquired with Grant funds, (c) to compel specific performance of any of the Grant Recipient's obligations under this Grant Contract, (d) to obtain return of all Grant Funds, including equipment if applicable, and/or (e) to seek damages from any appropriate person or entity. NCLWF, or its designee, may also, at NCLWF's sole discretion, continue to complete the Project, or any portion thereof deemed appropriate by NCLWF, and the Grant Recipient shall cooperate in the completion of the Project. NCLWF shall be under no obligation to complete the Project.
3. **Non-waiver.** No delay, forbearance, waiver, or omission of NCLWF to exercise any right, power, or remedy accruing upon any Event of Default shall exhaust or impair any such right, power, or remedy or shall be construed to waive any such Event of Default or to constitute acquiescence therein. Every right, power, and remedy given to NCLWF may be exercised at any time and as often as may be deemed expedient by NCLWF.

E. Miscellaneous

1. **Modification.** This Grant Contract may be rescinded, modified, or amended only by written agreement executed by all Parties hereto.
2. **Benefit.** This Grant Contract is made and entered into for the sole protection and benefit of NCLWF, the State, and the Grant Recipient, and their respective successors and assigns, subject always to the provisions of paragraph E.8 of this **Exhibit E**. Except for the State, there shall be no third party beneficiaries to this Grant Contract.
3. **Further Assurance.** In connection with and after the payment of Grant funds under this Grant Contract, upon the reasonable request of NCLWF, the Grant Recipient shall execute, acknowledge, and deliver or cause to be delivered all such further documents and assurances and comply with any other requests as may be reasonably required by NCLWF

or otherwise appropriate to carry out and effectuate the Grant as contemplated by this Grant Contract and the purposes of the Conservation Easement.

4. **Compliance by Others.** The Grant Recipient shall be responsible for compliance with the terms of this Grant Contract by any Sub-grant Recipient, including, but not limited to, a political subdivision, public agency, or qualified non-profit organization to which funds or obligations are transferred, delegated, or assigned pursuant to this Grant Contract. Delegation by the Grant Recipient to a Sub-grant Recipient of any duty or obligation hereunder does not relieve the Grant Recipient of any duty or obligation created hereunder. Failure by such Sub-grant Recipient to comply with the terms of this Grant Contract shall be deemed failure by the Grant Recipient to comply with the terms of this Grant Contract. Any such delegation of duties or obligations shall be in writing, signed by the Grant Recipient and Sub-grant Recipient, shall be in accordance with paragraph E.8 of this **Exhibit E**, and shall contain an affirmative covenant by the Sub-grant Recipient that it shall abide by the rules set forth in Title 09, Subchapter 03M of the North Carolina Administrative Code.

5. **Independent Status of the Parties.** The Parties are independent entities and this Grant Contract shall not create a partnership or joint venture between the Parties. Further, the Grant Contract shall not in any way be interpreted or construed as making the Grant Recipient, its agents, or employees, to be agents or representatives of NCLWF. The Grant Recipient is and shall be an independent contractor in the performance of this Grant Contract and as such shall be wholly responsible for the work to be performed and for the supervision of its agents and employees. In no event shall NCLWF be liable for debts or claims accruing or arising against the Grant Recipient. The Grant Recipient represents that it has, or shall secure at its own expense, all personnel required in the performance of this Grant Contract. Such employees shall not be employees of, nor have any individual contractual relationship with, NCLWF.

6. **Indemnity.** The Grant Recipient agrees, to the fullest extent permitted by law, to release, protect, indemnify, and hold harmless the State, NCLWF, its Trustees, employees, agents, and assigns against any and all claims, losses, liabilities, damages, and costs, including reasonable attorney fees, that result from or arise out of: (a) damages or injuries to persons or property caused by the negligent acts or omissions of the Grant Recipient, its employees, agents, or assigns in use or management of the Property; (b) use or presence of any hazardous substance, waste, or other regulated material in, under, or on the Property; or (c) the performance of the Grant Recipient's duties under this Grant Contract. The obligations under this Section are independent of all other rights or obligations set forth herein. This indemnity shall survive the disbursement of the Grant funds, as well as any termination of this Grant Contract.

7. **No Discrimination.** The Grant Recipient shall ensure that no person will be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity covered by this Grant Contract solely on the grounds of race, color, age, religion, sex, or national origin.

8. **Binding Effect, Contract Assignable.** The terms hereof shall be binding upon and inure to the benefit of the successors, assigns, and personal representatives of the Parties; provided, however, that the Grant Recipient may not assign this Grant Contract or any of its rights, interests, duties, or obligations hereunder or any Grant proceeds or other moneys to be advanced hereunder in whole or in part without the prior written consent of NCLWF, which may be withheld for any reason and that any such assignment (whether voluntary or by operation of law) without said consent shall be void. In the event assignment is allowed, neither the Grant Recipient nor the Sub-grant Recipient shall be relieved of any of the duties and responsibilities of the Grant Contract. Further, the Sub-grant Recipient shall agree to abide by the all the requirements of this Grant Contract, and to provide all information needed in order for the Grant Recipient to comply with this Grant Contract.

9. **Governing Law, Construction and Jurisdiction.** This Grant Contract and all matters relating thereto shall be governed by and construed and interpreted in accordance with the laws of the State of North Carolina, notwithstanding the principles of conflicts of law. The headings and section numbers contained herein are for reference purposes only. The terms of this Grant Contract shall be construed according to their plain meaning, and not strictly construed for or against either Party hereto. The Grant Recipient hereby submits to the jurisdiction of the State and Federal courts located

in North Carolina and agrees that NCLWF may, at its option, enforce its rights under the Grant Contract in such courts. The Parties intend this document to be an instrument executed under seal. NCLWF and any party that is an individual, partnership, or limited liability company hereby adopts the word “SEAL” following his/her signature and the name of NCLWF or partnership or limited liability company as his/her/its legal seal.

10. **Savings Clause.** Invalidation of any one or more of the provisions of this Grant Contract, or portion thereof, shall in no way affect any of the other provisions hereof and portions thereof which shall remain in full force and effect.

11. **Additional Remedies.** Except as otherwise specifically set forth herein, the rights and remedies provided hereunder shall be in addition to, and not in lieu of, all other rights and remedies available in connection with this Grant Contract.

12. **Survival.** Where any representations, warranties, covenants, indemnities, or other provisions contained in this Grant Contract by its context or otherwise evidences the intent of the Parties that such provisions should survive the termination of this Grant Contract or any Closing, the provisions shall survive any termination or Closing. Without limiting the generality of the foregoing, the Parties specifically acknowledge and agree that the provisions of **Exhibit E** and the conditions shown in **Exhibit A** shall survive any termination of this Grant Contract as well as any Closing.

13. **Entire Grant Contract; Incorporation of Exhibits.** This Grant Contract constitutes the entire Grant Contract between the Parties with respect to the subject matter hereof. All recitals, exhibits, schedules, and other attachments hereto are incorporated herein by reference.

14. **Headings.** The headings of the various sections of this Grant Contract have been inserted for convenience only and shall not modify, define, limit, or expand the express provisions of this Grant Contract.

15. **Time of the Essence.** Time is of the essence in the performance of this Grant.

(The remainder of this page is intentionally left blank)



CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER: Adam Steurer **MEETING DATE:** March 3, 2022

AGENDA SECTION: Consent Agenda **DEPARTMENT:** Utilities

TITLE OF ITEM: Engineering Services to Support the Fleetwood Water Improvements Project –
Adam Steurer, Utilities Engineer

SUGGESTED MOTION(S):

I move City Council to adopt the Resolution By the City Council to select Summit Engineering Group of NC, Inc. as best qualified to provide engineering services and authorize the City Manager To Enter Into a Contract for Engineering Services to Support the Fleetwood Water Improvements Project.

SUMMARY:

The Fleetwood Water Improvements generally consist of installation of approximately 800 feet of 12-inch, 900 feet of 8-inch water main and retrofit or replacement of an aging and undersized hydropneumatic pump station with a dual domestic and high-service pumping station. After completion of the project, the Fleetwood Community in Laurel Park will have sufficient flow for fire protection.

Staff completed a qualifications-based selection process for Professional Engineering Services and have selected engineering firm Summit Engineering Group of NC, Inc. as most qualified to provide the services.

BUDGET IMPACT: \$123,000

Is this expenditure approved in the current fiscal year budget? YES

If no, describe how it will be funded. Funds are allocated through a CPO.

ATTACHMENTS:

1. Qualification Statement Evaluation
2. Scope of Services
3. Resolution By the City Council to Authorize the City Manager To Enter Into an Contract for Professional Engineering Services for the Fleetwood Water Improvements Project

Resolution # - _____

**RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL TO ENTER
INTO A CONTRACT FOR ENGINEERING SERVICES TO SUPPORT THE
FLEETWOOD WATER IMPROVEMENTS PROJECT**

WHEREAS, the City agreed to complete the Fleetwood Water Improvements (Project) during the acquisition of the historic Laurel Park water system as described in the Contract of Purchase and Interlocal Cooperation dated March 5, 2021; and

WHEREAS, the Project will generally replace an existing aging and undersized water pumping station that serves the Fleetwood community in Laurel Park and once completed will provide sufficient flow in the event of a fire demand; and

WHEREAS, City Staff have performed a qualifications-based selection, determined Summit Engineering Group of NC, Inc. best qualified, and received a proposal from Summit Engineering Group of NC, Inc. to provide Engineering Services to support the Project;

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

1. Summit Engineering Group of NC, Inc. is best qualified to provide professional engineering services for the Project, as recommended by Staff.
2. The scope of engineering services from Summit Engineering Group of NC, Inc. is approved in the amount of \$123,000.
3. The City Manager is authorized to execute an agreement with Summit Engineering Group of NC, Inc. consistent with the terms of this Resolution, as approved by the City Attorney.

Adopted by the City Council of the City of Hendersonville, North Carolina on this _____ day of _____, 20____.

Attest:

Barbara G. Volk, Mayor, City of Hendersonville

Angela L. Reece, City Clerk

Approved as to form:

Angela S. Beeker, City Attorney

Fleetwood Water Improvements Engineering Services - QUALIFICATION STATEMENT EVALUATION

Statements Due: January 12, 2022

Firm Name	Location	Reviewer	Firm Rep Proj Exp. (35)	Staff Exp (40)	QC (15)	Prox to City (10)	MBE/DBE (Y/N)	TOTAL (100)	Rank	FINAL SCORE (100)	AVG RANK
Civil Design Concepts, PA	Asheville, NC	Reviewer 1	29	30	11	9	N	79	6	77.8	6
		Reviewer 2	30	30	12	9	N	81	5		
		Reviewer 3	25	28	10	9	N	72	6		
		Reviewer 4	30	30	10	9	N	79	5		
High Country Engineering, PC	Asheville, NC	Reviewer 1	30	30	13	9	Y	82	5	78.8	5
		Reviewer 2	29	30	12	9	Y	80	6		
		Reviewer 3	25	30	10	9	Y	74	5		
		Reviewer 4	28	30	12	9	Y	79	5		
McGill Associates, PA	Asheville, NC	Reviewer 1	34	36	13	9	N	92	2	88.0	3
		Reviewer 2	33	35	12	9	N	89	3		
		Reviewer 3	30	32	12	9	N	83	3		
		Reviewer 4	32	35	12	9	N	88	3		
McKim & Creed, Inc	Charlotte, NC	Reviewer 1	34	37	14	7	Y	92	2	90.8	2
		Reviewer 2	34	38	13	7	Y	92	1		
		Reviewer 3	32	35	13	7	Y	87	2		
		Reviewer 4	34	38	13	7	Y	92	1		
Summit Engineering Group, Inc.	Spartanburg, SC	Reviewer 1	34	37	14	8	Y	93	1	91.0	1
		Reviewer 2	34	37	13	8	Y	92	1		
		Reviewer 3	33	35	14	8	Y	90	1		
		Reviewer 4	32	36	13	8	Y	89	2		
WithersRavenel	Asheville, NC	Reviewer 1	30	32	12	9	Y	83	4	81.5	4
		Reviewer 2	31	32	11	9	Y	83	4		
		Reviewer 3	29	28	10	9	Y	76	4		
		Reviewer 4	32	32	11	9	Y	84	4		

*Submittal from WGLA Engineering, PLLC of Hendersonville, NC was recieved after the due date and time and therefore was not considered



SCOPE OF SERVICES

City of Hendersonville
Water & Sewer Department
305 Williams Street
Hendersonville, NC 28792

Re: Professional Services for
City of Hendersonville – Fleetwood Water Improvements

ATTN: Mr. Adam Steurer, Utilities Engineer

The City of Hendersonville intends to improvements to the water system serving the Fleetwood Condominiums, located in Laurel Park, NC. The purpose of this project is to rehabilitate the dated and undersized pump station serving said community. When completed the project will provide improved water pressure and quality to the Fleetwood Community, as well as provide sufficient floe in the event of a fire demand. Summit Engineering Group of NC, Inc. (hereinafter called the ENGINEER) hereby agrees to serve as consulting engineer for the City of Hendersonville, (hereinafter called the OWNER), in the performance of engineering services as hereinafter described, all as related to the "Fleetwood Water Improvements, (hereinafter called the PROJECT).

The ENGINEER proposes to assist and advise the OWNER as specifically set forth below. The services to be performed by the ENGINEER under this Agreement are intended solely for the benefit of the OWNER. Nothing contained herein shall confer any rights or create any duties on the part of the ENGINEER toward any person or persons not a party to this Agreement including, but not limited to, any contractor, subcontractor, supplier, or the agents, officers, employees, insurers, or sureties of any of them.

I. Project Description

- A. The proposed water system improvements project will involve the construction of the following:
1. Installation of approximately 800 linear feet of 12-inch DIP water line
 2. Installation of approximately 900 linear feet of 8-inch DIP water line
 3. Rehabilitation of an existing hydropneumatics pump station, including installation of high service pumps,
 4. Or construction of a new pump station in accordance with the City's standards, should this alternative be selected

II. General

- A. During the life of the project the Engineer shall provide the following basic general services:
1. Serve as the OWNER's professional engineering representative for this project.
 2. Perform professional services as hereinafter stated, which are normal, civil engineering services incident thereto.
 3. Consult with the OWNER and other parties as necessary to ascertain any particular requirements relative to the project.

4. Advise the OWNER as to the need for additional services or data that might be required for the Project.
5. Comply with all state and federal requirements associated with this project.
6. Coordinate project activities as required with representatives of the North Carolina Department of Environmental Quality (NCDEQ), the Town of Laurel Park, City of Hendersonville, Fleetwood Condo HOA, and other regulatory agencies as necessary.

III. **Basic Engineering Preliminary Investigation/Design Services to be Provided by the ENGINEER**

- A. The ENGINEER shall provide the following basic design services:
 1. Conduct a kick-off meeting to discuss project goals and schedule; establish lines of communication; and perform site visit to identify and discuss challenges
 2. Initiate utility-locate requests in the project area (811)
 3. Identify existing utilities in the project area
 4. Identify availability of 3-Phase power
 5. Determine the required demand and pressure for fire protection
 6. Review previous model work and work with Hazen to ensure desired results
 7. Preliminary selection of pumps (particularly high-service pumps) and evaluate the existing building's ability to house the proposed pumps and piping
 8. Determine method of providing temporary water service during construction
 9. Facilitate a decision-work shop to finalize project scope (water main route, pump station improvements, etc.)

III. **Basic Engineering Design Services to be Provided by the ENGINEER**

- A. The ENGINEER shall provide the following basic design services:
 1. Perform subsurface investigation (Geotechnical Sub-consultant shall prepare soil borings along proposed project route)
 2. Perform the final survey for design
 3. Finalize pump selection (correspond with pump supplier(s))
 4. Prepare final design drawings for construction of the proposed water system improvements
 5. SCADA and electrical engineering designs (Correspond with the City's SCADA integration Contractor regarding the City's SCADA system)
 6. Prepare an arc flash study to enhance safety at the pump station and determine the level of personal protective equipment required at the site.
 7. Prepare general and technical specifications using the City's Standard Pump Stations Specifications and Details.
 8. Provide copies of design drawings and specifications in electronic format (pdf) to OWNER for review / comment / approval during various stages of the design process (30%, 60%, 90%, 100%)
 9. Meet with OWNER personnel to address concerns; make revisions as necessary to drawings and/or specifications.
 10. The ENGINEER shall prepare and provide the OWNER with a project cost estimate based on the approved final design drawings.

IV. Basic Services – Regulatory / Permitting to be Provided by the ENGINEER

- A. The ENGINEER shall provide the following basic regulatory / permitting services:
1. Prepare and submit application package(s) to NCDEQ to secure Permit to Construct for the water system improvements.
 2. Prepare and submit encroachment permit applications to Laurel Park for work in Town-maintained rights-of-way.

V. Basic Services – Bidding Process to be Provided by the ENGINEER

- A. The ENGINEER shall provide the following formal bidding process services:
1. Prepare Construction Contract / Bid Documents and obtain approval from OWNER to advertise the project for construction bids.
 2. Coordinate the insertion of an advertisement or invitation to bid on Quest CDN. Notification of the advertisement or invitation to bid will also be sent to area contractors who might be interested in performing work under the proposed project.
 3. During the bid advertisement / invitation period, provide necessary information to satisfactorily resolve any questions which might arise from potential bidders or equipment / material suppliers.
 4. Conduct the bid opening, review and tabulate all bids received and review the qualifications of any bidder, if deemed appropriate.
 5. Provide a Recommendation of Award to the Owner.

VI. Basic Services – Construction Administration and Periodic Observations of Construction to be Provided by the ENGINEER

- A. The ENGINEER shall provide the following basic construction administration and observation of construction services:
1. Upon authorization to award the construction contract, prepare and coordinate the completion and execution of all contract documents.
 2. Schedule and conduct a pre-construction conference.
 3. Review all shop drawings, project schedules, etc. to ensure compliance with Contract Documents.
 4. Schedule and conduct monthly project progress meetings, if required.
 5. Review and approve payment requests during progress and completion of the work.
 6. Prepare and process all necessary change orders.
 7. Provide periodic inspection / observation services during construction of the work to ascertain the progress of the work and to ensure general compliance with the contract documents. Fee schedule based on 2 site visits per week during the construction period (6 months).
 8. Upon notification by the contractor that he is substantially complete, perform an inspection to verify that substantial completion has been achieved.
 9. Prepare and provide the contractor with a final punch list of work to be

- completed prior to final acceptance of the work.
10. Provide engineering certification(s) to NCDEQ and attend any necessary inspections with representatives of NCDEQ to gain approval to place improvements into operation. Provide NCDEQ with any follow-up information required prior to issuance of any Permits to Operate.

VII. **Basic Services – Project Completion and Close-Out Services:**

- A. The ENGINEER shall provide the following basic project completion and close-out services:
1. Based on as-built drawings provided by the contractor, prepare final record drawings and provide the OWNER with three (3) hard copies and one (1) electronic copy in PDF format.
 2. Provide final engineering certification to NCDEQ and attend any necessary inspections with representatives of NCDEQ to gain final approval of the work. Provide NCDEQ with follow-up information as required prior to issuance of final Permit to Operate.
 3. Arrange for final inspections with appropriate representatives of the contractor, the OWNER, NCDEQ, NCDOT and other appropriate parties.
 4. Provide related engineering services necessary to complete the project as required by OWNER.

VIII. **Project Schedule for Performance of Basic Engineering Services**

- A. The anticipated project schedule in accordance with the grant application is as follows:

Milestone / Task Description		Planned Completion Date (On or Before)
1.	Notice to Proceed from Hendersonville	March 15, 2022
2.	Completion of Preliminary Investigation	April 15, 2022
3.	Completion of Basic Design Services	July 1, 2022
4.	Completion of Regulatory Permitting Process	August 1, 2022
5.	Construction Bid Opening	October 15, 2022
6.	Construction Start	December 1, 2022
7.	Construction Completion	June 1, 2023
8.	Project Completion and Close-Out Services	July 1, 2023

IX. **Services or Fees to be Provided by the OWNER**

- A. The OWNER shall provide, at a minimum, the following services:
1. The OWNER shall pay all necessary application and/or permit fees.
 2. The OWNER shall authorize additional engineering service fees.

X. Special or Additional Services

A. The following services shall be considered "Special or Additional Services":

1. Structural engineering services to be performed if building modifications are required. These services shall be provided under additional services.
2. Easement plats, if required, shall be prepared under additional services.
3. Other services as requested by the OWNER and not specifically provided for herein.

Note: Special or additional services shall not be performed unless so authorized by the OWNER in writing prior to performance of the service. An email may be utilized for such authorization.

XI. Compensation and Schedule of Payments

A. The OWNER shall compensate the ENGINEER for his services under this Agreement based on time and materials not the exceed the **total fee** shown below, in accordance with the following:

No.	Service Description	Payment / Fee
1.	Preliminary Investigation / Design	\$ 7,500.00
2.	Basic Design Services	\$ 55,500.00
3.	Basic Regulatory Permitting Services	\$ 5,000.00
4.	Basic Bidding Services	\$ 5,000.00
5.	Basic Construction Management Services	\$ 45,000.00
6.	Project Close-Out Services	\$ 5,000.00
TOTAL FEE		\$ 123,000.00

No.	Additional Service Description	Payment / Fee
1.	Structural Engineering	TBD
2.	Preparation of Easements	TBD

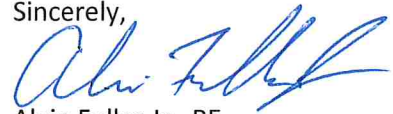
B. Payment of services as listed in Paragraph A above shall be based on the following schedule:

No.	Services	Payment / Fee
1.	All Professional Services	Monthly, Based on Manhours + Expenses
2.	Sub-Consultants	Monthly Based on Actual Invoice from Sub-consultant (no markup)
3.	Reimbursable Expenses and Permitting Fees	Monthly, Actual Costs of Expenses, Fees, and Mileage
4.	Additional Services (any service outside of those expressly identified above)	Monthly, Based on Manhours + Expenses

- C. The OWNER agrees to make payment, in full, to the ENGINEER within thirty days of the date of the ENGINEER's invoice.
- D. If payment, in full, is not received by the ENGINEER within forty-five days of the date of the invoice, the ENGINEER may cease to provide services on the Project until such time as payment, in full, is received. The OWNER agrees to hold the ENGINEER harmless for any claims due to such interruption of services.
- E. Authorized additional engineering services and fees shall be billed monthly based on the ENGINEER'S hourly rate schedule in effect at the time of the billing.

Thank you for the opportunity to provide professional services to your organization. Feel free to contact me if you have any questions regarding this scope of services and fee schedule.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Alvin Fuller Jr.', is positioned above the printed name.

Alvin Fuller Jr., PE
Sr. Vice President

ATTACHMENT "A"

HOURLY RATE SCHEDULE

SUMMIT ENGINEERING GROUP, INC.

Schedule 20A

Hourly Rate Schedule and Chargeable Expenses for Engineering Services Provided

Employee Classification	Rate per Hour
Principal	\$170.00
Senior Project Manager	\$160.00
Project Manager	\$145.00
Electrical Designer	\$150.00
Senior Project Engineer	\$140.00
Project Engineer II	\$125.00
Project Engineer I	\$115.00
Engineering Associate	\$110.00
Design Technician	\$105.00
Project Representative III	\$105.00
Project Representative II	\$95.00
Project Representative I	\$85.00
CADD III	\$90.00
CADD II	\$85.00
CADD I	\$75.00
Administrative Services	\$65.00

Survey and GIS Services

Surveying Manager	\$110.00
Survey Crew Chief	\$95.00
Instrument Operator	\$85.00
GIS Analyst/Programmer	\$115.00
GIS Specialist	\$110.00
GIS Technician	\$85.00
Rodman	\$65.00

Equipment & Materials

GIS Survey Station	\$50.00 per calendar day
Topcon Robotic Total Station	\$50.00 per calendar day
Digital Hydrant Mounted Pressure Recorder	\$10.00 per calendar day
Four-Wheeler	\$50.00 per calendar day
Smoke Machine	\$200.00 per calendar day
Smoke Bombs	\$200 per case (minimum 1 case)

Other

Chargeable expenses	Actual cost
Overtime	Hourly rate plus fifty percent
Courtroom appearances (to include preparation)	Hourly rate plus fifty percent

Issued: 1-1-2020



CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER:	Angela Beeker	MEETING DATE: March 3, 2022
AGENDA SECTION:	CONSENT	DEPARTMENT: Legal
TITLE OF ITEM, Presenter Name, Title:	Resolution to Approve Annexation Agreement – <i>Angela S. Beeker, City Attorney</i>	

SUGGESTED MOTION(S): I move that City Council adopt the *Resolution by the City of Hendersonville City Council to Approve and Ratify an Annexation Agreement* as presented.

SUMMARY:

As Council is aware, it is the policy of the City to require annexation when requesting sewer service from the City. In certain circumstances, however, annexation may not be possible at the time sewer service is requested, and the City's practice has been to enter into an annexation agreement with the requestor, providing that they will annex when possible. The Resolution, attached, approves this type of annexation agreement with respect to two lots, located on Chimney Road. A GIS map is attached identifying the two lots at issue.

City Council is requested to adopt the attached Resolution to approve and ratify the attached annexation agreement.

BUDGET IMPACT: \$0

Is this expenditure approved in the current fiscal year budget? N/A

If no, describe how it will be funded.

N/A

PROJECT NUMBER: N/A

PETITION NUMBER: N/A

ADDITIONAL PETITION NUMBER: N/A

PETITIONER NAME: N/A

ATTACHMENTS:

Proposed Resolution
Annexation Agreement
Map

Resolution #__-____

**RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL
TO APPROVE AND RATIFY AN ANNEXATION AGREEMENT**

WHEREAS, Boyd L. Hyder, hereinafter “Customer” is the owner of certain real property consisting of those lots identified as Tracts B, C, D and E, and a 1.00 acre lot identified as “1.00 AC (PROPOSED FILL AREA)”, all of the foregoing lots being shown on the plat recorded in Plat Book 2003 Page 4768 of the Henderson County Registry, Customer having acquired said lots by those deeds recorded in Deed Book of Record 3180 at Page 55 and Book of Record 3419 at Page 447, both of the Henderson County Registry; and

WHEREAS, Tract E and Tract D are not within the corporate limits of the City of Hendersonville, NC, and are not contiguous to the primary corporate limits of the City of Hendersonville; and

WHEREAS, the Customer has requested sewer service to Tract E for the purpose of developing Tract E and a portion of Tract D; and

WHEREAS, it is the policy of the City of Hendersonville that real property outside of the City limits be required to irrevocably submit a petition for annexation into the corporate limits as a condition of receiving sewer service; and

WHEREAS, because Tract D and Tract E are part of that subdivision shown on that plat recorded in Plat Book 2003 at Page 4768 of the Henderson County Registry, but are not currently contiguous to the City municipal corporate boundaries, the City cannot annex Tract D and Tract E without annexing the entirety of said subdivision; and

WHEREAS, Customer has agreed to irrevocably petition the City of Hendersonville for the annexation of Tract D and Tract E if and when either of said tracts qualify for annexation by the City of Hendersonville as a contiguous annexation pursuant to N.C.G.S. § 160A-31; and

WHEREAS, the City has agreed to permit Customer to have sewer service to Tracts C and D upon the conditions stated herein;

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Hendersonville that the Annexation Agreement dated February 17, 2022, by and between the City of Hendersonville and Boyd L. Hyder, attached hereto, is approved and ratified as presented.

Adopted by the City Council of the City of Hendersonville, North Carolina on this _____ day of _____, 20____.

Attest:

Barbara G. Volk, Mayor, City of Hendersonville

Angela L. Reece, City Clerk

Approved as to form: _____Angela S. Beeker, City Attorney

Excise tax: \$0.00
 This Document was prepared by: Angela S. Beeker
 Return to: City Box

**STATE OF NORTH CAROLINA
 HENDERSON COUNTY**

ANNEXATION AGREEMENT

THIS AGREEMENT made this 17th day of February, 2022 by and between the (i) City of Hendersonville, a North Carolina incorporated municipality (the "City") whose address is 160 6th Avenue East, Hendersonville, NC 28792 and (ii) Boyd L. Hyder, whose address is 163 Puncheon Camp Creek Road, Hendersonville, NC 28792 (the "Customer"):

WITNESSETH:

That Whereas, Customer is the owner of certain real property consisting of those lots identified as Tracts B, C, D and E, and a 1.00 acre lot identified as "1.00 AC (PROPOSED FILL AREA)", all of the foregoing lots being shown on the plat recorded in Plat Book 2003 Page 4768 of the Henderson County Registry, Customer having acquired said lots by those deeds recorded in Deed Book of Record 3180 at Page 55 and Book of Record 3419 at Page 447, both of the Henderson County Registry; and

Whereas, Customer has submitted a site plan review application dated 7/20/2021 for the development of Tract E and a portion of Tract D, for the project entitled "O'Reilly Auto Parts," both Tracts E and D being shown on said Plat Book 2003 at Page 4768, Tract E having a tax parcel identification number of 9670-92-5715, hereinafter "Tract E," and Tract D having a tax parcel identification number of 9670-92-3539, hereinafter "Tract D"; and

Whereas, Tract E and Tract D are not within the corporate limits of the City of Hendersonville, NC, and are not contiguous to the primary corporate limits of the City of Hendersonville; and

Whereas, the Customer has requested sewer service to Tract E for the purpose of developing Tract E and a portion of Tract D for the O'Reilly Auto Parts project; and

Whereas, it is the policy of the City of Hendersonville that real property outside of the City limits be required to irrevocably submit a petition for annexation into the corporate limits as a condition of receiving sewer service; and

Whereas, because Tract D and Tract E are part of that subdivision shown on that plat recorded in Plat Book 2003 at Page 4768 of the Henderson County Registry, but are not currently contiguous to the City municipal corporate boundaries, the City cannot annex Tract D and Tract E without annexing the entirety of said subdivision; and

Whereas, Customer has agreed to irrevocably petition the City of Hendersonville for the annexation of Tract D and Tract E if and when either of said tracts qualify for annexation by the City of Hendersonville as a contiguous annexation pursuant to N.C.G.S. § 160A-31;

Now therefore this Agreement, that in consideration of the covenants herein contained and of other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. The Whereas clauses are incorporated into this Agreement as an integral part hereof.
2. The City agrees to allow Customer to connect Tract D and Tract E to the City's sewerage system, and receive sewer service, provided Customer complies with all ordinances, codes, regulations and policies of the City with regards to application for and approval of such sewer service.
3. Within thirty (30) days of being notified by the City that Tract D or Tract E qualify for annexation into the City limits as a continuous annexation pursuant to NCGS 160A-31, or qualifies for annexation under any other statute or successor statute which qualifies Tract D or Tract E for annexation, Customer shall submit a petition for annexation of both Tract D and Tract E into the municipal corporate limits for the City of Hendersonville, using the City's standard application process and meeting all requirements for such annexation as are in place at the time of said application. Failure to comply shall be cause for immediate disconnection of the sewer service from both Tract D and Tract E by the City of Hendersonville.
4. Notwithstanding Customers obligations to apply for annexation pursuant to the terms of this Agreement, the Customer for itself and its heirs, successors, representatives and assigns does hereby irrevocably appoint the City Manager and the City Community Development Director, either of which may act independently of the other, as its agent for executing such documents as may be necessary to apply for voluntary annexation into the City in accordance with the terms of this Agreement.
5. Notwithstanding the City's allowing the Customer to receive sewer service for Tracts D and E under this Agreement, Customer's receipt of sewer service shall remain subject to all codes, ordinances, regulations and policies of the City of Hendersonville, and nothing herein shall be deemed to preclude or limit the City from enforcing the City's generally applicable codes, ordinances, regulations and policies regarding extensions of, connections into, or receipt of service from the City's sewer system, including but not limited to those codes, ordinances, regulations and policies regarding disconnection of such sewer service. By way of illustration and not of limitation, for example if Customer failed to timely pay Customer's sewer charges, Customer's sewer service would be subject to disconnection by the City of Hendersonville.
5. The obligations of and appointments and applications by the Customer hereunder are and shall remain continuous and ongoing until the entirety of Tract D and Tract E is incorporated into the City. No rejection of any application or failure to accept or process any application for annexation of the Property at any time shall change the ongoing nature of these obligations and appointments and any application, and the City shall retain all rights and the Customer and its heirs, successors, representatives and assigns shall remain under all obligations hereunder notwithstanding any such rejection or failure to act.
6. This Agreement shall be effective for a term of fifty (50) years, and shall be binding on the parties and on their respective heirs, successors, representatives and assigns. Customer shall obligate any purchaser of Tract D or Tract E to the terms of this Agreement in writing, in recordable form, and shall record such obligation in the Register of Deeds Office for the City of Hendersonville. Failure of Customer, or any successor in interest (whether an heir, successor representative or assign) of Customer, to comply with the terms of this Agreement shall be grounds for immediate disconnection of the sewer service from Tract E and Tract D.
7. This agreement is executed in the State of North Carolina, and shall be construed in accordance with the laws of the State of North Carolina. Both parties submit their persons to the jurisdiction of the Courts for North Carolina. Exclusive venue for any action brought in

connection with this agreement, its interpretation and breach shall be in the courts for Henderson County, North Carolina.

8. The parties intend that the obligations under this Agreement shall run with the land for both Tract D and Tract E.

Done in the place and on the date first above written.

CUSTOMER

CITY OF HENDERSONVILLE

Boyd L. Hyder (SEAL)
Boyd L. Hyder

by: John F. Connet (SEAL)
John F. Connet
City Manager

STATE OF North Carolina
COUNTY OF Henderson

I, Angela Reece, certify that Boyd L. Hyder personally came before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this 17th day of February 2022.

Angela Reece
Notary Public



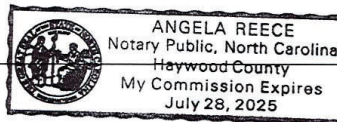
My commission expires: July 28, 2025

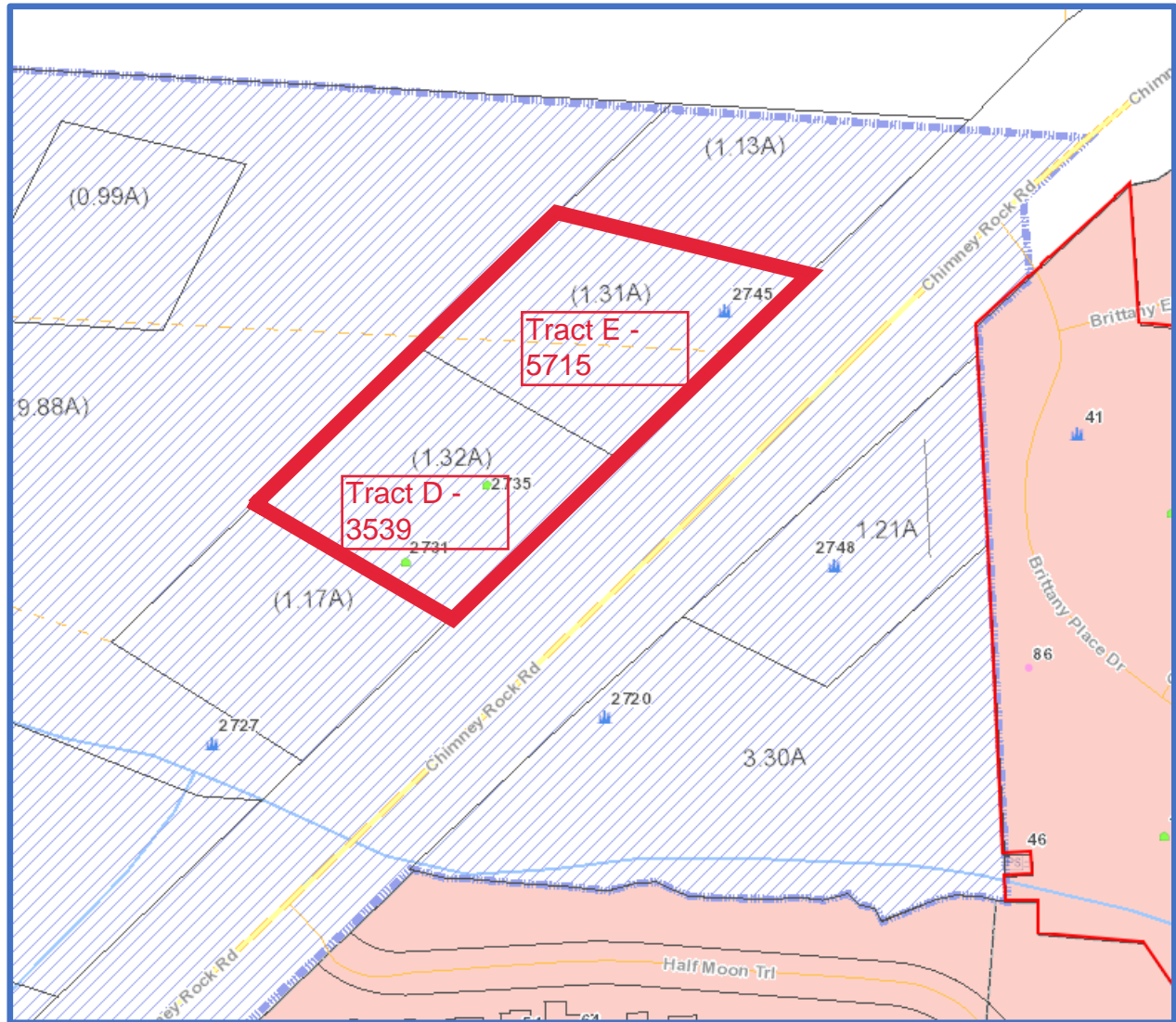
STATE OF NORTH CAROLINA
COUNTY OF HENDERSON

I, Angela Reece, a Notary Public of the County and State aforesaid, certify that John F. Connet, in his capacity as City Manager of the City of Hendersonville, appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this 17th day of February 2022.

My commission expires: July 28, 2025

Angela Reece
Notary Public







CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER: Angela Beeker **MEETING DATE:** March 3, 2022

AGENDA SECTION: CONSENT **DEPARTMENT:** Legal

**TITLE OF ITEM,
Presenter Name, Title:** Resolution to Approve Duke Power Easement – *Angela S. Beeker, City Attorney*

SUGGESTED MOTION(S): I move that City Council adopt the *Resolution by the City of Hendersonville City Council to Approve and Ratify a Duke Power Easement* as presented.

SUMMARY:

City Council is requested to adopt the attached Resolution approving and ratifying a Duke Power easement across the Bear Wallow lift station located at 429 Bearwallow Mountain Road. City staff has indicated that this easement should not interfere with operation of the lift station.

BUDGET IMPACT: \$0

Is this expenditure approved in the current fiscal year budget? N/A

If no, describe how it will be funded.

N/A

PROJECT NUMBER: N/A

PETITION NUMBER: N/A

ADDITIONAL PETITION NUMBER: N/A

PETITIONER NAME: N/A

ATTACHMENTS:

Proposed Resolution
Easement
Map

Resolution #__-____

**RESOLUTION BY THE CITY OF HENDERSONVILLE CITY COUNCIL
TO APPROVE AND RATIFY A DUKE POWER EASEMENT**

WHEREAS, the City has been asked to grant an easement to Duke Power across the City’s lift station property located at 429 Bearwallow Mountain Road; and

WHEREAS, the City has agreed to grant the easement as requested;

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Hendersonville that the Duke Power easement across 429 Bearwallow Mountain Road, Hendersonville, NC, is approved and ratified as presented.

Adopted by the City Council of the City of Hendersonville, North Carolina on this _____ day of _____, 20____.

Attest: Barbara G. Volk, Mayor, City of Hendersonville

Angela L. Reece, City Clerk

Approved as to form:

Angela S. Beeker, City Attorney

Prepared by: Duke Energy Carolinas, LLC
 Return to: Duke Energy Carolinas, LLC
 Attn: Amanda Morgan
 1056 Saddlebrook Dr
 Hendersonville, NC 28739

Parcel # 9692886668

EASEMENT

State of North Carolina

County of Henderson

THIS EASEMENT ("Easement") is made this 21 day of February 20 22 from **CITY OF HENDERSONVILLE**, a political subdivision of the State of North Carolina Situated in Henderson County ("Grantor", whether one or more), to **DUKE ENERGY CAROLINAS, LLC**, a North Carolina limited liability company ("Grantee").

Grantor, for and in consideration of the sum of One and 00/100 Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant unto Grantee a perpetual and non-exclusive easement, to construct, reconstruct, operate, patrol, maintain, repair, replace, relocate, add to, modify, and remove electric and communication lines including, but not limited to, all necessary supporting structures, and all other appurtenant apparatus and equipment for the transmission and distribution of electrical energy, and for technological purposes related to the operation of the electric facilities and for the communication purposes of Incumbent Local Exchange Carriers (collectively, "Facilities").

Grantor is the owner of that certain property described in that instrument recorded in Deed Book 1483, Page 334, Henderson County Register of Deeds ("Property").

The Facilities may be both overhead and underground and located in, upon, over, along, under, through, and across a portion of the Property within an easement area described as follows:

A strip of land thirty feet (30') in uniform width for the overhead portion of said Facilities and a strip of land twenty feet (20') in uniform width for the underground portion of said Facilities, lying equidistant on both sides of a centerline, which centerline shall be established by the center of the Facilities as installed, along with an area ten feet (10') wide on all sides of the foundation of any Grantee enclosure/transformer, vault and/or manhole, (hereinafter referred to as the "Easement Area").

For Grantee's Internal Use:
 Work Order #: 43475306

The rights granted herein include, but are not limited to, the following:

1. Grantee shall have the right of ingress and egress over the Easement Area, Property, and any adjoining lands now owned or hereinafter acquired by Grantor (using lanes, driveways, and adjoining public roads where practical as determined by Grantee).
2. Grantee shall have the right to trim, cut down, and remove from the Easement Area, at any time or times and using safe and generally accepted arboricultural practices, trees, limbs, undergrowth, other vegetation, and obstructions.
3. Grantee shall have the right to trim, cut down, and remove from the Property, at any time or times and using safe and generally accepted arboricultural practices, dead, diseased, weak, dying, or leaning trees or limbs, which, in the opinion of Grantee, might fall upon the Easement Area or interfere with the safe and reliable operation of the Facilities.
4. Grantee shall have the right to install necessary guy wires and anchors extending beyond the boundaries of the Easement Area.
5. Grantee shall have the right to relocate the Facilities and Easement Area on the Property to conform to any future highway or street relocation, widening, or alterations.
6. Grantor shall not place, or permit the placement of, any structures, improvements, facilities, or obstructions, within or adjacent to the Easement Area, which may interfere with the exercise of the rights granted herein to Grantee. Grantee shall have the right to remove any such structure, improvement, facility, or obstruction at the expense of Grantor.
7. Excluding the removal of vegetation, structures, improvements, facilities, and obstructions as provided herein, Grantee shall promptly repair or cause to be repaired any physical damage to the surface area of the Easement Area and Property resulting from the exercise of the rights granted herein to Grantee. Such repair shall be to a condition which is reasonably close to the condition prior to the damage, and shall only be to the extent such damage was caused by Grantee or its contractors or employees.
8. All other rights and privileges reasonably necessary, in Grantee's sole discretion, for the safe, reliable, and efficient installation, operation, and maintenance of the Facilities.

The terms Grantor and Grantee shall include the respective heirs, successors, and assigns of Grantor and Grantee. The failure of Grantee to exercise or continue to exercise or enforce any of the rights herein granted shall not be construed as a waiver or abandonment of the right thereafter at any time, or from time to time, to exercise any and all such rights.

TO HAVE AND TO HOLD said rights, privilege, and easement unto Grantee, its successors, licensees, and assigns, forever. Grantor warrants and covenants that Grantor has the full right and authority to convey to Grantee this perpetual Easement, and that Grantee shall have quiet and peaceful possession, use and enjoyment of the same.

IN WITNESS WHEREOF, Grantor has signed this Easement under seal effective this

February, 2022.**CITY OF HENDERSONVILLE**a political subdivision of the State of North Carolina Situated in
Henderson County

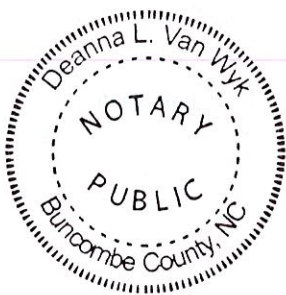
(SEAL)

John F. Connet, City Manager
Name & title

Attest:

Angela Reece, City Clerk
STATE OF North CarolinaCOUNTY OF Henderson

I, Deanna L. VanWyk, a Notary Public of Buncombe County, State of North Carolina, certify that John F. Connet personally appeared before me this day and acknowledged that he/she is City Manager of CITY OF HENDERSONVILLE, a political subdivision of the State of North Carolina Situated in Henderson County Entity Type, and that by authority duly given and as the act of said Entity Type, the foregoing EASEMENT was signed in its name by its Title, sealed with its official seal, and attested by herself/himself as its Title2.

Witness my hand and notarial seal, this 21 day of February, 2022.
 Notary Public: Deanna L. VanWyk
 Commission expires: May 22, 2024
 DW


JEFFREY AND NICHOLE DEMO
154 THUNDER VALLEY RD
WO#: 43475306
PIN#: 9692883459
PRIMARY EXT PROJECT





CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER: Lu Ann Welter **MEETING DATE:** March 3, 2022

AGENDA SECTION: Presentation Only **DEPARTMENT:** Human Resources

TITLE OF ITEM, Presenter Name, Title: MVP of the Year – *John Connet, City Manager*

SUGGESTED MOTION(S): None

SUMMARY:

The Service Excellence Design Team voted Will Hutchinson, GIS Technician II in Engineering, as MVP of the Year.

BUDGET IMPACT: \$

Is this expenditure approved in the current fiscal year budget? No

If no, describe how it will be funded.

PROJECT NUMBER: N/A

PETITION NUMBER: N/A

ADDITIONAL PETITION NUMBER: N/A

PETITIONER NAME: N/A

ATTACHMENTS:

PowerPoint Presentation

Proclamation

“We Are Hope” Week 2022

WHEREAS, Substance and alcohol abuse negatively affects many areas of the brain, the liver, the heart, and other body parts and can cause adverse behavioral, psychological, and social consequences; and

WHEREAS, there were more than 70,630 drug overdose deaths in the United States in 2019, and the drug overdose death rate has increased by over 250% from 1999 to 2019; and

WHEREAS, substance and alcohol abuse continue to occur among children and youth in North Carolina. In 2019, 35.5% of high school students and 14.4% of middle school students used an electronic vape product; 24.2% of students in high school and 20.4% of students in middle school drank alcohol; 16.6% of high schoolers and 8% of middle schoolers took prescription drugs without a doctor’s prescription; and 22.1% of high schoolers and 10.5% of middle schoolers used marijuana, according to the Centers for Disease Control and Prevention’s 2019 Youth Risk Behavior Surveillance; and

WHEREAS, the Hope Coalition is a grassroots effort initiated by the Henderson County Partnership for Health in 2013 as a community collaborative to educate, evaluate, and implement evidence-based models on substance misuse and underage drinking in Henderson County; and

WHEREAS, student leaders in Henderson County Public Schools’ six high schools and four middle schools have joined with the Hope Coalition and City of Hendersonville Police Department in educating their peers on alcohol, tobacco, marijuana and prescription drug use and abuse; and

NOW, THEREFORE, I, Barbara Volk, Mayor of the City of Hendersonville do hereby proclaim the week of March 7 through 11, 2022 to be

“We Are Hope” Substance Abuse Awareness Week

in the City of Hendersonville and ask all students in Henderson County Public Schools’ to pledge to be and remain substance-free.

PROCLAIMED this 3rd day of March 2022

Seal

Barbara G. Volk, Mayor
City of Hendersonville

Attest:

Angela L. Reece, City Clerk

Proclamation

Developmental Disabilities Awareness Month

WHEREAS, Public Law 99-483, enacted by Congress in 1987, designated March as National Developmental Disabilities Awareness Month; and

WHEREAS, North Carolina is home to almost 200,000 people with intellectual and other developmental disabilities throughout all 100 counties of our state; and

WHEREAS, it is the responsibility of all North Carolinians to recognize and acknowledge that it is not disabilities, but unjust societal barriers and attitudes that can keep individuals from realizing their full potential at school, work, home, and/or in their communities; and

WHEREAS, all citizens can contribute to improving the lives of people with developmental disabilities by becoming advocates and supporters of their increased independence, capacity, and leadership; and

WHEREAS, expecting and enabling people with developmental disabilities to function independently and productively within our societal and economic structures can strengthen our community in all areas, including public and private sectors; and

WHEREAS, the City of Hendersonville commends the Abound Health and other agencies, businesses, organizations, and individuals throughout our community working to improve the lives of people with developmental disabilities and their families through advocacy, capacity building, and systems change.

NOW, THEREFORE, I, Barbara Volk, Mayor of the City of Hendersonville, do hereby proclaim March 2022 as

“Developmental Disabilities Awareness Month”

and encourage citizens to galvanize efforts that will lead our communities and policy makers to create real system changes so people with developmental disabilities may enjoy equitable, inclusive lives.

PROCLAIMED this 3rd day of March 2022

Seal

Barbara G. Volk, Mayor
City of Hendersonville

Attest:

Angela Reece, City Clerk

Proclamation

50th Anniversary of the National Senior Nutrition Program HENDERSONVILLE, NORTH CAROLINA

WHEREAS, since 1972, the National Senior Nutrition Program has helped fund local agencies and organizations, such as the Council on Aging for Henderson County, serve home-delivered and congregate meals that ensure older adults have opportunities to stay healthy, independent, and connected; and

WHEREAS, more than 10 million older Americans face hunger each year; North Carolina is ranked 10th in the country for food insecurity; and more than a quarter of Henderson County's population is 65 and older which puts thousands of local seniors at risk of malnutrition; and

WHEREAS, local senior nutrition programs help older adults access healthy foods; nutrition screening, education, and counseling; social opportunities; and other supports that encourage well-being; and

WHEREAS, the Council on Aging is an integral part of Henderson County's nonprofit network – providing sustenance and more to older community members, especially those most vulnerable to chronic health challenges and social isolation; and

NOW, THEREFORE, the City Council of the City of Hendersonville does hereby proclaim the month of March, 2022 to be the

“50th Anniversary of the National Senior Nutrition Program”

in the City of Hendersonville and urge every resident to recognize older adults and the people who support them through nutrition services as essential contributors to the strength of our community.

PROCLAIMED this 3rd day of March 2022

Seal

Barbara G. Volk, Mayor
City of Hendersonville

Attest:

Angela Reece, City Clerk



Proclamation



“Fix A Leak” Week 2022

WHEREAS, household water leaks account for nearly 1 trillion gallons of water wasted across the United States each year, equal to the annual household water use of nearly 11 million homes; and

WHEREAS, finding and fixing leaks is as easy as 1, 2, 3! Check, twist, and replace by checking toilets for silent leaks, twisting to tighten fixture connections, and replacing broken fixtures with WaterSense® labeled models; and

WHEREAS, many common household leaks, including worn toilet flappers, leaking showerheads, and dripping faucets are easily corrected; and

WHEREAS, fixing leaks can save homeowners an average of 10,000 gallons of water per year, or the amount of water in a typical backyard swimming pool; and

WHEREAS, WaterSense® is a voluntary partnership program sponsored by the U.S. Environmental Protection Agency (EPA) to protect the future of our nation’s water supply by promoting water efficiency and WaterSense® labeled products; and

WHEREAS, the EPA’s WaterSense® program celebrates Fix a Leak Week the third week of March as a time to remind Americans to check their household fixtures and irrigation systems for leaks; and

WHEREAS, the City of Hendersonville Water and Sewer Department is partnering with WaterSense® to encourage citizens to find and fix leaks and promote efficient water use to ensure sufficient water supply for future generations.

NOW, THEREFORE, I, Barbara Volk, Mayor of the City of Hendersonville do hereby proclaim the week of March 14 through 20, 2022 to be

“Fix A Leak Week”

in the City of Hendersonville and encourage all citizens and businesses to find and fix leaks and to use water efficiently.

PROCLAIMED this 3rd day of March 2022

Seal

Barbara G. Volk, Mayor
City of Hendersonville

Attest:

Angela L. Reece, City Clerk



CITY OF HENDERSONVILLE
AGENDA ITEM SUMMARY

SUBMITTER: Jamie Carpenter, Downtown Manager
MEETING DATE: March 4th, 2022

AGENDA SECTION: NEW BUSINESS
DEPARTMENT: Community Development – Downtown Division

TITLE OF ITEM: Sidewalk Mural Connection -*Jamie Carpenter, Downtown Manager, Elizabeth Queen, Artist*

SUGGESTED MOTION(S):

SUMMARY: Elizabeth Queen is one of the artists behind the sidewalk mural project, the “Hendo Bee Line,” and has brought forward a proposal to extend the sidewalk mural, in a fashion, between the mural on 5th Avenue and the mural located at the HandsOn Children’s Museum. Going first to the Community Character Team, Elizabeth and the team reviewed and discussed the proposal thoroughly recommending the Downtown Advisory Board support the project proposal.

The team in tandem with Elizabeth, came up with the following conceptual implementation plan:

- Take a lower impact approach overall:
 - a. No primer along the sidewalk, just footprints. Much of the sidewalk in this approach will remain unpainted. This will make the project easier to complete.
 - b. Some of these sidewalks will be replaced in the future.
 - c. Finally, the team wants to see how the sidewalks painted last fall will hold up before any additional more extensive murals.
- Elizabeth has written a children's book that would be a companion piece to the proposed sidewalk path. The pages of the book would also be a part of the sidewalk path. the words will either be in a QR code or otherwise installed on the sidewalk. No physical signs except maybe at the start/finish.

The Downtown Advisory Board took up the proposal at their February meeting and unanimously agreed with the Community Character Team’s recommendation for the project.

WHEN - As a part of Garden Jubilee, the Bee City committee and Elizabeth will do some pollinator tours, and would like to have the painted path as a part of the project. This would be completed before then or before Memorial Day weekend.

WHERE – From 3rd Avenue W to King Street to 5th Avenue W where the current sidewalk murals are.

WHY – How this fits within the Downtown Workplan:

1. **Pedestrian Connection** - A consistent theme of our work is to build connections between Main Street and 7th Avenue and encouraging 5th Avenue as the safe pedestrian route to Maple Street. This continues to add to that connection in a low cost, quick action way.
2. **Volunteer Activation and Champions** – A component of our Main Street Accreditation and best practices are volunteer-led, grassroots efforts that serve the goals of our workplan. This project sets a good example for volunteer-led projects going forward that are well-planned, thoughtful, and meet the goals of our downtown workplan.
3. **Catalyst Project** – The spirit of the AARP grant we received are to be catalyst projects for livable communities. Keeping that energy going is always a good thing! This may also lend itself to future demonstration projects on South Main Street and connections to the Ecusta Trail.

BUDGET IMPACT: \$0

Is this expenditure approved in the current fiscal year budget? Funds spent will be from the Friends of Downtown, dollars remaining from the AARP Grant for sidewalk murals the past fall (about \$900)

If no, describe how it will be funded.

ATTACHMENTS: Executive Summary of Proposal, Outline of book language

Let's Go, Hendo!

A Life Line



Proposal to Hendersonville, N.C. City Council for approval of sidewalk mural extension:

i.e. the installation of a low cost, low impact, fast-action, volunteer-driven, public art and fitness experience targeted for completion by 25May22 Garden Jubilee.

Connecting the Hands-On Museum and Good of the Hive Mural with the Bear Crossing, ASL Hendo and Hendo Bee Line sidewalk murals between Main Street, the Farmer's Market, and the Historic 7th Avenue District.

Submitted By Elizabeth Queen, Luckenbooth Studios, Flat Rock

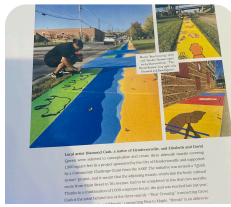
3March2022



The Hendo Lifeline: “The 1 Pager”

A Proposed Fast Action, Community-Driven Sidewalk Art & Fitness Experience Project due by May ‘22 Garden Jubilee.

Section 6, Item F.



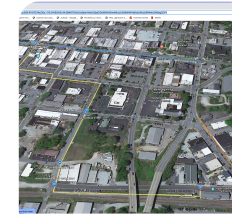
Our Strong Foundation

- 2021 Friends of HVL/AARP Fast Action Sidewalk Mural Grant “Exceeds Expectations”
- Under budget, On Time
- Volunteer-Driven (+200)
- Huge Community Support, demand for “more, more”



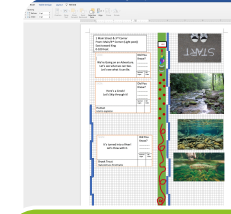
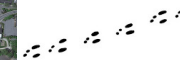
Proposal

- EZ extension of this Foundation
- via connecting, interactive sidewalk story through which participant moves through series of simple painted animal tracks learning about Hendo, our environment, how we interconnect
- ESG: Environment-Sustainability - Governance



Where

- Connect Main & Good of Hive Mural to Bee Crossing, BeeLine & 7th
- Start Main & 3rd, move north along King turning east onto 5th & Grove (connect to current Murals)



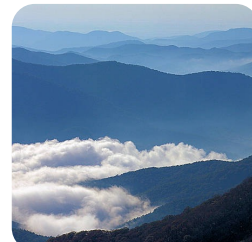
How

- Leftover sidewalk paint (from Beeline)
- Simple storyline set in native WNC terrains (creek, river, sky...)
- conveyed through colorful series of choreographed “hop, skip, jump” native animal tracks start - end
- See Slide 6- video link



Who

- 2021 Sidewalk Muralists (proven track record)
- Elizabeth Queen (Lead)
- David Queen
- Diamond Cash: Cross Walks-if approved
- A Diverse Community Volunteer Corp a’la BeeLine



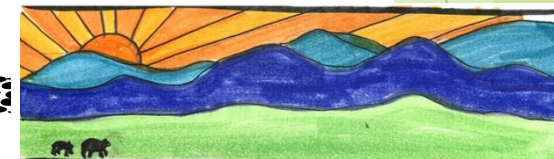
When-by 25May22

- March: Design Prep
- April/May: Volunteer Paint Days
- May-Ribbon Cutting: Garden Jubilee
- June-Pollinator Month Tours
- And beyond.



Cost

- City: Negligible
- <\$1k= Remaining 2021 budget
- Leftover paint/sealant, equipment
- In kind: volunteer sign up, traffic cones, signs ribbon cutting, promo (//BeeLine)
-
- Other donors: stencils, time



Benefit

- Short Term: new experiential attraction drawing tourism, foot traffic Main-7th alternate route
- MainStreet, Mural, Fitness, ESG Draw
- Mid/Long Term
- draw support for more permanent installation
- fuel HVL public art discussion

LET'S GO HENDO



A Life Line

By Elizabeth Queen

v.2. Discussion Draft

THIS BLANK INNER COVER RESERVED FOR PUBLISHER

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.

LET'S GO, HENDO!

A Life Line



By Elizabeth Queen

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.

To Henderson County, North Carolina and all of its creatures great and small.

Let's Go, Hendo! A Life Line, by Elizabeth Queen

***An active and transformative journey through diverse terrains and experiences during which time,
an individual learns something of the world around it, its place in it, and perhaps something about itself.***



© Copyright 2022
All Rights Reserved

*This work was conceived in the spirit of community.
10% of its profits will be donated evenly between Friends of Hendersonville and another local not-for-profit organization
to be selected by the author, her successors or assigns, on an annual basis.
Commissions for similar community-based works and companion interactive public art installations available.
Contact the author at LuckenboothStudios.com*

THIS SPACE RESERVED FOR PUBLISHER

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.

Let's Go, Hendo!



We're Going on An Adventure.

Let's see what we can see,

Let's see what it can be.

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



Here's A Creek.
Let's Skip Through It.

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



It's Turned into A River!
Let's Flow with It.

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



Ahead there's a Swamp.

Let's Leap Over It!

See what we can see.

See what we can be.

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



Here's a meadow.

Let's stop to smell the flowers,

Behold the butterflies and bees!

(Geo-note: adjacent to Good of Hive mural)

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



These Woods look dark and Scary....

Let's Go Inside!

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



Find a tall tree.

Climb higher than you've ever dared before.

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



Explore the many paths before you.

See what you can see.

See what you can be.

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



Flutter by.

Take in a different view.

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



Stretch your wings.

Soar with the winds far above.

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



Safely cross.

Make your way down,

landing on a sunny hillside.

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.

15



**Take stock of where you've been,
where you are going,
where you are *right now*.**

**See what you can see.
See what you can be.**

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



You've Got This!

Stretch Out

Run

**Celebrate Your Path
To the Finish Line.**

LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.

Relax, You Made It!

**Look Both Ways,
Cross into Mountain Country**



LET'S GO HENDO-V.2- DISCUSSION DRAFT.

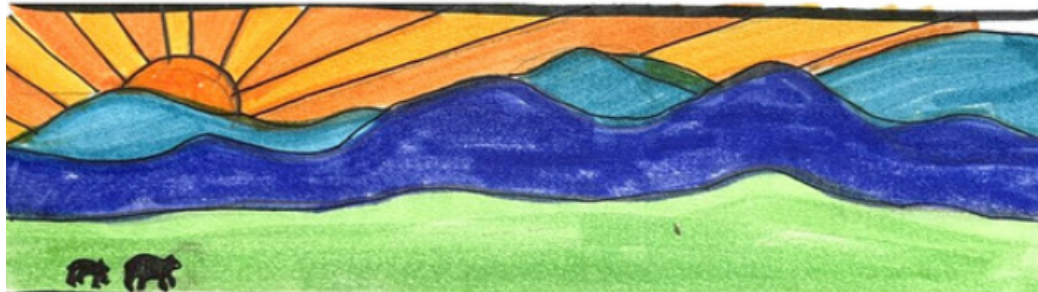
NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.

**Enjoy the Bears, the Bees
and Whatever Comes Next!**

See what you can see.
See what you will be.

The End.



LET'S GO HENDO-V.2- DISCUSSION DRAFT.

NOTE: The images contained in this discussion draft are for public educational/concept development purposes.

The published work will contain original multi-media illustrations. For companion movements aligned with storyline, see the supplemental Layout Map presented herewith.



CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER: John Connet

MEETING DATE: 3/3/2022

AGENDA SECTION: PRESENTATION

DEPARTMENT: Administration

TITLE OF ITEM: Blue Ridge Literacy Council Update – *Katrina McGuire, Executive Director*

SUGGESTED MOTION(S):

NA

SUMMARY:

Mayor Volk has invited Blue Ridge Literacy Council Executive Director Katrina McGuire to provide an program update.

BUDGET IMPACT: \$ NA

Is this expenditure approved in the current fiscal year budget? NA

If no, describe how it will be funded. NA

ATTACHMENTS:

None

SUMMARY:

The City is in receipt of a Zoning Map Amendment (Standard Rezoning) application from Charles and Sheryl Osteen of AMJESS LLC (applicant & property owner). The applicant is requesting to rezone the subject property from R-15 Medium Density Residential to R-10 Medium Density Residential. The subject parcels (PINs: 9569-26-2653 & 9569-26-3517) are located on N. Harper Drive. The subject property is approximately 0.68 acres.

If rezoned, there will not be a binding site plan, list of uses or conditions placed on the site. If rezoned, all permitted uses within the R-10 district would be allowed on the site The City of Hendersonville Zoning Ordinance states that, during a standard rezoning process, an applicant is prohibited from discussing the specific manner in which they intend to develop or use a site.

PROJECT/PETITIONER NUMBER:	P21-84-RZO
PETITIONER NAME:	1. Charles and Sheryl Osteen of AMJESS LLC (applicant & property owner).
ATTACHMENTS:	1. Staff Report 2. Planning Board Action Report 3. List of Permitted Uses In R-15 and R-10 4. Ordinance 5. Proposed Zoning Map 6. Application and Supporting Documents

Ordinance #

AN ORDINANCE OF THE CITY OF HENDERSONVILLE CITY COUNCIL TO AMEND THE OFFICIAL ZONING MAP OF THE CITY OF HENDERSONVILLE FOR PARCEL NUMBERS 9569-26-2653 & 9569-26-3517 BY CHANGING THE ZONING DESIGNATION FROM R-15 MEDIUM DENSITY RESIDENTIAL TO R-10 MEDIUM DENSITY RESIDENTIAL

IN RE: Parcel Numbers: 9569-26-2653 & 9569-26-3517 N. Harper Drive Rezoning
(File # P21-84-RZO)

WHEREAS, the City is in receipt of a Standard Rezoning application from Charles and Sheryl Osteen of AMJESS LLC (applicant & property owners).

WHEREAS, the Planning Board took up this application at its regular meeting on February 14th, 2022; voting 7 to 0 to recommend City Council adopt an ordinance amending the official zoning map of the City of Hendersonville, and

WHEREAS, City Council took up this application at its regular meeting on March 3rd, 2022, and

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

1. Pursuant to Article XI of the Zoning Ordinance of the City of Hendersonville, North Carolina, the Zoning Map is hereby amended by changing the zoning designation of the following: Parcel numbers 9569-26-2653 & 9569-26-3517 from R-15 Medium Density Residential to R-10 Medium Density Residential.
2. Any development of the parcels shall occur in accordance with the Zoning Ordinance of the City of Hendersonville, North Carolina.
3. This ordinance shall be in full force and effect from and after the date of its adoption.

Adopted this third day of March 2022.

Attest: Barbara G. Volk, Mayor, City of Hendersonville

Angela L. Reece, City Clerk

Approved as to form:

Angela S. Beeker, City Attorney

N. HARPER DRIVE REZONING (P21-84-RZO)
CITY OF HENDERSONVILLE - COMMUNITY DEVELOPMENT STAFF REPORT

PROJECT SUMMARY 2

EXISTING ZONING & LAND USE 3

SITE IMAGES..... 4

SITE IMAGES..... 5

SITE IMAGES 6

REZONING HISTORY –**Error! Bookmark not defined.**

FUTURE LAND USE 7

REZONING ANALYSIS – COMPREHENSIVE PLAN CONSISTENCY (ARTICLE 11-4) 8

REZONING ANALYSIS – COMPREHENSIVE PLAN CONSISTENCY (ARTICLE 11-4) 10

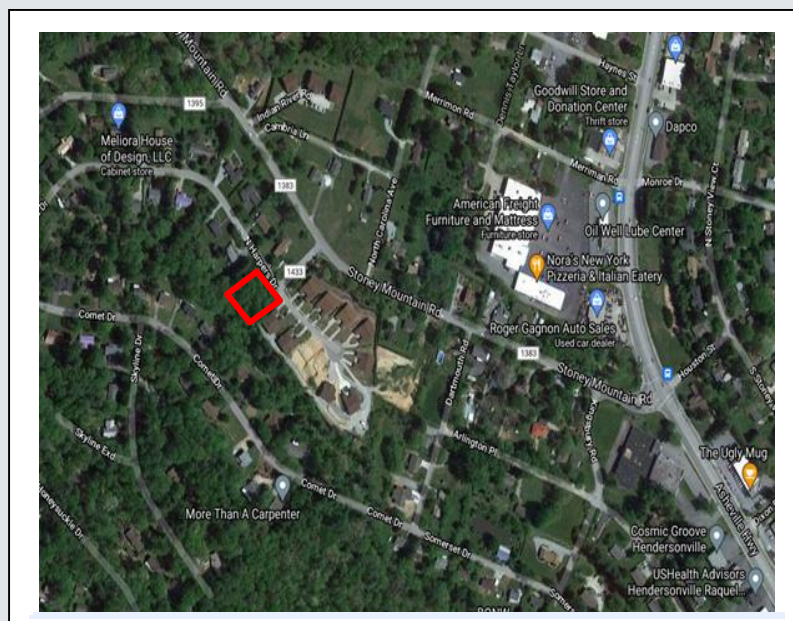
REZONING ANALYSIS – GENERAL REZONING STANDARDS (ARTICLE 11-4) 11

DRAFT COMPREHENSIVE PLAN CONSISTENCY AND REZONING REASONABLENESS STATEMENT 12



PROJECT SUMMARY

- Project Name & Case #:
 - N. Harper Drive Rezoning
 - P21-84-RZO
- Applicant & Property Owner:
 - Charles and Sheryl Osteen of AMJESS LLC [Applicant]
 - AMJESS LLC [Owner]
- Property Address:
 - 0 N. Harper Drive
- Project Acreage:
 - 0.68 Acres
 - (±29,620.8 Square feet)
- Parcel Identification (PIN):
 - 9569-26-2653
 - 9569-26-3517
- Current Parcel Zoning:
 - R-15 Medium Density Residential
- Requested Zoning:
 - R-10 Medium Density Residential
- Future Land Use Designation:
 - Medium Intensity Neighborhood
 - Natural Resource/Agricultural

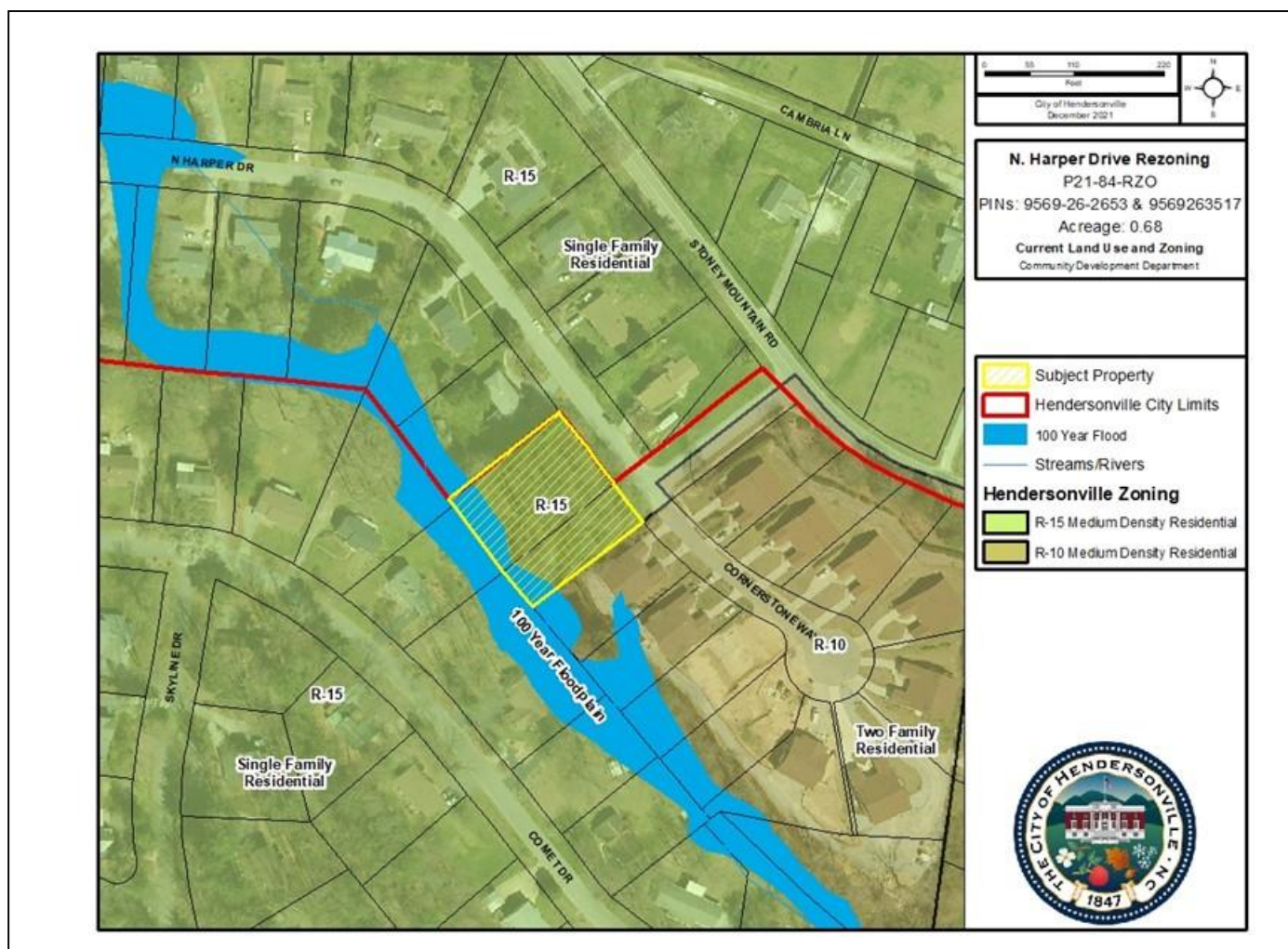


SITE VICINITY MAP

The City is in receipt of a Zoning Map Amendment (Standard Rezoning) application from Charles and Sheryl Osteen of AMJESS LLC (applicant & property owner). The applicant is requesting to rezone the subject property from R-15 (Medium Density Residential) to R-10 (Medium Density Residential). The subject parcels (PINs 9569-26-2653 & 9569-26-3517) are located on N. Harper Drive and approximately 0.68 acres in total.

