



**CITY OF SOUTHPORT
BOARD OF ALDERMEN
REGULAR MEETING AGENDA
223 E. BAY STREET
May 9, 2024
6:00 PM**

Agenda

Please turn off all cell phones

Meetings are open to the public. Face masks and social distancing may be used at the discretion of each individual. The Board of Aldermen reserve the right to make changes to this policy, as needed to help prevent the spread of the Coronavirus.

If you are not able to attend the Board of Aldermen meetings in person, the meeting will be available for you to watch via live-stream on the City of Southport website (<https://cityofsouthport.com/board-of-aldermen-meetings/>), Facebook page, and YouTube channel.

ETHICS STATEMENT:

"If any members know of any conflict of interest or the appearance of a conflict of interest concerning matters on the agenda, please so state at this time."

- A. Call to Order**
- B. Invocation**
- C. Pledge of Allegiance**
- D. Mayor's Comments**
- E. Public Comment**
- F. Approval of Agenda**
- G. Approval of the Consent Agenda**
 - 1. Minutes of the Regular Board of Aldermen Meeting March 14, 2024 **pg 3-9**
 - 2. Minutes of the Regular Board of Aldermen Meeting April 1, 2024 **pgs 10-15**
 - 3. Minutes of the Closed Session April 10, 2024 (sealed envelope)
 - 4. Minutes of the Special Meeting April 8, 2024 **pgs 16-18**
 - 5. Budget Amendment and Reimbursement Resolution- HRV and Ambulance **pgs 19-21**
 - 6. Project Ordinance Update: ARP SFFRF **pgs 22-23**
- H. Special Recognition**
- I. Agenda**
 - 1. Budget Presentation (B. Therrien and D. Dutton) **pgs 24-34**

2. Rights-of-Way Discussion and Decision-Staff Recommendation (D. Dutton) pgs 35-53
3. Public Hearing: Annexation of Turtle Bay Property (M. Meehan, D. Dutton) pgs 54-60
4. Public Hearing: Turtle Bay Planned Unit Development/Rezoning (M. Meehan) pgs 61-161
5. Call to Public Hearing: Setback Encroachments Text Amendment (M. Meehan) pgs 163-178
6. Next Steps-Old City Hall and HICAPS (B. Therrien) pg 179

J. Committee Reports

K. Manager's Report

L. Mayor's Comments

M. Board Comments

Closed Session NCGS 143-318.11 (a)(3) To consult with an attorney employed or retained by the public body in order to preserve the attorney-client privilege between the attorney and the public body, which privilege is hereby acknowledged. General policy matters may not be discussed in a closed session and nothing herein shall be construed to permit a public body to close a meeting that otherwise would be open merely because an attorney employed or retained by the public body is a participant. The public body may consider and give instructions to an attorney concerning the handling or settlement of a claim, judicial action, mediation, arbitration, or administrative procedure. If the public body has approved or considered a settlement, other than a malpractice settlement by or on behalf of a hospital, in closed session, the terms of that settlement shall be reported to the public body and entered into its minutes as soon as possible within a reasonable time after the settlement is concluded.

O. Adjourn



Board of Aldermen Meeting Minutes
Community Building, 223 E. Bay St.
March 14, 2024
6:00 P.M.

Present: Mayor Rich Alt, Mayor Pro Tem Rebecca Kelley, Alderman Karen Mosteller, Lowe Davis, Robert Carroll, Frank Lai, and Mark Spencer.

Absent: None

Staff: Bonnie Therrien, Manager; Dorothy Dutton, Assistant City Manager/City Clerk; Brady Herman; City Attorney; ChyAnn Ketchum, POI/Communications Director; Police Chief Todd Coring; Fire Chief Charles Drew; Heather Hemphill, Parks and Rec. Director; Tom Stanley, Public Works Director; Lance Flint, Finance Director; Mo Meehan, City Planner.

- A. Mayor Rich Alt called the meeting to order at 6:00 P.M.
- B. Reverend Alderman Davis gave the invocation.
- C. Mayor Alt led the Pledge of Allegiance.
- D. Mayor Alt read and presented a Proclamation in honor of retiring Ferry Captain Ms. MaryBeth Ray and Women's History Month.

E. Public Comment

- 1. Emily Humphreys, who lives at 204 E. 8th Street, is concerned about the treatment of three employees who were suspended without pay due to alleged detrimental conduct by the current manager. She believes that the suspension is unjustified. She also pointed out that the former police chief, Mr. Smith, was required to live in the city before taking his position, which meant that he had to move. She has questioned why the current city manager is not required to reside in the city and whether she would be required to do so if she were to renew her contract or if another potential new manager would be required to do the same. She has also requested that all policies and procedures be followed without any deviations.
- 2. Robert Greene is not a resident of the City but came to the podium to say how much he loves Southport and its friendly people. He said that people often don't say thank you enough and express appreciation. Southport is a beautiful place to come. He also congratulated Captain Ray for her retirement.
- 3. Tom Veale, 6480 Waldon Pond Lane, expressed gratitude to the Board for their decision to sell a significant portion of the Sunny Point property to NC Wildlife Conservation. He also appreciated the City's efforts to relocate the debris staging site. However, he sought more information about Brunswick County's plan for a water tower on a section of the property and requested an estimated timeline.
- 4. Ray Martino, 6065 Sullivans Ridge Rd., is looking for the Planning Board's Mission Statement and a better understanding of the mission. He is concerned about why the Planning Board is recommending approval for increased density. As he understands, they are limiting the ability to collect impact fees. He is concerned about the rise in population and its impact on the need for more infrastructure, services, staff, and shelters. He wants to know if the city has a systematic process and spreadsheet to evaluate the financial viability of new developments and whether the revenues generated will be enough to cover the cost of the city's services.

Mayor Alt has clarified that individuals who would like to speak during the public comment period must first sign up, provide their contact information, and specify whom they would like to contact to answer questions. It is important to note that the Board does not engage in dialogue during public comment.

5. Lora Sharkey of 432 Cades Trail stresses objectivity in selecting City officials. She hopes the Board will conduct an impartial interview with a background check to secure the best candidate for the future and maintain credibility as an employer and good steward for the taxpayers. Ms. Sharkey emphasized that if Ms. Therrien is interested in retaining the manager position, she should apply and go through the standard process along with other qualified candidates.
6. Bonnie Bray of 515 Quartermaster Dr. opposes the idea of limiting public comments to only those who have signed up and set a time limit for comments. She is concerned about the recent conversation the Board had regarding the partnership between a non-profit organization and the city. She hopes the city engages in discussions on this topic and possibly holds a public hearing. Her final comment was, "If it's not broken, don't fix it."
7. Ms. Dutton read out the comments submitted by Martha Johnson, 227 E. 11th Street. In her remarks, Ms. Johnson praised Manager Therrien for her exceptional guidance and leadership as City Manager. She acknowledged that Ms. Therrien is returning to retirement and expressed her hope that the Aldermen will select a new City Manager who will be committed to serving for 5-10 years.
8. John Losch, a resident at 210 N. Fodale Ave., proposed a parking program managed by the Police Department for the City. He suggested installing credit/debit card parking meters or a three-story parking garage outside the downtown area. Mr. Lash believed the program could create positive revenue and generate new income sources for the City. He recommended charging an hourly fee for parking and providing a convenient shuttle service.

Alderman Spencer moved to close Public Comment, which was seconded by Alderman Lai.
Unanimous Vote; Motion Carried.

F. Approval of the Agenda

Mayor Alt requested an amendment to the agenda, which included adding the Cemetery Committee Appointment, removing item J. (2) Authorization to Purchase Materials for Electrical Underground Project, and adding item USDA loan discussion. Alderman Spencer made a Motion to approve the agenda as amended, and Mayor Pro Tem Kelley seconded it.
Unanimous Vote; Motion Carried.

G. Approval of the Consent Agenda

1. Regular Board of Aldermen Meeting Minutes February 5, 2024.
2. Regular Board of Aldermen Meeting Minutes February 8, 2024.
3. Board of Aldermen Closed Session Meeting Minutes February 8, 2024.
4. Board of Aldermen Closed Session Meeting Minutes February 12, 2024.
5. Special Board of Aldermen Meeting Minutes February 16, 2024.

Alderman Spencer made a Motion to approve the Consent Agenda, and Alderman Davis seconded. ***Unanimous Vote; Motion Carried.***

H. Special Presentation: Century 21 Triangle Group Realtor Proposal.

Ms. Marguerite Greene of Century 21 Triangle Group provided an overview of the firm's operations and background. As she explained, Century 21 is the 12th largest commercial company in North Carolina, offering buying and selling services, with affiliations to five other firms across the state and a global network. The firm specializes in marketing properties in

Southport and provides a range of commercial, retail, and multi-family real estate services, including hotels and international services. The team is highly trained in commercial real estate and holds additional certifications. It is worth noting that the firm has a strict policy of representing only one party in any given transaction, ensuring complete transparency.

Alderman Spencer inquired if Ms. Greene and her team were members of the Multiple Listing Service (MLS). Ms. Greene confirmed that she is an active member of three different MLSs. She further explained that depending on the property she deals with, she selects the most suitable MLS. Additionally, she has created a website that showcases all the MLSs, making it easier for potential buyers to view all the available listings.

Mayor Alt stated that the reason for seeking an individual to take on this responsibility is to ensure that the city's interests are accurately represented. He inquired whether the realtors would bring forth property listings or if the City would reach out to them instead. Ms. Greene responded by assuring that their primary focus is to offer their services in any way necessary.

Mayor Pro Tem Kelley stated that four licensed real estate agents are on the Board, and to avoid any conflicts of interest, they will not be participating in the selection process.

There was a discussion regarding the proposal and commission fees. Ms. Greene provided a detailed explanation of the fee process, outlining the rates involved. In response, Alderman Davis queried whether the rates were customary. Ms. Greene clarified that the rates were generally consistent with industry standards.

Mayor Alt thanked Ms. Greene for her presentation and said the Board would review the information for consideration.

I. Public Hearings

1. Public Hearing for a Unified Development Ordinance Amendment to Section 3.5 – Table 3.1 Residential Uses – Mixed Uses and Section 3.7.F Residential Use Standards.

City Planner Meehan explained that S&G Holdings has requested a Zoning Text Amendment to permit Mixed Uses in the Highway Commercial (HC) zoning district. This would expand housing options in the area, especially along Rob Gandy Boulevard SE. Currently, only PUD, O-I, BD, and CBD zoning districts allow mixed uses. The amendment would apply to any development in the HC district, not just those along Rob Gandy Boulevard.

No public comments were given during this hearing.

2. Public hearing to consider a Zoning Map Amendment for a tract of land on Robert Ruark Drive from R-20 to R-10.

Ms. Meehan gave an overview of the proposed amendment. Blue Ocean Construction for Rich Moore Real Estate Investments, LLC, requests a zoning map amendment from R-20 to R-10 on a 7.96-acre parcel of land located on Robert Ruark Drive across from the intersection of Maple Leaf Drive.

- 1) Mr. Tommy Sheets, who works with Headwaters Engineering, is the civil engineer for the project. He has conducted a due diligence report and preliminary research and contacted stormwater planning, DOT, and Utilities. He did not find any deficiencies with regard to this site. The reason for the request to rezone from R-20 to R-10 is that they believe 10,000 square-foot lots would be a good fit for the area and are similar to those in the surrounding

neighborhoods. The Planning Board has recommended approval for the request and supports it.

- 2) Mr. Brian Stevens at 503 Cades Trail, which is adjacent to the property of discussion, requests that the 8 acres off Robert Ruark Drive remain zoned as R-20. He said, "Let's not put concrete in place of conservancy." He stated that the remaining R-20 will help the City with absorption percolation versus runoff. He said a commonsense approach is not to see how many houses can be built but how smart it is to sustain life and our changing coastal environment. He said building less is more beneficial to the community.
- 3) Mr. Frank Popelars, a resident of 1023 Captain Atkins Drive, expressed his concern regarding the minimal research conducted on the consequences of rezoning. He had hoped that the Board would take into consideration and elucidate the advantages to the City prior to granting approval for rezoning. While Mr. Popelars acknowledged that the Planning Board is bound by the UDO and the Land Use Plan and must adhere to their standards and requirements, he could not ascertain whether granting rezoning would be beneficial to the city. Mr. Popelars emphasized the importance of establishing whether the city requires more or less development before approving rezoning and highlighted that developers are primarily motivated by profit, whereas the city's leaders should be concerned with controlling the density in the city. He contended that the proposed zoning amendment is situated in an area with an already high density and that further development is forthcoming in the surrounding regions. Therefore, he strongly urged the Board not to approve the request to maintain the integrity of the infrastructure, traffic, and compatibility.
- 4) David and Tracy Lovings, residents of Cades Cove, submitted comments that Ms. Dutton read. They disagree with the rezoning located directly behind their property. They are disappointed about losing the small amount of land left and also that the number of homes to develop will double if approved.
- 5) Beth Wytiaz, 404 Cades Trail, expressed her opposition to the proposed rezoning, citing a rushed and poorly communicated process. She believes that increasing building density could lead to flooding and harming wildlife.

After there were no further comments, the Public Hearing was closed by Alderman Carroll and seconded by Alderman Lai. ***Unanimous Vote; Motion Carried.***

Break—7:25 p.m.

Call back to order —7:34 p.m.

J. Agenda

1. Request for ARPA Funds for Camera Project-Police Department.

Chief Coring stated that due to the significant rise in both pedestrian and vehicular traffic, large-scale festivals, security threats, and the possibility of inclement weather events, it has become essential to track and document everything that happens along the Bay Street corridor, including the Community Building, Garrison, and the surrounding areas. To achieve this, the Police Department requests the purchase of security cameras using Capital Funds, which will cost \$7,163,97.

Alderman Carroll made a motion to appropriate \$7300 from the Capital Fund to purchase cameras along Bay Street for emergency purposes and investigations which was seconded by Alderman Spencer. ***Unanimous Vote; Motion Carried.***

2. Authorization to Purchase Materials for Electrical Underground Project. (Removed from agenda).

3. **City Manager Search**

Ms. Therrien informed the Board that the deadline to submit job applications for the City Manager position was March 11th. She also mentioned that the city received a total of forty-seven applications. Ms. Therrien asked for guidance from the Board on how to proceed with the selection process.

Alderman Carroll asked if the pool of applicants had been narrowed down. Ms. Therrien responded that she had requested the Human Resources Director to review the applications. She further explained that there were 24 applicants with current Managerial experience. The Board discussed several options for how to proceed with the process. It was the consensus of the Board to bring the top seven applicants reviewed and recommended by the City Manager and the Human Resources Director for interviews. It was noted that social media activity and background checks should be reviewed. Ms. Therrien said that their backgrounds will be checked after the seven candidates have been narrowed down to three or four. The Board agreed to have the seven applications and resumes sent to them for review before scheduling closed sessions for interviews and expedite the process before the potential loss of exceptional candidates.

4. **Sunny Point Property Update**

Manager Therrien has been communicating with NC Wildlife, The County, and MOTSU regarding using a piece of land to construct a future water tower. NC Wildlife has agreed to allow the county to utilize the land, subject to confirmation from the funders financing the property purchase. Also, MOTSU has reorganized, and the concerned officials are reviewing the county's proposed map for the proposed water tower location. However, higher-level authorities still need to review the proposal. This water tower would be helpful for the Fire Department's operations.

A Motion was made by Alderman Mosteller that, pending the outstanding approval by North Carolina Wildlife funding sources and MOTSU regarding the dedication of the five acres to Brunswick County for a future water tower site, instruct the City Manager to enter into an agreement with North Carolina Wildlife Resources Commission for sale of the city's property located adjacent to Sunny Point and the terms of the agreement to include the sales price of \$637,551 which is less than 15-acres at approximately \$1500-acre that the city is retaining. The City of Southport will retain 10 acres to be used as a debris field and lay down yard, Brunswick County will retain 5 acres adjacent to Bethel Rd. for future use as a county water tower site, and the remaining approximately 426 acres are to be placed in conservation with the State in perpetuity. Alderman Davis seconded the Motion.

There was discussion on whether the county would be granted permission for the water tower. Alderman Davis noted that regardless of whether the county is not approved for the water tower and decides they are no longer interested in the 5 acres, this would mean just another 5 acres for the city to retain for more debris staging. Mayor Pro Tem Kelley had concerns about the potential of the State expanding authority or decommissioning the port for another type of use and how this would affect the future of Southport, and Alderman Mosteller said that putting a deed restriction in the transaction stated the property would

remain in conservation with the State in perpetuity. There was concern that, in perpetuity, it may not be binding to the State. Mayor Alt would like more information from the City Attorney on the assurance of “in-perpetuity.”

Aye: Alderman Mosteller, Davis, Carroll, and Lai. Nay: Mayor Pro Tem Kelley and Alderman Spencer. **Motion Carried 4-2.**

5. Cemetery Committee Appointment

After reviewing the applications and conducting interviews, the Board Liaison for the Cemetery Committee, Alderman Spencer, made a motion to appoint Mr. Tom Lombardi to the Cemetery Committee, seconded by Alderman Carroll. **Unanimous Vote; Motion Carried.**

6. USDA Loan

Manager Therrien explained that the previous Board agreed to take a \$6,002,000 loan from the USDA along with a \$4,498,000 grant to use for the sewer replacement project. The USDA will not allow the county to assume that loan or grant with the merger because they do not qualify. She contacted the USDA and explained that the city would no longer need these funds. The USDA recommended that the board vote on whether to deobligate the funds.

Alderman Carroll made a motion to deobligate the \$6,002,000 loan funds and \$4,498,000 in grant funds from the USDA for the sewer replacement project seconded by Alderman Mosteller. **Unanimous Vote; Motion Carried.**

K. Committee Reports- Included in the Agenda Packet.

L. Manager’s Comments

Manager Therrien announced that the Board of Aldermen will hold a Special Meeting on April 8th to discuss the shoreline stabilization project. She also reminded everyone that the city's website includes a list of all ongoing projects and updates. Additionally, Manager Therrien recognized the Staff Anniversaries.

M. Mayor’s Comments

Mayor Alt expressed appreciation to the Public for their active participation and credited the Board for their instrumental role in facilitating a productive meeting.

N. Board Comments

Alderman Davis pointed out that despite the Public Comment section and a brief break, the meeting was concluded in just 2 hours and 14 minutes. She also informed the attendees about the upcoming Parks and Recreation Committee Meeting and mentioned that there will be a volunteer cleanup event at John C. Smith Cemetery on March 16th.

Mayor Pro Tem Kelley congratulated Captain Ray on her retirement.

O. Closed Session

Mayor Alt requested a motion to go into a closed session per N.C.G.S. 143-318.11 (a) (5). *To establish or to instruct the public body's staff or negotiating agents concerning the position to be taken by or on behalf of the public body in negotiating (i) the price and other material*

terms of a contract or proposed contract for the acquisition of real property by purchase, option, exchange, or lease; or (ii) the amount of compensation and other material terms of an employment contract or proposed employment contract.

A motion was made to enter into closed session by Alderman Carroll and second by Mayor Pro Tem Kelley. ***Unanimous Vote; Motion Carried.*** — 8:18 p.m.

- P. Mayor Pro Tem Kelley made a motion to return to open session and, second by Alderman Lai. ***Unanimous Vote; Motion Carried.***

There was no other business or comments, so Mayor Pro Tem Kelley made a motion to adjourn, which was seconded by Alderman Carroll. ***Unanimous Vote; Motion Carried.***

Adjournment —8:49 p.m.

Mayor, Richard Alt

Deputy Clerk, Tanya Shannon



Board of Aldermen Meeting Minutes
Community Building, 223 E. Bay St.
April 1, 2024
9:00 A.M.

Present: Mayor Rich Alt, Mayor Pro Tem Rebecca Kelley, Alderman Karen Mosteller, Lowe Davis, Robert Carroll, Frank Lai, and Mark Spencer.

Absent: None

Staff: Bonnie Therrien, Manager; Dorothy Dutton, Assistant City Manager; Tanya Shannon, Deputy Clerk; ChyAnn Ketchum, POI/Communications Director; Police Chief Todd Coring; Charles Drew Fire Chief; Tom Stanley, Public Services Director; Lance Flint, Finance Director; Mo Meehan, City Planner; Larry Ditton, Electrical Superintendent; and Penny Tysinger, Permit Technician.

A. Mayor Alt called the meeting to order at 9:00 A.M.

B. Reverend Alderman Davis gave the Invocation.

C. Mayor Alt led the Pledge of Allegiance.

D. Public Comment

1. Adam Steadman, 5968 Dutchman Creek, petitioned the Board requesting funds in the budget to relocate a tree that stands near the "Welcome to Southport" sign at Walmart. He wants to move it before the widening project results in its removal. According to him, a tree company has proposed to remove and relocate the tree for approximately \$1500-\$1800. He has already spoken to Mr. Len, the Chair of the Forestry Committee, and identified a new location near the Waterfront where the tree can be replanted.

E. Approval of the Agenda

Alderman Carroll made a motion to approve the agenda, which was seconded by Mayor Pro Tem Kelley. ***Unanimous Vote; Motion Carried.***

F. Introduction of New Employees

Penny Tysinger-Permitting Technician
Larry Ditton-Electrical Superintendent

G. Presentations

1. Capital Improvement Plan

The City Engineer, Mr. Bob Jarvis, presented the second year of a six-year Capital Improvement Program (CIP), which includes projects costing over \$100,000. The CIP is regularly updated, prioritized, and priced by staff. It serves as a dynamic guidance document for annual budgets and long-term financing needs. The multi-use program aims to collaborate more and receive bond ratings and grants.

The Board consensus was to break down the plan into what will need to be appropriated for the projects depending on which type of funding will be necessary, such as discretionary funding and non-discretionary funding. Mr. Jarvis said he would happily break it down and delineate between the funding and the sources.

2. Audio/Visual Options and Discussion

Communications/PIO Director ChyAnn Ketchum presented on the audio/visual concerns and options for meetings. Some of the issues discussed included difficulties viewing content

on the VIBE board, problems incorporating remote two-way participation with video, and challenges configuring the microphone system, camera system, and screen presentation for viewing at the Indian Trail Meeting Hall.

To address these concerns, several solutions were proposed. One option was to replace the VIBE at the Community Building, which would cost between \$7,000 and \$10,000. Another proposal was to bring the SCB VIBE board and mount it so both the audience and the Board could view presentations at the Indian Trail Meeting Hall at no cost. Upgrading the microphone, camera, and live-streaming system was also suggested at around \$40,000.

Alderman Carroll asked about moving the Community Building's equipment to the Indian Trail Meeting Hall and installing new equipment at the Community Building. Ms. Ketchum explained that the current system at the Community Building was hard-wired, making it difficult to move the equipment. However, she offered to explore the feasibility of the move.

The Board discussed prioritizing upgrading the projection screen and audio/visual systems. It was suggested that a consultant be hired for cost-effective solutions. Alderman Lai proposed an improvement where visual monitors can be matched with the agenda item and page number for easy access. Alderman Spencer proposed building chambers for the Board to offer a permanent solution. Mayor Pro Tem Kelley suggested buying a large TV screen over the fireplace with a mini split to aid visuals and inquiring about incorporating Zoom as part of the meetings. Ms. Ketchum offered to research the feasibility. Alderman Carroll questioned whether it was a top priority compared to other pressing projects. Mayor Alt said that this is the preface for more discussion during the budget workshops and also to discuss options for a permanent Board Chamber.

H. Agenda

1. Real Estate Services

Manager Therrien explained that The Board of Aldermen requested that a Request for Proposals (RFP) be published to determine if it is feasible to hire a realtor to represent the City when researching, purchasing, or selling real estate. The bid opportunity was posted from February 1-February 23, 2024. One proposal was received, and Ms. Marjorie Greene, representing Century 21 Triangle Group, attended the last meeting to provide a presentation and an overview of their work. Ms. Therrien asked the Board If they wished to proceed with this firm.

Alderman Davis stated that she had proposed hiring a real estate service to handle property transactions for the City in order to avoid any potential conflicts of interest with the Board. She believes this move will also ease the burden on the City Manager. She appreciated the presentation from the one response from the RFP Century 21 Triangle Group but would like to extend the proposal for potential interest from other Real Estate Services.

Alderman Davis made a motion to authorize the City Manager to send out a new Request for Proposals (RFP) for Real Estate Services. The motion also stated that the City Manager should gather information from other municipalities on their selection process and have further discussions before committing to hiring a Real Estate Service. Alderman Carroll seconded the motion.

There was a debate on the necessity of this particular service. It was noted that such matters are usually handled by the City Manager. Another person suggested that a real estate service could be more useful when it comes to selling property for legal reasons but not so much for purchasing. This would thereby reduce the amount of commission fees.

***Aye, Alderman Davis, Carroll, Mosteller, Kelley, and Lai. Nay, Alderman Spencer.
Motion Carried 5-1.***

2. Authorization to Purchase Materials for Electrical Underground Project

Mr. Ellie Pittenger, the Electrical Superintendent, emphasized the importance of timely ordering of materials for the upcoming East Moore Street underground project. He explained that this is crucial to ensure that the project stays on schedule and prices remain stable, thus avoiding any availability delays and rapidly increasing costs of electrical construction materials. To proceed with the project without any further delay, Mr. Pittenger requested approval for a transfer of \$860,000 from the Electrical Fund Balance to the budget line item. This will enable BEMC to start work on the East Moore underground project.

Alderman Spencer asked about the start date for the project. Mr. Pittenger explained that the labor portion is scheduled for the next budget year, which is after July. He added that he is seeking approval on this budget to ensure the materials can be ordered and ready in advance so there will be no delay when the project is ready to begin.

Alderman Mosteller raised a concern regarding the underground project's funding. She mentioned that \$1.5 million has already been invested in the project over the last few years and questioned if the newly requested amount of \$860,000 was in anticipation of additional costs. In response, Mr. Pittenger explained that \$1.6 million had been allocated in each budget cycle. He stated that they aim to complete the project with a total budget of \$1.84 Million.

Alderman Spencer made a motion to approve the money transfer from the Fund Balance of the Electrical Account to Line Item # 30-93-7210-5900. Second by Alderman Davis.

Alderman Mosteller expressed concerns regarding approving a purchase for the following year's budget. In response, Mayor Alt explained that a similar process had been followed in the past. He also pointed out that purchasing the required materials beforehand would be proactive while they were still available and before their prices increased. This would help avoid delays during the project's initiation, which had happened previously.

Unanimous Vote; Motion Carried.

3. Recycling/Yard Debris Collections, Neighbors to Neighbors

Finance Director Mr. Flint gave an overview of the discussion. He explained that after the Water-Sewer Merger, the City will no longer have a mechanism to collect fees directly for residential recycling and yard debris collection via utility bills. The City will need to either identify an alternative method for billing for the services or discontinue them as a City service.

Mayor Alt would like to confirm that the county is properly recycling. Mayor Pro Tem Kelley said that in previous discussions, there was talk about asking BEMC to add recycling/yard debris collections to their billing statements and collect on behalf of the city. Mr. Flint said that with the water/sewer merger, Brunswick County has agreed to collect for the services on behalf of the city for a charge of around 10 cents per bill that would be charged back to the customers.

Mayor Pro Tem Kelley motioned to allow Brunswick County to bill and collect recycling and yard debris service fees on behalf of the city, which was seconded by Alderman Carroll.

Unanimous Vote; Motion Carried.

Neighbors for Neighbors Program Discussion

Mr. Flint discussed the Neighbors for Neighbors program and asked for the city's involvement in assisting low-income residents with water and sewer bills. To apply for the program, residents can contact Brunswick Family Assistance (BFA). Currently, 28 eligible senior

residents receive a \$40 credit on their bills, while 10 non-seniors also qualify. The city receives a check from BFA to cover their water/sewer bills.

The budget for the program in the Water-Sewer fund for FY24 is \$13,650, with the city paying about \$1,200 per month (28 accounts) for participating seniors. However, the budget is likely to be exceeded in FY24. The Board Donations account budget also included \$18,000 for the N4N program in FY24, but nothing has been spent from this amount in FY24 or FY23. BFA sends payment to the City from its own funds for participating non-seniors, around \$400 (10 accounts) each month, which is then applied as payments to the participant accounts. During budget discussions, Mr. Flint requested the Board's decision on allocating General Funds to BFA and whether the city should continue to participate in the program after the water/sewer merger.

4. Discussion and Consideration of Property for Lease

Manager Therrien explained that the city has an opportunity to lease space at 1669 N. Howe Street for a 5-year term. The building was previously a bank and would provide additional space for the Police Department and allow City Hall to expand. The monthly lease agreement is \$5,520.83 plus utilities.

Alderman Mosteller motioned to authorize the City Manager to sign the lease agreement with Admiral Holdings LLC for a five-year lease at 1669 North Howe Street, as outlined on the attached lease, to be used for the Police Department Headquarters. Alderman Carroll seconded.

Mayor Pro Tem Kelley noted that the building, formerly a bank, already includes a vault, which is one of the reasons this space was selected: it would be used to secure evidence in the Police Department.

Alderman Davis asked about the monthly rent of \$5,520.83 plus utilities and the expected annual increase after one year. Ms. Therrien confirmed a \$130 yearly increase for the next five years. Alderman Mosteller noted that the city has been searching for this space to relocate the Police Department for over two years.

Alderman Spencer said the current solution to the problem is only temporary. This is because the city had previously decided not to allocate any funds for the old City Hall/Courthouse. Although the Department has other buildings that can be used, these buildings are also not suitable. While there is a need for a space for the Police Department and City Hall, this solution is only short-term, and long-term solutions need to be discussed further.

Aye, Alderman Mosteller, Carroll, Spencer, Lai, and Kelley. Nay; Alderman Davis. Motion carried 5-1.

5. Public/Private Donation Policy

Manager Therrien proposed a Public/Private Donation Policy. This policy would establish a clear process for handling donations toward City projects or events. As per this policy, all donations would be made through the City, and the Finance Department would maintain written records and provide receipts. The Rules and Procedures Committee drafted the policy, which was referenced by the School of Government.

Alderman Mosteller expressed her support for a policy but suggested that the Finance Director should review and create a new policy that can address different types of public contributions for various events and projects. Private partnerships often involve unique contractual agreements. She inquired whether the policy aimed to establish a special revenue fund instead of a line item. This would help in distinguishing and managing multiple projects and events.

Mayor Alt has emphasized the need for a clear process and an accounting system for all funds donated to the City. This process will ensure that there is a proper record of the

contributors, the amount of money donated, the project or event for which the funds are intended, and when and how the funds were spent.

Mr. Flint explained that the intention is to carry out basic accounting practices. He mentioned that donations are generally recorded under the miscellaneous donations line item in the general fund. Over time, these funds tend to merge with one another, making it difficult to keep track of them. To make the cash handling process more efficient, he suggested that there should be a separate line item in the system for each project or event, where donations can be allocated. He emphasized the need for a unique fund code in the accounting system so that each project or event can have its own fund. This way, all donations can be tracked and managed effectively.

The discussion focused on how contributions are perceived and communicated. It was agreed that a policy should govern the receipt and accounting of donations.

Alderman Mosteller made a motion to ask the Staff to review the language used in the draft policy for Public/Private Donations to the City. The purpose of the review is to improve the clarity of the language used in the policy to distinguish procedures for different types of contributions and sources. The goal is to establish a process that ensures transparency and accountability in the handling of donations. Seconded by Alderman Lai. ***Unanimous Vote; Motion Carried.***

I. Manager's Report

Ms. Therrien provided an update on the Weather Tower Project and the League of Municipalities' assistance and guidance on updating software for accounting and grant writing using AARPA funds.

J. Mayor's Report

Mayor Alt thanked everyone for attending and viewing and encouraged citizens to continue their participation with input and feedback. He announced that there would be many meetings scheduled for work on the budget and encouraged the community to attend.

K. Board Comments

Alderman Lai commented that this was a productive meeting and praised the collaboration among all participants in making the best decisions for the city.

Alderman Spencer expressed gratitude towards Ben and Gibby Wilson for their numerous contributions to the City. He also stressed the importance of repairing and renovating Old City Hall while highlighting the need to prioritize spending funds in a way that would lead to cost savings in the long run.

Alderman Kelley confirmed that the Craft Fair will be along Bay Street during the 4th of July Festival in light of Franklin Square's closure.

Alderman Carroll reminded everyone of the Historic Preservation Commission Meeting on Wednesday, April 3rd, at 4 pm. He announced that today is the last day to apply for the Fire Department's Citizen Academy.

L. Closed Session

Mayor Alt stated that the Board of Aldermen will go into Closed Session per NCGS 143-318.11 (a)(6) To consider the qualifications, competence, performance, character, fitness, conditions of appointment, or conditions of initial employment of an individual public officer or employee or prospective public officer or employee; or to hear or investigate a complaint, charge, or grievance by or against an individual public officer or employee. General personnel policy issues may not be considered in a closed session. A public body may not consider the qualifications, competence, performance, character, fitness, appointment, or removal of a

member of the public body or another body and may not consider or fill a vacancy among its own membership except in an open meeting. Final action making an appointment or discharge or removal by a public body having final authority for the appointment or discharge, or removal shall be taken in an open meeting.

Alderman Carroll moved to enter a Closed Session, seconded by Alderman Spencer. ***Unanimous Vote; Motion Carried.*** — 11:24 a.m.

Alderman Spencer moved to enter back into Open Session, seconded by Alderman Kelley.

There was no further business. A motion was made by Alderman Lai to adjourn and seconded by Alderman Carroll. ***Unanimous Vote; Motion Carried.***

Adjourn — 11:40 am.

Mayor, Richard Alt

Deputy Clerk, Tanya Shannon



Board of Aldermen Special Meeting Minutes
Community Building, 223 E. Bay St.
April 8, 2024
9:00 A.M.

Present: Mayor Rich Alt, Mayor Pro Tem Rebecca Kelley, Alderman Karen Mosteller, Lowe Davis, Robert Carroll, Frank Lai, and Mark Spencer.

Absent: None

Staff: Bonnie Therrien, Manager; Dorothy Dutton, Assistant City Manager/City Clerk; Bob Jarvis, City Engineer; Tom Stanley, Public Services Director; Lance Flint, Finance Director; and Heather Hemphill, Parks and Recreation Director.

A. Mayor Alt called the meeting to order at 9:00 A.M.

B. Reverend Alderman Davis gave the Invocation.

C. Mayor Alt led the Pledge of Allegiance.

E. Approval of the Agenda

A motion was made by Alderman Kelley to approve the Agenda with an amendment for the award of Arborist for Franklin Square Park Preservation and Rate Committee Appointment. Alderman Lai seconded the motion. ***Unanimous Vote; Motion Carried.***

F. Special Presentations

1. Shoreline Stabilization Project Update (Bob, Jarvis, City Engineer, and C. Creed, Olsen Engineers).

Mr. Jarvis provided a brief summary of the project. Then, Mr. Creed updated everyone on the progress made so far and discussed future plans. He explained that the Cape Fear River shoreline had been continually eroding due to wind, ships, tides and currents, storm surges, and rising sea levels. He said they are continuing to explore several options and are considering a phased project. The project goals are to provide reliable protection to upland infrastructure, improve recreational access and use, restore the beaches and dune/marsh habitat, plan for future sea level rise, plan for larger and more frequent boat/ship traffic, minimize the need for future maintenance and work with funding limit and time constraints of the \$5M grant that will expire on June 30, 2026.

The Board discussed concerns regarding storm surge and flooding. While Mr. Creed acknowledged that revetments would help, they won't guarantee the prevention of flooding under certain conditions. Mr. Creed said that they want to select the most efficient materials for the design to create better stabilization.

Mr. Creed explored different options for the project, which involved stabilizing four individual segments. These areas were divided into four parts, with Area One starting from the west end of Bay Street and Area Four commencing from the east of the city pier. According to Mr. Creed, the most crucial areas were One and Two. He reviewed two options, A and B, which addressed each area separately in phases.

There were some concerns regarding the property adjacent to the project areas. Have they been adequately informed, and is there any pushback? Ms. Therrien stated that one property has pushed back but not appealed. Mr. Jarvis confirmed that the City Attorney had already been consulted about the riparian rights and had been informed of the updates. He also

reiterated that once the Board decides how to proceed, the City Attorney will advise the city on the best course of action.

After reaching a consensus, the Board decided to act on areas one and two that require the most urgent stabilization.

Mayor-Pro Tem Kelley motioned to authorize Mr. Chris Creed, P.E. from Olsen Associates, LLC, to move forward with Option B for areas One and Two. This option involves detached breakwaters and sand fill. However, further discussions regarding areas three and four will continue at a later date. Second by Alderman Spencer. Unanimous Vote; Motion Carried.

Break—Call back to order 10:57 am.

Due to a time-sensitive matter, Mayor Alt requested a Closed Session at the end of the meeting *per NCGS 143-318.11*. A Motion was made by Alderman Spencer to add a Closed Session to the Agenda, and second by Alderman Carroll. **Unanimous Vote; Motion Carried.**

F. Agenda

1. Discussion of Possible UDO Changes.

Ms. Therrien requested the Board to review the previously issued list of possible UDO changes and indicate any items they want added or removed.

Alderman Mosteller proposed a few items for further discussion. These include proposing a gateway entry corridor overlay district and reviewing the 3.11 building design standards for any necessary updates. Mayor Alt requested that these additions be submitted to the City Clerk for the record and then back for discussion on all the recommendations.

2. Manager Therrien stated that the Rules and Procedures Committee suggested that there should be a written description outlining the roles and responsibilities of the Board Liaisons. The primary goal of this proposal is to ensure that the Liaisons consistently report information to the Board in a standardized manner. There was a discussion about the extent to which Liaisons can interact with the Boards and Committees during meetings, as well as the roles and responsibilities of the Chairs. The Board discussed how appropriations are made for Boards/Committees and for the Board as a whole to be aware of projects. The proposed form for Liaisons to fill out and provide back to the Board was proposed. The consensus of the Board was to start with creating a policy for the roles and responsibilities of the Chairpersons of the Boards/Committees and provide an orientation every year or as a new Chairperson may be appointed on what the procedures and policies are.

Alderman Carroll made a motion to direct the City Manager to develop a policy that outlines the roles and responsibilities of Chairpersons for Boards and Committees. The policy should also ensure that Chairpersons receive orientation on the process and procedures of their role when appointed annually every June/July. Second by Alderman Lai. **Unanimous Vote; Motion Carried.**

The Board discussed the policies for the roles of the Liaisons. The discussion revolved around the ways to report back to the Board, whether by sending an email update immediately after the meetings or providing minutes of the discussions. Alderman Mosteller pointed out that some committees only provide the agenda topics, while others provide detailed minutes. The presented draft of the roles and responsibilities seemed to support more of the staff roles rather than the Liaisons, said Alderman Mosteller. Alderman Davis suggested sending the recommendations to the Rules and Procedures Committee (Mayor Alt, Alderman Lai, and Carroll) for their input on advising the roles and responsibilities of Liaisons. The Board agreed to send these suggestions to Mayor Alt, copy the City Manager, and return to the Board for more review and discussion.