If rezoned, there will not be a binding site plan, list of uses or conditions placed on the site. All permitted uses within the R-10 district would be allowed on the site. The City of Hendersonville Zoning Ordinance states that, during a standard rezoning process, an applicant is prohibited from discussing the specific manner in which they intend to develop or use a site.

EXISTING ZONING & LAND USE



City of Hendersonville Current Zoning & Land Use Map

Parcels to the north, west and south are zoned R-15 Medium Density Residential. The surrounding R-15 district extends to the west along Stoney Mountain Road. Stoney Mountain Road transitions to R-20 lower density residential as it continues westward into the ETJ. To the east, the parcel is bordered by R-10, Medium Density Residential. The parcels directly to the east make up a small, planned development of 11 two-family units (22 units total). The R-10 district continues to the east along Stoney Mountain Road until it is met by Asheville Highway (US 25) and C-3 zoning.

R-10 and R-15 zoning districts are the prominent districts in this area. They work as a gradual transition between the highly commercial C-3 Highway Business and the R-20 Low-Density residential of the ETJ.

The subject property has a blue line stream that runs along the rear. Due to this, the subject property has 100-year floodplain located within its boundaries. The subject property is also the last parcels on N. Harper Drive located within the corporate limits of Hendersonville.

SITE IMAGES



View of the property from east to west



View of an existing ditch running through the property

SITE IMAGES



View of PIN: 9569-26-2653



View of some of the mature trees that were removed from the site.

SITE IMAGES

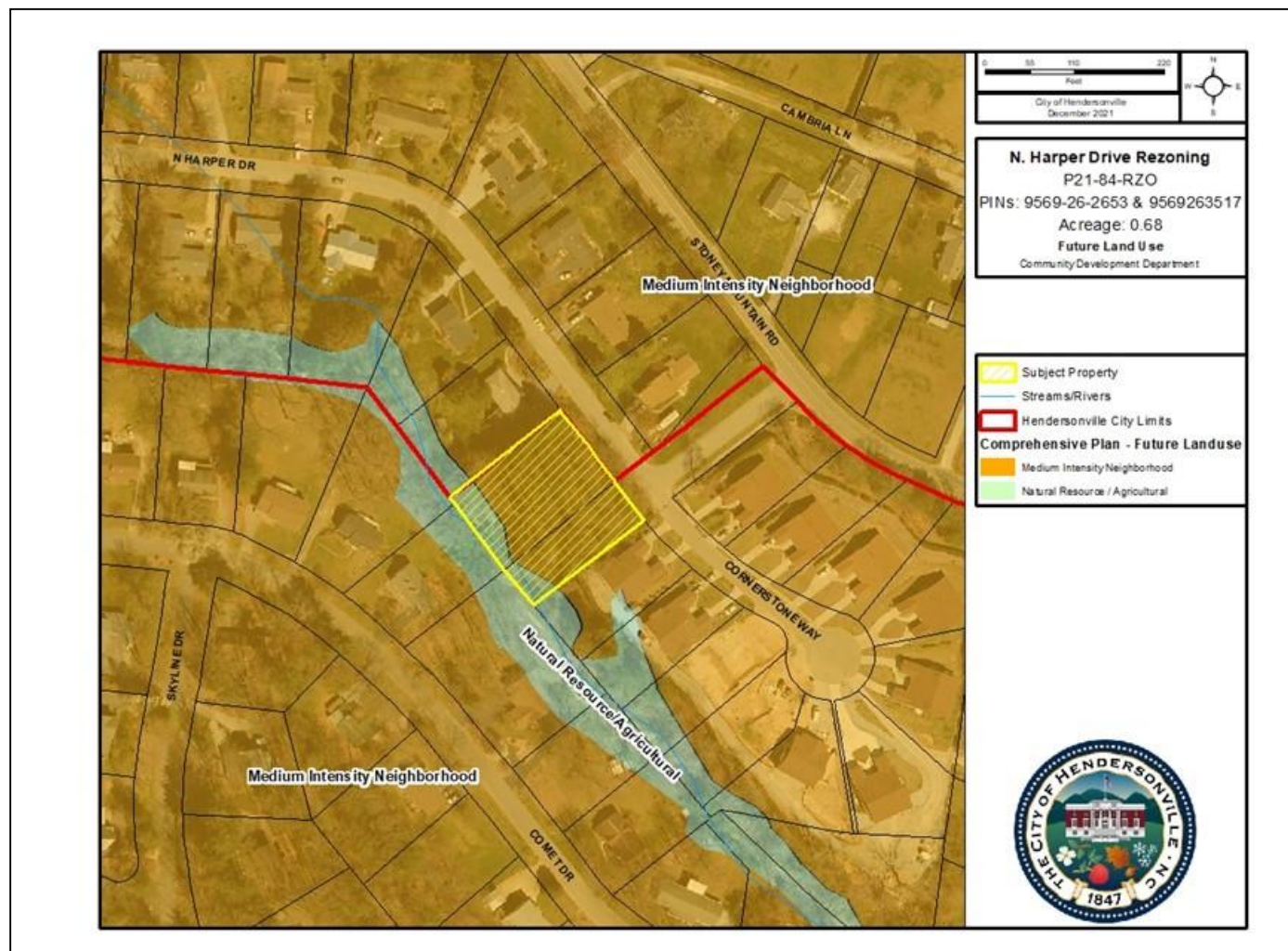


View of the blue line stream at the rear of the property



View from north to south.

FUTURE LAND USE



City of Hendersonville Future Land Use Map

The 2030 Comprehensive Plan's Future Land Use Map designates this parcel as Medium Intensity Neighborhood and Natural Resource/Agricultural. All surrounding residential parcels are designated as medium intensity neighborhood. The medium intensity neighborhood designation aligns with the medium density residential zoning districts that are present in this area.

The natural resource/agricultural designation in this area runs along the 100 year floodplain. Any parcel under this designation has floodplain present.

REZONING ANALYSIS – COMPREHENSIVE PLAN CONSISTENCY (ARTICLE 11-4)

COMPREHENSIVE PLAN CONSISTENCY	
Future Land Use	<i>Goal LU-4- Natural Resource/Agricultural Areas-Create an interconnected network of green infrastructure that preserves environmentally sensitive areas, protects water resources through low-impact stormwater management, provides floodwater storage, provides community open space and recreational opportunities, and preserves agricultural resources.</i>
	<i>Strategy LU-4.1. Locations:</i> <ul style="list-style-type: none"> <i>• The FEMA 100-year Floodplain [consistent]</i> <i>• Areas affected by the City's 50-foot stream buffer requirements [consistent]</i>
	<i>Strategy LU-4.2 Primary recommended land uses:</i> <ul style="list-style-type: none"> <i>• Open space & Flood storage; This portion of the subject property will be protected by the 50' stream buffer required by Ordinance. [consistent]</i>
	<i>Strategy LU 4.4 Development guidelines:</i> <ul style="list-style-type: none"> <i>• Preservation and restoration of natural hydrology [consistent]</i>
	<i>Goal LU-6 - Medium-Intensity Neighborhood - Provide a transition between High and Low-Intensity Neighborhood areas while providing a wide range of housing formats and price points. Promote walkable neighborhood design and compatible infill development in new neighborhoods and as a means of preserving and enhancing existing neighborhoods.</i>
	<i>Strategy LU-6.1. Locations:</i> <ul style="list-style-type: none"> <i>• Existing neighborhoods zoned R-15, R10, and R-6, including residential historic districts [consistent]</i> <i>• Existing or planned neighborhoods that reflect the same densities as the R-15, R-10 and R-6 zoning districts (Two to eight units per gross acre) [consistent]</i> <i>• Undeveloped properties that are surrounded by or adjacent to the above neighborhoods [consistent]</i>
	<i>Strategy LU-6.2. Primary recommended land uses:</i> <ul style="list-style-type: none"> <i>• Single-family attached and detached residential</i> <i>• Open space</i>
	<i>Strategy LU-6.4. Development guidelines:</i> <ul style="list-style-type: none"> <i>• Two to eight units per gross acre [consistent]</i>
Land Use & Development	<i>Growth Management: Designated as a "Preservation/Enhancement Areas" (Map 8.3a) -Developed areas in which few significant changes are expected, or undeveloped areas that are not considered a high priority for growth. The City should respond to development or redevelopment in these areas by maintaining and enhancing existing neighborhood character and maintaining consistency with Comprehensive Plan goals and strategies [consistent]</i>

Land Use & Development	<i>Goal LU-1. Encourage infill development that utilizes existing infrastructure in order to maximize public investment and revitalize existing neighborhoods. [consistent]</i>
	<i>Goal LU-2. Discourage development in areas needed for protection of natural and agricultural resources and protection of citizens from natural hazards. [consistent]</i>

REZONING ANALYSIS – COMPREHENSIVE PLAN CONSISTENCY (ARTICLE 11-4)

COMPREHENSIVE PLAN CONSISTENCY	
Population & Housing	Goal PH-1- Maintain and enhance older neighborhoods so that they retain their value and viability in the face of demographic and market changes Strategy PH-1.1 – Promote Compatible infill development...
	Goal PH-2 – Encourage a wide range of housing types and price points in order to meet the diverse and evolving needs of current and future residents, match the housing supply with the local workforce, and promote diverse neighborhoods Strategy 2.3- Allow housing arrangements in existing and new neighborhoods that provide affordable and/or multigenerational housing alternatives in single-family neighborhoods
Natural & Environmental Resources	Goal NR-1 - Preserve environmentally sensitive areas in order to protect life and property from natural hazards, protect water resources, and preserve natural habitat. Strategy NR 1.1- Discourage and reduce development of structures and impervious surfaces within the FEMA Floodway and 100- Year Floodplain Strategy NR 1.2- Protect land adjacent to streams in order to protect water quality, reduce erosion, and protect wildlife habitat Strategy NR 1.3- Encourage restoration of natural habitat and drainage patterns in developed areas.
	Strategy NR-2.1. Encourage clustered development that preserves open space while allowing a return on investment. Clustering homes on smaller lots, or clustering commercial development in multi-story buildings, preserves open space without sacrificing housing units or leasable floor area. Zoning regulations can encourage such development by avoiding minimum lot area standards and promoting flexibility in design
Cultural & Historic Resources	No Goals, Strategies, or Actions are directly applicable to this project.
Community Facilities	No Goals, Strategies, or Actions are directly applicable to this project.
Water Resources	Goal WR-2- Understanding that communities and the natural environment located downstream are dependent on clean water, strive to preserve the quality of water as it flows through Henderson County.
	Strategy 2.2-Prevent development of floodplains and stream corridors in order to preserve natural drainage patterns and improve the quality of stormwater runoff.
Transportation & Circulation	The project is located on a Local Street according to Map 7.3a.

REZONING ANALYSIS – GENERAL REZONING STANDARDS (ARTICLE 11-4)

GENERAL REZONING STANDARDS	
Compatibility	The surrounding area is exclusively made up of R-15 and R-10 zoned parcels. R-10 and R-15 allow <u>all</u> the same permitted uses, with the exception of cemeteries, which are permitted as a special use in r-15 only.
Changed Conditions	PIN 9569-26-2653 is approximately 19,602 square feet, which is a conforming lot for a single-family home in the R-15 District. PIN 9569-26-3517 is approximately 10,018 square feet which does not meet minimum lot size for the R-15 District. PIN 9569-26-3517 is considered a vacant nonconforming lot in our zoning ordinance. When a lot is considered nonconforming this limits the usability of the site for the owners. Even if the property owners moved around the lot lines, they would still not have enough square footage to create two conforming lots. Both parcels could meet the minimum lot size requirements for R-10 under their current conditions.
Public Interest	The rezoning will allow for residential infill development on currently vacant land within City limits. Potentially providing additional housing while utilizing existing infrastructure.
Public Facilities	A Water / Sewer Availability Request has not been submitted for this project. The site will be served by a NCDOT maintained street, which is classified as a “local street” in the comprehensive plan.
Effect on Natural Environment	There is a blue line stream at the rear of the property that will have a 50’ stream buffer protection in place. The property also has 100-year floodplain on it, which would require a permit from our Floodplain Administrator in order to develop those areas. The owners have done work within the stream buffer prior to this rezoning request. The City will require that they restore and revegetate the stream buffer before any certificates of occupancy can be granted for this site. This work will be done outside of this rezoning request.

The petition is found to be **consistent** with the City of Hendersonville 2030 Comprehensive Plan based on the information from the staff analysis and the public hearing, and because:

The Medium Intensity Neighborhood designation calls for Single Family Residential as a primary land use and the proposed map amendment aligns with the locations listed under LU 6.1.

We find this petition to be reasonable and in the public interest based on the information from the staff analysis and the public hearing, and because:

DRAFT [Rationale for Approval]

- *The petition would be an extension of the adjacent R-10 zoning district.*
- *The petition allows for both parcels to become conforming lots meeting the minimum lot size for the R-10 district.*
- *The petition would potentially provide additional housing that would utilize existing infrastructure.*
- *The petition creates the opportunity for compatible infill development [Strategy PH-1.]*

DRAFT [Rational for Denial]

-

PLANNING BOARD RECOMMENDATIONP21-84-RZOFebruary 14th, 2022

PETITION REQUEST: Rezoning from R-15 to R-10

APPLICANT/PETITIONER: Charles and Sheryl Osteen of AMJESS LLC

PLANNING BOARD ACTION SUMMARY:

The Planning Board voted 7-0 to recommend **APPROVAL** of this petition and adopted the following statement of comprehensive plan consistency:

COMPREHENSIVE PLAN CONSISTENCY AND REASONABLENESS STATEMENT:

The petition is found to be consistent with the City of Hendersonville 2030 Comprehensive Plan based on the information from the staff analysis and the public hearing, and because:

The Medium Intensity Neighborhood designation calls for Single Family Residential as a primary land use and the proposed map amendment aligns with the locations listed under LU 6.1.

We find this petition to be reasonable and in the public interest based on the information from the staff analysis and the public hearing, and because:

- The petition would be an extension of the adjacent R-10 zoning district.*
- The petition allows for both parcels to become conforming lots meeting the minimum lot size for the R-10 district.*
- The petition creates the opportunity for compatible infill development [Strategy PH-1.]*

PLANNING BOARD DISCUSSION

Overview of discussion from minutes.

- Chair asked about the two parcels being a viable consideration for the Board.
 - Mr. Morrow stated yes, the buildability of the smaller lot is in question without the rezoning. He is not sure how buildable it is with the stream.
- Mr. Blatt stated he knows they cannot say what they plan to do on the property, but would he consider only rezoning the smaller lot to R-10.
 - Ed Osteen, 2367 Brannon Road stated his preference is to rezone both properties to R-10. Mr. Blatt asked if he was aware of the streambank requirements before he clear cut the lot. Mr. Osteen stated yes, he was. He removed the large pile of bamboo, one side still remained natural.
- Chair asked about the ditch and if they were planning to do away with it.
 - Mr. Osteen stated they are working with NCDOT, and they plan to put in a catch basin and put in a pipe that will be covered and not look as ugly as the ditch does.

BOARD ACTION

Motion: Barbra Cromar

Second: Tamara Peacock

Yeas: Jim Robertson, Chair, Neil Brown, Tamara Peacock, Barbara Cromar, Jon Blatt (Vice-Chair), Stuart Glassman, Frederick Nace

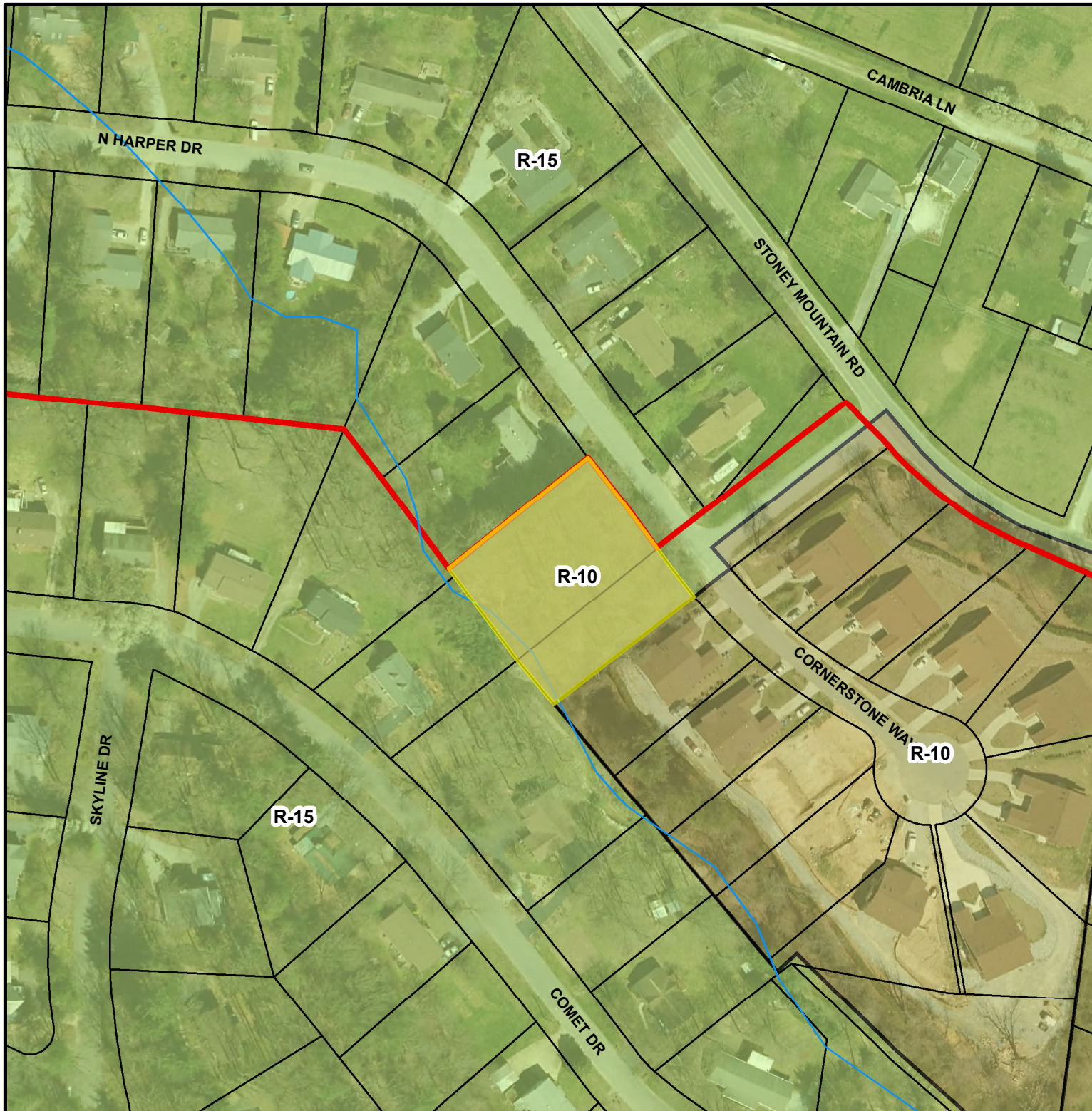
Nays: None

Absent: Peter Hanley, Hunter Jones






Recused: None

R-15 Medium Density Residential	R-10 Medium Density Residential
Same in both districts	Different in each district
<p>Permitted Uses:</p> <ul style="list-style-type: none"> • Accessory dwelling units, subject to Supplementary Standards contained in Section 16-4, below • Accessory structures • Adult care homes so long as the use is clearly incidental to the residential use of the dwelling and does not change the essential residential character of the dwelling • Camps • Child care homes so long as the use is clearly incidental to the residential use of the dwelling and does not change the essential residential character of the dwelling • Home occupations • Parks • Planned residential developments (minor), subject to the requirements of Article VII, below • Religious institutions containing no more than 50,000 square feet of gross floor area • Residential dwellings, single-family • Residential dwellings, two-family • Signs, subject to the provisions of Article XIII • Telecommunications antennas, subject to Special Use requirements contained in Section 16-4, below. <p>Special Uses:</p> <ul style="list-style-type: none"> • Bed and breakfast facilities • Cemeteries • Public utility facilities • Schools, primary & secondary, containing no more than 50,000 square feet of gross floor area 	<p>Permitted Uses:</p> <ul style="list-style-type: none"> • Accessory dwelling units, subject to Supplementary Standards contained in Section 16-4, below • Accessory structures • Adult care homes so long as the use is clearly incidental to the residential use of the dwelling and does not change the essential residential character of the dwelling • Camps • Child care homes so long as the use is clearly incidental to the residential use of the dwelling and does not change the essential residential character of the dwelling • Home occupations • Parks • Planned residential developments (minor), subject to the requirements of Article VII, below • Religious institutions containing no more than 50,000 square feet of gross floor area • Residential dwellings, single-family • Residential dwellings, two-family • Signs, subject to the provisions of Article XIII • Telecommunications antennas, subject to Supplementary Standards contained in Section 16-4, below <p>Special Uses:</p> <ul style="list-style-type: none"> • Bed and breakfast facilities • Public utility facilities • Schools, primary & secondary, containing no more than 50,000 square feet of gross floor area

R-15 Medium Density Residential Same in both districts	R-10 Medium Density Residential Different in each district
Dimensional Requirements: Minimum Lot Area in Square Feet: 15,000 Lot Area per Dwelling Unit in Square Feet: 15,000; 7,500 (for one additional dwelling unit) Minimum Lot Width at Building Line in Feet: 85 Minimum Yard Requirements in Feet: Principal Structure: Front: 30 Side: 10 Rear: 15 Accessory Structures: Front: 30 Side: 5 Rear: 5 Maximum Height in Feet: 35	Dimensional Requirements: Minimum Lot Area in Square Feet: 10,000 Lot Area per Dwelling Unit in Square Feet: 10,000; 5,000 (for one additional dwelling unit). Minimum Lot Width at Building Line in Feet: 75 Minimum Yard Requirements in Feet: Principal Structure: Front: 25 Side: 10 Rear: 10 Accessory Structures: Front: 25 Side: 5 Rear: 5 Maximum Height in Feet: 35



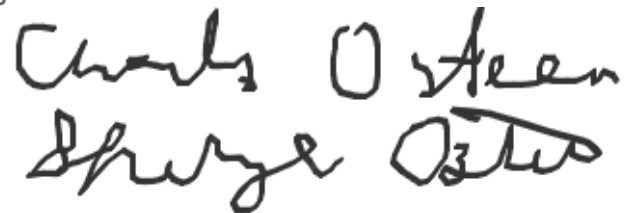
N. Harper Drive Rezoning
P21-84-RZO
PINs: 9569-26-2653 & 9569263517
Acreage: 0.68
Proposed Zoning
Community Development Department

-  Subject Property
-  Streams/Rivers
-  Hendersonville City Limits
- Hendersonville Zoning**
 -  R-15 Medium Density Residential
 -  R-10 Medium Density Residential



Entry #: 8**Date Submitted:** 12/10/2021 11:19 AM**Date:**
12/10/2021**Address/Location of Property:**
2367 Brannon Rd**Current Zoning:**
R-15**Proposed Zoning:**
R-10

List the adjacent property parcel numbers and uses.

PIN or PID #
9569264527**Adjacent Property Use:**
Multi-family residence (R-10)**PIN or PID #**
9569262431**Adjacent Property Use:**
Single family residence (R-15)**PIN or PID #**
9569261522**Adjacent Property Use:**
Single family residence (R-15)**PIN or PID #**
9569261793**Adjacent Property Use:**
Single family residence (R-15)**Applicant Name:**
Charles and Sheryl Osteen**Address**
2367 Brannon Rd, Horse Shoe, North Carolina 28742**Phone**
(828) 974-1122**Email**
eosteen648@aol.com**Property Owner Name:**
AMJESS LLC**Address**
2367 Brannon Rd, Horse Shoe, North Carolina 28742**PIN or PID #**
9569262653 and 9569263517**Signature****Printed Name:**
Charles and Sheryl Osteen**Official Use Only:****Date Received:****Received By:****Fee Received:**

Section 11-4 Standards: The advisability of amending the text of the Zoning Ordinance or the Official Zoning Map is a matter committed to the legislative discretion of the City Council and is not controlled by any one factor. In determining whether to adopt or disapprove the proposed amendment to the text of this Ordinance or the Official Zoning Map, the City Council shall consider the following factors among others:

- a) **Comprehensive Plan Consistency.** Consistency with the Comprehensive Plan and amendments thereto.
- b) **Compatibility with surrounding uses.** Whether and the extent to which the proposed amendment is compatible with existing and proposed uses surrounding the subject property.
- c) **Changed Conditions.** Whether and the extent to which there are changed conditions, trends or facts that require an amendment.
- d) **Public Interest.** Whether and the extent to which the proposed amendment would result in a logical and orderly development pattern that benefits the surrounding neighborhood, is in the public interest and promotes public health, safety and general welfare.
- e) **Public facilities.** Whether and to the extent which adequate public facilities and services such as water supply, wastewater treatment, fire and police protection and transportation are available to support the proposed amendment.
- f) **Effect on natural environment.** Whether and the extent to which the proposed amendment would result in significantly adverse impacts on the natural environment including but not limited to water, air, noise, stormwater management, streams, vegetation, wetlands and wildlife.

Date Filed: 11/28/2000 11:00 AM

Elaine F. Marshall

North Carolina Secretary of State

203339017

**State of North Carolina
Department of the Secretary of State**

**Limited Liability Company
ARTICLES OF ORGANIZATION**

Pursuant to §57C-2-20 of the General Statutes of North Carolina, the undersigned does hereby submit these Articles of Organization for the purpose of forming a limited liability company.

1. The name of the limited liability company is: AMJRSS, LLC
2. If the limited liability company is to dissolve by a specific date, the latest date on which the limited liability company is to dissolve: *(If no date for dissolution is specified, there shall be no limit on the duration of the limited liability company.)*
3. The name and address of each person executing these articles of organization is as follows: *(State whether each person is executing these articles of organization in the capacity of a member, organizer or both).*

Charles E. Osteen Member & Organizer
9 Greystone Dr., Hendersonville, NC 28792
Sheryl H. Osteen Member & Organizer
9 Greystone Dr., Hendersonville, NC 28792

4. The street address and county of the initial registered office of the limited liability company is:

Number and Street 9 Greystone Dr.

City, State, Zip Code Hendersonville, NC 28792 County Henderson

5. The mailing address *if different from the street address* of the initial registered office is:

6. The name of the initial registered agent is: Charles E. Osteen

7. Check one of the following:

☒ (i) **Member-managed LLC**: all members by virtue of their status as members shall be managers of this limited liability company.

☐ (ii) **Manager-managed LLC**: except as provided by N.C.G.S. Section 57C-3-20(a), the members of this limited liability company shall not be managers by virtue of their status as members.

8. Any other provisions which the limited liability company elects to include are attached.

9. These articles will be effective upon filing, unless a date and/or time is specified:
- _____

This is the 20th day of November, 20 00

Charles E. Osteen
Signature

Charles E. Osteen Member &
Type or Print Name and Title Organizer

Sheryl H. Osteen
Signature

Sheryl H. Osteen Member &
Type or Print Name and Title Organizer

NOTES:

1. Filing fee is \$125. This document and one exact or conformed copy of these articles must be filed with the Secretary of State.

(Revised January 2000)
CORPORATIONS DIVISION

P.O. Box 29622

(Form 1.-01)
RALEIGH, NC 27626-0622



StarNews | The Dispatch | Times-News
Sun Journal | The Daily News | The Star
The Free Press | Gaston Gazette

Order Confirmation

Not an Invoice

Section 7, Item A.

Account Number:	488558
Customer Name:	City Of Hendersonville
Customer Address:	City Of Hendersonville 160 6Th AVE E City Clerk Hendersonville NC 28792-3775
Contact Name:	Angela Reece
Contact Phone:	828-697-3005
Contact Email:	areece@hvlnc.gov
PO Number:	P21-78-CZD

Date:	02/15/2022
Order Number:	6930767
Prepayment Amount:	\$ 0.00

Column Count:	1.0000
Line Count:	102.0000
Height in Inches:	0.0000

Print

Product	#Insertions	Start - End	Category
HEN Times-News	2	02/20/2022 - 02/27/2022	Public Notices
HEN blueridgenow.com	2	02/20/2022 - 02/27/2022	Public Notices

Total Order Confirmation

\$29.48

PUBLIC HEARING NOTICE
 Notice is hereby given that the City of Hendersonville City Council will hold two public hearings on Thursday, March 3, 2022, at 5:45 p.m., or as soon thereafter as possible in the City Operations Assembly Room located at 305 Williams Street, Hendersonville NC to consider the following:

I. Zoning Map Amendment- N. Harper Dr. (P21-84-RZO) - Application for a standard rezoning from Charles and Sheryl Osteen of AMJESS, LLC. The applicant is requesting to rezone the subject property, PIN 9569-26-2653 and 9569-26-3517 and located on N. Harper Drive, from R-15, Medium Density Residential to R-10, Medium Density Residential.

II. Conditional Zoning District - Greenville Highway Apts. (P21-78-CZD) - application for a Conditional Zoning District from Joey Burnett of The Tamara Peacock Company, Brett Barry, applicant and Hunting Creek Associates, LLC, property owners. The applicants are requesting to rezone the subject property, PIN 9568-92-1924 and located at 904 Greenville Highway, from GHMU, Greenville Highway Mixed Use to GHMU CZD, Greenville Highway Mixed Use Conditional Zoning District for the construction of a multi-family development consisting of 80 units on approximately 2.25 acres.

Digital/written public hearing comments must be received twenty-four hours prior to the meeting (by 5:45 p.m. on Wednesday March 2nd) to be considered by the City Council and must comply with security criteria in the Council's Public Comment Policy, available on the City's website.

Public hearing comments will also be accepted during the meeting from those attending in person and from those participating live via ZOOM at the designated time at this meeting. For security reasons screen sharing will not be allowed. Anyone wishing to submit written/digital public hearing comments for these public hearings prior to the meeting may visit <https://www.hendersonvillenc.gov/comment> to submit their comment. It is not necessary to submit digital comments if you are planning to address City Council during the meeting.

The meeting instructions to join by Zoom will be available on the City's website calendar by visiting <https://www.hendersonvillenc.gov/events-calendar> and as follows:

Zoom information for the meeting is: <https://zoom.us/join>
 Dial-in by phone: (646) 558-8656
 Meeting ID: 822 0104 2528
 Passcode: 1847

The City of Hendersonville is committed to providing accessible facilities, programs, and services for all people in compliance with the Americans with Disabilities Act (ADA). Should you need assistance or a particular accommodation for this meeting please contact the City Clerk no later than 24 hours in advance of the meeting (828) 697-3005.

Run two times: Sunday, February 20, 2022, Sunday, February 27, 2022
 2/20, 2/27/2022 6930767

PUBLIC HEARING NOTICE

Notice is hereby given that the City of Hendersonville City Council will hold two public hearings on Thursday, March 3, 2022, at 5:45 p.m., or as soon thereafter as possible in the City Operations Assembly Room located at 305 Williams Street, Hendersonville NC to consider the following:

- I. **Zoning Map Amendment– N. Harper Dr. (P21-84-RZO)** - Application for a standard rezoning from Charles and Sheryl Osteen of AMJESS, LLC. The applicant is requesting to rezone the subject property, PIN 9569-26-2653 and 9569-26-3517 and located on N. Harper Drive, from R-15, Medium Density Residential to R-10, Medium Density Residential.

- II. **Conditional Zoning District – Greenville Highway Apts. (P21-78-CZD)** - application for a Conditional Zoning District from Joey Burnett of The Tamara Peacock Company, Brett Barry, applicant and Hunting Creek Associates, LLC, property owners. The applicants are requesting to rezone the subject property, PIN 9568-92-1924 and located at 904 Greenville Highway, from GHMU, Greenville Highway Mixed Use to GHMU CZD, Greenville Highway Mixed Use Conditional Zoning District for the construction of a multi-family development consisting of 80 units on approximately 2.25 acres.

Digital/written public hearing comments must be received twenty-four hours prior to the meeting (by 5:45 p.m. on Wednesday March 2nd) to be considered by the City Council **and must** comply with security criteria in the Council's Public Comment Policy, available on the City's website.

Public hearing comments will also be accepted during the meeting from those attending in person and from those participating live via ZOOM at the designated time at this meeting. For security reasons screen sharing will not be allowed. Anyone wishing to submit written/digital public hearing comments for these public hearings prior to the meeting may visit <https://www.hendersonvillenc.gov/comment> to submit their comment. It is not necessary to submit digital comments if you are planning to address City Council during the meeting.

The meeting instructions to join by Zoom will be available on the City's website calendar by visiting <https://www.hendersonvillenc.gov/events-calendar> and as follows:

Zoom information for the meeting is: <https://zoom.us/join>
 Dial-in by phone: (646) 558-8656
 Meeting ID: 822 0104 2528
 Passcode: 1847

The City of Hendersonville is committed to providing accessible facilities, programs, and services for all people in compliance with the Americans with Disabilities Act (ADA). Should you need assistance or a particular accommodation for this meeting please contact the City Clerk no later than 24 hours in advance of the meeting (828) 697-3005.

Run two times: Sunday, February 20, 2022, Sunday, February 27, 2022



CITY OF HENDERSONVILLE

AGENDA ITEM SUMMARY

PLANNING DIVISION

SUBMITTER:	Matthew Manley, Planning Manager	MEETING DATE:	March 3, 2022
AGENDA SECTION:	Public Hearing	DEPARTMENT:	Community Development
TITLE OF ITEM:	Rezoning: Conditional Zoning District – Greenville Highway Multi-Family (P21-78-CZD) – <i>Matthew Manley, AICP – Planning Manager</i>		

SUGGESTED MOTION(S):

<u>For Recommending Approval:</u>	<u>For Recommending Denial:</u>
<p>I move City Council <u>adopt</u> an ordinance amending the official zoning map of the City of Hendersonville changing the zoning designation of the subject property (PIN: 9568-92-1924) from GHMU (Greenville Highway Mixed Use) to GHMU-CZD (Greenville Highway Mixed Use – Conditional Zoning District) based on the site plan and list of conditions submitted by and agreed to by the applicant, [dated _____], and presented at this meeting and subject to the following:</p> <p>1. The development shall be consistent with the site plan, including the list of applicable conditions contained therein, and the following permitted uses:</p> <p style="margin-left: 40px;">a. Residential Dwellings, Multi-Family</p> <p><i>[for amendments to uses or conditions discussed and agreed upon in the Council meeting (between City & Developer) and not yet represented on the site plan, please use the following language, disregard #2 if not needed]</i></p> <p>2. Permitted uses and applicable conditions presented on the site plan shall be amended to include:</p> <p><i>[list any additional permitted uses or conditions here]</i></p> <p>3. The petition is found to be <u>consistent</u> with the City of Hendersonville 2030 Comprehensive Plan based on the information from the staff analysis and because:</p>	<p>I move City Council <u>deny</u> the petition to amend the official zoning map of the City of Hendersonville for the subject property (PIN: 9568-92-1924) from GHMU (Greenville Highway Mixed Use) to GHMU-CZD (Greenville Highway Mixed Use – Conditional Zoning District) based on the following:</p> <p>1. The petition is found to be <u>consistent</u> with the City of Hendersonville 2030 Comprehensive Plan based on the information from the staff analysis and because:</p> <p style="margin-left: 40px;">a. The High Intensity Neighborhood designation calls for Multi-Family Residential as a primary land use and the proposed site plan aligns with all applicable development guidelines listed under LU 7.4.</p> <p>2. We do not find this petition to be reasonable and in the public interest based on the information from the staff analysis and the public hearing, and because:</p> <p><i>[staff report draft rationale]</i></p> <p style="margin-left: 40px;">a. The proposed parking provided is insufficient to meet the needs of the development intensity.</p> <p style="margin-left: 40px;">b. The scale of the proposed project is not compatible with surrounding development.</p> <p style="margin-left: 40px;">c. The petition will result in the removal of some mature trees.</p>

<p>a. The High Intensity Neighborhood designation calls for Multi-Family Residential as a primary land use and the proposed site plan aligns with all applicable development guidelines listed under LU 7.4.</p> <p>4. We find this petition to be reasonable and in the public interest based on the information from the staff analysis and the public hearing, and because:</p> <p><i>[staff report draft rationale]</i></p> <p>a. The petition is located in a Priority Infill Area which recommends redevelopment of underutilized lots.</p> <p>b. The petition promotes compatible infill development.</p> <p>c. The petition is located on a Major Thoroughfare.</p> <p>d. The petition provides walkable design in close proximity to goods and services.</p> <p>e. The petition proposes to place buildings and drives where existing land disturbing activities have previously occurred.</p> <p>f. The petition proposes to provide street trees along sidewalks.</p> <p>g. The petition is proposing to provide bicycle parking facilities.</p> <p>[DISCUSS & VOTE]</p>	<p>[DISCUSS & VOTE]</p>
---	------------------------------------

SUMMARY: The City of Hendersonville is in receipt of an application for a Conditional Zoning District from Joey Burnett of The Tamara Peacock Company, Brett Barry, applicant and Hunting Creek Associates, LLC, property owners. The applicants are requesting to rezone the subject property (PIN 9568-92-1924) located at 904 Greenville Highway (at the corner of Chadwick Ave), from GHMU (Greenville Highway Mixed Use) to GHMU-CZD (Greenville Highway Mixed Use - Conditional Zoning District) for the redevelopment of a 2.25-acre site consisting of 80 vertical apartment units (56 – 2bd/2ba & 24 – 1 bd/1ba) with a density of 35.6 units/acre. The Greenville Highway Mixed Use district does not have a density cap. There are 3 – 4-story buildings proposed with a total of 117,600 Sq Ft GFA. The site is currently vacant and features clusters of mature trees. The site had previously been occupied by a mobile home park with 13 units.

This project required a conditional rezoning due to the scale of the proposed development exceeding 50,000 Sq Ft.

PROJECT/PETITIONER NUMBER:	P21-78-CZD
PETITIONER NAME:	Joey Burnett / Brett Barry / Hunting Creek Associates
ATTACHMENTS:	<ol style="list-style-type: none">1. Staff Report2. Planning Board Report3. Neighborhood Compatibility Meeting Report4. Tree Board Report5. Draft Ordinance6. Proposed Site Plan / Elevations7. TIA / TIA Review8. Application / Owner Signature Addendum

Ordinance #____-____

AN ORDINANCE OF THE CITY OF HENDERSONVILLE CITY COUNCIL TO AMEND THE OFFICIAL ZONING MAP OF THE CITY OF HENDERSONVILLE FOR PARCEL POSSESSING PIN NUMBER 9568-92-1924) BY CHANGING THE ZONING DESIGNATION FROM GHMU (GREENVILLE HIGHWAY MIXED USE) TO GHMU-CZD (GREENVILLE HIGHWAY MIXED USE – CONDITIONAL ZONING DISTRICT)

IN RE: Parcel Number: 9568-92-1924 – 904 Greenville Highway (Greenville Highway Multi-Family) - (File # P21-78-CZD)

WHEREAS, the City is in receipt of a Conditional Rezoning application from applicant Joey Burnette of Tamara Peacock Architects and Hunting Creek Associates for the development of 80 Apartments on approximately 2.25 acres, and

WHEREAS, the Planning Board took up this application at its regular meeting on February 14, 2022; voting 5-1 to recommend City Council deny the request for an ordinance amending the official zoning map of the City of Hendersonville, and

WHEREAS, City Council took up this application at its regular meeting on March 3, 2022, and

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

1. Pursuant to Article XI of the Zoning Ordinance of the City of Hendersonville, North Carolina, the Zoning Map is hereby amended by changing the zoning designation of the following: Parcel Number: 9568-92-1924 from GHMU (Greenville Highway Mixed Use) to GHMU-CZD (Greenville Highway Mixed Use – Conditional Zoning District).
2. Development of the parcel shall occur in accordance with the final site plan requirements of Article VII of the Zoning Ordinance of the City of Hendersonville, North Carolina, and shall be based on the site plan submitted by the applicant and subject to the following.
 - a. Permitted uses shall include:
 - i. Residential Dwellings, Multi-Family
 - b. Conditions that shall be satisfied prior to final site plan approval include:

City-Initiated:

 - i. The driveway location must be shifted as far from the intersection of Chadwick Ave and Greenville Highway as possible; and
 - ii. The trees along the edge of the parking lots and the stream must be protected in compliance with Article XV, Section 15-4(C) of the Zoning Ordinance; and
 - iii. Open greenspace must be used and preserved around parking areas for green infrastructure: bioswale, bioretention, rain garden; and
 - iv. The existing natural drainage way along the eastern boundary of the parcel must be preserved at a minimum, but should be improved; and

- v. Additional architectural detail at corner of building located at Greenville Hwy and Chadwick Ave must be provided to demonstrate compliance with Section 18-6-4.5 of the Zoning Ordinance, which states "On corner lots, the applicant is encouraged to provide a building entry, additional building mass, and distinctive architectural elements at corner of buildings."
- 3. This ordinance shall not be effective until the stipulated list of use(s) and conditions, established herein, is consented to in writing by the applicant and all owners of the subject property. Upon such written consent, this ordinance shall be effective retroactive to the date of its adoption.

Adopted this 3rd, day of March 2022.

Barbara G. Volk, Mayor, City of Hendersonville

Attest:

Angela L. Reece, City Clerk

Approved as to form:

Angela S. Beeker, City Attorney

IN RE: Parcel Number: 9568-92-1924 – 904 Greenville Highway (Greenville Highway Multi-Family) - (File # P21-78-CZD)

With their signatures below, the undersigned applicant(s) and property owner(s) consent to and agree to the imposition of all conditions stated.

Applicant/Developer: Brett Barry

Property Owner: Hunting Creek Associates, LLC.

Signature: _____

Signature: _____

Printed Name: _____

Printed Name: _____

Title: _____

Title: _____

Date: _____

Date: _____



PLANNING BOARD RECOMMENDATION
GREENVILLE HIGHWAY APARTMENTS (P21-78-CZD)
March 3, 2022

PETITION REQUEST: 80 Apartment units on 2.25 acres at corner of Greenville Highway and Chadwick Ave. Proposed to be three 4-Story buildings totaling 117,600 Sq Ft.

APPLICANT/PETITIONER: Brett Barry (Owner/Developer/Applicant), Joey Burnett (Architect)

PLANNING BOARD ACTION SUMMARY:

The Planning Board voted 5-1 to recommend **DENIAL** of this petition and adopted the following motion:

PLANNING BOARD MOTION:

Mr. Blatt stated regretfully he is going to move the Planning Board to recommend the City Council deny the petition for this project as they submitted it tonight to amend the official zoning map of the City of Hendersonville changing the zoning designation of the subject property (PIN: 9568-92-1924) from GHMU, Greenville Highway Mixed Use to GHMU-CZD Greenville Highway Mixed Use-Conditional Zoning District based on the following:

He does not find this petition to be reasonable and in the public interest based on the information in the staff analysis at this public hearing and due to the density and the current lack of adequate parking.

OVERVIEW OF DISCUSSION FROM MINUTES:

Issues related to the developer's proposal to have 80 parking spaces for 80 units was a major part of the discussion. The height of the structures, as it related to compatibility, was also discussed (though it was recognized that the applicant met the height restrictions of the Zoning Code). The suitability and impact of the proposed development in relationship to the adjacent neighborhood and the existing infrastructure were also explored. Ten members of the public spoke during the public comment period with heavy representation from the adjacent R-15 neighborhood.

BOARD ACTION:

Motion/Second: Blatt/Brown

Yeas: Blatt, Brown, Cromar, Robertson, Nace

Nays: Glassman

Absent: Hanley, Jones

Recused: Peacock

GREENVILLE HIGHWAY MULTI-FAMILY (P21-78-CZD)
CITY OF HENDERSONVILLE - COMMUNITY DEVELOPMENT STAFF REPORT

PROJECT SUMMARY 2

EXISTING ZONING & LAND USE 3

SITE IMAGES..... 4

SITE IMAGES..... 5

SITE IMAGES 6

SITE IMAGES 7

REZONING HISTORY 8

FUTURE LAND USE 9

REZONING ANALYSIS – COMPREHENSIVE PLAN CONSISTENCY (ARTICLE 11-4) 10

REZONING ANALYSIS – COMPREHENSIVE PLAN CONSISTENCY (ARTICLE 11-4) 11

REZONING ANALYSIS – GENERAL REZONING STANDARDS (ARTICLE 11-4) 13

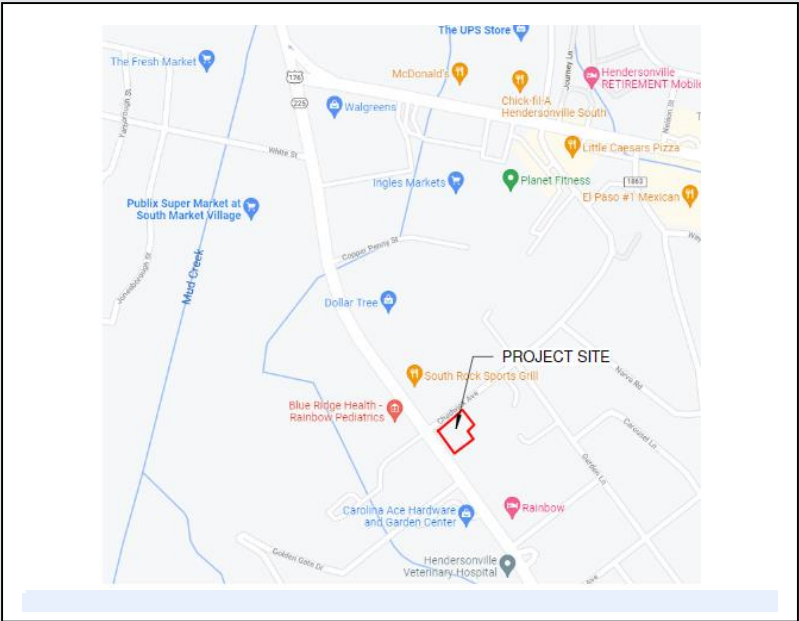
DRAFT COMPREHENSIVE PLAN CONSISTENCY AND REZONING REASONABLENESS STATEMENT 14

STAFF SITE PLAN REVIEW – SUMMARY COMMENTS 15

STAFF SITE PLAN REVIEW – OUTSTANDING ISSUES & TECHNICAL REVISIONS 16



- Project Name & Case #:
 - Greenville Highway Multi-Family
 - P21-78-CZD
- Applicant & Property Owner:
 - Joey Burnett / Tamara Peacock Architects [Applicant]
 - Brett Barry [Developer]
 - Noy Hensley / Hunting Creek Associates, LLC. [Owner]
- Property Address:
 - 904 Greenville Highway
- Project Acreage:
 - 2.25 Acres
- Parcel Identification (PIN):
 - 9568-92-1924
- Current Parcel Zoning:
 - GHMU (Greenville Highway Mixed Use)
- Requested Zoning:
 - GHMU-CZD (Greenville Highway Mixed Use Conditional Zoning District)
- Future Land Use Designation:
 - High Intensity Neighborhood
- Neighborhood Compatibility Meeting:
 - December 15th, 2021



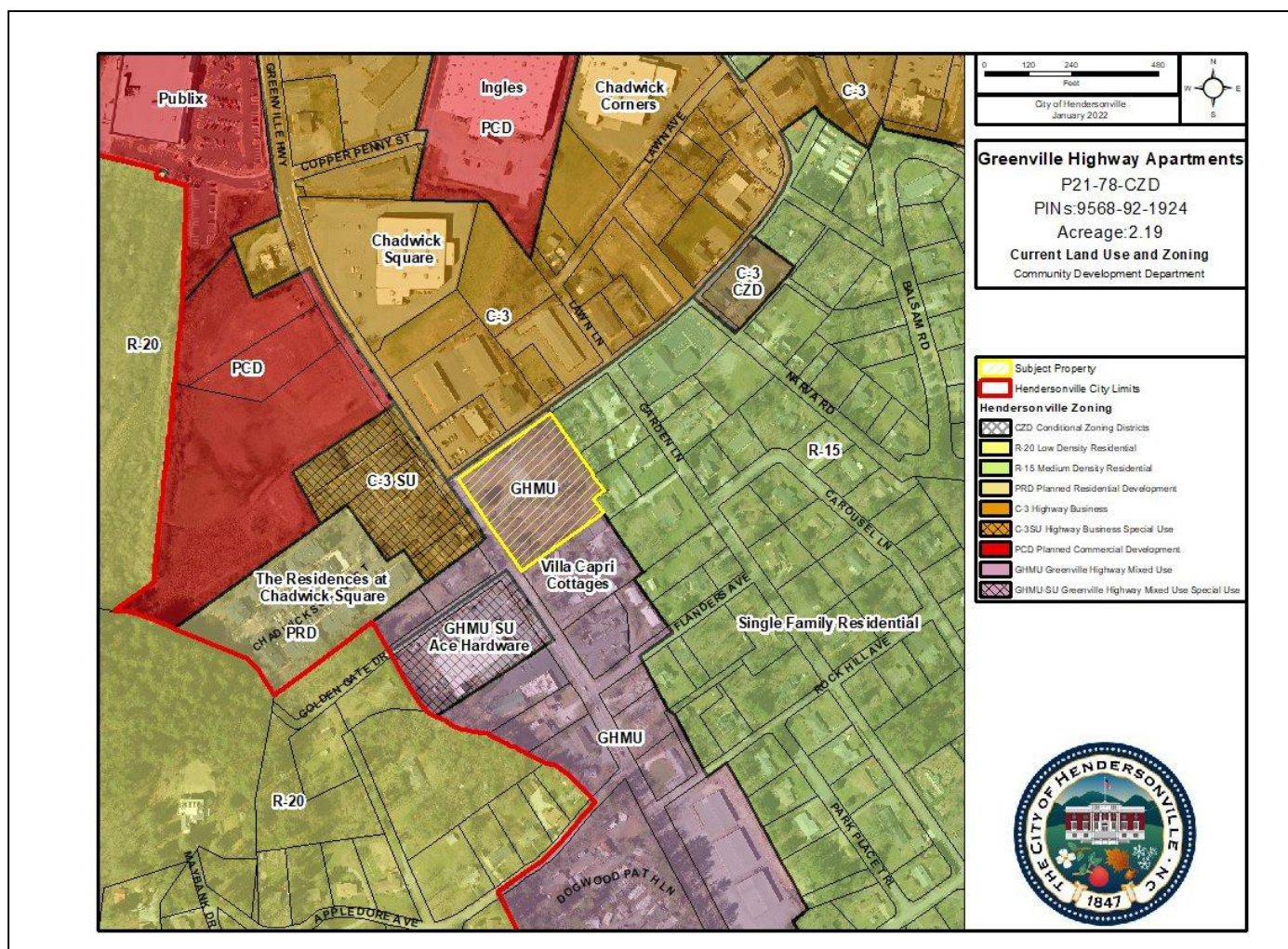
SITE VICINITY MAP

The City of Hendersonville is in receipt of an application for a Conditional Zoning District from Joey Burnett of The Tamara Peacock Company (applicant), Brett Barry (developer) and Noy Hensley, Hunting Creek Associates, LLC (property owners). The applicants are requesting to rezone the subject property (PIN 9568-92-1924) located at 904 Greenville Highway (at the corner of Chadwick Ave), from GHMU (Greenville Highway Mixed Use) to GHMU-CZD (Greenville Highway Mixed Use - Conditional Zoning District) for the redevelopment of a 2.25-acre site consisting of 80 vertical apartment units (56 – 2bd/2ba & 24 – 1 bd/1ba) with a density of 35.6 units/acre. The Greenville Highway Mixed Use district does not have a density cap. There are 3 – 4-story buildings proposed with a total of 117,600 Sq Ft GFA. The stated use of the site is residential, multi-family.

The site is currently vacant and features clusters of mature trees. The site had previously been occupied by a mobile home park with 13 units.

This project required a conditional rezoning due to the scale of the proposed development exceeding 50,000 Sq Ft.

EXISTING ZONING & LAND USE



City of Hendersonville Current Zoning & Land Use Map

This parcel at the intersection of Greenville Highway and Chadwick Ave represents the beginning of the Greenville Highway Mixed Use zoning district as the GHMU district extends along Greenville Highway towards the Village of Flat Rock. Parcels to the south along this corridor are all zoned GHMU/GHMU-SU and consist of a mix of commercial (office, retail, etc.) and residential uses (multi-family and single-family). The properties to the east of the subject parcel are zoned R-15 and consist of typical suburban single-family homes. Parcels to the north are C-3 and representative of the hub of intense commercial activity found at the intersection of Greenville Highway and Spartanburg Highway. Some PCD zoning is found in this area and is associated with the 3 large, grocery store-anchored strip center developments in close proximity to the subject property – each of which is less than a ½ mile (less than a 10-minute walk) from the subject property. The subject property is .85 miles (15 to 20-minute walk) from Downtown (using the Historic Henderson County Courthouse as destination point).

SITE IMAGES



View along Greenville Highway towards Chadwick Ave intersection



View along Chadwick Ave towards Greenville Highway intersection

SITE IMAGES



View at corner of Chadwick Ave and Greenville Highway



*View of center of site from corner of Chadwick Ave and Greenville Highway.
Remnants of existing asphalt visible.*

SITE IMAGES



View of center of site near Chadwick Ave facing southeast. Remnants of existing asphalt visible



View of center of the site from rear of site facing Chadwick Ave. Remnants of existing asphalt visible

SITE IMAGES



View of eastern corner of the subject property and adjacent structures



View of wet weather conveyance along eastern property line and neighboring structures and debris

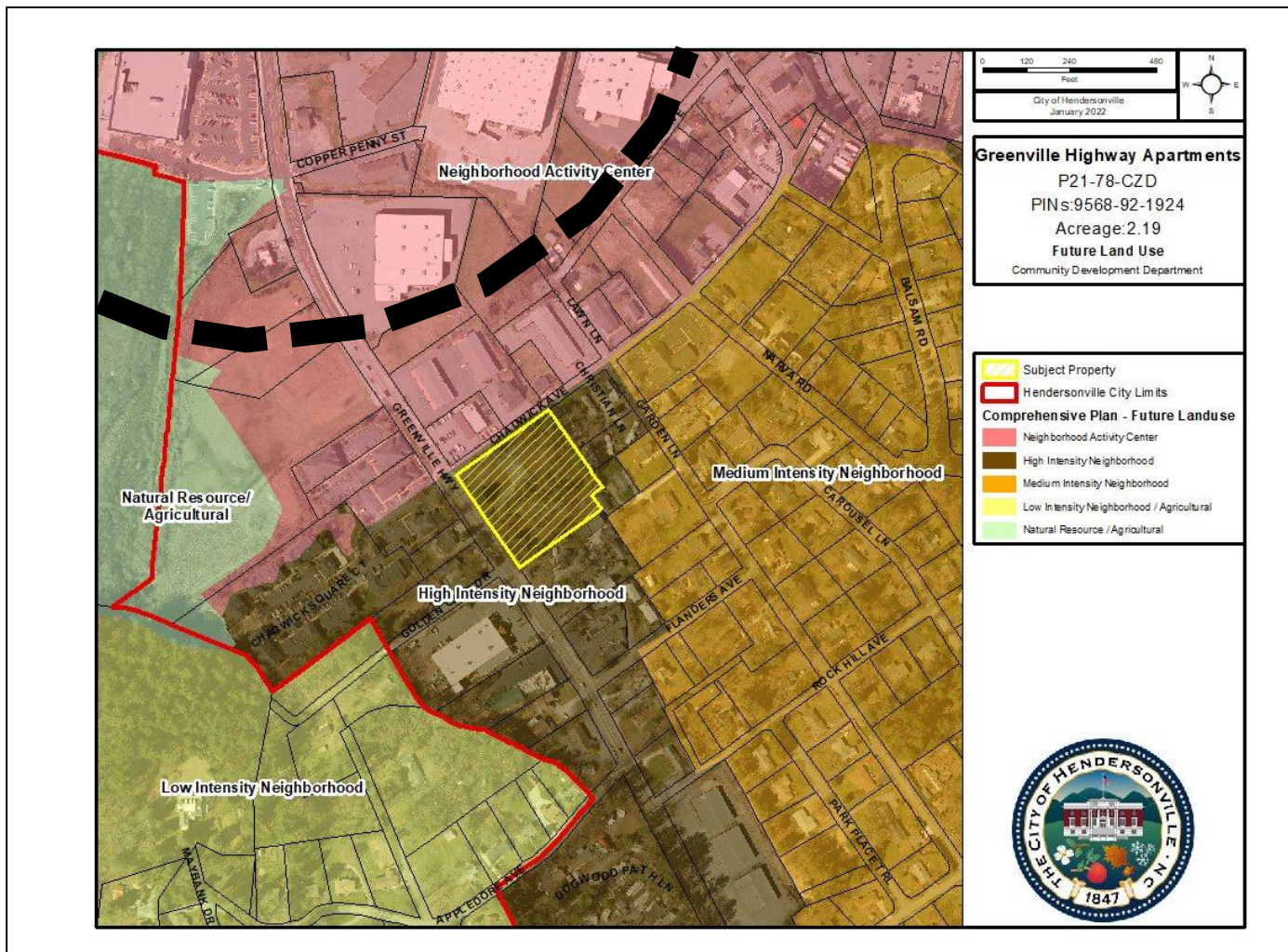
REZONING HISTORY – GHMU (Greenville Highway Mixed Use) – October 9, 2003

Prior Zoning	Summary of Prior Petition	Status
Unknown		

The specific previous zoning for this currently vacant parcel is unknown but we do know that the site had previously been used as a mobile home park. This former use likely dates back to at least the mid-1970s.

The parcel was rezoned as part of the establishment of the GHMU district which was approved on October 9, 2003.

FUTURE LAND USE



City of Hendersonville Future Land Use Map

The subject property is located at a boundary edge where a High Intensity Neighborhood District transitions from a Neighborhood Activity Center along the Chadwick Ave intersection with Greenville Highway. It is also in close proximity to the Activity Node located at the intersection of Greenville Highway & Spartanburg Highway. Not only does this location serve as a transitional area for the intensity related to the Activity Node but also the intensity of uses along Greenville Highway - transitioning from High Intensity Neighborhood to Medium Intensity Neighborhood to the east. Low Intensity Neighborhood and Natural Resource / Agricultural designations are also found in vicinity of the project but have a lesser relationship to the proposed rezoning / redevelopment proposal.

REZONING ANALYSIS – COMPREHENSIVE PLAN CONSISTENCY (ARTICLE 11-4)

COMPREHENSIVE PLAN CONSISTENCY

Future Land Use	Goal LU-7 - High Intensity Neighborhood - Encourage low-maintenance, high density housing that supports Neighborhood and Regional Activity Centers and downtown and provides a transition between commercial and single-family development. Promote walkable neighborhood design that creates attractive and functional roadway corridors and multi-family residential neighborhoods
	Strategy LU-7.1. Locations: <ul style="list-style-type: none"> • Existing or planned high-density housing neighborhoods (greater than eight units per acre) [consistent] • Priority infill development areas where high-density development is desirable and/or expected, including: <ul style="list-style-type: none"> o Boulevard and Major Thoroughfare corridors near Neighborhood Activity Centers [consistent] o Neighborhoods near Downtown, excluding historic neighborhoods [consistent]
	Strategy LU-7.2. Primary recommended land uses: <ul style="list-style-type: none"> • Multi-family residential [consistent]
	Strategy LU-7.4. Development guidelines: <ul style="list-style-type: none"> • Eight or more units per gross acre [consistent] • Placement of higher-intensity uses (e.g. office or higher-density residential) close to Boulevards and Major Thoroughfares, and/or adjacent to Neighborhood and Regional Activity Centers [consistent] • At least 60% open space in new residential developments greater than three acres [n/a] • Architectural guidelines to encourage compatibility between different land uses (e.g. similarities in building height, massing, roof pitch, and rhythm of windows and façade detailing) [consistent] • Encouragement of walkable neighborhood design, as described under Goal PH-3 in Chapter 2 [consistent]
Land Use & Development	Growth Management: Designated as a “Priority Infill Area” (Map 8.3a) - Areas that are considered a high priority for the City to encourage infill development on remaining vacant lots and redevelopment of underutilized or underdeveloped properties [consistent]
	Goal LU-1. Encourage infill development that utilizes existing infrastructure in order to maximize public investment and revitalize existing neighborhoods. Strategy LU-1.1. Encourage infill development and redevelopment in areas planned for high-intensity development, as indicated by the “Priority Infill Areas” on Map 8.3a. [consistent]
	<u>Infill development:</u> Development that takes place within existing neighborhoods, making maximum use of the existing infrastructure instead of building on previously undeveloped land. -Centers for Disease Control and Prevention, Healthy Places Terminology Examples of opportunities for infill development include: • Scattered vacant lots • Underutilized commercial properties

REZONING ANALYSIS – COMPREHENSIVE PLAN CONSISTENCY (ARTICLE 11-4)**COMPREHENSIVE PLAN CONSISTENCY**

Population & Housing	<p>Strategy PH-1.1 – Promote Compatible infill development...</p> <p>Action PH-1.1.1 – Develop design guidelines for infill development...</p> <p>Action PH-1.1.2 – Implement zoning map and/or text amendments as needed in the Priority Infill Areas...Amendments will bring zoning standards in line with desired form and land uses.</p> <p>Action PH-1.5.6 – Promote installation of street trees through private redevelopment.</p>
	<p>Strategy PH-2.2 – Encourage provision of affordable housing units in new developments.</p>
	<p>Strategy PH-3.2 - Encourage mixed land use patterns that place residents within walking distance of services.</p> <p>Action PH-3.2.1 - Encourage pedestrian-friendly design features in residential developments, such as ... rear parking lots and front entrances in multi-family developments.</p>
Natural & Environmental Resources	<p>Goal NR-2 - Provide a variety of quality open space, distributed equitably throughout Hendersonville, that can be used for recreational opportunities and aesthetic enhancements</p>
	<p>Strategy NR-2.1. Encourage clustered development that preserves open space while allowing a return on investment. Clustering homes on smaller lots, or clustering commercial development in multi-story buildings, preserves open space without sacrificing housing units or leasable floor area. Zoning regulations can encourage such development by avoiding minimum lot area standards and promoting flexibility in design</p>
	<p>Strategy NR-2.3 – Promote preservation of woodlands. Mature trees and wooded areas are significant community-defining natural features that contribute to Hendersonville’s identity. Trees provide several additional community benefits, as described in Figure 3.3.c.</p> <p>Action NR-2.3.5 Encourage larger developments to place structures and roadways in areas where land has been disturbed and trees have already been removed.</p>
	<p>Strategy NR-2.4 – Promote the location and design of open space areas within developments...</p> <p>Action NR-2.4.1 – Encourage development and redevelopment projects to provide open space areas that connect to planned green infrastructure areas.</p>
	<p>Strategy NR-3.2. Enable and encourage Low-Impact Development practices in stormwater management. Low Impact Development (LID) is an innovative approach to stormwater management that mimics natural hydrological processes and focuses on both the quality and quantity of stormwater. See Strategy WR-2.3 in Chapter 6 for details and examples of LID practices.</p>

Cultural & Historic Resources	The subject property is less than .3 miles from a locally-designated historic landmark, the Brookland Charles Edmondston House at 299 Balsam Rd.
	The surrounding residential area appears to primarily be post-WWII conventional suburban development.
	No Goals, Strategies, or Actions are directly applicable to this project.
Community Facilities	No Goals, Strategies, or Actions are directly applicable to this project.
Water Resources	The proposed project would be serviced by City Water and Sewer.
	Strategy WR-2.1. Continue to fund and operate the City's stormwater management program. This program, as required through Phase II of the Federal Clean Water Act, includes the following elements: Action WR-2.1.5 Continue to require the control of post construction runoff through the City's stormwater regulations.
	Strategy WR-2.3. Enable and encourage Low-Impact Development practices in stormwater management. Low Impact Design (LID) is an innovative approach to stormwater management that mimics natural hydrological processes and focuses on both the quality and quantity of stormwater.
Transportation & Circulation	The project is located on a Major Thoroughfare with Proposed Improvement according to Map 7.3a.
	Strategy TC-1.1. Encourage mixed-use, pedestrian-friendly development that reduces the need to drive between land uses. Action TC-1.1.3 Encourage walkable site design, as described under Goal PH-3
	Strategy TC-2.4. Encourage bicycle parking facilities at key destinations. Providing secure parking facilities for bicycles is an important component in creating a convenient bicycling infrastructure and promoting bicycle usage
	Strategy TC-3.4. Improve roadways as needed to implement the land use vision and meet level-of-service requirements, as illustrated on Map 7.3a.
	Goal TC-5. Enhance key gateways to the community in order to present a positive first impression and increase civic pride. The appearance of a community's roadways affects the perception of that community by visitors as well as citizens. Enhanced entrances and roadways help to make the community more attractive to visitors and prospective residents and businesses, while increasing pride in the community among existing citizens.

REZONING ANALYSIS – GENERAL REZONING STANDARDS (ARTICLE 11-4)

GENERAL REZONING STANDARDS	
Compatibility	<p>Given the wide range of uses and levels of intensity in the surrounding area and along the Greenville Highway Corridor and given the proximity to the intersection with Spartanburg Highway and general proximity to Downtown, high density multi-family residential appears to be compatible as a use. The design guidelines of the GHMU Zoning District, further ensure that a development of this scale is compatible with the surrounding area and corridor.</p> <p>Cultural Resources: The subject property is less than .3 miles from a locally-designated historic landmark, the Brookland Charles Edmondston House at 299 Balsam Rd. The surrounding residential area appears to primarily be post-WWII suburban development.</p>
Changed Conditions	<p>The southern end of Hendersonville has continued to develop as a key commercial node for the City with a wide range of groceries, restaurants, retail shops, services and high density residential.</p>
Public Interest	<p>The proposed 80 residential units would provide much needed additional housing while making efficient use of land (under 2.5 acres) within walking distance to a number of opportunities for employment, shopping, and recreation.</p>
Public Facilities	<p>A Water / Sewer Availability Request has not been submitted for this project.</p> <p>Staff required a TIA to identify any needed mitigation although the project was under the threshold for triggering a TIA based on projected daily trips. Concerns around the impact to the functionality of Chadwick Ave provided justification for acting upon the discretion granted to the Community Development Director to require a TIA.</p>
Effect on Natural Environment	<p>While some mature hardwood trees would be lost due to the development, the impact would not be considered “significant” due to this being an area that was previously developed and is not considered to be an area ranking highly in biodiversity. Efforts appear to have been made to preserve as many trees as possible on the site.</p> <p>Floodplain Considerations: While the subject property is not located within a floodplain or floodway, it is in close proximity to Mud Creek and Johnson Ditch (highlighted with red lines). The subject property is .42 miles from the confluence of Mud Creek and Wash Creek - near the intersection of Spartanburg Hwy and Greenville Hwy.</p>

The petition is found to be **consistent** with the City of Hendersonville 2030 Comprehensive Plan based on the information from the staff analysis and because:

The High Intensity Neighborhood designation calls for Multi-Family Residential as a primary land use and the proposed site plan aligns with all development guidelines listed under LU 7.4.

We find this petition to be reasonable and in the public interest based on the information from the staff analysis and the public hearing, and because:

DRAFT [Rationale for Approval]

- *The petition is located in a Priority Infill Area which recommends redevelopment of underutilized lots [Strategy LU-7.1].*
- *The petition promotes compatible infill development [Strategy PH-1.]*
- *The petition is located on a Major Thoroughfare [Map 7.3.a]*
- *The petition provides walkable design in close proximity to goods and services [Strategy PH-3.2 & Action TC-1.1.3].*
- *Parking is placed to the rear of the buildings [Action PH-3.2.1]*
- *Though some mature trees are proposed to be removed, the petition is proposing to place buildings and drives where existing land disturbing activities have previously occurred [Action NR-2.3.5].*
- *The petition proposes to provide street trees along sidewalks [Action PH-1.5.6]*
- *The petition is proposing to provide bicycle parking facilities [Strategy TC-2.4].*

DRAFT [Rational for Denial]

- *The scale of the proposed project is not compatible with surrounding development. [Strategy LU-3.5]*
- *The petition will result in the removal of some mature trees [Strategy NR-2.3].*
- *The petition is not proposing to provide affordable housing [Strategy PH-2.2].*
- *The petition is not proposing the use of Low Impact Development Stormwater Management practices [Strategy WR-2.3].*

STAFF SITE PLAN REVIEW – SUMMARY COMMENTS**PROPOSED REQUEST DETAILS**

- The site plan accompanying this petition contains the following provisions:
 - 80-Unit Apartment Development on 2.25 Acres (Density = 35.6 Units/Acre)
 - 3 – 4-story buildings
 - 117,600 Sq Ft of Gross Floor Area
- Request the following uses:
 - Residential, Multi-Family
- Developer Proposed Conditions:
 - There are no developer proposed conditions

COMMUNITY DEVELOPMENT DEPARTMENT

The site plan accompanying this petition meets the standards established by the Zoning Ordinance for Greenville Highway Mixed Use (5-23) and Site Plan Review (7-3) with the following exceptions:

- Preliminary Lighting Plan required
- Provision of Seating in Common Areas
- Provide Additional Amenity per Section 5-22-4.1.4.e.
-

CITY ENGINEER

- Show how the proposed sidewalk will connect to existing sidewalk at property edges.
- Driveway entrance aprons should conform to current City standards.
- Sidewalk along Chadwick should be designed with consideration to City's plans to widen Chadwick Avenue.
- Existing driveway cut on Greenville Hwy should be removed and sidewalk made continuous as required.

FIRE MARSHAL

- Possible relocation of fire hydrant

STORMWATER ADMINISTRATOR

- Encourage developer to consider using open greenspace around parking areas for green infrastructure: bioswale, bioretention, rain garden.
- Ensure they preserve or improve the existing natural drainage way along the eastern boundary of the parcel.

FLOODPLAIN ADMINISTRATOR – N/A**TRANSPORTATION SUMMARY**

The proposed development is anticipated to generate 434 Daily Trip per the ITE Trip Generation Manual, 10th Edition. This falls below the City's Threshold for triggering a TIA (Section 6-18), however this section of the Zoning Ordinance allows the Community Development Director discretion to require a TIA when a development's traffic may create a hazard to public safety. Given questions about the impact this development would have at the intersections of Chadwick Ave and Greenville Hwy, Chadwick Ave and Spartanburg Hwy, Greenville Hwy and White St and Greenville Highway and Spartanburg Hwy, a TIA was required. The City's Transportation Consultant (Jonathan Guy, Kimley-

Horn) provided the following feedback on the TIA submitted by the development team:

- *Based on a technical review of the TIA as submitted, the analysis and recommendations provide a reasonable assessment of the traffic impacts associated with the proposed development on the adjacent street network. The report text and figures should be revised as noted herein for completeness and correctness, and a technical memo or addendum to this TIA should be completed as a response to all comments.*

In addition to the requested technical revisions to the report, the following observation would result in changes to the proposed site plan:

- *Consideration should be given to moving the driveway on Chadwick Avenue as far back from the intersection with Greenville Highway as practically possible. As shown, the current location could impact the operations of the intersection. Furthermore, pushing the driveway back will allow for a future installation of a left-turn lane at the signal with Greenville Highway. In its current location and with the installation of a left turn lane the driveway could be limited to right-in/right our operations at some point in the future.*

STAFF SITE PLAN REVIEW – OUTSTANDING ISSUES & TECHNICAL REVISIONS

OUTSTANDING ISSUES (Compliance Required)

Land Use & Development

- Preliminary Lighting Plan required [Applicant response: Willing to comply with Dark Sky requirements]
- Provision of Seating in Common Areas [Applicant response: Will provide per code]
- Provide Additional Amenity per Section 5-22-4.1.4.e. [Applicant response: Will provide per code]

Transportation

- Revised TIA required
- Other Engineering Comments on Sidewalks [Applicant response: Will be resolved at final site plan]

Fire Safety

- Relocation of fire hydrant [Applicant response: New Hydrant can be coordinated]

Water & Sewer

- Availability request required [Applicant response: Availability Request will be completed. Full Utility Plan will be provided at Final Site Plan]

REQUESTED TECHNICAL REVISIONS (Possible Conditions)

Population & Housing – N/A

Natural & Environmental Resources

- The Tree Board recommends the developer protect the trees along the edge of the parking lots and the stream according to Article XV, Section 15-4(C) of the Zoning Ordinance. See attached Tree Board Summary.
- Per Stormwater Administrator: Encourage developer to consider using open greenspace around parking areas for green infrastructure: bioswale, bioretention, rain garden.

- Per Stormwater Administrator: Ensure they preserve or improve the existing natural drainage way along the eastern boundary of the parcel

Cultural & Historic Resources – N/A**Community Facilities – N/A****Water Resources – see Natural & Environmental Resources****Transportation & Circulation**

- Driveway location needs to be shifted as far from the intersection as possible.
- ROW Dedication along Chadwick Ave – All areas from the back of sidewalk to the existing ROW will be dedicated to the City. Final details of width needed will be coordinated with Traffic Consultant and Public Works Director.

Land Use & Development

- Additional Architectural detail at corner of building located at Greenville Hwy and Chadwick Ave per Section 18-6-4.5 "On corner lots, the applicant is encouraged to provide a building entry, additional building mass, and distinctive architectural elements at corner of buildings."



NEIGHBORHOOD COMPATIBILITY MEETING REPORT
GREENVILLE HIGHWAY MULTI-FAMILY (P21-78-CZD)
NCM Meeting Dates: December 15th, 2021

PETITION REQUEST: Rezoning: Greenville Highway Mixed Use-Conditional Zoning District (GHMU-CZD)

APPLICANT/PETITIONER: Joey Burnett

NEIGHBORHOOD COMPATIBILITY MEETING SUMMARY:

A Neighborhood Compatibility Meeting was held for this project on December 15, 2021 at 2pm in the City Operations Building at 305 Williams St and via Zoom.

Approximately 22 members of the public were in attendance in-person with 6 others attending virtually. Additionally, in attendance were the applicant and 3 members of City staff with 1 staff member attending via Zoom.

There were 14 pre-submitted comments which are available upon request to City Staff. Four of these pre-submitted comments were read at the meeting. The development team was then allowed to present following the pre-submitted comments read by staff.

Concerned asked questions related to the price of the units and affordability. At the time, the applicant did not have a rental range for the units available to share at the meeting. Additional questions revolved around width of sidewalks, sight distances, provision of city services including fire access and amenities on the site.

Citizens raised issues related to density, public safety, traffic safety, parking, increased traffic congestion, impact on environment (tree removal and stormwater runoff), increase noise, increase light, setbacks from Greenville Highway, compatibility with single-family neighborhood and height/visual impact of buildings.

In addition to questions and comments of opposition, there was one comment in full support of the development. Additional supportive comments were tempered with concerns over the scale of the development.

Full minutes from the Neighborhood Compatibility Meeting and pre-submitted public comments are available for review by request.



TREE BOARD RECOMMENDATION

Greenville Highway Multi-Family (P21-78-CZD)

January 26, 2022

PETITION REQUEST: Rezoning: Greenville Highway Mixed Use - Conditional Zoning District (GHMU-CZD)

APPLICANT/PETITIONER: Joey Burnett

TREE BOARD ACTION SUMMARY:

Staff presented to the Tree Board at a Special Called Meeting on January 26, 2022. The following Recommendation were made:

Motion by Landon Justice.

The Tree Board recommends the developer protect the trees along the edge of the parking lots and the stream according to Article XV, Section 15-4(C) of the Zoning Ordinance.

BOARD ACTION

Motion: Landon Justice

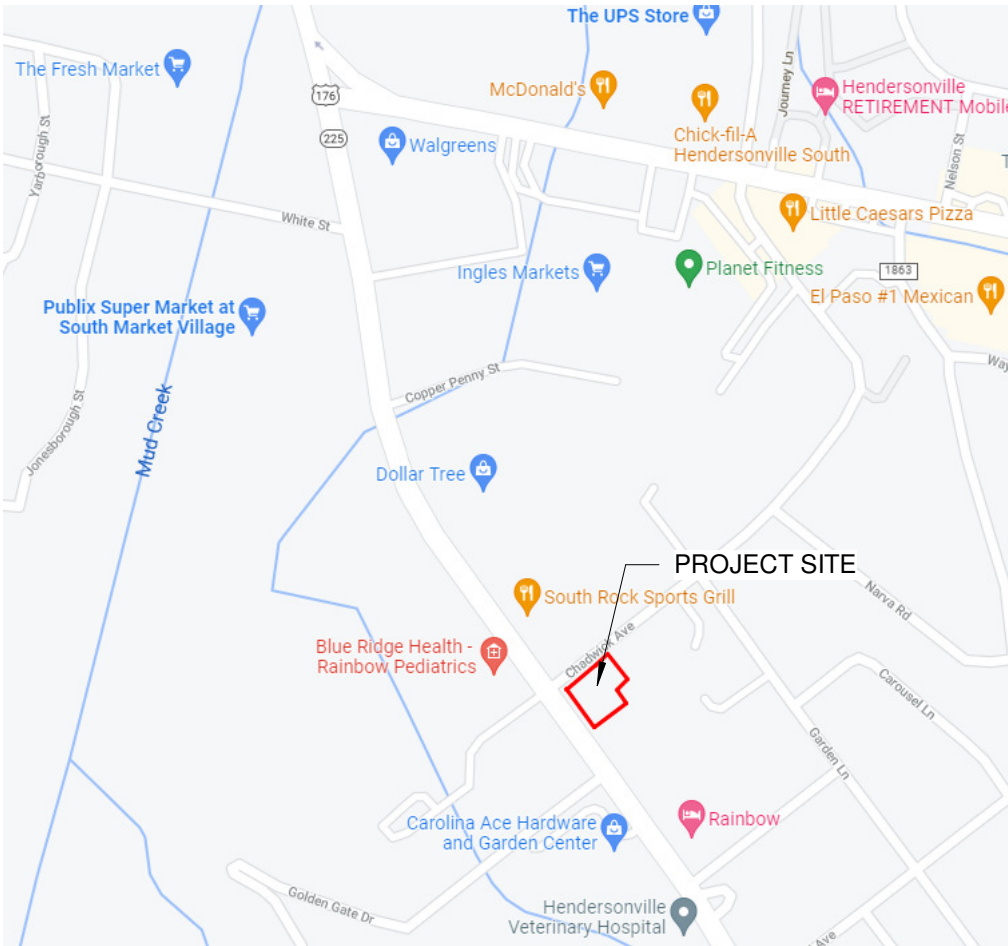
Roll Call Vote:

Yeas: Glenn Lange, Pat Christie, Landon Justice, Mary Davis, Mark Madsen & Mac Brackett

Nays: None

Absent: Andy Crawford

Recused: None



VICINITY MAP



1 Site Plan
1/32" = 1'-0"

SITE STATISTICS:

SITE: 904 GREENVILLE HWY, HENDERSONVILLE NC 28792-6224
PIN: 9568921924
ALL CALCULATIONS APPLY TO THE AREA OF THE SITE AFFECTED

LAND USE DESIGNATION: 100 - ACTIVITY CENTER

CURRENT USE	PROPOSED USE	OCCUPANCY
UNDEVELOPED	RESIDENTIAL	R-2

SITE DATA:

- DESCRIPTION
- 1.A) ZONING: GREENVILLE HIGHWAY MIXED USE ZONING (GHMU)
- B) INTENSITY: PREVIOUS: 13 MOBILE HOMES
PROPOSED: RESIDENTIAL 3 (4 STORY) BUILDINGS
- C) UNITS: 80 DWELLING UNITS - 35.6 UNITS PER ACRE
70% 2 BED/ 2 BATH
30% 1 BED/1 BATH

2.) SITE AREA:	GROSS LOT S.F.:	98,010 SQ. FT. / 2.25 ACRES
----------------	-----------------	-----------------------------

3.) YARD DIMENSIONS:	REQUIRED	PROVIDED
FRONT (CHADWICK) SETBACK	0' - 0"	4' - 0"
FRONT (GVILLE HWY) SETBACK	0' - 0"	9' - 6"
REAR SETBACK	25' - 0"	38' - 8"
SIDE SETBACK	25' - 0"	25' - 0"
4.) BUILDING HEIGHT:	42'-0" MAX	4 FLOORS / 42'- 0"
5.) MIN LOT SIZE:	5,000 SF	-
6.) MAX BLDG FOOTPRINT:	12,000 SF MAX.	9,800 SF
7.) DENSITY:	NO CAP	80 UNITS
8.) COMMON SPACE	10% 9,801 SF	14,800 SF
9.) PORCH/BALCONY	5' PROJECTION INTO SETBACK	-

10.) IMPERVIOUS AREAS:	PROPOSED	%
BUILDING FOOT PRINT:	29,400 SQ.FT	30%
PARKING AREA:	26,040 SQ.FT	27%
SIDEWALK/WALKWAYS:	3,120 SQ. FT.	3%
DUMPSTER AREA:	130 SQ. FT.	.001%
TOTAL IMPERVIOUS AREA	58,010 SQ. FT.	60%

11.) PERVIOUS AREAS:	REQUIRED	EXISTING	PROPOSED	%
A. TOTAL PERVIOUS AREA:		- SQ. FT.	58,010 SQ. FT.	60%
B. TOTAL OPEN SPACE	39,200 SQ. FT.	- SQ. FT.	39,300 SQ. FT.	40%

12.) PARKING:	REQUIRED	PROVIDED
PARKING SPACES	80	80
ADA PARKING SPACES	4	4
BIKE RACKS	0	4 STATIONS

13.) TREES:	EXISTING	REMAIN	NEW	TOTAL
	61	26	39	65

CONDITIONAL ZONING RECOMMENDED CONDITIONS:

- THE CITY'S TRAFFIC CONSULTANT RECOMMENDS THAT THE DRIVEWAY LOCATION BE SHIFTED AS FAR FROM THE INTERSECTION OF CHADWICHK AVE AND GREENVILLE HWY AS PSSIBLE AND;
- THE TREE BOARD RECOMMENDS THAT THE DEVELOPER PROTECT THE TREES ALONG THE EDGE O FTHE PARKING LOTS AND STREAM ACCORDING TO ARTICLE XV, SECTION 15-4(C) OF THE ZONING ORDINANCE AND;
- THE CITY'S STORMWATER ADMINISTRATOR RECOMMENDS THE DEVELOPER USE OPEN GREENSPACE AROUND PARKING AREAS FOR GREEN INFRASTRUCTURE: BIOSWALE, BIORETENTION, RAIN GARDENS AND;
- THE CITY'S STORMWATER ADMINISTRATOR RECOMMENDS THE DEVELOPER PRESERVE OR IMPROVE THE EXISTING NATURAL DRAINAGE WAY ALONG THE EASTERN BOUNDARY OF THE PARCEL AND;
- THE CITY'S PLANNING STAFF RECOMMENDS THE DEVELOPER PROVIDE ADDITIONAL ARCHITECTURAL DETAIL AT THE CORNER OF BUILDING LOCATED AT GREENVILLE HWY AND CHADWICK AVE PER SECTION 18-6-4.5 "ON CORNER LOTS, THE APPLICANT IS ENCOURAGED TO PROVIDE A BUILDING ENTRY, ADDITIONALLY BUILDING MASS, AND DISTINCTIVE ARCHITECTURAL ELEMENTS AT CORNER OF BUILDINGS."

TAMARA PEACOCK, R.A.
LICENSE NO. 12126

PROJ. DESIGNER
CAPT. APPROVER

DRAWN BY
AUTHOR
REVIEWED BY
CHECKER

ISSUED FOR	REVISION DATE	REVISION

THE TAMARA PEACOCK COMPANY
Architects

104 E. 1st Ave, Suite A, Hendersonville, NC 28792
Ph: 828-696-4000 Fax: 828-696-4952

PROJECT NAME:
GVILLE HWY
MULTIFAMILY
904 GREENVILLE HWY
HENDERSONVILLE NC

SHEET NAME:
SITE PLAN/
MASTER
PLAN

PROJ. NO.: 17-0351
DATE: 2/21/2022
9:16:19 AM

SHEET NO.:
SP 1.00

TAMARA PEACOCK, R.A.
LICENSE NO. 12126

THE ARCHITECT'S RESPONSIBILITY: The Architect is responsible for the design and construction of the building and its systems, including but not limited to, the building's structure, exterior walls, roof, and mechanical, electrical, and plumbing systems. The Architect is not responsible for the design and construction of the building's interior walls, floors, and ceiling, or for the design and construction of the building's furniture, fixtures, and equipment.

PROJ.	DRAWN BY
DESIGNER	AUTHOR
CAPT.	REVISOR
APPROVER	CHECKER

ISSUED FOR

REVISION DATE

REVISION

THE TAMARA PEACOCK COMPANY
Architects

104 E. 1st Ave, Suite A, Hendersonville, NC 28792
Ph: 828-696-4000 Fax: 828-696-4952

PROJECT NAME:

**GVILLE HWY
MULTIFAMILY
904 GREENVILLE HWY
HENDERSONVILLE NC**

SHEET NAME:

**STREET
ELEVATION**

PROJ. NO.: DATE:

17-0351 2/2/2022

SHEET NO.: 2-28-21

PM

A 2.00



③ REAR ELEVATION
1/8" = 1'-0"



① CHADWICK ELEVATION
1/8" = 1'-0"



② SIDE ELEVATION - TYP.
1/8" = 1'-0"

RAMEY KEMP ASSOCIATES
TOGETHER WE ARE LIMITLESS



Greenville Highway Apartments
Traffic Impact Analysis
Hendersonville, North Carolina

TRAFFIC IMPACT
ANALYSIS

FOR

GREENVILLE HIGHWAY
APARTMENTS

LOCATED

IN

HENDERSONVILLE, NC

Prepared For:
Tamara Peacock Company Architects
104 First Avenue East, Suite A
Hendersonville, NC

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



1-21-2022

January 2022

RKA Project No. 21779

Prepared By: AMI

Reviewed By: CTS

TRAFFIC IMPACT ANALYSIS
GREENVILLE HIGHWAY APARTMENTS
HENDERSONVILLE, NORTH CAROLINA

EXECUTIVE SUMMARY

1. Development Overview

A Traffic Impact Analysis (TIA) was conducted for the proposed Greenville Highway Apartments development to be located in the southeast corner of Greenville Highway and Chadwick Avenue in Hendersonville, North Carolina. The proposed development, anticipated to be completed in 2023, is assumed to consist of 80 mid-rise multifamily units. The proposed development is assumed to consist of 80 mid-rise multifamily units with site access proposed via one full movement driveway along Chadwick Avenue.

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

- 2022 Existing Traffic Conditions
- 2023 No-Build Traffic Conditions
- 2023 Build Traffic Conditions
- 2040 TIP Design Year Analysis No-Build Conditions
- 2040 TIP Design Year Analysis Build Conditions

2. Existing Traffic Conditions

Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersections listed below, in January 2022 during the typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods while local schools were in session:

- Greenville Highway and Spartanburg Highway
- Greenville Highway and Chadwick Avenue
- Spartanburg Highway and Chadwick Avenue
- Greenville Highway and White Street

3. Site Trip Generation

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

Table E-1: Site Trip Generation

LAND USE (ITE Code)	INTENSITY	DAILY TRIPS (VPD)	WEEKDAY AM PEAK HOUR (VPH)		WEEKDAY PM PEAK HOUR (VPH)	
			Enter	Exit	Enter	Exit
Mid-rise Multifamily (221)	80 DU	434	7	21	22	14

4. Future Traffic Conditions

Through coordination with the City and NCDOT, it was determined that an annual growth rate of 1% would be used to generate 2023 projected weekday AM and PM peak hour traffic volumes. Based on coordination with the NCDOT and the City, it was determined there were no adjacent developments to consider with this study. Based on coordination with the NCDOT and the City, it was determined that the roadway improvements associated with the NCDOT State Transportation Improvement Program (STIP) projects U-5886 and U-6049 should be considered in this study. Based on coordination with NCDOT and the City, a design year scenario including STIPs U-5886 and U-6049 was analyzed.

5. Capacity Analysis Summary

The analysis considered weekday AM and PM peak hour traffic for all traffic conditions. Refer to Section 7 of the TIA for the capacity analysis summary performed at each study intersection.

6. Recommendations

Based on the findings of this study, no specific geometric improvements have been identified or recommended to accommodate future traffic conditions. Refer to Figure E-1 for an illustration of the future lane configurations.

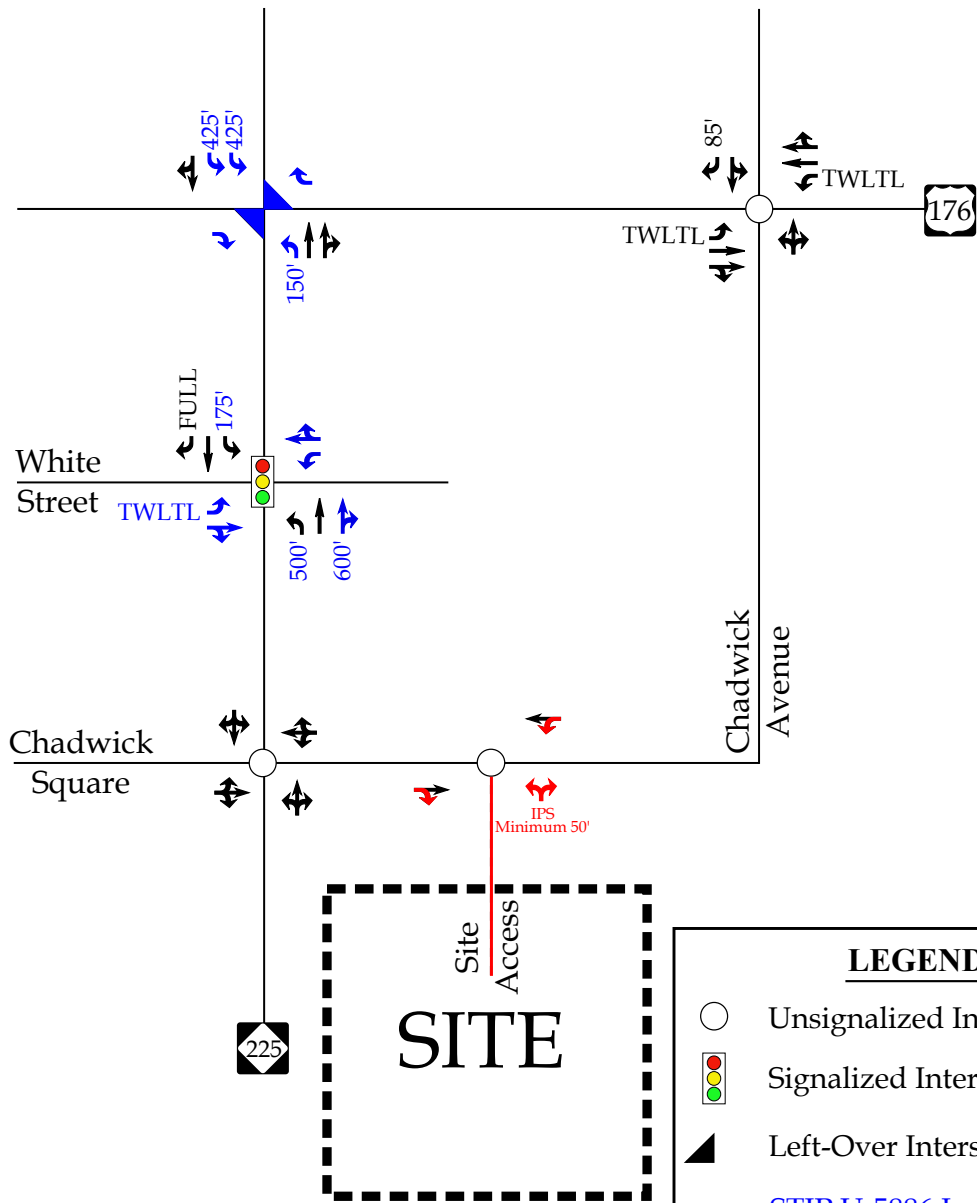
Improvements by NCDOT STIPs U-5886 and U-6049

STIP U-5886 is expected to convert Greenville Highway and Spartanburg Highway to the signalized left-over intersections and provide turn lane modifications at the intersection of Greenville Highway and White Street.

Recommended Improvements by Developer

Chadwick Avenue and Site Access

- Construct northbound approach [Site Access] with one ingress lane and one egress lane.



LEGEND

- Unsignalized Intersection
- ◫ Signalized Intersection
- ▲ Left-Over Intersection
- ➡ STIP U-5886 Improvements
- ➡ Existing Lane
- ➡ Improvement by Developer
- x' Storage (In Feet)

	Greenville Highway Apartments Hendersonville, NC	Future Lane Configurations	
		Scale: Not to Scale	Figure E-1

TABLE OF CONTENTS

1. INTRODUCTION..... 1

1.1.Site Location and Study Area..... 1

1.2.Proposed Land Use and Site Access 2

1.3.Adjacent Land Uses 2

1.4.Existing Roadways..... 2

2. 2022 EXISTING PEAK HOUR CONDITIONS..... 6

2.1.2022 Existing Peak Hour Traffic Volumes..... 6

2.2.Analysis of 2022 Existing Peak Hour Traffic Conditions..... 6

3. 2023 NO-BUILD PEAK HOUR CONDITIONS 8

3.1.Ambient Traffic Growth..... 8

3.2.Adjacent Development Traffic..... 8

3.3.Future Roadway Improvements 8

3.4.2023 No-Build Peak Hour Traffic Volumes..... 9

3.5.Analysis of 2023 No-Build Peak Hour Traffic Conditions..... 9

4. SITE TRIP GENERATION AND DISTRIBUTION..... 11

4.1.Trip Generation 11

4.2.Site Trip Distribution and Assignment 11

5. 2023 BUILD TRAFFIC CONDITIONS..... 14

5.1.Build Peak Hour Traffic Volumes..... 14

5.2.Analysis of Build Peak Hour Traffic Conditions 14

6. 2040 BUILD TRAFFIC CONDITIONS..... 14

6.1.Build Peak Hour Traffic Volumes..... 14

6.2.Analysis of Build Peak Hour Traffic Conditions 14

7. TRAFFIC ANALYSIS PROCEDURE 18

7.1.Adjustments to Analysis Guidelines 18

8. CAPACITY ANALYSIS 19

8.1.Greenville Highway and Spartanburg Highway..... 19

8.2.Greenville Highway and Chadwick Avenue 21

8.3.Spartanburg Highway and Chadwick Avenue 22

8.4.Greenville Highway and White Street 23

8.5.Chadwick Avenue and Site Access 24

9. CONCLUSIONS..... 25

10. RECOMMENDATIONS 26

LIST OF FIGURES

Figure 1 – Site Location Map..... 3

Figure 2 – Preliminary Site Plan..... 4

Figure 3 – 2022 Existing Lane Configurations 5

Figure 4 – 2022 Existing Peak Hour Traffic 7

Figure 5 – 2023 No-Build Peak Hour Traffic 10

Figure 6 – Site Trip Distribution..... 12

Figure 7 – Site Trip Assignment..... 13

Figure 8 – 2023 Build Peak Hour Traffic..... 15

Figure 9 – 2040 No-Build Peak Hour Traffic 16

Figure 10 – 2040 Build Peak Hour Traffic 17

Figure 11 – Recommended Lane Configurations 27

LIST OF TABLES

Table 1: Existing Roadway Inventory 2

Table 2: Trip Generation Summary 11

Table 3: Highway Capacity Manual – Levels-of-Service and Delay 18

Table 4: Analysis Summary of Greenville Highway and Spartanburg Highway 19

Table 5: Analysis Summary of Greenville Highway and Chadwick Avenue..... 21

Table 6: Analysis Summary of Spartanburg Highway and Chadwick Avenue..... 22

Table 7: Analysis Summary of Greenville Highway and White Street..... 23

Table 8: Analysis Summary of Chadwick Avenue and Site Access..... 24

TECHNICAL APPENDIX

- Appendix A: Scoping Documentation
- Appendix B: Traffic Counts
- Appendix C: Signal Plans
- Appendix D: Future Roadway Improvements
- Appendix E: Capacity Calculations – Greenville Highway and Spartanburg Highway
- Appendix F: Capacity Calculations – Greenville Highway and Chadwick Avenue
- Appendix G: Capacity Calculations – Spartanburg Highway and Chadwick Avenue
- Appendix H: Capacity Calculations – Greenville Highway and White Street
- Appendix I: Capacity Calculations – Chadwick Avenue Road and Site Access
- Appendix J: SimTraffic Queueing Reports

TRAFFIC IMPACT ANALYSIS
GREENVILLE HIGHWAY APARTMENTS
HENDERSONVILLE, NORTH CAROLINA

1. INTRODUCTION

The contents of this report present the findings of the Traffic Impact Analysis (TIA) conducted for the proposed Greenville Highway Apartments development to be located in the southeast corner of Greenville Highway and Chadwick Avenue in Hendersonville, North Carolina. The purpose of this study is to determine the potential impacts to the surrounding transportation system created by traffic generated by the proposed development, as well as recommend improvements to mitigate the impacts.

The proposed development, anticipated to be completed in 2023, is assumed to consist of 80 mid-rise multifamily units.

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

- 2022 Existing Traffic Conditions
- 2023 No-Build Traffic Conditions
- 2023 Build Traffic Conditions
- 2040 TIP Design Year Analysis No-Build Conditions
- 2040 TIP Design Year Analysis Build Conditions

1.1. Site Location and Study Area

The development is proposed to be located in the southeast corner of Greenville Highway and Chadwick Avenue in Hendersonville, North Carolina. Refer to Figure 1 for the site location map.

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

- Greenville Highway and Spartanburg Highway
- Greenville Highway and Chadwick Avenue
- Spartanburg Highway and Chadwick Avenue
- Greenville Highway and White Street

Refer to Appendix A for the approved scoping documentation.

1.2. Proposed Land Use and Site Access

The proposed development is assumed to consist of 80 mid-rise multifamily units with site access proposed via one full movement driveway along Chadwick Avenue. Refer to Figure 2 for a copy of the preliminary site plan.

1.3. Adjacent Land Uses

The proposed development is located in an area consisting of a commercial and residential land uses.

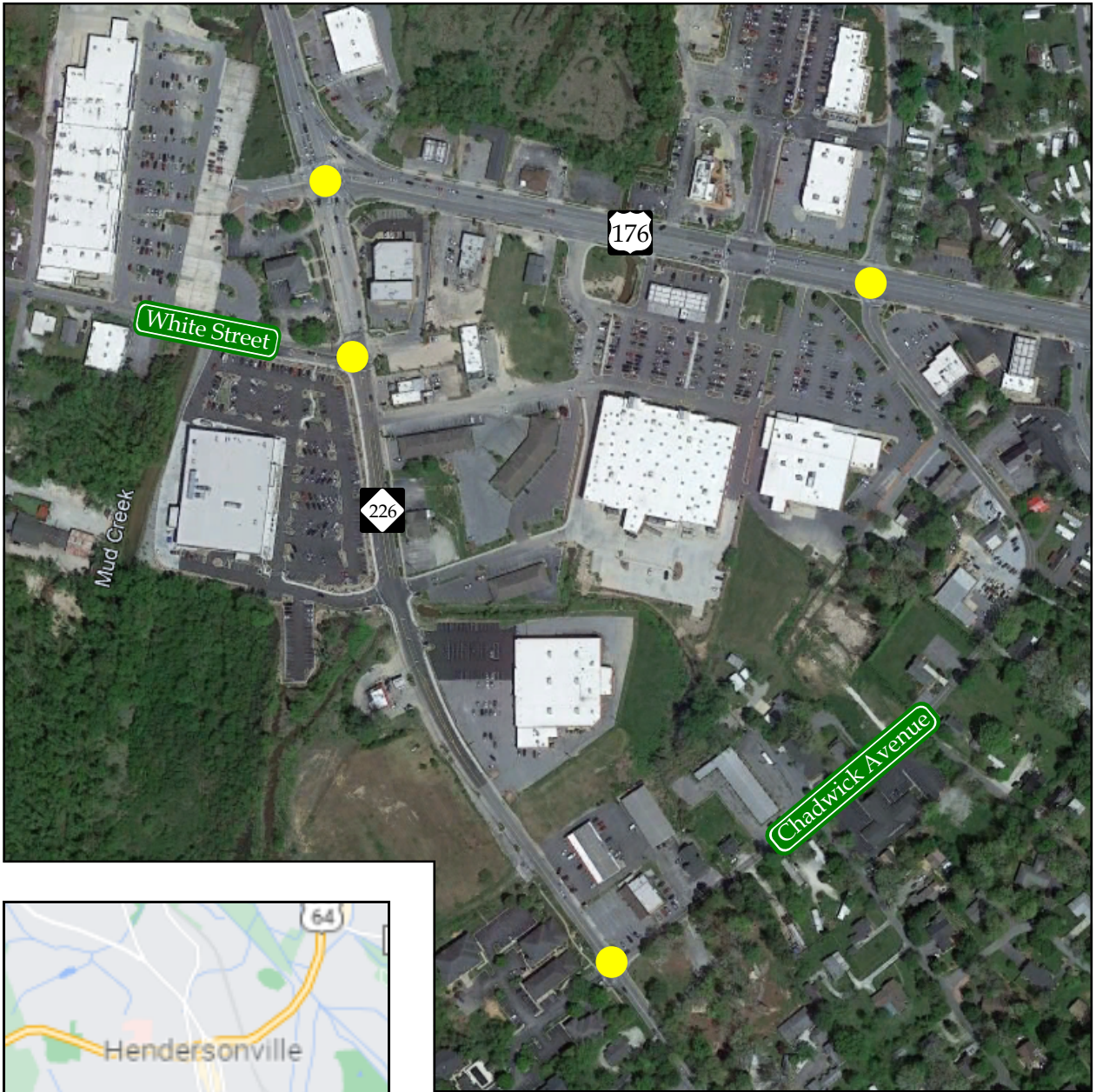
1.4. Existing Roadways

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


Table 1: Existing Roadway Inventory

Road Name	Route Number	Typical Cross Section	Speed Limit	Maintained By	2020 AADT (vpd)
Greenville Highway	NC 225	2-lane/4-lane undivided	35 mph	NCDOT	13,000
Spartanburg Highway	US 25	4-lane TWLTL divided	35 mph	NCDOT	18,500
Chadwick Avenue	N/A	2-lane undivided	35 mph	Town	1,550*
White Street	SR 1170	2-lane undivided	35 mph	NCDOT	7,440*

*ADT based on the traffic counts from 2022 and assuming that weekday PM peak hour volume is 10% of the average daily traffic



LEGEND

-  Proposed Site Location
-  Study Intersection
-  Study Area



Greenville Highway
Apartments
Hendersonville, NC

Site Location Map

Scale: Not to Scale Figure 1



1 Site Plan
1/32" = 1'-0"

SITE STATISTICS:

SITE: 904 GREENVILLE HWY, HENDERSONVILLE NC 28792-6224
PIN: 9568921924
ALL CALCULATIONS APPLY TO THE AREA OF THE SITE AFFECTED

LAND USE DESIGNATION: 100 - ACTIVITY CENTER		
CURRENT USE	PROPOSED USE	OCCUPANCY
UNDEVELOPED	RESIDENTIAL	R-2

SITE DATA:

- | DESCRIPTION | |
|-----------------|--|
| 1.A) ZONING: | GREENVILLE HIGHWAY MIXED USE ZONING (GHMU) |
| 1.B) INTENSITY: | PREVIOUS: 13 MOBILE HOMES
PROPOSED: RESIDENTIAL 3 (4 STORY) BUILDINGS |
| 1.A) UNITS: | 80 DWELLING UNITS
70% 2 BED/ 2 BATH
30% 1 BED/1 BATH |

2.)	SITE AREA:	GROSS LOT S.F.: 98,010 SQ. FT. / 2.25 ACRES				
3.)	YARD DIMENSIONS:	REQUIRED		PROVIDED		
	FRONT (CHADWICK) SETBACK	0' - 0"		4'-0"		
	FRONT (GVILLE HWY) SETBACK	0' - 0"		9' - 6"		
	REAR SETBACK	25' - 0"		38' - 8"		
	SIDE SETBACK	25' - 0"		25' - 0"		
4.)	BUILDING HEIGHT:	42'-0" MAX		4 FLOORS / 42'- 0"		
5.)	MIN LOT SIZE:	5,000 SF		-		
6.)	MAX BLDG FOOTPRINT:	12,000 SF MAX.		9,800 SF		
7.)	DENSITY:	NO CAP		80 UNITS		
8.)	COMMON SPACE	10% 9,801 SF		14,800 SF		
9.)	PORCH/BALCONY	5' PROJECTION INTO SETBACK		-		
10.)	IMPERVIOUS AREAS:	PROPOSED		%		
	BUILDING FOOT PRINT:	29,400 SQ.FT		30%		
	PARKING AREA:	26,040 SQ,FT		27%		
	SIDEWALK/WALKWAYS:	3,120 SQ. FT.		3%		
	DUMPSTER AREA:	130 SQ. FT.		.001%		
	TOTAL IMPERVIOUS AREA	58,010 SQ. FT.		60%		
11.)	PERVIOUS AREAS:	REQUIRED	EXISTING	PROPOSED	%	
	A. TOTAL PERVIOUS AREA:		- SQ. FT.	58,010 SQ. FT.	60%	
	B. TOTAL OPEN SPACE	39,200 SQ. FT.	- SQ. FT.	39,300 SQ. FT.	40%	
	500 SF PER DWELLING UNIT OR 9% OF LOT AREA, WHICHEVER IS GREATER					
12.)	PARKING:	REQUIRED		PROVIDED		
	PARKING SPACES	80		80		
	ADA PARKING SPACES	4		4		
	BIKE RACKS	0		4 STATIONS		
13.)	TREES:	EXISTING		REMAIN	NEW	TOTAL
		61		26	39	65

TAMARA PEACOCK, R.A.
LICENSE NO. 12126

THE PROJECT IS THE PROPERTY OF TAMARA PEACOCK COMPANY. ALL RIGHTS ARE RESERVED. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM TAMARA PEACOCK COMPANY. THE PROJECT IS THE PROPERTY OF TAMARA PEACOCK COMPANY. ALL RIGHTS ARE RESERVED. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM TAMARA PEACOCK COMPANY.

PROJ. DESIGNER	DRAWN BY
CAPT. APPROVER	AUTHOR
	REVISOR
	CHECKER

ISSUED FOR	REVISION DATE	REVISION

THE TAMARA PEACOCK COMPANY

Architects

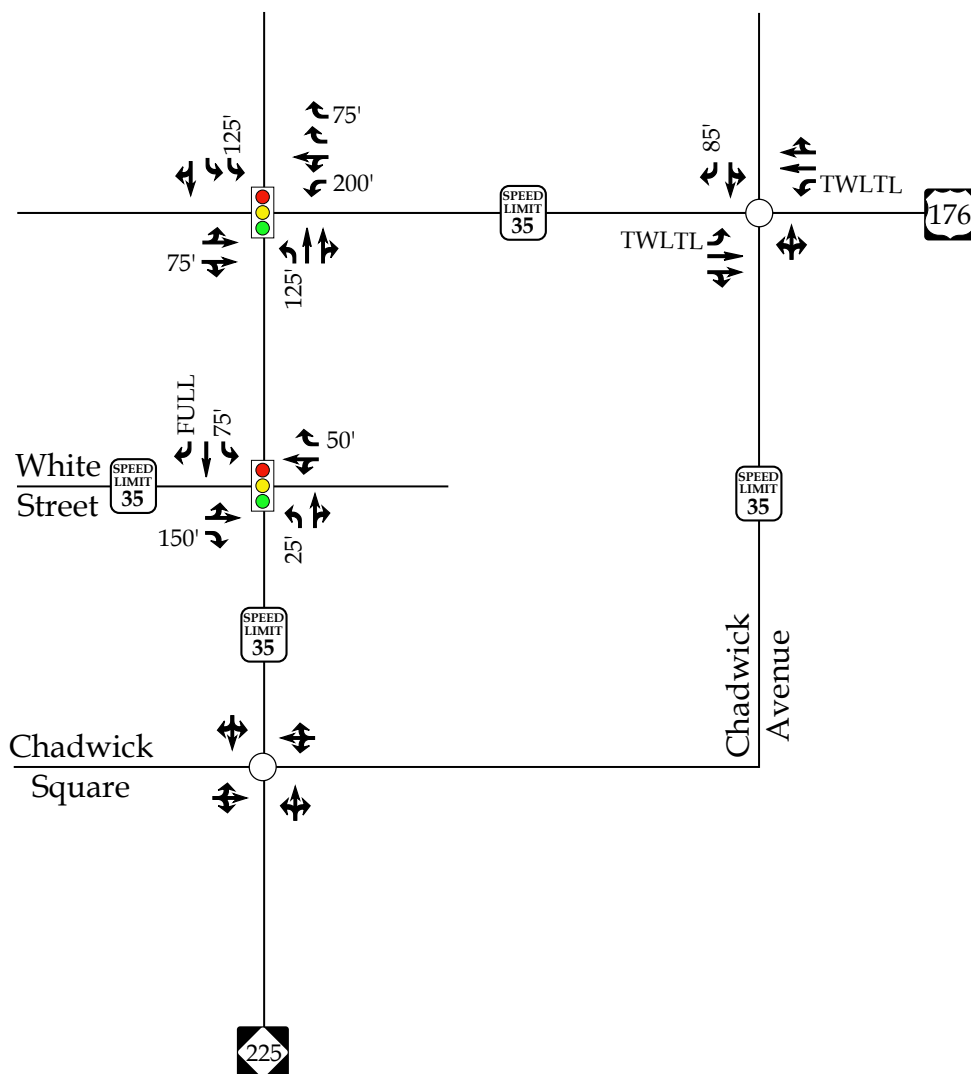
104 E. 1st Ave, Suite A, Hendersonville, NC 28792
Ph: 828-696-4000 Fax: 828-696-4952

PROJECT NAME:
GVILLE HWY
MULTIFAMILY
904 GREENVILLE HWY
HENDERSONVILLE NC



SHEET NAME:
SITE PLAN/
MASTER
PLAN

PROJ. NO.: 17-0351
DATE: 1/11/2022
8:59:12 AM

SHEET NO.:
SP 1.00



LEGEND

- Unsignalized Intersection
-  Signalized Intersection
- ➔ Existing Lane
- X' Storage (In Feet)
-  Posted Speed Limit



Greenville Highway Apartments Hendersonville, NC

2022 Existing Lane Configurations

Scale: Not to Scale

Figure 3

2. 2022 EXISTING PEAK HOUR CONDITIONS

2.1. 2022 Existing Peak Hour Traffic Volumes

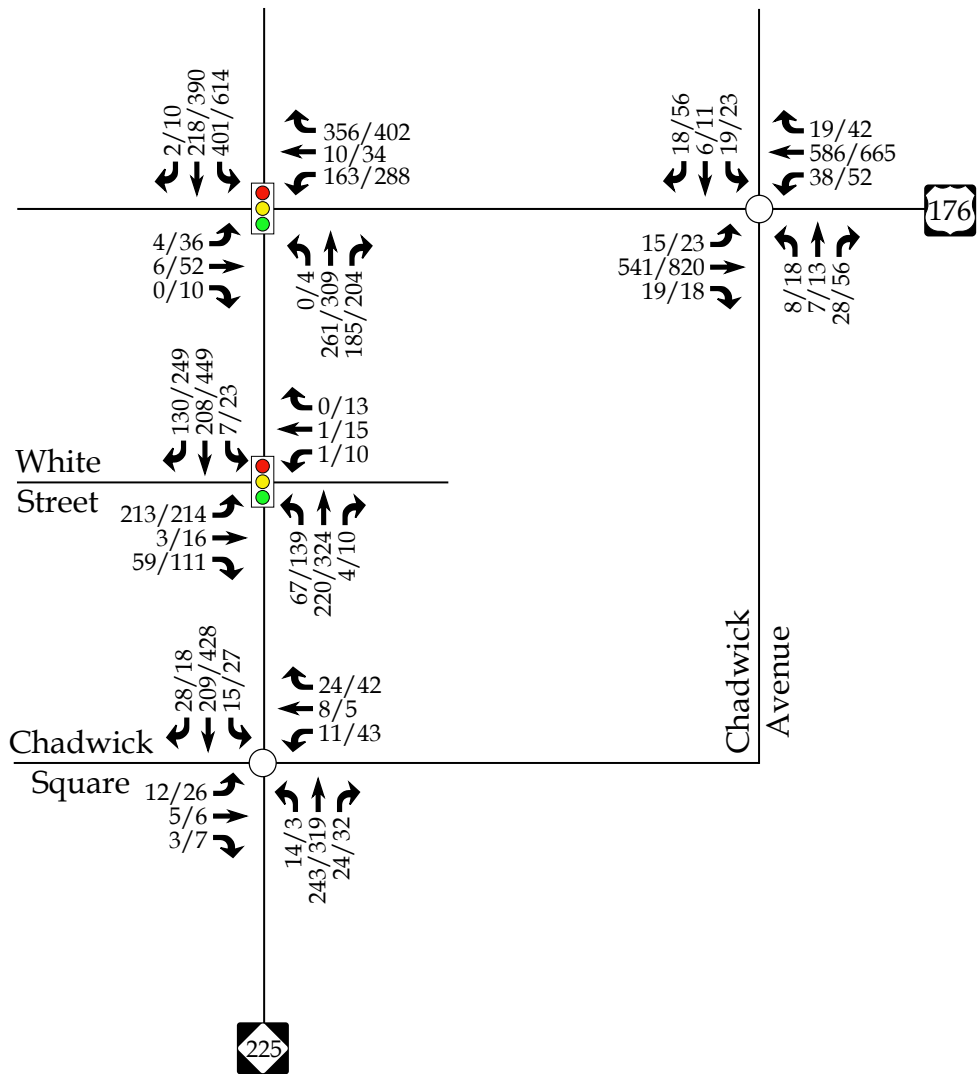
Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersections listed below, in January 2022 during the typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods while local schools were in session:

- Greenville Highway and Spartanburg Highway
- Greenville Highway and Chadwick Avenue
- Spartanburg Highway and Chadwick Avenue
- Greenville Highway and White Street

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

2.2. Analysis of 2022 Existing Peak Hour Traffic Conditions

The 2022 existing weekday AM and PM peak hour traffic volumes were analyzed to determine the current levels of service at the study intersections under existing roadway conditions. Signal information was obtained from NCDOT and is included in Appendix C. It should be noted that coordinated timings plans were not provided for the existing signals, therefore, the intersections of Greenville Highway at Spartanburg Highway and White Street were analyzed as coordinated with splits and offsets optimized. The signalized intersection of Greenville Highway and Chadwick Avenue was analyzed as uncoordinated. The results of the analysis are presented in Section 7 of this report.



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic

3. 2023 NO-BUILD PEAK HOUR CONDITIONS

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

3.1. Ambient Traffic Growth

Through coordination with the Town and NCDOT, it was determined that an annual growth rate of 1% would be used to generate 2023 projected weekday AM and PM peak hour traffic volumes.

3.2. Adjacent Development Traffic

Based on coordination with the NCDOT and the City, it was determined there were no adjacent developments to consider with this study.

3.3. Future Roadway Improvements

Based on coordination with the NCDOT and the City, it was determined that the roadway improvements associated with the NCDOT State Transportation Improvement Program (STIP) projects U-5886 and U-6049 should be considered in this study. U-5886 is provide improvements to the intersection Greenville Highway and White Street, while U-6049 is expected to reconfigure the intersection of Greenville Highway and Spartanburg Highway to a left-over which restricts the side-street approaches of the Fresh Market Entrance and Spartanburg Highway to rights-out only. The future roadway improvement plans for U-5886 and U-6049 can be found in Appendix D.

3.4. 2023 No-Build Peak Hour Traffic Volumes

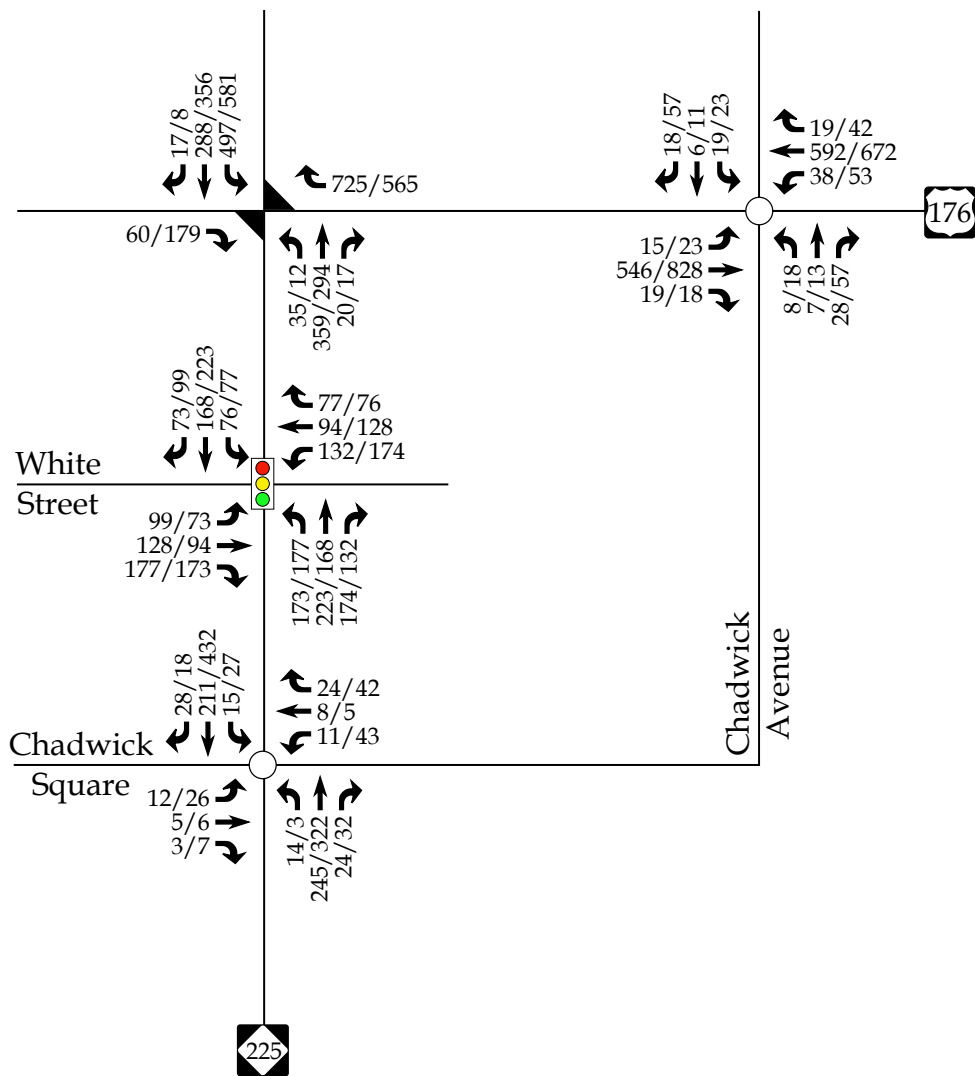
The NCDOT Intersection Analysis Utility (IAU) spreadsheet was utilized to breakout the traffic forecast volumes from the existing year and design year peak hour traffic volumes at the study intersections impacted by the STIP listed below:

- Greenville Highway and Spartanburg Highway
- Greenville Highway and White Street

The 2023 volumes were then interpolated between the 2017 build – alternative 2 and 2040 build – alternative 2 breakouts to determine the 2023 no-build traffic volumes. All other study intersections were projected to the build year with the previously mentioned growth rate. All future traffic volume calculations can be found in Appendix D. Refer to Figure 5 for an illustration of the 2023 no-build peak hour traffic volumes.

3.5. Analysis of 2023 No-Build Peak Hour Traffic Conditions

The 2023 no-build AM and PM peak hour traffic volumes at the study intersections were analyzed with future geometric roadway conditions and traffic control. For the signalized intersections impacted by the STIP project, Congestion Management Guidelines were used. As mentioned previously, the intersections of Greenville Highway at Spartanburg Highway and White Street were analyzed as coordinated with splits and offsets optimized. The signalized intersection of Greenville Highway and Chadwick Avenue was analyzed as uncoordinated. The analysis results are presented in Section 7 of this report.



LEGEND

- Unsignalized Intersection
- ◫ Signalized Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic
- ▲ Left-Over Intersection



Greenville Highway
Apartments
Hendersonville, NC

2023 No-Build
Peak Hour Traffic

Scale: Not to Scale Figure 5

4. SITE TRIP GENERATION AND DISTRIBUTION

4.1. Trip Generation

Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE Trip Generation Manual, 10th Edition. Table 2 provides a summary of the trip generation potential for the site.

Table 2: Trip Generation Summary

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Mid-rise Multifamily (221)	80 DU	434	7	21	22	14

It is estimated that the proposed development will generate approximately 434 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 28 trips (7 entering and 21 exiting) will occur during the weekday AM peak hour and 36 trips (22 entering and 14 exiting) will occur during the weekday PM peak hour.

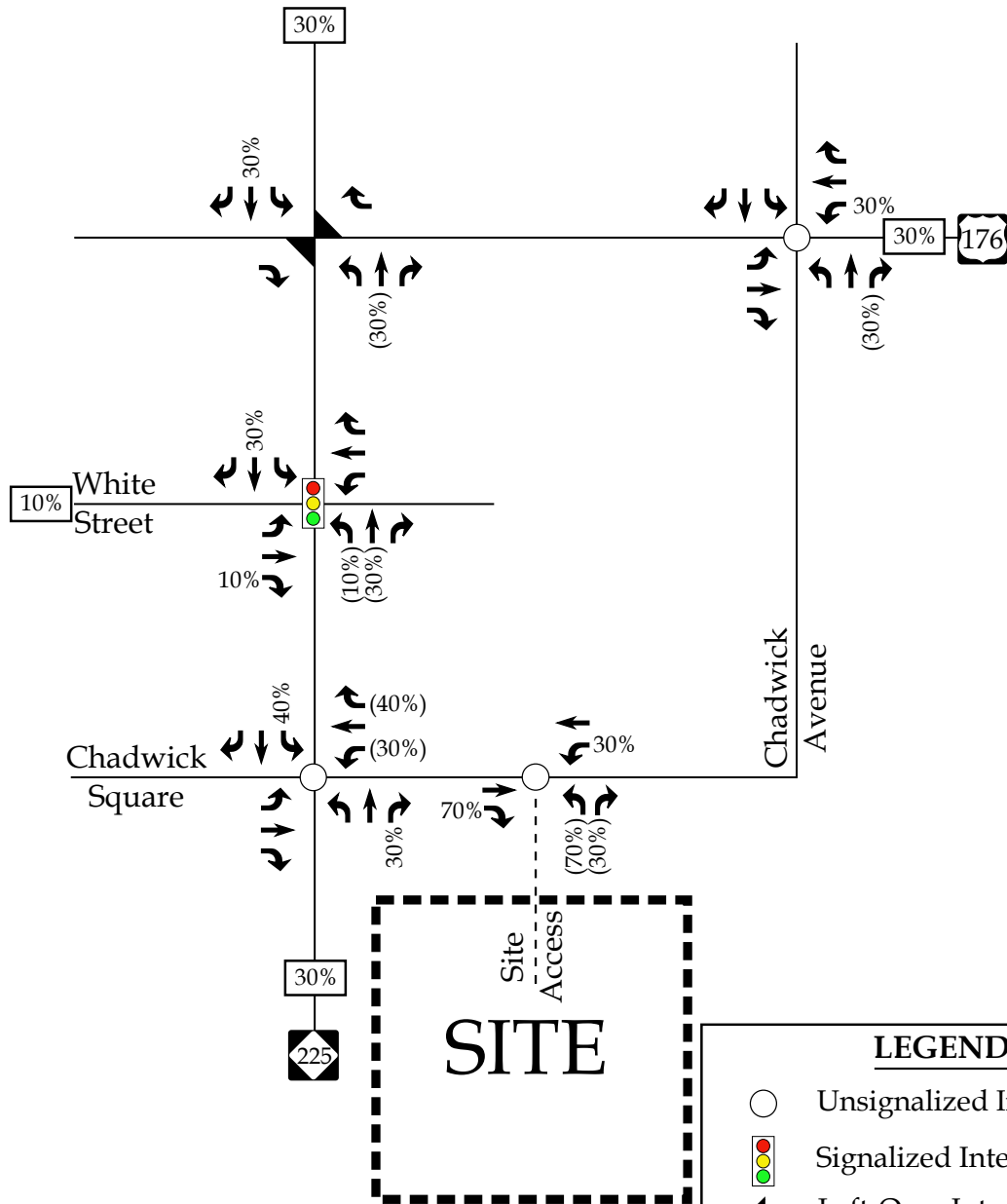
4.2. Site Trip Distribution and Assignment

Trip distribution percentages used in assigning site traffic for this development were estimated based on a combination of existing traffic patterns, population centers adjacent to the study area, and engineering judgment.

It is estimated that the residential site trips will be regionally distributed as follows:

- 30% to/from the north via Greenville Highway
- 10% to/from the east via White Street
- 30% to/from the south via Greenville Highway
- 30% to/from the west via Spartanburg Highway

The site trip distribution is shown in Figure 6. Refer to Figure 7 for the site trip assignment.



LEGEND

- Unsignalized Intersection
- 🚦 Signalized Intersection
- ▲ Left-Over Intersection
- x% → Entering Trip Distribution
- (y%) → Exiting Trip Distribution
- XX% Regional Trip Distribution

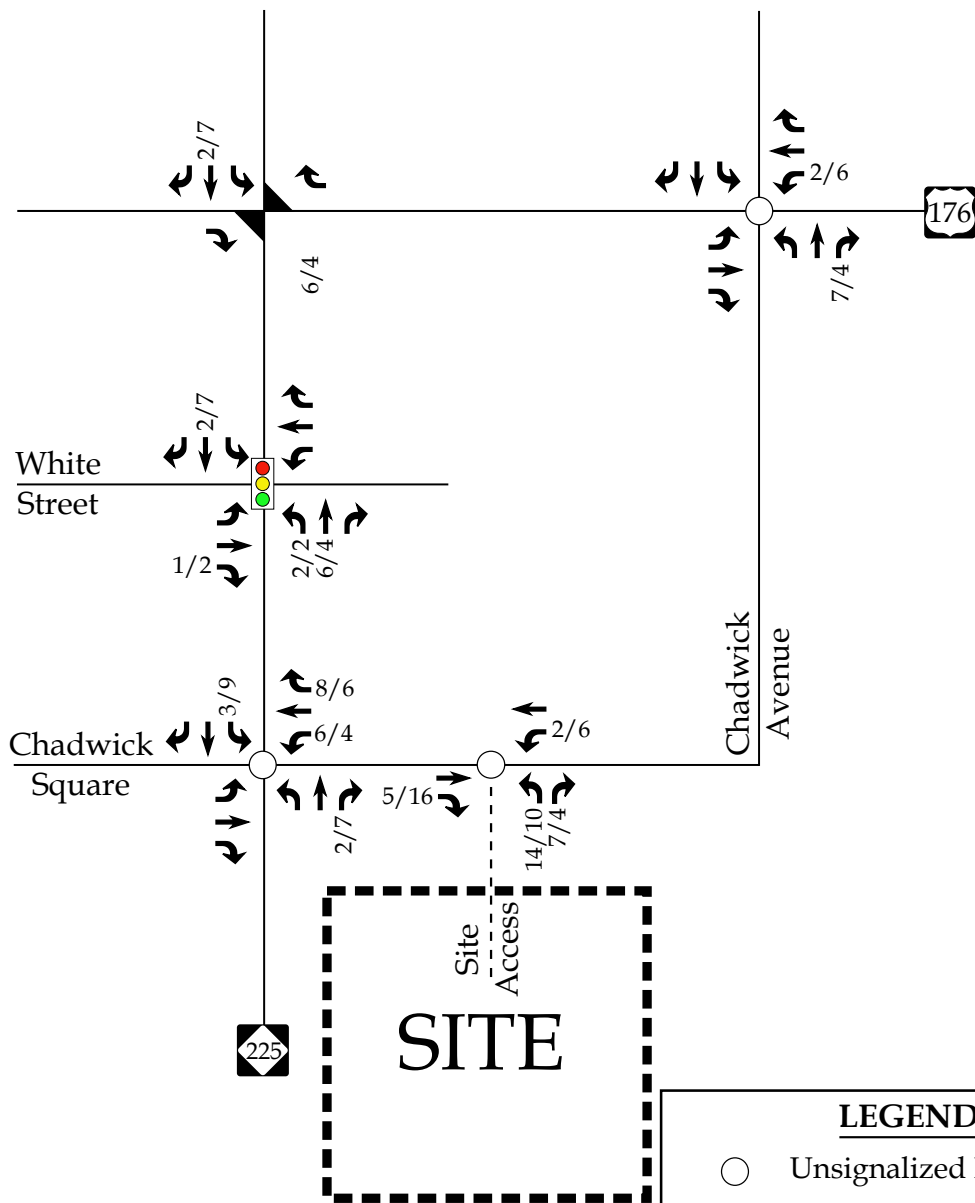


Greenville Highway
Apartments
Hendersonville, NC

Site Trip Distribution

Scale: Not to Scale

Figure 6



LEGEND

- Unsignalized Intersection
- ◫ Signalized Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic
- ◼ Left-Over Intersection



Greenville Highway
Apartments
Hendersonville, NC

Site Trip Assignment

Scale: Not to Scale

Figure 7

5. BUILD TRAFFIC CONDITIONS

5.1. 2023 Build Peak Hour Traffic Volumes

To estimate traffic conditions with the site fully built-out, the total site trips were added to the 2023 no-build traffic volumes to determine the 2023 build traffic volumes. Refer to Figure 8 for an illustration of the 2023 build peak hour traffic volumes with the proposed site fully developed.

5.2. Analysis of 2023 Build Peak Hour Traffic Conditions

Study intersections were analyzed with the build traffic volumes using the same methodology previously discussed for no-build traffic conditions. The results of the capacity analysis for each intersection are presented in Section 7 of this report.

5.3. 2040 Design Year Analysis

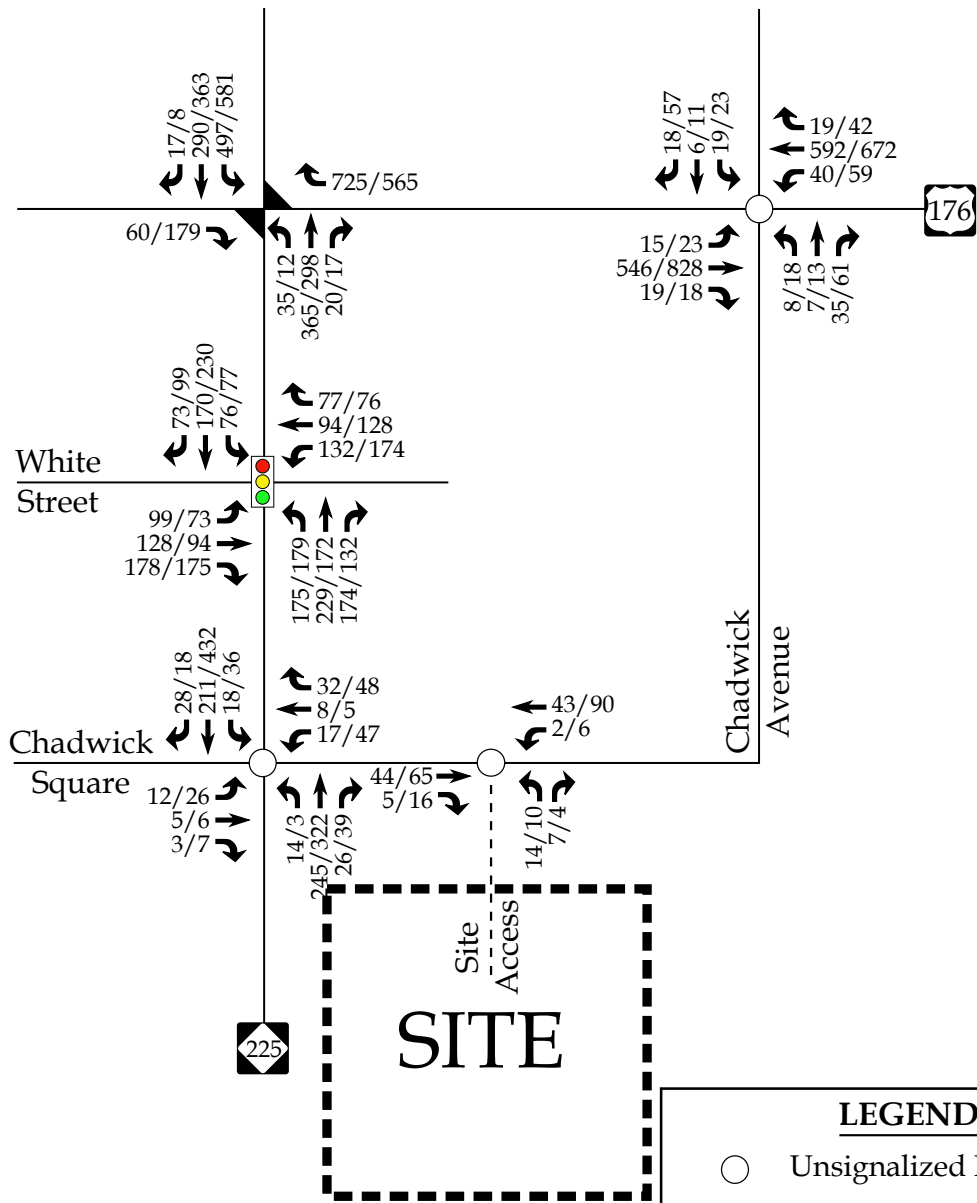
Based on coordination with NCDOT and the City, a design year scenario including U-5886 and U-6049 was analyzed. The aforementioned traffic forecast and the IAU spreadsheet were utilized to determine the 2040 volumes at the study intersections with improvements proposed under STIP U-5886 and U-6049:

- Greenville Highway and Spartanburg Highway
- Greenville Highway and White Street

Refer to Figure 9 for an illustration of the 2040 no-build peak hour traffic volumes at the intersections above. To estimate traffic conditions with the site fully built out, the 2040 no-build peak hour traffic volumes were combined with the site trip assignment (Figure 7) to determine the 2040 build peak hour traffic volumes. Refer to Figure 10 for the 2040 build peak hour traffic volumes. Refer to Appendix D for all 2040 traffic volume calculations.

5.4. Analysis of 2040 Design Year Peak Hour Traffic Conditions

Study intersections were analyzed with the 2040 no-build and build traffic volumes using the same methodology previously discussed for no-build and build traffic conditions. The results of the capacity analysis for each intersection are presented in Section 7 of this report.