3. Award for Franklin Square Park Arborist

Manager Therrien said that requests for quotations (RFQs) were sent out for tree removal at Franklin Square Park, which professionals recommended removing. Ms. Therrien further explained that one bid was received from a company that Everett Jones had recommended, J&D Tree Pros, at a quote of \$44,000. If the bid is accepted, J&D Tree Pros could start the work in mid-April, and it will take them three days to complete. Additionally, Ms. Therrien also noted that she received a quote from Bartlett for the request to have the cabling and pruning, which is \$16,000. However, she clarified that the total appropriation is \$50,000, so it will not be possible to complete all the work at once. She will return to the Board in May to advise on the gap. After a discussion on the clarification of the total number of trees to be removed, the Board reached a consensus to have the City Manager review the recommendations and provide clarification on how to proceed.

4. Appointment of the Ad Hoc Rate Committee.

Mayor Alt has appointed himself, Alderman Spencer, and Lai to the Rate Committee.

G. **Closed Session**

Mayor Alt announced that the Board would be voting to go into a Closed Session per NCGS 143-318.11 (a)(6) To consider the qualifications, competence, performance, character, fitness, conditions of appointment, or conditions of initial employment of an individual public officer or employee or prospective public officer or employee; or to hear or investigate a complaint, charge, or grievance by or against an individual public officer or employee. General personnel policy issues may not be considered in a closed session. A public body may not consider the qualifications, competence, performance, character, fitness, appointment, or removal of a member of the public body or another body and may not consider or fill a vacancy among its own membership except in an open meeting. Final action making an appointment or discharge or removal by a public body having final authority for the appointment or discharge, or removal shall be taken in an open meeting.

A Motion was made to enter into a Closed Session by Alderman Carroll and second by Alderman Kelley. **Unanimous Vote; Motion Carried. — 12:33 p.m.**

A Motion was made to return to Open Session by Alderman Kelley and second by Alderman Carroll. **Unanimous Vote; Motion Carried.**

H. **Mayor and Board Comments**

Mayor Alt reminded everyone about the upcoming meetings and encouraged them to attend.

Alderman Davis announced that Ms. Alexis-Gore Graves will speak about the John C. Smith Cemetery on April 9th. She reminded everyone to submit their applications for appointments to the Board and Committees by April 30th.

There was no further business or discussion. A Motion was made by Alderman Davis to adjourn and second by Alderman Carroll. **Unanimous Vote; Motion Carried.**

Adjourn—12:33 p.m.

Mayor, Richard Alt

Deputy Clerk, Tanya Shannon



BOARD OF ALDERMEN

AGENDA ITEM SUMMARY

DATE: May 9, 2024

DEPARTMENT: Finance

PRESENTED BY: Lance Flint, Finance Director

ITEM SPONSORED BY: Finance

ITEM/TOPIC: Purchase of Heavy Rescue Vehicle and Ambulance

COST: \$1,526,025

BUDGET LINE ITEM: Capital Purchases

JUSTIFICATION: In a presentation to the Board on April 23, 2024 Chief Charles Drew requested approval to purchase a Heavy Rescue Vehicle (HRV) and an Ambulance. The Chief further advised that the City could save about \$220,000 on HRV if (a) a purchase order was issued before May 1 to avoid a price increase, and (b) the HRV was paid in full within 15 days of the order. Since bank financing was underway but not complete, Chief Drew further requested Board approval to temporarily use General Funds to realize the savings and replenish the General Fund with the loan proceeds. The ambulance was also approved to secure favorable financing terms if both vehicles are financed together. The Board passed a motion approving the financing and use of General Funds for the immediate purchase of the HRV to realize the savings.

The banks have advised the City that they will require a Reimbursement Resolution as part of the loan application package. That resolution is attached. Also attached is Budget Amendment 6 which memorializes the April 23rd motion in the form of a budget resolution in order to make the necessary adjustments in the City's financial system.

IMPACT IF NOT APPROVED: Securing bank financing in timely manner is jeopardized, which will require longer term use of General Funds.

DEPARTMENT HEAD COMMENTS: Both the Reimbursement Resolution and the Budget Amendment are technical requirements that support the April 23rd decision of Board to pursue the purchase of the HRV at a discounted price. There are no new expenditures or costs in these documents. The recommendation is to approve both as part of the Consent Agenda.

CITY MANAGER COMMENTS. This is required by the bank so an affirmative vote must happen or the loan does not occur.

ATTACHMENTS: Budget Amendment, Reimbursement Resolution

REQUESTED ACTION: Approve the Budget Amendment and the Reimbursement Resolution on the Consent Agenda

PROPOSED MOTION: Approve on Consent Agenda



**Budget Amendment
Fiscal Year 2023-2024
Budget Amendment 6**

WHEREAS the City of Southport is to purchase a Heavy Rescue Vehicle (HRV) and one Ambulance at an upfront discounted rate and reimburse themselves with a bank loan.

WHEREAS the City needs to acknowledge that these charges were not included in the approved 2023-2024 budget; and

WHEREAS the City will be using General Fund cash to purchase the HRV and Ambulance and receive cash via a bank loan to pay the General Fund back.

WHEREAS the budget ordinance for fiscal year 2023-2024 must be amended to reflect the availability and use of these funds.

NOW THEREFORE BE IT ORDAINED, by the Board of Aldermen of the City of Southport, North Carolina that the annual budget ordinance for fiscal year 2023-2024 shall be amended as follows:

Revenue	Increase
Transfer to Other Funds 10-01-4120-9600	\$1,526,025
 Expenditures	
Capital Fund Capital Outlay 23-23-7300-5800	\$1,526,025

Adopted by the Southport Board of Aldermen in regular session, May 9th, 2024.

Richard Alt
Mayor, City of Southport

City Clerk



**CITY OF SOUTHPORT BOARD OF ALDERMEN
REIMBURSEMENT RESOLUTION DECLARING THE INTENTION TO
REIMBURSE THE COST OF CERTAIN EXPENDITURES**

WHEREAS, The City Manager and the Fire Chief have described to the Board of Aldermen the desirability of adopting a resolution, as provided under federal tax law, to facilitate the City's use of financing proceeds to restore City funds when the City makes capital expenditures prior to closing on tax exempt financing.

BE IT HEREBY RESOLVED by the Board of Aldermen of the City of Southport, North Carolina as follows:

Section 1. The project is the financing of the acquisition of one Heavy Rescue Vehicle (HRV) and one Ambulance as identified at the April 23, 2024, Board of Aldermen meeting and is reflected in the fiscal year 2023-2024 amended budget.

Section 2. The project is to be financed. The currently expected type of financing (which is subject to change) is an installment bank loan. The currently expected maximum amount to be financed for the project is \$1,526,025 (\$1,071,025 for the HRV and \$455,000 for the Ambulance).

Section 3. The City presently intends, and reasonably expects, to reimburse itself for the original expenditures incurred and paid by the City from the General Fund within 60 days of adoption of this Resolution from a portion of the financing proceeds.

Section 4. This Resolution shall become effective immediately upon the date of its adoption.

THIS THE 9th DAY OF MAY 2024.

Richard Alt, Mayor
City of Southport

ATTEST:

City Clerk



CITY OF SOUTHPORT BOARD OF ALDERMEN
Grant Project Ordinance for the American Rescue Plan Act of 2021:
Coronavirus State and Local Fiscal Recovery Funds

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

Section 1: This ordinance is to amend a budget for a project which was funded by the Coronavirus State and Local Fiscal Recovery Funds of H.R. 1319 American Rescue Plan Act of 2021 (ARP/CSLFRF). The City of Southport (City) has received a total allocation of CSLFRF funds in the amount of \$1,263,954.06. These funds may be used for the following categories of expenditures, to the extent authorized by state law.

1. Support public health expenditures, by funding COVID-19 mitigation efforts, medical expenses, behavioral healthcare, and certain public health and safety staff;
2. Address negative economic impacts caused by the public health emergency, including economic harms to workers, households, small businesses, impacted industries, and the public sector;
3. Replace lost public sector revenue, using this funding to provide government services to the extent of the reduction in revenue experienced due to the pandemic;
4. Provide premium pay for essential workers, offering additional support to those who have borne and will bear the greatest health risks because of their service in critical infrastructure sectors; and,
5. Invest in water, sewer, and broadband infrastructure, making necessary investments to improve access to clean drinking water, support vital wastewater and stormwater infrastructure, and to expand access to broadband internet.

Section 2: The City has elected to take the standard allowance, as authorized by 31 CFR Part 35.6(d)(1) and expend all its ARP/CSLFRF funds for the provision of government services.

Section 3: The following amounts are appropriate for the project and authorized for expenditure:

Internal Project Code	Project Description	Expenditure Category (EC)	Cost Object	Appropriation of ARP/CSLFRF Funds
001	Law enforcement services for period of July 1, 2021, through April 30, 2024	6.1	Salaries	\$1,263,954.06

Section 4: The following revenue has been received and is available to complete the project:
ARP/CSLFRF Funds: \$1,263,954.06
General Fund Transfer: \$1,263,954.06

Section 5: The Finance Officer is hereby directed to maintain sufficient specific detailed accounting records to satisfy the requirements of the grantor agency and the grant agreements, including payroll documentation and effort certifications, in accordance with 2 CFR 200.430 & 2CFR 200.431 and the City's Uniform Guidance Allowable Costs and Cost Principles Policy.

Section 6: The Finance Officer is hereby directed to report the financial status of the project to the governing board on a quarterly basis.

Section 7: Copies of this grant project ordinance shall be furnished to the City Manager, the Finance Officer, and to the City Clerk.

Section 8: This grant project ordinance expires on December 31, 2026, or when all the ARP/CSLFRF funds have been obligated and expended by the City, whichever occurs sooner.

ADOPTED by the City of Southport Board of Aldermen, this 9TH day of May 2024.

Rich Alt
Mayor, City of Southport

City Clerk



FY 2024-2025 Budget Highlights



CHANGES THIS YEAR:

- One-cent tax increase proposed to fund Capital projects which equates to \$145,000
- The Board did allocate \$1.2 million from the Water/Sewer Fund to offset General Fund salaries due to the merger, but other expenses still need to be captured from Water/Sewer to General Fund in the estimated amount of \$379,000.
- General Fund allocation to the Fire/Rescue Department needed this year-\$161,010.
- Public Safety Steps



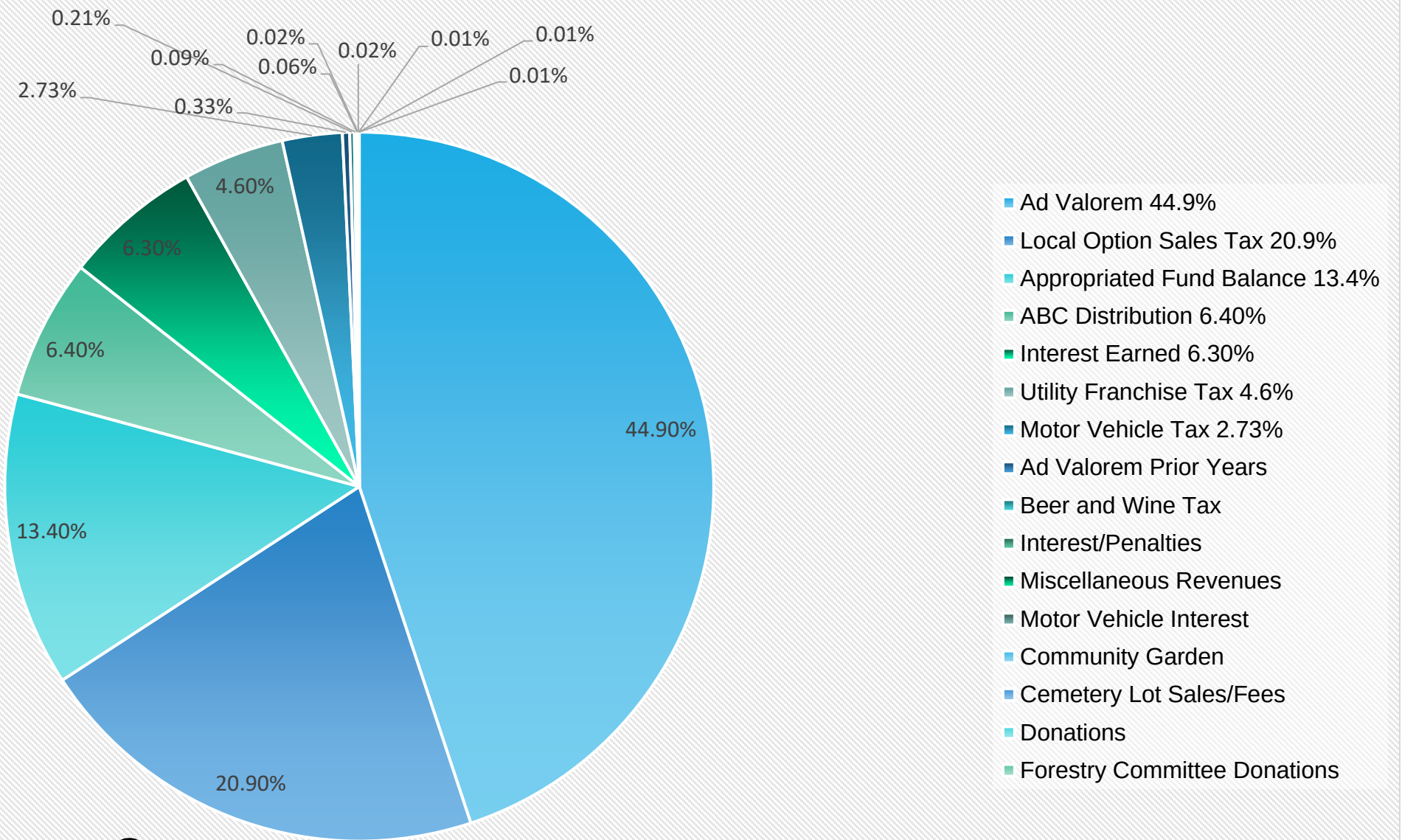
ALSO INCLUDED IN THE PROPOSED BUDGET:

- Salary Study Adjustments- \$162,584 set aside to make the recommended adjustments according to the Board approved Job Study
- Cost of Living Increase for Employees-3.5%
- New 6-year Capital Improvement Plan and approximately forty (40) on-going projects, plus the addition of (13) recommended projects to complete in the upcoming year.

THE BASICS

- **One-cent tax increase = \$145,000**
- The increase would affect the average-priced home by \$44.00.

HOME TAX VALUE	ESTIMATED ANNUAL PROPERTY TAX AT CURRENT TAX RATE 0.275	ESTIMATED ANNUAL PROPERTY TAX WITH ONE-CENT INCREASE 0.285
\$250,000	\$687.00	\$712.50
\$440,000	\$1210.00	\$1254.00
\$800,000	\$2200.00	\$2280.00



General Revenue Sources



FUND BALANCES FY 2024-2025

FUND	BEGINNING OF FY 24-25	END OF FY 24-25
General	\$11.4 million	\$11.4 million less any funds transferred to the Capital Fund. We must maintain 55% Fund Balance Ratio per the policy.
Electrical	\$6.4 million	\$1.6 million
Powell Bill	\$429,890	Ongoing Paving
Capital Fund	\$3.3 million (\$1.45 million is unassigned)	All to be spent on Capital Projects



Please Remember:

**EVERY CENT ADDED OR REMOVED FROM THE TAX
RATE IS EQUAL TO \$145,000 ADDED OR REMOVED
FROM THE BUDGET**

PROPOSED CAPITAL LIST FOR 2024-2025

NOTE: This list represents projects within the Capital Improvement Plan that will be funded through the Capital Fund

REVENUES:

- \$145,000 - Penny Increase in Taxes
- \$1,447,329 – Current Capital Funds (Money must be assigned to a Project)
- \$216,296 – General Fund Surplus

TOTAL: \$1,808,625

PROJECTS:

1) Design – City Pier	\$15,000
2) Dredging – Grant Share	\$15,625
3) Design - City Dock Boat Slips	\$18,000
4) Land Acquisition – Parks	\$75,000
5) Tennis Courts Resurfacing – 2	\$160,000
6) City Hall Renovation Design	\$300,000
7) City Building Repairs – Facilities (HICAPS)	\$200,000
8) Old City Hall Environmental	\$700,000
9) Parks Building Improvements	\$75,000
10) Stormwater Design	\$75,000
11) Sidewalk Repairs	\$100,000
12) Community Center Deck	\$75,000
13) Franklin Square Park	\$50,000

TOTAL: \$1,808,625



REVENUES: \$900,000 from Water/Sewer Fund Balance

PROJECTS: Mandated Replacement of Public Safety Radios in 2025- \$900,00

MAJOR CAPITAL DECISIONS:

- 1)New Police Facility - \$7.298 Million
- 2)Roads - \$2-\$3 Million Bond – to be used over 5-10 years
- 3)New Recreation Center - \$6.3 Million
- 4)Funding Rest of Shoreline Stabilization - \$1 million needed in the
2026-27 budget
- 5)Complete Renovation – City Hall - \$3.995 Million
- 6)Old City Hall/Court House – \$700,000

POSSIBLE REVENUE SOURCES

- Business Registration Fee – The charge cannot exceed the cost of issuing the permit, but any proceeds can be used for any public purpose.
- Animal Taxes – This tax is for domestic animals, and the charge can vary depending on the sex of the animal and whether it has been spayed or neutered. The proceeds can be used for any public purpose. One hundred fifty-four (154) animals are registered right now.
- Stormwater Management Services – This may not exceed the cost to issue the permit, and any proceeds may be used for any purpose. You may also want to consider a Stormwater Permit fee.
- Special Assessments – A small group of taxpayers can be charged for a Special Assessment for streets, sidewalks, flood or hurricane improvements, and beach erosion. The assessment is based on the front footage or area of the land served. The assessment is levied after the project is completed, and the town will pay the money upfront. This is paid back in ten (10) annual installments.
- Motor Vehicle License Tax – Up to \$30.00 per year can be charged on any vehicle registered in the City. Up to \$5.00 may be used for any purpose, and the rest must be used for maintaining, repairing, and constructing City roads. Currently, we have 4618 vehicles registered in Southport.



Closing Remark(s)



BOARD OF ALDERMEN

AGENDA ITEM SUMMARY

DATE: May 9, 2024

DEPARTMENT: Development Services/Administration

PRESENTED BY: Dorrie Dutton, Assistant City Manager

ITEM SPONSORED BY: Development Services/Administration

ITEM/TOPIC: Rights-of-Way

COST: Unknown at this time

BUDGET LINE ITEM:

JUSTIFICATION: Since the Fall of 2022, the Board of Aldermen has been trying to decide how to manage the City's right-of-way areas. There have been many presentations, lots of research, and at least two public meetings. Some of the Board members, either past or present, have expressed their wish to enforce all encroachments into the right-of-way areas, including the imminent removal of any landscaping or hardscaping. Others want to allow vegetative encroachments only. And still others don't want to enforce the encroachments into the rights-of-way at all. There have been many public comments requesting that the Board allow landscaping in the right-of-way areas. People take pride in their yards, and their plantings only add to the beauty and quaintness of Southport.

Staff has been put in the position of trying to investigate and enforce some encroachments and asked to postpone enforcement on others. City staff cannot do our jobs if we don't know how the Board wants us to move forward. If the ordinance needs revisions, we will bring that back to the Board. There are several options to consider:

- Enforce the ordinance as it is written today which says nothing can be placed above the horizontal plane of the existing ground. If there is an obstruction, it must be removed within (72) hours. This might also include amortization of existing encroachments OR allowing existing encroachments, but there can be no new encroachments.
- Allow vegetative encroachments in the rights-of-way, with the understanding that if the public right-of-way needs to be accessed, the City will not replace or repair the area. The Board would also need to decide if property owners are allowed to replace the landscaping. There can be no hardscapes or items placed in the right-of-way.
- Allow all encroachments, regardless of the materials, UNLESS they create a public safety concern. If the rights-of-way need to be accessed, the Board needs to decide if the materials are allowed to be put back.
- Parking in the public right-of-way is allowed and cannot be "reserved" by the adjacent property owners. If property owners want to improve an area for parking, they must maintain it but still cannot reserve the space.

Staff is requesting the Board decide so we know how to proceed moving forward. Suppose the Board decides to start enforcing the existing ordinance more proactively. In that case, the City will have to maintain all those areas, in addition to the alleyways, many of which are overgrown and in violation of other ordinances. Most municipalities that were reviewed for comparison do not allow obstructions in the right-of-way but do not prohibit landscaping.

On March 28, 2024, a group of City staff including Bonnie Therrien, Mo Meehan, Harlan (HP) Pyles, Dorrie Dutton, and Derek Mabe with Alliance Code Enforcement, met to discuss and develop a recommendation to the Board of Aldermen.

Staff would like to recommend to the Board of Aldermen that only vegetative encroachments be allowed and then it can be replaced by the property owner if removed for access. No hardscapes should be allowed.

Staff feels that the landscaping enhances the appearance of the community.

Additionally, enforcing encroachment violations would be a massive undertaking, and it would be difficult to capture the existing encroachments. We would need more staffing to enforce the present ordinance.

IMPACT IF NOT APPROVED: If the Board does not make a decision, staff will still be in limbo, unable to move forward one way or the other.

DEPARTMENT HEAD COMMENTS: Please decide on how to enforce right-of-way encroachments.

CITY MANAGER COMMENTS: I was a part of the decision-making Staff Committee who is making this recommendation to you. Every community I have worked in has allowed for vegetative growth in the ROW that must be maintained by the property owner. If the municipality has needed access, we notify the homeowner that their vegetative growth must come up and we will not replace what was there. I think this has been hashed out long enough and it is time for the Board to take a stand one way or the other.

ATTACHMENTS: 1) Presentation from the Public Meetings 2) Comparison with other municipalities.

REQUESTED ACTION: Discussion and Direction

PROPOSED MOTION: Motion to allow for vegetative encroachment on the Rights of Way to be maintained by the owner with the intent that the owner is aware that if the City needs access, we will remove the vegetative growth and not replace it.

Right-of-Way Enforcement



Right-of-Way. The property located within and adjoining the streets, roads, and highways within the city which rights-of-way are owned by the city or state or otherwise maintained by the city or the state. Right-of-way may be in an improved or unimproved state.





The current language states that any encroachment into any of the City's rights-of-way areas is a violation.

- **Rights-of-way include sidewalks, public streets, alleys**
- **This includes everything above the horizontal plane of the existing ground such as landscaping, fencing, decorative pavers, yard-art, etc.**

Some property owners/tenants in Southport have spent a lot of money landscaping their yards, and others have inquired about landscaping shared areas like this one.



Some would argue that it adds character to the community.



What about parking pads?

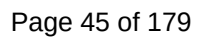






Section 16-8 of the UDO specifically states that rights-of-ways are to be unobstructed for passage of people and vehicles.

A gravel driveway leads from the foreground towards a wooden fence and a white garage. A storm drain grate is visible in the gravel. The background features several tall trees and a clear blue sky.



OPTIONS FOR MOVING FORWARD

1. Enforce the Right-of-way ordinance as it is written:
 - a. all existing encroachments must be removed by a certain deadline; Or
 - b. all existing encroachments can remain until a time the City needs access to the area, and then they will be removed and cannot be put back;
 - c. no new encroachments would be allowed.

OR:

2. Property owners are allowed to landscape and plant vegetation in the City's rights-of-way, but there cannot be any hardscapes (pavers, fountains, decorative rocks, etc.)

OR:

3. Property owners can create parking spaces only in the rights-of-way areas: a maximum of one/two spaces? Are they reserved for the owners only?

(TBD-what materials are allowed?)



OR:

4. Do not amortize rights-of-way encroachments, allow existing or new encroachments until access is needed by the City OR, they cause a public safety concern.

a. The property owner can put the landscaping encroachments back, at no expense to the City.

5. Allow landscaping around existing trees for protection against parking, but do not allow other encroachments.

A large, mature tree with dense green foliage stands in the center of a residential street. Behind the tree, several houses are visible, including a prominent yellow house with a porch. The sky is blue with scattered white clouds. The word "QUESTIONS?" is overlaid in white text on the tree.

QUESTIONS?

Right of Way Examples

Town of Carthage: § 92.02 OBSTRUCTION OF STREETS PROHIBITED.

- (A) It shall be unlawful for any person or business to obstruct any public street, sidewalk, alley, road, or right-of-way within the corporate limits, subject to the following provisions.
- (B) It shall be unlawful to obstruct, pile, place, or leave, or cause to be obstructed, placed, or left temporarily or permanently, any trash, refuse, garbage, lumber, logs, cordwood, tree-tops, or any other material upon any road or town street or the shoulders thereof, or within the right-of-way or over the ditches or drainways of any road or street of the town street system.

Surf City: SEC. 16-4. ENCROACHMENT BY BUILDINGS, FENCES, WALLS, ETC.

- (a) No building, fence, walls, landscaping, unauthorized signage, or any other structure or fixture shall encroach upon or use any part of the public streets or other public places within the town.
- (b) An 8-10' clear zone determined by the street being designated as either a local street or collector street shall be kept clear at all times and in the event an obstruction is placed within the designated zone it shall be removed upon first observation in the interest of public safety and at the expense of the property owner.
- (c) All encroachments between the clear zone and the street line (right-of-way of street) will result in the issuance of a notice of violation.

Wrightsville Beach: § 99.03 OBSTRUCTING STREETS AND SIDEWALKS.

No brick, stone, wood, or other substance obstructing the free passage of persons and vehicles shall be placed or permitted to lie in any street of the town; nor shall any person place on or in any street or sidewalk any boxes, crates, casks, barrels, or other obstruction of any kind. However, any person erecting a building, may with permission, place building material for immediate use on the streets in a way as not to interfere with the usual traffic. The provisions of this section shall not apply to events sponsored by the town.

Carolina Shores- § 40.13 ENCROACHMENTS IN THE PUBLIC RIGHT-OF-WAY.

(A) It shall be unlawful for any person to build or erect any porch, step, platform, wall, fence, column, footing or other like obstruction upon or under any sidewalk, street or alley within the town; provided, however, that in the restoration, reconstruction or addition to buildings of an historical nature or where no building setback lines are required by the zoning ordinance of the town, it shall be permissible, upon the approval of the Board of Commissioners, to make such restoration, reconstruction or addition to encroach upon or under a sidewalk. As a condition precedent to the Board of Commissioners' issuance of any permit for such encroachment, the following requirements shall be met:

- (1) The building to be restored, reconstructed or added upon shall be located in an existing or proposed local historic district.

(2) The right-of-way of the street upon which any such building abuts shall be at least 45 feet wide.

(3) The encroachment shall not extend over or upon a sidewalk, including the street curbing, for a distance of greater than four feet or for more than one-third of the sidewalk width, whichever is less, nor shall the encroachment extend under a sidewalk for a distance of greater than four feet.

(4) Prior to the submittal to the Board of Commissioners, detailed plans must be submitted and approved by the Department of Public Works.

(B) Such encroachment upon or under any sidewalk shall constitute the owner's agreement to protect and hold the town harmless against any and all liability, cost, damage or expense suffered or sustained by the town as a result of or growing out of the encroachment upon or under such sidewalk.

§ 40.40 OBSTRUCTIONS TO CROSS-VISIBILITY AT INTERSECTIONS DEEMED NUISANCE.

In order to promote and conserve the public health and safety and pursuant to the police powers of the town and the power to prevent and abate public nuisances as conferred upon the town by the General Statutes of North Carolina, it is declared to be a public nuisance for a person owning and/or having the legal control of any land within the corporate limits of the town to maintain or permit upon any such land any fence, sign, billboard, shrubbery, bush, tree, mailbox or other object, or any combination thereof, which obstructs the view of motorists using any street or driveway or approach to any street intersection or driveway connection so as to constitute a traffic hazard or a condition dangerous to the public safety.

Winterville: § 98.028 PLACING OBJECTS ON STREETS, SIDEWALKS, EASEMENTS, AND DRAINAGE-WAYS.

(A) No material or substance obstructing the free passage of persons, vehicles, street sweepers, or obstructing drainage water shall be placed or suffered to lie in any of the alley ways, sidewalks, streets, gutters, ditches, drainage-ways, utility easements, or other routes of the town, nor shall any person, partnership, company or similar entity place or cause to be placed, on or in any of the alley ways, sidewalks, streets, gutters, ditches, drainage-ways, utility easements, or other routes of the town, material or substances or any other obstruction of any kind, provided that any person erecting structure, building or making repairs to alley ways, sidewalks, streets, gutters, ditches, drainage-ways, utility easements, or other routes of the town may, by obtaining a written permit from the Police Department, temporarily, place building material for immediate use on the alley ways, sidewalks, streets, gutters, ditches, drainage-ways, utility easements, or other routes of the town in such a way as to not interfere with the usual traffic. Material or substances and any other obstructions of any kind include, but are not limited to, brick, stone, wood, sand, mortar, dirt, boxes, crates, casks, barrels, construction materials, eroded earth material, curb entrance ramps, nails, shingles, vegetative, organic or feces materials and similar materials or substances.

(B) Any written permit issued by the Police Department shall include the material or substance type, the area and location on which the material or substance may be placed, the time and date that the permit was issued and the date that the permit expires.

(C) (1) Any violation of the provisions of this section shall subject the offender to a civil penalty in the amount of \$25. Each subsequent day that a violation listed in this section continues shall constitute a separate and distinct offense. Violators shall be issued a written citation, which must be paid within 72 hours. If the person fails to pay the civil penalty within 72 hours, the town may recover the penalty including all costs and attorneys fees by filing a civil action in the general court of justice in the nature of a suit to collect a debt.

(2) The town may increase any civil penalty assessed under this section by \$50 for each subsequent violation of the same provision within a two-year period.

§ 98.110 RIGHT-OF-WAY ENCROACHMENT PERMITS.

(A) A permit system is hereby established for the installation, maintenance and repair of non-town owned utilities that are currently within town streets, town right-of-ways or town utility easements or are to be installed within town streets, right-of-ways or town utility easements. All utility providers shall provide to the town, within 120 days after enactment of this section, plans showing the location of the utility provider's existing service encroachments.

(B) The terms UTILITY and UTILITY PROVIDER shall include but not be limited to: gas utilities, cable tv utilities, telephone utilities, water utilities, sewer utilities, drainage utilities, internet utilities, and electric utilities, whether regulated by the federal and/or state governments or not.

(C) The utility provider shall submit an encroachment application on the prescribed form to obtain a permit from the town to install any new or additional utility and/or utility services. The location of any proposed utility and/or utility services shall be shown on a plan submitted to the town, and the utility provider must obtain approval of the plan from the town prior to installation of the utility and/or utility services.

(D) The utility provider shall submit an encroachment application on the prescribed form to obtain a permit from the town to make any repair or maintenance which requires any underground excavation and/or any pavement removal or replacement. When emergency work is performed after normal working hours or during a weekend or holiday, the utility provider shall submit an encroachment permit application the next business day following.

(E) Pavement removal or disturbance shall be repaired and resurfaced immediately after maintenance or new installation work is complete.

(F) A fee for each permit is authorized.

Edenton: § 96.25 PLANTINGS AND THE LIKE. No plantings or obstruction may be made on the right-of-way between the curb and sidewalks 50 feet from the corner of the intersections or more than 30 inches high, without town approval.

Swansboro, NC: 93.004 OBSTRUCTING STREETS OR SIDEWALKS. No brick, stone or wood or other substances obstructing the free passage of persons and vehicles shall be placed or suffered to lie in any of the alleyways, streets, or other routes of the town, nor shall any person place on or in any of the streets, sidewalks, or alleyways of the town any boxes, crates, casks or barrels of any description or any other obstruction of any kind. Provided that any person erecting a building may

with permission place building materials for immediate use on the streets in such a way as to not interfere with the usual traffic.

93.012 RIGHT-OF-WAY MAINTENANCE. That portion of the street right-of-way not in active town use, either by installation of roadway, sidewalks, or other improvements or services, shall be maintained by the abutting property owner.

Morehead City: Sec. 28-1. - Planting trees between sidewalk and street—Authority; supervision. The citizens may plant trees in front of their lots on the line dividing the sidewalks from the streets by obtaining authority from the city. The planting of such trees shall be under the supervision of the city manager. No person shall remove, destroy, cut or disfigure such trees without permission from the city manager.

Sec. 28-2. - Same—Height restrictions near intersections.

No plantings or obstructions more than 30 inches high shall be planted or erected on the right-of-way between the curb and sidewalk within 50 feet from the corner of intersections.



BOARD OF ALDERMEN

AGENDA ITEM SUMMARY

DATE: 05/09/2024

DEPARTMENT: Development Services/Administration

PRESENTED BY: M. Meehan/D. Dutton

ITEM SPONSORED BY: Development Services/Administration

ITEM/TOPIC: Annexation Public Hearing for Turtle Bay at Southport

COST: n/a

BUDGET LINE ITEM: n/a

JUSTIFICATION: A public hearing must be held before an annexation can be approved or denied. The applicants are requesting to annex 54.09 acres off River Road. The Board of Aldermen have Accepted the Clerk's Certificate of Sufficiency and adopted the Resolution setting the public hearing for the May 9th Board meeting.

IMPACT IF NOT APPROVED: n/a

DEPARTMENT HEAD COMMENTS: Public hearing is mandatory before the Board can vote on whether to approve or deny the annexation request.

CITY MANAGER COMMENTS: Conduct the Public Hearing

ATTACHMENTS: 1. Clerk's certification 2. Resolution Setting the Public Hearing 3. Public Notice 4. Map of property to be annexed.

REQUESTED ACTION: Public hearing only.

PROPOSED MOTION: n/a



Certificate of Sufficiency-ANX #24-01

Parcel ID: 22100017

To the Board of Aldermen of the City of Southport, North Carolina:

I, Dorothy Dutton, City Clerk, do hereby certify that I investigated the petition attached hereto and have found as a fact in accordance with N.C.G.S. 160A-31:

1. The description is adequate to locate the property on the ground.
2. A search of the tax records and the grantor index of the Register of Deeds supports that the property has not been conveyed to another property owner. (DB 5043, PG 1074)
3. Each identified heir/owner has signed the petition and provided their address.
4. The property is contiguous to existing city limits.

In witness whereof, I have hereunto set my hand and affixed the Seal of the City of Southport, this 11th day of April 2024.

Dorothy Dutton, City Clerk
Assistant City Manager





**CITY OF SOUTHPORT BOARD OF ALDERMEN
RESOLUTION FIXING DATE OF PUBLIC HEARING ON
ANNEXATION #24-01 PURSUANT TO N.C.G.S. 160A-31 FOR CONTIGUOUS
ANNEXATION OF
PARCEL ID# 22100017**

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

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

WHEREAS, the Board of Aldermen has by resolution accepted the City Clerk's Certificate of Sufficiency investigating the sufficiency of the petition.

NOW, THEREFORE, BE IT RESOLVED by the Board of Aldermen of the City of Southport, North Carolina that:

Section 1. A public hearing on the question of annexation of the area described herein will be held at the City of Southport Community Building at 6:00 PM on the 9th of May 2024.

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

Parcel 22100017

Beginning at an existing iron pipe at the intersection of the western Right-of-way of River Road (NC Hwy 87) and the southern line of Old Baker Avenue (believed to be a prescriptive easement) having NC Grid '83 coordinates Northing 71,793.2402 ft and Easting 2,296,296.7202 ft the POINT OF BEGINNING. Said point is also the northeast corner of Lot 1, Plat Book 11 Page 59, Brunswick County Register of Deeds;

Thence along the northern line of Lot 1, Plat Book 11 Page 59 N 87°20' 15"W 393.47 feet to an existing iron pipe pinched;

Thence along the northern line of Robin D. Swain et al (Deed Book 1845 Page 985, Plat Book 6 Page 167) N 86°12' 11" W 560.99 ft to an existing iron rod;

Thence the following four courses and distances along the boundary line of Delores Yvonne Adams (Deed Book 3208 Page 1205, Map Cabinet 21 Page 386, Map Cabinet 36 Page 526) (1) N 11°10' 51" E 468.99 ft to an existing iron rod; (2) N 72°45' 07" W 253.01 ft to an existing iron pipe; (3) S 46°52' 56"W 341.73 ft to an existing iron pipe; (4) N 25°36' 08 "W 28.15 feet to an existing iron pipe;

Thence along the end of Right-of-way of Sandy Lane recorded in Map Cabinet 56 Page 43, N 28°20' 29"W 30.46 feet to an existing iron pipe;

Thence along the eastern line of a sewer lift station lot recorded in Map Cabinet 56 Page 43, N 27 i 01' 51 "W 82.95 feet to an existing iron pipe;

Thence the following two courses and distances along the eastern and northern boundary line of Goldstar Business Services Inc, recorded in Deed Book 4816 Page 1040, (1) N 07° 12' 07" W 259.52 ft to an existing iron pipe, (2) N 77° 33' 00" W 504.32 ft to an existing iron pipe;

Thence along the northeastern line of Jambev Realty Inc, recorded in Deed Book 4681 Page 1186, N 07° 20' 43" W 114.03 feet to an existing iron pipe in the southern line of Duke Energy Progress, Inc recorded in Deed Book 4554 Page 461;

Thence along the southern line of Duke Energy Progress N 55° 14' 22" E 1494.33 ft to an existing iron pipe pinched;

Thence the following three courses and distances along the western line of Clay Hill Boat & RV Boat Storage LLC recorded in Deed Book 3965 Page 502, (1) S 78° 06' 01" E 221.42 ft to a new iron rod set; (2) N 59° 01' 41" E 12.51 ft to a new iron rod set, (3) S 20° 15' 29" E 59.79 ft to a new iron rod set;

Thence the following four courses and distances along the western and southern line of Frederick C. Hartman Rev Trust (1) S 20° 27' 57" E 213.05 ft to an existing iron pipe; (2) N 82° 57' 42" E 216.68 ft to an existing iron pipe, (3) S 87° 09' 42" E 93.00 feet to a point, (4) N 84° 39' 18" E 178.96 ft to an existing iron pipe on the western Right-of-Way of NC Hwy 87; Note: calls (2) (3) (4) follow the run of Clay Bottom Branch;

Thence along the western Right-of-Way of NC Hwy 87 the following ten courses and distances:

- (1) a curve being concave to the right having a radius of 1878.87 feet and a chord bearing and distance of S 04° 28' 35" E 728.72 ft to a point;*
- (2) S 06° 40' 54" W 140.35 ft to a point;*
- (3) S 06° 28' 00" W 197.53 ft to a point;*
- (4) S 07° 02' 24" W 205.26 feet to an NCDOT Right-of-Way Disc;*
- (5) S 04° 33' 17" W 13.89 feet to an existing iron pipe;*
- (6) S 04° 33' 17" W 18.66 feet to an NCDOT Right-of-Way Disc;*
- (7) S 07° 24' 53" W 136.52 feet to an NCDOT Right-of-Way Disc;*
- (8) N 83° 07' 33" W 34.95 feet to an NCDOT Right-of-Way Disc;*
- (9) S 06° 55' 12" W 39.54 feet to an NCDOT Right-of-Way Disc;*
- (10) A curve being concave to the right having a radius of 1824.86 ft and a chord bearing and distance of S 08° 17' 24" W 90.21 ft to an exist iron pipe, the POINT OF BEGINNING and containing approximately 54.09 acres as shown on Annexation Plat by Port City Land Surveying, PLLS, dated July 25, 2023.*

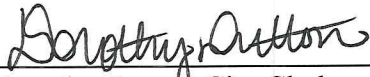
Section 3. Notice of the public hearing shall be published in *The State Port Pilot*, a newspaper having general circulation in the City of Southport and on the City of Southport's website, at least (10) days prior to the date of the public hearing.