LEGEND

- Unsignalized Intersection
- 🚦 Signalized Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic
- ▲ Left-Over Intersection

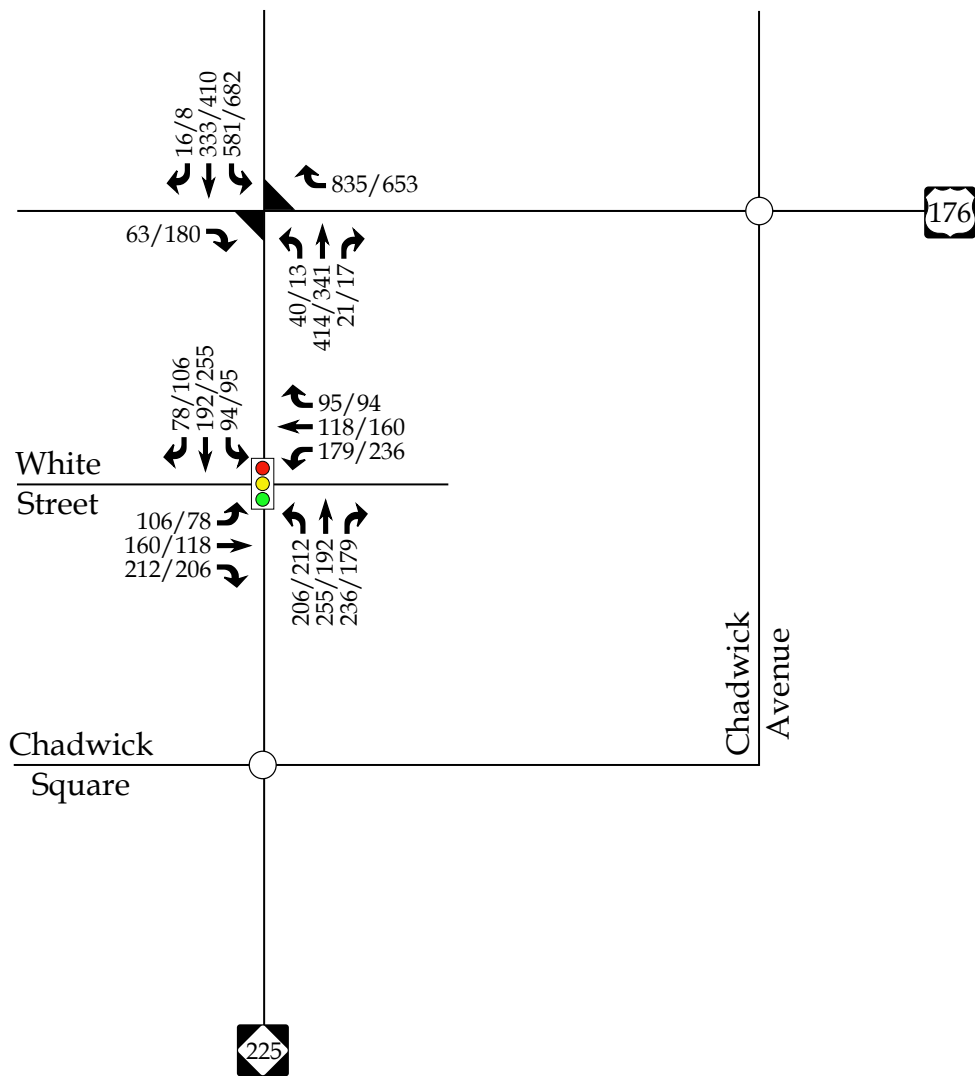


Greenville Highway
Apartments
Hendersonville, NC

2023 Build
Peak Hour Traffic

Scale: Not to Scale

Figure 8



LEGEND

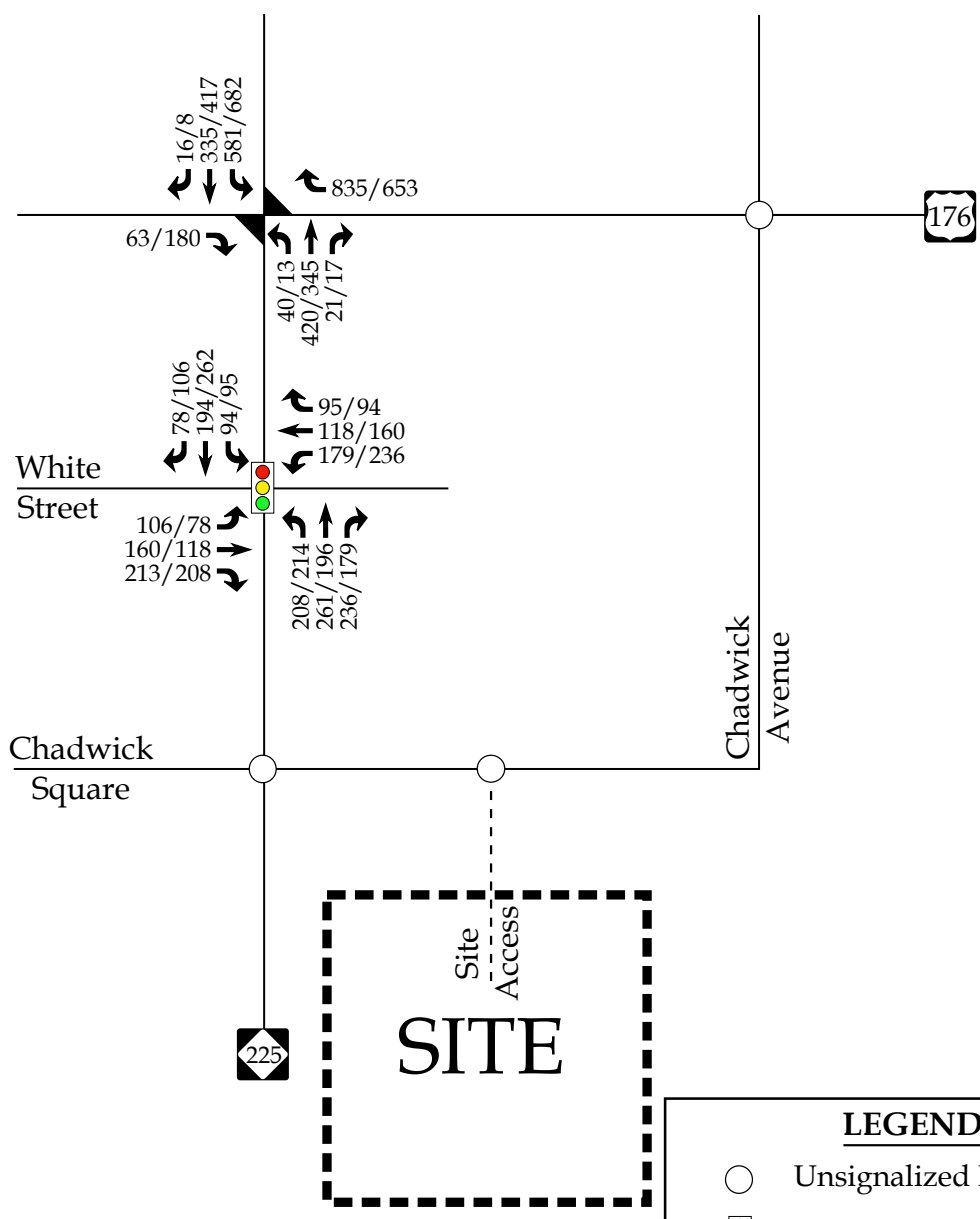
- Unsignalized Intersection
- ◫ Signalized Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic
- ▲ Left-Over Intersection



Greenville Highway
Apartments
Hendersonville, NC

2040 No-Build
Peak Hour Traffic

Scale: Not to Scale Figure 9



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic
- ▲ Left-Over Intersection

	Greenville Highway Apartments Hendersonville, NC		2040 Future Build Peak Hour Traffic	
			Scale: Not to Scale	Figure 10

6. TRAFFIC ANALYSIS PROCEDURE

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

The HCM defines capacity as “the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions.” Level of service (LOS) is a term used to represent different driving conditions and is defined as a “qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers.” Level of service varies from Level “A” representing free flow, to Level “F” where breakdown conditions are evident. Refer to Table 3 for HCM levels of service and related average control delay per vehicle for both signalized and unsignalized intersections. Control delay as defined by the HCM includes “initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay”. An average control delay of 50 seconds at a signalized intersection results in LOS “D” operation at the intersection.

Table 3: Highway Capacity Manual – Levels-of-Service and Delay

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

6.1. Adjustments to Analysis Guidelines

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

7. CAPACITY ANALYSIS

7.1. Greenville Highway and Spartanburg Highway

The existing signalized intersection was analyzed under all traffic conditions with the lane configurations and traffic control shown in Table 4. Refer to Table 4 for a summary of the analysis results. Refer to Appendix E for the Synchro capacity analysis reports.

Table 4: Analysis Summary of Greenville Highway and Spartanburg Highway

ANALYSIS SCENARIO	N O D E	A P P R O A C H	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
				Approach	Overall (seconds)	Approach	Overall (seconds)
2022 Existing	1	EB WB NB SB	1 LT-TH, 1 TH-RT 1 LT, 1 LT-TH, 2 RT 1 LT, 1 TH, 1 TH-RT 2 LT, 1 TH-RT	D (52.6) D (40.3) A (9.9) D (37.9)	C (31.0)	E (57.1) D (37.6) C (30.0) D (37.4)	D (36.7)
2023 No-Build	1	EB NB* SB	2 RT 1 LT 1 TH-RT	C (22.5) C (29.8) A (4.2)	A (9.2)	C (22.6) B (16.3) A (6.4)	B (11.8)
	10	SB** WB SB	2 LT 2 RT 1 TH, 1 TH-RT	A (9.0) B (12.1) B (10.0)	B (10.6)	B (11.1) B (12.4) A (7.0)	B (10.7)
2023 Build	1	EB NB* SB	2 RT 1 LT 1 TH-RT	C (22.5) C (29.8) A (4.2)	A (9.2)	C (22.6) B (16.4) A (6.4)	B (11.8)
	10	SB** WB SB	2 LT 2 RT 1 TH, 1 TH-RT	A (9.1) B (12.3) A (9.9)	B (10.7)	B (11.1) B (12.4) A (6.9)	B (10.7)
2040 No-Build	1	EB NB* SB	2 RT 1 LT 1 TH-RT	C (22.5) C (30.6) A (4.5)	A (9.3)	C (22.5) B (17.0) A (6.8)	B (11.7)
	10	SB** WB SB	2 LT 2 RT 1 TH, 1 TH-RT	A (8.5) B (12.1) B (11.9)	B (10.9)	B (10.2) B (11.5) A (6.7)	A (10.0)
Build 2040	1	EB NB* SB	2 RT 1 LT 1 TH-RT	C (22.5) C (30.7) A (4.5)	A (9.3)	C (22.6) B (17.5) A (6.9)	B (11.7)
	10	SB** WB SB	2 LT 2 RT 1 TH, 1 TH-RT	A (8.5) B (12.1) B (12.0)	B (11.0)	B (10.2) B (11.5) A (6.7)	A (10.0)

*Due to superstreet configuration in synchro, the northbound left was analyzed as a westbound through movement.

**Due to superstreet configuration in synchro, the southbound left was analyzed as an eastbound through movement.

Capacity analysis of existing traffic conditions indicates the overall signalized intersection operates at LOS D or better during the weekday AM and PM peak hours.

Under all future conditions, the intersection is expected to be converted to a left-over with full movement on the mainline [Greenville Highway] and rights only on the side streets [Spartanburg Highway and Shopping Center Entrance]. With the left-over configuration under future conditions, the overall intersection is expected to operate at LOS B or better during both peak hours. Additionally, all approaches are expected to operate at LOS C or better during both peak hours. When comparing build to no-build conditions, all LOS are expected to be maintained with minimal change in delays. Due to minimal impacts from the proposed development site traffic and acceptable levels of service, no improvements are recommended.

7.2. Greenville Highway and Chadwick Avenue

The existing signalized intersection was analyzed under all 2022 and 2023 traffic conditions with the existing lane configurations and traffic control shown in Table 5. Refer to Table 5 for a summary of the analysis results. Refer to Appendix F for the Synchro capacity analysis reports.

Table 5: Analysis Summary of Greenville Highway and Chadwick Avenue

ANALYSIS SCENARIO	A P P R O A C H	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2022 Existing	EB WB NB SB	1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT	A (7.9) A (8.4) A (2.8) A (2.8)	A (3.4)	B (12.3) B (13.8) A (6.1) A (7.3)	A (7.7)
2023 No-Build	EB WB NB SB	1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT	A (8.0) A (8.5) A (2.8) A (2.8)	A (3.4)	B (12.7) B (14.8) A (7.0) A (8.6)	A (8.7)
2023 Build	EB WB NB SB	1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT 1 LT-TH-RT	A (8.7) A (9.8) A (4.6) A (4.6)	A (5.2)	B (13.0) B (15.3) A (7.1) A (8.9)	A (9.1)

Capacity analysis indicates that the overall signalized intersection is expected to operate at LOS A during the weekday AM and PM peak hour for all traffic conditions. Additionally, all approaches are expected to operate at LOS B or better during both peak hours for all traffic conditions. When comparing build to no-build conditions, all LOS are expected to be maintained with minimal change in delays. Due to minimal impacts by the proposed development site traffic, no improvements are recommended.

7.3. Spartanburg Highway and Chadwick Avenue

The existing unsignalized intersection was analyzed under all 2022 and 2023 traffic conditions with the existing lane configurations and traffic control shown in Table 6. Refer to Table 6 for a summary of the analysis results. Refer to Appendix G for the Synchro capacity analysis reports.

Table 6: Analysis Summary of Spartanburg Highway and Chadwick Avenue

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2022 Existing	EB WB NB SB	1 LT, 1 TH, 1 TH-RT 1 LT, 1 TH, 1 TH-RT 1 LT-TH-RT 1 LT-TH, 1 RT	A ¹ (9.0) A ¹ (8.9) C ² (19.5) D ² (25.4)	N/A	A ¹ (9.5) B ¹ (10.3) F ² (68.2) E ² (49.9)	N/A
2023 No-Build	EB WB NB SB	1 LT, 1 TH, 1 TH-RT 1 LT, 1 TH, 1 TH-RT 1 LT-TH-RT 1 LT-TH, 1 RT	A ¹ (9.0) A ¹ (9.0) C ² (19.7) D ² (25.8)	N/A	A ¹ (9.5) B ¹ (10.4) F ² (72.2) F ² (51.8)	N/A
2023 Build	EB WB NB SB	1 LT, 1 TH, 1 TH-RT 1 LT, 1 TH, 1 TH-RT 1 LT-TH-RT 1 LT-TH, 1 RT	A ¹ (9.0) A ¹ (9.0) C ² (18.8) D ² (26.2)	N/A	A ¹ (9.5) B ¹ (10.5) F ² (74.3) F ² (55.5)	N/A

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

2. Level of service for minor-street approach.

Capacity analysis indicates that the major street left turn movements are expected to operate at LOS B or better during the weekday AM and PM peak hours for all traffic conditions. The minor street approaches are expected to operate at LOS D or better during the AM peak hour for all traffic conditions, while increased delays are expected during the PM peak hour. Increased delays are not uncommon for side-street approaches at unsignalized intersections, especially during the peak hours when mainline volumes are typically the heaviest. Additionally, while the minor street is expected to operate with unfavorable levels of service during the PM peak hour, queues are not expected to exceed 95 feet [approximately 4 vehicles]. When comparing build to no-build conditions, all LOS are expected to be

maintained with minimal change in delays. Due to minimal impacts from the proposed development site traffic, no improvements are recommended.

7.4. Greenville Highway and White Street

The existing signalized intersection was analyzed under all traffic conditions with the lane configurations and traffic control shown in Table 7. Refer to Table 7 for a summary of the analysis results. Refer to Appendix H for the Synchro capacity analysis reports.

Table 7: Analysis Summary of Greenville Highway and White Street

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2022 Existing	EB WB NB SB	1 LT-TH, 1 RT 1 LT-TH, 1 RT 1 LT, 1 TH-RT 1 LT, 1 TH, 1 RT	D (53.7) C (31.5) C (22.3) A (9.7)	C (27.1)	D (50.8) C (32.8) C (28.2) B (13.0)	C (26.2)
2023 No-Build	EB WB NB SB	1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH, 1 TH-RT 1 LT, 1 TH, 1 RT	D (47.9) E (62.7) D (43.2) D (44.7)	D (48.4)	D (49.1) E (65.1) D (44.4) D (42.5)	D (49.8)
2023 Build	EB WB NB SB	1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH, 1 TH-RT 1 LT, 1 TH, 1 RT	D (47.9) E (62.7) D (43.3) D (44.9)	D (48.5)	D (49.3) E (65.1) D (44.6) D (42.8)	D (49.9)
2040 No-Build	EB WB NB SB	1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH, 1 TH-RT 1 LT, 1 TH, 1 RT	D (53.6) E (69.9) D (47.8) D (48.7)	D (53.9)	E (57.5) E (75.2) D (48.5) D (48.3)	E (57.1)
2040 Build	EB WB NB SB	1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH, 1 TH-RT 1 LT, 1 TH, 1 RT	D (53.7) E (70.2) D (48.0) D (48.8)	D (54.0)	E (58.1) E (75.2) D (48.9) D (48.9)	E (57.4)

Capacity analysis indicates that the overall signalized intersection is expected operate at LOS D or better under existing and 2023 future conditions during the weekday AM and PM peak hours. Under 2040 future conditions, the overall intersection is expected to operate at LOS E or better. Under all traffic conditions, the intersection approaches are expected to operate at

LOS E or better. When comparing build to no-build conditions, all LOS are expected to be maintained with minimal change in delays. Due to minimal impacts from the proposed development site traffic, no improvements are recommended.

7.5. Chadwick Avenue and Site Access

The proposed unsignalized site access was analyzed under 2023 build traffic conditions with the lane configurations and traffic control shown in Table 8. Refer to Table 8 for a summary of the analysis results. Refer to Appendix I for the Synchro capacity analysis reports.

Table 8: Analysis Summary of Chadwick Avenue and Site Access

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2023 Build	EB WB NB	1 TH-RT 1 LT-TH 1 LT-RT	-- A ¹ (7.3) A ² (9.0)	N/A	-- A ¹ (7.4) A ² (9.4)	N/A

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

Capacity analysis indicates that the major street left turn movement and the minor street approach are expected to operate at LOS A during the weekday AM and PM peak hours for 2023 build conditions. Additionally, the minor street approach queues are not expected to exceed 40' during the weekday AM and PM peak hours. Due to acceptable levels of service and minimal existing mainline traffic, no improvements are recommended.

8. CONCLUSIONS

This Traffic Impact Analysis was conducted to determine the potential traffic impacts of the proposed residential development that is to be located in the southeast quadrant of the intersection of Greenville Highway and Chadwick Avenue in Hendersonville, North Carolina. The proposed development is expected to be built out in 2023. Site access is proposed one full movement driveway along Chadwick Avenue.

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

- 2022 Existing Traffic Conditions
- 2023 No-Build Traffic Conditions
- 2023 Build Traffic Conditions
- 2040 No-Build Traffic Conditions
- 2040 Build Traffic Conditions

Trip Generation

It is estimated that the proposed development will generate approximately 28 trips (7 entering and 21 exiting) during the weekday AM peak hour and 36 trips (22 entering and 14 exiting) during the weekday PM peak hour.

Adjustments to Analysis Guidelines

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

Intersection Capacity Analysis Summary

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

8.1. RECOMMENDATIONS

Based on the findings of this study, no specific geometric improvements have been identified to accommodate future traffic conditions. Refer to Figure 11 for an illustration of the future lane configurations.

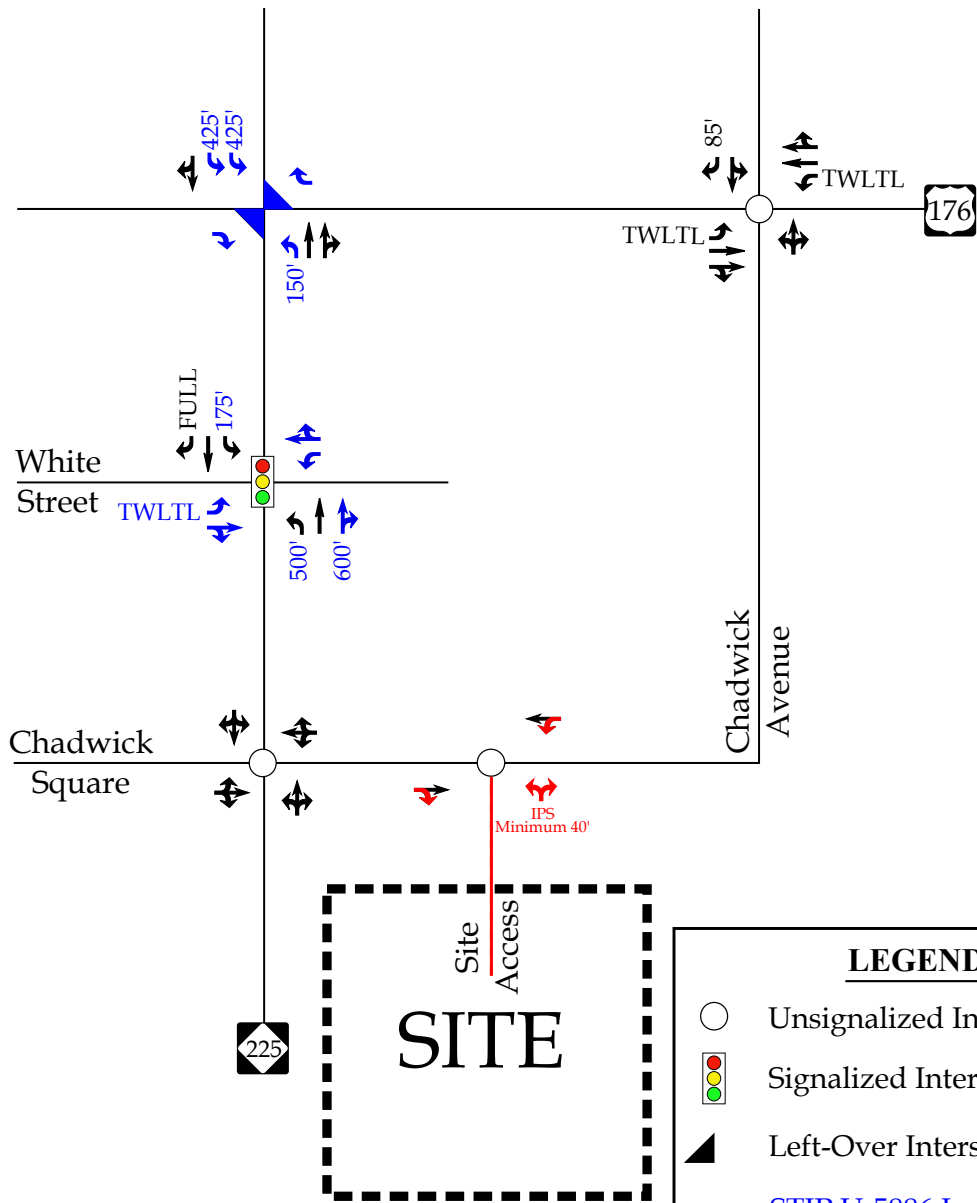
Improvements by NCDOT STIPs U-5886 and U-6049

STIP U-5886 is expected to provide improvements to Greenville Highway and White Street, while U-6049 is expected to convert Greenville Highway and Spartanburg Highway to a signalized left-over intersection restricting the minor-street approaches to right turns only.

Recommended Improvements by Developer

Chadwick Avenue and Site Access

- Construct northbound approach [Site Access] with one ingress lane and one egress lane.



LEGEND

- Unsignalized Intersection
- ◫ Signalized Intersection
- ▲ Left-Over Intersection
- ➡ STIP U-5886 Improvements
- ➡ Existing Lane
- ➡ Improvement by Developer
- x' Storage (In Feet)

	Greenville Highway Apartments Hendersonville, NC	Future Lane Configurations	
		Scale: Not to Scale	Figure 11

TECHNICAL APPENDIX

APPENDIX A

SCOPING DOCUMENTATIONS

TIA Need Screening

TIA Scoping

TIA
Submittal

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

Project Name: Greenville Highway Apartments **Previous Name:** If Applicable
Location: SE corner of Greenville Hwy&Chadwick Ave **County:** Henderson **Municipality:** Henderson
Project Description: 4 story multifamily residential development

Project Contact:	Applicant
Company Name	Tamara Peacock Company Architects
Contact Person	Joey Burnett
Phone Number	828-696-4000
Email	joey@tamarapeacock.com
Mailing Address	104 First Avenue East, Suite A Hendersonville, NC 28792

TIA Consultant
Ramey Kemp & Associates, Inc
Chase Smith
336-725-5470
csmith@rameykemp.com
PO Box 26932
Winston Salem, NC 27114

Site Plan Prepared By: Tamara Peacock Company Architects

See site plan/vicinity map requirements on page 2.

Site Plan Date: 11-16-21

Parcel Size: 2.25 Acre(s)

Anticipated Build-Out Year: 2023

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

[illegible]

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

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

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

☐ The estimated site trips meet the municipal TIA trip threshold of

☒ This project is located in a known [STIP](#) and/ or local CIP project # U-5886/U-6049

☐ This project includes a rezoning request.

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

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

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

Applicant's Signature

Joey Burnett
Print Name

12-21-2021

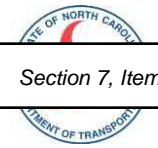
Date _____

Page 1 of 2

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



NCDOT Traffic Impact Analysis Need Screening / Scoping Request



Section 7, Item B.

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

Project Name: Greenville Highway Apartments **Project Reference Number:** _____

- ☒ **A TIA is Required by the Local Government.** In addition, the study area is expected to include NCDOT maintained transportation facilities.
- ☒ **A TIA is Required by NCDOT,** per the [Policy on Street and Driveway Access to North Carolina Highways](#).

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

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

Additional Comments:

-

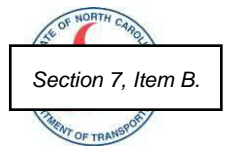
The TIA need decision is made by the NCDOT Division _____ District _____ on _____.

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

Print Name



NCDOT TIA Scoping Checklist



Section 7, Item B.

Project Name: Greenville Highway Apartments

TIA Scoping Date: 12-21-21

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

☒ **Site Plan and Access**

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

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

☒ Identify site access.

New Access	On Road	Access Type		Driveway Spacing		
	Road Name	Permitted Movements	Traffic Control	Distance (ft)	Direction	Nearest Intersection / Access
Access A	Chadwick Avenue	Conventional Full-Mvmt	Please Select	175	East	Greenville Hwy
Access B						
Access C						
Access D						
Access E						
Access F						
Access G						
Access H						
Existing Access	Existing Intersection of		Access	Proposed Interconnectivity (If Applicable)		
	Road A	Road B	Modification	Connector #	Road Connected	Adjacent Development
Access 1			Please Select	Connector 1		
Access 2				Connector 2		
Access 3				Connector 3		
Access 4				Connector 4		

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

☐ **Proposed K-12 School Site**

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

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

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

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



NCDOT TIA Scoping Checklist

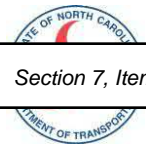
TIA Need
Screening



TIA
Scoping



TIA
Submittal



Section 7, Item B.

☒ Trip Generation

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

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
221	Mid-rise Multifam	80	DU	434	Adj. Street	7	21	28	22	14	36	ITE Equation
					Adj. Street							ITE Equation
Unadjusted Site Trips												
Internal Capture Trips (Attach Calculation Sheets)												Please Select
Internal Capture % of Unadjusted Site Trips				%		%			%			
LUC	Proposed Land Use	Any Internal Trips?		Pass-By % of External Trips								
		Please Select		%		%			%			Please Select
				%		%			%			
				%		%			%			
				%		%			%			
				%		%			%			
Pass-By Trips (Attach Calculation Sheets)												
Adjacent Street Volumes												Please Select
Non-Pass-By Primary Trips												
Diverted Trips, if Applicable and Justifiable												Please Select

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

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

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



NCDOT TIA Scoping Checklist



Section 7, Item B.

☒ Trip Distribution

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

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

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

☐ Mode Split

- ☐ Provide Data Source and Justification

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

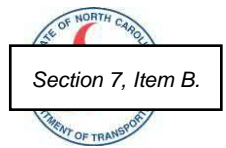
- ☐ Identify proper infrastructure and accommodation for other modes of travel.

☒ Analysis Peak Periods:

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



NCDOT TIA Scoping Checklist



Section 7, Item B.

☒ Study Area Intersections and Data Collection

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

External Intersection	Intersection of		Traffic Control	Intersection Turning Movement Counts			Notes
	Road A	Road B		New / Existing	Date of Counts	Growth Adjustment	
#1	Greenville Hwy	Chadwick Ave	Signal	Require New Counts			
#2	Spartanburg Hwy	Chadwick Ave	2-Way Stop	Require New Counts			
#3	Greenville Hwy	White Street	Signal	Require New Counts			
#4	Greenville Hwy	Spartanburg Hwy	Signal	Require new counts			
#5							
#6							
#7							
#8							
#9							
#10							
#11							
#12							

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

The following data will be collected:

- ☒ New traffic turning movement counts in ☒ 15-min intervals ☐ 5-min intervals (near schools)
 Unless otherwise noted above, new traffic counts shall be collected at the existing study intersections during the analysis periods. Weekday counts shall avoid Mondays, Fridays, holidays, school breaks, road closures, and major weather events.

- ☐ To account for the impact of existing and/or proposed school traffic, PHFs will be adjusted for:

intersections numbered: _____

and access points numbered: _____

☒ Traffic Forecast Data for TIP: U-5886 / U-6049

☒ Roadway/Intersection Configuration & Traffic Control

☒ Traffic Signal Phasing & Timing Data

☐ Crash Data: _____ Period: _____

☐ Other: _____



NCDOT TIA Scoping Checklist



Section 7, Item B.

☒ Future Year Conditions

☒ Project Build-Out Year: 2023

☒ Future Analysis Year(s): 2040

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

Funded STIP / Local CIP Project	Project Description		Year Complete
U-5886/U-6049	Road widening		
Nearby Approved Development	Location	Future Land Use (exclude any completed phases)	Committed Improvements
Please advise			

☐ Annual Growth Factor: 1 %

Justification/Data Source: Historical growth

☐ Local Comprehensive Transportation Plan Compliance

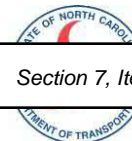
☐ Identify Applicable Local Transportation Planning Documents

☐ Identify Applicable Roadways inside the Study Area

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



NCDOT TIA Scoping Checklist



Section 7, Item B.

☒ Study Method

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

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

1. Existing Conditions
2. Future No-Build Conditions (existing + background growth + approved developments + committed or funded improvements)
3. Future Build Conditions (future no-build + site trips)
4. Future Build with Improvements Conditions (future build traffic with improvements to mitigate the proposed development's impacts) and, if applicable:

- ☒ 5. TIP Design Year Analysis 2040
- ☐ 6. Alternative Access Scenario (without proposed control-of-access or median break / modification)

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

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

☒ Submittals

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

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

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

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



NCDOT TIA Scoping Checklist

TIA Need
Screening

TIA
Scoping

TIA
Submittal

Section 7, Item B.

Agreement by All Parties

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

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

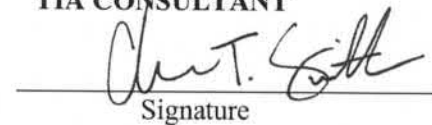
APPLICANT


Signature

Joey Burnett
Print Name

12-21-21
Date

TIA CONSULTANT


Signature

Chase Smith
Print Name

12-21-21
Date

LOCAL GOVERNMENT REPRESENTATIVE (If Applicable)

Signature

Print Name

Date

Email concurrence may be used in lieu of the signature.

NCDOT DISTRICT REPRESENTATIVE

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

Signature

Email concurrence may be used in lieu of the signature.

Print Name

TAMARA PEACOCK, R.A.
LICENSE NO. 12126

I am a registered professional architect in the State of North Carolina. I am not responsible for the design or construction of any structure or equipment shown on this drawing unless I have prepared the design or supervised the construction. I am not responsible for the design or construction of any structure or equipment shown on this drawing unless I have prepared the design or supervised the construction. I am not responsible for the design or construction of any structure or equipment shown on this drawing unless I have prepared the design or supervised the construction.

PROJ. DESIGNER	DRAWN BY
CAPT. APPROVER	AUTHOR
	REVISOR
	CHECKER

ISSUED FOR

REVISION DATE

REVISION

THE TAMARA PEACOCK COMPANY
Architects

104 E. 1st Ave, Suite A, Hendersonville, NC 28792
Ph: 828-696-4000 Fax: 828-696-4952

PROJECT NAME:

Apartment's
Feasibility
185 Cowan St,
Rutherfordton, NC 28139

SHEET NAME:

SITE PLAN/
MASTER
PLAN

PROJ. No.: 17-0351
DATE: 11/16/2021
12:02:56 PM

SHEET No.:
SP 1.00



SITE STATISTICS:

SITE: 904 GREENVILLE HWY, HENDERSONVILLE NC 28792-6224
PIN: 9568921924
ALL CALCULATIONS APPLY TO THE AREA OF THE SITE AFFECTED

LAND USE DESIGNATION: 100 - ACTIVITY CENTER

CURRENT USE	PROPOSED USE	OCCUPANCY
UNDEVELOPED	RESIDENTIAL	R-2

SITE DATA:

- DESCRIPTION
- 1.A) ZONING: GREENVILLE HIGHWAY MIXED USE ZONING (GHMU)
- 1.B) INTENSITY: PREVIOUS: 13 MOBILE HOMES
PROPOSED: RESIDENTIAL 3 (4 STORY) BUILDINGS
- 1.A) UNITS: 80 DWELLING UNITS
70% 2 BED/ 2 BATH
30% 1 BED/1 BATH

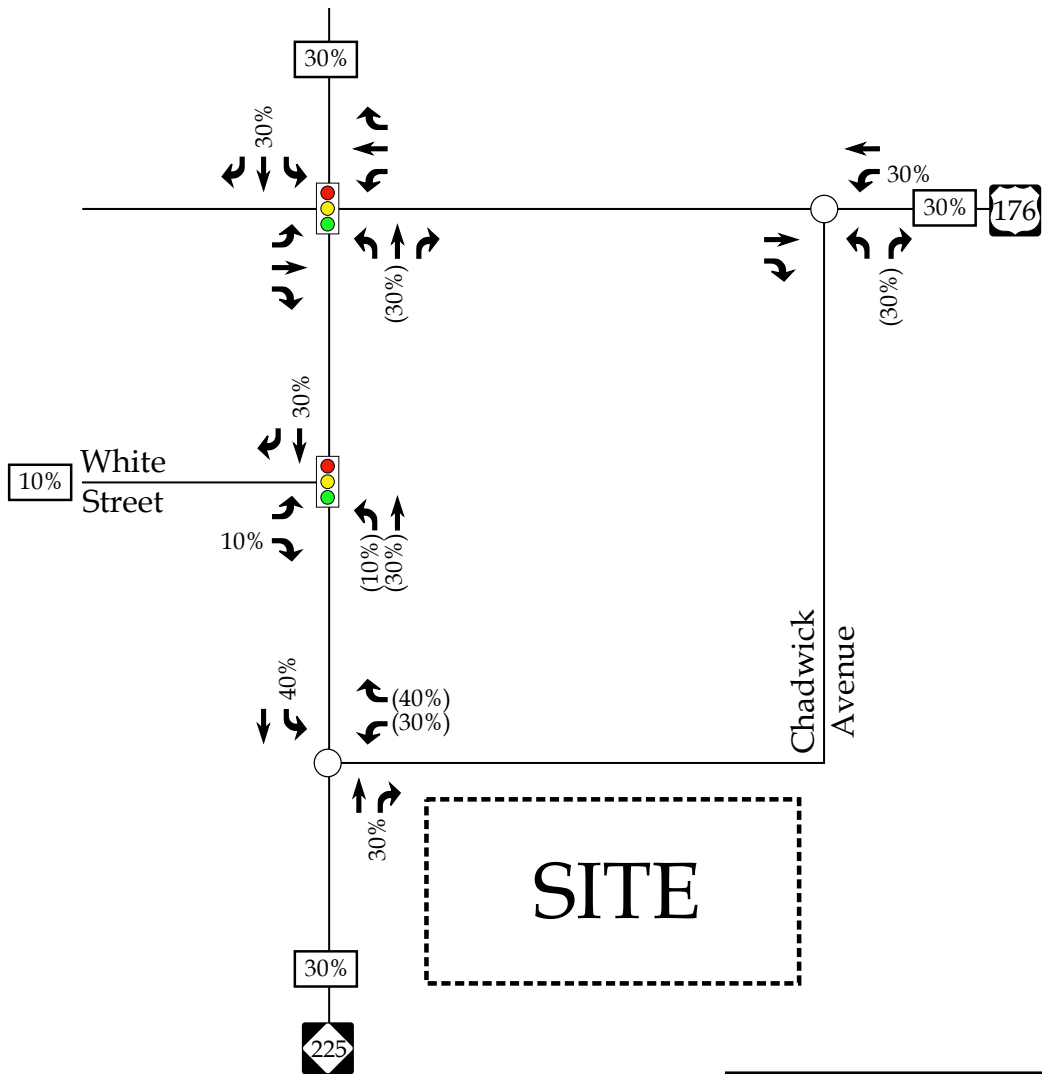
2.) SITE AREA:	GROSS LOT S.F.:	98,010 SQ. FT. / 2.25 ACRES
----------------	-----------------	-----------------------------

3.) YARD DIMENSIONS:	REQUIRED	PROVIDED
FRONT (CHADWICK) SETBACK	0' - 0"	0'-0"
FRONT (GVILLE HWY) SETBACK	0' - 0"	4' - 0"
REAR SETBACK	25' - 0"	25' - 0"
SIDE SETBACK	25' - 0"	25' - 0"
4.) BUILDING HEIGHT:	42'-0" MAX	4 FLOORS / 42'- 0"
5.) MIN LOT SIZE:	5,000 SF	-
6.) MAX BLDG FOOTPRINT:	12,000 SF MAX.	9,800 SF
7.) DENSITY:	NO CAP	80 UNITS
8.) COMMON SPACE	10% 9,801 SF	14,800 SF
9.) PORCH/BALCONY	5' PROJECTION INTO SETBACK	-

10.) IMPERVIOUS AREAS:	PROPOSED	%
BUILDING FOOT PRINT:	29,400 SQ.FT	30%
PARKING AREA:	25,360 SQ,FT	26%
SIDEWALK/WALKWAYS:	3,120 SQ. FT.	3%
DUMPSTER AREA:	130 SQ. FT.	.001%
TOTAL IMPERVIOUS AREA	58,010 SQ. FT.	59%

11.) PERVIOUS AREAS:	REQUIRED	EXISTING	PROPOSED	%
A. TOTAL PERVIOUS AREA:		- SQ. FT.	58,010 SQ. FT.	59%
B. TOTAL OPEN SPACE	39,204 SQ. FT.	- SQ. FT.	40,000 SQ. FT.	41%
500 SF PER DWELLING UNIT OR 9% OF LOT AREA, WHICHEVER IS GREATER				
12.) PARKING:	REQUIRED	PROVIDED		
PARKING SPACES	80	80		
ADA PARKING SPACES	4	4		
BIKE RACKS	0	4 STATIONS		

1 Site Plan
1/32" = 1'-0"



LEGEND

- Unsignalized Intersection
- 🚦 Signalized Intersection
- X% ➡ Entering Trip Distribution
- (Y%) ➡ Exiting Trip Distribution
- XX% Regional Trip Distribution

 RAMEY KEMP ASSOCIATES	Greenville Highway Apartments Hendersonville, NC	Site Trip Distribution	
		Scale: Not to Scale	

Ownbey, Carl H

From: Gallo, Robert S
Sent: Thursday, January 20, 2022 10:18 AM
To: Ownbey, Carl H
Cc: Reese, Michael P; Watkins, Lonnie R; Darnell, Russell H
Subject: Greenville Highway Apartments -- CMS Scope Review (SC-2022-018)

Carl,

Below are CMS comment for the subject scope:

General

- TIP Projects U-5886 and R-5748 are in the immediate area of this project. The scoping documents indicate that TIP Design Year Analyses will be provided and that a rezoning request will NOT be made for this project.
 [Observation]
 - LET date for U-5886 is 10/21/2025
 - LET date for R-5748 is POST YEAR

Trip Generation

- Trip generation appears reasonable.

Study Intersections, Trip Distribution, and Growth Rate

- Study intersections and trip distribution appear reasonable.
- Growth rate of 1 percent appears reasonable.

Site Plan and Proposed Driveway(s)

- Site plan appears reasonable and appears to match with the trip generation; however, please ensure that the proposed driveway(s) are in accordance with the NCDOT Driveway Manual and Internal Protected Stem lengths are provided with the TIA.

Thank you, and please feel free to let us know if you have any questions or comments. Otherwise, CMS will defer to the District to provide these comments to the PEF.

Regards,

Robert S. Gallo

Congestion Management Design Engineer

Traffic Management Unit

North Carolina Department of Transportation

(919) 814- 5064 office

rsgallo@ncdot.gov

1561 Mail Service Center

750 North Greenfield Parkway

Garner, NC 27529-6949

APPENDIX B

TRAFFIC COUNTS



TRAFFIC DATA COLLECTION

File Name : Hendersonville(Greenville Hwy and Chadwick)AM Peak

Site Code :

Start Date : 1/11/2022

Page No : 1

Groups Printed- Cars + - Trucks

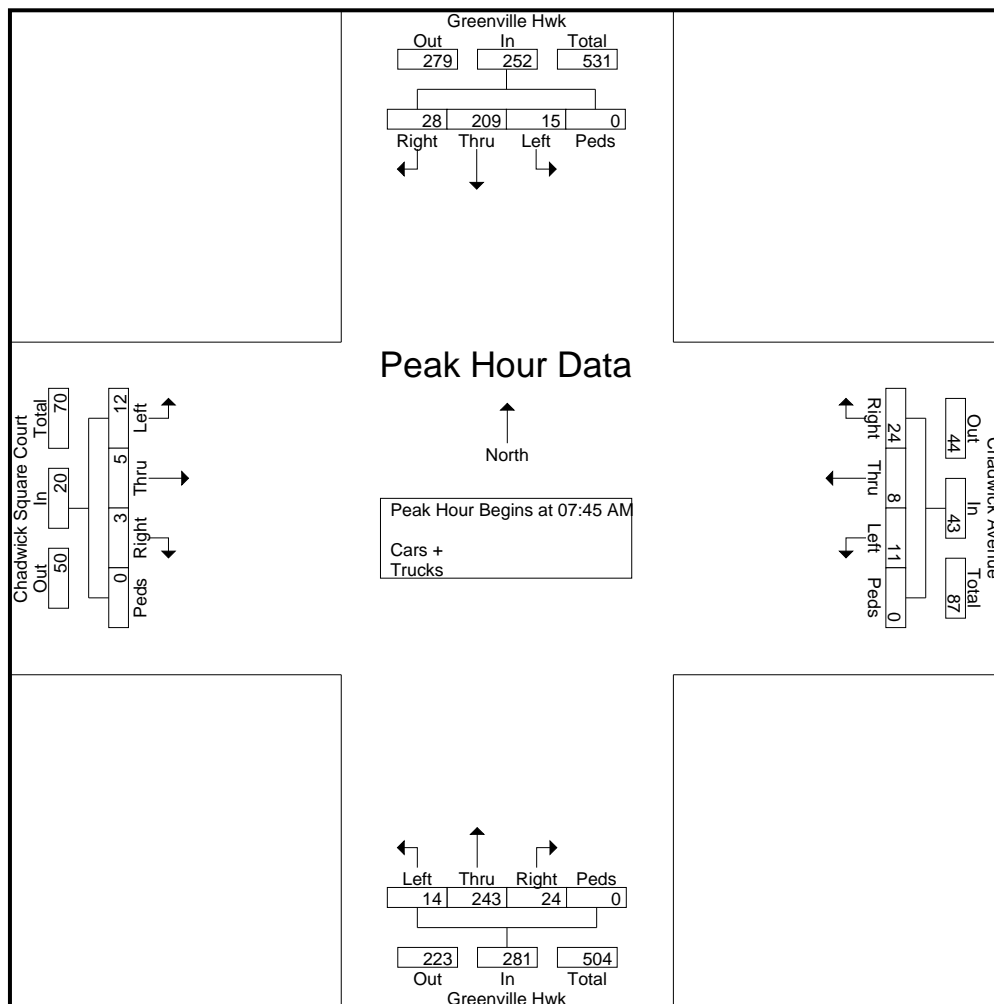
	Greenville Hwk Southbound					Chadwick Avenue Westbound					Greenville Hwk Northbound					Chadwick Square Court Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	2	23	1	1	27	1	0	2	0	3	2	38	2	0	42	0	1	1	0	2	74
07:15 AM	1	30	0	0	31	5	0	2	0	7	4	42	0	0	46	1	0	6	1	8	92
07:30 AM	6	27	2	0	35	3	2	1	0	6	7	67	2	0	76	1	1	6	0	8	125
07:45 AM	6	48	7	0	61	7	0	4	0	11	7	67	8	0	82	2	2	4	0	8	162
Total	15	128	10	1	154	16	2	9	0	27	20	214	12	0	246	4	4	17	1	26	453
08:00 AM	13	64	3	0	80	6	5	2	0	13	4	57	4	0	65	0	1	2	0	3	161
08:15 AM	3	46	2	0	51	7	2	2	0	11	6	52	1	0	59	1	2	2	0	5	126
08:30 AM	6	51	3	0	60	4	1	3	0	8	7	67	1	0	75	0	0	4	0	4	147
08:45 AM	7	56	6	0	69	4	1	4	0	9	4	56	1	0	61	0	0	1	0	1	140
Total	29	217	14	0	260	21	9	11	0	41	21	232	7	0	260	1	3	9	0	13	574
Grand Total	44	345	24	1	414	37	11	20	0	68	41	446	19	0	506	5	7	26	1	39	1027
Apprch %	10.6	83.3	5.8	0.2		54.4	16.2	29.4	0		8.1	88.1	3.8	0		12.8	17.9	66.7	2.6		
Total %	4.3	33.6	2.3	0.1	40.3	3.6	1.1	1.9	0	6.6	4	43.4	1.9	0	49.3	0.5	0.7	2.5	0.1	3.8	
Cars +	44	338	21	1	404	37	11	20	0	68	39	442	19	0	500	5	7	26	1	39	1011
% Cars +	100	98	87.5	100	97.6	100	100	100	0	100	95.1	99.1	100	0	98.8	100	100	100	100	100	98.4
Trucks	0	7	3	0	10	0	0	0	0	0	2	4	0	0	6	0	0	0	0	0	16
% Trucks	0	2	12.5	0	2.4	0	0	0	0	0	4.9	0.9	0	0	1.2	0	0	0	0	0	1.6



TRAFFIC DATA COLLECTION

File Name : Hendersonville(Greenville Hwy and Chadwick)AM Peak
 Site Code :
 Start Date : 1/11/2022
 Page No : 2

	Greenville Hwk Southbound					Chadwick Avenue Westbound					Greenville Hwk Northbound					Chadwick Square Court 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 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	6	48	7	0	61	7	0	4	0	11	7	67	8	0	82	2	2	4	0	8	162
08:00 AM	13	64	3	0	80	6	5	2	0	13	4	57	4	0	65	0	1	2	0	3	161
08:15 AM	3	46	2	0	51	7	2	2	0	11	6	52	1	0	59	1	2	2	0	5	126
08:30 AM	6	51	3	0	60	4	1	3	0	8	7	67	1	0	75	0	0	4	0	4	147
Total Volume	28	209	15	0	252	24	8	11	0	43	24	243	14	0	281	3	5	12	0	20	596
% App. Total	11.1	82.9	6	0		55.8	18.6	25.6	0		8.5	86.5	5	0		15	25	60	0		
PHF	.538	.816	.536	.000	.788	.857	.400	.688	.000	.827	.857	.907	.438	.000	.857	.375	.625	.750	.000	.625	.920





TRAFFIC DATA COLLECTION

File Name : Hendersonville(Greenville Hwy and Chadwick)PM Peak
 Site Code :
 Start Date : 1/11/2022
 Page No : 1

Groups Printed- Cars + - Trucks

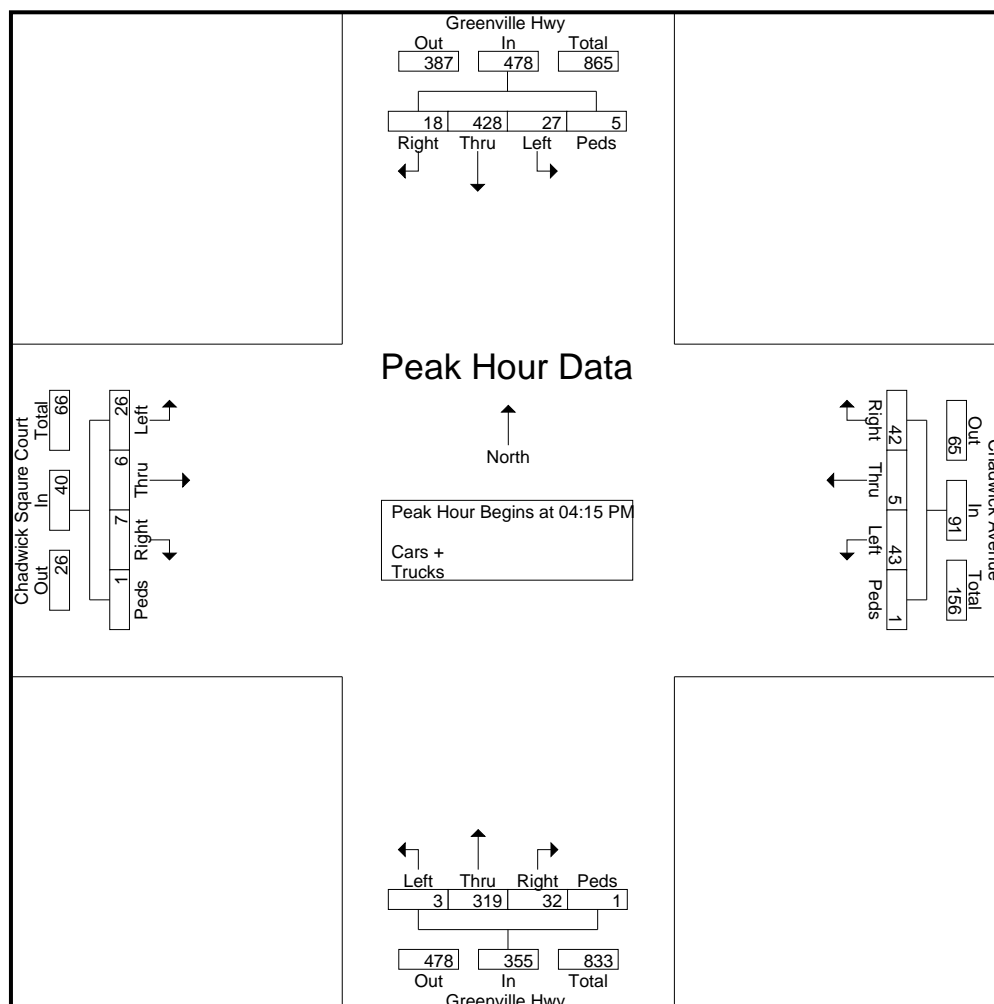
	Greenville Hwy Southbound					Chadwick Avenue Westbound					Greenville Hwy Northbound					Chadwick Sqaure Court Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	5	90	7	0	102	11	0	9	0	20	3	86	1	2	92	2	0	2	0	4	218
04:15 PM	5	102	7	0	114	8	2	8	0	18	9	88	0	0	97	1	0	2	1	4	233
04:30 PM	7	117	5	3	132	14	1	14	0	29	10	74	2	0	86	2	3	5	0	10	257
04:45 PM	2	108	12	2	124	6	0	8	1	15	2	84	1	1	88	1	0	7	0	8	235
Total	19	417	31	5	472	39	3	39	1	82	24	332	4	3	363	6	3	16	1	26	943
05:00 PM	4	101	3	0	108	14	2	13	0	29	11	73	0	0	84	3	3	12	0	18	239
05:15 PM	4	101	5	0	110	4	4	8	0	16	2	83	0	0	85	2	3	4	2	11	222
05:30 PM	5	86	4	4	99	8	3	11	0	22	5	55	0	3	63	1	0	1	0	2	186
05:45 PM	5	87	6	0	98	6	3	2	0	11	5	69	1	0	75	3	1	5	0	9	193
Total	18	375	18	4	415	32	12	34	0	78	23	280	1	3	307	9	7	22	2	40	840
Grand Total	37	792	49	9	887	71	15	73	1	160	47	612	5	6	670	15	10	38	3	66	1783
Apprch %	4.2	89.3	5.5	1		44.4	9.4	45.6	0.6		7	91.3	0.7	0.9		22.7	15.2	57.6	4.5		
Total %	2.1	44.4	2.7	0.5	49.7	4	0.8	4.1	0.1	9	2.6	34.3	0.3	0.3	37.6	0.8	0.6	2.1	0.2	3.7	
Cars +	37	787	46	9	879	70	15	73	1	159	46	602	5	6	659	15	10	38	3	66	1763
% Cars +	100	99.4	93.9	100	99.1	98.6	100	100	100	99.4	97.9	98.4	100	100	98.4	100	100	100	100	100	98.9
Trucks	0	5	3	0	8	1	0	0	0	1	1	10	0	0	11	0	0	0	0	0	20
% Trucks	0	0.6	6.1	0	0.9	1.4	0	0	0	0.6	2.1	1.6	0	0	1.6	0	0	0	0	0	1.1



TRAFFIC DATA COLLECTION

File Name : Hendersonville(Greenville Hwy and Chadwick)PM Peak
 Site Code :
 Start Date : 1/11/2022
 Page No : 2

	Greenville Hwy Southbound					Chadwick Avenue Westbound					Greenville Hwy Northbound					Chadwick Sqaure Court 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	5	102	7	0	114	8	2	8	0	18	9	88	0	0	97	1	0	2	1	4	233
04:30 PM	7	117	5	3	132	14	1	14	0	29	10	74	2	0	86	2	3	5	0	10	257
04:45 PM	2	108	12	2	124	6	0	8	1	15	2	84	1	1	88	1	0	7	0	8	235
05:00 PM	4	101	3	0	108	14	2	13	0	29	11	73	0	0	84	3	3	12	0	18	239
Total Volume	18	428	27	5	478	42	5	43	1	91	32	319	3	1	355	7	6	26	1	40	964
% App. Total	3.8	89.5	5.6	1		46.2	5.5	47.3	1.1		9	89.9	0.8	0.3		17.5	15	65	2.5		
PHF	.643	.915	.563	.417	.905	.750	.625	.768	.250	.784	.727	.906	.375	.250	.915	.583	.500	.542	.250	.556	.938





TRAFFIC DATA COLLECTION

File Name : Hendersonville(Greenville Hwy and Spartanburg Hwy)AM Peak

Site Code :

Start Date : 1/11/2022

Page No : 1

Groups Printed- Cars + - Trucks

	Greenville Highway Southbound					Spartanburg Highway Westbound					Greenville Highway Northbound					Multi Use Access Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
07:00 AM	2	36	70	0	108	51	2	26	0	79	30	56	0	0	86	0	0	0	0	0	273
07:15 AM	0	29	81	0	110	74	2	29	0	105	28	71	0	0	99	0	0	0	0	0	314
07:30 AM	0	33	91	0	124	109	2	29	0	140	49	73	0	0	122	1	0	0	0	1	387
07:45 AM	1	43	110	0	154	114	0	28	0	142	59	81	0	0	140	0	2	0	0	2	438
Total	3	141	352	0	496	348	6	112	0	466	166	281	0	0	447	1	2	0	0	3	1412
08:00 AM	0	55	106	0	161	73	4	53	1	131	46	54	0	0	100	0	0	3	0	3	395
08:15 AM	0	58	83	0	141	67	3	46	0	116	36	63	0	0	99	0	2	1	0	3	359
08:30 AM	1	62	102	0	165	102	3	35	0	140	44	63	0	0	107	0	2	0	0	2	414
08:45 AM	0	57	96	0	153	85	3	51	0	139	49	51	1	0	101	1	3	0	0	4	397
Total	1	232	387	0	620	327	13	185	1	526	175	231	1	0	407	1	7	4	0	12	1565
Grand Total	4	373	739	0	1116	675	19	297	1	992	341	512	1	0	854	2	9	4	0	15	2977
Apprch %	0.4	33.4	66.2	0		68	1.9	29.9	0.1		39.9	60	0.1	0		13.3	60	26.7	0		
Total %	0.1	12.5	24.8	0	37.5	22.7	0.6	10	0	33.3	11.5	17.2	0	0	28.7	0.1	0.3	0.1	0	0.5	
Cars +	4	366	719	0	1089	648	19	281	1	949	339	507	1	0	847	2	9	4	0	15	2900
% Cars +	100	98.1	97.3	0	97.6	96	100	94.6	100	95.7	99.4	99	100	0	99.2	100	100	100	0	100	97.4
Trucks	0	7	20	0	27	27	0	16	0	43	2	5	0	0	7	0	0	0	0	0	77
% Trucks	0	1.9	2.7	0	2.4	4	0	5.4	0	4.3	0.6	1	0	0	0.8	0	0	0	0	0	2.6



TRAFFIC DATA COLLECTION

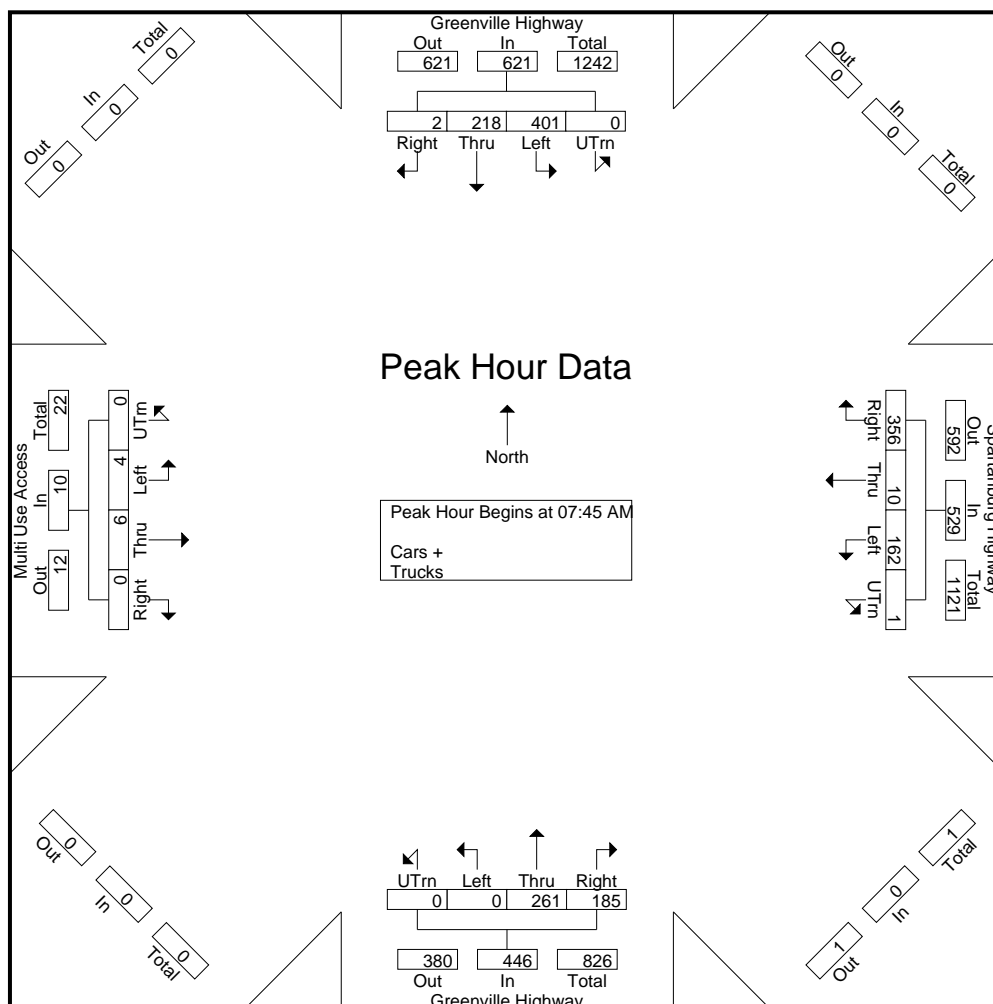
File Name : Hendersonville(Greenville Hwy and Spartanburg Hwy)AM Peak

Site Code :

Start Date : 1/11/2022

Page No : 2

	Greenville Highway Southbound					Spartanburg Highway Westbound					Greenville Highway Northbound					Multi Use Access Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	1	43	110	0	154	114	0	28	0	142	59	81	0	0	140	0	2	0	0	2	438
08:00 AM	0	55	106	0	161	73	4	53	1	131	46	54	0	0	100	0	0	3	0	3	395
08:15 AM	0	58	83	0	141	67	3	46	0	116	36	63	0	0	99	0	2	1	0	3	359
08:30 AM	1	62	102	0	165	102	3	35	0	140	44	63	0	0	107	0	2	0	0	2	414
Total Volume	2	218	401	0	621	356	10	162	1	529	185	261	0	0	446	0	6	4	0	10	1606
% App. Total	0.3	35.1	64.6	0		67.3	1.9	30.6	0.2		41.5	58.5	0	0		0	60	40	0		
PHF	.500	.879	.911	.000	.941	.781	.625	.764	.250	.931	.784	.806	.000	.000	.796	.000	.750	.333	.000	.833	.917





TRAFFIC DATA COLLECTION

File Name : Hendersonville(Greenville Hwy and Spartanburg Hwy)PM Peak

Site Code :

Start Date : 1/11/2022

Page No : 1

Groups Printed- Cars + - Trucks

	Greenville Highway Southbound					Spartanburg Highway Westbound					Greenville Highway Northbound					Multi Use Access Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
04:00 PM	1	73	132	0	206	76	12	56	0	144	50	87	1	0	138	3	11	6	0	20	508
04:15 PM	2	95	145	3	245	105	10	67	0	182	55	74	2	0	131	4	12	11	0	27	585
04:30 PM	2	105	153	0	260	97	10	71	0	178	46	70	2	0	118	3	13	10	0	26	582
04:45 PM	2	94	155	0	251	90	8	86	0	184	54	78	0	0	132	2	8	8	0	18	585
Total	7	367	585	3	962	368	40	280	0	688	205	309	5	0	519	12	44	35	0	91	2260
05:00 PM	4	96	158	0	258	110	6	64	0	180	49	87	0	0	136	1	19	7	0	27	601
05:15 PM	2	111	125	0	238	102	8	64	0	174	36	103	1	0	140	6	5	7	0	18	570
05:30 PM	1	95	125	0	221	81	3	69	0	153	46	74	0	0	120	2	15	5	0	22	516
05:45 PM	1	67	129	0	197	112	12	64	0	188	39	76	3	0	118	4	10	8	0	22	525
Total	8	369	537	0	914	405	29	261	0	695	170	340	4	0	514	13	49	27	0	89	2212
Grand Total	15	736	1122	3	1876	773	69	541	0	1383	375	649	9	0	1033	25	93	62	0	180	4472
Apprch %	0.8	39.2	59.8	0.2		55.9	5	39.1	0		36.3	62.8	0.9	0		13.9	51.7	34.4	0		
Total %	0.3	16.5	25.1	0.1	41.9	17.3	1.5	12.1	0	30.9	8.4	14.5	0.2	0	23.1	0.6	2.1	1.4	0	4	
Cars +	14	727	1093	3	1837	757	69	540	0	1366	370	641	9	0	1020	25	93	62	0	180	4403
% Cars +	93.3	98.8	97.4	100	97.9	97.9	100	99.8	0	98.8	98.7	98.8	100	0	98.7	100	100	100	0	100	98.5
Trucks	1	9	29	0	39	16	0	1	0	17	5	8	0	0	13	0	0	0	0	0	69
% Trucks	6.7	1.2	2.6	0	2.1	2.1	0	0.2	0	1.2	1.3	1.2	0	0	1.3	0	0	0	0	0	1.5



TRAFFIC DATA COLLECTION

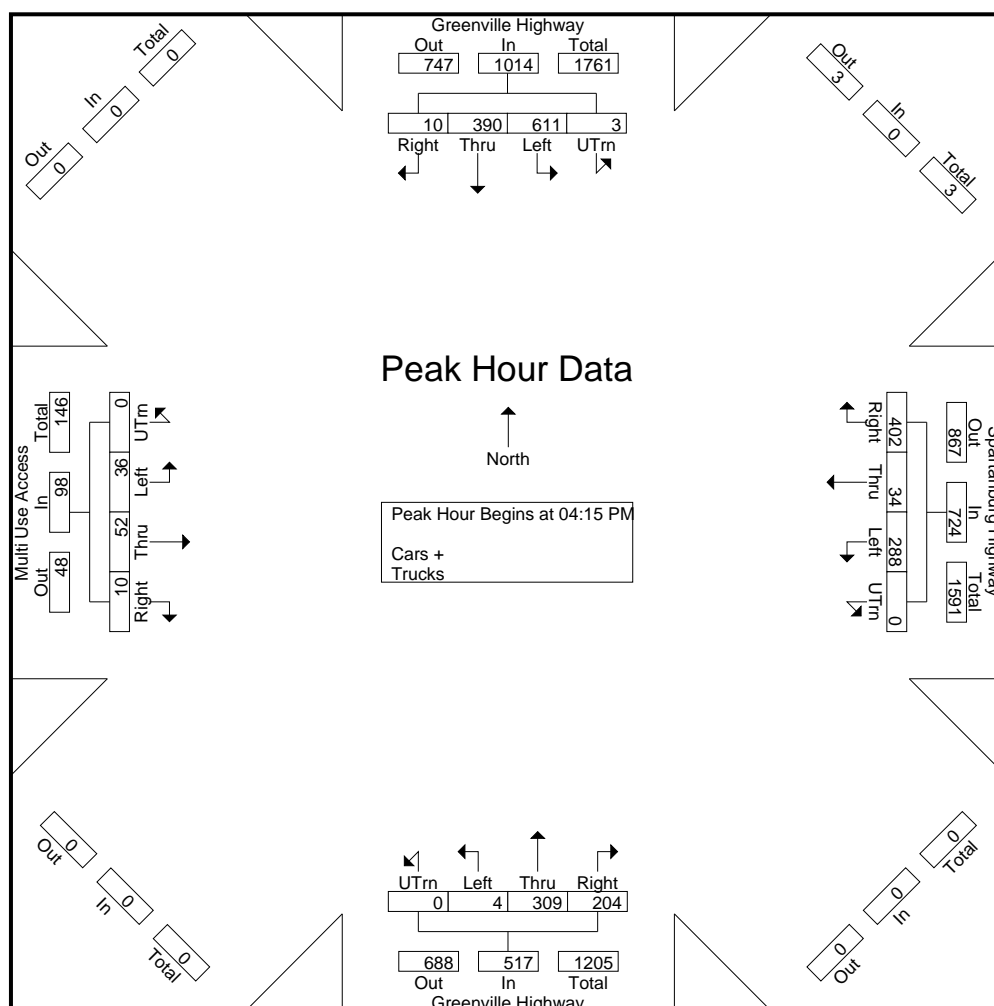
File Name : Hendersonville(Greenville Hwy and Spartanburg Hwy)PM Peak

Site Code :

Start Date : 1/11/2022

Page No : 2

	Greenville Highway Southbound					Spartanburg Highway Westbound					Greenville Highway Northbound					Multi Use Access Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	2	95	145	3	245	105	10	67	0	182	55	74	2	0	131	4	12	11	0	27	585
04:30 PM	2	105	153	0	260	97	10	71	0	178	46	70	2	0	118	3	13	10	0	26	582
04:45 PM	2	94	155	0	251	90	8	86	0	184	54	78	0	0	132	2	8	8	0	18	585
05:00 PM	4	96	158	0	258	110	6	64	0	180	49	87	0	0	136	1	19	7	0	27	601
Total Volume	10	390	611	3	1014	402	34	288	0	724	204	309	4	0	517	10	52	36	0	98	2353
% App. Total	1	38.5	60.3	0.3		55.5	4.7	39.8	0		39.5	59.8	0.8	0		10.2	53.1	36.7	0		
PHF	.625	.929	.967	.250	.975	.914	.850	.837	.000	.984	.927	.888	.500	.000	.950	.625	.684	.818	.000	.907	.979





TRAFFIC DATA COLLECTION

File Name : Hendersonville(Greenville Hwy and White)AM Peak

Site Code :

Start Date : 1/11/2022

Page No : 1

Groups Printed- Cars + - Trucks

	Greenville Hwy Southbound				White Street Westbound				Greenville Hwy Northbound				White Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	21	26	0	47	0	0	0	0	0	32	8	40	3	1	54	58	145
07:15 AM	21	29	2	52	0	0	0	0	0	47	13	60	9	0	45	54	166
07:30 AM	23	39	2	64	0	0	0	0	0	54	16	70	14	1	70	85	219
07:45 AM	33	56	1	90	0	1	0	1	2	64	16	82	10	1	52	63	236
Total	98	150	5	253	0	1	0	1	2	197	53	252	36	3	221	260	766
08:00 AM	39	63	3	105	0	0	0	0	1	53	16	70	21	0	48	69	244
08:15 AM	35	50	1	86	0	0	1	1	1	49	19	69	14	1	43	58	214
08:30 AM	31	53	2	86	0	0	1	1	2	62	11	75	12	1	35	48	210
08:45 AM	43	64	2	109	2	1	0	3	1	60	17	78	15	2	38	55	245
Total	148	230	8	386	2	1	2	5	5	224	63	292	62	4	164	230	913
Grand Total	246	380	13	639	2	2	2	6	7	421	116	544	98	7	385	490	1679
Apprch %	38.5	59.5	2		33.3	33.3	33.3		1.3	77.4	21.3		20	1.4	78.6		
Total %	14.7	22.6	0.8	38.1	0.1	0.1	0.1	0.4	0.4	25.1	6.9	32.4	5.8	0.4	22.9	29.2	
Cars +	232	366	13	611	2	2	2	6	7	416	115	538	96	7	375	478	1633
% Cars +	94.3	96.3	100	95.6	100	100	100	100	100	98.8	99.1	98.9	98	100	97.4	97.6	97.3
Trucks	14	14	0	28	0	0	0	0	0	5	1	6	2	0	10	12	46
% Trucks	5.7	3.7	0	4.4	0	0	0	0	0	1.2	0.9	1.1	2	0	2.6	2.4	2.7



TRAFFIC DATA COLLECTION

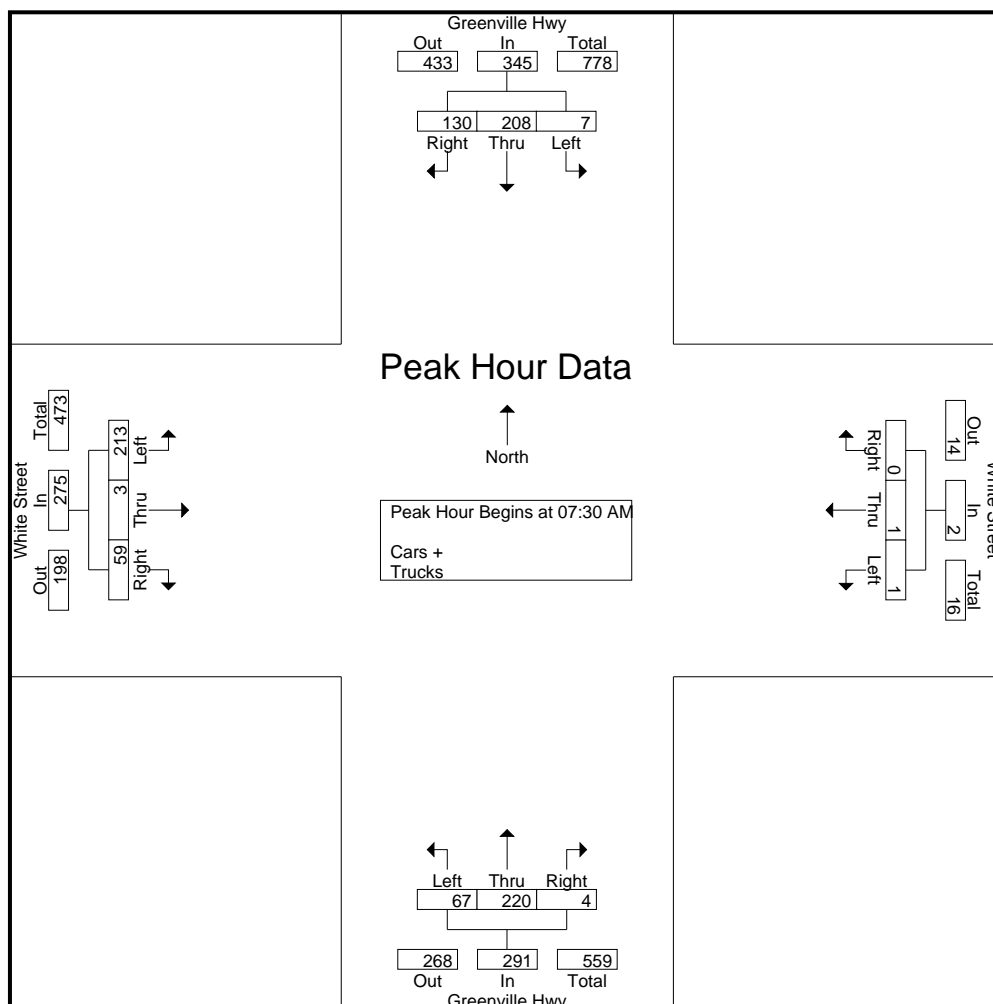
File Name : Hendersonville(Greenville Hwy and White)AM Peak

Site Code :

Start Date : 1/11/2022

Page No : 2

	Greenville Hwy Southbound				White Street Westbound				Greenville Hwy Northbound				White Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	23	39	2	64	0	0	0	0	0	54	16	70	14	1	70	85	219
07:45 AM	33	56	1	90	0	1	0	1	2	64	16	82	10	1	52	63	236
08:00 AM	39	63	3	105	0	0	0	0	1	53	16	70	21	0	48	69	244
08:15 AM	35	50	1	86	0	0	1	1	1	49	19	69	14	1	43	58	214
Total Volume	130	208	7	345	0	1	1	2	4	220	67	291	59	3	213	275	913
% App. Total	37.7	60.3	2		0	50	50		1.4	75.6	23		21.5	1.1	77.5		
PHF	.833	.825	.583	.821	.000	.250	.250	.500	.500	.859	.882	.887	.702	.750	.761	.809	.935





TRAFFIC DATA COLLECTION

File Name : Hendersonville(Greenville Hwy and White)PM Peak

Site Code :

Start Date : 1/11/2022

Page No : 1

Groups Printed- Cars + - Trucks

	Greenville Hwy Southbound				White Street Westbound				Greenville Hwy Northbound				White Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	52	99	4	155	1	2	0	3	4	82	35	121	28	4	42	74	353
04:15 PM	61	105	3	169	0	2	6	8	4	84	27	115	28	2	63	93	385
04:30 PM	63	111	8	182	1	3	1	5	4	70	35	109	30	7	49	86	382
04:45 PM	62	114	3	179	3	4	2	9	4	81	36	121	27	1	53	81	390
Total	238	429	18	685	5	11	9	25	16	317	133	466	113	14	207	334	1510
05:00 PM	62	112	7	181	2	4	5	11	1	87	37	125	27	2	69	98	415
05:15 PM	62	112	5	179	7	4	2	13	1	86	31	118	27	6	43	76	386
05:30 PM	62	114	4	180	2	4	3	9	4	54	28	86	20	1	51	72	347
05:45 PM	54	98	1	153	1	3	1	5	3	75	27	105	17	0	46	63	326
Total	240	436	17	693	12	15	11	38	9	302	123	434	91	9	209	309	1474
Grand Total	478	865	35	1378	17	26	20	63	25	619	256	900	204	23	416	643	2984
Apprch %	34.7	62.8	2.5		27	41.3	31.7		2.8	68.8	28.4		31.7	3.6	64.7		
Total %	16	29	1.2	46.2	0.6	0.9	0.7	2.1	0.8	20.7	8.6	30.2	6.8	0.8	13.9	21.5	
Cars +	477	858	35	1370	17	26	20	63	25	613	253	891	203	23	404	630	2954
% Cars +	99.8	99.2	100	99.4	100	100	100	100	100	99	98.8	99	99.5	100	97.1	98	99
Trucks	1	7	0	8	0	0	0	0	0	6	3	9	1	0	12	13	30
% Trucks	0.2	0.8	0	0.6	0	0	0	0	0	1	1.2	1	0.5	0	2.9	2	1



TRAFFIC DATA COLLECTION

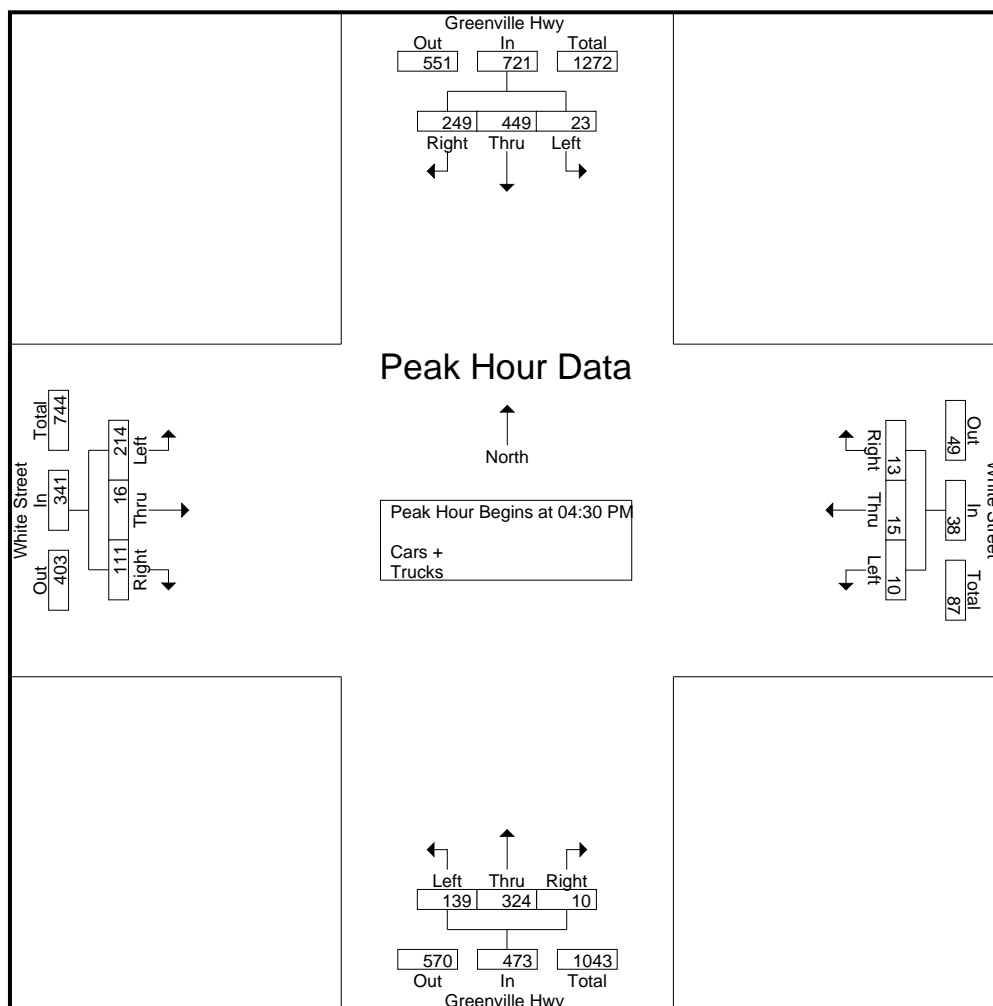
File Name : Hendersonville(Greenville Hwy and White)PM Peak

Site Code :

Start Date : 1/11/2022

Page No : 2

	Greenville Hwy Southbound				White Street Westbound				Greenville Hwy Northbound				White Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	63	111	8	182	1	3	1	5	4	70	35	109	30	7	49	86	382
04:45 PM	62	114	3	179	3	4	2	9	4	81	36	121	27	1	53	81	390
05:00 PM	62	112	7	181	2	4	5	11	1	87	37	125	27	2	69	98	415
05:15 PM	62	112	5	179	7	4	2	13	1	86	31	118	27	6	43	76	386
Total Volume	249	449	23	721	13	15	10	38	10	324	139	473	111	16	214	341	1573
% App. Total	34.5	62.3	3.2		34.2	39.5	26.3		2.1	68.5	29.4		32.6	4.7	62.8		
PHF	.988	.985	.719	.990	.464	.938	.500	.731	.625	.931	.939	.946	.925	.571	.775	.870	.948





TRAFFIC DATA COLLECTION

File Name : Hendersonville(Spartanburg Hwy and Chadwick)AM Peak

Site Code :

Start Date : 1/11/2022

Page No : 1

Groups Printed- Cars + - Trucks

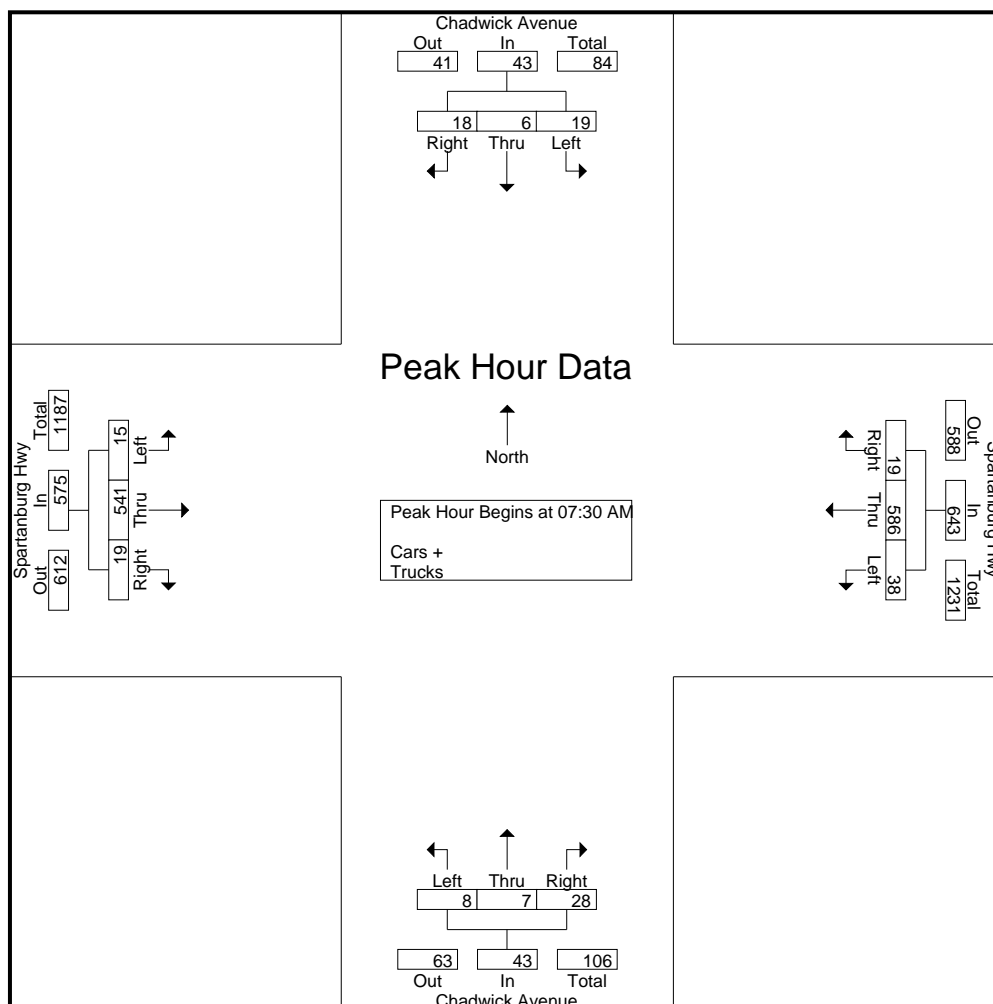
	Chadwick Avenue Southbound				Spartanburg Hwy Westbound				Chadwick Avenue Northbound				Spartanburg Hwy Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	4	0	4	8	6	94	10	110	5	0	1	6	2	74	3	79	203
07:15 AM	0	0	8	8	2	102	6	110	4	0	1	5	1	97	1	99	222
07:30 AM	4	0	3	7	9	143	9	161	8	2	3	13	2	119	3	124	305
07:45 AM	4	1	5	10	4	173	12	189	8	1	3	12	5	179	3	187	398
Total	12	1	20	33	21	512	37	570	25	3	8	36	10	469	10	489	1128
08:00 AM	6	1	5	12	2	150	11	163	7	1	1	9	6	138	3	147	331
08:15 AM	4	4	6	14	4	120	6	130	5	3	1	9	6	105	6	117	270
08:30 AM	5	1	3	9	10	119	5	134	4	1	0	5	1	110	3	114	262
08:45 AM	8	1	3	12	9	126	14	149	4	2	2	8	5	115	3	123	292
Total	23	7	17	47	25	515	36	576	20	7	4	31	18	468	15	501	1155
Grand Total	35	8	37	80	46	1027	73	1146	45	10	12	67	28	937	25	990	2283
Apprch %	43.8	10	46.2		4	89.6	6.4		67.2	14.9	17.9		2.8	94.6	2.5		
Total %	1.5	0.4	1.6	3.5	2	45	3.2	50.2	2	0.4	0.5	2.9	1.2	41	1.1	43.4	
Cars +	35	8	37	80	42	971	63	1076	42	9	12	63	28	907	24	959	2178
% Cars +	100	100	100	100	91.3	94.5	86.3	93.9	93.3	90	100	94	100	96.8	96	96.9	95.4
Trucks	0	0	0	0	4	56	10	70	3	1	0	4	0	30	1	31	105
% Trucks	0	0	0	0	8.7	5.5	13.7	6.1	6.7	10	0	6	0	3.2	4	3.1	4.6



TRAFFIC DATA COLLECTION

File Name : Hendersonville(Spartanburg Hwy and Chadwick)AM Peak
 Site Code :
 Start Date : 1/11/2022
 Page No : 2

	Chadwick Avenue Southbound				Spartanburg Hwy Westbound				Chadwick Avenue Northbound				Spartanburg Hwy Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	4	0	3	7	9	143	9	161	8	2	3	13	2	119	3	124	305
07:45 AM	4	1	5	10	4	173	12	189	8	1	3	12	5	179	3	187	398
08:00 AM	6	1	5	12	2	150	11	163	7	1	1	9	6	138	3	147	331
08:15 AM	4	4	6	14	4	120	6	130	5	3	1	9	6	105	6	117	270
Total Volume	18	6	19	43	19	586	38	643	28	7	8	43	19	541	15	575	1304
% App. Total	41.9	14	44.2		3	91.1	5.9		65.1	16.3	18.6		3.3	94.1	2.6		
PHF	.750	.375	.792	.768	.528	.847	.792	.851	.875	.583	.667	.827	.792	.756	.625	.769	.819





TRAFFIC DATA COLLECTION

File Name : Hendersonville(Spartanburg Hwy and Chadwick)PM Peak
 Site Code :
 Start Date : 1/11/2022
 Page No : 1

Groups Printed- Cars + - Trucks

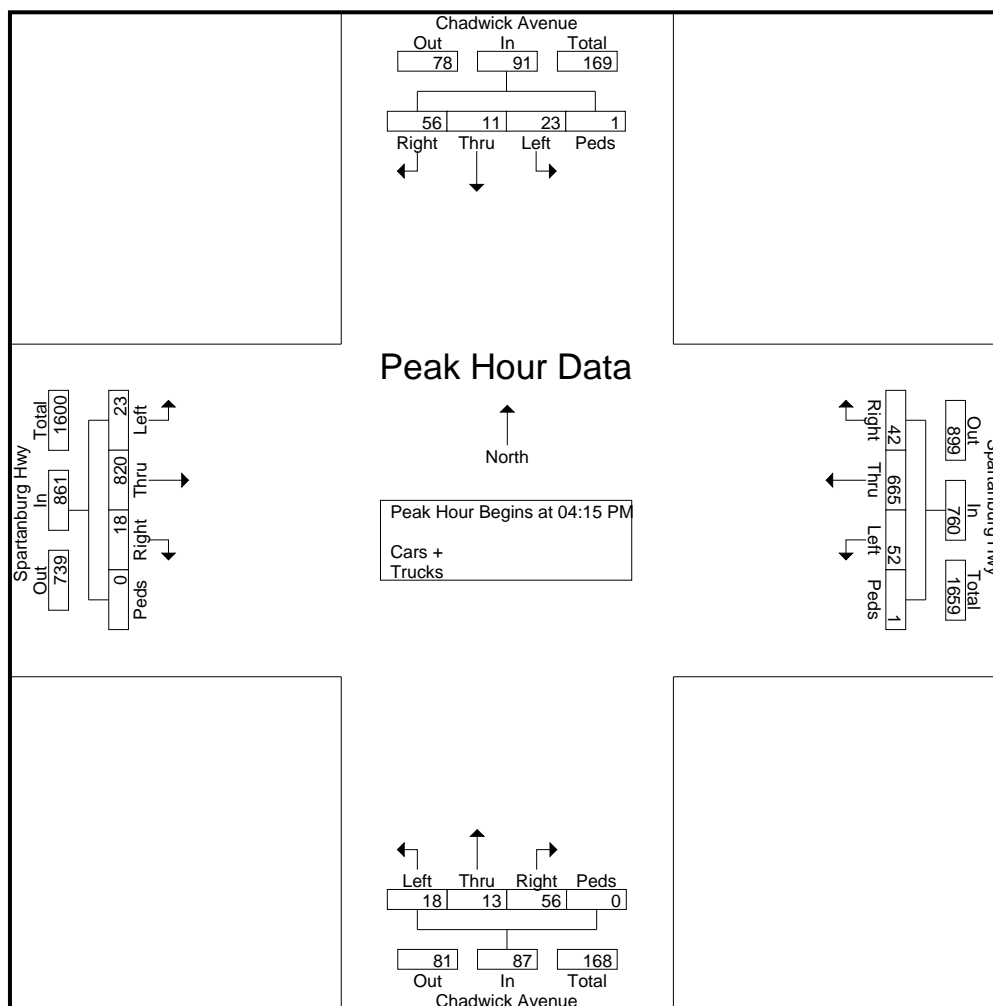
	Chadwick Avenue Southbound					Spartanburg Hwy Westbound					Chadwick Avenue Northbound					Spartanburg Hwy Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	7	0	5	0	12	12	167	11	0	190	7	0	1	0	8	8	158	3	0	169	379
04:15 PM	9	6	4	0	19	9	173	16	1	199	9	5	5	0	19	6	190	5	0	201	438
04:30 PM	11	2	13	1	27	14	180	11	0	205	10	1	2	0	13	3	190	5	0	198	443
04:45 PM	14	1	3	0	18	8	145	13	0	166	15	4	5	0	24	3	208	6	0	217	425
Total	41	9	25	1	76	43	665	51	1	760	41	10	13	0	64	20	746	19	0	785	1685
05:00 PM	22	2	3	0	27	11	167	12	0	190	22	3	6	0	31	6	232	7	0	245	493
05:15 PM	10	4	7	0	21	11	147	18	0	176	12	1	4	0	17	10	186	6	0	202	416
05:30 PM	14	4	5	0	23	7	130	11	0	148	13	1	3	0	17	10	189	8	0	207	395
05:45 PM	17	4	7	0	28	5	133	8	0	146	8	1	1	0	10	4	168	3	0	175	359
Total	63	14	22	0	99	34	577	49	0	660	55	6	14	0	75	30	775	24	0	829	1663
Grand Total	104	23	47	1	175	77	1242	100	1	1420	96	16	27	0	139	50	1521	43	0	1614	3348
Apprch %	59.4	13.1	26.9	0.6		5.4	87.5	7	0.1		69.1	11.5	19.4	0		3.1	94.2	2.7	0		
Total %	3.1	0.7	1.4	0	5.2	2.3	37.1	3	0	42.4	2.9	0.5	0.8	0	4.2	1.5	45.4	1.3	0	48.2	
Cars +	104	23	47	1	175	77	1219	98	1	1395	95	16	27	0	138	50	1478	43	0	1571	3279
% Cars +	100	100	100	100	100	100	98.1	98	100	98.2	99	100	100	0	99.3	100	97.2	100	0	97.3	97.9
Trucks	0	0	0	0	0	0	23	2	0	25	1	0	0	0	1	0	43	0	0	43	69
% Trucks	0	0	0	0	0	0	1.9	2	0	1.8	1	0	0	0	0.7	0	2.8	0	0	2.7	2.1



TRAFFIC DATA COLLECTION

File Name : Hendersonville(Spartanburg Hwy and Chadwick)PM Peak
 Site Code :
 Start Date : 1/11/2022
 Page No : 2

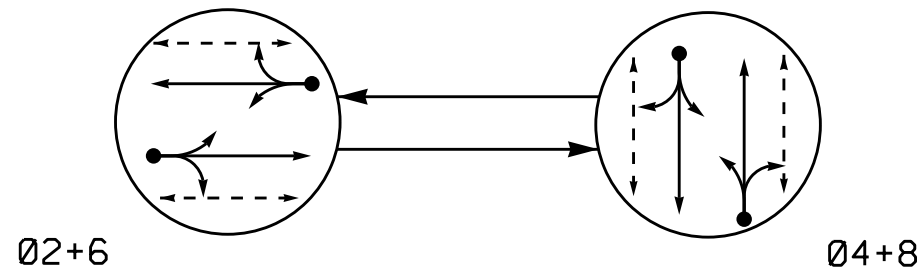
	Chadwick Avenue Southbound					Spartanburg Hwy Westbound					Chadwick Avenue Northbound					Spartanburg Hwy Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	9	6	4	0	19	9	173	16	1	199	9	5	5	0	19	6	190	5	0	201	438
04:30 PM	11	2	13	1	27	14	180	11	0	205	10	1	2	0	13	3	190	5	0	198	443
04:45 PM	14	1	3	0	18	8	145	13	0	166	15	4	5	0	24	3	208	6	0	217	425
05:00 PM	22	2	3	0	27	11	167	12	0	190	22	3	6	0	31	6	232	7	0	245	493
Total Volume	56	11	23	1	91	42	665	52	1	760	56	13	18	0	87	18	820	23	0	861	1799
% App. Total	61.5	12.1	25.3	1.1		5.5	87.5	6.8	0.1		64.4	14.9	20.7	0		2.1	95.2	2.7	0		
PHF	.636	.458	.442	.250	.843	.750	.924	.813	.250	.927	.636	.650	.750	.000	.702	.750	.884	.821	.000	.879	.912



APPENDIX C

SIGNAL PLANS

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE		
	02+6	04+8	FLASH
21,22	G	R	Y
41,42	R	G	R
61,62	G	R	Y
81,82	R	G	R
P21,P22	W	DW	DRK
P41,P42	DW	W	DRK
P61,P62	W	DW	DRK
P81,P82	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.

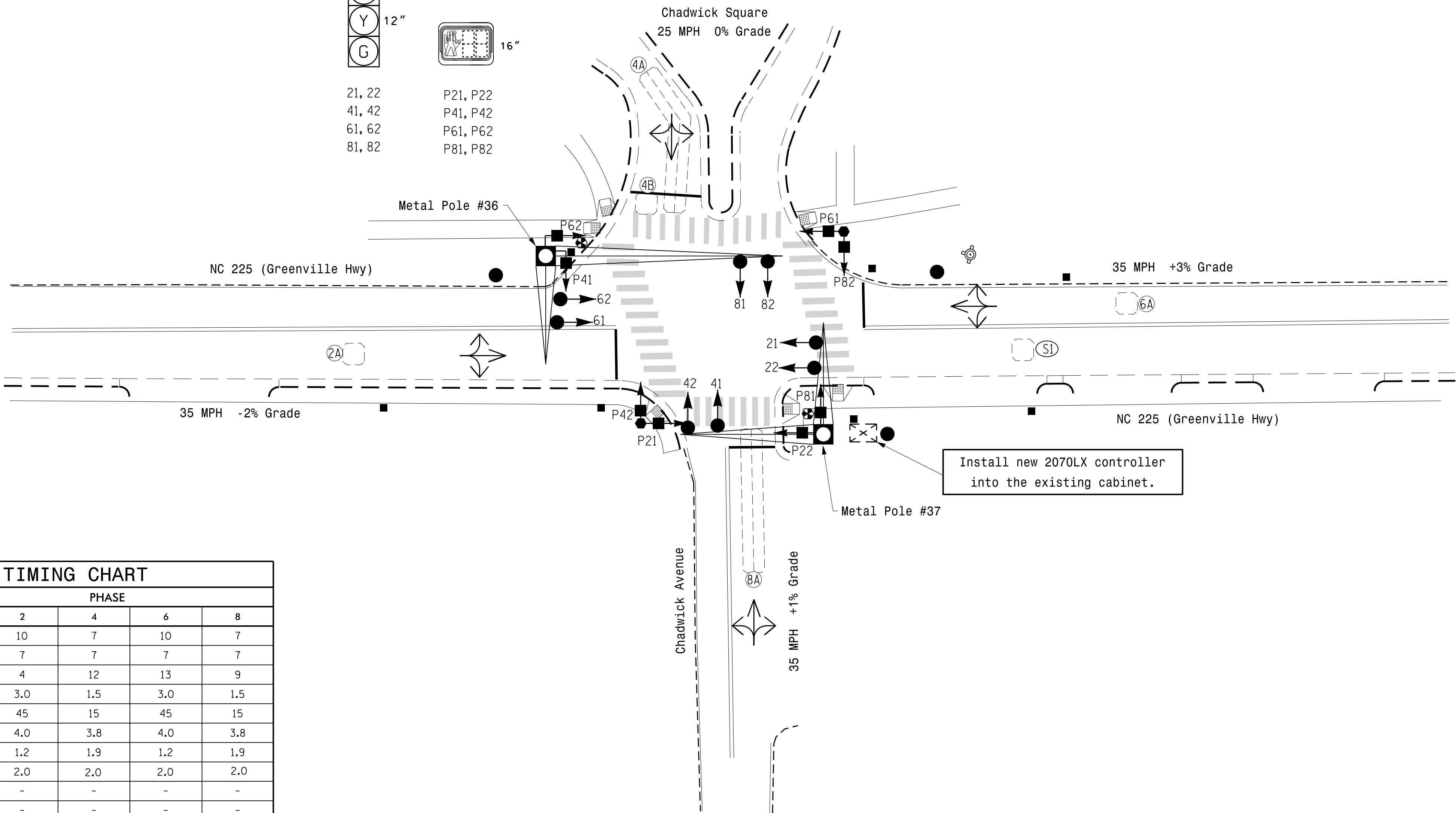
	12"		16"
21, 22	P21, P22		
41, 42	P41, P42		
61, 62	P61, P62		
81, 82	P81, P82		

DETECTOR INSTALLATION CHART												
DETECTOR					PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
2A	6X6	70	3	-	2	Yes	-	-	-	N	-	-
4A	6X40	+5	2-4-2	-	4	Yes	-	5	-	N	-	-
4B	6X6	+5	2	-	4	Yes	-	15	-	N	-	-
6A	6X6	70	3	-	6	Yes	-	-	-	N	-	-
8A	6X40	+5	2-4-2	-	8	Yes	-	5	-	N	-	-
S1	6X6	+110	4	-	-	No	-	-	-	N	X	-

2 Phase
Fully Actuated
Signal System # 11407

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Set all detector units to presence mode.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Pedestrian heads P21, P22, P61 and P62 do not include push buttons. Program phase 2Ped and 6Ped for ped recall.
- Enable Walk Rest for phases 2 and 6 during periods of coordination.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Metal signal poles installed at this intersection have been designed without backplates on signal heads. Do not add backplates or additional loads to mast arms without having a structural analysis performed.



TIMING CHART				
FEATURE	PHASE			
	2	4	6	8
Min Green *	10	7	10	7
Walk *	7	7	7	7
Ped Clear	4	12	13	9
Veh. Extension *	3.0	1.5	3.0	1.5
Max I *	45	15	45	15
Yellow	4.0	3.8	4.0	3.8
Red Clear	1.2	1.9	1.2	1.9
Red Revert	2.0	2.0	2.0	2.0
Actuations B4 Add *	-	-	-	-
Seconds /Actuation *	-	-	-	-
Max Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Locking Detector	X	-	X	-
Recall Position	VEH/PED RECALL	-	VEH/PED RECALL	-
Dual Entry	-	X	-	X
Simultaneous Gap	X	X	X	X

* 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
	N/A
N/A	
	N/A
N/A	
N/A	

Signal Upgrade

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

NC 225 (Greenville Highway)
at
Chadwick Avenue/Chadwick Square
Division 14 Henderson County Hendersonville
PLAN DATE: February 2020 REVIEWED BY: TJ Williams
PREPARED BY: EM Minshew REVIEWED BY:

SCALE
0 20
1"=20'

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

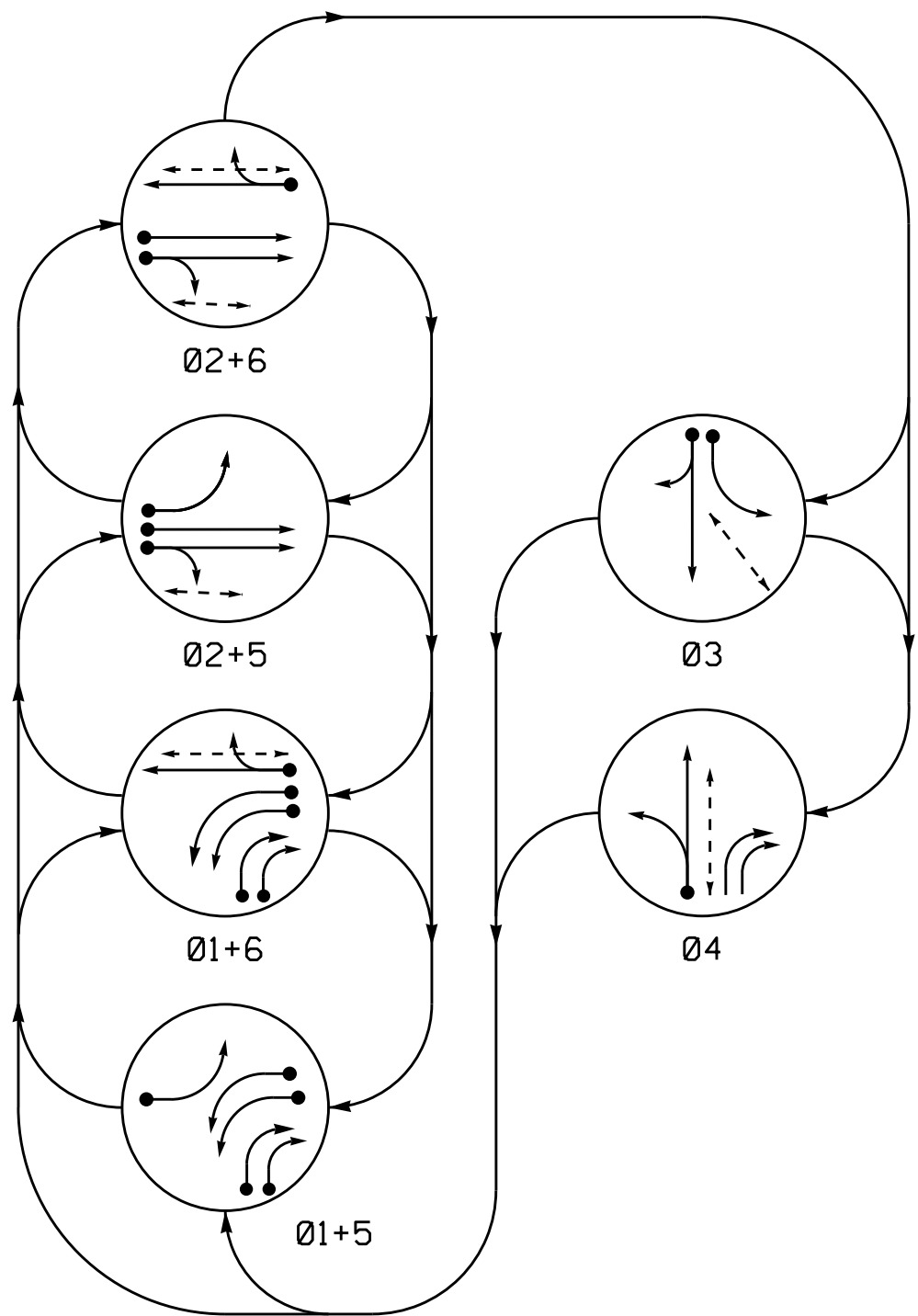
SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL 024393
TIMOTHY J. WILLIAMS
DocuSigned by:
TJ Williams
3/5/2020
DATE
SIC. INVENTORY NO. 14-1176

6 Phase
Fully Actuated
Signal System #11406

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the engineer.
- The order of phase 3 and phase 4 may be reversed.
- Phase 1 or Phase 5 may be lagged.
- Set all detector units to presence mode.
- Pavement markings existing
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "DON'T WALK" time only.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
- Metal signal poles installed at this intersection have been designed without backplates on signal heads. Do not add backplates or additional loads to mast arms without having a structural analysis performed.

PHASING DIAGRAM



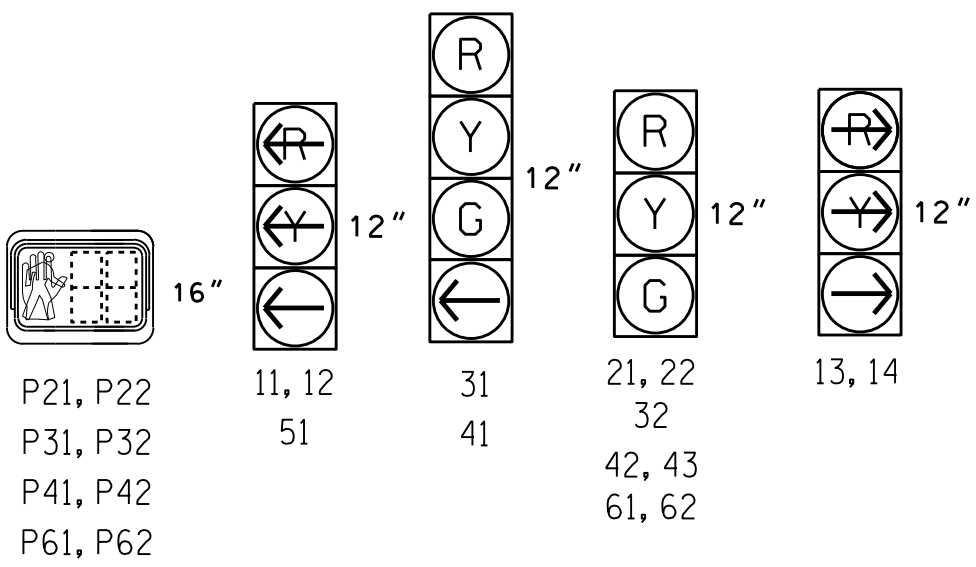
PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE						
	01+5	02+5	02+6	03	04	05	06
11, 12	←	→	→	→	→	→	→
13, 14	→	→	→	→	→	→	→
21, 22	R	R	G	G	R	R	Y
31	R	R	R	R	G	R	R
32	R	R	R	R	G	R	R
41	R	R	R	R	R	G	R
42, 43	R	R	R	R	R	G	R
51	←	→	→	→	→	→	→
61, 62	R	G	R	G	R	R	Y
P21, P22	DW	DW	W	W	DW	DW	DRK
P31, P32	DW	DW	DW	DW	W	DW	DRK
P41, P42	DW	DW	DW	DW	W	DRK	
P61, P62	DW	W	W	W	DW	DW	DRK

SIGNAL FACE I.D.

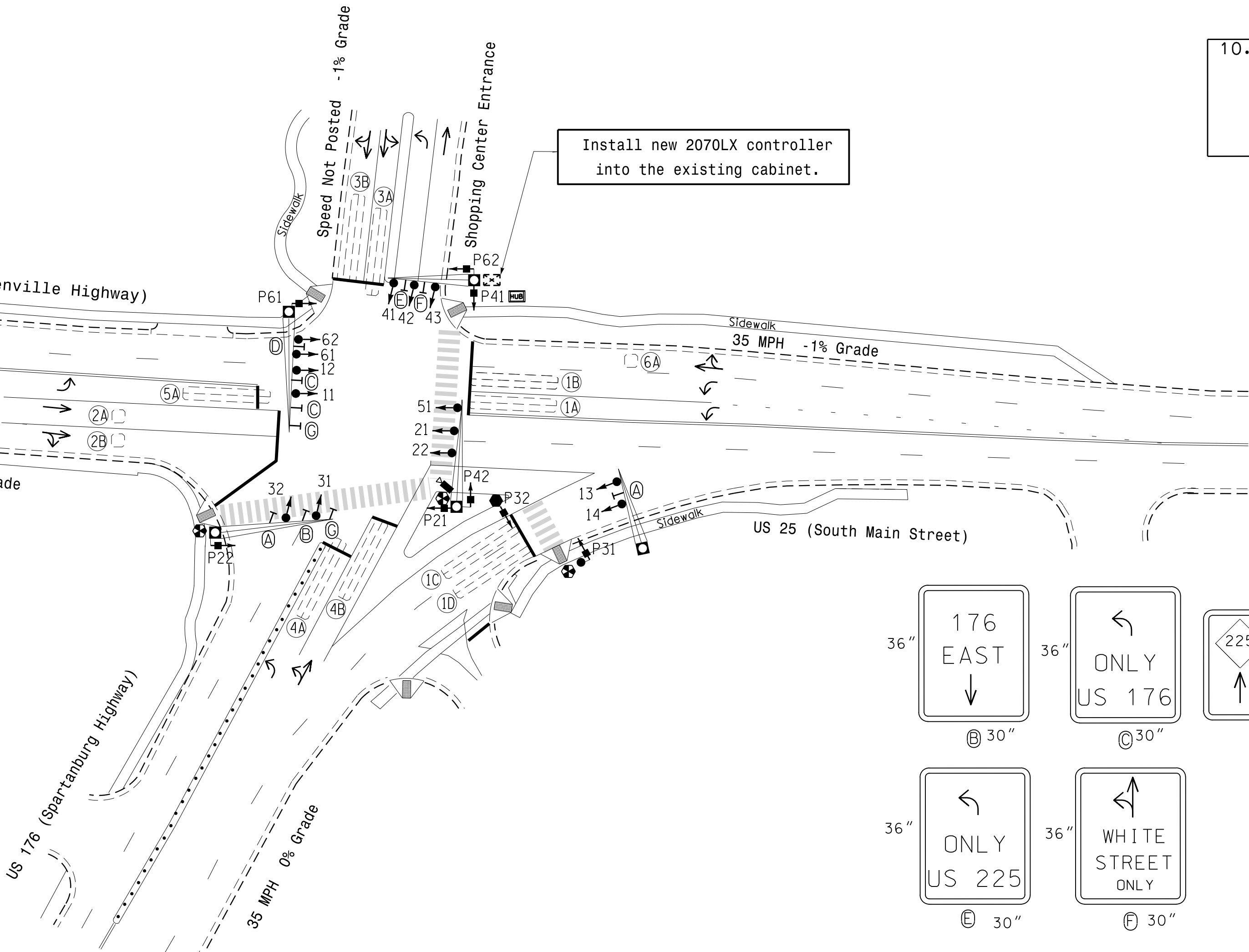
All Heads L.E.D.



LOOP & DETECTOR INSTALLATION CHART												
INDUCTIVE LOOPS						DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	-	1	Yes	-	3	-	N	-	-
1B	6X40	0	2-4-2	-	1	Yes	-	-	-	N	-	-
1C	6X40	0	2-4-2	-	1	Yes	-	-	-	N	-	-
1D	6X40	0	2-4-2	-	1	Yes	-	-	-	N	-	-
2A, 2B	6X6	82	4	-	2	Yes	-	-	-	N	-	-
3A	6X40	+5	2-4-2	-	3	Yes	-	-	-	N	-	-
3B	6X40	+5	2-4-2	-	3	Yes	-	10	-	N	-	-
4A	6X40	+5	2-4-2	-	4	Yes	-	-	-	N	-	-
4B	6X40	0	2-4-2	-	4	Yes	-	-	-	N	-	-
5A	6X40	+5	2-4-2	-	5	Yes	-	3	-	N	-	-
6A	6X6	70	4	-	6	Yes	-	-	-	N	-	-

FEATURE	PHASE					
	1	2	3	4	5	6
Min Green *	7	10	7	7	7	10
Walk *	-	7	7	7	-	7
Ped Clear	-	25	7	18	-	18
Veh. Extension *	1.5	3.5	2.0	2.0	1.5	3.0
Max I *	30	45	25	25	20	45
Yellow	3.0	3.9	3.2	3.8	3.0	3.9
Red Clear	3.2	2.4	3.5	2.3	2.9	2.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0
Actuations B4 Add *	-	-	-	-	-	-
Seconds /Actuation *	-	-	-	-	-	-
Max Initial *	-	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-	-
Time To Reduce *	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-
Locking Detector	-	X	-	-	-	X
Recall Position	-	VEH. RECALL	-	-	-	VEH. RECALL
Dual Entry	-	-	-	-	-	-
Simultaneous Gap	X	X	X	X	X	X

* 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 | N/A |
| Modified Signal Head | N/A |
| Sign | N/A |
| Pedestrian Signal Head With Push Button & Sign | N/A |
| Pedestrian Signal Pedestal | N/A |
| Signal Pole with Guy | N/A |
| Signal Pole with Sidewalk Guy | N/A |
| Metal Pole with Mastarm | N/A |
| Inductive Loop Detector | N/A |
| Controller & Cabinet | N/A |
| Master Controller & Cabinet | N/A |
| Junction Box | N/A |
| Directional Drill | N/A |
| 2-in Underground Conduit | N/A |
| Right of Way with Marker | N/A |
| Directional Arrow | N/A |
| Pavement Marking Arrow | N/A |
| "NO TURN ON RED" Sign (R10-11) | N/A |
| CCTV Camera | N/A |
| MOUNTED ON TOP OF ARM FOR GALLOPING MAST ARM | N/A |

Signal Upgrade

Prepared In the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

US 225 (Greenville Highway)
US 25 (S. Main Street) at
US 176 (Spartanburg Highway) /
Shopping Center Entrance

Division 14 Henderson County Hendersonville

PLAN DATE: January 2020 REVIEWED BY: T. Williams

PREPARED BY: C. Pierce REVIEWED BY:

REVISIONS

SCALE: 0 40
1"=40'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

THOMAS J. WILLIAMS
ENGINEER
024393

2/24/2020

SIG. INVENTORY NO. 14-059

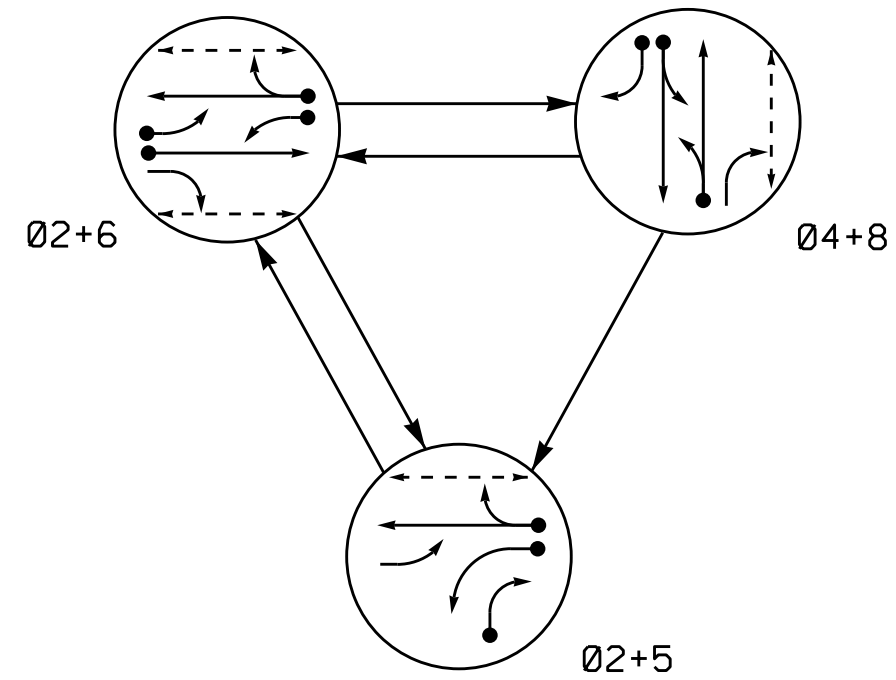
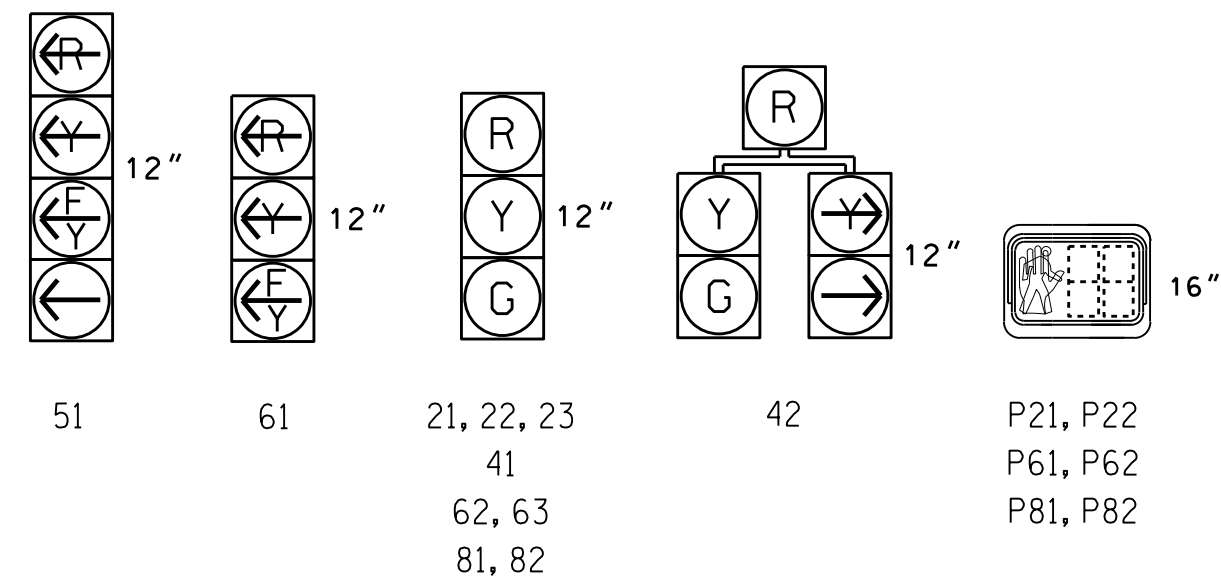


TABLE OF OPERATION					
SIGNAL FACE	PHASE				
	0 2 5	0 2 6	0 4 8	FLASH	
21, 22, 23	G	G	R	Y	
41	R	R	G	R	
42		R	G	R	
51					
61					
62, 63	R	G	R	Y	
81, 82	R	R	G	R	
P21, P22	W	W	DW	DRK	
P61, P62	DW	W	DW	DRK	
P81, P82	DW	DW	W	DRK	

All Heads L.E.D.



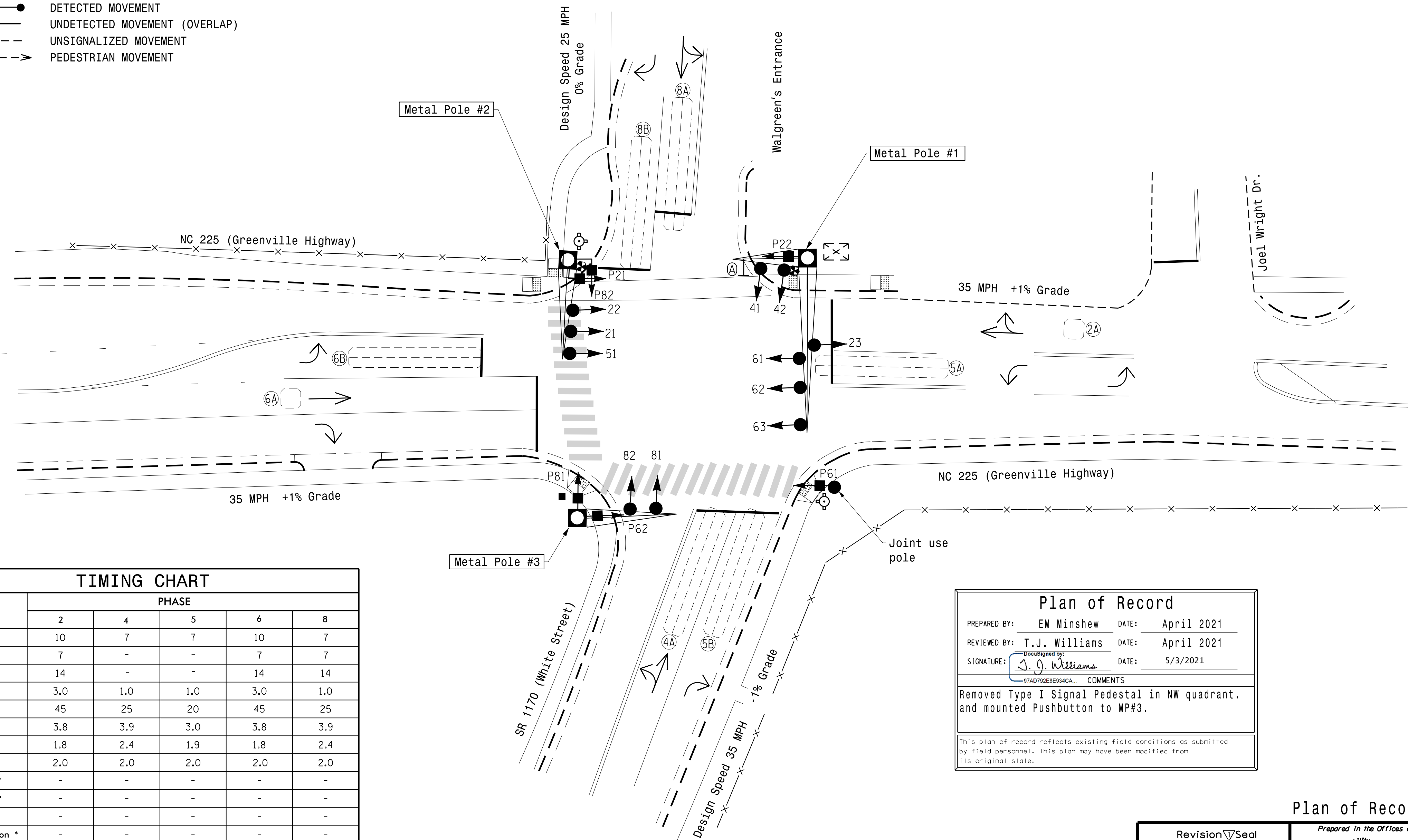
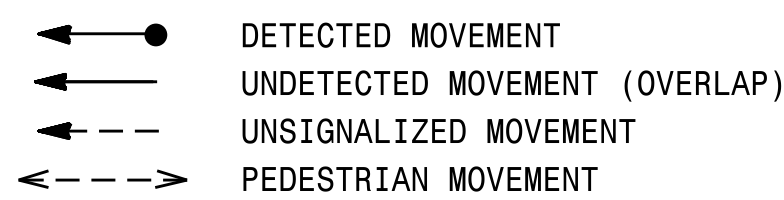
DETECTOR INSTALLATION CHART												
DETECTOR					PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR	TURNS	NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
2A	6X6	70	4	-	2	Yes	-	-	-	N	-	-
4A	6X40	0	2-4-2	-	4	Yes	-	3	-	N	-	-
5A	6X40	+5	2-4-2	-	5	Yes	-	15	-	N	-	-
				-	2	Yes	-	-	-	N	-	-
5B	6X40	0	2-4-2	-	5	Yes	-	15	-	N	-	-
6A	6X6	70	4	-	6	Yes	-	-	-	N	-	-
6B	6X40	0	2-4-2	-	6	Yes	-	-	-	N	-	-
8A	6X40	+5	2-4-2	-	8	Yes	-	3	-	N	-	-
8B	6X40	0	2-4-2	-	8	Yes	-	15	-	N	-	-

3 Phase
Fully Actuated
Signal System #11407

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 5 may be lagged.
4. Set all detector units to presence mode.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. Pavement markings are existing.
8. Program controller to operate using FYA COMPACT mode.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

PHASING DIAGRAM DETECTION LEGEND



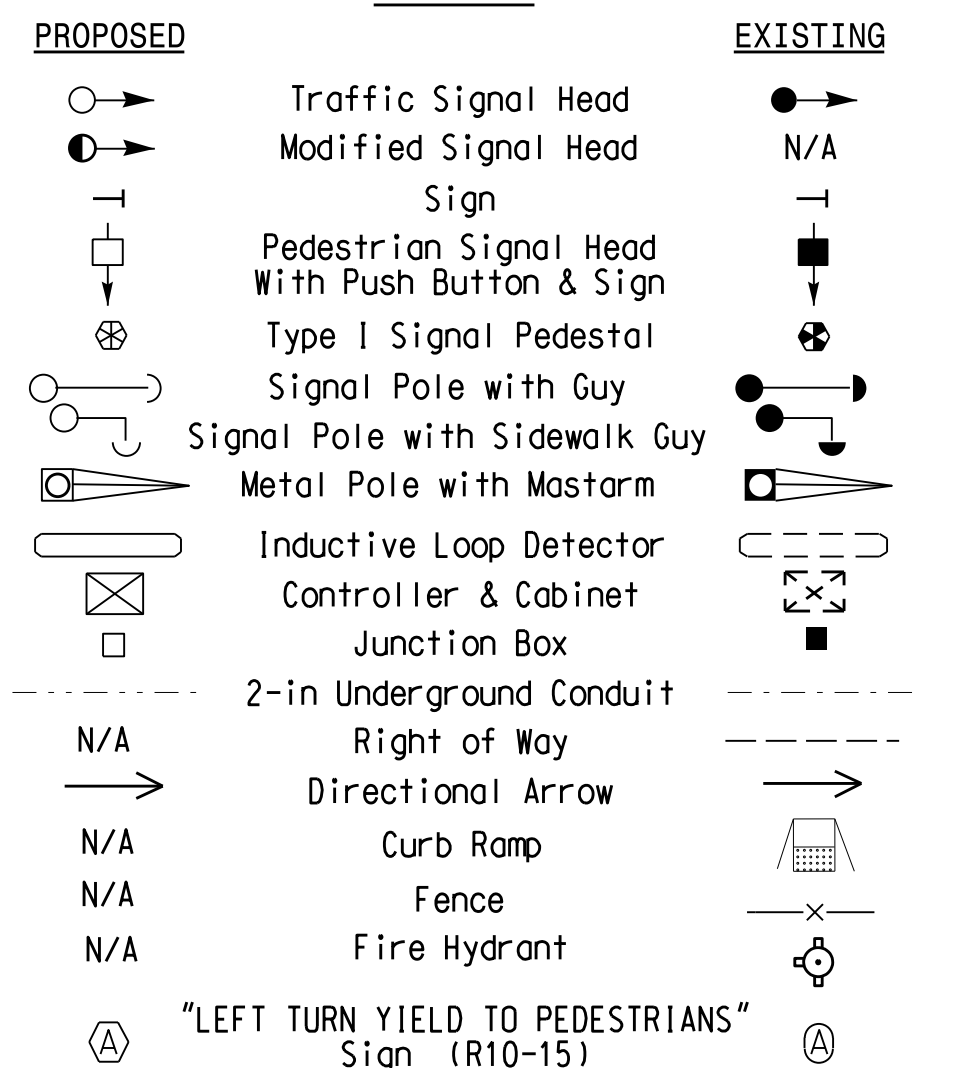
TIMING CHART					
FEATURE	PHASE				
	2	4	5	6	8
Min Green *	10	7	7	10	7
Walk *	7	-	-	7	7
Ped Clear	14	-	-	14	14
Veh. Extension *	3.0	1.0	1.0	3.0	1.0
Max 1 *	45	25	20	45	25
Yellow	3.8	3.9	3.0	3.8	3.9
Red Clear	1.8	2.4	1.9	1.8	2.4
Red Revert	2.0	2.0	2.0	2.0	2.0
Actuations B4 Add *	-	-	-	-	-
Seconds /Actuation *	-	-	-	-	-
Max Initial *	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-
Time To Reduce *	-	-	-	-	-
Minimum Gap	-	-	-	-	-
Locking Detector	X	-	-	X	-
Recall Position	VEH. RECALL	-	-	VEH. RECALL	-
Dual Entry	-	X	-	-	X
Simultaneous Gap	X	X	X	X	X

* 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.

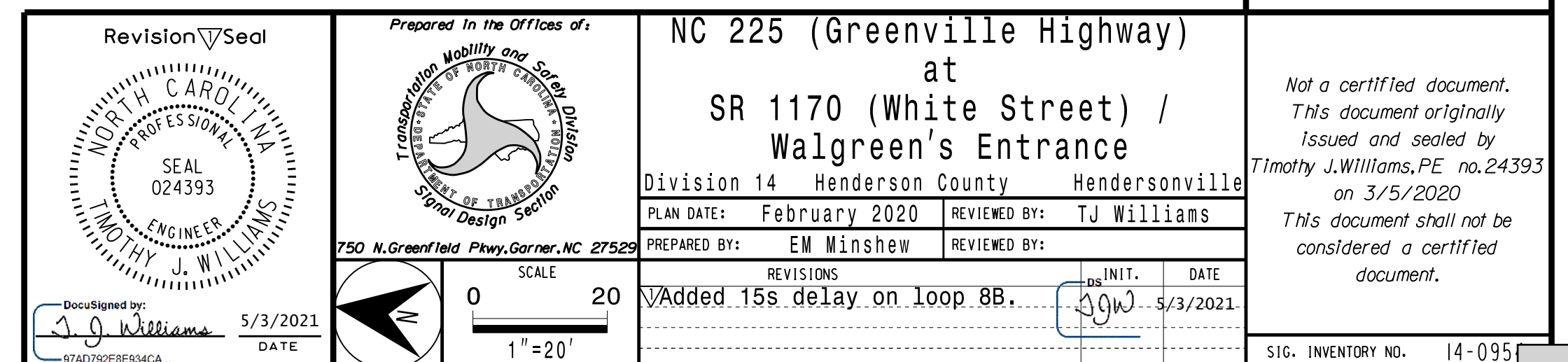
Plan of Record

PREPARED BY:	EM Minshaw	DATE:	April 2021
REVIEWED BY:	T.J. Williams	DATE:	April 2021
SIGNATURE:	<u>J.G. Williams</u>	DATE:	5/3/2021
<div style="text-align: center;">DocSigned by: #7AD76E8C9B3EAC4A COMMENTS</div>			
Removed Type I Signal Pedestal in NW quadrant. and mounted Pushbutton to MP#3.			
This plan of record reflects existing field conditions as submitted by field personnel. This plan may have been modified from its original state.			

LEGEND



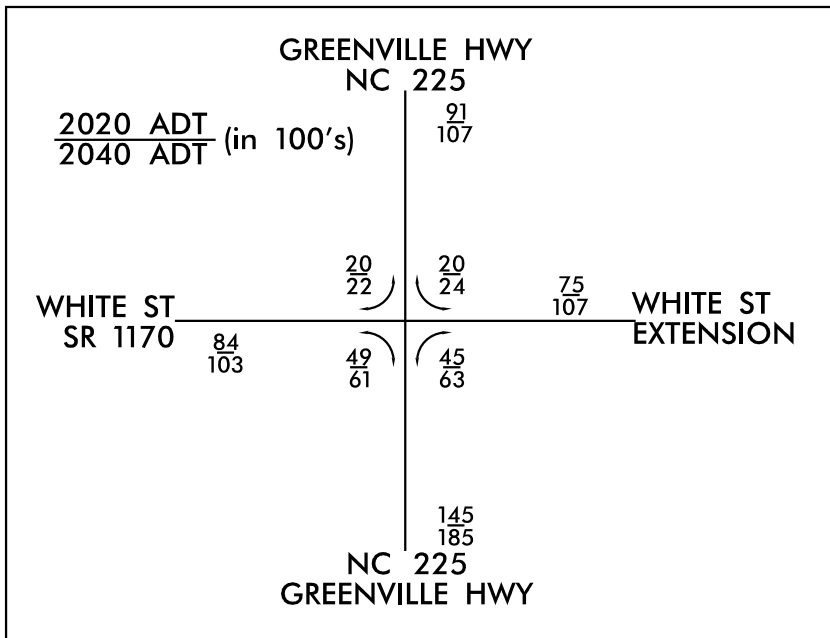
Plan of Record



APPENDIX D

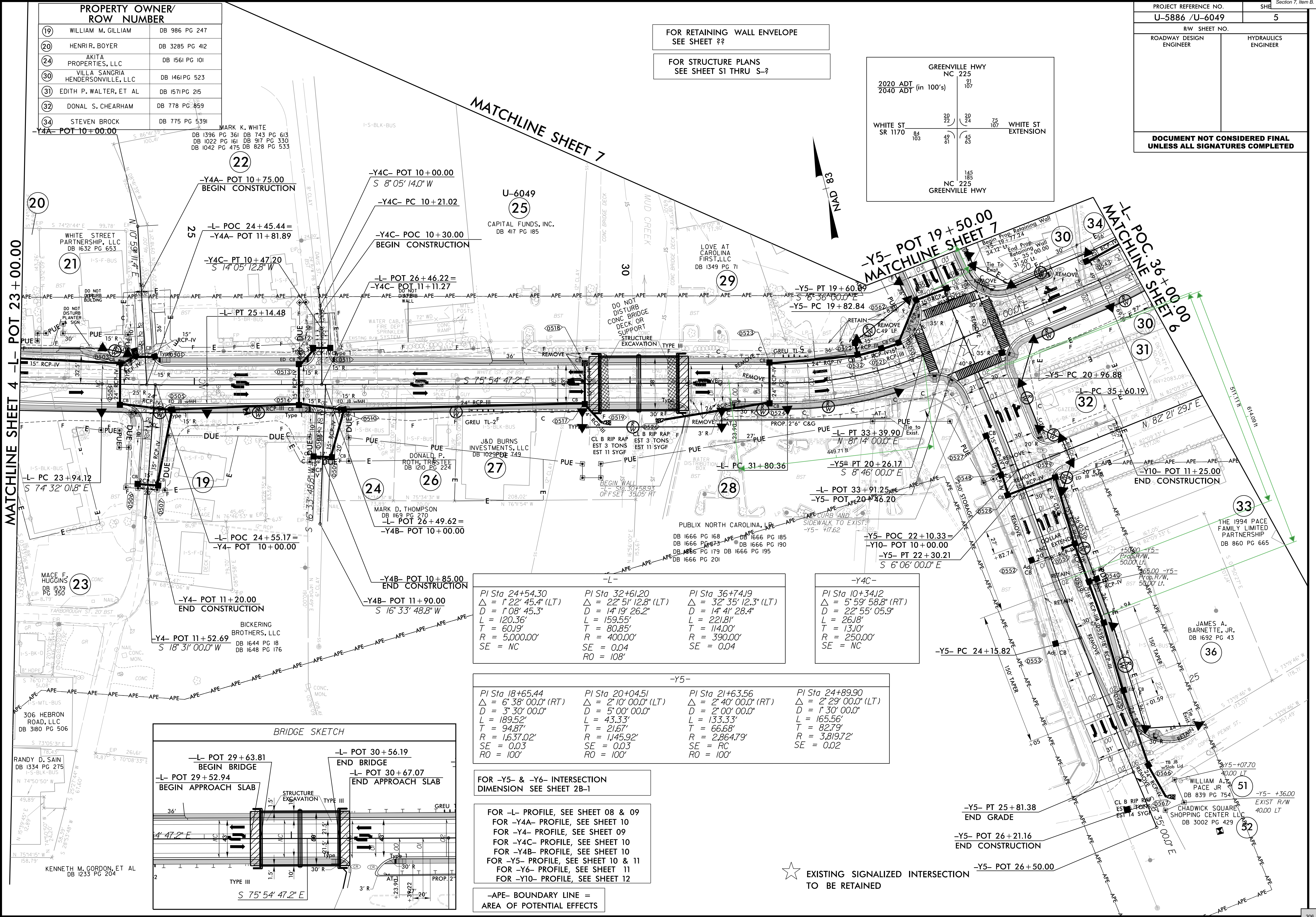
FUTURE ROADWAY IMPROVEMENTS

PROJECT REFERENCE NO.		SHEET	Section 7, Item B.
U-5886 /U-6049		5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



FOR RETAINING WALL ENVELOPE
SEE SHEET ??

FOR STRUCTURE PLANS
SEE SHEET S1 THRU S-?

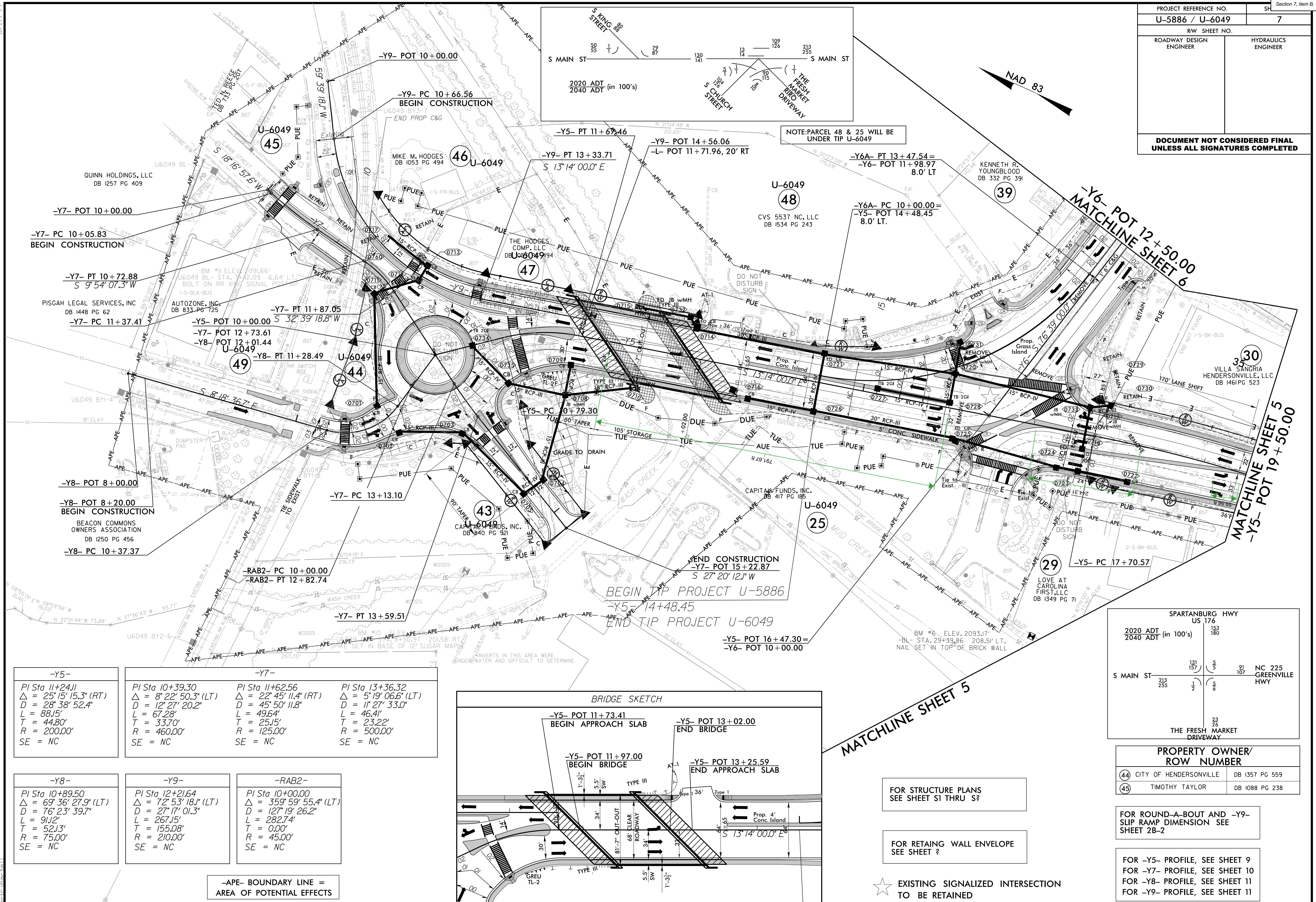


REVISIONS

8/17/99

6/29/2020 11:23:40 AM
U-5886_rdy_psh05.dgn
L:\PROJECTS\2020\U-5886

PROJECT REFERENCE NO.		SH	
U-5886 / U-6049		7	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<p align="center">DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			



FINAL

Traffic Forecast Report

STIP U-5886 & U-6049

SR 1170 (White Street) from SR 1171 (Willow Road) to US 176

Realign and Extend Roadway &

NC 225 from South King Street to US 176

Widen Bridge 143 to 5 Lanes

WBS # 44710.1.1

Henderson County

OCTOBER 2017

PREPARED FOR:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PREPARED BY:

STV ENGINEERS, INC.
900 WEST TRADE STREET, SUITE 715
CHARLOTTE, NC 28202





Traffic Forecast Cover Letter

October 2017

TO: Stephen Williams
NCDOT Division 14

FROM: Trent Moody, PE
STV Engineers, Inc.