Adopted this the 11th day of March 2024.



Rich Alt, Mayor
City of Southport

ATTEST:



Dorothy Dutton, City Clerk
Assistant City Manager



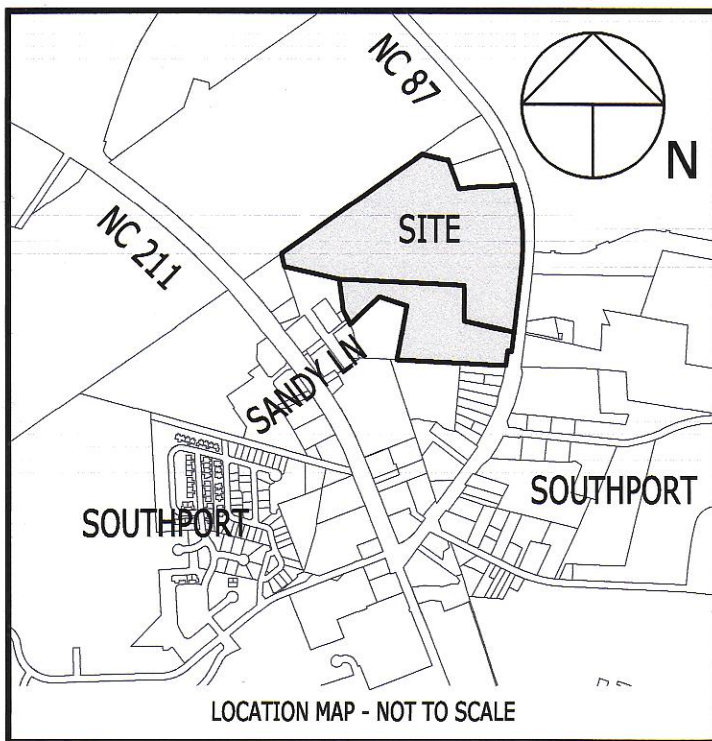


Notice of Public Hearing on Request for Annexation ANX #24-01

The public will take notice that the Board of Aldermen of the City of Southport has called a Public Hearing at 6:00 p.m. on May 9, 2024, at the Community Building located at 223 E. Bay Street to discuss the possible annexation of the following described property requested by petition filed pursuant to N.C.G.S. 160A-31:

This property is also identified as Parcel ID#: 22100017; 54.09 acres between NC 87 (River Road) and NC 211 Hwy.

Publish Dates: Wednesday, April 24, 2024.



LEGEND

- PROPERTY LINE
- ADJOINERS LINE
- CENTER LINE
- RIGHT OF WAY
- EASEMENT
- LOT CORNER
- CH
- CP
- ECM
- EIP
- EIPP
- EIR
- M.C., PG.
- NIRS
- OHW
- PP
- RCP
- CHORD
- COMPUTED POINT
- EXISTING CONCRETE MONUMENT
- EXISTING IRON PIPE
- EXISTING IRON PIPE PINCHED
- EXISTING IRON ROD
- MAP CABINET, PAGE
- NEW IRON ROD SET
- OVERHEAD WIRE(S)
- POWER POLE
- RE-INFORCED CONCRETE PIPE

THE PREMISES IS WITHIN A NON-FLOOD HAZARD AREA (ZONE 'X')
ACCORDING TO THE FLOOD INSURANCE RATE MAP FOR TOWN OF
SOUTHPORT, BRUNSWICK COUNTY, NORTH CAROLINA (COMMUNITY
PANEL No. 370028 2097 K, EFFECTIVE 08-28-2018).

CERTIFICATE OF OWNERSHIP:

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY
SHOWN AND DESCRIBED HEREON, WHICH IS LOCATED IN THE
SUBDIVISION JURISDICTION OF THE CITY OF SOUTHPORT AND
THAT I HEREBY ADOPT THIS PLAN OF ANNEXATION WITH MY
FREE CONSENT, ESTABLISH MINIMUM BUILDING SETBACK LINES
AS NOTED.

OWNER

DATE

N.C. GRID - NAD '83
GPS SURVEY DEC. 2022

GENERAL NOTES:

- 1) PARCEL PINS: 2097-19-52-6156 AND 2097-19-52-6807.
- 2) ALL DISTANCES SHOWN ARE HORIZONTAL GROUND MEASURED IN FEET UNLESS OTHERWISE NOTED.
- 3) THIS MAP WAS DRAWN WITHOUT THE BENEFIT OF A COMPLETE TITLE SEARCH. THE OWNERSHIP INFORMATION WAS OBTAINED FROM THE TAX RECORDS OF THE COUNTY REGISTRY.
- 4) AREAS COMPUTED BY COORDINATE METHOD.
- 5) PROPERTY ZONE: HC (200' OF ROAD FRONTAGE), R-20 REMAINING LAND.
- 6) NO VISIBLE GRAVES OR HEAD STONES OBSERVED AT THE TIME OF SURVEY.
- 7) NCGS MILLER NOT FOUND - BELIEVED TO HAVE BEEN DESTROYED BY CONSTRUCTION.

TITLE REFERENCES

D.B. 4598, PG. 224;
D.B. 3016, PG. 470;
D.B. 613, PG. 959;
D.B. 1845, PG. 985;
M.C. 6, PG. 167;
D.B. 1159, PG. 41;
D.B. 3802, PG. 1205;
M.C. 21, PG. 386;
M.C. 36, PG. 526;
M.C. 56, PG. 43;
D.B. 1538, PG. 54;
D.B. 3725, PG. 454;
D.B. 4198, PG. 495;
D.B. 4554, PG. 461;
M.C. 63, PG. 27;
D.B. 3965, PG. 502;
M.C. 106, PG. 15;
D.B. 4950, PG. 377;
D.B. 5043, PG. 1074;
BRUNSWICK COUNTY REGISTRY.

CERTIFICATE OF APPROVAL FOR RECORDING:

I HEREBY CERTIFY THAT THE ANNEXATION PLAT SHOWN HEREON
HAS BEEN FOUND TO COMPLY WITH THE REGULATIONS OF THE
CITY OF SOUTHPORT FOR RECORDING IN THE OFFICE OF THE
REGISTER OF DEEDS OF BRUNSWICK COUNTY.

JUDO ADMINISTRATOR

DATE

CERTIFICATE OF REGISTRATION BY REGISTER OF DEEDS

BRUNSWICK COUNTY
NORTH CAROLINA

FILED FOR REGISTRATION ON THE _____ DAY OF _____ JULY _____
2023 AT _____ A.M./P.M. AND DULY RECORDED IN MAP CABINET
AT PAGE _____

BRENDA M. CLEMMONS
REGISTER OF DEEDS

REVIEW OFFICER CERTIFICATE

I, _____ REVIEW OFFICER OF THE TOWN OF
SOUTHPORT, N.C. CERTIFY THAT THE MAP TO
WHICH THIS CERTIFICATE IS AFFIXED MEETS ALL
STATUTORY REQUIREMENTS FOR RECORDING.

DATE

MAP REVIEW OFFICER

ANNEXATION PLAT FOR

TURTLE BAY AT SOUTHPORT LLC

PARCEL 22100017

RIVER ROAD SE - N.C. HIGHWAY 87
SOUTHPORT, NC 28461
SMITHVILLE TOWNSHIP

BRUNSWICK COUNTY, NORTH CAROLINA
SCALE 1"= 150' DATE: JULY 25, 2023



PORT CITY
LAND SURVEYING, PLLC

FIRM LICENSE No. P-1493

1144 SHIPYARD BOULEVARD
WILMINGTON, NORTH CAROLINA 28412
(910) 791-0080

CAD: SLB
PROJECT: 22-0461

OWNER OF RECORD:
TURTLE BAY AT SOUTHPORT LLC
5106 LANCOME CT
WILMINGTON, NC 28409-2735

I, STEVEN L. BUIE, CERTIFY:
THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE
RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED
SURVEY, OR OTHER EXCEPTION TO THE DEFINITION OF
SUBDIVISION PER G.S. 47-30 (F)(11)(D);
I, STEVEN L. BUIE, CERTIFY THAT THIS PLAT WAS DRAWN UNDER
MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY
SUPERVISION; THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY
INDICATED AS DRAWN FROM INFORMATION FOUND IN (SEE TITLE
REFERENCES); THAT THE RATIO OF PRECISION OR POSITIONAL
ACCURACY AS CALCULATED IS 1:10,000+; THAT THIS PLAT WAS
PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED. WITNESS
MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS
25th DAY OF JULY, 2023.

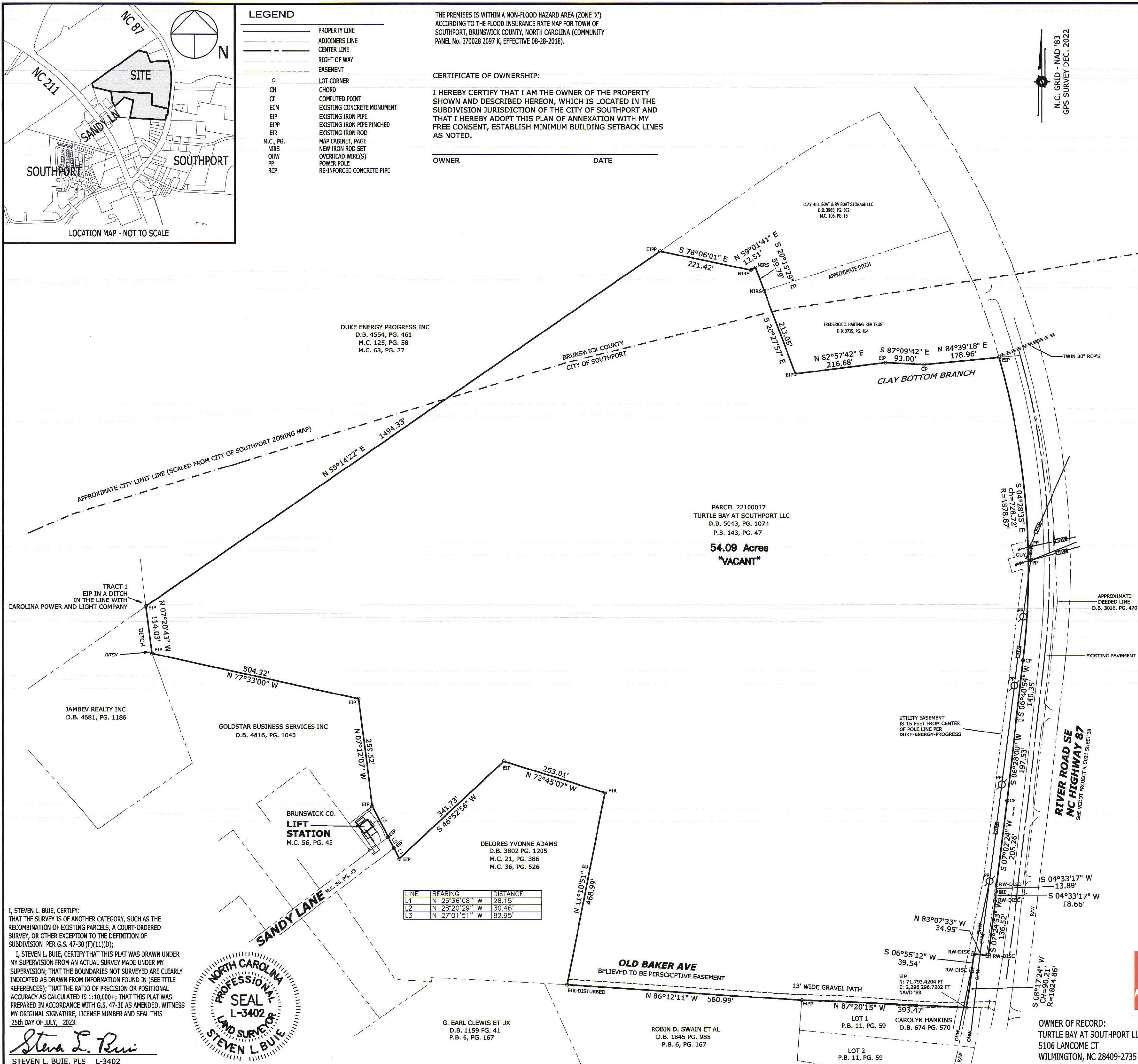


Steven L. Bui
STEVEN L. BUIE, PLS L-3402

LINE	BEARING	DISTANCE
L1	N 25°36'08" W	28.15'
L2	N 28°20'29" W	30.46'
L3	N 27°01'51" W	82.95'

G. EARL CLEWIS ET UX
D.B. 1159 PG. 41
P.B. 6, PG. 167

ROBIN D. SWAIN ET AL
D.B. 1845 PG. 985
P.B. 6, PG. 167



PARCEL 22100017
TURTLE BAY AT SOUTHPORT LLC
D.B. 5043, PG. 1074
P.B. 143, PG. 47

54.09 Acres
"VACANT"

GOLDSTAR BUSINESS SERVICES INC
D.B. 4816, PG. 1040

BRUNSWICK CO.
LIFT
STATION
M.C. 56, PG. 43

DELORES YVONNE ADAMS
D.B. 3802 PG. 1205
M.C. 21, PG. 386
M.C. 36, PG. 526

UTILITY EASEMENT
IS 15 FEET FROM CENTER
OF POLE LINE PER
DUKE-ENERGY-PROGRESS

APPROXIMATE
DEEDED LINE
D.B. 3016, PG. 470

EXISTING PAVEMENT

RIVER ROAD SE
NC HIGHWAY 87
SEE NC DOT PROJECT K-5021 SHEET 38

N 83°07'33" W
34.95'

S 06°55'12" W
39.54'

N 87°20'15" W
393.47'

LOT 1
P.B. 11, PG. 59

CAROLYN HANKINS
D.B. 674 PG. 570

LOT 2
P.B. 11, PG. 59



BOARD OF ALDERMEN

AGENDA ITEM SUMMARY

DATE: 05/09/2024

DEPARTMENT: Development Services

PRESENTED BY: Maureen Meehan, City Planner

ITEM SPONSORED BY: Turtle Bay at Southport, LLC

ITEM/TOPIC: Public Hearing for a Zoning Map Amendment for a Parcel of land on Highway 87 from R-20/HC to Planned Unit Development (PUD) including the required Master Development Plan

COST: N/A

BUDGET LINE ITEM: N/A

JUSTIFICATION: At their March 27, 2024 meeting the Planning Board voted to send the Board of Aldermen a recommendation of approval for the Zoning Map Amendment located on Highway 87 from Residential Agricultural (R-20) and Highway Commercial (HC) to Planned Unit Development (PUD) with attached Master Development Plan. A duly advertised public hearing must be held prior to the Board of Aldermen deciding on the proposed amendment.

IMPACT IF NOT APPROVED: This is a legislative decision defined by the NC General Statutes. The Board is not obligated to approve the amendment. A statement of consistency and reasonableness must be adopted in conjunction with a motion to approve or deny the proposal.

DEPARTMENT HEAD COMMENTS: The attached proposed Zoning Map Amendment has been reviewed by staff for consistency with the land use plan, adopted ordinances, and surrounding neighborhood. Staff found the proposal consistent and reasonable and forwarded it to the Planning Board for a recommendation.

CITY MANAGER COMMENTS: Please hold the Public Hearing

ATTACHMENTS: Staff Report, Zoning Map Amendment Application, and Planned Unit Development Application

REQUESTED ACTION: Hold a public hearing for a Zoning Map Amendment

PROPOSED MOTION: Motion to open the public hearing for the Zoning Map Amendment of a tract of land on Highway 87.

STAFF REPORT FOR TURTLE BAY PLANNED UNIT DEVELOPMENT APPLICATION REZONING AND MASTER DEVELOPMENT PLAN REVIEW

APPLICATION SUMMARY	
Presentation Date	May 9, 2024 Board of Aldermen
Applicant	East Coast Engineering, P.C. Jackson Starling, PE
Property Owner	Turtle Bay at Southport, LLC Bob Weinbach and Terrance Ando
Parcel ID:	22100017
Project Acreage	54.09 acres
Parcel Acreage	54.09 acres
Zoning District	R-20/HC
Proposed Zoning	Planned Unit Development
Proposed Future Land Use Map	Low Density Residential

PROJECT OVERVIEW

Jackson Starling, applicant, on behalf of Turtle Bay at Southport, is requesting approval of a Master Development Plan and Rezoning from R-20/HC to Planned Unit Development (PUD). The Master Development plan proposes 100 single-family dwelling units on an approximately 54-acre parcel of land located on NC 87.

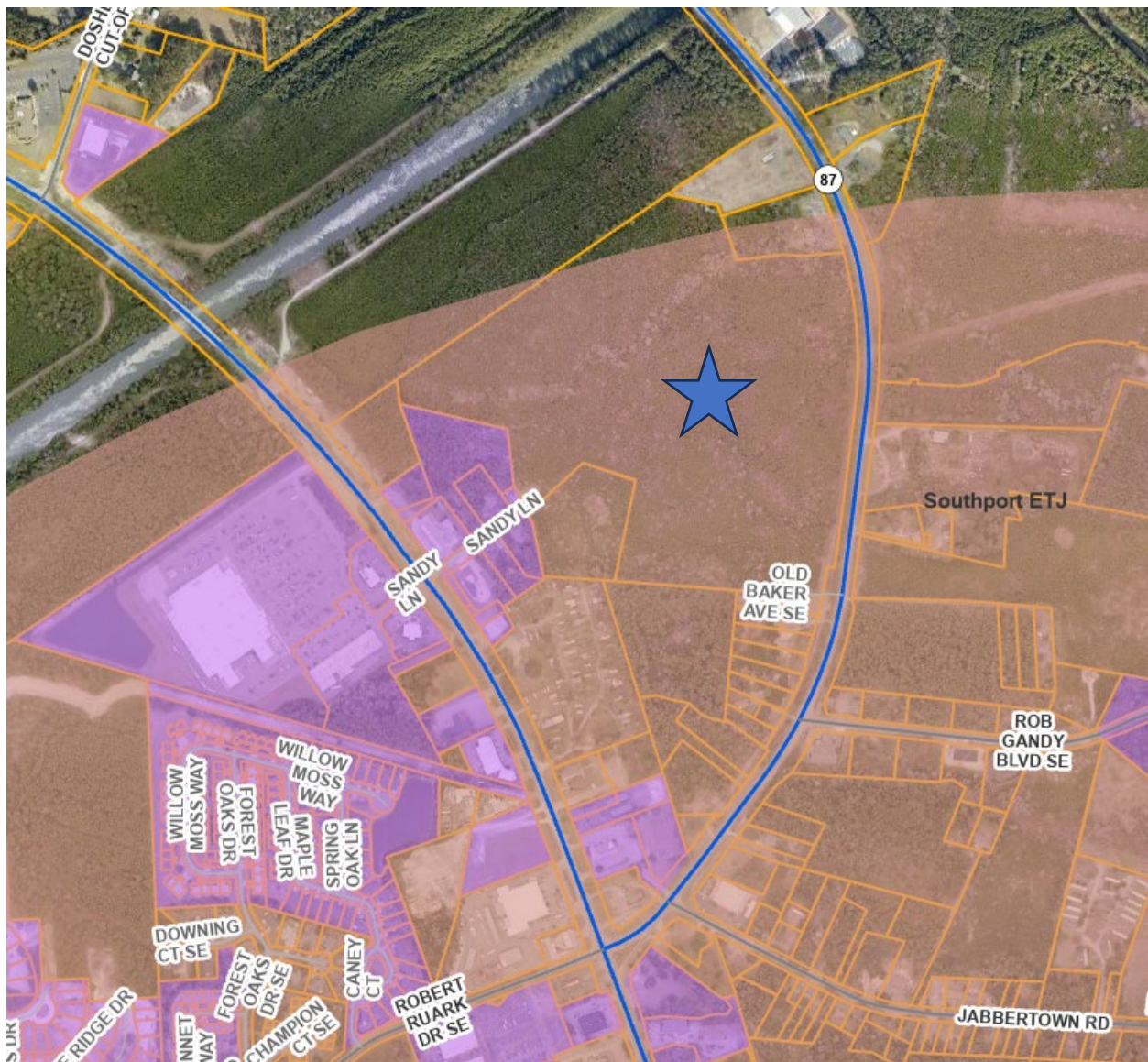
Most of the property falls within the medium suitability land classification on the Land Suitability Analysis Map of the CAMA Land Use Plan. A portion is classified as low suitability due to the proximity of wetlands on site. The future land use map designation is low-density residential and heavy commercial. Low-density residential designation allows a variety of single-family uses with a density of 2/3 units per acre.

Staff are also requesting an amendment to the future land use map to designate the entire property as low-density residential.

LOCATION

Subject property is located on NC 87 (River Road) to the north of Rob Gandy Boulevard, south of Duke Energy, and east of Hwy 211 (N Howe Street). This property is located within the extraterritorial jurisdiction of the City and can be further identified by Brunswick County Parcel ID 22100017.

A portion of the northern boundary is within Brunswick County Jurisdiction. A petition for annexation has been submitted and will follow the affirmative recommendation to the Board of Aldermen.



REVIEW PROCESS

Proposed amendments to the zoning map may be initiated by the Board of Aldermen, Planning Board, city administration, or by the owner, or his or her agent, of property within the area proposed to be changed. Every amendment, supplement, change, modification, or repeal of the zoning map/ordinance shall be referred to the Planning Board for its recommendation and report to the Board of Aldermen.

A Planned Unit Development (PUD) is planned and developed as an integral unit in a single development operation or a defined series of development according to an approved master plan. Per Section 2.9 C of the City of Southport Unified Development Ordinance, the Planning Board shall review the proposal and transmit a formal recommendation to the Board of Aldermen. The Board of Aldermen is the final decision maker on all Master Development Plans within the City of Southport.

A PUD requires an amendment to the City's zoning map in conjunction with the approval of the master development plan. Applications for both the master development plan and rezoning are submitted concurrently. The master plan outlines the framework for development within the PUD, including intended uses, dimensional standards for parking, landscaping, design guidelines, and buffers. The proposal must comply with the design guidelines provided in Section 4.15 of the Unified Development Ordinance.

When evaluating the application for a PUD zoning district, the Planning Board and the Board of Aldermen shall consider the following:

- a) The application's consistency to the general policies and objectives of the City's Comprehensive Plan, any other officially adopted plan that is applicable, and the Unified Development Ordinance.
- b) The potential impacts and/or benefits on the surrounding area and adjoining properties.

The Planning Board will provide a recommendation to the Board of Aldermen.

Prior to the Board of Aldermen's consideration of a change, a public hearing must occur on a set day and time. The hearing is notified to adjacent property owners by mail, published in a local newspaper of general circulation, and posted on the property for two (2) consecutive weeks, not less than 10 days and not more than 25 days before the hearing.

The Board of Aldermen may adopt the approval, conditional approval, or denial of the rezoning after the duly advertised public hearing and upon the approval of a plan consistency statement and a statement of reasonableness.

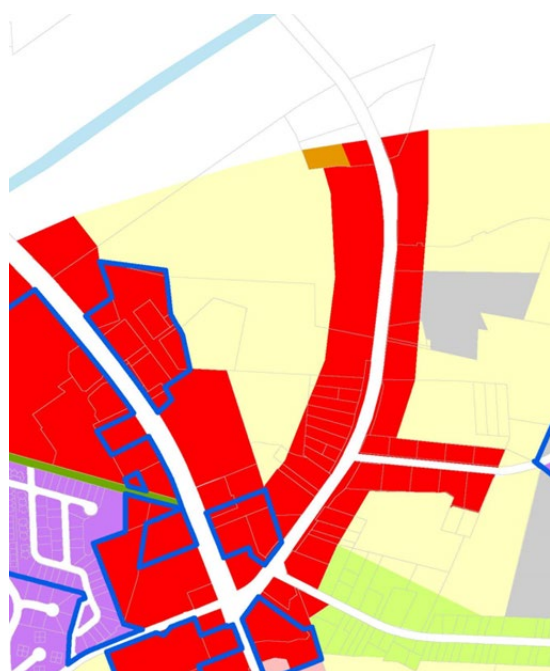
Following an affirmative decision by the Board of Aldermen, the official zoning map will be updated to PUD, and all development shall follow the approved master development

plan. The major subdivision preliminary plat process will follow the approval of the PUD prior to any development onsite.

TECHNICAL REVIEW COMMITTEE

City of Southport Planning Staff and the applicant presented this proposal to the Technical Review Committee at their December 19, 2023, meeting. The Fire Chief and City Engineer requested updated ROW information with a paved street width of 24' for a 50' ROW. The applicant provided updated site plans that were approved in January. For clarity and transparency, many of the comments received from other Departments or outside agencies are of a nature that they are to be addressed during the preliminary plat review and/or following the issuance of zoning approval through the course of the building plan and permit review and issuance.

CURRENT ZONING



Zoning Map

Grey – Light Industrial

Red – Heavy Commercial

Light Green – Mobile Home

Light Yellow – R-20

Purple – PUD



Future Land Use Map

Red – Heavy Commercial

Yellow – Low Density Residential

MASTER DEVELOPMENT PLAN REVIEW

Master development plans must be prepared by and sealed by a licensed land surveyor, landscape architect, or engineer registered in North Carolina. They shall meet all the requirements listed in Appendix A of the UDO. Further, all PUD development and subsequent major subdivisions must include the required improvements found in Section 4.7.

Dimensional Requirements

The parcel of land has a total of 54.09 acres. The density of the proposed subdivision is 1.85 dwelling units/acre, which meets the maximum density of 6 du/acre as laid out within the Unified Development Ordinance. Further, there are 10.88 acres of open space, which meets the existing 20% requirement for all PUDS.

The following lot dimensions are proposed:

Minimum Lot Size: 12,000 SF (60% of the minimum lot area for R-20)

Minimum Lot Width: 75' (exceeds the minimum 40' width requirement)

Setbacks: Front – 10', rear – 15', side – 8' (minimum setbacks allowed)

Utility Easement: 10' along all side lot lines (provides 10' building setback for primary and accessory structures)

Periphery Boundary Setback: 25'

Section 4.7.D lists the Required Improvements for Subdivisions. The following discussions will outline how the applicant has met the eight (8) requirements, including other provisions necessary for approval found in the UDO.

Transportation and Streets

Access to the site is provided from a main gated entrance from NC 87. There is a siren-activated fire apparatus entrance located at the southern edge of the property. There are 50' Right of Ways with 24' paved roadways. The proposed right-of-way widths are less than is required by the Unified Development Ordinance. However, the reduced widths were reviewed and approved by the fire chief at the Technical Review Committee meeting on December 19, 2023. All streets will be private rights-of-way and constructed to meet the requirements of Section 4.8.

Block lengths do not exceed 1500 linear feet with intersections at nearly right angles. Proposed cul-de-sacs do not exceed 750 feet in length and meet the turn-around radius requirements. Further, a turn-around is part of the street that exceeds 150 feet in length.

A traffic impact analysis is required for any development that will generate more than 500 trips per day. The proposed subdivision will generate approximately 1000 trips per day. A traffic impact analysis was completed to show the impact of the proposal and provide recommended improvements for access to the site. The recommendations include the construction of a southbound right-hand turn lane on NC 87, the construction of a northbound left turn lane on NC 87, and the construction of the driveway to applicable NCDOT standards with adequate site distance. These recommended improvements are included in the master development plan.

Lighting

The applicant is required to install street lighting with underground distribution along all proposed streets. Per statements made by the applicant on the site plan, a lighting plan is being prepared by Brunswick Electric Member Cooperation. A lighting plan meeting the standards of Section 3.16 of the City of Southport Unified Development Ordinance and Chapter 4 Article 5 of the City Code of Ordinances shall be required prior to final approval of the Preliminary Plat, and any installations shall be inspected for conformance to the approved lighting plan prior to final plat approval.

Street Name Signs and Cluster Mailboxes

The applicant will install street signs, both traffic control and name signs, and shall meet all applicable regulations.

A cluster mailbox kiosk has been identified on the site plan at the rear of the property adjacent to the open space park space. There are nine (9) parking spaces provided for the mail kiosk and open space facilities.

Pedestrian Facilities

Per Section 4.11, sidewalks are required on both sides of the street for subdivisions with more than 20 lots. In lieu of placing sidewalks on both sides of the street, the subdivider may install a connected multi-use path network with a minimum width of eight (8) feet along one side of the street connecting to recreation and open space area. The applicant has provided an 8' multi-path network with a delineated ten (10) foot connection at street crossings.

Water Supply and Sewage Disposal Systems

The county will provide both water and sewer to this subdivision. There were no comments or concerns from the county representative who had the opportunity to review the proposal prior to the December TRC meeting.

Erosion and Sedimentation, Drainage Control Facilities, and Stormwater

The applicant shall comply with all requirements of Article 6 of the City of Southport Unified Development Ordinance and all requirements of the North Carolina Sedimentation Pollution Control Act. The design of the system will be reviewed and approved by the City Engineer and Public Services Department. Detailed plans may be submitted after the site plan or preliminary plat approvals that will be approved prior to any ground-disturbing activities.

All permits from the N.C. Department of Environmental Quality shall be obtained prior to commencing construction.

Recreation and Open Space

As stated previously, the applicant has provided 10.88 acres of open space, excluding wetlands. This meets the 20% requirement for PUDs. The open space forms a single parcel, except where a connecting corridor of open space is not less than 30 feet wide. The noncontiguous areas account for less than 50% of the required open space allocation.

All open space areas will be owned and maintained by the homeowner's association.

Landscaping and Buffers

Per Section 3.17 of the Unified Development Ordinance, street yards are required for the proposed change in use of the property. The street yard buffer has been identified in the master development plan. The applicant has provided a preliminary landscape plan. A specific landscape plan will be included as part of the preliminary plat application.

Tree Protection and Landscape Preservation

A formal tree protection and mitigation plan is not required for master development plan approval. The applicant has provided a preliminary landscape plan. This information shall be required prior to approval of the Preliminary Plat.

Signage

Approval of a master development plan does not include sign permit approval. All future signs associated with the project shall require separate review and approval by the Planning Staff based on conformance with Section 3.19 of the City of Southport Unified Development Ordinance.

LAND USE PLAN CONSISTENCY

The 2014 CAMA Land Use Plan (LUP), along with subsequent updates, is the plan that is used for policy decisions in the City. The Planning Board and Board of Aldermen shall consult the plan's policies when considering a zoning change. Further, each rezoning must be recommended and ultimately adopted with a statement describing if the action is consistent or inconsistent with the adopted land use plan.

Increasing housing demand is one of the overarching themes found in the Future Demands section of the LUP. The goals, objectives, and policies found within the plan focus on balancing the need for housing and infrastructure with the protection of the historic character and environmental resources of the City.

Policy 2.1 "...rezonings and amendments in classifications to the future land use map should be carefully balanced with a demonstrated need for such proposed development

The proposed rezoning is partially inconsistent with the future land use map, which is proposed to be amended. The master development plan proposes a gated single-family development with high-end homes.

The following policies and implementing actions support the proposed rezoning request.

Recommended Action 2.1.A: Consider requiring all rezoning approvals to be compared to the land suitability map and analysis included in this plan for consistency. This consistency review will be presented to the Planning Board and Board of Aldermen...

The subject property is in an area of medium suitability on the Land Suitability Analysis (LSA) Map. The LSA takes many different environmental and built features into account including adjacent uses and infrastructure. The future land use map designation supports residential development.

Policy 2.3: Southport supports quality development reflecting a spectrum of housing needs, from low-end (affordable) residences to high-end (luxury) residences.

Policy 2.4: Southport will permit residential development to occur in response to market needs provided the following criteria are met:

- 1) Due respect is offered to all aspects of the environment.
- 2) Concurrent planning for improvements to community facilities, infrastructure, and services provided.

These policies are appropriate for the site due to the unique characteristics of the tract of land. Wetland areas are adjacent to dedicated open space where possible. Infrastructure improvements and extensions will be made to the property.

PLANNING BOARD RECOMMENDATION

After consideration of the proposed Zoning Map Amendment, Future Land Use Map Amendment, and Master Development Plan the Planning Board recommend **APPROVAL** to the Board of Aldermen in accordance with the standards and processes laid out within

the City of Southport Unified Development Ordinance. The application has been deemed complete, all standards for planned unit developments have been met, and is eligible to be approved.

The proposal appears to be consistent with the 2014 CAMA Core Land Use Plan and is reasonable due to the size, physical conditions, and other attributes of the area.

Attachments:

- 1) Applications – Zoning and Planned Unit Development
- 2) Master Development Plan
- 3) Consistency Statements



**City of Southport Board of Aldermen
Statement of Plan Consistency
(As per NC General Statute 160D-605)**

When conducting a review of proposed zoning text or map amendments pursuant to this section, the Board of Aldermen shall advise and comment on whether the proposed action is consistent with any comprehensive plan that has been adopted and any other officially adopted plan that is applicable.

AMENDMENT: ZMA 24-01 – Turtle Bay Planned Unit Development

STATEMENT OF CONSISTENCY AND RECOMMENDATION:

The City of Southport Board of Aldermen hereby **adopt** the proposed Zoning Map Amendment and associated Master Development Plan and find that it is consistent with the City's 2014 CAMA Core Land Use Plan originally adopted Nov. 13, 2014 and subsequently amended. More specifically, the proposed amendment is consistent with **Policy 2.4:** Southport will permit residential development to occur in response to market needs provided the following criteria are met: 1) Due respect is offered to all aspects of the environment. and 2) Concurrent planning for improvements to community facilities, infrastructure, and services provided. Further, the proposed text amendment is reasonable due to the size, physical conditions, and other attributes of the area.

The statement and motion was seconded and passed _____.

Dorothy Dutton, City Clerk

Richard Alt, Mayor



**City of Southport Board of Aldermen
Statement of Plan Consistency
(As per NC General Statute 160D-605)**

When conducting a review of proposed zoning text or map amendments pursuant to this section, the Board of Aldermen shall advise and comment on whether the proposed action is consistent with any comprehensive plan that has been adopted and any other officially adopted plan that is applicable.

AMENDMENT: ZMA 24-01 – Turtle Bay Planned Unit Development

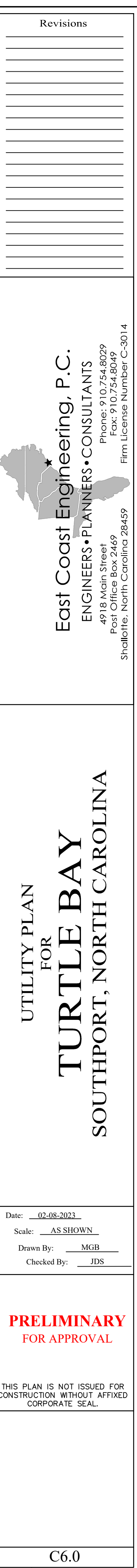
STATEMENT OF CONSISTENCY AND RECOMMENDATION:

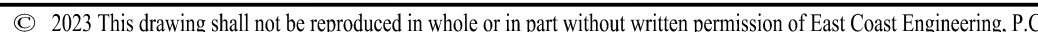
The City of Southport Board of Aldermen hereby **denies** the proposed Zoning Map Amendment and associated Master Development Plan and find that it is inconsistent with the City's 2014 CAMA Core Land Use Plan originally adopted Nov. 13, 2014 and subsequently amended and not reasonable due to the size, physical conditions, and other attributes of the area.

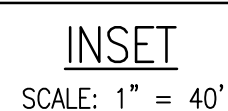
The statement and motion was seconded and passed _____.

Dorothy Dutton, City Clerk

Richard Alt, Mayor



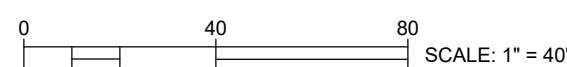




 EIP

EIP

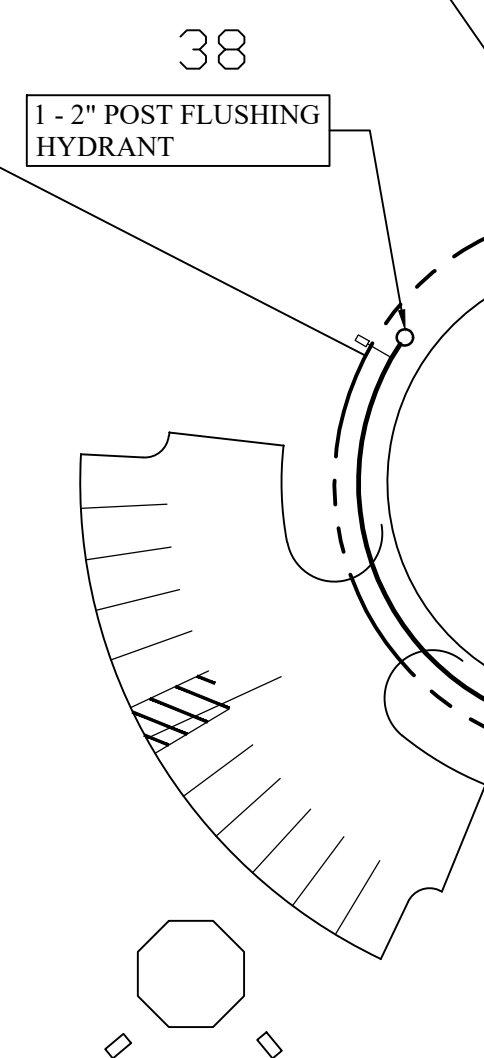
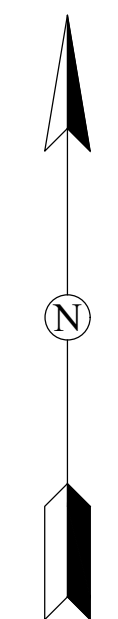
JAMBEV REALTY INC
D.B. 4681, PG. 1186
TAX PARCEL# 2210002001
ZONED SP-HC



GOLDSTAR BUSINESS SERVICES INC D.B.
4816, PG. 1040
TAX PARCEL# 2210002601
ZONED SP-HC MAT

MATCHLINE C —
SEE THIS SHEET

DUKE ENERGY PROGRESS INC
D.B. 4554, PG. 461
M.C. 125, PG. 58
TAX PARCEL# 20600001
ZONED CO-IG



5.56 ACRES
OPEN SPACE 1

EIP

36

1 - 8" X 8" MJ TEE
2 - 8" GATE VALVE & BOX
1 - THURST COLLAR
1 - 8" X 6" MJ TEE
1 - FIRE HYDRANT ASSY.
1 - 8" MJ PLUG TAPPED 2"

WATER SERVICE (TYP.)

WATER SERVICE (TYP.)