SUBJECT: TIP Project No. U-5886/U-6049, Division 14, Henderson County

Please find attached the 2017/2040 Traffic Forecast for Project Numbers U-5886 and U-6049 in Henderson County. The project is located within the French Broad River Metropolitan Planning Organization (MPO). The proposed project is located in Henderson County in the City of Hendersonville, NC. STIP project U-5886 proposes roadway improvements along SR 1170 (White Street) from SR 1171 (Willow Road) to US 176. In addition to U-5886, STIP project U-6049 also proposes improvements to widen Bridge 143 to five (5) lanes along NC 225 from South King Street to US 176. The purpose of the U-5886/U-6049 project is to provide connectivity and to alleviate traffic congestion within the study area. Included in the traffic forecast is the analysis for six scenarios, the 2017 Base Year No-Build scenario, the 2017 Base Year Build Alternative 1 scenario, the 2017 Base Year Build Alternative 2 scenario, the 2040 Future Year No-Build scenario, the 2040 Future Year Build Alternative 1 scenario, and the 2040 Future Year Build Alternative 2 scenario. The Transportation Planning Division approved this forecast for U-5886/U-6049 for delivery as of October 16, 2017.

The following individuals were consulted during the development of this forecast:

- E.A. (Ed) Green, PE - Division Engineer, NCDOT Division 14
- Brian C. Burch, PE - Division Project Development Engineer, NCDOT Division 14
- Wanda H. Austin, PE - Project Team Lead, NCDOT Division 14
- Steve Buchanan - Division Traffic Engineer, NCDOT Division 14
- Steve Cannon, PE - District Engineer, NCDOT Division 14 District 1
- Roger Ayers - County Maintenance Engineer, NCDOT Division 14 District 1
- Keith Dixon - NCDOT Transportation Planning Division
- Daniel C. Sellers, PE - NCDOT Transportation Planning Division
- Wongoo Lee – NCDOT Transportation Planning Division
- Lyuba Zuyeva, AICP - Transportation Coordinator, French Broad River MPO
- Susan Frady - Development Assistance Director, City of Hendersonville
- David T. Hazzard, PLA - Senior City Planner, City of Hendersonville
- Matthew Champion - Transportation Planner, Henderson County
- Andrew Tate - President, Henderson County Partnership for Economic Development

Certain assumptions were made in the development of the forecast:

Fiscal Constraint: The project is located within the boundaries of the French Broad River Metropolitan Planning Organization (MPO). The travel demand model and traffic forecasts are fiscally constrained to



reflect the assumptions of the corresponding Metropolitan Transportation Plan (MTP). The French Broad River Metropolitan Planning Organization Metropolitan Transportation Plan 2015-2040 includes the projects that may affect the proposed project. The following projects were taken into consideration during travel demand modeling and when projecting future Annual Average Daily Traffic (AADT):

- R-5748 - Kanuga Rd (SR 1127) from US 25 Business (Church St) to Little River Rd (SR 1123) – Add turn lanes, widen and improve geometrics as appropriate
- U-5783 - US 64 from Blythe Street to Daniel Drive – Widening and improvements
- R-2588A / R-2588B - NC 191 from US 25 to NC 280 – Widen to a four-lane, median-divided facility
- R-5744 - Balfour Parkway from NC 191 to US 64 north of Nix Road – Construct a new four-lane expressway

Development Activity: There are current developments under construction within the forecast area:

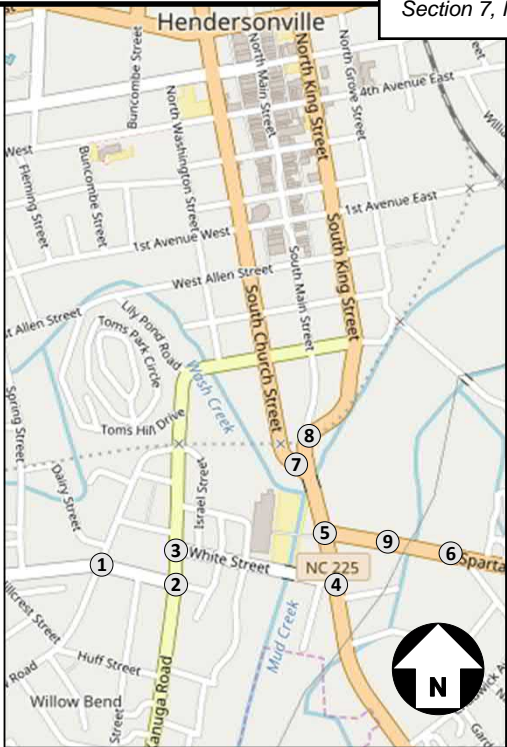
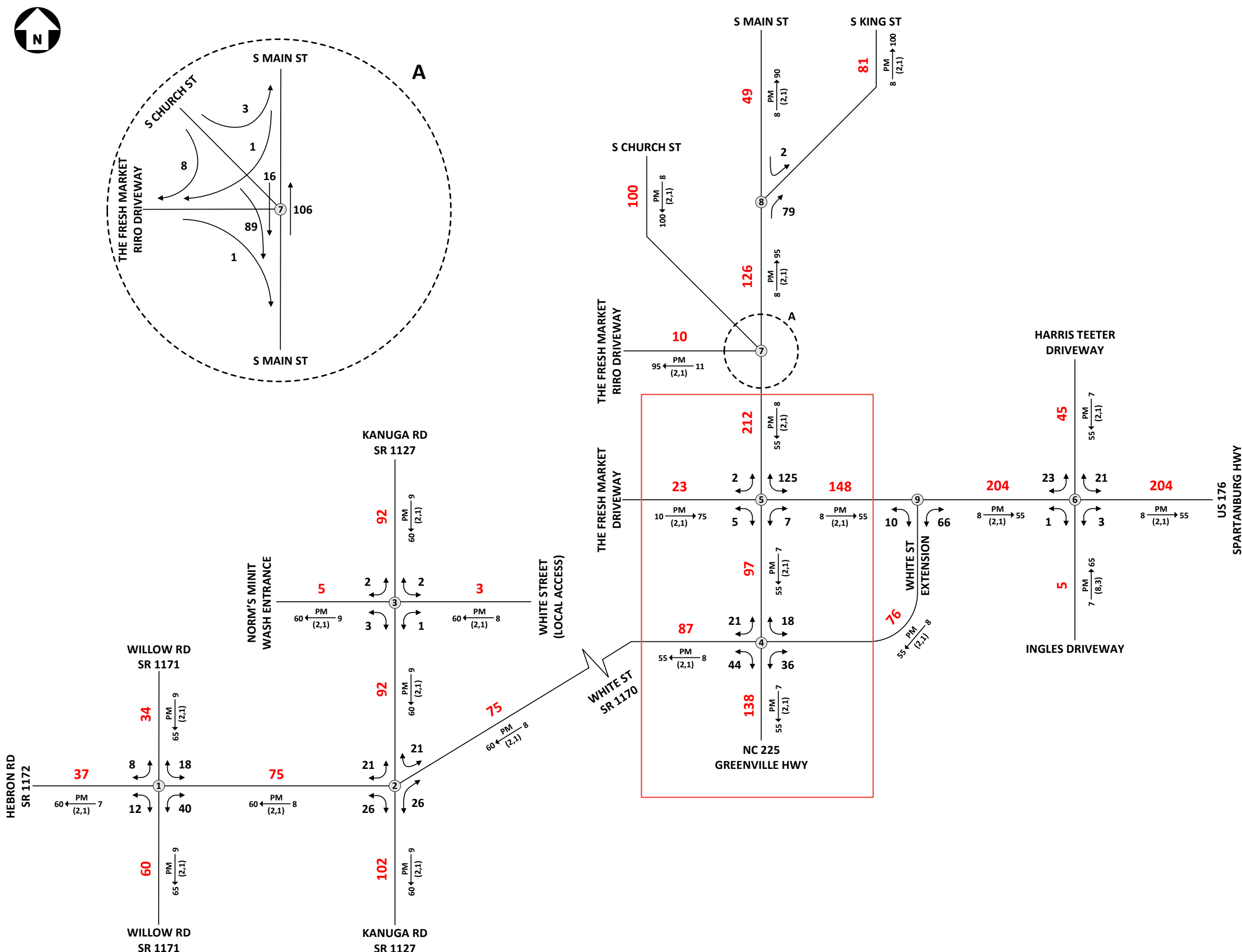
- Ingles – a 38,000 square foot grocery store located on the south side of US 176 (Spartanburg Highway) at the Harris Teeter Driveway intersection.
- South Market Village (Publix) – a 49,000 square foot grocery store located on the southwest corner of the NC 225 (Greenville Highway) and White Street intersection.

Travel Demand Model: The French Broad River Travel Demand Model, Version 2 was utilized as a tool in the development of the forecast. The model was adopted in January 2016 and was developed in TransCAD software 5.0.

Forecast Methodology: The 2017 base year no-build traffic volumes and design factors were developed based upon current counts and historic AADT trend projections. The 2040 future year no-build traffic volumes generally included the development of compound annual growth rates between two model years, while the 2017 and 2040 build volumes were developed based upon travel demand predictions of the French Broad River Travel Demand Model. Engineering judgment adjustments were applied as needed in finalizing the volumes in order to develop a balanced forecast.

Interpolation/Extrapolation: To estimate AADT volumes between 2017 and 2040, straight line interpolation between the 2017 Base Year No-Build and the 2040 scenarios is acceptable. AADT volumes may be extrapolated for up to two years immediately following 2040. If it is determined that any of these assumptions have become inconsistent with the project and surrounding area activity, please request updated projections at this location.

cc (with Attachments):
Brenda Moore, PE, CPM, Highway Design Branch
Keith Dixon, Transportation Planning Division
James Dunlop, PE, Congestion Management Section
Clark Morrison, PhD, PE, Pavement Management
Stephen Williams, Design Construction Engineer, NCDOT Division 14
Lyuba Zuyeva, Transportation Coordinator, French Broad River MPO
File Copy: U-5886/U-6049 Henderson County

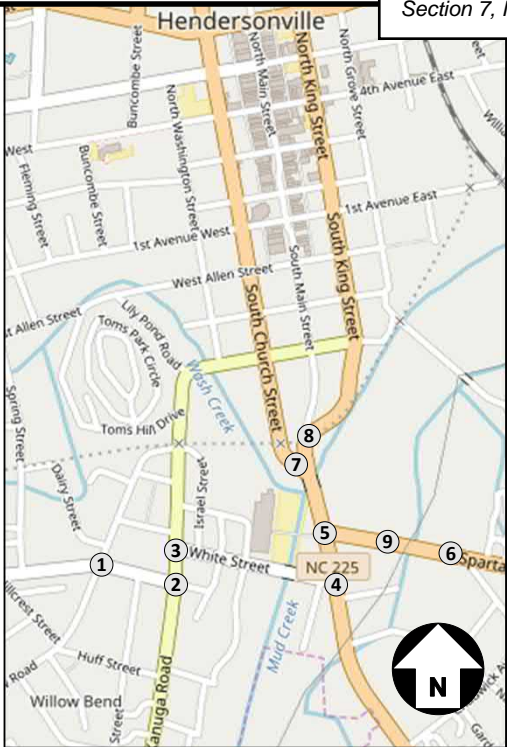
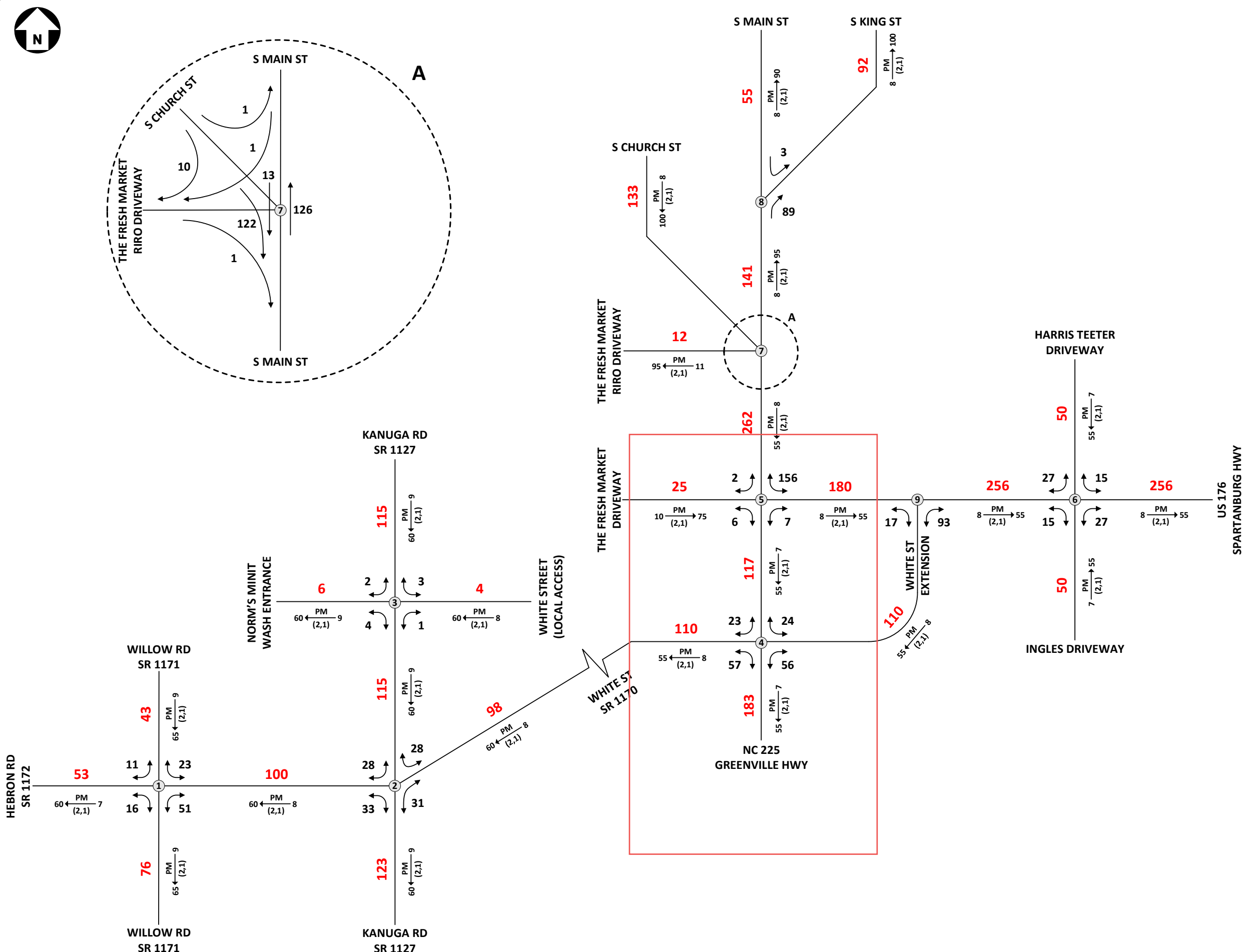


2017
AVERAGE ANNUAL
DAILY TRAFFIC
BASE YEAR BUILD
ALTERNATIVE 2
SHEET 1 OF 1

LEGEND

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)

TIP: U-5886/U-6049	WBS: 44710.1.1
COUNTY: Henderson	DIVISION: 14
DATE: October 2017	
PREPARED BY: STV Engineers, Inc.	
LOCATION: White Street between Willow Road and US 176 & NC 225 between S. King Street and US 176	
PROJECT: Roadway Improvements & Bridge Widening	



2040

AVERAGE ANNUAL
DAILY TRAFFIC

FUTURE YEAR BUILD
ALTERNATIVE 2
SHEET 1 OF 1

LEGEND

###

No. of Vehicles Per Day (VPD)
in 100s

1-

Less than 50 VPD

X

Movement Prohibited

Roadway

K

Design Hour Factor (%)

PM

PM Peak Period

D

Peak Hour Directional Split

→

Indicates Direction of D

(d,t)

Duals, TT-STs (%)

TIP: U-5886/U-6049

WBS: 44710.1.1

COUNTY: Henderson

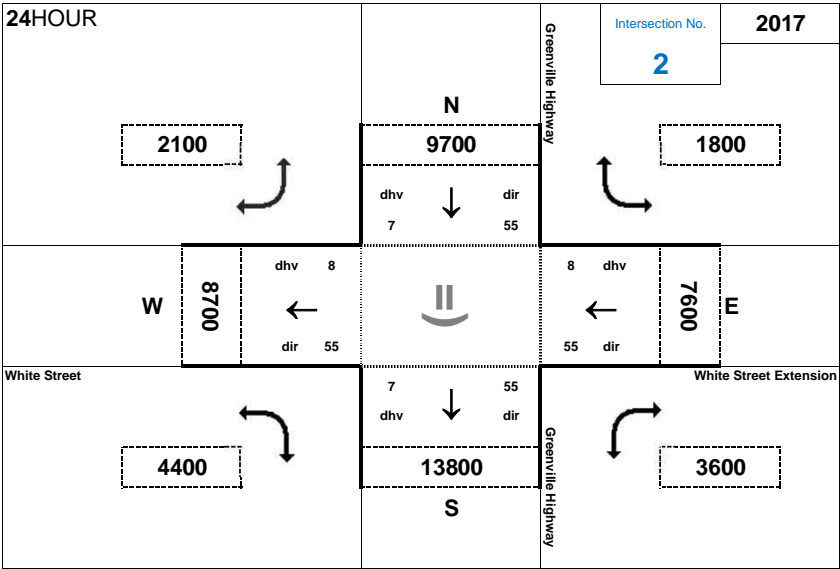
DIVISION: 14

DATE: October 2017

PREPARED BY: STV Engineers, Inc.

LOCATION: White Street between
Willow Road and US 176 & NC 225
between S. King Street and US 176

PROJECT: Roadway Improvements
& Bridge Widening

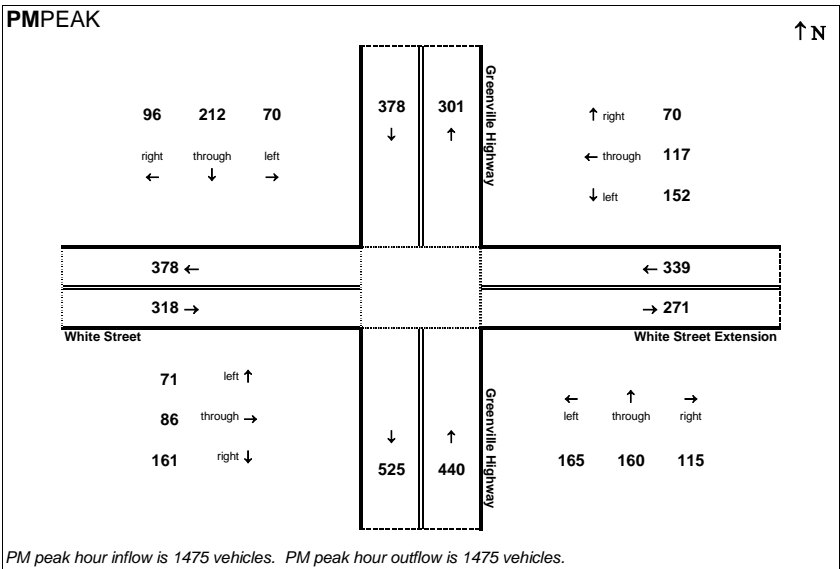
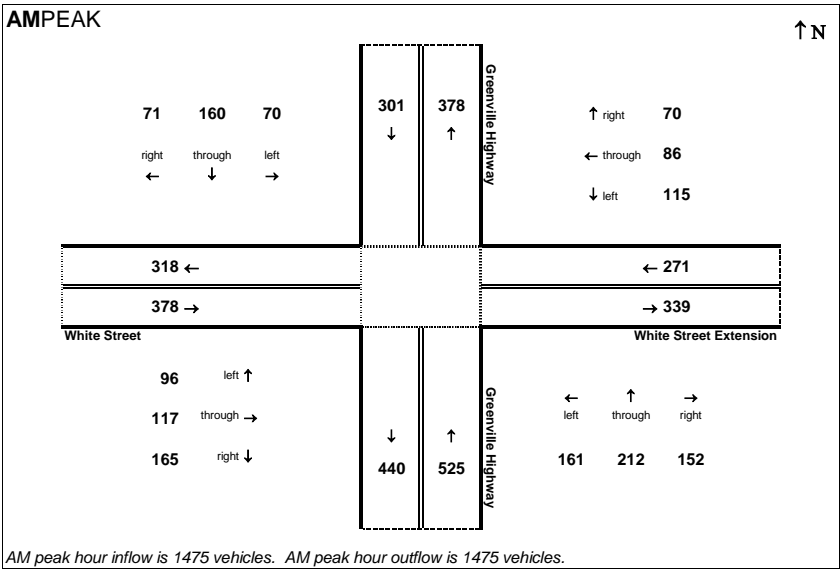


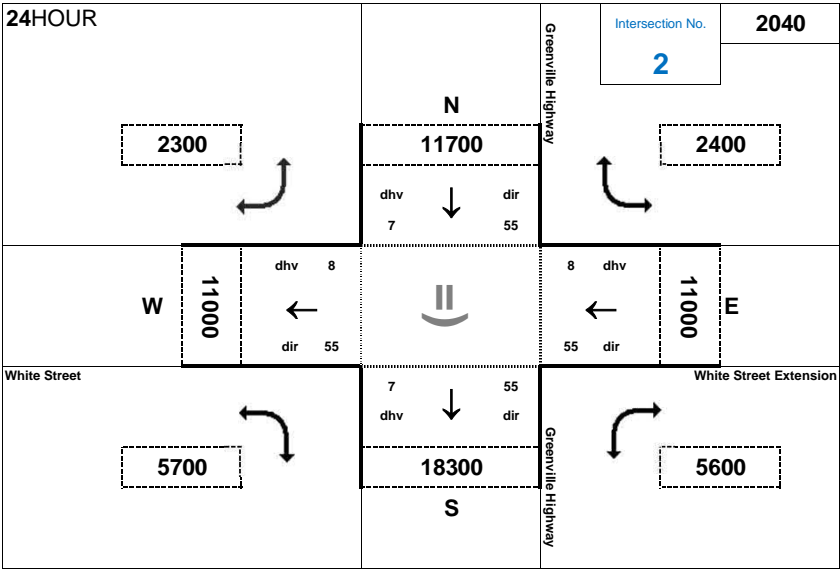
Peak Hour Volume Breakouts Report:
Greenville Hwy and White Street

Traffic Forecast Release Date:
October 2017

Traffic Data Year:
2017

Project:
U-5886 2017 Build Alternative 2



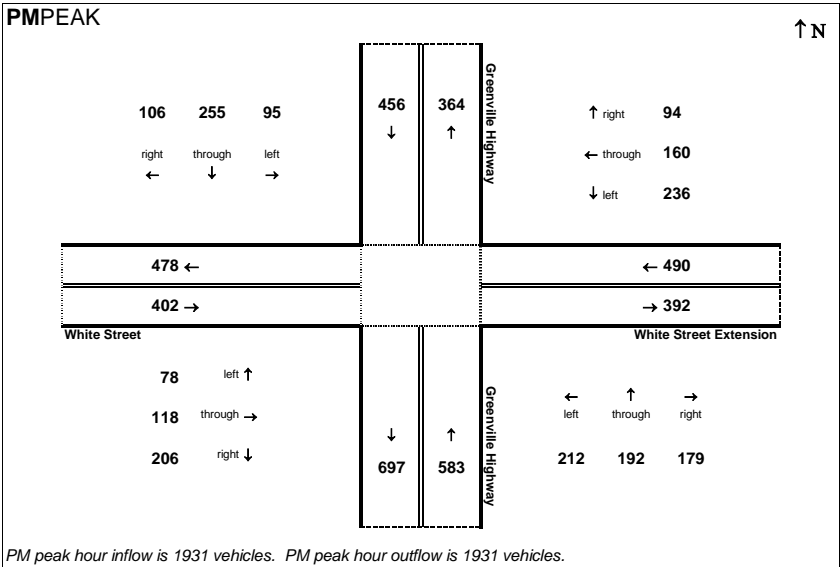
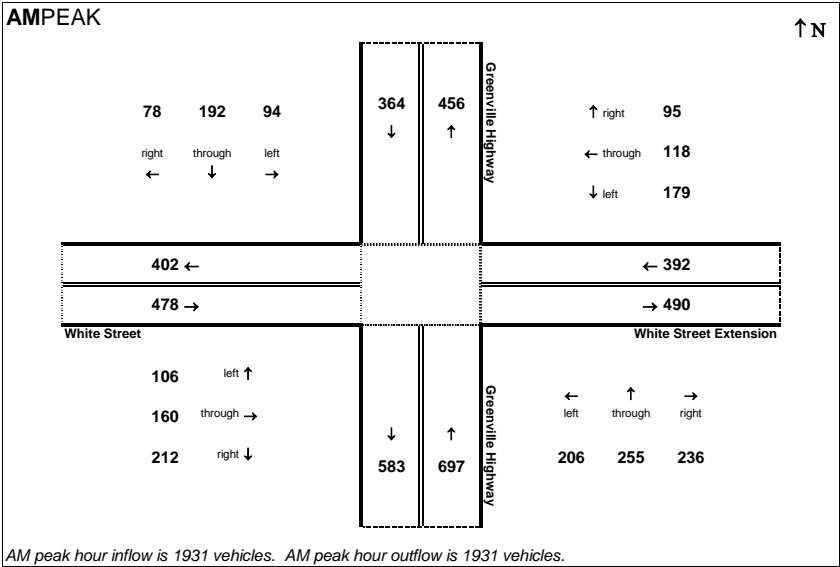


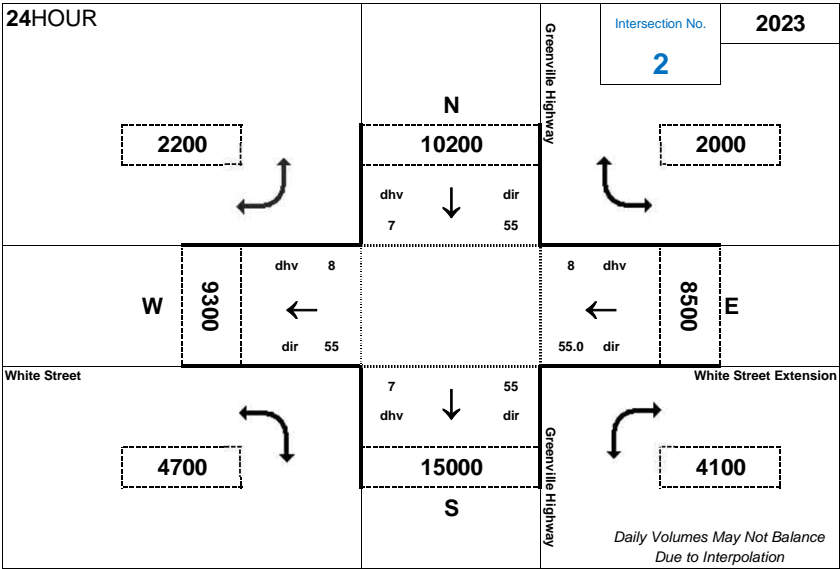
Peak Hour Volume Breakouts Report:
Greenville Hwy and White Street

Traffic Forecast Release Date:
October 2017

Traffic Data Year:
2040

Project:
U-5886 2017 Build Alternative 2



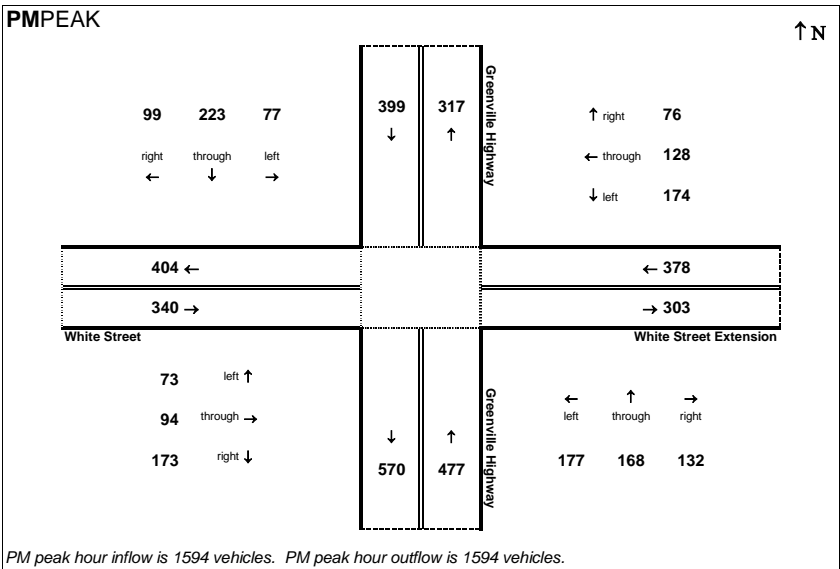
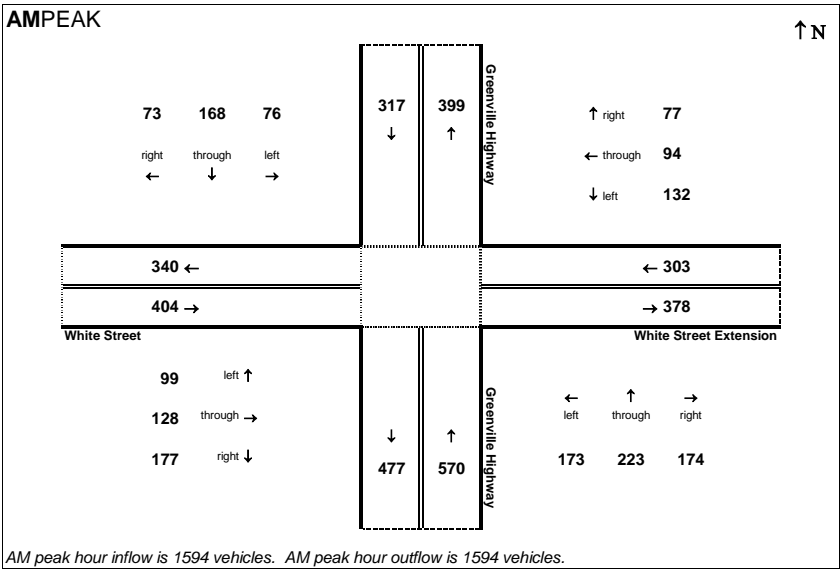


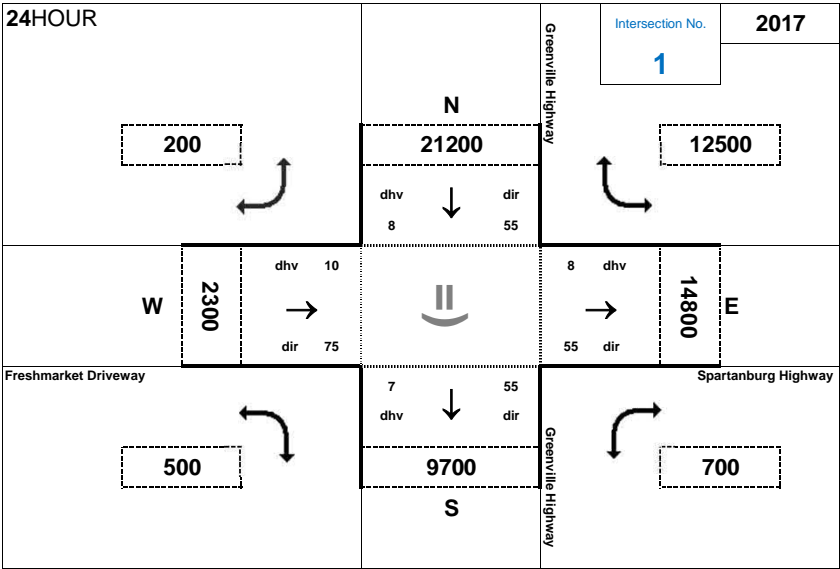
Peak Hour Volume Breakouts Report:
Greenville Hwy and White Street

Traffic Forecast Release Date:
October 2017

Traffic Data Year:

Project:
U-5886 2017 Build Alternative 2



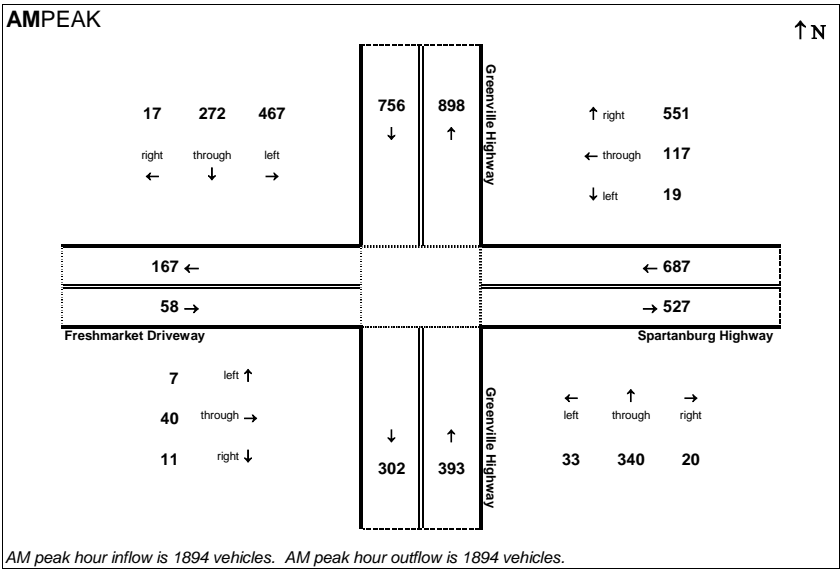


Peak Hour Volume Breakouts Report:
Greenville Hwy and Spartanburg Hwy

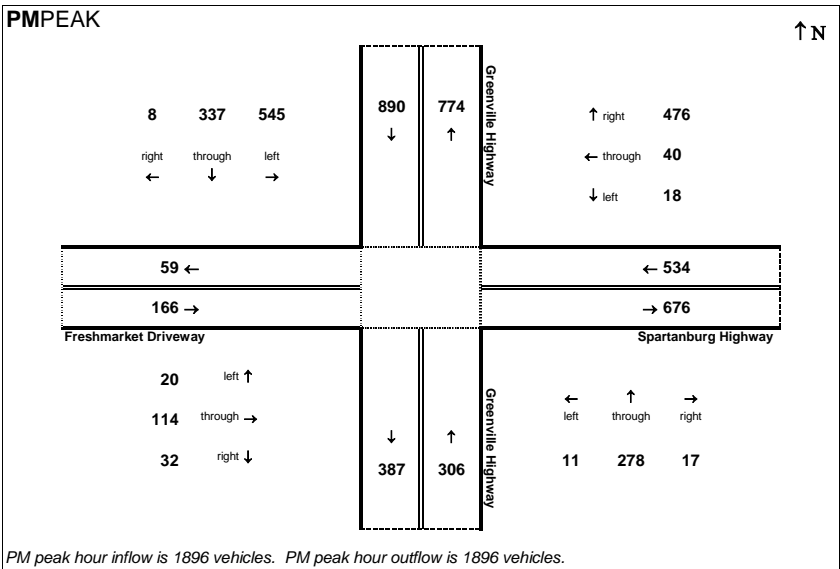
Traffic Forecast Release Date:
October 2017

Traffic Data Year:
2017

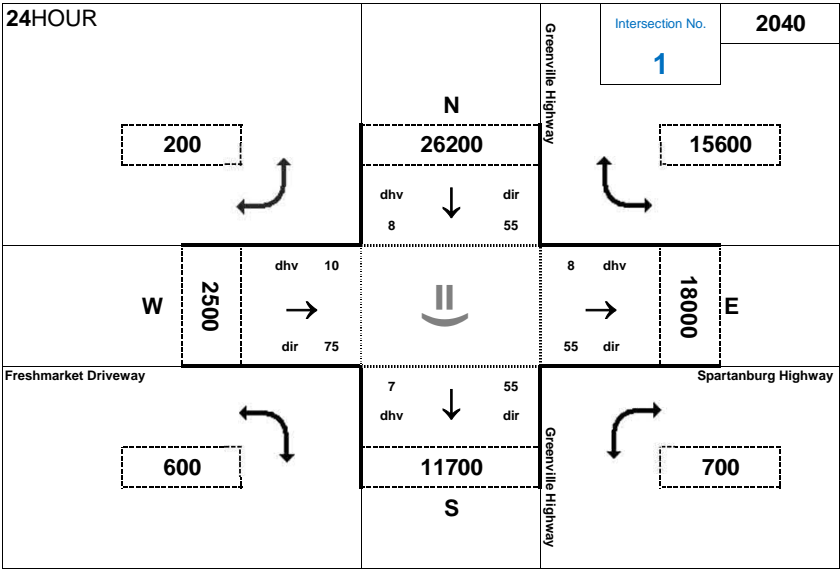
Project:
U-5886 2017 Build Alternative 2



AM peak hour inflow is 1894 vehicles. AM peak hour outflow is 1894 vehicles.



PM peak hour inflow is 1896 vehicles. PM peak hour outflow is 1896 vehicles.

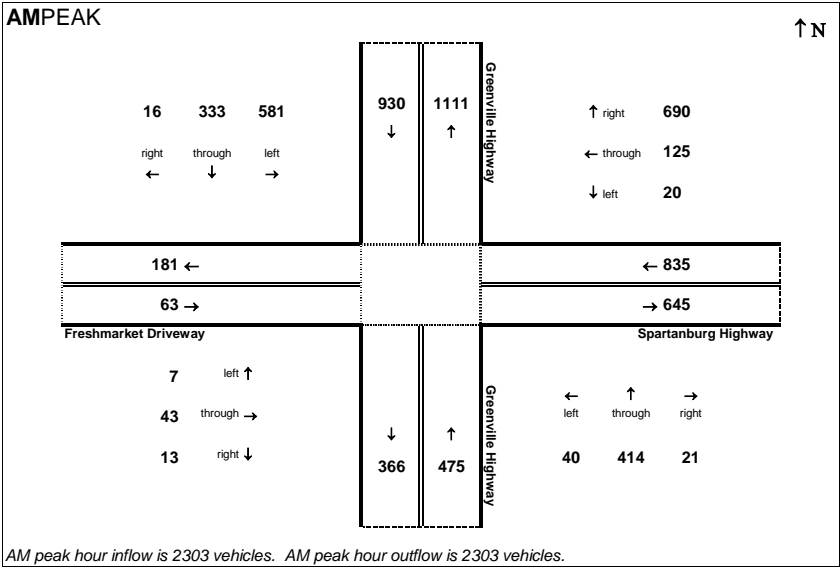


Peak Hour Volume Breakouts Report:
Greenville Hwy and Spartanburg Hwy

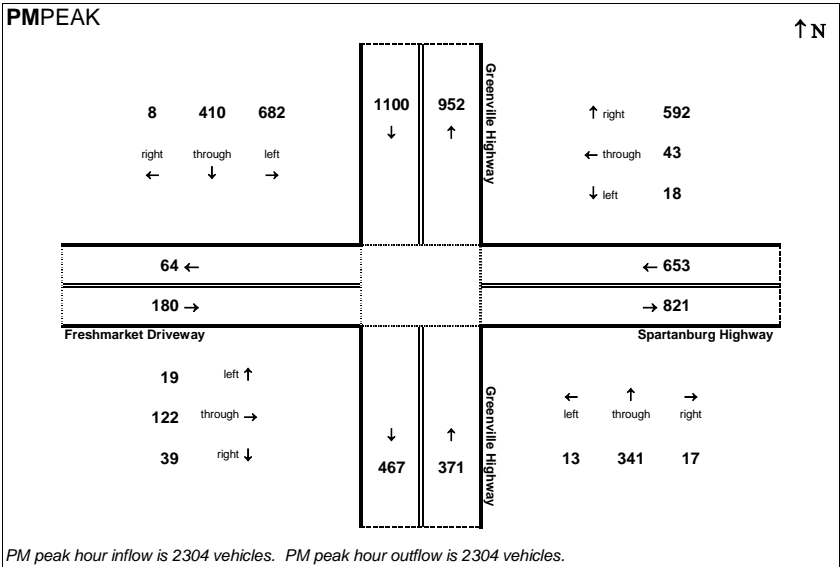
Traffic Forecast Release Date:
October 2017

Traffic Data Year:
2040

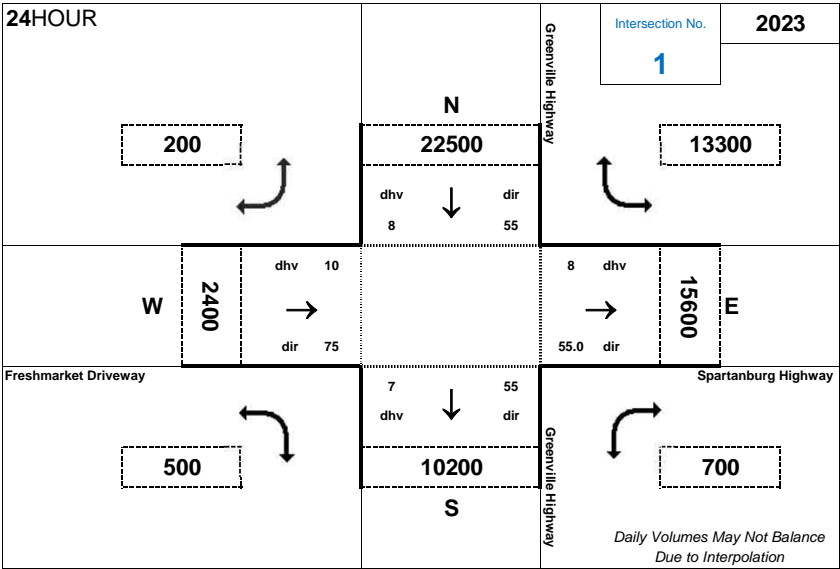
Project:
U-5886 2017 Build Alternative 2



AM peak hour inflow is 2303 vehicles. AM peak hour outflow is 2303 vehicles.



PM peak hour inflow is 2304 vehicles. PM peak hour outflow is 2304 vehicles.

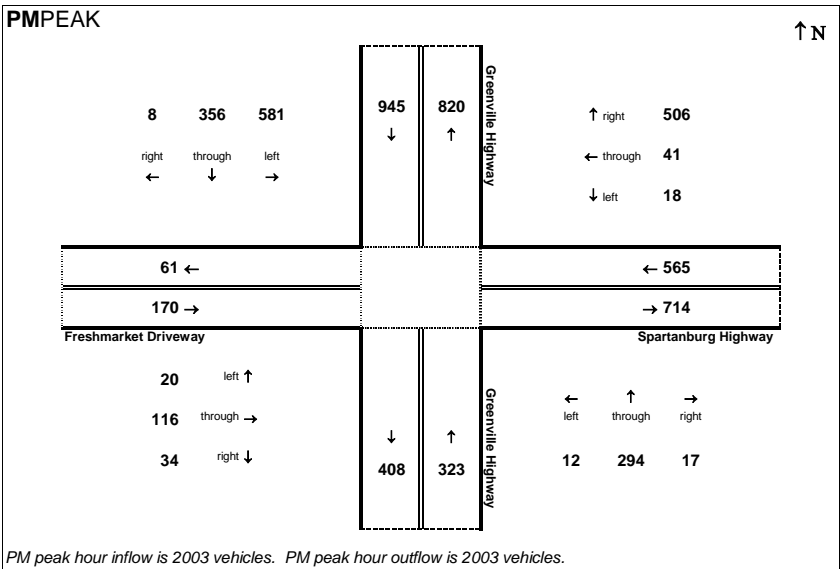
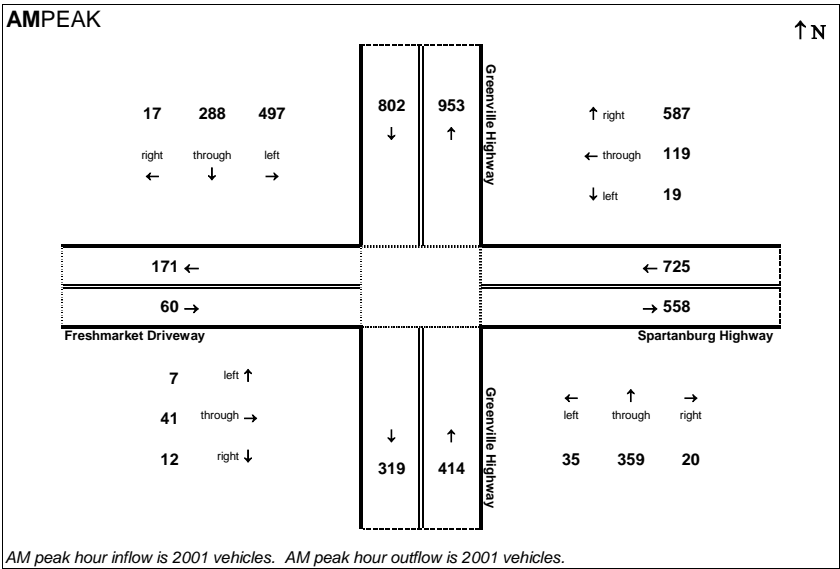


Peak Hour Volume Breakouts Report:
Greenville Hwy and Spartanburg Hwy

Traffic Forecast Release Date:
October 2017

Traffic Data Year:


Project:
U-5886 2017 Build Alternative 2



APPENDIX E

CAPACITY ANALYSIS CALCULATIONS GREENVILLE HIGHWAY & SPARTANBURG HIGHWAY

1: Greenville Highway & Shopping Center Entrance /Spartanburg Highway Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↔	↔	↔↔	↔	↔↔		↔↔	↔	
Traffic Volume (vph)	4	6	4	163	10	356	4	261	185	401	218	4
Future Volume (vph)	4	6	4	163	10	356	4	261	185	401	218	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-1%	
Storage Length (ft)	0		75	200		75	125		0	125		0
Storage Lanes	0		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.88	1.00	0.95	0.95	0.97	1.00	1.00
Frt		0.960				0.850		0.938			0.998	
Flt Protected		0.987		0.950	0.958		0.950			0.950		
Satd. Flow (prot)	0	3353	0	1681	1695	2787	1770	3320	0	3450	1868	0
Flt Permitted		0.987		0.950	0.958		0.950			0.950		
Satd. Flow (perm)	0	3353	0	1681	1695	2787	1770	3320	0	3450	1868	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		393			1228			393			635	
Travel Time (s)		10.7			23.9			7.7			12.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	7	4	181	11	396	4	290	206	446	242	4
Shared Lane Traffic (%)				47%								
Lane Group Flow (vph)	0	15	0	96	96	396	4	496	0	446	246	0
Turn Type	Split	NA		Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	1	5	2		1	6	
Permitted Phases						4						
Detector Phase	3	3		4	4	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.7	13.7		13.1	13.1	13.2	12.9	16.3		13.2	15.9	
Total Split (s)	15.0	15.0		24.0	24.0	37.0	15.0	44.0		37.0	66.0	
Total Split (%)	12.5%	12.5%		20.0%	20.0%	30.8%	12.5%	36.7%		30.8%	55.0%	
Maximum Green (s)	8.3	8.3		17.9	17.9	30.8	9.1	37.7		30.8	60.1	
Yellow Time (s)	3.2	3.2		3.8	3.8	3.0	3.0	3.9		3.0	3.9	
All-Red Time (s)	3.5	3.5		2.3	2.3	3.2	2.9	2.4		3.2	2.0	
Lost Time Adjust (s)		-1.7		-1.1	-1.1	-1.2	-0.9	-1.3		-1.2	-0.9	
Total Lost Time (s)		5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	1.5	1.5	3.5		1.5	3.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Act Effect Green (s)		8.7		12.4	12.4	36.2	7.9	66.3		20.8	89.5	
Actuated g/C Ratio		0.07		0.10	0.10	0.30	0.07	0.55		0.17	0.75	
v/c Ratio		0.06		0.55	0.55	0.47	0.03	0.27		0.75	0.18	
Control Delay		52.6		62.4	62.2	29.6	67.8	9.4		54.9	7.2	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		52.6		62.4	62.2	29.6	67.8	9.4		54.9	7.2	
LOS		D		E	E	C	E	A		D	A	
Approach Delay		52.6			40.3			9.9			37.9	

1: Greenville Highway & Shopping Center Entrance /Spartanburg Highway Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			D			A			D		
Queue Length 50th (ft)	5			75	75	138	3	43		171	32	
Queue Length 95th (ft)	17			130	130	129	m12	141		214	142	
Internal Link Dist (ft)	313			1148			313			555		
Turn Bay Length (ft)				200		75	125			125		
Base Capacity (vph)	279			266	268	1101	147	1833		920	1393	
Starvation Cap Reductn	0			0	0	0	0	0		0	0	
Spillback Cap Reductn	0			0	0	0	0	0		0	0	
Storage Cap Reductn	0			0	0	0	0	0		0	0	
Reduced v/c Ratio	0.05			0.36	0.36	0.36	0.03	0.27		0.48	0.18	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 31.0

Intersection LOS: C

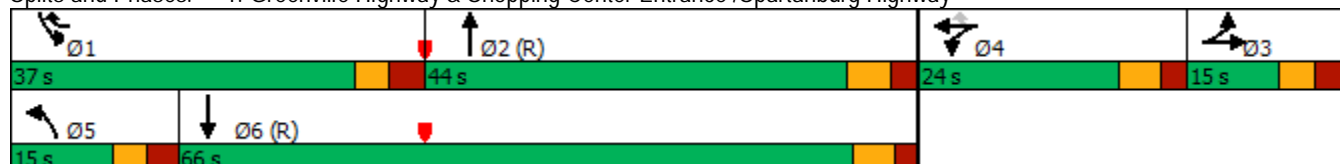
Intersection Capacity Utilization 48.5%

ICU Level of Service A





















Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Greenville Highway & Shopping Center Entrance /Spartanburg Highway



1: Greenville Highway & Shopping Center Entrance /Spartanburg Highway Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	52	10	288	34	402	4	309	204	614	390	10
Future Volume (vph)	36	52	10	288	34	402	4	309	204	614	390	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-1%	
Storage Length (ft)	0		75	200		75	125		0	125		0
Storage Lanes	0		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.88	1.00	0.95	0.95	0.97	1.00	1.00
Frt		0.985				0.850		0.940			0.996	
Flt Protected		0.982		0.950	0.962		0.950			0.950		
Satd. Flow (prot)	0	3423	0	1681	1702	2787	1770	3327	0	3450	1865	0
Flt Permitted		0.982		0.950	0.962		0.950			0.950		
Satd. Flow (perm)	0	3423	0	1681	1702	2787	1770	3327	0	3450	1865	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		393			1228			393			635	
Travel Time (s)		10.7			23.9			7.7			12.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	40	58	11	320	38	447	4	343	227	682	433	11
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	109	0	179	179	447	4	570	0	682	444	0
Turn Type	Split	NA		Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	1	5	2		1	6	
Permitted Phases						4						
Detector Phase	3	3		4	4	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.7	13.7		13.1	13.1	13.2	12.9	16.3		13.2	15.9	
Total Split (s)	14.0	14.0		28.0	28.0	40.0	13.0	38.0		40.0	65.0	
Total Split (%)	11.7%	11.7%		23.3%	23.3%	33.3%	10.8%	31.7%		33.3%	54.2%	
Maximum Green (s)	7.3	7.3		21.9	21.9	33.8	7.1	31.7		33.8	59.1	
Yellow Time (s)	3.2	3.2		3.8	3.8	3.0	3.0	3.9		3.0	3.9	
All-Red Time (s)	3.5	3.5		2.3	2.3	3.2	2.9	2.4		3.2	2.0	
Lost Time Adjust (s)		-1.7		-1.1	-1.1	-1.2	-0.9	-1.3		-1.2	-0.9	
Total Lost Time (s)		5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	1.5	1.5	3.5		1.5	3.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Act Effect Green (s)		9.5		17.8	17.8	47.1	10.7	43.4		29.3	72.3	
Actuated g/C Ratio		0.08		0.15	0.15	0.39	0.09	0.36		0.24	0.60	
v/c Ratio		0.40		0.72	0.71	0.41	0.03	0.47		0.81	0.40	
Control Delay		57.1		64.4	63.5	16.5	51.5	29.4		50.7	17.0	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.4		0.0	0.0	
Total Delay		57.1		64.4	63.5	16.5	51.5	29.9		50.7	17.0	
LOS		E		E	E	B	D	C		D	B	
Approach Delay		57.1			37.6			30.0			37.4	

1: Greenville Highway & Shopping Center Entrance /Spartanburg Highway Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E			D			C			D		
Queue Length 50th (ft)	42			140	140	97	3	213		256	151	
Queue Length 95th (ft)	74			213	213	104	m8	214		305	387	
Internal Link Dist (ft)	313				1148			313			555	
Turn Bay Length (ft)				200		75	125			125		
Base Capacity (vph)	273			322	326	1228	158	1204		1008	1166	
Starvation Cap Reductn	0			0	0	0	0	252		0	0	
Spillback Cap Reductn	0			0	0	0	0	0		0	30	
Storage Cap Reductn	0			0	0	0	0	0		0	0	
Reduced v/c Ratio	0.40			0.56	0.55	0.36	0.03	0.60		0.68	0.39	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 116 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 36.7

Intersection LOS: D

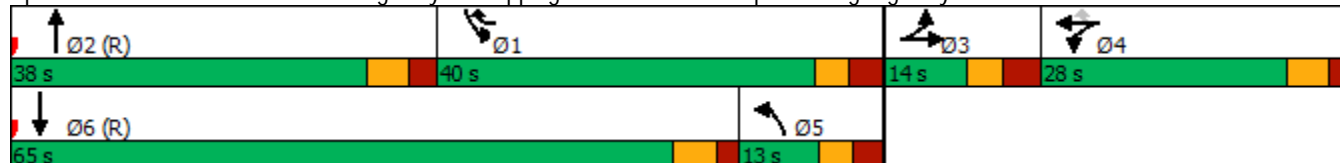
Intersection Capacity Utilization 60.6%

ICU Level of Service B

Analysis Period (min) 15













m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Greenville Highway & Shopping Center Entrance /Spartanburg Highway



1: Shopping Center Entrance & Greenville Highway

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			RT		LT						LT	
Traffic Volume (vph)	0	0	60	0	35	0	0	0	0	0	288	17
Future Volume (vph)	0	0	60	0	35	0	0	0	0	0	288	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.992	
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	1848	0
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	1848	0
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			35	
Link Distance (ft)		1018			136			264			139	
Travel Time (s)		27.8			3.7			7.2			2.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	67	0	39	0	0	0	0	0	320	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	67	0	39	0	0	0	0	0	339	0
Turn Type			Prot		NA						NA	
Protected Phases			3		3						6	
Permitted Phases												
Detector Phase			3		3						6	
Switch Phase												
Minimum Initial (s)			7.0		7.0						10.0	
Minimum Split (s)			14.0		14.0						20.0	
Total Split (s)			19.0		19.0						41.0	
Total Split (%)			31.7%		31.7%						68.3%	
Maximum Green (s)			12.0		12.0						34.0	
Yellow Time (s)			5.0		5.0						5.0	
All-Red Time (s)			2.0		2.0						2.0	
Lost Time Adjust (s)			-2.0		-2.0						-2.0	
Total Lost Time (s)			5.0		5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	
Recall Mode			None		None						C-Min	
Act Effect Green (s)			9.4		9.4						44.4	
Actuated g/C Ratio			0.16		0.16						0.74	
v/c Ratio			0.15		0.13						0.25	
Control Delay			22.5		29.8						4.2	
Queue Delay			0.0		0.0						0.0	
Total Delay			22.5		29.8						4.2	
LOS			C		C						A	
Approach Delay		22.5			29.8						4.2	
Approach LOS		C			C						A	
Queue Length 50th (ft)			12		8						38	
Queue Length 95th (ft)			27		m42						73	
Internal Link Dist (ft)		938			56			184			59	

Greenville Highway Apartments - Hendersonville, NC

1: Shopping Center Entrance & Greenville Highway

2023
Timing Plan: AM Peak Hour

Section 7, Item B.

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Turn Bay Length (ft)												
Base Capacity (vph)			650		434						1366	
Starvation Cap Reductn			0		0						0	
Spillback Cap Reductn			0		0						0	
Storage Cap Reductn			0		0						0	
Reduced v/c Ratio			0.10		0.09						0.25	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 24 (40%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.25

Intersection Signal Delay: 9.2

Intersection LOS: A

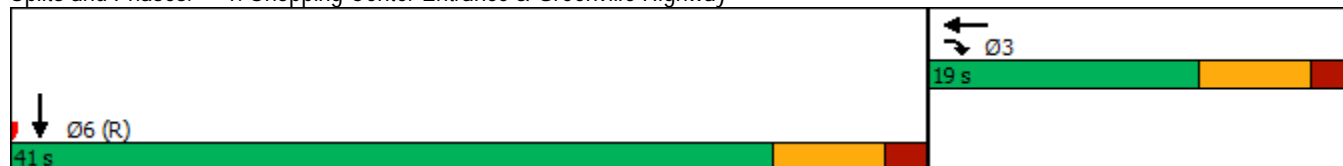
Intersection Capacity Utilization 38.0%

ICU Level of Service A

Analysis Period (min) 15













m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Shopping Center Entrance & Greenville Highway



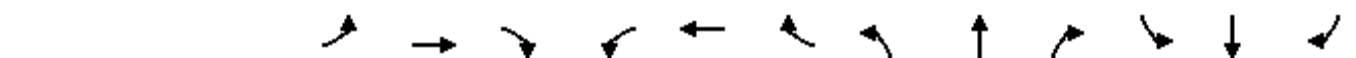
10: Greenville Highway & Spartanburg Highway

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑↑		↑↑				
Traffic Volume (vph)	0	497	0	0	0	725	0	359	20	0	0	0
Future Volume (vph)	0	497	0	0	0	725	0	359	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.88	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.992				
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	0	2787	0	3511	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	0	2787	0	3511	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		125			600			155			1056	
Travel Time (s)		3.4			11.7			3.0			20.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	552	0	0	0	806	0	399	22	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	552	0	0	0	806	0	421	0	0	0	0
Turn Type		NA				Prot		NA				
Protected Phases		7				7		2				
Permitted Phases												
Detector Phase		7				7		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		10.0				
Minimum Split (s)		14.0				14.0		17.0				
Total Split (s)		38.0				38.0		22.0				
Total Split (%)		63.3%				63.3%		36.7%				
Maximum Green (s)		31.0				31.0		15.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Act Effct Green (s)		29.8				29.8		20.2				
Actuated g/C Ratio		0.50				0.50		0.34				
v/c Ratio		0.31				0.58		0.36				
Control Delay		9.0				12.1		10.0				
Queue Delay		0.0				0.0		0.0				
Total Delay		9.0				12.1		10.0				
LOS		A				B		B				
Approach Delay		9.0			12.1			10.0				
Approach LOS		A			B			B				
Queue Length 50th (ft)		52				98		46				
Queue Length 95th (ft)		75				139		74				
Internal Link Dist (ft)		45			520			75			976	

10: Greenville Highway & Spartanburg Highway

Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1961				1544		1198				
Starvation Cap Reductn		0				0		0				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.28				0.52		0.35				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 10.6

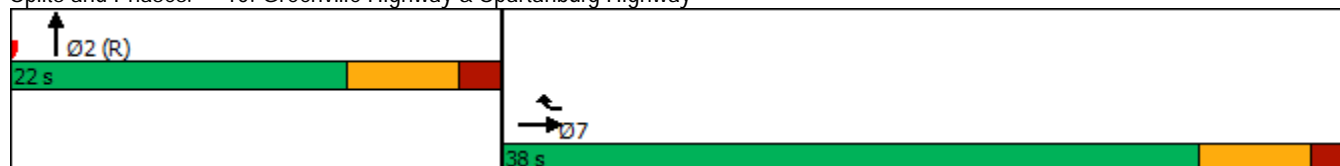
Intersection LOS: B

Intersection Capacity Utilization 58.0%

ICU Level of Service B













Analysis Period (min) 15

Splits and Phases: 10: Greenville Highway & Spartanburg Highway



1: Shopping Center Entrance & Greenville Highway













Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			RT		LT						RT	
Traffic Volume (vph)	0	0	179	0	12	0	0	0	0	0	356	8
Future Volume (vph)	0	0	179	0	12	0	0	0	0	0	356	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.997	
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	1857	0
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	1857	0
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			35	
Link Distance (ft)		1018			136			264			139	
Travel Time (s)		27.8			3.7			7.2			2.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	199	0	13	0	0	0	0	0	396	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	199	0	13	0	0	0	0	0	405	0
Turn Type			Prot		NA						NA	
Protected Phases			3		3						6	
Permitted Phases												
Detector Phase			3		3						6	
Switch Phase												
Minimum Initial (s)			7.0		7.0						10.0	
Minimum Split (s)			14.0		14.0						20.0	
Total Split (s)			20.0		20.0						40.0	
Total Split (%)			33.3%		33.3%						66.7%	
Maximum Green (s)			13.0		13.0						33.0	
Yellow Time (s)			5.0		5.0						5.0	
All-Red Time (s)			2.0		2.0						2.0	
Lost Time Adjust (s)			-2.0		-2.0						-2.0	
Total Lost Time (s)			5.0		5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	
Recall Mode			None		None						C-Min	
Act Effect Green (s)			11.6		11.6						38.4	
Actuated g/C Ratio			0.19		0.19						0.64	
v/c Ratio			0.37		0.04						0.34	
Control Delay			22.6		16.3						6.4	
Queue Delay			0.0		0.0						0.0	
Total Delay			22.6		16.3						6.4	
LOS			C		B						A	
Approach Delay		22.6			16.3						6.4	
Approach LOS		C			B						A	
Queue Length 50th (ft)			35		5						56	
Queue Length 95th (ft)			60		m12						112	
Internal Link Dist (ft)		938			56			184			59	

Greenville Highway Apartments - Hendersonville, NC
 1: Shopping Center Entrance & Greenville Highway

2023
 Timing Plan: PM Peak Hour

Section 7, Item B.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)			696		465						1188	
Starvation Cap Reductn			0		0						0	
Spillback Cap Reductn			0		0						0	
Storage Cap Reductn			0		0						0	
Reduced v/c Ratio			0.29		0.03						0.34	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 54 (90%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 11.8

Intersection LOS: B

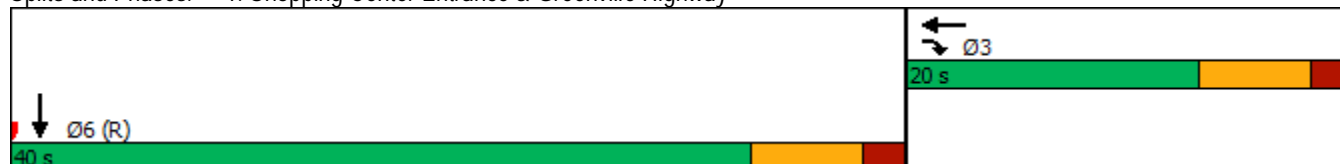
Intersection Capacity Utilization 33.8%

ICU Level of Service A

Analysis Period (min) 15













m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Shopping Center Entrance & Greenville Highway



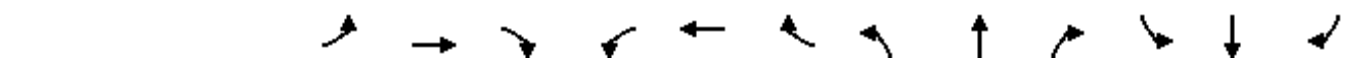
10: Greenville Highway & Spartanburg Highway

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑↑		↑↑				
Traffic Volume (vph)	0	581	0	0	0	565	0	294	17	0	0	0
Future Volume (vph)	0	581	0	0	0	565	0	294	17	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.88	1.00	0.95	0.95	1.00	1.00	1.00
Fr't						0.850		0.992				
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	0	2787	0	3511	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	0	2787	0	3511	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		125			600			155			1056	
Travel Time (s)		3.4			11.7			3.0			20.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	646	0	0	0	628	0	327	19	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	646	0	0	0	628	0	346	0	0	0	0
Turn Type		NA				Prot		NA				
Protected Phases		7				7		2				
Permitted Phases												
Detector Phase		7				7		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		10.0				
Minimum Split (s)		14.0				14.0		17.0				
Total Split (s)		36.0				36.0		24.0				
Total Split (%)		60.0%				60.0%		40.0%				
Maximum Green (s)		29.0				29.0		17.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Act Effct Green (s)		27.1				27.1		22.9				
Actuated g/C Ratio		0.45				0.45		0.38				
v/c Ratio		0.40				0.50		0.26				
Control Delay		11.1				12.4		7.0				
Queue Delay		0.0				0.0		0.0				
Total Delay		11.1				12.4		7.0				
LOS		B				B		A				
Approach Delay		11.1			12.4			7.0				
Approach LOS		B			B			A				
Queue Length 50th (ft)		74				82		43				
Queue Length 95th (ft)		88				101		56				
Internal Link Dist (ft)		45			520			75			976	

10: Greenville Highway & Spartanburg Highway

Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1869				1472		1381				
Starvation Cap Reductn		0				0		0				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.35				0.43		0.25				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 10.7

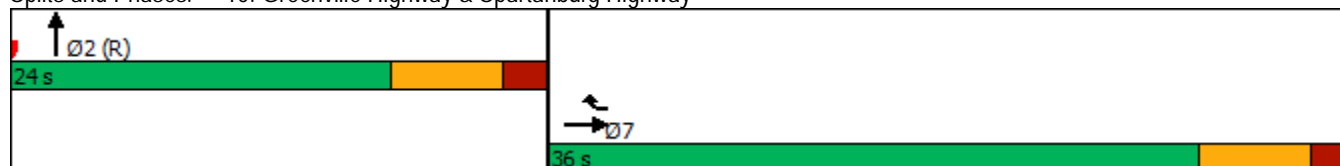
Intersection LOS: B

Intersection Capacity Utilization 53.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Greenville Highway & Spartanburg Highway




Greenville Highway Apartments - Hendersonville, NC

2 Section 7, Item B.

1: Shopping Center Entrance & Greenville Highway

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			RT		LT						RT	
Traffic Volume (vph)	0	0	60	0	35	0	0	0	0	0	290	17
Future Volume (vph)	0	0	60	0	35	0	0	0	0	0	290	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.992	
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	1848	0
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	1848	0
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			35	
Link Distance (ft)		1018			136			264			139	
Travel Time (s)		27.8			3.7			7.2			2.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	67	0	39	0	0	0	0	0	322	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	67	0	39	0	0	0	0	0	341	0
Turn Type			Prot		NA						NA	
Protected Phases			3		3						6	
Permitted Phases												
Detector Phase			3		3						6	
Switch Phase												
Minimum Initial (s)			7.0		7.0						10.0	
Minimum Split (s)			14.0		14.0						20.0	
Total Split (s)			19.0		19.0						41.0	
Total Split (%)			31.7%		31.7%						68.3%	
Maximum Green (s)			12.0		12.0						34.0	
Yellow Time (s)			5.0		5.0						5.0	
All-Red Time (s)			2.0		2.0						2.0	
Lost Time Adjust (s)			-2.0		-2.0						-2.0	
Total Lost Time (s)			5.0		5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	
Recall Mode			None		None						C-Min	
Act Effect Green (s)			9.4		9.4						44.4	
Actuated g/C Ratio			0.16		0.16						0.74	
v/c Ratio			0.15		0.13						0.25	
Control Delay			22.5		29.8						4.2	
Queue Delay			0.0		0.0						0.0	
Total Delay			22.5		29.8						4.2	
LOS			C		C						A	
Approach Delay		22.5			29.8						4.2	
Approach LOS		C			C						A	
Queue Length 50th (ft)			12		0						38	
Queue Length 95th (ft)			27		m43						73	
Internal Link Dist (ft)		938			56			184			59	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC

2 Section 7, Item B.

1: Shopping Center Entrance & Greenville Highway

Timing Plan: AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Turn Bay Length (ft)												
Base Capacity (vph)			650		434						1366	
Starvation Cap Reductn			0		0						0	
Spillback Cap Reductn			0		0						0	
Storage Cap Reductn			0		0						0	
Reduced v/c Ratio			0.10		0.09						0.25	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 24 (40%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.25

Intersection Signal Delay: 9.2

Intersection LOS: A

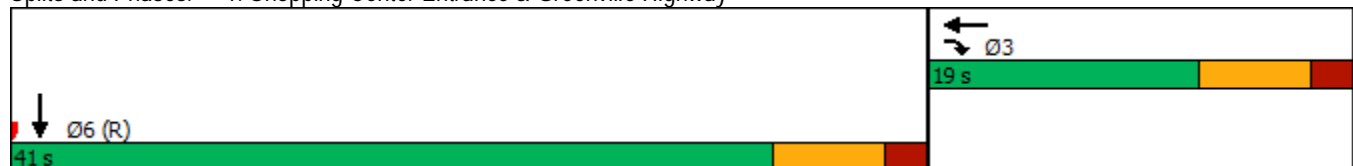
Intersection Capacity Utilization 38.3%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Shopping Center Entrance & Greenville Highway




Greenville Highway Apartments - Hendersonville, NC

2 Section 7, Item B.

10: Greenville Highway & Spartanburg Highway

Timing Plan: AM Peak Hour













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑↑		↑↑				
Traffic Volume (vph)	0	497	0	0	0	725	0	365	20	0	0	0
Future Volume (vph)	0	497	0	0	0	725	0	365	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.88	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.992				
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	0	2787	0	3511	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	0	2787	0	3511	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		125			600			155			1056	
Travel Time (s)		3.4			11.7			3.0			20.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	552	0	0	0	806	0	406	22	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	552	0	0	0	806	0	428	0	0	0	0
Turn Type		NA				Prot		NA				
Protected Phases		7				7		2				
Permitted Phases												
Detector Phase		7				7		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		10.0				
Minimum Split (s)		14.0				14.0		17.0				
Total Split (s)		38.0				38.0		22.0				
Total Split (%)		63.3%				63.3%		36.7%				
Maximum Green (s)		31.0				31.0		15.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Act Effct Green (s)		29.6				29.6		20.4				
Actuated g/C Ratio		0.49				0.49		0.34				
v/c Ratio		0.32				0.59		0.36				
Control Delay		9.1				12.3		9.9				
Queue Delay		0.0				0.0		0.0				
Total Delay		9.1				12.3		9.9				
LOS		A				B		A				
Approach Delay		9.1			12.3			9.9				
Approach LOS		A			B			A				
Queue Length 50th (ft)		52				98		47				
Queue Length 95th (ft)		75				139		76				
Internal Link Dist (ft)		45			520			75			976	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

10: Greenville Highway & Spartanburg Highway

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1951				1536		1198				
Starvation Cap Reductn		0				0		0				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.28				0.52		0.36				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 10.7

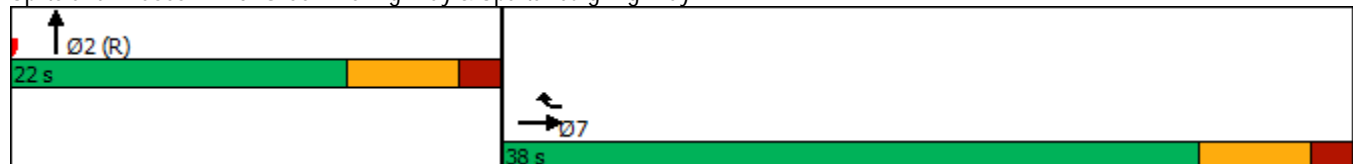
Intersection LOS: B

Intersection Capacity Utilization 58.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Greenville Highway & Spartanburg Highway















Greenville Highway Apartments - Hendersonville, NC

2 Section 7, Item B.

1: Shopping Center Entrance & Greenville Highway

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			RT		LT						LT	
Traffic Volume (vph)	0	0	179	0	12	0	0	0	0	0	363	8
Future Volume (vph)	0	0	179	0	12	0	0	0	0	0	363	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.997	
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	1857	0
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	1857	0
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			35	
Link Distance (ft)		1018			136			264			139	
Travel Time (s)		27.8			3.7			7.2			2.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	199	0	13	0	0	0	0	0	403	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	199	0	13	0	0	0	0	0	412	0
Turn Type			Prot		NA						NA	
Protected Phases			3		3						6	
Permitted Phases												
Detector Phase			3		3						6	
Switch Phase												
Minimum Initial (s)			7.0		7.0						10.0	
Minimum Split (s)			14.0		14.0						20.0	
Total Split (s)			20.0		20.0						40.0	
Total Split (%)			33.3%		33.3%						66.7%	
Maximum Green (s)			13.0		13.0						33.0	
Yellow Time (s)			5.0		5.0						5.0	
All-Red Time (s)			2.0		2.0						2.0	
Lost Time Adjust (s)			-2.0		-2.0						-2.0	
Total Lost Time (s)			5.0		5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	
Recall Mode			None		None						C-Min	
Act Effect Green (s)			11.6		11.6						38.4	
Actuated g/C Ratio			0.19		0.19						0.64	
v/c Ratio			0.37		0.04						0.35	
Control Delay			22.6		16.4						6.4	
Queue Delay			0.0		0.0						0.0	
Total Delay			22.6		16.4						6.4	
LOS			C		B						A	
Approach Delay		22.6			16.4						6.4	
Approach LOS		C			B						A	
Queue Length 50th (ft)			35		5						57	
Queue Length 95th (ft)			60		m13						115	
Internal Link Dist (ft)		938			56			184			59	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC

2 Section 7, Item B.

1: Shopping Center Entrance & Greenville Highway

Timing Plan: PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Turn Bay Length (ft)												
Base Capacity (vph)			696		465						1188	
Starvation Cap Reductn			0		0						0	
Spillback Cap Reductn			0		0						0	
Storage Cap Reductn			0		0						0	
Reduced v/c Ratio			0.29		0.03						0.35	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 54 (90%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 11.8

Intersection LOS: B

Intersection Capacity Utilization 34.2%

ICU Level of Service A

Analysis Period (min) 15


m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Shopping Center Entrance & Greenville Highway



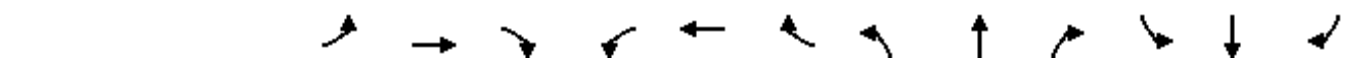
10: Greenville Highway & Spartanburg Highway

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑↑		↑↑				
Traffic Volume (vph)	0	581	0	0	0	565	0	298	17	0	0	0
Future Volume (vph)	0	581	0	0	0	565	0	298	17	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.88	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.992				
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	0	2787	0	3511	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	0	2787	0	3511	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		125			600			155			1056	
Travel Time (s)		3.4			11.7			3.0			20.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	646	0	0	0	628	0	331	19	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	646	0	0	0	628	0	350	0	0	0	0
Turn Type		NA				Prot		NA				
Protected Phases		7				7		2				
Permitted Phases												
Detector Phase		7				7		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		10.0				
Minimum Split (s)		14.0				14.0		17.0				
Total Split (s)		36.0				36.0		24.0				
Total Split (%)		60.0%				60.0%		40.0%				
Maximum Green (s)		29.0				29.0		17.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Act Effct Green (s)		27.1				27.1		22.9				
Actuated g/C Ratio		0.45				0.45		0.38				
v/c Ratio		0.40				0.50		0.26				
Control Delay		11.1				12.4		6.9				
Queue Delay		0.0				0.0		0.0				
Total Delay		11.1				12.4		6.9				
LOS		B				B		A				
Approach Delay		11.1			12.4			6.9				
Approach LOS		B			B			A				
Queue Length 50th (ft)		74				82		42				
Queue Length 95th (ft)		89				102		57				
Internal Link Dist (ft)		45			520			75			976	

10: Greenville Highway & Spartanburg Highway

Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1868				1471		1381				
Starvation Cap Reductn		0				0		0				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.35				0.43		0.25				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 10.7

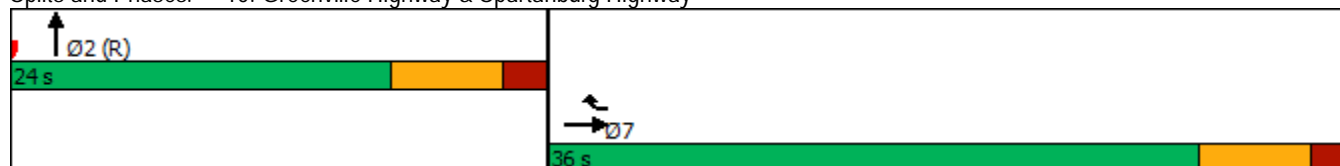
Intersection LOS: B

Intersection Capacity Utilization 54.1%

ICU Level of Service A
















Analysis Period (min) 15

Splits and Phases: 10: Greenville Highway & Spartanburg Highway















1: Shopping Center Entrance & Greenville Highway

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	63	0	40	0	0	0	0	0	333	16
Future Volume (vph)	0	0	63	0	40	0	0	0	0	0	333	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.994	
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	1852	0
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	1852	0
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			35	
Link Distance (ft)		1018			136			264			139	
Travel Time (s)		27.8			3.7			7.2			2.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	70	0	44	0	0	0	0	0	370	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	70	0	44	0	0	0	0	0	388	0
Turn Type			Prot		NA						NA	
Protected Phases			3		3						6	
Permitted Phases												
Detector Phase			3		3						6	
Switch Phase												
Minimum Initial (s)			7.0		7.0						10.0	
Minimum Split (s)			14.0		14.0						20.0	
Total Split (s)			19.0		19.0						41.0	
Total Split (%)			31.7%		31.7%						68.3%	
Maximum Green (s)			12.0		12.0						34.0	
Yellow Time (s)			5.0		5.0						5.0	
All-Red Time (s)			2.0		2.0						2.0	
Lost Time Adjust (s)			-2.0		-2.0						-2.0	
Total Lost Time (s)			5.0		5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	
Recall Mode			None		None						C-Min	
Act Effect Green (s)			9.5		9.5						44.3	
Actuated g/C Ratio			0.16		0.16						0.74	
v/c Ratio			0.16		0.15						0.28	
Control Delay			22.5		30.6						4.5	
Queue Delay			0.0		0.0						0.0	
Total Delay			22.5		30.6						4.5	
LOS			C		C						A	
Approach Delay		22.5			30.6						4.5	
Approach LOS		C			C						A	
Queue Length 50th (ft)			12		21						44	
Queue Length 95th (ft)			28		m41						86	
Internal Link Dist (ft)		938			56			184			59	

1: Shopping Center Entrance & Greenville Highway

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)			650		434						1368	
Starvation Cap Reductn			0		0						0	
Spillback Cap Reductn			0		0						0	
Storage Cap Reductn			0		0						0	
Reduced v/c Ratio			0.11		0.10						0.28	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 24 (40%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.28

Intersection Signal Delay: 9.3

Intersection LOS: A

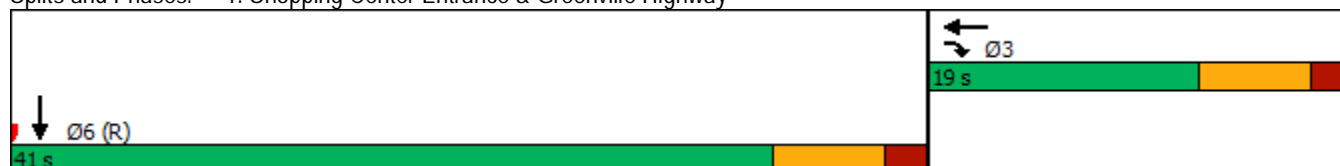
Intersection Capacity Utilization 41.9%

ICU Level of Service A

Analysis Period (min) 15













m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Shopping Center Entrance & Greenville Highway



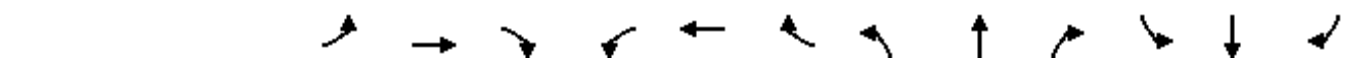
10: Greenville Highway & Spartanburg Highway

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑↑		↑↑				
Traffic Volume (vph)	0	581	0	0	0	835	0	414	21	0	0	0
Future Volume (vph)	0	581	0	0	0	835	0	414	21	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.88	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.993				
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	0	2787	0	3514	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	0	2787	0	3514	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		125			796			155			1056	
Travel Time (s)		3.4			15.5			3.0			20.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	646	0	0	0	928	0	460	23	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	646	0	0	0	928	0	483	0	0	0	0
Turn Type		NA				Prot		NA				
Protected Phases		7				7		2				
Permitted Phases												
Detector Phase		7				7		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		10.0				
Minimum Split (s)		14.0				14.0		17.0				
Total Split (s)		38.0				38.0		22.0				
Total Split (%)		63.3%				63.3%		36.7%				
Maximum Green (s)		31.0				31.0		15.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Act Effct Green (s)		31.7				31.7		18.3				
Actuated g/C Ratio		0.53				0.53		0.30				
v/c Ratio		0.35				0.63		0.45				
Control Delay		8.5				12.1		11.9				
Queue Delay		0.0				0.0		0.0				
Total Delay		8.5				12.1		11.9				
LOS		A				B		B				
Approach Delay		8.5			12.1			11.9				
Approach LOS		A			B			B				
Queue Length 50th (ft)		55				106		72				
Queue Length 95th (ft)		88				171		108				
Internal Link Dist (ft)		45			716			75			976	

10: Greenville Highway & Spartanburg Highway

Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1966				1548		1094				
Starvation Cap Reductn		0				0		0				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.33				0.60		0.44				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.9

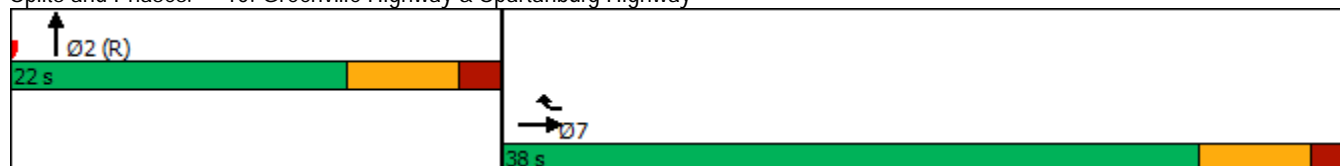
Intersection LOS: B

Intersection Capacity Utilization 65.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Greenville Highway & Spartanburg Highway


















Greenville Highway Apartments - Hendersonville, NC

2040

Section 7, Item B.

1: Shopping Center Entrance & Greenville Highway

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	180	0	13	0	0	0	0	0	410	8
Future Volume (vph)	0	0	180	0	13	0	0	0	0	0	410	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.997	
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	1857	0
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	1857	0
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			35	
Link Distance (ft)		1018			136			264			139	
Travel Time (s)		27.8			3.7			7.2			2.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	200	0	14	0	0	0	0	0	456	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	200	0	14	0	0	0	0	0	465	0
Turn Type			Prot		NA						NA	
Protected Phases			3		3						6	
Permitted Phases												
Detector Phase			3		3						6	
Switch Phase												
Minimum Initial (s)			7.0		7.0						10.0	
Minimum Split (s)			14.0		14.0						20.0	
Total Split (s)			20.0		20.0						40.0	
Total Split (%)			33.3%		33.3%						66.7%	
Maximum Green (s)			13.0		13.0						33.0	
Yellow Time (s)			5.0		5.0						5.0	
All-Red Time (s)			2.0		2.0						2.0	
Lost Time Adjust (s)			-2.0		-2.0						-2.0	
Total Lost Time (s)			5.0		5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	
Recall Mode			None		None						C-Min	
Act Effect Green (s)			11.6		11.6						38.4	
Actuated g/C Ratio			0.19		0.19						0.64	
v/c Ratio			0.37		0.04						0.39	
Control Delay			22.5		17.0						6.8	
Queue Delay			0.0		0.0						0.0	
Total Delay			22.5		17.0						6.8	
LOS			C		B						A	
Approach Delay		22.5			17.0						6.8	
Approach LOS		C			B						A	
Queue Length 50th (ft)			35		4						67	
Queue Length 95th (ft)			60		m11						133	
Internal Link Dist (ft)		938			56			184			59	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC

1: Shopping Center Entrance & Greenville Highway

2040
Timing Plan: PM Peak Hour

Section 7, Item B.

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Turn Bay Length (ft)												
Base Capacity (vph)			696		465						1187	
Starvation Cap Reductn			0		0						0	
Spillback Cap Reductn			0		0						4	
Storage Cap Reductn			0		0						0	
Reduced v/c Ratio			0.29		0.03						0.39	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 54 (90%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 11.7

Intersection LOS: B

Intersection Capacity Utilization 36.7%

ICU Level of Service A

Analysis Period (min) 15













m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Shopping Center Entrance & Greenville Highway















10: Greenville Highway & Spartanburg Highway

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑↑		↑↑				
Traffic Volume (vph)	0	682	0	0	0	653	0	341	17	0	0	0
Future Volume (vph)	0	682	0	0	0	653	0	341	17	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.88	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.993				
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	0	2787	0	3514	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	0	2787	0	3514	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		125			796			155			1056	
Travel Time (s)		3.4			15.5			3.0			20.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	758	0	0	0	726	0	379	19	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	758	0	0	0	726	0	398	0	0	0	0
Turn Type		NA				Prot		NA				
Protected Phases		7				7		2				
Permitted Phases												
Detector Phase		7				7		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		10.0				
Minimum Split (s)		14.0				14.0		17.0				
Total Split (s)		36.0				36.0		24.0				
Total Split (%)		60.0%				60.0%		40.0%				
Maximum Green (s)		29.0				29.0		17.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Act Effct Green (s)		29.6				29.6		20.4				
Actuated g/C Ratio		0.49				0.49		0.34				
v/c Ratio		0.43				0.53		0.33				
Control Delay		10.2				11.5		6.7				
Queue Delay		0.0				0.0		0.0				
Total Delay		10.2				11.5		6.7				
LOS		B				B		A				
Approach Delay		10.2			11.5			6.7				
Approach LOS		B			B			A				
Queue Length 50th (ft)		76				83		51				
Queue Length 95th (ft)		111				127		m66				
Internal Link Dist (ft)		45			716			75			976	

10: Greenville Highway & Spartanburg Highway

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1900				1496		1267				
Starvation Cap Reductn		0				0		0				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.40				0.49		0.31				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 10.0

Intersection LOS: A

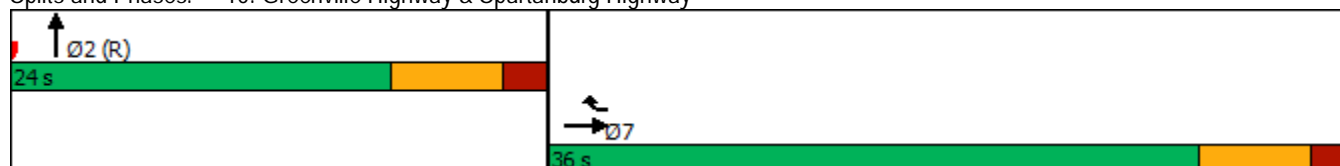
Intersection Capacity Utilization 60.8%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Greenville Highway & Spartanburg Highway















Greenville Highway Apartments - Hendersonville, NC

2 Section 7, Item B.

1: Shopping Center Entrance & Greenville Highway

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			RT		LT						LT	
Traffic Volume (vph)	0	0	63	0	40	0	0	0	0	0	335	16
Future Volume (vph)	0	0	63	0	40	0	0	0	0	0	335	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.994	
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	1852	0
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	1852	0
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			35	
Link Distance (ft)		1018			136			264			139	
Travel Time (s)		27.8			3.7			7.2			2.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	70	0	44	0	0	0	0	0	372	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	70	0	44	0	0	0	0	0	390	0
Turn Type			Prot		NA						NA	
Protected Phases			3		3						6	
Permitted Phases												
Detector Phase			3		3						6	
Switch Phase												
Minimum Initial (s)			7.0		7.0						10.0	
Minimum Split (s)			14.0		14.0						20.0	
Total Split (s)			19.0		19.0						41.0	
Total Split (%)			31.7%		31.7%						68.3%	
Maximum Green (s)			12.0		12.0						34.0	
Yellow Time (s)			5.0		5.0						5.0	
All-Red Time (s)			2.0		2.0						2.0	
Lost Time Adjust (s)			-2.0		-2.0						-2.0	
Total Lost Time (s)			5.0		5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	
Recall Mode			None		None						C-Min	
Act Effect Green (s)			9.5		9.5						44.3	
Actuated g/C Ratio			0.16		0.16						0.74	
v/c Ratio			0.16		0.15						0.29	
Control Delay			22.5		30.7						4.5	
Queue Delay			0.0		0.0						0.0	
Total Delay			22.5		30.7						4.5	
LOS			C		C						A	
Approach Delay		22.5			30.7						4.5	
Approach LOS		C			C						A	
Queue Length 50th (ft)			12		21						45	
Queue Length 95th (ft)			28		m41						87	
Internal Link Dist (ft)		938			56			184			59	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC

2 Section 7, Item B.

1: Shopping Center Entrance & Greenville Highway

Timing Plan: AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Turn Bay Length (ft)												
Base Capacity (vph)			650		434						1368	
Starvation Cap Reductn			0		0						0	
Spillback Cap Reductn			0		0						0	
Storage Cap Reductn			0		0						0	
Reduced v/c Ratio			0.11		0.10						0.29	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 24 (40%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.29

Intersection Signal Delay: 9.3

Intersection LOS: A

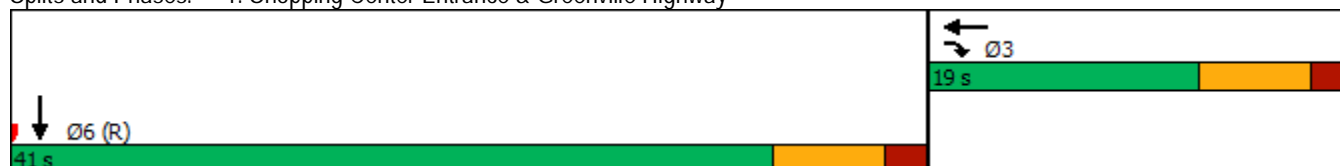
Intersection Capacity Utilization 42.1%

ICU Level of Service A

Analysis Period (min) 15













m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Shopping Center Entrance & Greenville Highway



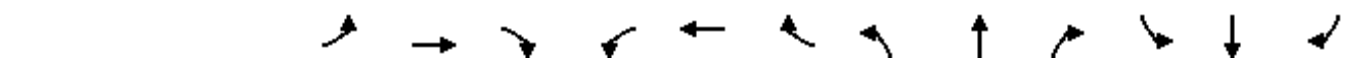
10: Greenville Highway & Spartanburg Highway

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑↑		↑↑				
Traffic Volume (vph)	0	581	0	0	0	835	0	420	21	0	0	0
Future Volume (vph)	0	581	0	0	0	835	0	420	21	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.88	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.993				
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	0	2787	0	3514	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	0	2787	0	3514	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		125			796			155			1056	
Travel Time (s)		3.4			15.5			3.0			20.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	646	0	0	0	928	0	467	23	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	646	0	0	0	928	0	490	0	0	0	0
Turn Type		NA				Prot		NA				
Protected Phases		7				7		2				
Permitted Phases												
Detector Phase		7				7		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		10.0				
Minimum Split (s)		14.0				14.0		17.0				
Total Split (s)		38.0				38.0		22.0				
Total Split (%)		63.3%				63.3%		36.7%				
Maximum Green (s)		31.0				31.0		15.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Act Effct Green (s)		31.6				31.6		18.4				
Actuated g/C Ratio		0.53				0.53		0.31				
v/c Ratio		0.35				0.63		0.46				
Control Delay		8.5				12.1		12.0				
Queue Delay		0.0				0.0		0.0				
Total Delay		8.5				12.1		12.0				
LOS		A				B		B				
Approach Delay		8.5			12.1			12.0				
Approach LOS		A			B			B				
Queue Length 50th (ft)		56				107		73				
Queue Length 95th (ft)		88				171		110				
Internal Link Dist (ft)		45			716			75			976	

10: Greenville Highway & Spartanburg Highway

Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1964				1546		1094				
Starvation Cap Reductn		0				0		0				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.33				0.60		0.45				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 11.0

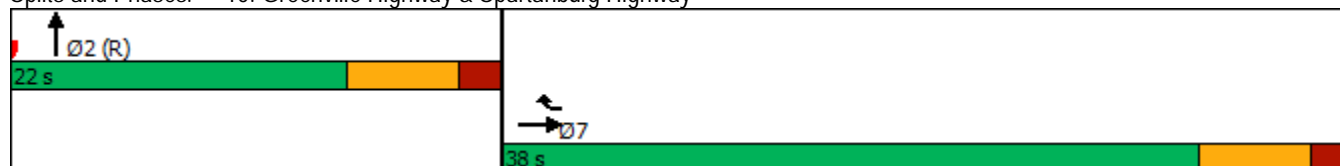
Intersection LOS: B

Intersection Capacity Utilization 66.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Greenville Highway & Spartanburg Highway




Greenville Highway Apartments - Hendersonville, NC

2 Section 7, Item B.

1: Shopping Center Entrance & Greenville Highway

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			RT		RT						RT	
Traffic Volume (vph)	0	0	180	0	13	0	0	0	0	0	417	8
Future Volume (vph)	0	0	180	0	13	0	0	0	0	0	417	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.997	
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	1857	0
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	1857	0
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			35	
Link Distance (ft)		1018			136			264			139	
Travel Time (s)		27.8			3.7			7.2			2.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	200	0	14	0	0	0	0	0	463	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	200	0	14	0	0	0	0	0	472	0
Turn Type			Prot		NA						NA	
Protected Phases			3		3						6	
Permitted Phases												
Detector Phase			3		3						6	
Switch Phase												
Minimum Initial (s)			7.0		7.0						10.0	
Minimum Split (s)			14.0		14.0						20.0	
Total Split (s)			20.0		20.0						40.0	
Total Split (%)			33.3%		33.3%						66.7%	
Maximum Green (s)			13.0		13.0						33.0	
Yellow Time (s)			5.0		5.0						5.0	
All-Red Time (s)			2.0		2.0						2.0	
Lost Time Adjust (s)			-2.0		-2.0						-2.0	
Total Lost Time (s)			5.0		5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	
Recall Mode			None		None						C-Min	
Act Effect Green (s)			11.6		11.6						38.4	
Actuated g/C Ratio			0.19		0.19						0.64	
v/c Ratio			0.37		0.04						0.40	
Control Delay			22.5		17.5						6.9	
Queue Delay			0.0		0.0						0.0	
Total Delay			22.6		17.5						6.9	
LOS			C		B						A	
Approach Delay		22.6			17.5						6.9	
Approach LOS		C			B						A	
Queue Length 50th (ft)			35		4						69	
Queue Length 95th (ft)			60		m11						136	
Internal Link Dist (ft)		938			56			184			59	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC

2 Section 7, Item B.

1: Shopping Center Entrance & Greenville Highway

Timing Plan: PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Turn Bay Length (ft)												
Base Capacity (vph)			696		465						1187	
Starvation Cap Reductn			0		0						0	
Spillback Cap Reductn			22		0						4	
Storage Cap Reductn			0		0						0	
Reduced v/c Ratio			0.30		0.03						0.40	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 54 (90%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 11.7

Intersection LOS: B

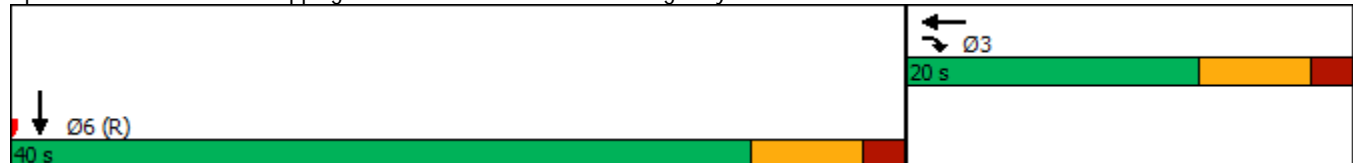
Intersection Capacity Utilization 37.1%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Shopping Center Entrance & Greenville Highway

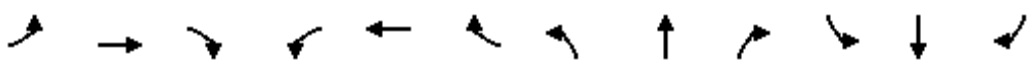


Greenville Highway Apartments - Hendersonville, NC

2 Section 7, Item B.

10: Greenville Highway & Spartanburg Highway

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑				↑↑		↑↑				
Traffic Volume (vph)	0	682	0	0	0	653	0	345	17	0	0	0
Future Volume (vph)	0	682	0	0	0	653	0	345	17	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.88	1.00	0.95	0.95	1.00	1.00	1.00
Fr't						0.850		0.993				
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	0	2787	0	3514	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	0	2787	0	3514	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		125			796			155			1056	
Travel Time (s)		3.4			15.5			3.0			20.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	758	0	0	0	726	0	383	19	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	758	0	0	0	726	0	402	0	0	0	0
Turn Type		NA				Prot		NA				
Protected Phases		7				7		2				
Permitted Phases												
Detector Phase		7				7		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		10.0				
Minimum Split (s)		14.0				14.0		17.0				
Total Split (s)		36.0				36.0		24.0				
Total Split (%)		60.0%				60.0%		40.0%				
Maximum Green (s)		29.0				29.0		17.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Act Effct Green (s)		29.5				29.5		20.5				
Actuated g/C Ratio		0.49				0.49		0.34				
v/c Ratio		0.44				0.53		0.34				
Control Delay		10.2				11.5		6.7				
Queue Delay		0.0				0.0		0.0				
Total Delay		10.2				11.5		6.7				
LOS		B				B		A				
Approach Delay		10.2			11.5			6.7				
Approach LOS		B			B			A				
Queue Length 50th (ft)		76				83		51				
Queue Length 95th (ft)		112				127		m66				
Internal Link Dist (ft)		45			716			75			976	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 3

10: Greenville Highway & Spartanburg Highway

Timing Plan: PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Turn Bay Length (ft)												
Base Capacity (vph)		1898				1494		1267				
Starvation Cap Reductn		0				0		0				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.40				0.49		0.32				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 10.0

Intersection LOS: A

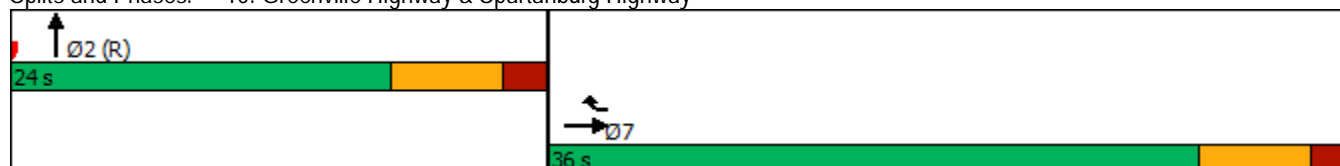
Intersection Capacity Utilization 61.3%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Greenville Highway & Spartanburg Highway



















APPENDIX F

CAPACITY ANALYSIS CALCULATIONS GREENVILLE HIGHWAY & CHADWICK AVENUE

Greenville Highway Apartments - Hendersonville, NC
2: Greenville Highway & Chadwick Square/Chadwick Avenue

2021 Section 7, Item B.
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	5	4	11	8	24	14	243	24	15	209	28
Future Volume (vph)	12	5	4	11	8	24	14	243	24	15	209	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			-2%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.924			0.988			0.985	
Flt Protected		0.973			0.988			0.997			0.997	
Satd. Flow (prot)	0	1771	0	0	1692	0	0	1853	0	0	1802	0
Flt Permitted								0.981			0.975	
Satd. Flow (perm)	0	1820	0	0	1713	0	0	1823	0	0	1762	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		754			1305			648			1496	
Travel Time (s)		20.6			25.4			12.6			29.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	13	6	4	12	9	27	16	270	27	17	232	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	23	0	0	48	0	0	313	0	0	280	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		21.7	21.7		17.0	17.0		26.0	26.0	
Total Split (s)	26.0	26.0		26.0	26.0		34.0	34.0		34.0	34.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.7%	56.7%		56.7%	56.7%	
Maximum Green (s)	20.3	20.3		20.3	20.3		28.8	28.8		28.8	28.8	
Yellow Time (s)	3.8	3.8		3.8	3.8		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		1.2	1.2		1.2	1.2	
Lost Time Adjust (s)		-0.7			-0.7			-0.2			-0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		9.0	9.0		4.0	4.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		7.7			7.7			25.6			25.6	
Actuated g/C Ratio		0.26			0.26			0.88			0.88	
v/c Ratio		0.05			0.11			0.20			0.18	
Control Delay		7.9			8.4			2.8			2.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.9			8.4			2.8			2.8	
LOS		A			A			A			A	
Approach Delay		7.9			8.4			2.8			2.8	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC
 2: Greenville Highway & Chadwick Square/Chadwick Avenue

2021 Section 7, Item B.
 Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			A			A	
Queue Length 50th (ft)		3			6			0			0	
Queue Length 95th (ft)		10			17			61			55	
Internal Link Dist (ft)		674			1225			568			1416	
Turn Bay Length (ft)												
Base Capacity (vph)		1321			1244			1773			1713	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.02			0.04			0.18			0.16	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 29.1

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.20

Intersection Signal Delay: 3.4

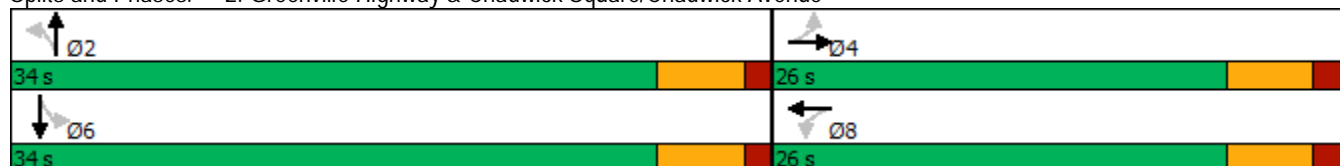
Intersection LOS: A

Intersection Capacity Utilization 32.7%

ICU Level of Service A

















Analysis Period (min) 15

Splits and Phases: 2: Greenville Highway & Chadwick Square/Chadwick Avenue



Greenville Highway Apartments - Hendersonville, NC
2: Greenville Highway & Chadwick Square/Chadwick Avenue

2021 Section 7, Item B.
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	6	7	43	5	42	4	319	32	27	428	18
Future Volume (vph)	26	6	7	43	5	42	4	319	32	27	428	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			-2%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.975			0.937			0.988			0.995	
Flt Protected		0.968			0.977			0.999			0.997	
Satd. Flow (prot)	0	1758	0	0	1697	0	0	1857	0	0	1820	0
Flt Permitted		0.741			0.827			0.995			0.967	
Satd. Flow (perm)	0	1346	0	0	1436	0	0	1850	0	0	1765	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		754			1305			648			1496	
Travel Time (s)		20.6			25.4			12.6			29.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	7	8	48	6	47	4	354	36	30	476	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	101	0	0	394	0	0	526	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		21.7	21.7		17.0	17.0		26.0	26.0	
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Maximum Green (s)	19.3	19.3		19.3	19.3		29.8	29.8		29.8	29.8	
Yellow Time (s)	3.8	3.8		3.8	3.8		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		1.2	1.2		1.2	1.2	
Lost Time Adjust (s)		-0.7			-0.7			-0.2			-0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		9.0	9.0		4.0	4.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		8.5			8.5			23.3			23.3	
Actuated g/C Ratio		0.25			0.25			0.68			0.68	
v/c Ratio		0.13			0.28			0.31			0.44	
Control Delay		12.2			13.8			6.1			7.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		12.2			13.8			6.1			7.3	
LOS		B			B			A			A	
Approach Delay		12.3			13.8			6.1			7.3	

Greenville Highway Apartments - Hendersonville, NC
 2: Greenville Highway & Chadwick Square/Chadwick Avenue

2021 Section 7, Item B.
 Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		6			13			41			61	
Queue Length 95th (ft)		26			49			99			149	
Internal Link Dist (ft)		674			1225			568			1416	
Turn Bay Length (ft)												
Base Capacity (vph)		804			858			1658			1582	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.05			0.12			0.24			0.33	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 34.1

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 7.7

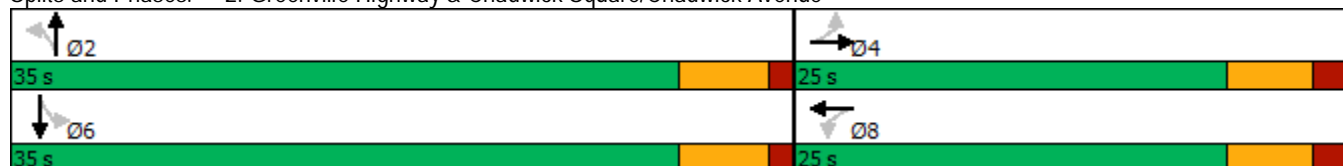
Intersection LOS: A

Intersection Capacity Utilization 54.6%

ICU Level of Service A

















Analysis Period (min) 15

Splits and Phases: 2: Greenville Highway & Chadwick Square/Chadwick Avenue



Greenville Highway Apartments - Hendersonville, NC
2: Greenville Highway & Chadwick Square/Chadwick Avenue

2023 Section 7, Item B.
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	5	4	11	8	24	14	245	24	15	211	28
Future Volume (vph)	12	5	4	11	8	24	14	245	24	15	211	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			-2%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.924			0.988			0.985	
Flt Protected		0.973			0.988			0.997			0.997	
Satd. Flow (prot)	0	1771	0	0	1692	0	0	1853	0	0	1802	0
Flt Permitted								0.981			0.975	
Satd. Flow (perm)	0	1820	0	0	1713	0	0	1823	0	0	1762	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1055			1305			1012			1496	
Travel Time (s)		28.8			25.4			19.7			29.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	13	6	4	12	9	27	16	272	27	17	234	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	23	0	0	48	0	0	315	0	0	282	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		6			
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.7	24.7		21.7	21.7		16.2	16.2		25.2	25.2	
Total Split (s)	25.4	25.4		25.4	25.4		34.6	34.6		34.6	34.6	
Total Split (%)	42.3%	42.3%		42.3%	42.3%		57.7%	57.7%		57.7%	57.7%	
Maximum Green (s)	19.7	19.7		19.7	19.7		29.4	29.4		29.4	29.4	
Yellow Time (s)	3.8	3.8		3.8	3.8		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		1.2	1.2		1.2	1.2	
Lost Time Adjust (s)		-0.7			-0.7			-0.2			-0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		9.0	9.0		4.0	4.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		7.7			7.7			25.6			25.6	
Actuated g/C Ratio		0.26			0.26			0.88			0.88	
v/c Ratio		0.05			0.11			0.20			0.18	
Control Delay		8.0			8.5			2.8			2.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.0			8.5			2.8			2.8	
LOS		A			A			A			A	
Approach Delay		8.0			8.5			2.8			2.8	

Greenville Highway Apartments - Hendersonville, NC
 2: Greenville Highway & Chadwick Square/Chadwick Avenue

2023
 Timing Plan: AM Peak Hour

Section 7, Item B.

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			A			A	
Queue Length 50th (ft)		3			6			0			0	
Queue Length 95th (ft)		10			17			61			55	
Internal Link Dist (ft)		975			1225			932			1416	
Turn Bay Length (ft)												
Base Capacity (vph)		1283			1207			1801			1740	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.02			0.04			0.17			0.16	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 29.1

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.20

Intersection Signal Delay: 3.4





Intersection LOS: A

Intersection Capacity Utilization 32.8%

ICU Level of Service A

















Analysis Period (min) 15

Splits and Phases: 2: Greenville Highway & Chadwick Square/Chadwick Avenue

 Ø2	 Ø4
34.6 s	25.4 s
 Ø6	 Ø8
34.6 s	25.4 s

Greenville Highway Apartments - Hendersonville, NC
2: Greenville Highway & Chadwick Square/Chadwick Avenue

2023 Section 7, Item B.
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	6	7	43	5	42	4	322	32	27	432	18
Future Volume (vph)	26	6	7	43	5	42	4	322	32	27	432	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			-2%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.975			0.937			0.988			0.995	
Flt Protected		0.968			0.977			0.999			0.997	
Satd. Flow (prot)	0	1758	0	0	1697	0	0	1857	0	0	1820	0
Flt Permitted		0.741			0.827			0.995			0.966	
Satd. Flow (perm)	0	1346	0	0	1436	0	0	1850	0	0	1764	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1055			1305			1012			1496	
Travel Time (s)		28.8			25.4			19.7			29.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	7	8	48	6	47	4	358	36	30	480	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	101	0	0	398	0	0	530	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		6			
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		22.0	22.0		17.0	17.0		26.0	26.0	
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Maximum Green (s)	19.3	19.3		19.3	19.3		29.8	29.8		29.8	29.8	
Yellow Time (s)	3.8	3.8		3.8	3.8		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		1.2	1.2		1.2	1.2	
Lost Time Adjust (s)		-0.7			-0.7			-0.2			-0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		9.0	9.0		4.0	4.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		8.6			8.6			22.1			22.1	
Actuated g/C Ratio		0.23			0.23			0.60			0.60	
v/c Ratio		0.14			0.30			0.36			0.50	
Control Delay		12.7			14.8			7.0			8.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		12.7			14.8			7.0			8.6	
LOS		B			B			A			A	
Approach Delay		12.7			14.8			7.0			8.6	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC
 2: Greenville Highway & Chadwick Square/Chadwick Avenue

2023
 Timing Plan: PM Peak Hour

Section 7, Item B.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		6			13			41			62	
Queue Length 95th (ft)		26			49			101			151	
Internal Link Dist (ft)		975			1225			932			1416	
Turn Bay Length (ft)												
Base Capacity (vph)		751			801			1548			1477	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.06			0.13			0.26			0.36	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 36.7

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 8.7





Intersection LOS: A

Intersection Capacity Utilization 54.9%

ICU Level of Service A

Analysis Period (min) 15

















Splits and Phases: 2: Greenville Highway & Chadwick Square/Chadwick Avenue

 Ø2	 Ø4
35 s	25 s
 Ø6	 Ø8
35 s	25 s

Greenville Highway Apartments - Hendersonville, NC
 2: Greenville Highway & Chadwick Square/Chadwick Avenue

Section 7, Item B.

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	5	4	17	8	32	14	245	26	18	211	28
Future Volume (vph)	12	5	4	17	8	32	14	245	26	18	211	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			-2%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.924			0.988			0.985	
Flt Protected		0.973			0.985			0.997			0.997	
Satd. Flow (prot)	0	1771	0	0	1687	0	0	1853	0	0	1802	0
Flt Permitted		0.894			0.892			0.980			0.969	
Satd. Flow (perm)	0	1627	0	0	1528	0	0	1822	0	0	1751	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1055			209			1012			1496	
Travel Time (s)		28.8			4.1			19.7			29.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	13	6	4	19	9	36	16	272	29	20	234	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	23	0	0	64	0	0	317	0	0	285	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.7	24.7		21.7	21.7		16.2	16.2		25.2	25.2	
Total Split (s)	25.4	25.4		25.4	25.4		34.6	34.6		34.6	34.6	
Total Split (%)	42.3%	42.3%		42.3%	42.3%		57.7%	57.7%		57.7%	57.7%	
Maximum Green (s)	19.7	19.7		19.7	19.7		29.4	29.4		29.4	29.4	
Yellow Time (s)	3.8	3.8		3.8	3.8		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		1.2	1.2		1.2	1.2	
Lost Time Adjust (s)		-0.7			-0.7			-0.2			-0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		9.0	9.0		4.0	4.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		7.7			7.7			22.7			22.7	
Actuated g/C Ratio		0.26			0.26			0.76			0.76	
v/c Ratio		0.06			0.16			0.23			0.21	
Control Delay		8.7			9.8			4.6			4.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.7			9.8			4.6			4.6	
LOS		A			A			A			A	
Approach Delay		8.7			9.8			4.6			4.6	

Lanes, Volumes, Timings
 RKA

Synchro 10 Report
 Page 1

Greenville Highway Apartments - Hendersonville, NC
 2: Greenville Highway & Chadwick Square/Chadwick Avenue

2 Section 7, Item B.

Timing Plan: AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			A			A	
Queue Length 50th (ft)		3			8			0			0	
Queue Length 95th (ft)		11			22			62			56	
Internal Link Dist (ft)		975			129			932			1416	
Turn Bay Length (ft)												
Base Capacity (vph)		1109			1041			1795			1725	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.02			0.06			0.18			0.17	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 29.9

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.23

Intersection Signal Delay: 5.2





Intersection LOS: A

Intersection Capacity Utilization 33.3%

ICU Level of Service A

Analysis Period (min) 15

















Splits and Phases: 2: Greenville Highway & Chadwick Square/Chadwick Avenue

 Ø2	 Ø4
34.6 s	25.4 s
 Ø6	 Ø8
34.6 s	25.4 s

Greenville Highway Apartments - Hendersonville, NC
2: Greenville Highway & Chadwick Square/Chadwick Avenue

2 Section 7, Item B.

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	6	7	47	5	48	4	322	39	36	432	18
Future Volume (vph)	26	6	7	47	5	48	4	322	39	36	432	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			-2%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.975			0.936			0.986			0.995	
Flt Protected		0.968			0.977						0.996	
Satd. Flow (prot)	0	1758	0	0	1695	0	0	1855	0	0	1818	0
Flt Permitted		0.735			0.829			0.995			0.952	
Satd. Flow (perm)	0	1335	0	0	1438	0	0	1846	0	0	1738	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1055			209			1012			1496	
Travel Time (s)		28.8			4.1			19.7			29.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	7	8	52	6	53	4	358	43	40	480	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	111	0	0	405	0	0	540	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		22.0	22.0		17.0	17.0		26.0	26.0	
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Maximum Green (s)	19.3	19.3		19.3	19.3		29.8	29.8		29.8	29.8	
Yellow Time (s)	3.8	3.8		3.8	3.8		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.9	1.9		1.9	1.9		1.2	1.2		1.2	1.2	
Lost Time Adjust (s)		-0.7			-0.7			-0.2			-0.2	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		9.0	9.0		4.0	4.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		8.9			8.9			22.3			22.3	
Actuated g/C Ratio		0.24			0.24			0.60			0.60	
v/c Ratio		0.14			0.32			0.36			0.52	
Control Delay		13.0			15.3			7.1			8.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.0			15.3			7.1			8.9	
LOS		B			B			A			A	
Approach Delay		13.0			15.3			7.1			8.9	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC
 2: Greenville Highway & Chadwick Square/Chadwick Avenue

Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		6			15			42			64	
Queue Length 95th (ft)		27			56			106			162	
Internal Link Dist (ft)		975			129			932			1416	
Turn Bay Length (ft)												
Base Capacity (vph)		738			795			1532			1442	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.06			0.14			0.26			0.37	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 37.1

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 9.1

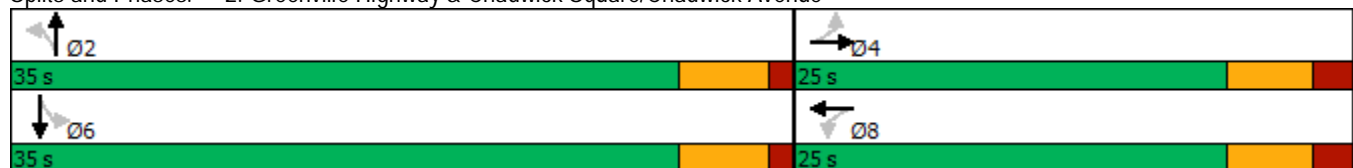
Intersection LOS: A

Intersection Capacity Utilization 61.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Greenville Highway & Chadwick Square/Chadwick Avenue



APPENDIX G

CAPACITY ANALYSIS CALCULATIONS

SPARTANBURG HIGHWAY

&

CHADWICK AVENUE

Greenville Highway Apartments - Hendersonville, NC
3: Spartanburg Highway

2021 Section 7, Item B.
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↰↱			↰	↰
Traffic Vol, veh/h	15	541	19	38	586	19	8	7	28	19	6	18
Future Vol, veh/h	15	541	19	38	586	19	8	7	28	19	6	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	100	-	-	-	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	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	17	601	21	42	651	21	9	8	31	21	7	20








Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	672	0	0	622	0	0	1059	1402	311	1085	1402	336
Stage 1	-	-	-	-	-	-	646	646	-	746	746	-
Stage 2	-	-	-	-	-	-	413	756	-	339	656	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	915	-	-	955	-	-	179	139	685	171	139	660
Stage 1	-	-	-	-	-	-	427	465	-	372	419	-
Stage 2	-	-	-	-	-	-	587	414	-	649	460	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	915	-	-	955	-	-	159	130	685	148	130	660
Mov Cap-2 Maneuver	-	-	-	-	-	-	159	130	-	148	130	-
Stage 1	-	-	-	-	-	-	419	456	-	365	401	-
Stage 2	-	-	-	-	-	-	535	396	-	598	451	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.5	19.5	25.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	296	915	-	-	955	-	-	143	660
HCM Lane V/C Ratio	0.161	0.018	-	-	0.044	-	-	0.194	0.03
HCM Control Delay (s)	19.5	9	-	-	8.9	-	-	36.1	10.6
HCM Lane LOS	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.1	-	-	0.7	0.1

Greenville Highway Apartments - Hendersonville, NC
3: Spartanburg Highway

2021 Section 7, Item B.
Timing Plan: PM Peak Hour

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	23	820	18	52	665	42	18	13	56	23	11	56
Future Vol, veh/h	23	820	18	52	665	42	18	13	56	23	11	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	100	-	-	-	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	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	26	911	20	58	739	47	20	14	62	26	12	62

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	786	0	0	931	0	0	1465	1875	466	1394	1862	393
Stage 1	-	-	-	-	-	-	973	973	-	879	879	-
Stage 2	-	-	-	-	-	-	492	902	-	515	983	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	829	-	-	731	-	-	89	71	543	101	72	606
Stage 1	-	-	-	-	-	-	271	329	-	309	363	-
Stage 2	-	-	-	-	-	-	527	355	-	511	325	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	829	-	-	731	-	-	63	63	543	68	64	606
Mov Cap-2 Maneuver	-	-	-	-	-	-	63	63	-	68	64	-
Stage 1	-	-	-	-	-	-	263	319	-	299	334	-
Stage 2	-	-	-	-	-	-	419	327	-	418	315	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	68.2	49.9
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	146	829	-	-	731	-	-	67	606
HCM Lane V/C Ratio	0.662	0.031	-	-	0.079	-	-	0.564	0.103
HCM Control Delay (s)	68.2	9.5	-	-	10.3	-	-	113.1	11.6
HCM Lane LOS	F	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	3.7	0.1	-	-	0.3	-	-	2.4	0.3

Greenville Highway Apartments - Hendersonville, NC
3: Chadwick Avenue & Spartanburg Highway

2023 Section 7, Item B.
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↰↱			↰	↰
Traffic Vol, veh/h	15	546	19	38	592	19	8	7	28	19	6	18
Future Vol, veh/h	15	546	19	38	592	19	8	7	28	19	6	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	100	-	-	-	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	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	17	607	21	42	658	21	9	8	31	21	7	20








Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	679	0	0	628	0	0	1069	1415	314	1095	1415	340
Stage 1	-	-	-	-	-	-	652	652	-	753	753	-
Stage 2	-	-	-	-	-	-	417	763	-	342	662	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	909	-	-	950	-	-	176	136	682	168	136	656
Stage 1	-	-	-	-	-	-	423	462	-	368	416	-
Stage 2	-	-	-	-	-	-	584	411	-	646	457	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	909	-	-	950	-	-	156	128	682	146	128	656
Mov Cap-2 Maneuver	-	-	-	-	-	-	156	128	-	146	128	-
Stage 1	-	-	-	-	-	-	415	453	-	361	398	-
Stage 2	-	-	-	-	-	-	532	393	-	595	448	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.5	19.7	25.8
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	292	909	-	-	950	-	-	141	656
HCM Lane V/C Ratio	0.164	0.018	-	-	0.044	-	-	0.197	0.03
HCM Control Delay (s)	19.7	9	-	-	9	-	-	36.7	10.7
HCM Lane LOS	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.1	-	-	0.7	0.1

Greenville Highway Apartments - Hendersonville, NC
3: Chadwick Avenue & Spartanburg Highway

2023 Section 7, Item B.
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	828	18	53	672	42	18	13	57	23	11	57
Future Vol, veh/h	23	828	18	53	672	42	18	13	57	23	11	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	100	-	-	-	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	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	26	920	20	59	747	47	20	14	63	26	12	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	794	0	0	940	0	0	1480	1894	470	1408	1881	397
Stage 1	-	-	-	-	-	-	982	982	-	889	889	-
Stage 2	-	-	-	-	-	-	498	912	-	519	992	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	823	-	-	725	-	-	87	69	540	99	70	602
Stage 1	-	-	-	-	-	-	267	325	-	304	360	-
Stage 2	-	-	-	-	-	-	523	351	-	508	322	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	823	-	-	725	-	-	61	61	540	66	62	602
Mov Cap-2 Maneuver	-	-	-	-	-	-	61	61	-	66	62	-
Stage 1	-	-	-	-	-	-	258	315	-	294	331	-
Stage 2	-	-	-	-	-	-	414	323	-	414	312	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	72.2	51.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	143	823	-	-	725	-	-	65	602
HCM Lane V/C Ratio	0.684	0.031	-	-	0.081	-	-	0.581	0.105
HCM Control Delay (s)	72.2	9.5	-	-	10.4	-	-	119	11.7
HCM Lane LOS	F	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	3.9	0.1	-	-	0.3	-	-	2.4	0.4

Greenville Highway Apartments - Hendersonville, NC
3: Chadwick Avenue & Spartanburg Highway

2 Section 7, Item B.

Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↰↱			↰	↰
Traffic Vol, veh/h	15	546	19	40	592	19	8	7	35	19	6	18
Future Vol, veh/h	15	546	19	40	592	19	8	7	35	19	6	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	100	-	-	-	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	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	17	607	21	44	658	21	9	8	39	21	7	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	679	0	0	628	0	0	1073	1419	314	1099	1419	340
Stage 1	-	-	-	-	-	-	652	652	-	757	757	-
Stage 2	-	-	-	-	-	-	421	767	-	342	662	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	909	-	-	950	-	-	175	136	682	167	136	656
Stage 1	-	-	-	-	-	-	423	462	-	366	414	-
Stage 2	-	-	-	-	-	-	581	410	-	646	457	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	909	-	-	950	-	-	155	127	682	143	127	656
Mov Cap-2 Maneuver	-	-	-	-	-	-	155	127	-	143	127	-
Stage 1	-	-	-	-	-	-	415	453	-	359	395	-
Stage 2	-	-	-	-	-	-	528	391	-	588	448	-








Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	18.8	26.2
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	316	909	-	-	950	-	-	139	656
HCM Lane V/C Ratio	0.176	0.018	-	-	0.047	-	-	0.2	0.03
HCM Control Delay (s)	18.8	9	-	-	9	-	-	37.3	10.7
HCM Lane LOS	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.1	-	-	0.7	0.1

Greenville Highway Apartments - Hendersonville, NC
3: Chadwick Avenue & Spartanburg Highway

2 Section 7, Item B.

Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	828	18	59	672	42	18	13	61	23	11	57
Future Vol, veh/h	23	828	18	59	672	42	18	13	61	23	11	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	100	-	-	-	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	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	26	920	20	66	747	47	20	14	68	26	12	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	794	0	0	940	0	0	1494	1908	470	1422	1895	397
Stage 1	-	-	-	-	-	-	982	982	-	903	903	-
Stage 2	-	-	-	-	-	-	512	926	-	519	992	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	823	-	-	725	-	-	85	68	540	96	69	602
Stage 1	-	-	-	-	-	-	267	325	-	299	354	-
Stage 2	-	-	-	-	-	-	513	346	-	508	322	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	823	-	-	725	-	-	59	60	540	62	61	602
Mov Cap-2 Maneuver	-	-	-	-	-	-	59	60	-	62	61	-
Stage 1	-	-	-	-	-	-	258	315	-	289	322	-
Stage 2	-	-	-	-	-	-	401	315	-	410	312	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.8	74.3	55.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	145	823	-	-	725	-	-	62	602
HCM Lane V/C Ratio	0.705	0.031	-	-	0.09	-	-	0.609	0.105
HCM Control Delay (s)	74.3	9.5	-	-	10.5	-	-	128.9	11.7
HCM Lane LOS	F	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	4.1	0.1	-	-	0.3	-	-	2.5	0.4

APPENDIX H

CAPACITY ANALYSIS CALCULATIONS


GREENVILLE HIGHWAY

&

WHITE STREET

Greenville Highway Apartments - Hendersonville, NC
4: Greenville Highway & White Street/Walgreens Entrance

2021 Section 7, Item B.
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↱		↰	↱	↱
Traffic Volume (vph)	213	4	59	4	4	4	67	220	4	7	208	130
Future Volume (vph)	213	4	59	4	4	4	67	220	4	7	208	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			0%			0%	
Storage Length (ft)	0		150	0		50	25		0	75		0
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.998				0.850
Flt Protected		0.953			0.976		0.950			0.950		
Satd. Flow (prot)	0	1784	1591	0	1818	1583	1770	1859	0	1770	1863	1583
Flt Permitted		0.724			0.878		0.950			0.599		
Satd. Flow (perm)	0	1355	1591	0	1635	1583	1770	1859	0	1116	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		979			603			1496			393	
Travel Time (s)		19.1			16.4			29.1			7.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	237	4	66	4	4	4	74	244	4	8	231	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	241	66	0	8	4	74	248	0	8	231	144
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	Prot	NA		D.Pm	NA	Perm
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8		8				2		6
Detector Phase	4	4	5	8	8	8	5	2		2	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0		10.0	10.0	10.0
Minimum Split (s)	13.3	13.3	11.9	27.3	27.3	27.3	11.9	26.6		26.6	26.6	26.6
Total Split (s)	54.0	54.0	22.0	54.0	54.0	54.0	22.0	66.0		66.0	44.0	44.0
Total Split (%)	45.0%	45.0%	18.3%	45.0%	45.0%	45.0%	18.3%	55.0%		55.0%	36.7%	36.7%
Maximum Green (s)	47.7	47.7	17.1	47.7	47.7	47.7	17.1	60.4		60.4	38.4	38.4
Yellow Time (s)	3.9	3.9	3.0	3.9	3.9	3.9	3.0	3.8		3.8	3.8	3.8
All-Red Time (s)	2.4	2.4	1.9	2.4	2.4	2.4	1.9	1.8		1.8	1.8	1.8
Lost Time Adjust (s)		-1.3	0.1		-1.3	-1.3	0.1	-0.6		-0.6	-0.6	-0.6
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag			Lag				Lag				Lead	Lead
Lead-Lag Optimize?			Yes				Yes				Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Min		C-Min	C-Min	C-Min
Walk Time (s)				7.0	7.0	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)				14.0	14.0	14.0		14.0		14.0	14.0	14.0
Pedestrian Calls (#/hr)				0	0	0		0		0	0	0
Act Effect Green (s)		26.9	40.8		26.9	26.9	8.9	83.1		83.1	69.2	69.2
Actuated g/C Ratio		0.22	0.34		0.22	0.22	0.07	0.69		0.69	0.58	0.58
v/c Ratio		0.79	0.12		0.02	0.01	0.56	0.19		0.01	0.22	0.16
Control Delay		61.7	24.7		31.6	31.2	69.9	8.1		9.4	9.6	9.4
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.3	0.0

Lanes, Volumes, Timings
RKA

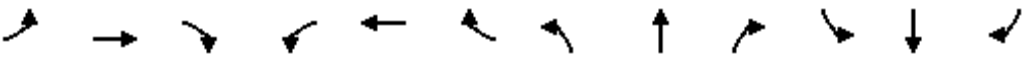
Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC
 4: Greenville Highway & White Street/Walgreens Entrance

2021

Section 7, Item B.

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		61.7	24.7		31.6	31.2	69.9	8.1		9.4	9.9	9.4
LOS		E	C		C	C	E	A		A	A	A
Approach Delay		53.7			31.5			22.3			9.7	
Approach LOS		D			C			C			A	
Queue Length 50th (ft)		177	35		5	2	57	62		1	44	27
Queue Length 95th (ft)		245	56		16	11	105	124		m9	120	81
Internal Link Dist (ft)		899			523			1416			313	
Turn Bay Length (ft)			150			50	25			75		
Base Capacity (vph)		553	540		667	646	250	1286		772	1073	912
Starvation Cap Reductn		0	0		0	0	0	0		0	418	0
Spillback Cap Reductn		0	0		0	0	0	0		0	0	0
Storage Cap Reductn		0	0		0	0	0	0		0	0	0
Reduced v/c Ratio		0.44	0.12		0.01	0.01	0.30	0.19		0.01	0.35	0.16

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:SBT, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 27.1

Intersection LOS: C

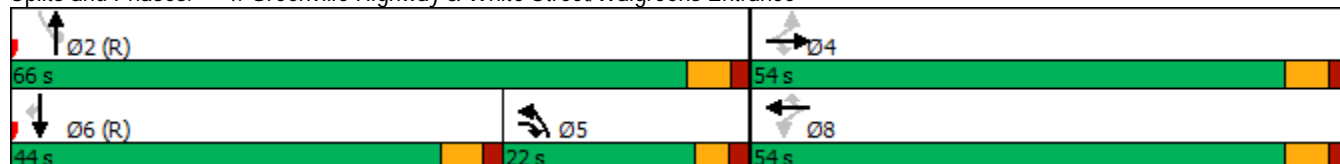
Intersection Capacity Utilization 51.3%

ICU Level of Service A

Analysis Period (min) 15






















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Greenville Highway & White Street/Walgreens Entrance



Greenville Highway Apartments - Hendersonville, NC
 4: Greenville Highway & White Street/Walgreens Entrance

2021 Section 7, Item B.
 Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	16	111	10	15	13	139	324	10	23	449	249
Future Volume (vph)	214	16	111	10	15	13	139	324	10	23	449	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			0%			0%	
Storage Length (ft)	0		150	0		50	25		0	75		0
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.996				0.850
Flt Protected		0.956			0.981		0.950			0.950		
Satd. Flow (prot)	0	1790	1591	0	1827	1583	1770	1855	0	1770	1863	1583
Flt Permitted		0.721			0.862		0.950			0.509		
Satd. Flow (perm)	0	1350	1591	0	1606	1583	1770	1855	0	948	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		979			603			1496			393	
Travel Time (s)		19.1			16.4			29.1			7.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	238	18	123	11	17	14	154	360	11	26	499	277
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	256	123	0	28	14	154	371	0	26	499	277
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	Prot	NA		D.Pm	NA	Perm
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8		8				2		6
Detector Phase	4	4	5	8	8	8	5	2		2	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0		10.0	10.0	10.0
Minimum Split (s)	13.3	13.3	11.9	27.3	27.3	27.3	11.9	26.6		26.6	26.6	26.6
Total Split (s)	42.0	42.0	24.0	42.0	42.0	42.0	24.0	78.0		78.0	54.0	54.0
Total Split (%)	35.0%	35.0%	20.0%	35.0%	35.0%	35.0%	20.0%	65.0%		65.0%	45.0%	45.0%
Maximum Green (s)	35.7	35.7	19.1	35.7	35.7	35.7	19.1	72.4		72.4	48.4	48.4
Yellow Time (s)	3.9	3.9	3.0	3.9	3.9	3.9	3.0	3.8		3.8	3.8	3.8
All-Red Time (s)	2.4	2.4	1.9	2.4	2.4	2.4	1.9	1.8		1.8	1.8	1.8
Lost Time Adjust (s)		-1.3	0.1		-1.3	-1.3	0.1	-0.6		-0.6	-0.6	-0.6
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag			Lag				Lag				Lead	Lead
Lead-Lag Optimize?			Yes				Yes				Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Min		C-Min	C-Min	C-Min
Walk Time (s)				7.0	7.0	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)				14.0	14.0	14.0		14.0		14.0	14.0	14.0
Pedestrian Calls (#/hr)				0	0	0		0		0	0	0
Act Effect Green (s)		27.6	46.4		27.6	27.6	13.8	82.4		82.4	63.6	63.6
Actuated g/C Ratio		0.23	0.39		0.23	0.23	0.12	0.69		0.69	0.53	0.53
v/c Ratio		0.83	0.20		0.08	0.04	0.76	0.29		0.04	0.51	0.33
Control Delay		64.3	22.8		33.2	32.1	74.0	9.2		4.9	13.4	10.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	1.1	0.6

Lanes, Volumes, Timings
 RKA

Synchro 10 Report
 Page 1

Greenville Highway Apartments - Hendersonville, NC
 4: Greenville Highway & White Street/Walgreens Entrance

2021 Section 7, Item B.
 Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		64.3	22.8		33.2	32.1	74.0	9.2		4.9	14.5	11.1
LOS		E	C		C	C	E	A		A	B	B
Approach Delay		50.8			32.8			28.2			13.0	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)		189	62		17	8	117	102		2	244	45
Queue Length 95th (ft)		262	83		38	24	181	191		m20	379	163
Internal Link Dist (ft)		899			523			1416			313	
Turn Bay Length (ft)			150			50	25			75		
Base Capacity (vph)		416	609		495	488	282	1273		650	989	841
Starvation Cap Reductn		0	0		0	0	0	0		0	272	273
Spillback Cap Reductn		0	0		0	0	0	0		0	0	0
Storage Cap Reductn		0	0		0	0	0	0		0	0	0
Reduced v/c Ratio		0.62	0.20		0.06	0.03	0.55	0.29		0.04	0.70	0.49

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:SBT, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 26.2

Intersection LOS: C

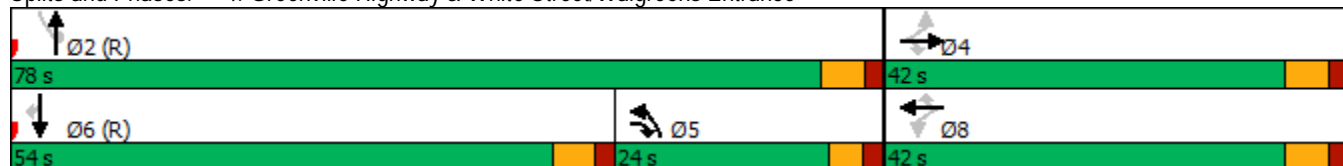
Intersection Capacity Utilization 63.2%

ICU Level of Service B

Analysis Period (min) 15






















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Greenville Highway & White Street/Walgreens Entrance



Greenville Highway Apartments - Hendersonville, NC
4: Greenville Highway & White Street/Walgreens Entrance

2023 Section 7, Item B.
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	128	177	132	94	77	173	223	174	76	168	73
Future Volume (vph)	99	128	177	132	94	77	173	223	174	76	168	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			0%			0%	
Storage Length (ft)	200		150	0		50	500		600	0		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.913			0.932			0.934				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1709	0	1770	1736	0	1770	3306	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1778	1709	0	1770	1736	0	1770	3306	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1118			1023			1496			127	
Travel Time (s)		21.8			27.9			29.1			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	110	142	197	147	104	86	192	248	193	84	187	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	110	339	0	147	190	0	192	441	0	84	187	81
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	34.0	14.0		14.0	14.0		14.0	17.0		14.0	17.0	34.0
Total Split (s)	40.0	44.0		23.0	27.0		26.0	36.0		17.0	27.0	40.0
Total Split (%)	33.3%	36.7%		19.2%	22.5%		21.7%	30.0%		14.2%	22.5%	33.3%
Maximum Green (s)	13.0	37.0		16.0	20.0		19.0	29.0		10.0	20.0	13.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	22.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	22.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	25.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	25.0
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.0		2.0	3.0	2.0
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	None
Act Effect Green (s)	12.9	36.1		15.4	18.6		18.3	40.2		11.1	30.2	48.1
Actuated g/C Ratio	0.11	0.30		0.13	0.16		0.15	0.34		0.09	0.25	0.40
v/c Ratio	0.58	0.66		0.65	0.71		0.71	0.40		0.52	0.40	0.13
Control Delay	62.7	43.1		63.0	62.4		62.9	34.6		62.6	45.4	24.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	62.7	43.1		63.0	62.4		62.9	34.6		62.6	45.4	24.6
LOS	E	D		E	E		E	C		E	D	C
Approach Delay		47.9			62.7			43.2			44.7	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC
 4: Greenville Highway & White Street/Walgreens Entrance

2023
 Timing Plan: AM Peak Hour

Section 7, Item B.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			E			D			D		
Queue Length 50th (ft)	82	226		109	140		142	147		64	126	39
Queue Length 95th (ft)	141	323		176	216		220	207		118	223	74
Internal Link Dist (ft)	1038			943			1416			47		
Turn Bay Length (ft)	200						500					
Base Capacity (vph)	222	555		265	318		310	1108		177	469	464
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.50	0.61		0.55	0.60		0.62	0.40		0.47	0.40	0.17

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 48.4









Intersection LOS: D

Intersection Capacity Utilization 62.3%

ICU Level of Service B


Analysis Period (min) 15

Splits and Phases: 4: Greenville Highway & White Street/Walgreens Entrance

 Ø1	 Ø2 (R)	 Ø3	 Ø4
17 s	36 s	23 s	44 s
 Ø6 (R)	 Ø5	 Ø8	 Ø7
27 s	26 s	27 s	40 s

Greenville Highway Apartments - Hendersonville, NC
4: Greenville Highway & White Street/Walgreens Entrance

2023 Section 7, Item B.
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	94	173	174	128	76	177	168	132	77	223	99
Future Volume (vph)	73	94	173	174	128	76	177	168	132	77	223	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			0%			0%	
Storage Length (ft)	200		150	0		50	500		600	0		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.903			0.944			0.934				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1690	0	1770	1758	0	1770	3306	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1778	1690	0	1770	1758	0	1770	3306	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1118			1023			1496			127	
Travel Time (s)		21.8			27.9			29.1			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	81	104	192	193	142	84	197	187	147	86	248	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	296	0	193	226	0	197	334	0	86	248	110
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	34.0	14.0		14.0	14.0		14.0	17.0		14.0	17.0	34.0
Total Split (s)	35.0	38.0		25.0	28.0		25.0	40.0		17.0	32.0	35.0
Total Split (%)	29.2%	31.7%		20.8%	23.3%		20.8%	33.3%		14.2%	26.7%	29.2%
Maximum Green (s)	8.0	31.0		18.0	21.0		18.0	33.0		10.0	25.0	8.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	22.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	22.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	25.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	25.0
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.0		2.0	3.0	2.0
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	None
Act Effect Green (s)	10.8	33.2		17.8	20.2		18.1	40.7		11.1	30.9	46.6
Actuated g/C Ratio	0.09	0.28		0.15	0.17		0.15	0.34		0.09	0.26	0.39
v/c Ratio	0.51	0.63		0.74	0.77		0.74	0.30		0.52	0.52	0.18
Control Delay	63.9	45.1		65.7	64.5		65.1	32.1		65.0	40.9	27.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.3	0.0
Total Delay	63.9	45.1		65.7	64.5		65.1	32.1		65.0	41.3	27.7
LOS	E	D		E	E		E	C		E	D	C
Approach Delay		49.1			65.1			44.4			42.5	