8" C900 DR18 PVC WATERLINE

1 - 8" X 8" MJ TEE
1 - 8" GATE VALVE & BOX

8" C900 DR18 PVC WATERLINE

1 - THURST COLLAR
1 - 8" X 6" MJ TEE
1 - FIRE HYDRANT ASSY.
1 - 8" MJ PLUG TAPPED 2"

8" C900 DR18 PVC WATERLINE

8" C900 DR18 PVC WATERLINE

1.42 ACRES
OPEN SPACE

MATCHLINE B
SEE SHEET C6.2

[illegible]

East Coast Engineering, P.C.
ENGINEERS • PLANNERS • CONSULTANTS
4918 Main Street
Post Office Box 2469
Shallotte, North Carolina 28459
Phone: 910.754.8029
Fax: 910.754.8049
Firm License Number C-301.4

UTILITY PLAN
FOR
TURTLE BAY
SOUTHPORT, NORTH CAROLINA

Date: 02-08-2023
Scale: AS SHOWN
Drawn By: MGB
Checked By: JDS

PRELIMINARY
FOR APPROVAL

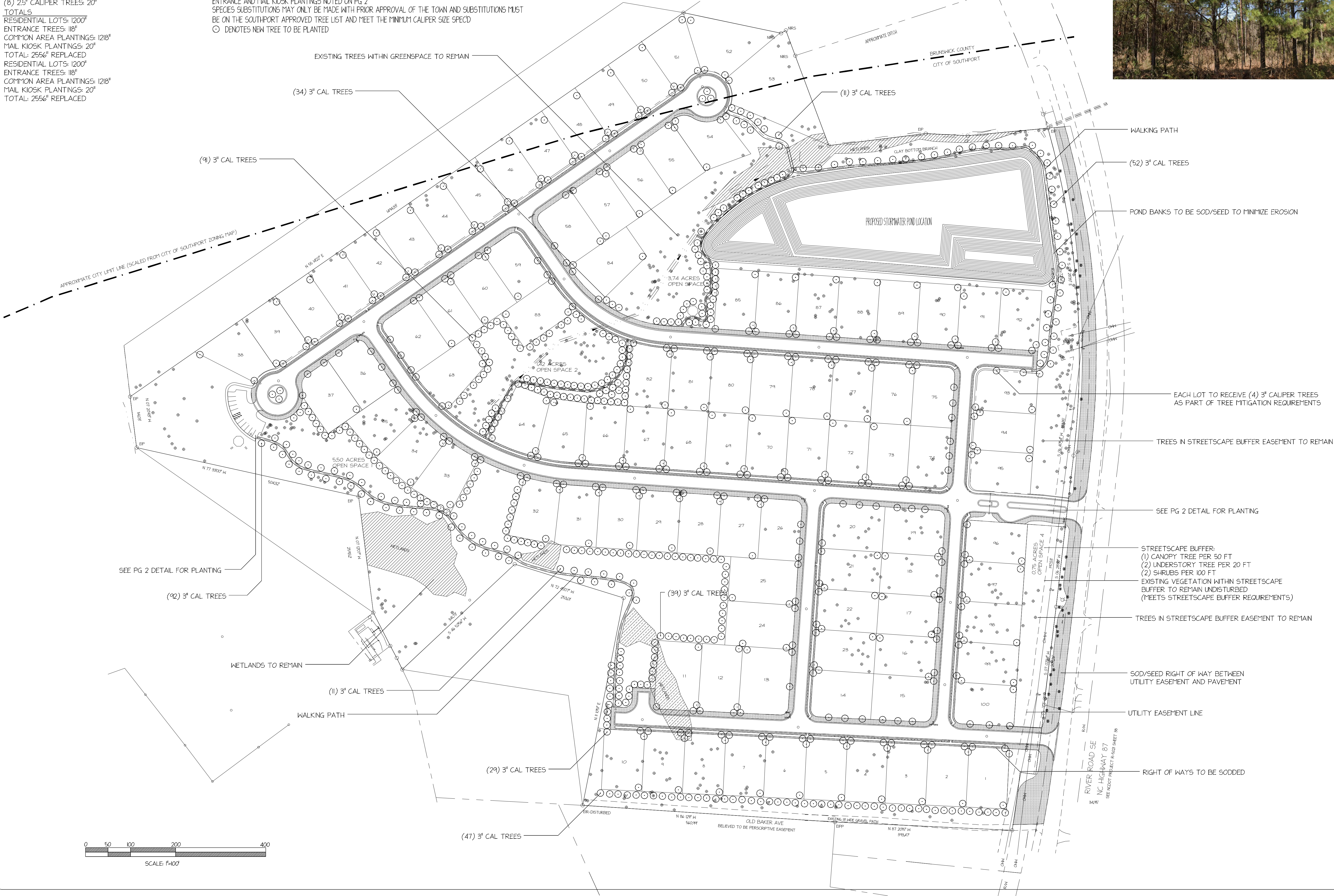
THIS PLAN IS NOT ISSUED FOR
CONSTRUCTION WITHOUT AFFIXED
CORPORATE SEAL.

C6.2

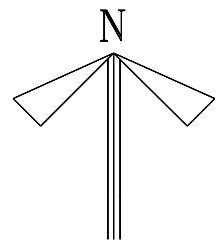
TREET MITIGATION REQUIREMENTS:
TOTAL CALIPER OF TREES REMOVED: 2539.5" DBH
TOTAL CALIPER OF NEW TREES: 2556" DBH
RESIDENTIAL LOT PLANTINGS:
(4) 3" CALIPER TREES PER LOT
(400) 3" CALIPER TREES: 1200"
ENTRANCE PLANTINGS:
(4) 7" CALIPER: 28"
(36) 2.5" CALIPER: 90"
TOTAL: 118"
COMMON AREA PLANTINGS:
(406) 3" CALIPER TREES: 1218"
MAIL KIOSK PLANTINGS:
(8) 2.5" CALIPER TREES: 20"
TOTAL: 2556" REPLACED
RESIDENTIAL LOTS: 1200"
ENTRANCE TREES: 118"
COMMON AREA PLANTINGS: 1218"
MAIL KIOSK PLANTINGS: 20"
TOTAL: 2556" REPLACED

Qty	Botanical Name	Common Name	Size/Condition	Remarks
Trees				
200	Acer rubrum 'October Glory'	OCTOBER GLORY RED MAPLE	3" Caliper B&B (Full Specimen)	
166	Betula nigra	RIVER BIRCH	3" Caliper Multi-Stem	
200	Quercus lyrata	OVERCUP OAK	3" Caliper B&B (Full Specimen)	
140	Quercus phellos	WILLOW OAK	3" Caliper B&B (Full Specimen)	
100	Taxodium distichum	BALD CYPRESS	3" Caliper B&B (Full Specimen)	

OCTOBER GLORY RED MAPLE AND OVERCUP OAK TO BE EVENLY DISTRIBUTED THROUGHOUT RESIDENTIAL LOTS
RIVER BIRCH, WILLOW OAK AND BALD CYPRESS TO BE USED IN COMMON AREAS ALONG
WALKWAYS AND ALONG LOT PERIMETERS.
ENTRANCE AND MAIL KIOSK PLANTINGS NOTED ON PG. 2
SPECIES SUBSTITUTIONS MAY ONLY BE MADE WITH PRIOR APPROVAL OF THE TOWN AND SUBSTITUTIONS MUST
BE ON THE SOUTHPORT APPROVED TREE LIST AND MEET THE MINIMUM CALIPER SIZE SPEC
○ DENOTES NEW TREE TO BE PLANTED



EXAMPLE OF EXISTING VEGETATION IN STREETSCAPE BUFFER TO REMAIN

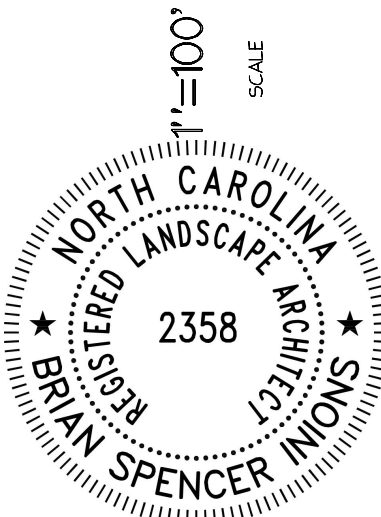


NORTH

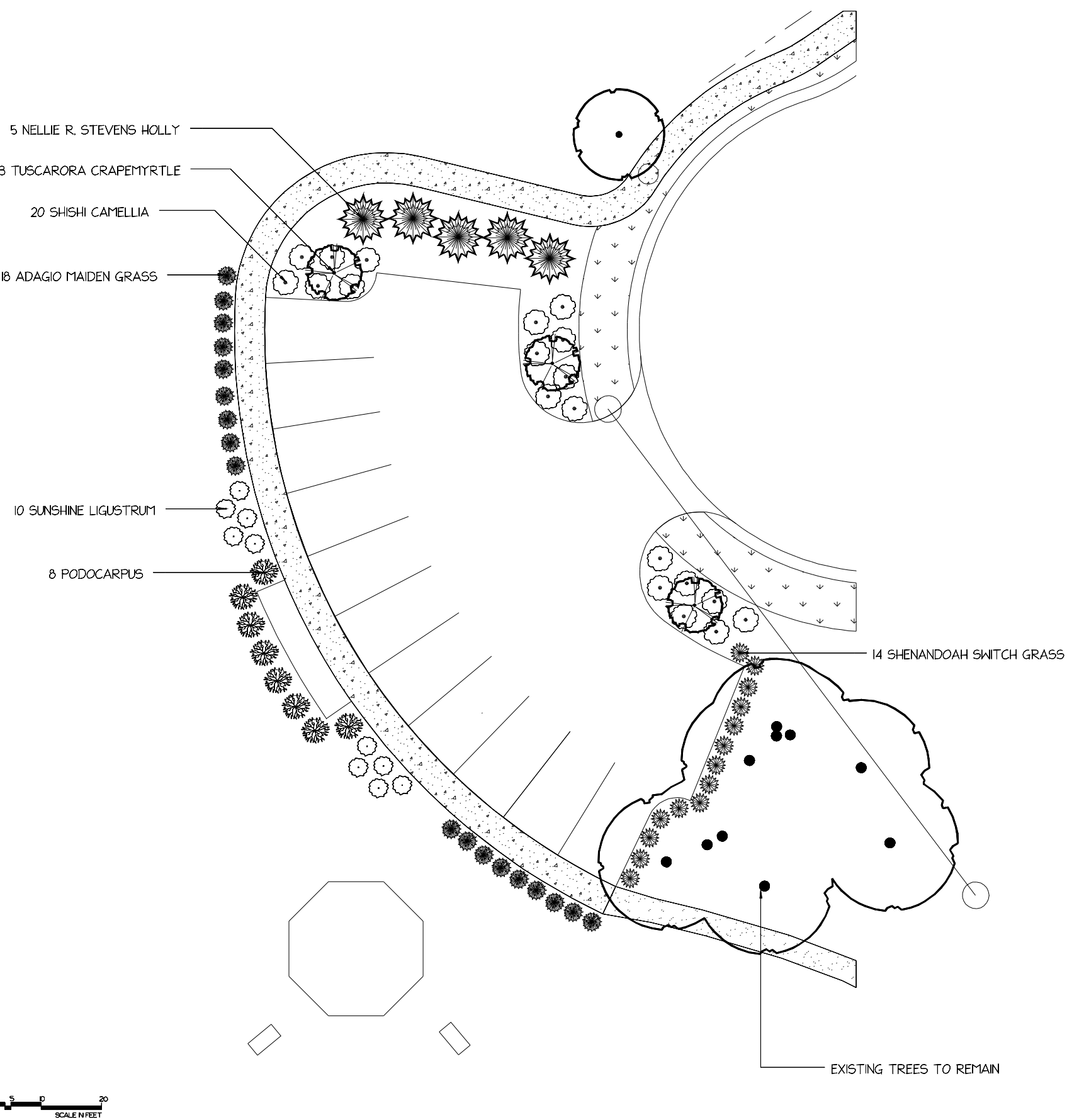
1
DRAWING #

11/3/23
DATE

1"=100'
SCALE



MAILBOX KIOSK PLANTING AREA



MAILBOX AREA PLANTING KEY

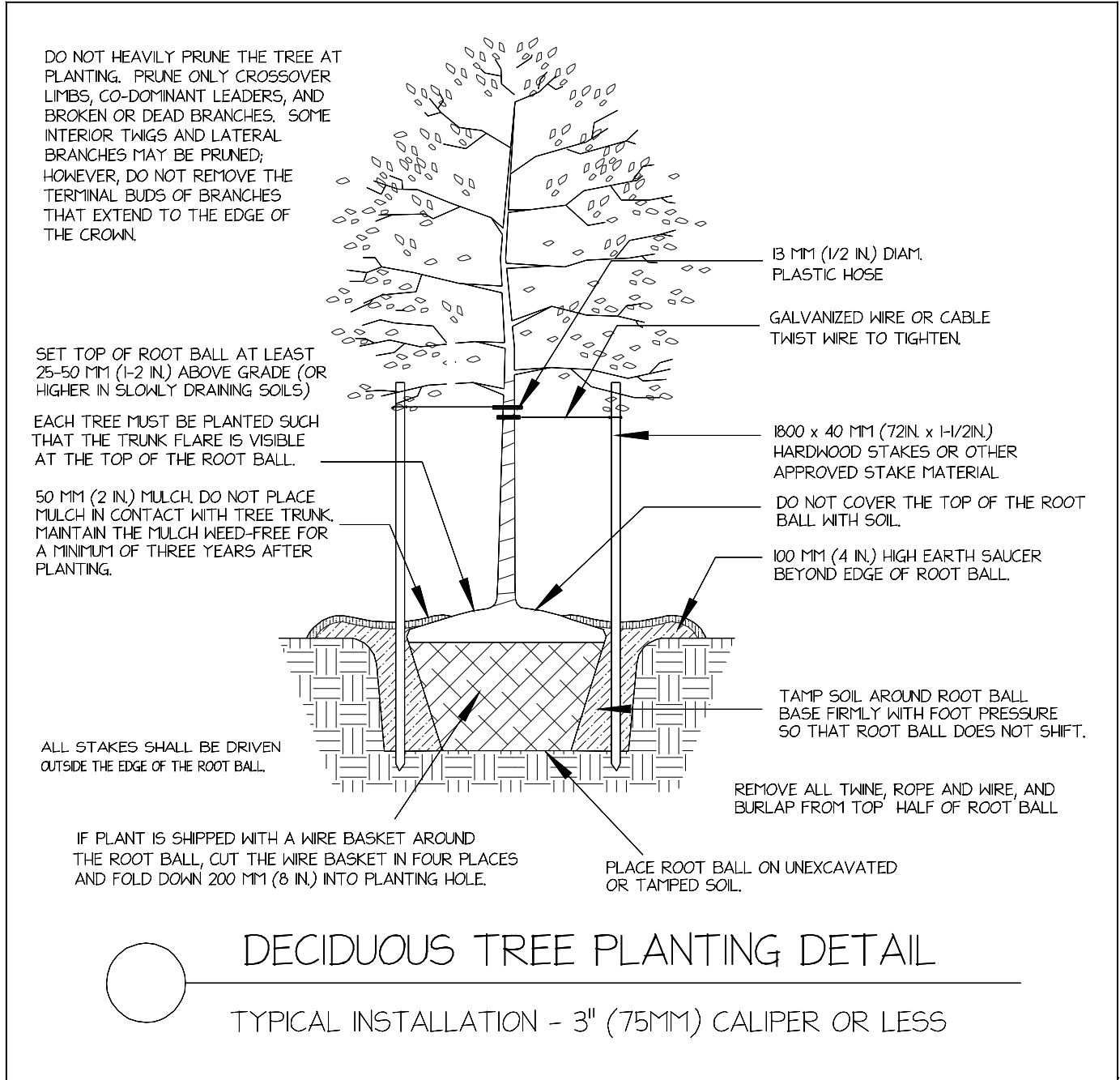
Qty	Botanical Name	Common Name	Size/Condition	Remarks
Trees				
3	Lagerstroemia x 'Tuscarora'	TUSCARORA Crape Myrtle	2.5" Caliper Single Stem	
Shrubs				
20	Camellia sasanqua 'Shi Shi'	SHISHI CAMELLIA	3 Gallon 16" Height	
5	Ilex 'Nellie R. Stevens'	NELLIE R. STEVENS HOLLY	2.5" Caliper	
10	Ligustrum sinense 'Sunshine'	SUNSHINE LIGUSTRUM	3 Gallon 16" Height	
8	Podocarpus macrophyllus	PODOCARPUS	7 Gallon 36" Height	
Ornamental Grasses				
18	Miscanthus sinensis 'Adagio'	ADAGIO MAIDEN GRASS	3 Gallon 12" Height	
14	Panicum virgatum 'Shenandoah'	SHENANDOAH SWITCH GRASS	3 Gallon 12" Height	

FRONT ENTRANCE PLANTING KEY

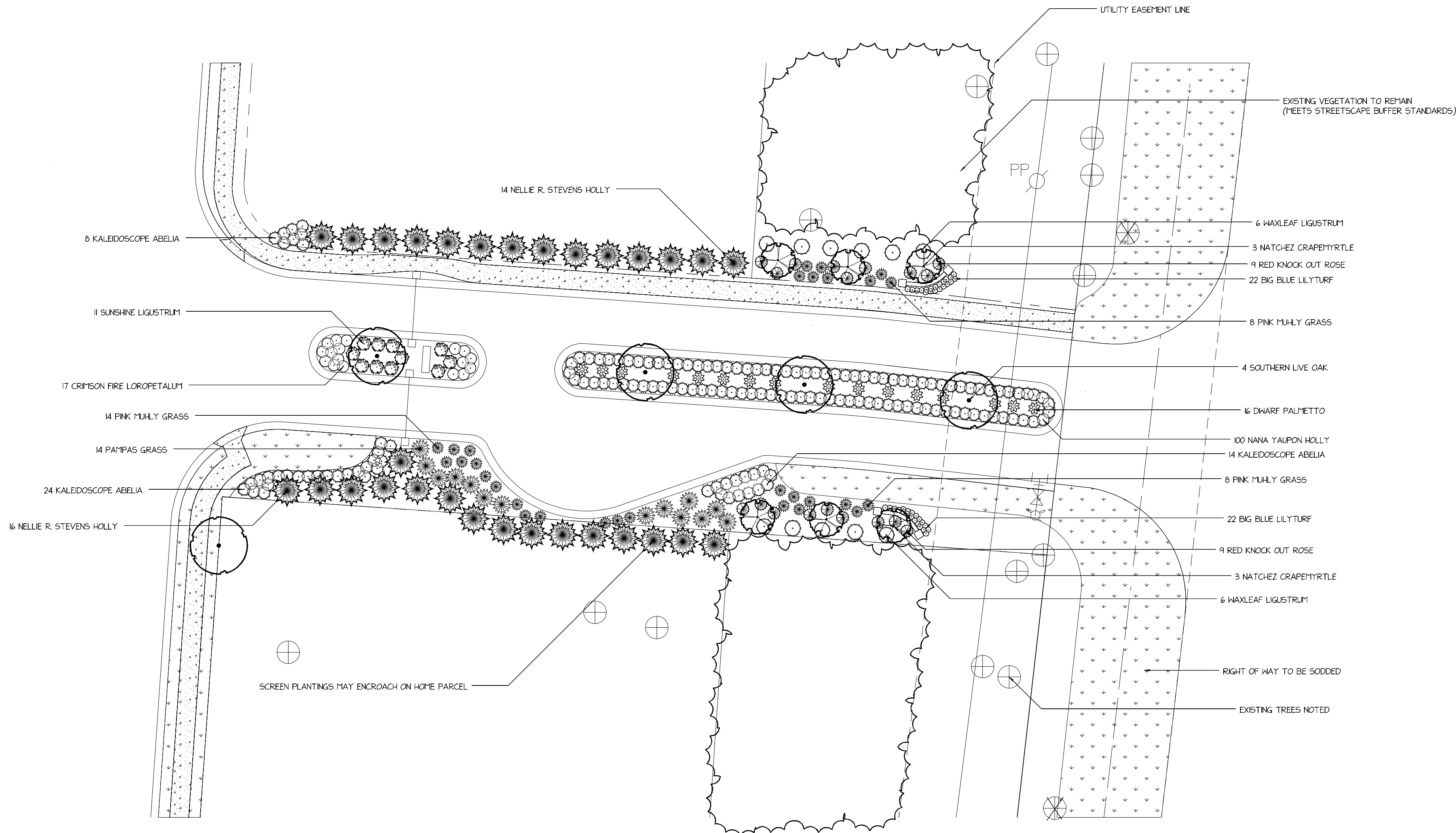
Qty	Botanical Name	Common Name	Size/Condition	Remarks
Trees				
4	Quercus virginiana	SOUTHERN LIVE OAK	7" Caliper 22' Height	
6	Lagerstroemia x 'Natchez'	NATCHEZ Crape Myrtle	2.5" Caliper Single Stem	
Palms				
16	Sabal minor	DWARF PALMETTO	7 Gallon 36" Height	
Shrubs				
46	Abelia x grandiflora 'Kaleidoscope'	KALEIDOSCOPE ABELIA	3 Gallon 16" Height	
30	Ilex 'Nellie R. Stevens'	NELLIE R. STEVENS HOLLY	2.5" Caliper	
100	Ilex vomitoria 'Nand'	NANA YAUPON HOLLY	3 Gallon 12" Height	
12	Ligustrum japonicum	WAXLEAF LIGUSTRUM	15 Gallon 48" Height	
11	Ligustrum sinense 'Sunshine'	SUNSHINE LIGUSTRUM	3 Gallon 16" Height	
17	Loropetalum var. 'Crimson Fire'	CRIMSON FIRE LOROPETALUM	3 Gallon 12" Height	
18	Rosa 'Radrizz Knock Out'	RED KNOCK OUT ROSE	3 Gallon 16" Height	
Ornamental Grasses				
14	Cortaderia selloana	PAMPAS GRASS	3 Gallon 12" Height	
44	Liriope muscari 'Big Blue'	BIG BLUE LILYTURF	3 Gallon 12" Height	
30	Muhlenbergia capillaris	PINK MUHLY GRASS	3 Gallon 12" Height	

GENERAL LANDSCAPE NOTES

TIFWAY 419 BERMUDA SOD TO BE USED IN ALL TURF AREAS
PLANT MATERIAL SHALL MEET OR EXCEED STANDARD NURSERYMAN'S SPECIFICATIONS
DOWNSIZING OR SUBSTITUTIONS ARE NOT ALLOWED WITHOUT PRIOR APPROVAL
DAMAGED, ROOT BOUND, OR UNHEALTHY APPEARING, NON-SPECIFIED MATERIAL SHALL NOT BE ACCEPTED.
THIS PROJECT INCLUDES BUT IS NOT LIMITED TO SITE PREPARATION, FURNISHING OF ALL MATERIAL, LABOR, EQUIPMENT, SOIL AMENDMENTS, ETC. REQUIRED FOR COMPLETE LANDSCAPE INSTALLATION.
ALL UTILITIES SHALL BE LOCATED BY CONTRACTOR PRIOR TO CONSTRUCTION
IRRIGATION PROPOSAL SHALL BE PROVIDED BY THE CONTRACTOR AND DESIGNED BY A CERTIFIED IRRIGATION DESIGNER. ALL PLANT MATERIAL SHALL BE DRIP IRRIGATION AND SOD AREAS SPRAY IRRIGATED.
PLANTED AREAS AND DISTURBED NATURAL AREAS SHALL RECEIVE A 3" MINIMUM LAYER OF BROWN HARDWOOD MULCH. DEBRIS SHALL BE REMOVED FROM ALL NATURAL AREAS. WEEDS SHALL BE ERADICATED AND REMOVED FROM ALL NATURAL AREAS. DAMAGED AND DEAD TREE LIMBS SHALL BE REMOVED FROM ALL EXISTING TREES.
EQUIPMENT ACTIVITY, FILL OR ANY DISTURBANCE IN EXISTING TREE ROOTZONE AREAS SHALL BE AVOIDED WHENEVER POSSIBLE.
THIS PLANTING PLAN ILLUSTRATES THE OVERALL DESIGN INTENT BUT MAY REQUIRE PLACEMENT ADJUSTMENTS.
PLANTING PROCEDURES SHALL MEET OR EXCEED THE HIGHEST HORTICULTURAL PRACTICES IN THE LANDSCAPE INDUSTRY. CONTRACTOR IS RESPONSIBLE FOR ASSURING ALL REQUIRED PERMITS, IF ANY, ARE IN PLACE PRIOR TO COMMENCING WORK.
THIS PLAN WAS DESIGNED WITH UTMOST CONSIDERATION TO MINIMIZE MAINTENANCE BUT REGULAR MAINTENANCE WILL BE REQUIRED TO PRESERVE THE APPEARANCE AND TO PROMOTE THE PROPER GROWTH OF THE PLANT MATERIAL. THE SCHEDULED MAINTENANCE SHOULD BE PERFORMED BY EXPERIENCED AND KNOWLEDGEABLE LANDSCAPE GARDENERS.



FRONT ENTRANCE MONUMENT/PLANTING



ENTRANCE MONUMENT CONCEPTS
(FINAL MATERIAL/DESIGN TO BE APPROVED BY TOWN OF SOUTHPORT)



PLANTING DETAILS FOR:

TURTLE BAY NEIGHBORHOOD

SOUTHPORT
NORTH CAROLINA

1

DRAWING #

11/3/23

DATE

1"=100'

SCALE



L-2

Turtle Bay at Southport

Southport, NC

PREPARED FOR: Turtle Bay at Southport, LLC

January 2, 2024

PROJECT # 220222



TRANSPORTATION IMPACT ANALYSIS

Celebrating
20
YEARS



DAVENPORT



Transportation Impact Analysis

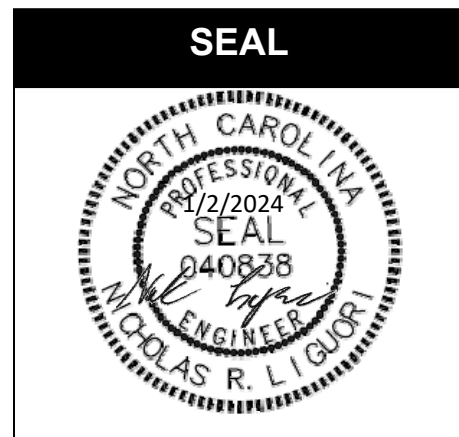
Turtle Bay at Southport Southport, NC

Prepared for
Turtle Bay at Southport, LLC

January 2, 2024

Analysis and Graphics by: Sheheryar Shafique

Reviewed and Sealed by: Nick Liguori, PE



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

Home Office:
119 Brookstown Ave. Suite PH1
Winston-Salem, NC 27101
Main: 336.744.1636; Fax: 336.458.9377

Wilmington Regional Office:
1426 Navaho Trail, #108
Wilmington, NC 28409
Main: 910.251.8912; Fax: 336.458.9377

Serving the Southeast since 2002

EXECUTIVE SUMMARY

The Turtle Bay at Southport proposed development is located on the west side of NC 87 to the north of Rob Gandy Blvd in Southport, NC. It is planned to consist of 100 single family homes. One (1) full movement access point on NC 87 (River Road) is proposed for this development. The Site Access is located approximately 1,300 feet north of Rob Gandy Boulevard. The expected build-out year for the development is 2026. Information regarding the property was provided by Turtle Bay at Southport, LLC.

DAVENPORT was retained to determine the potential traffic impacts of this development and to identify transportation improvements that may be required to accommodate the impacts of the new development traffic.

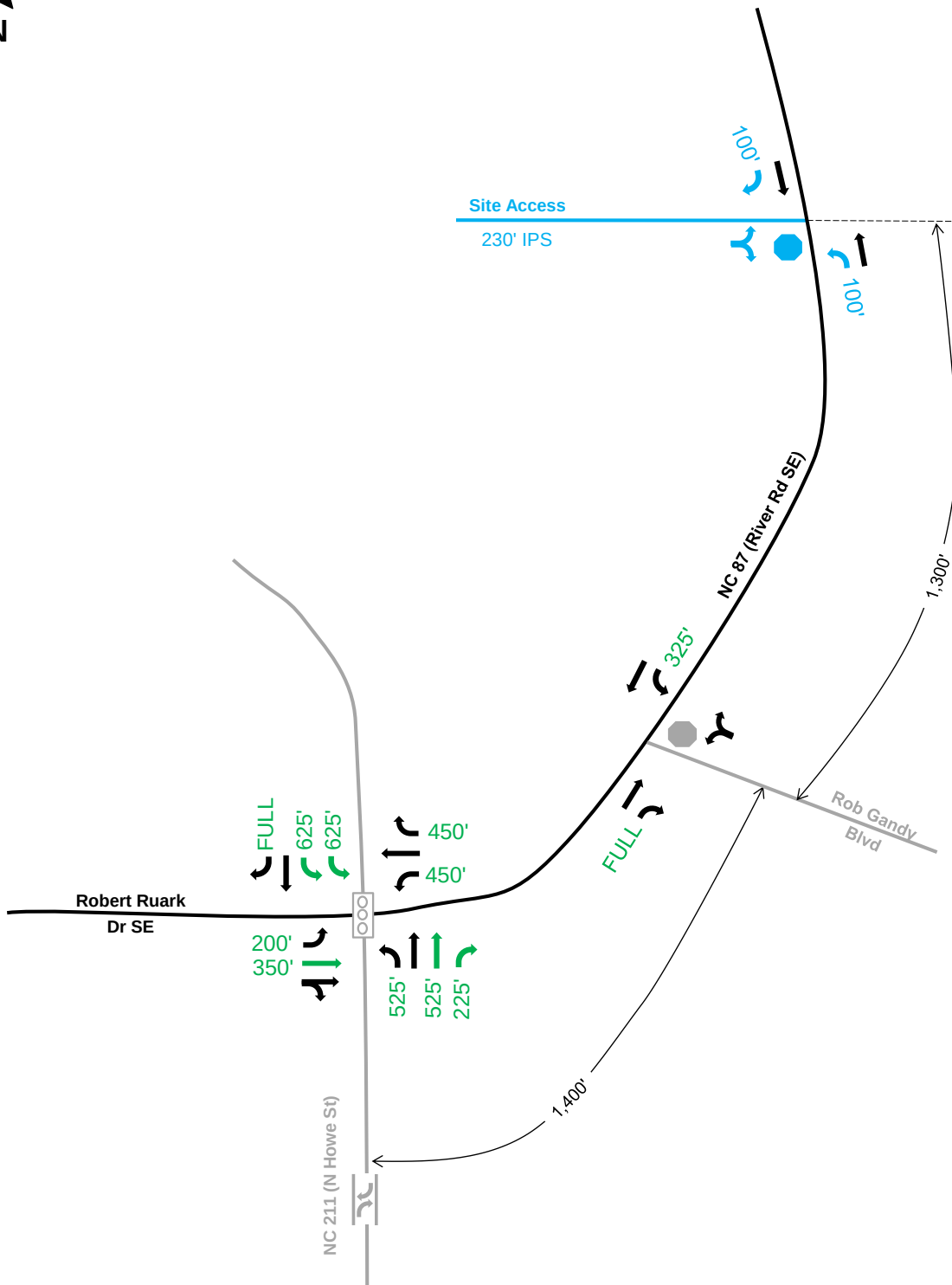
The Transportation Impact Analysis (TIA) was performed based on the scope agreed upon with the City of Southport and North Carolina Department of Transportation (NCDOT). This site has a trip generation potential of 1,009 daily trips, 74 trips in the AM peak hour, and 99 trips in the PM peak hour.

In conclusion, this study has determined the potential traffic impacts of this development. At the site access, a northbound left turn lane with 100 feet of storage and appropriate deceleration/taper and a southbound right turn lane with 100 feet of storage and appropriate deceleration/taper is recommended. With the recommended improvements in place, the anticipated transportation impacts of the proposed development can be accommodated. The recommendations summarized in Figure A and in Table A should be constructed to comply with applicable NCDOT *Policy on Street and Driveway Access to North Carolina Highways* and local standards.

Table A – Summary of Recommended Improvements	
INTERSECTION	RECOMMENDATIONS
NC 87 (River Road) at Site Access	- Construct a southbound right turn lane on NC 87 (River Road) with 100 feet of storage and appropriate deceleration and taper. - Construct a northbound left turn lane on NC 87 (River Road) with 100 feet of storage and appropriate deceleration and taper. - Construct the driveway according to applicable NCDOT standards and with adequate sight distance.



LEGEND	
	SIGNAL
	STOP
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING GRAY = UNANALYZED GREEN = COMMITTED BLUE = PROPOSED	
IPS = INTERNAL PROTECTED STEM	



*** NOT TO SCALE ***

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

FIGURE A RECOMMENDED IMPROVEMENTS

TURTLE BAY AT SOUTHPORT
SOUTHPORT, NC

PROJECT NUMBER 220222



Table of Contents

EXECUTIVE SUMMARY	i
Figure A: Recommendations	ii
1.0 Introduction.....	1
Figure 1 – Site Plan	2
Figure 2A – Site Location Map	3
Figure 2B – Vicinity Map	4
2.0 Existing Conditions.....	5
2.1 Inventory	5
2.2 Existing Traffic Volumes	5
Figure 3 – Existing Lane Geometry	6
Figure 4 – Existing Traffic Volumes	7
3.0 Approved Development and Committed Improvements	8
3.1 Approved Developments.....	8
3.2 Committed Improvements.....	8
Figure 5- Future Lane Geometry	9
4.0 Methodology	10
4.1 Base Assumptions and Standards.....	10
4.2 Future No Build Volumes	10
Figure 6 – Approved/Committed Development Trips	11
Figure 7 – Future No Build Volumes.....	12
4.3 Trip Generation	13
4.4 Trip Distribution and Assignment.....	13
4.5 Future Build Volumes.....	13
Figure 8 – Trip Distribution	14
Figure 9 – Site Trips	15
Figure 10 – Future Build Volumes	16
5.0 Capacity Analysis.....	17
5.1 Level of Service Evaluation Criteria	17
5.2 Queueing Evaluation.....	17
5.3 Level of Service and Queueing Results.....	18
6.0 Internal Protected Stem	20
7.0 Summary and Conclusion	21
Figure 11 – Recommended Improvements.....	22
Appendix.....	23
Approved Scoping Documents	24
Capacity Analysis	25
Queueing Analysis.....	28
Turning Movement Counts	29
Supporting Documentation	30

1.0 Introduction

The Turtle Bay at Southport proposed development is located on the west side of NC 87 to the north of Rob Gandy Blvd in Southport, NC. It is planned to consist of 100 single family homes. One (1) full movement access point on NC 87 (River Road) is proposed for this development. The site access is located approximately 1,300 feet north of Rob Gandy Boulevard. The expected build-out year for the development is 2026. Information regarding the property was provided by Turtle Bay at Southport, LLC.

A conceptual site plan is shown in Figure 1, and a site location map and a vicinity map are provided in Figures 2A and 2B, respectively.

DAVENPORT was retained to determine the potential traffic impacts of this development and to identify transportation improvements that may be required to accommodate the impacts of the new development traffic. The following intersections are included in the study:

1. NC 87 (River Road) and Site Access (unsignalized)

The signalized intersection of US 211 (North Howe Street) at NC 87 (River Road Southeast) and the unsignalized intersection of NC 87 (River Road) at Rob Gandy Boulevard were included in synchro models to account for signal platooning effects and volume balancing purposes. The study intersections were analyzed during the AM and PM peaks for the following conditions:

- 2026 Future Build Conditions
- 2026 Future Build Conditions + Improvements

The Transportation Impact Analysis (TIA) was performed based on the scope agreed upon with the City of Southport and North Carolina Department of Transportation (NCDOT). It was conducted according to the standards and best practices of the transportation engineering profession.

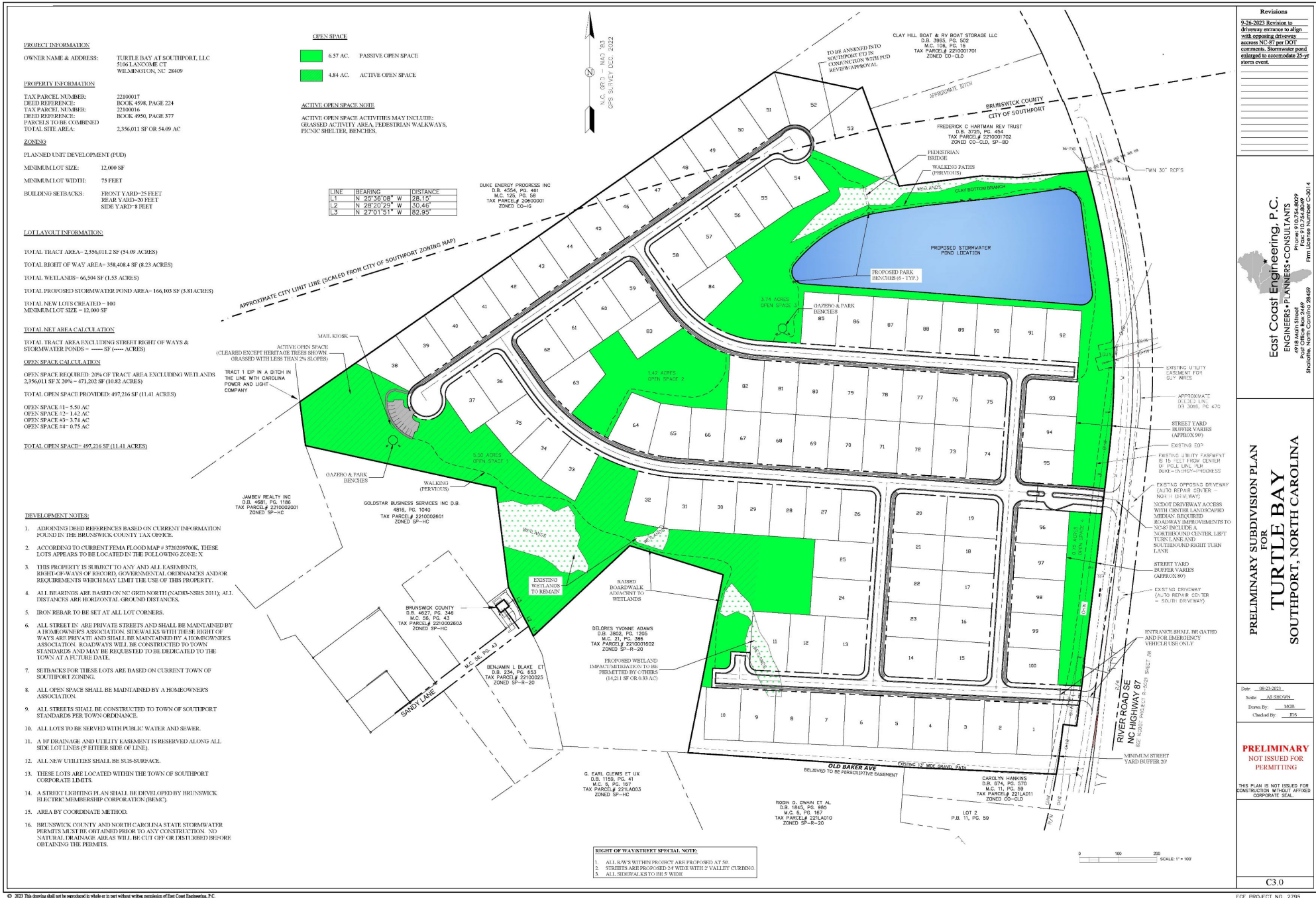
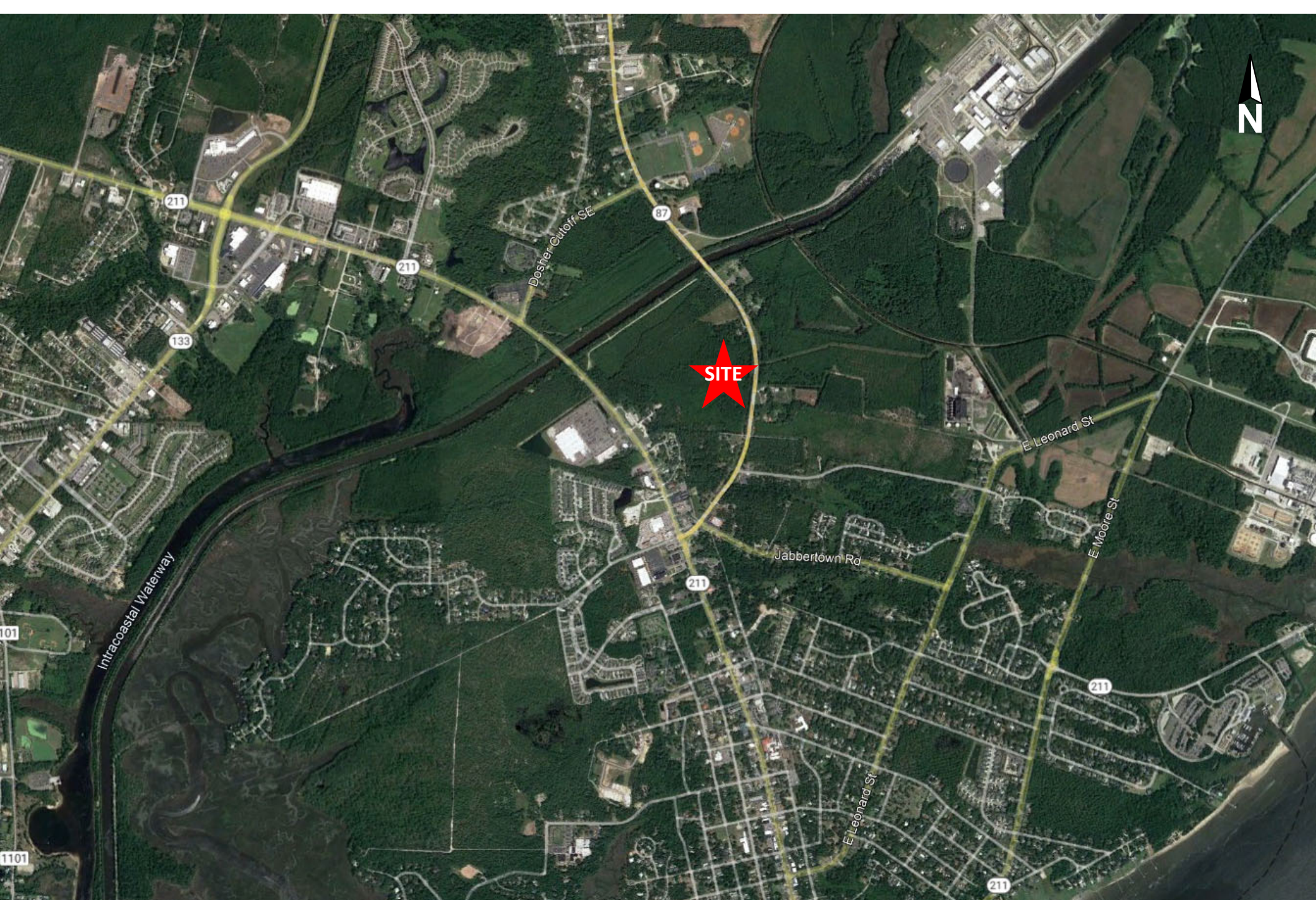
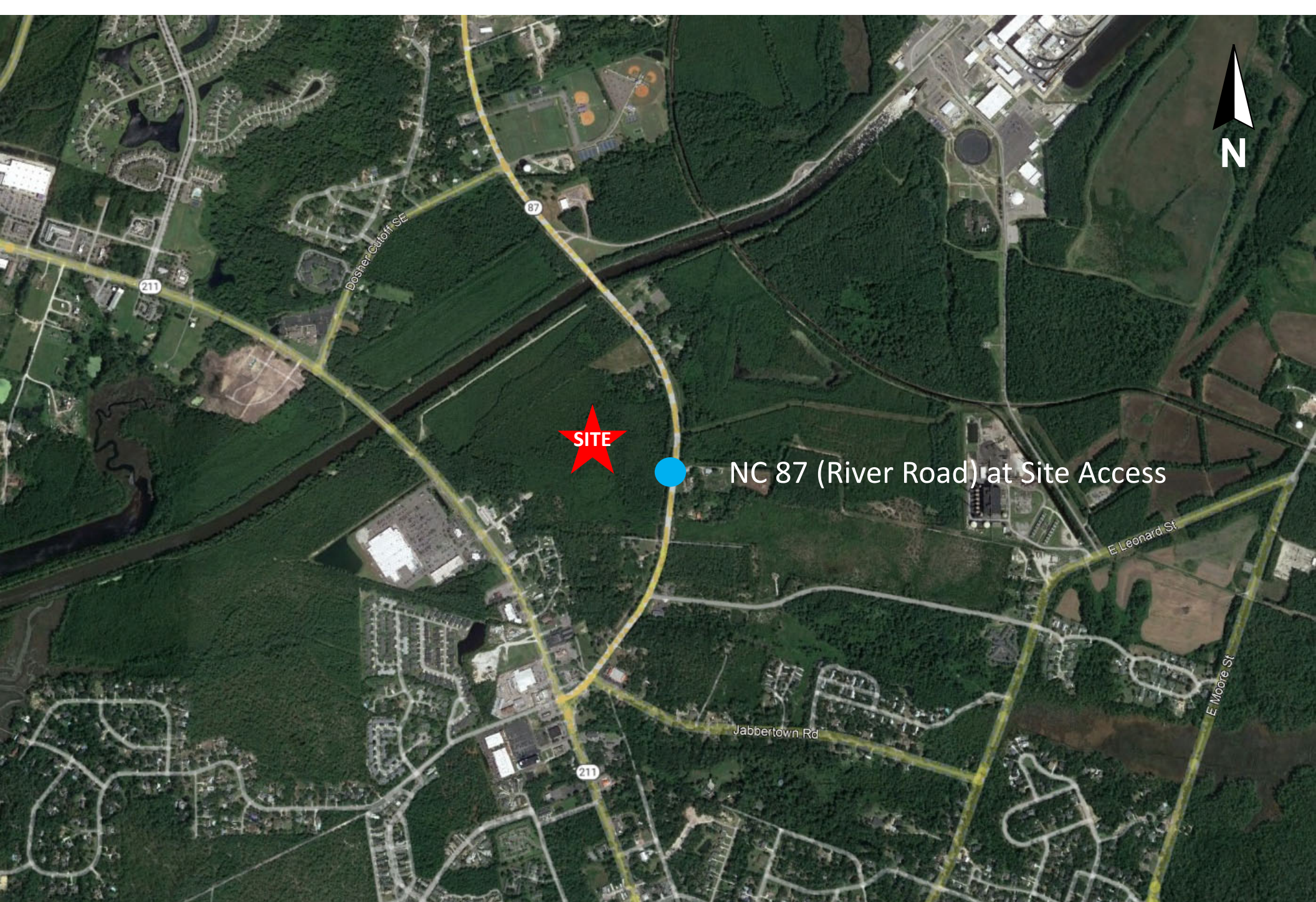


FIGURE 1
SITE PLAN

Turtle Bay at Southport
Project Number 220222





2.0 Existing Conditions

2.1 Inventory

Table 2.1 presents a summary of the study area roadway conditions. Figure 3 shows the existing lane geometry.

Table 2.1 - Street Inventory						
Facility Name	Route #	AADT (vpd)	Typical Cross Section	Pavement Width	Speed Limit (MPH)	Maintained By
River Road	NC 87	6,800*	2-lane undivided	12-foot lanes	45	NCDOT

*Based on NCDOT 2021 Data

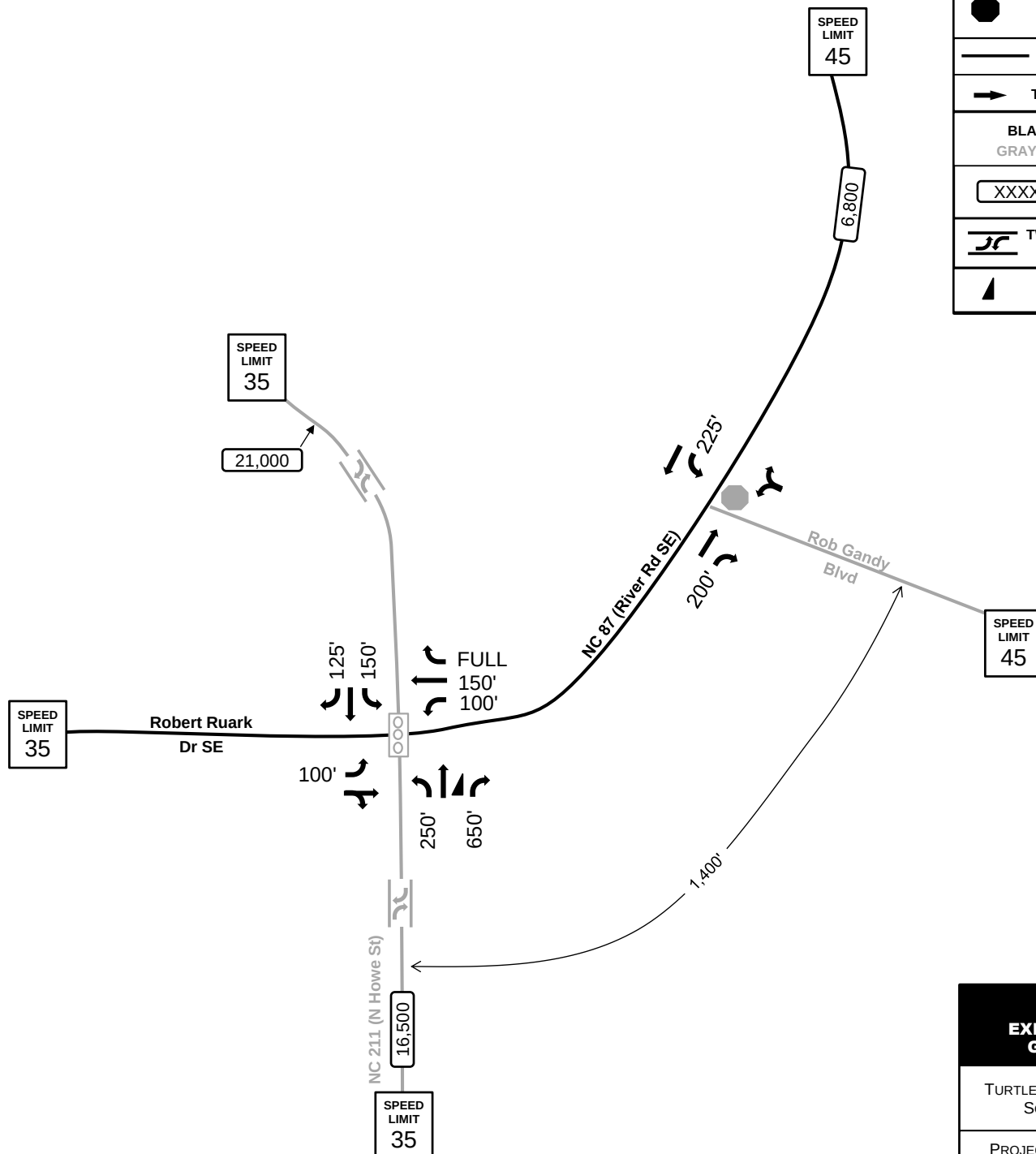
2.2 Existing Traffic Volumes

Turning movement counts for this project were collected by Burns Services, Incorporated when schools were in session. Table 2.2 contains the location, dates, and times these counts were conducted. As noted previously, Rob Gandy Boulevard was not included in the analysis, but counts were collected at this location to establish through volumes on NC 87 (River Road) in front of the site access. An annual growth rate of one percent (1%) was applied to the 2022 counts to grow the turning movement counts to 2023 conditions. The 2023 existing AM and PM peak hour volumes are shown in Figure 4. Traffic count data are provided in the Appendix.

Table 2.2 - Traffic Volume Data		
Count Location	Date Taken	Hours
NC 87 (River Road) at Rob Gandy Boulevard (unsignalized)	Tuesday, May 10, 2022	7-9 AM, 4-6 PM
NC 211 (North Howe Street) at NC 87 (River Road) (signalized)	Thursday, January 13, 2022	7-9 AM, 4-6 PM



LEGEND	
	SIGNAL
	STOP
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING GRAY = UNANALYZED	
	2021 AADT VOLUMES
	TWO-WAY LEFT-TURN LANE
	RIGHT-OUT



*** NOT TO SCALE ***

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

**FIGURE 3
EXISTING LANE
GEOMETRY**

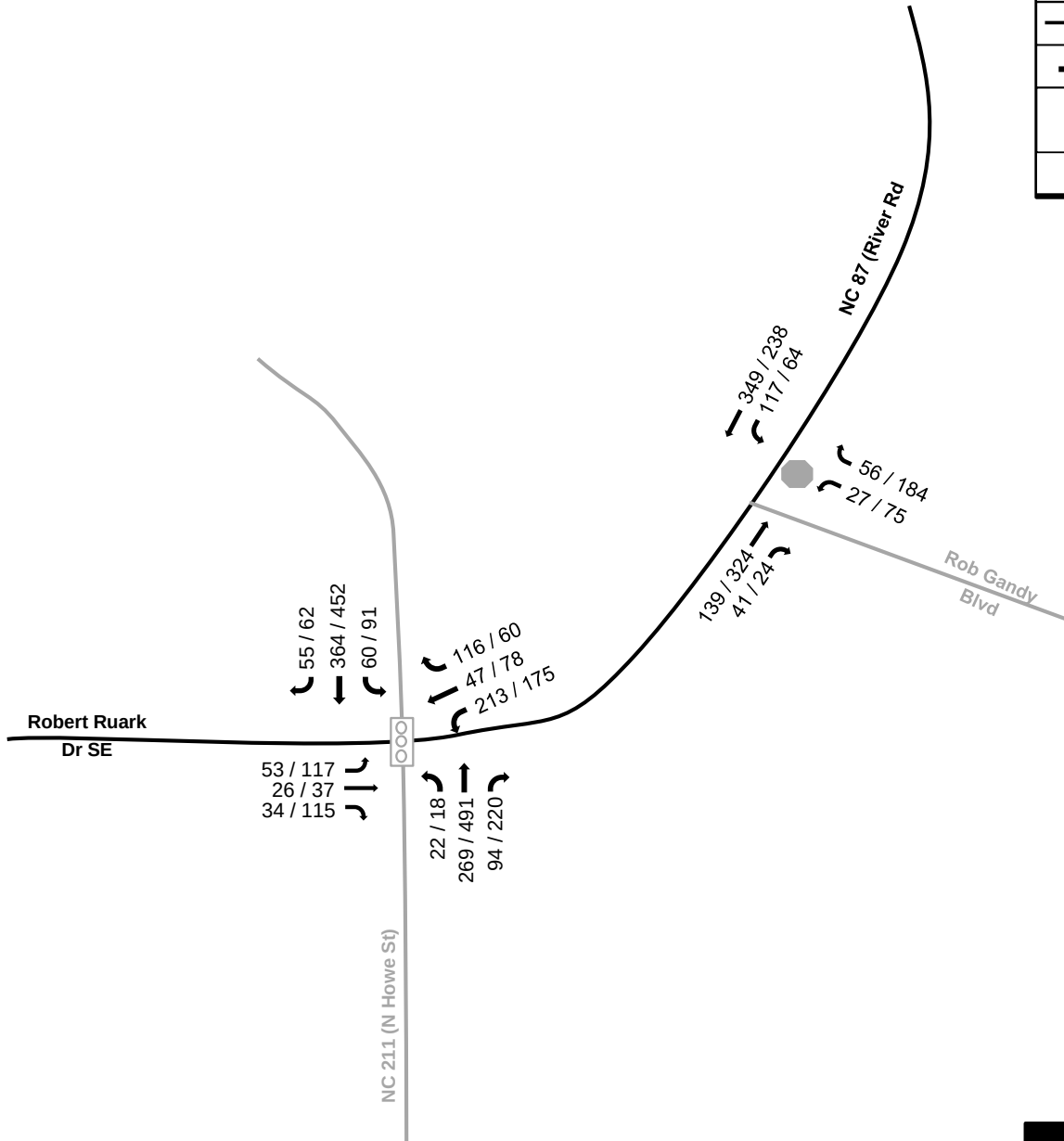
TURTLE BAY AT SOUTHPORT
SOUTHPORT, NC

PROJECT NUMBER 220222

DAVENPORT



LEGEND	
	SIGNAL
	STOP
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING GRAY = UNANALYZED	
AM / PM PEAKS	



*** NOT TO SCALE ***

** A minimum of 4 vehicles per hour is analyzed for each movement per NCDOT Congestion Management Guidelines.

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

FIGURE 4 2023 EXISTING TRAFFIC VOLUMES

TURTLE BAY AT SOUTHPORT
SOUTHPORT, NC

PROJECT NUMBER 220222



3.0 Approved Development and Committed Improvements

3.1 *Approved Developments*

Approved developments are developments that have been recently approved in the area but are not yet constructed. Per the approved scoping document, there are two (2) approved developments to consider for this study site.

- **Southport Mixed-Use:** To be located in the southwest quadrant of the intersection of NC 87 (River Road) and SR 1621 (Doshier Cutoff) in Brunswick County. The proposed development is expected to consist of an approximately 50,000 sq. ft. self-storage warehouse, 264 apartments, a 4,000 sq. ft. fast-food restaurant with drive-thru, and a 5,000 sq. ft. super convenience market with gas station. A TIA was completed for this project in October 2022. Future traffic associated with the site was incorporated into the future condition analysis based on the TIA since the site is not yet built out.
- **48 Townhomes at Rob Gandy Boulevard:** To be located on Rob Gandy Boulevard east of the intersection of NC 87 (River Road) and Rob Gandy Boulevard. The site is planned to consist of 48 townhomes. No TIA was performed for this site. ITE Trip Generation Manual 11th Edition was used to determine the future traffic generated by the site and trips were routed based on existing patterns and engineering judgment. Future traffic associated with the site was incorporated into the future condition analysis.

Relevant information pertaining to approved developments is provided in the Appendix.

3.2 *Committed Improvements*

Committed improvements are improvements that are planned by NCDOT, City of Southport or that are associated with a prior approved development in the area but are not yet constructed. Per the approved scoping document, there is one (1) committed improvement that is included in the study.

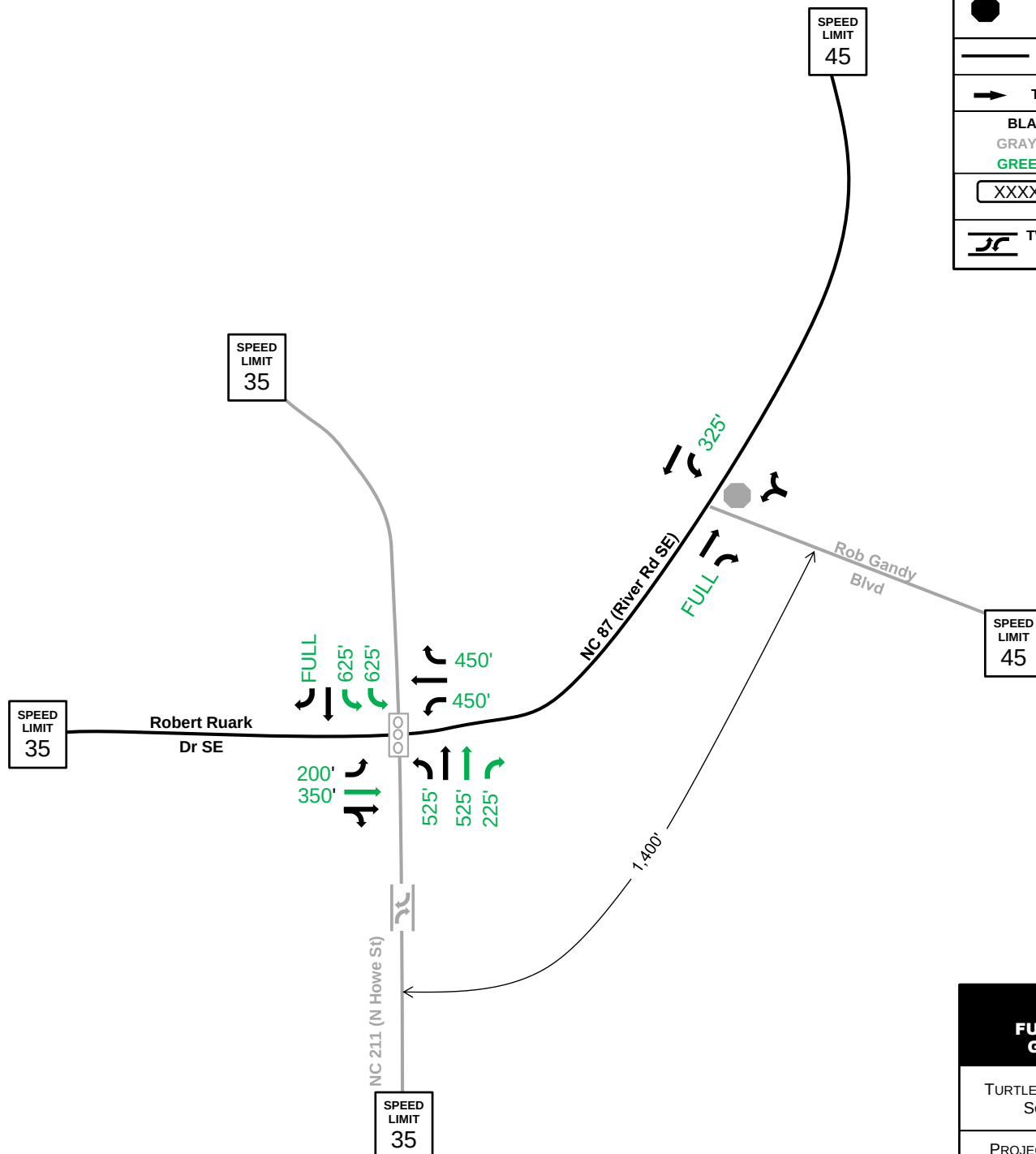
- **STIP Project R-5021: NC 211(North Howe Street) Widening from west of NC 906 (Midway Road) to East of NC 87 (River Road):**

This improvement is a North Carolina Department of Transportation (NCDOT) project. It is to be done on NC 211(North Howe Street) between SR 1500 (Midway Road) and NC 87 (River Road). The improvement project is planned to widen NC 211 from a two (2) lane undivided to a four (4) lane divided facility to improve traffic flow, driver safety and traffic capacity. This improvement is also planned to add a northbound thru traffic lane on NC 87 (River Road) between SR 1526 (Jabbertown Road) and SR 1620 (Rob Gandy Boulevard) along with a dedicated right turn lane for southbound traffic at the intersection of NC 211 (North Howe Street) and NC 87 (River Road). The improvement project has been incorporated into the analysis for future conditions.

Figure 5 represents the future lane geometry. Relevant information regarding the improvement project is provided in the Appendix.



LEGEND	
	SIGNAL
	STOP
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING GRAY = UNANALYZED GREEN = COMMITTED	
	2021 AADT VOLUMES
	TWO-WAY LEFT-TURN LANE



*** NOT TO SCALE ***
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of, or improper reliance on, this document by others without written authorization and adaptation by DAVENPORT, shall be without liability to DAVENPORT, and shall be a violation of the agreement between DAVENPORT and the client.

**FIGURE 5
FUTURE LANE
GEOMETRY**

TURTLE BAY AT SOUTHPORT
SOUTHPORT, NC

PROJECT NUMBER 220222

DAVENPORT

4.0 Methodology

4.1 Base Assumptions and Standards

In general, the analysis for this project was conducted utilizing commonly accepted NCDOT standards. Table 4.1 contains a summary of the base assumptions.

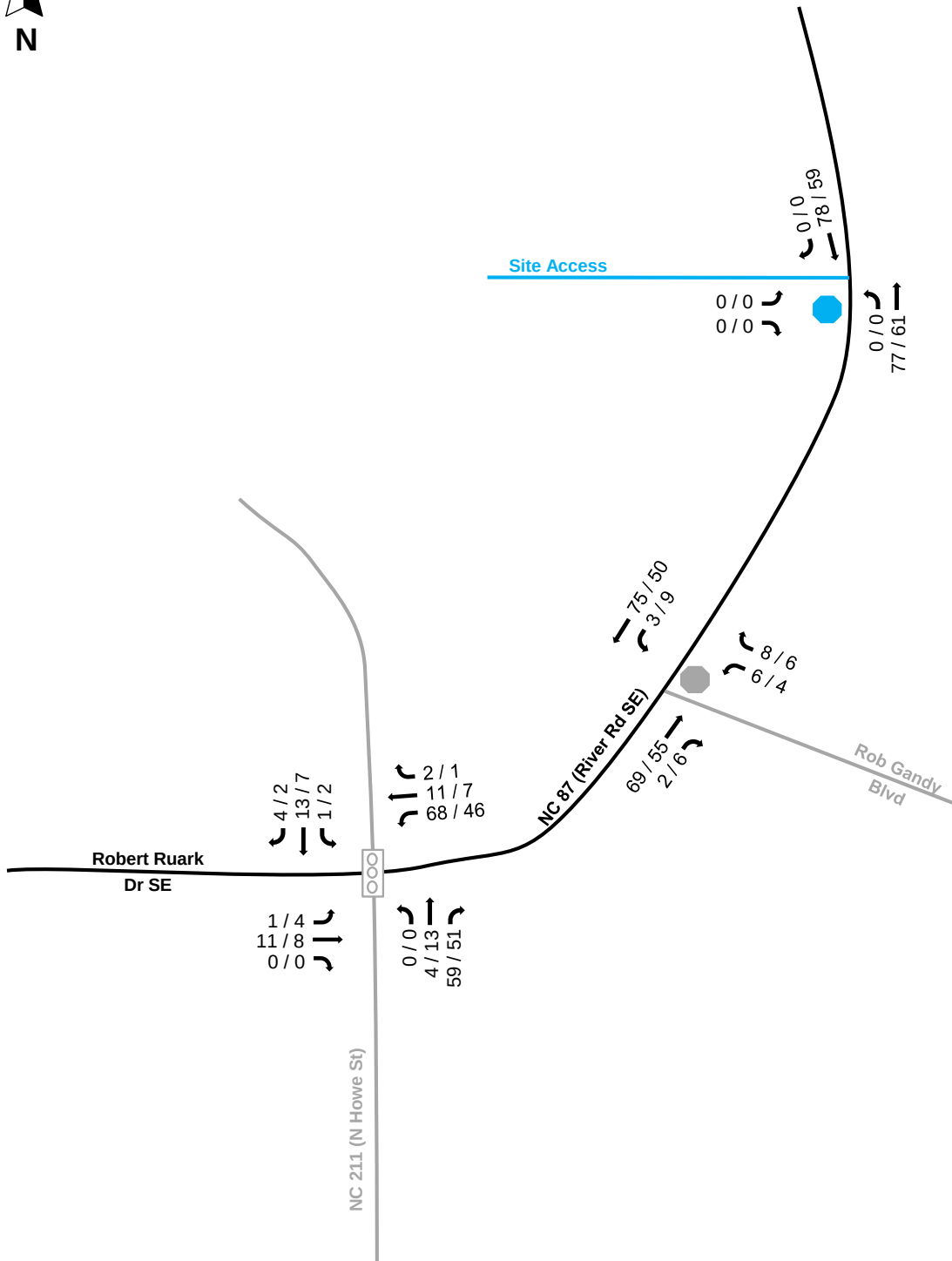
Table 4.1 - Assumptions	
Annual Growth Rate	1%, based on approved scope
Analysis Software	Synchro/SimTraffic Version 11.0
Lane Widths	12 feet
Peak Hour Factor	0.90
Truck Percentage	2%

4.2 Future No Build Volumes

The 2026 future no build traffic volumes were computed by applying a one percent (1%) compounded annual growth rate to the 2023 existing traffic volumes and adding approved development trips. Figure 6 shows approved development trips and Figure 7 shows 2026 future no build traffic volumes for AM and PM peaks.



LEGEND	
	SIGNAL
	STOP
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING GRAY = UNANALYZED BLUE = PROPOSED	
AM / PM PEAKS	



*** NOT TO SCALE ***

** A minimum of 4 vehicles per hour is analyzed for each movement per NCDOT Congestion Management Guidelines.

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

FIGURE 6 APPROVED DEVELOPMENTS TRIPS

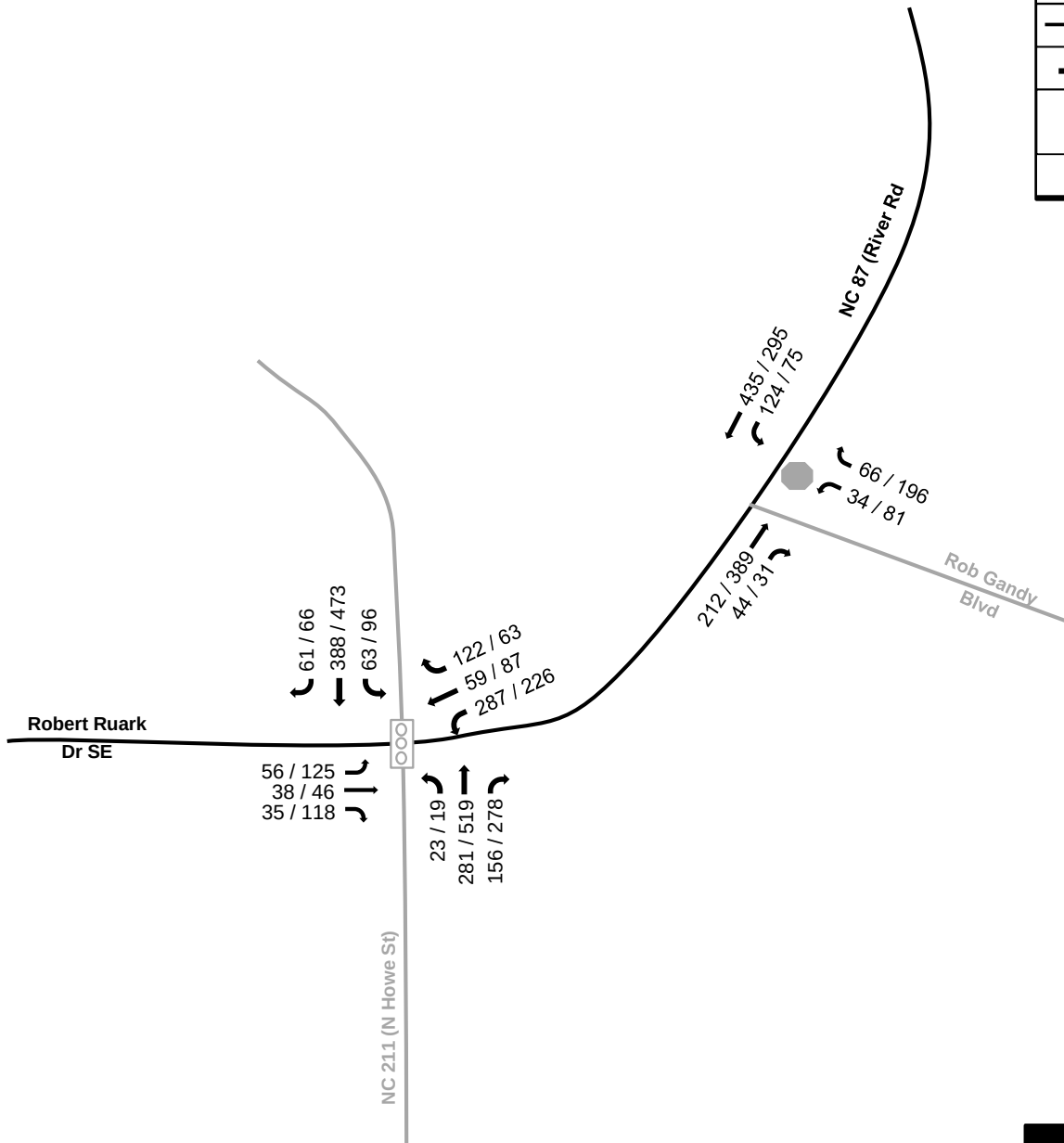
TURTLE BAY AT SOUTHPORT
SOUTHPORT, NC

PROJECT NUMBER 220222





LEGEND	
	SIGNAL
	STOP
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING GRAY = UNANALYZED	
AM / PM PEAKS	



*** NOT TO SCALE ***

** A minimum of 4 vehicles per hour is analyzed for each movement per NCDOT Congestion Management Guidelines.

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

FIGURE 7 2026 FUTURE NO BUILD VOLUMES

TRUTLE BAY AT SOUTHPORT
SOUTHPORT, NC

PROJECT NUMBER 220222



4.3 Trip Generation

The proposed development is planned to include 100 single family homes. The trip generation potential of this site was projected based on the 11th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual* and guidance from NCDOT Congestion Management on the selection of appropriate variables. Table 4.2 presents the results.

Table 4.2 - ITE 11th Edition Trip Generation											
Average Weekday Driveway Volumes					24-Hour	AM Peak Hour			PM Peak Hour		
					Two-Way						
Land Use	ITE Land Use Code	Size		Data Source	Volume	Enter	Exit	Total	Enter	Exit	Total
Single-Family Detached Housing	210	100	Dwelling Units	Adjacent-Equation	1,009	19	55	74	63	36	99
Total Site Trips					1,009	19	55	74	63	36	99

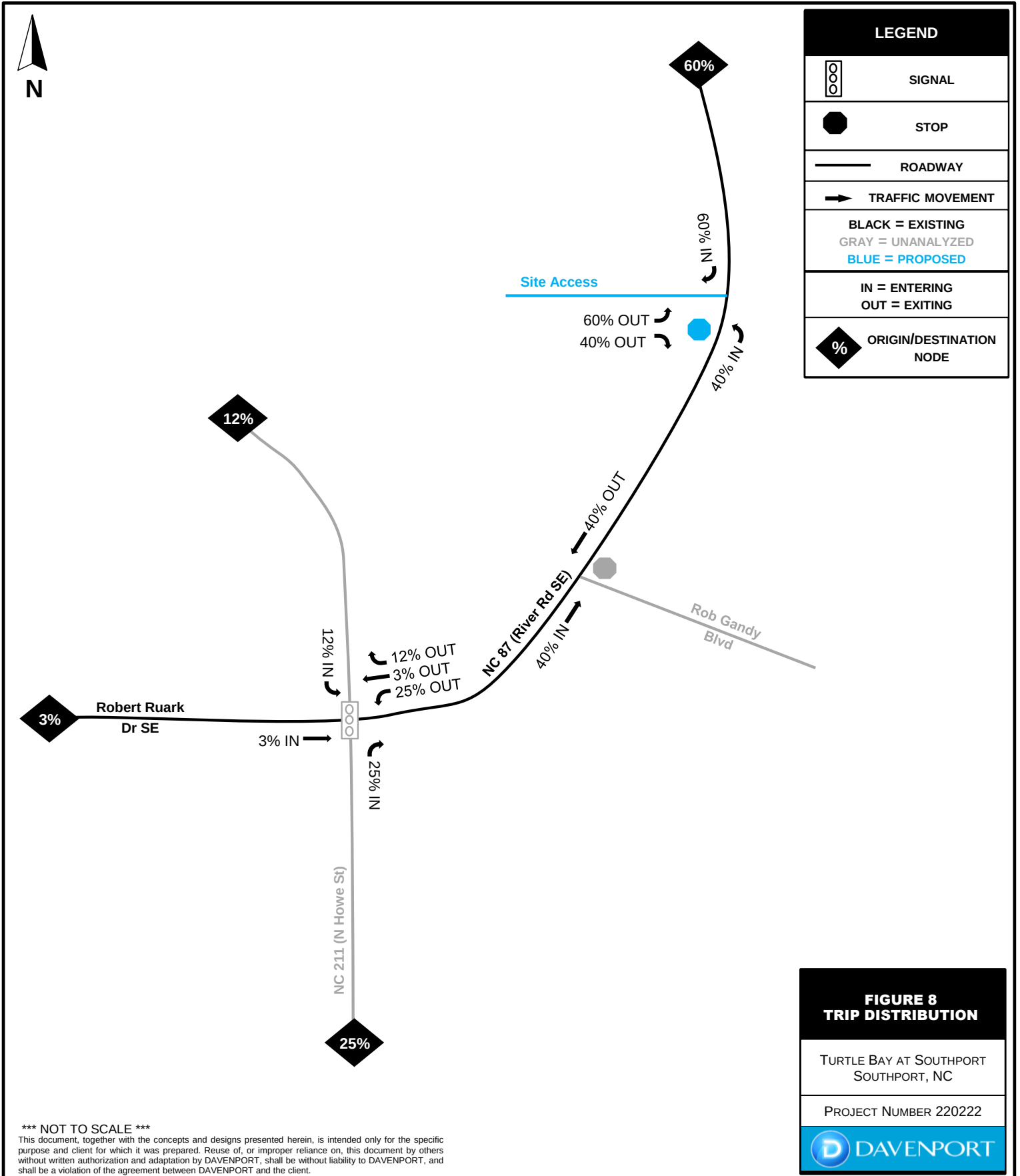
4.4 Trip Distribution and Assignment

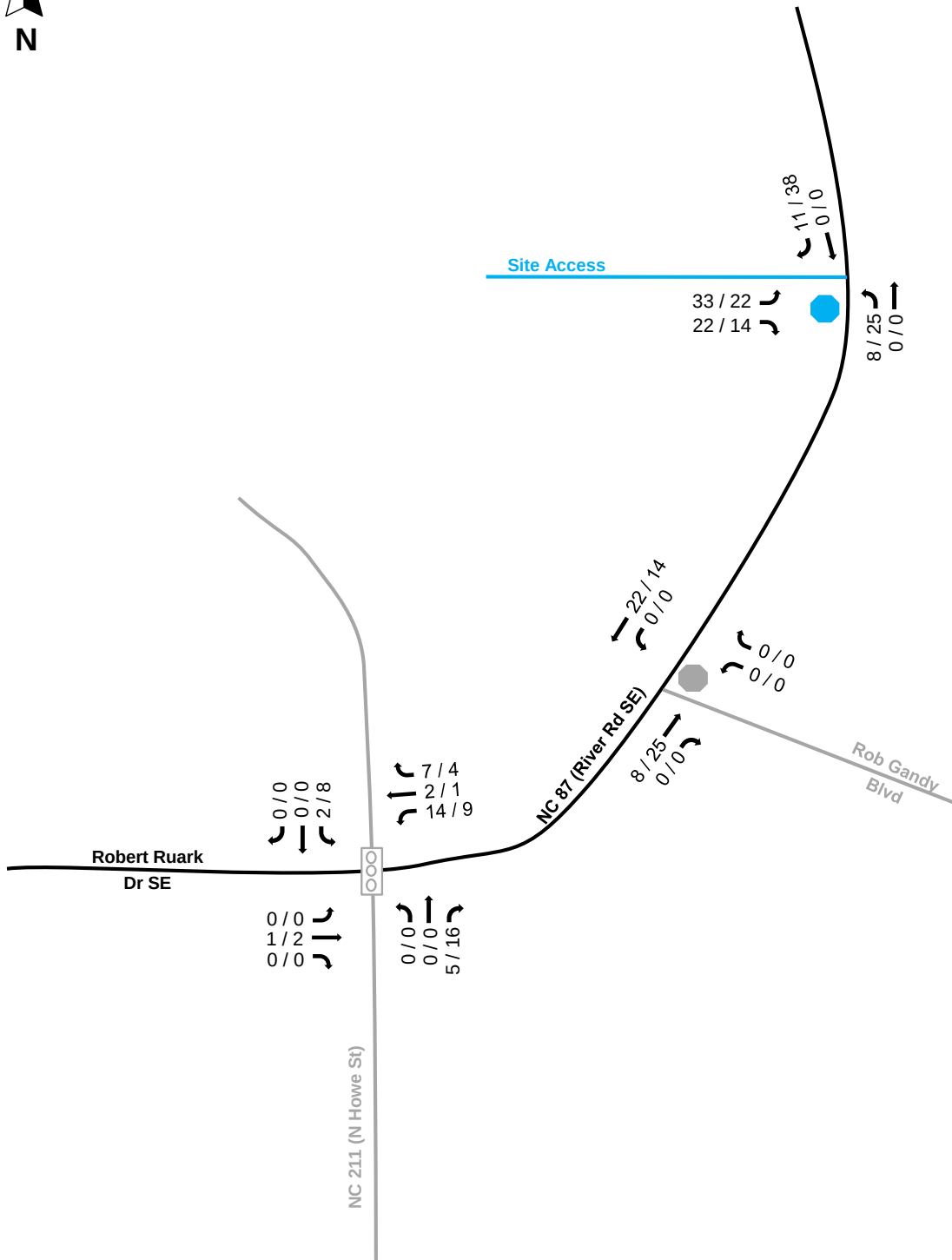
Site trips for this proposed development were distributed based on the existing traffic patterns and engineering judgment. The trip distribution model is shown in Figure 8. The directional distribution for new site trips is:

- 60% to/from the north on NC 87 (River Road)
- 25% to/from the south on NC 211 (North Howe Street)
- 12% to/from the west on NC 211 (North Howe Street)
- 3% to/from the west on Robert Ruark Drive

4.5 Future Build Volumes

Site trip volumes were added to the future no build volumes to compute the 2026 Future Build volumes. Site trips are shown in Figure 9 and Future Build volumes are shown in Figure 10.





LEGEND	
	SIGNAL
	STOP
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING GRAY = UNANALYZED BLUE = PROPOSED	
AM / PM PEAKS	

*** NOT TO SCALE ***

** A minimum of 4 vehicles per hour is analyzed for each movement per NCDOT Congestion Management Guidelines.

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

FIGURE 9 SITE TRIPS

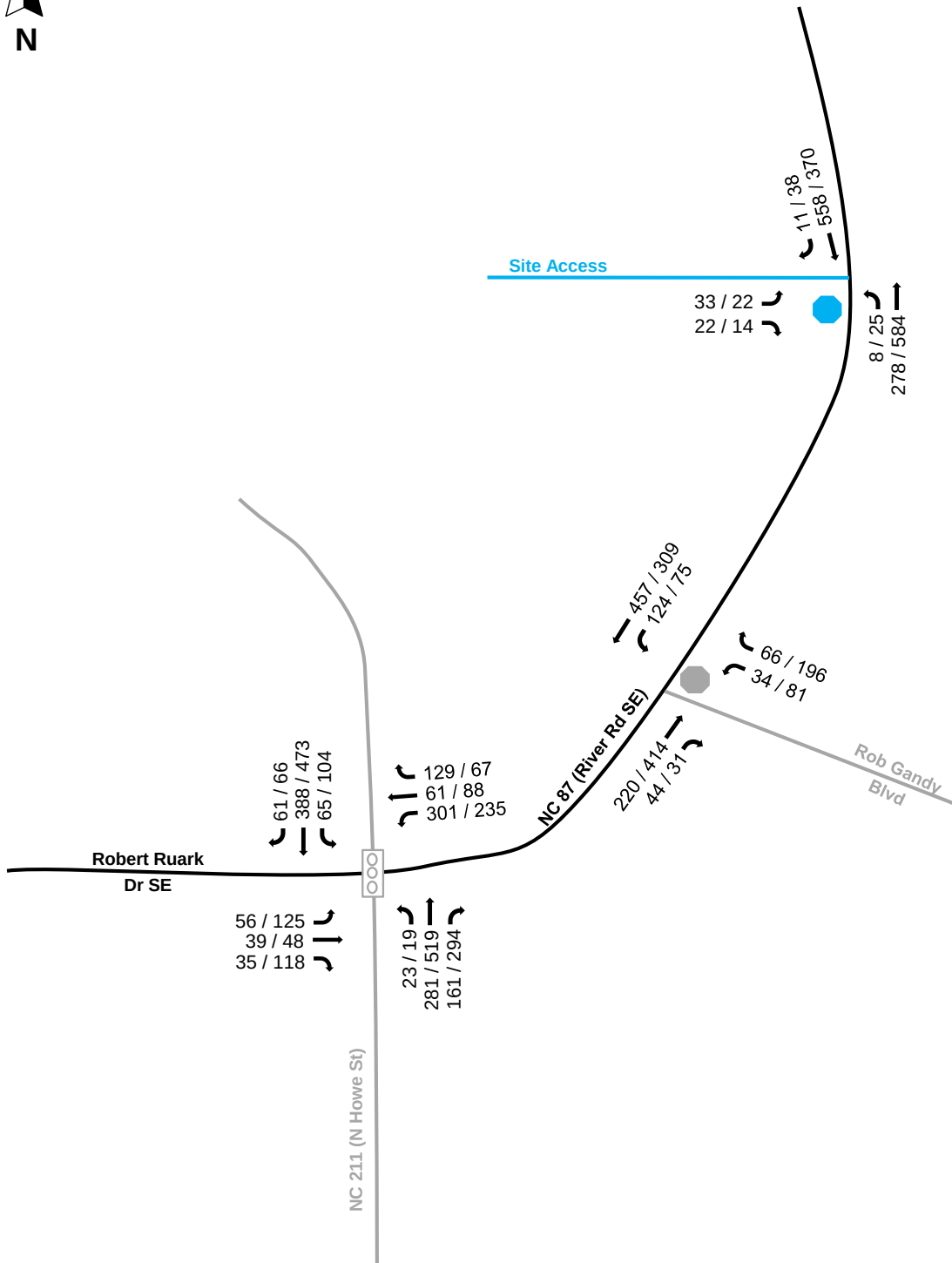
TURTLE BAY AT SOUTHPORT
SOUTHPORT, NC

PROJECT NUMBER 220222





LEGEND	
	SIGNAL
	STOP
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING GRAY = UNANALYZED BLUE = PROPOSED	
AM / PM PEAKS	



*** NOT TO SCALE ***

** A minimum of 4 vehicles per hour is analyzed for each movement per NCDOT Congestion Management Guidelines.

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

FIGURE 10 2026 FUTURE BUILD VOLUMES

TURTLE BAY AT SOUTHPORT
SOUTHPORT, NC

PROJECT NUMBER 220222



5.0 Capacity Analysis

5.1 Level of Service Evaluation Criteria

The Transportation Research Board's *Highway Capacity Manual* (HCM) utilizes a term "level of service" (LOS) to measure how traffic operates in intersections and on roadway segments. There are six levels of service ranging from A to F as shown in Table 5.1. Level of service "A" represents low-volume traffic operations and level of service "F" represents high-volume, oversaturated traffic operations. Synchro traffic modeling software is used to determine the LOS and delay for study intersections. Synchro analysis worksheet reports are provided in the Appendix.

Table 5.1 – Highway Capacity Manual			
Levels of Service and Control Delay Criteria			
Signalized Intersection		Unsignalized Intersection	
Level of Service	Control Delay Per vehicle (seconds)	Level of Service	Delay Range (seconds)
A	≤ 10	A	≤ 10
B	> 10 and ≤ 20	B	> 10 and ≤ 15
C	> 20 and ≤ 35	C	> 15 and ≤ 25
D	> 35 and ≤ 55	D	> 25 and ≤ 35
E	> 55 and ≤ 80	E	> 35 and ≤ 50
F	> 80	F	> 50

5.2 Queueing Evaluation

A queueing analysis was performed using Synchro and SimTraffic simulation, based on a minimum 10-minute seeding, a 60-minute recording period, and 10 runs. The maximum SimTraffic queues and 95th-percentile Synchro queues are provided, along with the turn lane lengths. Synchro and SimTraffic queue reports are provided in the Appendix.

5.3 Level of Service and Queueing Results

The results of the capacity and queue analyses are discussed by intersection in the following paragraphs. The LOS, delay, and queue results are summarized in Tables 5.2 and 5.3.

NC 87 (River Road) at Site Access (unsignalized)

Under the future build condition, the intersection is expected to operate at an LOS C during the AM peak hours and PM peak hours. The need for left and right turn lanes was reviewed based on the turn lane warrant nomograph from page 80 of the NCDOT *Policy on Street and Driveway Access to North Carolina Highways*. The turn lane warrant nomograph is provided in the Appendix. The results are marginally below the thresholds for turn lanes being warranted. However, the posted speed limit on NC 87 (River Road) is 45 mph and actual travel speeds are expected to be higher than 45 mph due to the rural location of the roadway. Therefore, to ensure safety of the vehicles turning onto the site access and to provide for long-term transportation needs, the following improvements are recommended:

- Provide a southbound right turn lane on NC 87 (River Road) with 100 feet of storage and appropriate deceleration and taper.
- Provide a northbound left turn lane on NC 87 (River Road) with 100 feet of storage and appropriate deceleration and taper.
- Design site access according to applicable NCDOT standards and with adequate sight distance.

Sight distance requirements are taken from page 29 of the *Policy on Street and Driveway Access to North Carolina Highways*. Based on a design speed of 50 mph (posted speed plus 5), the required sight distance is 500 feet looking left and 550 feet looking right from the site access. The site access should be designed to provide required sight distance, free from obstructions along the lines of sight.

Table 5.2 - LOS and Queueing NC 87 (River Road) at Site Access (unsignalized)						
Scenario	*LOS of Worst Approach	Eastbound	Northbound		Southbound	
AM Peak Hour						
2026 Future Build	C (17.9) EB Approach	LR	L	T	T	R
		C (17.9)	A (8.8)	A (0.0)	A (0.0)	A (0.0)
		C (17.9)	A (0.2)		A (0.0)	
	Available Storage (ft)	FULL	FULL		FULL	
	95th% Queue (ft)	15	0		0	
	Max Queue (ft)	60	37		0	
2026 Future Build with improvement	C (17.7) EB Approach	LR	L	T	T	R
		C (17.7)	A (8.8)	A (0.0)	A (0.0)	A (0.0)
		C (17.7)	A (0.2)		A (0.0)	
	Available Storage (ft)	FULL	100	FULL	FULL	100
	95th% Queue (ft)	15	0	0	0	0
	Max Queue (ft)	60	28	0	0	0

Table 5.2 (Continued) - LOS and Queueing NC 87 (River Road) at Site Access (unsignalized)						
Scenario	*LOS of Worst Approach	Eastbound	Northbound		Southbound	
		PM Peak Hour				
2026 Future Build	C (19.6) EB Approach	LR	L	T	T	R
		C (19.6)	A (8.3)	A (0.0)	A (0.0)	A (0.0)
		C (19.6)	A (0.2)		A (0.0)	
	Available Storage (ft)	FULL	FULL		FULL	
	95th% Queue (ft)	13	3		0	
	Max Queue (ft)	44	92		0	
2026 Future Build with improvement	C (18.8) EB Approach	LR	L	T	T	R
		C (18.8)	A (8.3)	A (0.0)	A (0.0)	A (0.0)
		C (18.8)	A (0.3)		A (0.0)	
	Available Storage (ft)	FULL	100	FULL	FULL	100
	95th% Queue (ft)	13	3	0	0	0
	Max Queue (ft)	44	39	0	0	0

**Represents the LOS and delay for the worst unsignalized approach or the overall signalized intersection.
HCM 95th-percentile queue converted from vehicles to feet; assumes 1 vehicle = 25 feet.*

6.0 Internal Protected Stem

The NCDOT *Policy on Street and Driveway Access to North Carolina Highways*, or the Driveway Manual, states that the length of the internal protected stem (IPS) will be determined from the maximum vehicle storage required as measured from the right-of-way line to the nearest conflict point with a minimum recommendation of 100 feet.

Table 6 summarizes the maximum storage recorded in the analysis as compared to the estimated IPS based on the site plan. Internal protected stem for the site access exceeds 100 feet.

Table 6 – Queue Lengths on Site Driveways					
Site Drive	Estimated IPS (feet)	95 th -ile Queue (feet)		Maximum Queue (feet)	
		AM	PM	AM	PM
EB Site Access Approach	230	15	13	60	44

7.0 Summary and Conclusion

The Turtle Bay at Southport proposed development is located on the west side of NC 87 to the north of Rob Gandy Blvd in Southport, NC. It is planned to consist of 100 single family homes. One (1) full movement access point on NC 87 (River Road) is proposed for this development. The Site Access is located approximately 1,300 feet north of Rob Gandy Boulevard. The expected build-out year for the development is 2026. Information regarding the property was provided by Turtle Bay at Southport, LLC.

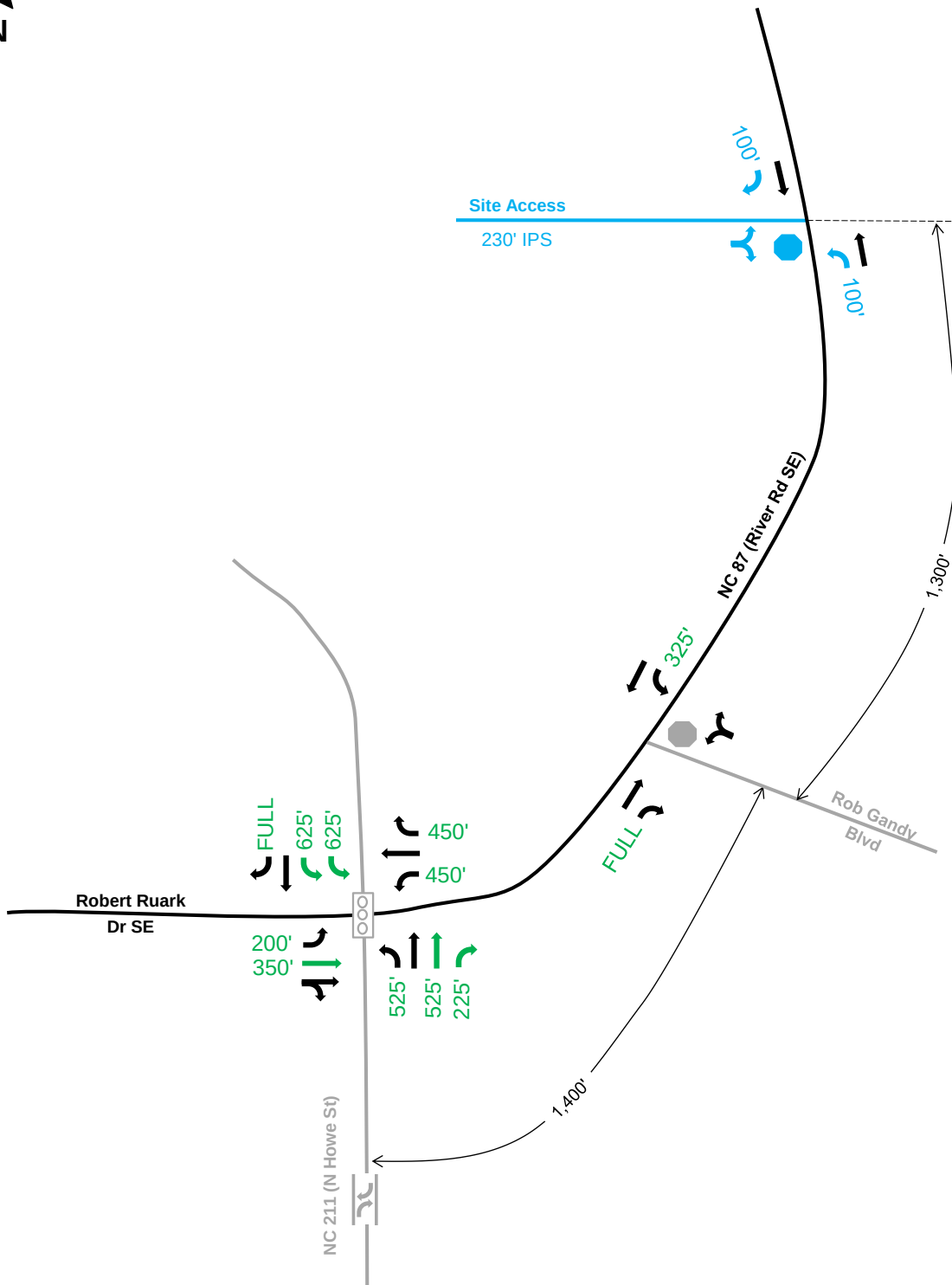
The Transportation Impact Analysis (TIA) was performed based on the scope agreed upon with the City of Southport and North Carolina Department of Transportation (NCDOT). This site has a trip generation potential of 1,009 daily trips, 74 trips in the AM peak hour, and 99 trips in the PM peak hour.

In conclusion, this study has determined the potential traffic impacts of this development. At the site access, a northbound left turn lane with 100 feet of storage and appropriate deceleration/taper and southbound right turn lane with 100 feet of storage and appropriate deceleration/taper is recommended. Table 7 summarizes the recommended improvements, which are also reflected in Figure 11. With the recommended improvements in place, the anticipated transportation impacts of the proposed development can be accommodated.

Table 7 – Summary of Recommended Improvements	
INTERSECTION	RECOMMENDATIONS
NC 87 (River Road) at Site Access	- Construct a southbound right turn lane on NC 87 (River Road) with 100 feet of storage and appropriate deceleration and taper. - Construct a northbound left turn lane on NC 87 (River Road) with 100 feet of storage and appropriate deceleration and taper. - Construct the driveway according to applicable NCDOT standards and with adequate sight distance.



LEGEND	
	SIGNAL
	STOP
	ROADWAY
	TRAFFIC MOVEMENT
BLACK = EXISTING GRAY = UNANALYZED GREEN = COMMITTED BLUE = PROPOSED	
IPS = INTERNAL PROTECTED STEM	



*** NOT TO SCALE ***

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

FIGURE 11 RECOMMENDED IMPROVEMENTS

TURTLE BAY AT SOUTHPORT
SOUTHPORT, NC

PROJECT NUMBER 220222



Appendix

Approved Scoping Documents



October 18, 2023

Transportation Impact Analysis (TIA) Scoping
Turtle Bay at Southport, Southport, NC
DAVENPORT Project Number 220222

Proposed Land Uses: 100 single family homes

Analysis Periods – Weekday AM peak (7:00-9:00 am) and PM peak (4:00-6:00 pm)

Study Intersections:

- NC 87 (River Road) at Site Access

Access Configuration: One (1) full movement access

TIA Analysis Scenarios:

- Future Build Conditions
- Future Build with Improvements (as required)

Build-out Year / Analysis Year: Estimated at 2026

Proposed annual growth rate – 1% (plus approved developments)

Trip Generation – Based on ITE Trip Generation Manual 11th Edition. See attached.

Proposed site trip directional distribution – See attached.

Existing Traffic Counts – Adjust 2022 counts to current year using 1% growth rate.

- NC 87 (River Road) at Rob Gandy Blvd: Collected on 05/10/2022 (unanalyzed intersection)
- NC 211 (North Howe Street) at NC 87 (River Road). Collected on 01/13/2023 (unanalyzed intersection)

Measures of effectiveness for capacity analysis:

- Level of service (LOS) / delay by movement
- Queue lengths (95th % Synchro and max SimTraffic queues)

Additional Scope:

- Turn lane warrant analysis to be performed at site access.

Approved and planned developments:

- 48 Townhomes at Rob Gandy Blvd
- Southport Mixed-Use at Southwest quadrant of NC 87(River Road) and SR 1621 (Doshier Cutoff) consisting of 50,000 sq ft self-storage warehouse, 264 apartments, 4,000 sq. ft. fast-food restaurant with drive-thru and 5,000 sq. ft. super convenience market with gas station.

Committed Improvements:

- R-5021: Widening of NC 211 from SR 1500 to NC 87

Capacity Analysis

Synchro Worksheets

Future Build Conditions

Lanes, Volumes, Timings
100: River Rd SE & Site Access 1

12/19/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	22	8	278	558	11
Future Volume (vph)	33	22	8	278	558	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.947				0.997	
Flt Protected	0.971			0.999		
Satd. Flow (prot)	1713	0	0	1861	1857	0
Flt Permitted	0.971			0.999		
Satd. Flow (perm)	1713	0	0	1861	1857	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1120			1790	1211	
Travel Time (s)	30.5			27.1	18.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	37	24	9	309	620	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	0	0	318	632	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.0% ICU Level of Service A

Analysis Period (min) 15

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	22	8	278	558	11
Future Vol, veh/h	33	22	8	278	558	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	24	9	309	620	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	953	626	632	0	-	0
Stage 1	626	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	287	484	951	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	284	484	951	-	-	-
Mov Cap-2 Maneuver	284	-	-	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.9	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	951	-	340	-	-
HCM Lane V/C Ratio	0.009	-	0.18	-	-
HCM Control Delay (s)	8.8	0	17.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Lanes, Volumes, Timings
300: River Rd SE & Rob Gandy Blvd

12/19/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	34	66	220	44	124	457
Future Volume (vph)	34	66	220	44	124	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	325	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.911			0.850		
Flt Protected	0.983				0.950	
Satd. Flow (prot)	1668	0	1863	1583	1770	1863
Flt Permitted	0.983				0.950	
Satd. Flow (perm)	1668	0	1863	1583	1770	1863
Link Speed (mph)	45		45			45
Link Distance (ft)	1122		1404			1790
Travel Time (s)	17.0		21.3			27.1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	38	73	244	49	138	508
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	244	49	138	508
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	36.7%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	66	220	44	124	457
Future Vol, veh/h	34	66	220	44	124	457
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	325	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	73	244	49	138	508
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1028	244	0	0	293	0
Stage 1	244	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	259	795	-	-	1269	-
Stage 1	797	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	231	795	-	-	1269	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.1	0		1.7		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	434	1269	-	
HCM Lane V/C Ratio	-	-	0.256	0.109	-	
HCM Control Delay (s)	-	-	16.1	8.2	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	1	0.4	-	

Lanes, Volumes, Timings

400: N Howe St & Robert Ruark Dr SE/River Rd SE

12/19/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	39	35	301	61	129	23	281	161	65	388	61
Future Volume (vph)	56	39	35	301	61	129	23	281	161	65	388	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	450		450	525		375	625		0
Storage Lanes	1		0	1		1	1		2	2		1
Taper Length (ft)	100			100			0			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Frt		0.929				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1730	0	1770	1863	1583	1770	3539	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1730	0	1770	1863	1583	1770	3539	1583	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			35			35	
Link Distance (ft)		868			1404			1137			1047	
Travel Time (s)		16.9			21.3			22.1			20.4	
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)	62	43	39	334	68	143	26	312	179	72	431	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	82	0	334	68	143	26	312	179	72	431	68
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4	5	1	6	7	5	2	3
Permitted Phases						4			6			2
Detector Phase	3	8		7	4	5	1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0	7.0	7.0	12.0	7.0
Minimum Split (s)	14.0	14.0		14.0	30.4	14.0	14.0	40.0	14.0	14.0	24.0	14.0
Total Split (s)	15.0	18.0		43.0	46.0	14.0	14.0	55.0	43.0	14.0	55.0	15.0
Total Split (%)	11.5%	13.8%		33.1%	35.4%	10.8%	10.8%	42.3%	33.1%	10.8%	42.3%	11.5%
Maximum Green (s)	8.0	11.0		36.0	39.0	7.0	7.0	48.0	36.0	7.0	48.0	8.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					16.4			26.0			10.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effect Green (s)	9.7	11.9		30.6	35.6	45.6	9.1	58.5	89.1	9.0	64.0	78.7
Actuated g/C Ratio	0.07	0.09		0.24	0.27	0.35	0.07	0.45	0.69	0.07	0.49	0.61
v/c Ratio	0.47	0.52		0.80	0.13	0.26	0.21	0.20	0.17	0.30	0.47	0.07

220222 Turtle Bay
S. Shafique

AM FB

Lanes, Volumes, Timings

400: N Howe St & Robert Ruark Dr SE/River Rd SE

12/19/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	69.9	67.9		61.3	35.4	21.6	61.5	23.4	4.2	61.1	27.3	14.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	67.9		61.3	35.4	21.6	61.5	23.4	4.2	61.1	27.3	14.5
LOS	E	E		E	D	C	E	C	A	E	C	B
Approach Delay	68.7			47.6			18.7			30.0		
Approach LOS	E			D			B			C		
Queue Length 50th (ft)	51	67		266	44	67	21	83	23	30	259	25
Queue Length 95th (ft)	99	121		353	77	97	52	128	38	56	401	56
Internal Link Dist (ft)	788			1324			1057			967		
Turn Bay Length (ft)	200			450			525			625		
Base Capacity (vph)	136	177		517	587	555	123	1592	1175	237	917	962
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.46		0.65	0.12	0.26	0.21	0.20	0.15	0.30	0.47	0.07

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 35.3

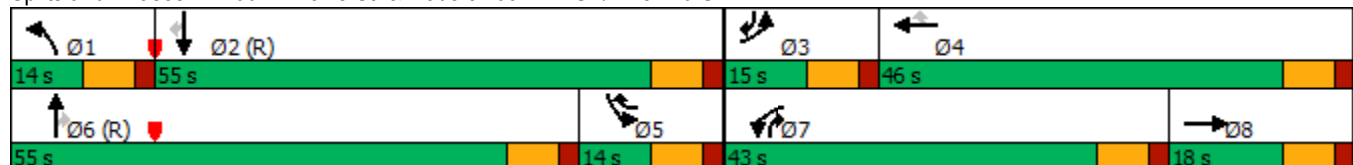
Intersection LOS: D

Intersection Capacity Utilization 59.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 400: N Howe St & Robert Ruark Dr SE/River Rd SE



Lanes, Volumes, Timings
100: River Rd SE & Site Access 1

12/19/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	14	25	584	370	38
Future Volume (vph)	22	14	25	584	370	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946				0.987	
Flt Protected	0.971			0.998		
Satd. Flow (prot)	1711	0	0	1859	1839	0
Flt Permitted	0.971			0.998		
Satd. Flow (perm)	1711	0	0	1859	1839	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1120			1786	1211	
Travel Time (s)	30.5			27.1	18.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	24	16	28	649	411	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	0	677	453	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 61.0% ICU Level of Service B

Analysis Period (min) 15

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	14	25	584	370	38
Future Vol, veh/h	22	14	25	584	370	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	16	28	649	411	42
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1137	432	453	0	-	0
Stage 1	432	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	223	624	1108	-	-	-
Stage 1	655	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	214	624	1108	-	-	-
Mov Cap-2 Maneuver	214	-	-	-	-	-
Stage 1	629	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	19.6	0.3		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1108	-	287	-	-	
HCM Lane V/C Ratio	0.025	-	0.139	-	-	
HCM Control Delay (s)	8.3	0	19.6	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-	

Lanes, Volumes, Timings
300: River Rd SE & Rob Gandy Blvd

12/19/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	81	196	414	31	75	309
Future Volume (vph)	81	196	414	31	75	309
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	325	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.904			0.850		
Flt Protected	0.986				0.950	
Satd. Flow (prot)	1660	0	1863	1583	1770	1863
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1660	0	1863	1583	1770	1863
Link Speed (mph)	45		45			45
Link Distance (ft)	1122		1404			1786
Travel Time (s)	17.0		21.3			27.1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	90	218	460	34	83	343
Shared Lane Traffic (%)						
Lane Group Flow (vph)	308	0	460	34	83	343
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.5%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	8.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	196	414	31	75	309
Future Vol, veh/h	81	196	414	31	75	309
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	325	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	218	460	34	83	343
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	969	460	0	0	494	0
Stage 1	460	-	-	-	-	-
Stage 2	509	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	281	601	-	-	1070	-
Stage 1	636	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	259	601	-	-	1070	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	31.1	0		1.7		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	434	1070	-	
HCM Lane V/C Ratio	-	-	0.709	0.078	-	
HCM Control Delay (s)	-	-	31.1	8.6	-	
HCM Lane LOS	-	-	D	A	-	
HCM 95th %tile Q(veh)	-	-	5.4	0.3	-	

Lanes, Volumes, Timings

400: N Howe St & Robert Ruark Dr SE/River Rd SE

12/19/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	48	118	235	88	67	19	519	294	104	473	66
Future Volume (vph)	125	48	118	235	88	67	19	519	294	104	473	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	450		450	525		375	625		0
Storage Lanes	1		0	1		1	1		2	2		1
Taper Length (ft)	100			100			0			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Frt		0.893				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1663	0	1770	1863	1583	1770	3539	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1663	0	1770	1863	1583	1770	3539	1583	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			35			35	
Link Distance (ft)		868			1404			1137			1047	
Travel Time (s)		16.9			21.3			22.1			20.4	
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)	139	53	131	261	98	74	21	577	327	116	526	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	184	0	261	98	74	21	577	327	116	526	73
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4	5	1	6	7	5	2	3
Permitted Phases						4			6			2
Detector Phase	3	8		7	4	5	1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0	7.0	7.0	12.0	7.0
Minimum Split (s)	14.0	14.0		14.0	30.4	14.0	14.0	40.0	14.0	14.0	24.0	14.0
Total Split (s)	23.0	28.0		33.0	38.0	14.0	14.0	55.0	33.0	14.0	55.0	23.0
Total Split (%)	17.7%	21.5%		25.4%	29.2%	10.8%	10.8%	42.3%	25.4%	10.8%	42.3%	17.7%
Maximum Green (s)	16.0	21.0		26.0	31.0	7.0	7.0	48.0	26.0	7.0	48.0	16.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					16.4			26.0			10.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effect Green (s)	15.5	19.6		24.2	28.4	37.4	9.0	57.2	81.4	9.0	62.8	83.2
Actuated g/C Ratio	0.12	0.15		0.19	0.22	0.29	0.07	0.44	0.63	0.07	0.48	0.64
v/c Ratio	0.66	0.74		0.79	0.24	0.16	0.17	0.37	0.33	0.49	0.59	0.07

220222 Turtle Bay
S. Shafique

PM FB

Lanes, Volumes, Timings

400: N Howe St & Robert Ruark Dr SE/River Rd SE

12/19/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	69.8	69.7		67.7	42.1	20.2	60.6	26.6	7.4	65.7	31.1	11.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.8	69.7		67.7	42.1	20.2	60.6	26.6	7.4	65.7	31.1	11.7
LOS	E	E		E	D	C	E	C	A	E	C	B
Approach Delay		69.7			53.8			20.6			34.7	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)	113	148		210	68	32	17	174	71	49	352	25
Queue Length 95th (ft)	182	227		303	115	55	45	238	113	81	517	51
Internal Link Dist (ft)		788			1324			1057			967	
Turn Bay Length (ft)	200			450		450	525		375	625		
Base Capacity (vph)	245	294		381	472	455	122	1556	1036	237	899	1044
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.63		0.69	0.21	0.16	0.17	0.37	0.32	0.49	0.59	0.07

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 37.4

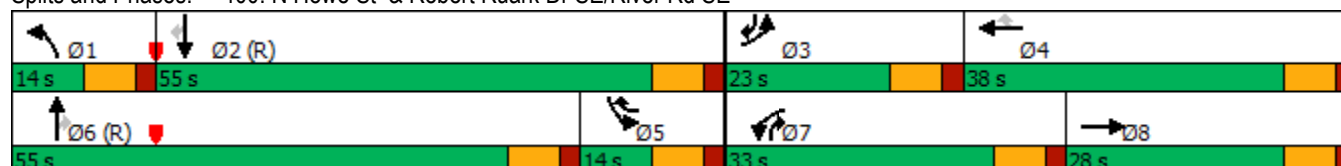
Intersection LOS: D

Intersection Capacity Utilization 70.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 400: N Howe St & Robert Ruark Dr SE/River Rd SE



Future Build Conditions with Improvements

Lanes, Volumes, Timings
100: River Rd SE & Site Access 1

12/19/2023

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	22	8	278	558	11
Future Volume (vph)	33	22	8	278	558	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			100
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.947					0.850
Flt Protected	0.971		0.950			
Satd. Flow (prot)	1713	0	1770	1863	1863	1583
Flt Permitted	0.971		0.950			
Satd. Flow (perm)	1713	0	1770	1863	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	1120			1783	1211	
Travel Time (s)	30.5			27.0	18.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	37	24	9	309	620	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	0	9	309	620	12
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	39.4%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	22	8	278	558	11
Future Vol, veh/h	33	22	8	278	558	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	24	9	309	620	12
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	947	620	632	0	-	0
Stage 1	620	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	290	488	951	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	287	488	951	-	-	-
Mov Cap-2 Maneuver	287	-	-	-	-	-
Stage 1	531	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.7	0.2		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	951	-	344	-	-	
HCM Lane V/C Ratio	0.009	-	0.178	-	-	
HCM Control Delay (s)	8.8	-	17.7	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0	-	0.6	-	-	

Lanes, Volumes, Timings
300: River Rd SE & Rob Gandy Blvd

12/19/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	34	66	220	44	124	457
Future Volume (vph)	34	66	220	44	124	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	325	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.911			0.850		
Flt Protected	0.983				0.950	
Satd. Flow (prot)	1668	0	1863	1583	1770	1863
Flt Permitted	0.983				0.950	
Satd. Flow (perm)	1668	0	1863	1583	1770	1863
Link Speed (mph)	45		45			45
Link Distance (ft)	1122		1404			1783
Travel Time (s)	17.0		21.3			27.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	38	73	244	49	138	508
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	244	49	138	508
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	36.7%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	66	220	44	124	457
Future Vol, veh/h	34	66	220	44	124	457
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	325	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	73	244	49	138	508
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1028	244	0	0	293	0
Stage 1	244	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	259	795	-	-	1269	-
Stage 1	797	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	231	795	-	-	1269	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.1	0		1.7		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	434	1269	-	
HCM Lane V/C Ratio	-	-	0.256	0.109	-	
HCM Control Delay (s)	-	-	16.1	8.2	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	1	0.4	-	

Lanes, Volumes, Timings
400: N Howe St & Robert Ruark Dr SE/River Rd SE

12/19/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	39	35	301	61	129	23	281	161	65	388	61
Future Volume (vph)	56	39	35	301	61	129	23	281	161	65	388	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	450		450	525		375	625		0
Storage Lanes	1		0	1		1	1		2	2		1
Taper Length (ft)	100			100			0			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Frt		0.929				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1730	0	1770	1863	1583	1770	3539	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1730	0	1770	1863	1583	1770	3539	1583	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			35			35	
Link Distance (ft)		868			1404			1137			1047	
Travel Time (s)		16.9			21.3			22.1			20.4	
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)	62	43	39	334	68	143	26	312	179	72	431	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	82	0	334	68	143	26	312	179	72	431	68
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4	5	1	6	7	5	2	3
Permitted Phases						4			6			2
Detector Phase	3	8		7	4	5	1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0	7.0	7.0	12.0	7.0
Minimum Split (s)	14.0	14.0		14.0	30.4	14.0	14.0	40.0	14.0	14.0	24.0	14.0
Total Split (s)	15.0	18.0		43.0	46.0	14.0	14.0	55.0	43.0	14.0	55.0	15.0
Total Split (%)	11.5%	13.8%		33.1%	35.4%	10.8%	10.8%	42.3%	33.1%	10.8%	42.3%	11.5%
Maximum Green (s)	8.0	11.0		36.0	39.0	7.0	7.0	48.0	36.0	7.0	48.0	8.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					16.4			26.0			10.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effect Green (s)	9.7	11.9		30.6	35.6	45.6	9.1	58.5	89.1	9.0	64.0	78.7
Actuated g/C Ratio	0.07	0.09		0.24	0.27	0.35	0.07	0.45	0.69	0.07	0.49	0.61
v/c Ratio	0.47	0.52		0.80	0.13	0.26	0.21	0.20	0.17	0.30	0.47	0.07

220222 Turtle Bay
S. Shafique

AM Future Build With Improvement

Lanes, Volumes, Timings

400: N Howe St & Robert Ruark Dr SE/River Rd SE

12/19/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	69.9	67.9		61.3	35.4	21.6	61.5	23.4	4.2	61.1	27.3	14.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	67.9		61.3	35.4	21.6	61.5	23.4	4.2	61.1	27.3	14.5
LOS	E	E		E	D	C	E	C	A	E	C	B
Approach Delay	68.7			47.6			18.7			30.0		
Approach LOS	E			D			B			C		
Queue Length 50th (ft)	51	67		266	44	67	21	83	23	30	259	25
Queue Length 95th (ft)	99	121		353	77	97	52	128	38	56	401	56
Internal Link Dist (ft)	788			1324			1057			967		
Turn Bay Length (ft)	200			450			525			625		
Base Capacity (vph)	136	177		517	587	555	123	1592	1175	237	917	962
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.46		0.65	0.12	0.26	0.21	0.20	0.15	0.30	0.47	0.07

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 35.3

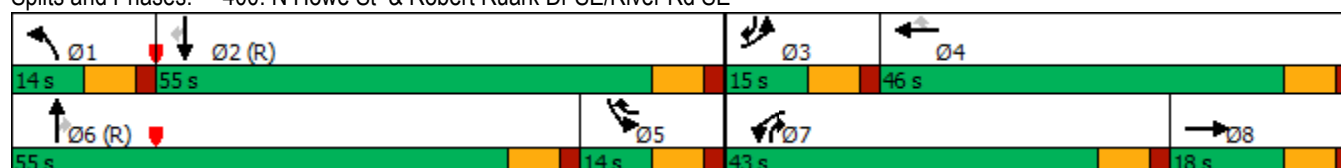
Intersection LOS: D

Intersection Capacity Utilization 59.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 400: N Howe St & Robert Ruark Dr SE/River Rd SE



Lanes, Volumes, Timings
100: River Rd SE & Site Access 1

12/19/2023

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	14	25	584	370	38
Future Volume (vph)	22	14	25	584	370	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			100
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946					0.850
Flt Protected	0.971		0.950			
Satd. Flow (prot)	1711	0	1770	1863	1863	1583
Flt Permitted	0.971		0.950			
Satd. Flow (perm)	1711	0	1770	1863	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	1120			1777	1211	
Travel Time (s)	30.5			26.9	18.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	24	16	28	649	411	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	28	649	411	42
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	40.7%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	14	25	584	370	38
Future Vol, veh/h	22	14	25	584	370	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	16	28	649	411	42
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1116	411	453	0	-	0
Stage 1	411	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	230	641	1108	-	-	-
Stage 1	669	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	224	641	1108	-	-	-
Mov Cap-2 Maneuver	224	-	-	-	-	-
Stage 1	652	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	18.8	0.3		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1108	-	300	-	-	
HCM Lane V/C Ratio	0.025	-	0.133	-	-	
HCM Control Delay (s)	8.3	-	18.8	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-	

Lanes, Volumes, Timings
300: River Rd SE & Rob Gandy Blvd

12/19/2023

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	81	196	414	31	75	309
Future Volume (vph)	81	196	414	31	75	309
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	325	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.904			0.850		
Flt Protected	0.986				0.950	
Satd. Flow (prot)	1660	0	1863	1583	1770	1863
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1660	0	1863	1583	1770	1863
Link Speed (mph)	45		45			45
Link Distance (ft)	1122		1404			1777
Travel Time (s)	17.0		21.3			26.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	90	218	460	34	83	343
Shared Lane Traffic (%)						
Lane Group Flow (vph)	308	0	460	34	83	343
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.5%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection

Int Delay, s/veh 8.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	196	414	31	75	309
Future Vol, veh/h	81	196	414	31	75	309
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	325	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	218	460	34	83	343

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	969	460	0
Stage 1	460	-	-
Stage 2	509	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	281	601	-
Stage 1	636	-	-
Stage 2	604	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	259	601	-
Mov Cap-2 Maneuver	259	-	-
Stage 1	636	-	-
Stage 2	557	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.1	0	1.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	434	1070
HCM Lane V/C Ratio	-	-	0.709	0.078
HCM Control Delay (s)	-	-	31.1	8.6
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	5.4	0.3

Lanes, Volumes, Timings
400: N Howe St & Robert Ruark Dr SE/River Rd SE

12/19/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	48	118	235	88	67	19	519	294	104	473	66
Future Volume (vph)	125	48	118	235	88	67	19	519	294	104	473	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	450		450	525		375	625		0
Storage Lanes	1		0	1		1	1		2	2		1
Taper Length (ft)	100			100			0			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Frt		0.893				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1663	0	1770	1863	1583	1770	3539	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1663	0	1770	1863	1583	1770	3539	1583	3433	1863	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			35			35	
Link Distance (ft)		868			1404			1137			1047	
Travel Time (s)		16.9			21.3			22.1			20.4	
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)	139	53	131	261	98	74	21	577	327	116	526	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	184	0	261	98	74	21	577	327	116	526	73
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4	5	1	6	7	5	2	3
Permitted Phases						4			6			2
Detector Phase	3	8		7	4	5	1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0	7.0	7.0	12.0	7.0
Minimum Split (s)	14.0	14.0		14.0	30.4	14.0	14.0	40.0	14.0	14.0	24.0	14.0
Total Split (s)	23.0	28.0		33.0	38.0	14.0	14.0	55.0	33.0	14.0	55.0	23.0
Total Split (%)	17.7%	21.5%		25.4%	29.2%	10.8%	10.8%	42.3%	25.4%	10.8%	42.3%	17.7%
Maximum Green (s)	16.0	21.0		26.0	31.0	7.0	7.0	48.0	26.0	7.0	48.0	16.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					16.4			26.0			10.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effect Green (s)	15.5	19.6		24.2	28.4	37.4	9.0	57.2	81.4	9.0	62.8	83.2
Actuated g/C Ratio	0.12	0.15		0.19	0.22	0.29	0.07	0.44	0.63	0.07	0.48	0.64
v/c Ratio	0.66	0.74		0.79	0.24	0.16	0.17	0.37	0.33	0.49	0.59	0.07

220222 Turtle Bay
S. Shafique

PM Future Build with Improvement

Lanes, Volumes, Timings

400: N Howe St & Robert Ruark Dr SE/River Rd SE

12/19/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	69.8	69.7		67.7	42.1	20.2	60.6	26.6	7.4	65.7	31.1	11.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.8	69.7		67.7	42.1	20.2	60.6	26.6	7.4	65.7	31.1	11.7
LOS	E	E		E	D	C	E	C	A	E	C	B
Approach Delay		69.7			53.8			20.6			34.7	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)	113	148		210	68	32	17	174	71	49	352	25
Queue Length 95th (ft)	182	227		303	115	55	45	238	113	81	517	51
Internal Link Dist (ft)		788			1324			1057			967	
Turn Bay Length (ft)	200			450		450	525		375	625		
Base Capacity (vph)	245	294		381	472	455	122	1556	1036	237	899	1044
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.63		0.69	0.21	0.16	0.17	0.37	0.32	0.49	0.59	0.07

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 37.4

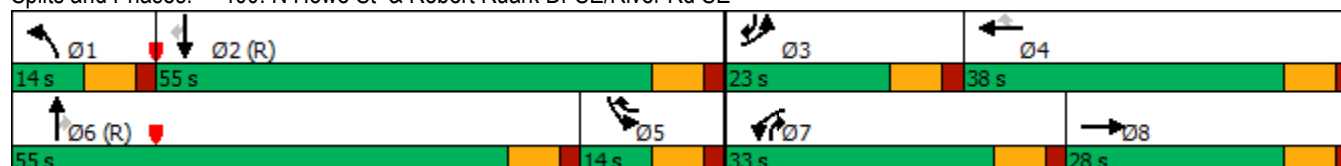
Intersection LOS: D

Intersection Capacity Utilization 70.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 400: N Howe St & Robert Ruark Dr SE/River Rd SE



Queueing Analysis

SimTraffic Worksheets

Queuing and Blocking Report
AM FB

12/19/2023

Intersection: 100: River Rd SE & Site Access 1

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	60	37
Average Queue (ft)	25	5
95th Queue (ft)	50	25
Link Distance (ft)	1080	1733
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 300: River Rd SE & Rob Gandy Blvd

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	81	64
Average Queue (ft)	34	19
95th Queue (ft)	61	50
Link Distance (ft)	1079	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		325
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

AM FB

12/19/2023

Intersection: 400: N Howe St & Robert Ruark Dr SE/River Rd SE

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	119	134	354	104	194	67	183	165	100	97	60	306
Average Queue (ft)	43	51	217	43	78	23	96	40	33	37	16	151
95th Queue (ft)	92	107	331	90	149	58	164	120	76	78	45	264
Link Distance (ft)		814		1327			1096					994
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		450		450	525		375	375	625	625	
Storage Blk Time (%)	0											
Queuing Penalty (veh)	0											

Intersection: 400: N Howe St & Robert Ruark Dr SE/River Rd SE

Movement	SB
Directions Served	R
Maximum Queue (ft)	89
Average Queue (ft)	17
95th Queue (ft)	54
Link Distance (ft)	994
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Intersection: 100: River Rd SE & Site Access 1

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	44	92
Average Queue (ft)	20	12
95th Queue (ft)	45	51
Link Distance (ft)	1080	1726
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 300: River Rd SE & Rob Gandy Blvd

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	188	56
Average Queue (ft)	79	20
95th Queue (ft)	147	46
Link Distance (ft)	1077	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		325
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 400: N Howe St & Robert Ruark Dr SE/River Rd SE

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	189	247	331	152	114	71	251	234	178	140	104	403
Average Queue (ft)	91	126	187	62	41	19	159	117	75	68	21	198
95th Queue (ft)	162	214	295	120	87	53	234	217	142	121	62	337
Link Distance (ft)		814		1327			1096					994
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		450		450	525		375	375	625	625	
Storage Blk Time (%)	0	1										0
Queuing Penalty (veh)	1	2										0

Intersection: 400: N Howe St & Robert Ruark Dr SE/River Rd SE

Movement	SB
Directions Served	R
Maximum Queue (ft)	76
Average Queue (ft)	15
95th Queue (ft)	48
Link Distance (ft)	994
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 2

Queuing and Blocking Report
AM Future Build With Improvement

12/19/2023

Intersection: 100: River Rd SE & Site Access 1

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	60	28
Average Queue (ft)	25	4
95th Queue (ft)	50	20
Link Distance (ft)	1068	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 300: River Rd SE & Rob Gandy Blvd

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	81	64
Average Queue (ft)	34	20
95th Queue (ft)	59	50
Link Distance (ft)	1077	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		325
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report
AM Future Build With Improvement

12/19/2023

Intersection: 400: N Howe St & Robert Ruark Dr SE/River Rd SE

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	119	136	359	104	187	67	185	165	102	97	60	299
Average Queue (ft)	43	51	218	43	78	24	95	40	33	37	16	149
95th Queue (ft)	92	108	332	89	149	58	164	120	76	78	46	262
Link Distance (ft)		814		1327			1096					994
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		450		450	525		375	375	625	625	
Storage Blk Time (%)	0											
Queuing Penalty (veh)	0											

Intersection: 400: N Howe St & Robert Ruark Dr SE/River Rd SE

Movement	SB
Directions Served	R
Maximum Queue (ft)	91
Average Queue (ft)	17
95th Queue (ft)	55
Link Distance (ft)	994
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Intersection: 100: River Rd SE & Site Access 1

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	44	39
Average Queue (ft)	19	8
95th Queue (ft)	43	30
Link Distance (ft)	1068	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 300: River Rd SE & Rob Gandy Blvd

Movement	WB	NB	SB
Directions Served	LR	T	L
Maximum Queue (ft)	178	2	59
Average Queue (ft)	76	0	20
95th Queue (ft)	139	2	48
Link Distance (ft)	1078	1327	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			325
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report
PM Future Build with Improvement

12/19/2023

Intersection: 400: N Howe St & Robert Ruark Dr SE/River Rd SE

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	191	244	324	152	114	71	252	230	172	147	104	398
Average Queue (ft)	92	123	186	61	41	18	161	118	74	70	23	198
95th Queue (ft)	166	212	288	119	88	51	235	217	139	127	69	338
Link Distance (ft)		814		1327			1096					994
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		450		450	525		375	375	625	625	
Storage Blk Time (%)	1	2										0
Queuing Penalty (veh)	1	2										0

Intersection: 400: N Howe St & Robert Ruark Dr SE/River Rd SE

Movement	SB
Directions Served	R
Maximum Queue (ft)	70
Average Queue (ft)	15
95th Queue (ft)	47
Link Distance (ft)	994
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 3

Turning Movement Counts



TRAFFIC DATA COLLECTION

File Name : South Port-South Port(NC 87 and Rob Gandy)
 Site Code :
 Start Date : 5/10/2022
 Page No : 1

Groups Printed- Cars + - Trucks

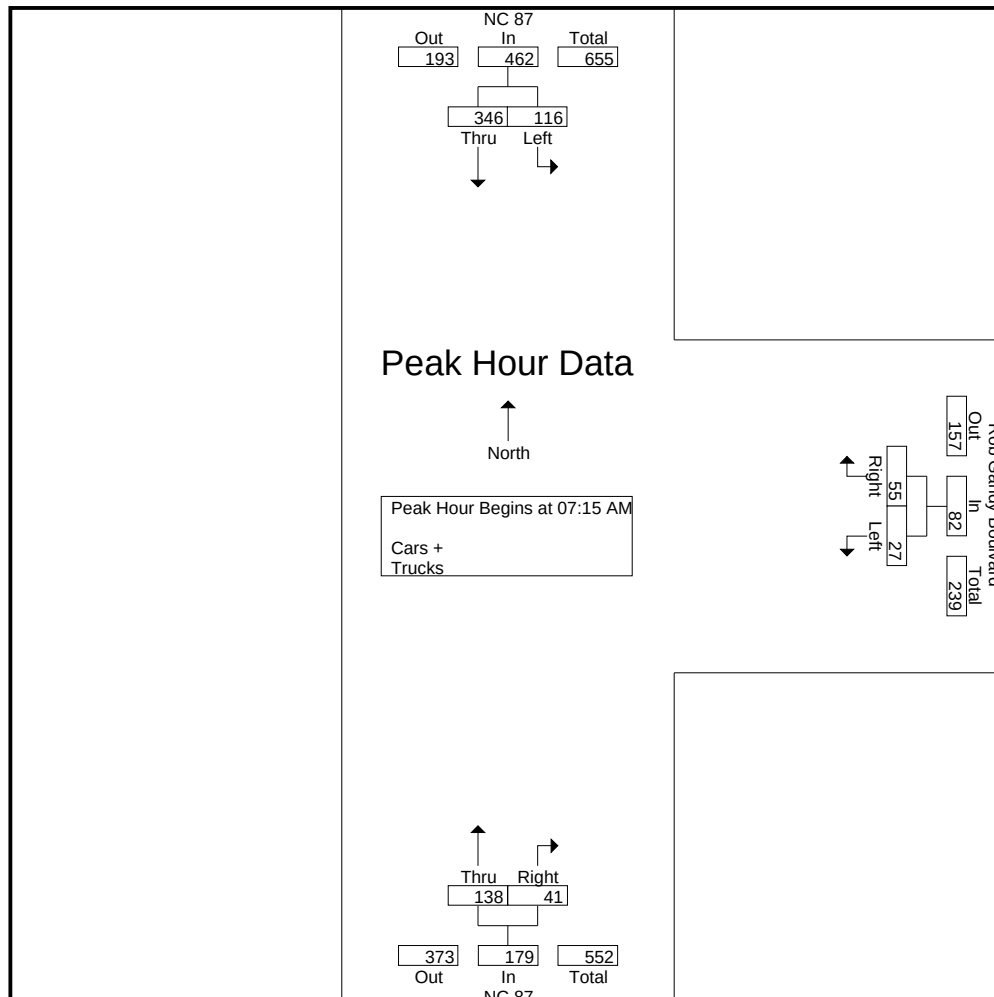
	NC 87 Southbound			Rob Gandy Boulevard Westbound			NC 87 Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
07:00 AM	54	29	83	12	1	13	11	45	56	152
07:15 AM	78	32	110	17	7	24	15	43	58	192
07:30 AM	91	34	125	15	5	20	11	28	39	184
07:45 AM	101	29	130	13	4	17	10	37	47	194
Total	324	124	448	57	17	74	47	153	200	722
08:00 AM	76	21	97	10	11	21	5	30	35	153
08:15 AM	75	32	107	14	7	21	9	49	58	186
08:30 AM	55	34	89	10	6	16	10	39	49	154
08:45 AM	77	27	104	14	9	23	11	41	52	179
Total	283	114	397	48	33	81	35	159	194	672
Grand Total	607	238	845	105	50	155	82	312	394	1394
Apprch %	71.8	28.2		67.7	32.3		20.8	79.2		
Total %	43.5	17.1	60.6	7.5	3.6	11.1	5.9	22.4	28.3	
Cars +	583	219	802	93	43	136	72	294	366	1304
% Cars +	96	92	94.9	88.6	86	87.7	87.8	94.2	92.9	93.5
Trucks	24	19	43	12	7	19	10	18	28	90
% Trucks	4	8	5.1	11.4	14	12.3	12.2	5.8	7.1	6.5



TRAFFIC DATA COLLECTION

File Name : South Port-South Port(NC 87 and Rob Gandy)
 Site Code :
 Start Date : 5/10/2022
 Page No : 2

	NC 87 Southbound			Rob Gandy Boulevard Westbound			NC 87 Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	78	32	110	17	7	24	15	43	58	192
07:30 AM	91	34	125	15	5	20	11	28	39	184
07:45 AM	101	29	130	13	4	17	10	37	47	194
08:00 AM	76	21	97	10	11	21	5	30	35	153
Total Volume	346	116	462	55	27	82	41	138	179	723
% App. Total	74.9	25.1		67.1	32.9		22.9	77.1		
PHF	.856	.853	.888	.809	.614	.854	.683	.802	.772	.932





TRAFFIC DATA COLLECTION

File Name : South Port-South Port(NC 87 and Rob Gandy)
 Site Code :
 Start Date : 5/10/2022
 Page No : 1

Groups Printed- Cars + - Trucks

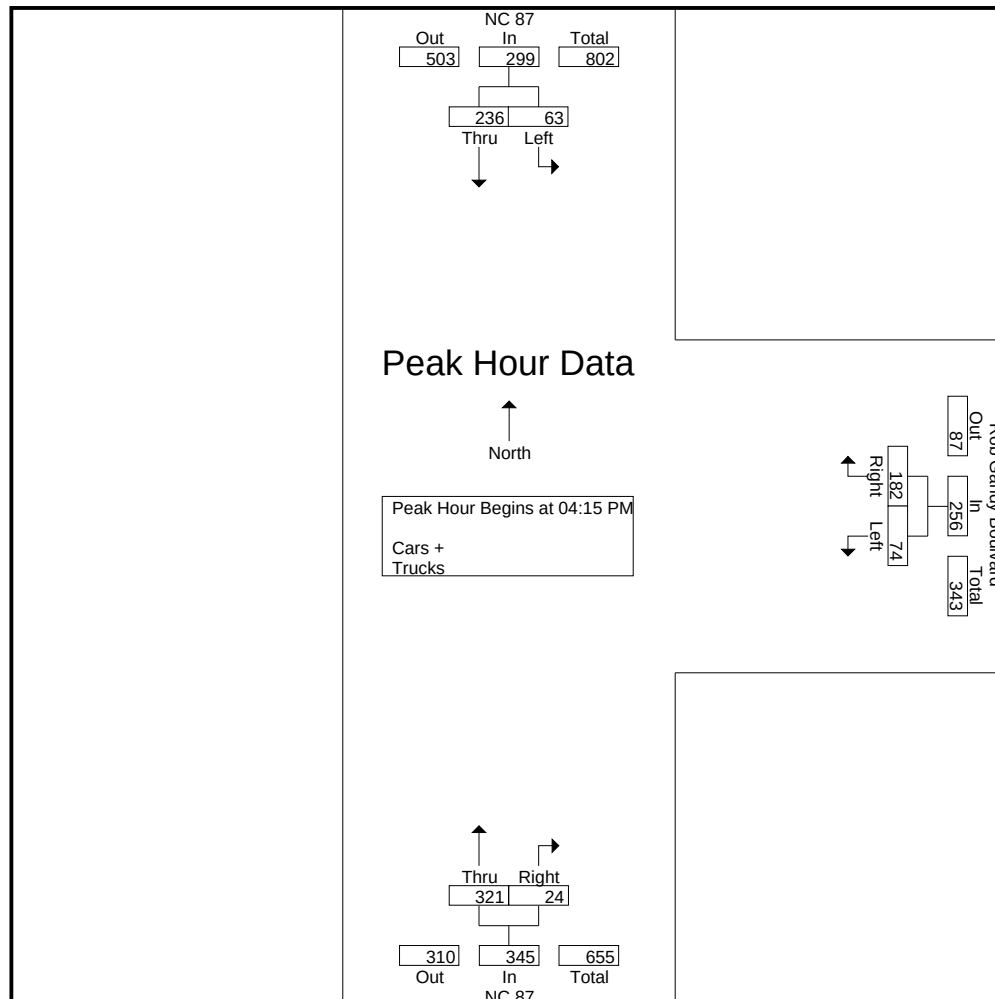
Start Time	NC 87 Southbound			Rob Gandy Boulevard Westbound			NC 87 Northbound			Int. Total
	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	
04:00 PM	53	10	63	51	11	62	10	90	100	225
04:15 PM	54	17	71	19	11	30	14	86	100	201
04:30 PM	61	9	70	76	25	101	3	70	73	244
04:45 PM	65	19	84	31	9	40	3	76	79	203
Total	233	55	288	177	56	233	30	322	352	873
05:00 PM	56	18	74	56	29	85	4	89	93	252
05:15 PM	52	7	59	31	12	43	3	89	92	194
05:30 PM	53	12	65	44	14	58	4	73	77	200
05:45 PM	52	9	61	27	14	41	4	55	59	161
Total	213	46	259	158	69	227	15	306	321	807
Grand Total	446	101	547	335	125	460	45	628	673	1680
Apprch %	81.5	18.5		72.8	27.2		6.7	93.3		
Total %	26.5	6	32.6	19.9	7.4	27.4	2.7	37.4	40.1	
Cars +	442	97	539	327	121	448	42	608	650	1637
% Cars +	99.1	96	98.5	97.6	96.8	97.4	93.3	96.8	96.6	97.4
Trucks	4	4	8	8	4	12	3	20	23	43
% Trucks	0.9	4	1.5	2.4	3.2	2.6	6.7	3.2	3.4	2.6



TRAFFIC DATA COLLECTION

File Name : South Port-South Port(NC 87 and Rob Gandy)
 Site Code :
 Start Date : 5/10/2022
 Page No : 2

	NC 87 Southbound			Rob Gandy Boulevard Westbound			NC 87 Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	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	54	17	71	19	11	30	14	86	100	201
04:30 PM	61	9	70	76	25	101	3	70	73	244
04:45 PM	65	19	84	31	9	40	3	76	79	203
05:00 PM	56	18	74	56	29	85	4	89	93	252
Total Volume	236	63	299	182	74	256	24	321	345	900
% App. Total	78.9	21.1		71.1	28.9		7	93		
PHF	.908	.829	.890	.599	.638	.634	.429	.902	.863	.893





TRAFFIC DATA COLLECTION

File Name : Southport(NC 211 and NC 87
 Site Code :
 Start Date : 1/13/2022
 Page No : 1

Groups Printed- Cars + - Trucks

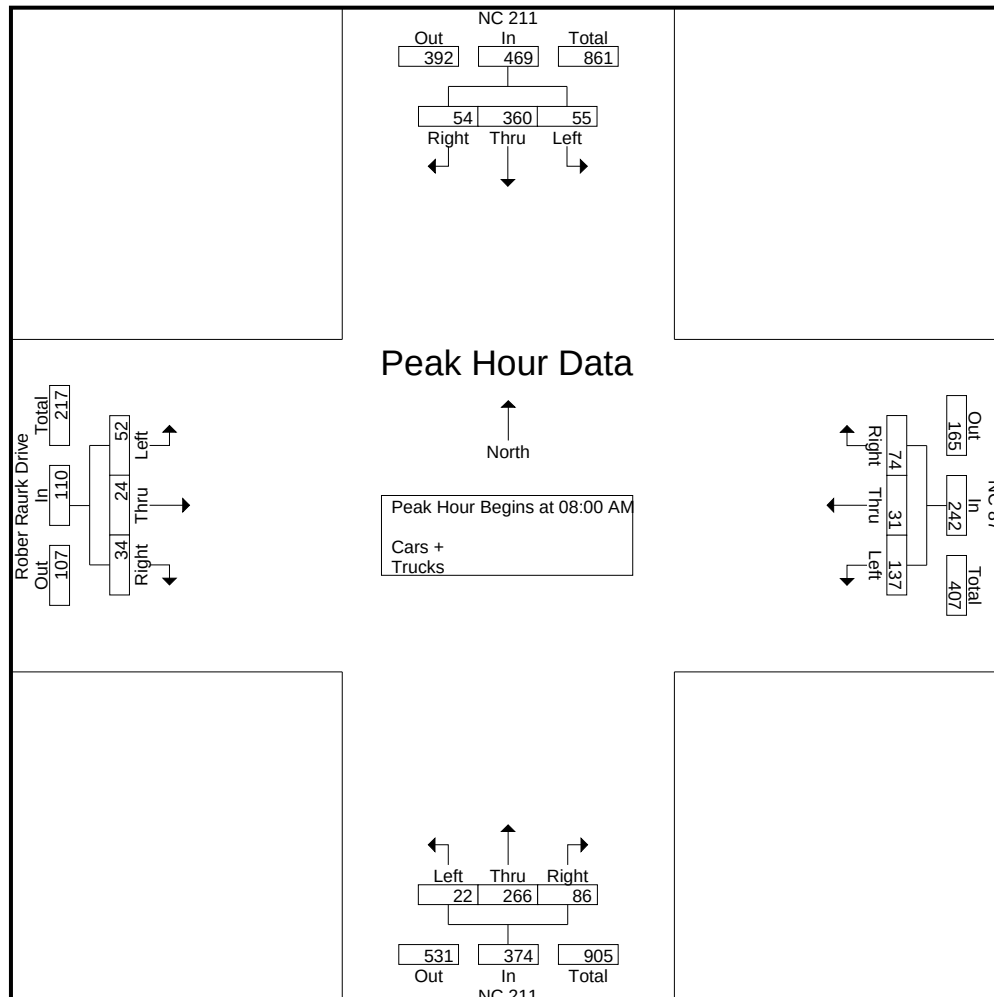
	NC 211 Southbound				NC 87 Westbound				NC 211 Northbound				Rober Raurk Drive Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	5	43	22	70	15	2	23	40	11	35	1	47	6	3	11	20	177
07:15 AM	5	63	16	84	18	4	23	45	20	37	4	61	5	6	6	17	207
07:30 AM	5	75	16	96	13	5	31	49	14	49	3	66	3	5	18	26	237
07:45 AM	15	86	16	117	18	6	42	66	16	49	1	66	8	7	11	26	275
Total	30	267	70	367	64	17	119	200	61	170	9	240	22	21	46	89	896
08:00 AM	11	77	13	101	17	5	42	64	16	63	11	90	7	4	15	26	281
08:15 AM	15	95	15	125	17	6	26	49	21	58	4	83	9	8	12	29	286
08:30 AM	15	80	16	111	24	11	27	62	21	74	4	99	11	6	9	26	298
08:45 AM	13	108	11	132	16	9	42	67	28	71	3	102	7	6	16	29	330
Total	54	360	55	469	74	31	137	242	86	266	22	374	34	24	52	110	1195
Grand Total	84	627	125	836	138	48	256	442	147	436	31	614	56	45	98	199	2091
Apprch %	10	75	15		31.2	10.9	57.9		23.9	71	5		28.1	22.6	49.2		
Total %	4	30	6	40	6.6	2.3	12.2	21.1	7	20.9	1.5	29.4	2.7	2.2	4.7	9.5	
Cars +	84	623	118	825	132	48	249	429	147	428	30	605	56	45	97	198	2057
% Cars +	100	99.4	94.4	98.7	95.7	100	97.3	97.1	100	98.2	96.8	98.5	100	100	99	99.5	98.4
Trucks	0	4	7	11	6	0	7	13	0	8	1	9	0	0	1	1	34
% Trucks	0	0.6	5.6	1.3	4.3	0	2.7	2.9	0	1.8	3.2	1.5	0	0	1	0.5	1.6



TRAFFIC DATA COLLECTION

File Name : Southport(NC 211 and NC 87)
 Site Code :
 Start Date : 1/13/2022
 Page No : 2

	NC 211 Southbound				NC 87 Westbound				NC 211 Northbound				Rober Raurk Drive 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 08:00 AM																	
08:00 AM	11	77	13	101	17	5	42	64	16	63	11	90	7	4	15	26	281
08:15 AM	15	95	15	125	17	6	26	49	21	58	4	83	9	8	12	29	286
08:30 AM	15	80	16	111	24	11	27	62	21	74	4	99	11	6	9	26	298
08:45 AM	13	108	11	132	16	9	42	67	28	71	3	102	7	6	16	29	330
Total Volume	54	360	55	469	74	31	137	242	86	266	22	374	34	24	52	110	1195
% App. Total	11.5	76.8	11.7		30.6	12.8	56.6		23	71.1	5.9		30.9	21.8	47.3		
PHF	.900	.833	.859	.888	.771	.705	.815	.903	.768	.899	.500	.917	.773	.750	.813	.948	.905





TRAFFIC DATA COLLECTION

File Name : Southport(NC 211 and NC 87
 Site Code :
 Start Date : 1/13/2022
 Page No : 1

Groups Printed- Cars + - Trucks

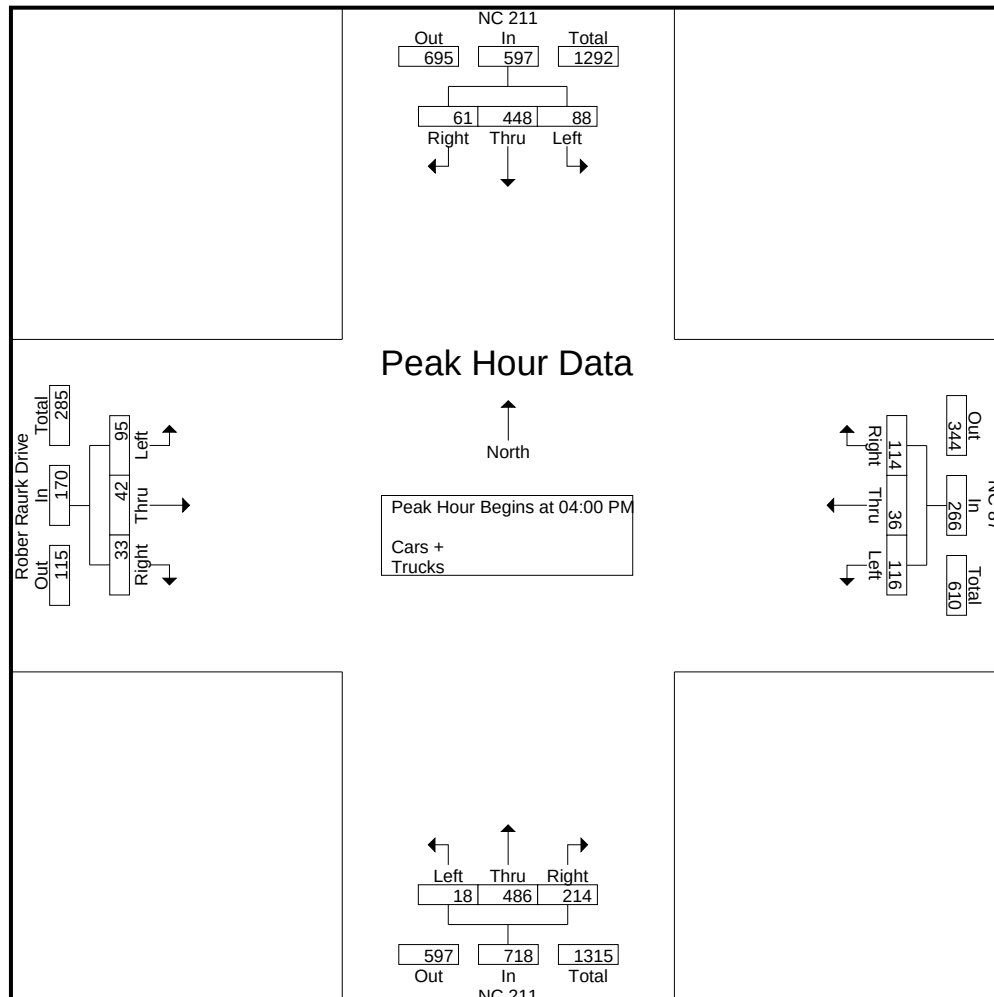
	NC 211 Southbound				NC 87 Westbound				NC 211 Northbound				Rober Raurk Drive Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	20	110	22	152	36	11	33	80	64	126	3	193	8	14	26	48	473
04:15 PM	7	104	21	132	24	11	39	74	56	133	5	194	8	8	24	40	440
04:30 PM	17	112	21	150	32	10	22	64	61	118	2	181	7	8	26	41	436
04:45 PM	17	122	24	163	22	4	22	48	33	109	8	150	10	12	19	41	402
Total	61	448	88	597	114	36	116	266	214	486	18	718	33	42	95	170	1751
05:00 PM	15	102	20	137	27	16	35	78	52	99	10	161	14	10	31	55	431
05:15 PM	14	139	22	175	25	5	31	61	32	139	12	183	15	12	26	53	472
05:30 PM	17	87	12	116	30	5	19	54	54	120	5	179	11	9	24	44	393
05:45 PM	18	111	27	156	24	1	18	43	24	73	8	105	2	10	23	35	339
Total	64	439	81	584	106	27	103	236	162	431	35	628	42	41	104	187	1635
Grand Total	125	887	169	1181	220	63	219	502	376	917	53	1346	75	83	199	357	3386
Apprch %	10.6	75.1	14.3		43.8	12.5	43.6		27.9	68.1	3.9		21	23.2	55.7		
Total %	3.7	26.2	5	34.9	6.5	1.9	6.5	14.8	11.1	27.1	1.6	39.8	2.2	2.5	5.9	10.5	
Cars +	125	886	167	1178	219	63	219	501	376	917	53	1346	75	83	198	356	3381
% Cars +	100	99.9	98.8	99.7	99.5	100	100	99.8	100	100	100	100	100	100	99.5	99.7	99.9
Trucks	0	1	2	3	1	0	0	1	0	0	0	0	0	0	1	1	5
% Trucks	0	0.1	1.2	0.3	0.5	0	0	0.2	0	0	0	0	0	0	0.5	0.3	0.1



TRAFFIC DATA COLLECTION

File Name : Southport(NC 211 and NC 87)
 Site Code :
 Start Date : 1/13/2022
 Page No : 2

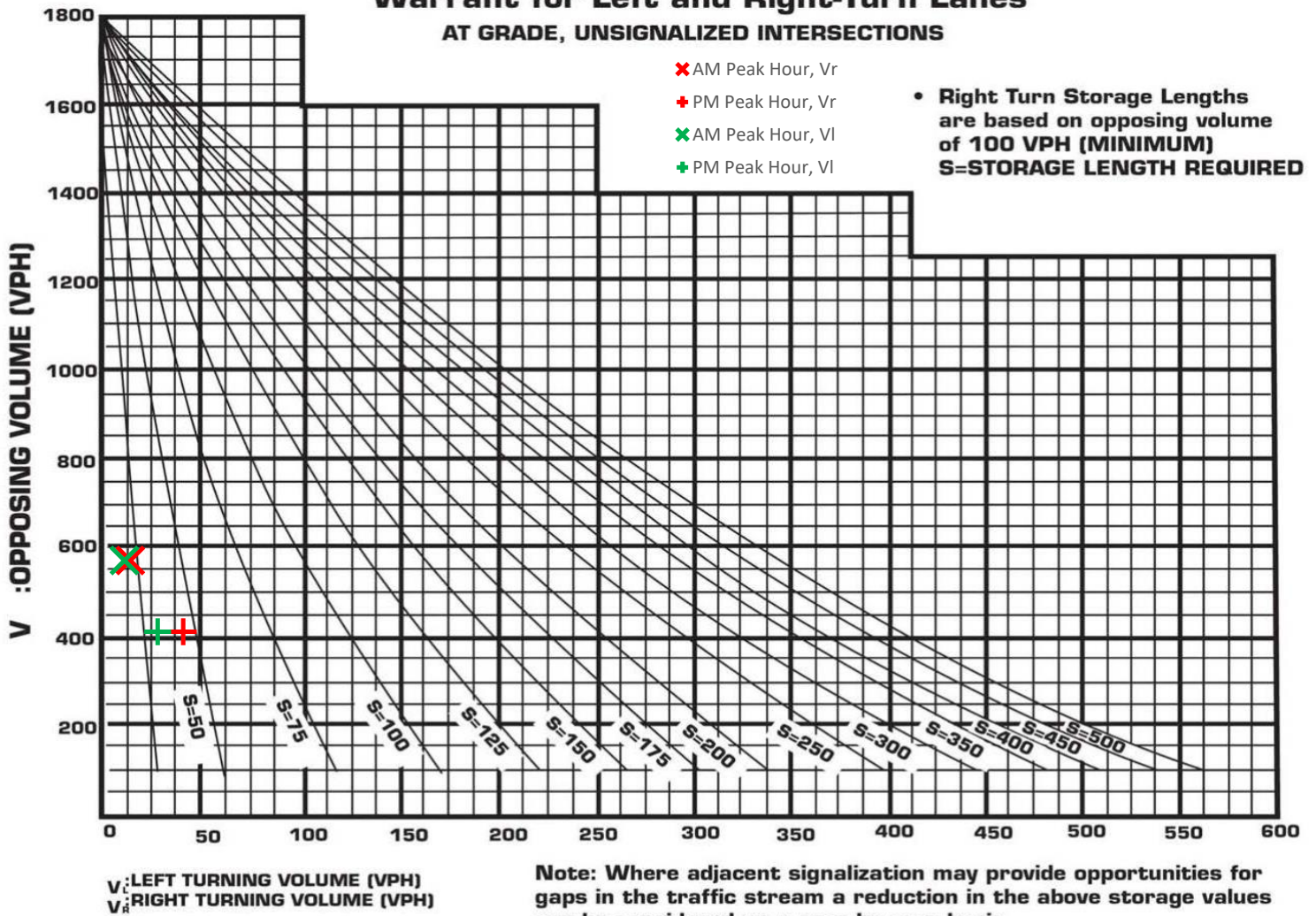
	NC 211 Southbound				NC 87 Westbound				NC 211 Northbound				Rober Raurk Drive Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	20	110	22	152	36	11	33	80	64	126	3	193	8	14	26	48	473
04:15 PM	7	104	21	132	24	11	39	74	56	133	5	194	8	8	24	40	440
04:30 PM	17	112	21	150	32	10	22	64	61	118	2	181	7	8	26	41	436
04:45 PM	17	122	24	163	22	4	22	48	33	109	8	150	10	12	19	41	402
Total Volume	61	448	88	597	114	36	116	266	214	486	18	718	33	42	95	170	1751
% App. Total	10.2	75	14.7		42.9	13.5	43.6		29.8	67.7	2.5		19.4	24.7	55.9		
PHF	.763	.918	.917	.916	.792	.818	.744	.831	.836	.914	.563	.925	.825	.750	.913	.885	.925



Supporting Documentation

Peak Hour	Volumes		Peak Hour	Volumes	
	Opposing	Lefts		Opposing	Rights
AM	569	8	AM	569	11
PM	408	25	PM	408	38

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



DAVENPORT

TURN LANE WARRANT SUMMARY

SITE ACCESS AT NC 87

Query

Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

210



LAND USE GROUP:

(200-299) Residential

LAND USE :

210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday

TRIP TYPE:

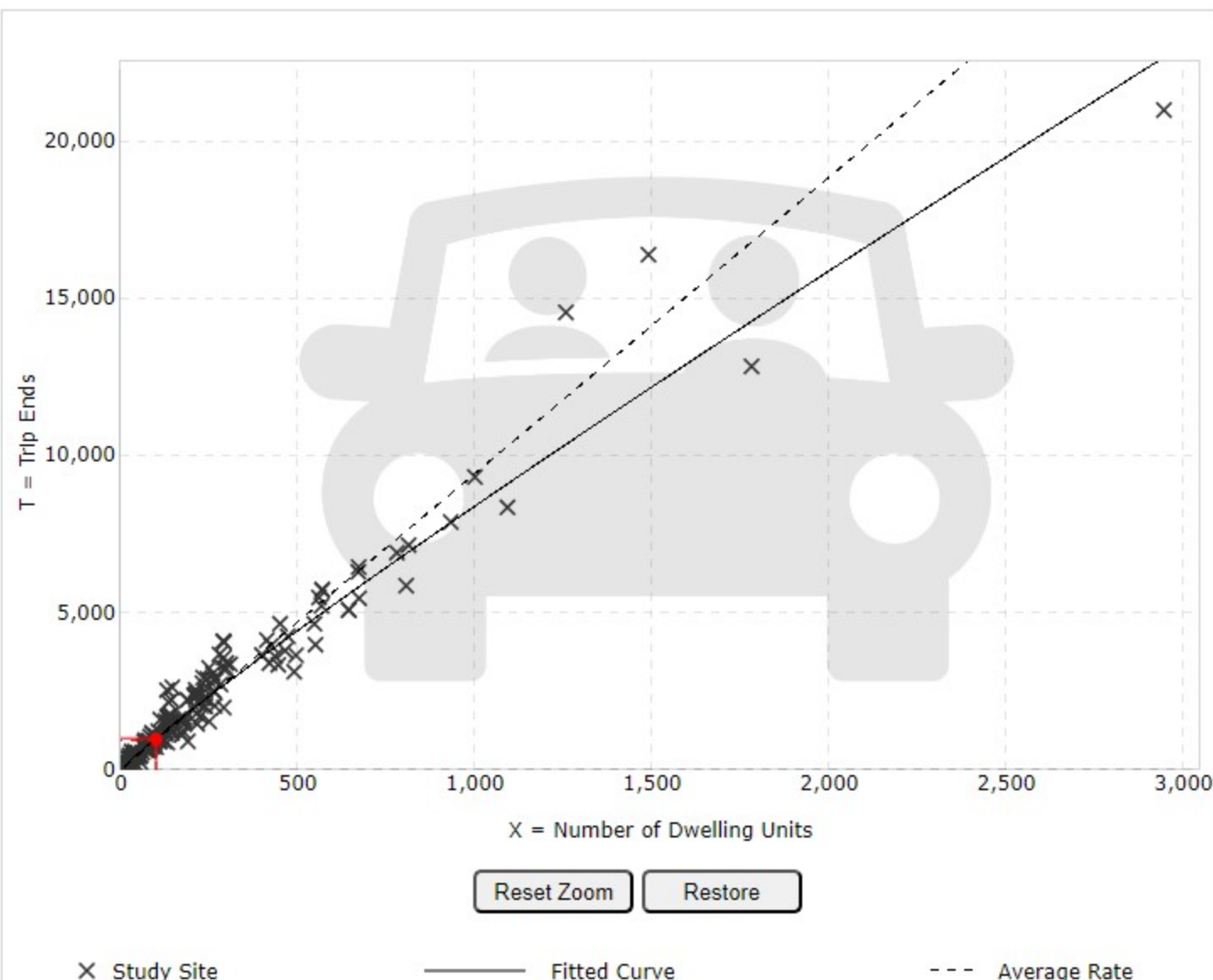
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

100

Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:

Single-Family Detached Housing (210) [Click for Description and Data Plots](#)

Independent Variable:

Dwelling Units

Time Period:

Weekday

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

174

Avg. Num. of Dwelling Units:

246

Average Rate:

9.43

Range of Rates:

4.45 - 22.61

Standard Deviation:

2.13

Fitted Curve Equation:

 $\ln(T) = 0.92 \ln(X) + 2.68$ R^2 :

0.95

Directional Distribution:

50% entering, 50% exiting

Calculated Trip Ends:

Average Rate: 943 (Total), 472 (Entry), 471 (Exit)

Fitted Curve: 1009 (Total), 505 (Entry), 504 (Exit)

Query

Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

210



LAND USE GROUP:

(200-299) Residential

LAND USE :

210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:

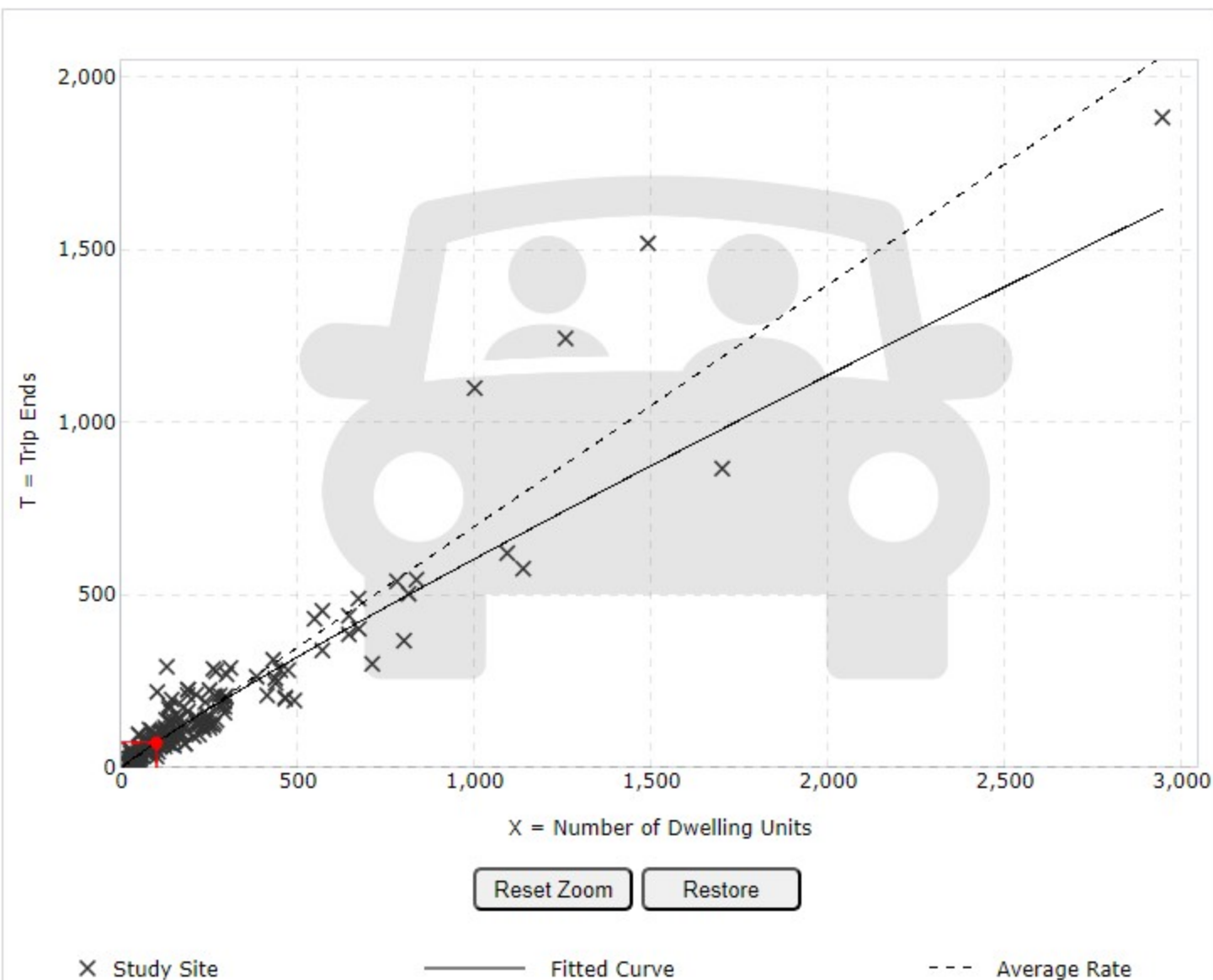
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

100

Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:

Single-Family Detached Housing (210) [Click for Description and Data Plots](#)

Independent Variable:

Dwelling Units

Time Period:

Weekday

Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

192

Avg. Num. of Dwelling Units:

226

Average Rate:

0.70

Range of Rates:

0.27 - 2.27

Standard Deviation:

0.24

Fitted Curve Equation:

 $\ln(T) = 0.91 \ln(X) + 0.12$ R²:

0.90

Directional Distribution:

25% entering, 75% exiting

Calculated Trip Ends:

Average Rate: 70 (Total), 18 (Entry), 52 (Exit)

Fitted Curve: 74 (Total), 19 (Entry), 55 (Exit)

Query

Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

210



LAND USE GROUP:

(200-299) Residential

LAND USE :

210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:

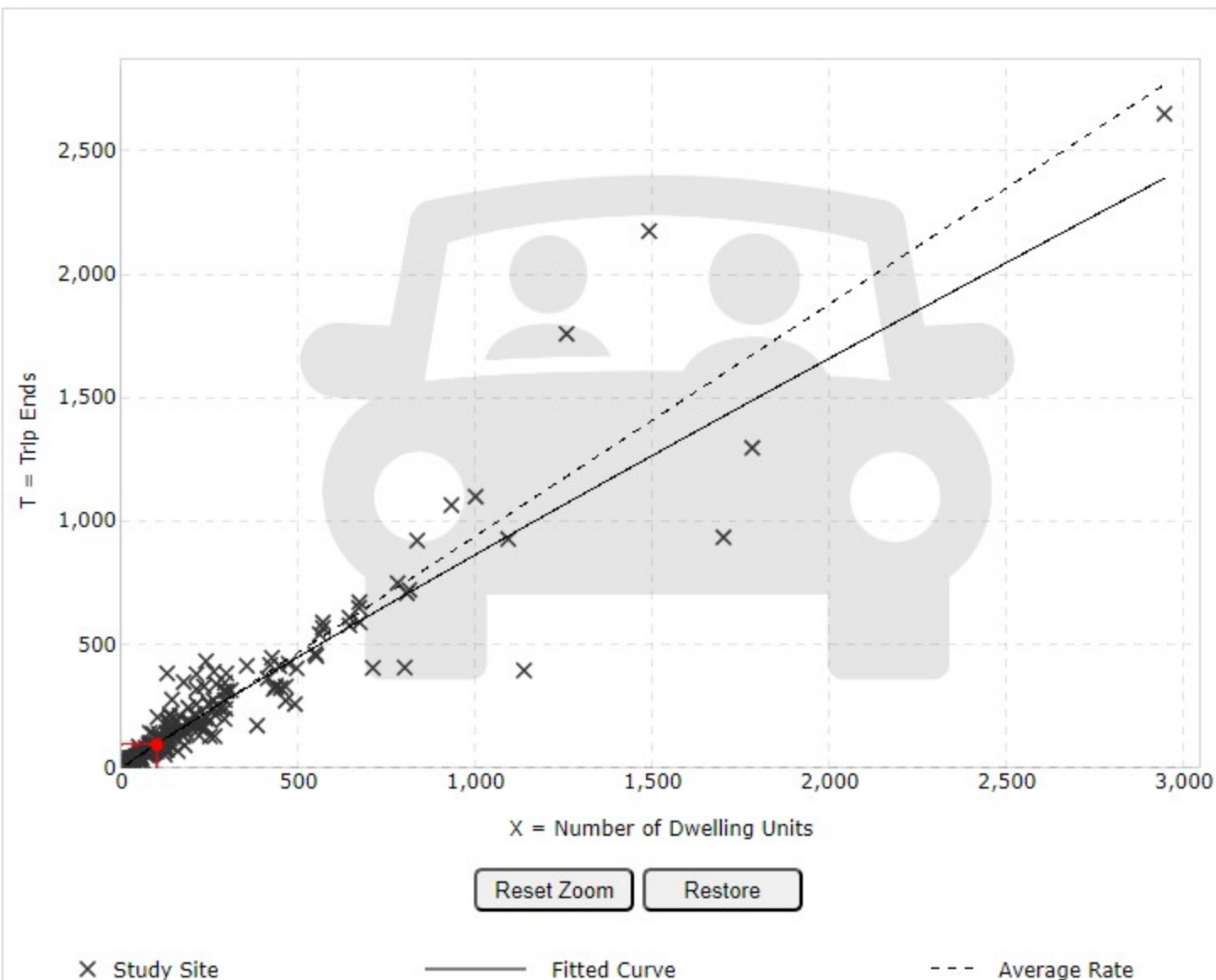
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

100

Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:

Single-Family Detached Housing (210) [Click for Description and Data Plots](#)

Independent Variable:

Dwelling Units

Time Period:

Weekday

Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

208

Avg. Num. of Dwelling Units:

248

Average Rate:

0.94

Range of Rates:

0.35 - 2.98

Standard Deviation:

0.31

Fitted Curve Equation:

 $\ln(T) = 0.94 \ln(X) + 0.27$ R²:

0.92

Directional Distribution:

63% entering, 37% exiting

Calculated Trip Ends:

Average Rate: 94 (Total), 59 (Entry), 35 (Exit)

Fitted Curve: 99 (Total), 63 (Entry), 36 (Exit)



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

January 31, 2024

Nick Liguori, PE

5917 Oleander Drive, Suite 206
Wilmington, NC 28403

RE: Approval of the Traffic Impact Analysis (TIA) associated with the proposed **Turtle Bay** in Southport, NC.

The NCDOT and City of Southport staffs have reviewed the Anderson Tract TIA dated January 2, 2024. This development consists of:

- 100 dwelling units: Single-Family Housing (LUC 210)
- Build Year: 2026

Based on review of the analysis provided in the TIA report, the following improvements are required by the developer:

NC 87 (River Road) and Site Access (proposed stop-controlled T-intersection)

- Construct site access with one ingress and one egress lane configured.
- Provide stop-control for southbound approach.
- Provide an internal protected stem of 100 feet, measured from the right-of-way.
- Construct a northbound left turn lane on NC 87 with 100 feet of storage, appropriate deceleration, and taper.
- Construct a southbound right turn lane on NC 87 with 100 feet of storage, appropriate deceleration, and taper.

If changes are made to the proposed site driveways, land uses, land use intensity, or other study parameters, or if the build year studied in the report has passed, a revised Traffic Impact Analysis will be required for review by NCDOT. Any such changes will null and void this TIA approval.

The applicant is required to obtain all applicable City of Southport and NCDOT permits for access to the road network. A copy of this TIA approval shall be included with any NCDOT driveway permit application. All applicable NCDOT and City of Southport technical standards and policies shall apply.

Please contact me at 910-398-9100 with any questions regarding this approval.
Sincerely,



Benjamin T. Hughes, PE
District Engineer
Division 3, District 3

ec: Jon Roan, Deputy District Engineer, NCDOT
Michael Bass, Assistant District Engineer, NCDOT
Frank Mike, Assistant District Engineer, NCDOT
Stonewall Mathis, PE, Division Traffic Engineer, NCDOT
Krupa Koilada, Senior Assistant Traffic Engineer, NCDOT
Bryce Cox, Assistant Traffic Engineer, NCDOT
Maureen Meehan, City Planner, City of Southport



BOARD OF ALDERMEN

AGENDA ITEM SUMMARY

DATE: 05/09/2024

DEPARTMENT: Development Services

PRESENTED BY: Maureen Meehan, City Planner

ITEM SPONSORED BY: Cameron Smith

ITEM/TOPIC: Call a Public Hearing for a Unified Development Ordinance Amendment to Section 3.9.B Setback Exceptions and Encroachments

COST: N/A

BUDGET LINE ITEM: N/A

JUSTIFICATION: At their November 16, 2023 meeting the Planning Board voted to send the Board of Aldermen a recommendation of denial for a Unified Development Ordinance Amendment to Section 3.9.B Setback Exceptions and Encroachments to allow HVAC, generators, and other similar equipment to encroach up to 48" into a required setback. A duly advertised public hearing must be held prior to the Board of Aldermen deciding on the proposed amendment.

The Board voted to send the amendment back to the Planning Board for clarification on the language. The Planning Board reviewed the request and recommended approval of new language. Since the text amendment is different than the original request, a new public hearing will be held.

IMPACT IF NOT APPROVED: This is a legislative decision defined by the NC General Statutes. The Board is not obligated to approve the amendment. A statement of consistency must be adopted in conjunction with a motion to approve or deny the proposal.

DEPARTMENT HEAD COMMENTS: The attached proposed Unified Development Ordinance Amendment has been reviewed by the Planning Board and staff for consistency with the land use plan. Staff recommends a new public hearing on the new language recommended by the Planning Board.

CITY MANAGER COMMENTS: I agree with the call for a Public Hearing.

ATTACHMENTS: Staff Report, Proposed Language, Text Amendment Application

REQUESTED ACTION: Call a public hearing for an Amendment to the Unified Development Ordinance.

PROPOSED MOTION: Motion to call a public hearing on June 11, 2024, for an Amendment to Section 3.9.B of the Unified Development Ordinance.



MEMORANDUM

To: Mayor Rich Alt and Members of the Board of Aldermen

From: Maureen Meehan, City Planner

Re: Text Amendment – Section 3.9.B Setback Exceptions and Encroachments

Date: May 09, 2024

Background

Cameron Smith requested an amendment to the Unified Development Ordinance Section 3.9.B. and presented it to the Planning Board at their September 21, 2023 meeting.

The Board of Aldermen held a duly advertised public hearing at its regularly scheduled meeting on January 11, 2024, and voted to remand the text amendment back to the Planning Board at its February 8, 2024, regular meeting.

A text amendment review committee was assigned at the Planning Board's regular February meeting that met on March 12, 2024. The text amendment review considers past language presented to the Board and life and safety measures. The conversation focused on nonconforming lots and smaller lots in PUDS. Mr. Hewitt brought forward encroachment language found in the Brunswick County UDO. After discussion, the committee agreed on the proposed language for setback exceptions and encroachment, which is partly based on standards found in the Brunswick County Unified Development Ordinance. The committee and applicant agree that consistency throughout the county will be beneficial.

Fire Chief Charles Drew reviewed the proposed text amendment and agrees that it will be a good compromise for the ability to access the property and allow encroachments when necessary.

Planning Board Proposed Text for Section 3.9.B.5

Sills, cornices, buttresses, ornamental features, gutters, and eaves shall not extend more than 18" into a required setback. Mechanical equipment such as air conditioning units, generators, pool equipment, and similar items for residential uses may extend into any required side yard no more than 50% of the required setback.

This amendment will allow the following setbacks for residential encroachments: 4' side yards, 2' encroachment, 6' side yards, 3' encroachment, 8' side yards, 4' encroachment, and 12' side yard, 6' encroachment.

Planning Board Recommendation

The Planning Board recommends APPROVAL of the zoning text amendment to Section 3.9.B.5 as presented at the March Planning Board meeting. The proposal is found to be consistent with the 2014 CAMA Core Land Use Plan and meets the intent of the Unified Development Ordinance.

Attachments

Consistency Statement

Previous Staff Report with Attachments

Existing Text Section 3.9.B

5. Sills, cornices, buttresses, ornamental features, gutters, eaves, heating and air conditioning units and similar items may project into a required setback not more than 30 inches.

Planning Board Proposed Text for Section 3.9.B.5

Sills, cornices, buttresses, ornamental features, gutters, and eaves shall not extend more than 18" into a required setback. Mechanical equipment such as air conditioning units, generators, pool equipment, and similar items for residential uses may extend into any required side yard no more than 50% of the required setback.



**City of Southport Board of Aldermen
Statement of Plan Consistency
(As per NC General Statute 160D-605)**

When conducting a review of proposed zoning text or map amendments pursuant to this section, the Board of Aldermen shall advise and comment on whether the proposed action is consistent with any comprehensive plan that has been adopted and any other officially adopted plan that is applicable.

AMENDMENT: ZTA 23-03 – Section 3.9.B Setback Exceptions and Encroachments

STATEMENT OF CONSISTENCY AND RECOMMENDATION:

The City of Southport Board of Aldermen hereby **adopt** the proposed text amendment of the Unified Development Ordinance and finds that it is consistent with the City's 2014 CAMA Core Land Use Plan originally adopted Nov. 13, 2014 and subsequently amended by the Southport Board of Aldermen. More specifically, the proposed amendment is consistent with **Policy 2.4:** Southport will permit residential development to occur in response to market needs provided that the following criteria are met: (1) Due respect is offered to all aspects of the environment. (2) Concurrent planning for improvements to community facilities, infrastructure, and services is provided and **Policy 7.22:** The City shall continually maintain all official planning documents.

The statement and motion was seconded and passed _____.

Dorothy Dutton, City Clerk

Richard Alt, Mayor



**City of Southport Board of Aldermen
Statement of Plan Consistency
(As per NC General Statute 160D-605)**

When conducting a review of proposed zoning text or map amendments pursuant to this section, the Board of Aldermen shall advise and comment on whether the proposed action is consistent with any comprehensive plan that has been adopted and any other officially adopted plan that is applicable.

AMENDMENT: ZTA 23-03 – Section 3.9.B Setback Exceptions and Encroachments

STATEMENT OF CONSISTENCY AND RECOMMENDATION:

The City of Southport Board of Aldermen hereby **deny** the proposed text amendment of the Unified Development Ordinance and finds that it is inconsistent with the City's 2014 CAMA Core Land Use Plan originally adopted Nov. 13, 2014 and subsequently amended by the Southport Board of Aldermen. Specifically, the proposed zoning text amendment is inconsistent with the CAMA Land Use Plan considerations for zoning petitions, "The regulations shall be made in accordance with the Southport Land Use Plan and designed to lessen congestion in streets; to secure safety from fire, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; and to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements".

The statement and motion was seconded and passed _____.

Dorothy Dutton, City Clerk

Richard Alt, Mayor

STAFF REPORT

ZONING TEXT AMENDMENT APPLICATION

SECTION 3.9 DIMENSIONAL REQUIREMENTS

APPLICATION SUMMARY	
Presentation Date	February 8, 2024 Board of Aldermen
Applicant	Cameron Smith
Relevant Ordinance Sections	Section 3.9.B.5 Setback Exceptions and Encroachments

ZONING TEXT AMENDMENT PROPOSAL
Cameron Smith, applicant, respectfully submits a Zoning Text Amendment to the City of Southport Unified Development Ordinance. Specifically, the request is to amend Section 3.9.B.5 Setback Exceptions and Encroachments to modify the maximum setback encroachment for heating and air conditioning units, generators, pool equipment, and other similar items. All proposed changes, including additions and deletions, can be found as an attachment to this report and may also be viewed in the City of Southport Development Services Department offices.

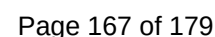
REVIEW PROCESS
A Zoning Text Amendment proposal is considered a legislative process. As laid out by North Carolina General Statutes, a legislative process is a policy-level decision with broad discretion by the decision-making authority, in Southport's case the Board of Aldermen. In a decision to approve or deny a legislative proposal, the Board of Aldermen shall include a statement referencing the decisions consistency with the adopted land use plan for the City of Southport. Per the City of Southport Unified Development Ordinance, the Planning and Zoning Board shall also provide a recommendation on any proposed Zoning Text Amendment to the Board of Aldermen. The Board of Aldermen shall hold a public hearing prior to voting on any Zoning Text Amendment.

AMENDMENT DESCRIPTION AND APPLICANT PETITION
The amendment to this section would allow heating and air conditioning (HVAC) units and similar equipment to encroach into a side or rear setback no more than forty-eight (48) inches or four (4) feet.

The applicant, Cameron Smith, applied for this amendment to accommodate narrow lots approved for PUD subdivisions and nonconforming R-10 lots throughout Southport. Mr. Smith is a builder in the city and has stated that most HVAC and whole house generators need to be 48" off the main structure to meet code requirements. As homes are being built on smaller lots, using most of if not all the buildable width for desired home designs is becoming a necessity. He further states that this causes an undue hardship on homeowners since the units cannot go in the front of homes and many times the rear of the home does not work either, an example of this would be for properties that include a rear loading garage.

Sills, cornices, buttresses, ornamental features, gutters, and eaves, ~~heating and air conditioning units and similar items~~ may project into a required setback not more than 30 inches. Heating and air conditioning units, generators, pool equipment, and similar items may project not more than 48 inches into a required setback.

Examples from the applicant are shown below. Example 1 is a site plan that cannot meet the 30" encroachment standards so the equipment is located near the outdoor living area. Example 2 is a site plan showing where equipment has historically been allowed and away from living areas.



BACKGROUND AND EVALUATION

Previous editions of the UDO did not include heating and air conditioning units in the encroachment provisions. The current UDO, adopted on September 23, 2020, added these types of mechanical units. Since October 2022, this section of the UDO has been enforced. Staff encounter equipment encroachments beyond the 30" standard regularly in site plan and final as-built survey review. The instances have been reduced since the standard has been enforced, although staff do have to address the issue often. Historical plan review and approvals enforcing this standard cannot be confirmed.

Justification for this text amendment is to be able to accommodate smaller lot widths within cluster subdivisions and nonconforming R-10 lots throughout the city. Nonconforming lots not located in subdivisions many times have a 4' side setback, therefore the units would be allowed to have no setbacks.

Staff consulted the Cape Fear Council of Governments (CFCOG), the Building Inspector, and the Fire Marshall during the review of this proposed amendment. Each entity was able to give insight on setback requirements found throughout the region and codes that must be met.

Mr. Wes MacLeod, with the CFCOG confirmed that 30 inches is a standard encroachment throughout the region for these types of units. Further, independent research found examples that allow HVAC and other units 30 inches or a 50% encroachment of the setback, whichever is greater, that allow the encroachment of stoops for air conditioning, but the stoop can only be large enough to accommodate the unit, and there are some examples of 48" in other coastal areas.

Southport's Building Inspector stated that HVAC units must meet manufacturer-listed setbacks to allow air circulation. The average is approximately 24" and some can be as close as 12" to meet the National Fire Protection Act (NFPA). Generators must have a minimum clearance of 18" per the manufacturer's installation guidelines and NFPA. The Fire Marshall did not have any issues with these types of equipment being installed in side yard setbacks.

Planning Board Review

After discussions at the September 21, 2023, and October 19, 2023, regular Planning Board meetings, Staff was asked to bring two new options in addition to the original proposal to the November regular meeting. Below, you will find the existing text in the UDO, the original language as proposed by the applicant, and the two (2) options that were requested in October.

Existing Text Section 3.9.B

5. Sills, cornices, buttresses, ornamental features, gutters, eaves, heating and air conditioning units, and similar items may project into a required setback of not more than 30 inches.

Applicant Proposed Text Amendment to Section 3.9.B

5. Sills, cornices, buttresses, ornamental features, gutters, eaves, heating and air conditioning units, and similar items may project into a required setback of not more than 30 inches. Heating and air conditioning units, generators, pool equipment, and similar items may project not exceeding 48 inches into a required setback.

Text with 42" Encroachment Option

5. Sills, cornices, buttresses, ornamental features, gutters, eaves, heating and air conditioning units, and similar items may project into a required setback of not more than 30 inches. Heating and air conditioning units, generators, pool equipment, and similar items may project 42 inches into a required setback but not closer than 24 inches from the lot line.

Text with 36" from Property Line Option

5. Sills, cornices, buttresses, ornamental features, gutters, eaves, heating and air conditioning units, and similar items may project into a required setback not more than 30 inches and not closer than 36" from the property line.

Each option was presented by Staff with visual aids and considered by the Planning Board. The applicant was satisfied with the 42" Encroachment (and not closer than 24" from the lot line) Option, which would help in instances with smaller lots and existing homes.

No consensus by the Planning Board could be reached and a motion to deny the application was made.

Unified Development Ordinance Compliance

Zoning Text Amendments, like General Use Zoning Map Amendments (Rezoning), follow the process laid out in Section 2.10 of the City of Southport Unified Development Ordinance. Pursuant to this section, the Planning Board shall advise and comment on whether the proposed text or zoning map amendment is consistent with the comprehensive plan or any other official adopted plans that are applicable and make a recommendation to the Board of Aldermen. The Board of Aldermen shall, in their final decision-making capacity, base their decision upon the same.

2014 CAMA Core Land Use Plan Compliance

Explicit references to specific lot layout, setbacks, and designs for single family lots are not included in the land use plan. The plan references updating the UDO and other documents to meet the needs of the residents of the city.

PLANNING BOARD RECOMMENDATION

The Planning Board recommends DENIAL of the zoning text amendment to Section 3.9.B.5 as proposed by the applicant. The proposal is found to be inconsistent with the 2014 CAMA Core Land Use Plan and does not meet the intent of the Unified Development Ordinance.

Attachments

Consistency Statement

Proposed Text Amendment Language

Text Amendment Application

Existing Text Section 3.9.B

5. Sills, cornices, buttresses, ornamental features, gutters, eaves, heating and air conditioning units and similar items may project into a required setback not more than 30 inches.

Text with 42" Encroachment Option

5. Sills, cornices, buttresses, ornamental features, gutters, and eaves, ~~heating and air conditioning units and similar items~~ may project into a required setback not more than 30 inches. Heating and air conditioning units, generators, pool equipment, and similar items may project 42 inches into a required setback, but not closer than 24" from the lot line.

Text with 36" from Property Line Option

5. Sills, cornices, buttresses, ornamental features, gutters, eaves, heating and air conditioning units and similar items may project into a required setback not more than 30 inches or not closer than 36" from the property line, whichever is greater.

Applicant Proposed Text Amendment to Section 3.9.B

5. Sills, cornices, buttresses, ornamental features, gutters, and eaves, ~~heating and air conditioning units and similar items~~ may project into a required setback not more than 30 inches. Heating and air conditioning units, generators, pool equipment, and similar items may project not more than 48 inches into a required setback.



**City of Southport Board of Aldermen
Statement of Plan Consistency and Zoning Recommendation
(As per NC General Statute 160D-605)**

When conducting a review of proposed zoning text or map amendments pursuant to this section, the Board of Aldermen shall advise and comment on whether the proposed action is consistent with any comprehensive plan that has been adopted and any other officially adopted plan that is applicable.

AMENDMENT: ZTA 23-03 – Section 3.9.B Setback Exceptions and Encroachments

STATEMENT OF CONSISTENCY AND RECOMMENDATION:

The City of Southport Board of Aldermen hereby **deny** the proposed text amendment of the Unified Development Ordinance and finds that it is inconsistent with the City's 2014 CAMA Core Land Use Plan originally adopted Nov. 13, 2014 and subsequently amended by the Southport Board of Aldermen. Specifically, the proposed zoning text amendment is inconsistent with the CAMA Land Use Plan considerations for zoning petitions, "The regulations shall be made in accordance with the Southport Land Use Plan and designed to lessen congestion in streets; to secure safety from fire, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; and to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements".

The statement and motion was seconded and passed _____.

Dorothy Dutton, City Clerk

Richard Alt, Mayor



**City of Southport Board of Aldermen
Statement of Plan Consistency and Zoning Recommendation
(As per NC General Statute 160D-605)**

When conducting a review of proposed zoning text or map amendments pursuant to this section, the Board of Aldermen shall advise and comment on whether the proposed action is consistent with any comprehensive plan that has been adopted and any other officially adopted plan that is applicable.

AMENDMENT: ZTA 23-03 – Section 3.9.B Setback Exceptions and Encroachments

STATEMENT OF CONSISTENCY AND RECOMMENDATION:

The City of Southport Board of Aldermen hereby **adopt** the proposed text amendment of the Unified Development Ordinance and finds that it is consistent with the City's 2014 CAMA Core Land Use Plan originally adopted Nov. 13, 2014 and subsequently amended by the Southport Board of Aldermen. More specifically, the proposed amendment is consistent with **Policy 2.4**: Southport will permit residential development to occur in response to market needs provided that the following criteria are met: (1) Due respect is offered to all aspects of the environment. (2) Concurrent planning for improvements to community facilities, infrastructure, and services is provided and **Policy 7.22**: The City shall continually maintain all official planning documents.

The statement and motion was seconded and passed _____.

Dorothy Dutton, City Clerk

Richard Alt, Mayor



**City of Southport Planning Board
Statement of Plan Consistency and Zoning Recommendation
(As per NC General Statute 160D-604)**

When conducting a review of proposed zoning text or map amendments pursuant to this section, the planning board shall advise and comment on whether the proposed action is consistent with any comprehensive plan that has been adopted and any other officially adopted plan that is applicable. The planning board shall provide a written recommendation to the governing board that addresses plan consistency and other matters as deemed appropriate by the planning board, but a comment by the planning board that a proposed amendment is inconsistent with the comprehensive plan shall not preclude consideration or approval of the proposed amendment by the governing board.

AMENDMENT: ZTA-23-03

STATEMENT OF CONSISTENCY AND RECOMMENDATION:

The City of Southport Planning Board hereby recommends DENIAL of the proposed Zoning Text Amendment to the Board of Aldermen and finds that it is inconsistent with the City's 2014 CAMA Core Land Use Plan originally adopted Nov. 13, 2014 and subsequently amended by the Southport Board of Aldermen. Specifically, the proposed zoning text amendment is inconsistent with the CAMA Land Use Plan considerations for zoning petitions, "The regulations shall be made in accordance with the Southport Land Use Plan and designed to lessen congestion in streets; to secure safety from fire, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; and to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements". Further, the request is not in the public interest since there are reasonable alternatives to locate HVAC units, generators, pool equipment and other similar items.

The statement and motion was seconded and passed November 16, 2023

Tanya Shannon
Tanya Shannon, Deputy City Clerk

Sue M. Hodgins
Sue Hodgins, Chairman



Text Amendment

City of Southport, North Carolina

1029 N. Howe St, Southport NC 28461
www.southportnc.org

Planning & Inspections
Phone 910-457-7961 Fax 910-457-7957

For Staff Use Only

PERMIT No. ZTA-23-03 FEE: \$ 250 Date Received: 8/8/23

Applicant's Name: Cameron Smith
Mailing Address: 107 Bennett's Creek Lane City: Southport
State: NC Zip Code: 28461 Phone: 910-443-5880
Email: _____

Current Section Impacted by Proposed Text Amendment: 3.9.B.5

Please describe the conditions that makes the proposed text amendment necessary for the promotion of public health, safety, and general welfare; or that identifies an obvious error in the UDO. Also explain why the proposal is or is not consistent with the Land Use Plan and other adopted plans (Attach separate sheet if necessary).

see attached

In filing this Text Amendment Petition, I hereby certify that all of the information presented in this application is accurate to the best of my knowledge, information, and belief.

[Signature]
Signature (Applicant)

8/2/23
Date

APPROVED BY:

Mamoon Mehar

8/8/23

This is how the ordinance currently reads. 3.9 B.5 Sills, cornices, buttresses, ornamental features, gutters, eaves, heating and air conditioning units and similar items may project into a required setback not more than 30 inches.

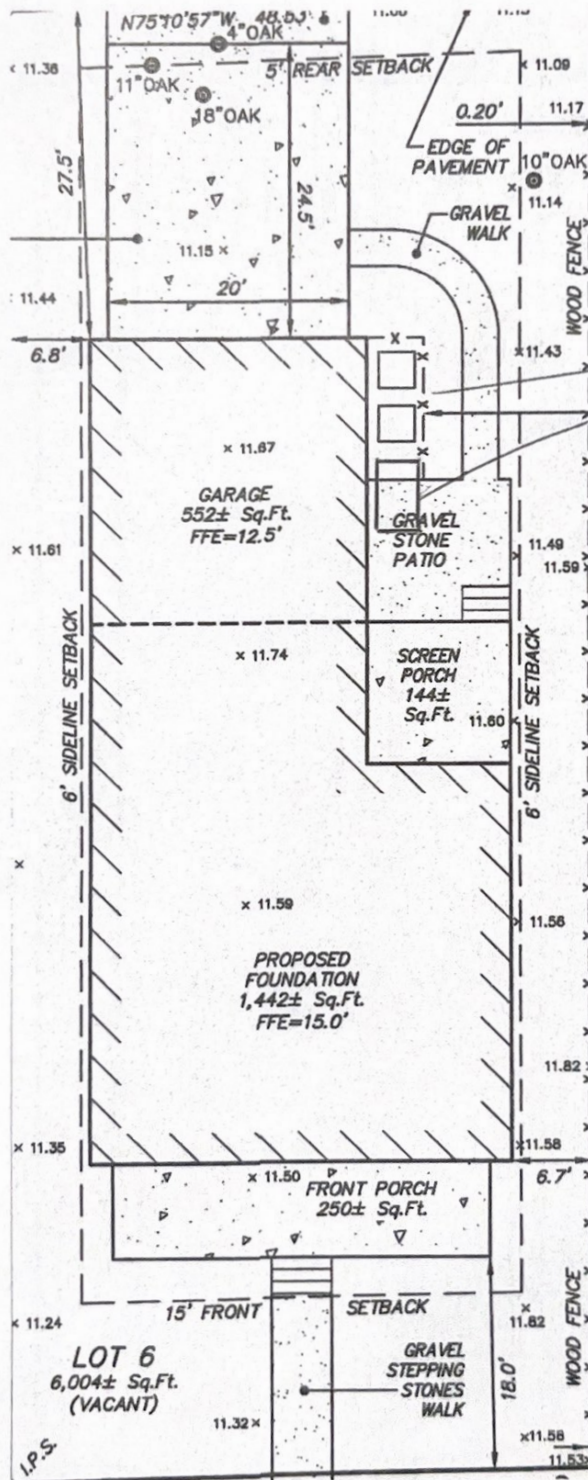
Proposed text amendment : 3.9 B.5 Sills, cornices, buttresses, ornamental features, gutters, eaves, ~~heating and air conditioning units~~ and similar items may project into a required setback not more than 30 inches. HVAC units, generators, pool equipment, and similar items may project not more than 48 inches into a required setback.

Rationale behind revision: In the previous 24 years I have built homes in Southport this ordinance was either not in the UDO or not enforced. Items that are fixed to the structure such as cantilevers, etc were enforced with the 30" rule but never the equipment (HVAC, generators, etc). Many of the homes I have built in communities with narrower lots have equipment on the sides of the homes that would not have met this ordinance. Most air condensing units and generators need 48" off the structure to meet codes for clearances. In my opinion, this 30" guideline creates an unnecessary hardship. Many homeowners, especially in communities with narrow lots (PUDs or some of our city lots) need to use the majority of their buildable width for their home design. The equipment cannot go in the front of the home and in many cases the rear of the home doesn't work well either. A prime example of this would be homes with rear load garages on narrow lots and I have included an example site plan.

Example 1 shows what happens when the equipment is not allowed to go on the side of the home as it typically does due to the 30" guideline. The small rear outdoor space is adversely affected. In addition, having the equipment alongside the garage instead of the house foundation doesn't work in the construction world for a variety of reasons.

Example 2 shows where the equipment should be placed and where it has been allowed historically speaking. Changing this 30" guideline to 48" will allow this to work.

Another point I would like to make in regards to existing homes is many people are now wanting to install whole house generators and may not be able to with the enforcement of this 30" guideline. There is really no downside to this revision that I can see and it will be permitting this equipment placement to continue as it has been allowed in the past.



Example 1

A/VAC
Generator



BOARD OF ALDERMEN AGENDA ITEM SUMMARY

DATE: 5/9/24

DEPARTMENT: Mayor Rich Alt

PRESENTED BY: Bonnie Therrien, City Administrator

ITEM SPONSORED BY: Administration and Public Services

ITEM/TOPIC: Next Steps – HICAPS – Old City Hall

COST: \$8500.00

BUDGET LINE ITEM: Administration – Contingency Fund

JUSTIFICATION: We have been asked to have our Building Assessment company, HICAPS, conduct a more thorough investigation of the environmental issues at the Old Court House/City Hall to assess how much it might cost to eradicate the environmental issues and to replace the HVAC system so that once the building was in good shape, the building could remain safe from environmental problems. HICAPS staff reported to you on April 30th their findings. Mayor Alt has requested that this item be on your agenda to discuss spending the \$8500 to begin the bidding process with the goal of having a full abatement price for you prior to July 1st. The deliverables are a full set of bid documents and specifications, abatement permit applications, updated budget based on construction drawings and the RFQ for the contractors. This will take one month to complete.

IMPACT IF NOT APPROVED: The Old Court House/City Hall will remain in poor condition.

DEPARTMENT HEAD COMMENTS: Not applicable

CITY MANAGER COMMENTS: I would recommend that in next year's budget, you move ahead with remediating the building of environmental issues and replace the HVAC system so that the building stays free of environmental problems. At some point, you will need to move forward with deciding on uses for the building and renovation costs or we will not be able to begin applying for grants.

ATTACHMENTS: None

REQUESTED ACTION: Approve of budget transfer of \$8500 from the Administration Contingency Fund.

PROPOSED MOTION: Motion to approve the use of \$8500 of the Administration Contingency Fund to allow HICAPS to develop a Request for Qualifications so that we can begin receiving pricing for environmental abatements.