Greenville Highway Apartments - Hendersonville, NC
 4: Greenville Highway & White Street/Walgreens Entrance

2023
 Timing Plan: PM Peak Hour

Section 7, Item B.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			E			D			D		
Queue Length 50th (ft)	60	198		143	166		145	108		66	163	63
Queue Length 95th (ft)	115	301		223	252		227	150		125	240	110
Internal Link Dist (ft)	1038			943			1416			47		
Turn Bay Length (ft)	200						500					
Base Capacity (vph)	162	473		295	336		298	1127		177	484	551
Starvation Cap Reductn	0	0		0	0		0	0		0	37	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.50	0.63		0.65	0.67		0.66	0.30		0.49	0.55	0.20

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 51 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 49.8

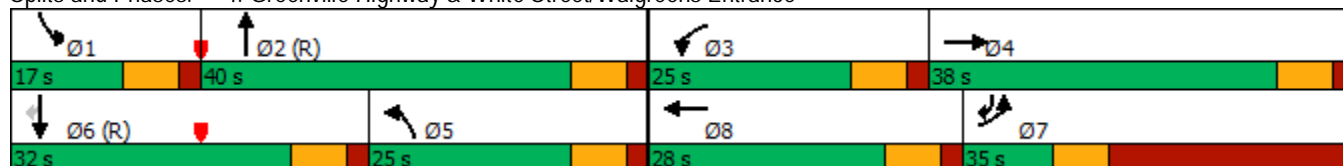
Intersection LOS: D

Intersection Capacity Utilization 65.1%

ICU Level of Service C

Analysis Period (min) 15






















Splits and Phases: 4: Greenville Highway & White Street/Walgreens Entrance



Greenville Highway Apartments - Hendersonville, NC
4: Greenville Highway & White Street/Walgreens Entrance

2 Section 7, Item B.

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	128	178	132	94	77	175	229	174	76	170	73
Future Volume (vph)	99	128	178	132	94	77	175	229	174	76	170	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			0%			0%	
Storage Length (ft)	200		150	0		50	500		600	0		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.913			0.932			0.935				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1709	0	1770	1736	0	1770	3309	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1778	1709	0	1770	1736	0	1770	3309	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1118			1023			1496			127	
Travel Time (s)		21.8			27.9			29.1			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	110	142	198	147	104	86	194	254	193	84	189	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	110	340	0	147	190	0	194	447	0	84	189	81
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	34.0	14.0		14.0	14.0		14.0	17.0		14.0	17.0	34.0
Total Split (s)	40.0	44.0		23.0	27.0		26.0	36.0		17.0	27.0	40.0
Total Split (%)	33.3%	36.7%		19.2%	22.5%		21.7%	30.0%		14.2%	22.5%	33.3%
Maximum Green (s)	13.0	37.0		16.0	20.0		19.0	29.0		10.0	20.0	13.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	22.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	22.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	25.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	25.0
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.0		2.0	3.0	2.0
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	None
Act Effect Green (s)	12.9	36.1		15.4	18.6		18.4	40.2		11.1	30.1	48.0
Actuated g/C Ratio	0.11	0.30		0.13	0.16		0.15	0.34		0.09	0.25	0.40
v/c Ratio	0.58	0.66		0.65	0.71		0.72	0.40		0.52	0.40	0.13
Control Delay	62.7	43.1		63.0	62.4		63.2	34.7		62.7	45.6	24.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	62.7	43.1		63.0	62.4		63.2	34.7		62.7	45.6	24.6
LOS	E	D		E	E		E	C		E	D	C
Approach Delay		47.9			62.7			43.3			44.9	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC
 4: Greenville Highway & White Street/Walgreens Entrance

2 Section 7, Item B.

Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			E			D			D		
Queue Length 50th (ft)	82	227		109	140		143	150		64	128	39
Queue Length 95th (ft)	141	323		176	216		221	210		118	226	74
Internal Link Dist (ft)	1038			943			1416			47		
Turn Bay Length (ft)	200						500					
Base Capacity (vph)	222	555		265	318		310	1108		177	468	463
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.50	0.61		0.55	0.60		0.63	0.40		0.47	0.40	0.17

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 48.5









Intersection LOS: D

Intersection Capacity Utilization 62.6%

ICU Level of Service B

Analysis Period (min) 15






















Splits and Phases: 4: Greenville Highway & White Street/Walgreens Entrance

 Ø1	 Ø2 (R)	 Ø3	 Ø4
17 s	36 s	23 s	44 s
 Ø6 (R)	 Ø5	 Ø8	 Ø7
27 s	26 s	27 s	40 s

Greenville Highway Apartments - Hendersonville, NC
4: Greenville Highway & White Street/Walgreens Entrance

2 Section 7, Item B.

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	94	175	174	128	76	179	172	132	77	230	99
Future Volume (vph)	73	94	175	174	128	76	179	172	132	77	230	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			0%			0%	
Storage Length (ft)	200		150	0		50	500		600	0		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.902			0.944			0.935				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1689	0	1770	1758	0	1770	3309	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1778	1689	0	1770	1758	0	1770	3309	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1118			1023			1496			127	
Travel Time (s)		21.8			27.9			29.1			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	81	104	194	193	142	84	199	191	147	86	256	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	298	0	193	226	0	199	338	0	86	256	110
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	34.0	14.0		14.0	14.0		14.0	17.0		14.0	17.0	34.0
Total Split (s)	35.0	38.0		25.0	28.0		25.0	40.0		17.0	32.0	35.0
Total Split (%)	29.2%	31.7%		20.8%	23.3%		20.8%	33.3%		14.2%	26.7%	29.2%
Maximum Green (s)	8.0	31.0		18.0	21.0		18.0	33.0		10.0	25.0	8.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	22.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	22.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	25.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	25.0
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.0		2.0	3.0	2.0
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	None
Act Effect Green (s)	10.8	33.2		17.8	20.2		18.1	40.7		11.1	30.9	46.6
Actuated g/C Ratio	0.09	0.28		0.15	0.17		0.15	0.34		0.09	0.26	0.39
v/c Ratio	0.51	0.64		0.74	0.77		0.75	0.30		0.52	0.53	0.18
Control Delay	64.0	45.3		65.7	64.5		65.8	32.2		65.0	41.5	27.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.4	0.0
Total Delay	64.0	45.3		65.7	64.5		65.8	32.2		65.0	41.9	27.8
LOS	E	D		E	E		E	C		E	D	C
Approach Delay		49.3			65.1			44.6			42.8	

Greenville Highway Apartments - Hendersonville, NC
 4: Greenville Highway & White Street/Walgreens Entrance

2 Section 7, Item B.

Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			E			D			D		
Queue Length 50th (ft)	60	199		143	166		147	110		66	168	64
Queue Length 95th (ft)	115	303		223	252		229	152		125	249	110
Internal Link Dist (ft)	1038			943			1416			47		
Turn Bay Length (ft)	200						500					
Base Capacity (vph)	162	473		295	336		297	1128		177	483	551
Starvation Cap Reductn	0	0		0	0		0	0		0	36	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.50	0.63		0.65	0.67		0.67	0.30		0.49	0.57	0.20

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 51 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 49.9

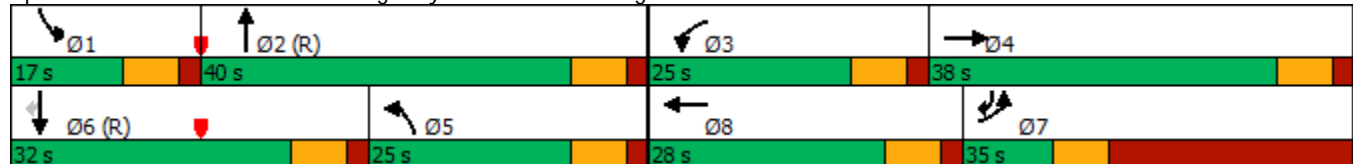
Intersection LOS: D

Intersection Capacity Utilization 65.8%

ICU Level of Service C


Analysis Period (min) 15

Splits and Phases: 4: Greenville Highway & White Street/Walgreens Entrance



Greenville Highway Apartments - Hendersonville, NC
4: Greenville Highway & White Street/Walgreens Entrance

2040 Section 7, Item B.
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	160	212	179	118	95	206	255	236	94	192	78
Future Volume (vph)	106	160	212	179	118	95	206	255	236	94	192	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			0%			0%	
Storage Length (ft)	200		150	0		50	500		600	0		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.914			0.933			0.928				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1711	0	1770	1738	0	1770	3284	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1778	1711	0	1770	1738	0	1770	3284	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1118			1023			848			127	
Travel Time (s)		21.8			27.9			16.5			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	118	178	236	199	131	106	229	283	262	104	213	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	414	0	199	237	0	229	545	0	104	213	87
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	34.0	14.0		14.0	14.0		14.0	17.0		14.0	17.0	34.0
Total Split (s)	40.0	44.0		23.0	27.0		26.0	36.0		17.0	27.0	40.0
Total Split (%)	33.3%	36.7%		19.2%	22.5%		21.7%	30.0%		14.2%	22.5%	33.3%
Maximum Green (s)	13.0	37.0		16.0	20.0		19.0	29.0		10.0	20.0	13.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	22.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	22.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	25.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	25.0
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.0		2.0	3.0	2.0
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	None
Act Effect Green (s)	13.1	36.4		17.1	20.4		20.0	35.0		11.4	26.4	44.6
Actuated g/C Ratio	0.11	0.30		0.14	0.17		0.17	0.29		0.10	0.22	0.37
v/c Ratio	0.61	0.80		0.79	0.80		0.78	0.57		0.62	0.52	0.15
Control Delay	64.2	50.6		71.9	68.3		66.2	40.0		67.5	48.9	25.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	64.2	50.6		71.9	68.3		66.2	40.0		67.5	48.9	25.9
LOS	E	D		E	E		E	D		E	D	C
Approach Delay		53.6			69.9			47.8			48.7	

Greenville Highway Apartments - Hendersonville, NC
 4: Greenville Highway & White Street/Walgreens Entrance

2040 Section 7, Item B.
 Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			E			D			D		
Queue Length 50th (ft)	88	287		149	175		168	198		80	156	45
Queue Length 95th (ft)	150	408		#258	#288		#281	260		140	249	79
Internal Link Dist (ft)	1038			943			768			47		
Turn Bay Length (ft)	200						500					
Base Capacity (vph)	222	556		266	319		312	959		179	411	414
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.53	0.74		0.75	0.74		0.73	0.57		0.58	0.52	0.21

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 53.9

Intersection LOS: D

Intersection Capacity Utilization 71.6%

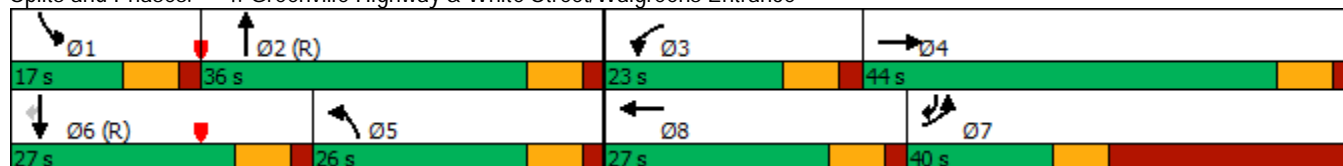
ICU Level of Service C

Analysis Period (min) 15

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











Queue shown is maximum after two cycles.

Splits and Phases: 4: Greenville Highway & White Street/Walgreens Entrance



Greenville Highway Apartments - Hendersonville, NC
4: Greenville Highway & White Street/Walgreens Entrance

2040 Section 7, Item B.
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	118	206	236	160	94	212	192	179	95	255	106
Future Volume (vph)	78	118	206	236	160	94	212	192	179	95	255	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			0%			0%	
Storage Length (ft)	200		150	0		50	500		600	0		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.905			0.945			0.928				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1694	0	1770	1760	0	1770	3284	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1778	1694	0	1770	1760	0	1770	3284	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1118			1023			848			127	
Travel Time (s)		21.8			27.9			16.5			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	87	131	229	262	178	104	236	213	199	106	283	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	360	0	262	282	0	236	412	0	106	283	118
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	34.0	14.0		14.0	14.0		14.0	17.0		14.0	17.0	34.0
Total Split (s)	35.0	38.0		25.0	28.0		25.0	40.0		17.0	32.0	35.0
Total Split (%)	29.2%	31.7%		20.8%	23.3%		20.8%	33.3%		14.2%	26.7%	29.2%
Maximum Green (s)	8.0	31.0		18.0	21.0		18.0	33.0		10.0	25.0	8.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	22.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	22.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	25.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	25.0
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.0		2.0	3.0	2.0
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	None
Act Effect Green (s)	10.2	32.1		20.3	22.2		19.5	36.3		11.3	28.1	43.2
Actuated g/C Ratio	0.08	0.27		0.17	0.18		0.16	0.30		0.09	0.23	0.36
v/c Ratio	0.58	0.79		0.88	0.87		0.82	0.42		0.64	0.65	0.21
Control Delay	68.7	54.8		77.6	72.9		71.2	35.4		69.9	47.6	29.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.5	0.0
Total Delay	68.7	54.8		77.6	72.9		71.2	35.4		69.9	48.1	29.5
LOS	E	D		E	E		E	D		E	D	C
Approach Delay		57.5			75.2			48.5			48.3	

Greenville Highway Apartments - Hendersonville, NC
 4: Greenville Highway & White Street/Walgreens Entrance

2040 Section 7, Item B.
 Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E					E			D			
Queue Length 50th (ft)	66	257		201	212		175	136		79	189	72
Queue Length 95th (ft)	#129	#395		#354	#357		#305	184		#150	287	109
Internal Link Dist (ft)		1038			943			768			47	
Turn Bay Length (ft)	200						500					
Base Capacity (vph)	152	465		303	338		300	999		177	446	505
Starvation Cap Reductn	0	0		0	0		0	0		0	26	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.57	0.77		0.86	0.83		0.79	0.41		0.60	0.67	0.23

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 51 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 57.1

Intersection LOS: E

Intersection Capacity Utilization 74.8%

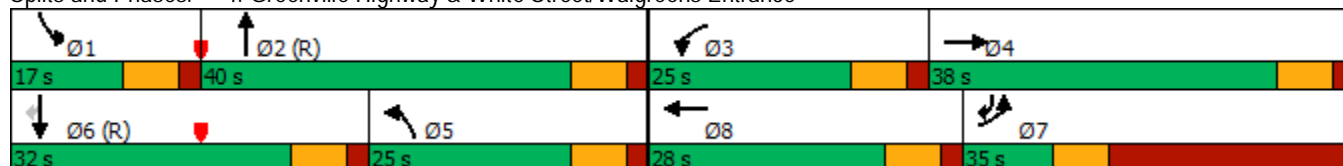
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.






















Splits and Phases: 4: Greenville Highway & White Street/Walgreens Entrance



Greenville Highway Apartments - Hendersonville, NC
4: Greenville Highway & White Street/Walgreens Entrance

2 Section 7, Item B.

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	160	213	179	118	95	208	261	236	94	194	78
Future Volume (vph)	106	160	213	179	118	95	208	261	236	94	194	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			0%			0%	
Storage Length (ft)	200		150	0		50	500		600	0		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.914			0.933			0.929				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1711	0	1770	1738	0	1770	3288	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1778	1711	0	1770	1738	0	1770	3288	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1118			1023			848			127	
Travel Time (s)		21.8			27.9			16.5			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	118	178	237	199	131	106	231	290	262	104	216	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	415	0	199	237	0	231	552	0	104	216	87
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	34.0	14.0		14.0	14.0		14.0	17.0		14.0	17.0	34.0
Total Split (s)	40.0	44.0		23.0	27.0		26.0	36.0		17.0	27.0	40.0
Total Split (%)	33.3%	36.7%		19.2%	22.5%		21.7%	30.0%		14.2%	22.5%	33.3%
Maximum Green (s)	13.0	37.0		16.0	20.0		19.0	29.0		10.0	20.0	13.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	22.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	22.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	25.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	25.0
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.0		2.0	3.0	2.0
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	None
Act Effect Green (s)	13.1	36.4		17.1	20.4		20.1	35.1		11.4	26.4	44.6
Actuated g/C Ratio	0.11	0.30		0.14	0.17		0.17	0.29		0.10	0.22	0.37
v/c Ratio	0.61	0.80		0.79	0.81		0.78	0.57		0.62	0.53	0.15
Control Delay	64.2	50.7		72.2	68.5		66.6	40.2		67.4	49.1	25.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	64.2	50.7		72.2	68.5		66.6	40.2		67.4	49.1	25.9
LOS	E	D		E	E		E	D		E	D	C
Approach Delay		53.7			70.2			48.0			48.8	

Greenville Highway Apartments - Hendersonville, NC
 4: Greenville Highway & White Street/Walgreens Entrance

2 Section 7, Item B.

Timing Plan: AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			E			D			D		
Queue Length 50th (ft)	88	288		149	175		169	201		79	159	45
Queue Length 95th (ft)	150	410		#258	#288		#284	263		140	251	79
Internal Link Dist (ft)	1038			943			768			47		
Turn Bay Length (ft)	200						500					
Base Capacity (vph)	222	556		265	318		312	960		179	411	414
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.53	0.75		0.75	0.75		0.74	0.57		0.58	0.53	0.21

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 54.0

Intersection LOS: D

Intersection Capacity Utilization 71.9%

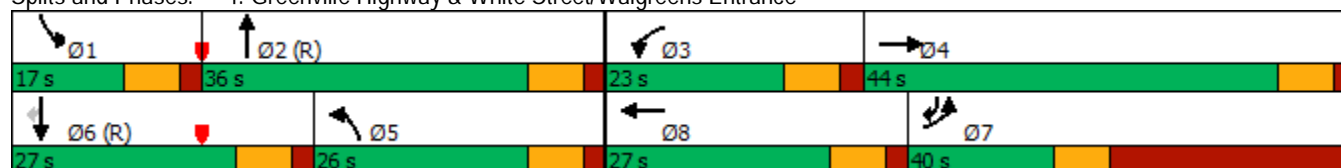
ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.


Splits and Phases: 4: Greenville Highway & White Street/Walgreens Entrance



Greenville Highway Apartments - Hendersonville, NC
4: Greenville Highway & White Street/Walgreens Entrance

2 Section 7, Item B.

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	118	208	236	160	94	214	196	179	95	262	106
Future Volume (vph)	78	118	208	236	160	94	214	196	179	95	262	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			0%			0%	
Storage Length (ft)	200		150	0		50	500		600	0		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.904			0.945			0.928				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1692	0	1770	1760	0	1770	3284	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1778	1692	0	1770	1760	0	1770	3284	0	1770	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		1118			1023			848			127	
Travel Time (s)		21.8			27.9			16.5			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	87	131	231	262	178	104	238	218	199	106	291	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	362	0	262	282	0	238	417	0	106	291	118
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases												6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	34.0	14.0		14.0	14.0		14.0	17.0		14.0	17.0	34.0
Total Split (s)	35.0	38.0		25.0	28.0		25.0	40.0		17.0	32.0	35.0
Total Split (%)	29.2%	31.7%		20.8%	23.3%		20.8%	33.3%		14.2%	26.7%	29.2%
Maximum Green (s)	8.0	31.0		18.0	21.0		18.0	33.0		10.0	25.0	8.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	22.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	22.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	25.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	25.0
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.0		2.0	3.0	2.0
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	None
Act Effect Green (s)	10.1	32.1		20.3	22.2		19.5	36.3		11.3	28.2	43.3
Actuated g/C Ratio	0.08	0.27		0.17	0.18		0.16	0.30		0.09	0.24	0.36
v/c Ratio	0.58	0.80		0.88	0.87		0.83	0.42		0.64	0.67	0.21
Control Delay	69.1	55.4		77.6	72.9		72.4	35.5		69.9	48.5	29.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.7	0.0
Total Delay	69.1	55.4		77.6	72.9		72.4	35.5		69.9	49.2	29.5
LOS	E	E		E	E		E	D		E	D	C
Approach Delay		58.1			75.2			48.9			48.9	

Lanes, Volumes, Timings
RKA

Synchro 10 Report
Page 1

Greenville Highway Apartments - Hendersonville, NC
 4: Greenville Highway & White Street/Walgreens Entrance

2 Section 7, Item B.

Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E					E			D			
Queue Length 50th (ft)	66	259		201	212		177	137		79	196	72
Queue Length 95th (ft)	#129	#399		#354	#357		#309	186		#149	300	107
Internal Link Dist (ft)		1038			943			768			47	
Turn Bay Length (ft)	200						500					
Base Capacity (vph)	151	465		303	338		299	999		177	446	506
Starvation Cap Reductn	0	0		0	0		0	0		0	29	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.58	0.78		0.86	0.83		0.80	0.42		0.60	0.70	0.23

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 51 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 57.4

Intersection LOS: E

Intersection Capacity Utilization 75.4%

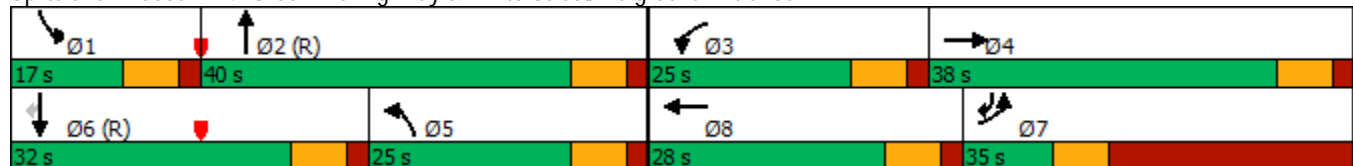
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Greenville Highway & White Street/Walgreens Entrance






APPENDIX I

CAPACITY ANALYSIS CALCULATIONS CHADWICK AVENUE ROAD & SITE ACCESS

Greenville Highway Apartments - Hendersonville, NC
5: Site Access & Chadwick Avenue

2 Section 7, Item B.

Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	44	5	4	43	14	7
Future Vol, veh/h	44	5	4	43	14	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	6	4	48	16	8

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	55
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1550
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1550
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-




Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	925	-	-	1550	-
HCM Lane V/C Ratio	0.025	-	-	0.003	-
HCM Control Delay (s)	9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Greenville Highway Apartments - Hendersonville, NC
5: Site Access & Chadwick Avenue

2 Section 7, Item B.

Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	65	16	6	90	10	4
Future Vol, veh/h	65	16	6	90	10	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	18	7	100	11	4

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	90	0	195	81
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	114	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1505	-	794	979
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	911	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1505	-	790	979
Mov Cap-2 Maneuver	-	-	-	-	790	-
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	906	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	836	-	-	1505	-
HCM Lane V/C Ratio	0.019	-	-	0.004	-
HCM Control Delay (s)	9.4	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

APPENDIX J

SIMTRAFFIC QUEUEING REPORTS

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2021 Section 7, Item B.
AM Peak Hour

Intersection: 1: Greenville Highway & Shopping Center Entrance /Spartanburg Highway

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	TR	L	LT	R	L	T	TR	L	L	TR
Maximum Queue (ft)	50	29	132	114	24	25	179	249	224	394	126
Average Queue (ft)	11	7	53	39	1	5	55	94	134	201	45
95th Queue (ft)	37	26	109	89	17	18	136	197	245	325	100
Link Distance (ft)	342			1109	1109		280	280		598	598
Upstream Blk Time (%)								0			
Queuing Penalty (veh)								0			
Storage Bay Dist (ft)		75	200			125			125		
Storage Blk Time (%)					0		2		5	27	
Queuing Penalty (veh)					0		0		10	52	

Intersection: 2: Greenville Highway & Chadwick Square/Chadwick Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	48	54	116	124
Average Queue (ft)	17	23	37	33
95th Queue (ft)	44	47	85	89
Link Distance (ft)	725	1254	618	1429
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Spartanburg Highway

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	L	LTR	LT	R
Maximum Queue (ft)	31	3	39	54	47	40
Average Queue (ft)	7	0	11	21	18	14
95th Queue (ft)	25	2	36	47	43	40
Link Distance (ft)		1109		663	614	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	75		100		85	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Greenville Highway Apartments - Hendersonville, NC

Queuing and Blocking Report

2021 Section 7, Item B.
AM Peak Hour

Intersection: 4: Greenville Highway & White Street/Walgreens Entrance

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	TR	L	T	R
Maximum Queue (ft)	281	185	46	36	95	124	22	151	116
Average Queue (ft)	136	32	6	7	49	46	1	46	33
95th Queue (ft)	227	94	27	26	85	104	11	110	84
Link Distance (ft)	920		557			1429		280	280
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		150		50	25		75		
Storage Blk Time (%)	8		1	0	51	9		4	
Queuing Penalty (veh)	5		0	0	110	6		0	

Network Summary

Network wide Queuing Penalty: 183

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2021

Section 7, Item B.

PM Peak Hour

Intersection: 1: Greenville Highway & Shopping Center Entrance /Spartanburg Highway

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	TR	L	LT	L	T	TR	L	L	TR
Maximum Queue (ft)	168	99	216	200	21	266	289	225	442	379
Average Queue (ft)	75	12	106	71	2	156	198	172	235	131
95th Queue (ft)	134	55	187	148	12	250	283	248	347	273
Link Distance (ft)	342			1109		280	280		598	598
Upstream Blk Time (%)						0	1		0	
Queuing Penalty (veh)						0	3		0	
Storage Bay Dist (ft)		75	200		125			125		
Storage Blk Time (%)	23	0	1	0		16		6	36	
Queuing Penalty (veh)	8	0	1	0		1		18	105	

Intersection: 2: Greenville Highway & Chadwick Square/Chadwick Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	76	85	122	175
Average Queue (ft)	25	36	52	79
95th Queue (ft)	59	67	104	150
Link Distance (ft)	725	1254	618	1429
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Spartanburg Highway

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	57	9	61	24	7	106	56	60
Average Queue (ft)	10	0	21	1	0	41	23	27
95th Queue (ft)	36	4	52	17	5	80	50	53
Link Distance (ft)		1109		1183	1183	663	614	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	75		100					85
Storage Blk Time (%)	0		0	0			0	0
Queuing Penalty (veh)	1		0	0			0	0

Greenville Highway Apartments - Hendersonville, NC

Queuing and Blocking Report

2021 Section 7, Item B.
PM Peak Hour

Intersection: 4: Greenville Highway & White Street/Walgreens Entrance

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	TR	L	T	R
Maximum Queue (ft)	314	221	58	49	124	301	45	215	159
Average Queue (ft)	148	65	18	13	93	112	6	81	59
95th Queue (ft)	258	160	47	39	137	232	29	172	128
Link Distance (ft)	920		557			1429		280	280
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		150		50	25		75		
Storage Blk Time (%)	13	0	5	1	67	17	0	12	
Queuing Penalty (veh)	13	0	1	0	215	23	0	3	

Network Summary

Network wide Queuing Penalty: 393

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2023

Section 7, Item B.

AM Peak Hour

Intersection: 1: Shopping Center Entrance & Greenville Highway

Movement	EB	EB	WB	SB
Directions Served	R	R	T	TR
Maximum Queue (ft)	68	43	66	116
Average Queue (ft)	25	11	22	50
95th Queue (ft)	57	35	54	103
Link Distance (ft)	975	975	62	57
Upstream Blk Time (%)			0	4
Queuing Penalty (veh)			0	13
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Greenville Highway & Chadwick Square/Chadwick Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	48	60	98	114
Average Queue (ft)	14	24	35	35
95th Queue (ft)	40	50	82	88
Link Distance (ft)	1021	1250	982	1436
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Chadwick Avenue & Spartanburg Highway

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	L	LTR	LT	R
Maximum Queue (ft)	31	3	43	54	41	39
Average Queue (ft)	4	0	13	22	19	13
95th Queue (ft)	20	2	38	46	42	38
Link Distance (ft)		540		663	1013	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	75		100			85
Storage Blk Time (%)						
Queuing Penalty (veh)						

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2023

Section 7, Item B.

AM Peak Hour

Intersection: 4: Greenville Highway & White Street/Walgreens Entrance

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	R
Maximum Queue (ft)	236	291	172	236	216	189	226	102	116	84
Average Queue (ft)	66	147	101	131	130	95	127	48	85	34
95th Queue (ft)	141	243	160	210	205	162	208	94	129	72
Link Distance (ft)		1057	978	978		1436		47	47	47
Upstream Blk Time (%)								25	46	6
Queuing Penalty (veh)								29	52	7
Storage Bay Dist (ft)	200				500		600			
Storage Blk Time (%)		4								
Queuing Penalty (veh)		3								

Intersection: 10: Greenville Highway & Spartanburg Highway

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	R	T	TR
Maximum Queue (ft)	66	128	148	173	141	133
Average Queue (ft)	21	94	6	17	65	70
95th Queue (ft)	55	140	55	92	125	119
Link Distance (ft)	30	30	510	510	61	61
Upstream Blk Time (%)	7	33			6	8
Queuing Penalty (veh)	16	79			12	15
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 17: Greenville Highway

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	8	11
Average Queue (ft)	0	0
95th Queue (ft)	6	8
Link Distance (ft)	89	89
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2023

Section 7, Item B.

AM Peak Hour

Intersection: 18: Greenville Highway

Movement	SB
Directions Served	L
Maximum Queue (ft)	110
Average Queue (ft)	15
95th Queue (ft)	62
Link Distance (ft)	901
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 19: Greenville Highway

Movement	NB	SB	SB
Directions Served	R	T	T
Maximum Queue (ft)	4	78	155
Average Queue (ft)	0	6	37
95th Queue (ft)	3	45	112
Link Distance (ft)	47		208
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	9
Queuing Penalty (veh)		0	10

Network Summary

Network wide Queuing Penalty: 237

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2023

Section 7, Item B.

PM Peak Hour

Intersection: 1: Shopping Center Entrance & Greenville Highway

Movement	EB	EB	WB	SB
Directions Served	R	R	T	TR
Maximum Queue (ft)	133	78	53	134
Average Queue (ft)	67	24	12	66
95th Queue (ft)	118	61	39	119
Link Distance (ft)	975	975	62	57
Upstream Blk Time (%)			0	8
Queuing Penalty (veh)			0	28
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Greenville Highway & Chadwick Square/Chadwick Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	54	68	145	195
Average Queue (ft)	19	36	53	80
95th Queue (ft)	46	62	112	157
Link Distance (ft)	1021	1250	982	1436
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Chadwick Avenue & Spartanburg Highway

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	27	6	60	8	89	56	61
Average Queue (ft)	8	0	22	0	38	23	30
95th Queue (ft)	28	3	51	4	69	53	52
Link Distance (ft)		540		1183	663	1013	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75		100				85
Storage Blk Time (%)						0	0
Queuing Penalty (veh)						0	0

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2023

Section 7, Item B.

PM Peak Hour

Intersection: 4: Greenville Highway & White Street/Walgreens Entrance

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	R
Maximum Queue (ft)	215	307	238	324	249	131	202	106	122	102
Average Queue (ft)	49	147	120	137	124	68	101	61	103	52
95th Queue (ft)	132	271	201	251	209	118	164	111	122	97
Link Distance (ft)		1057	978	978		1436		47	47	47
Upstream Blk Time (%)								30	51	10
Queuing Penalty (veh)								51	88	17
Storage Bay Dist (ft)	200				500		600			
Storage Blk Time (%)	1	5								
Queuing Penalty (veh)	1	3								

Intersection: 10: Greenville Highway & Spartanburg Highway

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	R	T	TR
Maximum Queue (ft)	76	124	21	96	101	122
Average Queue (ft)	25	106	1	5	47	63
95th Queue (ft)	62	140	15	44	87	107
Link Distance (ft)	30	30	510	510	61	61
Upstream Blk Time (%)	9	38			3	6
Queuing Penalty (veh)	24	105			5	9
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 17: Greenville Highway

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)

Greenville Highway Apartments - Hendersonville, NC

Queuing and Blocking Report

2023

Section 7, Item B.

PM Peak Hour

Intersection: 18: Greenville Highway

Movement	SB	SB
Directions Served	L	T
Maximum Queue (ft)	97	12
Average Queue (ft)	24	0
95th Queue (ft)	76	6
Link Distance (ft)	901	901
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Greenville Highway

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	149	219	40
Average Queue (ft)	13	77	2
95th Queue (ft)	72	168	19
Link Distance (ft)		208	208
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		1	
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	0	15	
Queuing Penalty (veh)	1	26	

Network Summary

Network wide Queuing Penalty: 359

Greenville Highway Apartments - Hendersonville, NC

Queuing and Blocking Report

2 Section 7, Item B.
AM Peak Hour

Intersection: 1: Shopping Center Entrance & Greenville Highway

Movement	EB	EB	WB	SB
Directions Served	R	R	T	TR
Maximum Queue (ft)	75	43	57	112
Average Queue (ft)	30	9	22	46
95th Queue (ft)	61	32	52	92
Link Distance (ft)	975	975	62	57
Upstream Blk Time (%)			0	4
Queuing Penalty (veh)			0	11
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Greenville Highway & Chadwick Square/Chadwick Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	45	70	106	122
Average Queue (ft)	15	30	37	38
95th Queue (ft)	39	56	84	92
Link Distance (ft)	1021	143	982	1436
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Chadwick Avenue & Spartanburg Highway

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	LT	R
Maximum Queue (ft)	34	43	4	62	36	30
Average Queue (ft)	7	12	0	28	15	12
95th Queue (ft)	26	38	3	50	38	36
Link Distance (ft)			1183	664	1013	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	75	100				85
Storage Blk Time (%)						
Queuing Penalty (veh)						

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2 Section 7, Item B.
AM Peak Hour

Intersection: 4: Greenville Highway & White Street/Walgreens Entrance

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	R
Maximum Queue (ft)	146	325	205	247	227	168	255	106	122	93
Average Queue (ft)	69	152	110	132	127	94	129	49	90	37
95th Queue (ft)	129	260	189	210	212	155	220	100	128	76
Link Distance (ft)		1057	978	978		1436		47	47	47
Upstream Blk Time (%)								24	49	7
Queuing Penalty (veh)								27	55	8
Storage Bay Dist (ft)	200				500		600			
Storage Blk Time (%)		4								
Queuing Penalty (veh)		4								

Intersection: 5: Site Access & Chadwick Avenue

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	12	31
Average Queue (ft)	0	14
95th Queue (ft)	6	39
Link Distance (ft)	1055	557
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Greenville Highway & Spartanburg Highway

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	R	T	TR
Maximum Queue (ft)	65	132	51	102	120	124
Average Queue (ft)	21	97	2	8	63	71
95th Queue (ft)	54	138	26	58	109	116
Link Distance (ft)	30	30	510	510	61	61
Upstream Blk Time (%)	6	34			6	9
Queuing Penalty (veh)	14	81			11	17
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Greenville Highway Apartments - Hendersonville, NC

Queuing and Blocking Report

2 Section 7, Item B.
AM Peak Hour

Intersection: 17: Greenville Highway

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: 18: Greenville Highway

Movement

SB

Directions Served L
Maximum Queue (ft) 83
Average Queue (ft) 11
95th Queue (ft) 50
Link Distance (ft) 901
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 19: Greenville Highway

Movement

NB SB SB SB

Directions Served R T T T
Maximum Queue (ft) 10 86 150 8
Average Queue (ft) 0 5 32 0
95th Queue (ft) 5 35 98 5
Link Distance (ft) 47 208 208
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft) 50
Storage Blk Time (%) 0 8
Queuing Penalty (veh) 0 8

Network Summary

Network wide Queuing Penalty: 237

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2 Section 7, Item B.
PM Peak Hour

Intersection: 1: Shopping Center Entrance & Greenville Highway

Movement	EB	EB	WB	SB
Directions Served	R	R	T	TR
Maximum Queue (ft)	142	74	31	146
Average Queue (ft)	64	25	9	68
95th Queue (ft)	111	59	30	124
Link Distance (ft)	975	975	62	57
Upstream Blk Time (%)				9
Queuing Penalty (veh)				30
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Greenville Highway & Chadwick Square/Chadwick Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	62	78	137	189
Average Queue (ft)	20	37	53	86
95th Queue (ft)	49	64	108	160
Link Distance (ft)	1021	143	982	1436
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Chadwick Avenue & Spartanburg Highway

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	LT	R
Maximum Queue (ft)	35	48	20	94	63	63
Average Queue (ft)	10	18	1	40	23	27
95th Queue (ft)	31	45	10	80	53	52
Link Distance (ft)			1183	664	1013	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	75	100				85
Storage Blk Time (%)					0	0
Queuing Penalty (veh)					0	0

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2 Section 7, Item B.
PM Peak Hour

Intersection: 4: Greenville Highway & White Street/Walgreens Entrance

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	R
Maximum Queue (ft)	196	329	240	264	222	140	197	110	123	100
Average Queue (ft)	48	144	126	138	122	73	104	63	102	48
95th Queue (ft)	118	267	211	231	196	118	169	112	123	93
Link Distance (ft)		1057	978	978		1436		47	47	47
Upstream Blk Time (%)								28	50	10
Queuing Penalty (veh)								48	87	17
Storage Bay Dist (ft)	200				500		600			
Storage Blk Time (%)		3								
Queuing Penalty (veh)		2								

Intersection: 5: Site Access & Chadwick Avenue

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	36
Average Queue (ft)	0	10
95th Queue (ft)	6	35
Link Distance (ft)	1055	557
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Greenville Highway & Spartanburg Highway

Movement	EB	EB	WB	NB	NB
Directions Served	T	T	R	T	TR
Maximum Queue (ft)	78	146	87	91	105
Average Queue (ft)	26	102	6	46	62
95th Queue (ft)	64	143	44	83	97
Link Distance (ft)	30	30	510	61	61
Upstream Blk Time (%)	9	36		3	6
Queuing Penalty (veh)	24	100		4	9
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Greenville Highway Apartments - Hendersonville, NC

Queuing and Blocking Report

2 Section 7, Item B.
PM Peak Hour

Intersection: 17: Greenville Highway

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: 18: Greenville Highway

Movement	SB	SB	SB
Directions Served	L	L	T
Maximum Queue (ft)	120	166	62
Average Queue (ft)	4	26	2
95th Queue (ft)	45	97	35
Link Distance (ft)		901	901
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	300		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: Greenville Highway

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	139	224	61
Average Queue (ft)	22	84	3
95th Queue (ft)	100	184	29
Link Distance (ft)		208	208
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		2	
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	0	19	
Queuing Penalty (veh)	1	33	

Network Summary

Network wide Queuing Penalty: 357

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2040

Section 7, Item B.

AM Peak Hour

Intersection: 1: Shopping Center Entrance & Greenville Highway

Movement	EB	EB	WB	SB
Directions Served	R	R	T	TR
Maximum Queue (ft)	76	39	83	133
Average Queue (ft)	30	9	31	52
95th Queue (ft)	60	32	69	106
Link Distance (ft)	975	975	62	57
Upstream Blk Time (%)			2	5
Queuing Penalty (veh)			1	16
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Greenville Highway & White Street/Walgreens Entrance

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	R
Maximum Queue (ft)	202	358	272	300	244	243	278	106	119	94
Average Queue (ft)	70	182	137	159	152	132	168	55	94	39
95th Queue (ft)	160	295	226	260	235	219	263	102	127	81
Link Distance (ft)		1057	972	972		807		47	47	47
Upstream Blk Time (%)								29	56	9
Queuing Penalty (veh)								37	72	11
Storage Bay Dist (ft)	200				500		600			
Storage Blk Time (%)		7								
Queuing Penalty (veh)		7								

Intersection: 10: Greenville Highway & Spartanburg Highway

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	R	T	TR
Maximum Queue (ft)	56	138	177	42	114	140
Average Queue (ft)	18	100	42	2	53	77
95th Queue (ft)	51	137	149	26	98	132
Link Distance (ft)	30	30	735	735	62	62
Upstream Blk Time (%)	5	34			6	10
Queuing Penalty (veh)	15	96			13	22
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Greenville Highway Apartments - Hendersonville, NC

Queuing and Blocking Report

2040

Section 7, Item B.

AM Peak Hour

Intersection: 17: Greenville Highway

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	18	37
Average Queue (ft)	1	2
95th Queue (ft)	10	21
Link Distance (ft)	89	89
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 18: Greenville Highway

Movement	SB	SB	SB
Directions Served	L	L	T
Maximum Queue (ft)	28	104	5
Average Queue (ft)	1	17	0
95th Queue (ft)	19	65	3
Link Distance (ft)		901	901
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	300		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: Greenville Highway

Movement	NB	NB	SB	SB	SB
Directions Served	R	R	T	T	T
Maximum Queue (ft)	26	9	102	166	12
Average Queue (ft)	1	0	8	50	0
95th Queue (ft)	11	6	56	132	6
Link Distance (ft)	47	47		208	208
Upstream Blk Time (%)	0	0		0	
Queuing Penalty (veh)	0	0		0	
Storage Bay Dist (ft)			50		
Storage Blk Time (%)			0	13	
Queuing Penalty (veh)			0	16	

Network Summary

Network wide Queuing Penalty: 306

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2040

Section 7, Item B.

PM Peak Hour

Intersection: 1: Shopping Center Entrance & Greenville Highway

Movement	EB	EB	WB	SB
Directions Served	R	R	T	TR
Maximum Queue (ft)	144	76	40	146
Average Queue (ft)	67	27	10	74
95th Queue (ft)	114	62	34	127
Link Distance (ft)	975	975	62	57
Upstream Blk Time (%)			0	10
Queuing Penalty (veh)			0	41
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Greenville Highway & White Street/Walgreens Entrance

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	R
Maximum Queue (ft)	196	337	347	362	313	230	244	107	130	103
Average Queue (ft)	60	187	167	175	149	92	114	71	105	55
95th Queue (ft)	132	299	294	314	270	174	188	114	119	100
Link Distance (ft)		1057	972	972		807		47	47	47
Upstream Blk Time (%)								37	57	11
Queuing Penalty (veh)								70	108	21
Storage Bay Dist (ft)	200				500		600			
Storage Blk Time (%)		6			0					
Queuing Penalty (veh)		5			0					

Intersection: 10: Greenville Highway & Spartanburg Highway

Movement	EB	EB	WB	NB	NB
Directions Served	T	T	R	T	TR
Maximum Queue (ft)	82	142	166	89	117
Average Queue (ft)	25	110	19	41	67
95th Queue (ft)	65	143	98	76	104
Link Distance (ft)	30	30	735	62	62
Upstream Blk Time (%)	7	36		2	6
Queuing Penalty (veh)	22	120		4	10
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Greenville Highway Apartments - Hendersonville, NC

Queuing and Blocking Report

2040

Section 7, Item B.

PM Peak Hour

Intersection: 17: Greenville Highway

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: 18: Greenville Highway

Movement

SB

SB

SB

Directions Served

L

L

T

Maximum Queue (ft)

29

157

37

Average Queue (ft)

1

36

2

95th Queue (ft)

20

108

17

Link Distance (ft)

901

901

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (ft)

300

Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 19: Greenville Highway

Movement

SB

SB

SB

Directions Served

T

T

T

Maximum Queue (ft)

150

238

42

Average Queue (ft)

36

107

2

95th Queue (ft)

132

203

19

Link Distance (ft)

208

208

Upstream Blk Time (%)

1

Queuing Penalty (veh)

4

Storage Bay Dist (ft)

50

Storage Blk Time (%)

1

25

Queuing Penalty (veh)

2

47

Network Summary

Network wide Queuing Penalty: 455

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2 Section 7, Item B.
AM Peak Hour

Intersection: 1: Shopping Center Entrance & Greenville Highway

Movement	EB	EB	WB	SB
Directions Served	R	R	T	TR
Maximum Queue (ft)	63	35	79	113
Average Queue (ft)	27	10	30	54
95th Queue (ft)	59	33	66	103
Link Distance (ft)	975	975	62	57
Upstream Blk Time (%)			2	5
Queuing Penalty (veh)			1	17
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Greenville Highway & White Street/Walgreens Entrance

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	R
Maximum Queue (ft)	211	324	242	290	272	238	299	111	121	100
Average Queue (ft)	68	183	138	156	159	134	175	57	94	44
95th Queue (ft)	141	288	219	243	246	218	270	110	130	88
Link Distance (ft)		1057	972	972		807		47	47	47
Upstream Blk Time (%)								32	55	13
Queuing Penalty (veh)								41	70	16
Storage Bay Dist (ft)	200				500		600			
Storage Blk Time (%)		9								
Queuing Penalty (veh)		9								

Intersection: 10: Greenville Highway & Spartanburg Highway

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	R	T	TR
Maximum Queue (ft)	61	134	201	101	120	140
Average Queue (ft)	19	100	41	3	53	83
95th Queue (ft)	51	141	149	43	100	135
Link Distance (ft)	30	30	735	735	62	62
Upstream Blk Time (%)	5	34			7	12
Queuing Penalty (veh)	14	94			14	26
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Greenville Highway Apartments - Hendersonville, NC

Queuing and Blocking Report

2 Section 7, Item B.
AM Peak Hour

Intersection: 17: Greenville Highway

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	6	26
Average Queue (ft)	0	1
95th Queue (ft)	5	12
Link Distance (ft)	89	89
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 18: Greenville Highway

Movement	SB	SB	SB
Directions Served	L	L	T
Maximum Queue (ft)	28	109	10
Average Queue (ft)	1	19	0
95th Queue (ft)	19	69	7
Link Distance (ft)		901	901
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	300		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: Greenville Highway

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	123	166	16
Average Queue (ft)	12	47	1
95th Queue (ft)	67	125	9
Link Distance (ft)		208	208
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	1	12	
Queuing Penalty (veh)	1	15	

Network Summary

Network wide Queuing Penalty: 319

Greenville Highway Apartments - Hendersonville, NC
Queuing and Blocking Report

2 Section 7, Item B.
PM Peak Hour

Intersection: 1: Shopping Center Entrance & Greenville Highway

Movement	EB	EB	WB	SB
Directions Served	R	R	T	TR
Maximum Queue (ft)	134	78	48	148
Average Queue (ft)	68	24	10	75
95th Queue (ft)	114	59	34	134
Link Distance (ft)	975	975	62	57
Upstream Blk Time (%)			0	10
Queuing Penalty (veh)			0	42
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Greenville Highway & White Street/Walgreens Entrance

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	R
Maximum Queue (ft)	199	333	339	302	270	195	240	113	129	108
Average Queue (ft)	60	191	167	160	149	101	121	70	105	62
95th Queue (ft)	140	306	285	256	244	173	201	119	118	112
Link Distance (ft)		1057	972	972		807		47	47	47
Upstream Blk Time (%)								39	60	15
Queuing Penalty (veh)								75	114	29
Storage Bay Dist (ft)	200				500		600			
Storage Blk Time (%)		8								
Queuing Penalty (veh)		6								

Intersection: 10: Greenville Highway & Spartanburg Highway

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	R	T	TR
Maximum Queue (ft)	84	140	154	51	118	130
Average Queue (ft)	25	112	21	3	41	71
95th Queue (ft)	63	141	103	33	90	111
Link Distance (ft)	30	30	735	735	62	62
Upstream Blk Time (%)	6	38			2	7
Queuing Penalty (veh)	21	124			4	13
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Greenville Highway Apartments - Hendersonville, NC

Queuing and Blocking Report

2 Section 7, Item B.
PM Peak Hour

Intersection: 17: Greenville Highway

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	11	4
Average Queue (ft)	0	0
95th Queue (ft)	8	3
Link Distance (ft)	89	89
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 18: Greenville Highway

Movement	SB	SB	SB
Directions Served	L	L	T
Maximum Queue (ft)	72	153	56
Average Queue (ft)	4	41	3
95th Queue (ft)	43	116	24
Link Distance (ft)		901	901
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	300		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: Greenville Highway

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	150	241	56
Average Queue (ft)	40	111	5
95th Queue (ft)	141	224	30
Link Distance (ft)		208	208
Upstream Blk Time (%)		2	
Queuing Penalty (veh)		7	
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	2	24	
Queuing Penalty (veh)	3	46	

Network Summary

Network wide Queuing Penalty: 484



February 2, 2022

Mr. Matthew Manley
City of Hendersonville
Community Development Department
100 N. King Street
Hendersonville, NC 28712

RE: Greenville Highway Apartments TIA Review

Dear Matthew,

At the request of the City of Hendersonville, Kimley-Horn has conducted a review of the traffic impact analysis (TIA) prepared for the Greenville Highway Apartments residential development dated January 21, 2022 by Ramey Kemp & Associates, Inc. The proposed site is located in the southeast quadrant of the intersection of NC 225/Greenville Highway with Chadwick Avenue. Up to 80 mid-rise, multifamily dwelling units are proposed as part of the development, with one unsignalized access point planned on Chadwick Avenue approximately 175 feet east of the intersection with NC 225/Greenville Highway.

The analyses contained with the sealed TIA were reviewed for conformance with the traffic impact analysis guidelines presented within the NCDOT *Policy on Street and Driveway Access to North Carolina Highways*, NCDOT *Congestion Management Capacity Analysis Guidelines*, and City of Hendersonville *Zoning Ordinance*. This memo outlines our technical review of the TIA and corresponding recommendations.

TECHNICAL REVIEW COMMENTS

The following observations are offered based on our technical review of the TIA as submitted and should be addressed as appropriate:

TIA Report Figures:

- In Figure 1, the proposed site location is included in the Legend but not shown on the map. This figure should be revised for correctness.
- Figure 2 has no caption, and spacing between the proposed driveway and NC 225/Greenville Highway is not clearly noted. The figure should be dimensioned to show this length, and a figure caption should be provided to improve readability of the TIA report.
- In Figure 3, the storage length shown for the outside westbound right-turn lane (75 feet) at the intersection of NC 225/Greenville Highway with US 176/Spartanburg Highway should instead be shown for the inside right-turn lane.
- In Figure E-1 and Figure 3 through Figure 11, the intersection of NC 225/Greenville Highway with Chadwick Avenue is shown as unsignalized. The figures should each be revised to show this intersection as signalized per existing conditions.

- In Figure E-1 and Figure 11, the following should be revised such that the correct future lane configurations are shown:
 - A northbound left-turn lane with 500 feet of storage and northbound shared through/right-turn lane with 600 feet of storage are shown at the intersection of NC 225/Greenville Highway with White Street; however, the design plans for NCDOT STIP Project U-5886 suggest that the actual storage length will be much less than the values shown.
 - A single right-turn lane is shown on the eastbound and westbound approaches of the intersection of NC 225/Greenville Highway with US 176/Spartanburg Highway; however, the design plans for NCDOT STIP Project U-5886 show dual right-turn lanes in each case.
- In Figure E-1 and Figure 11, different minimum internal protected stem lengths are shown at the proposed site driveway (50 feet in Figure E-1 versus 40 feet in Figure 11). The figures should be revised to show the same value.

Section 3 – 2023 No-Build Peak Hour Conditions (TIA Report Pages 8-10):

- Future roadway improvement plans for NCDOT STIP Projects U-5886 and U-6049 are referenced in Appendix D; however, the appendices only show improvements at the intersection of NC 225/Greenville Highway with White Street. Appendix D should be updated to include design plans at the intersection of NC 225/Greenville Highway with US 176/Spartanburg Highway.
- Per NCDOT, the projected let date for STIP Project U-5886 is 2025. The TIA report text should be amended to explain why these improvements were modeled under both 2023 and 2040 conditions.

Section 5 – Build Traffic Conditions (TIA Report Pages 14-17):

- In Section 5.3, it is unclear that only two of four study intersections were analyzed under 2040 conditions.
 - Assuming that the reviewing parties agreed only these two intersections should be analyzed under 2040 conditions, the TIA report text should be amended to clearly state that only the intersections of NC 225/Greenville Highway with White Street and US 176/Spartanburg Highway were considered.
 - If the proposed site driveway and adjacent intersections on Chadwick Avenue were to be analyzed under 2040 conditions, the analysis and supporting figures should be updated accordingly.

Additional Observations:

- The NCDOT *Policy on Street and Driveway Access to North Carolina Highways* prescribes a minimum internal protected stem length of 100 feet. The TIA report text should be amended to clearly state why a minimum internal protected stem length less than 100 feet is recommended instead.
- Auxiliary turn lane warrants, intersection sight distance, and pedestrian/bicycle considerations were not addressed in the TIA. Justification for the exclusion of these key analysis elements should be provided within the report text.

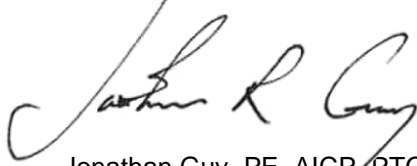
- Consideration should be given to moving the driveway on Chadwick Avenue as far back from the intersection with Greenville Highway as practically possible. As shown, the current location could impact the operations of the intersection. Furthermore, pushing the driveway back will allow for a future installation of a left-turn lane at the signal with Greenville Highway. In its current location and with the installation of a left turn lane the driveway could be limited to right-in/right out operations at some point in the future.

CONCLUSIONS

Based on a technical review of the TIA as submitted, the analysis and recommendations provide a reasonable assessment of the traffic impacts associated with the proposed development on the adjacent street network. The report text and figures should be revised as noted herein for completeness and correctness, and a technical memo or addendum to this TIA should be completed as a response to all comments.

Please contact me at (704) 488-3055 or jonathan.guy@kimley-horn.com should you have any questions regarding this analysis.

Sincerely,



Jonathan Guy, PE, AICP, PTOE
Vice President

Entry #: 21

Date Submitted: 11/23/2021 5:20 PM

Date:
11/18/2021Name of Project
Greenville Hwy Multifamily ComplexAddress/Location of Property
904 Greenville HwyList 10 digit PIN or 7 digit PID number for each property
9568921924Check type of Development
ResidentialCurrent Zoning
GHMUProposed Zoning
GHMUCZDList requested uses
Multifamily HousingTotal Acreage
2.25Proposed Building Sq. ft.
29,400Dwelling Units
80

Conceptual Plan

Greenville Hwy Multifamily 11.23.pdf
785.66 KB

Conditional Zoning District Petition (Continued)

Proposed conditions for the site:

Construction of (3) 4 story multi family structures with 80 units between them, 70% 2 bed, 2 bath and 30% 1 bed, 1 bath.

It is important that the applicant consider the following factors. See Section 11-4 of the Zoning Ordinance for more information. Please use additional pages and/or attachments if necessary.

Explain consistency with the City's Comprehensive Plan:

The site is located within an activity node near the intersection of Greenville and Spartanburg Hwys and designated as High-Intensity Neighborhood which encourages low-maintenance and high density housing and promotes walkable neighborhoods. That is what this development is at its core. The development will add high-density housing while improving the pedestrian character of the site with wider sidewalks, urban planting, and pedestrian amenities.

Explain compatibility with surrounding land uses:

The project has lower density residential to its northeast and southeast. To the west of the project is a mixed use development with higher density residential units in the mix. North of the site is commercial and mercantile uses. This project will be compatible within the existing fabric of the neighborhood while provided residential density sorely needed in the City.

Explain whether changed conditional require a map amendment:

The development will comply with the existing zoning regulations and will not require a rezoning outside of the Conditional Use Zoning overlay required from the size of the project.

Explain how the petition is in the public interest:

The development will provide critical housing in a responsible manner. The architectural design will reflect the local architecture to ensure neighborhood cohesiveness. The housing will fill an observable gap in housing with their offering of 2 bedroom and 1 bedroom units. The density is close to the core of Hendersonville, encouraging non-vehicular traffic by being close to pedestrian and biking access to offices, restaurants, grocers, and retail.

Explain whether adequate public facilities are available:

The current site was designed for a medium density mobile home park so water and sewer capacity is present. The site is minutes from the new police station, from the fire station, and from Pardee hospital.

Explain the impact the petition would have on the natural environment:

The site is currently cleared from the previous mobile home park. Most of the remaining vegetation is on the northern boundary and the center of the site. The site plan has been designed to preserve many of these trees. Stormwater retention will also be part of the site design to help ease the burden of flood waters in the area.

Additional information:

This development will respect and highlight the architecture of Hendersonville while provided sorely needed housing stock to the region. The unit composition of single and double bedrooms is a demonstrated need in the region and the site encourages those residents to walk and bike to their favorite Hendersonville destinations.

Note additional approvals prior to issuance of Zoning Compliance Permit may include, but are not limited to:

1. Henderson County Sedimentation & Erosion Control Permit
2. Stormwater management plan
3. Utility approval
4. NCDOT permit
5. Any other applicable permits as determined by the Development Assistance Department

Signature pages for Conditional Zoning District Petition

Designated Agent
Joey Burnett

Address
104 First Avenue East, Suite A, Hendersonville, North Carolina 28792

Phone
(828) 696-4000

Email
joey@tamarapeacock.com

Applicant Name
Brett Barry

Address
1638 Canty Lane, CHARLESTON, South Carolina 29407

Phone
(562) 522-7427

Signature



Signature of the property owner acknowledges if the property is rezoned the property involved in this request is bound to the use(s) authorized, the approved site plan and any conditions imposed, unless subsequently changed or amended as provided for in the Zoning Ordinance.

Property Owner Name
Hunting Creek Associates, LLC

Address
104 Mull Street, Morganton, North Carolina 28655

PID or PIN #
9568921924

Signature



Property Owner Name

Address

PID or PIN #

Signature

Signature pages for Conditional Zoning District Petition (continued)

Signature of the property owner acknowledges if the property is rezoned the property involved in this request is bound to the use(s) authorized, the approved site plan and any conditions imposed, unless subsequently changed or amended as provided for in the Zoning Ordinance.

Property Owner Name

Address

PID or PIN #

Signature

Property Owner Name

Address

PID or PIN #

Signature

Property Owner Name

Address

PID or PIN #


Signature

City of Hendersonville
Conditional Zoning District
Property Owner Signature Page

Property Owner:

Printed Name Hunting Creek Associates, LLC - 904 Greenville Highway

☐ Corporation ☒ Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

Signature 

Title Chief Financial Officer (CFO) Email ahensley@fulenwider.net

Address of Property Owner c/o Fulenwider Enterprises, Inc., 104 Mull Street, Morganton, NC 28655

Printed Name _____

☐ Corporation ☐ Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

Signature _____

Title _____ Email _____

Address of Property Owner _____

Printed Name _____

☐ Corporation ☐ Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

Signature _____

Title _____ Email _____

Address of Property Owner _____

Printed Name _____

☐ Corporation ☐ Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

Signature _____

Title _____ Email _____

Address of Property Owner _____

* Property owner hereby grants permission to the City of Hendersonville personnel to enter the subject property for any purpose required in processing this application.

* Signature of the property owner acknowledges that if the property is rezoned, the property involved in this request is bound to the use(s) authorized, the approved site plan and any conditions imposed, unless subsequently changed or amended as provided for in the Zoning Ordinance.

* If signed by an agent on behalf of the Owner, this petition MUST be accompanied by a Limited Power of Attorney signed by the property owner (s) and notarized, specifically authorizing the agent to act on the owner (s) behalf in signing this application. Failure of each owner, or their duly authorized agent, to sign, or failure to include the authority of the agent signed by the property owner, will result in an INVALID APPLICATION.



StarNews | The Dispatch | Times-News
Sun Journal | The Daily News | The Star
The Free Press | Gaston Gazette

Order Confirmation

Not an Invoice

Section 7, Item B.

Account Number:	488558
Customer Name:	City Of Hendersonville
Customer Address:	City Of Hendersonville 160 6Th AVE E City Clerk Hendersonville NC 28792-3775
Contact Name:	Angela Reece
Contact Phone:	828-697-3005
Contact Email:	areece@hvlnc.gov
PO Number:	P21-78-CZD

Date:	02/15/2022
Order Number:	6930767
Prepayment Amount:	\$ 0.00

Column Count:	1.0000
Line Count:	102.0000
Height in Inches:	0.0000

Print

Product	#Insertions	Start - End	Category
HEN Times-News	2	02/20/2022 - 02/27/2022	Public Notices
HEN blueridgenow.com	2	02/20/2022 - 02/27/2022	Public Notices

Total Order Confirmation

\$29.48

PUBLIC HEARING NOTICE
 Notice is hereby given that the City of Hendersonville City Council will hold two public hearings on Thursday, March 3, 2022, at 5:45 p.m., or as soon thereafter as possible in the City Operations Assembly Room located at 305 Williams Street, Hendersonville NC to consider the following:

I. Zoning Map Amendment- N. Harper Dr. (P21-84-RZO) - Application for a standard rezoning from Charles and Sheryl Osteen of AMJESS, LLC. The applicant is requesting to rezone the subject property, PIN 9569-26-2653 and 9569-26-3517 and located on N. Harper Drive, from R-15, Medium Density Residential to R-10, Medium Density Residential.

II. Conditional Zoning District - Greenville Highway Apts. (P21-78-CZD) - application for a Conditional Zoning District from Joey Burnett of The Tamara Peacock Company, Brett Barry, applicant and Hunting Creek Associates, LLC, property owners. The applicants are requesting to rezone the subject property, PIN 9568-92-1924 and located at 904 Greenville Highway, from GHMU, Greenville Highway Mixed Use to GHMU CZD, Greenville Highway Mixed Use Conditional Zoning District for the construction of a multi-family development consisting of 80 units on approximately 2.25 acres.

Digital/written public hearing comments must be received twenty-four hours prior to the meeting (by 5:45 p.m. on Wednesday March 2nd) to be considered by the City Council and must comply with security criteria in the Council's Public Comment Policy, available on the City's website.

Public hearing comments will also be accepted during the meeting from those attending in person and from those participating live via ZOOM at the designated time at this meeting. For security reasons screen sharing will not be allowed. Anyone wishing to submit written/digital public hearing comments for these public hearings prior to the meeting may visit <https://www.hendersonvillenc.gov/comment> to submit their comment. It is not necessary to submit digital comments if you are planning to address City Council during the meeting.

The meeting instructions to join by Zoom will be available on the City's website calendar by visiting <https://www.hendersonvillenc.gov/events-calendar> and as follows:

Zoom information for the meeting is: <https://zoom.us/join>
 Dial-in by phone: (646) 558-8656
 Meeting ID: 822 0104 2528
 Passcode: 1847

The City of Hendersonville is committed to providing accessible facilities, programs, and services for all people in compliance with the Americans with Disabilities Act (ADA). Should you need assistance or a particular accommodation for this meeting please contact the City Clerk no later than 24 hours in advance of the meeting (828) 697-3005.

Run two times: Sunday, February 20, 2022, Sunday, February 27, 2022
 2/20, 2/27/2022 6930767

PUBLIC HEARING NOTICE

Notice is hereby given that the City of Hendersonville City Council will hold two public hearings on Thursday, March 3, 2022, at 5:45 p.m., or as soon thereafter as possible in the City Operations Assembly Room located at 305 Williams Street, Hendersonville NC to consider the following:

- I. **Zoning Map Amendment– N. Harper Dr. (P21-84-RZO)** - Application for a standard rezoning from Charles and Sheryl Osteen of AMJESS, LLC. The applicant is requesting to rezone the subject property, PIN 9569-26-2653 and 9569-26-3517 and located on N. Harper Drive, from R-15, Medium Density Residential to R-10, Medium Density Residential.

- II. **Conditional Zoning District – Greenville Highway Apts. (P21-78-CZD)** - application for a Conditional Zoning District from Joey Burnett of The Tamara Peacock Company, Brett Barry, applicant and Hunting Creek Associates, LLC, property owners. The applicants are requesting to rezone the subject property, PIN 9568-92-1924 and located at 904 Greenville Highway, from GHMU, Greenville Highway Mixed Use to GHMU CZD, Greenville Highway Mixed Use Conditional Zoning District for the construction of a multi-family development consisting of 80 units on approximately 2.25 acres.

Digital/written public hearing comments must be received twenty-four hours prior to the meeting (by 5:45 p.m. on Wednesday March 2nd) to be considered by the City Council **and must** comply with security criteria in the Council's Public Comment Policy, available on the City's website.

Public hearing comments will also be accepted during the meeting from those attending in person and from those participating live via ZOOM at the designated time at this meeting. For security reasons screen sharing will not be allowed. Anyone wishing to submit written/digital public hearing comments for these public hearings prior to the meeting may visit <https://www.hendersonvillenc.gov/comment> to submit their comment. It is not necessary to submit digital comments if you are planning to address City Council during the meeting.

The meeting instructions to join by Zoom will be available on the City's website calendar by visiting <https://www.hendersonvillenc.gov/events-calendar> and as follows:

Zoom information for the meeting is: <https://zoom.us/join>
 Dial-in by phone: (646) 558-8656
 Meeting ID: 822 0104 2528
 Passcode: 1847

The City of Hendersonville is committed to providing accessible facilities, programs, and services for all people in compliance with the Americans with Disabilities Act (ADA). Should you need assistance or a particular accommodation for this meeting please contact the City Clerk no later than 24 hours in advance of the meeting (828) 697-3005.

Run two times: Sunday, February 20, 2022, Sunday, February 27, 2022



CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER: Chief Blair Myhand **MEETING DATE:** March 3, 2022

AGENDA SECTION: Presentation Only **DEPARTMENT:** Police

TITLE OF ITEM: Presentation of North Carolina Governor’s Highway Safety Program
(GHSP) grant application for Hendersonville Police Department – *Blair Myhand, Chief of Police*

SUGGESTED MOTION(S): N/A

SUMMARY:

The Hendersonville Police Department has applied for a grant awarded by the North Carolina GHSP to fund a Traffic Safety Unit. The request is for two sworn officers, vehicles, uniforms, and equipment. This is a three-year grant with the first year being an 15% local match. Years two and three are 30% and 50% local match respectively.

BUDGET IMPACT: \$38,486 (local dollars); \$218,086 funded through the grant

Is this expenditure approved in the current fiscal year budget? N/A

If no, describe how it will be funded.

ATTACHMENTS: Presentation only



CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER: Jamie Carpenter, Downtown Manager **MEETING DATE:** March 4th, 2022

AGENDA SECTION: NEW BUSINESS **DEPARTMENT:**
Community
Development –
Downtown Division

TITLE OF ITEM: 7th Avenue Visioning Project - *Jamie Carpenter, Downtown Manager*

SUGGESTED MOTION(S):

SUMMARY:

In 2021, the Downtown Workplan included a 7th Avenue branding/visioning process. In spring 2021, an RFP was released to identify a consultant who could help guide the process, including public input and participation. Deliverables requested included:

- An outline for public input that includes price breakout and areas department staff will be needed for support or facilitation.
- A simple brand story or theme outline that includes a brief summary for how that brand was developed by a public input process, and any additional recommendations.
- A logo design that can be adapted for multiple formats, including:
 - Full color version on black, white and transparent background
 - Single color version on black, white and transparent background
 - Grayscale version on black, white and transparent background
 - Horizontal and vertical layout (if necessary)
 - High resolution vector logo that can be scalable and includes layered images of the final approved logo, as well as flattened images in .jpeg, .png and pdf formats.
- Consultation on style for gateway signage that will be installed as a part of the streetscape improvement that fits within the context of the brand story.

The project was put on pause in June 2021, due to a separate discussion regarding the naming of the Green Meadows / Brooklyn neighborhood. The Downtown Advisory Board took the pause in order to make space for those discussions occurring within the neighborhood. While this was a separate project, the residents of Green Meadows / Brooklyn are neighbors and stakeholders of the 7th Avenue Business District. The visioning process for 7th Avenue will include public input meetings that invite and involve the residents in the Spring.

Timeline:

- **March** - Present to City Council, Interview finalists of RFP selection process.
- **April** - Select consulting firm

- **May – June** - Launch project, including timeline for public meetings and public participation using guidance from firm; Community input during Farmers Market; Public meetings and information gathering
- **July-September** - Complete visioning, unveil logo and design guidelines

BUDGET IMPACT: \$15,000 (7th Avenue)

Is this expenditure approved in the current fiscal year budget? Yes, this was included in the supplies & materials and contracted services budget.

If no, describe how it will be funded.

ATTACHMENTS: None



CITY OF HENDERSONVILLE AGENDA ITEM SUMMARY

SUBMITTER: Alex Norwood **MEETING DATE:** 03/03/2022
AGENDA SECTION: REPORTS FROM STAFF **DEPARTMENT:** Admin
TITLE OF ITEM: March 2022 Contingences Report – *Alex Norwood, Budget Analyst*

SUGGESTED MOTION(S):

N/A - presentation only.

SUMMARY:

In accordance with State Statute 159-13(b) it is required that all expenditures resulting from a contingency appropriation budget be reported to the governing board at its next regular meeting and recorded in the minutes.

The following contingency appropriations were made:

1. Decrease Fund 010 contingencies by \$4,000 for legal services
 - a. Increase 010-1005-519102 by \$4,000

BUDGET IMPACT: Detailed above.

Is this expenditure approved in the current fiscal year budget? N/A

If no, describe how it will be funded. N/A

ATTACHMENTS:

N/A



CITY OF HENDERSONVILLE

AGENDA ITEM SUMMARY

SUBMITTER:

John Connet

MEETING DATE:

03/3/2022

AGENDA SECTION:

CLOSED SESSION

DEPARTMENT:

Administration

TITLE OF ITEM:

Closed Session – *John Connet, City Manager*

SUGGESTED MOTION(S):

I move that City Council enter into closed session pursuant to NCGS § 143-318.11 (a) (1) and (4) to prevent the disclosure of information that is privileged or confidential pursuant to the law of this State or of the United States, or not considered a public record within the meaning of Chapter 132 of the General Statutes and to discuss matters relating to the location or expansion of industries or other businesses in the area served by the public body, including agreement on a tentative list of economic development incentives that may be offered by the public body in negotiations.

SUMMARY:

City staff is requesting a closed session to prevent the disclosure of information that is privileged or confidential pursuant to the law of this State or of the United States, or not considered a public record within the meaning of Chapter 132 of the General Statutes and to discuss matters relating to the location or expansion of industries or other businesses in the area served by the public body, including agreement on a tentative list of economic development incentives that may be offered by the public body in negotiations.

BUDGET IMPACT: \$ TBD

Is this expenditure approved in the current fiscal year budget? NA

If no, describe how it will be funded. NA

ATTACHMENTS: