



**CITY OF SOUTHPORT
PLANNING BOARD
REGULAR MEETING AGENDA**

April 20, 2023
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. Changes to this policy may occur, as needed to help prevent the spread of the Coronavirus.

The regular monthly meeting of the Planning Board will be held at 6:00 p.m. on the third Thursday of each month. All members are asked to attend.

- A. Call to Order**
- B. Invocation**
- C. Pledge of Allegiance**
- D. Approval of Minutes**
 - 1. March 8, 2023 Special Public Meeting
 - 2. March 16, 2023 Regular Meeting
 - 3. March 30, 2023 Aldermen & Planning Board Joint Meeting
- E. Approval of Agenda**
- F. Public Comment**
- G. Old Business**
 - 1. Shoppes at Dutchman Village Major Site Plan
 - 2. Prices Creek Townhomes Preliminary Plat
 - 3. Revision to the Starbucks Major Site Plan
 - 4. Conditional Zoning Text Amendment
- H. New Business**
 - 1. Text Amendment Regarding Lighted Signs
- I. Other Business**
- J. Announcements**
- K. Member's Information**

1. Member's Roster
2. Attendance Record

L. Adjourn



City of Southport
Planning and Zoning Board Special Meeting Minutes
Community Building 223 E. Bay St.
March 8, 2023
6:00 P.M.

Members Present: Sue Hodgins, Will Hewett, Scott Jones, Dick Sloan, Fred Fiss, and Chris Jones.

Members Absent: Donnie Joyner

Staff Present: Travis Henley, Development Services Director
Mo Meehan, City Planner
Tanya Shannon, Deputy Clerk
Randy Jones, Director of Community Relations
ChyAnn Ketchum, Communications/ PIO Officer

Board of Aldermen Liaisons: Karen Mosteller and John Allen

- A. Chair Sue Hodgins called the meeting to order at 6:02 p.m.
- B. Mr. Scott Jones gave the Invocation.
- C. Chair Hodgins led the Pledge of Allegiance.
- D. Motion to approve the Meeting Agenda By Vice-Chair Hewett and seconded by Mr. Dick Sloan
Unanimous vote; Motion Carried.

As the Approved Agenda reflected, Chair Hodgins requested that only Public Questions regarding Conditional Zoning will be addressed. She asked that other questions or concerns be reserved for the Regular March 16th Meeting.

E. Update of Proposed Conditional Zoning Amendment

Development Services Director Mr. Travis Henley provided an overview of the proposed Conditional Zoning Text Amendment that was initiated by the Planning Staff. Specifically, the request is to amend Section 2.11, 'Conditional Rezoning.' The purpose is to modify the types of projects allowable under Conditional Rezoning, and items such as process improvements, modifications, reconstruction of Appendix A, and other text amendments for clarification.

Mr. Henley reiterated the steps of the process following input from the February Meeting.

- January: Presentation of Idea
- February: Presentation of 1st draft language, solicitation of feedback from Planning Board and Public.
- March: 8: Generalized presentation on updates/questions.
- March: 16: Public Hearing, vote to recommend approval, denial, or table.
- When the Planning Board reaches a recommendation, the case is presented to the Board of Aldermen in a public hearing.
- Aldermen may vote to approve, deny, table, or remand back to Planning Board.

Mr. Henley explained the recommended changes following the February 16th Meeting.

- Section 2.11.B: Planning Board feedback was to provide for flexibility in the following:
 - Development Standards
 - Dimensional Standards
 - Use Standards
- Flexibility: Draft language makes it clear that Conditional Rezoning **cannot reduce these standards**
 - Traffic Study thresholds
 - Stormwater
 - Open Space
 - HOA Requirements
 - Water/Sewer Requirements
- 2.11.B: Public Hearing shall be required by the Planning Board for all Conditional Rezoning cases prior to their arrival at a recommendation
 - Signs
 - Mailed Notice
 - Newspaper Publication
- 2.11.C: Public Input Meeting
 - Notice of Public Input Meeting must be provided to the City Clerk and UDO Administrator at the same time notice is digitally provided to adjacent property owners.
 - Currently, still to occur prior to application.
- Appendix A: Moved from Table form to List form
- Conditional Zoning receives its own section in Appendix A, with modifications to mirror existing PUD requirements.
- Conditional Zoning is not a construction approval
- Added explicit references to traffic generation calculations

Mr. Scott Jones questioned if the Open Space requirements could be reduced and overridden by the Board of Aldermen for any possible reason. Mr. Henley said the proposed language is written, so the Open Space requirement cannot be disregarded.

Mr. Henley said that from the current process standpoint, the Planning Board has discretion on whether to call a Public Hearing for Conditional Zoning requests. Now, the proposed language makes it required to call a Public Hearing for all Conditional Zoning requests before a recommendation would be made.

Mr. Chris Jones asked if the 'Public Hearing' would be called prior to the review of the Zoning request. Mr. Henley explained that the Applicant would call a 'Public Input Meeting' before the Public Hearing. Vice-Chair Hewett clarified that the Planning Board Public Hearing would not occur until all the requirements have been met and the Public Input Meeting has been determined. Mr. Henley said that if the public does not receive notification from the Applicants regarding the Public Input Meeting, the Planning Board has the authority to require another Public Input Meeting to occur if the Applicant has not appropriately posted the notice. Mr. Henley also stated that when the Applicant has posted notice for the Public Input Meeting, it is also required to go to the UDO Administrator and the City Clerk. If the Board would prefer that Staff also send the Public Input Meeting Notice out, that could be done. But, the City's challenge in sending out the Public Input notice is that the Applicant has not yet submitted a formal application or paid the required fees.

Mr. Henley said that there should be consistency in the process. He said the Board could either decide if they would like the Applicant to hold a Public Input Meeting *before* the application is submitted, or the Board could require the Application be submitted before the Public Input Meeting is held.

Chair Hodgkin recommended that the Application be submitted before the Public Input Meeting. She said that if the Applicant does not provide the appropriate notice to the Public, Staff is unaware, and the Meeting has to be recalled, it could be frustrating for the public. It was the consensus of the Board to preview the application before the Public Input Meeting. This will ensure that the information is consistently being provided and noticed by the Board and Staff. Vice-Chair Hewett suggested that a Board Member attend the Public Input Meeting to observe the information that the Applicant is providing to the public. Mr. Henley said he thought this was a good idea but recommended that a Staff Member such as himself or Ms. Meehan attend the Meeting, to maintain the consistency of the process and objectivity for the full Board.

Mr. Chris Jones asked if the intent of the Public Input Meeting was to put together a better application and if there was any other purpose for requiring this Meeting. Mr. Henley said it's for the Applicant to receive Feedback from the public and improve the project's design. It also gives a heads-up to what is coming before the Board.

Director Henley continued with the PowerPoint. He explained that from the Land Use Plan:

Completing the LUP [Land Use Plan], illustrating the City's vision for the future, does not ensure that its objectives will be met. The City must continuously work at accomplishing plan implementation and maintaining an effective planning program. One important concept is 'smart development'. 'Traditional Zoning Districts do not allow for most if not all, principles of smart development listed in the Land Use Plan to occur. Conditional Zoning is still a rezoning and must be requested by the property owner.

Typically, a Conditional Rezoning is only a worthwhile option if a rezoning is already desired by the property owner. If flexibility is all that is needed, the variance process already exists. If the desired use is already allowed by the zoning district, the administrative process is far simpler.

Conditional Zoning provides the flexibility for achieving smart development goals while only allowing it through the most robust review process. It gives full consideration to the impacts of the project and directly involves the public in the process.

Mr. Henley explained that the Land Use Plan is the vision set forth with policies, goals, and objectives for every proposed Conditional Rezoning request. It will be evaluated for its conformance to the Future Land Use Plan. He concluded by reminding everyone of the Public Hearing at the next Regular Meeting on March 16th. The Draft Language for the Amendment will be available for the public to preview in the Agenda package published prior to the Meeting.

Chair Hodgkin asked Mr. Henley to reiterate why Conditional Zoning is currently only allowed in the Business District (BD), and to discuss the advantages and disadvantages of enabling Conditional Zoning in Residential Districts. Mr. Henley said that to his understanding, CZ was only allowed in the BD to introduce Conditional Zoning. He noted that CZ is a relatively new tool explicitly permitted by statute. He said that he thinks only allowing CZ in the BD is because the process for PUDs and Conditional Zoning are very similar regarding what terms are being allowed.

Mr. Henley said that one disadvantage of allowing CZ in Residential Districts is that more requests could come because the vast majority of the City is zoned Residential. He said that requests for Residential Conditional Zoning are very complex. It takes a lot of time for the Applicant, the Board,

Staff, and the public to understand the projects and their impacts. He also said that if the property Owner gets approval for the CZ request, the Applicant cannot change the plan without going through the entire process again.

Mr. Henley said that the benefit to allowing CZ in the Residential District as opposed to sticking with the PUD process is that the PUD process – as it is currently designed - is not as effective in reaching those ‘smart development goals’.

Chair Hodgkin clarified that Conditional Zoning does not replace the PUD requirements. She confirmed that Conditional Zoning is another option for Applicants to consider and a tool for the City to work with Applicants to achieve the best overall outcome.

Mr. Fiss asked if, hypothetically, the Indigo Plantation Project were to opt to use Conditional Zoning, what would be the advantages and disadvantages to the Applicant and the City. Mr. Henley said that in terms of that project, the advantage to the Applicant is that the “floor” on the dimensional standards no longer applies. They could propose their own dimensional standards and list of uses, which is not that different from what is allowed in the PUD process. The benefit of Conditional Zoning is that there is a lot more discretion in the CZ process because there are no specific standards.

He explained that there are some administrative elements in the PUD review process because there are particular standards that the Applicants must meet. Conditional Rezoning gives a lot more reviewing of the site-specific plan. Mr. Henley said another benefit to the City would be the reduction of the environmental impacts because there would not be that intersection point of the open space provision but the lack of ability to cluster.

Director Henley reiterated that it would always be up to the Applicant’s discretion whether to apply as PUD or for a Conditional Rezoning.

Chair Hodgkin thanked Mr. Henley and Ms. Meehan for their hard work in providing and presenting the information. Moving on, she declared the forum open for public comments and questions.

1. Rich Bandera, 409 N. Burrington Avenue, said he had reviewed the draft language for the proposed Text Amendment and has concerns regarding the dimensional standards for Traditional Zoning under the CZ process. He stated that he does not see the need to approve the amendment to allow Conditional Rezoning in the Residential District because there will be no change to the density requirements as it is currently in the UDO and the Land Use Plan. He also said that since each Conditional Rezoning includes individualized site-specific conditions, it would be reasonable to assume more Staff work and Board deliberations that would take longer to complete versus the Traditional Rezoning process.
2. Tracy Beaulieu, 206 W. Nash Street, thanked Staff for the presentation on Conditional Zoning. She wanted to clarify that the process and standards will remain the same as the requirements are currently written for rezoning. But, if the Applicant would like flexibility from those guidelines, they could request to apply for Conditional Rezoning. Mr. Henley said that if the project is eligible for a PUD, it must follow the requirements and processes. He said they could apply for CZ if the developer would like to vary on the standards. He said the Applicant must provide a detailed application for the reason why they would like to differ from the specifications and what the purpose will be used for, and then the application would be extensively reviewed before potential approval.

She feels that public input is essential to the process and stated that the current Board and Staff are passionate about protecting the City. She worries that if the Members of the Boards change, the progress that is made may be repealed by a new Board. Chair Hodgkin stated that this is why elections are important for ensuring that the Board of Aldermen elected, and the Planning Board Members appointed will make decisions with the City’s best interests at heart.

3. Ginny Prunty, a resident of Indigo Plantation asked if CZ is approved and the developer of Indigo Plantation Phase 2 would like to apply for Conditional Rezoning, how would this be beneficial to the Community? Mr. Henley said that it would depend on the prototypes that the Developer is presenting. The benefit of the Conditional Zoning process is that it can lead to compromise where the developers and the citizens are happy. It allows looks at the site-specific level, talk with a landowner about the community's concerns, and use the process to find some common ground.

Mr. Bandera came to the podium to ask for more clarification. He explained that currently in the Land Use Plan R-20 only allows 2-3 units per acre, but then he said that it was explained that a cluster of units could be on a large acreage of property to save open space. He said that is similar to what a PUD is. He said he views it as many tiny lots clustered together on a larger piece of acreage which doesn't coincide with the Land Use Plan.

City Planner Meehan said an interpretation is that the allowable density is a calculation, not a lot size. She said you are calculating how many lots per acre of the land you can have and the number of lot sizes that are best for the acreage, so that you can put your density in the most appropriate places. She said you are looking at conservation, watershed, vegetation, habitats, and the best areas for connectivity, and those things are a *total calculation*, not the size of the lot.

Mr. Chris Jones said that he feels that there needed to be more clarity on the Indigo Plantation Phase 2 project regarding density per acre. He said there is a big difference between "cluster and non-cluster development." He recommended revising that language to clarify the calculations of 2-3 acres per acre.

Chair Hodgin asked if there were any more comments. Since there were none, she asked that Staff review the comments, determine what further revisions might be needed, and return to Board at the March Regular Meeting. Staff will return to the Board with the modifications and present back for the Public Hearing. The Planning Board will then make a decision for recommendation or to table the Proposed Amendment for further discussion. Once the Planning Board has decided, it will be forwarded to the Board of Aldermen for approval, denial, or back to the Planning Board for more review.

K. **Announcements**

Mr. Henley announced that the Planning Board will have a Joint Meeting with the Board of Aldermen and the City Attorney for a special training session on March 30th at 6 pm. at the Community Building. The purpose of the meeting is to provide more insight into the legal process of Land Use. The Meeting is open to the public.

Without further business or comments, Chair Hodgin asked for a Motion to Adjourn.

Vice-Chair Hewett made a Motion to Adjourn the Meeting and was seconded by Mr. Sloan.
Unanimous vote; motion carried.

Adjournment: 7:29 P.M.

Chair, Sue Hodgin

Deputy Clerk, Tanya Shannon



**City of Southport
Planning and Zoning Board Minutes
Community Building 223 E. Bay St.
March 16, 2023
6:00 P.M.**

Members Present: Sue Hodgins, Will Hewett, Dick Sloan, Fred Fiss, Chris Jones, Donnie Joyner, Scott Jones (via telephone).

Members Absent: None

Staff Present: Travis Henley, Development Services Director
Mo Meehan, City Planner
Tanya Shannon, Deputy Clerk
ChyAnn Ketchum, Community Relations/PIO

Others: Alderman Alt, Alderman Lombardi, Developers Cameron Smith (Prices Creek Townhomes), Ron Greger (115 N. Howe), and a representative from Stanley Homes (Oakton)

Board of Aldermen Liaisons: Karen Mosteller and John Allen

- A. Chair Sue Hodgins called the meeting to order at 6:02 p.m.
- B. Mr. Donnie Joyner gave the Invocation.
- C. Chair Hodgins led the Pledge of Allegiance.
- D. Motion to approve the February 16, 2023, Meeting Minutes By Dick Sloan and seconded by Vice-Chair Hewett. ***Unanimous vote; Motion carried.***
- E. Motion to approve the Meeting Agenda By Vice-Chair Hewett and seconded by Mr. Donnie Joyner. ***Unanimous vote; Motion Carried.***
- F. Public Comment: A Motion was made by Vice-Chair Hewett to open Public Comment and was seconded by Mr. Sloan. ***Unanimous vote; Motion Carried.***

Before moving into Public Comment, Chair Hodgins asked that all questions and comments pertaining to the proposed Conditional Zoning Text Amendment refrain until the Public Hearing for that specific item was opened.

- 1. Marjorie Jones, 136 Stuart Ave., thanked the Oakton Subdivision Developer for changing the access point on Stuart Avenue to only an entrance point. She still has concerns about the entry point and does not feel it is necessary. She would like the Developers to consider removing all Oakton access from Stuart Avenue. She said she had given 14 reasons at previous meetings regarding why this access is unnecessary and has yet to hear one reason why it is necessary.
- 2. Jwantana Frink, 516 N. Lord Street, stated that she is here on behalf of the citizens who have had alleyway issues. She is asking the Board to reject the request to abandon a portion of an alleyway. She stated that many residents born and raised in Southport have repeatedly asked if they could maintain the alleyways adjacent to their properties as part of their property and were told no due to various reasons by the City. She encouraged the Board to consider other property owners that were denied the same request.

3. Stephane Jackson; 821 Cape Harbour Dr, and she also owns property at 913 Caswell Ave. She has concerns about the proposed Alley Abandonment. She said that she owns property near this alleyway, and there was no notification about the request or collaboration from the property owners. She said she is a native of Southport and would like to know how this was proposed and who authorized the consideration. Director Henley explained the process, and that notification is only required once the Board of Aldermen hears the request, and pending their decision, a Public Hearing will be required.

There were no further questions or comments. A Motion was made by Vice-Chair Hewett to close Public Comment and was seconded by Mr. Sloan. ***Unanimous vote; Motion carried.***

G. Old Business:

1. **115 N. Howe St. Major Site Plan**

Director Henley gave an overview of the Major Site Plan. He explained that the application was initially submitted in late-2021 and first presented to the Planning Board in June 2022. The application was subject to the UDO Requirements as they existed at the time of submittal. The Plan proposed a 3-Story Mixed Use Building with Retail, Residential, and a Restaurant w/ Rooftop. A review committee consisting of Planning Board members Sue Hodgins and Fred Fiss convened on March 1st, 2023, with Staff and the Applicant team for the project. Staff conveyed that updated plans for the project had been provided that demonstrated compliance with the UDO, specifically regarding building height, site lines, occupancies shown on the submitted floor plans, and critical root zone protections for a large oak tree on a neighboring property.

Additional discussion centered around the proposed architectural style of the building and any potential opportunities for collaboration in the future to ensure that the building fits within the existing character of downtown Southport. Through the course of the various site plan revisions, the Applicant has amended the site plan to provide a landscaped parking island in a similar location to the existing parking island on site, which is underneath an existing large oak tree, primarily on the immediately adjacent property. Additionally, the Applicant has proposed pervious paving material near this parking island and around the proposed location of trash receptacles. All trees within the south side of the right-of-way along W. Nash Street are proposed to remain. Based on the traffic generation calculations determined by the ITE 11th Edition Traffic Generation Manual, the subject project was subject to the Traffic Study requirements. In addition to approving the Major Site Development Plan, the Planning Board shall also review and approve the Traffic Impact Study that was provided to the Board, which has also been found to meet all applicable standards required of them. An elevator was proposed but did not meet the UDO's 40' height limit requirements. There will now be a lift near the stairwell.

Staff and the Review Committee have reviewed the proposal and found it to be in compliance with all applicable standards of the appropriate version of the Unified Development Ordinance in place at the time the proposal was submitted and recommend approval of the project as proposed.

Then Chair Hodgins provided a statement as follows:

Travis has given Staff's recount of the last several months of research and discussion regarding this submission, initially submitted in November 2021 with the first Committee meeting held in July 2022.

The UDO tells us that Major Site Plans - by their very name -requires greater attention, greater research and discovery, and in-depth discussion by the City. The Planning Board's task was to address components of the UDO, and raise awareness, conversation and even concern about this submitted project.

Two things have continued to stand out to the Committee, and frankly to the public, about this submission.

First, the projected occupancy of the building, specifically the restaurant planned for the top floor. Initially the occupancy was quoted at 662 (for the restaurant and the planned rooftop bar).

As Committee meetings were held and comments received at Planning Board meetings, concerns were raised and information was provided to the Applicant and the property Owners about the increased traffic, parking strains and infrastructure impacts the project would bring to town. The response was 'well, Southport's always had parking problems – that's not our fault'.

As purely a matter of information, the Committee provided estimates for the System Development Fees – saying that at the originally-quoted 416 restaurant seats, the Fees would be \$800+K – before a toilet was screwed down, before kitchen fixtures could be installed. The rooftop bar would incur additional \$200+K in Fees with its quoted 222 seats.

Over time and for whatever reason, the estimated occupancy quoted by the Applicant has decreased, now given to be 200 total. The true occupancy cannot be definitively established until further into construction, when the Fire Marshal sees the restaurant's configuration.

Just an FYI...the System Development Fees for 200-occupancy would be a bit over \$386K; and the sewer capacity for this size restaurant equals that of 29 three-bedroom homes.

Further, the Committee raised concerns over the plan for the rooftop bar, giving the Applicant the UDO Administrator's interpretation that the building's elevator – planned to transport patrons to the roof – could not exceed the 40' height limitation. From this, we've been shown by plan revision that the 'rooftop bar' has now been eliminated, but patrons might still be able to access the roof by an exterior lift from the 2nd to third floors: no food or drinks will be served there, we're told, and there's to be nothing up there that would exceed the 40' height. I'll note for all our information that the building at its top railing measures 38'.

Next, and arguably the more important to many: this Committee has done its best to discuss with the Applicant and Owners the Planning Board's commitment to preserving the historic character of this town. The location of this proposed project is extremely important to the 'look' of our downtown - the historic commerce center. We identify in our Comprehensive Plan the foundation of the UDO: as SPT's first Core Value, to preserve the city's historic character.

The UDO does include some very basic design guidelines. It's important to understand the purpose of the 'design conversation' as stated in the UDO.

"The purpose is to ensure architectural compatibility and the establishment and preservation of architectural character throughout the city."

Presently this building -- with its contemporary nature and building materials -- does not fit in with the character of our town but truthfully, we just can't stop it. Frankly, the guards the Committee wishes were in place were not when this submission came in: we hope that the work of our new Historic Preservation Commission, and further revisions to our UDO, will help guide the

architecture that appears in Southport's future. Difficult as it is for us to say, we've done all that we can do to help this Applicant and Owners understand the trepidation of this Committee and a large part of the citizenry of Southport about the appearance of this building that will be front-&-center to everyone heading into the Central Business District.

At our most recent meeting with this Applicant and Owners, it was communicated through their attorney that they would be 'receptive to suggestions' regarding changes to the building's exterior to bring it more in line with the architecture of downtown Southport. This overture has been made on at least two other occasions, and though we haven't seen significant changes to reflect prior suggestions, we simply have to trust that this latest overture will hold true. It was told to us at this last meeting that they have now hired an architect from Raleigh who 'hasn't visited Southport yet, but they have been to Calabash'. We hope that when this architect does get to Southport, they'll see the distinct differences between the two towns' appearances and recommend design elements consistent with the character of our historic CBD so that Southport can embrace it as what we hope will be a successful business venture for the Owners and a success story for the town. We continue to want to work together throughout this project for the very best outcome, protecting the historical character and the residences that must be included in a delicate balance.

This submittal was a learning process for the Committee, City Staff, for the full Board. It's helped us see weaknesses in the UDO (already, we've acted on one – the 30' height limit in the CBD). And we'll act on more as a result of this and other submissions that show us what more is needed to keep us true to that earlier-mentioned Core Value – to protect the town's architectural and historic character. As I've said several times, we recognize that the UDO isn't perfect but thank the Lord it's a static document – we can 'fix as we go'.

We want to emphasize that with the existing provisions of our UDO, this Committee has no choice but to recommend approval of this Site Plan and the associated Traffic Study. I want to emphasize too to the full Board, and to the public in attendance that NOW we have to place trust in these Owners and this Applicant to do the things that they've told us they're going to do, and to do what's right for Southport.

Mr. Fiss commented that, along with Chair Hodgkin and Mr. Mibelli, he was part of the Review Committee for the large project. He stated that this would significantly impact the CBD, and he is optimistic that the developers will be open to some of the architectural elements that would soften the façade and keep the character of the District.

A Motion was made by Vice-Chair Hewett to recommend approval of the Major Site Plan and the Traffic Impact Study to the Board of Aldermen for final approval and seconded by Mr. Sloan. ***Unanimous vote; Motion carried.***

Chair Hodgkin asked if the Developers or Representatives for the project would like to make any comments. Amy Shaffer, attorney for the owners of the property, came to the podium and stated that if the Planning Board would like to assemble Members to discuss architectural features further, the Applicants would be happy to have this conversation.

2. **Oakton Subdivision**

City Planner Mo Meehan gave an overview of the Preliminary Plat for the Major Subdivision. She said Greg Wayne, on behalf of Stanley Martin Homes, is seeking approval of the Oakton Subdivision Preliminary Plat consisting of 42 single-family home lots. The property is located between Fodale Avenue and Stuart Avenue and is adjacent to the Hammocks subdivision.

This project was first introduced as a sketch plan at the July 15, 2021, Planning Board Meeting. The Applicant submitted a preliminary plat application that was presented at the November 17, 2022 Planning Board Meeting.

A Review Committee, whose members included Vice-Chair Will Hewitt, Chris Jones, and Dick Sloan, was formed to review the proposed subdivision preliminary plat.

The Committee met with the Applicant on January 11, 2023. After a review of the subdivision requirements and design features, the discussion focused on access to the subdivision (especially from Stuart Avenue), stormwater capacity/flooding issues, and the tree and landscape plan. It was requested that the entrance to Stuart be considered to either be removed, make it a walking/multi-use trail entrance or a one-way entrance into the subdivision, aligning Oakton Drive and Mitchell Street on Fodale Avenue, and for the 100-year storm event discharge control design calculations be checked to show the capacity of the proposed stormwater retention pond. The Developer agreed to provide landscape buffering around the adjacent properties. Planner Meehan said that they have also retained as much vegetation as possible around Fodale and Stuart Avenue.

The Applicant agreed to adjust the site plan and provide stormwater calculations for a 100yr/24-hour storm event. A new site plan with a one-way entrance from Stuart Avenue and alignment to Mitchell Street was submitted, as well as the requested pond capacity calculations.

City Engineer Bob Jarvis reviewed the 100-year stormwater calculations and determined that it appears that the pond functions without topping. It is noted that detailed utility plans may be submitted after the site plan or preliminary plat approval. The City's Public Works Department must approve it prior to the construction of improvements or the issuance of building permits, or approval of the final plat.

A final Review Committee meeting was held on March 7, 2023 to review the new submittal for the Oakton preliminary plat. A representative for the Applicant met with the Committee and Staff to review the site plan and stormwater calculations. After discussions of the one-way entrance and capacity of the proposed stormwater pond, it was the recommendation of the Committee to forward the preliminary plat to the full Planning Board for approval.

Mr. Joyner questioned the stormwater assessment calculations and the flooding problems after hurricanes and heavy rain events. He asked who would be responsible if the calculations were off and a flood comes. Planner Meehan said that there are never any guarantees, but the system is designed by professional engineers to protect the community from potential flooding. The Representative for the Subdivision stated that the system would be designed better than it was previously.

Chair Hodgkin had questions about the Tree Mitigation and the Landscape Plan. She is concerned about the clear-cutting of these lots and how this will affect tree preservation, protection from flooding, and other potential issues. She stated that the intent of the Tree Ordinance is to preserve the existing trees rather than simply mitigating. The clear-cutting is inconsistent with the spirit of the Tree Ordinance. She said in the provided tree survey that there are sizable trees that could remain. She asked if there was a reason why these trees needed to be removed.

Mr. Chris Jones, who was on the Review Committee, said that the application was submitted prior to the revised Tree Ordinance, so the Committee felt like their hands were tied. He feels like a lot of the time the Developers 'poke holes' in the UDO. He recommended that the

Board review the Ordinance concerning how the trees are laid out in certain areas just to comply. He said that he feels like Developers lean heavily towards mitigation rather than preservation.

The Representative for the developers stated that they would like to preserve as many trees as possible, but they also have a great concern for stormwater management. He said that when the grading is done, this will often kill the surrounding trees.

Mr. Fiss asked Staff that if the Applicant should want to follow the latest guidelines for tree preservation, could they receive credit for the trees saved. Mr. Henley said that yes, credit could be given. Ms. Meehan said that she verified, unfortunately, the oaks in this development were all within the right of way and in the grading zone.

Chair Hodgkin suggested tabling the review until there can be more discussion with the Applicant regarding Tree Preservation. She said that the Applicants of The Haven were very receptive to revising their Tree and Landscape Plan to save more trees. Mr. Chris Jones commented that the Applicants met all the requirements for approval in the UDO and asked the Applicant if they would consider modifying their Tree Plan to help with preservation. A representative of the Developer in attendance stated that they had made other accommodations to the plan, such as changing the two-way access on Stuart Avenue to a one-way access and modifying the stormwater management. He said they would keep the Tree and Landscape Plan as submitted.

That being said, Mr. Chris Jones made a Motion to make a recommendation for approval of the Preliminary Plan for the Oakton Subdivision and forward it to the Board of Aldermen for final approval and was seconded by Vice-Chair Hewett. ***Unanimous vote, Motion carried.***

- Before moving to the next agenda item, Chair Hodgkin wanted to ask Director Henley a question regarding the 115 N. Howe Street project's Occupancy. She asked if there was anything above 200 that could be done regarding the traffic impact. Mr. Henley stated that according to the UDO, there is a section regarding what is considered a major or minor revision. He said if the occupancy goes above 200, it would be determined a major revision, and then the approval of a major revision is the same entity that approved it the first time. If that were to occur, the revision would have to return to the Planning Board for approval. He did mention that there is a lot of determination of what defines a minor or major revision. Chair Hodgkin also inquired about the fee for the application that was dated 11/2021. She said that fee and date of payment was not shown on the application that was provided in the Board packets. Mr. Henley said that he was not employed by the City at this time, but he could go back into the records and look. He said he was certain that it was paid. Chair Hodgkin said she believed it was submitted in October 2021 but did not think it was paid until August 2022. Mr. Henley said that he was not employed until October 2022 and was unsure of the date of payment. He said he is uncertain if the payment date was recorded but not on the application. He said that when Staff accepts the application, it is deemed complete.

3. **Abandonment of a Portion of an Alleyway**

Director Henley explained that a request was submitted by Gaines Brown and Tina Monk to abandon a portion of an alley that runs parallel with N. Caswell Avenue. The Review Committee met three times as well as conducting a site visit and discussed several scenarios, such as the potential abandonment of the full alley, the consideration of abandoned City infrastructure within this alley, and the possible future needs for the alley. This could also be setting a precedent for

more requests. Ultimately, the Review Committee could not reach a consensus and preferred to send the request back to the Planning Board without a recommendation.

Mr. Henley said the Planning Board is tasked with recommending whether or not to sign the Resolution of Intent to Abandon the Alleyway. If the Aldermen vote in favor of the Resolution, there will be a new process in place that will be followed within requirements of NC General Statutes, and Public Hearings will be required.

Vice-Chair Hewett said that he was undecided, but he felt like it would only be fair to survey the other alleys and determine how to proceed. He would like to canvass the properties that have alleyways and determine how other property owners feel.

Mr. Joyner suggested setting up a program where people can adopt an alleyway and help clean them up. He said the alleyways should have been maintained by the City to prevent people from building fences and encroaching. He agreed to have many more discussions with the affected residents.

Mr. Chris Jones said he favored the abandonment. He wanted to proceed with setting precedence on progressing with the issue. He said that he would like to have more public input and discussion on how to accommodate.

Chair Hodgin noted that there is not a clear precedent for this situation. She said there is a perception that people try to incorporate pieces and parts of City property into their property. She does not see any benefit to the City, only a benefit to the owner(s) of the property.

Mr. Chris Jones said he would like to have more discussions on the topic with input from the public. He reiterated that if a recommendation was made to the BOA for a Resolution of Intent, the BOA could vote yes or no. If yes, proper notices and public hearings would go out to the Public. Mr. Henley said that was correct. If they voted no, then the Request would be concluded. Mr. Jones said that he feels that, at this time, the Planning Board could not make a recommendation.

A Motion was made by Mr. Chris Jones to decline a recommendation to the Board of Aldermen for the Abandonment of a portion of Alleyway and was seconded by Mr. Joyner.

Unanimous vote; Motion carried.

4. **Public Hearing: Proposed Conditional Zoning Amendment**

Chair Hodgin requested Director Henley to give a brief update on the process thus far on the proposed CZ Amendment. Mr. Henley displayed a review-slide of the current status of the Proposal.

- January: Presentation of Idea
- February: Presentation of 1st draft language, solicitation of feedback from Planning Board and Public.
- March: 3/8: Generalized presentation on updates/question
- **3/16: Public Hearing, vote to recommend approval, denial, or table**

- When the Planning Board reaches a recommendation, the case is presented to the Aldermen for a Public Hearing. The Aldermen may vote to approve, deny, table, or remand back to Planning Board.

Vice-Chair Hewett made a Motion to Open the Public Hearing on the Proposed Conditional Zoning Amendment and was seconded by Mr. Joyner.

Unanimous vote; Motion carried.

1. Ginny Prunty, 5906 Dutchman Creek Rd, stated that she is a resident of Indigo Plantation and has some concerns with Conditional Zoning, such as the terms "Flexibility for Developers" listed as a benefit for the developers and "Smart Growth" principles for Southport. She is concerned about the potential for more growth with the undetermined amount of unused land or lots that could be combined under the "Smart Growth" language. Also, she said she does not believe there are a lot of buildable parcels left in Southport except for in the ETJ area owned by Bald Head Limited LLC. She said that with the Conditional Zoning, "Smart Growth" method, the Indigo Plantation Phase 2 project would not be applicable as it would be in another part of the county where there are no limitations. She said, "The first rule of any new development is to do no harm" so that we don't have buyer's remorse like the City did with the shoebox buildings at the Yacht Basin."

Chair Hodgin thanked Ms. Prunty for her input. She added that she has heard a lot of speculation that the proposed amendment is directed explicitly toward the Indigo Phase 2 Development. She said no application for the Indigo Phase 2 Development had been submitted. Chair Hodgin asked for clarification on Ms. Prunty's comments, asking if she was saying that the proposed text amendment would favor helping Bald Head Island & East West Partners Developers. Ms. Prunty replied that looking at the Land Use Plan and this large piece of property, it appears very applicable to the developers of Indigo Phase 2. She said that one of the benefits that Travis listed of the amendment was to benefit Smart Growth and to benefit the City. She explained that it is not just directed toward the Indigo developers; however, no other land can be used for the size of the development. She is concerned that the standards that are already in place will be reduced.

Chair Hodgin reiterated that the Board was not debating the Indigo Plantation Phase 2 project at this meeting since there has yet to be a submitted application.

2. Rich Bandera, 409 W. Burrington Ave, said there are just some things that do not go away with CZ, and there are standards that have to be met, and said there are some things that still exist and have to comply such as water, traffic, and sewer. But an HOA community does not have to comply with Conditional Zoning; they can be exempt if they choose. He said that means that the rest of us are just "chopped liver." He continues that if you count the land mass as 50% Residential and then calculate a large number of HOAs in the City, there is a close number of Residential areas that would be subject to Conditional Zoning, which he believes is letting the "guardrails down" and having less protection. He said that "Smart Growth" would only bring in more roads, sewer, and water lines when everything already exists. He asked the Board to reject the Amendment.
3. Jim Lightbourne, 316 W. West Street, said he needs help understanding the idea of Conditional Zoning. He asked where this would apply in Southport. He said there was a survey done by a company that says 78% of the Jurisdictions that use CZ have over a 25,000 population. He said he could not find any examples of the use of CZ comparable to the size of Southport. He would like to know where in Southport would this be helpful. He then said that the only location that he could think of where it could be utilized was the Indigo Plantation Phase 2 Project. Mr. Lightbourne is very concerned that the developers will be able to manipulate the density using Conditional Zoning. He feels that Conditional Zoning is not beneficial to Southport.

4. Francesca Slaughter, 6272 Cattail Crt, asked what any benefits of Conditional Zoning to Southport are. She questioned if this is such a valuable tool, why it has just come in front of the Board now, and whether this would benefit the City or the Developers. She said the City is already being overdeveloped and losing the last bit of Open Space. She stated that, to her understanding, Conditional Zoning is a tool that solves problems that the UDO cannot, and she asked what problems exist that need to be resolved by CZ. She thanked the Planning Board and Staff and asked that this amendment be rejected.
5. Deputy Clerk Tanya Shannon read a submitted statement from Karen Rife. She said that she understands that CZ could be an additional tool when reviewing a proposed project. However, she had some concerns and questions. Such as what the difference is between PUD and CZ. Does CZ favor the developer? Will CZ, which seems to favor "Smart Development," allow for an increase in density? She feels that this would cause a tremendous strain on the fragile infrastructure. She asked if the Board has made any progress with research for grants to cover transportation. She said property owners have the right to develop their land, but it should not be done to line their pockets and leave small towns holding the bag.
6. Rebecca Kelley, 5871 Dutchman Creek Rd, is concerned about the use of Conditional Zoning and what conditions constitute reasonable standards. She believes that CZ will increase spot zoning and does not just apply to one piece of property. She said all properties would be able to take advantage of the flexibility. Ms. Kelly said if Conditional Zoning is going to be considered, it should be when the CAMA Land Use Plan is being updated. She said there is no benefit to the use of Conditional Zoning and believes that this will set a negative precedent.
7. Shirley Sullivan, 5002 Seaward Crt, is not in favor of Conditional Zoning. She questioned the principle of CZ in the Residential District and the effects of the standards for new developments. She needs to understand the urgency of the proposed amendment and why this is even being considered. She stated that she believes that this will encourage additional significant developments.
8. David Rhodes, 404 Burrington Ave, said he doesn't understand why an amendment to the UDO for Conditional Zoning is being considered now and feels the City and Staff are proposing something that has no benefit to the City. He said he finds the timing is odd regarding the Indigo Phase 2 Project. He is not in favor of CZ and thinks that this amendment provides a way for developers to manipulate the UDO in their favor.

Mr. Chris Jones stated that the Planning Board is a group of volunteers who spend a lot of time reviewing the presented information and helping make decisions that are in the City's best interest. He said he appreciates City Planner Meehan and Development Services Director Henley for their dedication. He said he relies on them to help interpret the General Statutes, specifically NCGS 160D-102. Mr. Jones said he felt compelled to defend Director Henley and said he did not want people to think he was pushing any ideas or thoughts. He believes that Director Henley provided good points and views on CZ as well as the citizens. He trusted the knowledge and experience of Director Henley and stated that he should help determine the best process for moving forward.

Mr. Rhodes returned to the podium, said he meant no disrespect to the Board or Staff, and apologized if he offended anyone. He said he has lived here for seven years and hoped that the elected officials listen to the citizens of Southport and respect the people's concerns.

9. Lois Gandy, 5961 Spikerush Trail, thanked Travis, Mo, and the Board for their work and for listening to the people. She is grateful for the opportunity to speak and said people are very passionate about the City. She is concerned about CZ and said it is a “shaky road” to follow. She thinks that there are a lot of legalities involved, and she would like the Board not to make a hasty decision on CZ until people can fully understand the implications of the proposed amendment.

Chair Hodgkin stated that the Board and Staff are also passionate about the City. She said we all live here too and want the best for the City. She agreed with Mr. Chris Jones’s comments and support for the Development Services Staff. She said there has never been a better Director and Planner with the knowledge and experience we have right now. She appreciates the comments from the public. She stated that nothing is being forced on anyone and that we all listen and learn from the information every time it is provided. Chair Hodgkin noted that the Development Staff is a super team that is establishing an excellent future direction for us. She commented that there is a lot of false information on social media and that people should come to City meetings and learn the facts.

Vice-Chair Hewett reiterated that a Public Input Meeting is required before any CZ applications are even entertained. Directly Henley confirmed that after Staff receives the application and the Applicant calls a Public Input Meeting with notification to the public and Staff, the result of that Meeting will determine if the process for Conditional Zoning will continue.

Ms. Prunty returned to the podium and asked if the Planning Board would be taking a vote at this Meeting to approve, deny, or table the recommendation. Chair Hodgkin said there would be a decision on one of those options, including to table for further discussions.

Since there were no further questions or comments, Chair Hodgkin asked Director Henley if he would like to make any remarks before closing the Hearing.

Director Henley gave a brief reminder about the types of Rezoning. He explained that Conditional Zoning is a legislative zoning map amendment with site-specific conditions incorporated into the zoning map amendment. It is a change to the City’s Zoning Map. A Zoning Map Amendment is an amendment to a zoning regulation for the purpose of changing the zoning district that is applied to a specified property or properties. They both have the same process in terms of how they are reviewed and processed.

Mr. Henley gave an overview and explanation of the Draft Language for the Proposed Conditional Zoning Text Amendment. Some of the highlights are as follows:

Section 2:11 (B) APPLICATION AND CONDITIONAL ZONING REVIEW PROCEDURE

1. The application for a conditional rezoning ~~shall be accompanied by a master development plan. approval shall also be accompanied by an application to amend the zoning map (rezoning) to the conditional development zoning district. The rezoning application shall be submitted concurrently with the conditional zoning master development plan.~~ The procedure for such shall be followed as outlined in Sections 2.9 and 2.10. The approved master development plan shall provide the framework for development in the conditional zoning district. All applications must include a master development plan, a narrative that includes but is not limited to supporting information and text which specifies the use or uses intended for the property and provides an overview of the project, dimensional standards, and any development standards to be approved concurrently with the rezoning application. Development standards include but are not limited to such things as parking, landscaping, design guidelines, and buffers. Such development standards may exceed

or reduce the requirements of the Unified Development Ordinance and shall be explicitly discussed in the submitted narrative.

- a) A conditional rezoning shall not permit deviations from generally applicable standards, including: Traffic Impact Study thresholds, stormwater requirements, open space, HOA requirements, and water/wastewater requirements; except that any of these requirements may be increased or strengthened.
2. Applications and proposals for conditional zoning approval shall only be considered within a nonresidential zoning district. All proposals for a conditional zoning application must abide by the uses and the dimensional standards required by the underlying base zoning district for which the proposal is located. Conditional Rezoning proposals originating from within all districts other than CBD and BD which include residential uses shall designate no less than 20% of the total rezoning acreage as open space in accordance with Section 4.14.C.1.b.
3. No conditional zoning proposals shall be considered within the Open Space
4. Dimensional standards within the proposed Conditional Zoning District shall be designated by the Applicant. Dimensional standards within the currently designated zoning district for the subject property shall not influence proposed dimensional standards but may be considered in the review of applications on a case-by-case basis.
5. Density and proposed uses within a conditional zoning district shall be reviewed for conformance with any and all relevant adopted plans.
6. When a Conditional Rezoning proposal includes uses with specific standards, the application shall denote whether those standards are included in the proposal. The generally applicable use standards may be considered in the review of a Conditional Rezoning proposal that includes that use.
7. Conditional Rezoning requests originating from a residential zoning district and from the PUD zoning district shall not be considered unless containing at least five (5) acres. Such minimum acreage must be contiguous may be contained within one or multiple parcels. Other non-contiguous parcels may be added to a Conditional Rezoning application so long as the minimum contiguous acreage requirement is otherwise met.
An application for conditional zoning approval shall be accompanied by 12 hard copies and one (1) digital copy of a conditional zoning master development plan. Additional copies may be requested by the UDO Administrator at their discretion.

Director Henley gave a recap of Conditional Zoning:

From the Land Use Plan:

Completing the LUP [Land Use Plan], illustrating the City's vision for the future, does not ensure that its objectives will be met. The City must continuously work at accomplishing plan implementation and maintaining an effective planning program. One important concept is 'smart development.'

Traditional Zoning Districts only allow for some, if not all, principles of smart development listed in the Land Use Plan to occur.

Conditional Zoning is still a rezoning and must be requested by the property owner.

Typically, a Conditional Rezoning is only a worthwhile option if a rezoning is already desired by the property owner.

- If flexibility is all that is needed, the Variance process already exists.

- If the desired use is already allowed by the zoning district, the administrative process is far simpler.

Conditional Zoning provides the flexibility for the smart development goals to be achieved while also:

- Only allowing it through the most robust review process that exists;
- Giving full consideration to the impacts of the project; and
- Directly involving the public in the process

Director Henley said that Conditional Zoning could not be forced on anyone; the property owners must request the application. He said everything comes back to the CAMA Land Use Plan. He said it is our guide, which is required by State Statute and enforces Zoning. He said a lot of smaller governments are in the process of figuring out just how problematic that can be. He said it is a new requirement. But, not to Southport; we were required to have a CAMA Land Use Plan and have had one for the past 50 yrs. A lot of Local Governments are seeing how important it is to a Land Use Plan when you are getting challenged on your right to enforce zoning.

Directly Henley said he is very appreciative of the input that was received throughout the process. He said that at this point, as Director of Development Services and Ms. Meehan as the City Planner, are looking for direction from the Planning Board on what direction they would like to take at this time.

Mr. Fiss asked Director Henley to clarify the differences between a PUD and Conditional Zoning and the advantages of one over the other. He asked if Conditional Zoning in any way resembles the City lying down and letting the developers do whatever they want. He said, for example, if a developer wanted to come in and build a 6-story condo.

Mr. Henley said the main difference between a PUD and Conditional Zoning is the guard rails from a dimensional standpoint. You have to meet a minimum to qualify as a PUD from a lot size perspective, the setback perspective, standards for accessory structures, and maximum height limits. He said that as the language is proposed tonight, Conditional Zoning does not include that. He said the main difference is in what an Applicant can propose. The difference from a process standpoint is that Conditional Rezoning consists of the Public Input Meeting requirement and the way the language is written, which also includes the Planning Board Public Hearing as opposed to giving the Planning Board complete discretion. He said, in his opinion, it is easier to add conditions to a Conditional Rezoning versus a PUD because you don't have the minimum standards. He explained that if you have those minimum standards and someone brings a proposal that meets those standards, it will be a challenge to review the application and work on the attempt to make changes, but that would be difficult if all the requirements are met and are in accordance with the UDO. He explained the notion of a floor and how small you can cluster and a minimum acreage requirement that has to be put in preservation. This means that there is an intersection point very near the 20% requirement that is in PUD today. There is no incentive in the process for the developers to go further. Ideally, in a conservation subdivision, if you are not preserving 40-50% of your site as open space then you are not really gaining the benefits that you think you are. Mr. Henley said that Open Space becomes maximized when they are adjacent to already protected areas such as creeks or an adjacent park. He said he is not saying that a PUD is not as effective, but there are limits to the effectiveness, and a Conditional Proposal would allow for more flexibility to gain additional open space.

Mr. Fiss questioned if the maximum height requirements could be changed. Mr. Henley said if the Applicant asks for height flexibility, it will default to the Land Use Plan because it incorporates a maximum height for every future land use category. He said that the way it is written is if the Board of Aldermen find that it reasonable and in the public best interest that doesn't conform to the Land Use Plan, they can make a motion the same as they could for a traditional rezoning or PUD.

Mr. Henley said that guardrails could be drafted into the language if it was the pleasure of the Board.

Mr. Chris Jones said the two issues that stand out to him are the contiguous lots in the language and the dimensional standards. He said he thinks going from dimensional standards to essentially taking the brakes off must be considered. He thinks it might be opening up too much, that some guardrails need to be in place. He explained that if you look around on the Map and see that 2-4 lots could be combined, what is the point of the five-acre rule if people could combine two? He would like to table the discussion for further review.

Vice-Chair Hewett suggested that maybe guardrails be put into place for the density requirements and to add clarification on a percentage. He explained that if, for example, dependent on the size, clarify the percentage of units that could go in. He recommended coming up with a percentage so that accelerating over the number of units would not be allowed. And also putting some guardrails up for the height requirement.

Mr. Henley explained that as the number of units goes up, the amount of required preserved open space also goes up. Vice-Chair Hewett stated that this would help define the consistency in the language. Mr. Henley said that the only hesitation he would have is when you are looking at the percentage of increase in density and when the current zoning districts don't just have a density number, but they have a minimum lot size that makes the determination. He said there are a couple of things to do but outside of thorough engineering, a site under the bar in the proper zoning district is not necessarily precise. Vice-Chair Hewett asked if the language could be drafted to clarify the correct percentage of open space in the calculations. Mr. Henley said that could be possible.

Mr. Donnie Joyner said after listening to the discussion on Conditional Zoning and the feedback from the public, he feels that people feel like this amendment will negatively affect them. He said many people have moved to Southport from much bigger cities to escape the hustle and bustle. He stated that the community feels that the Planning Board has the final approval on these decisions when in fact it does not. He explained that the role of the Planning Board is to make recommendations to the Board of Aldermen, and the BOA does not always agree with the recommendations.

There were no further questions or comments, so A motion was made to close the Public Hearing by Mr. Joyner and seconded by Vice-Chair Hewett. ***Unanimous vote; motion carried.***

Chair Hodgin thanked the Planning Board, Staff, and the public for their participation and input. She feels like the public would like to see more information and have more discussion on Conditional Zoning and clarification on the language. She recommended calling a Special Meeting to discuss the proposal further.

A Motion was made by Mr. Joyner to table the Proposed Conditional Zoning Text Amendment and seconded by Mr. Sloan. ***Unanimous vote; motion carried.***

H. New Business

1. Prices Creek Townhomes Phase 2 Preliminary Plat.

City Planner Meehan gave an overview of the application. Cameron Smith, Applicant, on behalf of Smith Hill Group, LLC, is requesting approval of a Preliminary Plat for Phase 2 of the Prices Creek Subdivision, which consists of forty-eight (48) townhomes on 17 acres. The property is located south of Rob Gandy Boulevard SE, west of E. Leonard Street and Bella Terra senior living facility, and north of the existing phase of the Prices Creek subdivision. This project was approved and zoned Planned Unit Development (PUD) in 2004. The development approval included 3 phases, the first of which has existed for some time and is continuing to be built out, and two additional multi-family phases adjacent to Rob Gandy Boulevard. As shown on the Applicant's submitted site plan, the proposal for Phase 2 includes 12 quadruplexes for a total of 48 units.

The dimensional requirements applicable within the PUD zoning district are determined at the time of initial approval. Multi-family units within a PUD can utilize zero lot lines with a minimum peripheral setback of 25' and a maximum building height of 40'. Based on the site plan, minimum peripheral setbacks are met and labeled at 25'. The site plan states that the final building height is 30'. Building height shall be reviewed further at the time building permits are reviewed. The parcel of land has a total of 17.35 acres. The density of the proposed subdivision is 2.76 dwelling units/acre, which meets the maximum density of 6 du/acre as laid out within the Unified Development Ordinance and is consistent with the overarching approval for Prices Creek. Further, there are 6.01 acres of open space (34.6%), which exceeds the existing 20% requirement for all PUDs.

The Review Committee met for a December 20, 2022 meeting. Written comments from the members of the Technical Review Committee are provided in the Board Agenda Packets. Many of the comments received from other departments or outside agencies are of a nature that is to be addressed following the issuance of zoning approval through the course of the building plan and permit review.

Planning Staff is submitting this proposal for a Planning Board recommendation to the Board of Alderman in accordance with the standards and processes laid out within the City of Southport Unified Development Ordinance. The application has been deemed complete and is eligible to be conditionally approved as a Preliminary Plat under the existing PUD project, Prices Creek. Before a recommendation is made, the Applicant must provide more information as requested, such as:

1. Determination and provision of any necessary sewer improvements to accommodate the development at an adequate capacity level (Preliminary Plat).
2. Provision of dimensions and descriptions of required open space (Preliminary Plat).
3. Provision of a lighting plan that meets all applicable standards of the City of Southport, both within the Unified Development Ordinance and the Code of Ordinances. (Preliminary Plat will be inspected upon completion of installation before final plat).
4. Inclusion of all required certificates for Preliminary Plats in accordance with the Unified Development Ordinance (Preliminary Plat will also be reviewed at the final plat with applicable certificates required at that point).

Chair Hodgins commented that typically the Board would establish a Review Committee to review the information in detail. However, Mr. Henley said that the City Manager had requested a different way of review. Director Henley explained that in discussion with the City Manager and Attorney, it might be best to have a review and discussion as a full Board. He said the Board could table an Agenda Item for more review if necessary.

Chair Hodgins agreed and said that we have not always had the level of expertise to bring these projects to the Board with so much work having been completed before it goes to a Review Committee. She said the level of information in the packets was outstanding and thorough. She thought this was an improvement for the entire Board to sit at the table and review the projects together.

Vice-Chair Hewett agreed and thought that collaboration of ideas and thoughts would be beneficial to a better outcome to meet as a full Board.

Director Henley asked if there were any questions or concerns that the Board would like to ask the Applicant. Mr. Chris Jones asked what the future recreation amenities would be. Mr. Smith stated that he was still determining what it would look like. But, he said, it is a beautiful little ridge into the lower area. Mr. Jones said that he does not see the Tree Survey and that he is unsure if he has reviewed the updated Tree Protection ordinance, but it does appear that as many trees as possible are being preserved. Mr. Jones wanted to know if any credit would be given. Planner Meehan said there was a Tree Survey: three Live Oaks were being removed in the grading section, and no other oaks were being removed. Mr. Jones questioned the difference between stormwater pond retention and using curb and vegetated swales as stormwater treatment.

Mr. Smith explained that it has to do with the percentage of impervious coverage they can meet. Mr. Smith said they were under the percentage. He said some of the other projects that have ponds are able to have more impervious surfaces and were able to meet the low-density requirement. Mr. Jones asked if the City would take over the roads, and Mr. Smith said that he hoped so. Mr. Jones asked if Firefly Lane runs into the original Prices Creek neighborhood and is a private road now; Mr. Smith confirmed that the existing Prices Creek road are (currently) private roads. Mr. Smith said he thinks that the Cottages at Prices Creek are having discussions about turning their roads over to the City and that he feels like the roads that he is installing can be turned over to the City. Mr. Jones asked for clarification on the sewer capacity at this location. Mr. Smith said that this was an ongoing discussion. He said there is some capacity, but he is unsure if it is enough for the whole development. He explained that he had been working on this project for a long time and would take longer to review and communicate with the engineers on the best way to proceed. He will have enough capacity to service the whole neighborhood by then.

Director Henley noted that the City has been doing conductive surveys of the sewer system all over the City, including this area of the property in discussion. He said they are waiting for the results of this study that will help make more determination.

Mr. Jones questioned the turnaround section near the Future Recreation Area. Mr. Smith said that this is so that trucks can get to the area for development as well as emergency vehicles for safety.

There were no further questions or comments. Chair Hodgins requested a Motion. to table the Prices Creek Townhomes Phase 2 Preliminary Plat for further discussion. A motion was made by Mr. Joyner, seconded by Vice-Chair Hewett. ***Unanimous vote; Motion carried.***

I. Other Business:

Director Henley stated that the Board of Adjustments would have a Variance Hearing on March 28th. The Historic Preservation Commission is working on inventory and standards to send to the Planning Board for review and include in the UDO. Mr. Henley also thanked staff member ChyAnn Ketchum/PIO for filming the Planning Board Meeting for the public to livestream.

Mr. Chris Jones wanted to ask the Staff for a recommendation on updating the table of uses regarding CBD and the potential for medical marijuana and defining the districts for this type of use to be allowed in, if possible. He does not know if a committee should be created to study this or if there's a better way for the Board to get ahead of the legislation to legalize medical marijuana that is currently tracking through the NC General Assembly.

Director Henley said that there is a couple of different ways to address this issue. He said that Staff could research and look at other areas and what they are doing or planning to do. He agrees that it is better to be proactive rather than reactive. He said the Staff would bring some thoughts and ideas to the Board.

Chairman Hodgkin stated that the Member's Roster needs to be clarified by Staff to update terms.

J. Announcements

Director Henley announced the Board of Aldermen and Planning Board Joint Meeting on March 30th at 6 pm to meet and discuss the Board's roles, policies, and procedures with the new City Attorney.

Mr. Henley also mentioned the Development Services Symposium series on the City of Southport website on April 17th at 2 pm.

Without further business or comments, Chair Hodgkin asked for a Motion to Adjourn.

Mr. Joyner made a Motion to Adjourn the meeting and was seconded by Mr. Sloan.

Unanimous vote; Motion carried.

Adjournment: 9:36 P.M.

Chair, Sue Hodgkin

Deputy Clerk, Tanya Shannon

**BOARD OF ALDERMEN AND PLANNING BOARD JOINT SPECIAL MEETING MINUTES
COMMUNITY BUILDING
223 E. BAY STREET**

MARCH 30, 2023

PRESENT: Mayor Joseph P. Hatem, Mayor Pro-tem Karen Mosteller, John Allen, Robert Carroll, Lowe Davis, Tom Lombardi, and Rich Alt

PLANNING BOARD PRESENT: Chair Sue Hodgins, Vice Chair Will Hewett, Fred Fiss, Scott Jones, Dick Sloan, Chris Jones

STAFF PRESENT:

Bonnie Therrien, City Manager

Travis Henley, Development Services Director

Randy Jones, Community Relations Director

ChyAnn Ketchum, Communications

Dorothy Dutton, Assistant City Manager/City Clerk

Maureen Meehan, City Planner

OTHERS PRESENT:

Brady Herman, City Attorney

Jeanne Brown Busch

Several other concerned citizens

Tish Hatem

Jason Robbins

A) Call to Order

Mayor Hatem called the special workshop to order at 6:03 p.m. He thanked the Board of Aldermen and the Planning Board for attending. He also thanked City staff and those watching from home.

B) Invocation

Alderman Lowe Davis provided the invocation.

C) Pledge of Allegiance

Mayor Hatem led everyone in the Pledge of Allegiance.

D) Mayor Pro-tem Mosteller made a motion to approve the agenda. Alderman Allen seconded the motion. All ayes. Motion carried. Mayor Hatem stated that the City Attorney prepared the material for this workshop to benefit the Aldermen and the Planning Board. Mayor Hatem thanked Planning Board Chair Sue Hodgins and the Planning Board for working through the many developments. The City has two talented Planners, a seasoned Planning Board, and two skilled Planning Board liaisons.

E) Agenda

1. City Attorney Brady Herman introduced himself. It is said that it is a municipal attorney's job to educate and advise municipal boards in statutory decision-making, advisory, and legislative capacities. The Brough Law Firm has provided training for most of the Boards they represent.

Attorney Herman began by stating that North Carolina is a Dillon's Rule state, which means that governments only have the authority that is expressly given to us. Chapter 160D brought all of the zoning statutes together. There are many resources available. One of the best resources is the UNC School of Government. Planning Boards are required by statute. They are mentioned primarily in 160D-301, 160D-501, and 160D-604.

There are four types of local government land use decisions. The Board of Aldermen makes legislative decisions which are typically things like rezonings and text amendments. The Board of Adjustment

hears quasi-judicial matters. These decisions are discussed in a more formal hearing, similar to a court hearing. The Board of Adjustment is the Judge and the jury. Administrative decisions occur by applying objective facts to pre-determined standards in the Unified Development Ordinance. These decisions are often zoning compliance permits, building permits, and minor site plan approvals. Advisory decisions are non-binding recommendations given by the City Board. This decision is a recommendation the Planning Board provides to the Board of Aldermen. Mr. Herman showed the Review Procedures Chart, which is part of the City's UDO.

Attorney Herman stated that City Staff are the subject matter experts. Staff speaks to the applicants and advises the applicant on how to help their project confirm to the UDO. Staff also writes the reports and summaries for all the Boards. The City's UDO includes a statement that Technical Review Committee meetings may occur at the discretion of the Zoning Administrator. Travis Henley spoke up to say that he fully supports scheduling a "TRC" meeting whenever it seems there might be one needed. He includes all required offices, agencies, and departments. The Planning Board makes recommendations on rezoning and UDO amendments and comprehensive plans. They also recommend major subdivisions and preliminary plats and make administrative decisions on major site plan applications. They may also prepare and recommend ordinance amendments to the Board of Aldermen to align with the Land Use Plan. The Planning Board is not statutorily required to hold public hearings, but they can at their discretion. The Planning Board is given the authority to form smaller sub-committees to further review projects and plans. The sub-committees may consist of no more than three Planning Board members and should be used minimally.

The Board of Aldermen must adopt a written statement that addresses the consistency of the proposed zoning decision with the City's Land Use Plan. Consistency Statements are not subject to judicial review. All members are required to vote unless there is a conflict of interest. Dismissal and recusal should occur at the beginning of the meeting or right before that item. There are Rules of Conduct and ethical considerations for all Boards.

The Open Meetings Laws are far-reaching and address Board members discussing City business with other members. There should be no group site visits unless it is advertised. Any time the Board engages in City business, the conversations are subject to the Open Meetings Laws. Mr. Herman advised the two Boards to avoid private meetings to discuss business. The Public Records Laws are more about content, not the form. Alderman Alt asked whether Board members can ask developers to do things and conduct studies that the UDO does not require. Attorney Herman said they could ask for those things, but the Board should not hold it against the developer. Aesthetics are more of a preference than an objective statement. In other words, the Board should not deny a permit because they don't like the siding of the building.

Mr. Herman fielded other questions about alternates and their participation. Previously, Staff requested that Alternate members sit with some separation between them and the full members to help clarify who is eligible to make motions and vote. The Planning Board Chair stated that the Alternates are members of the Planning Board, too, and she wants them to be able to comment. Attorney Herman stated there was no harm in them participating, but the Alternates sitting at one end of the tables would provide enough separation. Chair Hodgkin also asked for advice about responding to incorrect information that gets published. City Manager Therrien offered to act as a buffer between the Board and any media. Attorney Herman stated that was not his area of expertise, but he would happily look into it further. There were no other questions from the Planning Board.

F) Mayor's Comments

Mayor Hatem stated that it was an excellent meeting. He explained that it was Doctor's Day, so he was wearing a red carnation. He thanked all the doctors for all they do.

G) Board Comments

Mayor Pro-tem Mosteller thanked Attorney Herman and City Staff for arranging the training.

Alderman Lombardi thanked everyone and wished Mayor Hatem a Happy Doctor's Day. Alderman Davis stated that she learned a lot and thanked Mr. Herman. Alderman Alt suggested holding sessions like this more often. Alderman Carroll thanked Staff and suggested that sessions like this be a part of onboarding for new Board members. Alderman Allen said it was a great presentation.

H) Adjourn

Mayor Pro-tem Mosteller motioned to adjourn the meeting, which Alderman Carroll seconded. All ayes. Motion carried. Mayor Hatem adjourned the meeting at 7:29 p.m.

Sue Hodgin
Chair, Southport Planning Board

Dorothy Dutton
Assistant City Manager/City Clerk

STAFF REPORT

THE SHOPPES AT DUTCHMAN VILLAGE

MAJOR SITE PLAN APPLICATION

APPLICATION SUMMARY	
Presentation Date	January 19, 2023 April 20, 2023 Planning and Zoning Board
Applicant	CFSC Land LLC
Property Owner	J S South LLC
Parcel ID:	2210000209 & 2210000210
Project Acreage	2.21 acres
Parcel Acreage	2.21 acres
Zoning District	HC, Highway Commercial

SPECIAL USE PERMIT PROPOSAL
CFSC Land LLC, applicant, on behalf of J S South LLC, owner, is requesting approval of a Major Site Plan for the construction and operation of a non-residential mixed use building in the HC, Highway Commercial zoning district. Proposed uses include office, restaurant, and retail.
LOCATION
The subject property is located on the northeast corner of J Swain Boulevard and Eason Street, approximately 450 feet north of the intersection of J Swain Boulevard and NC HWY 211 and directly south of the Rivermist community. The subject property is located within the incorporated city limits of the City of Southport and can be further identified by Brunswick County Parcel IDs 2210000209 and 2210000210 (note that the two subject properties are in the process of being combined).

REVIEW PROCESS AND CONTEXT

A Major Site Plan is considered an administrative approval. Based on the proposal submitted by the applicant, this proposal is eligible to be considered through the Major Site Plan process based on the type of uses proposed, all of which are permitted within the HC, Highway Commercial zoning district. As such, per Section 2.7.B of the City of Southport Unified Development Ordinance, should all ordinance requirements be found to be met, the City is under a statutory obligation to approve the project as it is presented.

The revised site plan is provided as an appendix to this staff report, as is a response sheet from the applicant in response to Staff comments. As presented, the case appears to meet all applicable criteria of the Unified Development Ordinance. Approval and revocation procedures common across all development applications, and those specific to Major Site Plans, are found in Sections 2.6 and 2.7.B of the City of Southport Unified Development Ordinance, respectively.

Existing Land Use and Zoning in Area

While this information presented below is not applicable to the proposal's conformance to the requirements outlined in the Unified Development Ordinance, the following is provided to establish context to the proposal. In some cases, adjacent zoning and/or land uses do inform the specific standards applicable to this proposal. Such instances are noted within each relevant section of this report.

The primary land uses in the area immediately surrounding the subject parcels are non-residential in nature. Commercial uses are currently in operation to the south across Eason Street (fronting on NC HWY 211) as well as directly across J Swain Boulevard to the west and points further west, with projects currently under construction also taking place in this area. Additional non-residential uses are present to the south of NC HWY 211, both within and outside of the City of Southport's incorporated limits and planning and zoning jurisdiction. The nearest residential uses are found to the north of the subject properties within the Rivermist community.

CHARACTERISTICS OF THE SURROUNDING AREA		
	LAND USE	ZONING
North	Undeveloped, Residential (Rivermist)	Highway Commercial (HC), Planned Unit Development (PUD, Rivermist)
East	Undeveloped, Residential (along Doshier Cutoff)	Highway Commercial (HC), Brunswick County Jurisdiction
South	Non-Residential, Low Density Residential south of NC HWY 211	Highway Commercial (HC), Brunswick County Jurisdiction
West	Non-Residential	Highway Commercial (HC)

DEVELOPMENT PROPOSAL

The applicant, CFSC Land LLC, is seeking to obtain Major Site Plan approval for the construction and operation of a non-residential mixed use building at the northeast corner of J Swain Boulevard and Eason Street.

As shown on the applicant's submitted site plan, which may be found as an attachment to this report, the proposal includes a three-story non-residential building with restaurant and retail

uses on the ground floor and office uses on the two remaining floors. The building is primarily located on the southern parcel (ID 2210000209), with parking areas to the south, west, and north of the proposed building and a connecting aisle/drive-thru lane along the east (rear) of the building. The subject parcels are zoned HC, Highway Commercial and all uses proposed within the building are permitted by-right in that zoning district. The applicant's most recent iteration of the submitted site plan is provided as an attachment to this report.

Dimensional Requirements

The dimensional requirements applicable within the HC, Highway Commercial zoning district are as follows: front setback of 25 feet, rear setback of 20 feet, side setback of 8 feet, and a maximum building height of 40 feet. As noted in the attached Staff comments, there are places on the submitted site plan denoted as side setbacks where they should be listed as rear setbacks. However, based on the site plan and submitted scale, the proposal appears to meet the dimensional requirements, with the caveat that the setback notes shall be updated prior to final zoning approval.

As noted on the attached site plan, the building height is noted as 40 feet, with an additional 4 feet for elevator support structures, mechanical equipment, and screening. As proposed, the standards of the Highway Commercial zoning district are met, albeit at the maximum allowed within it. Building height shall be reviewed again in the context of the building permit submittal, and approval of the Major Site Plan as presented provides no authority to exceed the Highway Commercial zoning district's maximum height allowance.

Transportation and Street Access

Access to the site is proposed from two (2) access points along the southern and western boundaries of the subject properties, with one access point provided on each of J Swain Boulevard and Eason Street, respectively, with access to NC HWY 211 provided by J Swain Boulevard at a signal-controlled intersection approximately 450 feet south of the subject properties. Both J Swain Boulevard and Eason Street are owned and maintained by the City of Southport. Both driveways shall be designed and installed in accordance with Section 3.12.B of the City of Southport Unified Development Ordinance and shall be inspected by a representative of Public Services upon completion of the driveway for conformance to those and all other applicable standards.

Traffic

Traffic generation calculations were not provided on the first submitted site plan, though conversations with the applicant revealed that the proposal would generate roughly 1,500 daily trips as it is currently proposed. Per Section 3.13 of the Unified Development Ordinance, a Traffic Impact Study shall be performed if the proposal generates more than 500 daily trips utilizing the ITE 11th Edition Traffic Generation Manual. A Traffic Impact Analysis was performed for the Dutchman Village project in 2000, with a build out year of 2003.

The applicant team completed their required Traffic Impact Study and submitted it to the City for its consideration in early March, 2023. The study established a build-out year of 2024 and examined current and 2024 no-build conditions, as well as the impacts of the project upon the study area, which was identified as the J. Swain Boulevard corridor from its intersection with NC 211 (Southport Supply Road) to the existing median cut along J. Swain Boulevard at the State Employee's Credit Union, as well as the site driveway located along Eason Street. In conjunction within NCDOT, the study takes into account the under construction NC 211 widening project in its analysis and recommendations.

As shown in the attached Traffic Impact Study, the only intersection operating at a level of service of C or lower within the study area under the build conditions is the J. Swain/NC 211 intersection, specifically only northbound and southbound movements (across NC 211), which operate at level of service D. However, the study found that under current and future no-build conditions, the same movements also operate at level of service D, indicating that delays at that intersection are existing and not as a result of the subject project. All other movements within the study area operate at a level of service B or better under the build conditions.

The traffic study concludes that recommendations be limited to signal timing modifications at the J. Swain Boulevard/NC 211 intersection to mitigate the impacts of the proposed project and optimize the function of that intersection. As presented, the Study appears to meet all applicable standards of Section 3.13 of the Unified Development Ordinance and is presented as an appendix to this staff report (note that the Traffic Study's appendix is also attached).

Parking

All parking facilities shall be in accordance with Section 3.14 of the City of Southport Unified Development Ordinance. Based upon Staff's review of the proposal, the project is found to be in conformance with Section 3.14.B 'Parking Lot Design,' though some of these requirements shall require verification upon completion of construction and prior to issuance of a Certificate of Occupancy.

Based upon the standards laid out in Section 3.14.D and Table 3.4, minimum parking requirements are based upon the square footage of the various uses proposed. Minimum parking requirements for this proposal are the following, as also shown in Site Data Note #10 on page C200 of the submitted site plan:

Proposed Use	Square Footage of Use	Parking Required Per UDO	Parking Required for Proposal
General Office	19,500	1 space per 300 SF	65 spaces
Retail	5,200	1 space per 200 SF	26 spaces
Restaurant	4,550	1 space per 100 SF	46 spaces
Total Required			137 spaces

As shown on the submitted site plan, 138 parking spaces are provided including 124 standard spaces, 9 compact car spaces, and 5 handicap spaces. In terms of the parking provided, Staff finds the proposal to be in conformance with the City of Southport Unified Development Ordinance.

Pedestrian Facilities

Per Section 3.15 of the City of Southport Unified Development Ordinance, projects of this type are required to provide pedestrian facilities in certain circumstances. Per Section 3.15.B, sidewalks shall be installed along the right-of-way of J Swain Boulevard and Eason Street adjacent to the subject properties. Additionally, per Section 3.15.G, pedestrian walkways shall be provided to any pedestrian access point or any parking space that is more than 50 feet from the building entrance or principal on-site destination. On the submitted site plan, sidewalks along the rights-of-way are not shown, and there are numerous parking spaces exceeding 50 feet in distance from building entrances with no demonstrated pedestrian walkways between them. These items were noted as deficiencies in the originally submitted site plan, though have been revised and now demonstrate compliance.

Lighting

Per statements made by the applicant at the Technical Review Committee meeting, a lighting plan is forthcoming. A lighting plan meeting the standards of Section 3.16 of the City of Southport Unified Development Ordinance shall be required prior to obtaining final zoning approval.

Landscaping, Buffers, and Tree Protection/Preservation

All landscaping and buffers proposed on-site shall be in conformance with Section 3.17 of the City of Southport Unified Development Ordinance, and such requirements are applicable to this project per the applicability standards laid out in Section 3.17.B. Furthermore, tree protection and landscape preservation requirements are applicable as well per Section 3.18.

Street Yards and Parking Facility Landscaping

All street yards and parking facility landscaping shall be in accordance with Sections 3.17.F and 3.17.G. Staff has found that based on dimensional requirements with regard to the location and

amount of required canopy and understory trees as well as shrubs, the submitted site plan is in conformance with the applicable standards. Staff had noted inconsistencies between the submitted site plan and the listed planting options as laid out in Tables 3.5, 3.6, and 3.7, and have requested that the applicant correct those inconsistencies, and all required landscaping now meets the applicable standards of the Ordinance.

Bufferyards

Per Section 3.17.1 and Table 3.8, bufferyards are not required in the Highway Commercial zoning district along property lines adjacent to parcels also zoned Highway Commercial, which is the case for every adjacent parcel to the subject site.

Tree Protection and Landscape Preservation

As confirmed by aerial imagery and site visits, the subject properties are currently cleared of vegetation with the exception of trees planted along the edge of the subject property adjacent to the J Swain Boulevard and Eason Street rights-of-way at their intersection. Other trees along each respective right-of-way appear to be within said rights-of-way based upon site visits and the submitted site plan. The proposal shall be required to provide landscaping and buffers in accordance with the requirements discussed in the previous section. It does not appear that the trees currently planted on site are large enough to be considered regulated trees, and the applicant proposes to remove and replace those trees with new trees that complement the proposed landscaping for the rest of the site.

Signage

Locations for roadway signs are designated on the submitted site plan. However, those locations may change in the future depending upon various factors. Approval of a Major Site Plan does not also convey sign permit approval. All future signs associated with the project shall require separate review and approval by Planning Staff based on conformance with Section 3.19 of the City of Southport Unified Development Ordinance.

Utilities

Water service shall be provided by Brunswick County, while sewer service shall be provided by the City of Southport. Electrical service shall be provided by the City of Southport.

Stormwater

All stormwater infrastructure shall be in accordance with Article 6 of the City of Southport Unified Development Ordinance. Stormwater management infrastructure was reviewed by the City's contract engineer, and comments were provided to the applicant and revisions made by the applicant based on those comments. As presented, the plans appear to meet all applicable standards, but shall be reviewed for full conformance prior to construction beginning on the project. The entirety of the surrounding area is covered by a previously existing and valid stormwater permit issued by the North Carolina Department of Environmental Quality as well.

ENVIRONMENTAL CONCERNS	
Special Flood Hazard Areas	The subject property does appear to contain Special Flood Hazard Areas ¹ .
Areas of Environmental Concern	The subject property does not contain any Areas of Environmental Concern (AEC) ² .

¹ According to the effective regulatory and preliminary Flood Insurance Rate Maps NC Flood Risk Information System (NC FRIS)

² According to the North Carolina Department of Environmental Quality (NCDEQ)

TECHNICAL REVIEW COMMITTEE

City of Southport Planning Staff and the applicant presented this proposal to the Technical Review Committee at their December 20, 2022 meeting. Written comments from the members of the Technical Review Committee are provided as attachments to this Report. For the purposes of clarity and transparency, many of the comments received from other Departments or outside agencies are of a nature that they are to be addressed following the issuance of zoning approval through the course of building plan and permit review and issuance. Additionally, members of the Technical Review Committee have remained involved as revisions to the plans have been presented.

RECOMMENDATION

Planning Staff are submitting this proposal for Planning Board disposition in accordance with the standards and processes laid out within the City of Southport Unified Development Ordinance. The application was deemed complete by Planning Staff and is eligible to be approved by the Planning Board in an administrative or “by-right” process upon verification that all standards are met. As noted in previous reports, there were deficiencies with the original submittal. Through the course of Staff and the Planning Board subcommittee’s reviews of the project, all deficiencies have been corrected. As such, Staff and the Subcommittee both recommend approval of the request as outlined in this report. Note that due to the project requiring a Traffic Impact Study, the Planning Board is also the approval authority for the Study, which has also been found to meet all applicable standards of the Ordinance.

Attachments:

1. Application
2. Final Site Plans
3. Final Applicant Response Letter
4. Traffic Impact Study
5. Traffic Impact Study Appendix



Major Site Plan

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. _____ **FEE: \$** _____ **Date Received:** _____

Applicant's Name: CFSC Land, LLC

Mailing Address: 143 Poole Rd **City:** Belville

State: NC **Zip Code:** 28451 **Phone:** (910) 431-6586

Email: evans@capefearseafoodcompany.com

Location of the property: 5020 J Swain Blvd, Southport, NC 28461

Parcel No.: 2210000209 & 2210000210 **Overall Acreage:** 1.11 & 1.10 (2.21 Combined) **Number of lots:** 2 (note: recombination is planned)

Property Owner's Name: J S South, LLC

Address of Owner: 1201 Glen Meade Rd **Phone:** N/A

City: Wilmington **State:** NC **Zip Code:** 28401

Email: N/A

Engineer: Kyle Herring, PE (Alfred Benesch & Co.) **License #:** 048839

Mailing Address: 2018 Eastwood Rd, Ste.111 **City:** Wilmington

State: NC **Zip Code:** 28403

Phone: (910) 473-7836 **Email:** kherring@benesch.com

Major Site Plan Definition

Per Section 2.7.B of the UDO, Purpose. A major site plan is intended for more intense development proposals requiring greater discretion of the city.

The following development types must submit a major site plan as specified in this ordinance:

- a) Residential development of four (4) or more dwelling units on a lot.
- b) Nonresidential development whereby 10,000 square feet or more of impervious surfaces are proposed.
- c) All other development not subject to minor site plan approval.

Pre-Application Meetings: Applicants may request a pre-application meeting with the UDO Administrator prior to submission of an application to discuss procedural and substantive matters related to the proposed application.

Required Application Materials for Submittal:

- One (1) digital copy and 12 hard copies of the major site plan shall be submitted with all such applications.
- The major site plan shall be prepared by and sealed by a licensed land surveyor, landscape architect, or engineer registered to practice in the state of North

Major site plans shall include all required information as provided in Appendix A: Submission Requirements of the UDO.



Signature (Owner or Authorized Applicant)

10/18/22

Date

APPROVED BY:

UDO Administrator

Date

The Shoppes at Dutchman Villages

Southport, NC

FINAL DESIGN - NOT FOR CONSTRUCTION

Project Team

Owner/Applicant

CFSC LAND, LLC
176 HAMMOCK WATCH WAY
HAMPSTEAD, NC 28443
(910) 431-6586

Landscape Architect & Civil Engineer



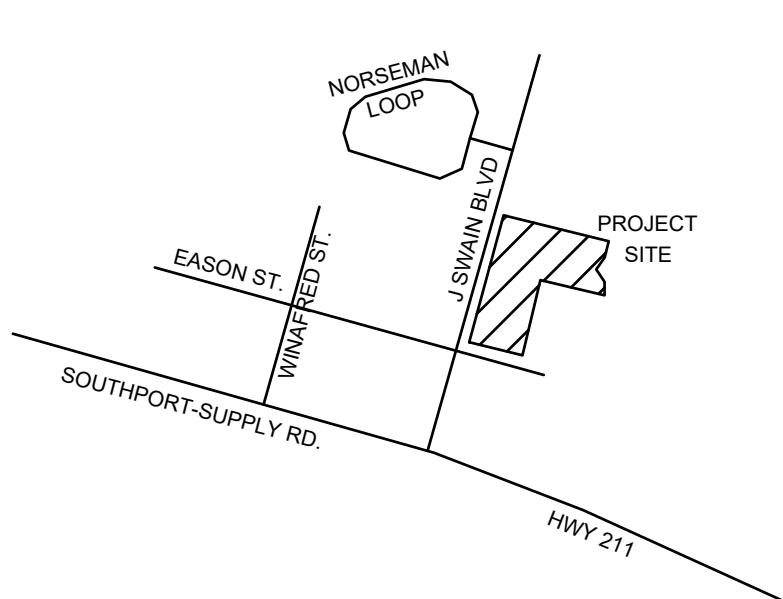
Alfred Benesch & Company
2018 Eastwood Road, Suite 111
Wilmington, NC 28403
www.benesch.com
P 910.500.7081

Corp. NC License: F-1320

Index of Drawings

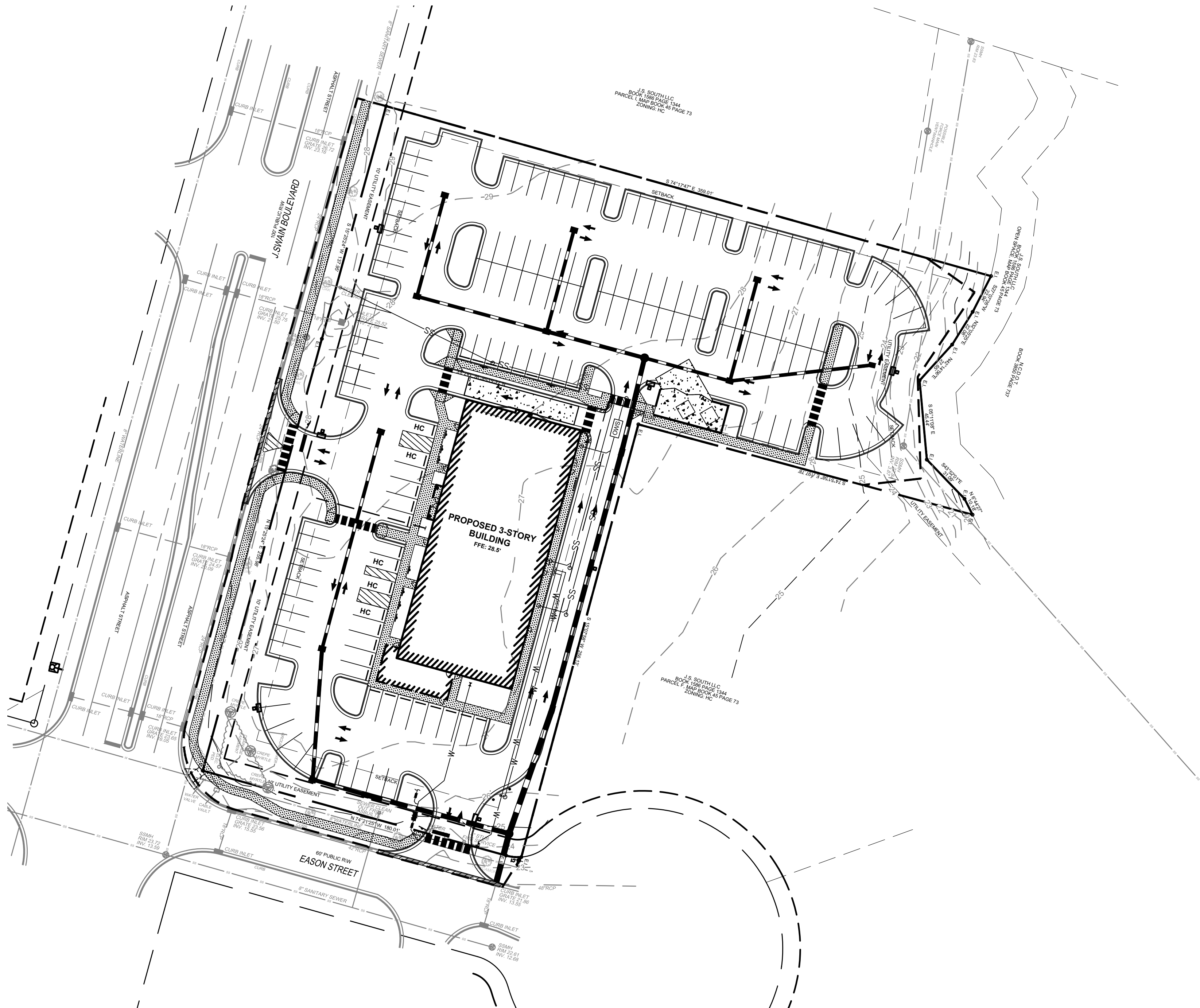
Sheet #	Description	Rev #	Date	Seal Date
C001	COVER SHEET	1	03-10-2023	
C100	EXISTING CONDITIONS AND DEMOLITION PLAN	1	03-10-2023	
C200	SITE PLAN	1	03-10-2023	
C300	STORMDRAIN PLAN	1	03-10-2023	
C301	GRADING PLAN	1	03-10-2023	
C302	EROSION CONTROL PLAN	1	03-10-2023	
C400	UTILITY PLAN	1	03-10-2023	
C500	EROSION CONTROL DETAILS	1	03-10-2023	
C501	SITE DETAILS	1	03-10-2023	
C502	UTILITY DETAILS	1	03-10-2023	
C503	STORMDRAIN DETAILS	1	03-10-2023	
C600	LANDSCAPE PLAN	1	03-10-2023	

Vicinity Map



LOCATION MAP
NOT TO SCALE

Site Overview Map



Seals:



Corp. NC License: F-1320

The Shoppes at Dutchman Village

5020 J. Swain Boulevard
Southport, North Carolina

Project No: 17.000530
Date: 01.10.2023

Revisions:
Revised per Fire Comments and Internal QC Review 01.16.23
Revised Per City Comments 03.10.23

FINAL DESIGN
NOT FOR
CONSTRUCTION

Sheet Title:

COVER

Sheet No:
C001

- SITE DATA:
- PARCEL ID:
PARCEL G - 2210000209
PARCEL H - 2210000210
 - PROJECT ADDRESS:
5020 J. SWAIN BLVD
SOUTHPORT, NC
 - OWNER:
CFSC LAND, LLC
147 HAMMOCKS WATCH WAY
HAMPSTEAD, NC 28443
 - LAND USE:
CURRENT LAND USE - VACANT
PROPOSED LAND USE - COMMERCIAL
LAND USE PER CITY
FUTURE LAND USE PLAN - HEAVY COMMERCIAL
 - ZONING - SOUTHPORT - HC - HIGHWAY COMMERCIAL
 - PARCEL ACREAGE:
PARCEL G - 1.11 AC
PARCEL H - 1.10 AC
PROPOSED RECOMBINED LOT ACREAGE - 2.21 AC
 - BUILDING SETBACKS:
FRONT: 25 FEET
SIDE: 8 FEET
REAR: 20 FEET
 - BUILDING SIZE:
9,750 SF FOOTPRINT
29,250 SF GROSS
 - BUILDING HEIGHT: 40 MAX

SURVEY AND EXISTING CONDITIONS INFORMATION PROVIDED ON THIS SHEET IS BASED ON SURVEY BY HANOVER DESIGN SERVICES, PA NAMED DUTCHMAN VILLAGE - PARCEL G & H, DATED OCTOBER 14TH, 2022.

- NOTES
- AREA COMPUTED BY COORDINATE METHOD
 - ALL DISTANCES ARE HORIZONTAL
 - FOR REFERENCE SEE BOOK 1586 PAGE 1344, MAP BOOK 45 PAGE 73
 - SURVEYED OCTOBER 2022
 - NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.
 - NO KNOW OR OBSERVED CHANGES IN THE STREET RIGHT OF WAY LINE.
 - THIS PROPERTY IS LOCATED IN ZONE X (MINIMAL FLOOD RISK) ACCORDING TO FIRM 3720200700K, EFFECTIVE DATE 8/26/2018

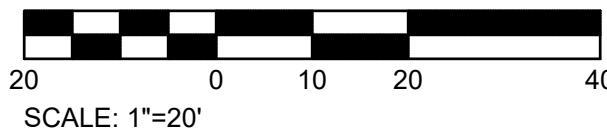
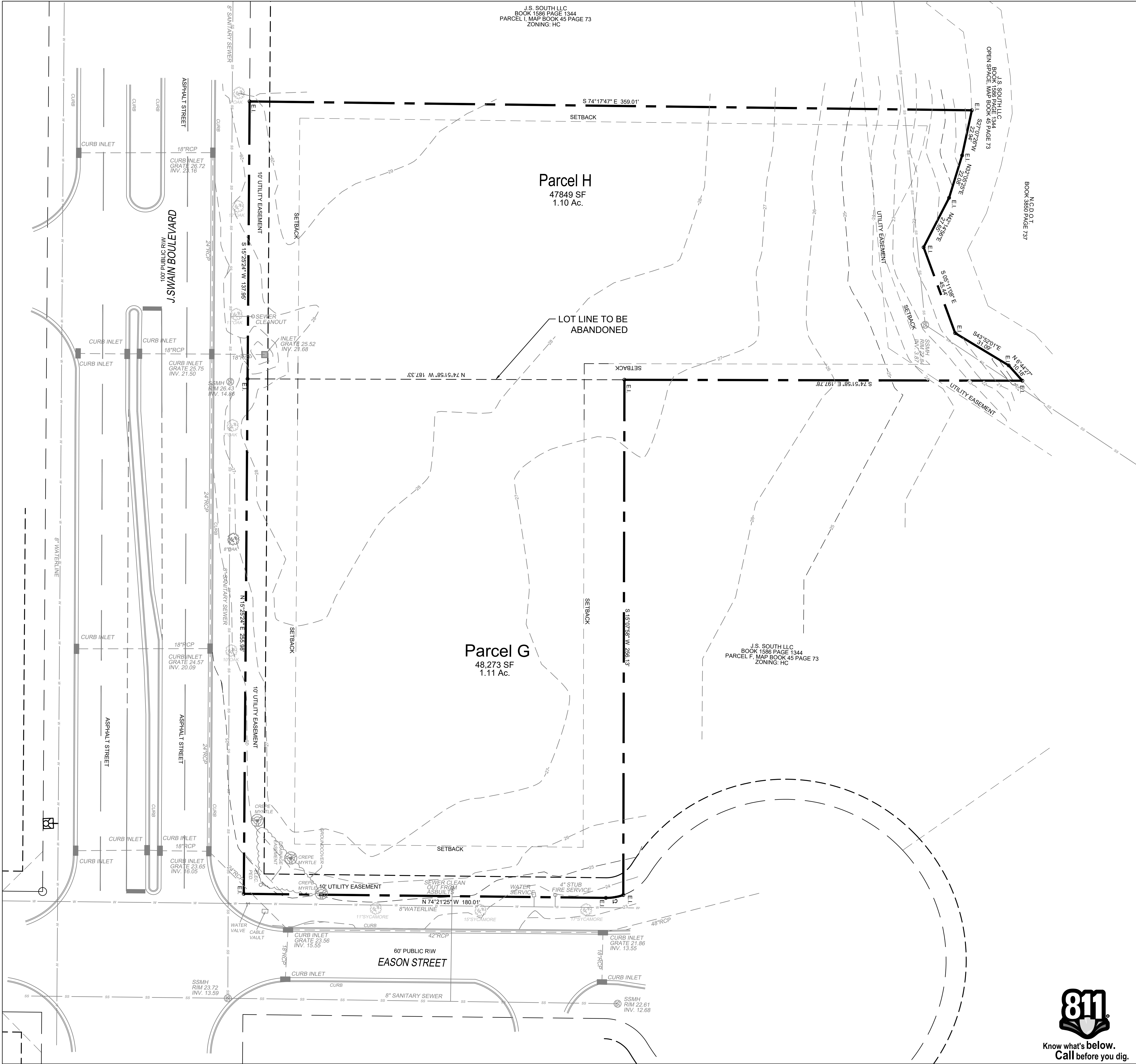
- LEGEND
- PROPERTY LINE
CENTERLINE
COMPUTED PROPERTY LINE OR EASEMENT
E.I. = EXISTING IRON
INV. = INVERT

SITE DATA					
CURRENT ZONING - SOUTHPORT HC ZONING SETBACK AND HEIGHT REQUIREMENT (TAKEN FROM ARTICLE 17 DEVELOPMENT ORDINANCE)					
FRONT YARD - 35 FT.					
REAR YARD - 35 FT.					
IF REAR YARD ADJUTS RESIDENTIAL - 25 FT.					
SIDE YARD - 8 FT.					
HEIGHT - 40 FT.					

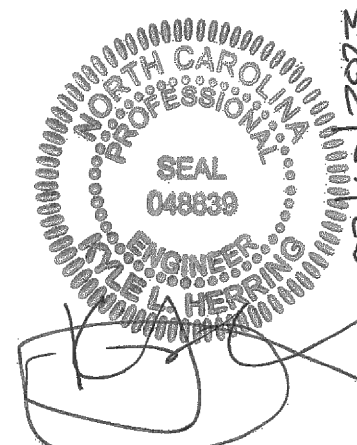
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C1	25.00'	8.79'	8.74'	S 84°25'37" E	20°08'24"

LEGEND

- | | |
|-------------------------|---|
| EXISTING SIGN | EXISTING CURB AND GUTTER |
| PROPOSED SIGN | PROPOSED CURB AND GUTTER |
| EXISTING IRON PIN | PROPOSED FLUSH CURB AND GUTTER |
| EXISTING LIGHT POLE | PROPERTY LINE |
| EXISTING UTILITY POLE | EXISTING EASEMENT |
| RIGHT-OF-WAY | EXISTING FENCE |
| ACCESSIBLE SPACE | PROPOSED FENCE |
| EXISTING TREE TO REMAIN | EXISTING OVERHEAD UTILITY LINE |
| EXISTING FIRE HYDRANT | EXISTING ASPHALT PAVEMENT |
| # OF PARKING SPACES | PROPOSED STANDARD DUTY ASPHALT PAVEMENT |
| CENTERLINE | PROPOSED HEAVY DUTY ASPHALT PAVEMENT |
| ACCESSIBLE RAMP | PROPOSED VEHICULAR CONCRETE PAVEMENT |
| PROPOSED BOLLARD | |



Seals:



Corp. NC License: F-1320

The Shoppes at Dutchman Village

5020 J. Swain Boulevard
Southport, North Carolina

Project No: 17.000530

Date: 01.10.2023

Revisions:

- | | |
|--|----------|
| Revised per Fire Comments and Internal QC Review | 01.16.23 |
| Revised Per City Comments | 03.10.23 |

FINAL DESIGN
NOT FOR
CONSTRUCTION

Sheet Title:

EXISTING
CONDITIONS AND
DEMOLITION
PLAN

Sheet No:

C100

SITE DATA:

1. PARCEL ID:
PARCEL G-H - 2210000209

2. PROJECT ADDRESS:
5020 J. SWAIN BLVD
SOUTHPORT, NC

3. PROPERTY DEED AND PLAT
DB: 4945 PG: 0402
MB: 143 PG: 54

4. OWNER:
CFSC LAND, LLC
147 HAMMOCKS WATCH WAY
HAMPSTEAD, NC 28443

5. LAND USE:
CURRENT LAND USE - VACANT
PROPOSED LAND USE - COMMERCIAL
LAND USE PER CITY
FUTURE LAND USE PLAN - HEAVY COMMERCIAL

6. ZONING - SOUTHPORT - HC - HIGHWAY COMMERCIAL

7. PARCEL ACREAGE:
PARCEL G-H - 2.21 AC

8. BUILDING SETBACKS:
FRONT: 25 FEET
SIDE: 8 FEET
REAR: 20 FEET

9. BUILDING SIZE:
9,750 SF FOOTPRINT
29,250 SF GROSS

10. BUILDING HEIGHT: 40' TO TOP OF STRUCTURE
(+ 4' FOR ELEVATOR SUPPORT STRUCTURES, MECHANICAL EQUIPMENT AND SCREENING)

11. PARKING REQUIREMENTS (PER UDO):

GENERAL OFFICE
OFFICE = 17,150 SF
MINIMUM 58 SPACES

1 SPACE / 300 SF

RETAIL (MINOR)
RETAIL SF = 3,280 SF
MINIMUM 17 SPACES

1 SPACE / 200 SF

RESTAURANT
(FULL SERVICE & FAST-FOOD)
RESTAURANT SF = 6,360 SF
MINIMUM 64 SPACES

1 SPACE / 100 SF

TOTAL PARKING REQUIRED:
139 SPACES (INCLUDING HANDICAP)

TOTAL PARKING PROVIDED:
140 SPACES (126 STANDARD, 9 COMPACT, AND 5 HANDICAP)

1. DIMENSIONS AND COORDINATE POINTS ARE TO FACE OF CURB, EDGE OF PAVEMENT, OR CORNER OF BUILDING UNLESS OTHERWISE NOTED.

2. EXISTING CONDITION SHOWN ARE BASED ON INFORMATION PROVIDED BY OTHERS. SEE SHEET C100 FOR ADDITIONAL INFORMATION.

3. ALL IMPROVEMENTS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH STATE AND LOCAL STANDARDS.

4. ANY DISCREPANCIES FOUND IN THE FIELD SHALL BE CALLED TO THE ATTENTION OF THE OWNER OR ENGINEER PRIOR TO PROCEEDING WITH WORK.

5. PRIOR TO BEGINNING CONSTRUCTION, UNLESS OTHERWISE PROVIDED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS (BOTH SITE AND BUILDING RELATED) INCLUDING BUT NOT LIMITED TO REGULATORY FEES, LICENSES, AND INSPECTIONS NECESSARY FOR PROPER EXECUTION AND COMPLETION OF THE WORK.

6. THE GENERAL CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES, AND RIGHT-OF-WAYS, PUBLIC AND PRIVATE, PRIOR TO WORKING IN THESE AREAS.

7. GENERAL CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND THE PUBLIC SHALL BE PROTECTED FROM INJURY.

8. USE CAUTION WHEN REPRODUCING COPIES OF THE CONSTRUCTION DRAWINGS. COPIES ARE SUBJECT TO DISTORTION AND INACCURACY IN THE SCALE OF DRAWINGS. VERIFY ANY DISCREPANCIES WITH THE DESIGNER OF RECORD.

9. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION AS AMENDED.

10. ALL PAVEMENT MARKINGS SHALL BE FOUR (4) INCHES WIDE UNLESS INDICATED OTHERWISE ON THE DRAWINGS.

11. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS AS SHOWN ON THE PLANS.

12. CONTRACTOR SHALL SAW-CUT EXISTING ASPHALT PAVEMENT AREAS TO TIE IN SMOOTHLY TO PROPOSED PAVEMENT AT DRIVEWAY ENTRANCES.

13. REFER TO ARCHITECTURAL PLANS FOR ACTUAL BUILDING DIMENSIONS.

14. THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH AN ELECTRONIC FILE OF THESE DRAWINGS UPON REQUEST.

15. CONTACT THE UTILITY COMPANY TO RELOCATE ANY UTILITIES REQUIRED FROM COMPLETION OF THE PROJECT. ALL EXISTING FACILITIES WHICH CONFLICT WITH THE IMPROVEMENTS UNDER THE SCOPE OF THIS PROJECT MUST BE RELOCATED AT THE EXPENSE OF THE CONTRACTOR.

16. ALL SIGNAGE MUST CONFORM TO CITY OF SOUTHPORT STANDARDS.

17. LIGHTING PLAN BY BEMC. ALL LIGHTING MUST BE IN ACCORDANCE WITH CITY OF SOUTHPORT UDO AND CITY OF SOUTHPORT CODE OF ORDINANCES ARTICLE 4.

18. STOP BEFORE YOU DIG. CALL 811. IT'S THE LAW.

LEGEND

T

EXISTING SIGN

BI

EXISTING IRON PIPE

C

EXISTING LIGHT POLE

U

EXISTING UTILITY POLE

R/W

RIGHT-OF-WAY

HC

ACCESSIBLE SPACE

+

EXISTING TREE TO REMAIN

F

EXISTING FIRE HYDRANT

S

OF PARKING SPACES

C

CENTERLINE

R

ACCESSIBLE RAMP

B

PROPOSED BOLLARD

EXISTING CURB AND GUTTER

PROPOSED CURB AND GUTTER

PROPOSED FLUSH CURB AND GUTTER

PROPERTY LINE

EXISTING EASEMENT

EXISTING FENCE

PROPOSED FENCE

EXISTING OVERHEAD UTILITY LINE

EXISTING ASPHALT PAVEMENT

PROPOSED STANDARD DUTY ASPHALT PAVEMENT

PROPOSED HEAVY DUTY ASPHALT PAVEMENT

PROPOSED VEHICULAR CONCRETE PAVEMENT

benesch

Alfred Benesch & Company
2018 Eastwood Road, Suite 111
Southport, NC 28443
www.benesch.com
P 910.590.7881

Seals:

Professional Engineer
State of North Carolina
No. 046639
Exp. 12/31/2025

Corp. NC License: F-1320

The Shoppes at Dutchman Village

5020 J. Swain Boulevard
Southport, North Carolina

Project No: 17.000530
Date: 01.10.2023
Revisions:
Revised per Fire Comments 01.16.23
Revised Per City Comments 03.10.23

FINAL DESIGN
NOT FOR
CONSTRUCTION

Sheet Title:

SITE PLAN

Sheet No: C200

Scale: 1"=20'

Page 38 of 372

GRADING AND DRAINAGE NOTES

- CONTRACTOR SHALL PERFORM HIS OWN ESTIMATES AND SHALL PROVIDE ALL EARTHWORK NECESSARY TO ACHIEVE THE DESIGN GRADE, INCLUDING ANY OFFSITE BORROW OR SPOILS REQUIRED.
- CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE IN ALL GRADED AREAS, INCLUDING PAVING, LAWN AND LANDSCAPE AREAS.
- THE CONTRACTOR SHALL IMMEDIATELY REPORT TO OWNER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK, BOTH PUBLIC AND PRIVATE. CONTRACTOR IS FULLY RESPONSIBLE FOR ALL UNDERGROUND UTILITIES AND SHALL REPAIR ANY DAMAGE AS A RESULT OF THIS CONTRACT.
- CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
- THE PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN DRIVES, PARKING LOTS AND SIDEWALKS ARE FINISHED ELEVATIONS INCLUDING ASPHALT. REFER TO PAVEMENT CROSS SECTION DATA TO ESTABLISH CORRECT SUBBASE OR AGGREGATE BASE COURSE ELEVATIONS TO BE COMPLETED UNDER THIS CONTRACT.
- PIPE LENGTHS SHOWN ARE THE ENGINEER'S ESTIMATE USED TO COMPUTE PIPE SLOPES AND INVERTS AND SHALL NOT BE CONSTRUED BY THE CONTRACTOR TO REPRESENT THE ACTUAL QUANTITY OF PIPE REQUIRED.
- PIPE LENGTHS AND SLOPE IN TABLE ARE CALCULATED FROM THE CENTER FOR STRUCTURE TO CENTER OF STRUCTURE.
- STORM STRUCTURE RIM ELEVATIONS LISTED FOR CURB INLETS AREA THE GRATE ELEVATIONS (FRONT OF GUTTER) UNLESS OTHERWISE INDICATED.
- CROSS SLOPE OF SIDEWALKS SHALL BE 1/4" / FT. (MAX).
- SLOPES SHALL BE GRADED NO STEEPER THAN 2:1
- EXPOSED TREE ROOTS MUST BE CLEANLY CUT WITH A SHARP PRUNING TOOL; BACKFILL ASAP TO MINIMIZE EXPOSURE TO THE AIR.
- IN ORDER TO ENSURE ADEQUATE DRAINAGE FLOW LINES IN GUTTERS SHALL BE 0.50% MINIMUM.
- SPOT ELEVATIONS ON CURB & GUTTER ARE THE FLOW LINE ELEVATIONS UNLESS OTHERWISE INDICATED.
- ALL UTILITY LINES (ELEC, WATER, SANITARY, STORM) REQUIRE THE USE OF TRACER WIRE/TAPE INSTALLED ABOVE THE PIPE AT 30" BELOW FINISH GRADE AND WARNING TAPE LOCATED AT 12" ABOVE THE PIPE.
- THE AMENDED 2018 NCPD SECTION 306.2.4 TRACER WIRE, FOR PLASTIC SEWER (STORM AND SANITARY) PIPING, AN INSULATED COPPER TRACER WIRE OR OTHER APPROVED CONDUCTOR SHALL BE INSTALLED ADJACENT TO AND OVER THE FULL LENGTH OF THE PIPING. ACCESS SHALL BE PROVIDED TO THE TRACER WIRE OR THE TRACER WIRE SHALL TERMINATE AT THE CLEANOUT BETWEEN THE BUILDING DRAIN AND BUILDING SEWER. THE TRACER WIRE SIZE SHALL BE NOT LESS THAN 14 AWG AND THE INSULATION TYPE SHALL BE LISTED FOR DIRECT BURIAL.

NCDEQ STORMWATER AND PERMITTING NOTES

- A NCDEQ STORMWATER PERMIT IS REQUIRED FOR THE PROJECT. NO IMPERVIOUS SHALL BE INSTALLED PRIOR TO NCDEQ APPROVAL OF THE STORMWATER PERMIT.
- THE EXISTING PROPERTIES ARE HAVE BEEN ALLOCATED IMPERVIOUS AS PART OF THE DUTCHMAN VILLAGE SUBDIVISION OVERALL STORMWATER PERMIT (SW8 010118). OFFSITE PERMITS TO THE OVERALL MASTER PERMIT WILL BE SUBMITTED TO NCDEQ FOR APPROVAL.
- PER THE PROPERTY DEED RESTRICTIONS AND APPROVED NCDEQ PERMIT, EACH LOT HAS BEEN ALLOCATED 85% IMPERVIOUS (FOR A TOTAL OF 81,697 SF - PARCEL G & H).
- THERE ARE NO KNOWN SURFACE WATERS OR STREAMS LOCATED WITHIN THE PROJECT AREA.

IMPERVIOUS AREA

BUILDINGS:	10,424 SF (0.22 AC)
PARKING/DRIVES:	58,733 SF (1.34 AC)
SIDEWALKS:	3,486 SF (0.08 AC)
FUTURE RESERVE:	9,054 SF (0.23 AC)

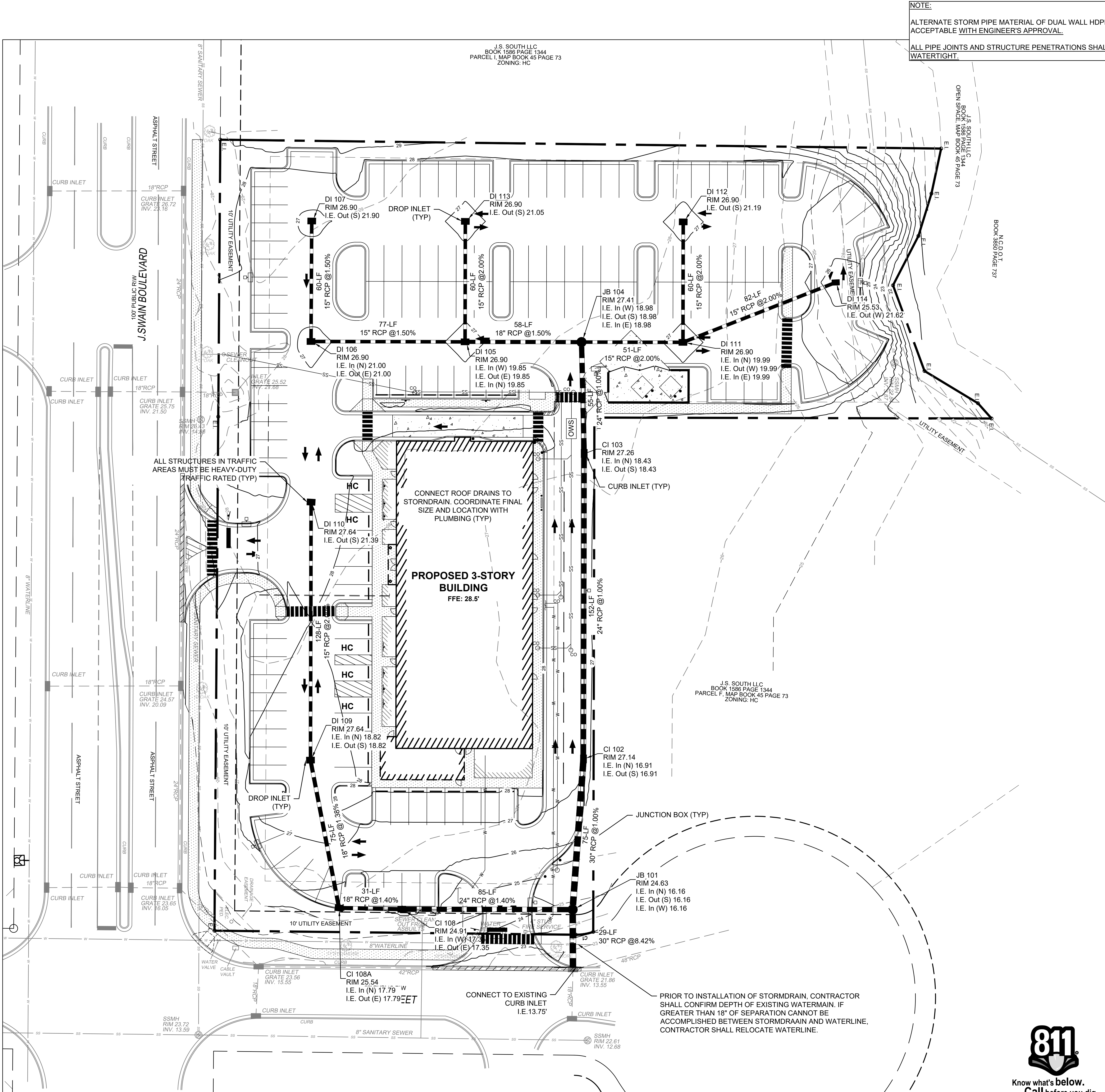
TOTAL:	81,697 SF (1.86 AC)
TOTAL PROP. AREA:	96,114 SF (2.21 AC)
% IMPERVIOUS:	85.0%

CITY OF SOUTHPORT STORMWATER

- WATERSHED: CAPE FEAR RIVER
RECEIVING STREAM: DUTCHMAN CREEK
STREAM CLASS: SC: Sw, HQW
STREAM INDEX: 18-88-9-3-(1)
- STORM SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE CITY OF SOUTHPORT ORDINANCE AND MEETS THE SOUTHPORT STORMWATER MANAGEMENT PLAN REQUIREMENT FOR THE 25-YEAR DESIGN STORM.
- CONTRACTOR SHALL ENSURE ALL STORMWATE INSTALLATION AND MATERIALS ARE IN COMPLIANCE THE CITY OF SOUTHPORT STORMWATER TECHNICAL MANUAL.

LEGEND

	EXISTING SIGN		EXISTING CURB AND GUTTER
	EXISTING IRON PIN		PROPOSED CURB AND GUTTER
	EXISTING LIGHT POLE		PROPERTY LINE
	EXISTING UTILITY POLE		EXISTING FENCE
	RIGHT-OF-WAY		EXISTING UNDERGROUND ELECTRIC LINE
	ACCESSIBLE SPACE		EXISTING OVERHEAD UTILITY LINE
	EXISTING TREE TO REMAIN		EXISTING UNDERGROUND TELEPHONE LINE
	EXISTING FIRE HYDRANT		EXISTING FIBER OPTIC LINE
	EXISTING WATER VALVE		EXISTING SANITARY SEWER LINE
	EXISTING WATER METER		EXISTING WATER LINE
	EXISTING SEWER MANHOLE		EXISTING GAS LINE
	EXISTING STORM MANHOLE		EXISTING CONTOUR LINE
	PROPOSED STORM MANHOLE		PROPOSED CONTOUR LINE
	PROPOSED FLARED END SECTION		TEMPORARY TREE PROTECTION BARRICADE
	EXISTING DRAINAGE STRUCTURE		EXISTING STORM DRAINAGE PIPE
	PROPOSED DRAINAGE STRUCTURE		PROPOSED STORM DRAINAGE PIPE
	EXISTING SPOT ELEVATION		PROPOSED ROOF DRAIN PIPE
	PROPOSED SPOT ELEVATION		EXISTING TREE LINE
	EXISTING CLEANOUT		EXISTING GAS VALVE
	EXISTING DOWNSPOUT		EXISTING GAS METER



NOTE:
ALTERNATE STORM PIPE MATERIAL OF DUAL WALL HDPE IS ACCEPTABLE WITH ENGINEER'S APPROVAL.
ALL PIPE JOINTS AND STRUCTURE PENETRATIONS SHALL BE WATERTIGHT.



Seals:



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The Shoppes at Dutchman Village
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Southport, North Carolina

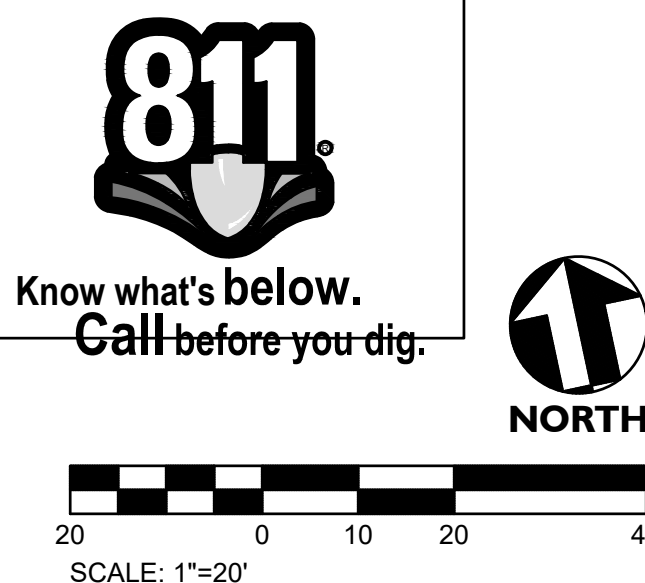
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Date:	01.10.2023	
Revisions:		
	Revised per Fire Comments and Internal QC Review	01.16.23
	Revised Per City Comments	03.10.23

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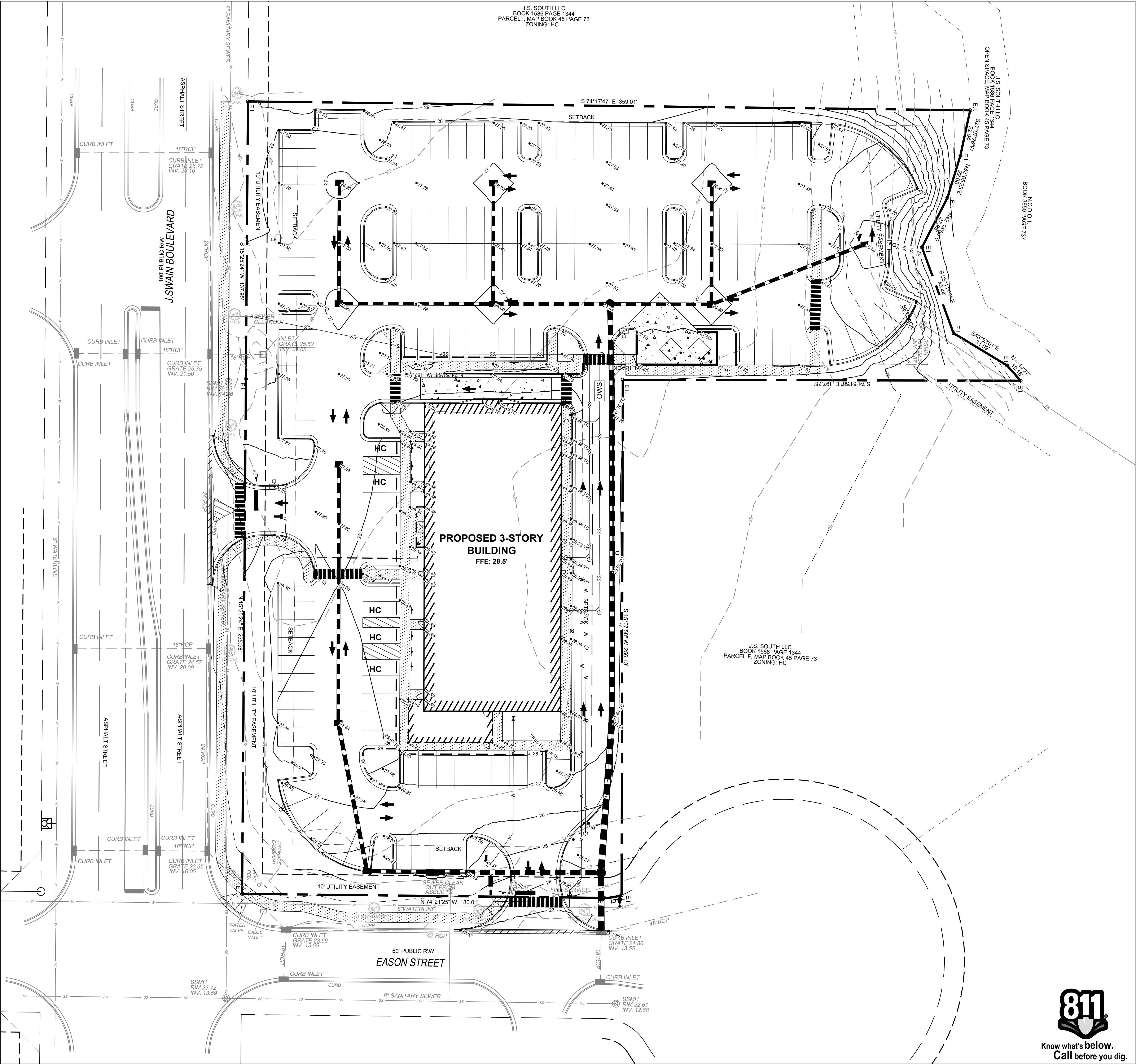
STORMDRAIN
PLAN

Sheet No:
C300

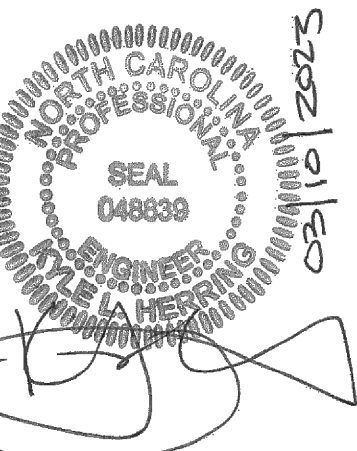


GRADING AND DRAINAGE NOTES

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16. THE AMENDED 2018 NCPC SECTION 306.2.4 TRACER WIRE, FOR PLASTIC SEWER (STORM AND SANITARY) PIPING, AN INSULATED COPPER TRACER WIRE OR OTHER APPROVED CONDUCTOR SHALL BE INSTALLED ADJACENT TO AND OVER THE FULL LENGTH OF THE PIPING. ACCESS SHALL BE PROVIDED TO THE TRACER WIRE OR THE TRACER WIRE SHALL TERMINATE AT THE CLEANOUT BETWEEN THE BUILDING DRAIN AND BUILDING SEWER. THE TRACER WIRE SIZE SHALL BE NOT LESS THAN 14 AWG AND THE INSULATION TYPE SHALL BE LISTED FOR DIRECT BURIAL.



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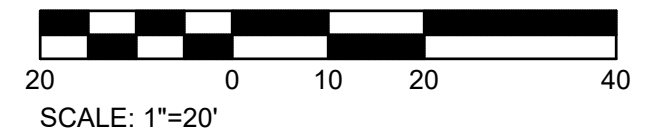
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and Internal QC Review	
Revised Per City Comments	03.10.23

FINAL DESIGN
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CONSTRUCTION

Sheet Title:

GRADING
PLAN

Sheet No:
C301



EROSION CONTROL NOTES

1. A NCDEQ EROSION CONTROL PERMIT AND SUBMITTAL OF NOI IN ACCORDANCE WITH NCG01 IS REQUIRED PRIOR TO ANY LAND DISTURBANCE.
2. ENSURE ALL GRADING AND DISTURBANCE IS LOCATED WITHIN THE PROJECT AREA. NO GRADING IS ALLOWED OUTSIDE THE PROJECT AREA WITHOUT WRITTEN APPROVAL FROM THE ENGINEER AND NCDEQ.
3. ALL PERIMETER DIKS, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
4. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED IF EROSION CONDITIONS DEVELOP AS A RESULT OF CONSTRUCTION. IT IS THE CONTRACTOR RESPONSIBILITY TO ENSURE ALL SEDIMENT IS CONTAINED ONSITE. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1
5. ALL SPOIL STORAGE AREAS REQUIRED MUST BE LOCATED WITHIN THE PROJECT AREA AND ADEQUATE MEASURE MUST BE TAKEN TO ENSURE SEDIMENT IS NOT TRANSPORTED FROM THE SPOIL STORAGE AREA.
7. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND REPORTING IN ACCORDANCE WITH NCDEQ REQUIREMENTS (SEE SHEET C-500 FOR NCG01 MINIMUM STANDARDS).
8. PROVIDE TREE PROTECTION AS REQUIRED. SEE DETAIL 8, SHEET C500.
9. CONTRACTOR SHALL ENSURE STOCKPILED MATERIAL IS LOCATED WITHIN THE LIMITS OF DISTURBANCE. SILT FENCE SHALL BE PLACED AROUND THE ENTIRETY OF THE STOCKPILED MATERIAL. PERFORM REGULAR MAINTENANCE TO ENSURE STOCKPILE MATERIAL REMAINS WITHIN THE LIMITS OF STOCKPILE AREA. DO NOT EXCEED 2:1 SLOPES FOR STOCKPILED MATERIAL. PROVIDE TEMPORARY AND PERMANENT SEEDING IN ACCORDANCE WITH THE NCDEQ EROSION CONTROL MANUAL FOR STABILIZATION OF MATERIAL.

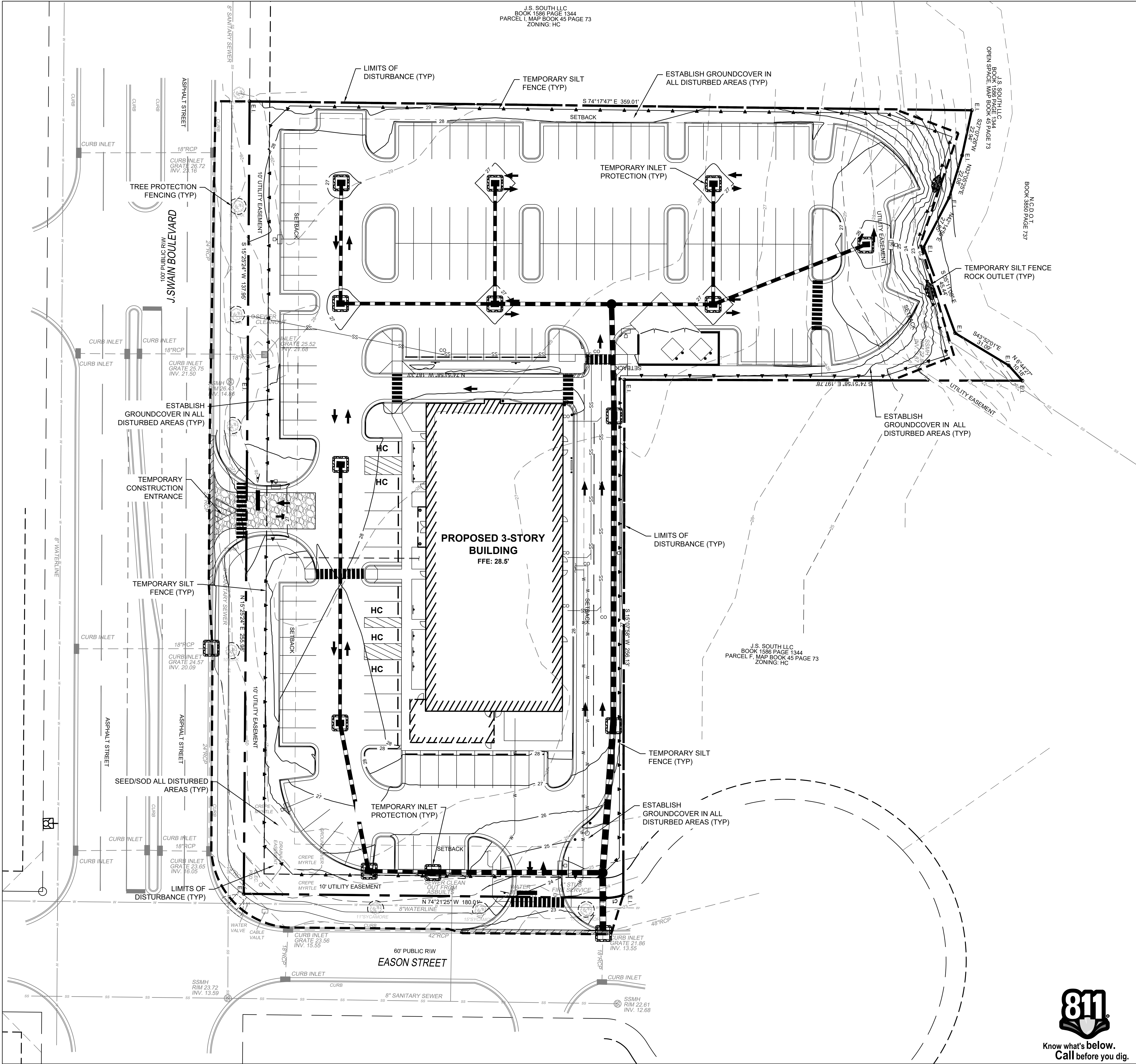
TOTAL DENUDE AREA: 2.4 ACRES
PROVIDE STABILIZATION OF ALL AREAS WITHIN 14 DAYS.
AREAS WHERE SLOPES ARE GREAT THAN 6:1, PROVIDE STABILIZATION WITHIN 7 DAYS.

CONSTRUCTION SEQUENCE:

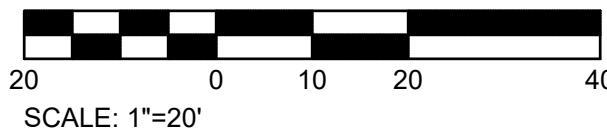
1. OBTAIN GRADING/EROSION CONTROL PLAN APPROVAL FROM NCDEQ.
2. CONTRACTOR TO SET UP A ON-SITE PRE-CONSTRUCTION CONFERENCE AND PROVIDE MIN 72 HOURS NOTICE OF THE MEETING TO THE ENGINEER AND NCDEQ.
3. FLAG LIMITS OF LAND DISTURBANCE.
4. INSTALL SILT FENCE, INLET PROTECTION, SEDIMENT TRAPS, DIVERSION DITCHES, TREE PROTECTION, AND OTHER MEASURES AS SHOWN ON PLANS, CLEARING ONLY AS NECESSARY TO INSTALL THESE DEVICES.
5. ROUGH GRADE SITE, STOCKPILE TOPSOIL, INSTALL DRAINAGE PIPE, INSTALL INLET AND OUTLET PROTECTION, AND CONSTRUCT DITCHES AS SHOWN.
6. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES.
7. STABILIZE SITE AS AREAS ARE BROUGHT TO FINISHED GRADE.
8. INSTALL ANY ADDITIONAL SILT FENCE THAT MAY NOT BE SHOWN BUT MAY BE NEEDED.
9. FINE GRADE SITE. PLACE TOPSOIL. IMMEDIATELY PROVIDE PERMANENT VEGETATION AS SHOWN IN THE SPECIFICATIONS OR ON THE DRAWINGS.
10. REMOVE ANY REMAINING SEDIMENT FROM THE PROJECT SITE AND DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
11. COORDINATE WITH EROSION CONTROL INSPECTOR PRIOR TO REMOVAL OF EROSION CONTROL MEASURES.
12. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N.C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL AND U.S. DEPT. OF AGRICULTURE.

LEGEND

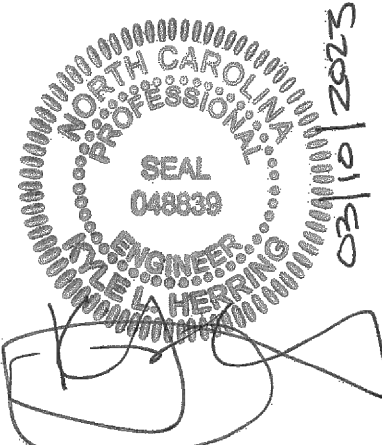
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	EXISTING LIGHT POLE		PROPERTY LINE
	EXISTING UTILITY POLE		EXISTING FENCE
	RIGHT-OF-WAY		EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING TREE TO REMAIN		EXISTING OVERHEAD UTILITY LINE
	EXISTING FIRE HYDRANT		EXISTING UNDERGROUND TELEPHONE LINE
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	EXISTING SEWER MANHOLE		EXISTING GAS LINE
	EXISTING STORM MANHOLE		EXISTING CONTOUR LINE
	PROPOSED STORM MANHOLE		PROPOSED CONTOUR LINE
	EXISTING DRAINAGE STRUCTURE		EXISTING STORM DRAINAGE PIPE
	PROPOSED DRAINAGE STRUCTURE		PROPOSED STORM DRAINAGE PIPE
	TEMPORARY SILT SACK		TEMPORARY SILT FENCE
	TEMPORARY INLET PROTECTION		TEMPORARY TREE PROTECTION BARRICADE
	TEMPORARY ROCK CHECK DAM		LIMITS OF GRADING/CONSTRUCTION
	TEMPORARY FILTER BERM BASIN		LINED GRASS SWALE
	TEMPORARY GRAVEL ENTRANCE		GRASS SWALE
	OUTLET PROTECTION		TEMPORARY DIVERSION SWALE



Know what's below.
Call before you dig.



Seals:



Corp. NC License: F-1320

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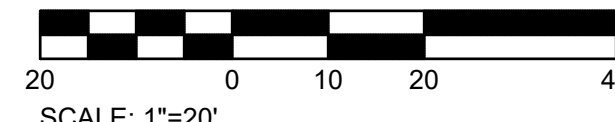
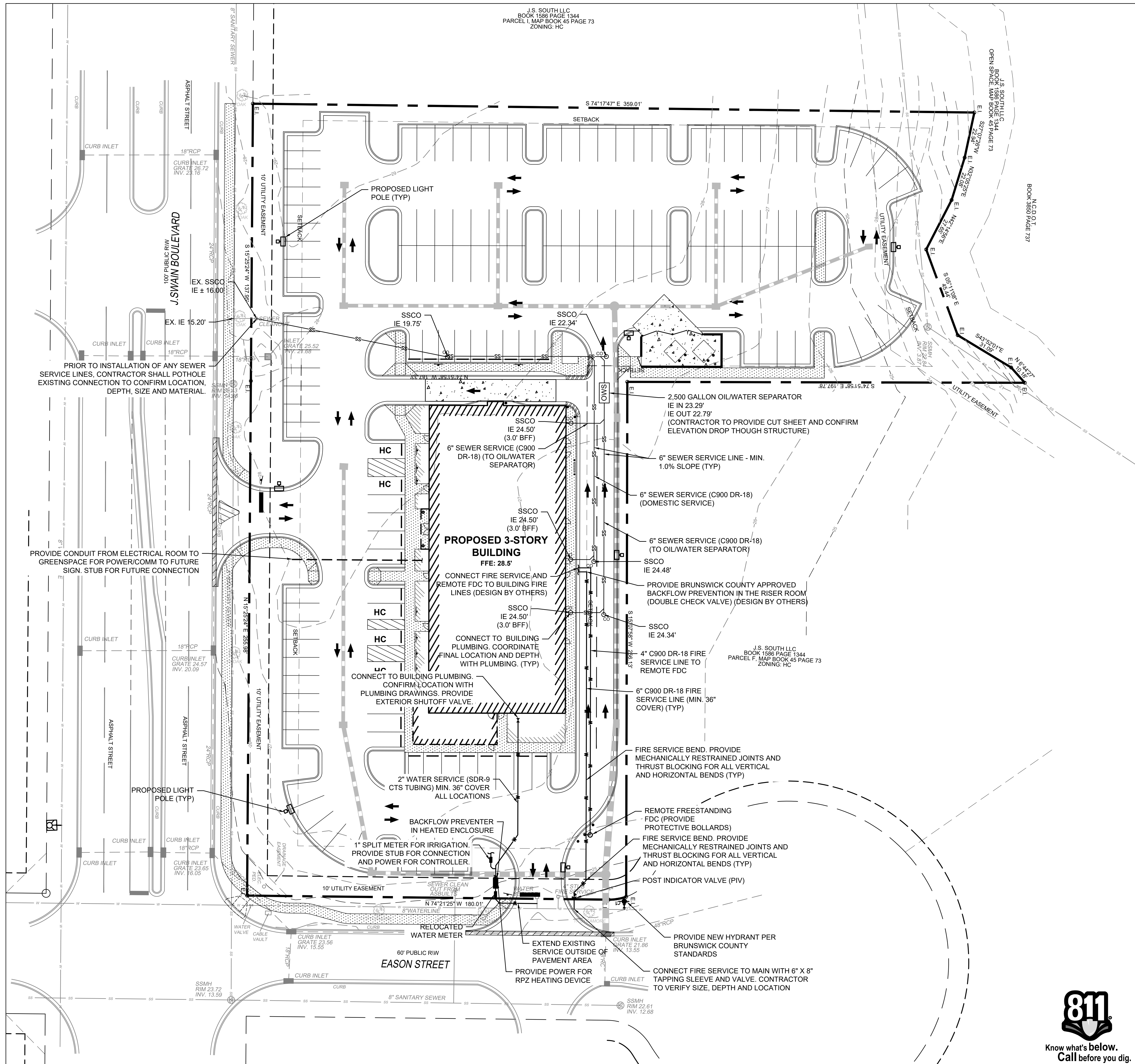
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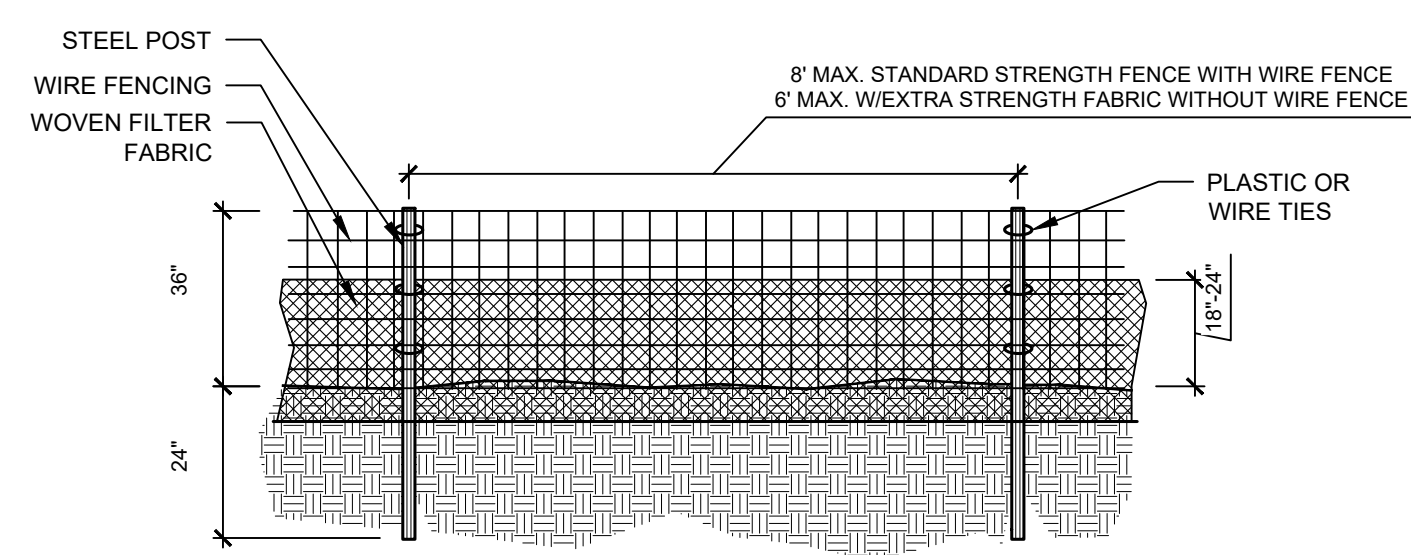
EROSION
CONTROL
PLAN

Sheet No:
C302

1. ALL UTILITY CONSTRUCTION (PRIVATE AND PUBLIC) SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL CODE REQUIREMENTS.
2. CONTRACTOR IS REQUIRED TO SCHEDULING ANY REQUIRED PRE-CONSTRUCTION MEETING WITH UTILITY PROVIDERS PRIOR TO INSTALLATION OF ANY UTILITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES (STORM DRAINAGE, ELECTRIC, GAS, TELEPHONE, ETC.) PRIOR TO CONSTRUCTION. INFORMATION SHOWN ON THIS PLAN IS FOR REFERENCE ONLY AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY IF ANY DISCREPANCIES BETWEEN THE CONSTRUCTION PLANS AND ACTUAL FIELD CONDITIONS ARE NOTED.
5. MINIMUM COVER FOR ALL SANITARY SEWER LINES SHALL BE 3'-0". DUCTILE IRON PIPE SHALL BE SUBSTITUTED WHEN MINIMUM COVER CAN NOT BE MAINTAINED.
6. THE STANDARD DEPTH OF COVER FOR WATER LINES SHALL BE 3'-0" MIN. EXCEPT AT VALVE OR HYDRANT LOCATIONS, OR OTHER SPECIAL CONDITIONS.
7. THE CONNECTION TO EXISTING WATER MAINS SHALL BE PERFORMED ONLY AFTER ALL PRESSURE TESTING AND CHLORINATION ARE SUCCESSFULLY COMPLETED AND THE LOCAL REVIEW AUTHORITY HAS APPROVED THE CONNECTION. THE CONTRACTOR SHALL AVOID DISRUPTION OF EXISTING SERVICE.
8. REFER TO PLUMBING DRAWING SERIES FOR THE LOCATION OF WATER AND SANITARY SEWER SERVICE CONNECTIONS AT THE BUILDING.
9. UNLESS OTHERWISE NOTED, THE PHYSICAL CONNECTION BETWEEN THE SITE UTILITY LINES AND THE PIPE INSTALLED BY THE PLUMBING CONTRACTOR SHALL BE MADE BY THE SITE UTILITY CONTRACTOR.
10. PIPE LENGTHS SHOWN ON PLANS ARE THE ENGINEER'S ESTIMATE USED TO COMPUTE PIPE SLOPES AND INVERTS AND SHALL NOT BE CONSTRUED BY THE CONTRACTOR TO REPRESENT THE ACTUAL QUANTITY OF PIPE REQUIRED.
11. IF WATER LINE CROSSES OVER SANITARY SEWER WITH LESS THAN 24" INCHES VERTICAL CLEARANCE BOTH PIPES SHALL BE DUCTILE IRON 10' EACH SIDE. IF WATER CROSSES UNDER THE SEWER REGARDLESS OF CLEARANCE, BOTH PIPES SHALL BE DUCTILE IRON 10' EACH SIDE. IF WATER LINE RUNS PARALLEL TO SEWER LINE WITH LESS THAN 24" VERTICAL CLEARANCE AND LESS THAN 10' SIDE CLEARANCE BOTH PIPES SHALL BE DUCTILE IRON.
12. ALL CONSTRUCTION SHALL ADHERE TO THE BRUNSWICK COUNTY, CITY OF SOUTHPORT AND NCDEQ STANDARDS. IN THE EVENT OF CONFLICTING REQUIREMENTS, THE MOST STRINGENT SHALL APPLY.
13. IF REQUIRED BY NUMBER 10 ABOVE, REPLACE EXISTING SEWER WITH DUCTILE IRON PIPE, CLASS 350 WORKING PRESSURE WITH GASKETED JOINTS, 10' EACH SIDE OF WATER MAIN.
14. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER-USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS REQUIRED BACKFLOW PREVENTER.
15. EACH REQUIRED BACKFLOW PREVENTION ASSEMBLY IS REQUIRED TO BE TESTED BY THE COUNTY AN APPROVED PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.
16. INVERTS SHOWN ARE TO CENTER OF STRUCTURE. SLOPE ACROSS BOTTOM OF SANITARY SEWER MANHOLES SHALL AT LEAST MATCH THE MINIMUM SLOPE OF THE EFFLUENT PIPE.
17. CONTRACTOR IS REQUIRED TO REQUEST ANY REQUIRED UTILITY INSPECTION AND PROVIDE DOCUMENTATION OF PASSING INSPECTION TO THE ENGINEER PRIOR TO USE.
18. BRUNSWICK COUNTY SHALL BE ONSITE TO WITNESS THE METER RELOCATION AND ALL METER AND NEW TAP INSTALLATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE WORK WITH BRUNSWICK COUNTY.
19. THE CITY OF SOUTHPORT MUST BE ONSITE TO WITNESS SEWER CONNECTIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE WORK WITH THE CITY OF SOUTHPORT.
20. LIGHTING PLAN BY BECM. ALL LIGHTING MUST BE IN ACCORDANCE WITH CITY OF SOUTHPORT UDO, CITY OF SOUTHPORT CODE OF ORDINANCES ARTICLE 4, AND SOUTHPORT STREET LIGHT POLICY, WHERE APPLICABLE.

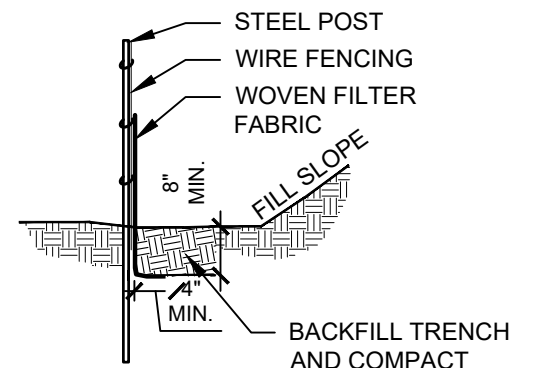
	EXISTING SIGN		EXISTING CURB AND GUTTER
	EXISTING IRON PIN		PROPOSED CURB AND GUTTER
	EXISTING LIGHT POLE		PROPERTY LINE
	PROPOSED LIGHT POLE		EXISTING FENCE
	EXISTING UTILITY POLE		EXISTING UNDERGROUND ELECTRIC LINE
	RIGHT-OF-WAY		EXISTING OVERHEAD ELECTRIC LINE
	EXISTING FIRE HYDRANT		EXISTING UNDERGROUND TELEPHONE LINE
	PROPOSED FIRE HYDRANT		EXISTING SANITARY SEWER LINE
	PROPOSED FIRE DEPT. CONNECTION		PROPOSED SANITARY SEWER LINE
	EXISTING WATER VALVE		EXISTING WATER LINE
	PROPOSED WATER VALVE		PROPOSED WATER LINE
	EXISTING CHECK VALVE		EXISTING CONTOUR LINE
	PROPOSED POST INDICATOR VALVE		PROPOSED CONTOUR LINE
	EXISTING WATER METER		EXISTING STORM DRAINAGE PIPE
	PROPOSED WATER METER		PROPOSED STORM DRAINAGE PIPE
	PROPOSED BACKFLOW PREVENTER		EXISTING GAS LINE
	EXISTING SEWER MANHOLE		EXISTING GAS LINE
	PROPOSED SEWER MANHOLE		PROPOSED SEWER MANHOLE
	EXISTING CLEANOUT		PROPOSED STORM MANHOLE
	PROPOSED CLEANOUT		EXISTING EASEMENT
	EXISTING DRAINAGE STRUCTURE		
	PROPOSED DRAINAGE STRUCTURE		
	EXISTING GAS VALVE		
	EXISTING GAS METER		





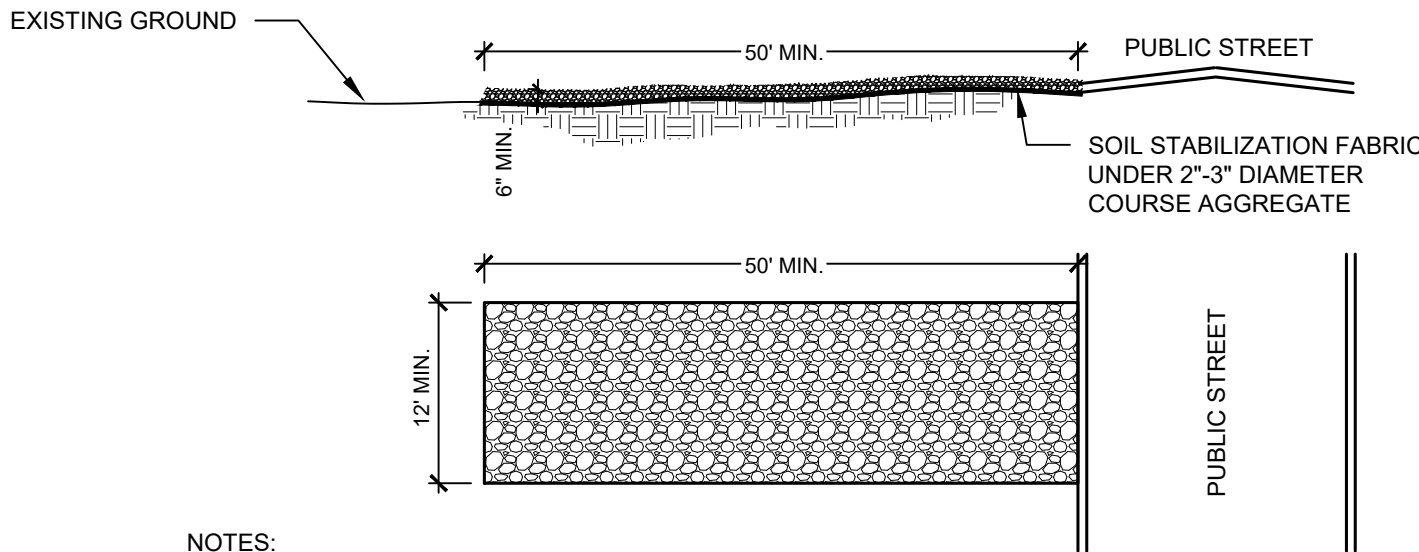
GENERAL NOTES:

1. FILTER FABRIC FENCE SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
2. WOVEN FILTER FABRIC USED WHERE SILT FENCE IS TO REMAIN FOR A PERIOD OF MORE THAN 30 DAYS.
3. STEEL POSTS SHALL BE 5'-0" IN HEIGHT AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
4. WIRE FENCING SHALL BE AT LEAST #10 GAGE WITH A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
5. TURN SILT FENCE UP SLOPE AT ENDS.
6. WIRE MESH SHALL BE MIN. 14 GAGE WITH MAXIMUM 6" OPENINGS.
7. ORANGE SAFETY FENCE IS REQUIRED AT BACK OF SILT FENCE (WITHIN 5 FT.) WHEN GRADING IS ADJACENT TO SWIM BUFFERS OR WETLANDS (REFER TO SWIM BUFFER GUIDELINES).



MAINTENANCE NOTES:

1. INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL EVENT. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
2. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
3. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.
4. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.



NOTES:

1. A STABILIZED ENTRANCE PAD OF 2'-3" COURSE AGGREGATE SHALL BE LOCATED WHERE TRAFFIC WILL ENTER OR LEAVE THE CONSTRUCTION SITE ONTO A PUBLIC STREET.
2. FILTER FABRIC OR COMPACTED CRUSHER RUN STONE MAY BE USED AS A BASE FOR THE CONSTRUCTION ENTRANCE AREA.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS WARRANT AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
4. ANY SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC STREETS MUST BE REMOVED IMMEDIATELY.
5. WHEN APPROPRIATE, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET. WHEN WASHING IS REQUIRED, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED DRAINAGE BASIN.
6. SOIL STABILIZATION FABRIC (AS SPECIFIED BY THE DESIGNER) SHALL BE USED.

CONSTRUCTION SPECIFICATIONS:

1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
4. USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

MAINTENANCE:

1. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS INCLUDES PERIODIC TOPDRESSING WITH CRUSHED STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED OR TRACKED ONTO TO PUBLIC ROADWAYS.

SEEDING MIXTURE SPECIES RYE (GRAIN) RATE (LB/ACRE) 120

SEEDING DATES MOUNTAINS-AUG. 15 - DEC. 30 COASTAL PLAIN AND PIEDMONT-AUG. 15 - DEC. 30

SOIL AMENDMENTS FOLLOW SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER. MULCH APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE REPAIR AND RE-FERTILIZE DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50 LB/ACRE OF NITROGEN IN MARCH. IF NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBE (PIEDMONT AND COSTAL PLAIN) OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

TEMPORARY SEEDING RECOMMENDATIONS FOR FALL

SEEDING MIXTURE SPECIES GERMAN MILLET RATE (LB/ACRE) 40 IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDAGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.

SEEDING DATES MOUNTAINS-MAY 15 - AUG. 15 PIEDMONT-MAY 1 - AUG. 15 COASTAL PLAIN-APR. 15 - AUG. 15

SOIL AMENDMENTS FOLLOW SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED. REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER

SEEDING MIXTURE SPECIES RYE (GRAIN) RATE (LB/ACRE) 120 ANNUAL LESPEDEZA (KOBE IN PIEDMONT AND COSTAL PLAIN, KOREAN IN MOUNTAINS)

OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXCEED BEYOND JUNE.

SEEDING DATES MOUNTAINS-ABOVE 2000 FEET: FEB. 15 - MAY 15 BELOW 2000 FEET: FEB. 1 - MAY 1 PIEDMONT-JAN. 1 - MAY 1 COASTAL PLAIN-DEC. 1 - APRIL 15

SOIL AMENDMENTS FOLLOW SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER. MULCH APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED. REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

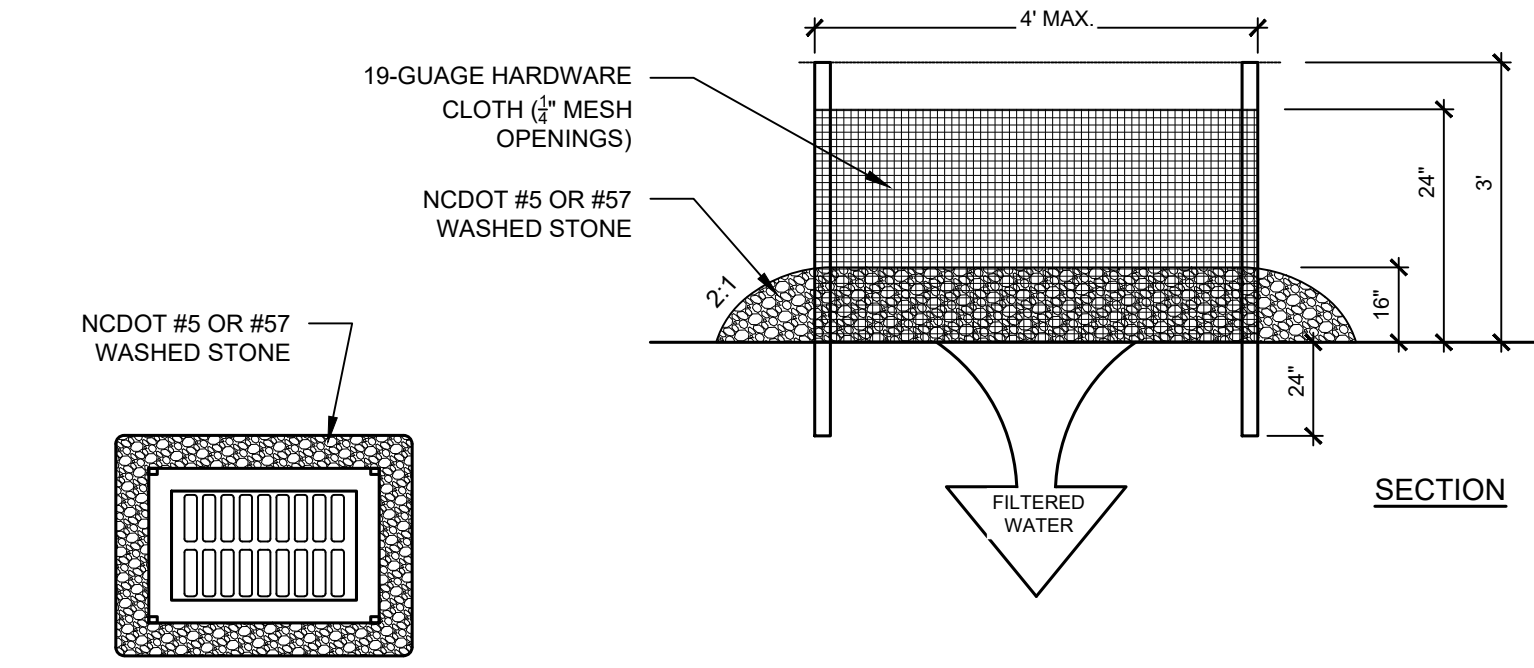


FIGURE 6.51A HARDWARE CLOTH AND GRAVEL INLET PROTECTION PLAN

CONSTRUCTION SPECIFICATIONS

1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING INLET.
2. DRIVE 4-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET. A MAXIMUM OF 4 FEET APART.
3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACING A 2-FOOT FLAP OF WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NCDOT#5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16 INCHES AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZED IT WITH GROUND COVER.

MAINTENANCE

INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR FLOW FOR OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.

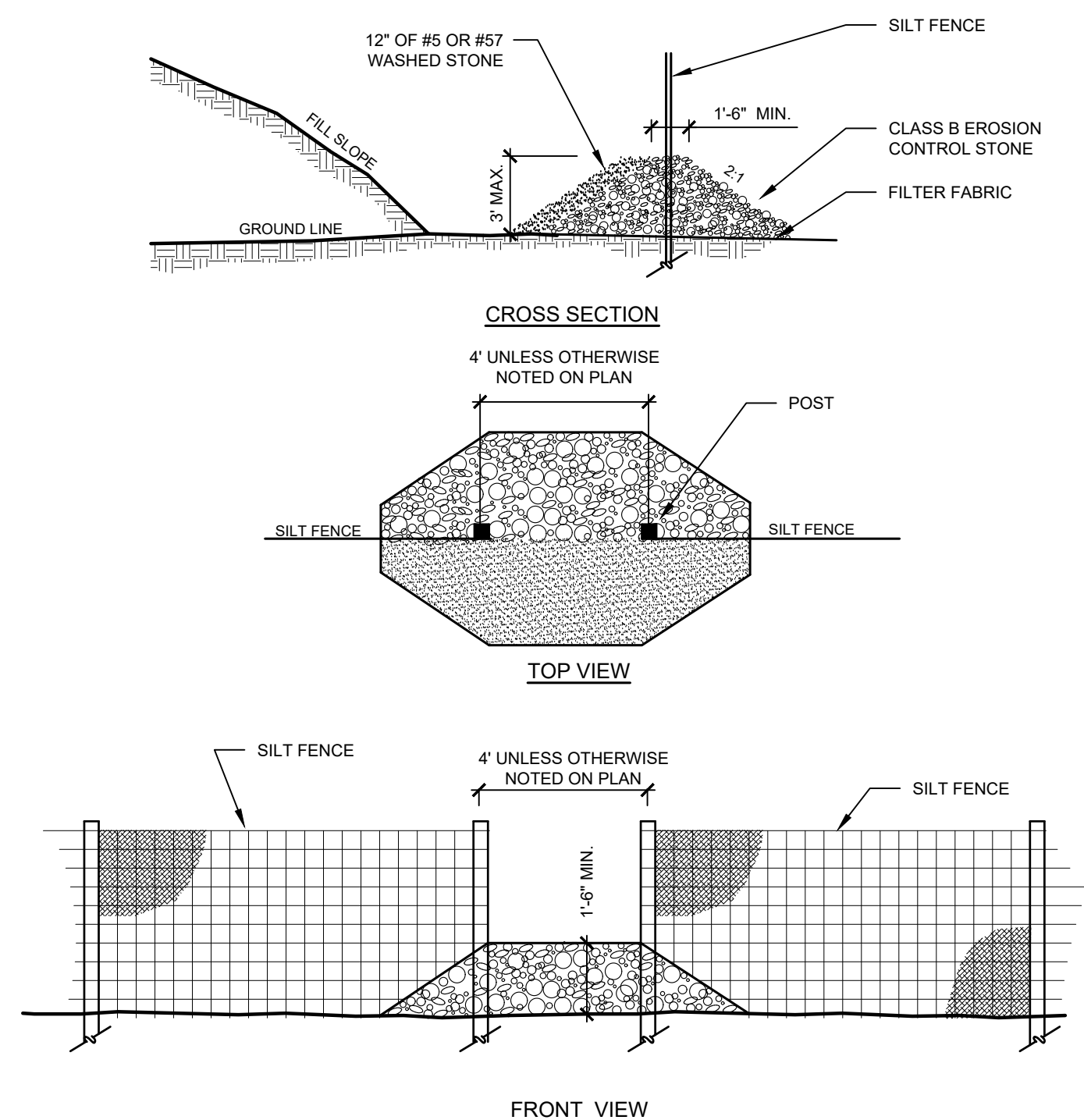
REFERENCES

- INLET PROTECTION
- 6.52. BLOCK AND GRAVEL INLET PROTECTION
- 6.54. ROCK DOUGHNUT INLET PROTECTION

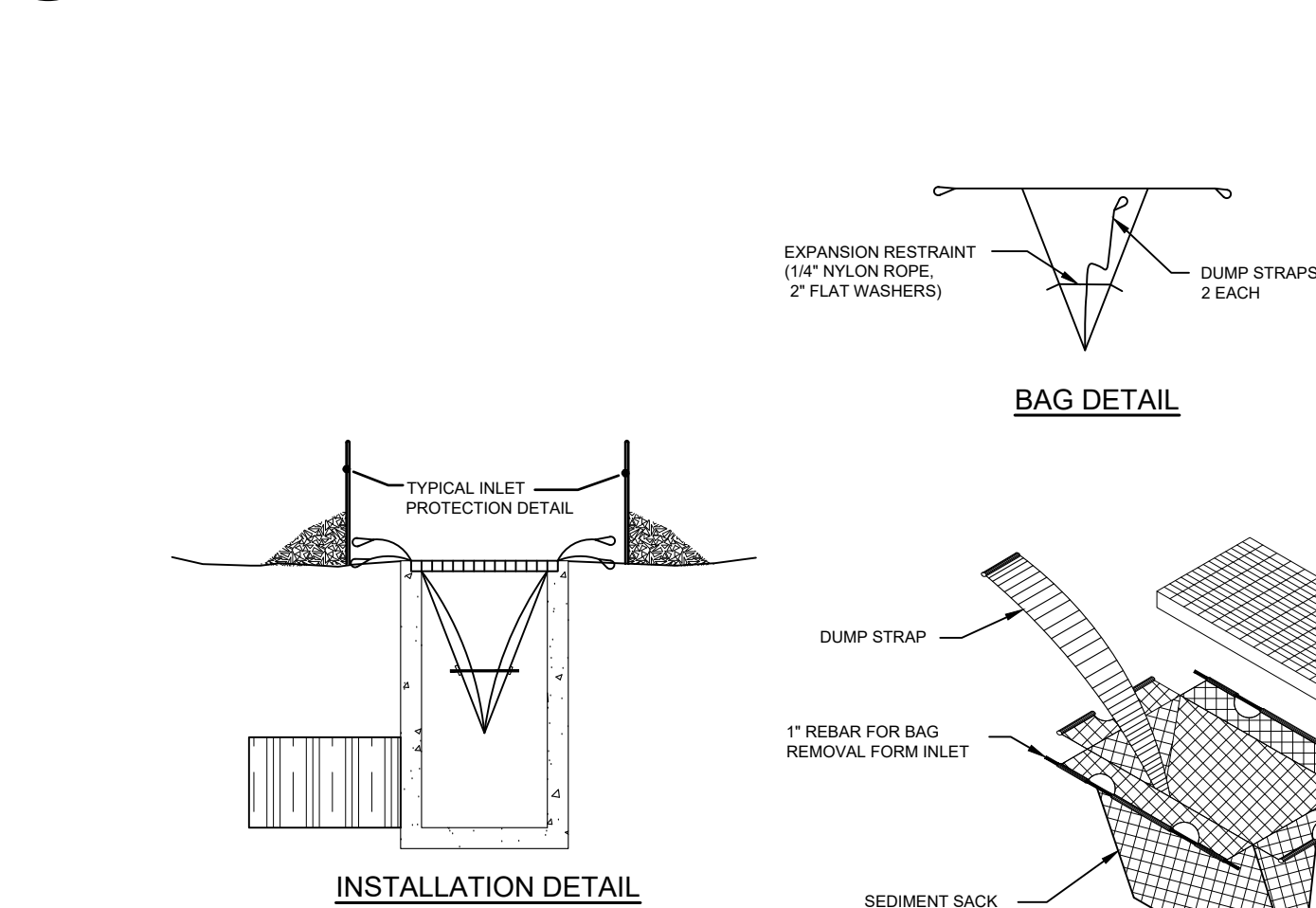
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROADS AND STRUCTURES

1 Temporary Silt Fence

NCDEQ STD. 6.62



5 Temporary Stone Dam in Silt Fence Opening N.T.S.

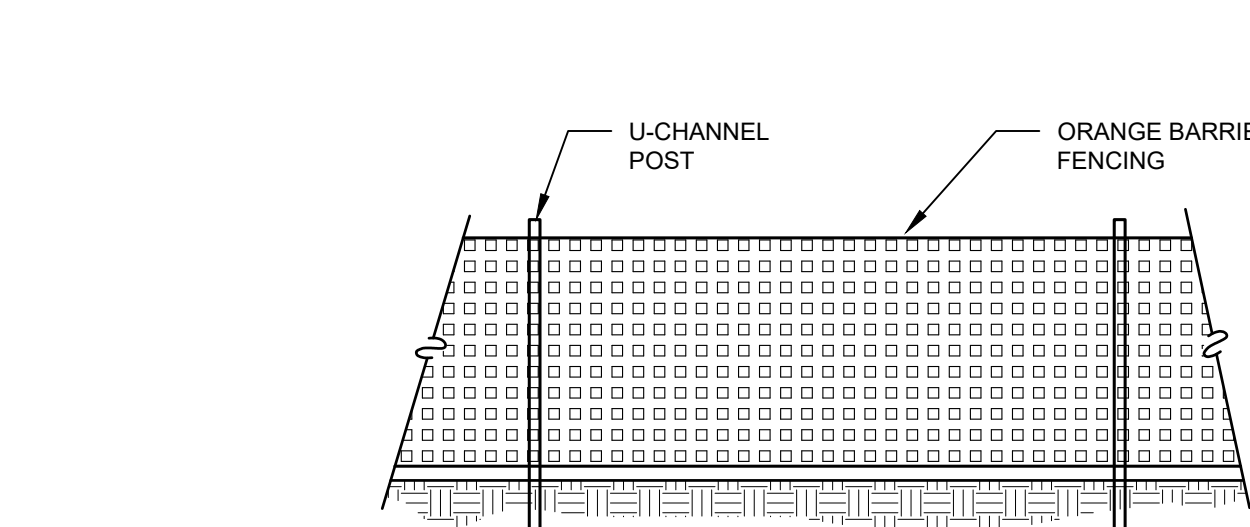


MAINTENANCE NOTES:

1. SILT SACKS SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE SILT SACK STILL IS NECESSARY, THE DEVICE SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROX. HALF THE HEIGHT OF THE SILT SACKS.

2 Temporary Gravel Construction Entrance

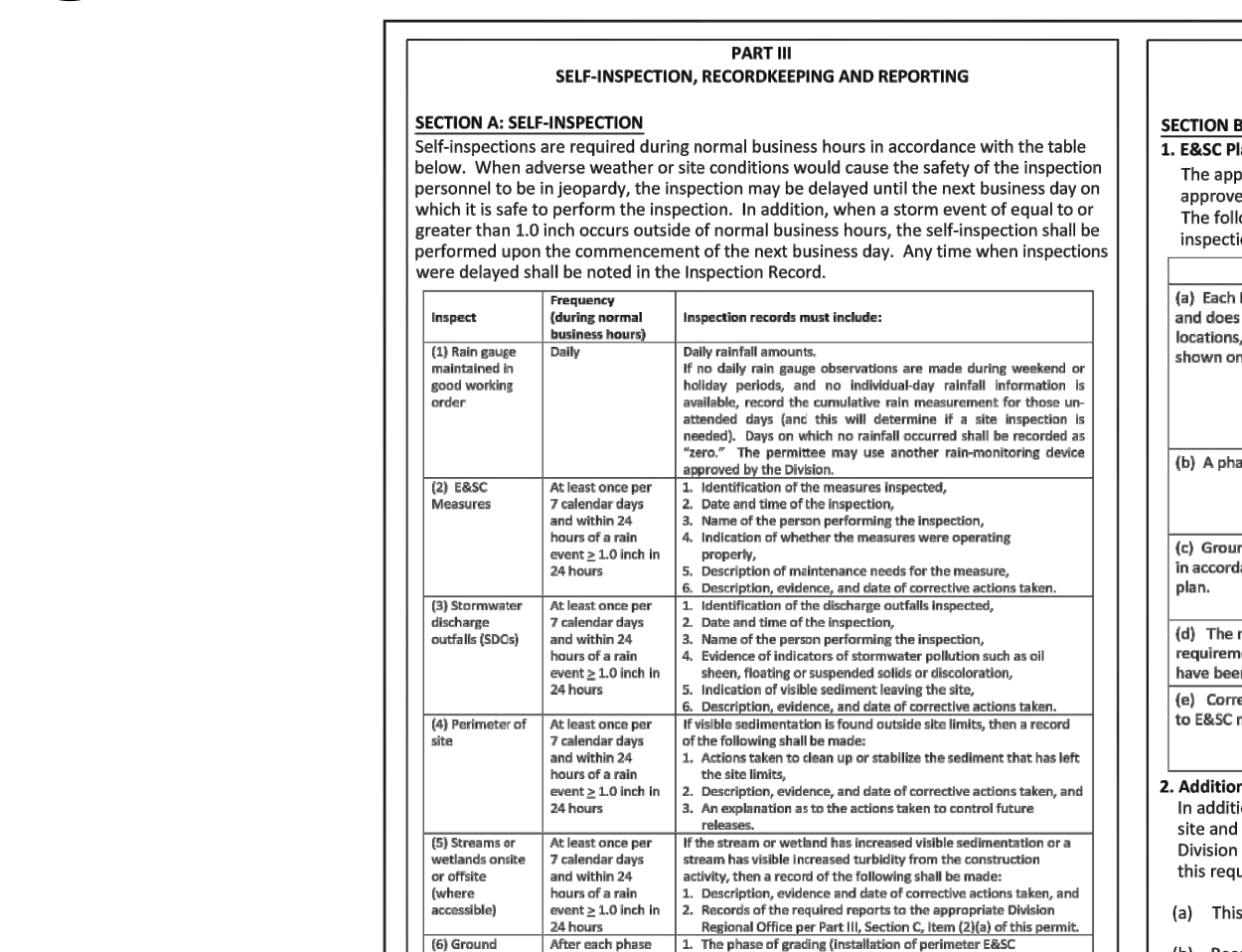
NCDEQ STD. 6.06



NOTES

1. CONTRACTOR TO INSTALL AND MAINTAIN ORANGE BARRIER FENCING ALONG EXISTING TREES WHERE DELINEATED ON PLAN.
2. NO PARKING OF EQUIPMENT OR MATERIALS SHALL BE PERMITTED INSIDE THIS AREA.
3. MAINTAIN BARRIER FENCING THROUGH CONSTRUCTION. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT.
4. REFER TO NCDEQ STANDARDS FOR GENERAL SPECIFICATIONS REGARDING TREE PROTECTION.
5. 6" MINIMUM WIDTH FOR 2" CAL. TREES OR SMALLER.
6. ONE FOOT OF LINEAR DISTANCE FROM THE TRUNK FOR EACH INCH OF TRUNK DIAMETER, OR 1/2 HEIGHT OF THE TREE WHICHEVER IS GREATER UNLESS OTHERWISE SHOWN ON PLAN.

8 Temporary Tree Protection Barricade N.T.S.



MAINTENANCE NOTES:

1. SILT SACKS SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE SILT SACK STILL IS NECESSARY, THE DEVICE SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROX. HALF THE HEIGHT OF THE SILT SACKS.

3 Seeding Specifications for Temporary Erosion Control

NCDEQ STD. 6.10



1. CONTRACTOR TO INSTALL AND MAINTAIN ORANGE BARRIER FENCING ALONG EXISTING TREES WHERE DELINEATED ON PLAN.
2. NO PARKING OF EQUIPMENT OR MATERIALS SHALL BE PERMITTED INSIDE THIS AREA.
3. MAINTAIN BARRIER FENCING THROUGH CONSTRUCTION. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT.
4. REFER TO NCDEQ STANDARDS FOR GENERAL SPECIFICATIONS REGARDING TREE PROTECTION.
5. 6" MINIMUM WIDTH FOR 2" CAL. TREES OR SMALLER.
6. ONE FOOT OF LINEAR DISTANCE FROM THE TRUNK FOR EACH INCH OF TRUNK DIAMETER, OR 1/2 HEIGHT OF THE TREE WHICHEVER IS GREATER UNLESS OTHERWISE SHOWN ON PLAN.

4 Hardware Cloth and Gravel Inlet Protection

NCDEQ STD. 6.51



1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING INLET.
2. DRIVE 4-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET. A MAXIMUM OF 4 FEET APART.
3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACING A 2-FOOT FLAP OF WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NCDOT#5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16 INCHES AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZED IT WITH GROUND COVER.

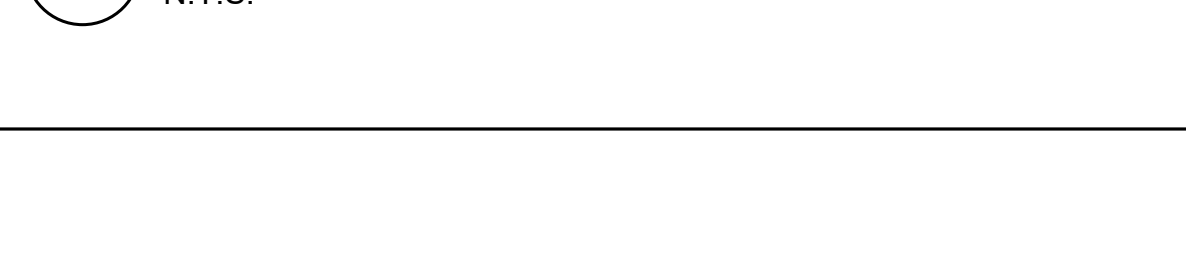
1. INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL EVENT. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
2. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
3. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.
4. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

1. NEVER RUN OR BURN WASTE. Place filter and debris to approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacles) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containers. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint wastehats at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a contained area.
4. Containment must be labeled, sealed and placed appropriately for the needs of site.
5. Prevent the discharge of paints, solvents, detergents and other liquid wastes from construction sites.

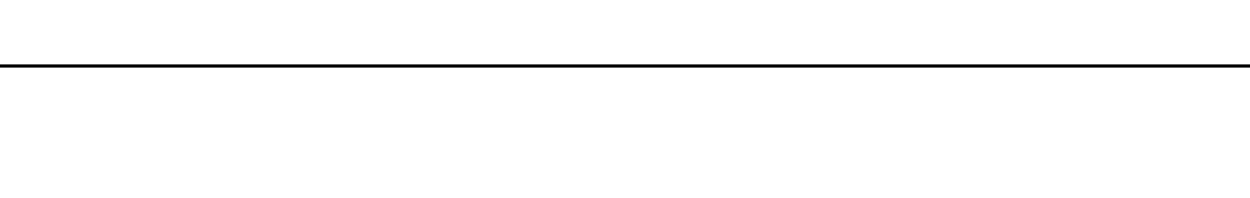
1. Select focussants that are appropriate for the soils being exposed during construction, selecting from the NC DEQ List of Approved PAMs/Presolvents.
2. Apply focussants at or before the Erosion and Sediment Control Measures.
3. Apply focussants at the concentrations specified in the NC DEQ List of Approved PAMs/Presolvents and in accordance with the manufacturer's instructions.
4. Apply focussants in a tank prior to application and use the manufacturer's instructions for application.
5. Do not apply focussants to a tank prior to application and use the manufacturer's instructions for application.

6 Temporary Silt Sack N.T.S.



7 NCG01 Standard Details (NCDEQ)

N.T.S.

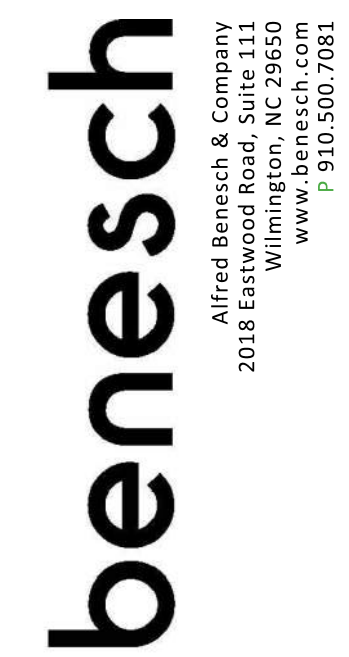


NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19



Seals:



Corp. NC License: F-1320

The shoppes at Dutchman Village
5020 J. Swain Boulevard
Southport, North Carolina

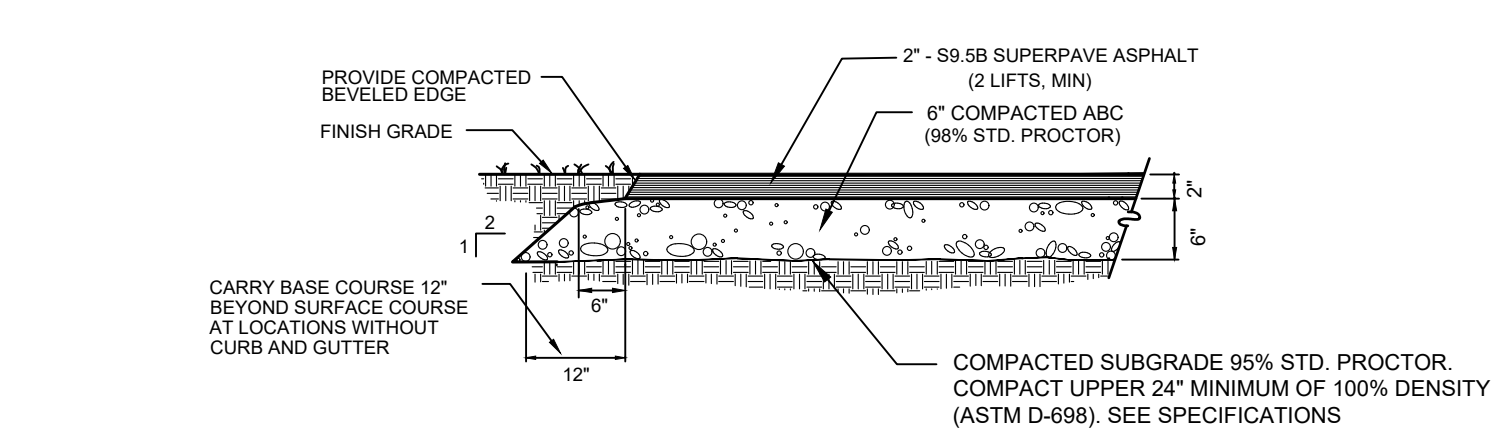
Project No: 17.000530
Date: 01.10.2023
Revisions:
Revised per Fire Comments 01.16.23
Revised per City Comments 03.10.23

FINAL DESIGN
NOT FOR CONSTRUCTION

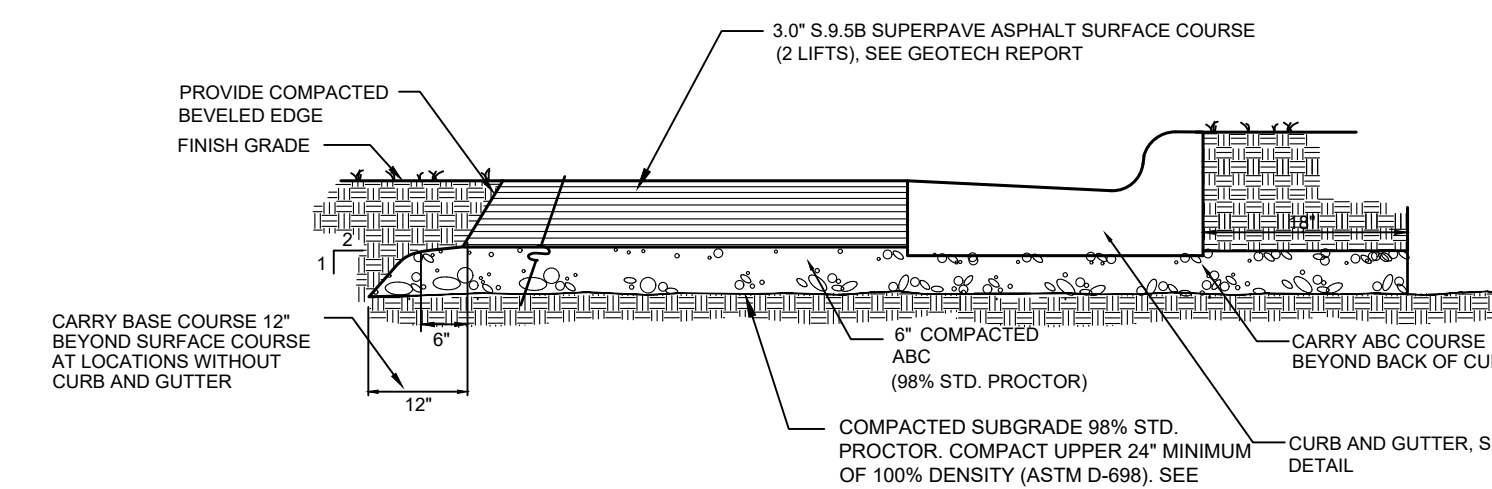
Sheet Title:

EROSION CONTROL DETAILS

Sheet No:
C500



Standard Duty Paving Section

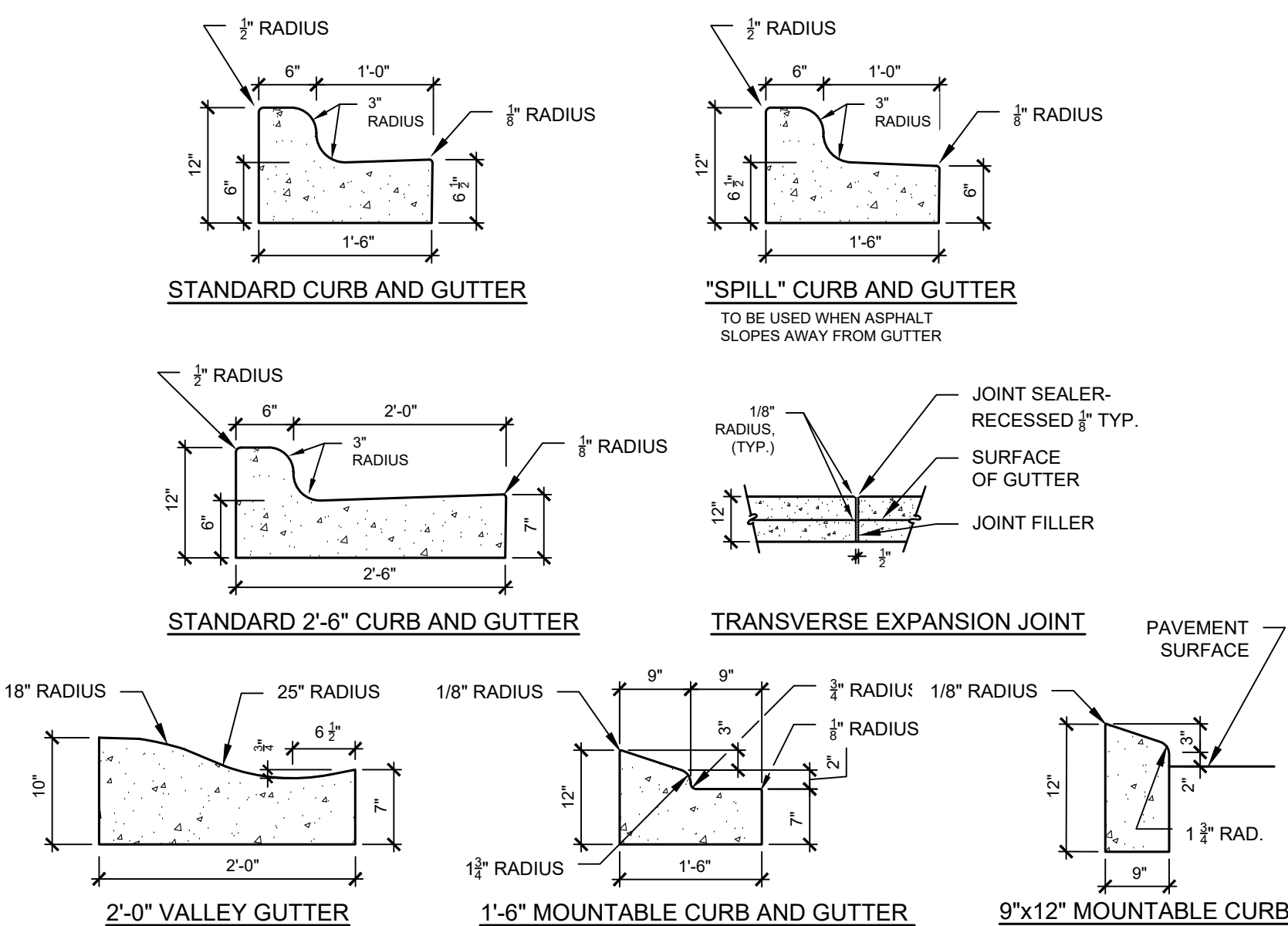


Heavy Duty Paving Section

- NOTES:
1. PAVEMENT RECOMMENDATIONS PER GEOTECH REPORT BY ECS SOUTHEAST, LLP. ECS PROJECT NO. 22-32186 DATED SEPTEMBER 09, 2022.
 2. PERFORM COMPACTION IN ACCORDANCE WITH SECTION 520 OF THE MOST RECENT VERSION OF THE NCDOT STANDARD SPECIFICATION FOR ROADWAYS AND STRUCTURES.

1 Asphalt Pavement Detail

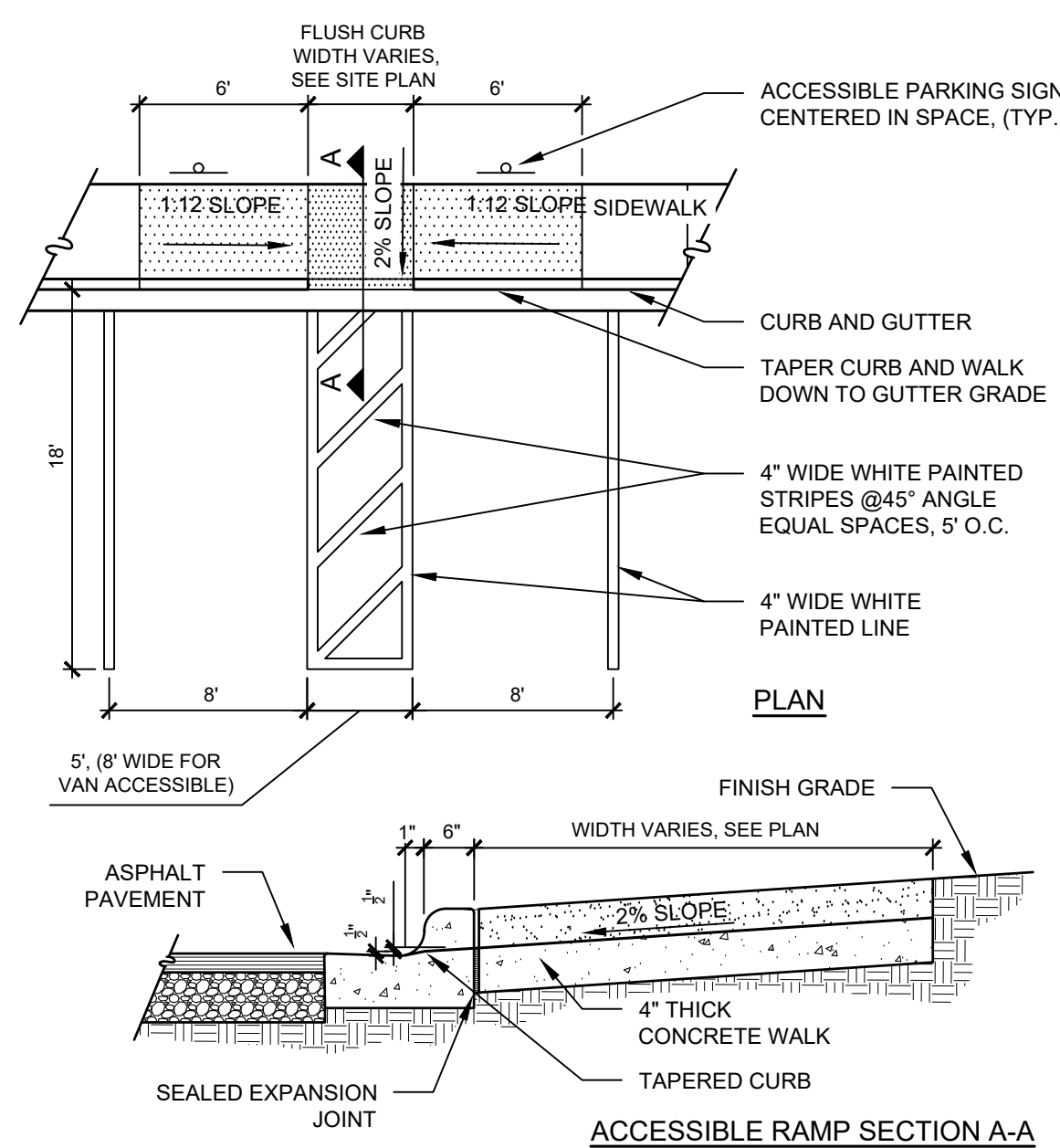
N.T.S.



- NOTES:
1. CONTRACTION JOINTS SHALL BE SPACED AT 10-FOOT INTERVALS. FOR VALLEY GUTTER, A 15-FOOT SPACING MAY BE USED WHEN A MACHINE IS USED. JOINT SPACING MAY BE ALTERED BY THE ENGINEER TO PREVENT UNCONTROLLED CRACKING.
 2. CONTRACTION JOINTS MAY BE INSTALLED BY THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS WHERE SUCH JOINTS ARE NOT FORMED BY TEMPLATES. A MINIMUM DEPTH OF 1 1/2" SHALL BE OBTAINED.
 3. ALL EXPANSION JOINTS SHALL BE SPACED AT 90 FOOT INTERVALS, AND ADJACENT TO ALL RIGID OBJECTS. JOINTS SHALL MATCH LOCATIONS WITH JOINTS IN ADJUTING SIDEWALK.
 4. TOP 6" OF SUBGRADE BENEATH THE CURB AND GUTTER SHALL BE COMPACTED TO 100% STANDARD PROCTOR DENSITY.
 5. CURB SHALL BE DEPRESSED AT INTERSECTIONS TO PROVIDE FOR FUTURE ACCESSIBLE RAMPS.
 6. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3600 P.S.I. IN 28 DAYS.

5 Concrete Curb and Gutter Detail

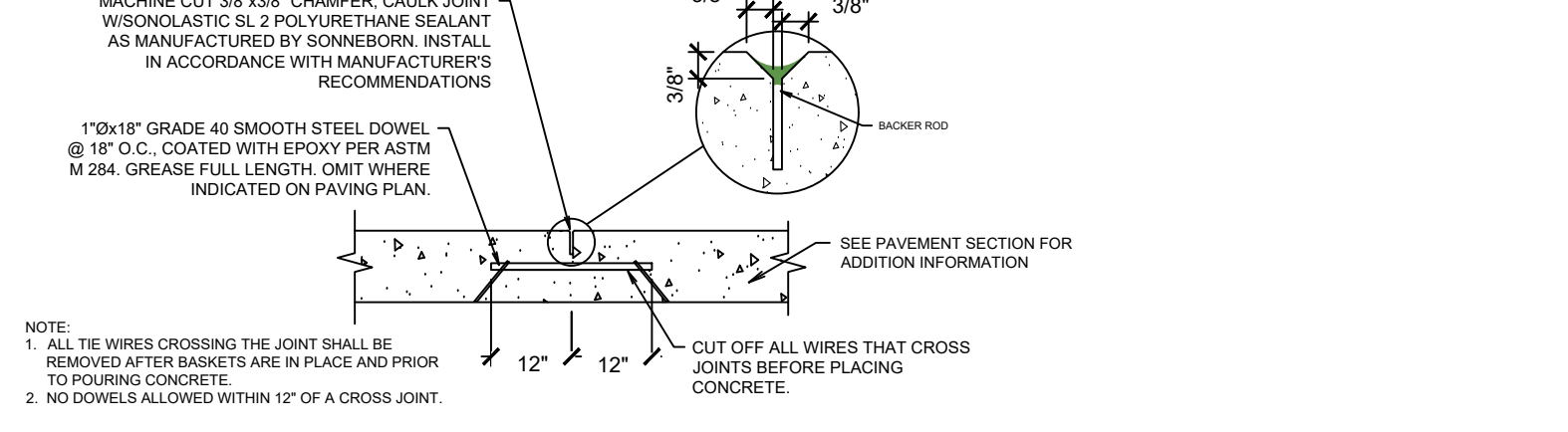
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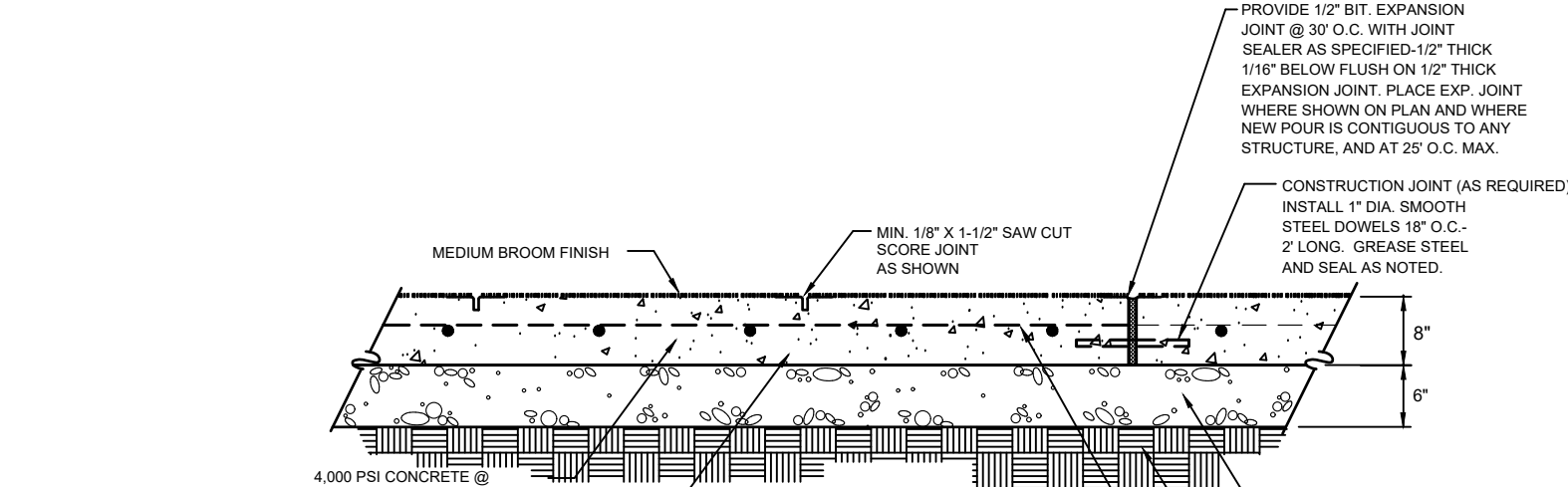
- NOTES:
1. RAMP AND WING SLOPES SHALL NOT BE STEEPER THAN 1:12.
 2. GUTTER FLOW LINE AND PLAN PROFILE SHALL BE MAINTAINED THROUGH THE RAMP AREA.
 3. IF ACCESSIBLE ROUTE IS A RAISED SIDEWALK AREA, THEN RAMPS ARE REQUIRED AT LOADING ZONE AREA.
 4. COORDINATE CONSTRUCTION TO COMPLY WITH LOCAL AND FEDERAL ADA STANDARDS.
 5. ALL 12"x18" ACCESSIBLE SIGNS (R7-8a AND R7-1) SHALL BE MOUNTED AT 7 FEET FROM GRADE TO BOTTOM EDGE OF SIGN FACE (MUTCD). MOUNTING HEIGHT CAN BE REDUCED TO 5 FEET IF PLACED IN AN AREA BETWEEN SIDEWALK AND BUILDING FACE IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
 6. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) U.S. DEPARTMENT OF TRANSPORTATION AND NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SUPPLEMENT.
 7. THE SURFACE OF THE RAMP SHALL BE FLUSH WITH THE FLOWLINE OF THE CURB AND GUTTER.
 8. REFER TO PLAN SHEETS FOR ALL GRADING AND RAMP LOCATIONS/CONFIGURATIONS.

9 Accessible Parking/Signage/Striping Detail

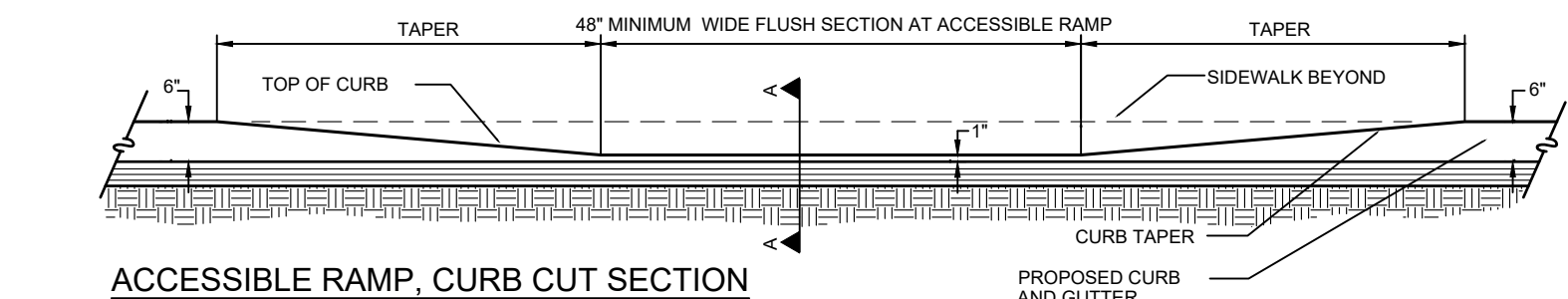
N.T.S.



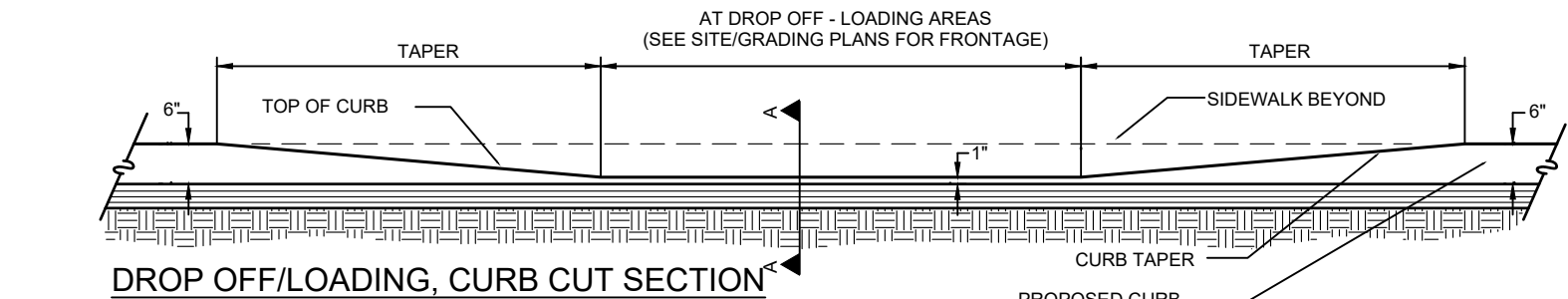
CONTRACTION JOINT DETAIL



SECTION A-A AT ACCESSIBLE CURB



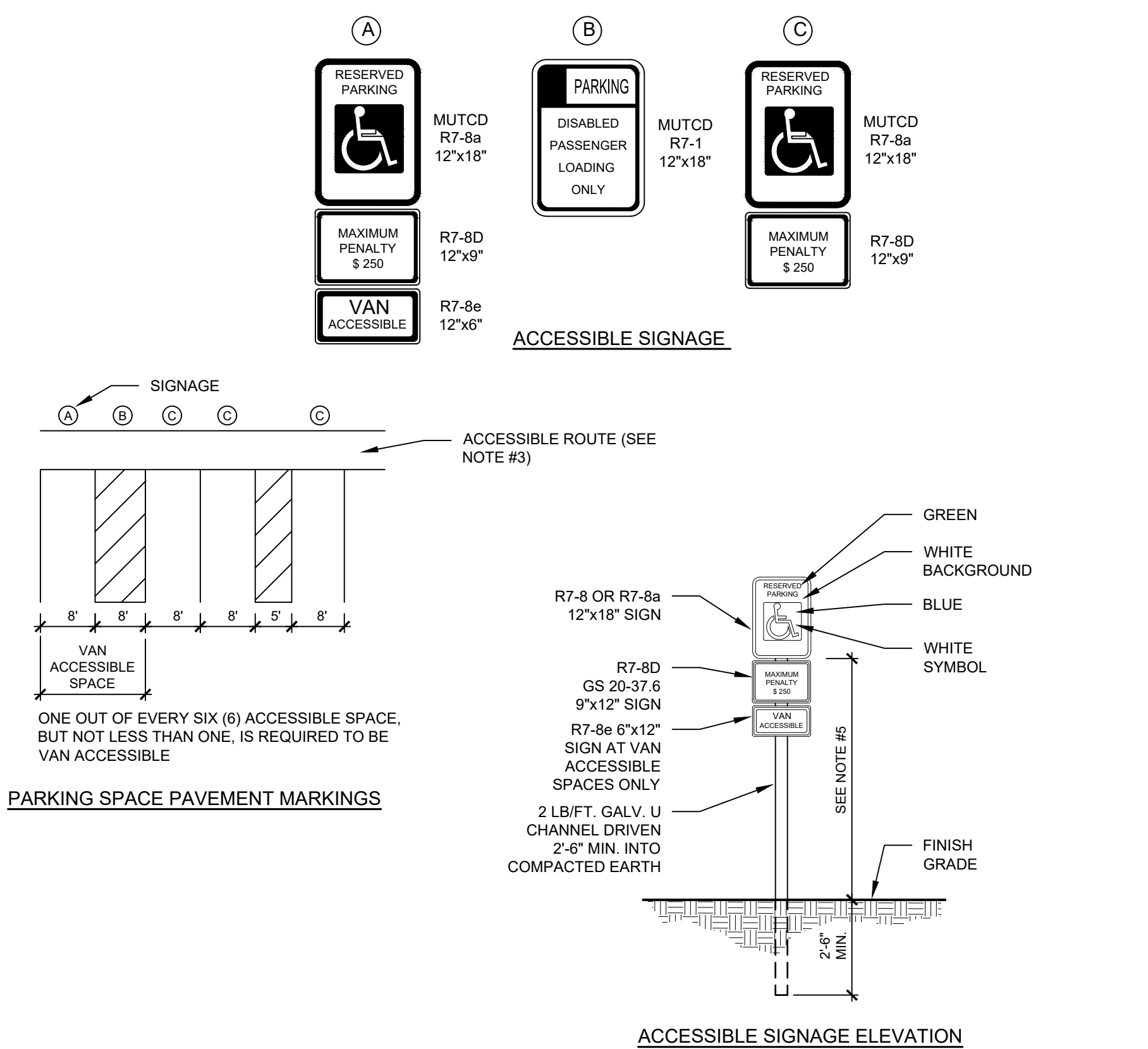
ACCESSIBLE RAMP, CURB CUT SECTION



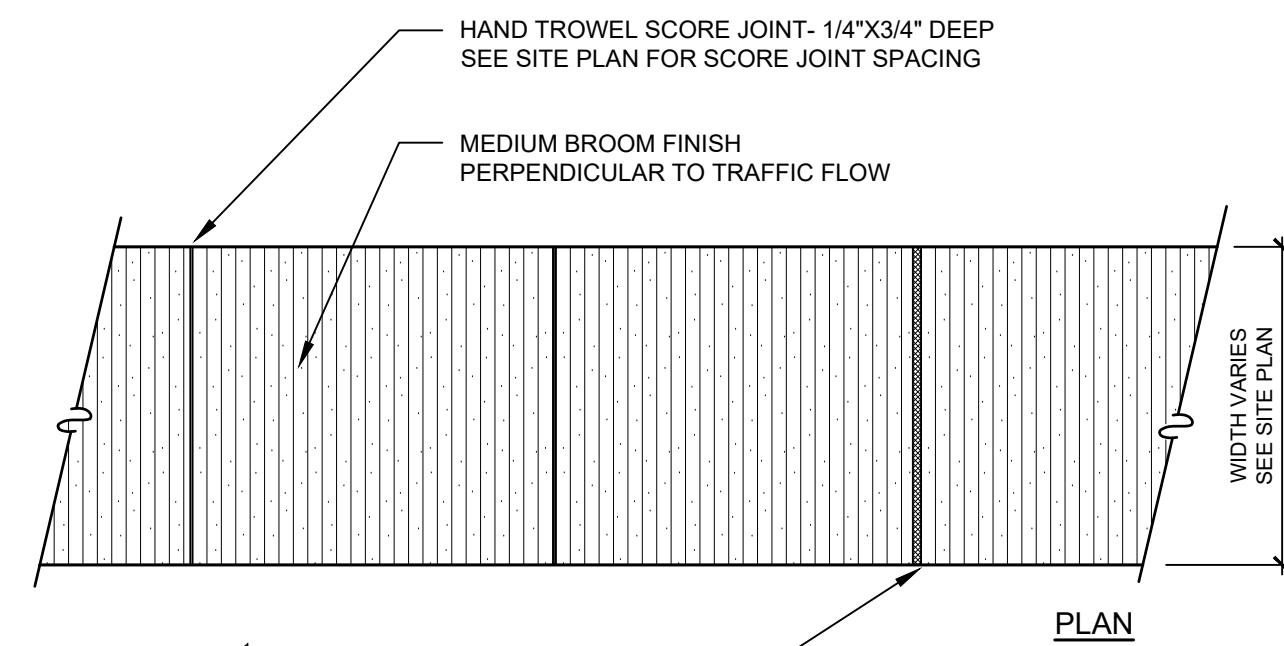
DROP OFF/LOADING, CURB CUT SECTION

6 Flush Curb

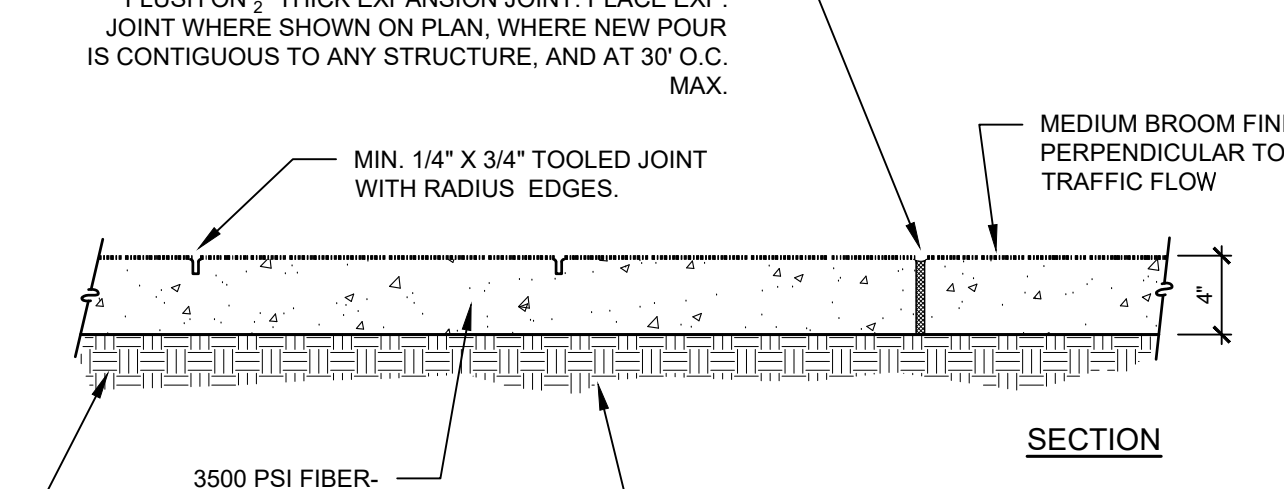
SCALE: N.T.S.



ACCESSIBLE SIGNAGE ELEVATION



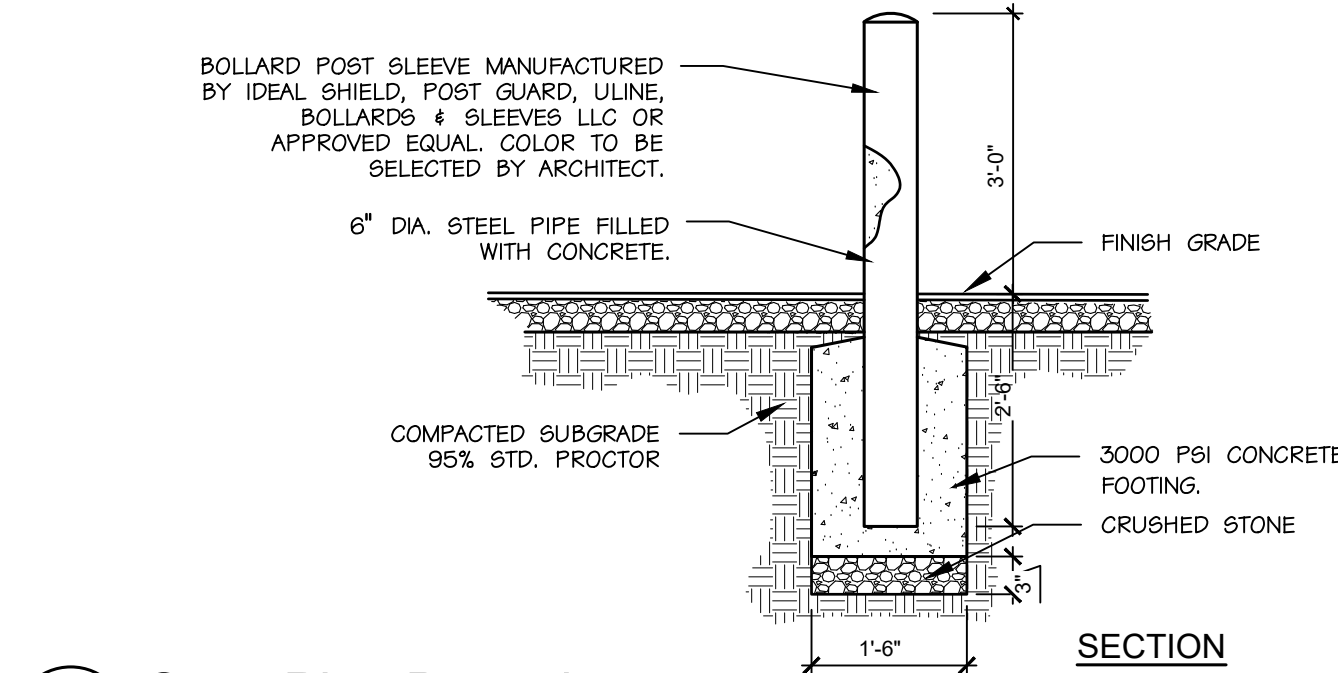
Concrete Sidewalk Detail



- NOTES:
1. PROVIDE CONTRACTION JOINTS SPACED EQUAL TO THE SIDEWALK WIDTH AND EXPANSION JOINT BETWEEN ALL TRANSITIONS TO CURBING AND BUILDINGS. AND AT A MAXIMUM SPACING OF 90' O.C.

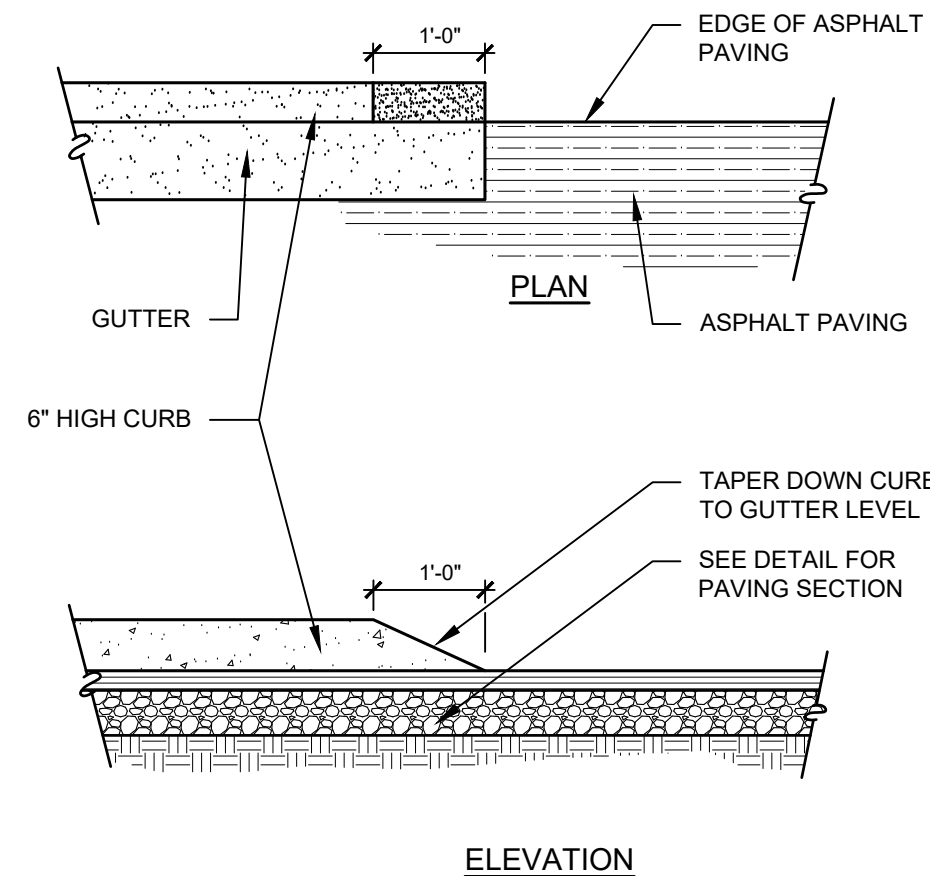
3 Concrete Sidewalk Detail

N.T.S.



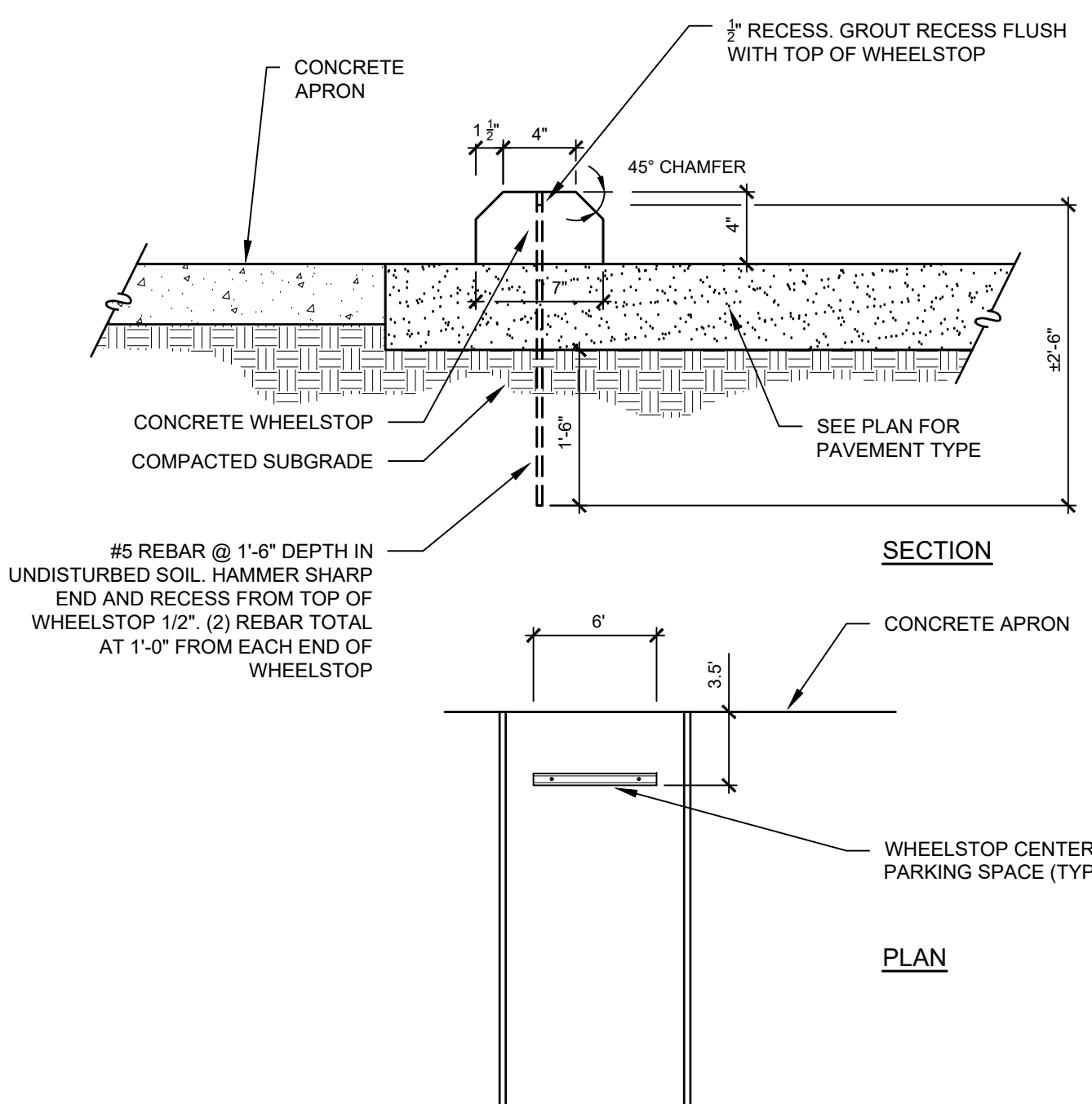
4 Steel Pipe Bollard

N.T.S.



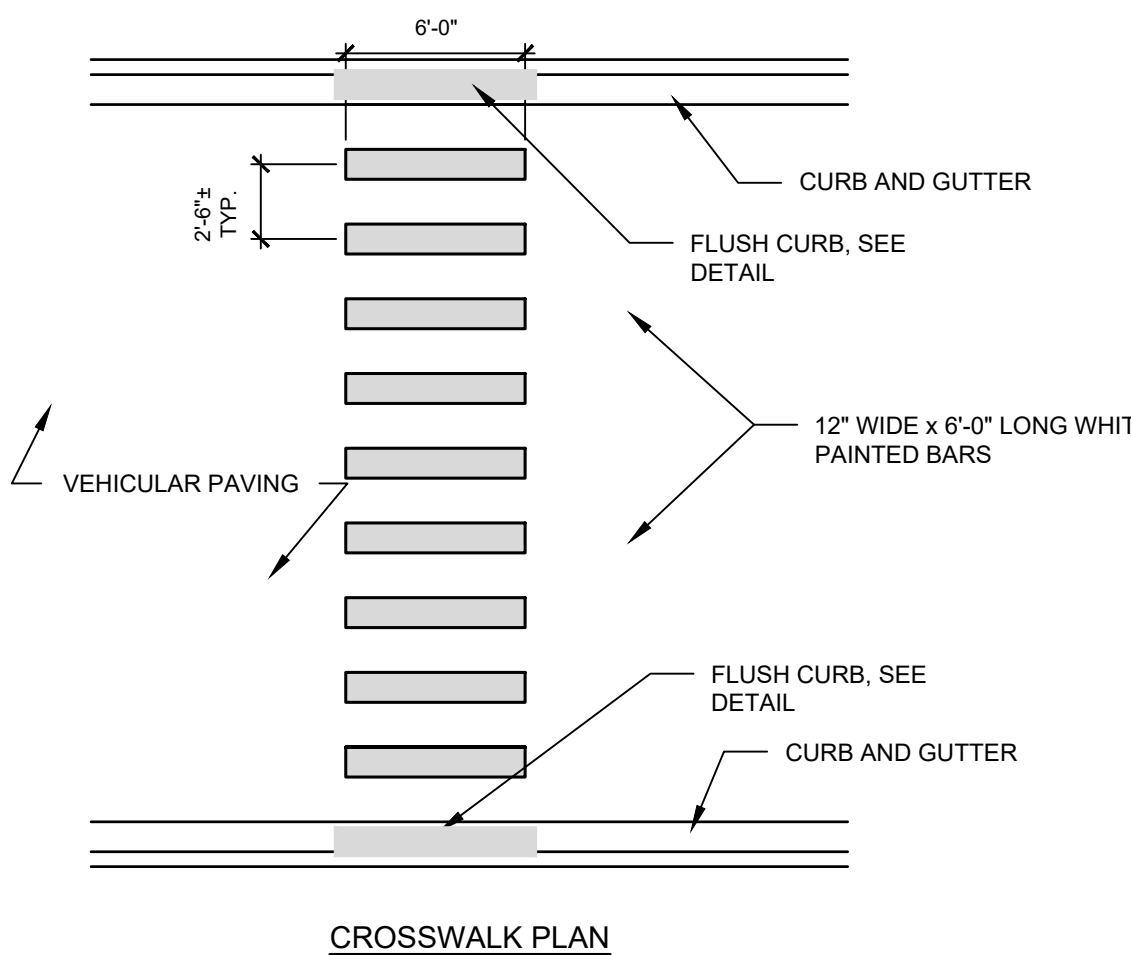
7 Curb Taper Detail

N.T.S.



8 Concrete Wheelstop Detail

N.T.S.



- NOTES:
1. CROSSWALK SHALL MEET MANUAL OF TRAFFIC CONTROL DEVICES MIN REQ.

10 Painted Crosswalk

N.T.S.

Seals:



Corp. NC License: F-1320

Project No:	17.000530
Date:	01.10.2023
Revisions:	
Revised per Fire Comments and Internal QC Review	01.16.23
Revised per City Comments	03.10.23

FINAL DESIGN
NOT FOR
CONSTRUCTION

Sheet Title:

SITE
DETAILS

Sheet No:
C501

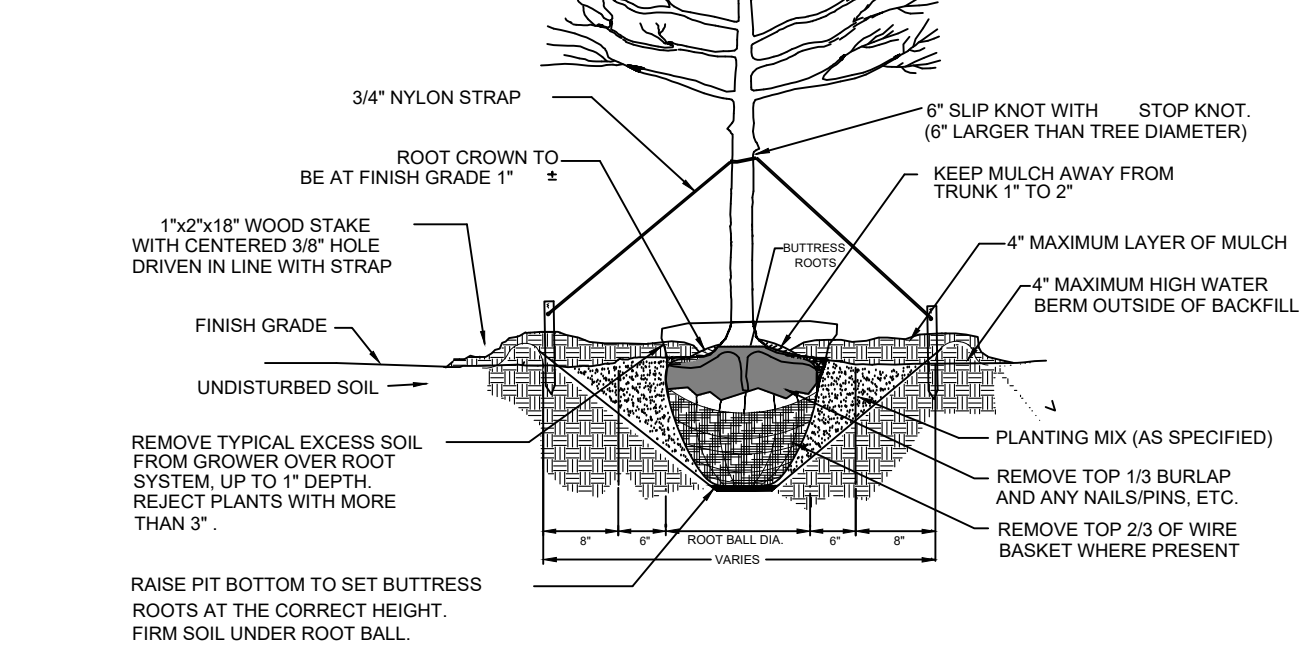
SITE DATA:	
1. PARCEL ID: PARCEL G-H - 2210000209	
2. PROJECT ADDRESS: 5020 J. SWAIN BLVD SOUTHPORT, NC	
3. PROPERTY DEED AND PLAT DB: 4945 PG: 0402 MB: 143 PG: 54	
4. OWNER: CPSC LAND, LLC 147 HAMMOCKS WATCH WAY HAMPSTEAD, NC 28443	
5. LAND USE: CURRENT LAND USE - VACANT PROPOSED LAND USE - COMMERCIAL LAND USE PER CITY FUTURE LAND USE PLAN - HEAVY COMMERCIAL	
6. ZONING - SOUTHPORT - HC - HIGHWAY COMMERCIAL	
7. PARCEL ACREAGE: PARCEL G-H: 2.21 AC	
8. BUILDING SETBACKS: FRONT: 25 FEET SIDE: 8 FEET REAR: 20 FEET	
9. BUILDING SIZE: 9,750 SF FOOTPRINT 29,250 SF GROSS	
10. BUILDING HEIGHT: 40' TO TOP OF STRUCTURE (4' FOR ELEVATOR STRUCTURAL COMPONENTS, MECHANICAL EQUIPMENT AND SCREENING)	

LANDSCAPE REQUIREMENTS:	
STREET YARDS (3.17F) - 880 LF	
CANOPY TREES REQUIRED (1 PER 50'); 12, PROVIDED: 12	
UNDERSTORY TREES REQUIRED (1 PER 20'); 29, PROVIDED: 29	
SHRUBS (20 PER 100') REQUIRED: 116, PROVIDED: 116	
PARKING FACILITY LANDSCAPING (3.17F)	
PLANTING PENINSULAS PROVIDED (1 CANOPY TREE, 6 SHRUBS PER EACH); 24	
CANOPY TREES REQUIRED: 24, PROVIDED: 24	
SHRUBS REQUIRED: 144, PROVIDED: 144	
GROSS PAVED AREA: 50,869 SF	
LANDSCAPE REQUIRED: 4,870 SF (90.869 SF X 8%)	
LANDSCAPE PROVIDED: 5,880 SF	
FOUNDATION PLANTING (3.17H)	
BUILDING FACE: 218 LF X 40 FT = 8,720 SF	
PLANTING REQUIRED: 1046 SF (8,720 SF X 12%), PROVIDED: 1,080 SF	
BUFFER YARDS: N/A	

ADDITIONAL LANDSCAPE NOTES:	
1. CANOPY AND UNDERSTORY TREES TO BE INSTALLED IN ACCORDANCE TO DETAIL 1 THIS PAGE.	
2. SHRUBS TO BE INSTALLED IN ACCORDANCE TO DETAIL 2 THIS PAGE.	
3. GROUNDCOVERS TO BE INSTALLED IN ACCORDANCE TO DETAIL 3 THIS PAGE.	
4. CONTRACTOR TO SUBMIT PHOTOS OF PLANT MATERIAL AS SHOP DRAWINGS FOR APPROVAL.	
5. ANY PROPOSED PLANT SPECIES SUBSTITUTIONS MUST BE REQUESTED IN WRITING TO THE DESIGNER OF RECORD FOR APPROVAL.	
6. PLANTING PLAN PROVIDED REPRESENTS THE MINIMUM REQUIRED FOR COMPLIANCE WITH ZONING AND IS FOR INFORMATION ONLY. FINAL DESIGN MUST BE REVIEWED, PREPARED AND SEALED BY A NC LICENSED LANDSCAPE ARCHITECT.	

NOTES:

- REMOVE WIRE OR NYLON TRIMME FROM BALL.
- SOAK ROOT BALL AND PLANT PIT IMMEDIATELY AFTER INSTALLATION.
- SEE ATTACHED LANDSCAPE CONSTRUCTION STANDARDS FOR OTHER PLANTING REQUIREMENTS.
- STAKING REQUIRED.
- CONTRACT SEE GENERAL NOTES.
- MINIMUM TREE SIZE: SINGLE STEM 7" CALIPER, 10'-12" TALL FOR STREET TREES; 2 1/2" CALIPER, 8'-10' IN LANDSCAPE BUFFERS.
- MINIMUM TREE SIZE: MULTI-STEM 3-5 STEMS, 8' TALL.



ALL TREES SHALL MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI, 1990, PART 1, "SHADE AND FLOWERING TREES")					
FOR EXAMPLE:	CALIPER	HEIGHT (RANGE)	MAX. HEIGHT	MIN. ROOT BALL DIA.	MIN. ROOT BALL DEPTH
	2"	12-14'	16'	24"	16"
	3"	14-16'	18'	32"	21"
(FOR SINGLE AND MULTI-STEM TREES)					

March 9th, 2023

Maureen Meehan & Travis Henley
City of Southport
Development Services
1029 N. Howe Street
Southport, NC 28461

RE: **Southport Commercial – The Shoppes at Dutchman Village**
Comments Received via Email Dated 2023.02.26

Dear Planning Staff,

See below responses to TRC comments received via email dated February 26th, 2023. Please don't hesitate to reach out direct with any additional questions or clarifications. Comments from the checklist that represented satisfactory information was provided have been omitted for clarity.

Planning Comments:

- 1.1 TIA Requirement - Staff note that TIA is ongoing and scoping meeting was held on February 2, 2023 prior to the review committee meeting. Please forward completed TIA when finished, and further comments will be provided upon completed review.*

Scoping Meeting Document has been provided and the Traffic Study will be submitted upon completion. It is anticipated to be completed and submitted by March 10th.

- 2.6 Maximum Height Info - Noted on sheet C200, site data note #10. Note that only elevator support structures are permitted above 40' height maximum, such support structures only include such apparatus needed to ensure safe and effective operation of elevator, and does not include the car, shaft, or anything else relating to the elevator.*

Note has been revised to specify elevator support structures are the only elevator components allowed above the 40' maximum height.

- 2.7 Pedestrian Infrastructure (Also incorporating 2.8) - Based on scale, northeastern-most parking area is still beyond 50' from nearest sidewalk.*

Ordinance also requires sidewalk along Eason Street.

Additional sidewalk has been added to serve this area, as well as sidewalk along Eason.

- 2.9 *20' Rear Setback - Given orientation of building, 20' rear building setback also applies to property line perpendicular to Eason Street. Please update; this does not appear to impact any site design elements.*

Setback revised and no impacts are noted.

- 2.10 *Stormwater - Comments forwarded from Stormwater engineer on 2/2, please provide updated plans when available (Staff are aware that comments have already been incorporated as of 2/24).*

Comments have been incorporated and are shown on the current plan set.

- 2.12 *Lighting Plan - Please provide when complete.*

Lighting Plan incorporated into the plans on the Utility Sheet (C400).

J. Swain Stormwater Review (By Wooten):

1. *Please add the watershed and coastal classification to the plans.*

Watershed and Coastal Classification added to sheet C300.

2. *Please note that storm drainpipes, curb inlets and catch basins were designed for the 25-year storm per Southport's Stormwater Management Plan.*

Note has been added to Sheet C300 confirming compliance with the City's SMP design storm frequency.

3. *Please provide standard catch basin and drop inlet details.*

Details provided on Sheet C503.

4. *Specify acreage of Limits of Disturbance (LOD) on Plans.*

Limits of Disturbance acreage is specified on Sheet C302. "Total Denuded Area: 2.4 Acres"

5. *Show tree protection fence as required on plans.*

Tree Protection fencing added to Sheet C302.

6. *Provide detail for tree protection fence.*

Tree Protection fencing detail added to Sheet C500.

7. *Ensure that all Stormwater details include specifications from Southport's Stormwater Technical Manual.*

All stormwater details are in compliance with the City's Stormwater Technical Manual.

8. *Stockpile areas should be shown, and methods of stabilization shall be noted.*

Note has been added to Sheet C302 with requirements for stockpile areas and stabilization.

9. *Per UDO concrete wheel stops need to be minimum of 3.5 feet from sidewalk apron.*

Detail has been revised to reflect the UDO requirements.

Please don't hesitate to reach out to me via phone, (910)473-7836, or email, kherring@benesch.com, with any further questions or comments. Original comments provided as Attachment A.

Thank you,



Kyle Herring, PE
Project Manager | Wilmington, NC
[p: \(910\) 473-7836](tel:(910)473-7836) [e: Kherring@benesch.com](mailto:Kherring@benesch.com)

Attachment A



DEVELOPMENT SERVICES DEPARTMENT

MEMORANDUM

To: Kyle Herring and Evans Trawick, Shoppes at Dutchman Village
From: Development Services Staff
Date: February 26, 2023
RE: Shoppes at Dutchman Village – Round 2 Staff Comments

Mr. Herring and Mr. Trawick,

Please see comments below on the round 2 submittal for the Shoppes at Dutchman Village Major Site Plan. For the purposes of clarity, Staff have utilized the same format used in the response sheet sent January 11, 2023. Comments below in green are complete and require no further response. Comments in red remain outstanding and/or are noted to provide awareness to particular items.

- 1.1 TIA Requirement
Staff note that TIA is ongoing and scoping meeting was held on February 2, 2023 prior to the review committee meeting. Please forward completed TIA when finished, and further comments will be provided upon completed review.
- 2.1 Project Name
Complete
- 2.2 Contact Info
Complete
- 2.3 Telephone Number
Complete
- 2.4 Map Book/Page Number
Complete
- 2.5 Land Use Description Consistency
Complete

2.6 Maximum Height Info

Noted on sheet C200, site data note #10. Note that only elevator support structures are permitted above 40' height maximum, such support structures only include such apparatus needed to ensure safe and effective operation of elevator, and does not include the car, shaft, or anything else relating to the elevator.

2.7 Pedestrian Infrastructure (Also incorporating 2.8)

Based on scale, northeastern-most parking area is still beyond 50' from nearest sidewalk.

Ordinance also requires sidewalk along Eason Street.

2.9 20' Rear Setback

Given orientation of building, 20' rear building setback also applies to property line perpendicular to Eason Street. Please update; this does not appear to impact any site design elements.

2.10 Stormwater

Comments forwarded from Stormwater engineer on 2/2, please provide updated plans when available (Staff are aware that comments have already been incorporated as of 2/24).

2.11 Signage

Complete, all signage shall required separate permitting at appropriate time.

2.12 Lighting Plan

Please provide when complete.

2.13 Existing Trees

Noted plan for existing trees, complete.

2.14 Planting Species and Conformance to Planting Table

Noted section 3.17.G.1.B, Zelkova's are permitted so long as less than 50% of required canopy trees for parking landscaping.

Also noted inclusion of additional planting materials beyond requirements that are not located within planting tables. Such is permitted, but City encourages any additional planting material to be native vegetation.

Complete

February 1, 2023

City of Southport
Ms. Bonnie Therrien, City Manager
1029 N. Howe Street
Southport, NC 28461

Re: J. Swain Stormwater Review

Dear Ms. Therrien,

As requested, our team has reviewed the site for stormwater and erosion control for the above-mentioned project. Proposed development is a 96,122 SF commercial space on parcels 2210000209 and 2210000210, located at 5020 J. Swain Blvd, Southport, NC.

Please find the comments below as part of the review:

Site Plan Review

1. Please add the watershed and coastal classification to the plans.
2. Please note that storm drainpipes, curb inlets and catch basins were designed for the 25-year storm per Southport's Stormwater Management Plan.
3. Please provide standard catch basin and drop inlet details.
4. Specify acreage of Limits of Disturbance (LOD) on Plans.
5. Show tree protection fence as required on plans.
6. Provide detail for tree protection fence.
7. Ensure that all Stormwater details include specifications from Southport's Stormwater Technical Manual.
8. Stockpile areas should be shown, and methods of stabilization shall be noted.
9. Per UDO concrete wheel stops need to be minimum of 3.5 feet from sidewalk apron.

We appreciate the opportunity to be of service to the City of Southport. If you have any

questions, comments, or concerns regarding this evaluation, please contact me at wgross@thewootencompany.com.

Respectfully,

THE WOOTEN COMPANY

A handwritten signature in black ink, appearing to read 'W. E. Gross', with a long horizontal line extending to the right.

Walter E. Gross, P.E.
Regional Engineering Manager
Wilmington Office

The Shoppes at Dutchman Village

Traffic Impact Study

Southport, NC

Brunswick County, North Carolina

March 2023

Prepared For:

CFSC Land, LLC
176 Hammock Watch Way
Hampstead, NC 28443

Benesch Project No.: 17000530.00

Prepared by:

Alfred Benesch & Company
8000 Regency Parkway, Suite 175
Cary, NC 27518
NC Firm License No: F-1320



Copyright 2023 Alfred Benesch & Company. All rights reserved.

DocuSigned by:

Steven Cox

3/8/2023

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FIGURES

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Figure 2 – Build (2024) Geometry

Figure 3 – Existing (2023) Volumes

Figure 4 – No-Build (2024) Volumes

Figure 5 – Trip Distribution

Figure 6 – Site Trips

Figure 7 – Build (2024) Volumes

APPENDICES

APPENDIX A – Traffic Counts

APPENDIX B – Site and Signal Plan

APPENDIX C – Growth Rate Calculations

APPENDIX D – ITE Trip Generation

APPENDIX E – Volumes

APPENDIX F – Synchro Reports

APPENDIX G – SimTraffic Reports

1.0 EXECUTIVE SUMMARY

Benesch has prepared this Traffic Impact Study for CFSC Land, LLC to evaluate the impact that the proposed development, The Shoppes at Dutchman Village, will have on the existing street network and to identify if any improvements are necessary to accommodate the proposed development at 5020 J. Swain Boulevard in Southport, North Carolina.

The 2.2-acre site is bound by J. Swain Boulevard to the west and Eason Street to the south in Southport, NC. The site is proposed to consist of an approximate 30,000 square-foot mixed commercial building and associated site appurtenances. Two unsignalized accesses are proposed, one right-in right-out driveway on J. Swain Boulevard and one full-access driveway on Eason Street.

Based on the capacity analysis, the addition of site traffic will have a small impact on delay at each of the study intersections. All intersections and proposed driveway operate at an acceptable Level of Service in the Existing (2023), No-Build (2024), and Build (2024) conditions. It is recommended that improvements be limited to signal timing adjustments so that the intersection can operate optimally with the additional traffic demands from the proposed development.

2.0 BACKGROUND

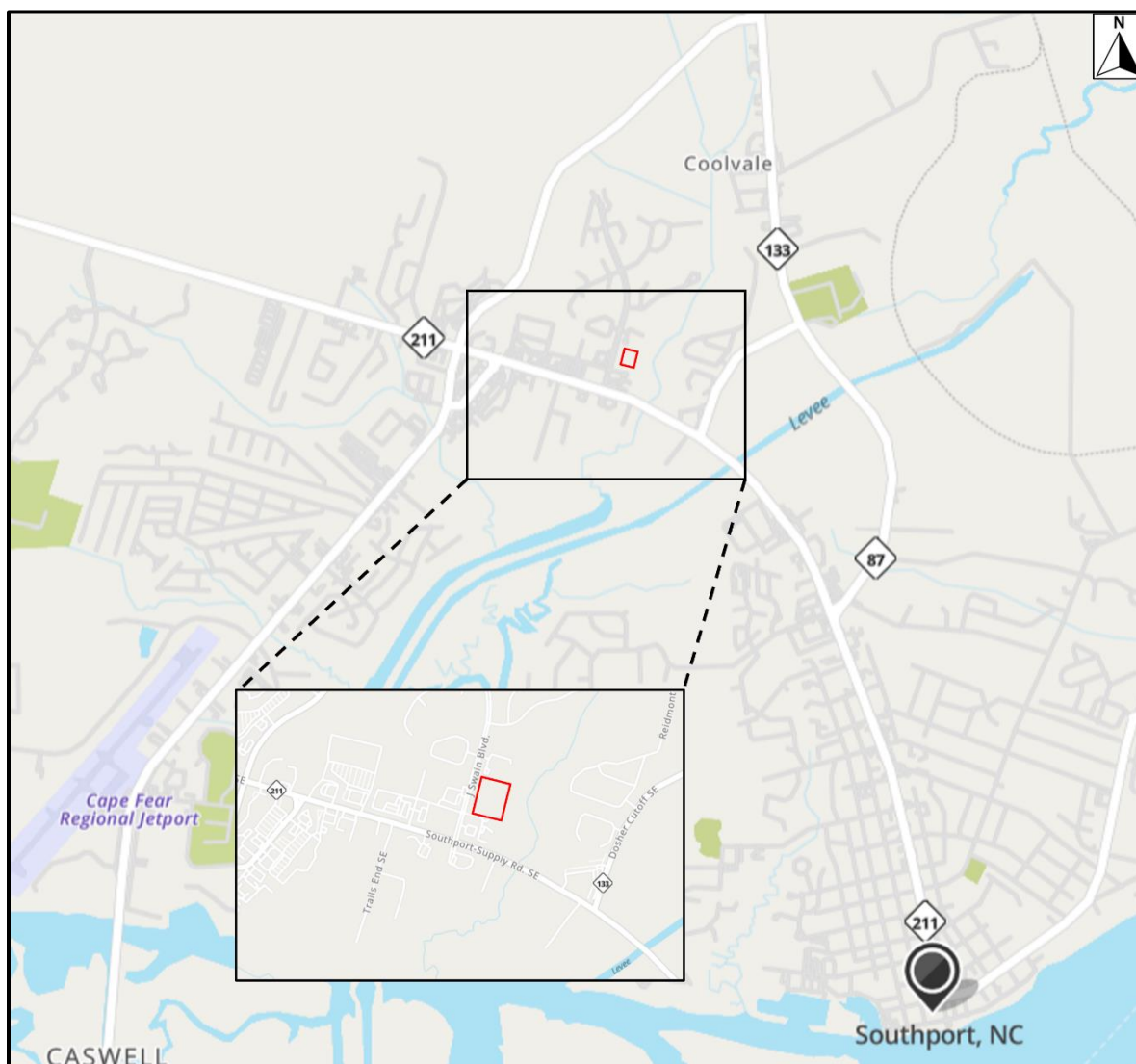
Benesch has prepared this Traffic Impact Study for CFSC Land, LLC to evaluate the impact the proposed Shoppes at Dutchman Village development will have on the existing street network. The study includes a summary of Existing (2023), No-Build (2024) and Build (2024) conditions with the development traffic volumes.

The 2.2-acre site is bound by J. Swain Boulevard to the west and Eason Street to the south in Southport, NC. Land uses in the surrounding area are primarily residential and retail. The property is currently vacant and zoned as Highway Commercial District (HC). The subject property is part of the overall Dutchman Village Phase 1 development, for which a traffic study has previously been completed (Mandala Services, Inc., August 2020). Though the proposed Shoppes at Dutchman Village development lies within the Dutchman Village Phase 1 Subdivision, it was not accounted for in the previous study. The site is projected to generate greater than 500 trips per day and thus requires a site-specific Traffic Impact Study per the City of Southport Ordinance.

The proposed development is expected to consist of approximately 8,600 sq-ft of General Office Building, 8,600 sq-ft of Medical-Dental Office Building, a 3,300 sq-ft Strip Retail Plaza, a 4,400 sq-ft High-Turnover (Sit-Down) Restaurant, and a 2,000 sq-ft Coffee/Donut Shop with Drive-Through. The proposed development will be accessed by one stop-controlled right-in right-out driveway along J. Swain Boulevard and one stop-controlled full-access driveway along Eason Street. **Exhibit 1** illustrates the proposed site plan for the Shoppes at Dutchman Village development. **Exhibit 2** displays the vicinity of the proposed development. A full site plan is included in **Appendix B**.



Exhibit 2 – Vicinity Map



The following intersections in the project vicinity have been included in the TIA for analysis under existing and future conditions:

1. J. Swain Boulevard/Coastline Insurance Driveway at NC-211 (Southport-Supply Road)
2. J. Swain Boulevard at Eason Street
3. J. Swain Boulevard at State Employees Credit Union Driveway
4. J. Swain Boulevard at Site Driveway 1
5. Eason Street at Site Driveway 2

NC- 211 (Southport Supply Road) is the only thoroughfare that brings traffic to and away from the Dutchman Village Phase 1 Subdivision. NC-211 is an existing 4-lane road within the vicinity of the site with a posted speed limit of 45 MPH. NC- 211 is currently under construction as part of NCDOT TIP

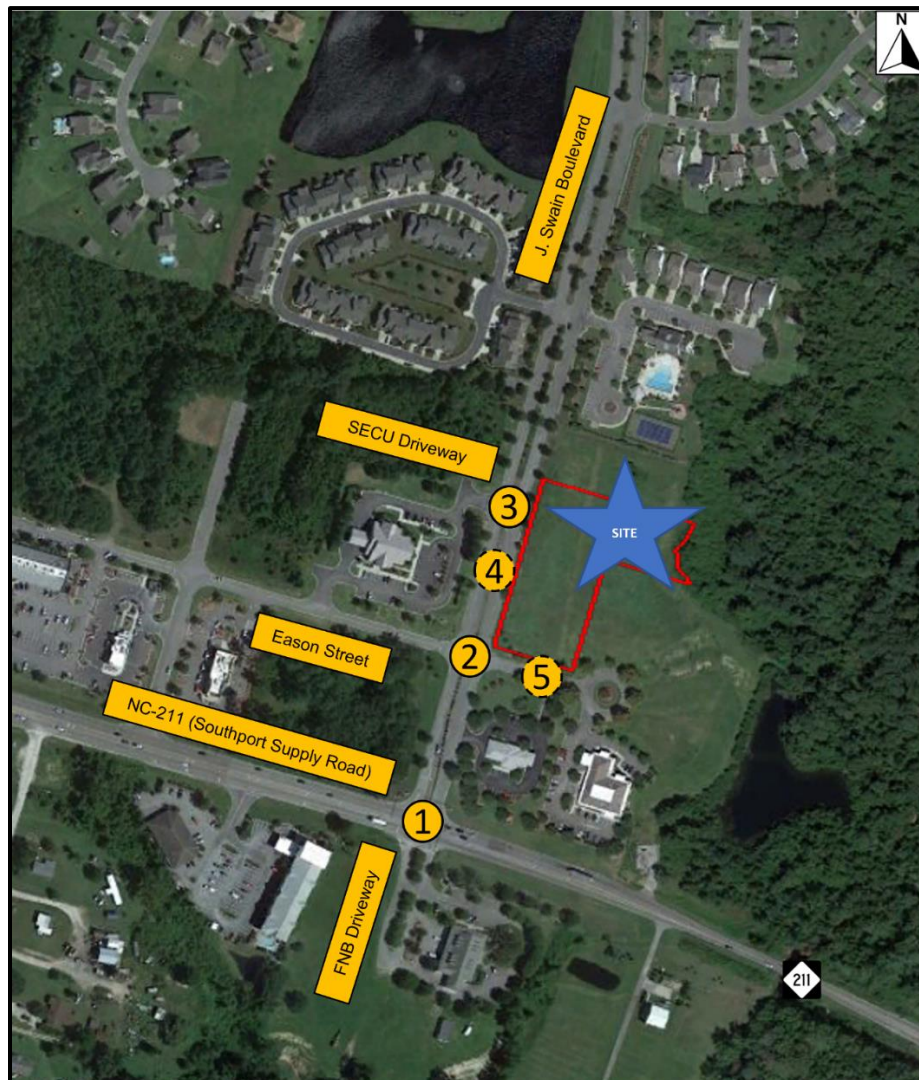
Project Number R-5021. This project includes widening, as well as other upgrades. The proposed R-5021 conditions were used for analysis.

J. Swain Boulevard begins at NC Hwy 211 and runs north, where it terminates in the Rivermist Subdivision. The posted speed limit is 35 MPH. Within the area of the proposed project, J. Swain Boulevard consists of 4 lanes with a planted median. Curb and gutter exists along J. Swain Boulevard and no sidewalk currently exists in the vicinity of the site.

Eason Street begins to the east of the project area in a cul-de-sac and runs from east to west through the Dutchman Village Phase 1 Subdivision. The posted speed limit is 35 MPH and Eason Street contains curb and gutter with no sidewalks in the immediate vicinity of the site.

Exhibit 3 displays the project study area and intersections. **Figures 1** and **2** illustrate the existing and proposed geometry of the study area, respectively.

Exhibit 3 – Study Area



3.0 CAPACITY ANALYSIS

Intersection capacity analysis was completed using Synchro 11 with SimTraffic, version 11.1, build 2, revision 9. The study intersections were analyzed as Two-Way Stop Controlled with the exception of the intersection of J. Swain Boulevard & NC-211 (Southport Supply Road), which was analyzed with the proposed signal. See **Appendix B** for the signal plan. The Levels of Service for the study intersections were determined as described in the *2010 Highway Capacity Manual* (HCM). Level of Service (LOS) is a system of ranking intersection performance using average stop delay per vehicle as the evaluation criteria (expressed as seconds of delay per vehicle, or sec/veh). The HCM LOS rankings are displayed in **Table 1**. For this analysis, acceptable levels of service were considered LOS D, or better, for individual turning movements. NCDOT Capacity Analysis guidelines were followed where applicable.

Table 1 - HCM Level of Service

LOS	Unsignalized	Signalized
	Average Delay (s/veh)	Average Delay (s/veh)
A	≤ 10	≤ 10
B	>10-15	>10-20
C	>15-25	>20-35
D	>25-35	>35-55
E	>35-50	>55-80
F	>50	>80

4.0 EXISTING (2023) CONDITIONS

4.1 Turning Movement Counts

A 24-Hour bi-directional count was performed on Wednesday, February 15, 2023, along NC-211. Peak hours were determined based on the results of this bi-directional count. Six-hour peak-hour turning movement counts were performed at the intersection of J. Swain Boulevard & NC-211 (Southport Supply Road) during the AM (8:00 – 11:00) and PM (4:00 – 7:00) peak periods. Four-hour peak-hour turning movement counts were performed at the intersections of J. Swain Boulevard & Eason Street and J. Swain Boulevard & SECU Driveway during the AM (9:00 – 11:00) and PM (4:00 – 6:00) peak periods. Traffic Count data is located in **Appendix A**. Traffic adjustments were made based on the number of driveways and land uses between study intersections. The Existing (2023) peak-hour volumes are summarized in **Figure 3**.

4.2 Existing (2023) Capacity Analysis

The three existing study intersections were analyzed to determine existing operations within the vicinity of the proposed development. Traffic was analyzed using the Existing (2023) volumes. **Table 2**

summarizes the Existing (2023) condition LOS and Delay at each existing intersection. **Table 3** summarizes the Existing (2023) condition 95th Percentile Queue lengths at each existing intersection.

Table 2 – Existing (2023) Level of Service

Intersection	Approach	EXISTING (2023)			
		Delay (sec)		LOS	
		AM	PM	AM	PM
1. J. Swain Blvd/Coastline Insurance Driveway & NC-211 (Southport Supply Road)	OVERALL	8.4	8.3	A	A
	EB	3.5	3.9	A	A
	WB	6.8	8.5	A	A
	NB	38.7	38.9	D	D
	SB	43.1	41.9	D	D
2. J. Swain Blvd & Eason Street	EB	9.2	9.1	A	A
	WB	10.0	10.0	B	B
	NB	1.6	1.4	A	A
	SB	0.4	0.6	A	A
3. J. Swain Blvd & SECU Driveway	EB	8.9	9.0	A	A
	NB	0.6	1.3	A	A
	SB	0.0	0.0	A	A
5. Eason Street & First Bank Driveway	EB	0.0	0.0	A	A
	WB	0.0	0.0	A	A
	NB	8.8	8.7	A	A

Table 3 – Existing (2023) Queuing

Intersection	Movement	Existing (2023) 95% Queuing (# vehicles)	
		AM	PM
1. J. Swain Blvd/Coastline Insurance Driveway & NC-211 (Southport Supply Road)	EBL	1.2	1.9
	EBT	4.3*	5.4*
	EBTR	3.1	4.0
	WBL	0.8	0.6
	WBT	5.6*	10.4*
	WBT	3.0	5.0
	WBR	1.2	1.2
	NBL	0.8	0.8
	NBTR	1.4	1.3
	SBL	4.0	3.4
	SBT	0.6	0.9
	SBR	1.4	1.3
2. J. Swain Blvd & Eason Street	EBLTR	1.7	1.7
	WBLTR	1.7	1.9
	NBL	0.4	0.4
	SBL	0.0	0.4
3. J. Swain Blvd & SECU Driveway	EBL	0.6	0.4
	EBR	1.3	0.6
	NBUL	0.0	0.4
5. Eason Street & First Bank Driveway/Site Driveway	NBLTR	0.0	1.0

*Synchro 11 95% Queue

All study intersections and approaches operate at LOS D or better during both the AM and PM peak periods during the Existing (2023) condition. Excessive queuing is not apparent for any movement. Synchro 11 and SimTraffic Reports are located in **Appendix F** and **G**, respectively.

5.0 NO-BUILD (2024) CONDITIONS

5.1 Growth Rate

Historical daily traffic volumes in the vicinity of the site were considered for growth rate calculations, however the most recent data is not indicative of post-COVID-19 conditions and therefore was deemed inaccurate for use in the analysis. Historical census data for Brunswick County suggests a 6% annual growth rate. Growth rate calculations are located in **Appendix C**.

The 6% growth rate was applied to the existing counts to grow traffic to the No-Build (2024) volumes. The development is assumed to complete in 2024. **Figure 4** illustrates the No-Build (2024) peak-hour volumes.

5.2 No-Build (2024) Capacity Analysis

The four existing study intersections were analyzed using the calculated No-Build (2024) traffic volumes.

Table 4 summarizes the No-Build (2024) condition LOS and Delay at each intersection. **Table 5** summarizes the No-Build (2024) condition 95th Percentile Queue lengths at each existing intersection.

Table 4 – No-Build (2024) Level of Service

Intersection	Approach	NO-BUILD (2024)			
		Delay (sec)		LOS	
		AM	PM	AM	PM
1. J. Swain Blvd/Coastline Insurance Driveway & NC-211 (Southport Supply Road)	OVERALL	9.7	9.5	A	A
	EB	5.9	6.1	A	A
	WB	7.2	8.9	A	A
	NB	38.3	38.8	D	D
	SB	42.9	42.0	D	D
2. J. Swain Blvd & Eason Street	EB	9.2	9.2	A	A
	WB	10.1	10.1	B	B
	NB	1.6	1.4	A	A
	SB	0.4	0.6	A	A
3. J. Swain Blvd & SECU Driveway	EB	8.9	9.0	A	A
	NB	0.6	1.3	A	A
	SB	0.0	0.0	A	A
5. Eason Street & First Bank Driveway	EB	0.0	0.0	A	A
	WB	0.0	0.0	A	A
	NB	8.8	8.7	A	A

Table 5 – No-Build (2024) Queuing

Intersection	Movement	No-Build (2024) 95% Queuing (# vehicles)	
		AM	PM
1. J. Swain Blvd/Coastline Insurance Driveway & NC-211 (Southport Supply Road)	EBL	2.8	2.7*
	EBT	4.7*	5.9*
	EBTR	3.0	4.3
	WBL	0.8	0.3
	WBT	6.8*	13.3*
	WBT	4.3	7.6
	WBR	1.4	1.5
	NBL	1.0	1.0
	NBTR	1.0	0.9
	SBL	3.6	3.7
	SBT	0.9	0.4
	SBR	1.4	1.4
2. J. Swain Blvd & Eason Street	EBLTR	1.7	1.8
	WBLTR	1.8	1.7
	NBL	0.6	0.0
	SBL	0.0	0.4
3. J. Swain Blvd & SECU Driveway	EBL	0.6	0.7
	NBUL	0.4	0.1
5. Eason Street & First Bank Driveway/Site Driveway 2	NBLTR	1.2	0.9

*Synchro 11 95% Queue

All study intersections and approaches operate at LOS D or better during both the AM and PM peak periods during the No-Build (2024) condition. Excessive queuing is not apparent for any movement. Synchro 11 and SimTraffic Reports are located in **Appendix F** and **G**, respectively.

6.0 TRIP GENERATION AND ASSIGNMENT

6.1 Trip Generation

The development is proposed to have two access points and utilize the existing road network around the project site. The site-generated traffic for the proposed development were developed using the Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition published in 2021. The NCDOT rate vs. equation spreadsheet was utilized, with the peak hour of generator and equation being used for peak hour volumes. A summary of the land use and all trips for the project site is shown in **Table 6**. ITE Trip Generation sheets are located in **Appendix D**.

Table 6 –Trip Generation

Land Use Code: 710		General Office Building				8.571 kSF	
Period	Trip Rate	R ²	Trips	IN	OUT	IN	OUT
Daily	$\ln(T)=0.87\ln(X)+3.05$	0.78	137	50%	50%	69	69
AM	$\ln(T)=0.86\ln(X)+1.16$	0.78	21	88%	12%	19	3
PM	$\ln(T)=0.83\ln(X)+1.29$	0.77	22	17%	83%	4	19
Land Use Code: 720		Medical-Dental Office Building				8.571 kSF	
Period	Trip Rate	R ²	Trips	IN	OUT	IN	OUT
ADT	$T = 42.97(X) - 108.01$	0.92	261	50%	50%	131	131
AM	$\ln(T)=0.90\ln(X)+1.34$	0.80	27	79%	21%	22	6
PM	$T = 4.07(X) - 3.17$	0.77	32	30%	70%	10	23
Land Use Code: 822		Strip Retail Plaza (<40k)				3.28 kSF	
Period	Trip Rate	R ²	Trips	IN	OUT	IN	OUT
ADT	$T = 42.20(X) + 229.68$	0.96	369	50%	50%	185	185
AM	$\ln(T)=0.66\ln(X)+1.84$	0.57	14	60%	40%	9	6
PM	$\ln(T)=0.71\ln(X)+2.72$	0.56	36	50%	50%	18	18
Land Use Code: 932		High-Turnover (Sit-Down) Restaurant				4.37 kSF	
Period	Trip Rate	R ²	Trips	IN	OUT	IN	OUT
ADT	107.2	N/A	469	50%	50%	235	235
AM	9.57	N/A	42	55%	45%	24	19
PM	9.05	N/A	40	61%	39%	25	16
Land Use Code: 937		Coffee/Donut Shop w/ Drive-Thru Window				1.99 kSF	
Period	Trip Rate	R ²	Trips	IN	OUT	IN	OUT
ADT	533.57	N/A	1062	50%	50%	531	531
AM	85.88	N/A	171	51%	49%	88	84
PM	38.99	N/A	78	50%	50%	39	39

6.2 Trip Distribution and Assignment

The site-generated traffic was assigned to the existing street network. The traffic distribution was chosen based on the existing traffic pattern shown by the traffic counts. Trip distribution percentages are shown in **Table 7** below.

Table 7 – Trip Distribution

TRIP DISTRIBUTION	
To/From Location	IN/OUT
J. Swain Boulevard (North)	5%
Eason Street (West)	10%
NC-211 (Southeast)	40%
NC-211 (Southwest)	45%
Total	100%

Trip distribution between the access points was divided based on the direction of travel while favoring the closer access with the desired direction. **Figure 5** displays the trip distribution percentages split between the two access locations, the trip volume inbound and outbound from the development for the AM, PM peaks for the Build (2024) condition. **Figure 6** displays the site-generated trips within the study network based on the Trip Generation and Trip Distribution.

7.0 BUILD (2024) CONDITIONS

The site generated trips were added to the calculated No-Build (2024) volumes at the four existing study intersections and the proposed access points and were analyzed as the Build (2024) condition. **Figure 7** illustrates the Build (2024) peak-hour volumes. **Table 8** summarizes the No-Build (2024) condition LOS and Delay at each intersection. **Table 9** summarizes the No-Build (2024) condition 95th Percentile Queue lengths at each existing intersection.

Table 8 – Build (2024) Level of Service

Intersection	Approach	BUILD (2024)			
		Delay (sec)		LOS	
		AM	PM	AM	PM
1. J. Swain Blvd/Coastline Insurance Driveway & NC-211 (Southport Supply Road)	OVERALL	14.3	13.4	B	B
	EB	10.4	9.3	B	A
	WB	10.4	11.8	B	B
	NB	35.2	35.6	D	D
	SB	41.4	40.7	D	D
2. J. Swain Blvd & Eason Street	EB	10.2	9.7	B	A
	WB	13.9	12.7	B	B
	NB	0.7	0.8	A	A
	SB	0.9	1.0	A	A
3. J. Swain Blvd & SECU Driveway	EB	9.1	9.1	A	A
	NB	1.3	1.8	A	A
	SB	0.0	0.0	A	A
4. J. Swain Blvd & Site Driveway 1	WB	8.9	8.9	A	A
	NB	0.0	0.0	A	A
	SB	0.0	0.0	A	A
5. Eason Street & First Bank Driveway/Site Driveway 2	EB	5.6	5.5	A	A
	WB	0.0	0.0	A	A
	NB	10.7	10.1	B	B
	SB	8.8	8.8	A	A

Table 9 – Build (2024) Queuing

Intersection	Movement	Build (2024) 95% Queuing (# vehicles)	
		AM	PM
1. J. Swain Blvd/Coastline Insurance Driveway & NC-211 (Southport Supply Road)	EBL	5.3*	4.2*
	EBT	5.7*	7.2*
	EBTR	4.5	5.6
	WBL	0.6	0.7
	WBT	8.6*	15.4*
	WBT	4.7	8.9
	WBR	2.2	2.1
	NBL	0.6	0.7
	NBTR	0.8	1.1
	SBL	4.7*	6.2
	SBT	0.8	0.6
	SBR	1.8*	2.1
2. J. Swain Blvd & Eason Street	EBLTR	1.9	2.0
	WBLTR	2.3	2.2
	NBL	0.4	0.4
	SBL	1.0	0.0
3. J. Swain Blvd & SECU Driveway	EBL	0.8	0.6
	EBR	0.8	1.0
	NBL	0.0	0.1*
	NBUL	0.4	0.4
4. J. Swain Blvd & Site Driveway 1	WBR	1.6	1.5
5. Eason Street & First Bank Driveway/Site Driveway 2	EBL	0.1*	0.1*
	EBLTR	1.2	0.0
	NBLTR	1.2	0.8
	SBLTR	3.1	2.1

*Synchro 11 95% Queue

All study intersections and approaches operate at LOS D or better during both the AM and PM peak periods during the Build (2024) condition. Excessive queuing is not apparent for any movement. It is noted that the southbound left turn at the intersection of J. Swain Boulevard/Coastline Insurance Driveway & NC-211 (Southport Supply Road) in the PM peak-hour exceeds existing storage by 5 feet and would then extend into the taper. Synchro 11 and SimTraffic Reports are located in **Appendix F** and **G**, respectively.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the capacity analyses, all existing intersections and proposed site access points operate at an acceptable Level of Service “D” or better during both the AM and PM peak-hours in the Build (2024) condition. Though the queue length exceeds the storage length by 5 feet at the southbound left turn at the intersection of J. Swain Boulevard/Coastline Insurance Driveway & NC-211 (Southport Supply Road) in the PM peak-hour, no mitigation is recommended. Queuing would extend into the taper area and not require additional storage length to accommodate the queuing.

Based on this, it is recommended that improvements be limited to signal timing adjustments so that the intersection can operate optimally with the additional traffic demands from the proposed development.

APPENDIX A – Traffic Counts

Bi-Directional Class Count || NB EB 15min

Southport, NC

Site 4
 NC-211 Southport-Supply Rd SE,
 east of J. Swain Blvd

Date
 Wednesday, February 15, 2023

Weather
 Fair
 58°F

Lat/Long
 33.950317°, -78.040059°

[Click here for Map](#)
0000 - 2400 (24h Session) (02-15-2023)
 NB EB 15min

Time	Eastbound (Movement 4.1)													15min Total	60min Total
	1	2	3	4	5	6	7	8	9	10	11	12	13		
0000 - 0015	0	1	1	0	0	0	0	0	0	0	0	0	0	2	1
0015 - 0030	0	1	0	0	0	0	0	0	0	0	0	0	0	1	6
0030 - 0045	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
0045 - 0100	0	1	1	0	0	0	0	0	0	0	0	0	0	2	
0100 - 0115	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
0115 - 0130	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
0130 - 0145	0	1	1	0	0	0	0	0	0	0	0	0	0	2	
0145 - 0200	0	1	0	0	0	0	0	0	0	0	0	0	0	1	8
0200 - 0215	0	1	0	0	1	0	0	0	0	0	0	0	0	2	
0215 - 0230	0	3	0	0	1	0	0	0	0	0	0	0	0	4	
0230 - 0245	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
0245 - 0300	0	2	0	0	0	0	0	0	0	0	0	0	0	2	9
0300 - 0315	0	5	3	0	0	0	0	0	0	0	0	0	0	8	
0315 - 0330	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
0330 - 0345	0	7	1	0	0	0	0	0	0	0	0	0	0	8	
0345 - 0400	0	10	3	0	0	0	0	0	0	0	0	0	0	13	31
0400 - 0415	0	5	1	0	0	0	0	0	0	0	0	0	0	6	
0415 - 0430	0	16	5	0	1	0	0	0	0	0	0	0	0	22	
0430 - 0445	0	24	16	0	0	0	1	0	0	0	0	0	0	41	
0445 - 0500	0	47	31	0	0	0	0	0	0	0	0	0	0	78	147
0500 - 0515	0	67	31	0	2	0	0	0	0	0	0	0	0	100	
0515 - 0530	1	82	59	0	0	0	0	0	0	0	0	0	0	142	
0530 - 0545	0	80	55	0	1	0	0	0	0	0	0	0	0	136	
0545 - 0600	0	72	34	1	0	0	0	0	0	0	0	0	0	107	485
0600 - 0615	0	66	28	1	1	0	0	0	2	0	0	0	0	98	
0615 - 0630	0	80	37	0	0	0	0	0	0	0	0	0	0	117	
0630 - 0645	0	66	36	0	2	0	0	0	0	0	0	0	0	104	
0645 - 0700	0	97	47	1	1	0	0	0	0	0	0	0	0	146	465
0700 - 0715	0	75	26	0	0	1	0	0	0	0	0	0	0	102	
0715 - 0730	0	90	31	0	2	0	3	1	2	0	0	0	0	129	
0730 - 0745	0	123	35	1	1	0	0	0	0	0	0	0	0	160	
0745 - 0800	0	160	39	2	2	1	1	1	1	0	0	0	0	207	598
0800 - 0815	0	163	41	4	3	2	3	0	3	0	0	0	0	219	
0815 - 0830	0	164	52	0	0	1	2	0	0	0	0	0	0	219	
0830 - 0845	0	153	38	0	2	1	0	0	0	0	0	0	0	195	
0845 - 0900	0	176	43	1	2	0	1	0	0	0	0	0	0	223	856
0900 - 0915	0	105	42	0	3	0	3	3	1	0	0	0	0	157	
0915 - 0930	0	105	59	0	1	0	2	0	1	2	0	0	0	170	
0930 - 0945	0	151	31	0	1	1	1	1	4	0	0	0	0	190	
0945 - 1000	0	191	46	0	4	2	5	0	1	0	0	0	0	249	766
1000 - 1015	0	158	39	1	2	1	2	2	1	0	0	0	0	206	
1015 - 1030	0	154	39	0	4	0	3	0	0	0	0	0	0	200	
1030 - 1045	0	161	41	0	2	0	2	0	0	0	0	0	0	206	
1045 - 1100	1	181	49	0	1	2	4	1	0	0	0	0	0	239	851
1100 - 1115	1	148	45	0	1	0	2	0	0	0	0	0	0	197	
1115 - 1130	1	170	47	0	3	1	4	1	0	0	0	0	0	227	
1130 - 1145	0	204	54	0	2	0	3	1	0	0	0	0	0	264	
1145 - 1200	0	109	36	1	6	0	3	1	2	0	0	0	0	158	846
1200 - 1215	2	176	52	0	1	3	3	0	0	0	0	0	0	237	
1215 - 1230	0	182	47	0	4	0	4	0	1	0	0	0	0	238	
1230 - 1245	2	169	62	0	1	0	4	1	2	0	0	0	0	241	
1245 - 1300	1	176	36	0	1	2	0	0	0	0	0	0	0	216	932
1300 - 1315	1	163	51	0	3	0	5	0	0	0	0	0	0	223	
1315 - 1330	0	161	58	0	6	0	3	0	0	0	0	0	0	228	
1330 - 1345	0	181	44	0	6	0	3	0	0	0	0	0	0	234	
1345 - 1400	0	186	30	0	1	1	0	0	2	0	0	0	0	220	905
1400 - 1415	1	161	44	0	1	0	3	0	1	0	0	0	0	211	
1415 - 1430	1	152	46	0	3	0	1	0	2	0	0	0	0	205	
1430 - 1445	3	155	33	1	1	3	1	0	2	0	0	0	0	199	
1445 - 1500	0	164	30	0	2	0	1	0	3	0	0	0	0	200	815
1500 - 1515	2	167	37	0	1	0	3	0	0	0	0	0	0	210	
1515 - 1530	0	190	34	0	3	1	2	0	0	0	0	0	0	230	
1530 - 1545	1	161	46	3	3	0	1	0	0	0	0	0	0	215	
1545 - 1600	0	150	33	1	2	0	2	0	0	0	0	0	0	188	843
1600 - 1615	0	125	32	1	2	1	0	0	1	0	0	0	0	162	
1615 - 1630	1	155	53	2	2	1	0	0	0	0	0	0	0	214	
1630 - 1645	2	161	56	0	1	0	0	0	0	0	0	0	0	220	
1645 - 1700	1	176	48	0	2	0	0	0	0	0	0	0	0	231	827
1700 - 1715	0	179	66	2	0	1	0	1	0	0	0	0	0	249	
1715 - 1730	2	184	63	1	1	0	0	1	1	0	0	0	0	253	
1730 - 1745	1	190	50	0	0	0	0	1	0	0	0	0	0	242	
1745 - 1800	0	141	44	0	2	0	0	0	0	0	0	0	0	187	931
1800 - 1815	1	133	36	0	0	0	0	0	0	0	0	0	0	170	
1815 - 1830	0	135	31	0	1	1	0	0	0	0	0	0	0	168	
1830 - 1845	0	112	29	0	0	0	0	0	0	0	0	0	0	141	
1845 - 1900	0	105	22	0	0	0	0	0	0	0	0	0	0	127	606
1900 - 1915	0	61	15	0	1	0	0	0	0	0	0	0	0	77	
1915 - 1930	0	64	11	0	0	0	0	0	0	0	0	0	0	75	
1930 - 1945	0	47	14	0	0	0	0	0	0	0	0	0	0	61	
1945 - 2000	0	41	8	0	0	0	0	0	0	0	0	0	0	49	262
2000 - 2015	0	47	18	0	0	0	0	0	0	0	0	0	0	65	
2015 - 2030	0	52	17	0	0	0	0	0	0	0	0	0	0	69	
2030 - 2045	0	37	8	0	0	0	0	0	0	0	0	0	0	45	
2045 - 2100	0	24	5	0	0	0	0	0	1	0	0	0	0	30	209
2100 - 2115	0	30	2	0	0	0	0	0	0	0	0	0	0	32	
2115 - 2130	0	23	3	0	0	0	0	0	0	0	0	0	0	26	
2130 - 2145	0	16	5	0	0	0	0	0	0	0	0	0	0	21	
2145 - 2200	0	26	2	0	0	0	0	0	0	0	0	0	0	28	107
2200 - 2215	0	23	6	0	0	0	0	0	0	0	0	0	0	29	
2215 - 2230	0	19	2	0	0	0	0	0	0	0	0	0	0	21	
2230 - 2245	0	11	2	0	0	0	0	0	0	0	0	0	0	13	
2245 - 2300	0	10	1	0	0	0	0	0	0	0	0	0	0	11	74
2300 - 2315	0	12	1	0	0	0	0	0	0	0	0	0	0	13	
2315 - 2330	0	1	2	0	0	0	0	0	0	0	0	0	0	3	
2330 - 2345	0	4	2	0	0	0	0	0	0	0	0	0	0	6	
2345 - 0000	0	5	0	0	0	0	0	0	0	0	0	0	0	5	27

Session Total	26	8727	2561	28	103	24	85	16	34	2	0	0	0	11606
Session Average	0.27	90.91	26.68	0.29	1.07	0.25	0.89	0.17	0.35	0.02	0.00	0.00	0.00	120.90
Session Percentage	0.22	75.19	22.07	0.24	0.89	0.21	0.73	0.14	0.29	0.02	0.00	0.00	0.00	
AM Peak Hour	0500 - 0600	0945 - 1045	0830 - 0930	0715 - 0815	0945 - 1045	0730 - 0830	0945 - 1045	0845 - 0945	0900 - 1000	0830 - 0930	-	-	-	0945 - 1045
AM Peak Volume	1	664	182	7	12	4	12	4	7	2	0	0	0	861
Noon Peak Hour	1415 - 1516	1045 - 1145	1230 - 1330	1445 - 1545	1245 - 1345	1115 - 1215	1215 - 1315	1000 - 1100	1400 - 1500	-	-	-	-	1200 - 1300
Noon Peak Volume	6	703	207	3	16	4	15	3	8	0	0	0	0	932
PM Peak Hour	1630 - 1730	1645 - 1745	1630 - 1730	1615 - 1715	1515 - 1615	1515 - 1615	1500 - 1600	1645 - 1745	1515 - 1615	-	-	-	-	1645 - 1745
PM Peak Volume	7	728	233	3	18	5	8	10	7	0	0	0	0	975

Bi-Directional Class Count || SB WB 15min

Southport, NC

Site 4

NC-211 Southport-Supply Rd SE,
east of J. Swain Blvd

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950317°, -78.040059°


[Click here for Map](#)

0000 - 2400 (24h Session) (02-15-2023)

SB WB 15min

Time	Westbound (Movement 4.2)													15min Total	60min Total
	1	2	3	4	5	6	7	8	9	10	11	12	13		
0000 - 0015	0	7	1	0	0	0	0	0	0	0	0	0	0	8	
0015 - 0030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0030 - 0045	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
0045 - 0100	0	3	1	0	0	0	0	0	0	0	0	0	0	4	14
0100 - 0115	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
0115 - 0130	0	3	3	0	0	0	0	0	0	0	0	0	0	6	
0130 - 0145	0	1	1	0	0	0	0	0	0	0	0	0	0	2	
0145 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
0200 - 0215	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
0215 - 0230	0	3	0	0	1	0	0	0	0	0	0	0	0	4	
0230 - 0245	0	2	1	0	0	0	0	0	0	0	0	0	0	3	
0245 - 0300	0	1	0	0	0	0	0	0	0	0	0	0	0	1	10
0300 - 0315	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
0315 - 0330	0	1	1	0	0	0	0	0	0	0	0	0	0	2	
0330 - 0345	0	2	2	0	0	0	0	0	0	0	0	0	0	4	
0345 - 0400	0	1	1	0	0	0	0	0	0	0	0	0	0	2	9
0400 - 0415	0	2	2	0	0	0	0	0	1	0	0	0	0	5	
0415 - 0430	0	9	5	0	0	0	0	0	0	0	0	0	0	14	
0430 - 0445	0	7	4	0	1	0	0	0	0	0	0	0	0	12	
0445 - 0500	0	12	8	0	0	0	0	0	0	0	0	0	0	20	51
0500 - 0515	0	19	6	0	0	0	0	1	0	0	0	0	0	26	
0515 - 0530	0	32	14	0	1	1	0	0	1	0	0	0	0	49	
0530 - 0545	0	28	20	0	2	0	0	0	0	0	0	0	0	50	
0545 - 0600	0	54	25	0	0	0	0	0	0	0	0	0	0	79	204
0600 - 0615	0	59	27	0	0	0	0	0	0	0	0	0	0	86	
0615 - 0630	0	54	18	0	1	0	0	0	0	0	0	0	0	73	
0630 - 0645	0	30	24	2	1	0	1	0	0	0	0	0	0	58	
0645 - 0700	0	48	25	3	0	0	0	0	0	0	0	0	0	76	293
0700 - 0715	1	61	30	1	0	2	1	1	0	0	0	0	0	97	
0715 - 0730	0	61	29	2	3	0	0	0	1	0	0	0	0	96	
0730 - 0745	0	67	38	0	4	4	0	0	1	0	0	0	0	114	
0745 - 0800	0	83	23	0	1	2	0	1	1	0	0	0	0	111	418
0800 - 0815	0	67	32	0	1	3	0	0	1	0	0	0	0	104	
0815 - 0830	0	100	34	0	1	3	0	1	1	0	0	0	0	140	
0830 - 0845	0	129	43	0	1	3	0	1	2	0	0	0	0	179	
0845 - 0900	0	98	42	0	1	3	0	1	1	1	0	0	0	147	570
0900 - 0915	0	127	38	0	4	5	0	0	1	0	0	0	0	175	
0915 - 0930	0	99	35	0	3	3	0	0	1	0	0	0	0	141	
0930 - 0945	0	106	38	1	4	4	0	0	2	0	0	0	0	155	
0945 - 1000	0	136	72	0	2	1	0	1	2	0	0	0	0	214	685
1000 - 1015	1	126	41	0	2	4	0	0	0	0	0	0	0	174	
1015 - 1030	0	130	44	0	3	3	0	0	3	0	0	0	0	183	
1030 - 1045	0	166	42	0	0	5	0	1	1	0	0	0	0	215	
1045 - 1100	0	138	43	0	5	2	0	0	2	0	0	0	0	190	762
1100 - 1115	0	168	42	0	2	3	0	0	0	0	0	0	0	215	
1115 - 1130	1	176	43	0	2	5	0	1	1	0	0	0	0	229	
1130 - 1145	0	169	44	0	2	4	0	0	1	0	0	0	0	220	
1145 - 1200	1	172	55	0	4	5	0	1	0	0	0	0	0	238	902
1200 - 1215	2	181	62	1	5	1	1	1	0	1	0	0	0	254	
1215 - 1230	0	196	48	1	2	2	2	1	0	1	0	0	0	253	
1230 - 1245	2	188	51	1	1	0	5	0	1	0	0	0	0	249	
1245 - 1300	2	176	54	0	5	2	2	1	1	0	0	0	0	241	997
1300 - 1315	0	173	50	0	1	0	3	1	3	0	0	0	0	231	
1315 - 1330	3	181	48	0	1	2	4	0	1	0	0	0	0	240	
1330 - 1345	2	212	48	0	1	2	2	0	3	0	0	0	0	270	
1345 - 1400	2	199	42	0	6	1	2	0	2	0	0	0	0	254	995
1400 - 1415	2	205	61	0	2	3	0	1	0	0	0	0	0	274	
1415 - 1430	0	186	42	0	0	0	2	0	0	0	0	0	0	230	
1430 - 1445	1	202	57	1	4	1	0	1	3	0	0	0	0	270	
1445 - 1500	1	184	26	0	1	2	0	0	0	0	0	0	0	219	993
1500 - 1515	1	191	50	1	1	0	2	0	2	0	0	0	0	248	
1515 - 1530	0	186	32	0	1	0	0	0	1	0	0	0	0	220	
1530 - 1545	2	202	48	0	2	3	1	0	0	0	0	0	0	258	
1545 - 1600	1	208	48	3	2	1	1	1	0	0	0	0	0	265	991
1600 - 1615	0	220	46	2	4	2	0	0	0	0	0	0	0	274	
1615 - 1630	0	198	62	0	1	0	0	0	1	0	0	0	0	262	
1630 - 1645	0	212	52	0	1	0	0	0	1	0	0	0	0	266	
1645 - 1700	0	198	58	0	1	0	0	0	1	0	0	0	0	259	1061
1700 - 1715	0	209	72	1	1	0	0	0	0	0	0	0	0	283	
1715 - 1730	0	195	60	0	0	1	0	0	0	0	0	0	0	256	
1730 - 1745	1	194	85	0	1	0	0	0	0	0	0	0	0	281	
1745 - 1800	3	226	78	0	1	0	0	0	0	0	0	0	0	308	1128
1800 - 1815	1	184	59	0	0	0	0	0	1	0	0	0	0	245	
1815 - 1830	1	150	55	0	0	0	0	0	1	0	0	0	0	207	
1830 - 1845	0	116	31	0	0	0	0	0	0	0	0	0	0	147	
1845 - 1900	0	113	26	0	1	0	0	0	0	0	0	0	0	140	739
1900 - 1915	1	122	23	0	1	0	0	0	0	0	0	0	0	147	
1915 - 1930	0	120	18	0	0	0	0	0	0	0	0	0	0	138	
1930 - 1945	0	90	20	0	0	0	0	0	0	0	0	0	0	110	
1945 - 2000	1	92	19	0	0	0	0	0	0	0	0	0	0	112	507
2000 - 2015	0	63	13	0	1	0	0	0	0	0	0	0	0	77	
2015 - 2030	0	80	14	0	0	0	0	0	0	0	0	0	0	94	
2030 - 2045	0	66	12	0	0	0	0	0	0	0	0	0	0	78	
2045 - 2100	0	42	10	0	0	0	0	0	0	0	0	0	0	52	301
2100 - 2115	0	45	13	0	0	0	0	0	0	0	0	0	0	58	
2115 - 2130	0	36	11	0	0	0	0	0	0	0	0	0	0	47	
2130 - 2145	0	26	4	0	0	0	0	0	0	0	0	0	0	30	
2145 - 2200	0	27	7	1	0	0	0	0	0	0	0	0	0	35	170
2200 - 2215	0	31	11	0	0	0	0	0	0	0	0	0	0	42	
2215 - 2230	0	27	5	0	1	0	0	0	0	0	0	0	0	33	
2230 - 2245	0	23	2	0	1	0	0	0	0	0	0	0	0	26	
2245 - 2300	0	14	3	0	0	0	0	0	0	0	0	0	0	17	118
2300 - 2315	0	16	3	0	0	0	0	0	0	0	0	0	0	19	
2315 - 2330	0	9	2	0	0	0	0	0	0	0	0	0	0	11	
2330 - 2345	0	8	2	0	0	0	0	0	0	0	0	0	0	10	
2345 - 0000	1	8	2	0	0	0	0	0	0	0	0	0	0	11	51

Session Total	34	8993	2642	22	107	83	32	17	46	2	0	0	0	11978
Session Average	0.35	93.68	27.52	0.23	1.11	0.86	0.33	0.18	0.48	0.02	0.00	0.00	0.00	124.77
Session Percentage	0.28	75.08	22.06	0.18	0.89	0.69	0.27	0.14	0.38	0.02	0.00	0.00	0.00	
AM Peak Hour	0615 - 0715	0945 - 1045	0945 - 1045	0630 - 0730	0900 - 1000	0845 - 0945	0615 - 0715	0745 - 0845	0930 - 1030	0800 - 0900	-	-	-	0945 - 1045
AM Peak Volume	1	558	199	8	13	15	2	7	1	0	0	0	0	786
Noon Peak Hour	1315 - 1415	1330 - 1430	1145 - 1245	1145 - 1245	1115 - 1215	1100 - 1200	1230 - 1330	1215 - 1315	1300 - 1400	1130 - 1230	-	-	-	1315 - 1415
Noon Peak Volume	9	802	216	3	13	17	14	3	9	1	0	0	0	1038
PM Peak Hour	1730 - 1830	1545 - 1645	1700 - 1800	1515 - 1615	1515 - 1615	1515 - 1615	1500 - 1600	1500 - 1600	1500 - 1600	-	-	-	-	1700 - 1800
PM Peak Volume	5	838	295	15	15	15	4	1	3	0	0	0	0	1128

Bi-Directional Class Count || Bi-Directional 15min

Southport, NC

Site 4
 NC-211 Southport-Supply Rd SE,
 east of J. Swain Blvd

Date
 Wednesday, February 15, 2023

Weather
 Fair
 58°F

Lat/Long
 33.950317°,-78.040059°

0000 - 2400 (24h Session) (02-15-2023)
 Bi-Directional 15min

Time	Bi-Directional 15min													15min	60min
	1	2	3	4	5	6	7	8	9	10	11	12	13	Total	Total
0000 - 0015	0	8	2	0	0	0	0	0	0	0	0	0	0	10	1
0015 - 0030	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
0030 - 0045	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
0045 - 0100	0	4	2	0	0	0	0	0	0	0	0	0	0	6	20
0100 - 0115	0	4	0	0	0	0	0	0	0	0	0	0	0	4	
0115 - 0130	0	5	3	0	0	0	0	0	0	0	0	0	0	8	
0130 - 0145	0	2	2	0	0	0	0	0	0	0	0	0	0	4	
0145 - 0200	0	1	0	0	0	0	0	0	0	0	0	0	0	1	17
0200 - 0215	0	3	0	0	1	0	0	0	0	0	0	0	0	4	
0215 - 0230	0	6	0	0	2	0	0	0	0	0	0	0	0	8	
0230 - 0245	0	2	2	0	0	0	0	0	0	0	0	0	0	4	
0245 - 0300	0	3	0	0	0	0	0	0	0	0	0	0	0	3	19
0300 - 0315	0	6	3	0	0	0	0	0	0	0	0	0	0	9	
0315 - 0330	0	3	1	0	0	0	0	0	0	0	0	0	0	4	
0330 - 0345	0	9	3	0	0	0	0	0	0	0	0	0	0	12	
0345 - 0400	0	11	4	0	0	0	0	0	0	0	0	0	0	15	40
0400 - 0415	0	7	3	0	0	0	0	0	1	0	0	0	0	11	
0415 - 0430	0	25	10	1	0	0	0	0	0	0	0	0	0	36	
0430 - 0445	0	31	20	0	1	0	1	0	0	0	0	0	0	53	
0445 - 0500	0	59	39	0	0	0	0	0	0	0	0	0	0	98	198
0500 - 0515	0	86	37	0	2	0	0	1	0	0	0	0	0	126	
0515 - 0530	1	114	73	0	1	1	0	0	1	0	0	0	0	191	
0530 - 0545	0	108	75	0	3	0	0	0	0	0	0	0	0	186	
0545 - 0600	0	126	59	1	0	0	0	0	0	0	0	0	0	186	689
0600 - 0615	0	125	55	1	1	0	0	0	2	0	0	0	0	184	
0615 - 0630	0	134	55	0	1	0	0	0	0	0	0	0	0	190	
0630 - 0645	0	96	60	2	3	0	1	0	0	0	0	0	0	162	
0645 - 0700	0	145	72	4	1	0	0	0	0	0	0	0	0	222	758
0700 - 0715	1	136	56	1	0	3	1	1	0	0	0	0	0	199	
0715 - 0730	0	151	60	2	5	0	3	1	3	0	0	0	0	225	
0730 - 0745	0	190	73	1	5	4	0	0	1	0	0	0	0	274	
0745 - 0800	0	243	62	2	3	3	1	2	2	0	0	0	0	318	1016
0800 - 0815	0	230	73	4	4	5	3	0	4	0	0	0	0	323	
0815 - 0830	0	264	86	0	1	4	2	1	1	0	0	0	0	359	
0830 - 0845	0	282	81	0	3	3	2	1	2	0	0	0	0	374	
0845 - 0900	0	274	85	1	3	3	1	1	1	1	0	0	0	370	1426
0900 - 0915	0	232	80	0	7	5	3	3	2	0	0	0	0	332	
0915 - 0930	0	204	94	0	4	3	2	0	2	2	0	0	0	311	
0930 - 0945	0	257	69	1	5	5	1	1	6	0	0	0	0	345	
0945 - 1000	0	327	118	0	6	3	5	1	3	0	0	0	0	463	1451
1000 - 1015	1	284	80	1	4	5	2	2	1	0	0	0	0	380	
1015 - 1030	0	284	83	0	7	3	3	0	3	0	0	0	0	383	
1030 - 1045	0	327	83	0	2	5	2	1	1	0	0	0	0	421	
1045 - 1100	1	319	92	0	6	4	4	1	2	0	0	0	0	429	1613
1100 - 1115	1	316	87	0	3	3	2	0	0	0	0	0	0	412	
1115 - 1130	2	346	90	0	5	6	4	2	1	0	0	0	0	456	
1130 - 1145	0	373	98	0	4	4	3	1	1	0	0	0	0	484	
1145 - 1200	1	281	91	1	10	5	3	2	2	0	0	0	0	396	1748
1200 - 1215	4	357	114	1	6	4	4	0	1	0	0	0	0	491	
1215 - 1230	0	378	95	1	6	2	6	1	1	1	0	0	0	491	
1230 - 1245	4	357	113	1	2	0	9	1	3	0	0	0	0	490	
1245 - 1300	3	352	90	0	6	0	4	1	1	0	0	0	0	457	1929
1300 - 1315	1	336	101	0	4	0	8	1	3	0	0	0	0	454	
1315 - 1330	3	342	106	0	7	2	7	0	1	0	0	0	0	468	
1330 - 1345	2	393	92	0	7	2	5	0	3	0	0	0	0	504	
1345 - 1400	2	385	72	0	7	2	2	0	4	0	0	0	0	474	1900
1400 - 1415	3	366	105	0	3	3	3	1	1	0	0	0	0	485	
1415 - 1430	1	338	88	0	3	0	3	0	2	0	0	0	0	435	
1430 - 1445	4	357	90	2	5	3	2	1	5	0	0	0	0	469	
1445 - 1500	1	348	56	1	7	4	0	3	0	1	0	0	0	419	1808
1500 - 1515	3	358	87	1	2	0	5	0	2	0	0	0	0	458	
1515 - 1530	0	376	66	0	4	1	2	0	1	0	0	0	0	450	
1530 - 1545	3	363	94	3	5	3	2	0	0	0	0	0	0	473	
1545 - 1600	1	358	81	4	4	1	3	1	0	0	0	0	0	453	1834
1600 - 1615	0	345	78	3	6	3	0	0	1	0	0	0	0	436	
1615 - 1630	1	353	115	2	3	1	0	0	1	0	0	0	0	476	
1630 - 1645	2	373	108	0	2	0	0	0	1	0	0	0	0	486	
1645 - 1700	1	346	374	1	106	4	0	0	1	0	0	0	0	490	1888
1700 - 1715	0	388	138	3	1	1	0	1	0	0	0	0	0	532	
1715 - 1730	2	379	123	1	1	1	0	1	1	0	0	0	0	509	
1730 - 1745	2	384	135	0	1	0	0	1	0	0	0	0	0	523	
1745 - 1800	3	367	122	0	3	0	0	0	0	0	0	0	0	495	2059
1800 - 1815	2	317	95	0	0	0	0	0	1	0	0	0	0	415	
1815 - 1830	1	285	86	0	1	1	0	0	1	0	0	0	0	375	
1830 - 1845	0	228	60	0	0	0	0	0	0	0	0	0	0	288	
1845 - 1900	0	218	48	0	1	0	0	0	0	0	0	0	0	267	1345
1900 - 1915	1	183	38	0	2	0	0	0	0	0	0	0	0	224	
1915 - 1930	0	184	29	0	0	0	0	0	0	0	0	0	0	213	
1930 - 1945	0	137	34	0	0	0	0	0	0	0	0	0	0	171	
1945 - 2000	1	133	27	0	0	0	0	0	0	0	0	0	0	161	769
2000 - 2015	0	110	31	0	1	0	0	0	0	0	0	0	0	142	
2015 - 2030	0	132	31	0	0	0	0	0	0	0	0	0	0	163	
2030 - 2045	0	103	20	0	0	0	0	0	0	0	0	0	0	123	
2045 - 2100	0	66	15	0	0	0	0	0	1	0	0	0	0	82	510
2100 - 2115	0	75	15	0	0	0	0	0	0	0	0	0	0	90	
2115 - 2130	0	59	14	0	0	0	0	0	0	0	0	0	0	73	
2130 - 2145	0	42	9	0	0	0	0	0	0	0	0	0	0	51	
2145 - 2200	0	53	9	1	0	0	0	0	0	0	0	0	0	63	277
2200 - 2215	0	54	17	0	0	0	0	0	0	0	0	0	0	71	
2215 - 2230	0	46	7	0	1	0	0	0	0	0	0	0	0	54	
2230 - 2245	0	34	4	0	1	0	0	0	0	0	0	0	0	39	
2245 - 2300	0	24	4	0	0	0	0	0	0	0	0	0	0	28	192
2300 - 2315	0	28	4	0	0	0	0	0	0	0	0	0	0	32	
2315 - 2330	0	10	4	0	0	0	0	0	0	0	0	0	0	14	
2330 - 2345	0	12	4	0	0	0	0	0	0	0	0	0	0	16	
2345 - 0000	1	13	2	0	0	0	0	0	0	0	0	0	0	16	78

Session Total	60	17720	5203	50	210	107	117	33	80	4	0	0	0	23584
Session Average	0.63	184.58	54.20	0.52	2.19	1.11	1.22	0.34	0.83	0.04	0.00	0.00	0.00	245.67
Session Percentage	0.25	75.14	22.06	0.21	0.89	0.45	0.50	0.14	0.34	0.02	0.00	0.00	0.00	
AM Peak Hour	0500 - 0600	0945 - 1045	0945 - 1045	0630 - 0730	0900 - 1000	0730 - 0830	0945 - 1045	0815 - 0915	0900 - 1000	0830 - 0930	-	-	-	0945 - 1045
AM Peak Volume	1	1222	364	9	22	16	12	6	13	3	0	0	0	1647
Noon Peak Hour	1200 - 1300	1315 - 1415	1145 - 1245	1445 - 1545	1130 - 1230	1115 - 1215	1230 - 1330	1100 - 1200	1345 - 1445	1130 - 1230	-	-	-	1315 - 1415
Noon Peak Volume	11	1486	413	5	26	19	28	5	12	1	0	0	0	1931
PM Peak Hour	1715 - 1815	1645 - 1745	1700 - 1800	1530 - 1630	1515 - 1615	1515 - 1615	1500 - 1600	1645 - 1745	1500 - 1600	-	-	-	-	1700 - 1800
PM Peak Volume	1515	1515	1515	1515	1515	1515	1515	1515	1515	0	0	0	0	1515

Bi-Directional Class Count || Volume Summary 15min

Southport, NC



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Site 4

NC-211 Southport-Supply Rd SE,
east of J. Swain Blvd

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950317°, -78.040059°

0000 - 2400 (24h Session) (02-15-2023)

Volume Summary 15min

TIME	Volume Summary 15min		15min	60min
	EB	WB	Total	Total
0000 - 0015	2	8	10	
0015 - 0030	1	0	1	
0030 - 0045	1	2	3	
0045 - 0100	2	4	6	20
0100 - 0115	3	1	4	
0115 - 0130	2	6	8	
0130 - 0145	2	2	4	
0145 - 0200	1	0	1	17
0200 - 0215	2	2	4	
0215 - 0230	4	4	8	
0230 - 0245	1	3	4	
0245 - 0300	2	1	3	19
0300 - 0315	8	1	9	
0315 - 0330	2	2	4	
0330 - 0345	8	4	12	
0345 - 0400	13	2	15	40
0400 - 0415	6	5	11	
0415 - 0430	22	14	36	
0430 - 0445	41	12	53	
0445 - 0500	78	20	98	198
0500 - 0515	100	26	126	
0515 - 0530	142	49	191	
0530 - 0545	136	50	186	
0545 - 0600	107	79	186	689
0600 - 0615	98	86	184	
0615 - 0630	117	73	190	
0630 - 0645	104	58	162	
0645 - 0700	146	76	222	758
0700 - 0715	102	97	199	
0715 - 0730	129	96	225	
0730 - 0745	160	114	274	
0745 - 0800	207	111	318	1016
0800 - 0815	219	104	323	
0815 - 0830	219	140	359	
0830 - 0845	195	179	374	
0845 - 0900	223	147	370	1426
0900 - 0915	157	175	332	
0915 - 0930	170	141	311	
0930 - 0945	190	155	345	
0945 - 1000	249	214	463	1451
1000 - 1015	206	174	380	
1015 - 1030	200	183	383	
1030 - 1045	206	215	421	
1045 - 1100	239	190	429	1613
1100 - 1115	197	215	412	
1115 - 1130	227	229	456	
1130 - 1145	264	220	484	
1145 - 1200	158	238	396	1748

Time	Volume Summary 15min		15min	60min
	EB	WB	Total	Total
1200 - 1215	237	254	491	
1215 - 1230	238	253	491	
1230 - 1245	241	249	490	
1245 - 1300	216	241	457	1929
1300 - 1315	223	231	454	
1315 - 1330	228	240	468	
1330 - 1345	234	270	504	
1345 - 1400	220	254	474	1900
1400 - 1415	211	274	485	
1415 - 1430	205	230	435	
1430 - 1445	199	270	469	
1445 - 1500	200	219	419	1808
1500 - 1515	210	248	458	
1515 - 1530	230	220	450	
1530 - 1545	215	258	473	
1545 - 1600	188	265	453	1834
1600 - 1615	162	274	436	
1615 - 1630	214	262	476	
1630 - 1645	220	266	486	
1645 - 1700	231	259	490	1888
1700 - 1715	249	283	532	
1715 - 1730	253	256	509	
1730 - 1745	242	281	523	
1745 - 1800	187	308	495	2059
1800 - 1815	170	245	415	
1815 - 1830	168	207	375	
1830 - 1845	141	147	288	
1845 - 1900	127	140	267	1345
1900 - 1915	77	147	224	
1915 - 1930	75	138	213	
1930 - 1945	61	110	171	
1945 - 2000	49	112	161	769
2000 - 2015	65	77	142	
2015 - 2030	69	94	163	
2030 - 2045	45	78	123	
2045 - 2100	30	52	82	510
2100 - 2115	32	58	90	
2115 - 2130	26	47	73	
2130 - 2145	21	30	51	
2145 - 2200	28	35	63	277
2200 - 2215	29	42	71	
2215 - 2230	21	33	54	
2230 - 2245	13	26	39	
2245 - 2300	11	17	28	192
2300 - 2315	13	19	32	
2315 - 2330	3	11	14	
2330 - 2345	6	10	16	
2345 - 0000	5	11	16	78

Session Total	11606	11978	23584
Session Average	120.90	124.77	245.67
Session Percentage	49.21	50.79	

Bi-Directional Class Count || NB EB 60min

Southport, NC



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Site 4

NC-211 Southport-Supply Rd SE,
east of J. Swain Blvd

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950317°, -78.040059°

0000 - 2400 (24h Session) (02-15-2023)

NB EB 60min

TIME	Eastbound (Movement 4.1)													Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	
0000 - 0100	0	4	2	0	0	0	0	0	0	0	0	0	0	6
0100 - 0200	0	7	1	0	0	0	0	0	0	0	0	0	0	8
0200 - 0300	0	6	1	0	2	0	0	0	0	0	0	0	0	9
0300 - 0400	0	24	7	0	0	0	0	0	0	0	0	0	0	31
0400 - 0500	0	92	53	0	1	0	1	0	0	0	0	0	0	147
0500 - 0600	1	301	179	1	3	0	0	0	0	0	0	0	0	485
0600 - 0700	0	309	148	2	4	0	0	0	2	0	0	0	0	465
0700 - 0800	0	448	131	3	5	2	4	2	3	0	0	0	0	598
0800 - 0900	0	656	174	5	7	3	8	0	3	0	0	0	0	856
0900 - 1000	0	552	178	0	9	3	11	4	7	2	0	0	0	766
1000 - 1100	1	654	168	1	9	3	11	3	1	0	0	0	0	851
1100 - 1200	2	631	182	1	12	1	12	3	2	0	0	0	0	846
1200 - 1300	5	703	197	0	7	3	13	1	3	0	0	0	0	932
1300 - 1400	1	691	183	0	16	1	11	0	2	0	0	0	0	905
1400 - 1500	5	632	153	1	7	3	6	0	8	0	0	0	0	815
1500 - 1600	3	668	150	4	9	1	8	0	0	0	0	0	0	843
1600 - 1700	4	617	189	7	7	2	0	0	1	0	0	0	0	827
1700 - 1800	3	694	223	3	3	1	0	3	1	0	0	0	0	931
1800 - 1900	1	485	118	0	1	1	0	0	0	0	0	0	0	606
1900 - 2000	0	213	48	0	1	0	0	0	0	0	0	0	0	262
2000 - 2100	0	160	48	0	0	0	0	0	1	0	0	0	0	209
2100 - 2200	0	95	12	0	0	0	0	0	0	0	0	0	0	107
2200 - 2300	0	63	11	0	0	0	0	0	0	0	0	0	0	74
2300 - 2400	0	22	5	0	0	0	0	0	0	0	0	0	0	27

Session Total	26	8727	2561	28	103	24	85	16	34	2	0	0	0	11606
Session Average	1.08	363.63	106.71	1.17	4.29	1.00	3.54	0.67	1.42	0.08	0.00	0.00	0.00	483.58
Session Percentage	0.22	75.19	22.07	0.24	0.89	0.21	0.73	0.14	0.29	0.02	0.00	0.00	0.00	

AM Peak Hour	0500 - 0600	0800 - 0900	0500 - 0600	0800 - 0900	0900 - 1000	0800 - 0900	0900 - 1000	0900 - 1000	0900 - 1000	0900 - 1000	0900 - 1000	-	-	-	0800 - 0900
AM Peak Volume	1	656	179	5	9	3	11	4	7	2	0	0	0	0	856

Noon Peak Hour	1200 - 1300	1200 - 1300	1200 - 1300	1000 - 1100	1300 - 1400	1000 - 1100	1200 - 1300	1000 - 1100	1400 - 1500	-	-	-	-	1200 - 1300
Noon Peak Volume	5	703	197	1	16	3	13	3	8	0	0	0	0	932

PM Peak Hour	1600 - 1700	1700 - 1800	1700 - 1800	1600 - 1700	1500 - 1600	1600 - 1700	1500 - 1600	1700 - 1800	1600 - 1700	-	-	-	-	1700 - 1800
PM Peak Volume	4	694	223	7	9	2	8	3	1	0	0	0	0	931

Bi-Directional Class Count || SB WB 60min

Southport, NC

Site 4

NC-211 Southport-Supply Rd SE,
east of J. Swain Blvd

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950317°, -78.040059°

0000 - 2400 (24h Session) (02-15-2023)

SB WB 60min

Westbound (Movement 4.2)														
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
0000 - 0100	0	12	2	0	0	0	0	0	0	0	0	0	0	14
0100 - 0200	0	5	4	0	0	0	0	0	0	0	0	0	0	9
0200 - 0300	0	8	1	0	1	0	0	0	0	0	0	0	0	10
0300 - 0400	0	5	4	0	0	0	0	0	0	0	0	0	0	9
0400 - 0500	0	30	19	0	1	0	0	0	1	0	0	0	0	51
0500 - 0600	0	133	65	0	3	1	0	1	1	0	0	0	0	204
0600 - 0700	0	191	94	5	2	0	1	0	0	0	0	0	0	293
0700 - 0800	1	272	120	3	8	8	1	2	3	0	0	0	0	418
0800 - 0900	0	394	151	0	4	12	0	3	5	1	0	0	0	570
0900 - 1000	0	468	183	1	13	13	0	1	6	0	0	0	0	685
1000 - 1100	1	560	170	0	10	14	0	1	6	0	0	0	0	762
1100 - 1200	2	685	184	0	10	17	0	2	2	0	0	0	0	902
1200 - 1300	6	741	215	3	13	3	10	2	3	1	0	0	0	997
1300 - 1400	7	765	188	0	9	5	11	1	9	0	0	0	0	995
1400 - 1500	4	777	186	2	11	3	5	2	3	0	0	0	0	993
1500 - 1600	4	787	178	4	6	4	4	1	3	0	0	0	0	991
1600 - 1700	0	828	218	2	8	2	0	1	2	0	0	0	0	1061
1700 - 1800	4	824	295	1	3	1	0	0	0	0	0	0	0	1128
1800 - 1900	2	563	171	0	1	0	0	0	2	0	0	0	0	739
1900 - 2000	2	424	80	0	1	0	0	0	0	0	0	0	0	507
2000 - 2100	0	251	49	0	1	0	0	0	0	0	0	0	0	301
2100 - 2200	0	134	35	1	0	0	0	0	0	0	0	0	0	170
2200 - 2300	0	95	21	0	2	0	0	0	0	0	0	0	0	118
2300 - 2400	1	41	9	0	0	0	0	0	0	0	0	0	0	51

Session Total	34	8993	2642	22	107	83	32	17	46	2	0	0	0	11978
Session Average	1.42	374.71	110.08	0.92	4.46	3.46	1.33	0.71	1.92	0.08	0.00	0.00	0.00	499.08
Session Percentage	0.28	75.08	22.06	0.18	0.89	0.69	0.27	0.14	0.38	0.02	0.00	0.00	0.00	

AM Peak Hour	0700 - 0800	0900 - 1000	0900 - 1000	0600 - 0700	0900 - 1000	0900 - 1000	0600 - 0700	0800 - 0900	0900 - 1000	0800 - 0900	-	-	-	0900 - 1000
AM Peak Volume	1	468	183	5	13	13	1	3	6	1	0	0	0	685

Noon Peak Hour	1300 - 1400	1400 - 1500	1200 - 1300	1200 - 1300	1200 - 1300	1100 - 1200	1300 - 1400	1100 - 1200	1300 - 1400	1200 - 1300	-	-	-	1200 - 1300
Noon Peak Volume	7	777	215	3	13	17	11	2	9	1	0	0	0	997

PM Peak Hour	1500 - 1600	1600 - 1700	1700 - 1800	1500 - 1600	1600 - 1700	1500 - 1600	1500 - 1600	1500 - 1600	1500 - 1600	-	-	-	-	1700 - 1800
PM Peak Volume	4	828	295	4	8	4	4	1	3	0	0	0	0	1128

Bi-Directional Class Count || Bi-Directional 60min

Southport, NC

Site 4

NC-211 Southport-Supply Rd SE,
east of J. Swain Blvd

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950317°, -78.040059°

0000 - 2400 (24h Session) (02-15-2023)

Bi-Directional 60min

Bi-Directional 60min														
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
0000 - 0100	0	16	4	0	0	0	0	0	0	0	0	0	0	20
0100 - 0200	0	12	5	0	0	0	0	0	0	0	0	0	0	17
0200 - 0300	0	14	2	0	3	0	0	0	0	0	0	0	0	19
0300 - 0400	0	29	11	0	0	0	0	0	0	0	0	0	0	40
0400 - 0500	0	122	72	0	2	0	1	0	1	0	0	0	0	198
0500 - 0600	1	434	244	1	6	1	0	1	1	0	0	0	0	689
0600 - 0700	0	500	242	7	6	0	1	0	2	0	0	0	0	758
0700 - 0800	1	720	251	6	13	10	5	4	6	0	0	0	0	1016
0800 - 0900	0	1050	325	5	11	15	8	3	8	1	0	0	0	1426
0900 - 1000	0	1020	361	1	22	16	11	5	13	2	0	0	0	1451
1000 - 1100	2	1214	338	1	19	17	11	4	7	0	0	0	0	1613
1100 - 1200	4	1316	366	1	22	18	12	5	4	0	0	0	0	1748
1200 - 1300	11	1444	412	3	20	6	23	3	6	1	0	0	0	1929
1300 - 1400	8	1456	371	0	25	6	22	1	11	0	0	0	0	1900
1400 - 1500	9	1409	339	3	18	6	11	2	11	0	0	0	0	1808
1500 - 1600	7	1455	328	8	15	5	12	1	3	0	0	0	0	1834
1600 - 1700	4	1445	407	9	15	4	0	1	3	0	0	0	0	1888
1700 - 1800	7	1518	518	4	6	2	0	3	1	0	0	0	0	2059
1800 - 1900	3	1048	289	0	2	1	0	0	2	0	0	0	0	1345
1900 - 2000	2	637	128	0	2	0	0	0	0	0	0	0	0	769
2000 - 2100	0	411	97	0	1	0	0	0	1	0	0	0	0	510
2100 - 2200	0	229	47	1	0	0	0	0	0	0	0	0	0	277
2200 - 2300	0	158	32	0	2	0	0	0	0	0	0	0	0	192
2300 - 2400	1	63	14	0	0	0	0	0	0	0	0	0	0	78

Session Total	60	17720	5203	50	210	107	117	33	80	4	0	0	0	23584
Session Average	2.50	738.33	216.79	2.08	8.75	4.46	4.88	1.38	3.33	0.17	0.00	0.00	0.00	982.67
Session Percentage	0.25	75.14	22.06	0.21	0.89	0.45	0.50	0.14	0.34	0.02	0.00	0.00	0.00	

AM Peak Hour	0500 - 0600	0800 - 0900	0900 - 1000	0600 - 0700	0900 - 1000	0900 - 1000	0900 - 1000	0900 - 1000	0900 - 1000	0900 - 1000	0900 - 1000	-	-	-	0900 - 1000
AM Peak Volume	1	1050	361	7	22	16	11	5	13	2	0	0	0	0	1451

Noon Peak Hour	1200 - 1300	1300 - 1400	1200 - 1300	1200 - 1300	1300 - 1400	1100 - 1200	1200 - 1300	1100 - 1200	1300 - 1400	1200 - 1300	-	-	-	-	1200 - 1300
Noon Peak Volume	11	1456	412	3	25	18	23	5	11	1	0	0	0	0	1929

PM Peak Hour	1500 - 1600	1700 - 1800	1700 - 1800	1600 - 1700	1500 - 1600	1500 - 1600	1500 - 1600	1700 - 1800	1500 - 1600	-	-	-	-	-	1700 - 1800
PM Peak Volume	7	1518	518	9	15	5	12	3	3	0	0	0	0	0	2059

Bi-Directional Class Count || Volume Summary 60min

Southport, NC



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Site 4

NC-211 Southport-Supply Rd SE,
east of J. Swain Blvd

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950317°, -78.040059°

0000 - 2400 (24h Session) (02-15-2023)

Volume Summary 60min

Volume Summary 60min			
TIME	EB	WB	Total
0000 - 0100	6	14	20
0100 - 0200	8	9	17
0200 - 0300	9	10	19
0300 - 0400	31	9	40
0400 - 0500	147	51	198
0500 - 0600	485	204	689
0600 - 0700	465	293	758
0700 - 0800	598	418	1016
0800 - 0900	856	570	1426
0900 - 1000	766	685	1451
1000 - 1100	851	762	1613
1100 - 1200	846	902	1748

Session Total	11606	11978	23584
Session Average	483.58	499.08	982.67
Session Percentage	49.21	50.79	

Volume Summary 60min			
Time	EB	WB	Total
1200 - 1300	932	997	1929
1300 - 1400	905	995	1900
1400 - 1500	815	993	1808
1500 - 1600	843	991	1834
1600 - 1700	827	1061	1888
1700 - 1800	931	1128	2059
1800 - 1900	606	739	1345
1900 - 2000	262	507	769
2000 - 2100	209	301	510
2100 - 2200	107	170	277
2200 - 2300	74	118	192
2300 - 2400	27	51	78

Bi-Directional Class Count || Graphical Analysis NB EB

Southport, NC

Site 4

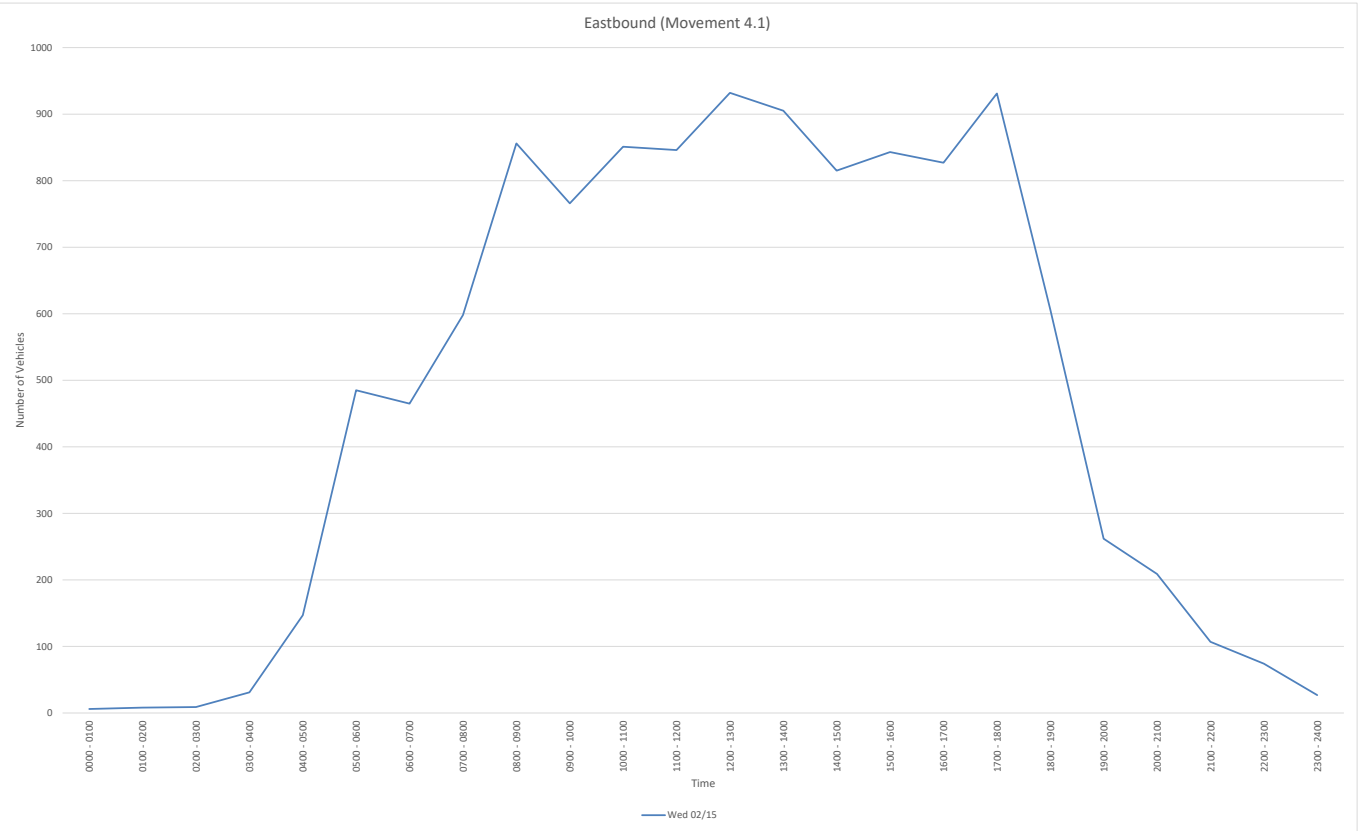
NC-211 Southport-Supply Rd SE,
east of J. Swain Blvd

Lat/Long

33.950317°, -78.040059°

0000 - 2400 (Weekday 24h Session)

Graphical Analysis NB EB



Bi-Directional Class Count || Graphical Analysis SB WB

Southport, NC

Site 4

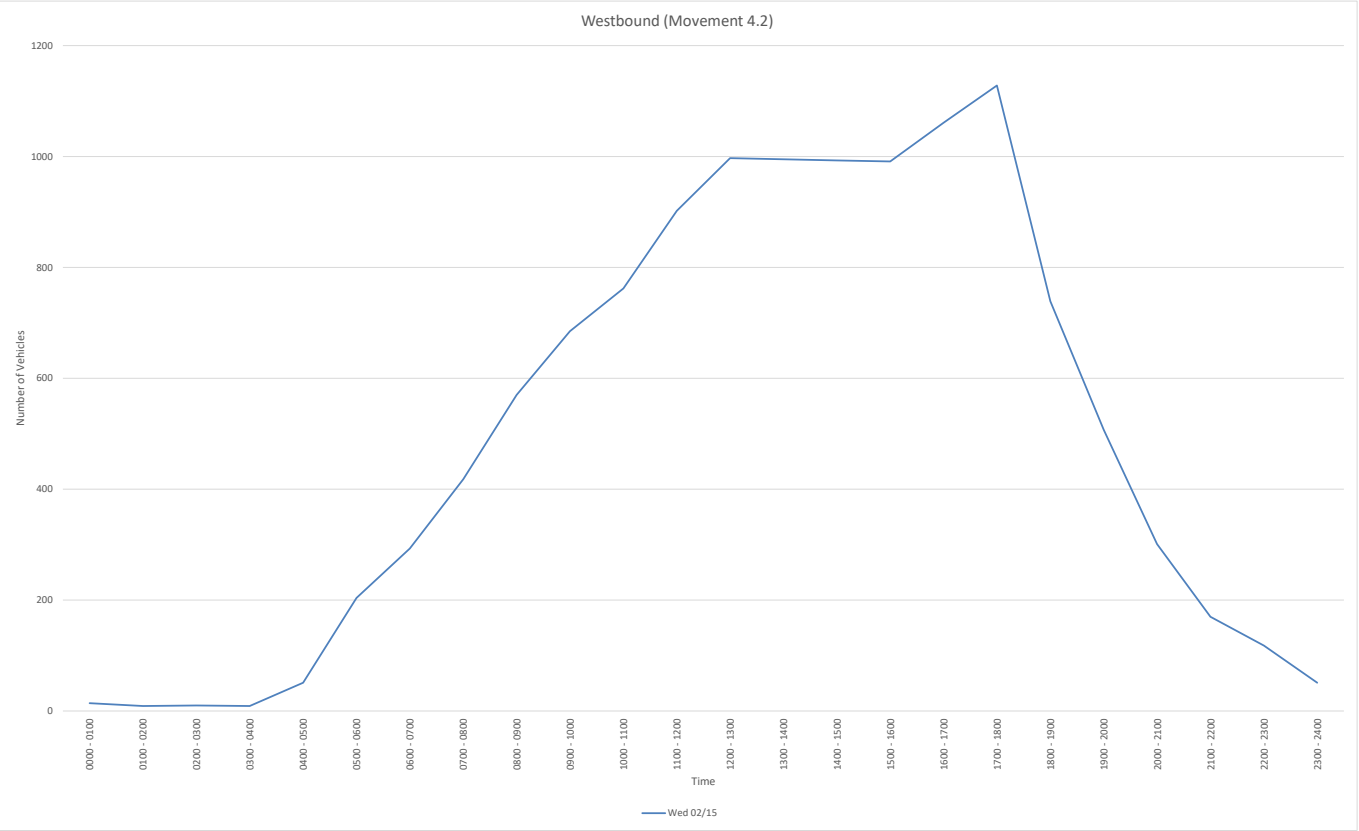
NC-211 Southport-Supply Rd SE,
east of J. Swain Blvd

Lat/Long

33.950317°, -78.040059°

0000 - 2400 (Weekday 24h Session)

Graphical Analysis SB WB



EB

File Name:

Start Date: 2/15/2023

Start Time: 0

Site Code: 4

Station ID: 1

Location 1: NC-211 Southport-Supply Rd SE, east of J. Swain Blvd

Location 2:

Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13
2/15/2023	12:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:30 AM	0	1	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	2:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0
2/15/2023	2:15 AM	0	3	0	0	1	0	0	0	0	0	0	0	0
2/15/2023	2:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	2:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:00 AM	0	5	3	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:30 AM	0	7	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:45 AM	0	10	3	0	0	0	0	0	0	0	0	0	0
2/15/2023	4:00 AM	0	5	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	4:15 AM	0	16	5	0	1	0	0	0	0	0	0	0	0
2/15/2023	4:30 AM	0	24	16	0	0	0	1	0	0	0	0	0	0
2/15/2023	4:45 AM	0	47	31	0	0	0	0	0	0	0	0	0	0
2/15/2023	5:00 AM	0	67	31	0	2	0	0	0	0	0	0	0	0
2/15/2023	5:15 AM	1	82	59	0	0	0	0	0	0	0	0	0	0
2/15/2023	5:30 AM	0	80	55	0	1	0	0	0	0	0	0	0	0
2/15/2023	5:45 AM	0	72	34	1	0	0	0	0	0	0	0	0	0
2/15/2023	6:00 AM	0	66	28	1	1	0	0	0	2	0	0	0	0
2/15/2023	6:15 AM	0	80	37	0	0	0	0	0	0	0	0	0	0
2/15/2023	6:30 AM	0	66	36	0	2	0	0	0	0	0	0	0	0
2/15/2023	6:45 AM	0	97	47	1	1	0	0	0	0	0	0	0	0
2/15/2023	7:00 AM	0	75	26	0	0	1	0	0	0	0	0	0	0
2/15/2023	7:15 AM	0	90	31	0	2	0	3	1	2	0	0	0	0
2/15/2023	7:30 AM	0	123	35	1	1	0	0	0	0	0	0	0	0
2/15/2023	7:45 AM	0	160	39	2	2	1	1	1	1	0	0	0	0
2/15/2023	8:00 AM	0	163	41	4	3	2	3	0	3	0	0	0	0
2/15/2023	8:15 AM	0	164	52	0	0	1	2	0	0	0	0	0	0
2/15/2023	8:30 AM	0	153	38	0	2	0	2	0	0	0	0	0	0
2/15/2023	8:45 AM	0	176	43	1	2	0	1	0	0	0	0	0	0
2/15/2023	9:00 AM	0	105	42	0	3	0	3	3	1	0	0	0	0
2/15/2023	9:15 AM	0	105	59	0	1	0	2	0	1	2	0	0	0
2/15/2023	9:30 AM	0	151	31	0	1	1	1	1	4	0	0	0	0
2/15/2023	9:45 AM	0	191	46	0	4	2	5	0	1	0	0	0	0
2/15/2023	10:00 AM	0	158	39	1	2	1	2	2	1	0	0	0	0
2/15/2023	10:15 AM	0	154	39	0	4	0	3	0	0	0	0	0	0
2/15/2023	10:30 AM	0	161	41	0	2	0	2	0	0	0	0	0	0
2/15/2023	10:45 AM	1	181	49	0	1	2	4	1	0	0	0	0	0
2/15/2023	11:00 AM	1	148	45	0	1	0	2	0	0	0	0	0	0
2/15/2023	11:15 AM	1	170	47	0	3	1	4	1	0	0	0	0	0
2/15/2023	11:30 AM	0	204	54	0	2	0	3	1	0	0	0	0	0
2/15/2023	11:45 AM	0	109	36	1	6	0	3	1	2	0	0	0	0
2/15/2023	12:00 PM	2	176	52	0	1	3	3	0	0	0	0	0	0
2/15/2023	12:15 PM	0	182	47	0	4	0	4	0	1	0	0	0	0
2/15/2023	12:30 PM	2	169	62	0	1	0	4	1	2	0	0	0	0
2/15/2023	12:45 PM	1	176	36	0	1	0	2	0	0	0	0	0	0
2/15/2023	1:00 PM	1	163	51	0	3	0	5	0	0	0	0	0	0
2/15/2023	1:15 PM	0	161	58	0	6	0	3	0	0	0	0	0	0
2/15/2023	1:30 PM	0	181	44	0	6	0	3	0	0	0	0	0	0
2/15/2023	1:45 PM	0	186	30	0	1	1	0	0	2	0	0	0	0
2/15/2023	2:00 PM	1	161	44	0	1	0	3	0	1	0	0	0	0
2/15/2023	2:15 PM	1	152	46	0	3	0	1	0	2	0	0	0	0
2/15/2023	2:30 PM	3	155	33	1	1	3	1	0	2	0	0	0	0
2/15/2023	2:45 PM	0	164	30	0	2	0	1	0	3	0	0	0	0
2/15/2023	3:00 PM	2	167	37	0	1	0	3	0	0	0	0	0	0
2/15/2023	3:15 PM	0	190	34	0	3	1	2	0	0	0	0	0	0
2/15/2023	3:30 PM	1	161	46	3	3	0	1	0	0	0	0	0	0
2/15/2023	3:45 PM	0	150	33	1	2	0	2	0	0	0	0	0	0
2/15/2023	4:00 PM	0	125	32	1	2	1	0	0	1	0	0	0	0
2/15/2023	4:15 PM	1	155	53	2	2	1	0	0	0	0	0	0	0
2/15/2023	4:30 PM	2	161	56	0	1	0	0	0	0	0	0	0	0
2/15/2023	4:45 PM	1	176	48	4	2	0	0	0	0	0	0	0	0
2/15/2023	5:00 PM	0	179	66	2	0	1	0	1	0	0	0	0	0
2/15/2023	5:15 PM	2	184	63	1	1	0	0	1	1	0	0	0	0
2/15/2023	5:30 PM	1	190	50	0	0	0	0	1	0	0	0	0	0
2/15/2023	5:45 PM	0	141	44	0	2	0	0	0	0	0	0	0	0
2/15/2023	6:00 PM	1	133	36	0	0	0	0	0	0	0	0	0	0
2/15/2023	6:15 PM	0	135	31	0	1	1	0	0	0	0	0	0	0
2/15/2023	6:30 PM	0	112	29	0	0	0	0	0	0	0	0	0	0
2/15/2023	6:45 PM	0	105	22	0	0	0	0	0	0	0	0	0	0
2/15/2023	7:00 PM	0	61	15	0	1	0	0	0	0	0	0	0	0
2/15/2023	7:15 PM	0	64	11	0	0	0	0	0	0	0	0	0	0
2/15/2023	7:30 PM	0	47	14	0	0	0	0	0	0	0	0	0	0
2/15/2023	7:45 PM	0	41	8	0	0	0	0	0	0	0	0	0	0
2/15/2023	8:00 PM	0	47	18	0	0	0	0	0	0	0	0	0	0
2/15/2023	8:15 PM	0	52	17	0	0	0	0	0	0	0	0	0	0
2/15/2023	8:30 PM	0	37	8	0	0	0	0	0	0	0	0	0	0
2/15/2023	8:45 PM	0	24	5	0	0	0	0	0	1	0	0	0	0
2/15/2023	9:00 PM	0	30	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	9:15 PM	0	23	3	0	0	0	0	0	0	0	0	0	0
2/15/2023	9:30 PM	0	16	5	0	0	0	0	0	0	0	0	0	0
2/15/2023	9:45 PM	0	26	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	10:00 PM	0	23	6	0	0	0	0	0	0	0	0	0	0
2/15/2023	10:15 PM	0	19	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	10:30 PM	0	11	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	10:45 PM	0	10	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:00 PM	0	12	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:15 PM	0	1	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:30 PM	0	4	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:45 PM	0	5	0	0	0	0	0	0	0	0	0	0	0

WB

File Name:

Start Date: 2/15/2023

Start Time: 0

Site Code: 4

Station ID: 1

Location 1: NC-211 Southport-Supply Rd SE, east of J. Swain Blvd

Location 2:

Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13
2/15/2023	12:00 AM	0	7	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:45 AM	0	3	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:15 AM	0	3	3	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:30 AM	0	1	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	2:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	2:15 AM	0	3	0	0	1	0	0	0	0	0	0	0	0
2/15/2023	2:30 AM	0	2	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	2:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:15 AM	0	1	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:30 AM	0	2	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	4:00 AM	0	2	2	0	0	0	0	0	1	0	0	0	0
2/15/2023	4:15 AM	0	9	5	0	0	0	0	0	0	0	0	0	0
2/15/2023	4:30 AM	0	7	4	0	1	0	0	0	0	0	0	0	0
2/15/2023	4:45 AM	0	12	8	0	0	0	0	0	0	0	0	0	0
2/15/2023	5:00 AM	0	19	6	0	0	0	0	1	0	0	0	0	0
2/15/2023	5:15 AM	0	32	14	0	1	1	0	0	1	0	0	0	0
2/15/2023	5:30 AM	0	28	20	0	2	0	0	0	0	0	0	0	0
2/15/2023	5:45 AM	0	54	25	0	0	0	0	0	0	0	0	0	0
2/15/2023	6:00 AM	0	59	27	0	0	0	0	0	0	0	0	0	0
2/15/2023	6:15 AM	0	54	18	0	1	0	0	0	0	0	0	0	0
2/15/2023	6:30 AM	0	30	24	2	1	0	1	0	0	0	0	0	0
2/15/2023	6:45 AM	0	48	25	3	0	0	0	0	0	0	0	0	0
2/15/2023	7:00 AM	1	61	30	1	0	2	1	1	0	0	0	0	0
2/15/2023	7:15 AM	0	61	29	2	3	0	0	0	1	0	0	0	0
2/15/2023	7:30 AM	0	67	38	0	4	4	0	0	1	0	0	0	0
2/15/2023	7:45 AM	0	83	23	0	1	2	0	1	1	0	0	0	0
2/15/2023	8:00 AM	0	67	32	0	1	3	0	0	1	0	0	0	0
2/15/2023	8:15 AM	0	100	34	0	1	3	0	1	1	0	0	0	0
2/15/2023	8:30 AM	0	129	43	0	1	3	0	1	2	0	0	0	0
2/15/2023	8:45 AM	0	98	42	0	1	3	0	1	1	1	0	0	0
2/15/2023	9:00 AM	0	127	38	0	4	5	0	0	1	0	0	0	0
2/15/2023	9:15 AM	0	99	35	0	3	3	0	0	1	0	0	0	0
2/15/2023	9:30 AM	0	106	38	1	4	4	0	0	2	0	0	0	0
2/15/2023	9:45 AM	0	136	72	0	2	1	0	1	2	0	0	0	0
2/15/2023	10:00 AM	1	126	41	0	2	4	0	0	0	0	0	0	0
2/15/2023	10:15 AM	0	130	44	0	3	3	0	0	3	0	0	0	0
2/15/2023	10:30 AM	0	166	42	0	0	5	0	1	1	0	0	0	0
2/15/2023	10:45 AM	0	138	43	0	5	2	0	0	2	0	0	0	0
2/15/2023	11:00 AM	0	168	42	0	2	3	0	0	0	0	0	0	0
2/15/2023	11:15 AM	1	176	43	0	2	5	0	1	1	0	0	0	0
2/15/2023	11:30 AM	0	169	44	0	2	4	0	0	1	0	0	0	0
2/15/2023	11:45 AM	1	172	55	0	4	5	0	1	0	0	0	0	0
2/15/2023	12:00 PM	2	181	62	1	5	1	1	0	1	0	0	0	0
2/15/2023	12:15 PM	0	196	48	1	2	2	2	1	0	1	0	0	0
2/15/2023	12:30 PM	2	188	51	1	1	0	5	0	1	0	0	0	0
2/15/2023	12:45 PM	2	176	54	0	5	0	2	1	1	0	0	0	0
2/15/2023	1:00 PM	0	173	50	0	1	0	3	1	3	0	0	0	0
2/15/2023	1:15 PM	3	181	48	0	1	2	4	0	1	0	0	0	0
2/15/2023	1:30 PM	2	212	48	0	1	2	2	0	3	0	0	0	0
2/15/2023	1:45 PM	2	199	42	0	6	1	2	0	2	0	0	0	0
2/15/2023	2:00 PM	2	205	61	0	2	3	0	1	0	0	0	0	0
2/15/2023	2:15 PM	0	186	42	0	0	0	2	0	0	0	0	0	0
2/15/2023	2:30 PM	1	202	57	1	4	0	1	1	3	0	0	0	0
2/15/2023	2:45 PM	1	184	26	1	5	0	2	0	0	0	0	0	0
2/15/2023	3:00 PM	1	191	50	1	1	0	2	0	2	0	0	0	0
2/15/2023	3:15 PM	0	186	32	0	1	0	0	0	1	0	0	0	0
2/15/2023	3:30 PM	2	202	48	0	2	3	1	0	0	0	0	0	0
2/15/2023	3:45 PM	1	208	48	3	2	1	1	1	0	0	0	0	0
2/15/2023	4:00 PM	0	220	46	2	4	2	0	0	0	0	0	0	0
2/15/2023	4:15 PM	0	198	62	0	1	0	0	0	1	0	0	0	0
2/15/2023	4:30 PM	0	212	52	0	1	0	0	0	1	0	0	0	0
2/15/2023	4:45 PM	0	198	58	0	2	0	0	1	0	0	0	0	0
2/15/2023	5:00 PM	0	209	72	1	1	0	0	0	0	0	0	0	0
2/15/2023	5:15 PM	0	195	60	0	0	1	0	0	0	0	0	0	0
2/15/2023	5:30 PM	1	194	85	0	1	0	0	0	0	0	0	0	0
2/15/2023	5:45 PM	3	226	78	0	1	0	0	0	0	0	0	0	0
2/15/2023	6:00 PM	1	184	59	0	0	0	0	0	1	0	0	0	0
2/15/2023	6:15 PM	1	150	55	0	0	0	0	0	1	0	0	0	0
2/15/2023	6:30 PM	0	116	31	0	0	0	0	0	0	0	0	0	0
2/15/2023	6:45 PM	0	113	26	0	1	0	0	0	0	0	0	0	0
2/15/2023	7:00 PM	1	122	23	0	1	0	0	0	0	0	0	0	0
2/15/2023	7:15 PM	0	120	18	0	0	0	0	0	0	0	0	0	0
2/15/2023	7:30 PM	0	90	20	0	0	0	0	0	0	0	0	0	0
2/15/2023	7:45 PM	1	92	19	0	0	0	0	0	0	0	0	0	0
2/15/2023	8:00 PM	0	63	13	0	1	0	0	0	0	0	0	0	0
2/15/2023	8:15 PM	0	80	14	0	0	0	0	0	0	0	0	0	0
2/15/2023	8:30 PM	0	66	12	0	0	0	0	0	0	0	0	0	0
2/15/2023	8:45 PM	0	42	10	0	0	0	0	0	0	0	0	0	0
2/15/2023	9:00 PM	0	45	13	0	0	0	0	0	0	0	0	0	0
2/15/2023	9:15 PM	0	36	11	0	0	0	0	0	0	0	0	0	0
2/15/2023	9:30 PM	0	26	4	0	0	0	0	0	0	0	0	0	0
2/15/2023	9:45 PM	0	27	7	1	0	0	0	0	0	0	0	0	0
2/15/2023	10:00 PM	0	31	11	0	0	0	0	0	0	0	0	0	0
2/15/2023	10:15 PM	0	27	5	0	1	0	0	0	0	0	0	0	0
2/15/2023	10:30 PM	0	23	2	0	1	0	0	0	0	0	0	0	0
2/15/2023	10:45 PM	0	14	3	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:00 PM	0	16	3	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:15 PM	0	9	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:30 PM	0	8	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:45 PM	1	8	2	0	0	0	0	0	0	0	0	0	0

EB

File Name:

Start Date: 2/15/2023

Start Time: 0

Site Code: 4

Station ID: 1

Location 1: NC-211 Southport-Supply Rd SE, east of J. Swain Blvd

Location 2:

Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13
2/15/2023	12:00 AM	0	4	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:15 AM	0	6	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:30 AM	0	7	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:45 AM	0	7	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:00 AM	0	7	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:15 AM	0	5	1	0	1	0	0	0	0	0	0	0	0
2/15/2023	1:30 AM	0	6	1	0	2	0	0	0	0	0	0	0	0
2/15/2023	1:45 AM	0	5	1	0	2	0	0	0	0	0	0	0	0
2/15/2023	2:00 AM	0	6	1	0	2	0	0	0	0	0	0	0	0
2/15/2023	2:15 AM	0	10	4	0	1	0	0	0	0	0	0	0	0
2/15/2023	2:30 AM	0	9	4	0	0	0	0	0	0	0	0	0	0
2/15/2023	2:45 AM	0	16	4	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:00 AM	0	24	7	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:15 AM	0	24	5	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:30 AM	0	38	10	0	1	0	0	0	0	0	0	0	0
2/15/2023	3:45 AM	0	55	25	0	1	0	1	0	0	0	0	0	0
2/15/2023	4:00 AM	0	92	53	0	1	0	1	0	0	0	0	0	0
2/15/2023	4:15 AM	0	154	83	0	3	0	1	0	0	0	0	0	0
2/15/2023	4:30 AM	1	220	137	0	2	0	1	0	0	0	0	0	0
2/15/2023	4:45 AM	1	276	176	0	3	0	0	0	0	0	0	0	0
2/15/2023	5:00 AM	1	301	179	1	3	0	0	0	0	0	0	0	0
2/15/2023	5:15 AM	1	300	176	2	2	0	0	0	2	0	0	0	0
2/15/2023	5:30 AM	0	298	154	2	2	0	0	0	2	0	0	0	0
2/15/2023	5:45 AM	0	284	135	2	3	0	0	0	2	0	0	0	0
2/15/2023	6:00 AM	0	309	148	2	4	0	0	0	2	0	0	0	0
2/15/2023	6:15 AM	0	318	146	1	3	1	0	0	0	0	0	0	0
2/15/2023	6:30 AM	0	328	140	1	5	1	3	1	2	0	0	0	0
2/15/2023	6:45 AM	0	385	139	2	4	1	3	1	2	0	0	0	0
2/15/2023	7:00 AM	0	448	131	3	5	2	4	2	3	0	0	0	0
2/15/2023	7:15 AM	0	536	146	7	8	3	7	2	6	0	0	0	0
2/15/2023	7:30 AM	0	610	167	7	6	4	6	1	4	0	0	0	0
2/15/2023	7:45 AM	0	640	170	6	7	4	8	1	4	0	0	0	0
2/15/2023	8:00 AM	0	656	174	5	7	3	8	0	3	0	0	0	0
2/15/2023	8:15 AM	0	598	175	1	7	1	8	3	1	0	0	0	0
2/15/2023	8:30 AM	0	539	182	1	8	0	8	3	2	2	0	0	0
2/15/2023	8:45 AM	0	537	175	1	7	1	7	4	6	2	0	0	0
2/15/2023	9:00 AM	0	552	178	0	9	3	11	4	7	2	0	0	0
2/15/2023	9:15 AM	0	605	175	1	8	4	10	3	7	2	0	0	0
2/15/2023	9:30 AM	0	654	155	1	11	4	11	3	6	0	0	0	0
2/15/2023	9:45 AM	0	664	165	1	12	3	12	2	2	0	0	0	0
2/15/2023	10:00 AM	1	654	168	1	9	3	11	3	1	0	0	0	0
2/15/2023	10:15 AM	2	644	174	0	8	2	11	1	0	0	0	0	0
2/15/2023	10:30 AM	3	660	182	0	7	3	12	2	0	0	0	0	0
2/15/2023	10:45 AM	3	703	195	0	7	3	13	3	0	0	0	0	0
2/15/2023	11:00 AM	2	631	182	1	12	1	12	3	2	0	0	0	0
2/15/2023	11:15 AM	3	659	189	1	12	4	13	3	2	0	0	0	0
2/15/2023	11:30 AM	2	671	189	1	13	3	13	2	3	0	0	0	0
2/15/2023	11:45 AM	4	636	197	1	12	3	14	2	5	0	0	0	0
2/15/2023	12:00 PM	5	703	197	0	7	3	13	1	3	0	0	0	0
2/15/2023	12:15 PM	4	690	196	0	9	0	15	1	3	0	0	0	0
2/15/2023	12:30 PM	4	669	207	0	11	0	14	1	2	0	0	0	0
2/15/2023	12:45 PM	2	681	189	0	16	0	13	0	0	0	0	0	0
2/15/2023	1:00 PM	1	691	183	0	16	1	11	0	2	0	0	0	0
2/15/2023	1:15 PM	1	689	176	0	14	1	9	0	3	0	0	0	0
2/15/2023	1:30 PM	2	680	164	0	11	1	7	0	5	0	0	0	0
2/15/2023	1:45 PM	5	654	153	1	6	4	5	0	7	0	0	0	0
2/15/2023	2:00 PM	5	632	153	1	7	3	6	0	8	0	0	0	0
2/15/2023	2:15 PM	6	638	146	1	7	3	6	0	7	0	0	0	0
2/15/2023	2:30 PM	5	676	134	1	7	4	7	0	5	0	0	0	0
2/15/2023	2:45 PM	3	682	147	3	9	1	7	0	3	0	0	0	0
2/15/2023	3:00 PM	3	668	150	4	9	1	8	0	0	0	0	0	0
2/15/2023	3:15 PM	1	626	145	5	10	2	5	0	1	0	0	0	0
2/15/2023	3:30 PM	2	591	164	7	9	2	3	0	1	0	0	0	0
2/15/2023	3:45 PM	3	591	174	4	7	2	2	0	1	0	0	0	0
2/15/2023	4:00 PM	4	617	189	7	7	2	0	0	1	0	0	0	0
2/15/2023	4:15 PM	4	671	223	8	5	2	0	1	0	0	0	0	0
2/15/2023	4:30 PM	5	700	233	7	4	1	0	2	1	0	0	0	0
2/15/2023	4:45 PM	4	729	227	7	3	1	0	3	1	0	0	0	0
2/15/2023	5:00 PM	3	694	223	3	3	1	0	3	1	0	0	0	0
2/15/2023	5:15 PM	4	648	193	1	3	0	0	2	1	0	0	0	0
2/15/2023	5:30 PM	2	599	161	0	3	1	0	1	0	0	0	0	0
2/15/2023	5:45 PM	1	521	140	0	3	1	0	0	0	0	0	0	0
2/15/2023	6:00 PM	1	485	118	0	1	1	0	0	0	0	0	0	0
2/15/2023	6:15 PM	0	413	97	0	2	1	0	0	0	0	0	0	0
2/15/2023	6:30 PM	0	342	77	0	1	0	0	0	0	0	0	0	0
2/15/2023	6:45 PM	0	277	62	0	1	0	0	0	0	0	0	0	0
2/15/2023	7:00 PM	0	213	48	0	1	0	0	0	0	0	0	0	0
2/15/2023	7:15 PM	0	199	51	0	0	0	0	0	0	0	0	0	0
2/15/2023	7:30 PM	0	187	57	0	0	0	0	0	0	0	0	0	0
2/15/2023	7:45 PM	0	177	51	0	0	0	0	0	0	0	0	0	0
2/15/2023	8:00 PM	0	160	48	0	0	0	0	0	1	0	0	0	0
2/15/2023	8:15 PM	0	143	32	0	0	0	0	0	1	0	0	0	0
2/15/2023	8:30 PM	0	114	18	0	0	0	0	0	1	0	0	0	0
2/15/2023	8:45 PM	0	93	15	0	0	0	0	0	1	0	0	0	0
2/15/2023	9:00 PM	0	95	12	0	0	0	0	0	0	0	0	0	0
2/15/2023	9:15 PM	0	88	16	0	0	0	0	0	0	0	0	0	0
2/15/2023	9:30 PM	0	84	15	0	0	0	0	0	0	0	0	0	0
2/15/2023	9:45 PM	0	79	12	0	0	0	0	0	0	0	0	0	0
2/15/2023	10:00 PM	0	63	11	0	0	0	0	0	0	0	0	0	0
2/15/2023	10:15 PM	0	52	6	0	0	0	0	0	0	0	0	0	0
2/15/2023	10:30 PM	0	34	6	0	0	0	0	0	0	0	0	0	0
2/15/2023	10:45 PM	0	27	6	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:00 PM	0	22	5	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:15 PM	0	10	4	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:30 PM	0	9	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:45 PM	0	5	0	0	0	0	0	0	0	0	0	0	0

WB

File Name:

Start Date: 2/15/2023

Start Time: 0

Site Code: 4

Station ID: 1

Location 1: NC-211 Southport-Supply Rd SE, east of J. Swain Blvd

Location 2:

Date	Time	1	2	3	4	5	6	7	8	9	10	11	12	13
2/15/2023	12:00 AM	0	12	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:15 AM	0	6	1	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:30 AM	0	9	4	0	0	0	0	0	0	0	0	0	0
2/15/2023	12:45 AM	0	8	5	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:00 AM	0	5	4	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:15 AM	0	6	4	0	0	0	0	0	0	0	0	0	0
2/15/2023	1:30 AM	0	6	1	0	1	0	0	0	0	0	0	0	0
2/15/2023	1:45 AM	0	7	1	0	1	0	0	0	0	0	0	0	0
2/15/2023	2:00 AM	0	8	1	0	1	0	0	0	0	0	0	0	0
2/15/2023	2:15 AM	0	7	1	0	1	0	0	0	0	0	0	0	0
2/15/2023	2:30 AM	0	5	2	0	0	0	0	0	0	0	0	0	0
2/15/2023	2:45 AM	0	5	3	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:00 AM	0	5	4	0	0	0	0	0	0	0	0	0	0
2/15/2023	3:15 AM	0	6	6	0	0	0	0	0	1	0	0	0	0
2/15/2023	3:30 AM	0	14	10	0	0	0	0	0	1	0	0	0	0
2/15/2023	3:45 AM	0	19	12	0	1	0	0	0	1	0	0	0	0
2/15/2023	4:00 AM	0	30	19	0	1	0	0	0	1	0	0	0	0
2/15/2023	4:15 AM	0	47	23	0	1	0	0	1	0	0	0	0	0
2/15/2023	4:30 AM	0	70	32	0	2	1	0	1	1	0	0	0	0
2/15/2023	4:45 AM	0	91	48	0	3	1	0	1	1	0	0	0	0
2/15/2023	5:00 AM	0	133	65	0	3	1	0	1	1	0	0	0	0
2/15/2023	5:15 AM	0	173	86	0	3	1	0	0	1	0	0	0	0
2/15/2023	5:30 AM	0	195	90	0	3	0	0	0	0	0	0	0	0
2/15/2023	5:45 AM	0	197	94	2	2	0	1	0	0	0	0	0	0
2/15/2023	6:00 AM	0	191	94	5	2	0	1	0	0	0	0	0	0
2/15/2023	6:15 AM	1	193	97	6	2	2	2	1	0	0	0	0	0
2/15/2023	6:30 AM	1	200	108	8	4	2	2	1	1	0	0	0	0
2/15/2023	6:45 AM	1	237	122	6	7	6	1	1	2	0	0	0	0
2/15/2023	7:00 AM	1	272	120	3	8	8	1	2	3	0	0	0	0
2/15/2023	7:15 AM	0	278	122	2	9	9	0	1	4	0	0	0	0
2/15/2023	7:30 AM	0	317	127	0	7	12	0	2	4	0	0	0	0
2/15/2023	7:45 AM	0	379	132	0	4	11	0	3	5	0	0	0	0
2/15/2023	8:00 AM	0	394	151	0	4	12	0	3	5	1	0	0	0
2/15/2023	8:15 AM	0	454	157	0	7	14	0	3	5	1	0	0	0
2/15/2023	8:30 AM	0	453	158	0	9	14	0	2	5	1	0	0	0
2/15/2023	8:45 AM	0	430	153	1	12	15	0	1	5	1	0	0	0
2/15/2023	9:00 AM	0	468	183	1	13	13	0	1	6	0	0	0	0
2/15/2023	9:15 AM	1	467	186	1	11	12	0	1	5	0	0	0	0
2/15/2023	9:30 AM	1	498	195	1	11	12	0	1	7	0	0	0	0
2/15/2023	9:45 AM	1	558	199	0	7	13	0	2	6	0	0	0	0
2/15/2023	10:00 AM	1	560	170	0	10	14	0	1	6	0	0	0	0
2/15/2023	10:15 AM	0	602	171	0	10	13	0	1	6	0	0	0	0
2/15/2023	10:30 AM	1	648	170	0	9	15	0	2	4	0	0	0	0
2/15/2023	10:45 AM	1	651	172	0	11	14	0	1	4	0	0	0	0
2/15/2023	11:00 AM	2	685	184	0	10	17	0	2	2	0	0	0	0
2/15/2023	11:15 AM	4	698	204	1	13	15	1	2	3	0	0	0	0
2/15/2023	11:30 AM	3	718	209	2	13	12	3	2	2	1	0	0	0
2/15/2023	11:45 AM	5	737	216	3	12	8	8	2	2	1	0	0	0
2/15/2023	12:00 PM	6	741	215	3	13	3	10	2	3	1	0	0	0
2/15/2023	12:15 PM	4	733	203	2	9	2	12	3	5	1	0	0	0
2/15/2023	12:30 PM	7	718	203	1	8	2	14	2	6	0	0	0	0
2/15/2023	12:45 PM	7	742	200	0	8	4	11	2	8	0	0	0	0
2/15/2023	1:00 PM	7	765	188	0	9	5	11	1	9	0	0	0	0
2/15/2023	1:15 PM	9	797	199	0	10	8	8	1	6	0	0	0	0
2/15/2023	1:30 PM	6	802	193	0	9	6	6	1	5	0	0	0	0
2/15/2023	1:45 PM	5	792	202	1	12	4	5	2	5	0	0	0	0
2/15/2023	2:00 PM	4	777	186	2	11	3	5	2	3	0	0	0	0
2/15/2023	2:15 PM	3	763	175	3	10	0	7	1	5	0	0	0	0
2/15/2023	2:30 PM	3	763	165	3	11	0	5	1	6	0	0	0	0
2/15/2023	2:45 PM	4	763	156	2	9	3	5	0	3	0	0	0	0
2/15/2023	3:00 PM	4	787	178	4	6	4	4	1	3	0	0	0	0
2/15/2023	3:15 PM	3	816	174	5	9	6	2	1	1	0	0	0	0
2/15/2023	3:30 PM	3	828	204	5	9	6	2	1	1	0	0	0	0
2/15/2023	3:45 PM	1	838	208	5	8	3	1	1	2	0	0	0	0
2/15/2023	4:00 PM	0	828	218	2	8	2	0	1	2	0	0	0	0
2/15/2023	4:15 PM	0	817	244	1	5	0	0	1	2	0	0	0	0
2/15/2023	4:30 PM	0	814	242	1	4	1	0	1	1	0	0	0	0
2/15/2023	4:45 PM	1	796	275	1	4	1	0	1	0	0	0	0	0
2/15/2023	5:00 PM	4	824	295	1	3	1	0	0	0	0	0	0	0
2/15/2023	5:15 PM	5	799	282	0	2	1	0	0	1	0	0	0	0
2/15/2023	5:30 PM	6	754	277	0	2	0	0	0	2	0	0	0	0
2/15/2023	5:45 PM	5	676	223	0	1	0	0	0	2	0	0	0	0
2/15/2023	6:00 PM	2	563	171	0	1	0	0	0	2	0	0	0	0
2/15/2023	6:15 PM	2	501	135	0	2	0	0	0	1	0	0	0	0
2/15/2023	6:30 PM	1	471	98	0	2	0	0	0	0	0	0	0	0
2/15/2023	6:45 PM	1	445	87	0	2	0	0	0	0	0	0	0	0
2/15/2023	7:00 PM	2	424	80	0	1	0	0	0	0	0	0	0	0
2/15/2023	7:15 PM	1	365	70	0	1	0	0	0	0	0	0	0	0
2/15/2023	7:30 PM	1	325	66	0	1	0	0	0	0	0	0	0	0
2/15/2023	7:45 PM	1	301	58	0	1	0	0	0	0	0	0	0	0
2/15/2023	8:00 PM	0	251	49	0	1	0	0	0	0	0	0	0	0
2/15/2023	8:15 PM	0	233	49	0	0	0	0	0	0	0	0	0	0
2/15/2023	8:30 PM	0	189	46	0	0	0	0	0	0	0	0	0	0
2/15/2023	8:45 PM	0	149	38	0	0	0	0	0	0	0	0	0	0
2/15/2023	9:00 PM	0	134	35	1	0	0	0	0	0	0	0	0	0
2/15/2023	9:15 PM	0	120	33	1	0	0	0	0	0	0	0	0	0
2/15/2023	9:30 PM	0	111	27	1	1	0	0	0	0	0	0	0	0
2/15/2023	9:45 PM	0	108	25	1	2	0	0	0	0	0	0	0	0
2/15/2023	10:00 PM	0	95	21	0	2	0	0	0	0	0	0	0	0
2/15/2023	10:15 PM	0	80	13	0	2	0	0	0	0	0	0	0	0
2/15/2023	10:30 PM	0	62	10	0	1	0	0	0	0	0	0	0	0
2/15/2023	10:45 PM	0	47	10	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:00 PM	1	41	9	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:15 PM	1	25	6	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:30 PM	1	16	4	0	0	0	0	0	0	0	0	0	0
2/15/2023	11:45 PM	1	8	2	0	0	0	0	0	0	0	0	0	0



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Peak Hour Turning Movement Count

Southport, NC



www.marrtraffic.com

Wednesday, February 15, 2023	
Period	0800 - 1100
Peak Hour	0945 - 1045

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

Time	Northbound					Southbound					Eastbound					Westbound				
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)				
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total
0945 - 1000	2	0	0	0	2	11	1	11	0	23	8	238	1	0	247	1	195	17	0	213
1000 - 1015	1	0	0	0	1	14	0	17	0	31	10	191	1	0	202	0	164	11	0	175
1015 - 1030	2	0	0	0	2	17	1	16	0	34	7	184	1	0	192	0	163	18	0	181
1030 - 1045	1	0	2	0	3	16	0	26	0	42	11	190	1	0	202	0	207	9	0	216
Total	6	0	2	0	8	58	2	70	0	130	36	803	4	0	843	1	729	55	0	785
Approach %	75.00	0.00	25.00	0.00	-	44.62	1.54	53.85	0.00	-	4.27	95.26	0.47	0.00	-	0.13	92.87	7.01	0.00	-
PHF	0.75	0.00	0.25	0.00	0.67	0.85	0.50	0.67	0.00	0.77	0.82	0.84	1.00	0.00	0.85	0.25	0.88	0.76	0.00	0.91

Passenger Vehicles (1-3)

Time	Northbound					Southbound					Eastbound					Westbound				
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)				
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total
0945 - 1000	1	0	0	0	1	11	1	11	0	23	8	226	1	0	235	0	190	16	0	206
1000 - 1015	1	0	0	0	1	14	0	17	0	31	9	183	1	0	193	0	158	11	0	169
1015 - 1030	0	0	0	0	0	16	0	16	0	32	7	179	0	0	186	0	155	18	0	173
1030 - 1045	1	0	0	0	1	16	0	26	0	42	11	186	1	0	198	0	200	9	0	209
Total	3	0	0	0	3	57	1	70	0	128	35	774	3	0	812	0	703	54	0	757
Approach %	100.00	0.00	0.00	0.00	-	44.53	0.78	54.69	0.00	-	4.31	95.32	0.37	0.00	-	0.00	92.87	7.13	0.00	-
PHF	0.75	0.00	0.00	0.00	0.75	0.89	0.25	0.67	0.00	0.76	0.80	0.86	0.75	0.00	0.86	0.00	0.88	0.75	0.00	0.91

Single Unit Trucks (4-7)

Time	Northbound					Southbound					Eastbound					Westbound				
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)				
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total
0945 - 1000	1	0	0	0	1	0	0	0	0	0	0	11	0	0	11	0	3	1	0	4
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	6	0	0	6
1015 - 1030	2	0	0	0	2	1	1	0	0	2	0	5	1	0	6	0	5	0	0	5
1030 - 1045	0	0	1	0	1	0	0	0	0	0	0	3	0	0	3	0	5	0	0	5
Total	3	0	1	0	4	1	1	0	0	2	0	26	1	0	27	0	19	1	0	20
Approach %	75.00	0.00	25.00	0.00	-	50.00	50.00	0.00	0.00	-	0.00	96.30	3.70	0.00	-	0.00	95.00	5.00	0.00	-
PHF	0.38	0.00	0.25	0.00	0.50	0.25	0.25	0.00	0.00	0.25	0.00	0.59	0.25	0.00	0.61	0.00	0.79	0.25	0.00	0.83

Combination Trucks (8-13)

Time	Northbound					Southbound					Eastbound					Westbound				
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)				
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	2	0	0	3
1000 - 1015	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
1030 - 1045	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2
Total	0	0	1	0	1	0	0	0	0	0	1	3	0	0	4	1	7	0	0	8
Approach %	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	25.00	75.00	0.00	0.00	-	12.50	87.50	0.00	0.00	-
PHF	0.00	0.00	0.25	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.25	0.75	0.00	0.00	0.50	0.25	0.58	0.00	0.00	0.67

Bikes

Time	Northbound					Southbound					Eastbound					Westbound				
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)				
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



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Peak Hour Turning Movement Count

Southport, NC



www.marrtraffic.com

Wednesday, February 15, 2023	
Period	1600 - 1900
Peak Hour	1645 - 1745

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1645 - 1700	1	0	0	0	1	17	0	8	0	25	13	213	1	0	227	0	241	16	0	257	510
1700 - 1715	0	0	1	0	1	15	0	15	0	30	13	233	0	0	246	1	268	14	0	283	560
1715 - 1730	4	0	2	0	6	17	0	4	0	21	6	235	0	0	241	0	245	9	0	254	522
1730 - 1745	1	0	1	0	2	12	0	18	0	30	6	231	0	0	237	0	271	10	0	281	550
Total	6	0	4	0	10	61	0	45	0	106	38	912	1	0	951	1	1025	49	0	1075	2142
Approach %	60.00	0.00	40.00	0.00	-	57.55	0.00	42.45	0.00	-	4.00	95.90	0.11	0.00	-	0.09	95.35	4.56	0.00	-	-
PHF	0.38	0.00	0.50	0.00	0.42	0.90	0.00	0.63	0.00	0.88	0.73	0.97	0.25	0.00	0.97	0.25	0.95	0.77	0.00	0.95	0.96

Passenger Vehicles (1-3)

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.1	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1645 - 1700	1	0	0	0	1	17	0	8	0	25	13	207	1	0	221	0	239	15	0	254	501
1700 - 1715	0	0	1	0	1	14	0	15	0	29	13	229	0	0	242	1	266	14	0	281	553
1715 - 1730	4	0	2	0	6	17	0	4	0	21	6	231	0	0	237	0	243	9	0	252	516
1730 - 1745	1	0	1	0	2	12	0	18	0	30	6	230	0	0	236	0	270	10	0	280	548
Total	6	0	4	0	10	60	0	45	0	105	38	897	1	0	936	1	1018	48	0	1067	2118
Approach %	60.00	0.00	40.00	0.00	-	57.14	0.00	42.86	0.00	-	4.06	95.83	0.11	0.00	-	0.09	95.41	4.50	0.00	-	-
PHF	0.38	0.00	0.50	0.00	0.42	0.88	0.00	0.63	0.00	0.88	0.73	0.97	0.25	0.00	0.97	0.25	0.94	0.80	0.00	0.95	0.96

Single Unit Trucks (4-7)

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	1	1	0	2	8
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	5
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	5	1	0	6	17
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	83.33	16.67	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.46	0.00	0.63	0.25	0.00	0.75	0.53

Combination Trucks (8-13)

Time	Northbound					Southbound					Eastbound					Westbound					Int. Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.50	0.00	0.25	0.00	0.00	0.25	

Bikes

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1700 - 1715	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	
Approach %	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.50	

Classified Turn Movement Count || All vehicles

Southport, NC

Site 1 of 3

Driveway
J. Swain Blvd
NC-211 Southport-Supply Rd SE (West)
NC-211 Southport-Supply Rd SE (East)

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950663°, -78.041132°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0800 - 0815	0	0	1	0	1	11	0	6	0	17	12	206	1	0	219	0	100	4	0	104	341
0815 - 0830	0	0	0	0	0	14	0	11	0	25	8	203	1	0	212	0	129	10	0	139	376
0830 - 0845	0	0	0	0	0	9	0	12	0	21	4	185	3	0	192	1	162	16	0	179	392
0845 - 0900	0	0	0	0	0	12	0	21	0	33	6	210	1	0	217	1	135	12	0	148	398
Hourly Total	0	0	1	0	1	46	0	50	0	96	30	804	6	0	840	2	526	42	0	570	1507
0900 - 0915	0	0	1	0	1	17	1	11	0	29	12	140	2	0	154	0	159	15	0	174	358
0915 - 0930	1	0	1	0	2	13	0	12	0	25	14	202	0	0	216	0	131	12	0	143	386
0930 - 0945	0	0	1	0	1	11	0	19	0	30	9	177	0	0	186	1	141	13	0	155	372
0945 - 1000	2	0	0	0	2	11	1	11	0	23	8	238	1	0	247	1	195	17	0	213	485
Hourly Total	3	0	3	0	6	52	2	53	0	107	43	757	3	0	803	2	626	57	0	685	1601
1000 - 1015	1	0	0	0	1	14	0	17	0	31	10	191	1	0	202	0	164	11	0	175	409
1015 - 1030	2	0	0	0	2	17	1	16	0	34	7	184	1	0	192	0	163	18	0	181	409
1030 - 1045	1	0	2	0	3	16	0	26	0	42	11	190	1	0	202	0	207	9	0	216	463
1045 - 1100	1	0	0	0	1	20	0	12	0	32	20	220	0	0	240	0	177	14	0	191	464
Hourly Total	5	0	2	0	7	67	1	71	0	139	48	785	3	0	836	0	711	52	0	763	1745
Grand Total	8	0	6	0	14	165	3	174	0	342	121	2346	12	0	2479	4	1863	151	0	2018	4853
Approach %	57.14	0.00	42.86	0.00	-	48.25	0.88	50.88	0.00	-	4.88	94.63	0.48	0.00	-	0.20	92.32	7.48	0.00	-	-
Intersection %	0.16	0.00	0.12	0.00	0.29	3.40	0.06	3.59	0.00	7.05	2.49	48.34	0.25	0.00	51.08	0.08	38.39	3.11	0.00	41.58	-
PHF	0.75	0.00	0.25	0.00	0.67	0.85	0.50	0.67	0.00	0.77	0.82	0.84	1.00	0.00	0.85	0.25	0.88	0.76	0.00	0.91	0.91

1600 - 1900 (Weekday 3h Session) (02-15-2023)

All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1600 - 1615	2	0	1	0	3	15	0	12	0	27	11	145	1	0	157	0	253	23	0	276	463
1615 - 1630	2	0	1	0	3	14	0	14	0	28	11	199	1	0	211	1	241	22	0	264	506
1630 - 1645	0	0	1	0	1	11	0	12	0	23	3	206	0	0	209	1	247	21	0	269	502
1645 - 1700	1	0	0	0	1	17	0	8	0	25	13	213	1	0	227	0	241	16	0	257	510
Hourly Total	5	0	3	0	8	57	0	46	0	103	38	763	3	0	804	2	982	82	0	1066	1981
1700 - 1715	0	0	1	0	1	15	0	15	0	30	13	233	0	0	246	1	268	14	0	283	560
1715 - 1730	4	0	2	0	6	17	0	4	0	21	6	235	0	0	241	0	245	9	0	254	522
1730 - 1745	1	0	1	0	2	12	0	18	0	30	6	231	0	0	237	0	271	10	0	281	550
1745 - 1800	0	0	2	0	2	14	0	6	0	20	6	171	0	0	177	1	299	7	0	307	506
Hourly Total	5	0	6	0	11	58	0	43	0	101	31	870	0	0	901	2	1083	40	0	1125	2138
1800 - 1815	2	0	0	0	2	16	0	11	0	27	8	155	0	0	163	0	240	6	0	246	438
1815 - 1830	2	0	0	0	2	6	0	14	0	20	6	162	1	0	169	3	201	3	0	207	398
1830 - 1845	2	0	0	0	2	6	0	4	0	10	5	135	2	0	142	0	143	4	0	147	301
1845 - 1900	0	0	0	0	0	5	0	5	0	10	8	123	0	0	131	0	128	10	0	138	279
Hourly Total	6	0	0	0	6	33	0	34	0	67	27	575	3	0	605	3	712	23	0	738	1416
Grand Total	16	0	9	0	25	148	0	123	0	271	96	2208	6	0	2310	7	2777	145	0	2929	5535
Approach %	64.00	0.00	36.00	0.00	-	54.61	0.00	45.39	0.00	-	4.16	95.58	0.26	0.00	-	0.24	94.81	4.95	0.00	-	
Intersection %	0.29	0.00	0.16	0.00	0.45	2.67	0.00	2.22	0.00	4.90	1.73	39.89	0.11	0.00	41.73	0.13	50.17	2.62	0.00	52.92	
PHF	0.38	0.00	0.50	0.00	0.42	0.90	0.00	0.63	0.00	0.88	0.73	0.97	0.25	0.00	0.97	0.25	0.95	0.77	0.00	0.95	0.96

Classified Turn Movement Count || Passenger Vehicles (1-3)

Southport, NC

Site 1 of 3

Driveway
J. Swain Blvd
NC-211 Southport-Supply Rd SE (West)
NC-211 Southport-Supply Rd SE (East)

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950663°, -78.041132°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0800 - 0815	0	0	1	0	1	9	0	6	0	15	10	193	1	0	204	0	95	4	0	99	319
0815 - 0830	0	0	0	0	0	14	0	10	0	24	8	200	1	0	209	0	124	10	0	134	367
0830 - 0845	0	0	0	0	0	9	0	12	0	21	4	181	3	0	188	1	155	16	0	172	381
0845 - 0900	0	0	0	0	0	12	0	21	0	33	6	206	1	0	213	1	127	12	0	140	386
Hourly Total	0	0	1	0	1	44	0	49	0	93	28	780	6	0	814	2	501	42	0	545	1453
0900 - 0915	0	0	1	0	1	17	1	11	0	29	12	130	1	0	143	0	150	15	0	165	338
0915 - 0930	1	0	0	0	1	13	0	12	0	25	14	194	0	0	208	0	123	12	0	135	369
0930 - 0945	0	0	1	0	1	11	0	19	0	30	9	170	0	0	179	1	130	13	0	144	354
0945 - 1000	1	0	0	0	1	11	1	11	0	23	8	226	1	0	235	0	190	16	0	206	465
Hourly Total	2	0	2	0	4	52	2	53	0	107	43	720	2	0	765	1	593	56	0	650	1526
1000 - 1015	1	0	0	0	1	14	0	17	0	31	9	183	1	0	193	0	158	11	0	169	394
1015 - 1030	0	0	0	0	0	16	0	16	0	32	7	179	0	0	186	0	155	18	0	173	391
1030 - 1045	1	0	0	0	1	16	0	26	0	42	11	186	1	0	198	0	200	9	0	209	450
1045 - 1100	1	0	0	0	1	20	0	12	0	32	20	212	0	0	232	0	168	13	0	181	446
Hourly Total	3	0	0	0	3	66	0	71	0	137	47	760	2	0	809	0	681	51	0	732	1681
Grand Total	5	0	3	0	8	162	2	173	0	337	118	2260	10	0	2388	3	1775	149	0	1927	4660
Approach %	62.50	0.00	37.50	0.00	-	48.07	0.59	51.34	0.00	-	4.94	94.64	0.42	0.00	-	0.16	92.11	7.73	0.00	-	-
Intersection %	0.11	0.00	0.06	0.00	0.17	3.48	0.04	3.71	0.00	7.23	2.53	48.50	0.21	0.00	51.24	0.06	38.09	3.20	0.00	41.35	-

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1600 - 1615	2	0	1	0	3	15	0	12	0	27	11	140	1	0	152	0	247	21	0	268	
1615 - 1630	2	0	1	0	3	13	0	14	0	27	11	195	1	0	207	1	239	22	0	262	
1630 - 1645	0	0	1	0	1	11	0	12	0	23	3	205	0	0	208	1	245	21	0	267	
1645 - 1700	1	0	0	0	1	17	0	8	0	25	13	207	1	0	221	0	239	15	0	254	
Hourly Total	5	0	3	0	8	56	0	46	0	102	38	747	3	0	788	2	970	79	0	1051	
1700 - 1715	0	0	1	0	1	14	0	15	0	29	13	229	0	0	242	1	266	14	0	281	
1715 - 1730	4	0	2	0	6	17	0	4	0	21	6	231	0	0	237	0	243	9	0	252	
1730 - 1745	1	0	1	0	2	12	0	18	0	30	6	230	0	0	236	0	270	10	0	280	
1745 - 1800	0	0	2	0	2	14	0	6	0	20	6	169	0	0	175	1	298	7	0	306	
Hourly Total	5	0	6	0	11	57	0	43	0	100	31	859	0	0	890	2	1077	40	0	1119	
1800 - 1815	2	0	0	0	2	16	0	11	0	27	8	155	0	0	163	0	239	6	0	245	
1815 - 1830	2	0	0	0	2	6	0	14	0	20	6	161	1	0	168	3	200	3	0	206	
1830 - 1845	2	0	0	0	2	6	0	4	0	10	5	134	2	0	141	0	143	4	0	147	
1845 - 1900	0	0	0	0	0	5	0	5	0	10	8	123	0	0	131	0	127	10	0	137	
Hourly Total	6	0	0	0	6	33	0	34	0	67	27	573	3	0	603	3	709	23	0	735	
Grand Total	16	0	9	0	25	146	0	123	0	269	96	2179	6	0	2281	7	2756	142	0	2905	
Approach %	64.00	0.00	36.00	0.00	-	54.28	0.00	45.72	0.00	-	4.21	95.53	0.26	0.00	-	0.24	94.87	4.89	0.00	-	
Intersection %	0.29	0.00	0.16	0.00	0.46	2.66	0.00	2.24	0.00	4.91	1.75	39.76	0.11	0.00	41.62	0.13	50.29	2.59	0.00	53.01	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Southport, NC

Site 1 of 3

Driveway
J. Swain Blvd
NC-211 Southport-Supply Rd SE (West)
NC-211 Southport-Supply Rd SE (East)

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950663°, -78.041132°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Single Unit Trucks (4-7)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0800 - 0815	0	0	0	0	0	2	0	0	0	2	2	10	0	0	12	0	4	0	0	4	18
0815 - 0830	0	0	0	0	0	0	0	1	0	1	0	3	0	0	3	0	4	0	0	4	8
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4	0	0	4	8
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4	0	0	4	8
Hourly Total	0	0	0	0	0	2	0	1	0	3	2	21	0	0	23	0	16	0	0	16	42
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	6	1	0	7	0	8	0	0	8	15
0915 - 0930	0	0	1	0	1	0	0	0	0	0	0	4	0	0	4	0	6	0	0	6	11
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	9	0	0	9	12
0945 - 1000	1	0	0	0	1	0	0	0	0	0	0	11	0	0	11	0	3	1	0	4	16
Hourly Total	1	0	1	0	2	0	0	0	0	0	0	24	1	0	25	0	26	1	0	27	54
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	6	0	0	6	13
1015 - 1030	2	0	0	0	2	1	1	0	0	2	0	5	1	0	6	0	5	0	0	5	15
1030 - 1045	0	0	1	0	1	0	0	0	0	0	0	3	0	0	3	0	5	0	0	5	9
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	7	1	0	8	15
Hourly Total	2	0	1	0	3	1	1	0	0	2	0	22	1	0	23	0	23	1	0	24	52
Grand Total	3	0	2	0	5	3	1	1	0	5	2	67	2	0	71	0	65	2	0	67	148
Approach %	60.00	0.00	40.00	0.00	-	60.00	20.00	20.00	0.00	-	2.82	94.37	2.82	0.00	-	0.00	97.01	2.99	0.00	-	
Intersection %	2.03	0.00	1.35	0.00	3.38	2.03	0.68	0.68	0.00	3.38	1.35	45.27	1.35	0.00	47.97	0.00	43.92	1.35	0.00	45.27	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Single Unit Trucks (4-7)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	6	2	0	8	12
1615 - 1630	0	0	0	0	0	1	0	0	0	1	0	4	0	0	4	0	1	0	0	1	6
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	1	1	0	2	8
Hourly Total	0	0	0	0	0	1	0	0	0	1	0	15	0	0	15	0	9	3	0	12	28
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	5
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	5	0	0	5	12
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
Grand Total	0	0	0	0	0	1	0	0	0	1	0	24	0	0	24	0	15	3	0	18	43
Approach %	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	83.33	16.67	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	2.33	0.00	0.00	0.00	2.33	0.00	55.81	0.00	0.00	55.81	0.00	34.88	6.98	0.00	41.86	

Classified Turn Movement Count || Combination Trucks (8-13)

Southport, NC

Site 1 of 3

Driveway
J. Swain Blvd
NC-211 Southport-Supply Rd SE (West)
NC-211 Southport-Supply Rd SE (East)

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950663°, -78.041132°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Combination Trucks (8-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	4
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	9	0	0	9	12
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	5
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	5
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	2	0	0	2	6
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	2	0	0	3	4
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	13	0	0	13	1	6	0	0	7	20
1000 - 1015	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
1030 - 1045	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	4
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
Hourly Total	0	0	1	0	1	0	0	0	0	0	1	3	0	0	4	0	7	0	0	7	12
Grand Total	0	0	1	0	1	0	0	0	0	0	1	19	0	0	20	1	22	0	0	23	44
Approach %	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	5.00	95.00	0.00	0.00	-	4.35	95.65	0.00	0.00	-	
Intersection %	0.00	0.00	2.27	0.00	2.27	0.00	0.00	0.00	0.00	0.00	2.27	43.18	0.00	0.00	45.45	2.27	50.00	0.00	0.00	52.27	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Combination Trucks (8-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5	10
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	50.00	0.00	50.00	0.00	0.00	50.00	

Classified Turn Movement Count || Bikes

Southport, NC



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Site 1 of 3

Driveway
J. Swain Blvd
NC-211 Southport-Supply Rd SE (West)
NC-211 Southport-Supply Rd SE (East)

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950663°, -78.041132°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Bikes

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Bikes

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Driveway					J. Swain Blvd					NC-211 Southport-Supply Rd SE (West)					NC-211 Southport-Supply Rd SE (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Approach %	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	50.00	

Pedestrian Count || All vehicles

Southport, NC

Site 1 of 3

Driveway
J. Swain Blvd
NC-211 Southport-Supply Rd SE (West)
NC-211 Southport-Supply Rd SE (East)

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.950663°, -78.041132°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Pedestrians

TIME	Northbound			Southbound			Eastbound			Westbound			App Total	Int Total
	Driveway			J. Swain Blvd			NC-211 Southport-Supply Rd SE (West)			NC-211 Southport-Supply Rd SE (East)				
	EB 1a	WB 1b	App Total	EB 1c	WB 1d	App Total	NB 1e	SB 1f	App Total	NB 1g	SB 1h	App Total		
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	1	2	3	0	0	0	0	0	0	0	3
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	1	2	3	0	0	0	0	0	0	3
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	1	0	1	0	0	0	0	0	0	0	1
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Grand Total	0	0	0	2	2	4	0	0	0	0	0	0	0	4
Approach %	0.00	0.00	-	50.00	50.00	-	0.00	0.00	-	0.00	0.00	-	-	-
Intersection %	0.00	0.00	0.00	50.00	50.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Pedestrians

TIME	Northbound			Southbound			Eastbound			Westbound			App Total	Int Total
	Driveway		App Total	J. Swain Blvd		App Total	NC-211 Southport-Supply Rd SE (West)		App Total	NC-211 Southport-Supply Rd SE (East)		App Total		
	EB 1a	WB 1b		EB 1c	WB 1d		NB 1e	SB 1f		NB 1g	SB 1h			
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	1	0	1	0	0	0	0	0	0	0	0	0	0	1
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	2	2	0	0	0	0	0	0	0	0	0	0	2
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	2	2	0	0	0	0	0	0	0	0	0	0	2
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	2	3	0	0	0	0	0	0	0	0	0	0	3
Approach %	33.33	66.67	-	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00	-	-
Intersection %	33.33	66.67	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-

Start Date: 2/15/2023													
Time	Driveway Northbound			J. Swain Blvd Southbound			C-211 Southport-Supply Rd SE (W) Eastbound			C-211 Southport-Supply Rd SE (E) Westbound			Total
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
15 Minute Totals													
12:00 AM - 12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM - 12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM - 12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM - 01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM - 01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM - 01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM - 01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM - 02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM - 02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM - 02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM - 02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM - 03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM - 03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM - 03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM - 03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM - 04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM - 04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM - 04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM - 04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM - 05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM - 05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM - 05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM - 05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM - 06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM - 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM - 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM - 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM - 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM - 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM - 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM - 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM - 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM - 08:15 AM	0	0	1	11	0	6	12	206	1	0	100	4	341
08:15 AM - 08:30 AM	0	0	0	14	0	11	8	203	1	0	129	10	376
08:30 AM - 08:45 AM	0	0	0	9	0	12	4	185	3	1	162	16	392
08:45 AM - 09:00 AM	0	0	0	12	0	21	6	210	1	1	135	12	398
09:00 AM - 09:15 AM	0	0	1	17	1	11	12	140	2	0	159	15	358
09:15 AM - 09:30 AM	1	0	1	13	0	12	14	202	0	0	131	12	389
09:30 AM - 09:45 AM	0	0	1	11	0	19	9	177	0	1	141	13	372
09:45 AM - 10:00 AM	2	0	0	11	1	11	8	238	1	1	195	17	485
10:00 AM - 10:15 AM	1	0	0	14	0	17	10	191	1	0	164	11	409
10:15 AM - 10:30 AM	2	0	0	17	1	16	7	184	1	0	163	18	409
10:30 AM - 10:45 AM	1	0	2	16	0	26	11	190	1	0	207	9	464
10:45 AM - 11:00 AM	1	0	0	20	0	12	20	220	0	0	177	14	464
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM - 01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM - 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM - 01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM - 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM - 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM - 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM - 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM - 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM - 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM - 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM - 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM - 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM - 04:15 PM	2	0	1	15	0	12	11	145	1	0	253	23	463
04:15 PM - 04:30 PM	2	0	1	14	0	14	11	199	1	1	241	22	506
04:30 PM - 04:45 PM	0	0	1	11	0	12	3	206	0	1	247	21	502
04:45 PM - 05:00 PM	1	0	0	17	0	8	13	213	1	0	241	16	511
05:00 PM - 05:15 PM	0	0	1	15	0	15	13	233	0	1	268	14	560
05:15 PM - 05:30 PM	4	0	2	17	0	4	6	235	0	0	245	9	522
05:30 PM - 05:45 PM	1	0	1	12	0	18	6	231	0	0	271	10	552
05:45 PM - 06:00 PM	0	0	2	14	0	6	6	171	0	1	299	7	506
06:00 PM - 06:15 PM	2	0	0	16	0	11	8	155	0	0	240	6	438
06:15 PM - 06:30 PM	2	0	0	6	0	14	6	162	1	3	201	3	398
06:30 PM - 06:45 PM	2	0	0	6	0	4	5	135	2	0	143	4	301
06:45 PM - 07:00 PM	0	0	0	5	0	5	8	123	0	0	128	10	279
07:00 PM - 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM - 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM - 07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM - 08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM - 08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM - 08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM - 08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM - 09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM - 09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM - 09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM - 09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM - 10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM - 10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM - 11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM - 11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0



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Peak Hour Turning Movement Count

Southport, NC



www.marrtraffic.com

Wednesday, February 15, 2023	
Period	0800 - 1100
Peak Hour	1000 - 1100

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1000 - 1015	5	9	3	0	17	0	19	0	0	19	0	0	11	0	11	3	0	2	0	5	52
1015 - 1030	6	14	4	0	24	1	17	1	0	19	3	0	11	0	14	5	0	0	0	5	62
1030 - 1045	4	14	1	0	19	0	23	0	0	23	7	0	16	0	23	7	0	1	0	8	73
1045 - 1100	10	17	3	0	30	0	10	0	0	10	1	0	12	0	13	5	0	0	0	5	58
Total	25	54	11	0	90	1	69	1	0	71	11	0	50	0	61	20	0	3	0	23	245
Approach %	27.78	60.00	12.22	0.00	-	1.41	97.18	1.41	0.00	-	18.03	0.00	81.97	0.00	-	86.96	0.00	13.04	0.00	-	
PHF	0.63	0.79	0.69	0.00	0.75	0.25	0.75	0.25	0.00	0.77	0.39	0.00	0.78	0.00	0.66	0.71	0.00	0.38	0.00	0.72	0.84

Passenger Vehicles (1-3)

Passenger Vehicles (P+V)		Northbound					Southbound				Eastbound					Westbound					Int Total	
		J. Swain Blvd (South)					J. Swain Blvd (North)				Eason St (West)					Eason St (East)						
		Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16		App Total
Time	1000 - 1015	5	9	3	0	17	0	19	0	0	19	0	0	11	0	11	3	0	1	0	4	51
	1015 - 1030	6	14	4	0	24	1	16	1	0	18	3	0	10	0	13	5	0	0	0	5	60
	1030 - 1045	4	13	1	0	18	0	23	0	0	23	7	0	16	0	23	7	0	1	0	8	72
	1045 - 1100	10	16	3	0	29	0	10	0	0	10	1	0	12	0	13	5	0	0	0	5	57
Total	25	52	11	0	88	1	68	1	0	70	11	0	49	0	60	20	0	2	0	22	240	
Approach %	28.41	59.09	12.50	0.00	-	1.43	97.14	1.43	0.00	-	18.33	0.00	81.67	0.00	-	90.91	0.00	9.09	0.00	-		
PHF	0.63	0.81	0.69	0.00	0.76	0.25	0.74	0.25	0.00	0.76	0.39	0.00	0.77	0.00	0.65	0.71	0.00	0.50	0.00	0.69	0.83	

Single Unit Trucks (4-7)

Time		Northbound					Southbound					Eastbound					Westbound					Int Total
		J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
		Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
1015 - 1030	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total		0	1	0	0	1	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1	4
Approach %		0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	0.00	100.00	0.00	-	
PHF		0.00	0.25	0.00	0.00	0.25	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.25	0.00	0.00	0.25	0.00	0.25	0.50

Combination Trucks (8-13)

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1030 - 1045	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Approach %	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	

Bikes

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	



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Peak Hour Turning Movement Count

Southport, NC



www.marrtraffic.com

Wednesday, February 15, 2023	
Period	1600 - 1900
Peak Hour	1600 - 1700

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	10	20	1	1	32	0	10	0	0	10	5	0	10	0	15	7	2	1	0	10	67
1615 - 1630	5	24	2	0	31	0	13	2	0	15	5	1	11	0	17	5	0	0	0	5	68
1630 - 1645	3	20	0	0	23	0	8	1	0	9	4	1	8	0	13	5	1	0	0	6	51
1645 - 1700	3	23	1	1	28	0	10	0	0	10	2	1	14	0	17	0	1	1	0	2	57
Total	21	87	4	2	114	0	41	3	0	44	16	3	43	0	62	17	4	2	0	23	243
Approach %	18.42	76.32	3.51	1.75	-	0.00	93.18	6.82	0.00	-	25.81	4.84	69.35	0.00	-	73.91	17.39	8.70	0.00	-	
PHF	0.53	0.91	0.50	0.50	0.89	0.00	0.79	0.38	0.00	0.73	0.80	0.75	0.77	0.00	0.91	0.61	0.50	0.50	0.00	0.58	0.89

Passenger Vehicles (1-3)

Passenger Vehicles (P+V)		Northbound					Southbound					Eastbound					Westbound					Int Total
		J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
		Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
Time	1600 - 1615	9	19	1	1	30	0	10	0	0	10	5	0	10	0	15	7	2	1	0	10	65
	1615 - 1630	5	24	2	0	31	0	12	2	0	14	5	1	11	0	17	5	0	0	0	5	67
	1630 - 1645	3	20	0	0	23	0	8	1	0	9	4	1	8	0	13	5	1	0	0	6	51
	1645 - 1700	2	23	1	1	27	0	10	0	0	10	2	1	14	0	17	0	1	1	0	2	56
	Total	19	86	4	2	111	0	40	3	0	43	16	3	43	0	62	17	4	2	0	23	239
	Approach %	17.12	77.48	3.60	1.80	-	0.00	93.02	6.98	0.00	-	25.81	4.84	69.35	0.00	-	73.91	17.39	8.70	0.00	-	
	PHF	0.53	0.90	0.50	0.50	0.90	0.00	0.83	0.38	0.00	0.77	0.80	0.75	0.77	0.00	0.91	0.61	0.50	0.50	0.00	0.58	0.89

Single Unit Trucks (4-7)

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1615 - 1630	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
Approach %	66.67	33.33	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.50	0.25	0.00	0.00	0.38	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50

Combination Trucks (8-13)

Continuation: Westbound (0.12)																					
Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Bikes

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || All vehicles

Southport, NC

Site 2 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Eason St (West)
Eason St (East)

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.951702°, -78.040805°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0800 - 0815	4	8	3	0	15	0	14	0	0	14	0	1	5	0	6	0	0	0	0	0	35
0815 - 0830	3	7	6	0	16	0	12	2	0	14	3	0	11	0	14	1	0	0	0	1	45
0830 - 0845	2	13	3	0	18	0	10	0	0	10	1	0	6	0	7	2	0	0	0	2	37
0845 - 0900	3	9	4	0	16	0	22	2	0	24	0	0	12	0	12	1	0	1	0	2	54
Hourly Total	12	37	16	0	65	0	58	4	0	62	4	1	34	0	39	4	0	1	0	5	171
0900 - 0915	8	9	1	2	20	0	15	4	0	19	1	0	6	0	7	6	0	1	0	7	53
0915 - 0930	5	12	7	0	24	0	10	0	0	10	1	0	11	0	12	3	1	0	0	4	50
0930 - 0945	7	9	3	2	21	1	18	1	0	20	3	0	6	0	9	5	2	0	0	7	57
0945 - 1000	7	12	3	2	24	1	9	1	0	11	1	0	5	0	6	6	0	2	0	8	49
Hourly Total	27	42	14	6	89	2	52	6	0	60	6	0	28	0	34	20	3	3	0	26	209
1000 - 1015	5	9	3	0	17	0	19	0	0	19	0	0	11	0	11	3	0	2	0	5	52
1015 - 1030	6	14	4	0	24	1	17	1	0	19	3	0	11	0	14	5	0	0	0	5	62
1030 - 1045	4	14	1	0	19	0	23	0	0	23	7	0	16	0	23	7	0	1	0	8	73
1045 - 1100	10	17	3	0	30	0	10	0	0	10	1	0	12	0	13	5	0	0	0	5	58
Hourly Total	25	54	11	0	90	1	69	1	0	71	11	0	50	0	61	20	0	3	0	23	245
Grand Total	64	133	41	6	244	3	179	11	0	193	21	1	112	0	134	44	3	7	0	54	625
Approach %	26.23	54.51	16.80	2.46	-	1.55	92.75	5.70	0.00	-	15.67	0.75	83.58	0.00	-	81.48	5.56	12.96	0.00	-	
Intersection %	10.24	21.28	6.56	0.96	39.04	0.48	28.64	1.76	0.00	30.88	3.36	0.16	17.92	0.00	21.44	7.04	0.48	1.12	0.00	8.64	
PHF	0.63	0.79	0.69	0.00	0.75	0.25	0.75	0.25	0.00	0.77	0.39	0.00	0.78	0.00	0.66	0.71	0.00	0.38	0.00	0.72	0.84

1600 - 1900 (Weekday 3h Session) (02-15-2023)

All vehicles

	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	10	20	1	1	32	0	10	0	0	10	5	0	10	0	15	7	2	1	0	10	67
1615 - 1630	5	24	2	0	31	0	13	2	0	15	5	1	11	0	17	5	0	0	0	5	68
1630 - 1645	3	20	0	0	23	0	8	1	0	9	4	1	8	0	13	5	1	0	0	6	51
1645 - 1700	3	23	1	1	28	0	10	0	0	10	2	1	14	0	17	0	1	1	0	2	57
Hourly Total	21	87	4	2	114	0	41	3	0	44	16	3	43	0	62	17	4	2	0	23	243
1700 - 1715	2	23	0	1	26	0	11	0	0	11	2	0	15	0	17	3	2	0	0	5	59
1715 - 1730	5	16	0	0	21	0	9	0	0	9	2	0	16	0	18	0	0	0	0	0	48
1730 - 1745	3	10	0	0	13	0	16	0	0	16	2	0	7	0	9	5	0	0	0	5	43
1745 - 1800	1	11	1	0	13	0	9	2	0	11	3	0	10	0	13	0	0	0	0	0	37
Hourly Total	11	60	1	1	73	0	45	2	0	47	9	0	48	0	57	8	2	0	0	10	187
1800 - 1815	1	12	0	0	13	0	14	0	0	14	2	0	9	0	11	1	0	0	0	1	39
1815 - 1830	0	7	0	2	9	0	12	0	0	12	1	0	6	0	7	0	0	0	0	0	28
1830 - 1845	1	6	0	1	8	0	4	2	0	6	2	0	7	0	9	0	1	0	0	1	24
1845 - 1900	3	15	0	1	19	0	4	0	0	4	2	0	3	0	5	0	0	1	0	1	29
Hourly Total	5	40	0	4	49	0	34	2	0	36	7	0	25	0	32	1	1	1	0	3	120
Grand Total	37	187	5	7	236	0	120	7	0	127	32	3	116	0	151	26	7	3	0	36	550
Approach %	15.68	79.24	2.12	2.97	-	0.00	94.49	5.51	0.00	-	21.19	1.99	76.82	0.00	-	72.22	19.44	8.33	0.00	-	
Intersection %	6.73	34.00	0.91	1.27	42.91	0.00	21.82	1.27	0.00	23.09	5.82	0.55	21.09	0.00	27.45	4.73	1.27	0.55	0.00	6.55	
PHF	0.53	0.91	0.50	0.50	0.89	0.00	0.79	0.38	0.00	0.73	0.80	0.75	0.77	0.00	0.91	0.61	0.50	0.50	0.00	0.58	0.89

Classified Turn Movement Count || Passenger Vehicles (1-3)

Southport, NC

Site 2 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Eason St (West)
Eason St (East)

Date

Wednesday, February 15, 2023

Lat/Long

33.951702°, -78.040805°

Weather

Fair
58°F

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0800 - 0815	4	6	3	0	13	0	12	0	0	12	0	1	5	0	6	0	0	0	0	0	31
0815 - 0830	3	7	6	0	16	0	11	2	0	13	3	0	11	0	14	1	0	0	0	1	44
0830 - 0845	2	13	3	0	18	0	10	0	0	10	1	0	6	0	7	2	0	0	0	2	37
0845 - 0900	3	9	4	0	16	0	22	2	0	24	0	0	12	0	12	1	0	1	0	2	54
Hourly Total	12	35	16	0	63	0	55	4	0	59	4	1	34	0	39	4	0	1	0	5	166
0900 - 0915	8	9	1	2	20	0	15	4	0	19	1	0	6	0	7	6	0	1	0	7	53
0915 - 0930	5	11	7	0	23	0	10	0	0	10	1	0	11	0	12	3	1	0	0	4	49
0930 - 0945	7	9	3	2	21	1	18	1	0	20	3	0	6	0	9	5	2	0	0	7	57
0945 - 1000	7	12	3	2	24	1	9	1	0	11	1	0	5	0	6	6	0	2	0	8	49
Hourly Total	27	41	14	6	88	2	52	6	0	60	6	0	28	0	34	20	3	3	0	26	208
1000 - 1015	5	9	3	0	17	0	19	0	0	19	0	0	11	0	11	3	0	1	0	4	51
1015 - 1030	6	14	4	0	24	1	16	1	0	18	3	0	10	0	13	5	0	0	0	5	60
1030 - 1045	4	13	1	0	18	0	23	0	0	23	7	0	16	0	23	7	0	1	0	8	72
1045 - 1100	10	16	3	0	29	0	10	0	0	10	1	0	12	0	13	5	0	0	0	5	57
Hourly Total	25	52	11	0	88	1	68	1	0	70	11	0	49	0	60	20	0	2	0	22	240
Grand Total	64	128	41	6	239	3	175	11	0	189	21	1	111	0	133	44	3	6	0	53	614
Approach %	26.78	53.56	17.15	2.51	-	1.59	92.59	5.82	0.00	-	15.79	0.75	83.46	0.00	-	83.02	5.66	11.32	0.00	-	
Intersection %	10.42	20.85	6.68	0.98	38.93	0.49	28.50	1.79	0.00	30.78	3.42	0.16	18.08	0.00	21.66	7.17	0.49	0.98	0.00	8.63	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	9	19	1	1	30	0	10	0	0	10	5	0	10	0	15	7	2	1	0	10	
1615 - 1630	5	24	2	0	31	0	12	2	0	14	5	1	11	0	17	5	0	0	0	5	
1630 - 1645	3	20	0	0	23	0	8	1	0	9	4	1	8	0	13	5	1	0	0	6	
1645 - 1700	2	23	1	1	27	0	10	0	0	10	2	1	14	0	17	0	1	1	0	2	
Hourly Total	19	86	4	2	111	0	40	3	0	43	16	3	43	0	62	17	4	2	0	23	
1700 - 1715	2	23	0	1	26	0	11	0	0	11	2	0	14	0	16	3	2	0	0	5	
1715 - 1730	4	16	0	0	20	0	9	0	0	9	2	0	16	0	18	0	0	0	0	0	
1730 - 1745	3	10	0	0	13	0	16	0	0	16	2	0	7	0	9	5	0	0	0	5	
1745 - 1800	1	11	1	0	13	0	9	2	0	11	3	0	10	0	13	0	0	0	0	0	
Hourly Total	10	60	1	1	72	0	45	2	0	47	9	0	47	0	56	8	2	0	0	10	
1800 - 1815	1	12	0	0	13	0	14	0	0	14	2	0	9	0	11	1	0	0	0	1	
1815 - 1830	0	7	0	2	9	0	12	0	0	12	1	0	6	0	7	0	0	0	0	0	
1830 - 1845	1	6	0	1	8	0	4	2	0	6	2	0	7	0	9	0	1	0	0	1	
1845 - 1900	3	15	0	1	19	0	4	0	0	4	2	0	3	0	5	0	0	1	0	1	
Hourly Total	5	40	0	4	49	0	34	2	0	36	7	0	25	0	32	1	1	1	0	3	
Grand Total	34	186	5	7	232	0	119	7	0	126	32	3	115	0	150	26	7	3	0	36	
Approach %	14.66	80.17	2.16	3.02	-	0.00	94.44	5.56	0.00	-	21.33	2.00	76.67	0.00	-	72.22	19.44	8.33	0.00	-	
Intersection %	6.25	34.19	0.92	1.29	42.65	0.00	21.88	1.29	0.00	23.16	5.88	0.55	21.14	0.00	27.57	4.78	1.29	0.55	0.00	6.62	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Southport, NC

Site 2 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Eason St (West)
Eason St (East)

Date

Wednesday, February 15, 2023

Lat/Long

33.951702°, -78.040805°

Weather

Fair
58°F

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Single Unit Trucks (4-7)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0800 - 0815	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
0815 - 0830	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	5
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
1015 - 1030	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	2
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	1	0	0	1	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1	4
Grand Total	0	4	0	0	4	0	4	0	0	4	0	0	1	0	1	0	0	1	0	1	10
Approach %	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	0.00	100.00	0.00	-	
Intersection %	0.00	40.00	0.00	0.00	40.00	0.00	40.00	0.00	0.00	40.00	0.00	0.00	10.00	0.00	10.00	0.00	0.00	10.00	0.00	10.00	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1615 - 1630	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
Approach %	66.67	33.33	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	50.00	25.00	0.00	0.00	75.00	0.00	25.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Combination Trucks (8-13)



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Southport, NC

Site 2 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Eason St (West)
Eason St (East)

Date

Wednesday, February 15, 2023

Lat/Long

33.951702°, -78.040805°

Weather

Fair
58°F

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Bikes

Southport, NC

Site 2 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Eason St (West)
Eason St (East)

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.951702°, -78.040805°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Bikes

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Bikes

	Northbound					Southbound					Eastbound					Westbound					Int Total
	J. Swain Blvd (South)					J. Swain Blvd (North)					Eason St (West)					Eason St (East)					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	
1715 - 1730	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	
Approach %	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	50.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	

Pedestrian Count || All vehicles

Southport, NC

Site 2 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Eason St (West)
Eason St (East)

Date

Wednesday, February 15, 2023

Lat/Long

33.951702°, -78.040805°

Weather

Fair
58°F

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Pedestrians

	Northbound			Southbound			Eastbound			Westbound				
	J. Swain Blvd (South)			J. Swain Blvd (North)			Eason St (West)			Eason St (East)				
TIME	EB 2a	WB 2b	App Total	EB 2c	WB 2d	App Total	NB 2e	SB 2f	App Total	NB 2g	SB 2h	App Total	Int Total	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	
0830 - 0845	0	0	0	0	1	0	1	0	0	0	0	0	1	
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	1	0	1	0	0	0	0	0	1	
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
1000 - 1015	0	0	0	0	0	1	1	0	0	0	1	0	2	
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	
1030 - 1045	0	0	0	0	0	0	0	0	0	0	2	0	2	
1045 - 1100	0	0	0	0	1	1	2	0	0	0	0	0	2	
Hourly Total	0	0	0	0	1	2	3	0	0	0	3	0	6	
Grand Total	0	0	0	0	2	2	4	0	0	0	3	0	7	
Approach %	0.00	0.00	-	50.00	50.00	-	0.00	0.00	-	100.00	0.00	-		
Intersection %	0.00	0.00	0.00	28.57	28.57	57.14	0.00	0.00	0.00	42.86	0.00	42.86		

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Pedestrians

TIME	Northbound			Southbound			Eastbound			Westbound			App Total	Int Total
	J. Swain Blvd (South)		App Total	J. Swain Blvd (North)		App Total	Eason St (West)		App Total	Eason St (East)		App Total		
	EB 2a	WB 2b		EB 2c	WB 2d		NB 2e	SB 2f		NB 2g	SB 2h			
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-		
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Start Date: 2/15/2023	J. Swain Blvd (South) Northbound			J. Swain Blvd (North) Southbound			Eason St (West) Eastbound			Eason St (East) Westbound			Total
Time	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
15 Minute Totals													
12:00 AM - 12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM - 12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM - 12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM - 01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM - 01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM - 01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM - 01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM - 02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM - 02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM - 02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM - 02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM - 03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM - 03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM - 03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM - 03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM - 04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM - 04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM - 04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM - 04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM - 05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM - 05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM - 05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM - 05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM - 06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM - 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM - 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM - 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM - 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM - 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM - 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM - 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM - 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM - 08:15 AM	4	8	3	0	14	0	0	1	5	0	0	0	35
08:15 AM - 08:30 AM	3	7	6	0	12	2	3	0	11	1	0	0	45
08:30 AM - 08:45 AM	2	13	3	0	10	0	1	0	6	2	0	0	38
08:45 AM - 09:00 AM	3	9	4	0	22	2	0	0	12	1	0	1	54
09:00 AM - 09:15 AM	8	9	1	0	15	4	1	0	6	6	0	1	53
09:15 AM - 09:30 AM	5	12	7	0	10	0	1	0	11	3	1	0	50
09:30 AM - 09:45 AM	7	9	3	1	18	1	3	0	6	5	2	0	57
09:45 AM - 10:00 AM	7	12	3	1	9	1	1	0	5	6	0	2	49
10:00 AM - 10:15 AM	5	9	3	0	19	0	0	0	11	3	0	2	54
10:15 AM - 10:30 AM	6	14	4	1	17	1	3	0	11	5	0	0	62
10:30 AM - 10:45 AM	4	14	1	0	23	0	7	0	16	7	0	1	75
10:45 AM - 11:00 AM	10	17	3	0	10	0	1	0	12	5	0	0	60
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM - 01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM - 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM - 01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM - 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM - 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM - 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM - 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM - 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM - 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM - 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM - 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM - 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM - 04:15 PM	10	20	1	0	10	0	5	0	10	7	2	1	67
04:15 PM - 04:30 PM	5	24	2	0	13	2	5	1	11	5	0	0	68
04:30 PM - 04:45 PM	3	20	0	0	8	1	4	1	8	5	1	0	51
04:45 PM - 05:00 PM	3	23	1	0	10	0	2	1	14	0	1	1	57
05:00 PM - 05:15 PM	2	23	0	0	11	0	2	0	15	3	2	0	59
05:15 PM - 05:30 PM	5	16	0	0	9	0	2	0	16	0	0	0	48
05:30 PM - 05:45 PM	3	10	0	0	16	0	2	0	7	5	0	0	43
05:45 PM - 06:00 PM	1	11	1	0	9	2	3	0	10	0	0	0	37
06:00 PM - 06:15 PM	1	12	0	0	14	0	2	0	9	1	0	0	39
06:15 PM - 06:30 PM	0	7	0	0	12	0	1	0	6	0	0	0	28
06:30 PM - 06:45 PM	1	6	0	0	4	2	2	0	7	0	1	0	24
06:45 PM - 07:00 PM	3	15	0	0	4	0	2	0	3	0	0	1	29
07:00 PM - 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM - 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM - 07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM - 08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM - 08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM - 08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM - 08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM - 09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM - 09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM - 09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM - 09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM - 10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM - 10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM - 11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM - 11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0



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Peak Hour Turning Movement Count

Southport, NC



www.marrtraffic.com

Wednesday, February 15, 2023	
Period	0800 - 1100
Peak Hour	1000 - 1100

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

Time	Northbound J. Swain Blvd (South)					Southbound J. Swain Blvd (North)					Eastbound Driveway										Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total		Thru 3.4	Right 3.5	U-Turn 3.6	App Total		Left 3.7	Right 3.8	U-Turn 3.9	App Total					App Total		
	3.1	3.2	3.3	3.3		3.4	3.5	3.6	3.6		3.7	3.8	3.9	3.9							
1000 - 1015	1	9	-	0	10	-	19	0	0	19	0	-	0	0	0	-	-	-	-	0	29
1015 - 1030	0	18	-	0	18	-	16	0	0	16	1	-	2	0	3	-	-	-	-	0	37
1030 - 1045	4	16	-	0	20	-	20	0	0	20	0	-	1	0	1	-	-	-	-	0	41
1045 - 1100	2	17	-	0	19	-	13	0	0	13	0	-	1	0	1	-	-	-	-	0	33
Total	7	60	0	0	67	0	68	0	0	68	1	0	4	0	5	0	0	0	0	0	140
Approach %	10.45	89.55	0.00	0.00	-	0.00	100.00	0.00	0.00	-	20.00	0.00	80.00	0.00	-	0.00	0.00	0.00	0.00	-	-
PHF	0.44	0.83	0.00	0.00	0.84	0.00	0.85	0.00	0.00	0.85	0.25	0.00	0.50	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.85

Passenger Vehicles (1-3)

Time	Northbound J. Swain Blvd (South)					Southbound J. Swain Blvd (North)					Eastbound Driveway										Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total		Thru 3.4	Right 3.5	U-Turn 3.6	App Total		Left 3.7	Right 3.8	U-Turn 3.9	App Total					App Total		
	3.1	3.2	3.3	3.3		3.4	3.5	3.6	3.6		3.7	3.8	3.9	3.9							
1000 - 1015	0	9	-	0	9	-	19	0	0	19	0	-	0	0	0	-	-	-	-	0	28
1015 - 1030	0	18	-	0	18	-	16	0	0	16	1	-	1	0	2	-	-	-	-	0	36
1030 - 1045	4	15	-	0	19	-	20	0	0	20	0	-	1	0	1	-	-	-	-	0	40
1045 - 1100	2	16	-	0	18	-	13	0	0	13	0	-	1	0	1	-	-	-	-	0	32
Total	6	58	0	0	64	0	68	0	0	68	1	0	3	0	4	0	0	0	0	0	136
Approach %	9.38	90.63	0.00	0.00	-	0.00	100.00	0.00	0.00	-	25.00	0.00	75.00	0.00	-	0.00	0.00	0.00	0.00	-	-
PHF	0.38	0.81	0.00	0.00	0.84	0.00	0.85	0.00	0.00	0.85	0.25	0.00	0.75	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.85

Single Unit Trucks (4-7)

Time	Northbound J. Swain Blvd (South)					Southbound J. Swain Blvd (North)					Eastbound Driveway										Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total		Thru 3.4	Right 3.5	U-Turn 3.6	App Total		Left 3.7	Right 3.8	U-Turn 3.9	App Total					App Total		
	3.1	3.2	3.3	3.3		3.4	3.5	3.6	3.6		3.7	3.8	3.9	3.9							
1000 - 1015	1	0	-	0	1	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	1
1015 - 1030	0	0	-	0	0	-	0	0	0	0	0	-	1	0	1	-	-	-	-	0	1
1030 - 1045	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1045 - 1100	0	1	-	0	1	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	1
Total	1	1	0	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	3
Approach %	50.00	50.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	-
PHF	0.25	0.25	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.75

Combination Trucks (8-13)

Time	Northbound J. Swain Blvd (South)					Southbound J. Swain Blvd (North)					Eastbound Driveway										Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total		Thru 3.4	Right 3.5	U-Turn 3.6	App Total		Left 3.7	Right 3.8	U-Turn 3.9	App Total					App Total		
	3.1	3.2	3.3	3.3		3.4	3.5	3.6	3.6		3.7	3.8	3.9	3.9							
1000 - 1015	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1015 - 1030	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1030 - 1045	0	1	-	0	1	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	1
1045 - 1100	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25

Bikes

Time	Northbound J. Swain Blvd (South)					Southbound J. Swain Blvd (North)					Eastbound Driveway										Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total		Thru 3.4	Right 3.5	U-Turn 3.6	App Total		Left 3.7	Right 3.8	U-Turn 3.9	App Total					App Total		
	3.1	3.2	3.3	3.3		3.4	3.5	3.6	3.6		3.7	3.8	3.9	3.9							
1000 - 1015	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1015 - 1030	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1030 - 1045	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1045 - 1100	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



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Peak Hour Turning Movement Count

Southport, NC



www.marrtraffic.com

Wednesday, February 15, 2023	
Period	1600 - 1900
Peak Hour	1615 - 1715

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

Time	Northbound J. Swain Blvd (South)					Southbound J. Swain Blvd (North)					Eastbound Driveway										Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total		Thru 3.4	Right 3.5	U-Turn 3.6	App Total		Left 3.7	Right 3.8	U-Turn 3.9	App Total					App Total		
	3.1	3.2	3.3	3.3		3.4	3.5	3.6	3.6		3.7	3.8	3.9	3.9							
1615 - 1630	5	27	-	0	32	-	16	0	0	16	0	-	0	0	0	-	-	-	-	0	48
1630 - 1645	6	16	-	0	22	-	7	0	0	7	0	-	0	0	0	-	-	-	-	0	29
1645 - 1700	2	24	-	0	26	-	11	0	0	11	0	-	2	0	2	-	-	-	-	0	39
1700 - 1715	6	22	-	0	28	-	9	0	0	9	0	-	1	0	1	-	-	-	-	0	38
Total	19	89	0	0	108	0	43	0	0	43	0	0	3	0	3	0	0	0	0	0	154
Approach %	17.59	82.41	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	-
PHF	0.79	0.82	0.00	0.00	0.84	0.00	0.67	0.00	0.00	0.67	0.00	0.00	0.38	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.80

Passenger Vehicles (1-3)

Time	Northbound J. Swain Blvd (South)					Southbound J. Swain Blvd (North)					Eastbound Driveway										Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total		Thru 3.4	Right 3.5	U-Turn 3.6	App Total		Left 3.7	Right 3.8	U-Turn 3.9	App Total					App Total		
	3.1	3.2	3.3	3.3		3.4	3.5	3.6	3.6		3.7	3.8	3.9	3.9							
1615 - 1630	5	27	-	0	32	-	15	0	0	15	0	-	0	0	0	-	-	-	-	0	47
1630 - 1645	6	16	-	0	22	-	7	0	0	7	0	-	0	0	0	-	-	-	-	0	29
1645 - 1700	2	24	-	0	26	-	11	0	0	11	0	-	2	0	2	-	-	-	-	0	39
1700 - 1715	6	22	-	0	28	-	9	0	0	9	0	-	1	0	1	-	-	-	-	0	38
Total	19	89	0	0	108	0	42	0	0	42	0	0	3	0	3	0	0	0	0	0	153
Approach %	17.59	82.41	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	-
PHF	0.79	0.82	0.00	0.00	0.84	0.00	0.70	0.00	0.00	0.70	0.00	0.00	0.38	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.81

Single Unit Trucks (4-7)

Time	Northbound J. Swain Blvd (South)					Southbound J. Swain Blvd (North)					Eastbound Driveway										Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total		Thru 3.4	Right 3.5	U-Turn 3.6	App Total		Left 3.7	Right 3.8	U-Turn 3.9	App Total					App Total		
	3.1	3.2	3.3	3.3		3.4	3.5	3.6	3.6		3.7	3.8	3.9	3.9							
1615 - 1630	0	0	-	0	0	-	1	0	0	1	0	-	0	0	0	-	-	-	-	0	1
1630 - 1645	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1645 - 1700	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1700 - 1715	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25

Combination Trucks (8-13)

Time	Northbound J. Swain Blvd (South)					Southbound J. Swain Blvd (North)					Eastbound Driveway										Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total		Thru 3.4	Right 3.5	U-Turn 3.6	App Total		Left 3.7	Right 3.8	U-Turn 3.9	App Total					App Total		
	3.1	3.2	3.3	3.3		3.4	3.5	3.6	3.6		3.7	3.8	3.9	3.9							
1615 - 1630	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1630 - 1645	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1645 - 1700	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1700 - 1715	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Bikes

Time	Northbound J. Swain Blvd (South)					Southbound J. Swain Blvd (North)					Eastbound Driveway										Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total		Thru 3.4	Right 3.5	U-Turn 3.6	App Total		Left 3.7	Right 3.8	U-Turn 3.9	App Total					App Total		
	3.1	3.2	3.3	3.3		3.4	3.5	3.6	3.6		3.7	3.8	3.9	3.9							
1615 - 1630	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1630 - 1645	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1645 - 1700	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
1700 - 1715	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	-	-	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Classified Turn Movement Count || All vehicles

Southport, NC

Site 3 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Driveway

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.952583°, -78.040483°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

All vehicles

TIME	Northbound				Southbound				Eastbound				Int Total
	J. Swain Blvd (South)				J. Swain Blvd (North)				Driveway				
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7	Right 3.8	U-Turn 3.9	App Total	
0800 - 0815	1	5	0	6	16	0	0	16	0	0	0	0	22
0815 - 0830	1	10	0	11	14	0	0	14	0	0	0	0	25
0830 - 0845	3	10	0	13	10	0	0	10	0	0	0	0	23
0845 - 0900	1	11	0	12	20	0	0	20	0	2	0	2	34
Hourly Total	6	36	0	42	60	0	0	60	0	2	0	2	104
0900 - 0915	3	9	0	12	17	0	0	17	0	1	0	1	30
0915 - 0930	3	7	0	10	12	0	0	12	0	0	0	0	22
0930 - 0945	1	13	0	14	20	1	0	21	0	0	0	0	35
0945 - 1000	1	14	0	15	8	1	0	9	0	1	0	1	25
Hourly Total	8	43	0	51	57	2	0	59	0	2	0	2	112
1000 - 1015	1	9	0	10	19	0	0	19	0	0	0	0	29
1015 - 1030	0	18	0	18	16	0	0	16	1	2	0	3	37
1030 - 1045	4	16	0	20	20	0	0	20	0	1	0	1	41
1045 - 1100	2	17	0	19	13	0	0	13	0	1	0	1	33
Hourly Total	7	60	0	67	68	0	0	68	1	4	0	5	140
Grand Total	21	139	0	160	185	2	0	187	1	8	0	9	356
Approach %	13.13	86.88	0.00	-	98.93	1.07	0.00	-	11.11	88.89	0.00	-	
Intersection %	5.90	39.04	0.00	44.94	51.97	0.56	0.00	52.53	0.28	2.25	0.00	2.53	
PHF	0.44	0.83	0.00	0.84	0.85	0.00	0.00	0.85	0.25	0.50	0.00	0.42	0.85

1600 - 1900 (Weekday 3h Session) (02-15-2023)

All vehicles

	Northbound				Southbound				Eastbound				Int Total
	J. Swain Blvd (South)				J. Swain Blvd (North)				Driveway				
TIME	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7	Right 3.8	U-Turn 3.9	App Total	Int Total
1600 - 1615	3	18	0	21	6	0	0	6	0	3	0	3	30
1615 - 1630	5	27	0	32	16	0	0	16	0	0	0	0	48
1630 - 1645	6	16	0	22	7	0	0	7	0	0	0	0	29
1645 - 1700	2	24	0	26	11	0	0	11	0	2	0	2	39
Hourly Total	16	85	0	101	40	0	0	40	0	5	0	5	146
1700 - 1715	6	22	0	28	9	0	0	9	0	1	0	1	38
1715 - 1730	0	16	0	16	6	0	0	6	0	1	0	1	23
1730 - 1745	1	11	0	12	14	0	0	14	0	4	0	4	30
1745 - 1800	3	13	0	16	10	0	0	10	0	1	0	1	27
Hourly Total	10	62	0	72	39	0	0	39	0	7	0	7	118
1800 - 1815	0	12	0	12	14	1	0	15	1	1	0	2	29
1815 - 1830	2	7	0	9	12	0	0	12	0	0	0	0	21
1830 - 1845	0	8	0	8	6	0	0	6	0	0	0	0	14
1845 - 1900	0	19	0	19	4	0	0	4	0	0	0	0	23
Hourly Total	2	46	0	48	36	1	0	37	1	1	0	2	87
Grand Total	28	193	0	221	115	1	0	116	1	13	0	14	351
Approach %	12.67	87.33	0.00	-	99.14	0.86	0.00	-	7.14	92.86	0.00	-	
Intersection %	7.98	54.99	0.00	62.96	32.76	0.28	0.00	33.05	0.28	3.70	0.00	3.99	
PHF	0.79	0.82	0.00	0.84	0.67	0.00	0.00	0.67	0.00	0.38	0.00	0.38	0.80

Classified Turn Movement Count || Passenger Vehicles (1-3)

Southport, NC

Site 3 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Driveway

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.952583°, -78.040483°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Passenger Vehicles (1-3)

	Northbound				Southbound				Eastbound				Int Total
	J. Swain Blvd (South)				J. Swain Blvd (North)				Driveway				
TIME	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7	Right 3.8	U-Turn 3.9	App Total	
0800 - 0815	1	3	0	4	14	0	0	14	0	0	0	0	18
0815 - 0830	1	10	0	11	13	0	0	13	0	0	0	0	24
0830 - 0845	3	10	0	13	10	0	0	10	0	0	0	0	23
0845 - 0900	1	11	0	12	20	0	0	20	0	2	0	2	34
Hourly Total	6	34	0	40	57	0	0	57	0	2	0	2	99
0900 - 0915	3	9	0	12	17	0	0	17	0	1	0	1	30
0915 - 0930	3	7	0	10	12	0	0	12	0	0	0	0	22
0930 - 0945	1	12	0	13	20	1	0	21	0	0	0	0	34
0945 - 1000	1	14	0	15	8	1	0	9	0	1	0	1	25
Hourly Total	8	42	0	50	57	2	0	59	0	2	0	2	111
1000 - 1015	0	9	0	9	19	0	0	19	0	0	0	0	28
1015 - 1030	0	18	0	18	16	0	0	16	1	1	0	2	36
1030 - 1045	4	15	0	19	20	0	0	20	0	1	0	1	40
1045 - 1100	2	16	0	18	13	0	0	13	0	1	0	1	32
Hourly Total	6	58	0	64	68	0	0	68	1	3	0	4	136
Grand Total	20	134	0	154	182	2	0	184	1	7	0	8	346
Approach %	12.99	87.01	0.00	-	98.91	1.09	0.00	-	12.50	87.50	0.00	-	
Intersection %	5.78	38.73	0.00	44.51	52.60	0.58	0.00	53.18	0.29	2.02	0.00	2.31	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Passenger Vehicles (1-3)

	Northbound				Southbound				Eastbound				Int Total
	J. Swain Blvd (South)				J. Swain Blvd (North)				Driveway				
TIME	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7	Right 3.8	U-Turn 3.9	App Total	
1600 - 1615	3	17	0	20	6	0	0	6	0	3	0	3	29
1615 - 1630	5	27	0	32	15	0	0	15	0	0	0	0	47
1630 - 1645	6	16	0	22	7	0	0	7	0	0	0	0	29
1645 - 1700	2	24	0	26	11	0	0	11	0	2	0	2	39
Hourly Total	16	84	0	100	39	0	0	39	0	5	0	5	144
1700 - 1715	6	22	0	28	9	0	0	9	0	1	0	1	38
1715 - 1730	0	16	0	16	6	0	0	6	0	1	0	1	23
1730 - 1745	1	11	0	12	14	0	0	14	0	4	0	4	30
1745 - 1800	3	13	0	16	10	0	0	10	0	1	0	1	27
Hourly Total	10	62	0	72	39	0	0	39	0	7	0	7	118
1800 - 1815	0	12	0	12	14	1	0	15	1	1	0	2	29
1815 - 1830	2	7	0	9	12	0	0	12	0	0	0	0	21
1830 - 1845	0	8	0	8	6	0	0	6	0	0	0	0	14
1845 - 1900	0	19	0	19	4	0	0	4	0	0	0	0	23
Hourly Total	2	46	0	48	36	1	0	37	1	1	0	2	87
Grand Total	28	192	0	220	114	1	0	115	1	13	0	14	349
Approach %	12.73	87.27	0.00	-	99.13	0.87	0.00	-	7.14	92.86	0.00	-	
Intersection %	8.02	55.01	0.00	63.04	32.66	0.29	0.00	32.95	0.29	3.72	0.00	4.01	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Southport, NC

Site 3 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Driveway

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.952583°, -78.040483°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Single Unit Trucks (4-7)

TIME	Northbound				Southbound				Eastbound				Int Total
	J. Swain Blvd (South)				J. Swain Blvd (North)				Driveway				
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7	Right 3.8	U-Turn 3.9	App Total	
0800 - 0815	0	2	0	2	2	0	0	2	0	0	0	0	4
0815 - 0830	0	0	0	0	1	0	0	1	0	0	0	0	1
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	2	0	2	3	0	0	3	0	0	0	0	5
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	1	0	1	0	0	0	0	0	0	0	0	1
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	0	1	0	0	0	0	0	0	0	0	1
1000 - 1015	1	0	0	1	0	0	0	0	0	0	0	0	1
1015 - 1030	0	0	0	0	0	0	0	0	0	1	0	1	1
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	1	0	1	0	0	0	0	0	0	0	0	1
Hourly Total	1	1	0	2	0	0	0	0	0	1	0	1	3
Grand Total	1	4	0	5	3	0	0	3	0	1	0	1	9
Approach %	20.00	80.00	0.00	-	100.00	0.00	0.00	-	0.00	100.00	0.00	-	
Intersection %	11.11	44.44	0.00	55.56	33.33	0.00	0.00	33.33	0.00	11.11	0.00	11.11	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Single Unit Trucks (4-7)

TIME	Northbound				Southbound				Eastbound				Int Total
	J. Swain Blvd (South)				J. Swain Blvd (North)				Driveway				
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7	Right 3.8	U-Turn 3.9	App Total	
1600 - 1615	0	1	0	1	0	0	0	0	0	0	0	0	1
1615 - 1630	0	0	0	0	1	0	0	1	0	0	0	0	1
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	0	1	1	0	0	1	0	0	0	0	2
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	1	0	0	1	0	0	0	0	2
Approach %	0.00	100.00	0.00	-	100.00	0.00	0.00	-	0.00	0.00	0.00	-	
Intersection %	0.00	50.00	0.00	50.00	50.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Combination Trucks (8-13)

Southport, NC

Site 3 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Driveway

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.952583°, -78.040483°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Combination Trucks (8-13)

	Northbound				Southbound				Eastbound				Int Total
	J. Swain Blvd (South)				J. Swain Blvd (North)				Driveway				
TIME	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7	Right 3.8	U-Turn 3.9	App Total	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	1	0	1	0	0	0	0	0	0	0	0	1
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	1	0	0	0	0	0	0	0	0	1
Approach %	0.00	100.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00	0.00	-	
Intersection %	0.00	100.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Combination Trucks (8-13)

	Northbound				Southbound				Eastbound				Int Total
	J. Swain Blvd (South)				J. Swain Blvd (North)				Driveway				
TIME	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7	Right 3.8	U-Turn 3.9	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Bikes

Southport, NC

Site 3 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Driveway

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.952583°, -78.040483°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Bikes

TIME	Northbound				Southbound				Eastbound				Int Total
	J. Swain Blvd (South)				J. Swain Blvd (North)				Driveway				
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7	Right 3.8	U-Turn 3.9	App Total	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Bikes

TIME	Northbound				Southbound				Eastbound				Int Total	
	J. Swain Blvd (South)				J. Swain Blvd (North)				Driveway					
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7		Right 3.8	U-Turn 3.9		App Total
1600 - 1615	0	0	0	0	0	0	0	0	0		0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0		0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0		0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0		0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0		0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0		0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0		0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0		0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0		0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0		0	0	0	0
1800 - 1815	0	0	0	0	0	0	0	0	0		0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0		0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0		0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0		0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0		0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0		0	0	0	0
Approach %	0.00	0.00	0.00	-	0.00	0.00	0.00	-	0.00		0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	

Pedestrian Count || All vehicles

Southport, NC

Site 3 of 3

J. Swain Blvd (South)
J. Swain Blvd (North)
Driveway

Date

Wednesday, February 15, 2023

Weather

Fair
58°F

Lat/Long

33.952583°, -78.040483°

0800 - 1100 (Weekday 3h Session) (02-15-2023)

Pedestrians

TIME	Northbound			Southbound			Eastbound			Int Total
	J. Swain Blvd (South)			J. Swain Blvd (North)			Driveway			
	EB 3a	WB 3b	App Total	EB 3c	WB 3d	App Total	NB 3e	SB 3f	App Total	
0800 - 0815	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0
0900 - 0915	0	1	1	1	0	0	0	1	0	2
0915 - 0930	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	1	1	0	0	0	1	0	2
1000 - 1015	1	0	1	1	0	0	0	0	0	1
1015 - 1030	0	0	0	0	0	0	0	1	0	1
1030 - 1045	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0
Hourly Total	1	0	1	1	0	0	0	1	0	2
Grand Total	1	1	2	0	0	0	0	2	0	4
Approach %	50.00	50.00	-	0.00	0.00	-	100.00	0.00	-	
Intersection %	25.00	25.00	50.00	0.00	0.00	0.00	50.00	0.00	50.00	

1600 - 1900 (Weekday 3h Session) (02-15-2023)

Pedestrians

TIME	Northbound			Southbound			Eastbound			Int Total
	J. Swain Blvd (South)			J. Swain Blvd (North)			Driveway			
	EB 3a	WB 3b	App Total	EB 3c	WB 3d	App Total	NB 3e	SB 3f	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0
1800 - 1815	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	1	1	0	1	2
1830 - 1845	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	1	1	0	1	2
Grand Total	0	0	0	0	0	1	1	0	1	2
Approach %	0.00	0.00	-	0.00	100.00	-	0.00	100.00	-	
Intersection %	0.00	0.00	0.00	0.00	50.00	50.00	0.00	50.00	50.00	

Start Date: 2/15/2023	J. Swain Blvd (South) Northbound			J. Swain Blvd (North) Southbound			Driveway Eastbound			Westbound			Total
Time	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
15 Minute Totals													
12:00 AM - 12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM - 12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM - 12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM - 01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM - 01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM - 01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM - 01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM - 02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM - 02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM - 02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM - 02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM - 03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM - 03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM - 03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM - 03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM - 04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM - 04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM - 04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM - 04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM - 05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM - 05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM - 05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM - 05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM - 06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM - 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM - 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM - 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM - 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM - 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM - 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM - 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM - 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM - 08:15 AM	1	5	0	0	16	0	0	0	0	0	0	0	22
08:15 AM - 08:30 AM	1	10	0	0	14	0	0	0	0	0	0	0	25
08:30 AM - 08:45 AM	3	10	0	0	10	0	0	0	0	0	0	0	23
08:45 AM - 09:00 AM	1	11	0	0	20	0	0	0	2	0	0	0	34
09:00 AM - 09:15 AM	3	9	0	0	17	0	0	0	1	0	0	0	32
09:15 AM - 09:30 AM	3	7	0	0	12	0	0	0	0	0	0	0	22
09:30 AM - 09:45 AM	1	13	0	0	20	1	0	0	0	0	0	0	35
09:45 AM - 10:00 AM	1	14	0	0	8	1	0	0	1	0	0	0	25
10:00 AM - 10:15 AM	1	9	0	0	19	0	0	0	0	0	0	0	30
10:15 AM - 10:30 AM	0	18	0	0	16	0	1	0	2	0	0	0	38
10:30 AM - 10:45 AM	4	16	0	0	20	0	0	0	1	0	0	0	41
10:45 AM - 11:00 AM	2	17	0	0	13	0	0	0	1	0	0	0	33
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM - 01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM - 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM - 01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM - 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM - 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM - 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM - 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM - 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM - 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM - 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM - 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM - 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM - 04:15 PM	3	18	0	0	6	0	0	0	3	0	0	0	30
04:15 PM - 04:30 PM	5	27	0	0	16	0	0	0	0	0	0	0	48
04:30 PM - 04:45 PM	6	16	0	0	7	0	0	0	0	0	0	0	29
04:45 PM - 05:00 PM	2	24	0	0	11	0	0	0	2	0	0	0	39
05:00 PM - 05:15 PM	6	22	0	0	9	0	0	0	1	0	0	0	38
05:15 PM - 05:30 PM	0	16	0	0	6	0	0	0	1	0	0	0	23
05:30 PM - 05:45 PM	1	11	0	0	14	0	0	0	4	0	0	0	30
05:45 PM - 06:00 PM	3	13	0	0	10	0	0	0	1	0	0	0	27
06:00 PM - 06:15 PM	0	12	0	0	14	1	1	0	1	0	0	0	29
06:15 PM - 06:30 PM	2	7	0	0	12	0	0	0	0	0	0	0	23
06:30 PM - 06:45 PM	0	8	0	0	6	0	0	0	0	0	0	0	14
06:45 PM - 07:00 PM	0	19	0	0	4	0	0	0	0	0	0	0	23
07:00 PM - 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM - 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM - 07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM - 08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM - 08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM - 08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM - 08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM - 09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM - 09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM - 09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM - 09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM - 10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM - 10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM - 11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM - 11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX B – Site and Signal Plan

- SITE DATA:
- PARCEL ID:
PARCEL G - 2210000209
PARCEL H - 2210000210
 - PROJECT ADDRESS:
5020 J. SWAIN BLVD
SOUTHPORT, NC
 - PROPERTY DEED AND PLAT
DB: 4945 PG: 0402
MB: 43 PG: 73-74
 - OWNER:
CFSC LAND, LLC
147 HAMMOCKS WATCH WAY
HAMPSTEAD, NC 28443
 - LAND USE:
CURRENT LAND USE - VACANT
PROPOSED LAND USE - COMMERCIAL
LAND USE PER CITY
FUTURE LAND USE PLAN - HEAVY COMMERCIAL
 - ZONING - SOUTHPORT - HC - HIGHWAY COMMERCIAL
 - PARCEL ACREAGE:
PARCEL G - 1.11 AC
PARCEL H - 1.10 AC
PROPOSED RECOMBINED LOT ACREAGE - 2.21 AC
(RECOMBINATION APPROVED BY CITY, RECORDING IN PROGRESS)
 - BUILDING SETBACKS:
FRONT: 25 FEET
SIDE: 8 FEET
REAR: 20 FEET
 - BUILDING SIZE:
9,750 SF FOOTPRINT
29,250 SF GROSS
 - BUILDING HEIGHT: 40' TO TOP OF STRUCTURE
(+ 4' FOR ELEVATOR, MECHANICAL EQUIPMENT AND SCREENING)
 - PARKING REQUIREMENTS (PER UDO):

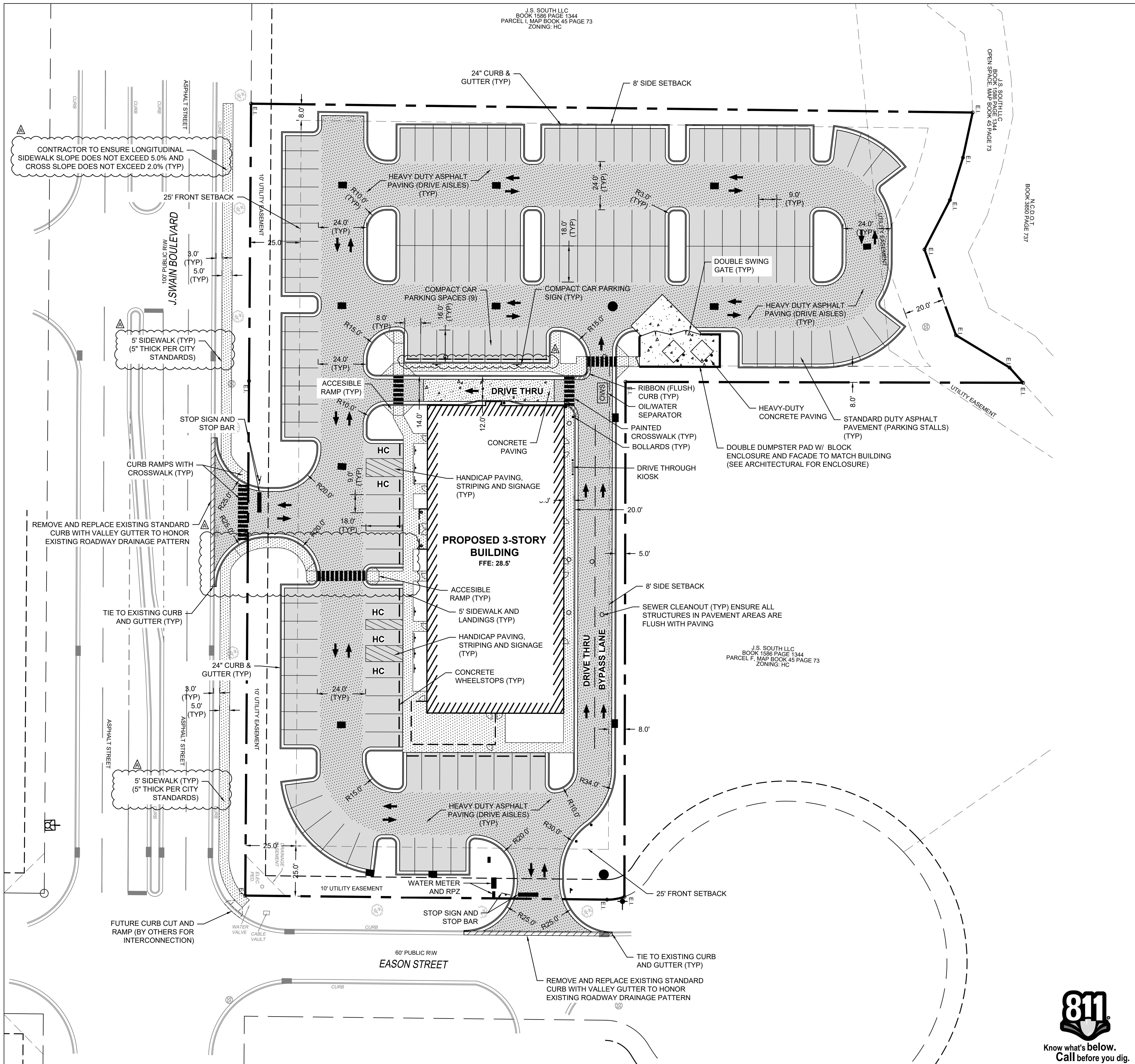
GENERAL OFFICE OFFICE = 17,150 SF MINIMUM 58 SPACES	1 SPACE / 300 SF
RETAIL (MINOR) RETAIL SF = 3,280 SF MINIMUM 17 SPACES	1 SPACE / 200 SF
RESTAURANT (FULL SERVICE & FAST-FOOD) RESTAURANT SF = 6,360 SF MINIMUM 64 SPACES	1 SPACE / 100 SF

TOTAL PARKING REQUIRED:
139 SPACES (INCLUDING HANDICAP)

TOTAL PARKING PROVIDED:
139 SPACES (124 STANDARD, 9 COMPACT, & 5 HANDICAP)

- DIMENSIONS AND COORDINATE POINTS ARE TO FACE OF CURB, EDGE OF PAVEMENT, OR CORNER OF BUILDING UNLESS OTHERWISE NOTED.
- EXISTING CONDITION SHOWN ARE BASED ON INFORMATION PROVIDED BY OTHERS. SEE SHEET C100 FOR ADDITIONAL INFORMATION.
- ALL IMPROVEMENTS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH STATE AND LOCAL STANDARDS.
- ANY DISCREPANCIES FOUND IN THE FIELD SHALL BE CALLED TO THE ATTENTION OF THE OWNER OR ENGINEER PRIOR TO PROCEEDING WITH WORK.
- PRIOR TO BEGINNING CONSTRUCTION, UNLESS OTHERWISE PROVIDED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS (BOTH SITE AND BUILDING RELATED) INCLUDING BUT NOT LIMITED TO REGULATORY FEES, LICENSES, AND INSPECTIONS NECESSARY FOR PROPER EXECUTION AND COMPLETION OF THE WORK.
- THE GENERAL CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES, AND RIGHT-OF-WAYS, PUBLIC AND PRIVATE, PRIOR TO WORKING IN THESE AREAS.
- GENERAL CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND THE PUBLIC SHALL BE PROTECTED FROM INJURY.
- USE CAUTION WHEN REPRODUCING COPIES OF THE CONSTRUCTION DRAWINGS. COPIES ARE SUBJECT TO DISTORTION AND INACCURACY IN THE SCALE OF DRAWINGS. VERIFY ANY DISCREPANCIES WITH THE DESIGNER OF RECORD.
- ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION AS AMENDED.
- ALL PAVEMENT MARKINGS SHALL BE FOUR (4) INCHES WIDE UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS AS SHOWN ON THE PLANS.
- CONTRACTOR SHALL SAW-CUT EXISTING ASPHALT PAVEMENT AREAS TO TIE IN SMOOTHLY TO PROPOSED PAVEMENT AT DRIVEWAY ENTRANCES.
- REFER TO ARCHITECTURAL PLANS FOR ACTUAL BUILDING DIMENSIONS.
- THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH AN ELECTRONIC FILE OF THESE DRAWINGS UPON REQUEST.
- CONTACT THE UTILITY COMPANY TO RELOCATE ANY UTILITIES REQUIRED FROM COMPLETION OF THE PROJECT. ALL EXISTING FACILITIES WHICH CONFLICT WITH THE IMPROVEMENTS UNDER THE SCOPE OF THIS PROJECT MUST BE RELOCATED AT THE EXPENSE OF THE CONTRACTOR.
- ALL SIGNAGE MUST CONFORM TO CITY OF SOUTHPORT STANDARDS.
- LIGHTING PLAN BY BEMC. ALL LIGHTING MUST BE IN ACCORDANCE WITH CITY OF SOUTHPORT UDO AND CITY OF SOUTHPORT CODE OF ORDINANCES ARTICLE 4.
- STOP BEFORE YOU DIG. CALL 811. IT'S THE LAW.

LEGEND			
	EXISTING SIGN		EXISTING CURB AND GUTTER
	PROPOSED SIGN		PROPOSED CURB AND GUTTER
	EXISTING IRON PIN		PROPOSED FLUSH CURB AND GUTTER
	EXISTING LIGHT POLE		PROPERTY LINE
	EXISTING UTILITY POLE		EXISTING EASEMENT
	RIGHT-OF-WAY		EXISTING FENCE
	ACCESSIBLE SPACE		PROPOSED FENCE
	EXISTING TREE TO REMAIN		EXISTING OVERHEAD UTILITY LINE
	EXISTING FIRE HYDRANT		EXISTING ASPHALT PAVEMENT
	# OF PARKING SPACES		PROPOSED STANDARD DUTY ASPHALT PAVEMENT
	CENTERLINE		PROPOSED HEAVY DUTY ASPHALT PAVEMENT
	ACCESSIBLE RAMP		PROPOSED VEHICULAR CONCRETE PAVEMENT
	PROPOSED BOLLARD		



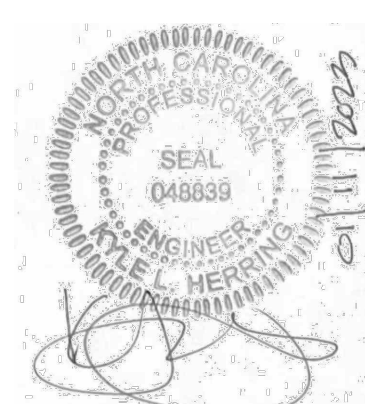
ORIGINAL PLAN SHEETS SIZE 30" x 42"
HALF SIZE REPRODUCTIONS NOT TO
SCALE



SCALE: 1"=20'



Seals:



Corp. NC License: F-1320

The Shoppes at Dutchman Village

5020 J. Swain Boulevard
Southport, North Carolina

Project No: 17.000530
Date: 01.10.2023
Revisions:
Revised per Fire Comments and Internal QC Review 01.16.23

FINAL DESIGN
NOT FOR
CONSTRUCTION

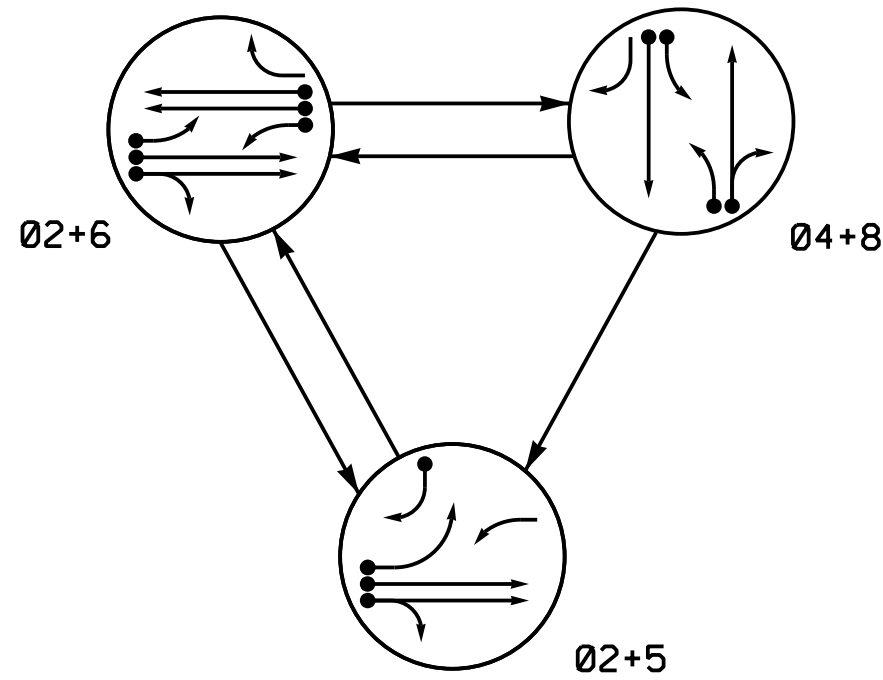
Sheet Title:

SITE
PLAN

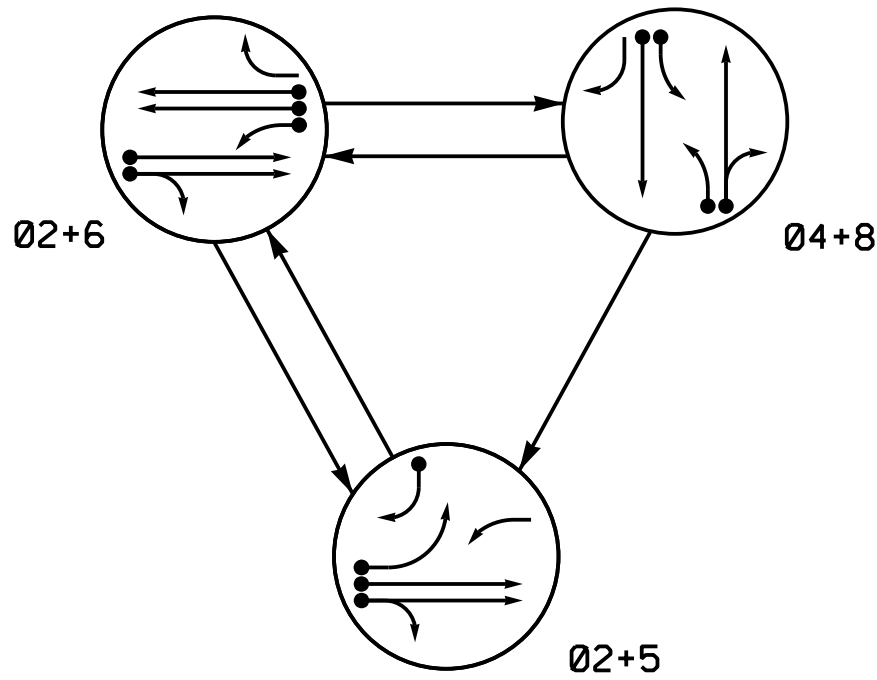
Sheet No:
C200

PROJECT REFERENCE NO.	SHEET NO.
R-5021	Sig. 29.0

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION					
SIGNAL FACE	PHASE				
	0 2 + 5	0 2 + 6	0 4 + 8	F L S H	
21,22	G	G	R	Y	
41,42	R	R	G	R	
43	F	R	F	R	
51	-	F	R	-	
61	F	F	R	-	
62,63	R	G	R	Y	
81,82	R	R	G	R	

ALTERNATE PHASING TABLE OF OPERATION					
SIGNAL FACE	PHASE				
	0 2 + 5	0 2 + 6	0 4 + 8	F L S H	
21,22	G	G	R	Y	
41,42	R	R	G	R	
43	F	R	F	R	
51	-	F	R	-	
61	F	F	R	-	
62,63	R	G	R	Y	
81,82	R	R	G	R	

OASIS 2070 LOOP & DETECTOR INSTALLATION CHART												
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A/S25	6X6	300	5	Y	2	Y	Y	-	-	-	Y	Y
2B/S26	6X6	300	5	Y	2	Y	Y	-	-	-	Y	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	Y
4B	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	Y
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	**15	-	Y
5B	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	Y
6A/S27	6X6	300	5	Y	6	Y	Y	-	-	-	Y	Y
6B/S28	6X6	300	5	Y	6	Y	Y	-	-	-	Y	Y
6C	6X40	0	2-4-2	Y	6	Y	Y	Y	-	3	-	Y
8A	6X40	0	2-4-2	Y	8	Y	Y	-	-	-	-	Y
8B	6X40	0	2-4-2	Y	8	Y	Y	-	-	10	-	Y

* Disable phase 2 call for 5A during alternate phasing operation.
** Reduce delay to 3 seconds during alternate phasing operation.

3 Phase
Fully Actuated
(NC 133 Closed Loop System)

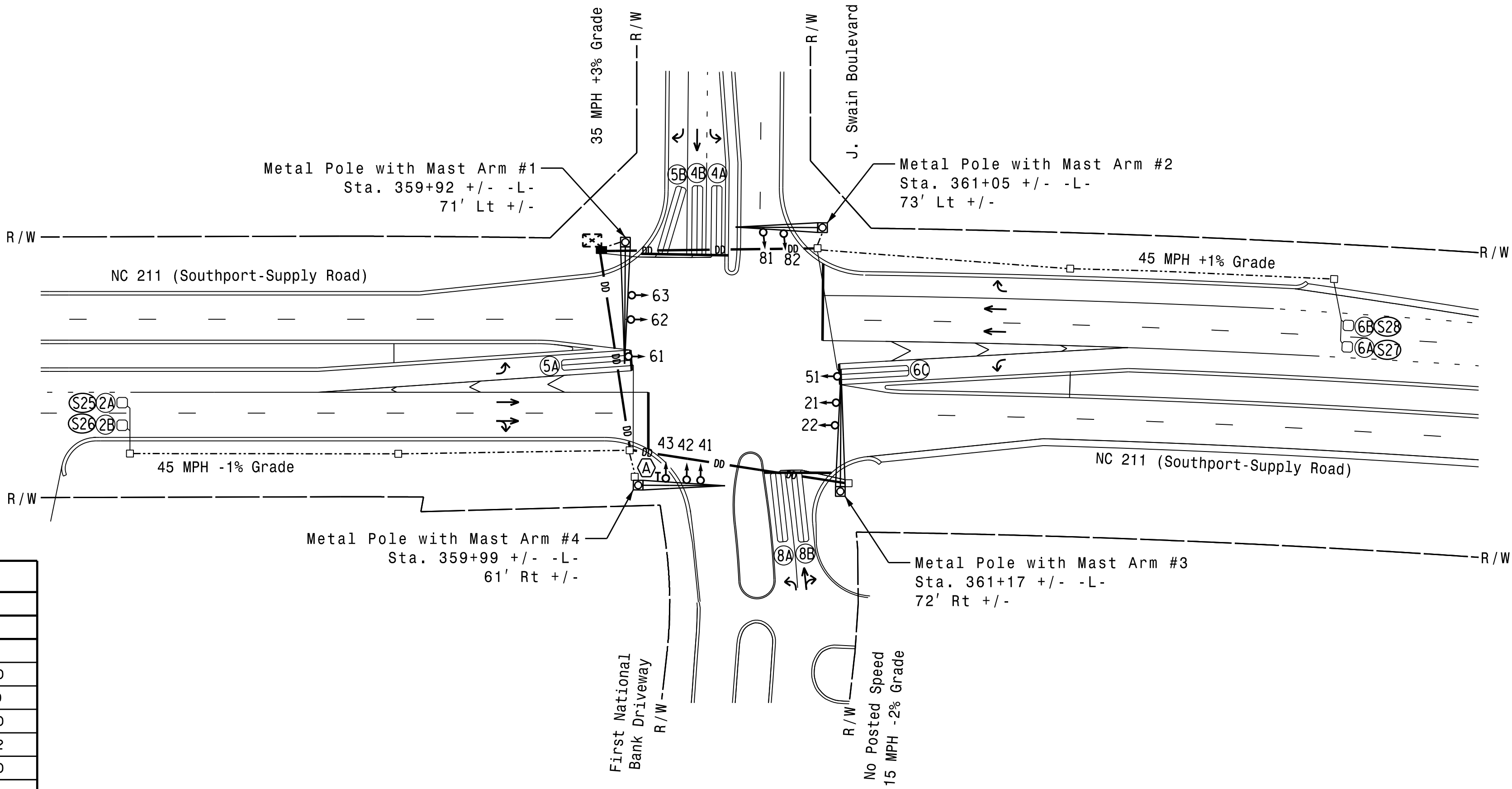
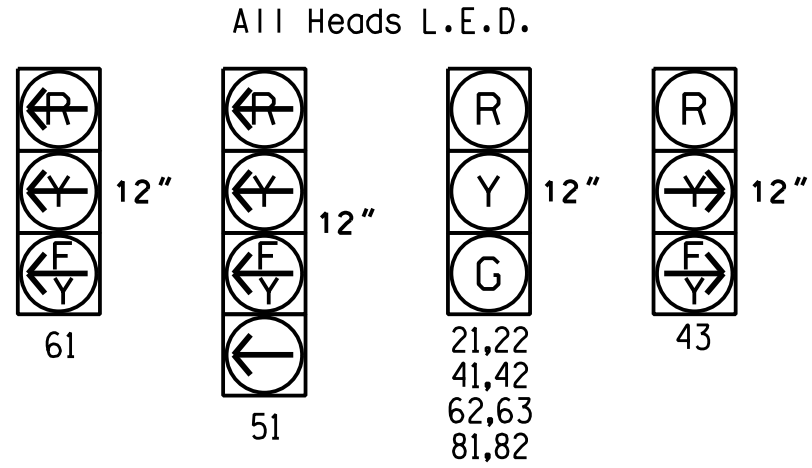
NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 5 may be lagged.
- Set all detector units to presence mode.
- The Division Traffic Engineer will determine the hours of use for each phasing plan.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset #: 1043.

PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

SIGNAL FACE I.D.



OASIS 2070 TIMING CHART

FEATURE	PHASE				
	2	4	5	6	8
Min Green 1 *	12	7	7	12	7
Extension 1 *	6.0	2.0	2.0	6.0	2.0
Max Green 1 *	90	30	20	90	30
Yellow Clearance	4.6	3.7	3.0	4.6	3.0
Red Clearance	1.5	2.6	2.9	1.5	4.2
Red Revert	2.0	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-	-
Don't Walk 1	-	-	-	-	-
Seconds Per Actuation *	1.5	-	-	1.5	-
Max Variable Initial *	34	-	-	34	-
Time Before Reduction *	15	-	-	15	-
Time To Reduce *	30	-	-	30	-
Minimum Gap	3.0	-	-	3.0	-
Recall Mode	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	YELLOW	-	-	YELLOW	-
Dual Entry	-	ON	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

- | PROPOSED | | EXISTING |
|----------|--|----------|
| | Traffic Signal Head | N/A |
| | Modified Signal Head | N/A |
| | Sign | N/A |
| | Pedestrian Signal Head | N/A |
| | Signal Pole with Guy | N/A |
| | Signal Pole with Sidewalk Guy | N/A |
| | Inductive Loop Detector | N/A |
| | Controller & Cabinet | N/A |
| | Junction Box | N/A |
| | 2-in Underground Conduit | N/A |
| | Right of Way | N/A |
| | Directional Arrow | N/A |
| | Directional Drill | N/A |
| | Metal Pole with Mastarm | N/A |
| | "RIGHT TURN MUST YIELD TO U-TURN" Sign | N/A |

Signal Upgrade - Final Design

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Prepared for:
TRANSPORTATION MOBILITY AND SAFETY
UNIVERSITY OF NORTH CAROLINA
SCHOOL OF TRANSPORTATION
Signal Design Section

750 N. Greenfield Pkwy, Garner, NC 27529

NC 211 (Southport-Supply Road)
at
J. Swain Boulevard

Division 03 Brunswick Co. Southport

PLAN DATE: June 2017 REVIEWED BY: A.D. Klinksiek

PREPARED BY: A.H. Thornburg REVIEWED BY: N.R. Simmons

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
031464
ENGINEER
NATASHA R. SIMMONS

DocuSigned by:
Natasha R. Simmons
2/8/2019

SIG. INVENTORY NO. 03-1043

HNTB

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554
(919) 546-8997

APPENDIX C – Growth Rate Calculations

Base Year		2023					
Build Year		2024					
		2017	2018	2019	2020	2021	2022
Population	AADT	26000	29000	28500		27500	
	Brunswick Cty				136693	144215	
	Oak Island				8420	8878	

Growth Rate = $(1+r)^Y$

AADT:	-2%
Brunswick Cty:	6%
Oak Island:	5%

APPENDIX D – ITE Trip Generation

Land Use: 710

General Office Building

Description

A general office building is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building houses multiple tenants that can include, as examples, professional services, insurance companies, investment brokers, a banking institution, a restaurant, or other service retailers. A general office building with a gross floor area of 10,000 square feet or less is classified as a small office building (Land Use 712). Corporate headquarters building (Land Use 714), single tenant office building (Land Use 715), medical-dental office building (Land Use 720), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are additional related uses.

Additional Data

If two or more general office buildings are in close physical proximity (within a close walk) and function as a unit (perhaps with a shared parking facility and common or complementary tenants), the total gross floor area or employment of the paired office buildings can be used for calculating the site trip generation. If the individual buildings are isolated or not functionally related to one another, trip generation should be calculated for each building separately.

For study sites with reported gross floor area and employees, an average employee density of 3.3 employees per 1,000 square feet GFA (or roughly 300 square feet per employee) has been consistent through the 1980s, 1990s, and 2000s. No sites counted in the 2010s reported both GFA and employees.

The average building occupancy varies considerably within the studies for which occupancy data were provided. The reported occupied gross floor area was 88 percent for general urban/suburban sites and 96 percent for the center city core and dense multi-use urban sites.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The average numbers of person trips per vehicle trip at the eight center city core sites at which both person trip and vehicle trip data were collected are as follows:

- 2.8 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 2.9 during Weekday, AM Peak Hour of Generator
- 2.9 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 3.0 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 18 dense multi-use urban sites at which both person trip and vehicle trip data were collected are as follows:

- 1.5 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.5 during Weekday, AM Peak Hour of Generator
- 1.5 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.5 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 23 general urban/suburban sites at which both person trip and vehicle trip data were collected are as follows:

- 1.3 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.3 during Weekday, AM Peak Hour of Generator
- 1.3 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.4 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), California, Colorado, Connecticut, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Michigan, Minnesota, Missouri, Montana, New Hampshire, New Jersey, New York, Ontario (CAN), Pennsylvania, Texas, Utah, Virginia, and Washington.

Source Numbers

161, 175, 183, 184, 185, 207, 212, 217, 247, 253, 257, 260, 262, 273, 279, 297, 298, 300, 301, 302, 303, 304, 321, 322, 323, 324, 327, 404, 407, 408, 419, 423, 562, 734, 850, 859, 862, 867, 869, 883, 884, 890, 891, 904, 940, 944, 946, 964, 965, 972, 1009, 1030, 1058, 1061

General Office Building (710)

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

Setting/Location: General Urban/Suburban

Number of Studies: 59

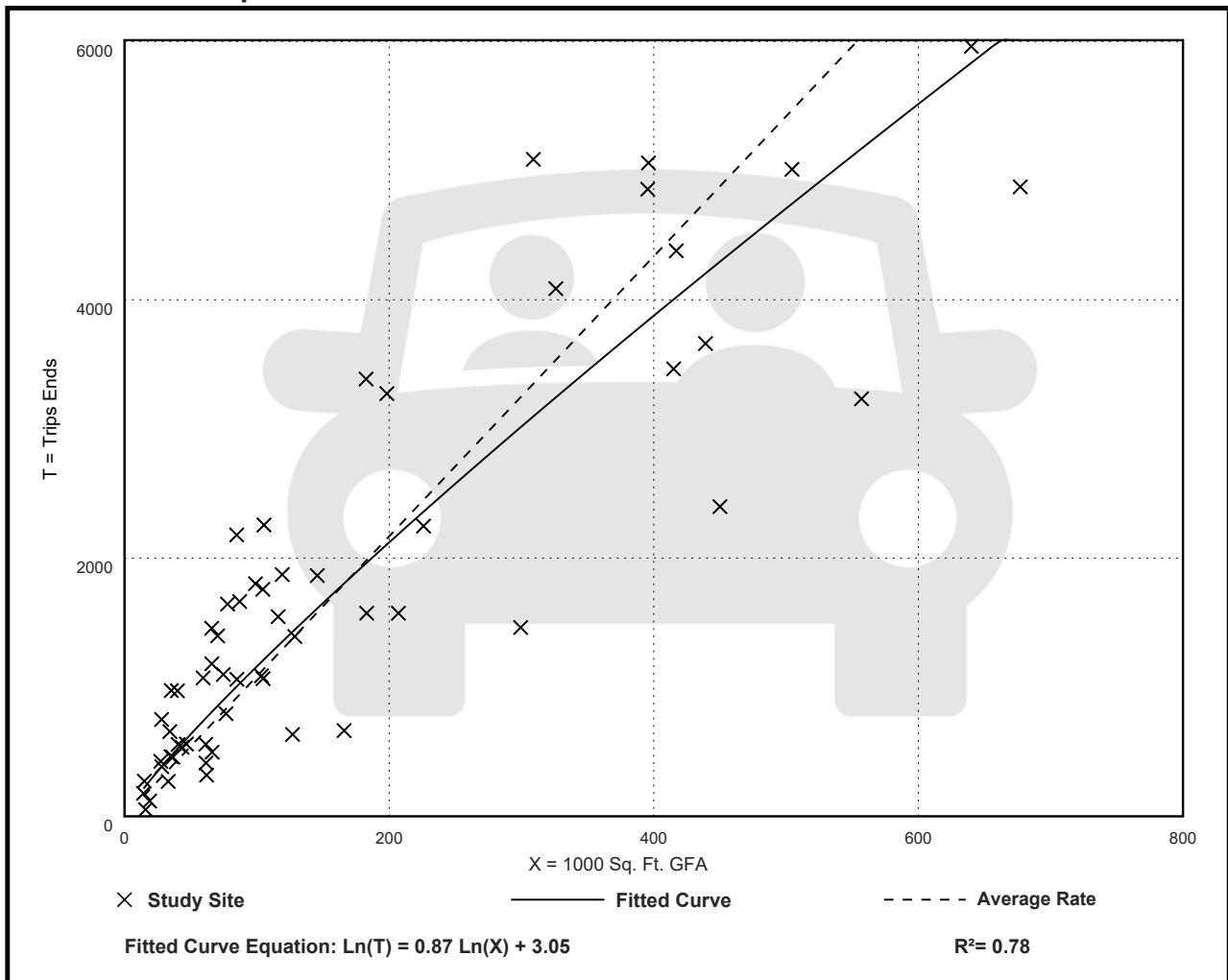
Avg. 1000 Sq. Ft. GFA: 163

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
10.84	3.27 - 27.56	4.76

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 221

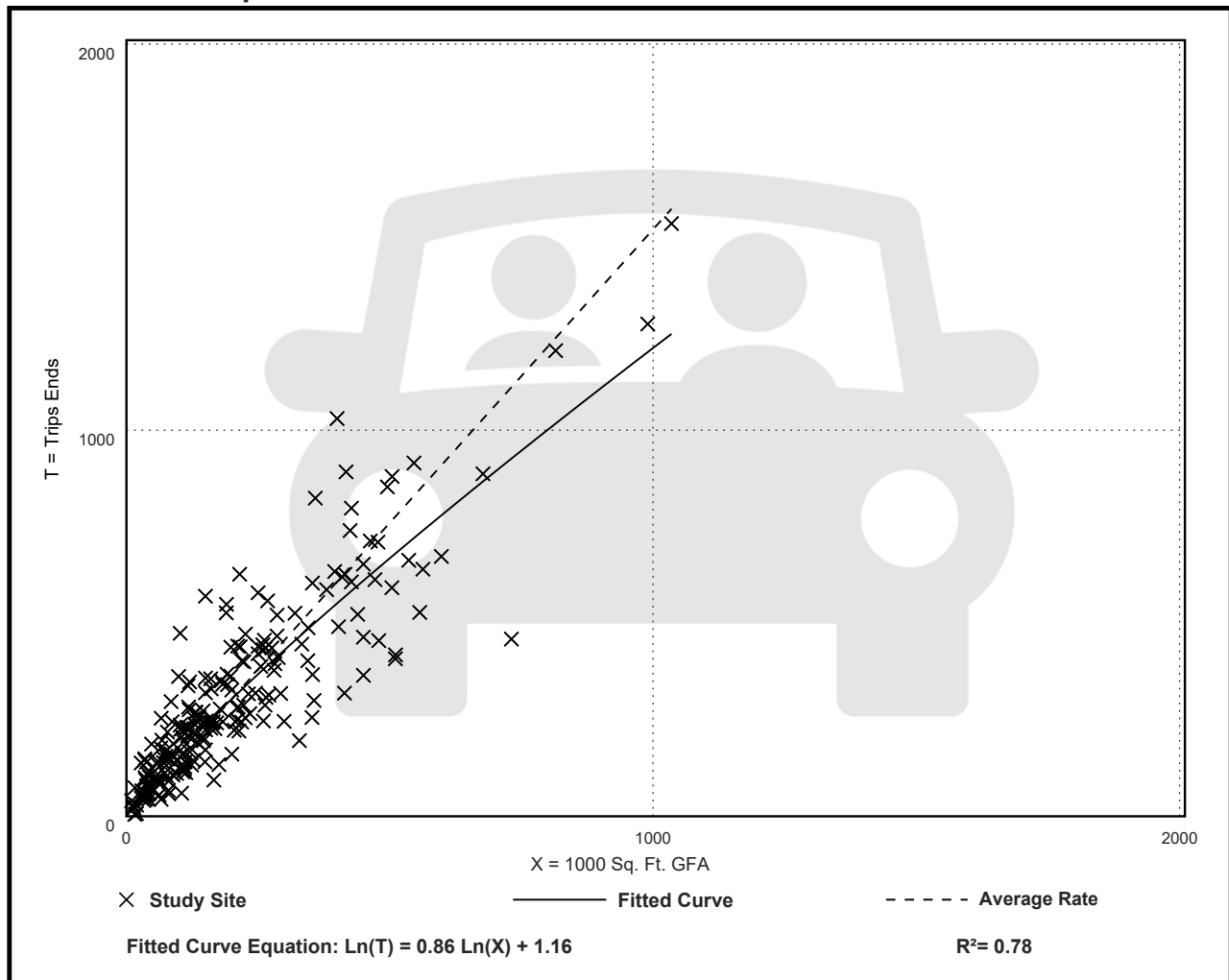
Avg. 1000 Sq. Ft. GFA: 201

Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.52	0.32 - 4.93	0.58

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 232

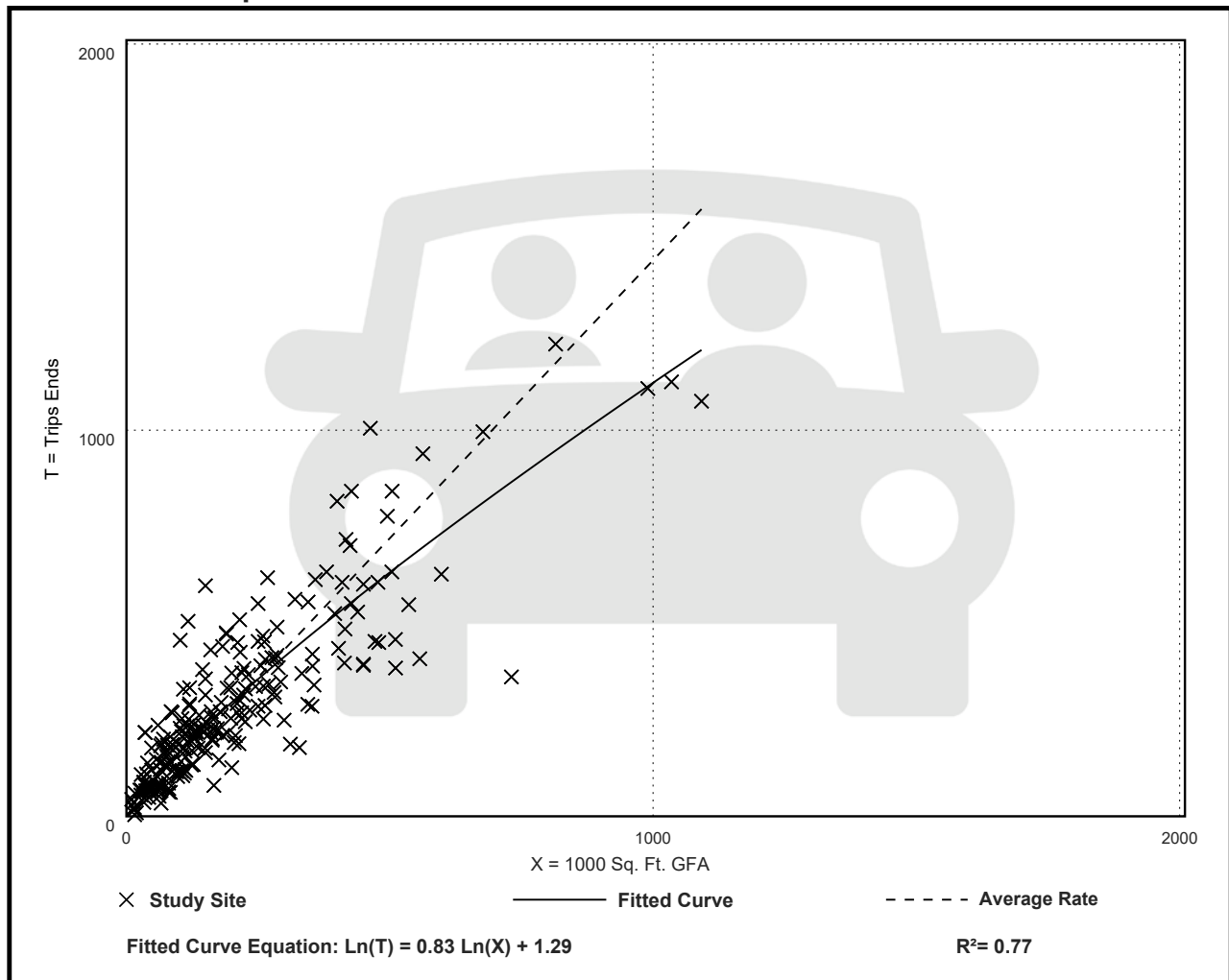
Avg. 1000 Sq. Ft. GFA: 199

Directional Distribution: 17% entering, 83% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.44	0.26 - 6.20	0.60

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday

Setting/Location: General Urban/Suburban

Number of Studies: 5

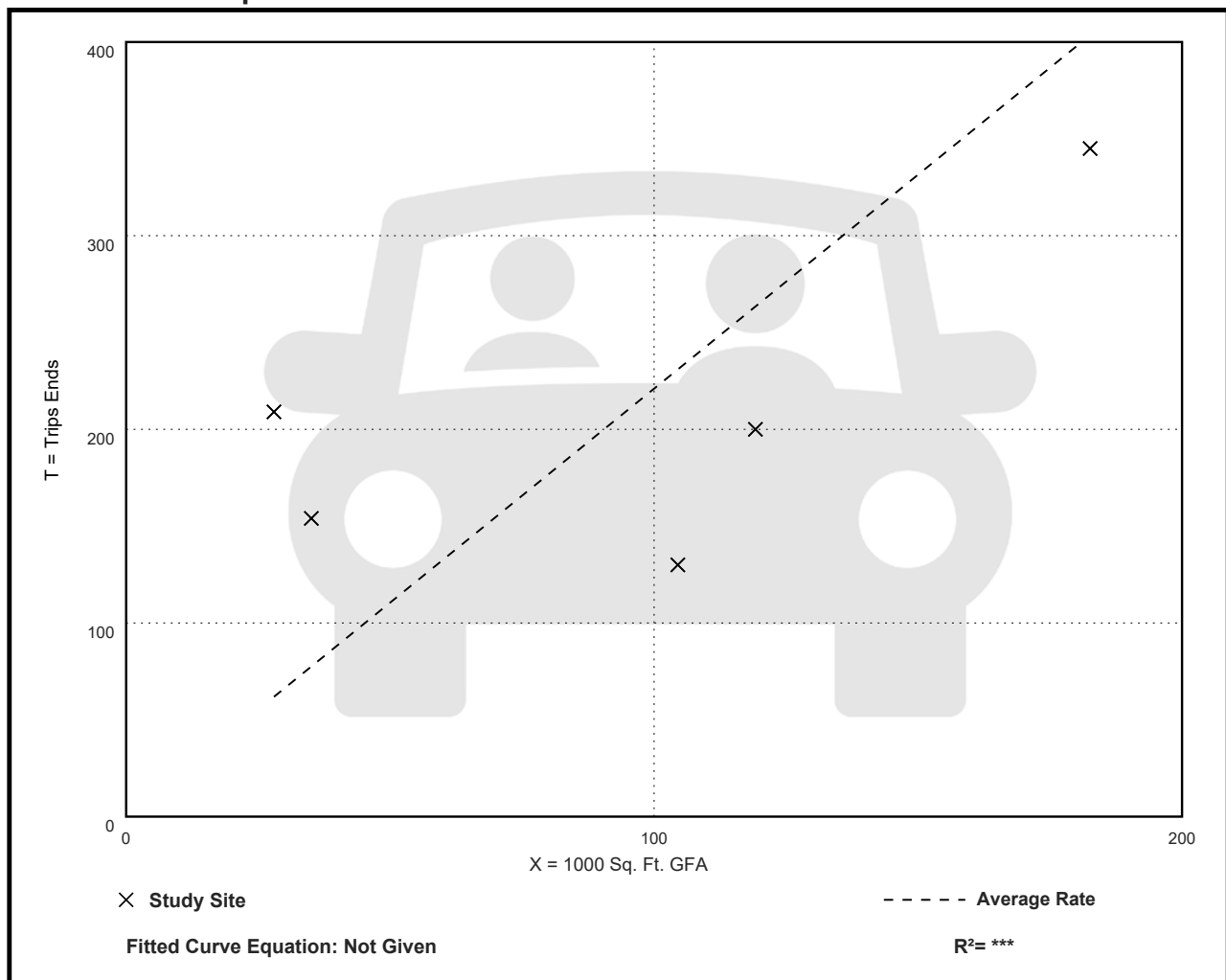
Avg. 1000 Sq. Ft. GFA: 94

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.21	1.24 - 7.46	1.70

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 3

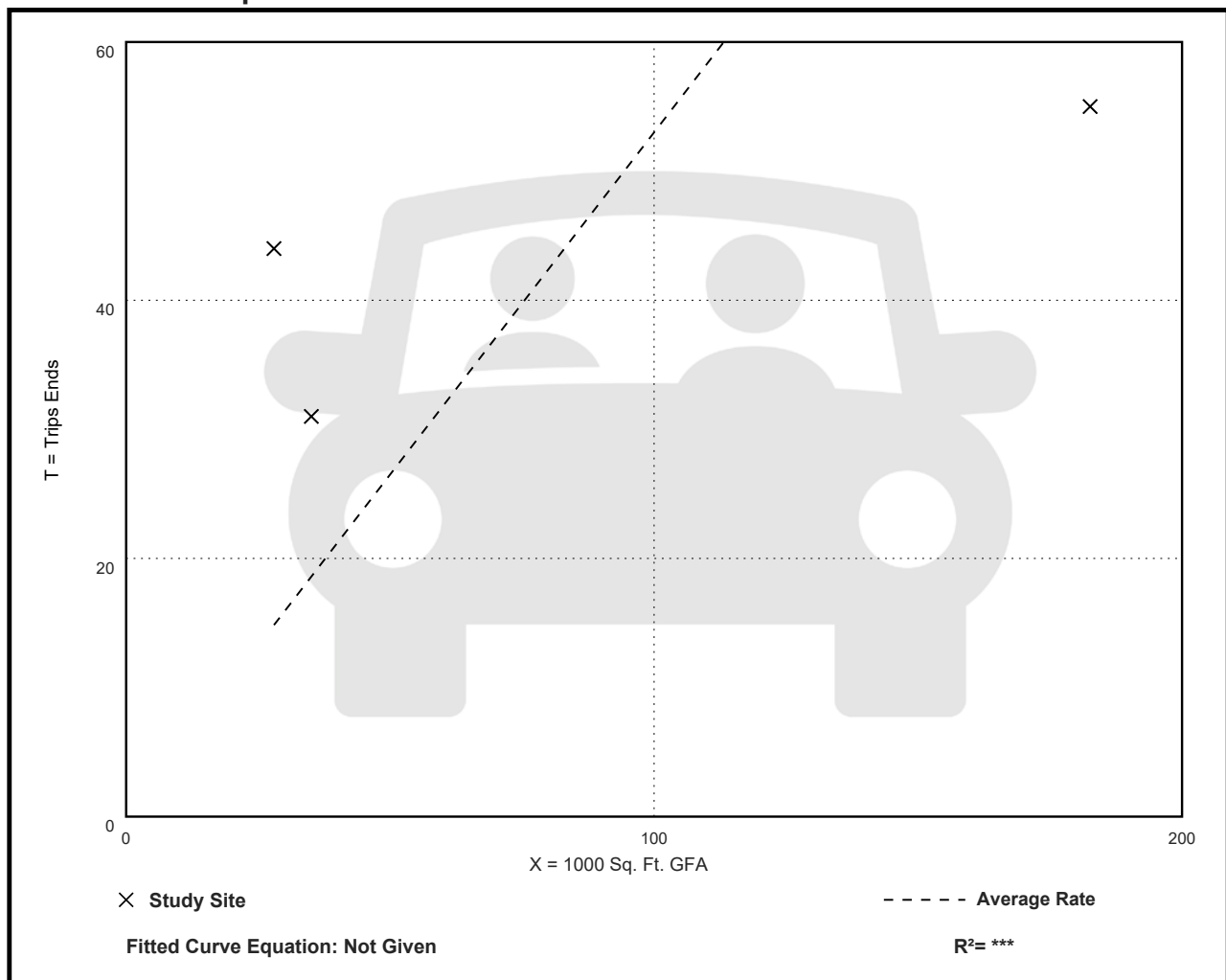
Avg. 1000 Sq. Ft. GFA: 82

Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.53	0.30 - 1.57	0.52

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Sunday

Setting/Location: General Urban/Suburban

Number of Studies: 5

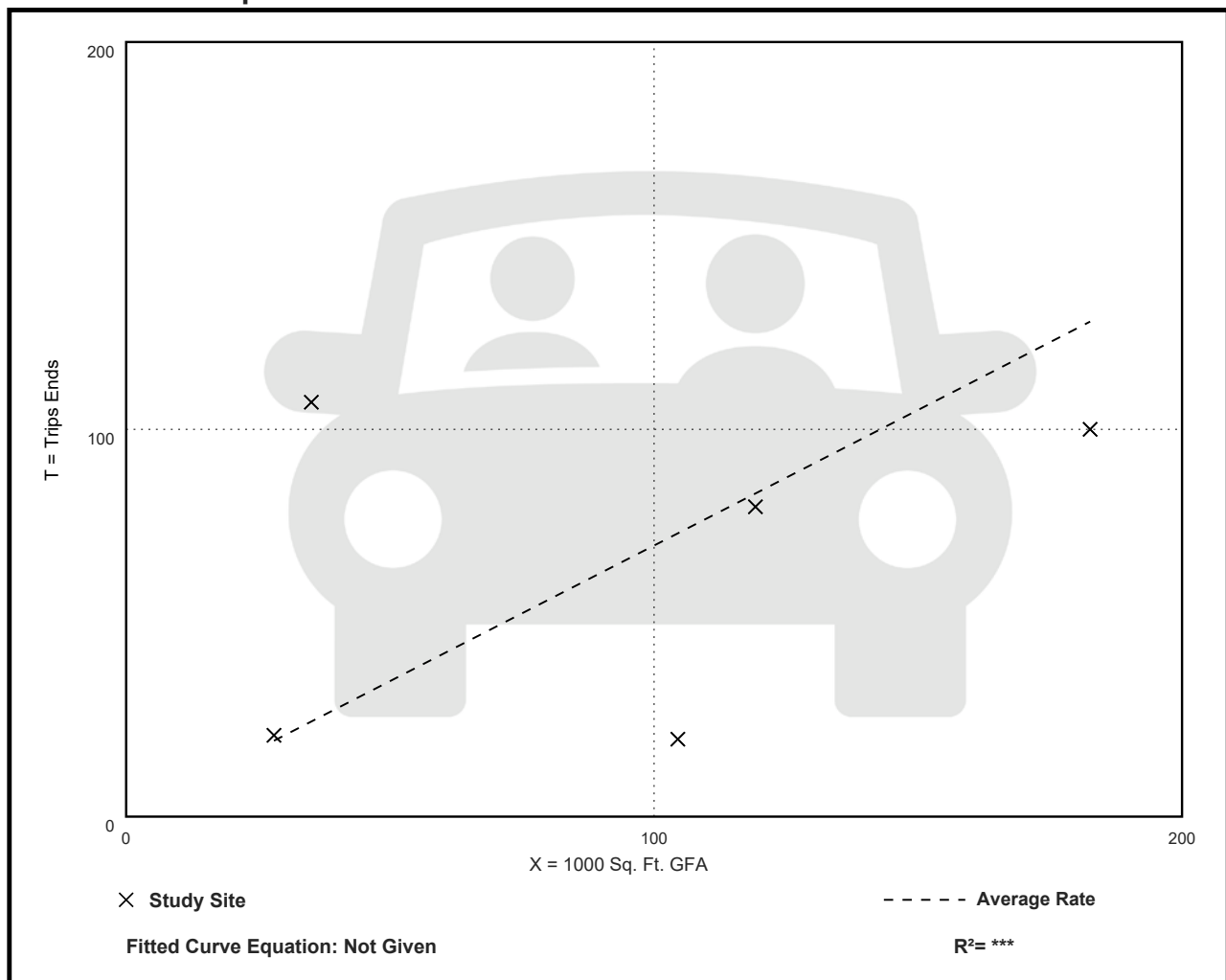
Avg. 1000 Sq. Ft. GFA: 94

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.70	0.19 - 3.05	0.77

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Sunday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 3

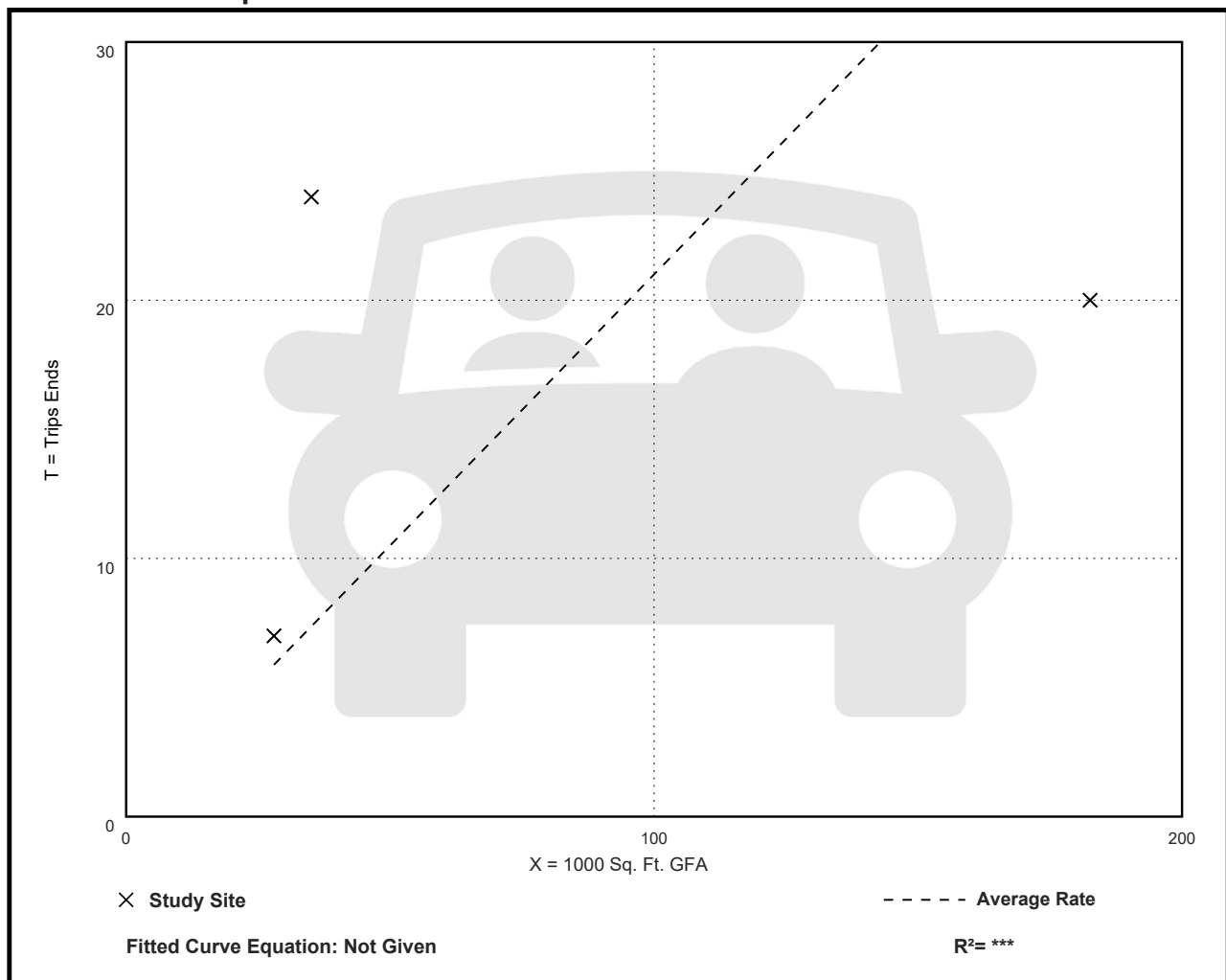
Avg. 1000 Sq. Ft. GFA: 82

Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.21	0.11 - 0.68	0.24

Data Plot and Equation



General Office Building (710)

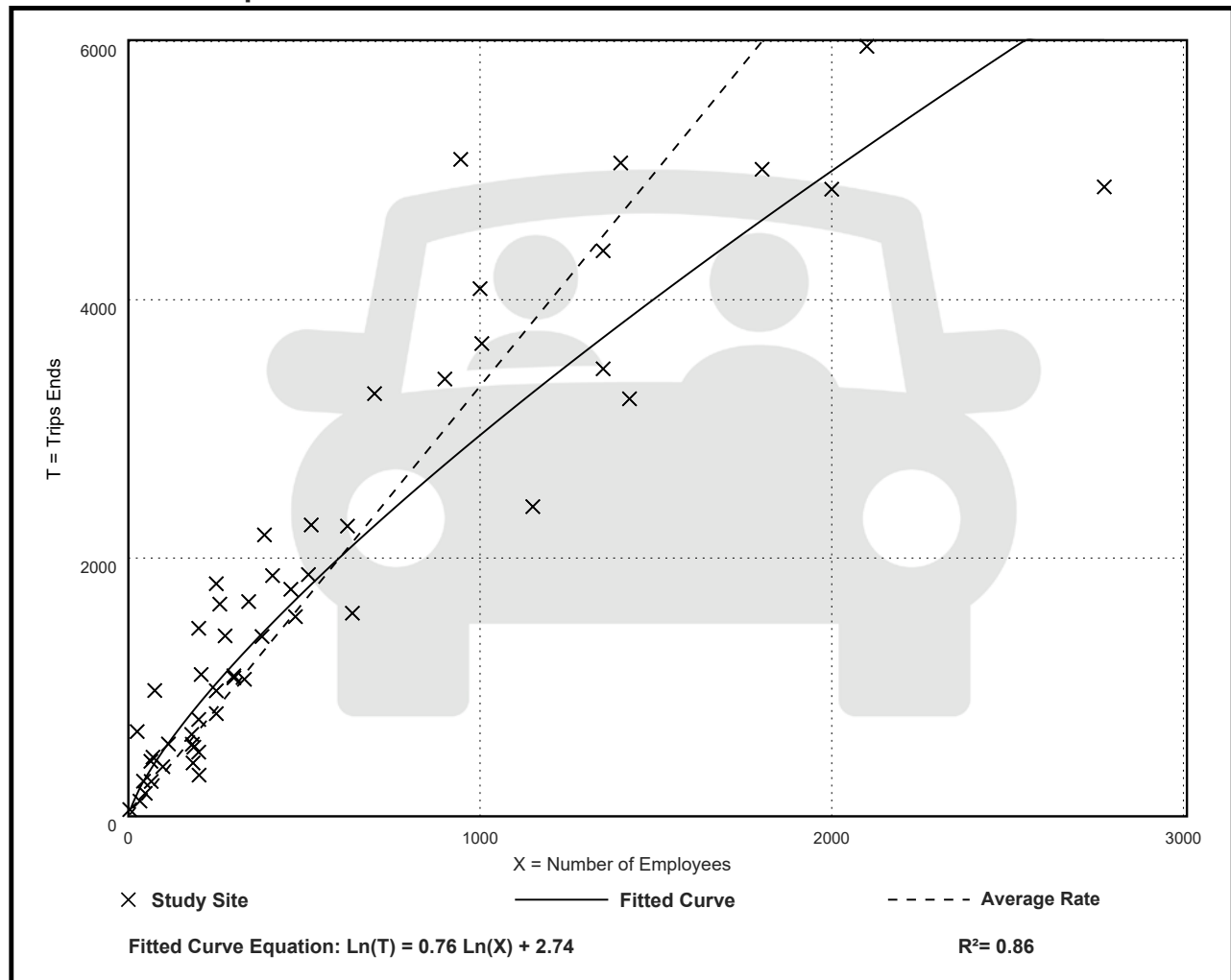
Vehicle Trip Ends vs: Employees
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 52
Avg. Num. of Employees: 562
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
3.33	1.59 - 26.24	1.44

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: Employees

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 153

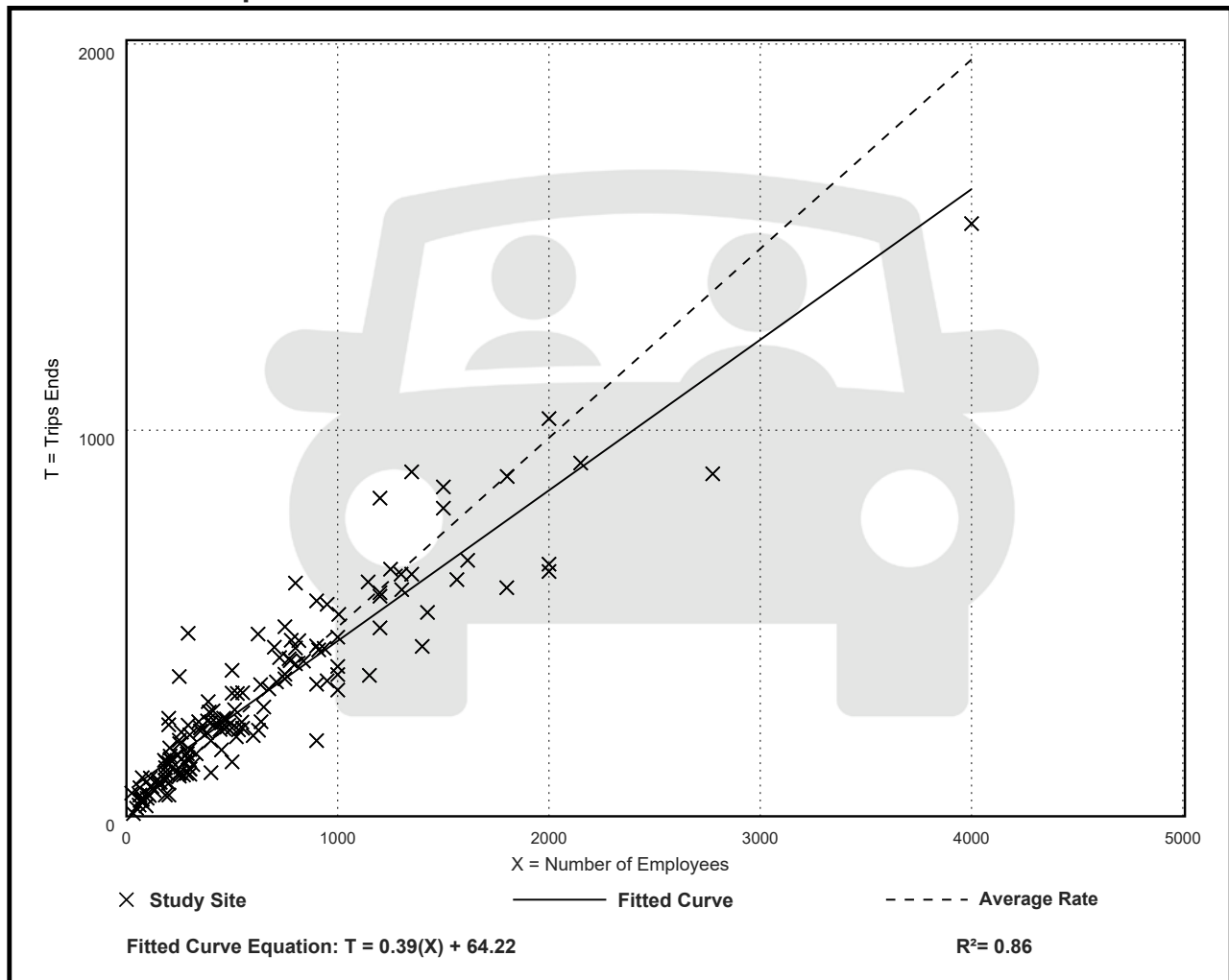
Avg. Num. of Employees: 618

Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.49	0.21 - 2.40	0.16

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: Employees

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 163

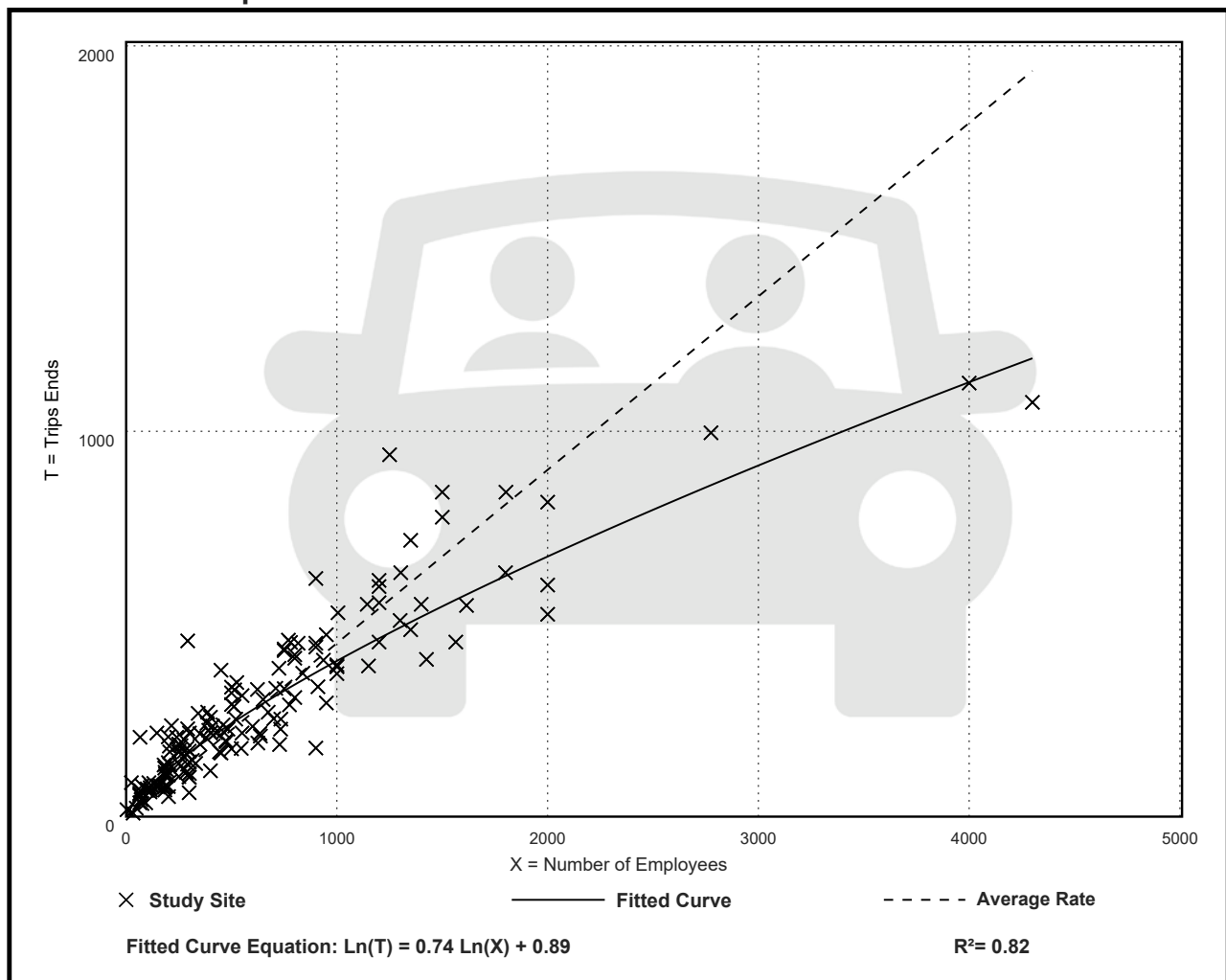
Avg. Num. of Employees: 614

Directional Distribution: 17% entering, 83% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.45	0.20 - 4.50	0.18

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: Employees
On a: Saturday

Setting/Location: General Urban/Suburban

Number of Studies: 4

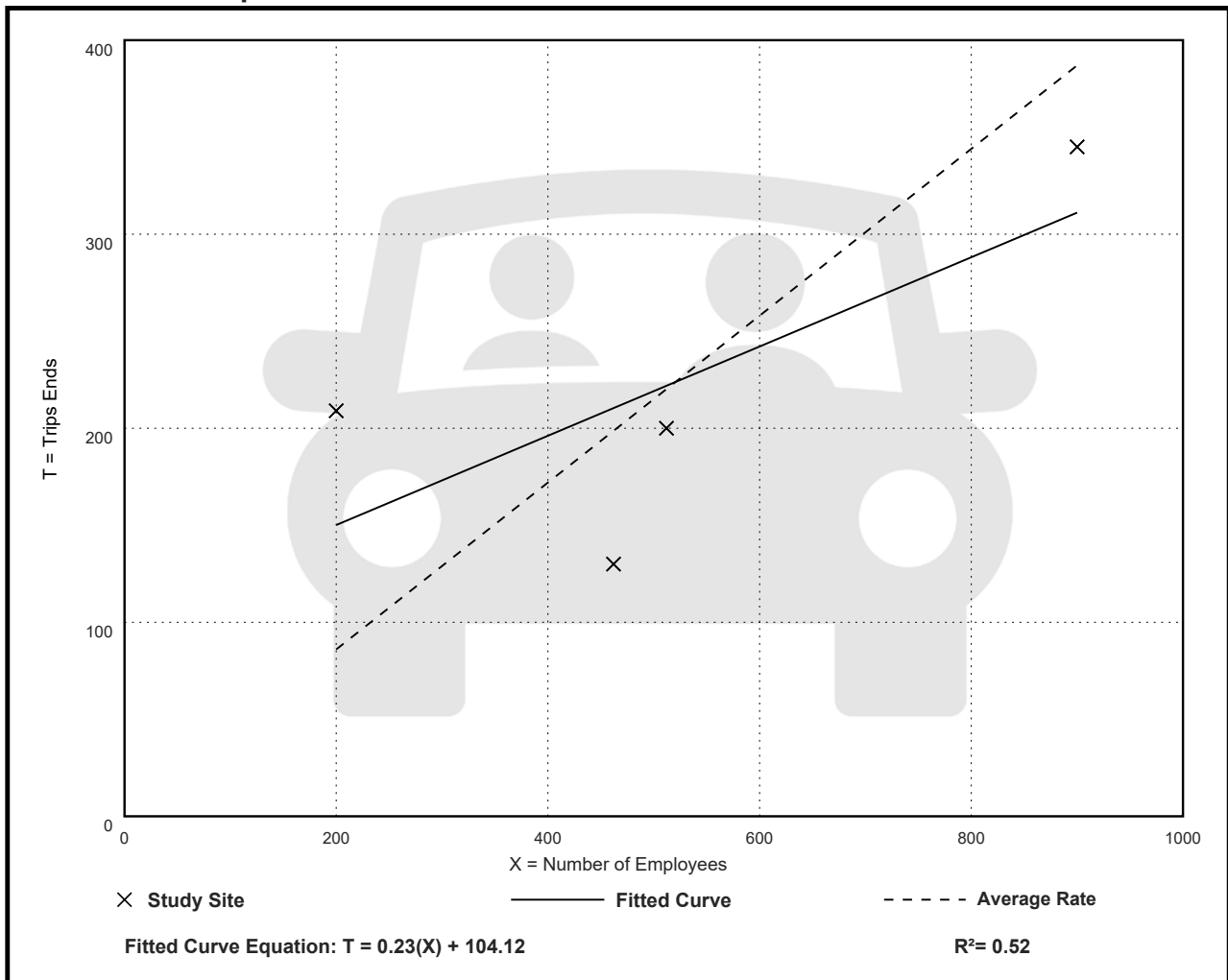
Avg. Num. of Employees: 519

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.43	0.28 - 1.05	0.24

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: Employees

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Employees: 550

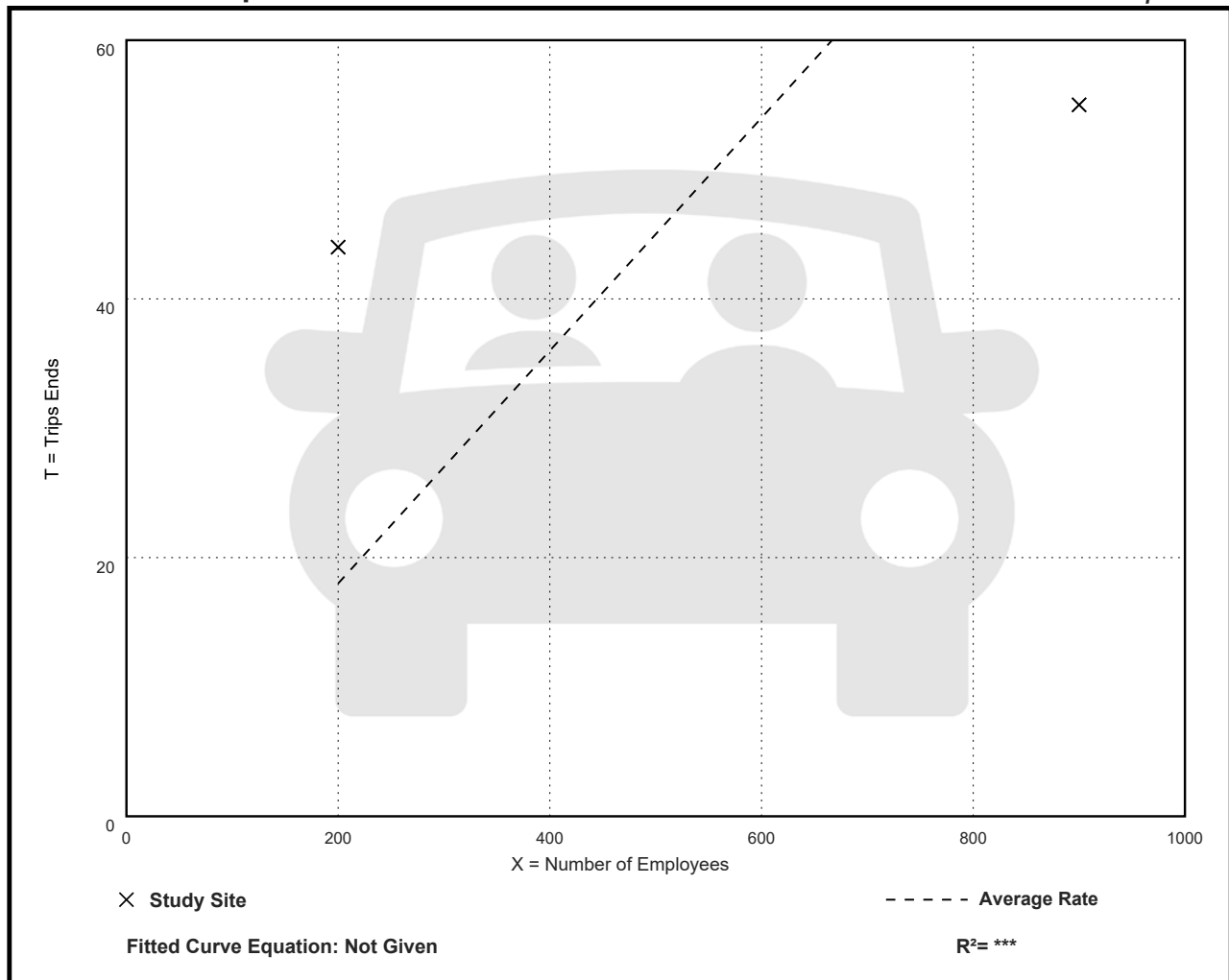
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.09	0.06 - 0.22	***

Data Plot and Equation

Caution – Small Sample Size



General Office Building (710)

Vehicle Trip Ends vs: Employees
On a: Sunday

Setting/Location: General Urban/Suburban

Number of Studies: 4

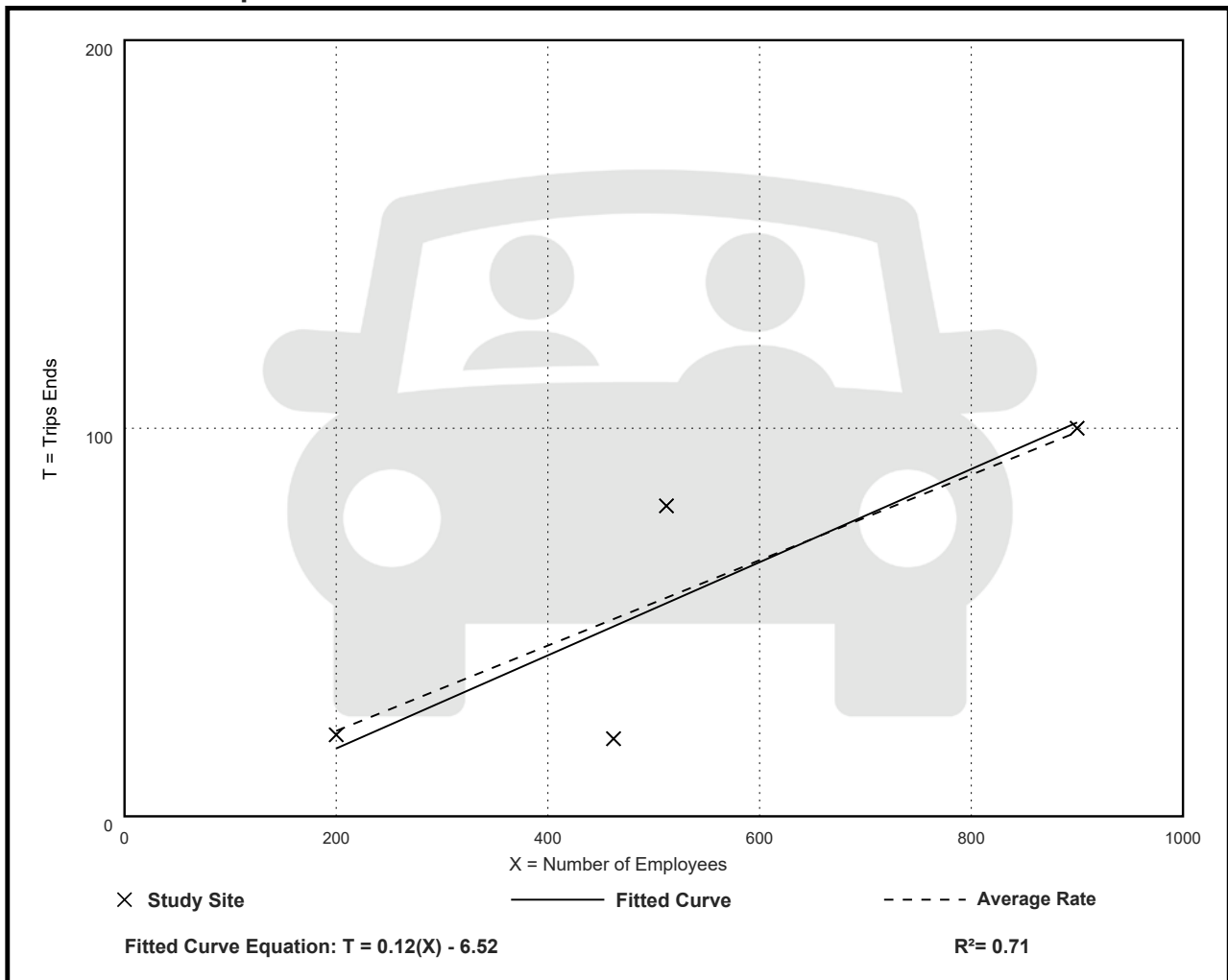
Avg. Num. of Employees: 519

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.11	0.04 - 0.16	0.04

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: Employees

On a: Sunday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Employees: 550

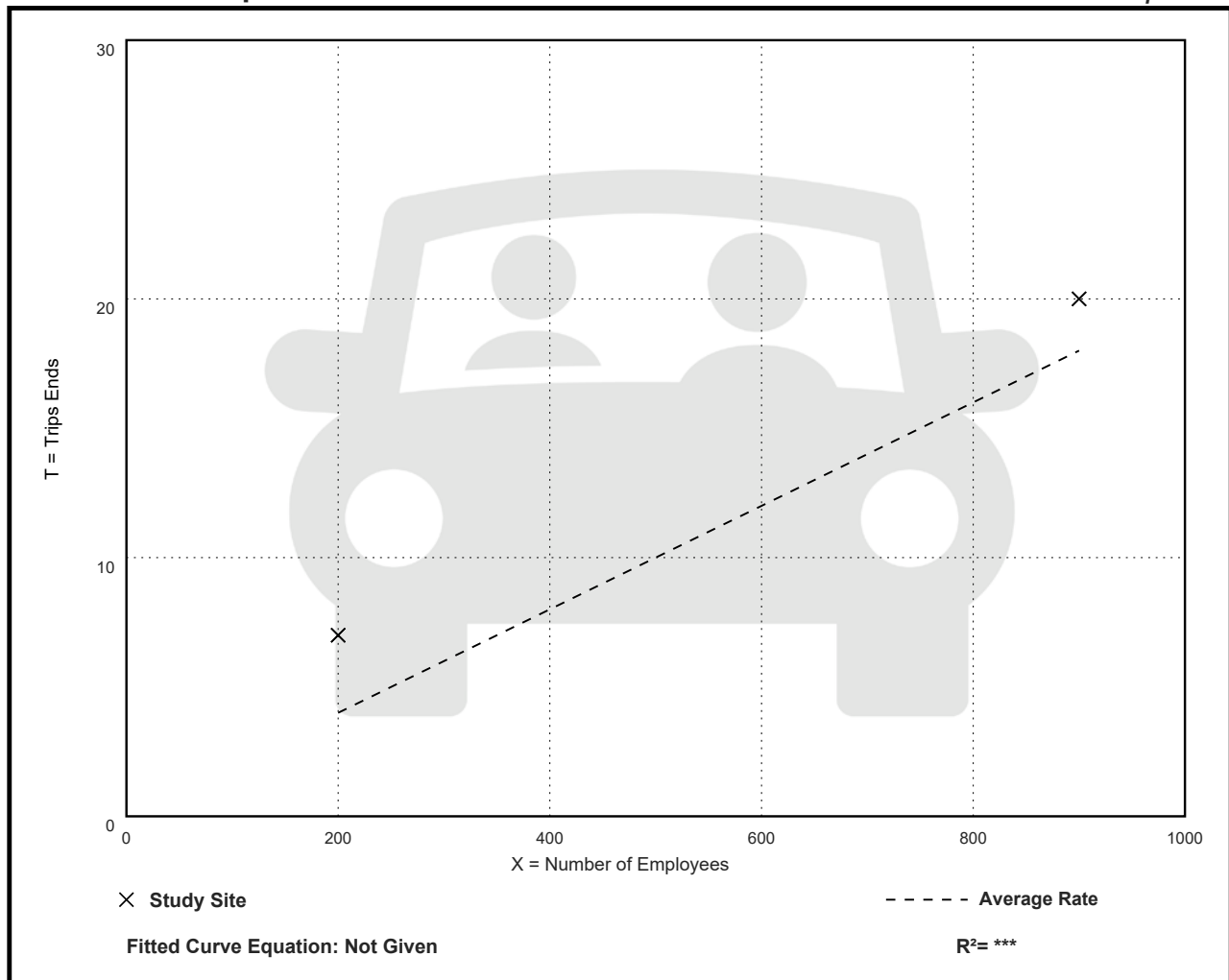
Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.02	0.02 - 0.04	***

Data Plot and Equation

Caution – Small Sample Size



General Office Building (710)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 21

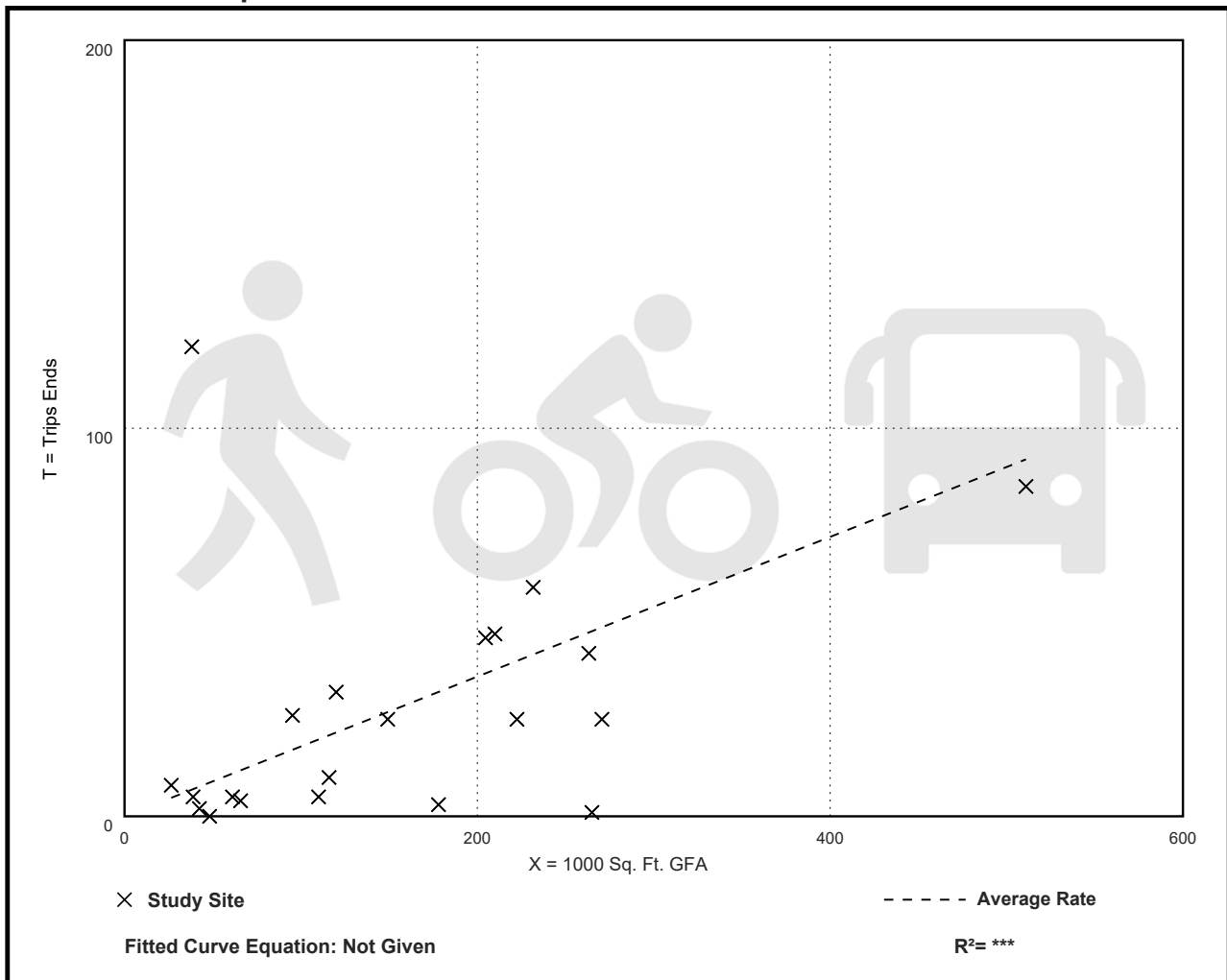
Avg. 1000 Sq. Ft. GFA: 156

Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.18	0.00 - 3.17	0.34

Data Plot and Equation



General Office Building (710)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 19

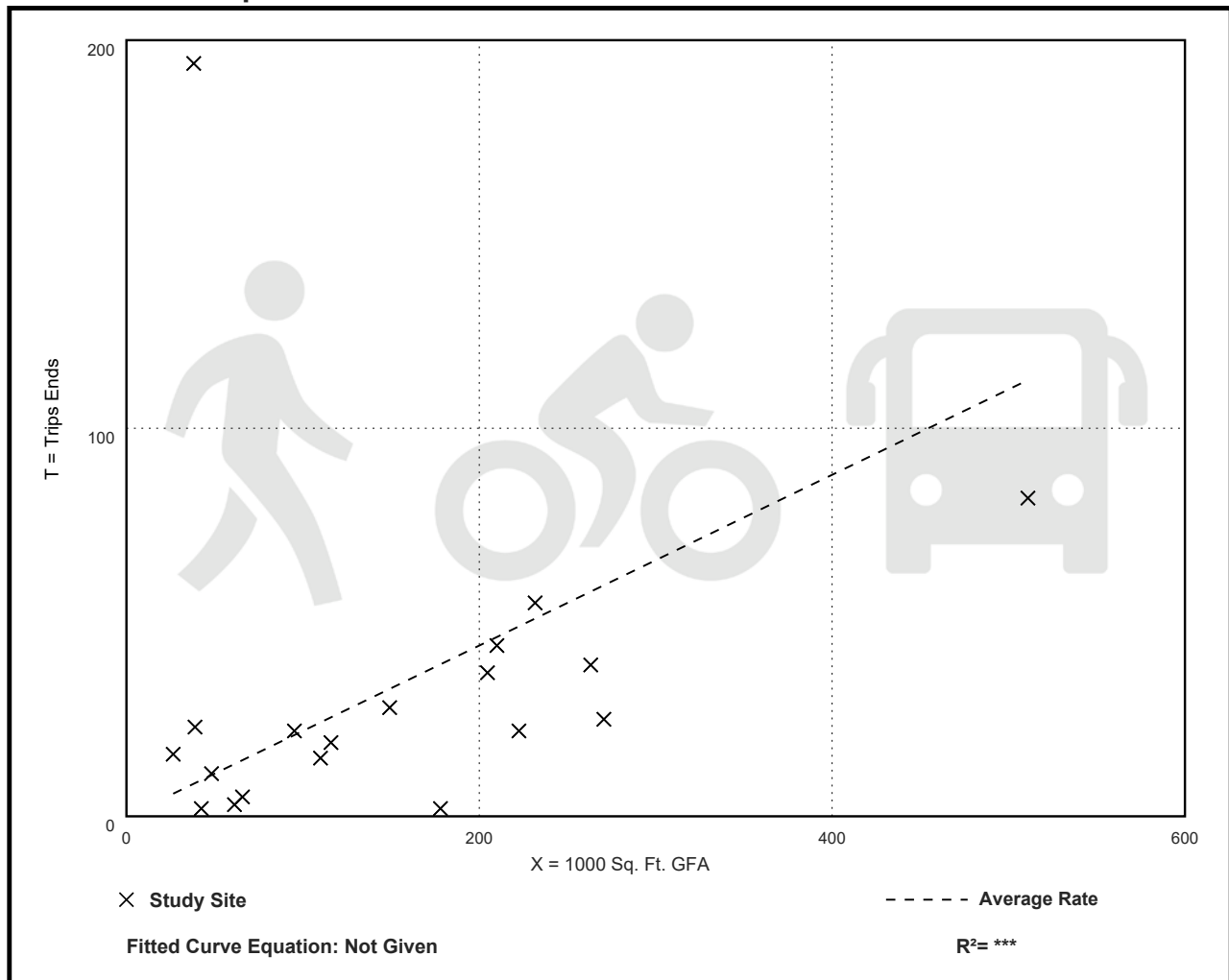
Avg. 1000 Sq. Ft. GFA: 152

Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.22	0.01 - 5.09	0.59

Data Plot and Equation



General Office Building (710)

Walk+Bike+Transit Trip Ends vs: Employees

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 7

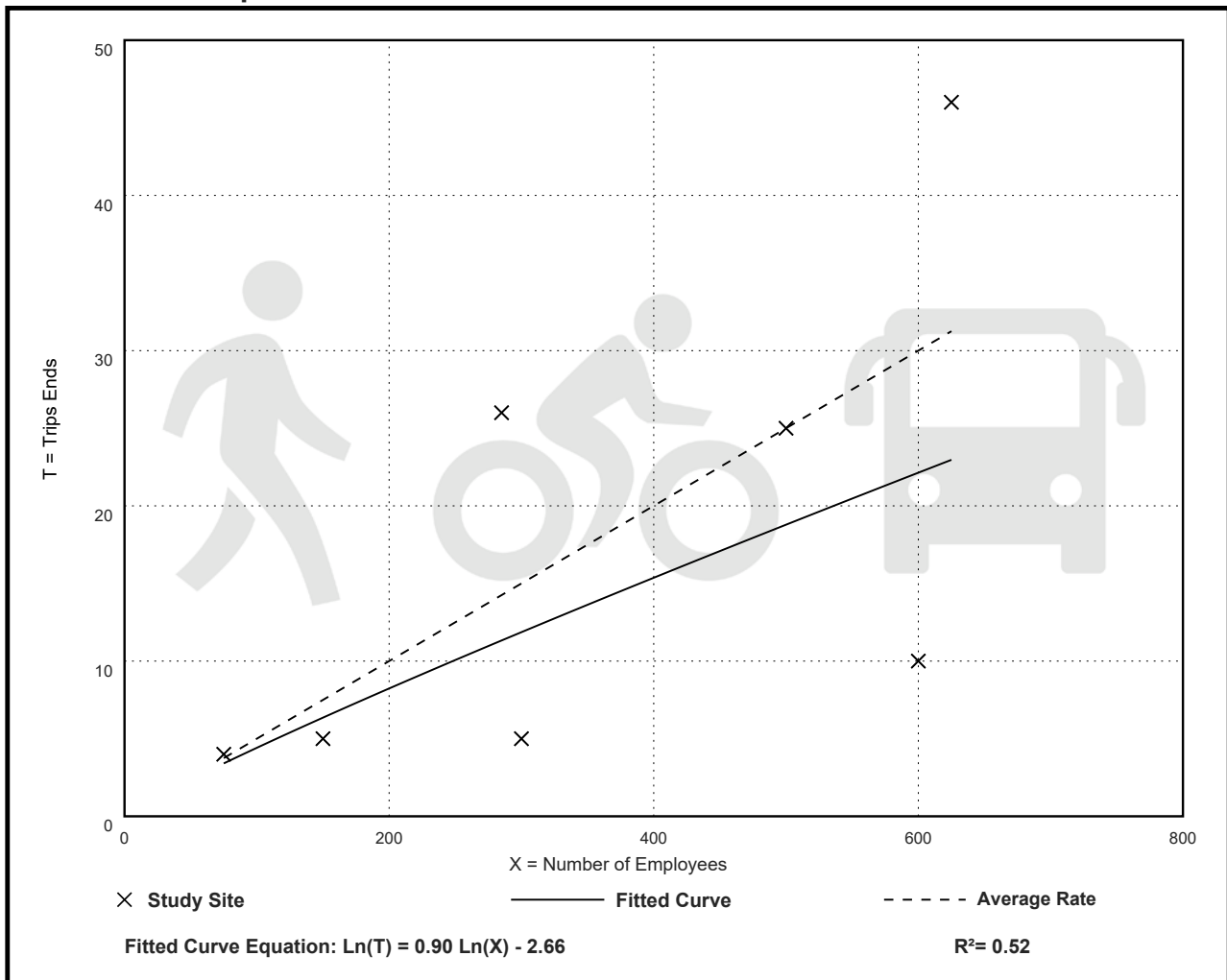
Avg. Num. of Employees: 362

Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.05	0.02 - 0.09	0.03

Data Plot and Equation



General Office Building (710)

Walk+Bike+Transit Trip Ends vs: Employees

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 7

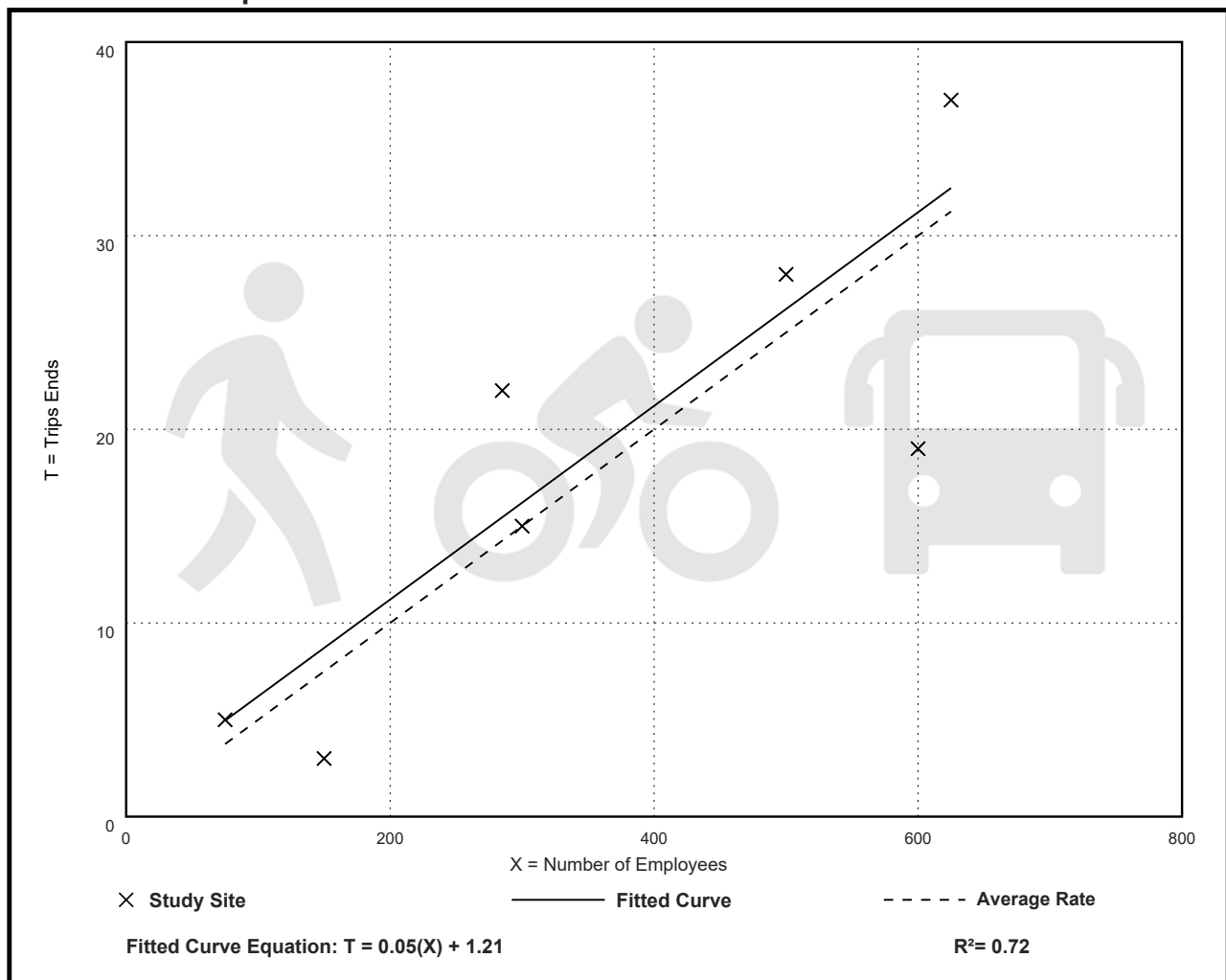
Avg. Num. of Employees: 362

Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.05	0.02 - 0.08	0.02

Data Plot and Equation



Land Use: 720

Medical-Dental Office Building

Description

A medical-dental office building is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility. General office building (Land Use 710) and clinic (Land Use 630) are related uses.

Land Use Subcategory

Analysis of medical-dental office building data found that trip generation rates are measurably different for sites located within or adjacent to a hospital campus and sites that are stand-alone. Data plots are presented for these two land use subcategories.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Connecticut, Kentucky, Maryland, Minnesota, New Jersey, New York, Ohio, Oregon, Pennsylvania, South Dakota, Texas, Virginia, Washington, and Wisconsin.

Source Numbers

104, 109, 120, 157, 184, 209, 211, 253, 287, 294, 295, 304, 357, 384, 404, 407, 423, 444, 509, 601, 715, 867, 879, 901, 902, 908, 959, 972

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

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

Setting/Location: General Urban/Suburban

Number of Studies: 18

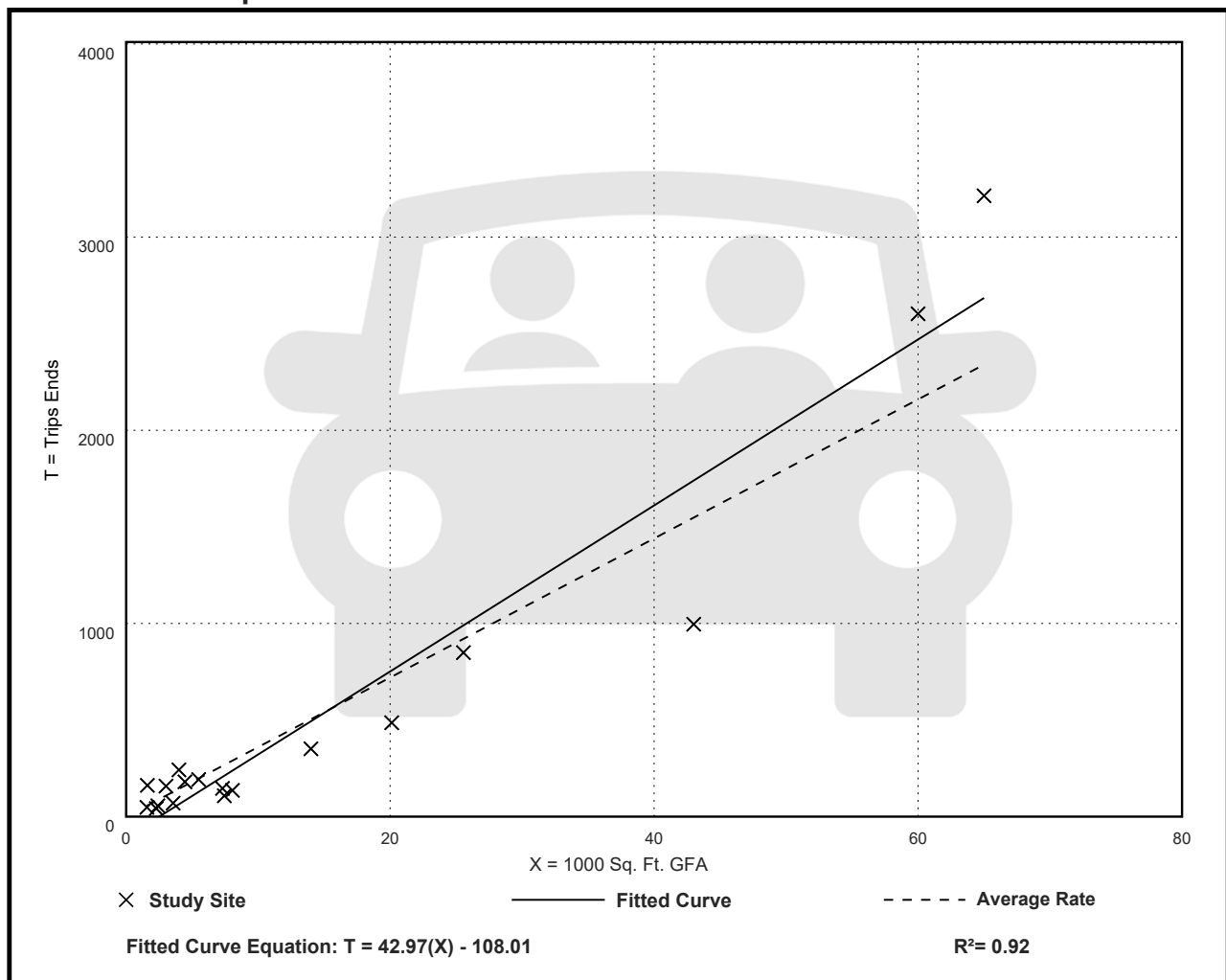
Avg. 1000 Sq. Ft. GFA: 15

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

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

Data Plot and Equation



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

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 24

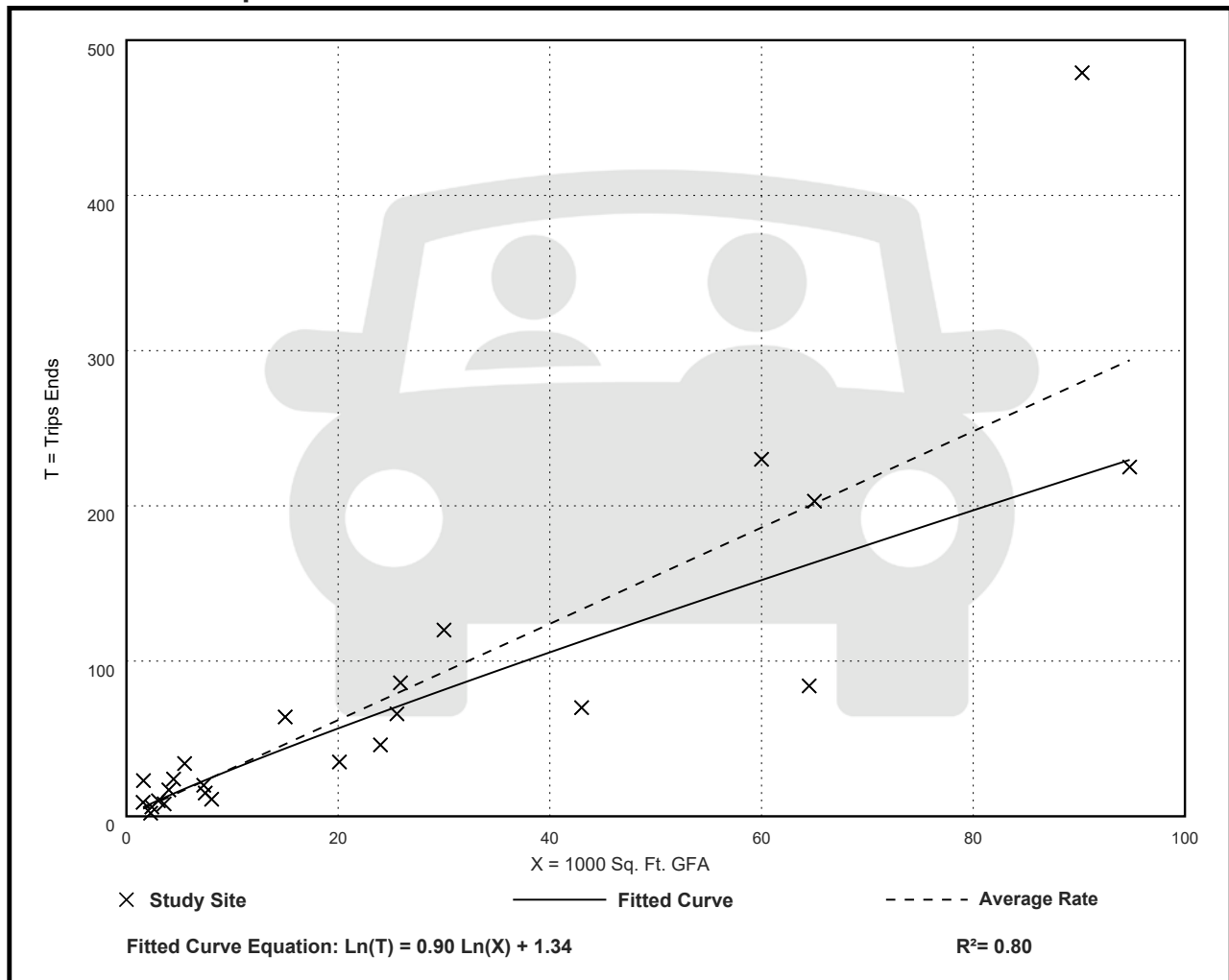
Avg. 1000 Sq. Ft. GFA: 25

Directional Distribution: 79% entering, 21% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

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

Data Plot and Equation



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

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 30

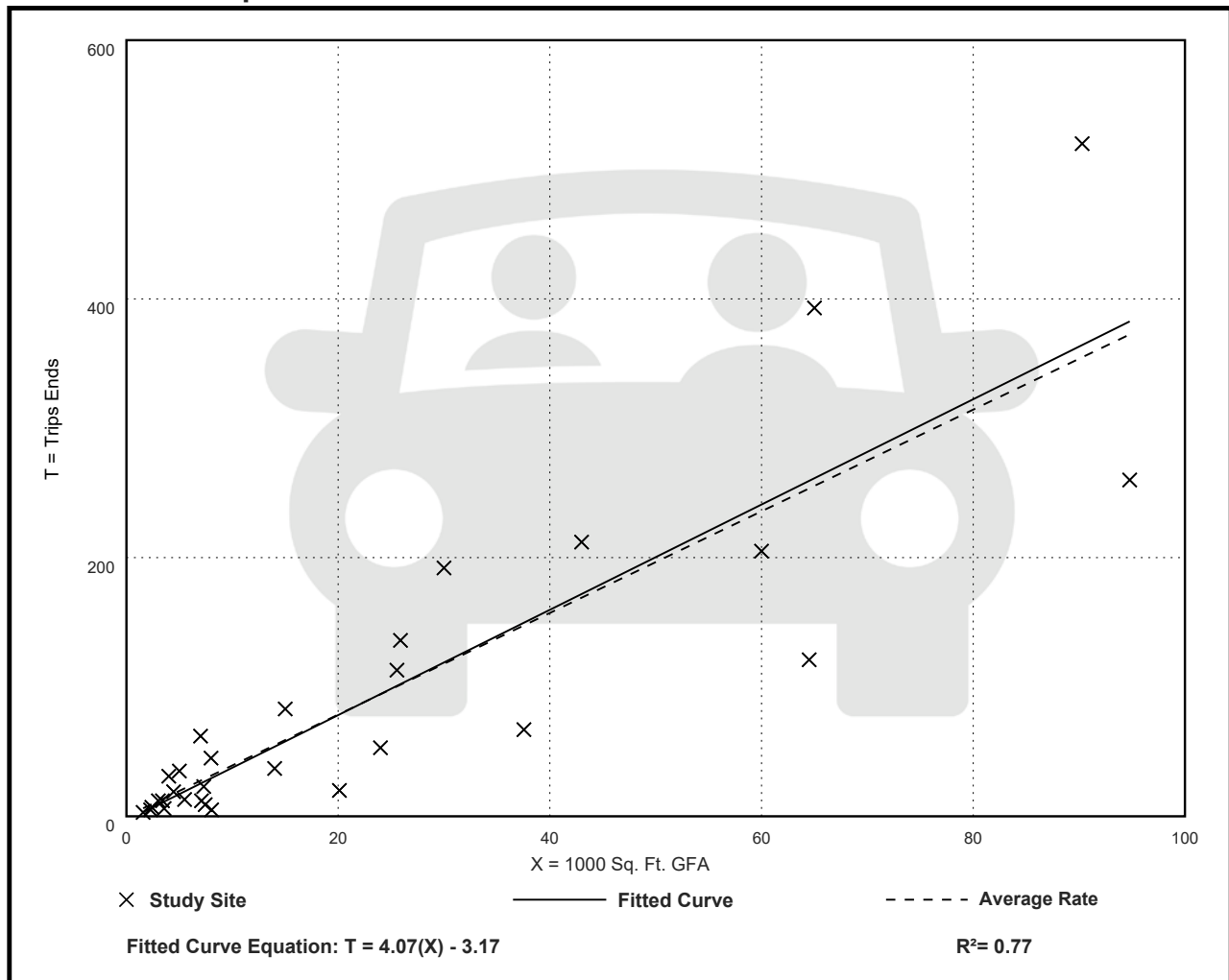
Avg. 1000 Sq. Ft. GFA: 23

Directional Distribution: 30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

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

Data Plot and Equation



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

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 21

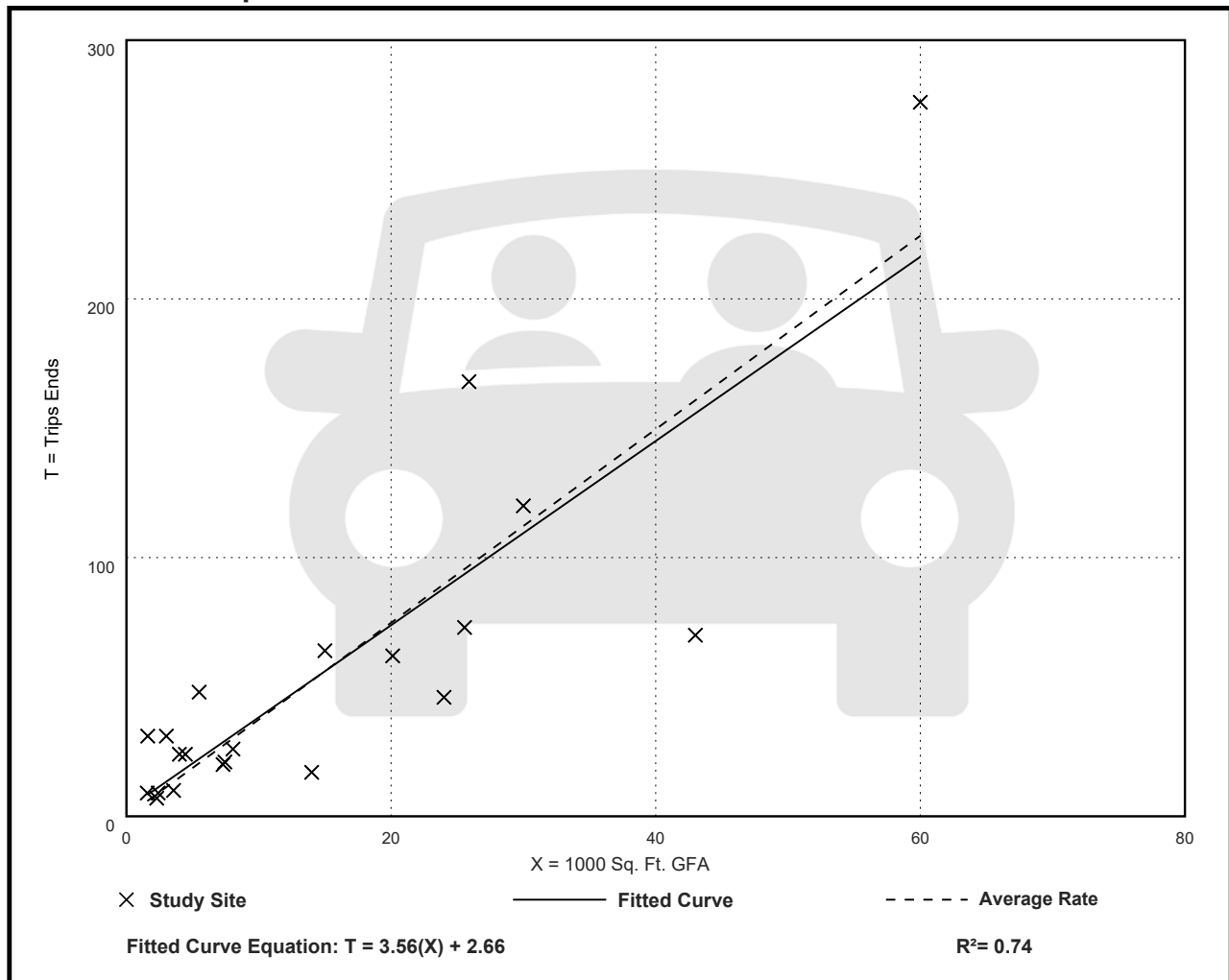
Avg. 1000 Sq. Ft. GFA: 15

Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.74	1.21 - 19.28	2.14

Data Plot and Equation



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

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 22

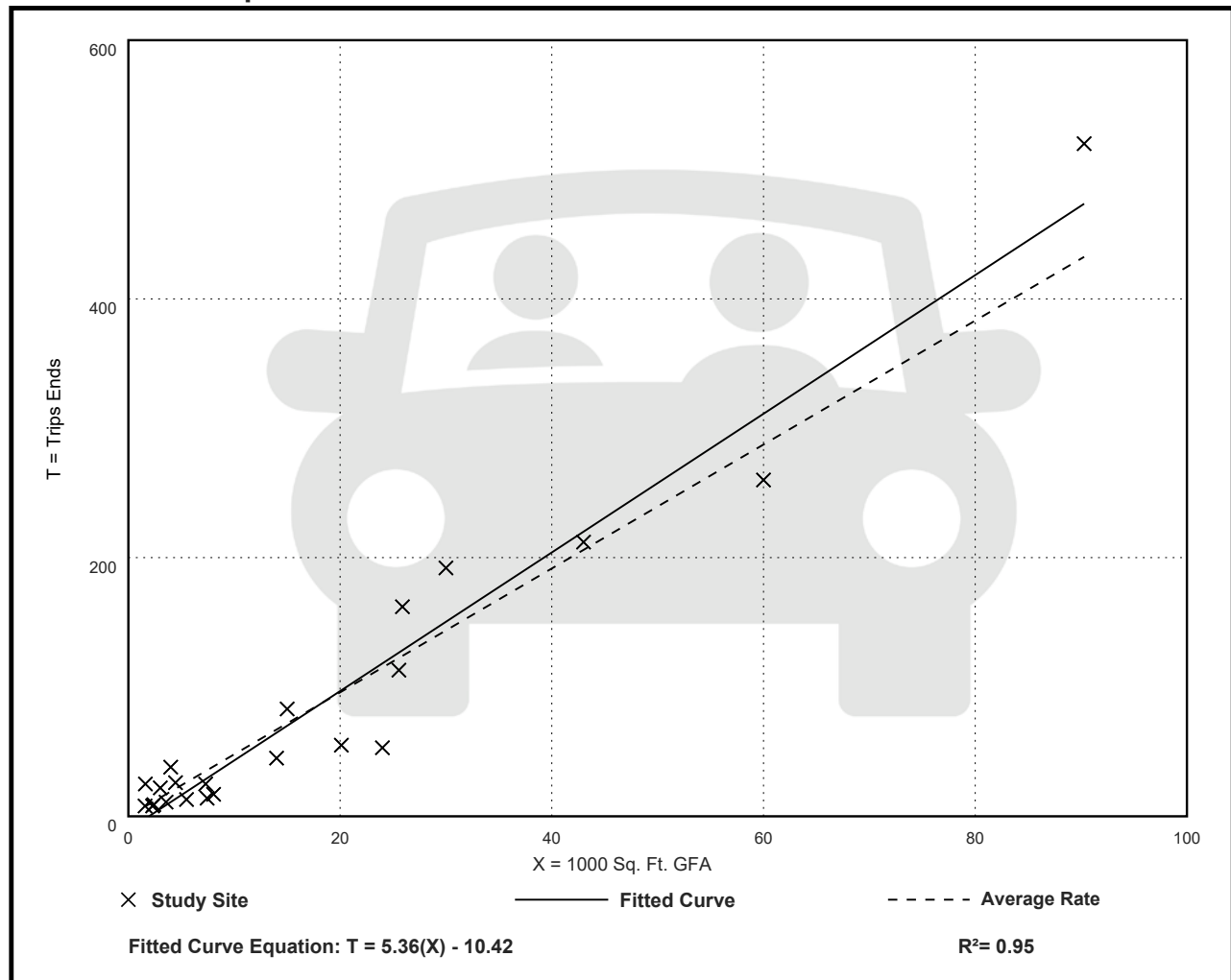
Avg. 1000 Sq. Ft. GFA: 18

Directional Distribution: 40% entering, 60% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.79	1.88 - 15.55	1.62

Data Plot and Equation



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

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday

Setting/Location: General Urban/Suburban

Number of Studies: 3

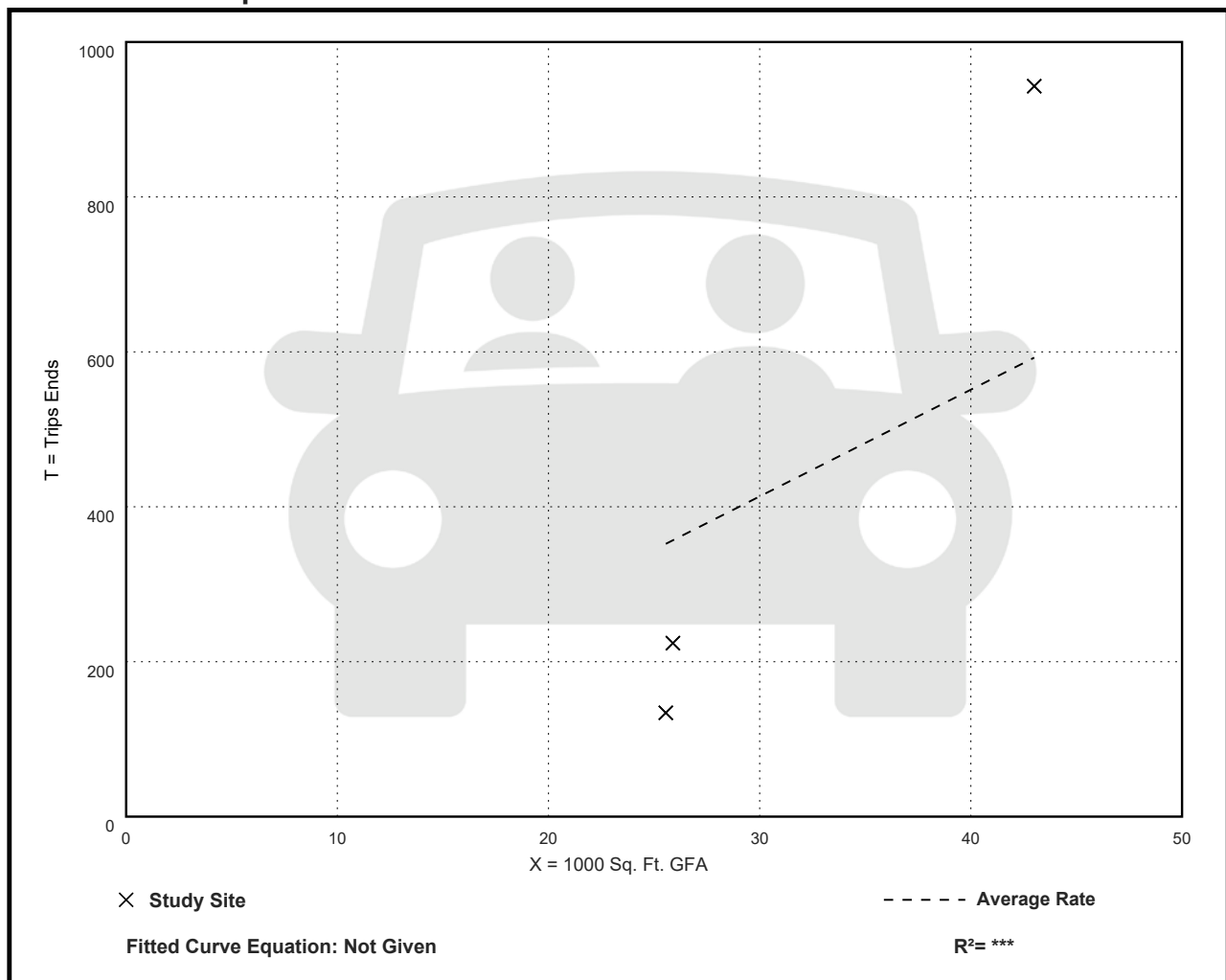
Avg. 1000 Sq. Ft. GFA: 31

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
13.78	5.24 - 21.93	9.26

Data Plot and Equation



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

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. 1000 Sq. Ft. GFA: 34

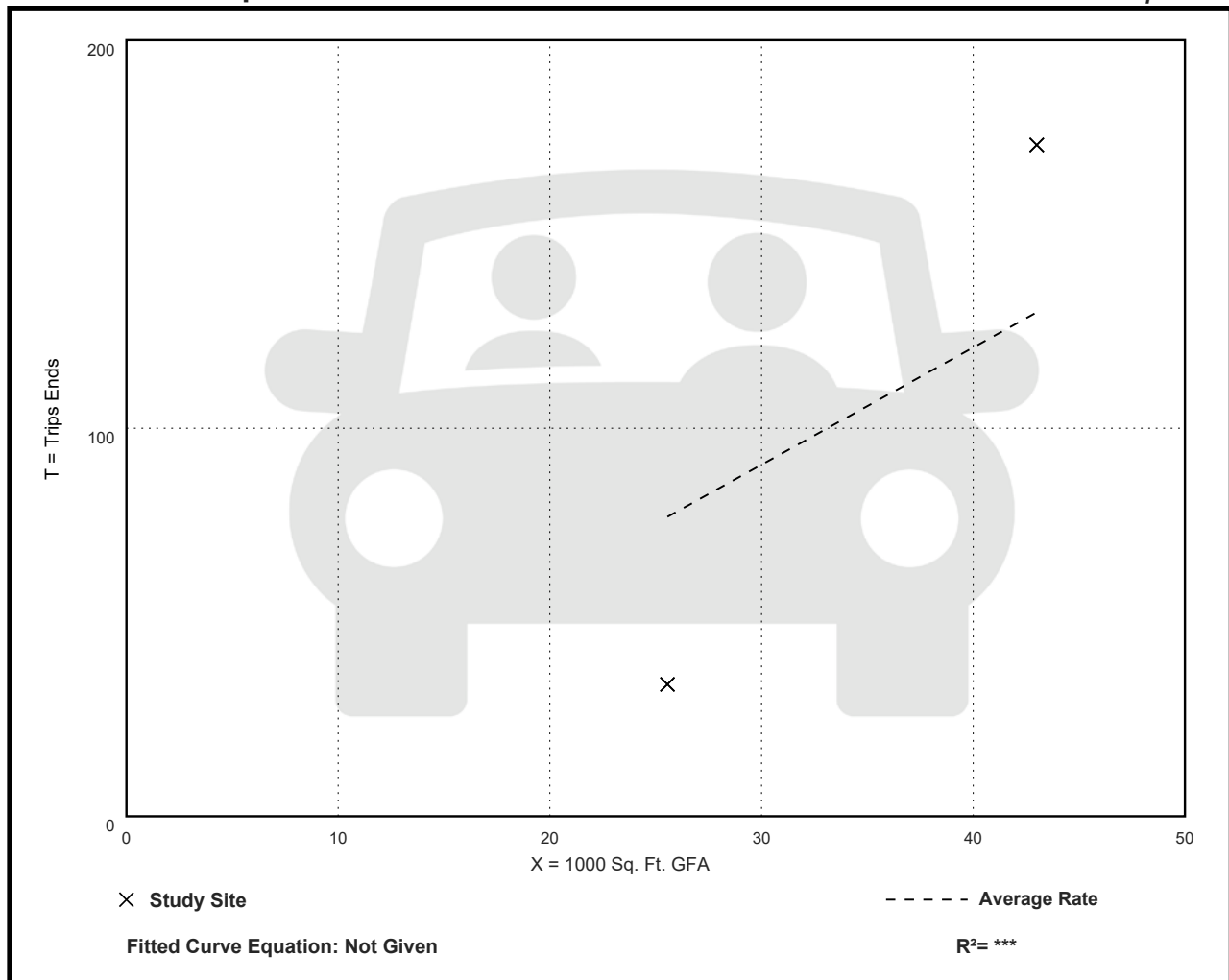
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.02	1.33 - 4.02	***

Data Plot and Equation

Caution – Small Sample Size



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

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Sunday

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. 1000 Sq. Ft. GFA: 34

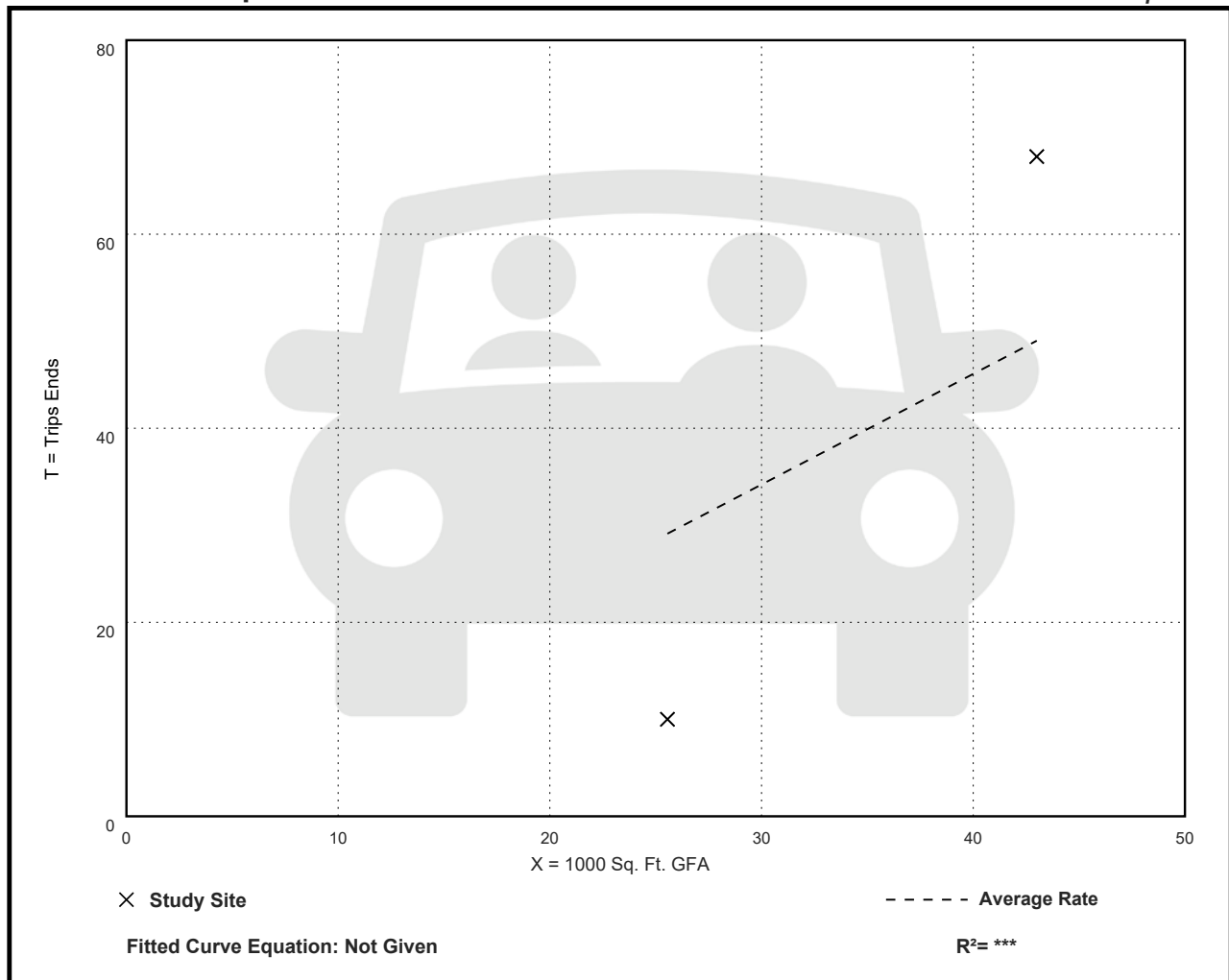
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.14	0.39 - 1.58	***

Data Plot and Equation

Caution – Small Sample Size



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

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Sunday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. 1000 Sq. Ft. GFA: 34

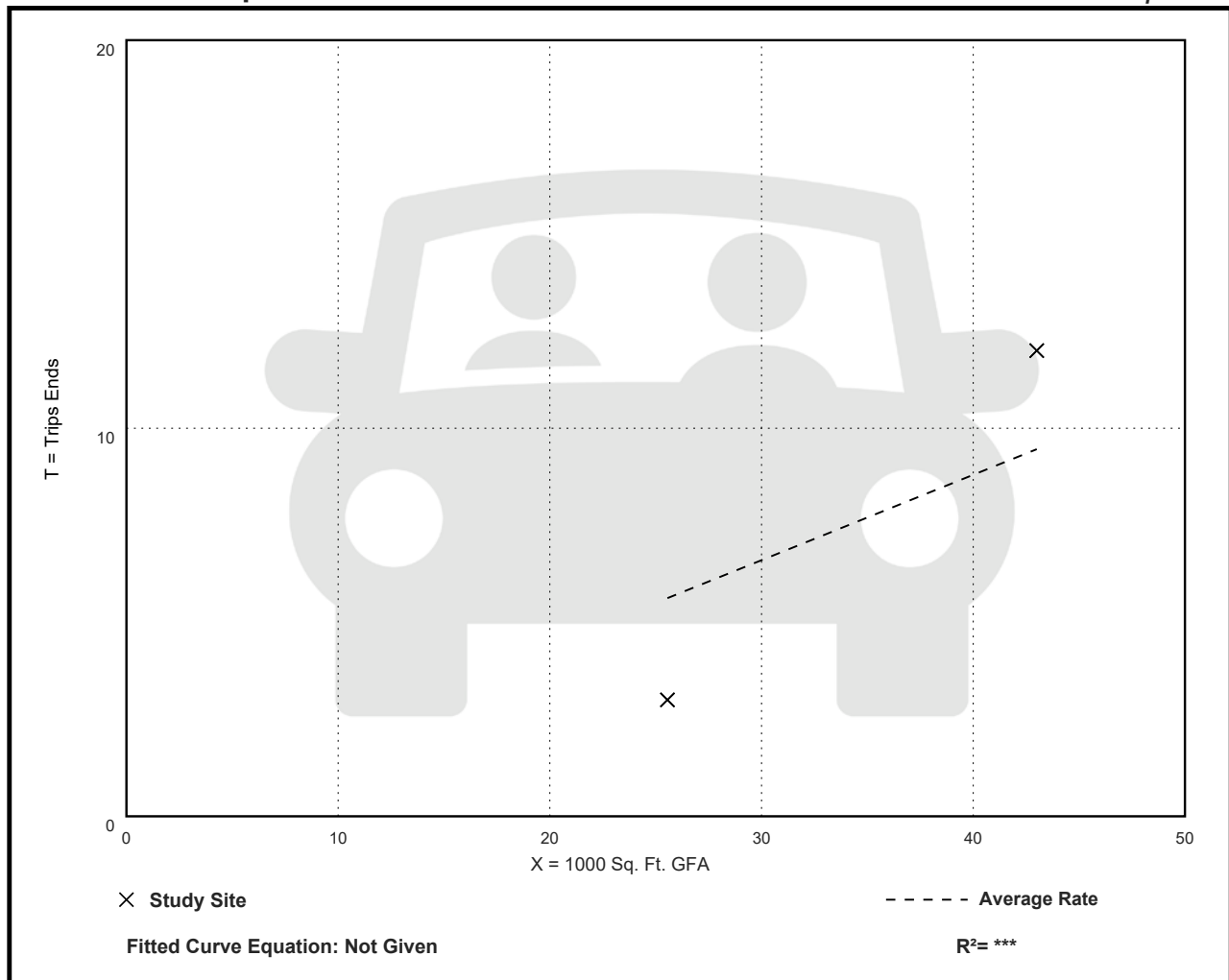
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.22	0.12 - 0.28	***

Data Plot and Equation

Caution – Small Sample Size



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

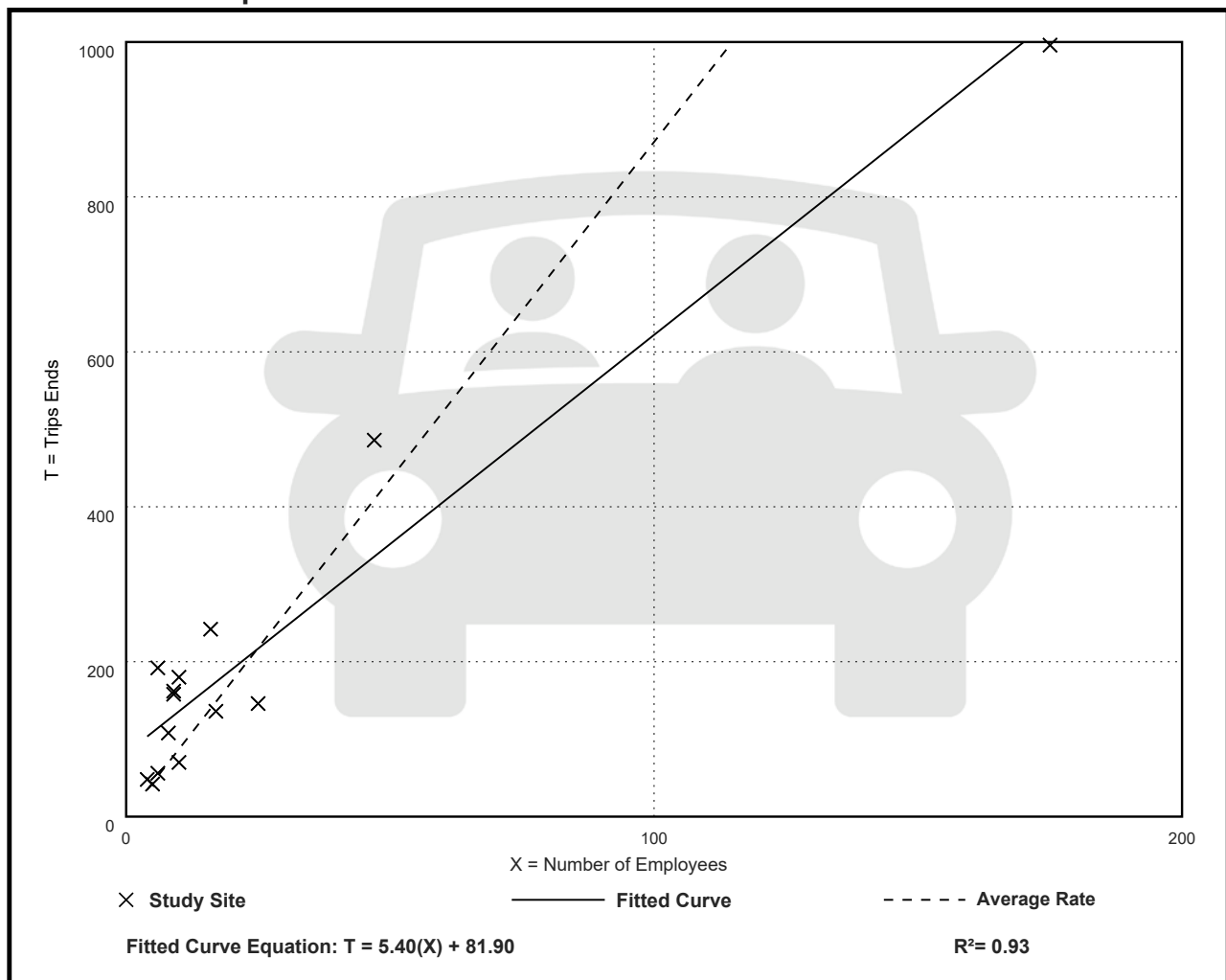
Vehicle Trip Ends vs: Employees
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 14
Avg. Num. of Employees: 25
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
8.71	5.69 - 32.00	5.12

Data Plot and Equation



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

Vehicle Trip Ends vs: Employees

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 16

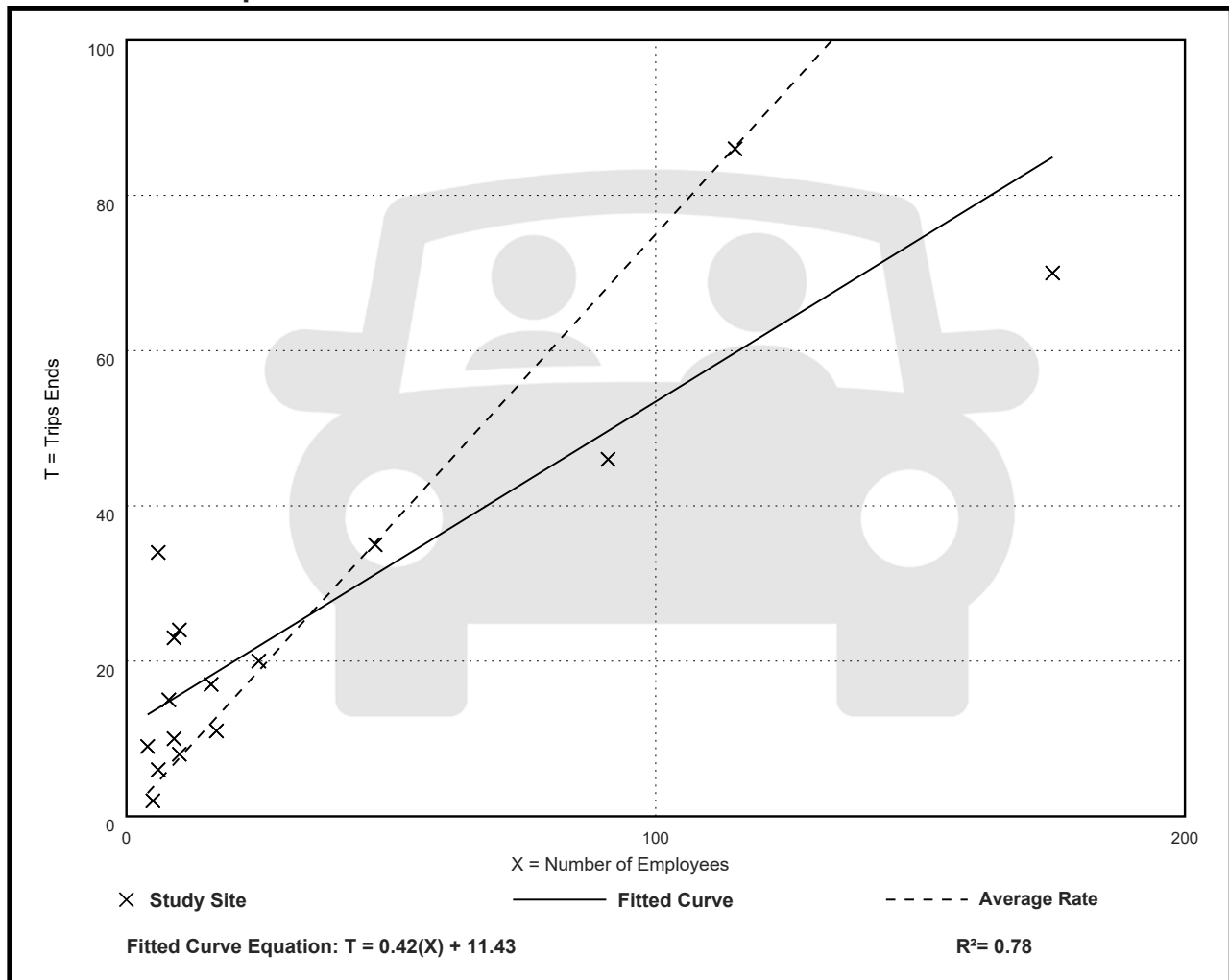
Avg. Num. of Employees: 35

Directional Distribution: 74% entering, 26% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.75	0.40 - 5.67	0.70

Data Plot and Equation



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

Vehicle Trip Ends vs: Employees

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 15

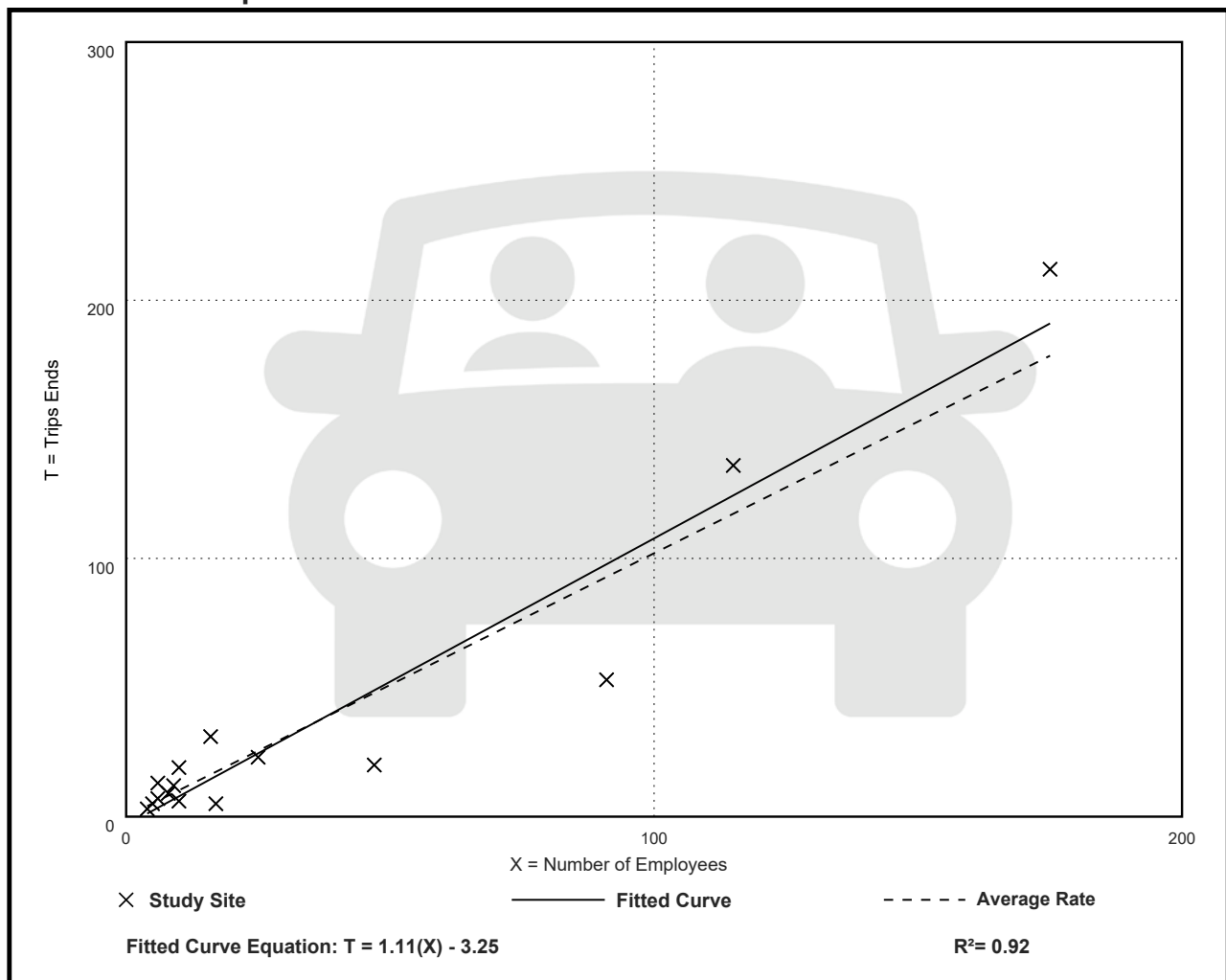
Avg. Num. of Employees: 36

Directional Distribution: 37% entering, 63% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.02	0.29 - 2.17	0.41

Data Plot and Equation



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

Vehicle Trip Ends vs: Employees

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 16

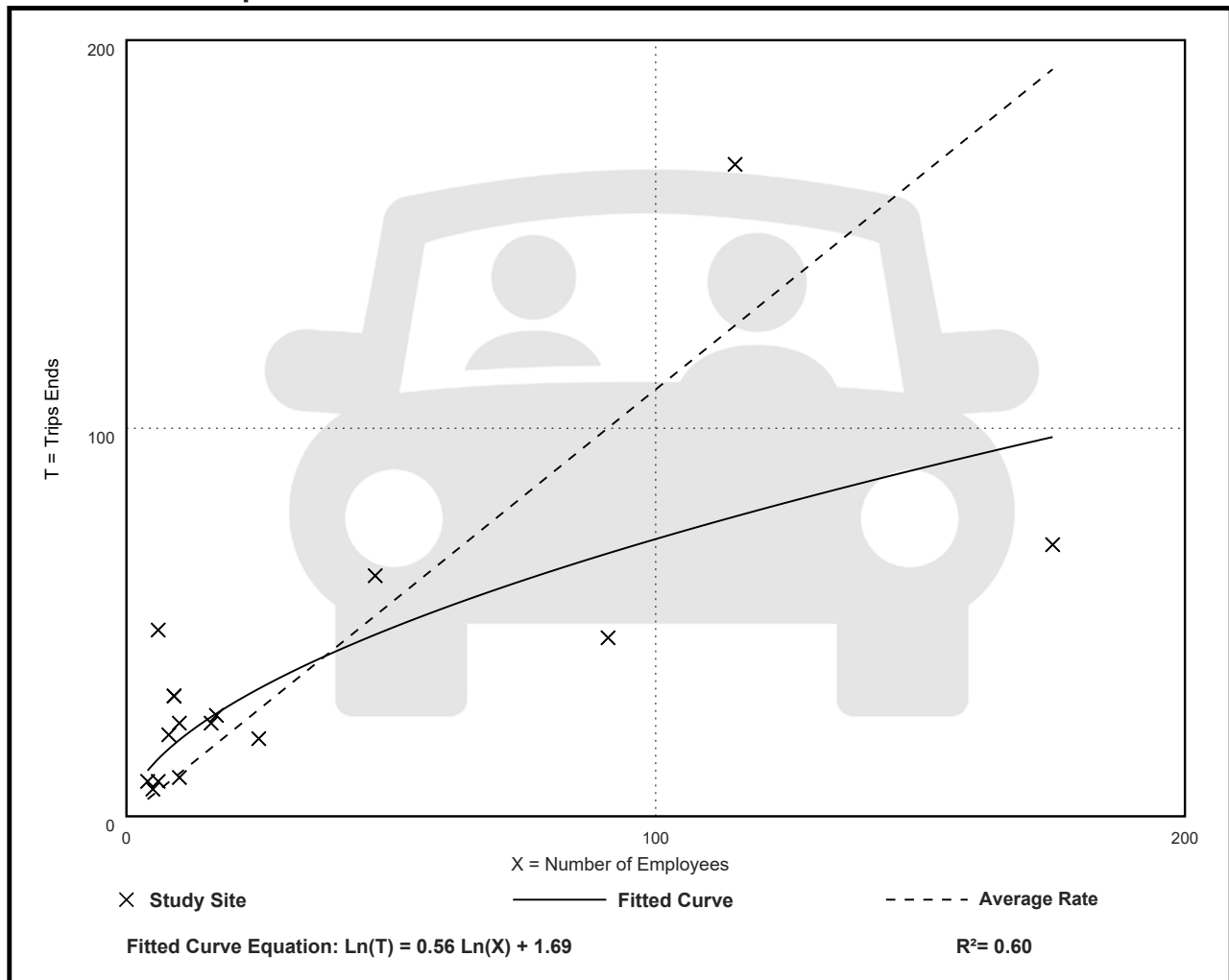
Avg. Num. of Employees: 35

Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.10	0.40 - 8.00	1.05

Data Plot and Equation



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

Vehicle Trip Ends vs: Employees

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 16

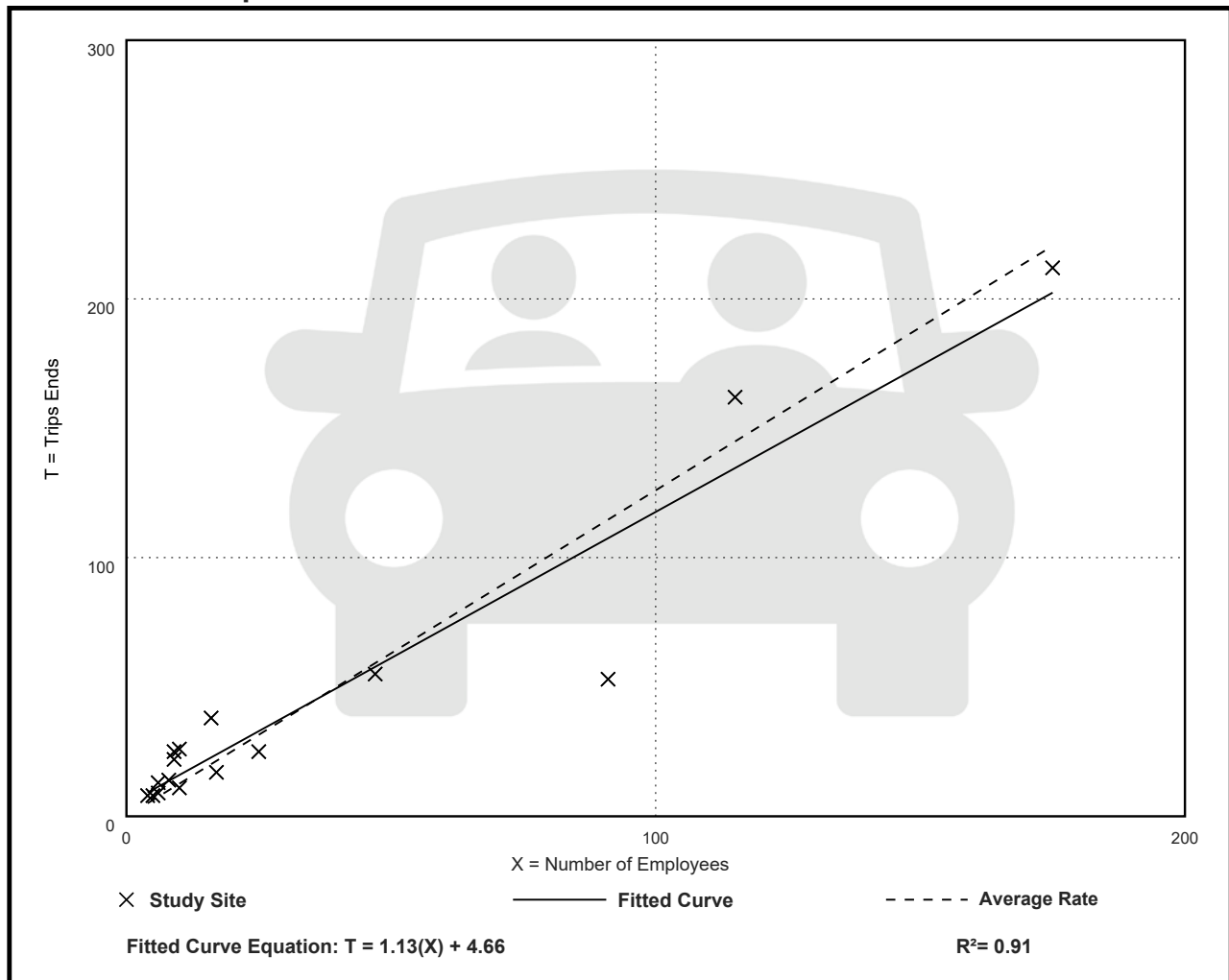
Avg. Num. of Employees: 35

Directional Distribution: 44% entering, 56% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.26	0.58 - 2.78	0.50

Data Plot and Equation



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

Vehicle Trip Ends vs: Employees

On a: Saturday

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Employees: 145

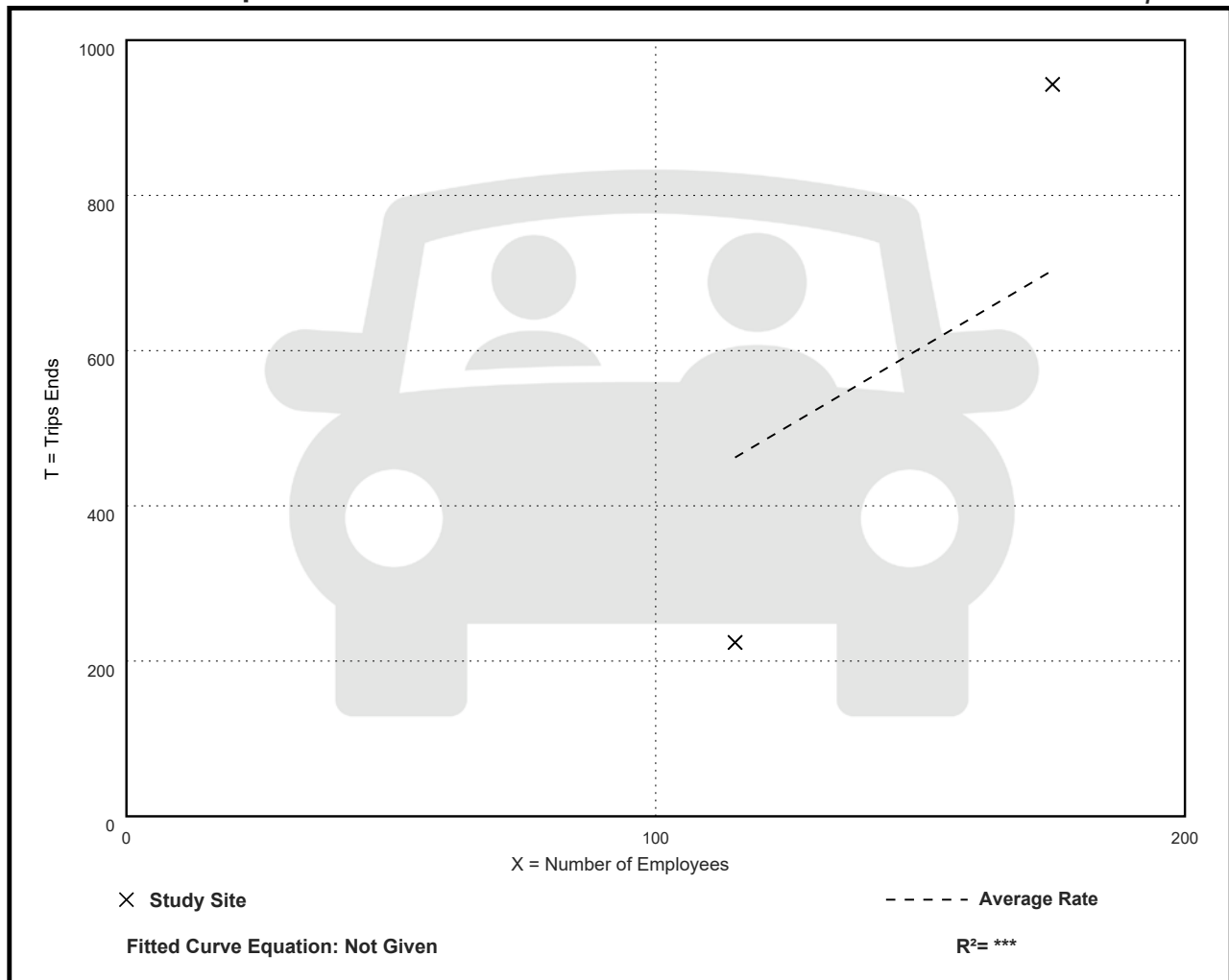
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
4.02	1.95 - 5.39	***

Data Plot and Equation

Caution – Small Sample Size



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

Vehicle Trip Ends vs: Employees

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Employees: 175

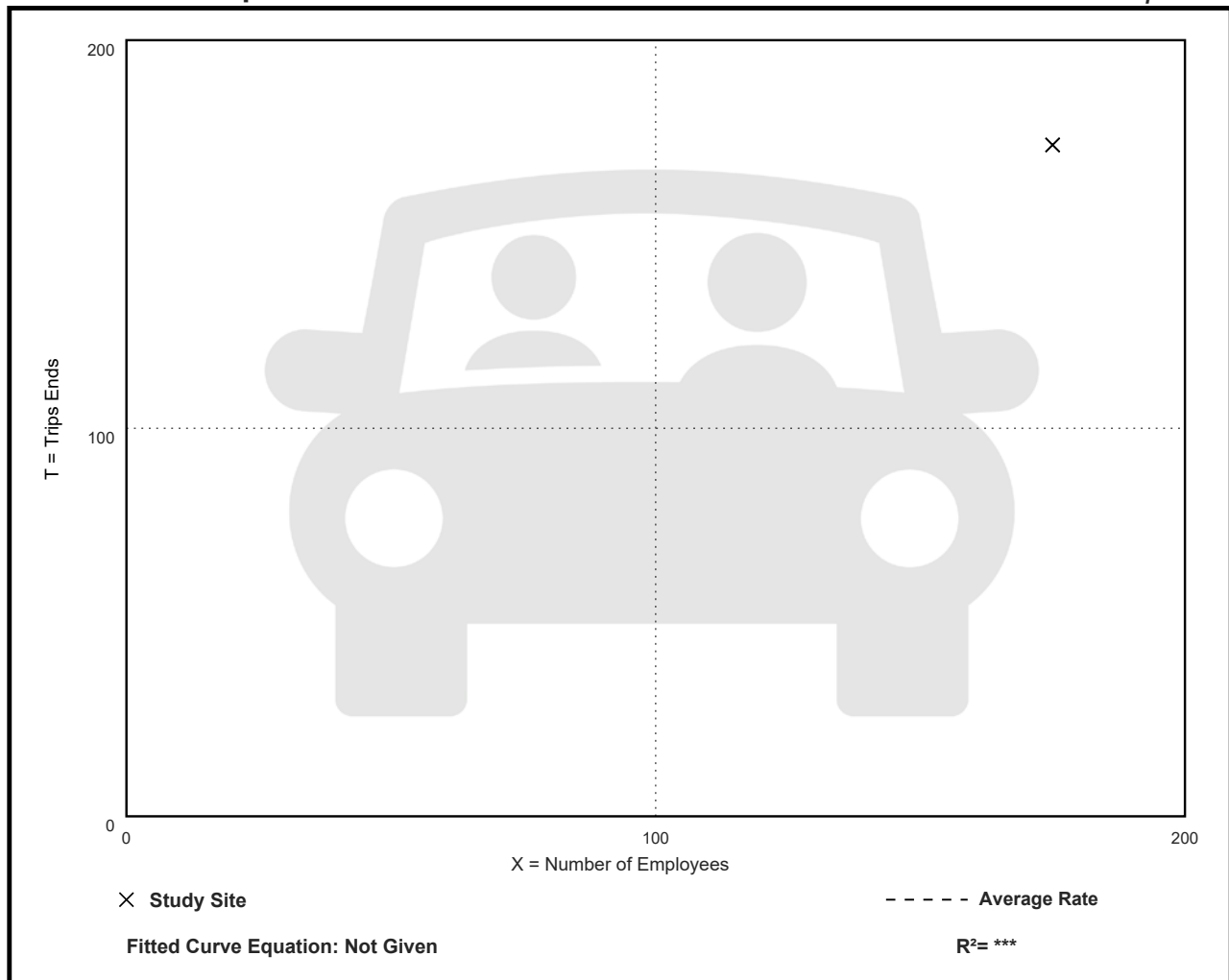
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.99	0.99 - 0.99	***

Data Plot and Equation

Caution – Small Sample Size



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

Vehicle Trip Ends vs: Employees

On a: Sunday

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Employees: 175

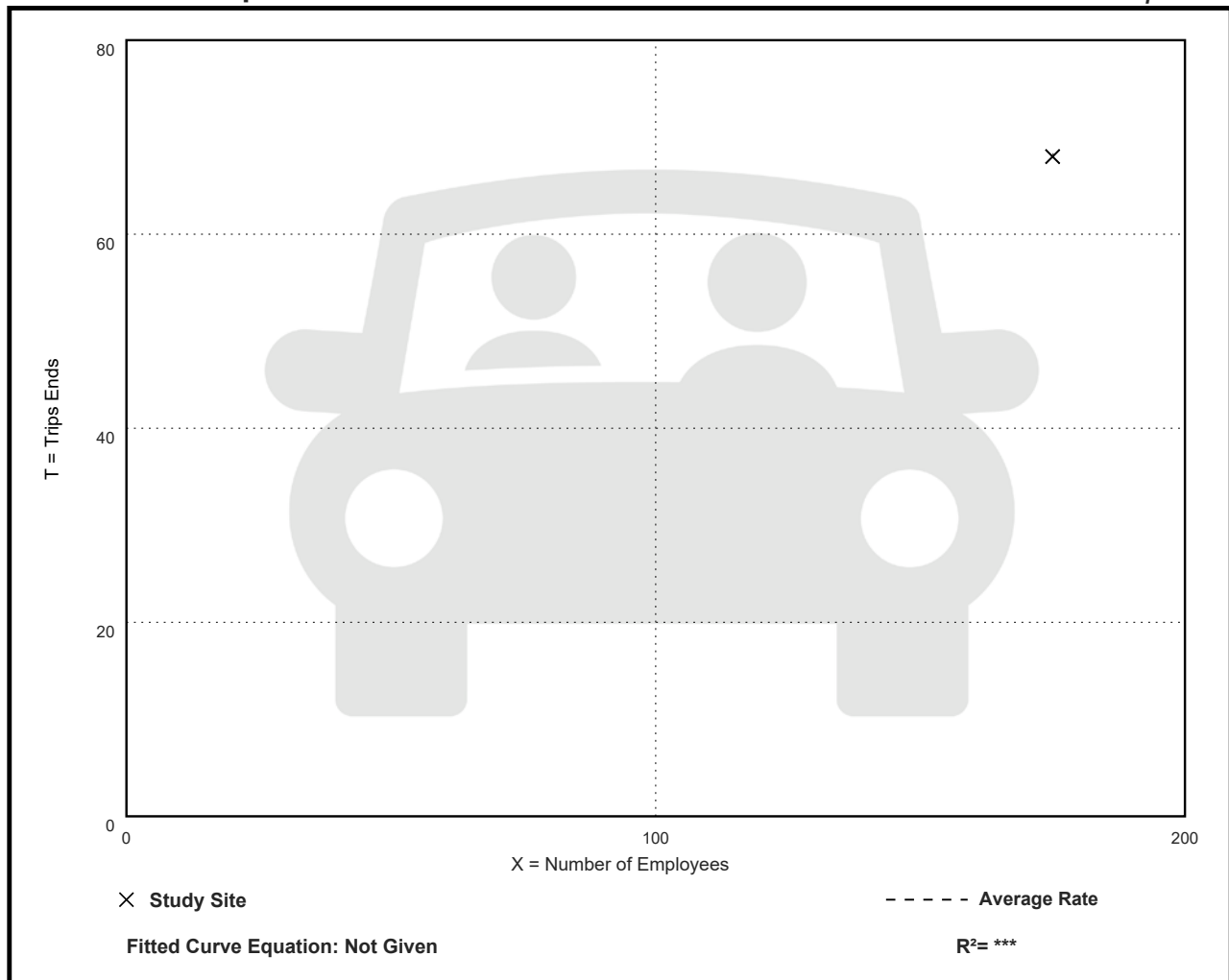
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.39	0.39 - 0.39	***

Data Plot and Equation

Caution – Small Sample Size



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

Vehicle Trip Ends vs: Employees

On a: Sunday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Employees: 175

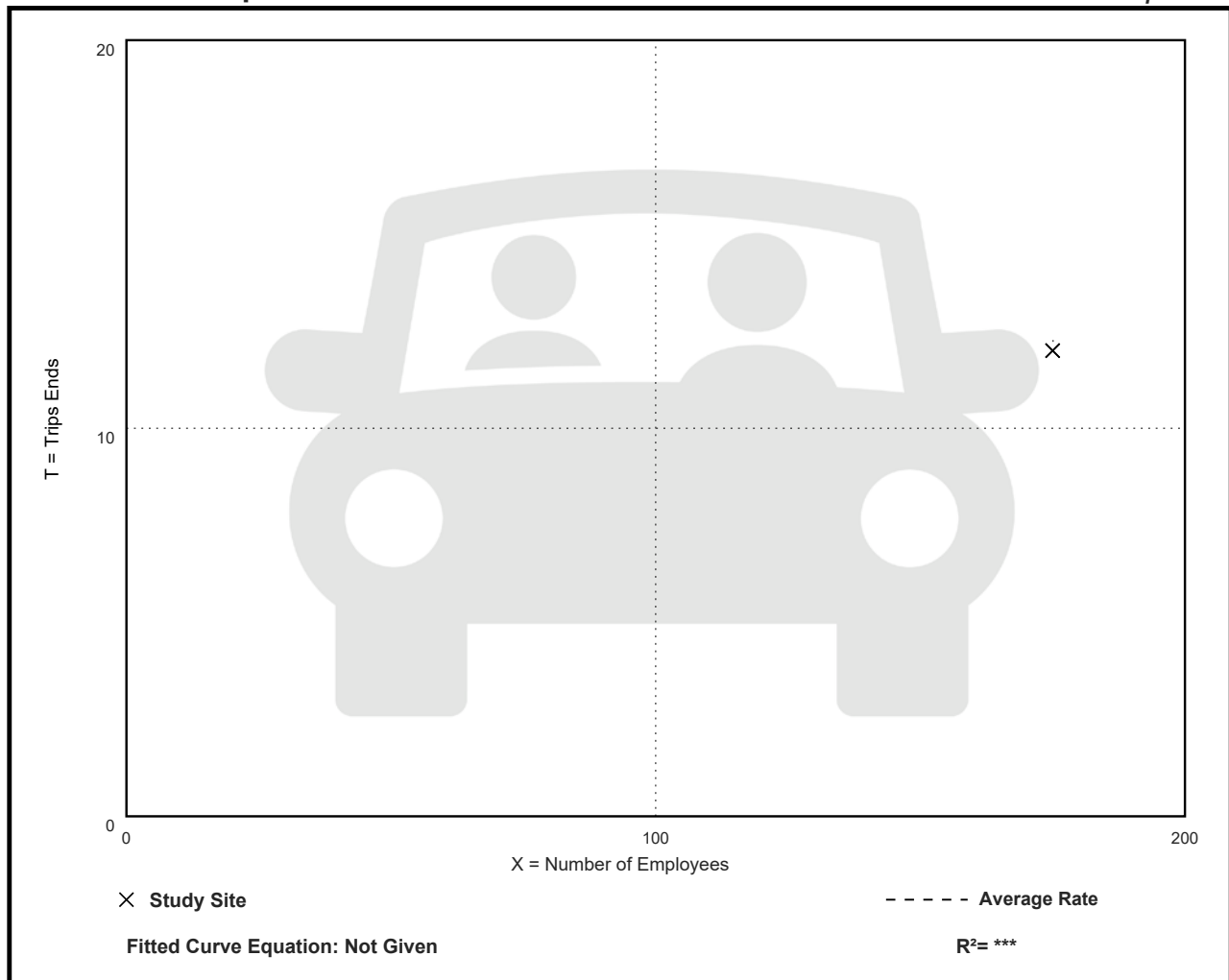
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.07	0.07 - 0.07	***

Data Plot and Equation

Caution – Small Sample Size



Medical-Dental Office Building Within/Near Hospital Campus (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 6

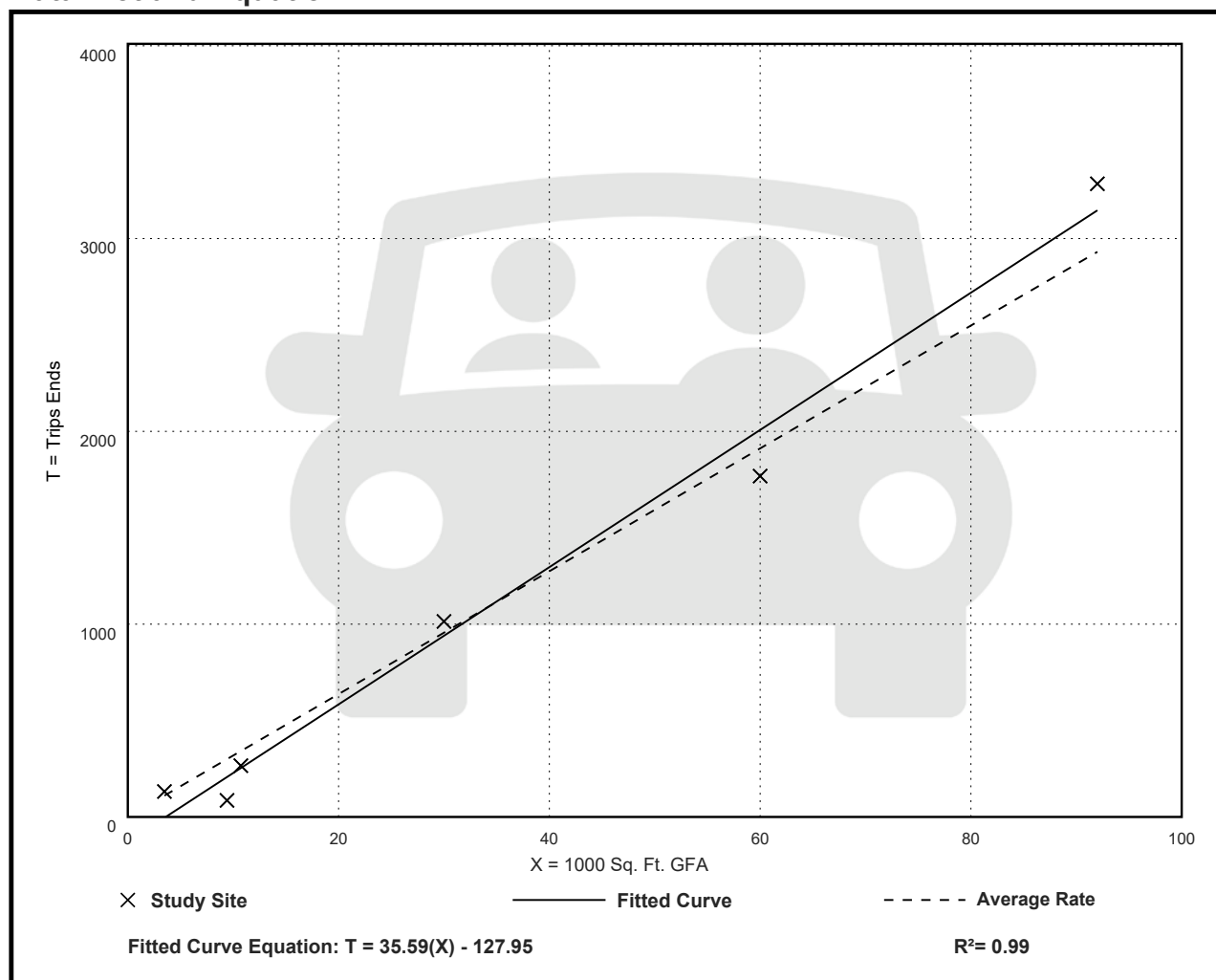
Avg. 1000 Sq. Ft. GFA: 34

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
31.86	9.14 - 37.99	6.54

Data Plot and Equation



Medical-Dental Office Building Within/Near Hospital Campus (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 8

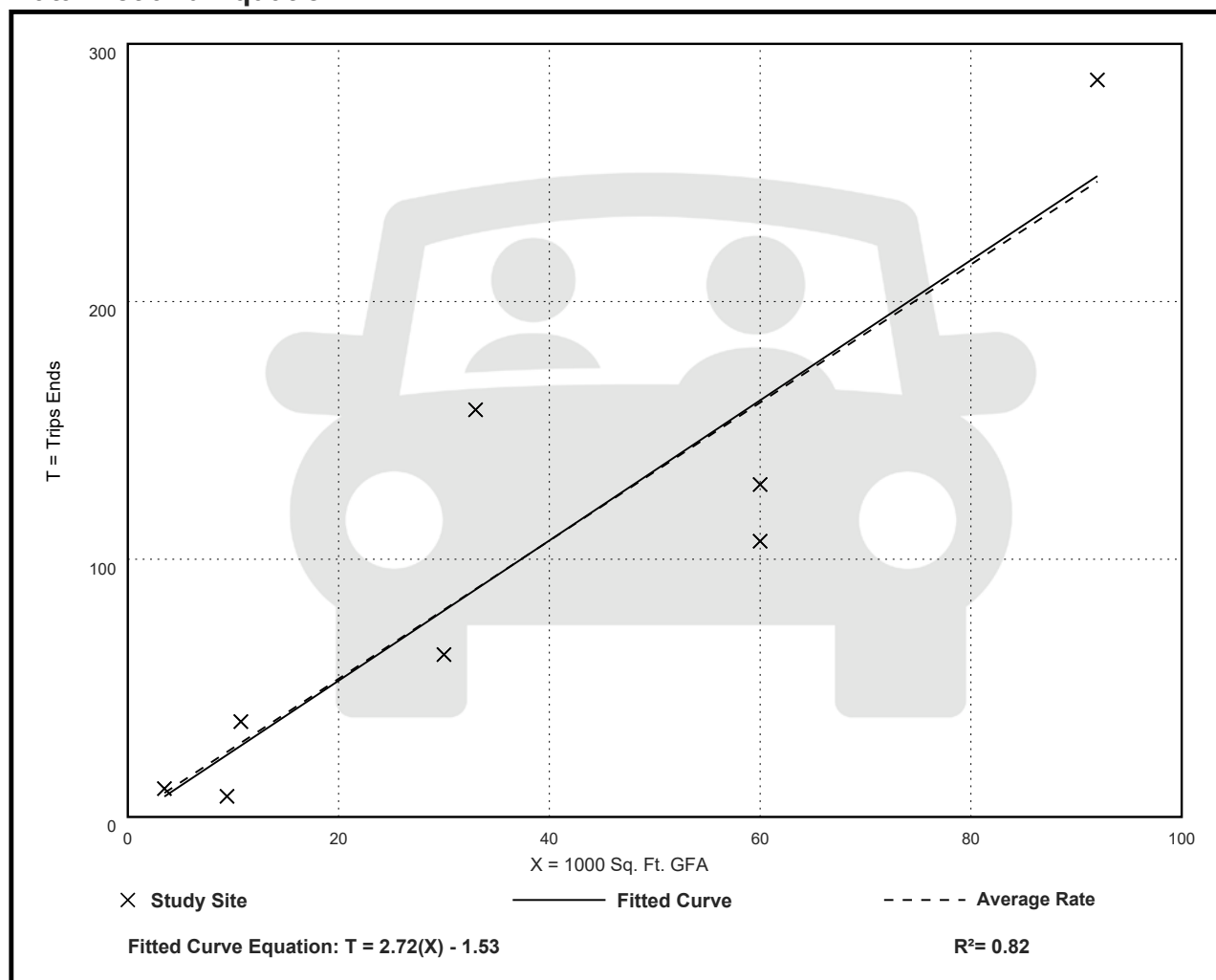
Avg. 1000 Sq. Ft. GFA: 37

Directional Distribution: 81% entering, 19% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.68	0.85 - 4.79	1.03

Data Plot and Equation



Medical-Dental Office Building Within/Near Hospital Campus (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 10

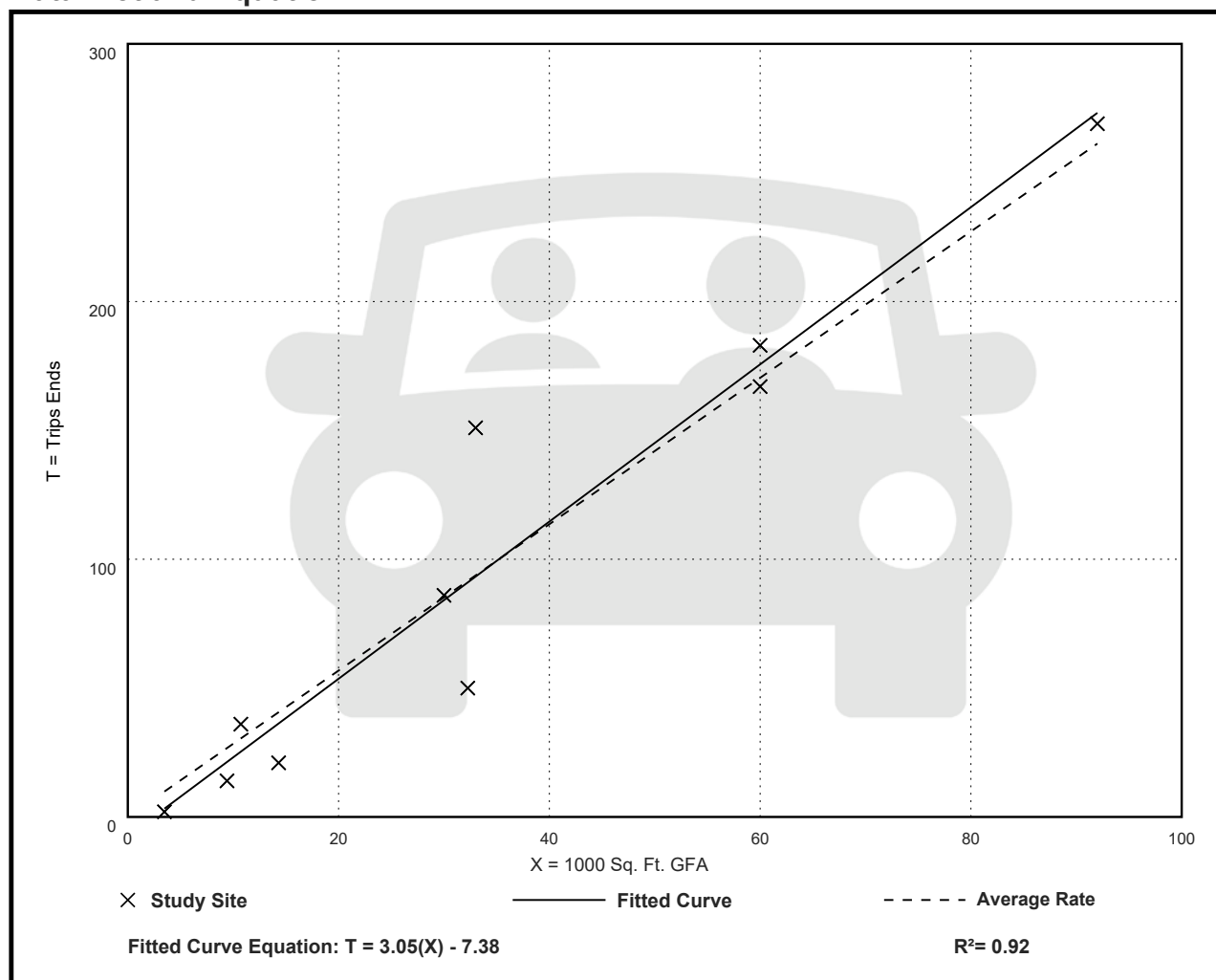
Avg. 1000 Sq. Ft. GFA: 35

Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.84	0.58 - 4.58	0.84

Data Plot and Equation



Medical-Dental Office Building Within/Near Hospital Campus (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 8

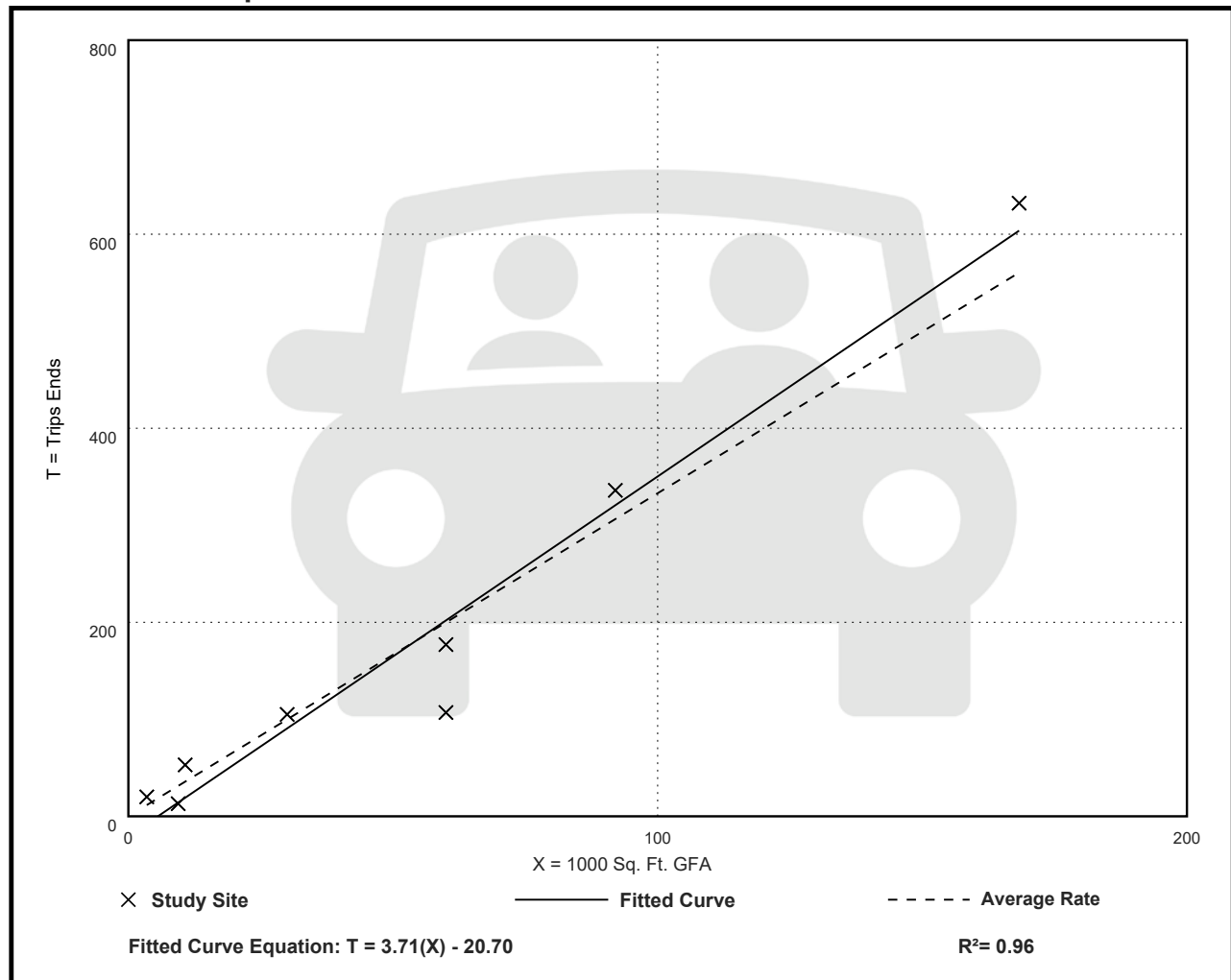
Avg. 1000 Sq. Ft. GFA: 54

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.33	1.38 - 5.76	0.85

Data Plot and Equation



Medical-Dental Office Building Within/Near Hospital Campus (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 8

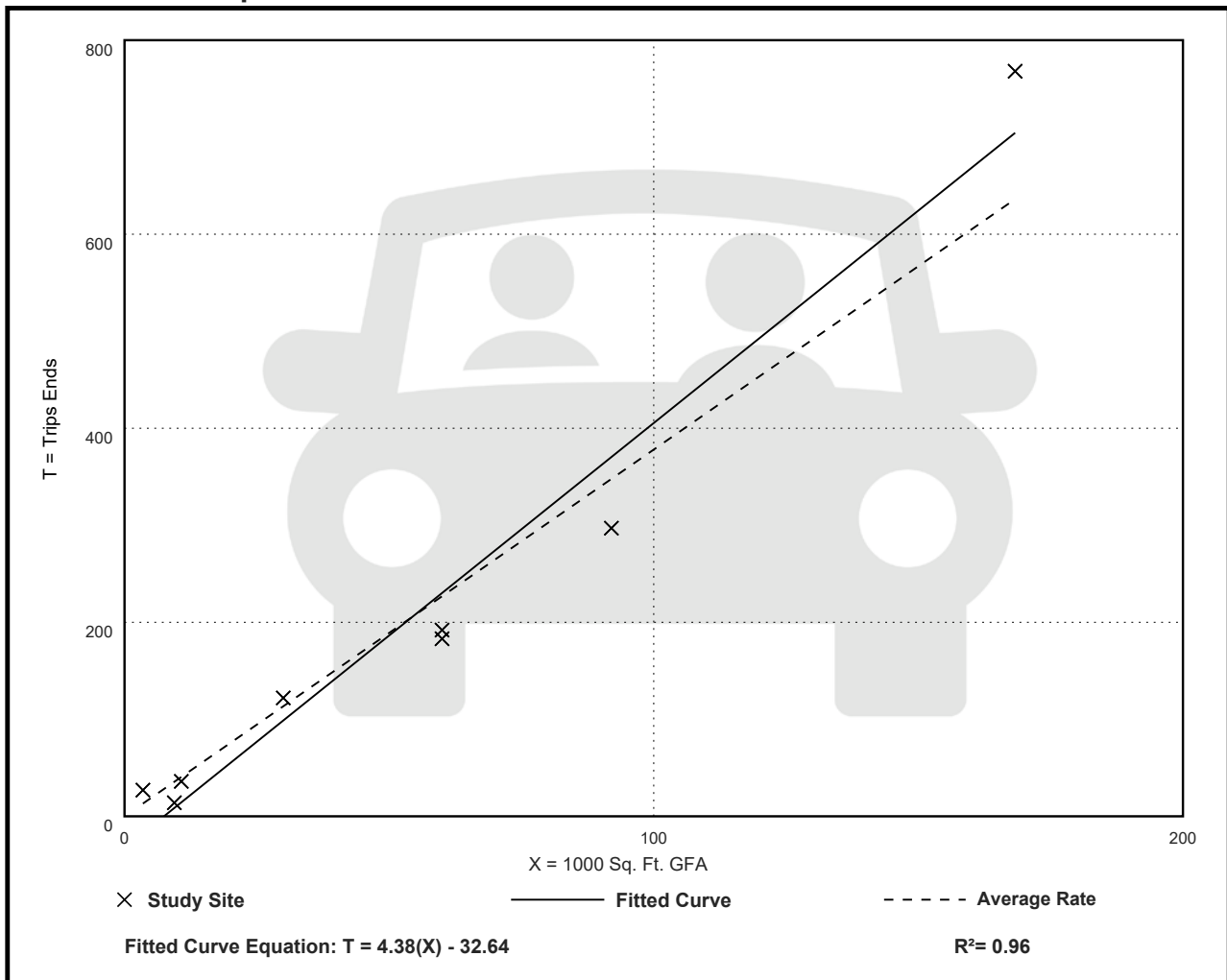
Avg. 1000 Sq. Ft. GFA: 54

Directional Distribution: 39% entering, 61% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.78	1.49 - 7.77	0.88

Data Plot and Equation



Medical-Dental Office Building Within/Near Hospital Campus (720)

Vehicle Trip Ends vs: Employees

On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 3

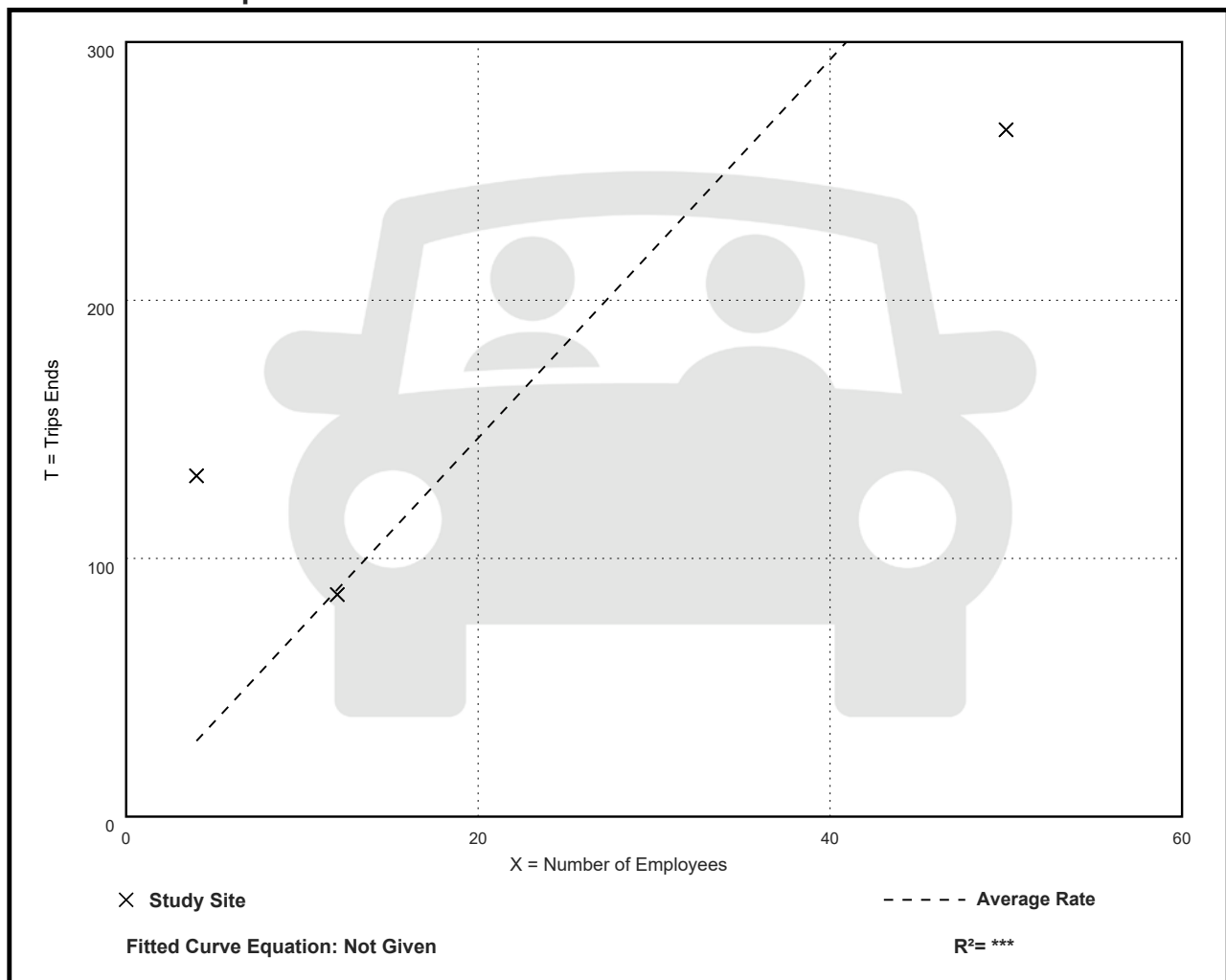
Avg. Num. of Employees: 22

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
7.33	5.32 - 33.00	8.03

Data Plot and Equation



Medical-Dental Office Building Within/Near Hospital Campus (720)

Vehicle Trip Ends vs: Employees

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 4

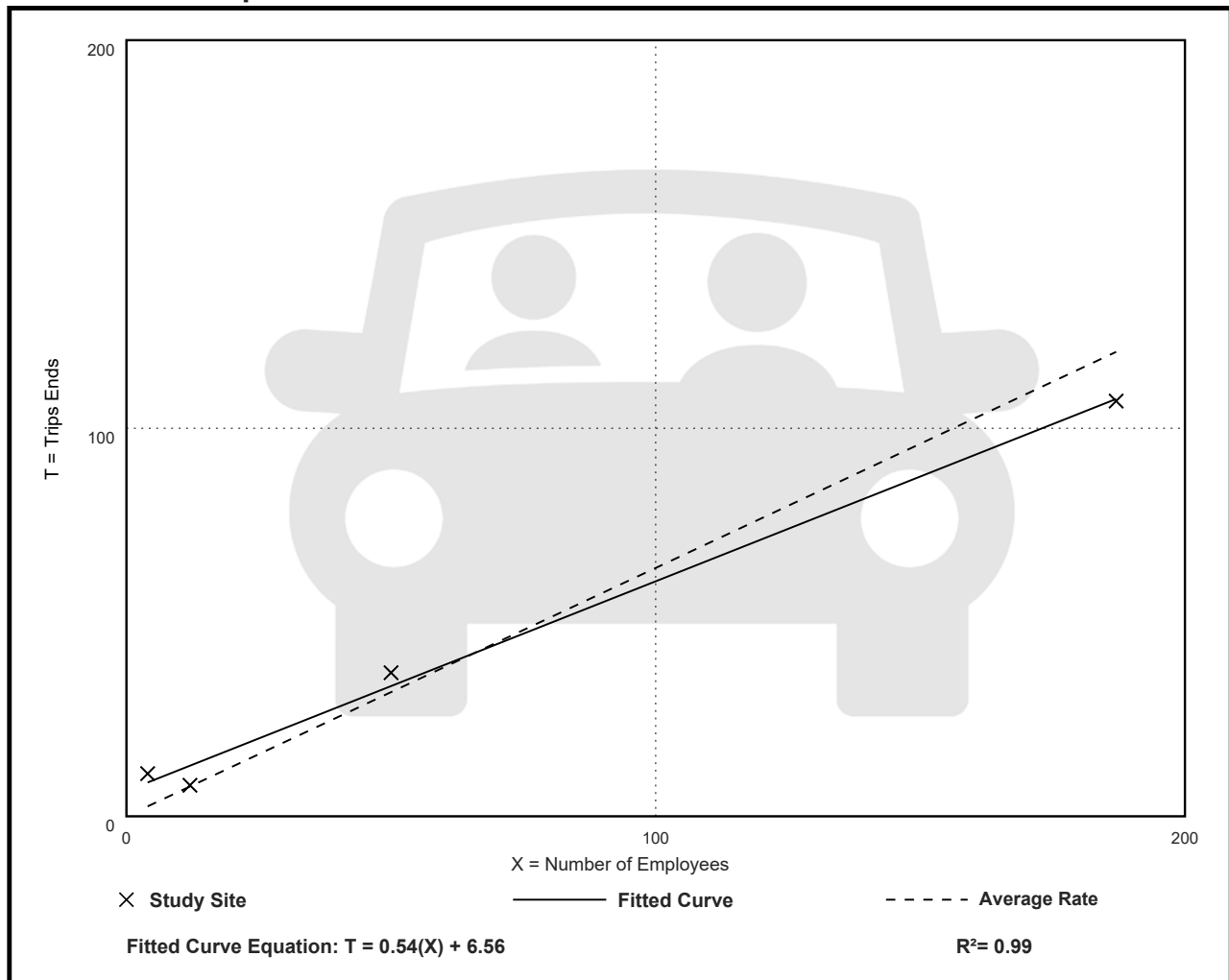
Avg. Num. of Employees: 63

Directional Distribution: 83% entering, 17% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.64	0.57 - 2.75	0.32

Data Plot and Equation



Medical-Dental Office Building Within/Near Hospital Campus (720)

Vehicle Trip Ends vs: Employees

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 4

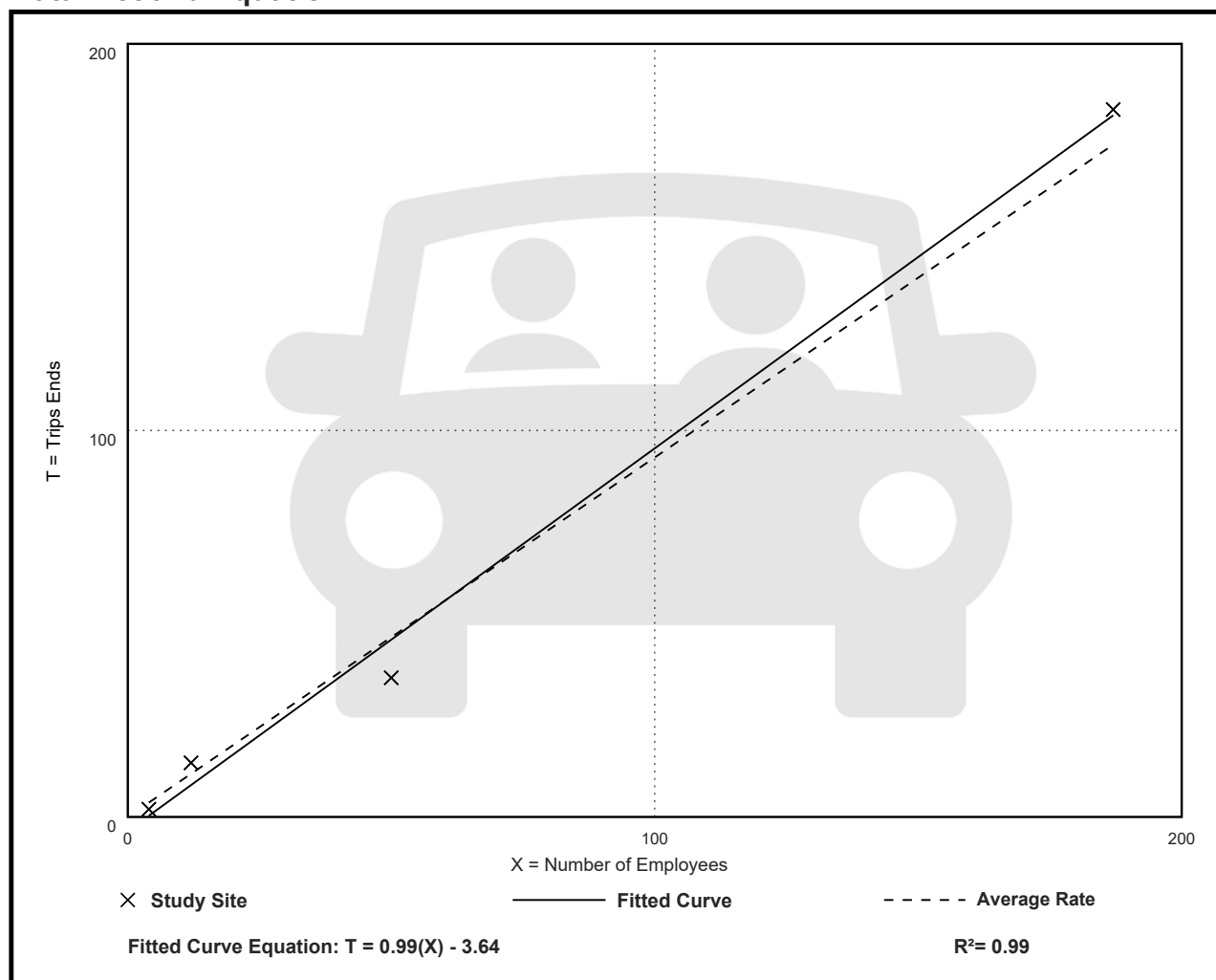
Avg. Num. of Employees: 63

Directional Distribution: 29% entering, 71% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.93	0.50 - 1.17	0.15

Data Plot and Equation



Medical-Dental Office Building Within/Near Hospital Campus (720)

Vehicle Trip Ends vs: Employees

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 4

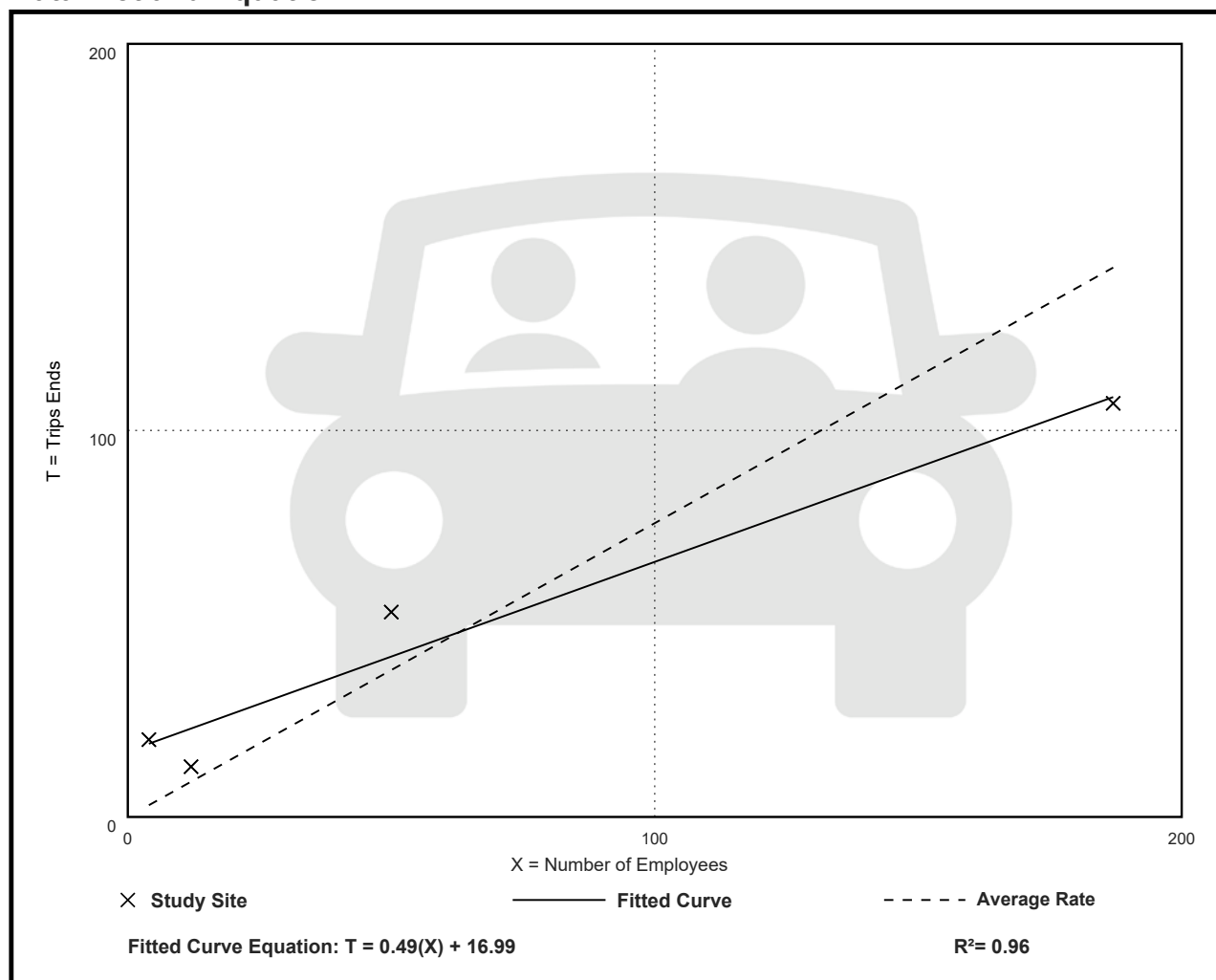
Avg. Num. of Employees: 63

Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.76	0.57 - 5.00	0.67

Data Plot and Equation



Medical-Dental Office Building Within/Near Hospital Campus (720)

Vehicle Trip Ends vs: Employees

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 4

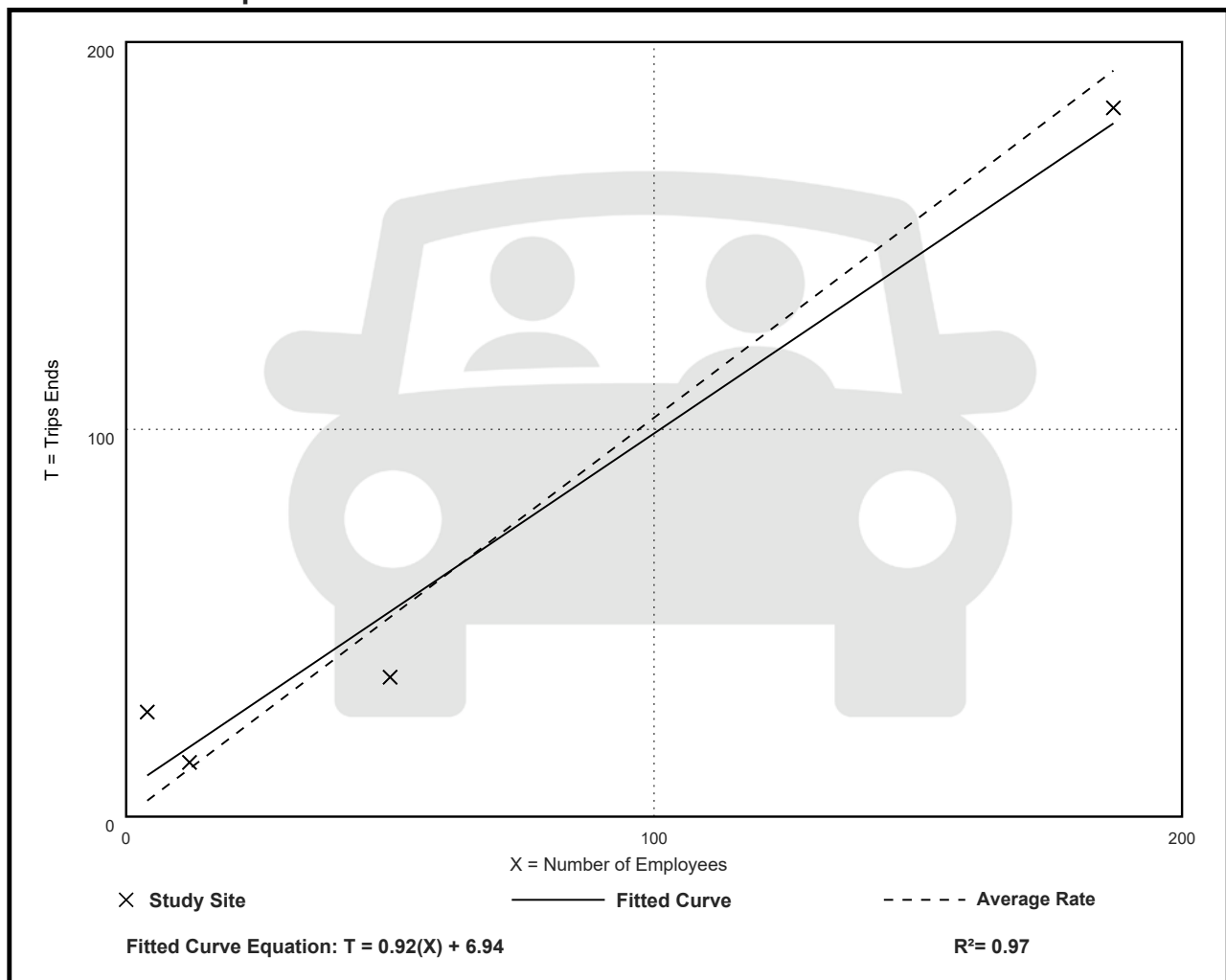
Avg. Num. of Employees: 63

Directional Distribution: 34% entering, 66% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.03	0.72 - 6.75	0.85

Data Plot and Equation



Land Use: 822

Strip Retail Plaza (<40k)

Description

A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, the GLA is the same as the gross floor area of the building.

The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA.

Shopping center (>150k) (Land use 820), shopping plaza (40-150k) (Land Use 821), and factory outlet center (Land Use 823) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Delaware, Florida, New Jersey, Ontario (CAN), South Dakota, Vermont, Washington, and Wisconsin.

Source Numbers

304, 358, 423, 428, 437, 507, 715, 728, 936, 960, 961, 974, 1009

Strip Retail Plaza (<40k) (822)

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

Setting/Location: General Urban/Suburban

Number of Studies: 4

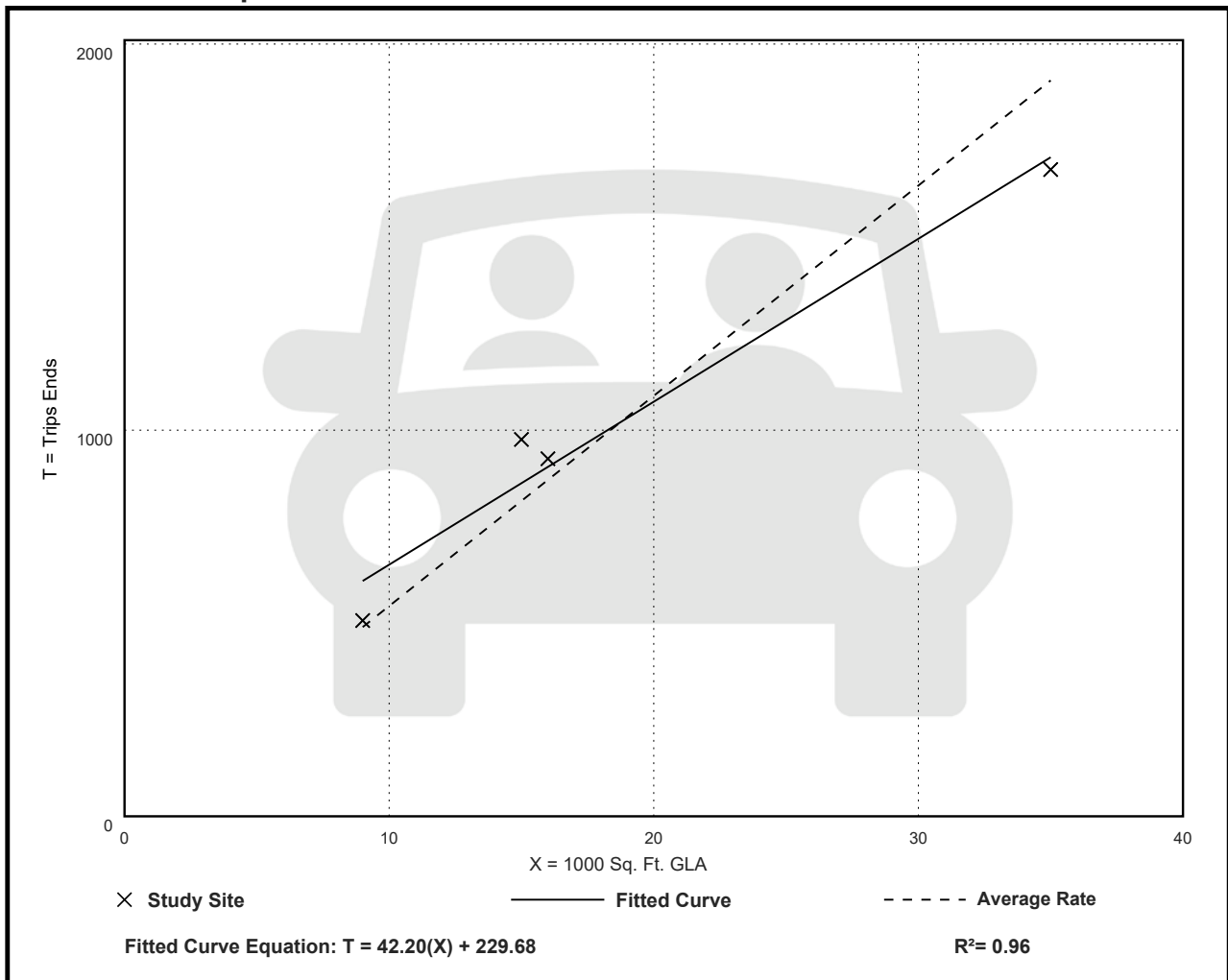
Avg. 1000 Sq. Ft. GLA: 19

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 5

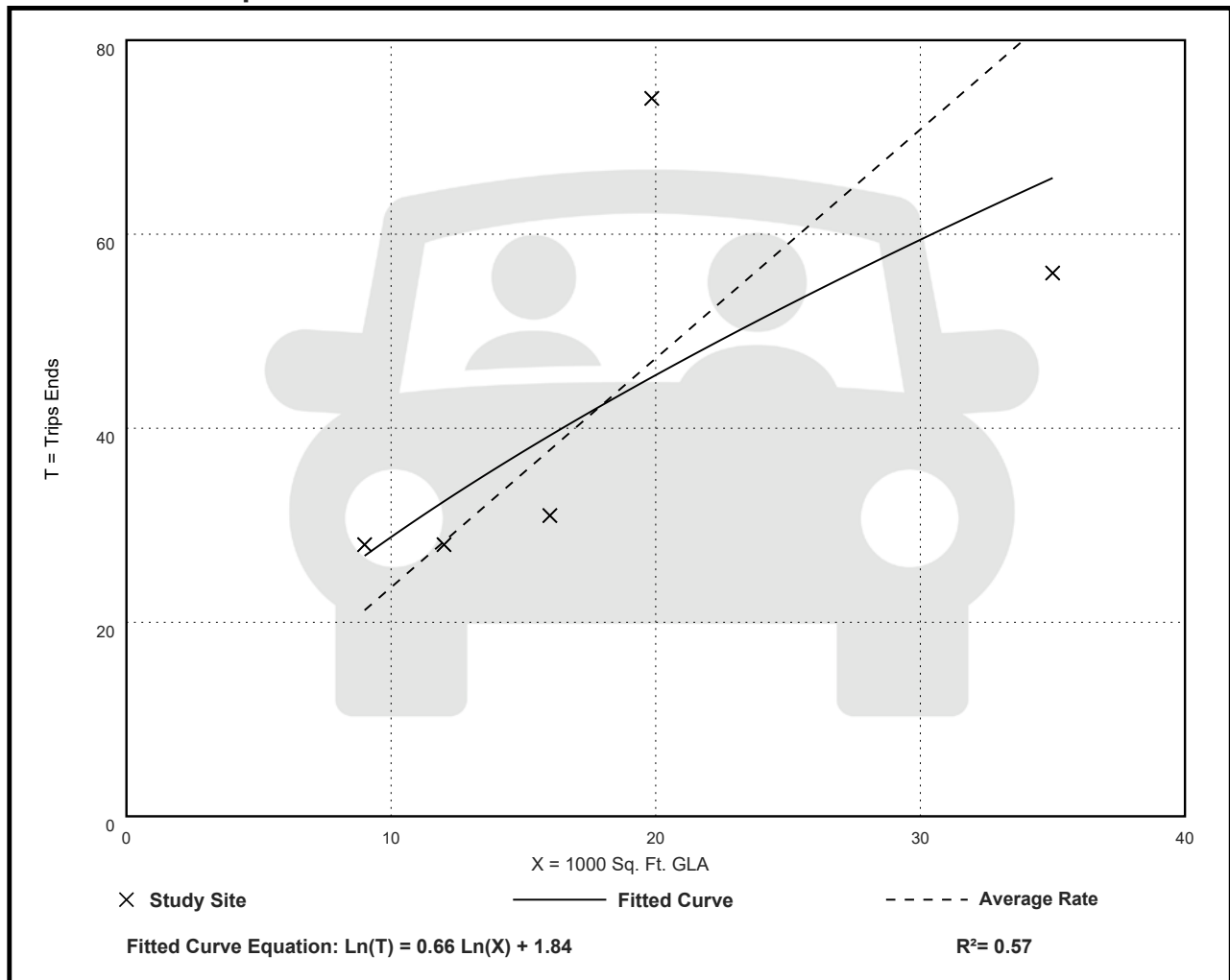
Avg. 1000 Sq. Ft. GLA: 18

Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 25

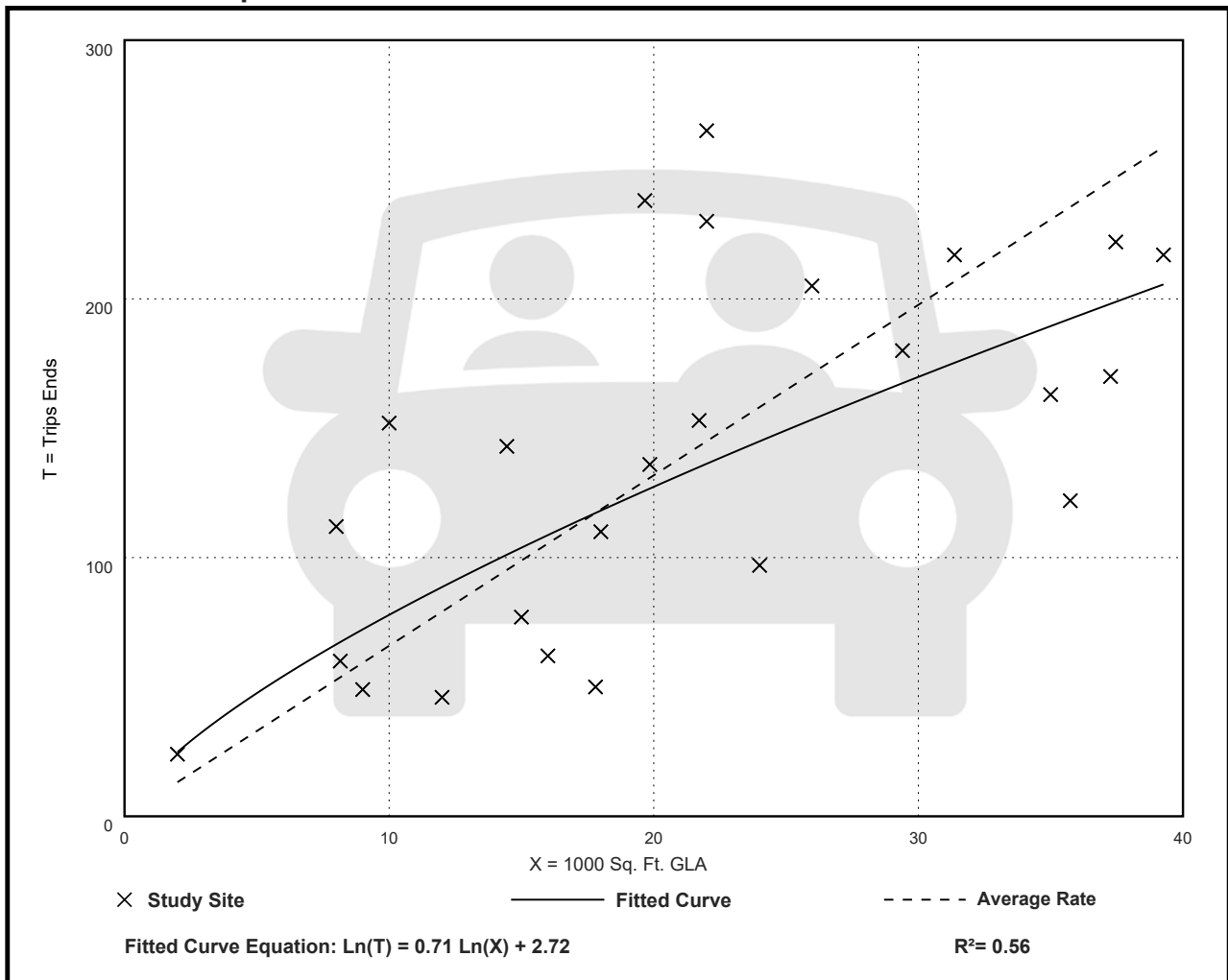
Avg. 1000 Sq. Ft. GLA: 21

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 6

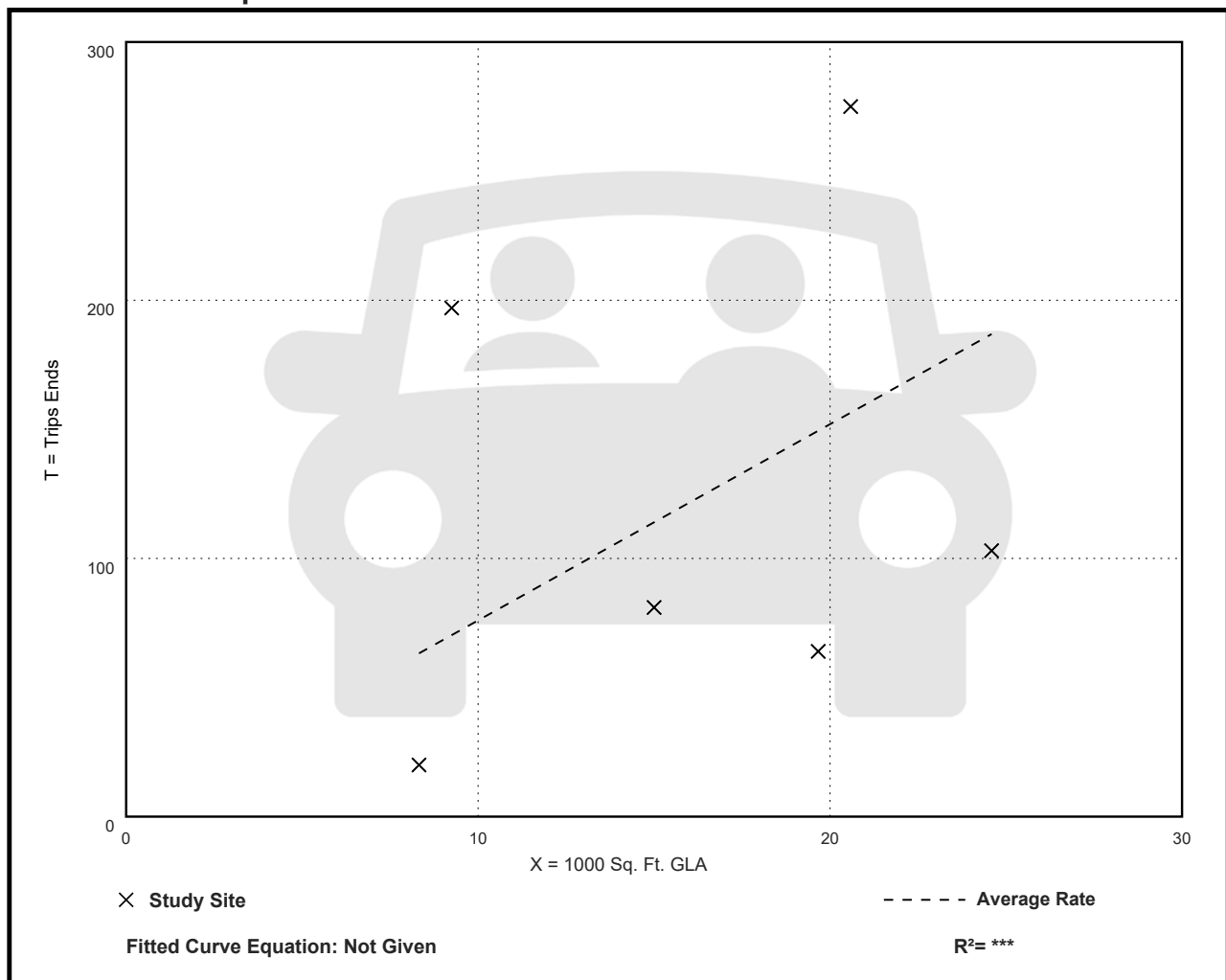
Avg. 1000 Sq. Ft. GLA: 16

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
7.60	2.40 - 21.30	6.45

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

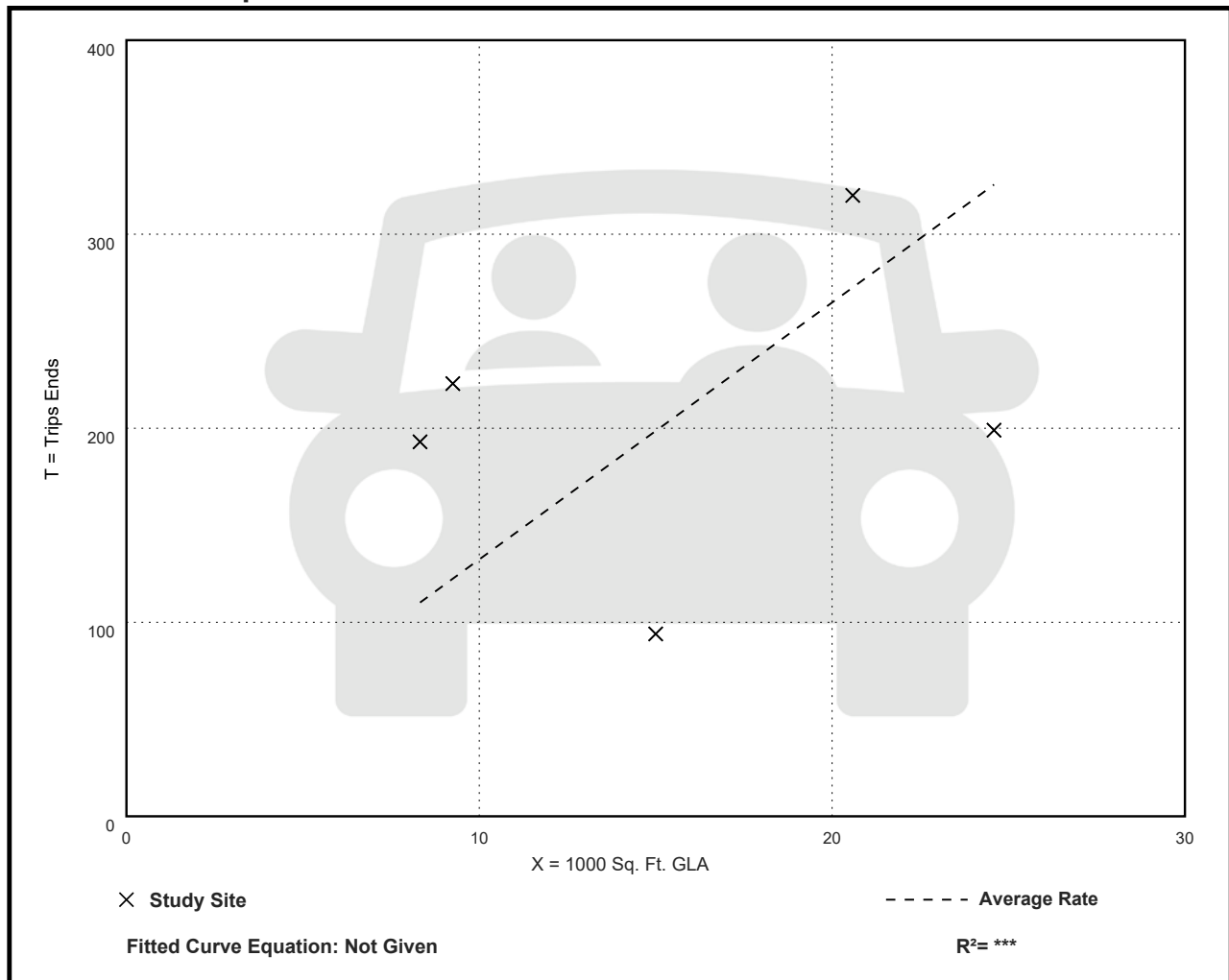
Avg. 1000 Sq. Ft. GLA: 16

Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
13.24	6.27 - 24.11	7.40

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 12

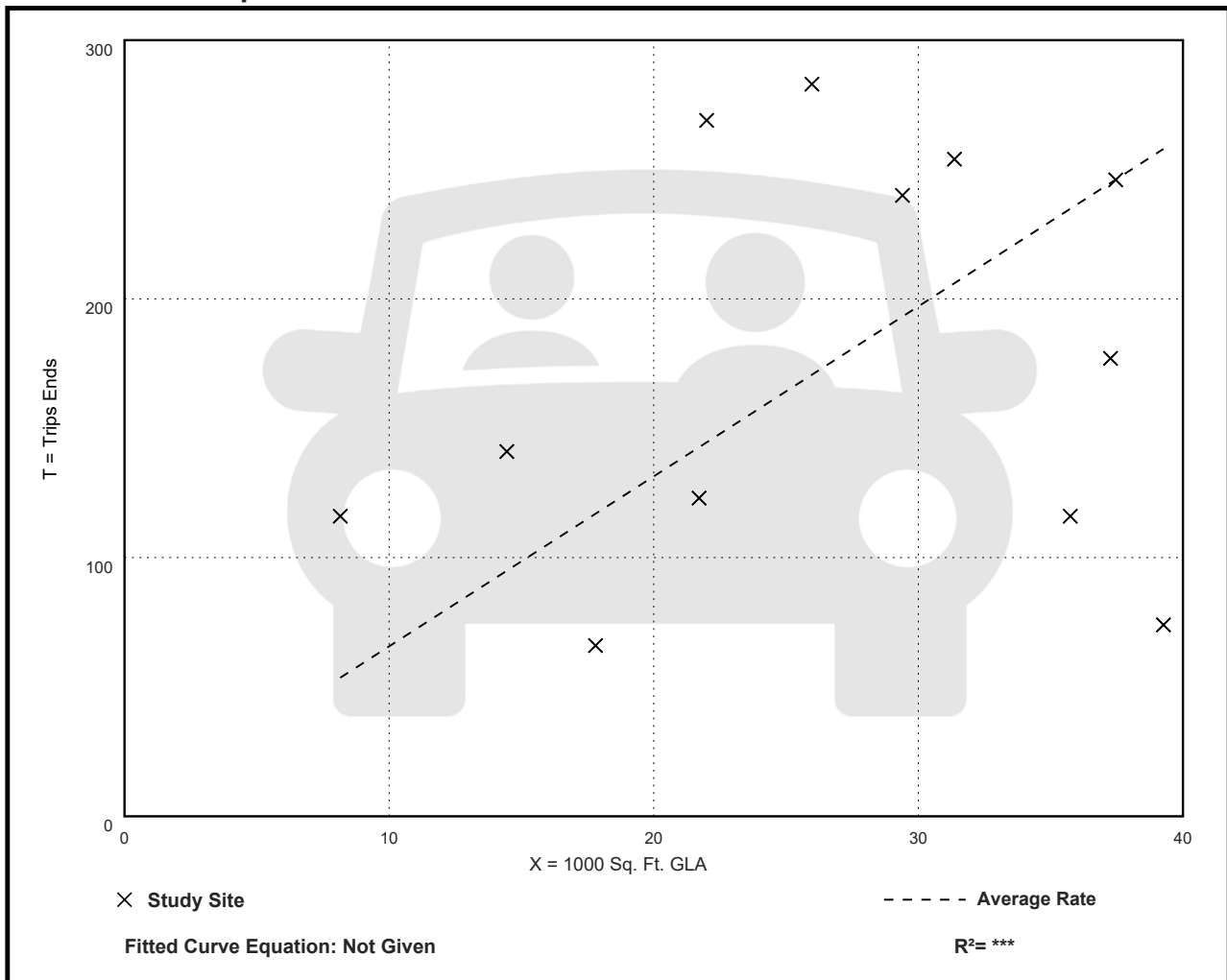
Avg. 1000 Sq. Ft. GLA: 27

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.57	1.88 - 14.23	3.45

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: Employees

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Employees: 21

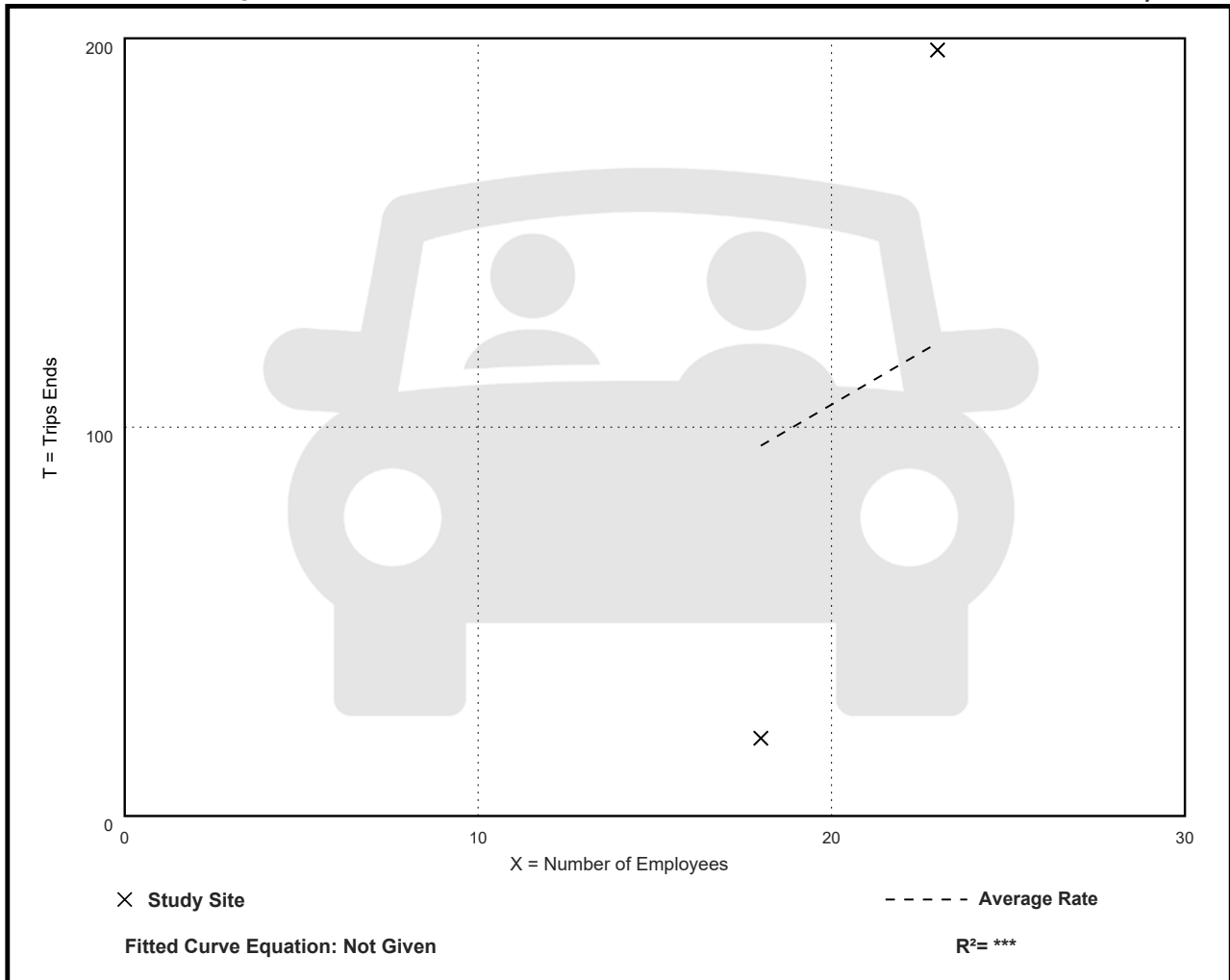
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
5.29	1.11 - 8.57	***

Data Plot and Equation

Caution – Small Sample Size



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: Employees

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Employees: 21

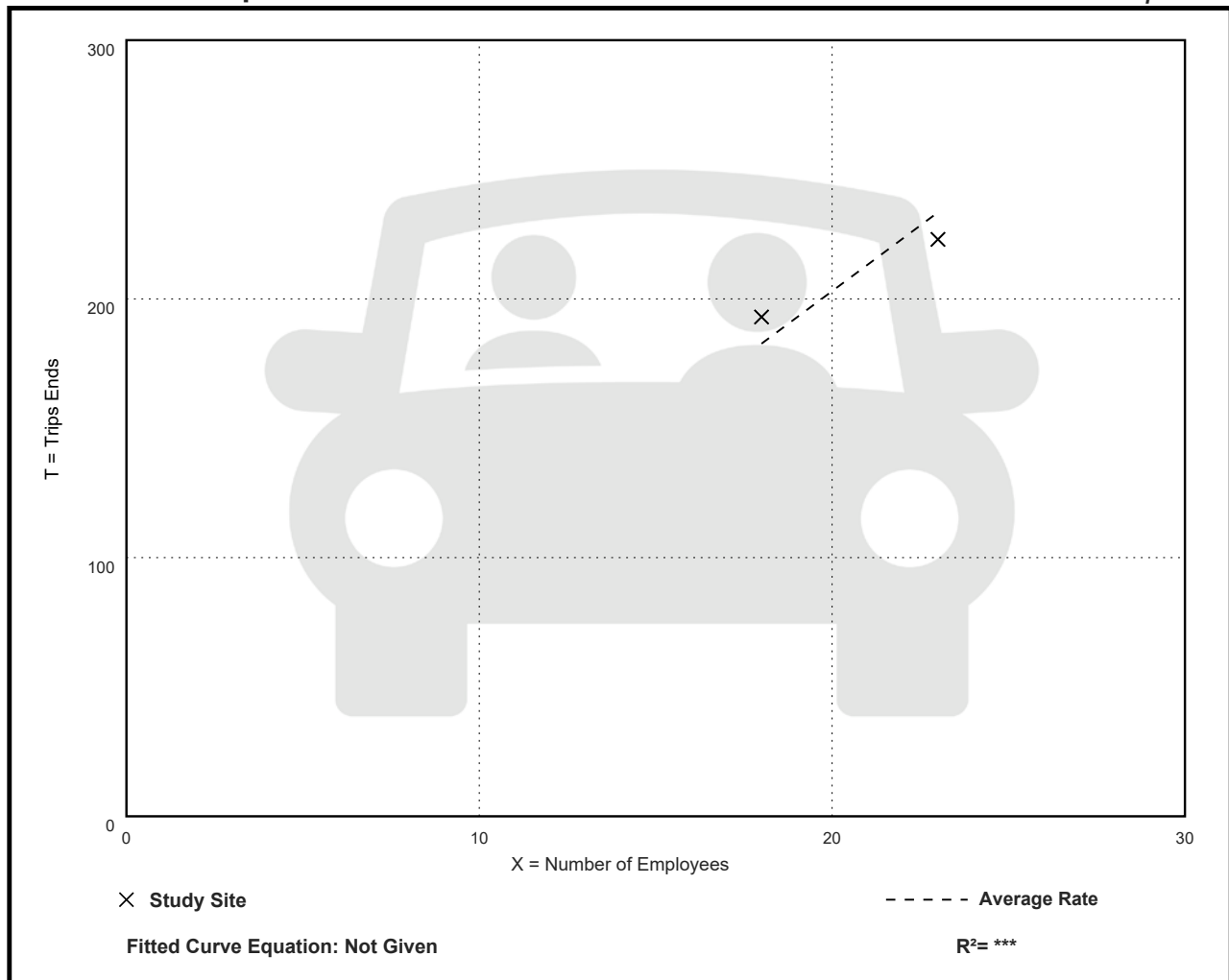
Directional Distribution: 56% entering, 44% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
10.15	9.70 - 10.72	***

Data Plot and Equation

Caution – Small Sample Size



Strip Retail Plaza (<40k) (822)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GLA: 20

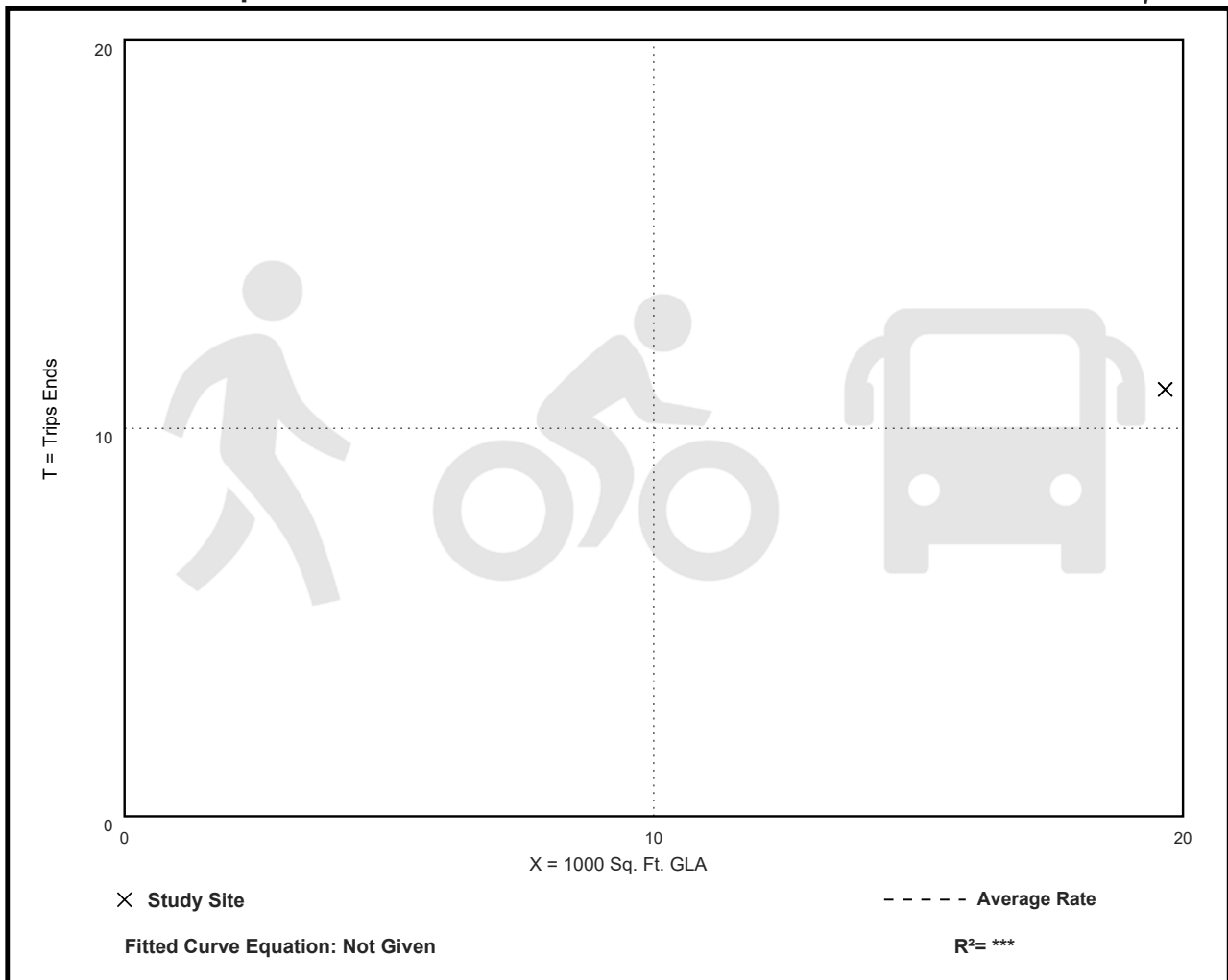
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.56	0.56 - 0.56	***

Data Plot and Equation

Caution – Small Sample Size



Strip Retail Plaza (<40k) (822)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

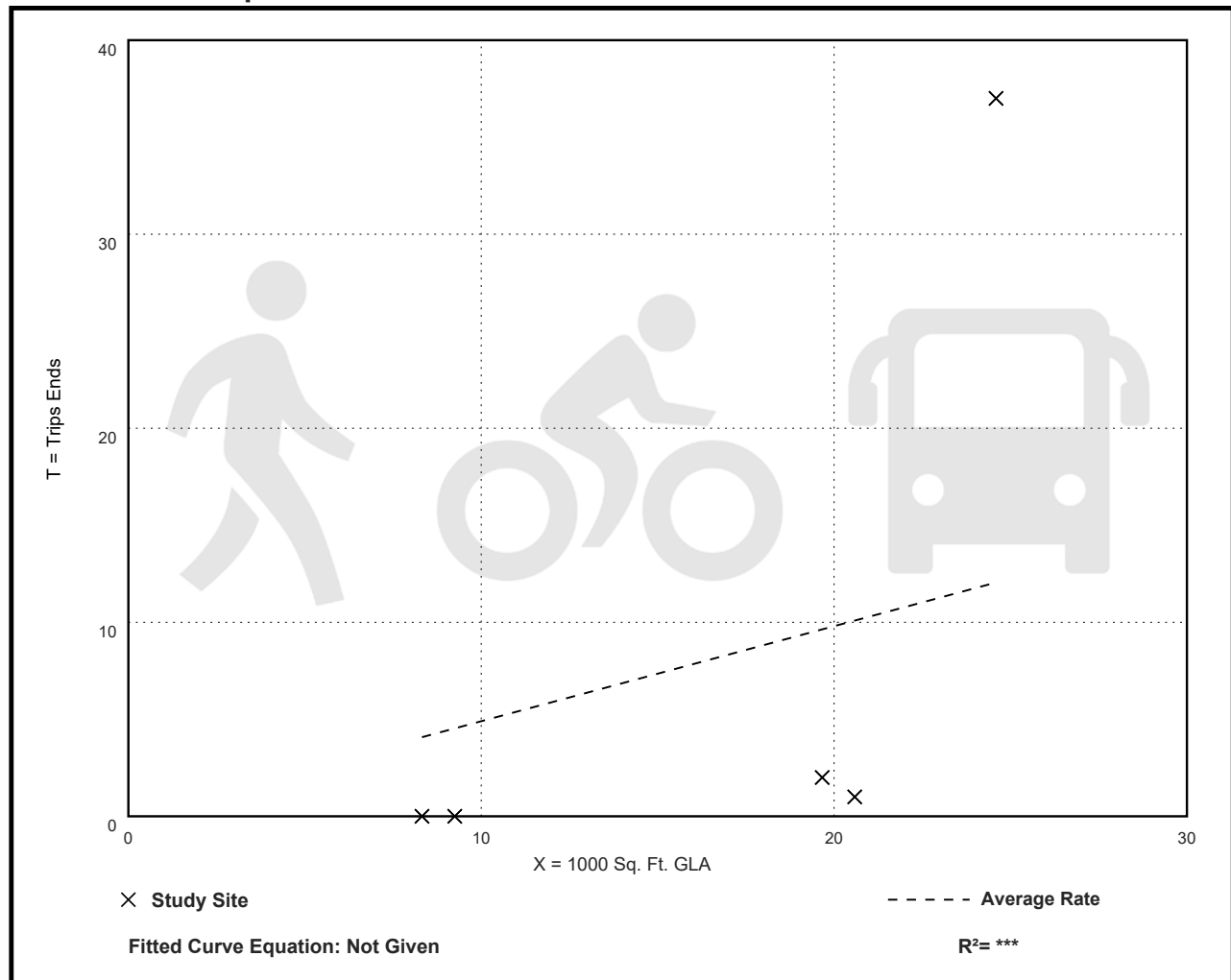
Avg. 1000 Sq. Ft. GLA: 16

Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.49	0.00 - 1.50	0.74

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

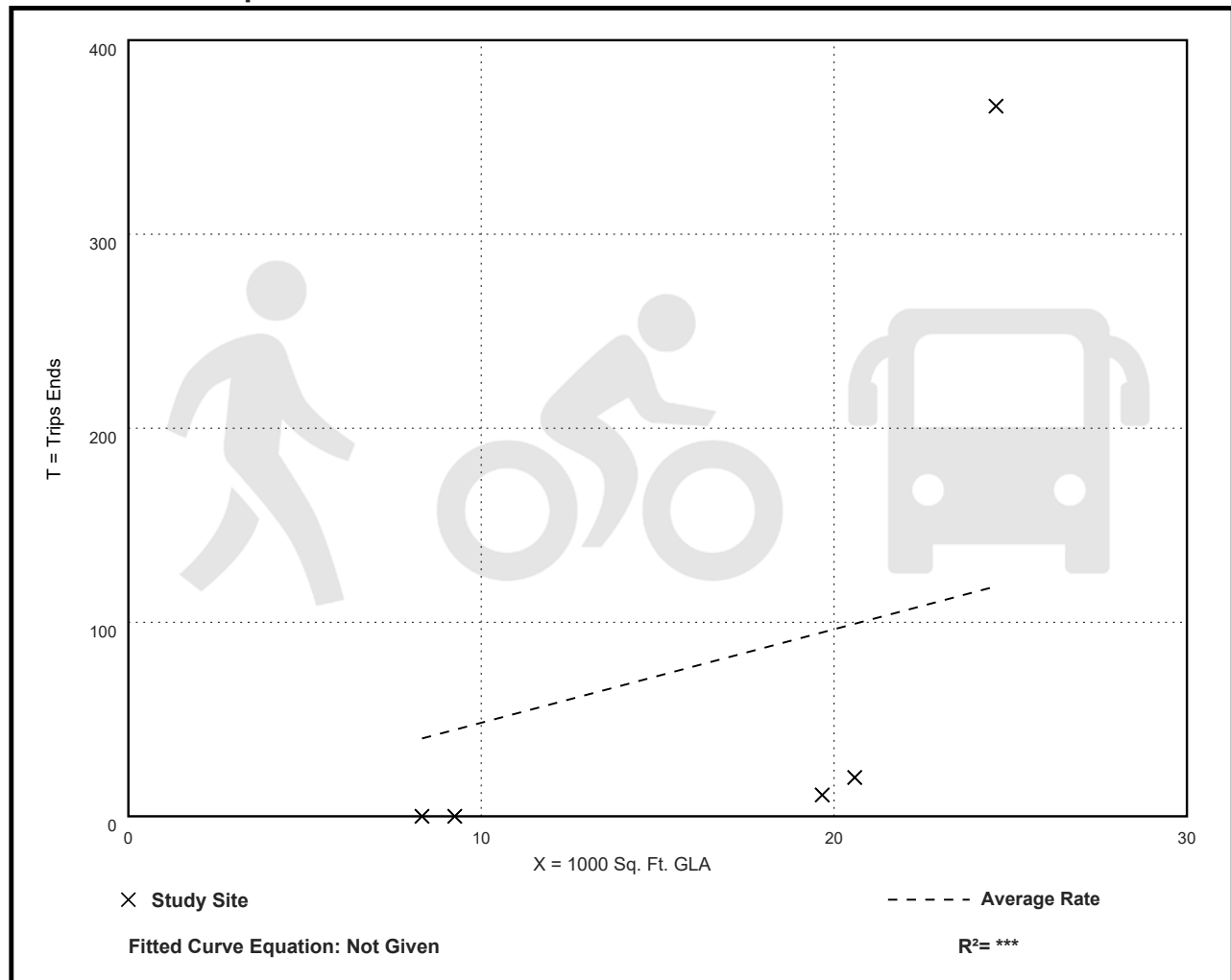
Avg. 1000 Sq. Ft. GLA: 16

Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.82	0.00 - 14.88	7.35

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Walk+Bike+Transit Trip Ends vs: Employees

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Employees: 21

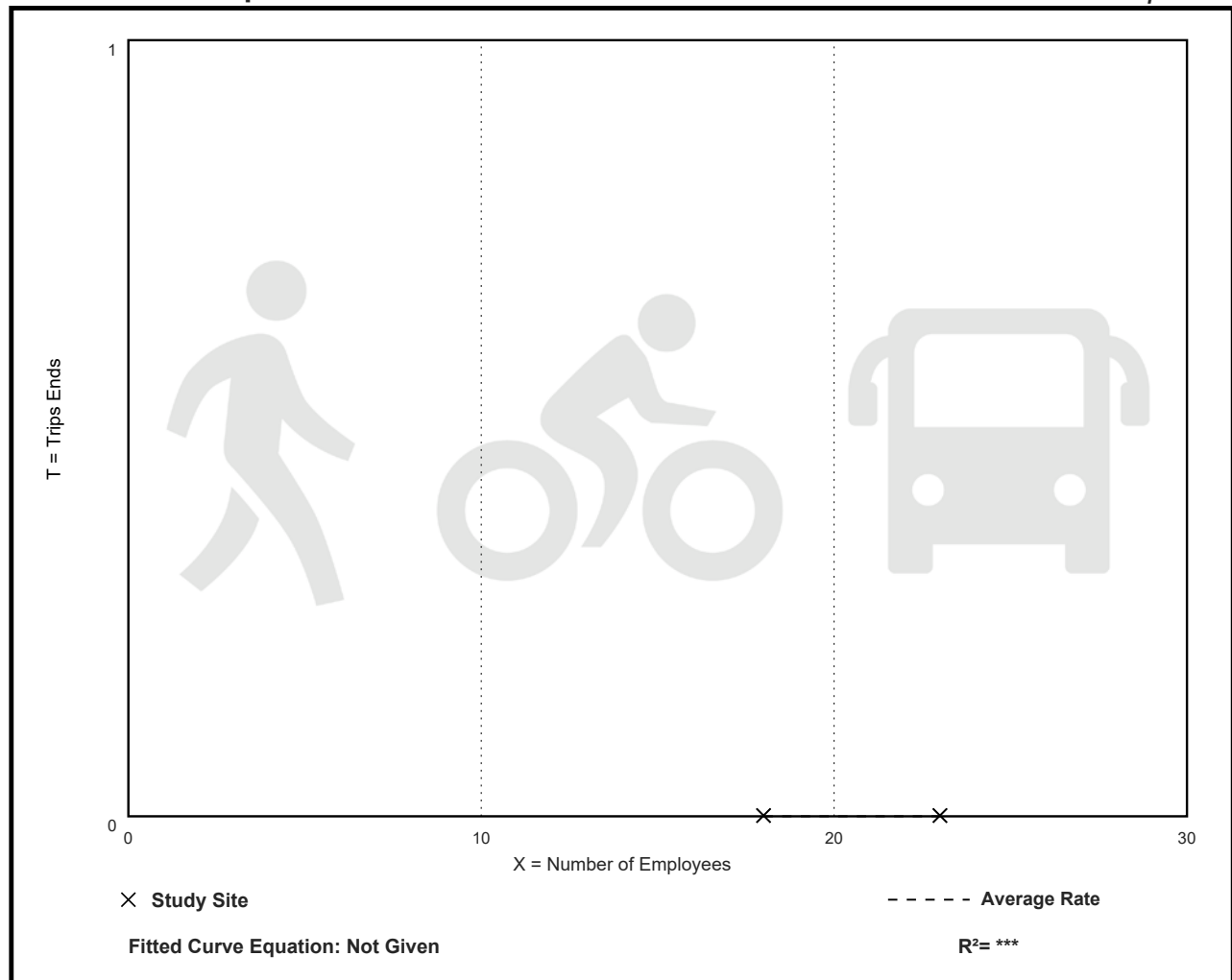
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.00	0.00 - 0.00	***

Data Plot and Equation

Caution – Small Sample Size



Strip Retail Plaza (<40k) (822)

Walk+Bike+Transit Trip Ends vs: Employees

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Employees: 21

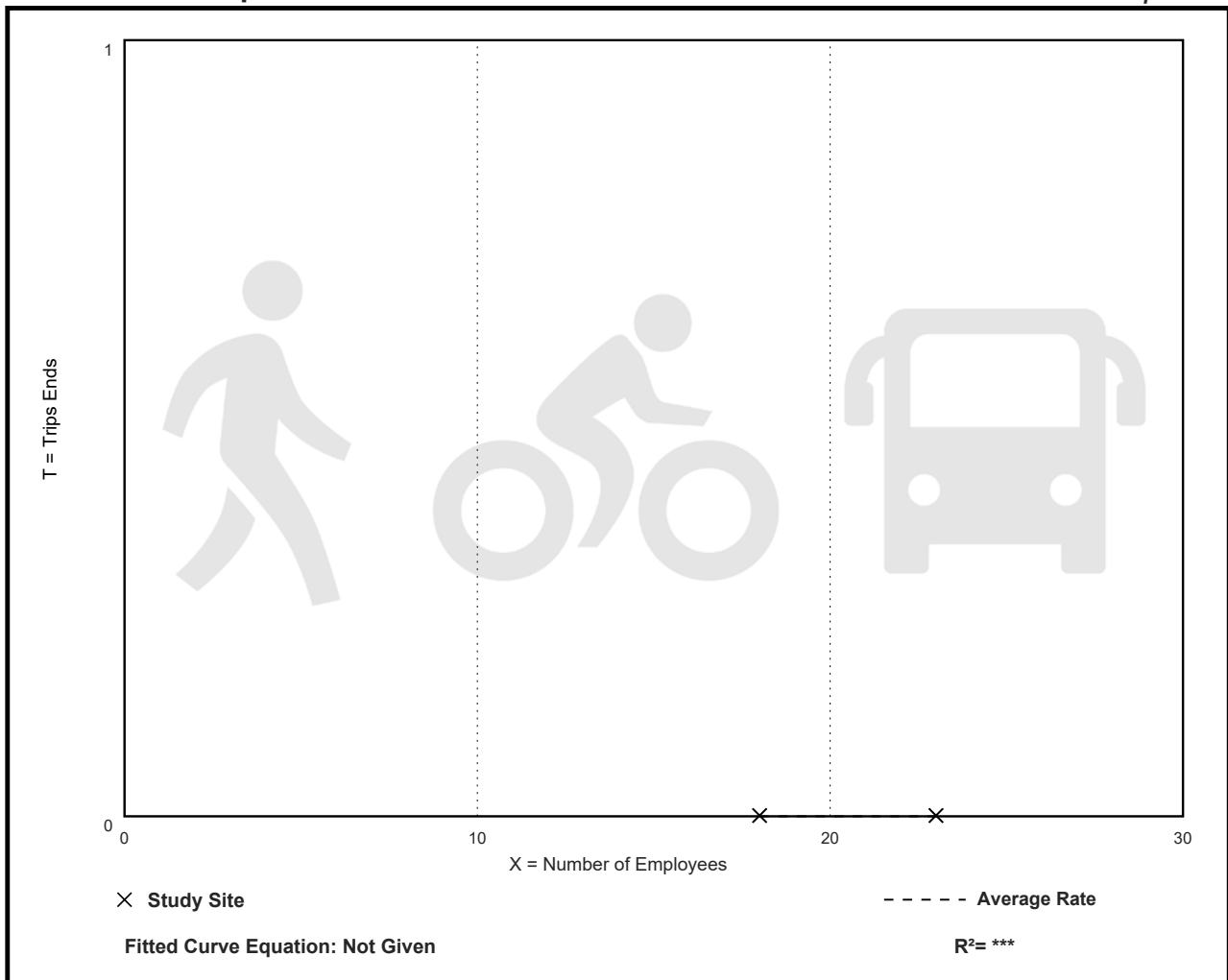
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.00	0.00 - 0.00	***

Data Plot and Equation

Caution – Small Sample Size



Land Use: 932

High-Turnover (Sit-Down) Restaurant

Description

This land use consists of sit-down, full-service eating establishments with a typical duration of stay of 60 minutes or less. This type of restaurant is usually moderately priced, frequently belongs to a restaurant chain, and is commonly referred to as casual dining. Generally, these restaurants serve lunch and dinner; they may also be open for breakfast and are sometimes open 24 hours a day. These restaurants typically do not accept reservations. A patron commonly waits to be seated, is served by wait staff, orders from a menu, and pays after the meal.

Some facilities offer carry-out for a small proportion of its customers. Some facilities within this land use may also contain a bar area for serving food and alcoholic drinks.

Fast casual restaurant (Land Use 930), fine dining restaurant (Land Use 931), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window (Land Use 934) are related uses.

Additional Data

Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not be open for breakfast. In cases where it was confirmed that the sites were not open for breakfast, data for the AM peak hour of the adjacent street traffic were removed from the database.

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Florida, Georgia, Indiana, Kentucky, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Vermont, and Wisconsin.

Source Numbers

126, 269, 275, 280, 300, 301, 305, 338, 340, 341, 358, 384, 424, 432, 437, 438, 444, 507, 555, 577, 589, 617, 618, 728, 868, 884, 885, 903, 927, 939, 944, 961, 962, 977, 1048

High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 50

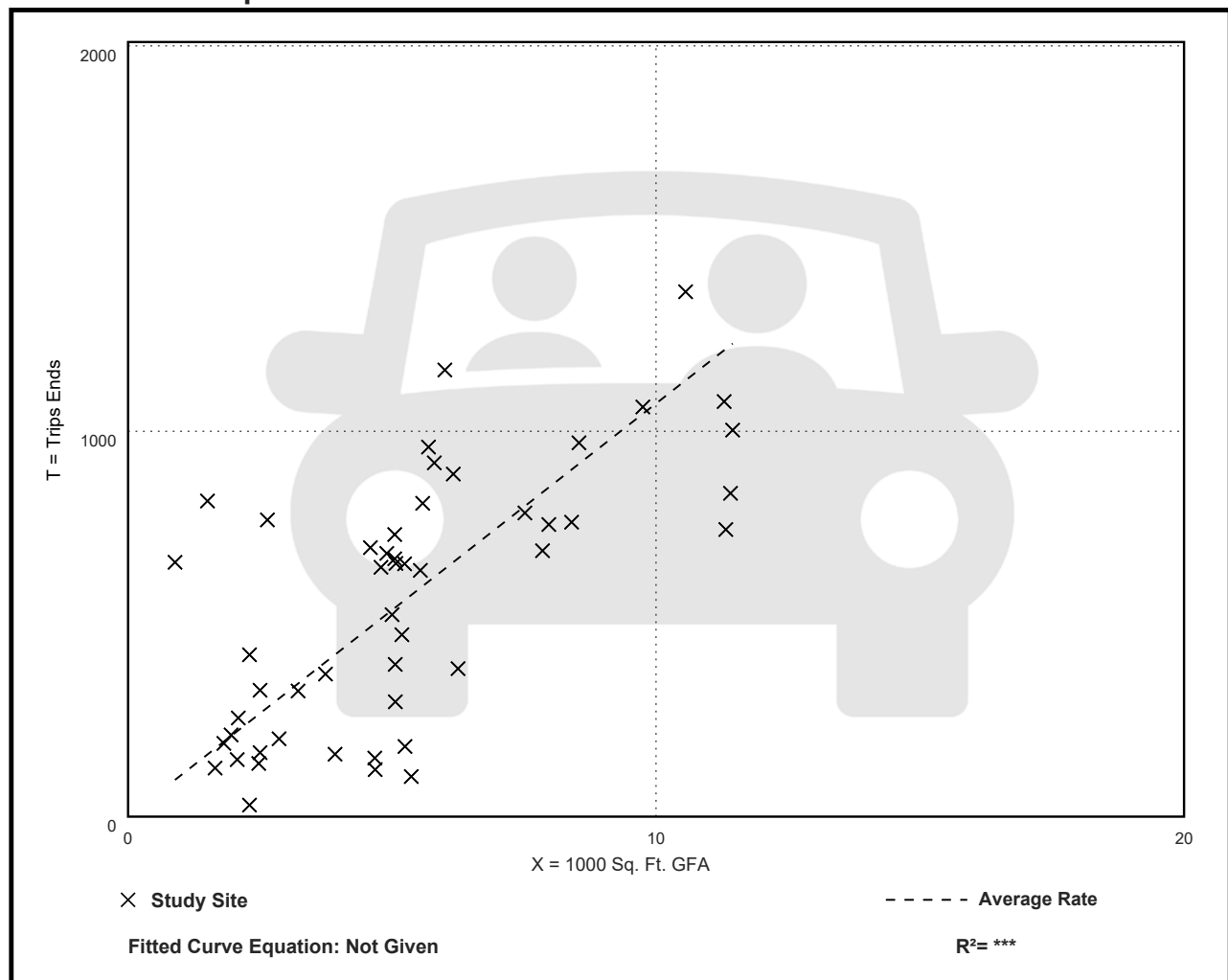
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
107.20	13.04 - 742.41	66.72

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 37

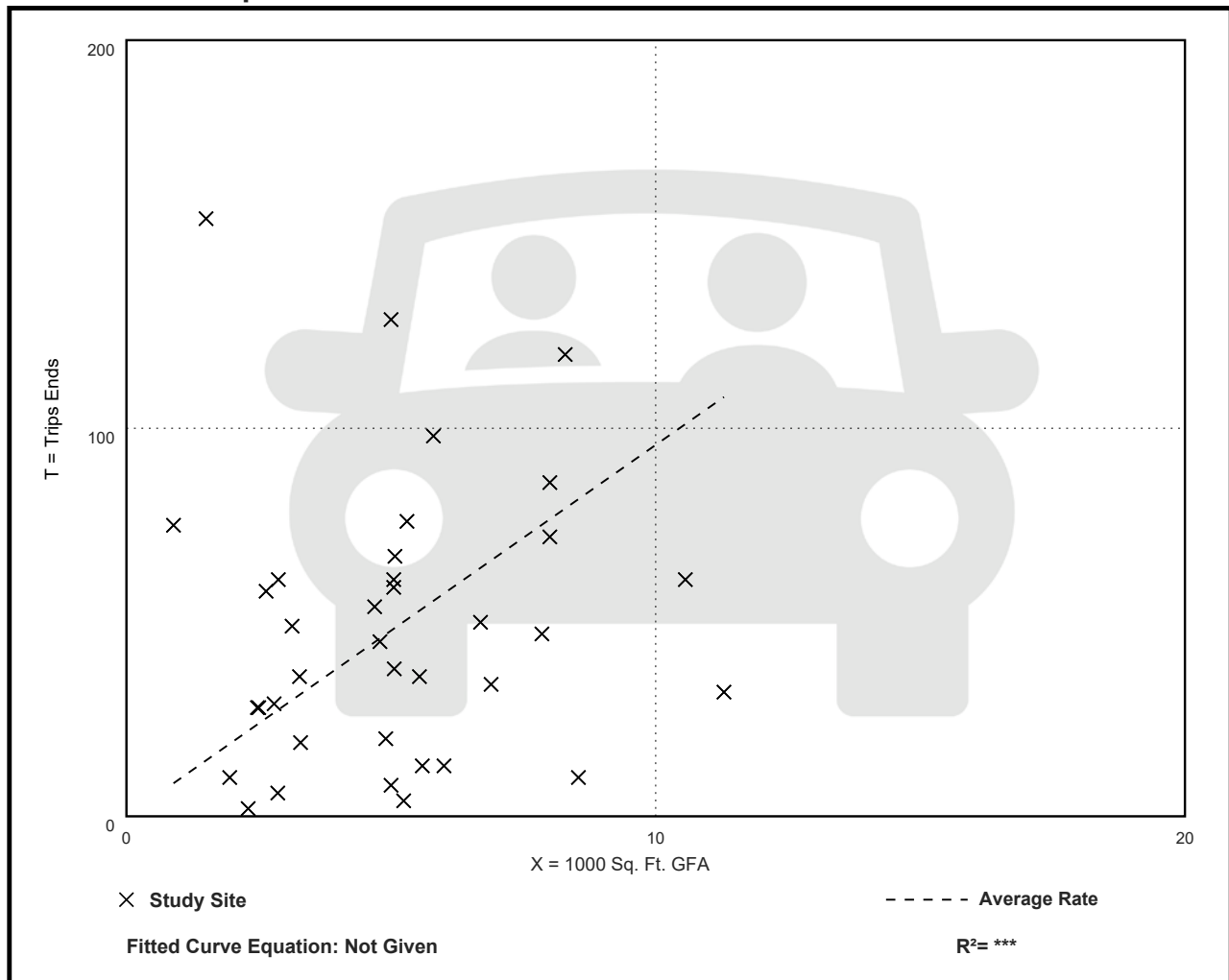
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.57	0.76 - 102.39	11.61

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 104

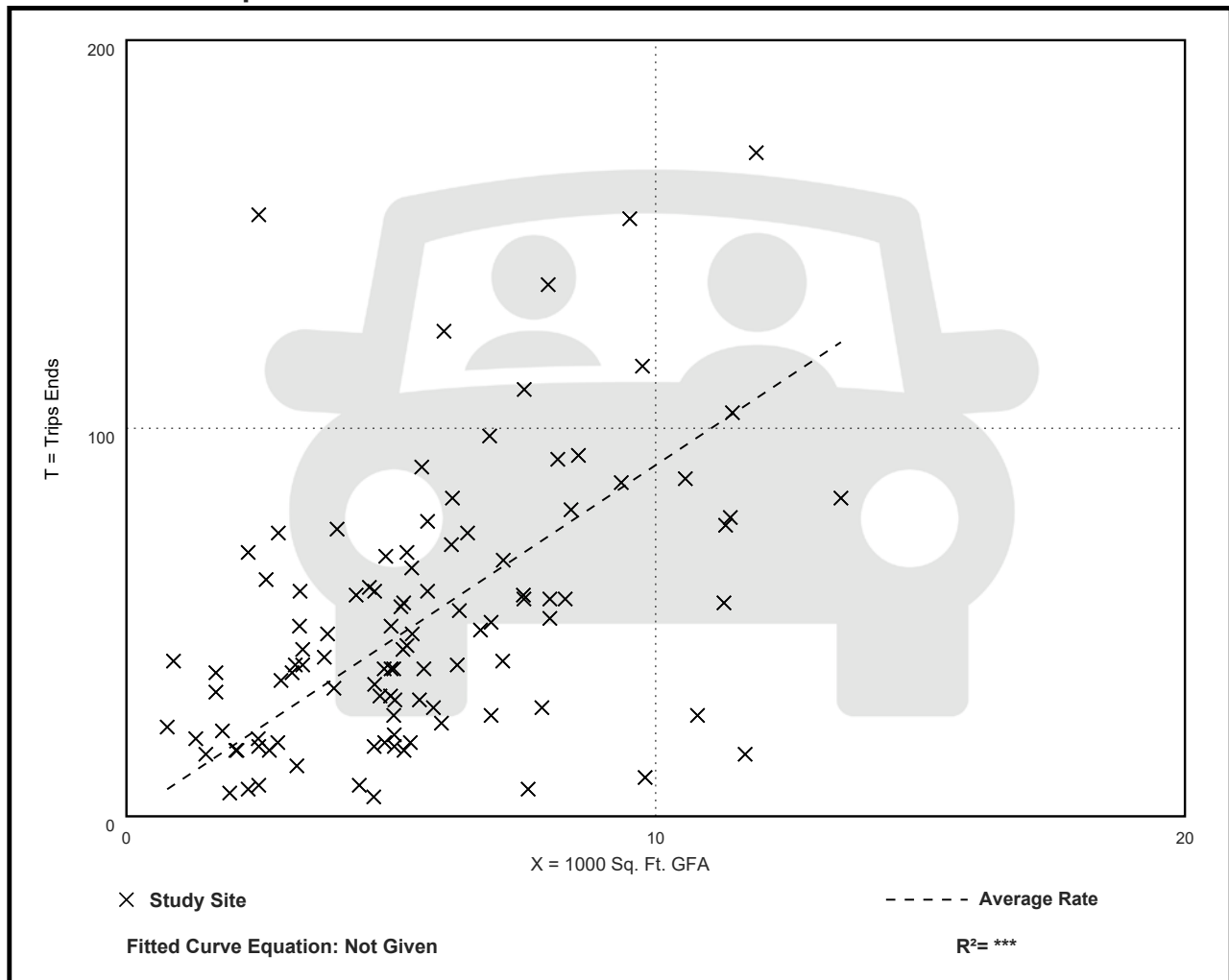
Avg. 1000 Sq. Ft. GFA: 6

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.05	0.92 - 62.00	6.18

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 58

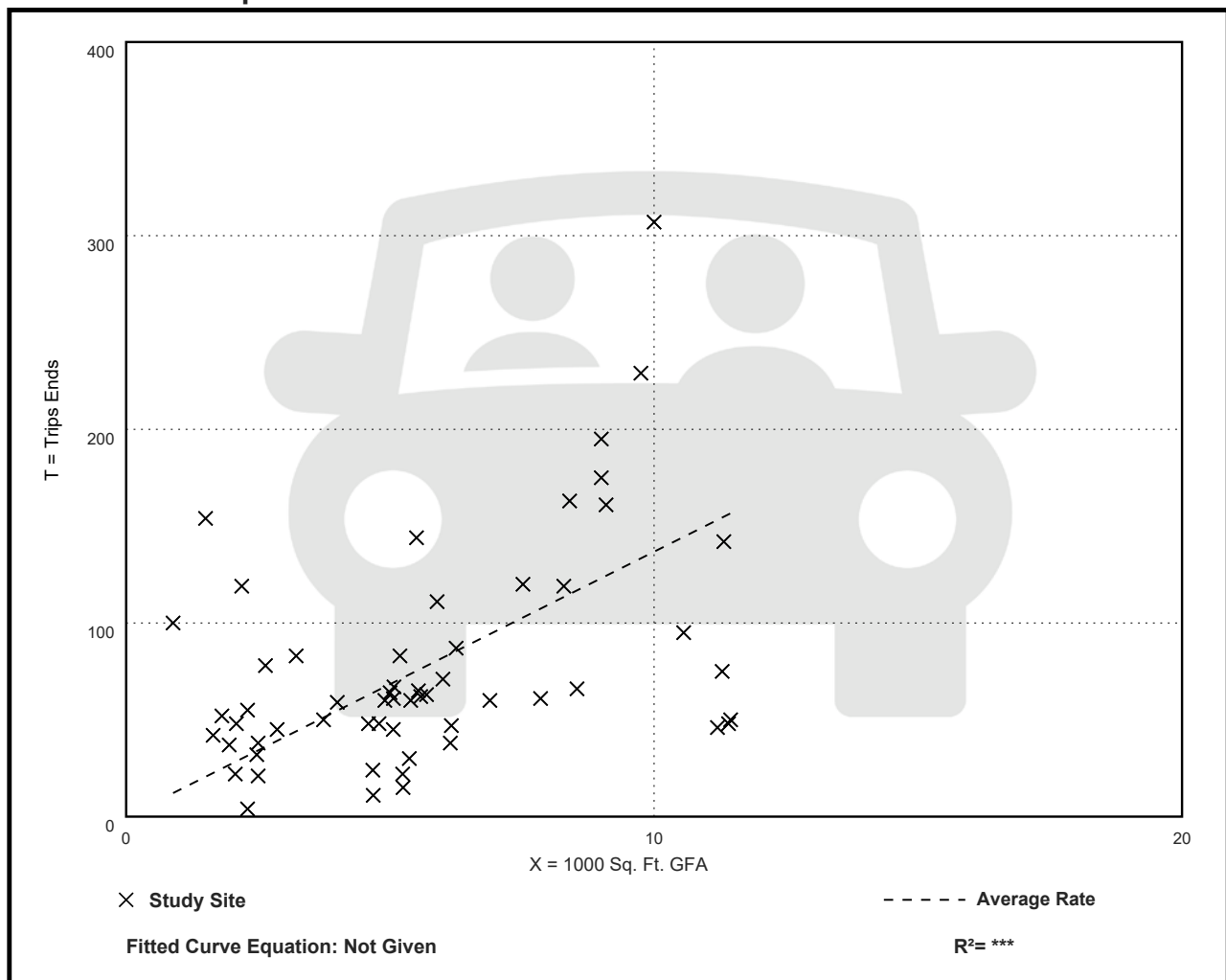
Avg. 1000 Sq. Ft. GFA: 6

Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
13.68	1.74 - 112.49	11.29

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 58

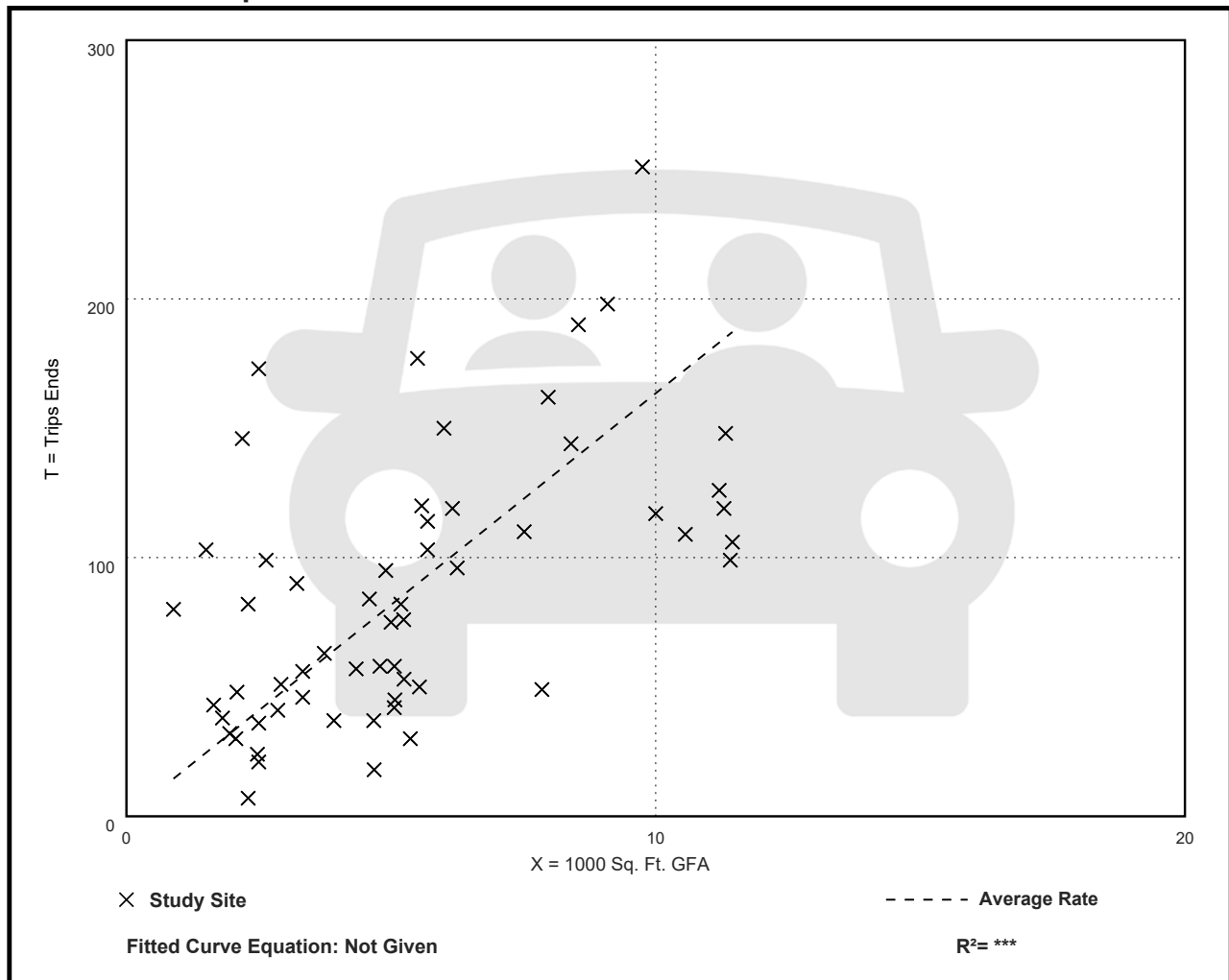
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
16.35	3.04 - 89.99	10.84

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Friday

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 9

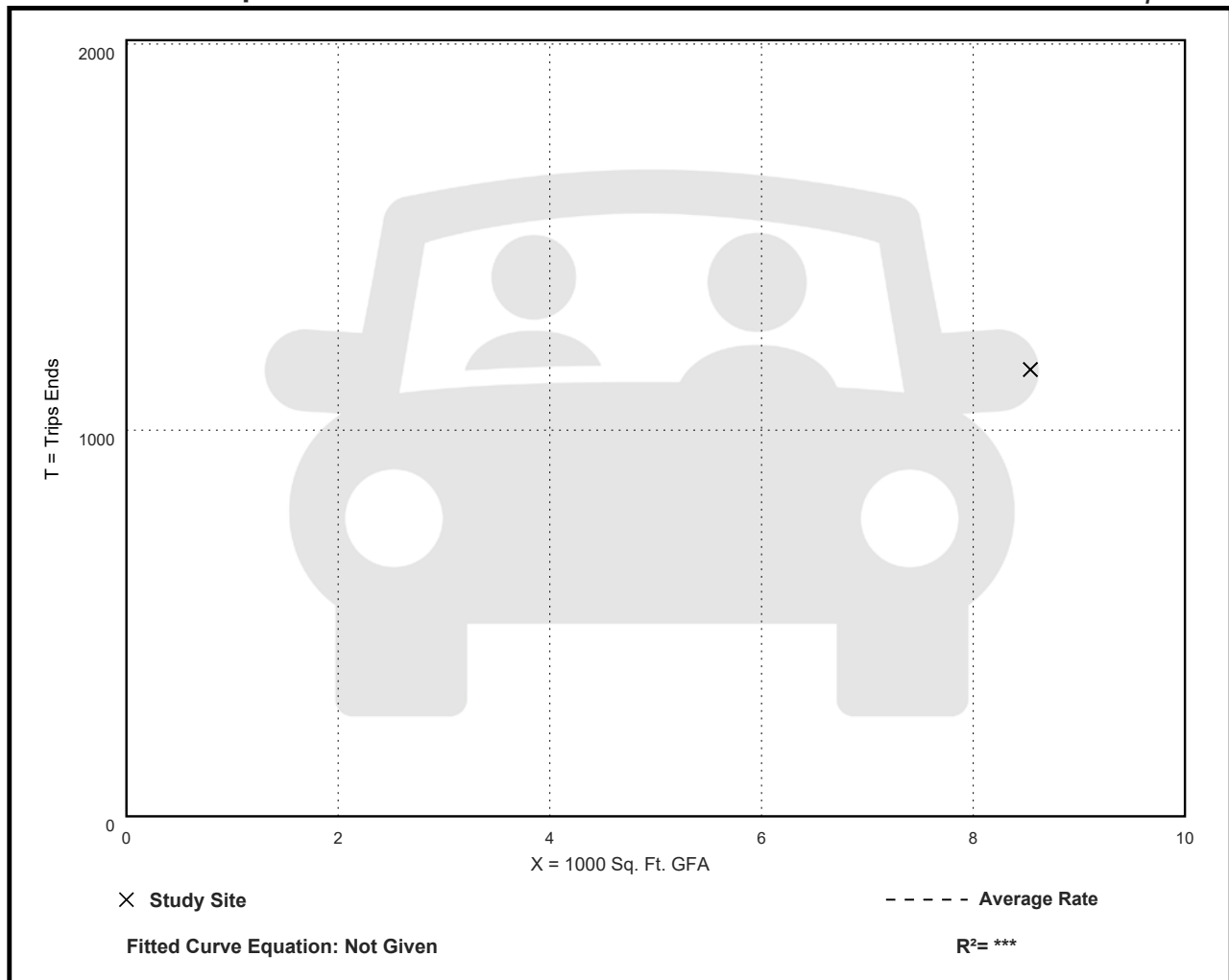
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
135.48	135.48 - 135.48	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Friday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 9

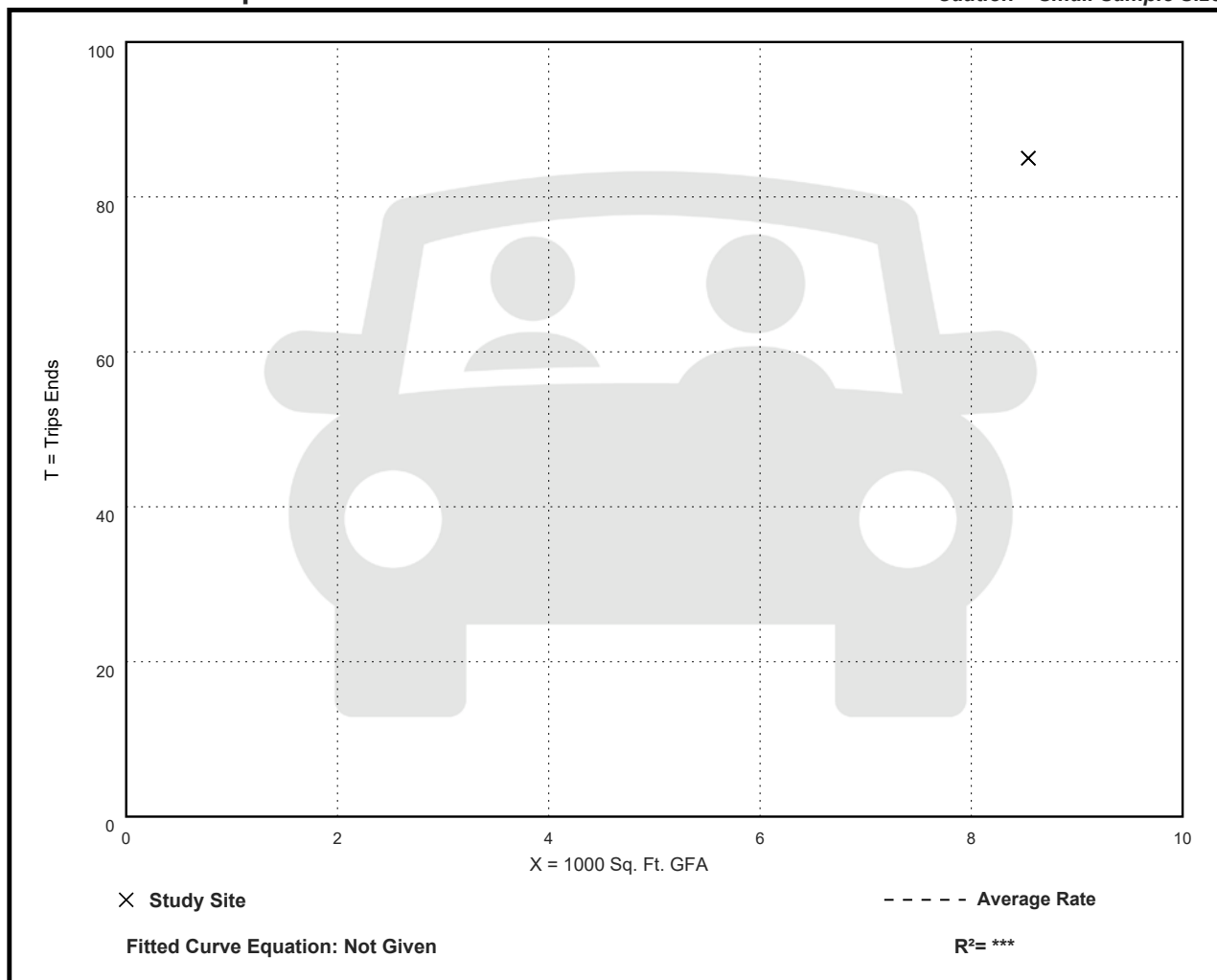
Directional Distribution: Not Available

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.95	9.95 - 9.95	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Friday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 9

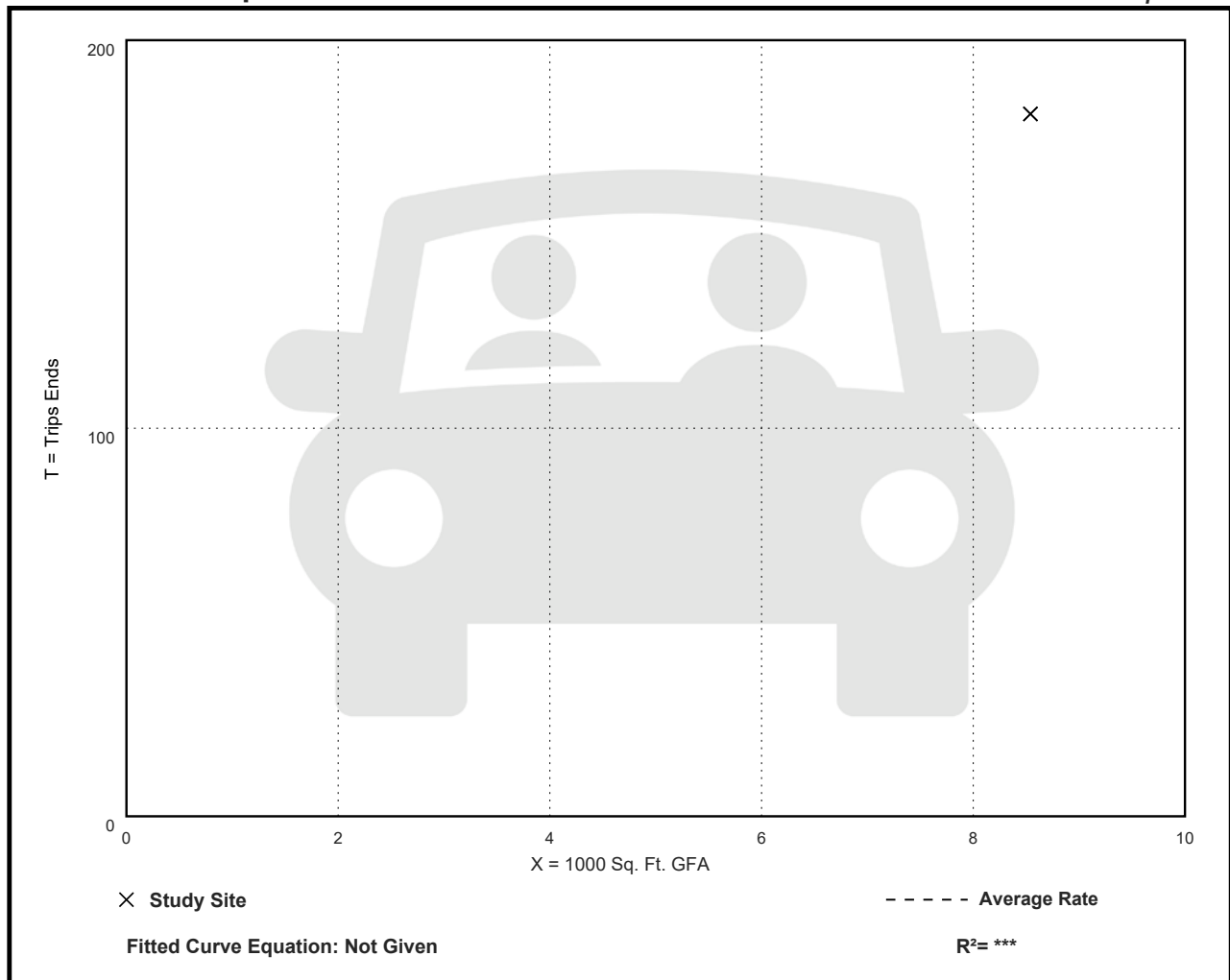
Directional Distribution: Not Available

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
21.19	21.19 - 21.19	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday

Setting/Location: General Urban/Suburban

Number of Studies: 3

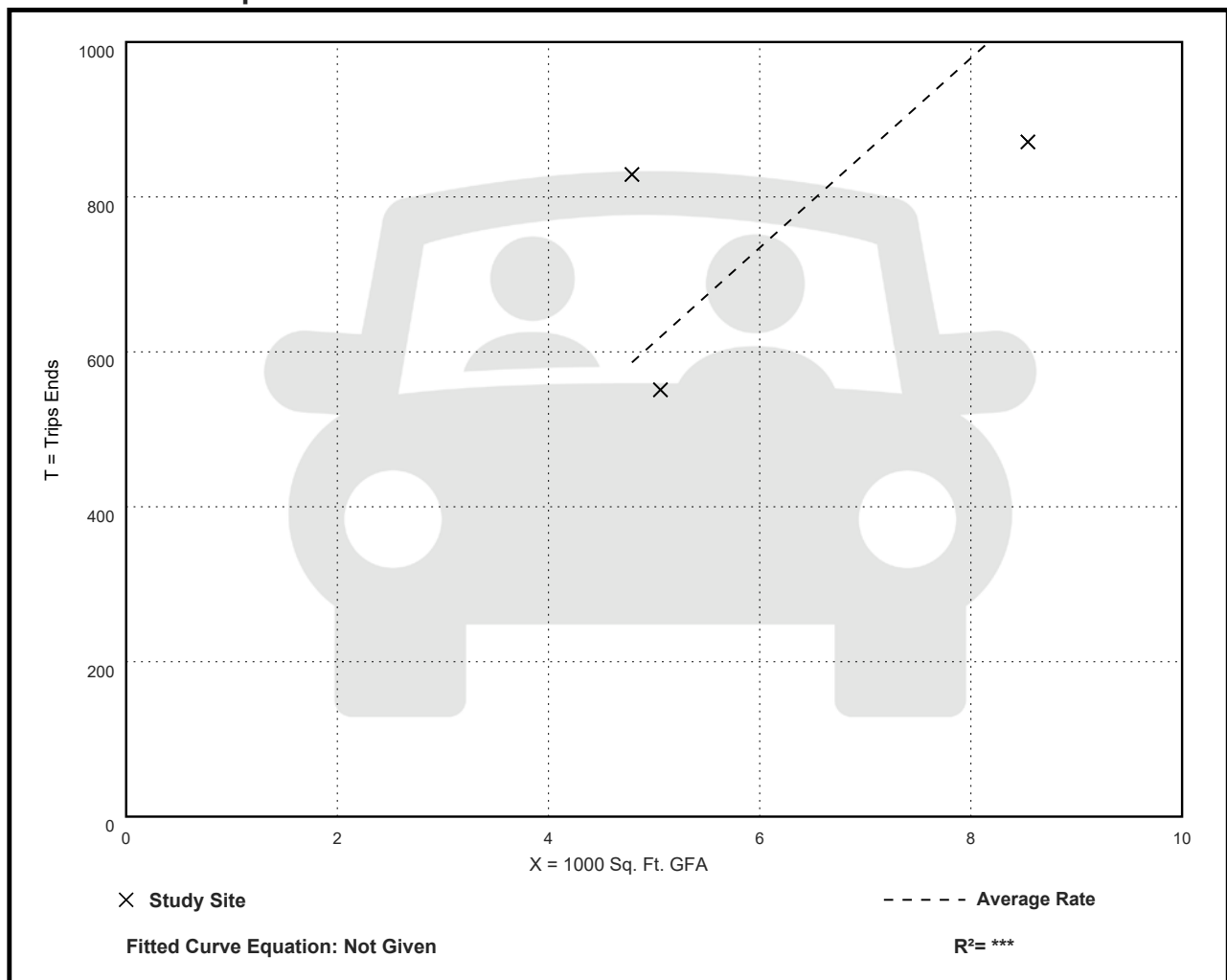
Avg. 1000 Sq. Ft. GFA: 6

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
122.40	101.99 - 173.07	36.99

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 22

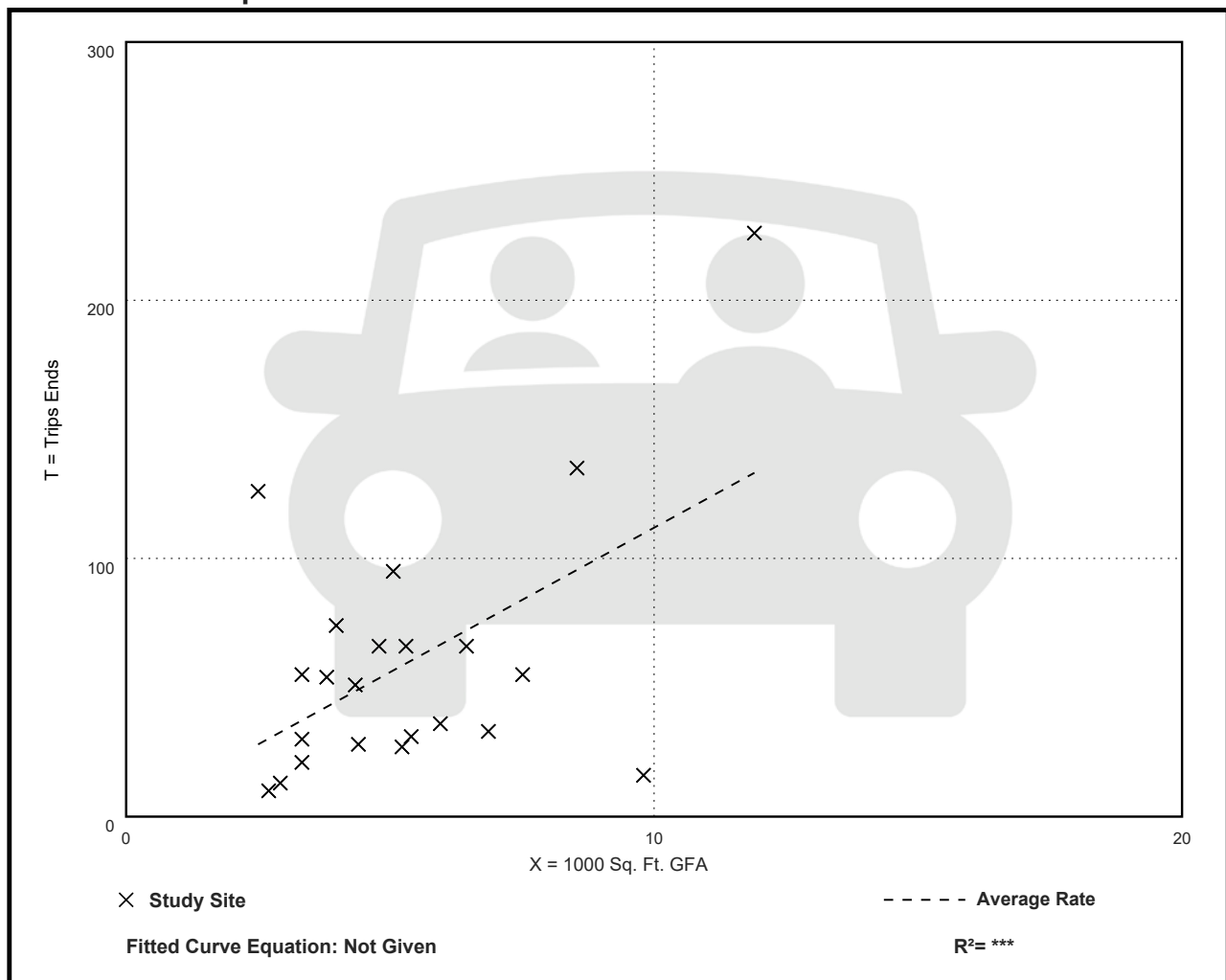
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.19	1.63 - 50.40	8.30

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Sunday

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. 1000 Sq. Ft. GFA: 5

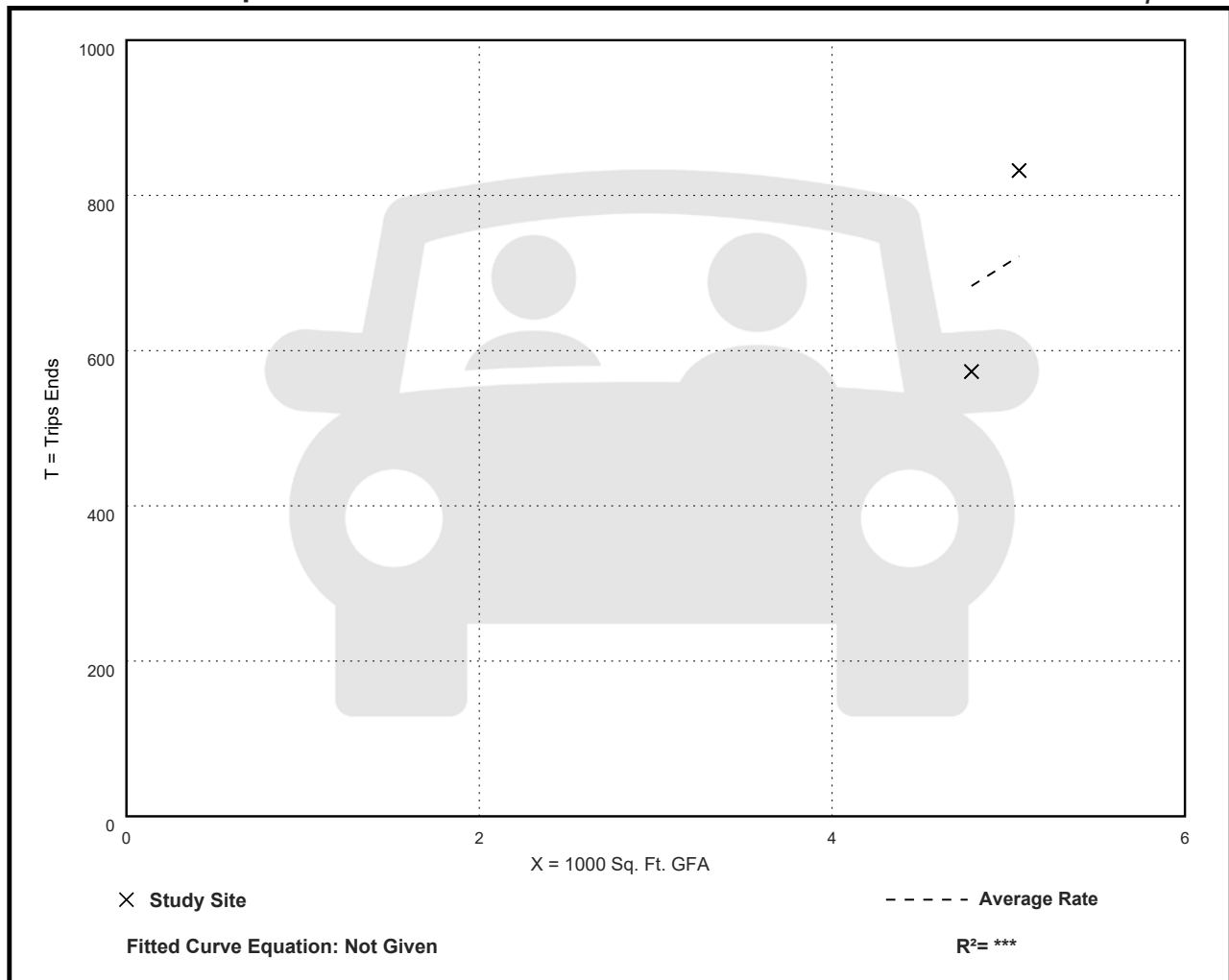
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
142.64	119.62 - 164.43	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Sunday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 3

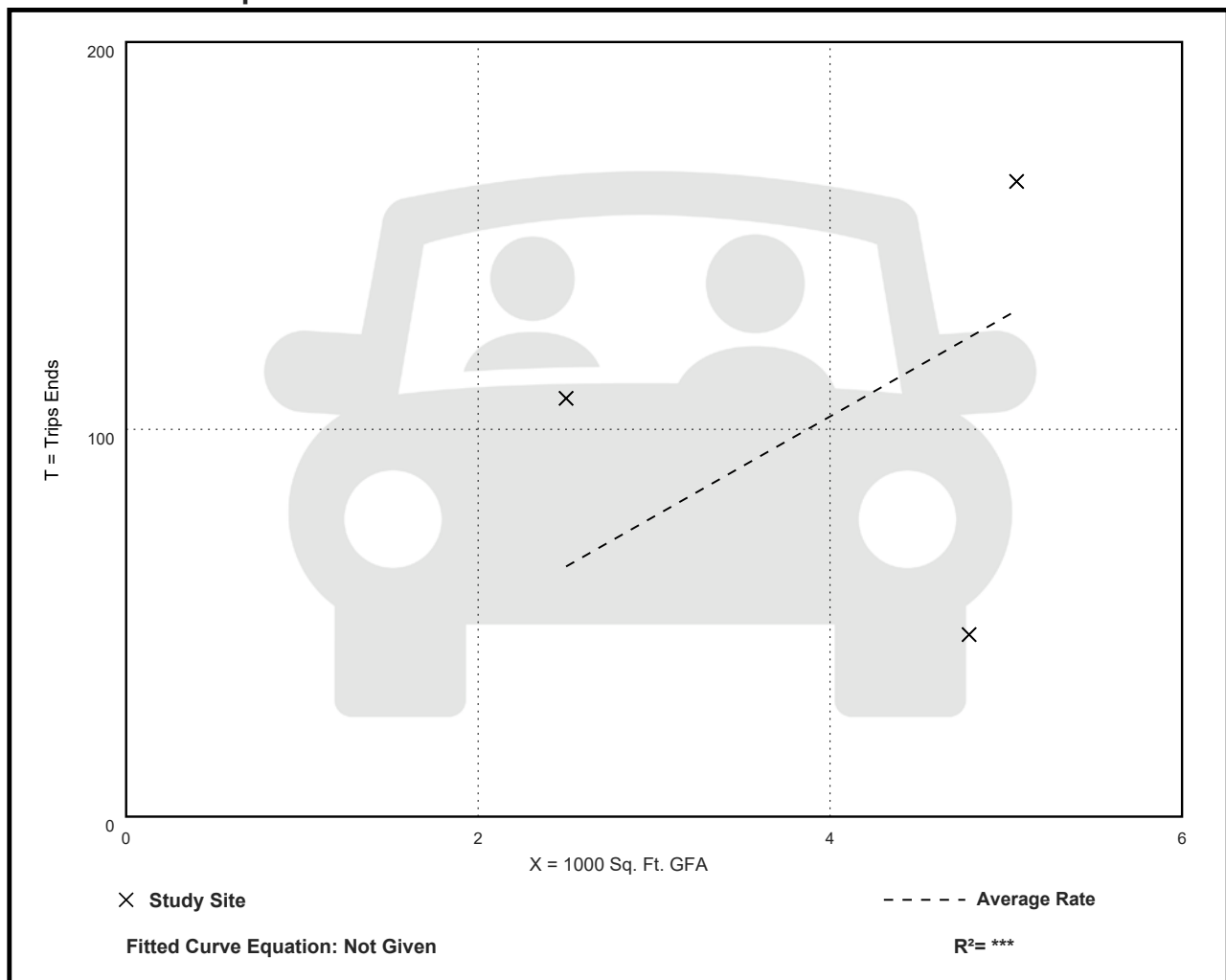
Avg. 1000 Sq. Ft. GFA: 4

Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
25.83	9.81 - 43.20	16.36

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Seats: 148

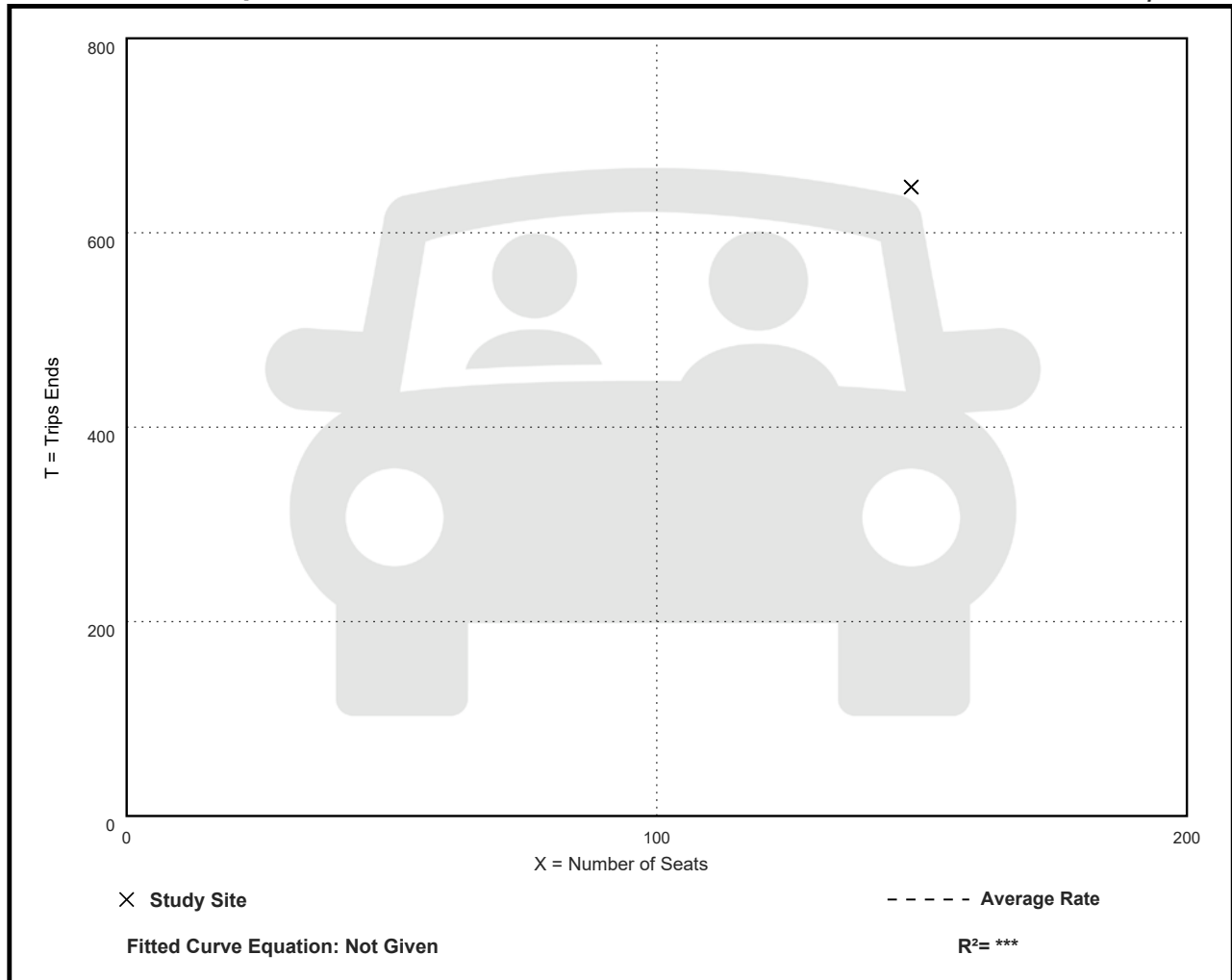
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
4.37	4.37 - 4.37	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 7

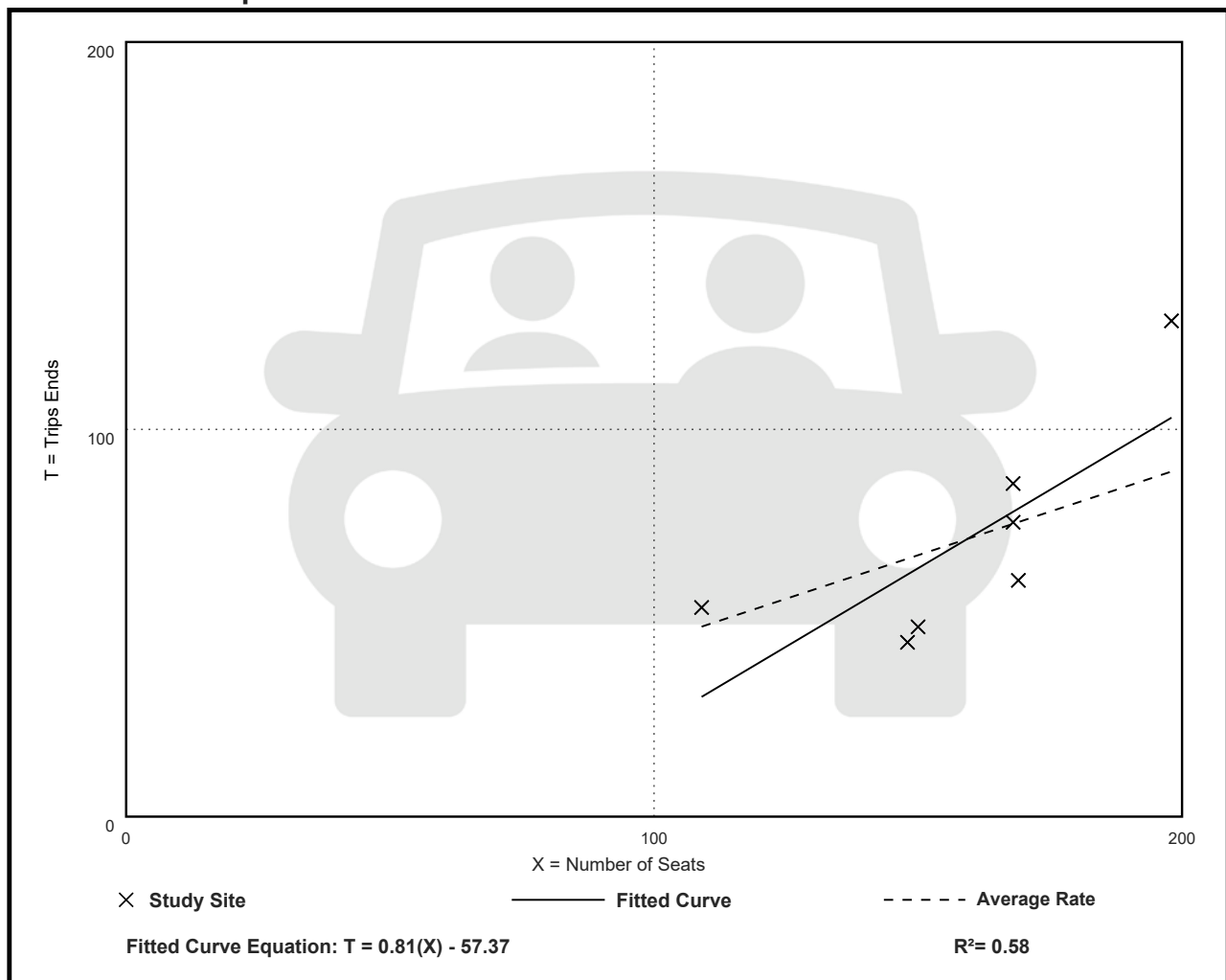
Avg. Num. of Seats: 159

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.45	0.30 - 0.65	0.13

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 14

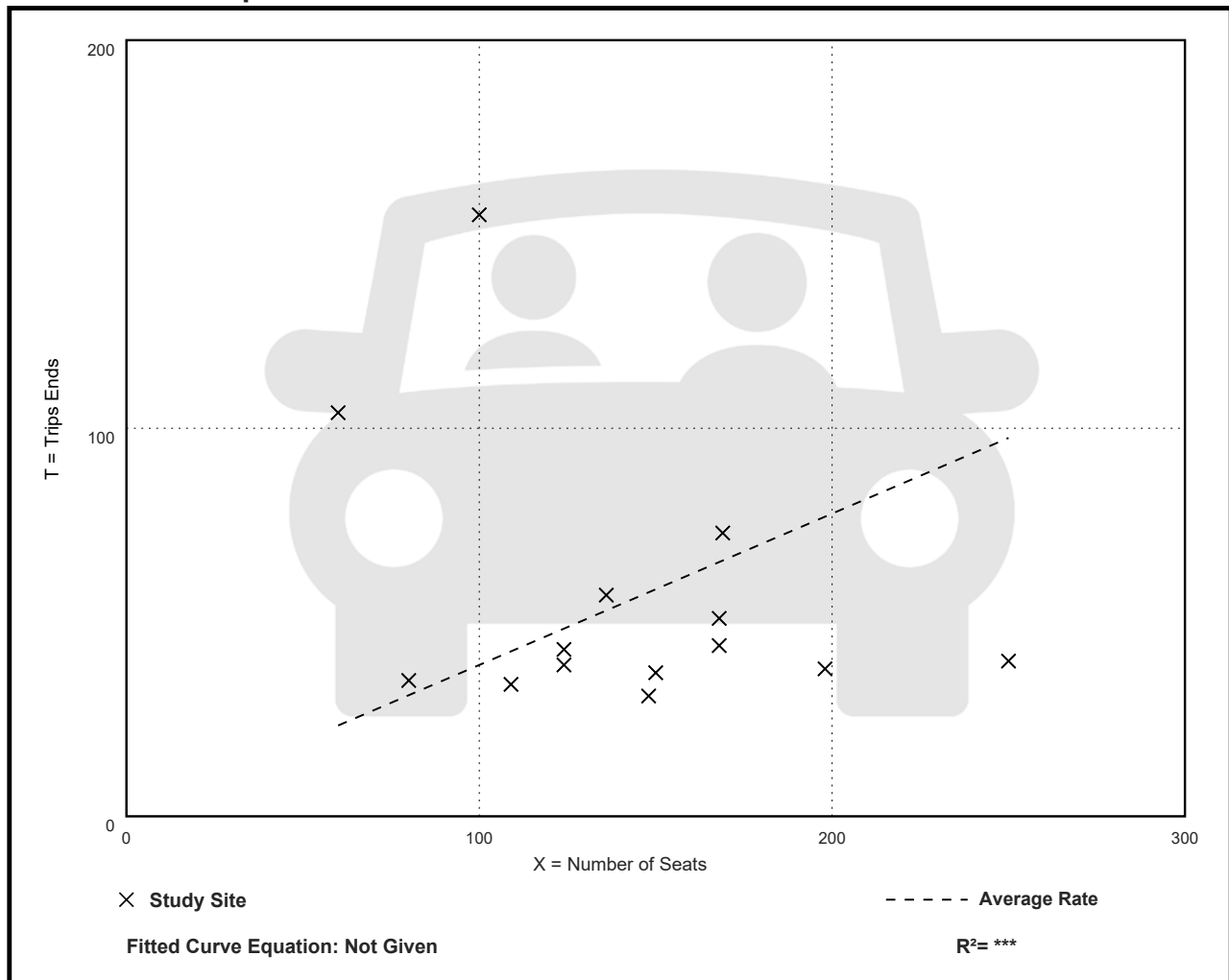
Avg. Num. of Seats: 142

Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.39	0.16 - 1.73	0.39

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

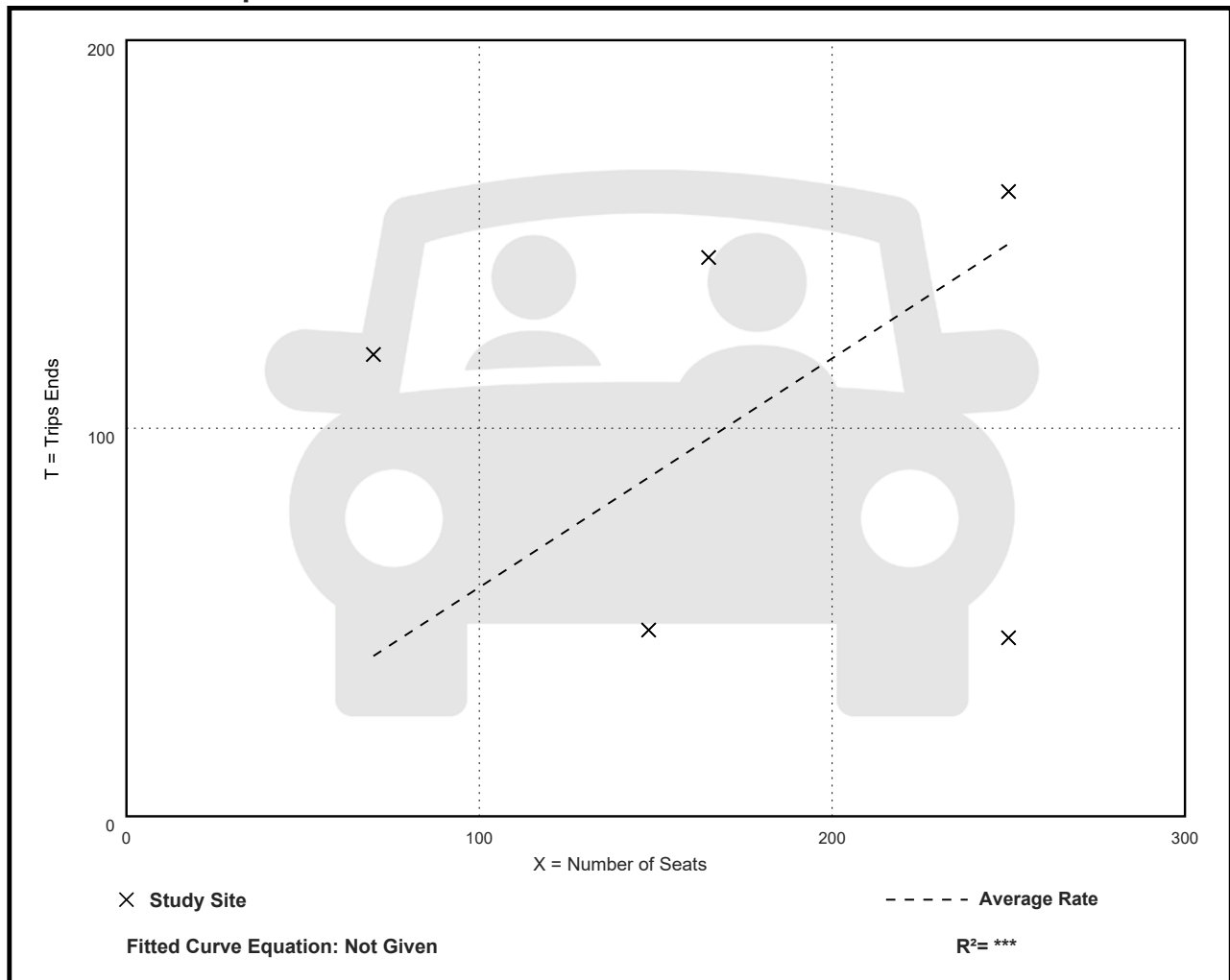
Avg. Num. of Seats: 177

Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.59	0.18 - 1.70	0.46

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 10

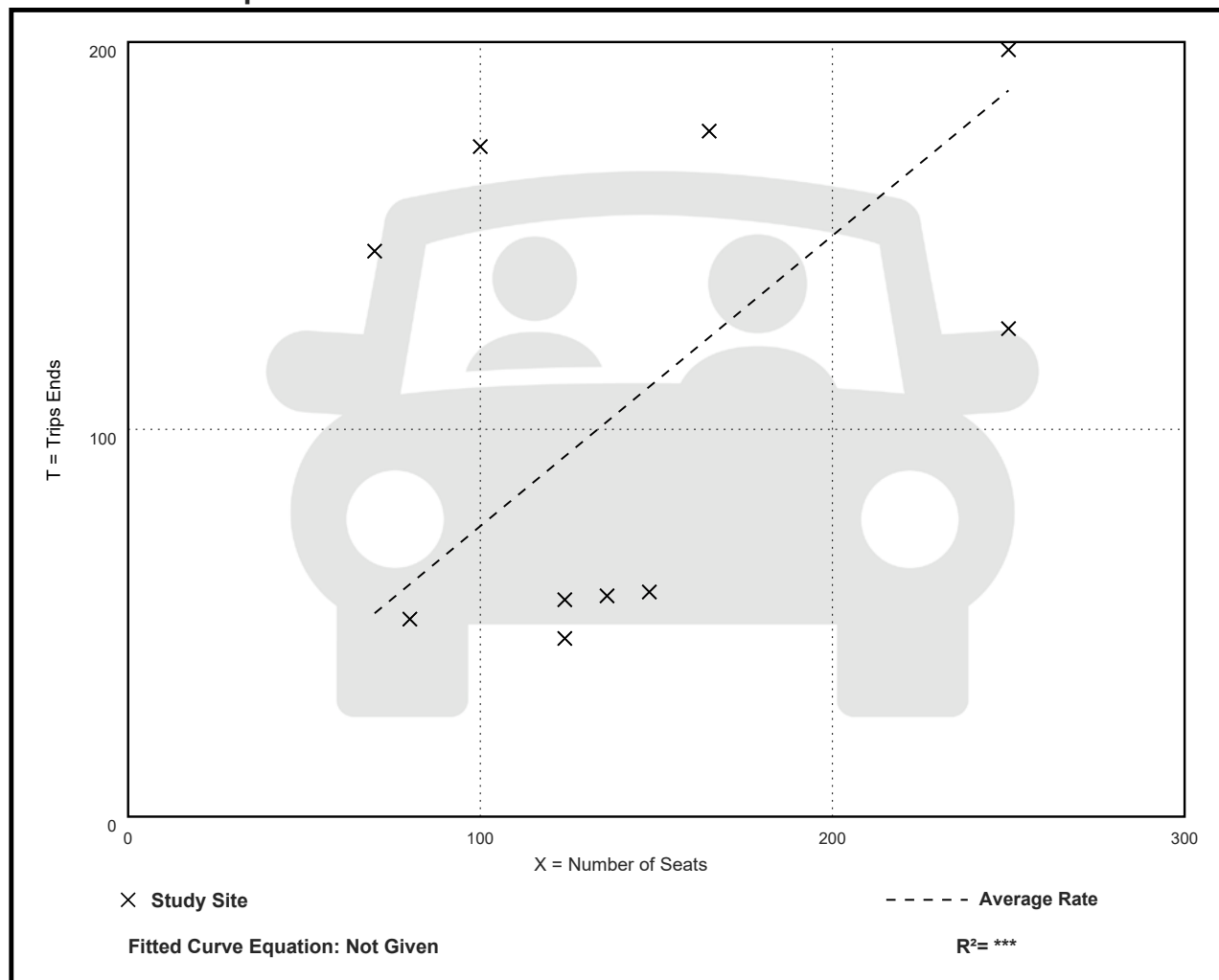
Avg. Num. of Seats: 145

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.75	0.37 - 2.09	0.49

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats
On a: Saturday

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Seats: 148

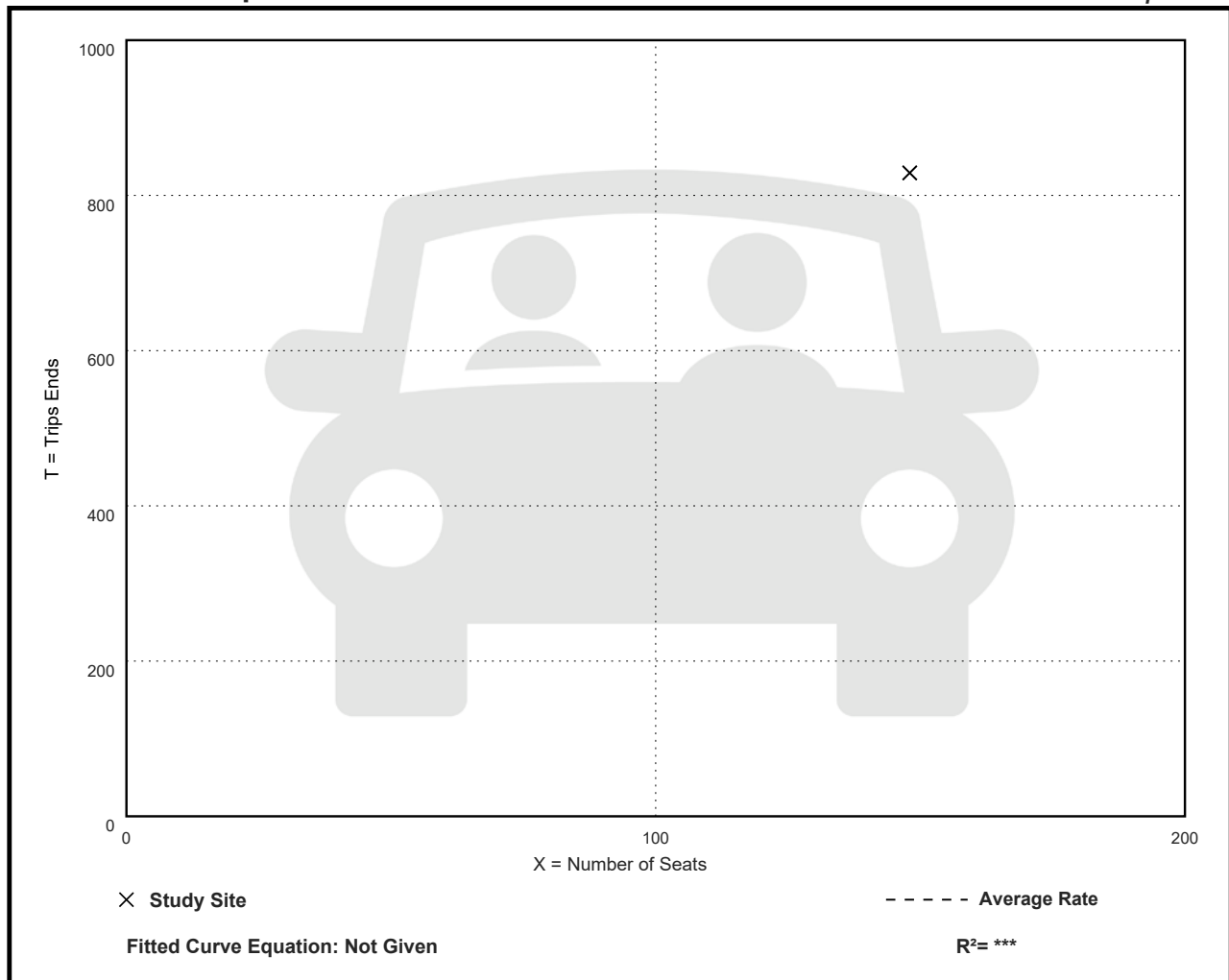
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
5.60	5.60 - 5.60	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 8

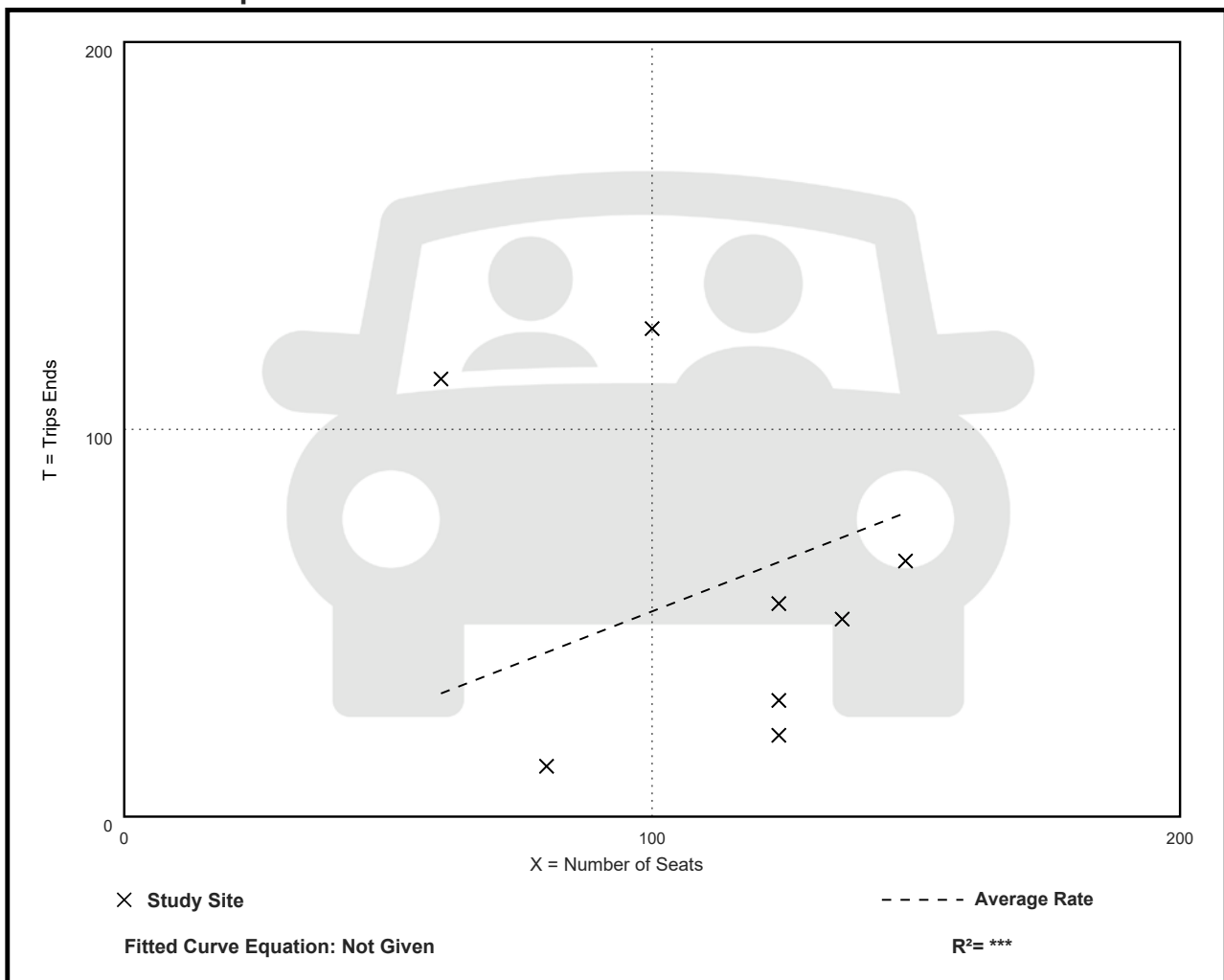
Avg. Num. of Seats: 112

Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.53	0.16 - 1.88	0.51

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats
On a: Sunday

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Seats: 148

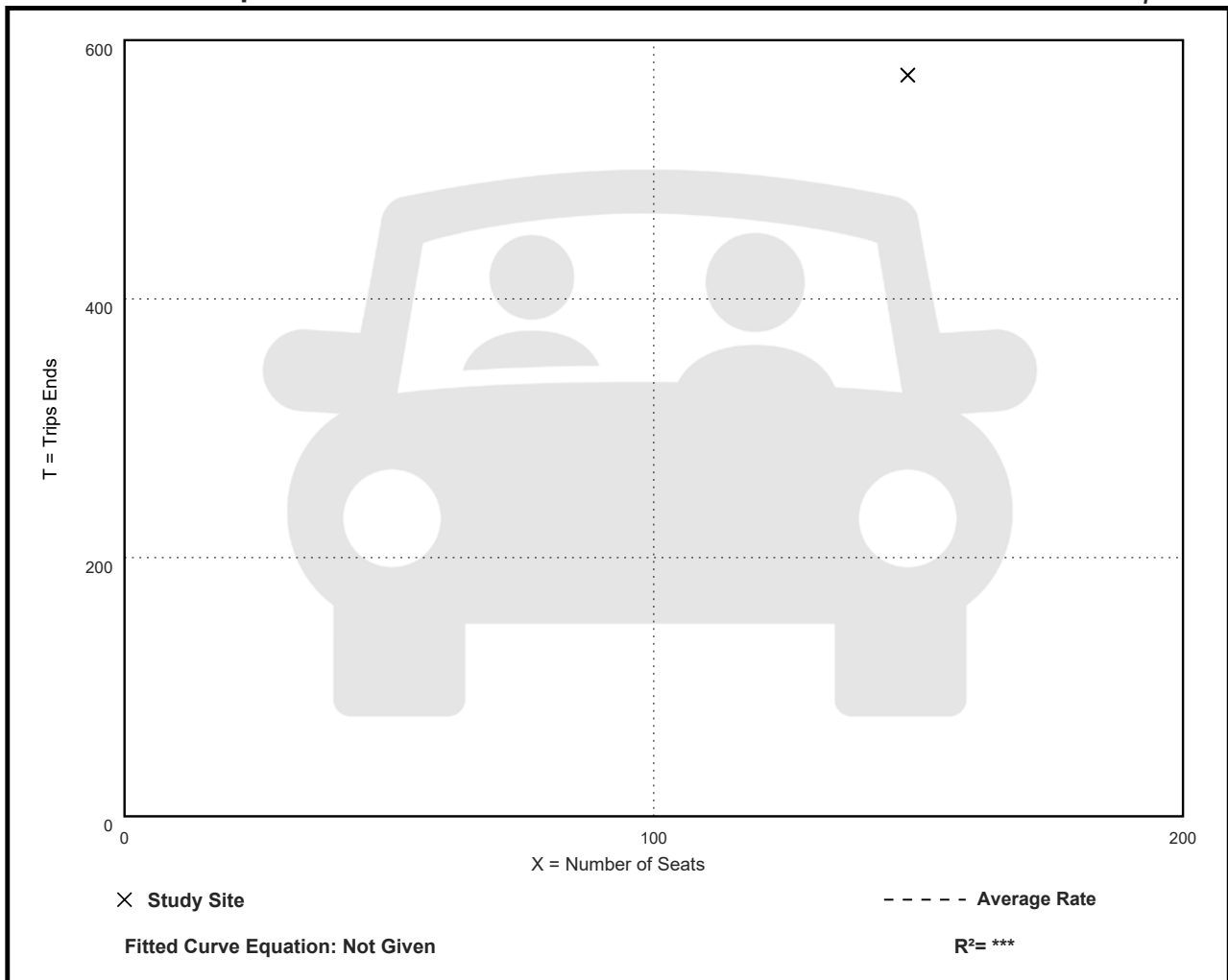
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
3.87	3.87 - 3.87	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Seats

On a: Sunday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Seats: 124

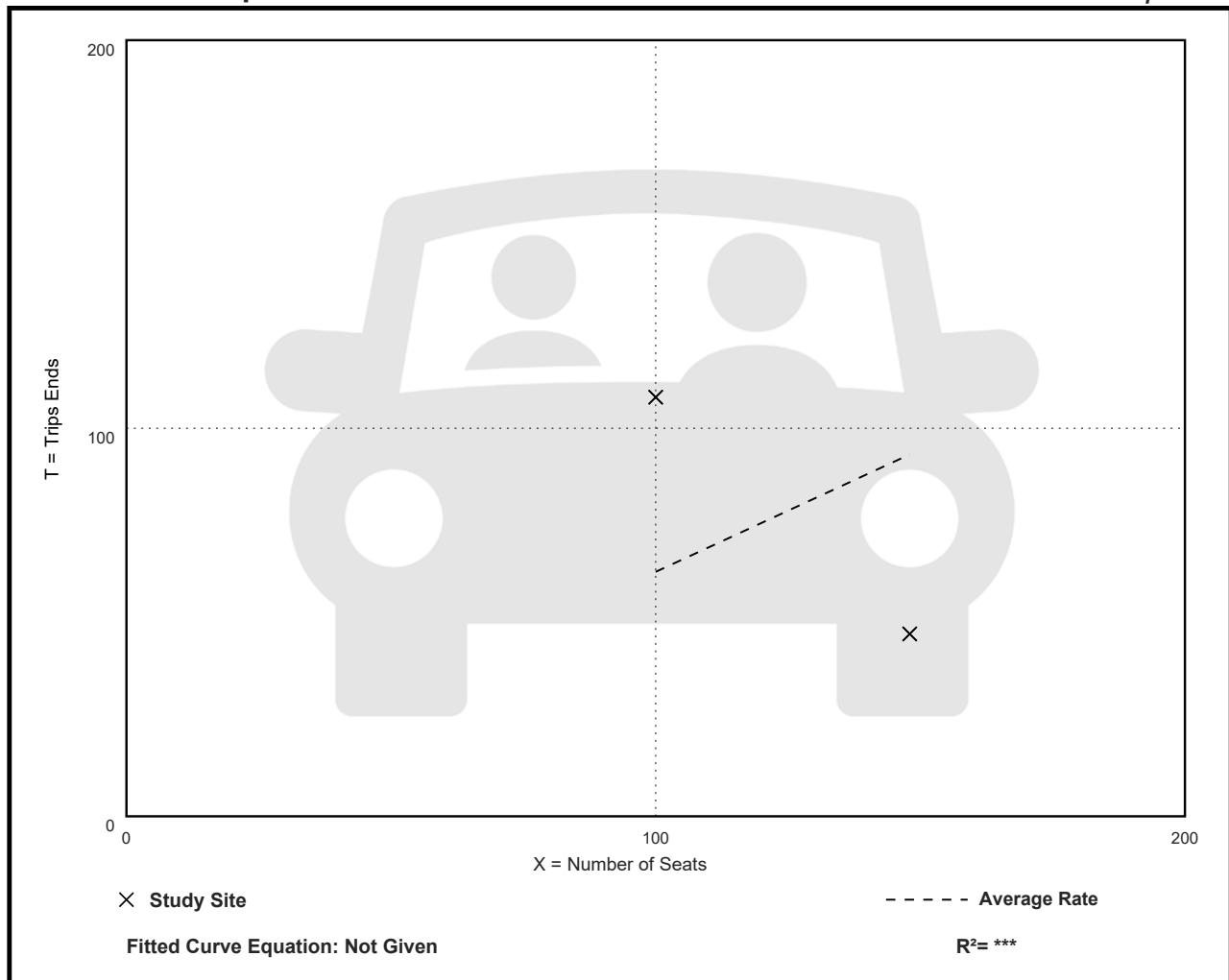
Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.63	0.32 - 1.08	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Employees
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 31

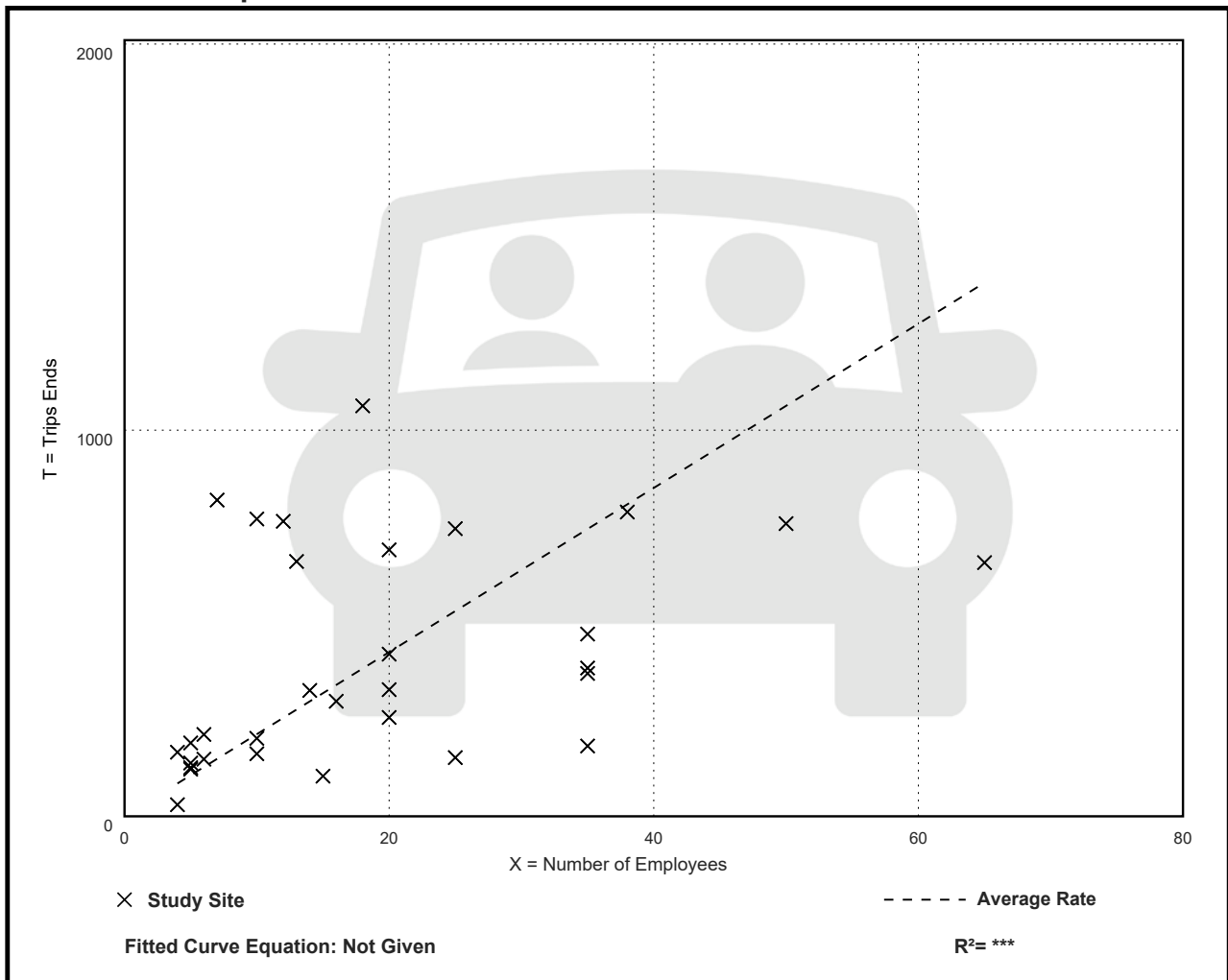
Avg. Num. of Employees: 19

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
21.26	5.20 - 117.00	18.96

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Employees

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 10

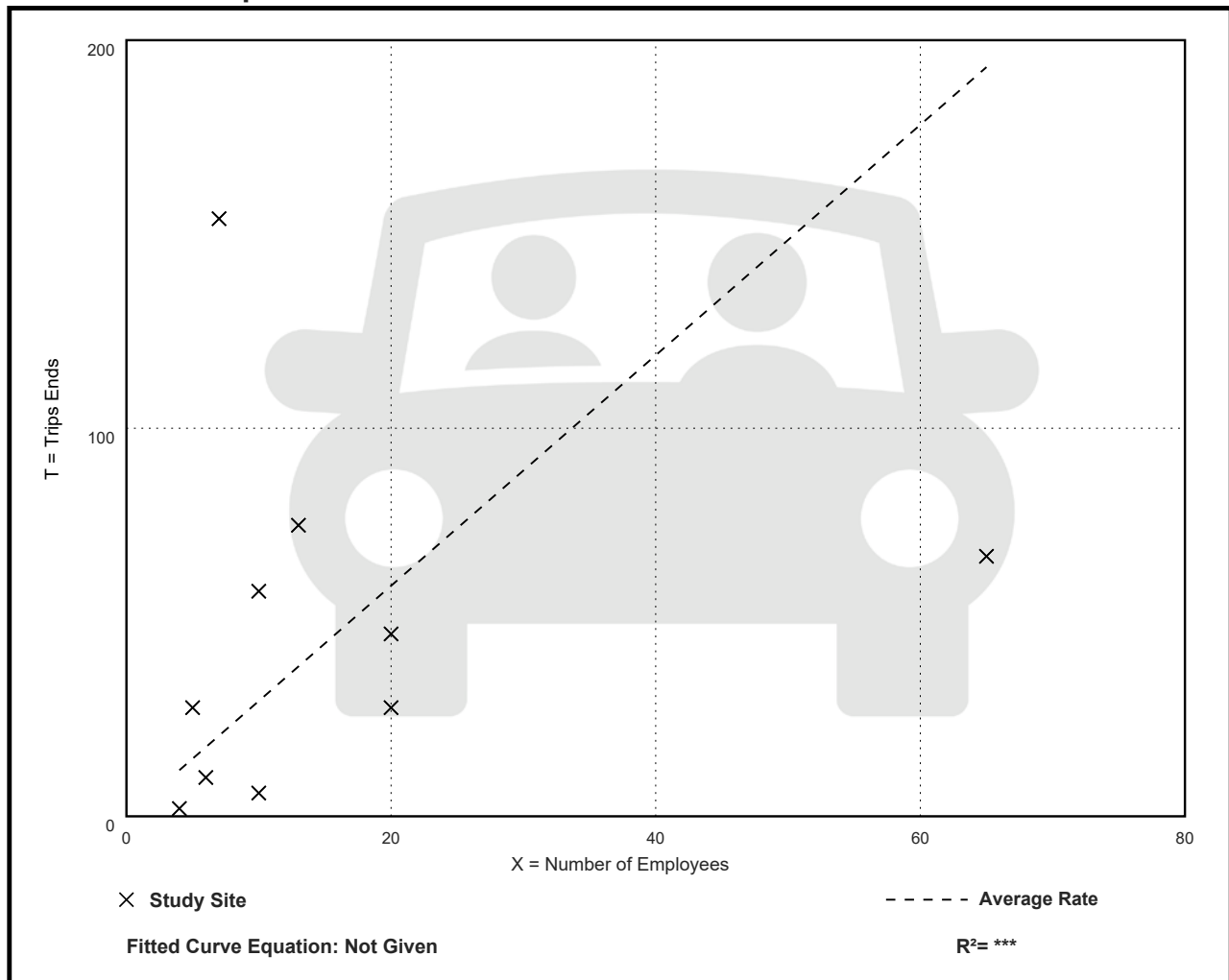
Avg. Num. of Employees: 16

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
2.97	0.50 - 22.00	4.67

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Employees

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 28

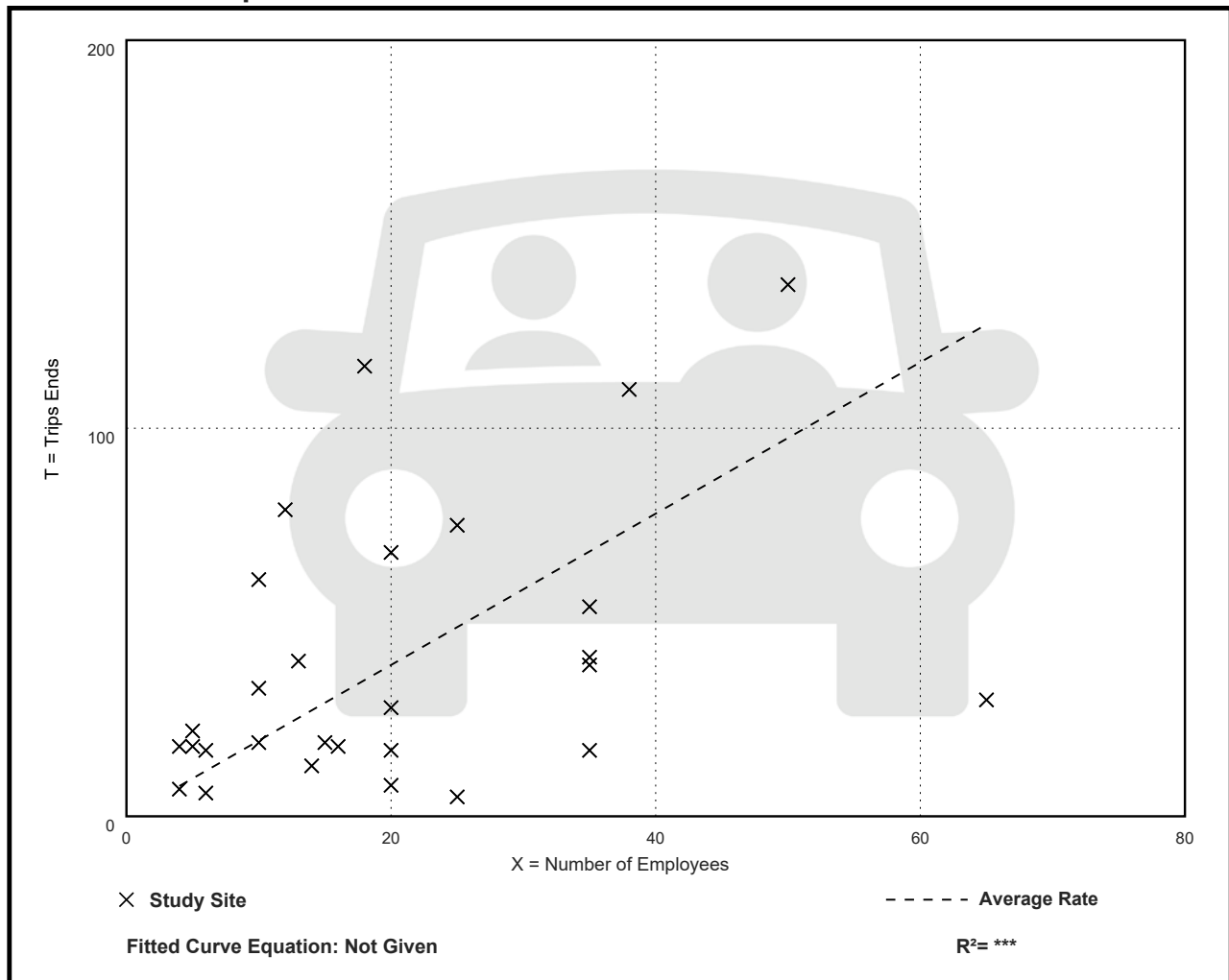
Avg. Num. of Employees: 20

Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.95	0.20 - 6.58	1.65

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Employees

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 30

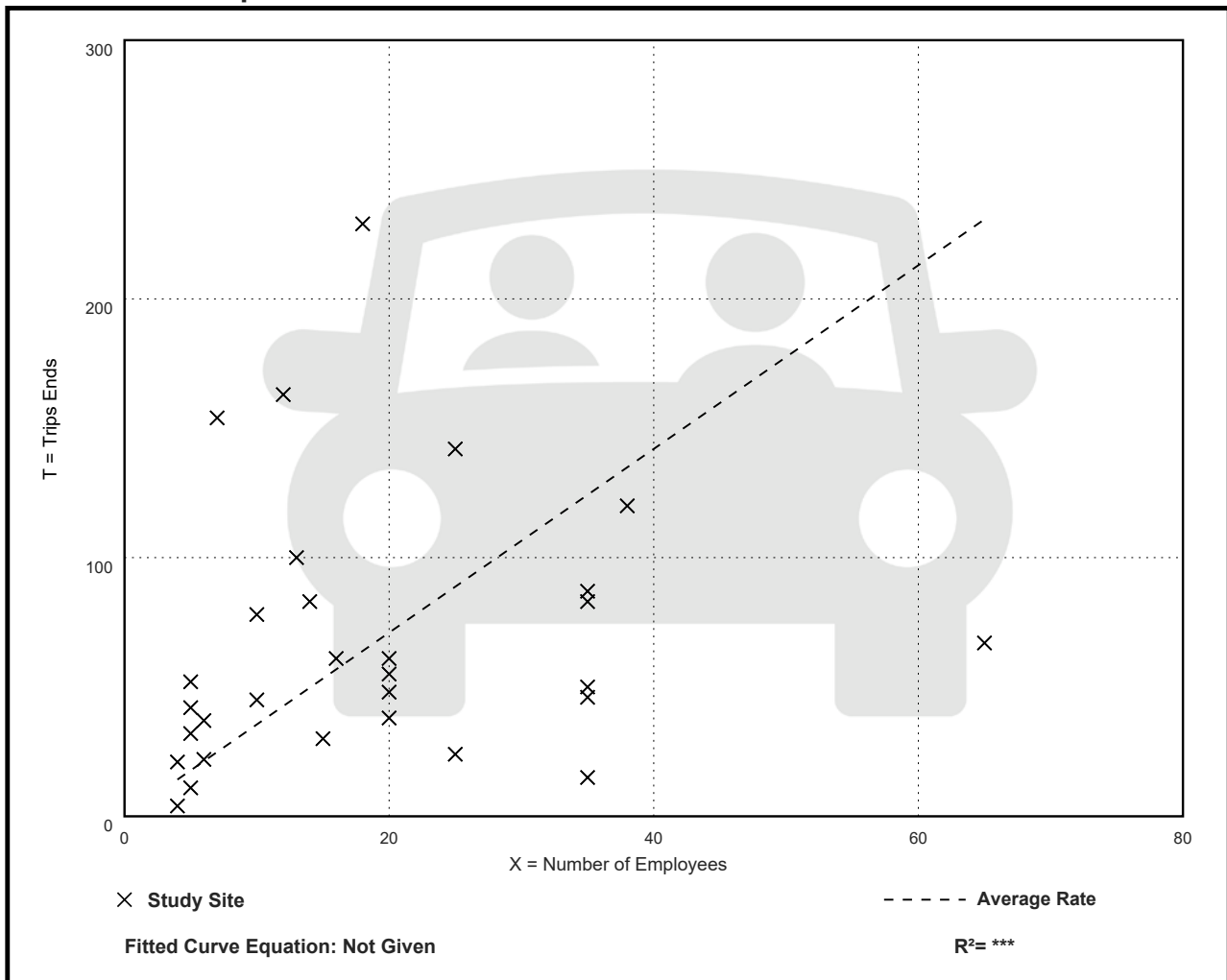
Avg. Num. of Employees: 19

Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
3.55	0.43 - 22.00	3.76

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: Employees

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 32

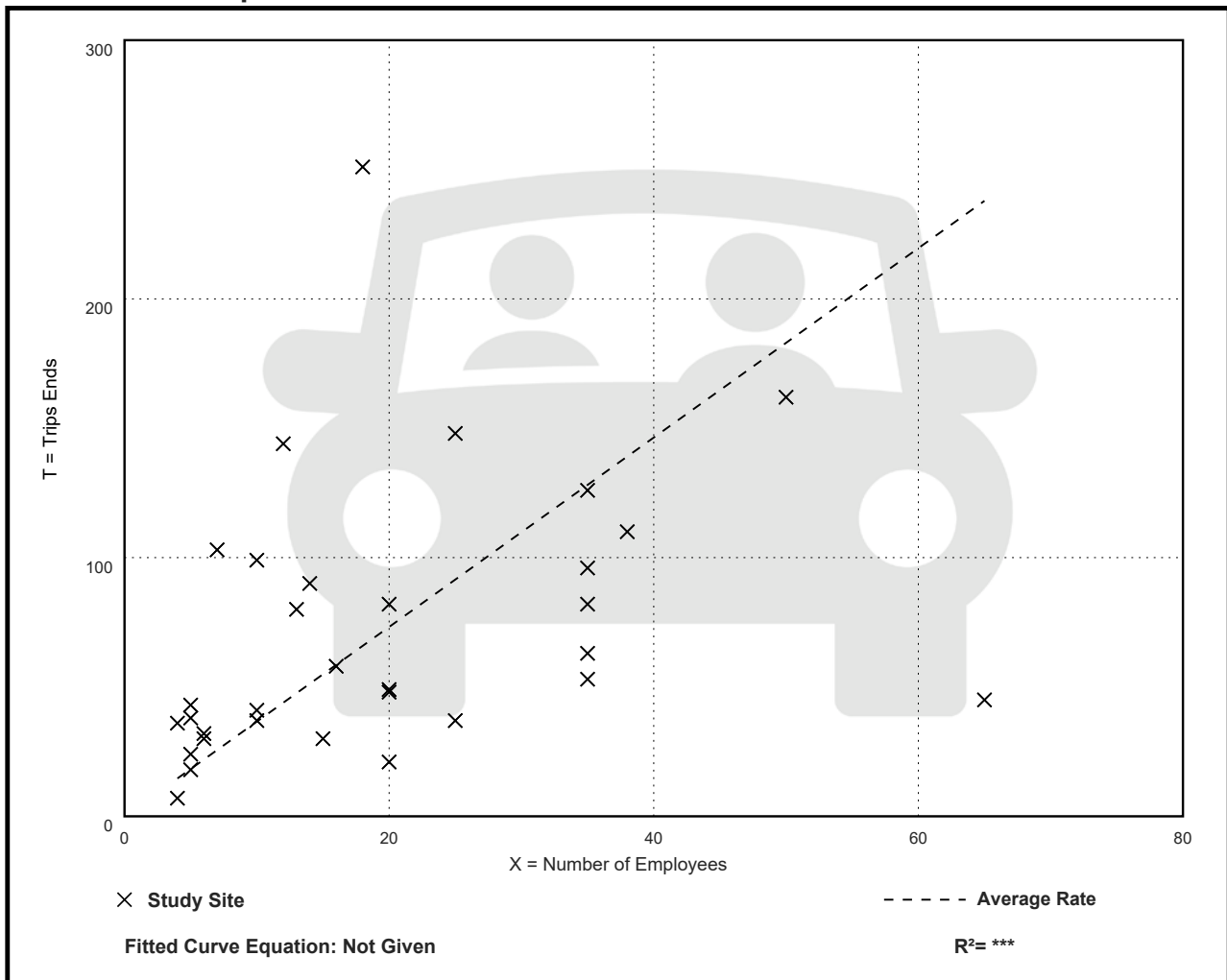
Avg. Num. of Employees: 19

Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
3.66	0.69 - 14.71	3.15

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 8

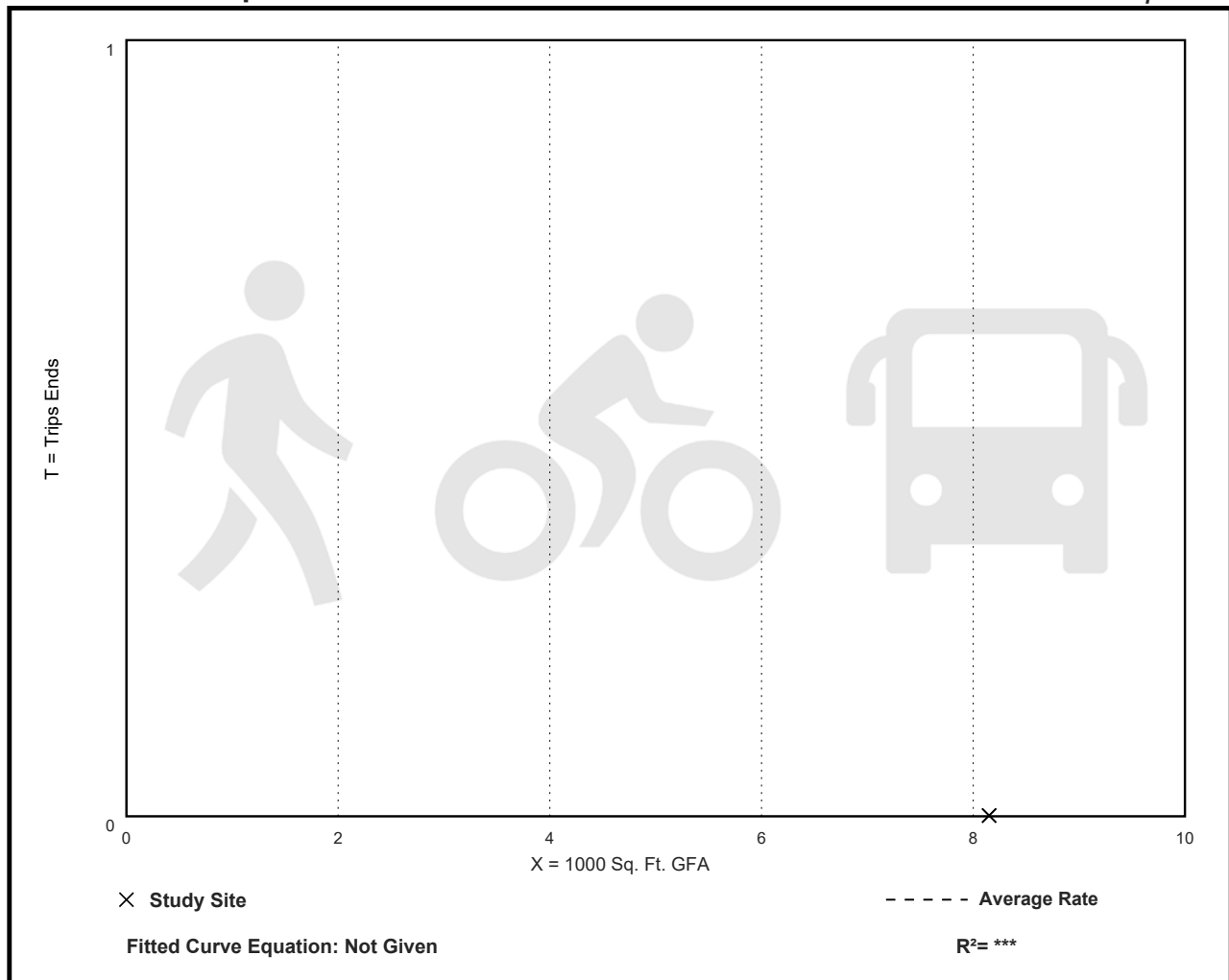
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.00	0.00 - 0.00	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 11

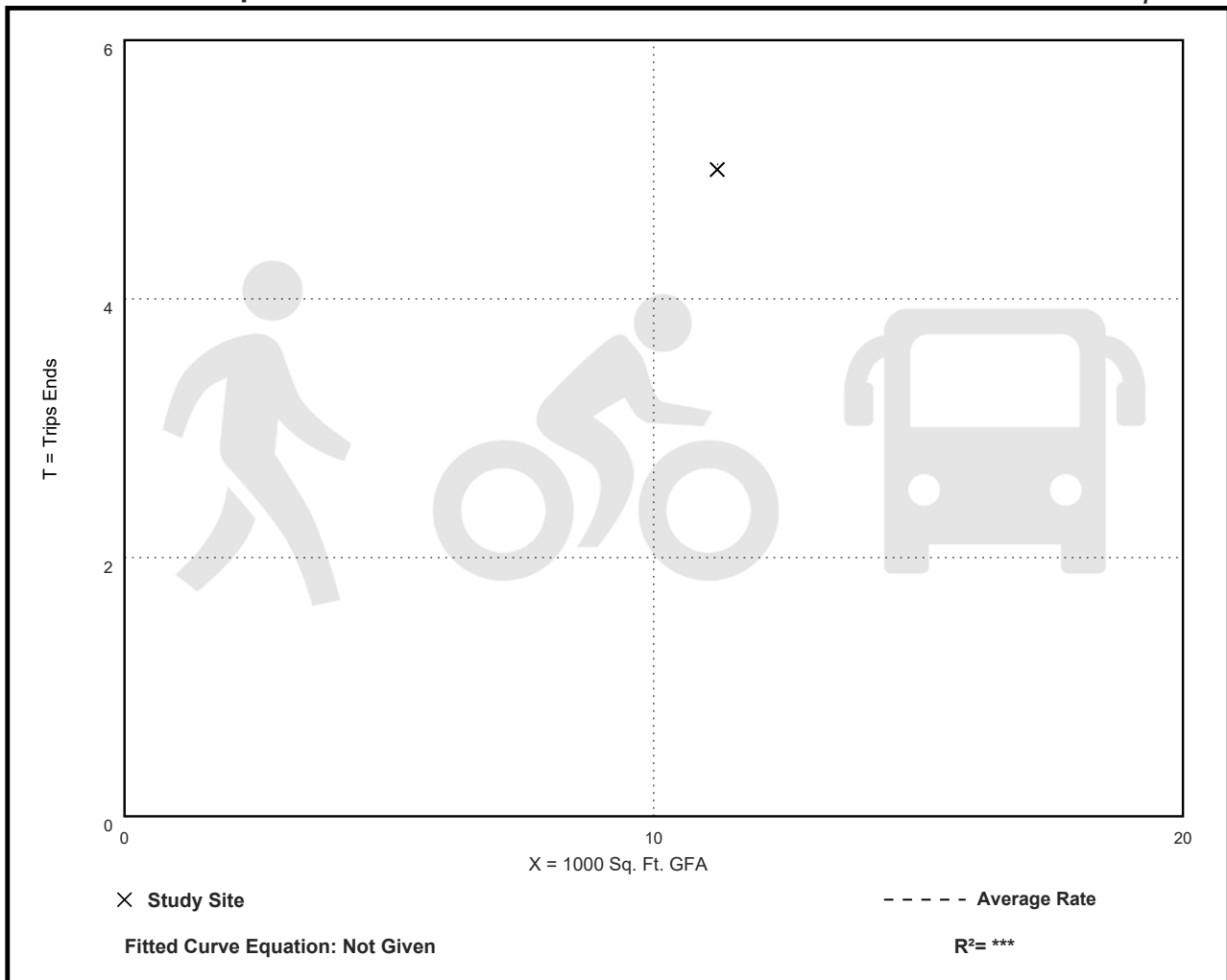
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.45	0.45 - 0.45	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

Walk+Bike+Transit Trip Ends vs: Seats

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Seats: 250

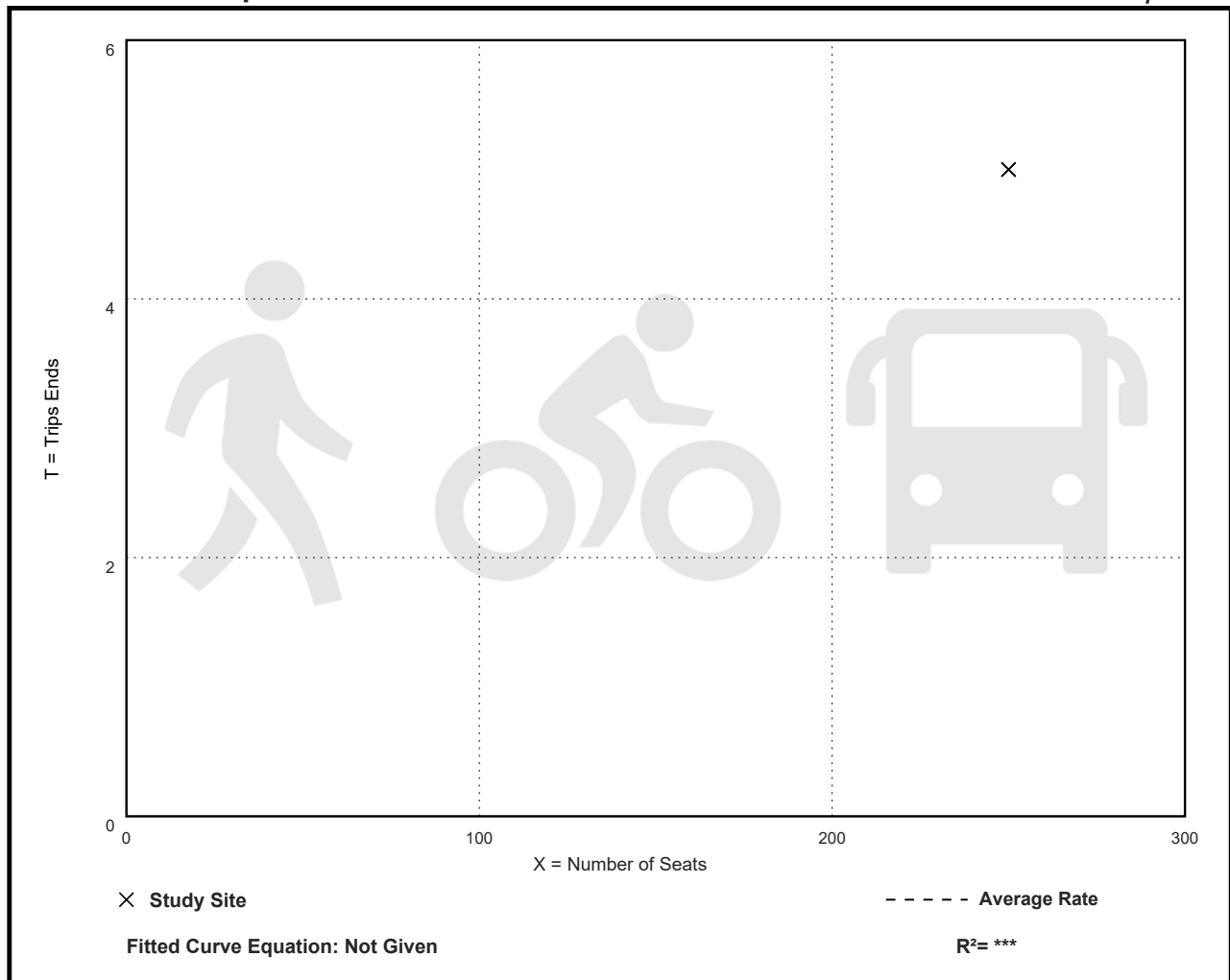
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.02	0.02 - 0.02	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

Walk+Bike+Transit Trip Ends vs: Employees

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Employees: 35

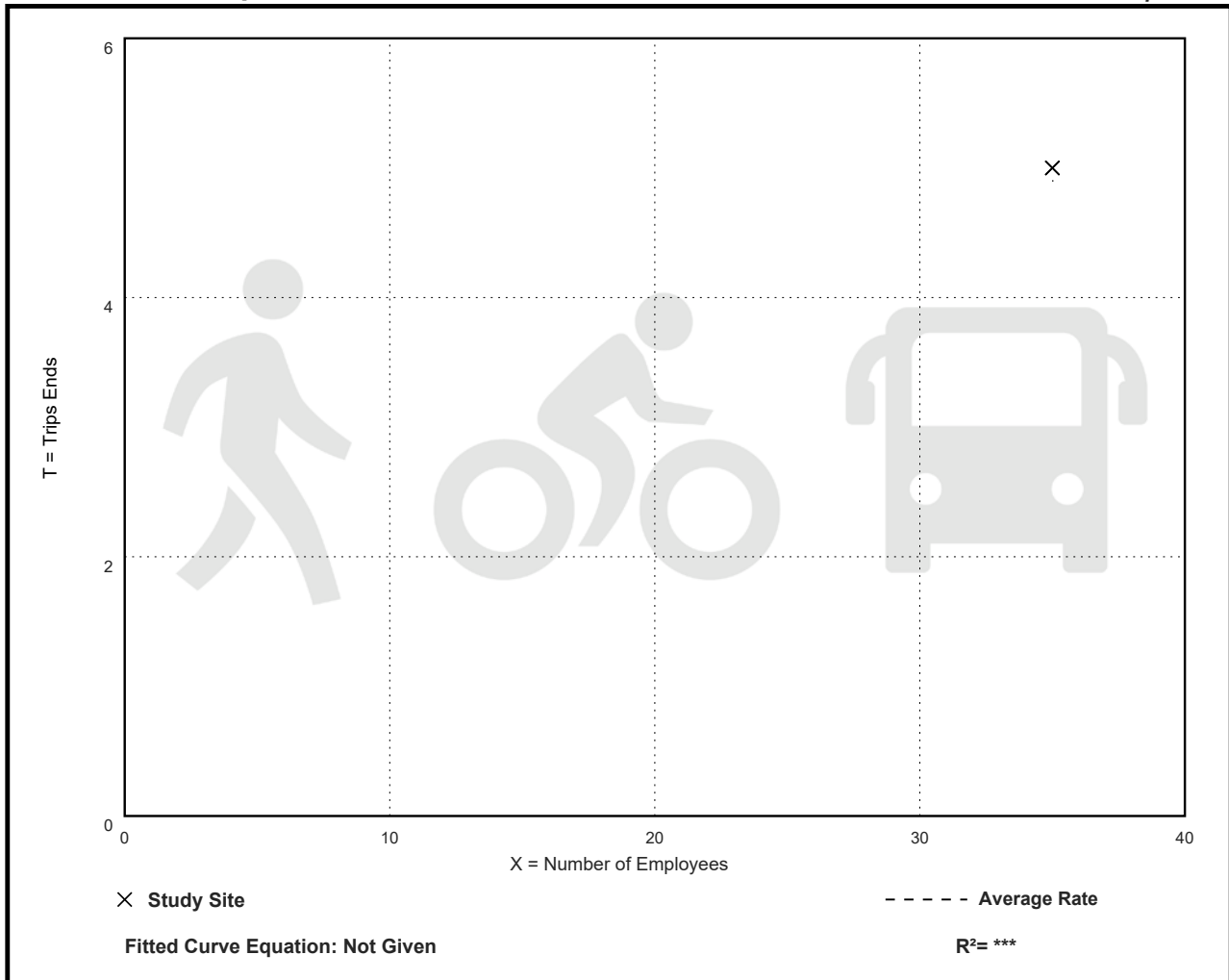
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.14	0.14 - 0.14	***

Data Plot and Equation

Caution – Small Sample Size



Land Use: 937

Coffee/Donut Shop with Drive-Through Window

Description

This land use includes any coffee and donut restaurant that has a drive-through window as well as a walk-in entrance area at which a patron can purchase and consume items. The restaurant sells freshly brewed coffee (along with coffee-related accessories) and a variety of food/drink products such as donuts, bagels, breads, muffins, cakes, sandwiches, wraps, salads, and other hot and cold beverages. The restaurant marketing and sales may emphasize coffee beverages over food (or vice versa).

A coffee/donut shop typically holds long store hours (more than 15 hours) with an early morning opening. Limited indoor seating is generally provided for patrons, but table service is not provided.

Coffee/donut shop without drive-through window (Land Use 936) and coffee/donut shop with drive-through window and no indoor seating (Land Use 938) are related uses.

Additional Data

The sites were surveyed in the 1990s, the 2000s, and the 2010s in California, Colorado, Connecticut, Illinois, Massachusetts, Minnesota, Nevada, New Hampshire, New Jersey, New York, Ontario (CAN), Pennsylvania, Quebec (CAN), Tennessee, Vermont, Washington, and Wisconsin.

Specialized Land Use Data

One study was conducted during the pandemic in 2020. Twelve sites were counted in Illinois and Missouri during the AM and PM adjacent street peak hours. The data have not been incorporated within the overall ITE trip generation database and are not reflected in the data plots for this land use. Consideration for their inclusion will be given for the 12th Edition of *Trip Generation Manual* after additional post-pandemic data are collected. Overall, the pandemic counts yielded an AM adjacent street peak weighted average rate of 84 vehicle trips per 1,000 square feet GFA, roughly equivalent to the pre-pandemic average. The PM adjacent street peak rate was 56 (roughly 40 percent higher than the pre-pandemic value). The higher PM peak rate for these coffee/donut shops conforms with anecdotal observations that with the temporary or permanent closures of many restaurants during the pandemic, the drive-through restaurants that were open did a brisk business even during their off-peak periods.

Source Numbers

594, 599, 615, 617, 618, 621, 622, 635, 639, 712, 714, 725, 726, 728, 853, 854, 892, 903, 928, 959, 979, 982, 1004, 1042, 1044

Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 6

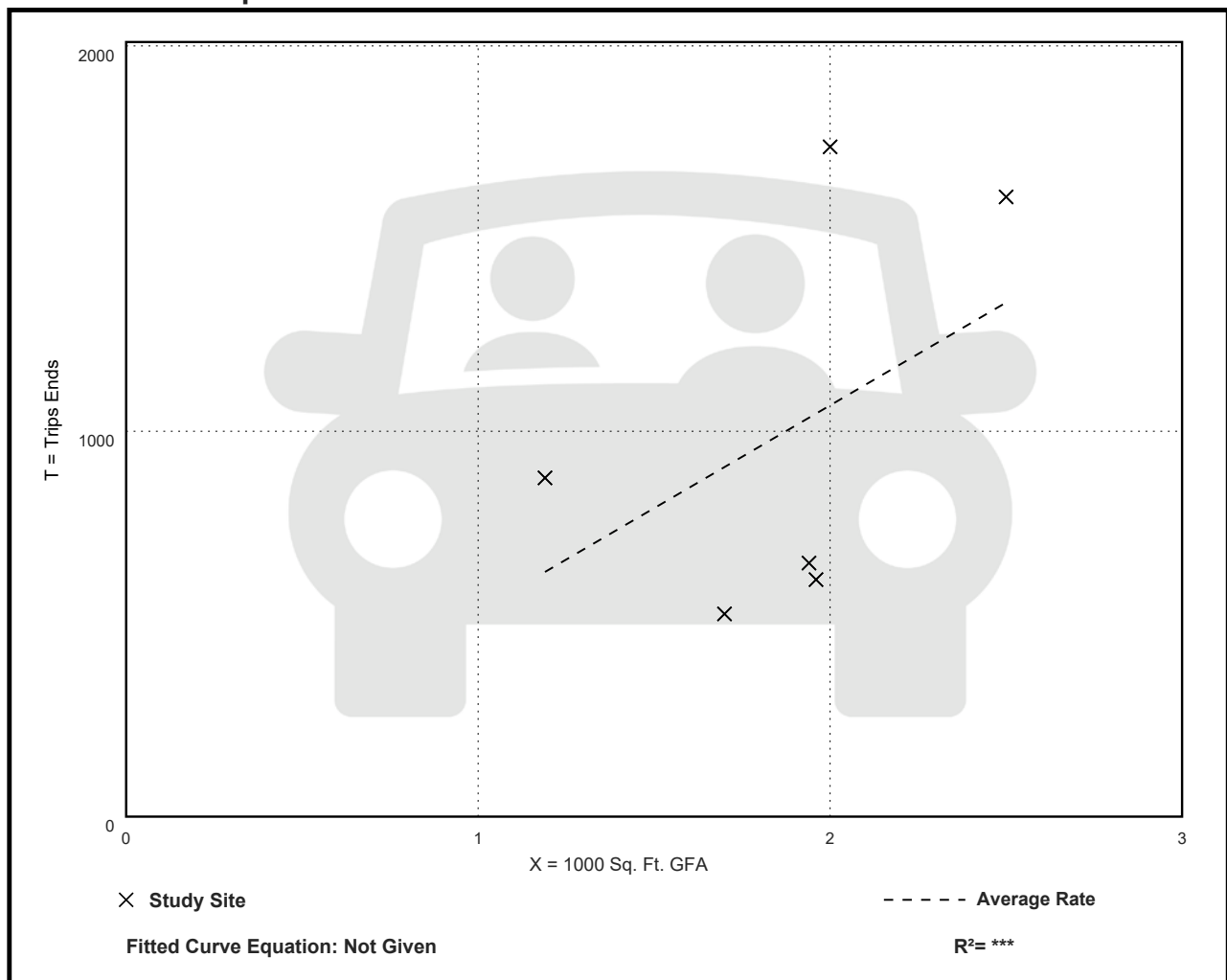
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
533.57	309.41 - 869.00	243.65

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 78

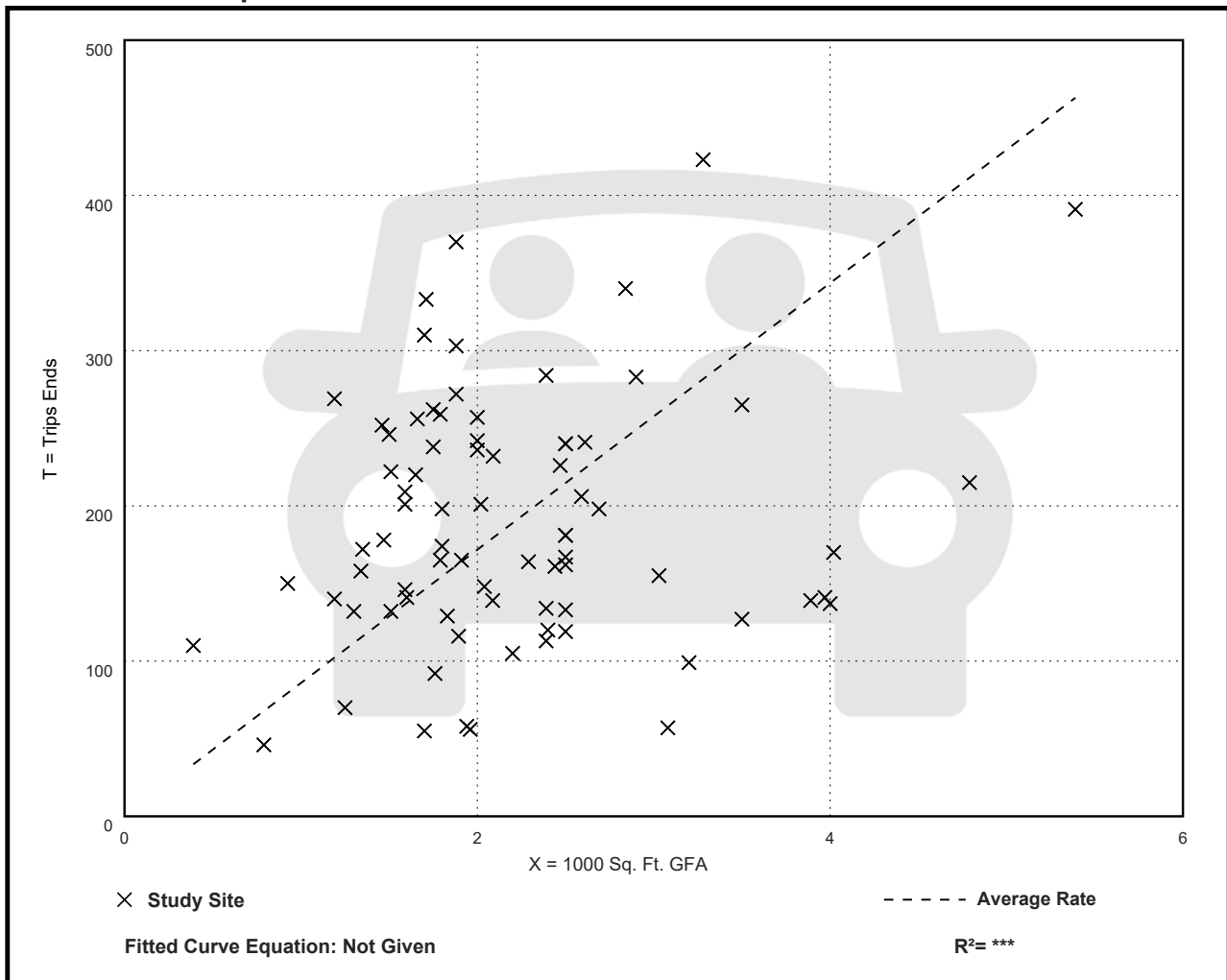
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
85.88	18.51 - 282.05	44.92

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 36

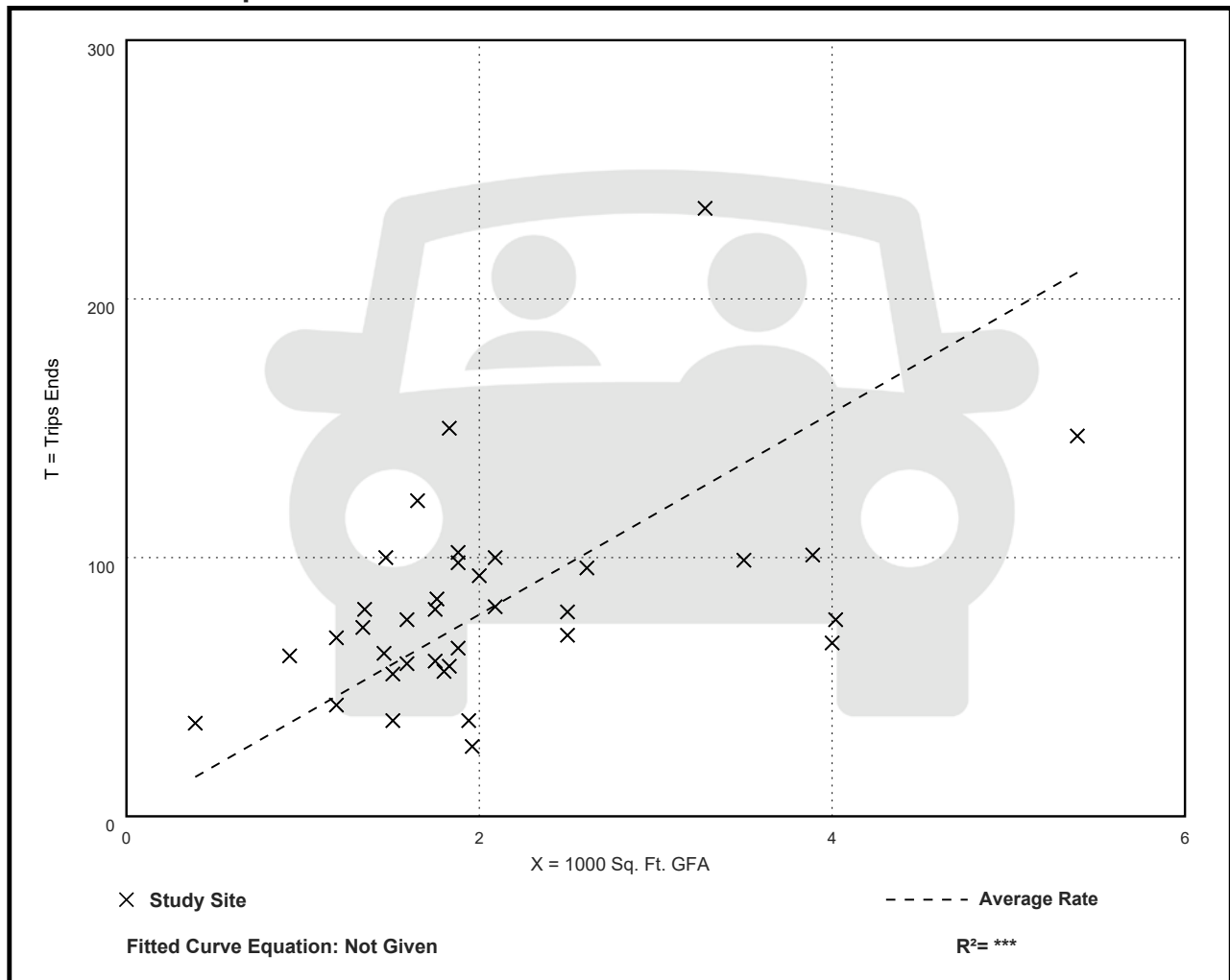
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
38.99	13.78 - 92.31	17.79

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 62

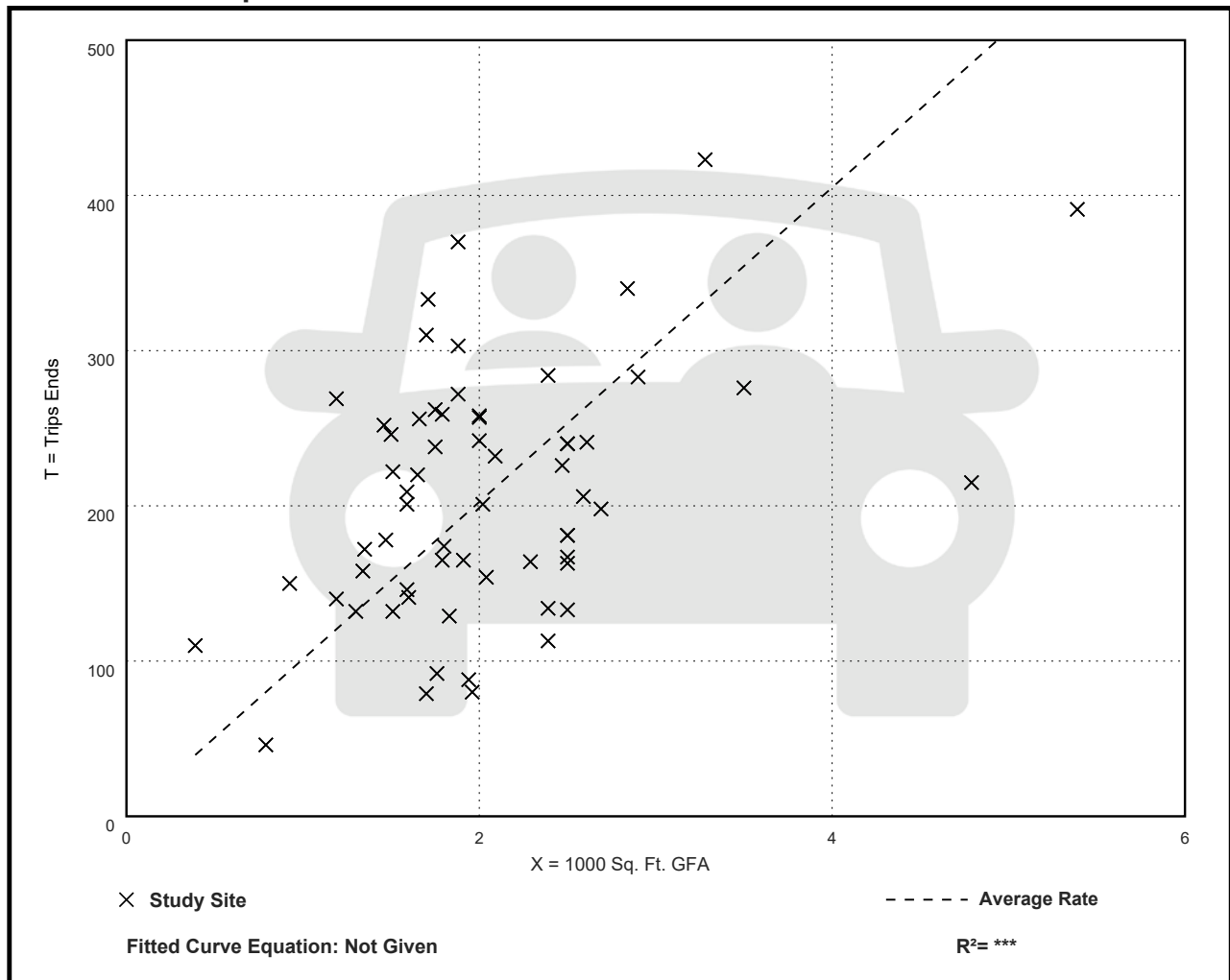
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
101.27	40.82 - 282.05	41.74

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 34

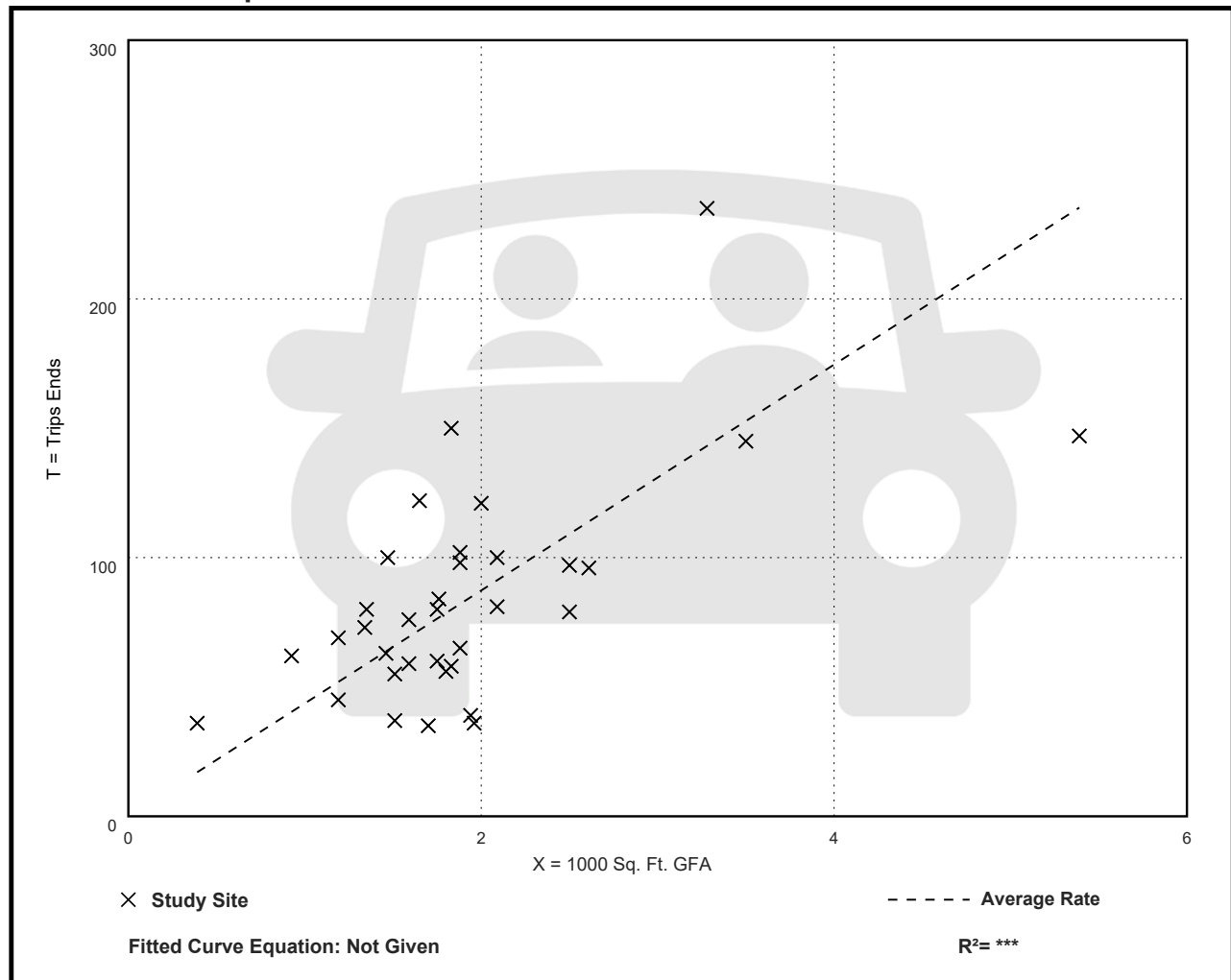
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
43.65	18.37 - 92.31	16.74

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 9

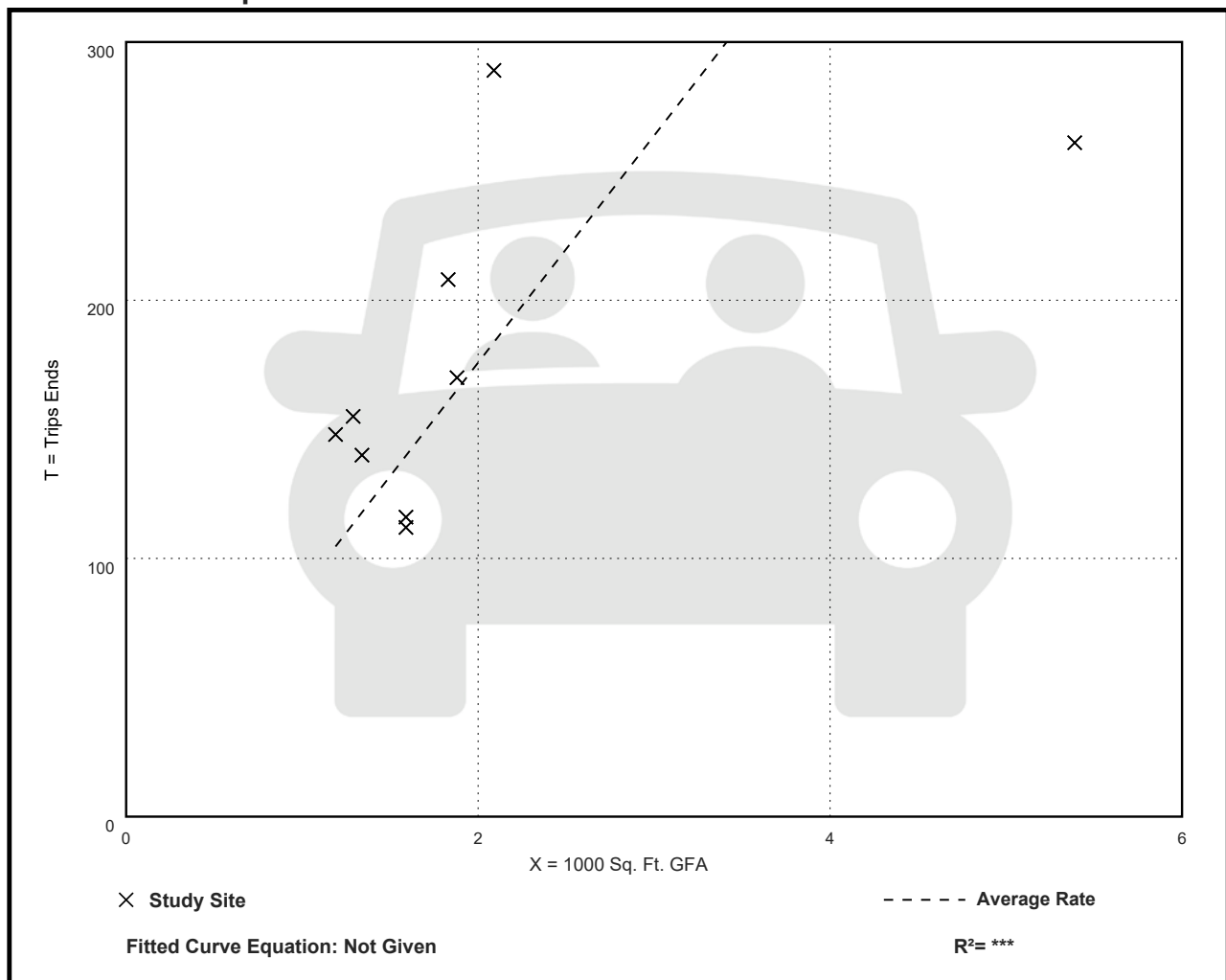
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
87.91	48.42 - 138.28	34.34

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: Seats

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 4

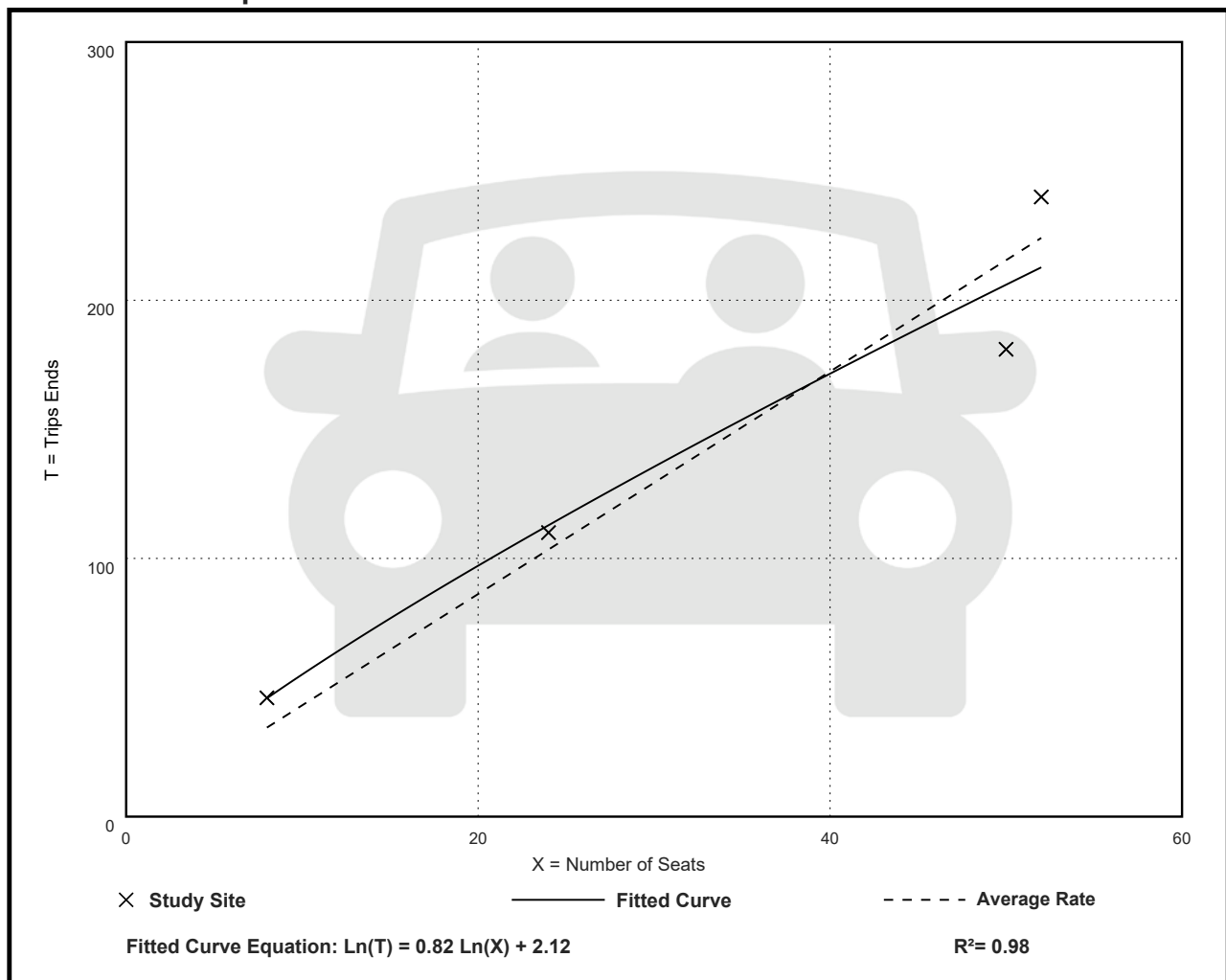
Avg. Num. of Seats: 34

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
4.31	3.62 - 5.75	0.68

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: Seats

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Seats: 24

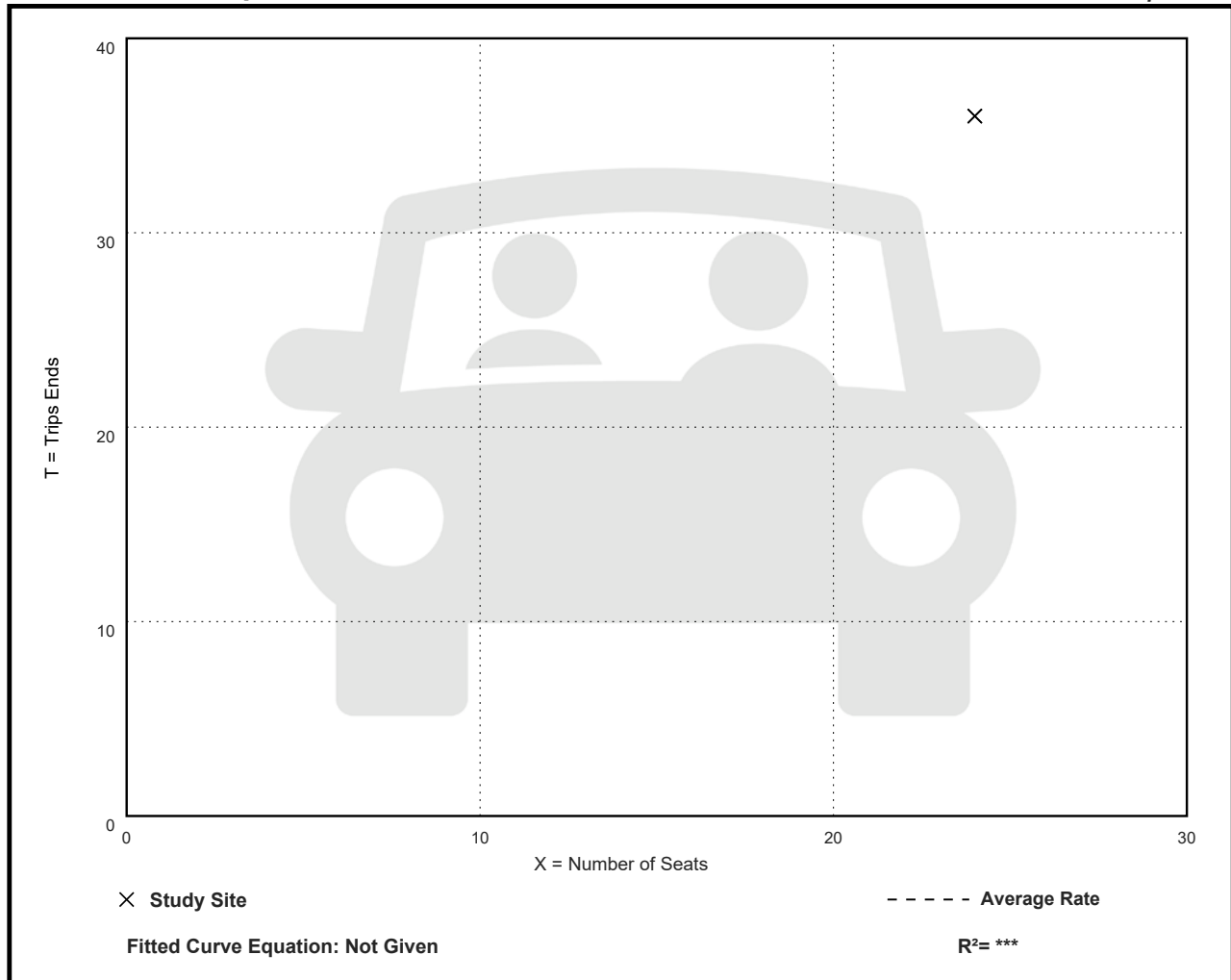
Directional Distribution: 45% entering, 55% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
1.50	1.50 - 1.50	***

Data Plot and Equation

Caution – Small Sample Size



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: Seats

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 4

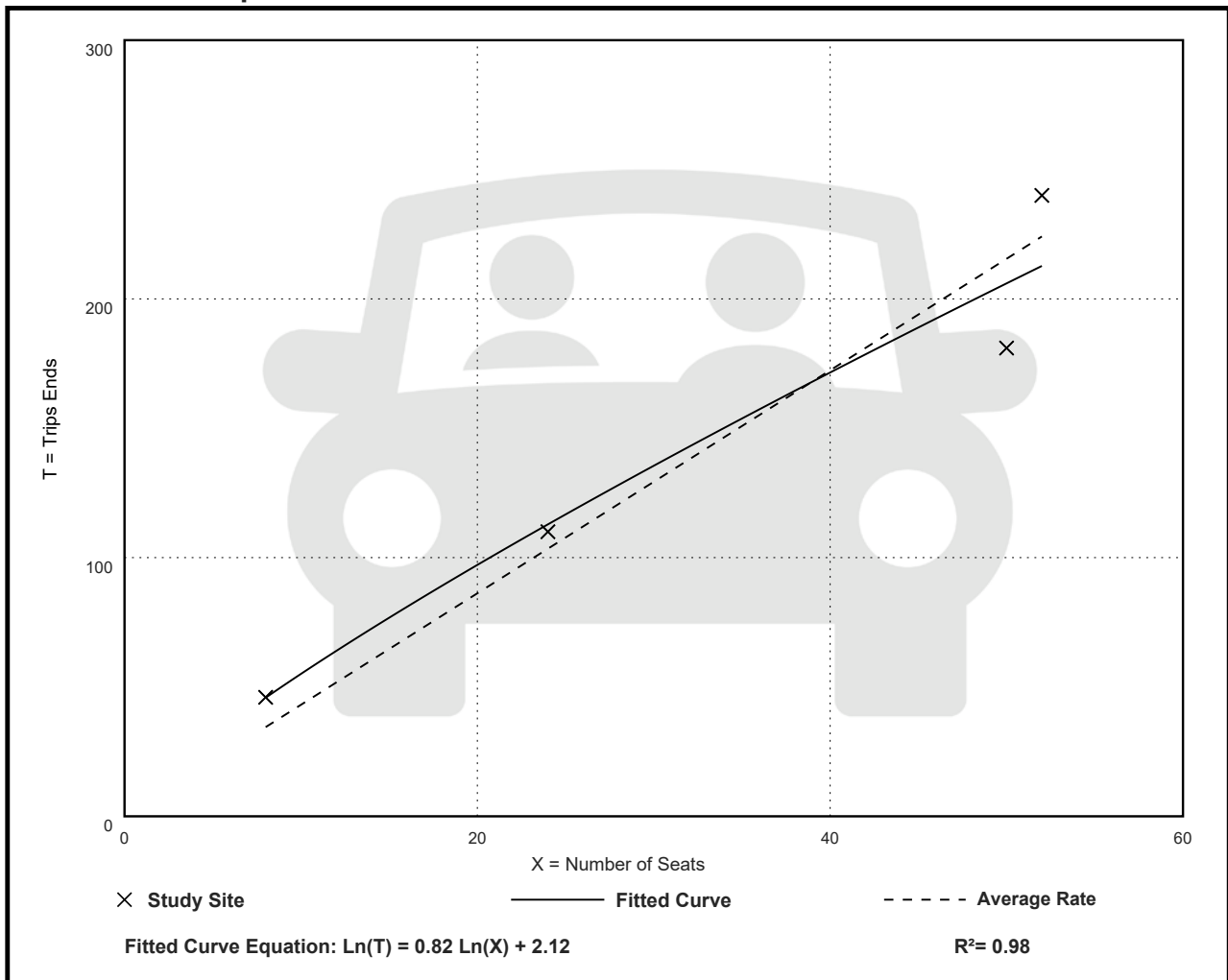
Avg. Num. of Seats: 34

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
4.31	3.62 - 5.75	0.68

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: Seats

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. Num. of Seats: 24

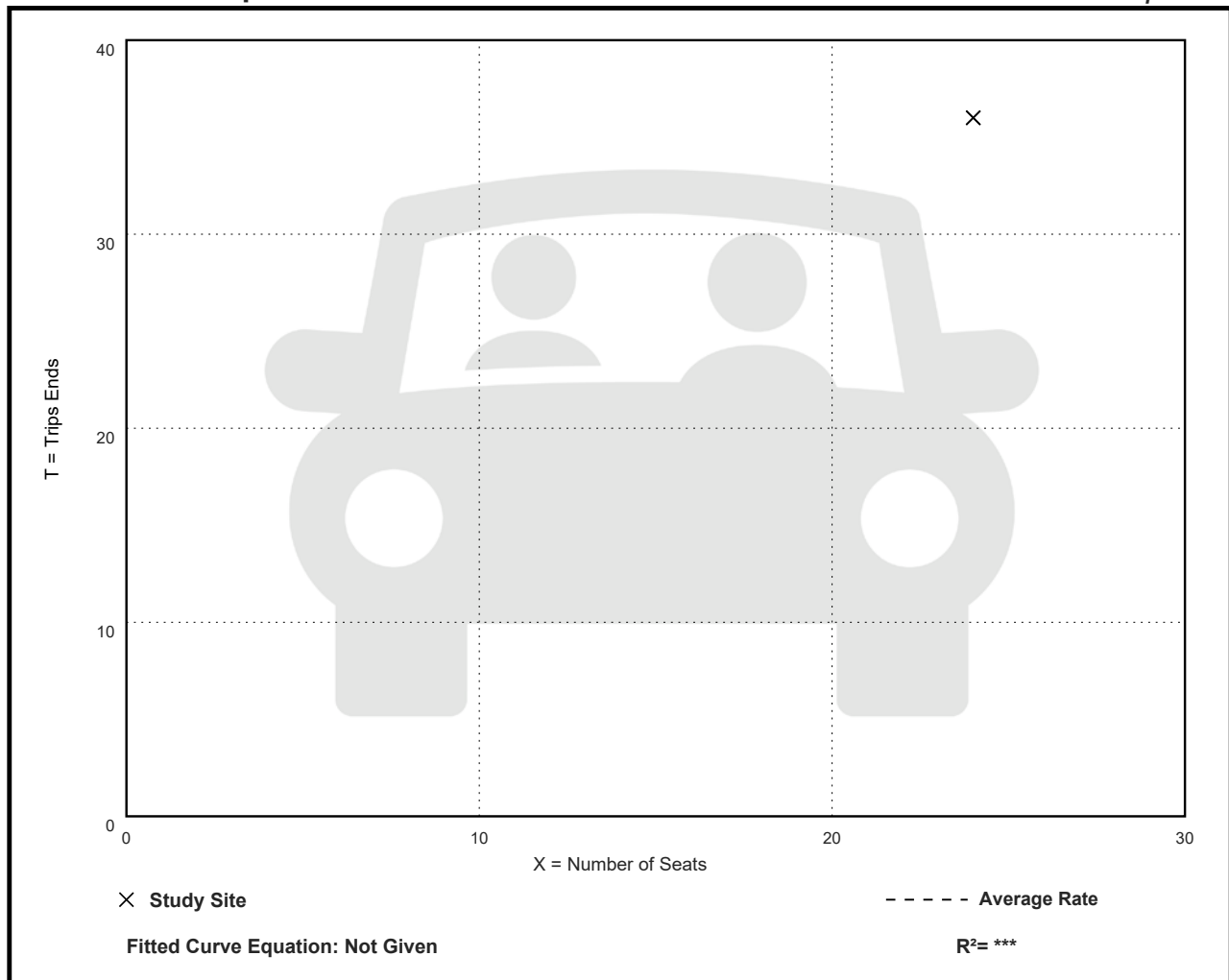
Directional Distribution: 45% entering, 55% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
1.50	1.50 - 1.50	***

Data Plot and Equation

Caution – Small Sample Size



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: AM Peak Hour Traffic on Adj. St.

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 10

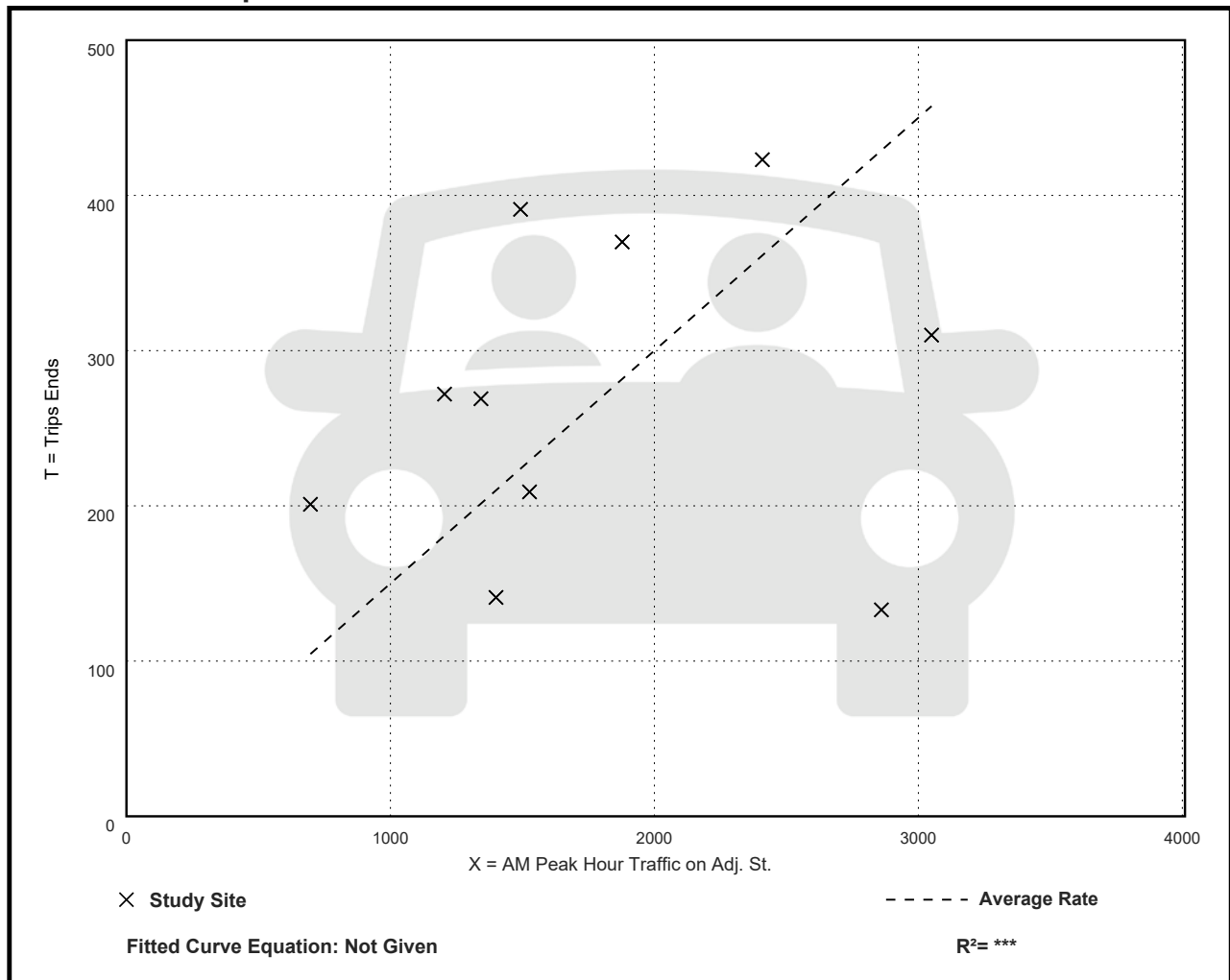
Avg. AM Peak Hour Traffic on Adj. St.: 1786

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per AM Peak Hour Traffic on Adj. St.

Average Rate	Range of Rates	Standard Deviation
0.15	0.05 - 0.29	0.07

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: AM Peak Hour Traffic on Adj. St.

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 9

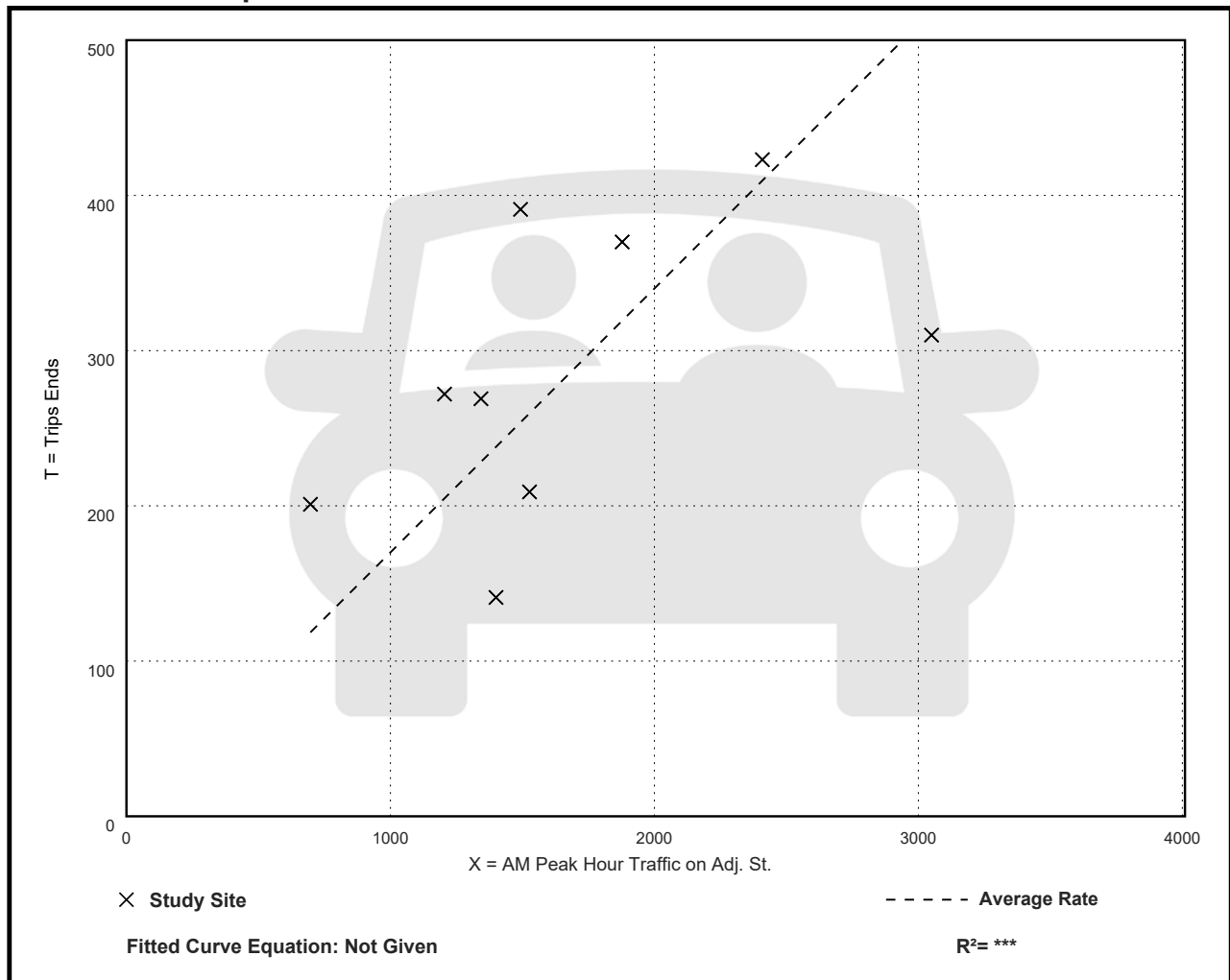
Avg. AM Peak Hour Traffic on Adj. St.: 1667

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per AM Peak Hour Traffic on Adj. St.

Average Rate	Range of Rates	Standard Deviation
0.17	0.10 - 0.29	0.06

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: PM Peak Hour Traffic on Adj. St.

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 8

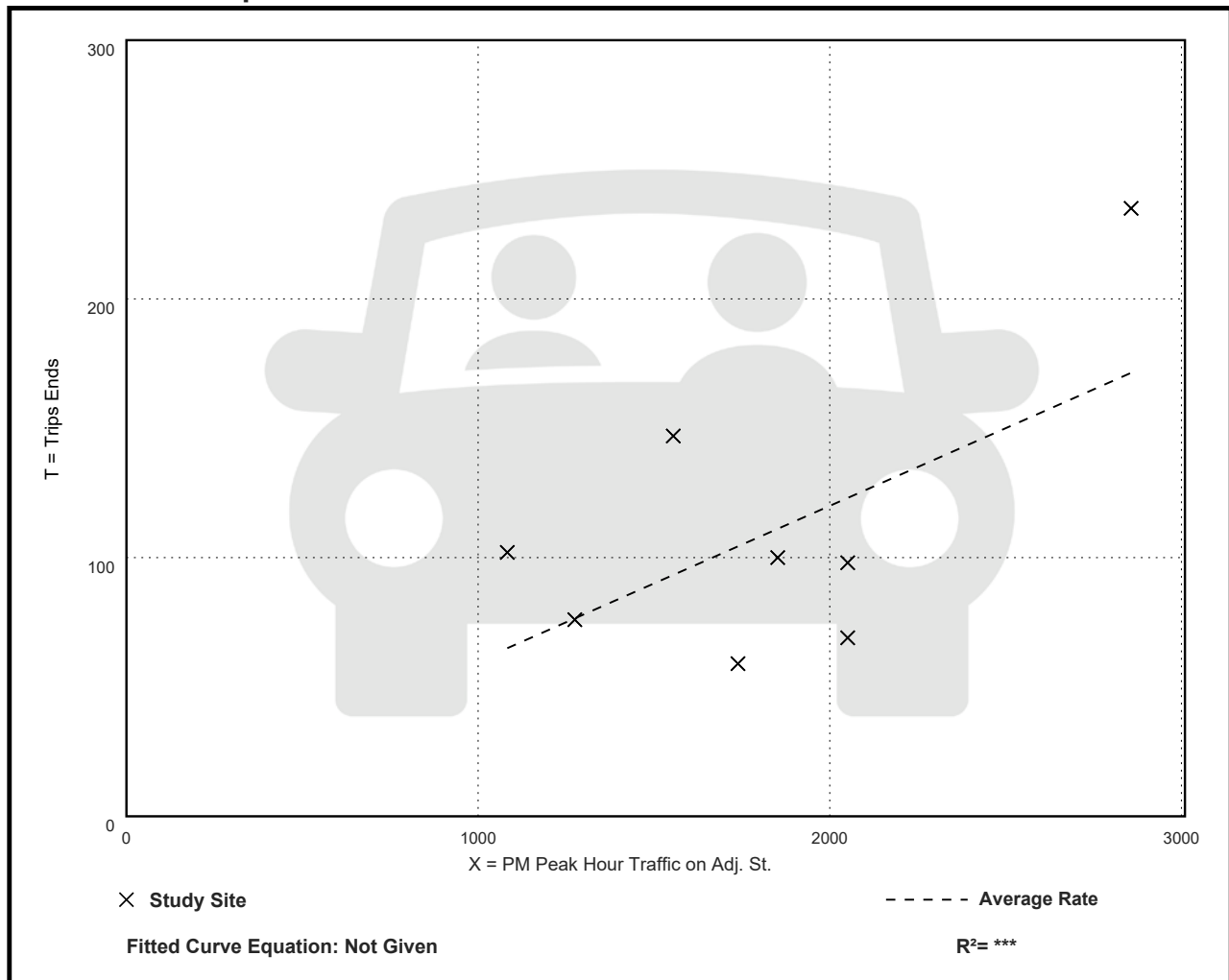
Avg. PM Peak Hour Traffic on Adj. St.: 1808

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per PM Peak Hour Traffic on Adj. St.

Average Rate	Range of Rates	Standard Deviation
0.06	0.03 - 0.09	0.02

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: PM Peak Hour Traffic on Adj. St.

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 8

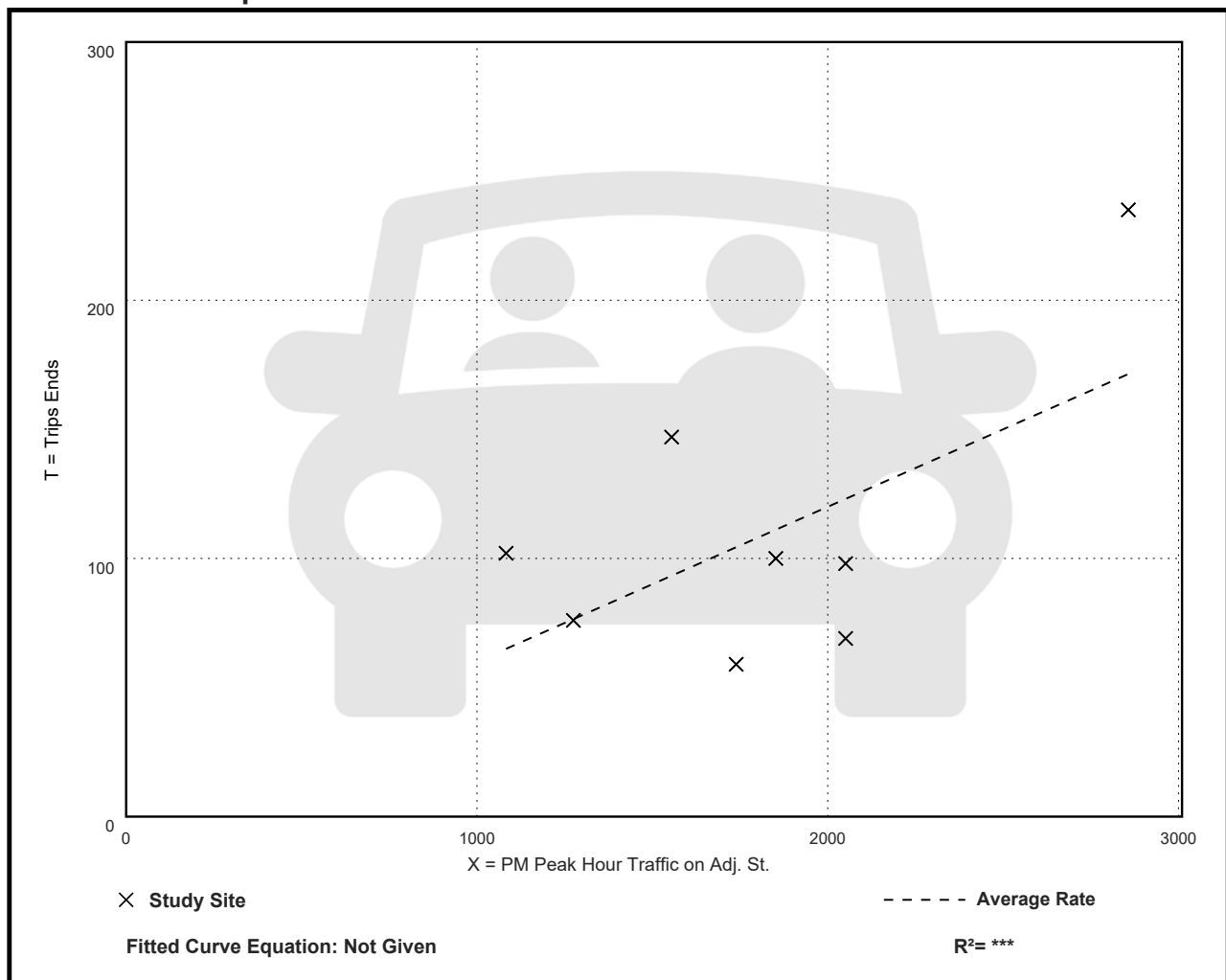
Avg. PM Peak Hour Traffic on Adj. St.: 1808

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per PM Peak Hour Traffic on Adj. St.

Average Rate	Range of Rates	Standard Deviation
0.06	0.03 - 0.09	0.02

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 4

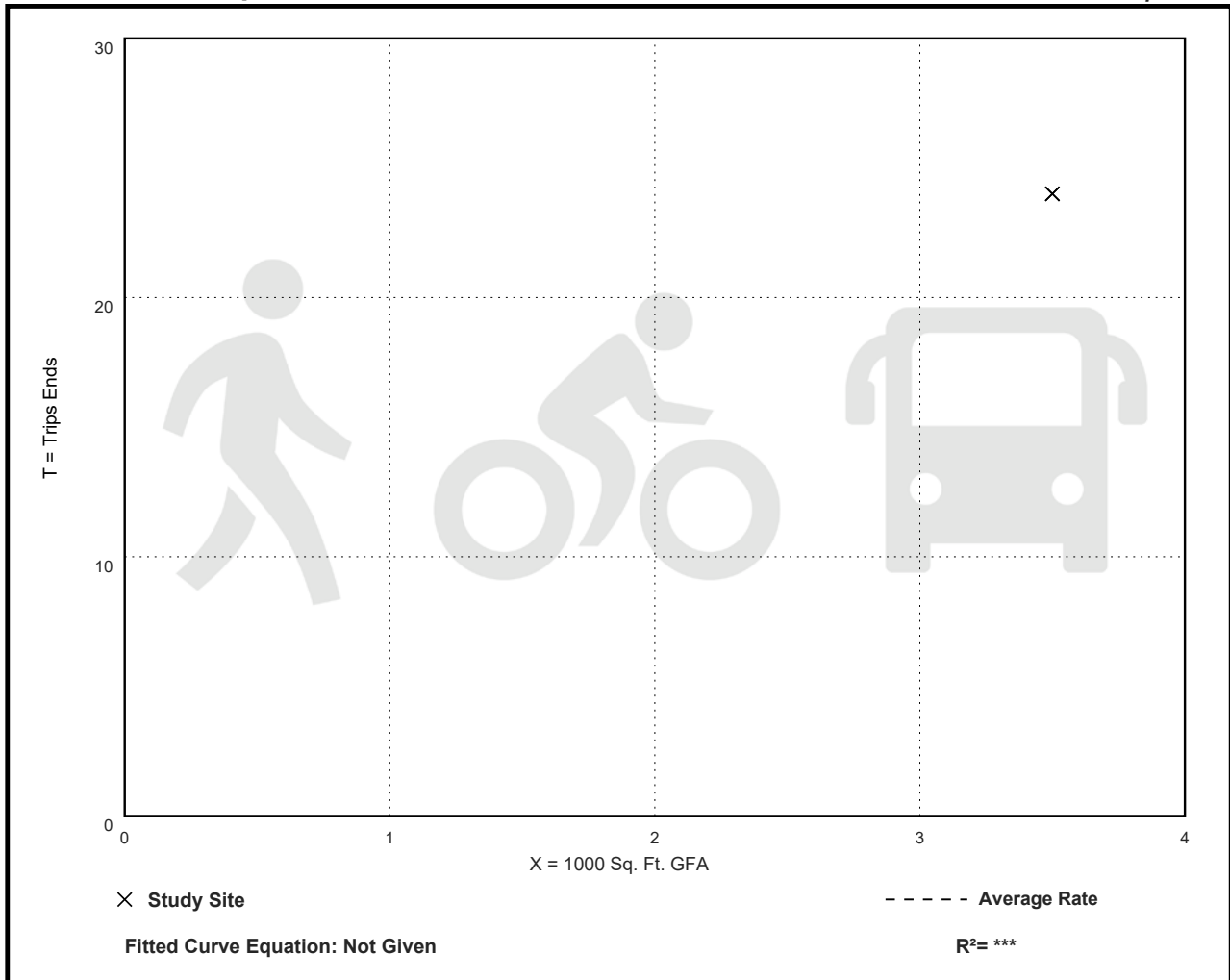
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
6.86	6.86 - 6.86	***

Data Plot and Equation

Caution – Small Sample Size



Coffee/Donut Shop with Drive-Through Window (937)

Walk+Bike+Transit Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 4

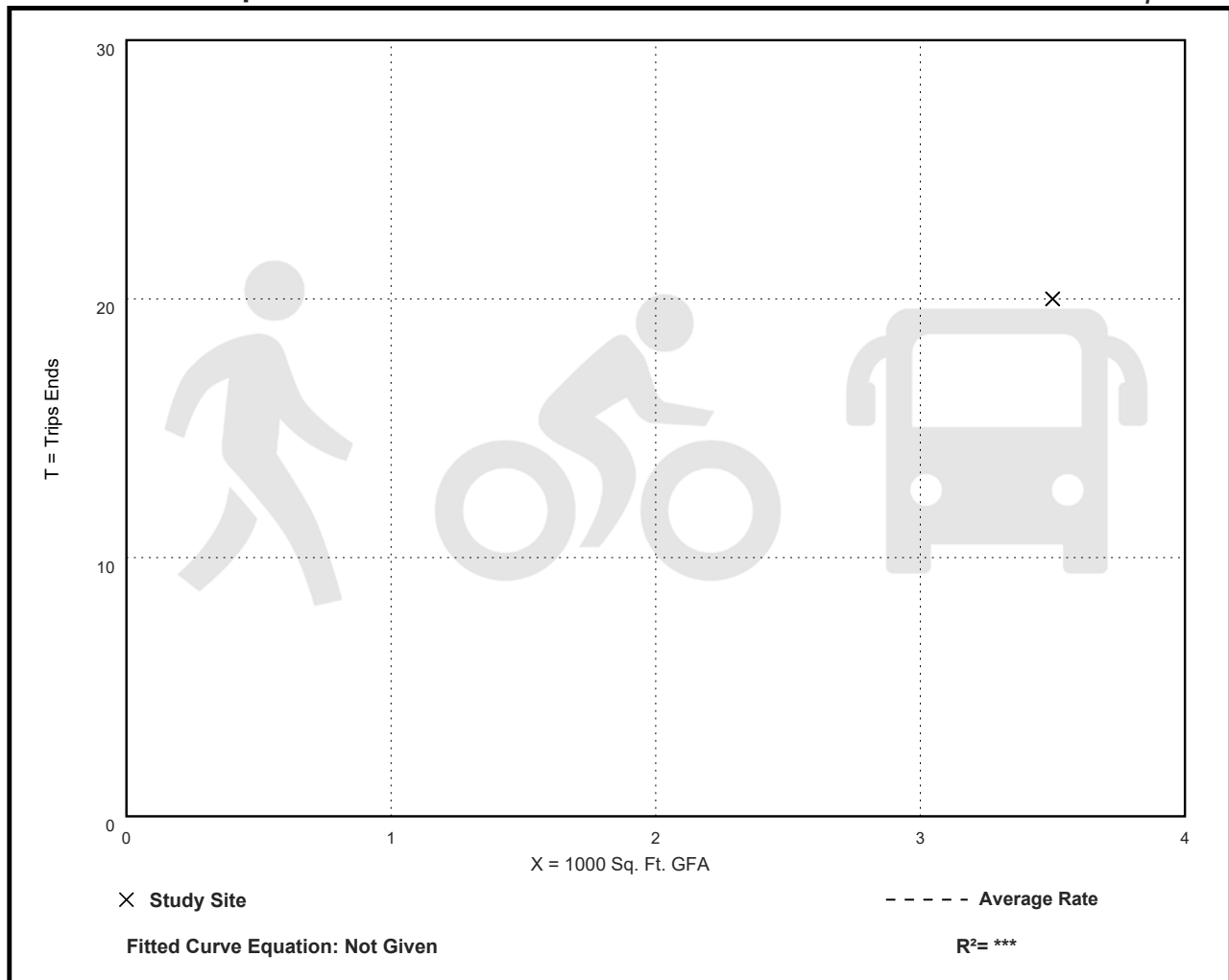
Directional Distribution: Not Available

Walk+Bike+Transit Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
5.71	5.71 - 5.71	***

Data Plot and Equation

Caution – Small Sample Size



APPENDIX E – Volumes

		2023		2024		Trip		Site		2024		LEGEND
		EXISTING		NO BUILD		Distribution		Trips		BUILD		
		AM	PM	AM	PM	IN	OUT	AM	PM	AM	PM	
1. J Swain Blvd & NC-211												
NBL	NBL	4	6	4	6	0%	0%	0	0	4	6	Volume Balancing
NBT	NBT	4	4	4	4	0%	0%	0	0	4	4	Future Driveway Thru Movement
NBR	NBR	4	4	4	4	0%	0%	0	0	4	4	NCDOT Movement Minimum
NBU	NBU	0	0	0	0	0%	0%	0	0	0	0	
SBL	SBL	64	61	68	65	0%	40%	45	46	113	111	
SBT	SBT	4	4	4	4	0%	0%	0	0	4	4	
SBR	SBR	65	45	69	48	0%	45%	50	52	119	100	
SBU	SBU	0	0	0	0	0%	0%	0	0	0	0	
EBL	EBL	43	50	46	53	45%	0%	73	43	119	96	
EBT	EBT	757	912	802	967	0%	0%	0	0	802	967	
EBR	EBR	4	4	4	4	0%	0%	0	0	4	4	
EBU	EBU	0	0	0	0	0%	0%	0	0	0	0	
WBL	WBL	4	4	4	4	0%	0%	0	0	4	4	
WBT	WBT	626	1025	664	1087	0%	0%	0	0	664	1087	
WBR	WBR	57	61	60	65	40%	0%	65	38	125	103	
WBU	WBU	0	0	0	0	0%	0%	0	0	0	0	
2. J Swain Blvd & Eason St												
NBL	NBL	22	21	23	22	0%	0%	0	0	23	22	
NBT	NBT	67	87	71	92	60%	0%	97	58	168	150	
NBR	NBR	11	4	12	4	25%	0%	41	24	53	28	
NBU	NBU	0	0	0	0	0%	0%	0	0	0	0	
SBL	SBL	4	4	4	4	5%	0%	8	5	12	9	
SBT	SBT	68	41	72	43	0%	5%	6	6	78	49	
SBR	SBR	4	4	4	4	0%	5%	6	6	10	10	
SBU	SBU	0	0	0	0	0%	0%	0	0	0	0	
EBL	EBL	11	16	12	17	5%	0%	8	5	20	22	
EBT	EBT	4	4	4	4	5%	0%	8	5	12	9	
EBR	EBR	43	43	46	46	0%	0%	0	0	46	46	
EBU	EBU	0	0	0	0	0%	0%	0	0	0	0	
WBL	WBL	21	17	22	18	0%	80%	90	92	112	110	
WBT	WBT	4	4	4	4	0%	5%	6	6	10	10	
WBR	WBR	5	4	5	4	0%	0%	0	0	5	4	
WBU	WBU	0	0	0	0	0%	0%	0	0	0	0	
3. J Swain & SECU Dwy												
NBL	NBL	7	19	7	20	0%	0%	0	0	7	20	
NBT	NBT	78	89	83	94	0%	5%	6	6	89	100	
NBR	NBR	0	0	0	0	0%	0%	0	0	0	0	
NBU	NBU	0	0	0	0	0%	10%	11	12	11	12	
SBL	SBL	0	0	0	0	0%	0%	0	0	0	0	
SBT	SBT	68	43	72	46	5%	0%	8	5	80	51	
SBR	SBR	4	4	4	4	0%	0%	0	0	4	4	
SBU	SBU	0	0	0	0	0%	0%	0	0	0	0	
EBL	EBL	4	4	4	4	0%	0%	0	0	4	4	
EBT	EBT	0	0	0	0	0%	0%	0	0	0	0	
EBR	EBR	4	4	4	4	0%	0%	0	0	4	4	
EBU	EBU	0	0	0	0	0%	0%	0	0	0	0	
WBL	WBL	0	0	0	0	0%	0%	0	0	0	0	
WBT	WBT	0	0	0	0	0%	0%	0	0	0	0	
WBR	WBR	0	0	0	0	0%	0%	0	0	0	0	
WBU	WBU	0	0	0	0	0%	0%	0	0	0	0	
4. Driveway 1 & J Swain												
NBL	NBL	0	0	0	0	0%	0%	0	0	0	0	
NBT	NBT	83	105	88	111	0%	0%	0	0	88	111	
NBR	NBR	0	0	0	0	65%	0%	105	62	105	62	
NBU	NBU	0	0	0	0	0%	0%	0	0	0	0	
SBL	SBL	0	0	0	0	0%	0%	0	0	0	0	
SBT	SBT	72	46	76	49	5%	10%	19	16	95	65	
SBR	SBR	0	0	0	0	0%	0%	0	0	0	0	
SBU	SBU	0	0	0	0	0%	0%	0	0	0	0	
EBL	EBL	0	0	0	0	0%	0%	0	0	0	0	
EBT	EBT	0	0	0	0	0%	0%	0	0	0	0	
EBR	EBR	0	0	0	0	0%	0%	0	0	0	0	
EBU	EBU	0	0	0	0	0%	0%	0	0	0	0	
WBL	WBL	0	0	0	0	0%	0%	0	0	0	0	
WBT	WBT	0	0	0	0	0%	0%	0	0	0	0	
WBR	WBR	0	0	0	0	0%	15%	17	17	17	17	
WBU	WBU	0	0	0	0	0%	0%	0	0	0	0	
5. Driveway 2 & Eason St												
NBL	NBL	4	4	4	4	0%	0%	0	0	4	4	
NBT	NBT	0	0	0	0	0%	0%	0	0	0	0	
NBR	NBR	0	0	0	0	0%	0%	0	0	0	0	
NBU	NBU	0	0	0	0	0%	0%	0	0	0	0	
SBL	SBL	0	0	0	0	0%	0%	0	0	0	0	
SBT	SBT	0	0	0	0	0%	0%	0	0	0	0	
SBR	SBR	0	0	0	0	0%	85%	95	98	95	98	
SBU	SBU	0	0	0	0	0%	0%	0	0	0	0	
EBL	EBL	0	0	0	0	35%	0%	57	34	57	34	
EBT	EBT	13	7	14	7	0%	0%	0	0	14	7	
EBR	EBR	4	4	4	4	0%	0%	0	0	4	4	
EBU	EBU	0	0	0	0	0%	0%	0	0	0	0	
WBL	WBL	0	0	0	0	0%	0%	0	0	0	0	
WBT	WBT	26	23	28	24	0%	0%	0	0	28	24	
WBR	WBR	0	0	0	0	0%	0%	0	0	0	0	
WBU	WBU	0	0	0	0	0%	0%	0	0	0	0	

APPENDIX F – Synchro 11 Reports

Timings

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Existing AM

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	43	757	4	626	57	4	4	64	4	65
Future Volume (vph)	43	757	4	626	57	4	4	64	4	65
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6			8		4	
Permitted Phases	2		6		6	8		4		4
Detector Phase	5	2	6	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	7.0	12.0	12.0	12.0	12.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.9	24.1	24.1	24.1	24.1	25.2	25.2	24.3	24.3	24.3
Total Split (s)	16.0	61.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
Total Split (%)	17.8%	67.8%	50.0%	50.0%	50.0%	32.2%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	3.0	4.6	4.6	4.6	4.6	3.0	3.0	3.7	3.7	3.7
All-Red Time (s)	2.9	1.5	1.5	1.5	1.5	4.2	4.2	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	6.1	6.1	6.1	6.1	7.2	7.2	6.3	6.3	6.3
Lead/Lag	Lead		Lag	Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes	Yes					
Recall Mode	None	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	70.4	71.4	63.6	63.6	63.6	9.4	9.4	10.1	10.1	10.1
Actuated g/C Ratio	0.78	0.79	0.71	0.71	0.71	0.10	0.10	0.11	0.11	0.11
v/c Ratio	0.08	0.30	0.01	0.28	0.05	0.03	0.04	0.44	0.02	0.26
Control Delay	3.7	3.9	8.2	7.7	0.2	34.8	27.3	45.4	33.5	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	3.9	8.2	7.7	0.2	34.8	27.3	45.4	33.5	5.2
LOS	A	A	A	A	A	C	C	D	C	A
Approach Delay		3.9		7.0			29.8		25.4	
Approach LOS		A		A			C		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 7.1

Intersection LOS: A

Intersection Capacity Utilization 56.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road)



Queues

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Existing AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	845	4	696	63	4	8	71	4	72
v/c Ratio	0.08	0.30	0.01	0.28	0.05	0.03	0.04	0.44	0.02	0.26
Control Delay	3.7	3.9	8.2	7.7	0.2	34.8	27.3	45.4	33.5	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	3.9	8.2	7.7	0.2	34.8	27.3	45.4	33.5	5.2
Queue Length 50th (ft)	6	65	1	92	0	2	2	39	2	0
Queue Length 95th (ft)	16	108	6	141	2	12	15	77	11	17
Internal Link Dist (ft)	2874		2001		235		325			
Turn Bay Length (ft)	485		360		315			150		
Base Capacity (vph)	635	2833	444	2527	1166	343	426	360	479	488
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.30	0.01	0.28	0.05	0.01	0.02	0.20	0.01	0.15
Intersection Summary										

HCM 6th Signalized Intersection Summary

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	757	4	4	626	57	4	4	4	64	4	65
Future Volume (veh/h)	43	757	4	4	626	57	4	4	4	64	4	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1885	1885	1885	1885	1885	1885	1900	1885	1900	1900	1900
Adj Flow Rate, veh/h	48	841	4	4	696	63	4	4	4	71	4	72
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	1	1	1	1	1	1	0	1	0	0	0
Cap, veh/h	589	2833	13	510	2347	1047	180	67	67	184	147	124
Arrive On Green	0.05	0.78	0.78	0.66	0.66	0.66	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1810	3656	17	657	3582	1598	1334	872	872	1430	1900	1610
Grp Volume(v), veh/h	48	412	433	4	696	63	4	0	8	71	4	72
Grp Sat Flow(s),veh/h/ln	1810	1791	1882	657	1791	1598	1334	0	1743	1430	1900	1610
Q Serve(g_s), s	0.7	6.0	6.0	0.2	7.5	1.3	0.3	0.0	0.4	4.4	0.2	3.9
Cycle Q Clear(g_c), s	0.7	6.0	6.0	0.2	7.5	1.3	0.4	0.0	0.4	4.7	0.2	3.9
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	589	1388	1459	510	2347	1047	180	0	134	184	147	124
V/C Ratio(X)	0.08	0.30	0.30	0.01	0.30	0.06	0.02	0.00	0.06	0.39	0.03	0.58
Avail Cap(c_a), veh/h	693	1388	1459	510	2347	1047	400	0	422	435	479	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	3.9	3.0	3.0	5.4	6.6	5.6	38.6	0.0	38.5	40.7	38.4	40.1
Incr Delay (d2), s/veh	0.1	0.5	0.5	0.0	0.3	0.1	0.0	0.0	0.2	1.3	0.1	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	1.4	0.0	2.3	0.4	0.1	0.0	0.2	1.6	0.1	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.9	3.5	3.5	5.4	7.0	5.7	38.7	0.0	38.7	42.0	38.5	44.3
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	D	D
Approach Vol, veh/h	893			763			12			147		
Approach Delay, s/veh	3.5			6.8			38.7			43.1		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4		5	6	8				
Phs Duration (G+Y+Rc), s	75.9			14.1		10.8	65.1	14.1				
Change Period (Y+Rc), s	6.1			* 7.2		5.9	6.1	7.2				
Max Green Setting (Gmax), s	54.9			* 23		10.1	38.9	21.8				
Max Q Clear Time (g_c+I1), s	8.0			6.7		2.7	9.5	2.4				
Green Ext Time (p_c), s	5.4			0.3		0.0	4.9	0.0				

Intersection Summary

HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	11	4	43	21	4	5	22	67	11	4	68	4
Future Vol, veh/h	11	4	43	21	4	5	22	67	11	4	68	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	1	0	1	0	0	1	0
Mvmt Flow	12	4	48	23	4	6	24	74	12	4	76	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	173	220	40	176	216	43	80	0	0	86	0	0
Stage 1	86	86	-	128	128	-	-	-	-	-	-	-
Stage 2	87	134	-	48	88	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.92	7.5	6.5	6.92	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.31	3.5	4	3.31	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	779	682	1026	776	685	1021	1531	-	-	1523	-	-
Stage 1	918	827	-	868	794	-	-	-	-	-	-	-
Stage 2	917	789	-	965	826	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	760	669	1026	726	672	1021	1531	-	-	1523	-	-
Mov Cap-2 Maneuver	760	669	-	726	672	-	-	-	-	-	-	-
Stage 1	903	825	-	854	781	-	-	-	-	-	-	-
Stage 2	893	776	-	913	824	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	10	1.6	0.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1531	-	-	930	754	1523	-
HCM Lane V/C Ratio	0.016	-	-	0.069	0.044	0.003	-
HCM Control Delay (s)	7.4	-	-	9.2	10	7.4	-
HCM Lane LOS	A	-	-	A	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	4	7	78	68	4
Future Vol, veh/h	4	4	7	78	68	4
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	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	1	0	0
Mvmt Flow	4	4	8	87	76	4
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	138	40	80	0	-	0
Stage 1	78	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.8	6.92	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.31	2.2	-	-	-
Pot Cap-1 Maneuver	847	1026	1531	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	843	1026	1531	-	-	-
Mov Cap-2 Maneuver	843	-	-	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	8.9		0.6		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1531	-	843	1026	-	-
HCM Lane V/C Ratio	0.005	-	0.005	0.004	-	-
HCM Control Delay (s)	7.4	-	9.3	8.5	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	83	0	0	72
Future Vol, veh/h	0	0	83	0	0	72
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, %	0	0	1	0	0	1
Mvmt Flow	0	0	92	0	0	80

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	46	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.9	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	-
Pot Cap-1 Maneuver	0	1020	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1020	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	13	4	0	26	0	4	0	0	0	0	0
Future Vol, veh/h	0	13	4	0	26	0	4	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	14	4	0	29	0	4	0	0	0	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	29	0	0	18	0	0	45	45	16	45	47	29
Stage 1	-	-	-	-	-	-	16	16	-	29	29	-
Stage 2	-	-	-	-	-	-	29	29	-	16	18	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1597	-	-	1612	-	-	962	851	1069	962	849	1052
Stage 1	-	-	-	-	-	-	1009	886	-	993	875	-
Stage 2	-	-	-	-	-	-	993	875	-	1009	884	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1597	-	-	1612	-	-	962	851	1069	962	849	1052
Mov Cap-2 Maneuver	-	-	-	-	-	-	962	851	-	962	849	-
Stage 1	-	-	-	-	-	-	1009	886	-	993	875	-
Stage 2	-	-	-	-	-	-	993	875	-	1009	884	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			8.8			0		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	962	1597	-	-	1612	-	-	-				
HCM Lane V/C Ratio	0.005	-	-	-	-	-	-	-				
HCM Control Delay (s)	8.8	0	-	-	0	-	-	0				
HCM Lane LOS	A	A	-	-	A	-	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-				

Timings

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Existing PM

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	50	912	4	1025	61	6	4	61	4	45
Future Volume (vph)	50	912	4	1025	61	6	4	61	4	45
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6			8		4	
Permitted Phases	2		6		6	8		4		4
Detector Phase	5	2	6	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	7.0	12.0	12.0	12.0	12.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.9	24.1	24.1	24.1	24.1	25.2	25.2	24.3	24.3	24.3
Total Split (s)	14.0	64.8	50.8	50.8	50.8	25.2	25.2	25.2	25.2	25.2
Total Split (%)	15.6%	72.0%	56.4%	56.4%	56.4%	28.0%	28.0%	28.0%	28.0%	28.0%
Yellow Time (s)	3.0	4.6	4.6	4.6	4.6	3.0	3.0	3.7	3.7	3.7
All-Red Time (s)	2.9	1.5	1.5	1.5	1.5	4.2	4.2	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	6.1	6.1	6.1	6.1	7.2	7.2	6.3	6.3	6.3
Lead/Lag	Lead		Lag	Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes	Yes					
Recall Mode	None	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	70.6	71.6	61.2	61.2	61.2	9.2	9.2	9.9	9.9	9.9
Actuated g/C Ratio	0.78	0.80	0.68	0.68	0.68	0.10	0.10	0.11	0.11	0.11
v/c Ratio	0.14	0.36	0.01	0.47	0.06	0.05	0.04	0.43	0.02	0.18
Control Delay	4.1	4.1	8.2	10.2	0.4	35.3	27.6	45.3	33.8	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	4.1	8.2	10.2	0.4	35.3	27.6	45.3	33.8	1.5
LOS	A	A	A	B	A	D	C	D	C	A
Approach Delay		4.1		9.6			31.2		26.9	
Approach LOS		A		A			C		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 8.2

Intersection LOS: A

Intersection Capacity Utilization 60.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road)



Queues

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Existing PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	56	1017	4	1139	68	7	8	68	4	50
v/c Ratio	0.14	0.36	0.01	0.47	0.06	0.05	0.04	0.43	0.02	0.18
Control Delay	4.1	4.1	8.2	10.2	0.4	35.3	27.6	45.3	33.8	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	4.1	8.2	10.2	0.4	35.3	27.6	45.3	33.8	1.5
Queue Length 50th (ft)	6	83	1	176	0	4	2	37	2	0
Queue Length 95th (ft)	18	135	6	260	4	16	15	75	11	2
Internal Link Dist (ft)		2874		2001			235		325	
Turn Bay Length (ft)	485		360		315			150		
Base Capacity (vph)	407	2840	360	2431	1126	284	353	300	399	425
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.36	0.01	0.47	0.06	0.02	0.02	0.23	0.01	0.12
Intersection Summary										

HCM 6th Signalized Intersection Summary

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	912	4	4	1025	61	6	4	4	61	4	45
Future Volume (veh/h)	50	912	4	4	1025	61	6	4	4	61	4	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1885	1885	1885	1885	1885	1885	1900	1885	1900	1900	1900
Adj Flow Rate, veh/h	56	1013	4	4	1139	68	7	4	4	68	4	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	1	1	1	1	1	1	0	1	0	0	0
Cap, veh/h	417	2843	11	445	2338	1043	180	66	66	181	143	121
Arrive On Green	0.06	0.78	0.78	0.65	0.65	0.65	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1810	3659	14	559	3582	1598	1361	872	872	1430	1900	1610
Grp Volume(v), veh/h	56	496	521	4	1139	68	7	0	8	68	4	50
Grp Sat Flow(s),veh/h/ln	1810	1791	1883	559	1791	1598	1361	0	1743	1430	1900	1610
Q Serve(g_s), s	0.8	7.7	7.7	0.2	14.6	1.4	0.4	0.0	0.4	4.2	0.2	2.7
Cycle Q Clear(g_c), s	0.8	7.7	7.7	0.2	14.6	1.4	0.6	0.0	0.4	4.6	0.2	2.7
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	417	1392	1463	445	2338	1043	180	0	131	181	143	121
V/C Ratio(X)	0.13	0.36	0.36	0.01	0.49	0.07	0.04	0.00	0.06	0.37	0.03	0.41
Avail Cap(c_a), veh/h	474	1392	1463	445	2338	1043	349	0	349	374	399	338
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.0	3.1	3.1	5.5	8.0	5.7	38.8	0.0	38.7	40.8	38.6	39.7
Incr Delay (d2), s/veh	0.1	0.7	0.7	0.0	0.7	0.1	0.1	0.0	0.2	1.3	0.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.7	1.7	0.0	4.5	0.4	0.1	0.0	0.2	1.5	0.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.2	3.8	3.8	5.5	8.7	5.8	38.9	0.0	38.9	42.1	38.6	42.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	D	D
Approach Vol, veh/h	1073			1211				15			122	
Approach Delay, s/veh	3.9			8.5				38.9			41.9	
Approach LOS	A			A				D			D	
Timer - Assigned Phs	2			4		5		6		8		
Phs Duration (G+Y+Rc), s	76.0			14.0		11.2		64.9		14.0		
Change Period (Y+Rc), s	6.1			* 7.2		5.9		6.1		7.2		
Max Green Setting (Gmax), s	58.7			* 19		8.1		44.7		18.0		
Max Q Clear Time (g_c+I1), s	9.7			6.6		2.8		16.6		2.6		
Green Ext Time (p_c), s	7.1			0.2		0.0		9.0		0.0		
Intersection Summary												
HCM 6th Ctrl Delay	8.3											
HCM 6th LOS	A											
Notes												

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	4	43	17	4	4	21	87	4	4	41	4
Future Vol, veh/h	16	4	43	17	4	4	21	87	4	4	41	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	1	0	1	0	0	1	0
Mvmt Flow	18	4	48	19	4	4	23	97	4	4	46	4
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	153	203	25	178	203	51	50	0	0	101	0	0
Stage 1	56	56	-	145	145	-	-	-	-	-	-	-
Stage 2	97	147	-	33	58	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.92	7.5	6.5	6.92	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.31	3.5	4	3.31	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	805	697	1049	773	697	1009	1570	-	-	1504	-	-
Stage 1	955	852	-	849	781	-	-	-	-	-	-	-
Stage 2	905	779	-	985	851	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	787	684	1049	724	684	1009	1570	-	-	1504	-	-
Mov Cap-2 Maneuver	787	684	-	724	684	-	-	-	-	-	-	-
Stage 1	941	849	-	836	769	-	-	-	-	-	-	-
Stage 2	883	767	-	933	848	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.1		10			1.4			0.6			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1570	-	-	938	751	1504	-	-				
HCM Lane V/C Ratio	0.015	-	-	0.075	0.037	0.003	-	-				
HCM Control Delay (s)	7.3	-	-	9.1	10	7.4	-	-				
HCM Lane LOS	A	-	-	A	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-				

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	4	19	89	43	4
Future Vol, veh/h	4	4	19	89	43	4
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	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	1	0	0
Mvmt Flow	4	4	21	99	48	4
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	142	26	52	0	-	0
Stage 1	50	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.8	6.92	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.31	2.2	-	-	-
Pot Cap-1 Maneuver	842	1047	1567	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	831	1047	1567	-	-	-
Mov Cap-2 Maneuver	831	-	-	-	-	-
Stage 1	959	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	9		1.3		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1567	-	831	1047	-	-
HCM Lane V/C Ratio	0.013	-	0.005	0.004	-	-
HCM Control Delay (s)	7.3	-	9.4	8.5	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↕			↕↕
Traffic Vol, veh/h	0	0	105	0	0	46
Future Vol, veh/h	0	0	105	0	0	46
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, %	0	0	1	0	0	1
Mvmt Flow	0	0	117	0	0	51
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	59	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	1001	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1001	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	0	-	-	-
HCM Lane LOS	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	7	4	0	23	0	4	0	0	0	0	0
Future Vol, veh/h	0	7	4	0	23	0	4	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	8	4	0	26	0	4	0	0	0	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	26	0	0	12	0	0	36	36	10	36	38	26
Stage 1	-	-	-	-	-	-	10	10	-	26	26	-
Stage 2	-	-	-	-	-	-	26	26	-	10	12	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1601	-	-	1620	-	-	975	860	1077	975	858	1056
Stage 1	-	-	-	-	-	-	1016	891	-	997	878	-
Stage 2	-	-	-	-	-	-	997	878	-	1016	890	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1601	-	-	1620	-	-	975	860	1077	975	858	1056
Mov Cap-2 Maneuver	-	-	-	-	-	-	975	860	-	975	858	-
Stage 1	-	-	-	-	-	-	1016	891	-	997	878	-
Stage 2	-	-	-	-	-	-	997	878	-	1016	890	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			8.7			0		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	975	1601	-	-	1620	-	-	-				
HCM Lane V/C Ratio	0.005	-	-	-	-	-	-	-				
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0				
HCM Lane LOS	A	A	-	-	A	-	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-				

Timings

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) - Build AM

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	46	802	4	664	60	4	4	68	4	69
Future Volume (vph)	46	802	4	664	60	4	4	68	4	69
Turn Type	Prot	NA	Perm	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6			8		4	
Permitted Phases			6		6	8		4		4
Detector Phase	5	2	6	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	7.0	12.0	12.0	12.0	12.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.9	24.1	24.1	24.1	24.1	25.2	25.2	24.3	24.3	24.3
Total Split (s)	17.0	61.0	44.0	44.0	44.0	29.0	29.0	29.0	29.0	29.0
Total Split (%)	18.9%	67.8%	48.9%	48.9%	48.9%	32.2%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	3.0	4.6	4.6	4.6	4.6	3.0	3.0	3.7	3.7	3.7
All-Red Time (s)	2.9	1.5	1.5	1.5	1.5	4.2	4.2	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	6.1	6.1	6.1	6.1	7.2	7.2	6.3	6.3	6.3
Lead/Lag	Lead		Lag	Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes	Yes					
Recall Mode	None	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	8.3	71.1	62.0	62.0	62.0	9.6	9.6	10.4	10.4	10.4
Actuated g/C Ratio	0.09	0.79	0.69	0.69	0.69	0.11	0.11	0.12	0.12	0.12
v/c Ratio	0.31	0.32	0.01	0.30	0.06	0.03	0.04	0.46	0.02	0.27
Control Delay	42.5	4.1	9.8	8.9	0.5	34.2	27.0	45.6	33.2	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	4.1	9.8	8.9	0.5	34.2	27.0	45.6	33.2	5.7
LOS	D	A	A	A	A	C	C	D	C	A
Approach Delay		6.2		8.2			29.4		25.7	
Approach LOS		A		A			C		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 8.8

Intersection LOS: A

Intersection Capacity Utilization 58.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road)



Queues

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) No-Build AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	51	895	4	738	67	4	8	76	4	77
v/c Ratio	0.31	0.32	0.01	0.30	0.06	0.03	0.04	0.46	0.02	0.27
Control Delay	42.5	4.1	9.8	8.9	0.5	34.2	27.0	45.6	33.2	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	4.1	9.8	8.9	0.5	34.2	27.0	45.6	33.2	5.7
Queue Length 50th (ft)	28	72	1	103	0	2	2	41	2	0
Queue Length 95th (ft)	61	118	6	169	4	11	14	81	11	21
Internal Link Dist (ft)	2874		2001		235			325		
Turn Bay Length (ft)	485	360		315			150			
Base Capacity (vph)	222	2822	412	2463	1140	343	426	360	479	488
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.32	0.01	0.30	0.06	0.01	0.02	0.21	0.01	0.16
Intersection Summary										

HCM 6th Signalized Intersection Summary

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) - Build AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	802	4	4	664	60	4	4	4	68	4	69
Future Volume (veh/h)	46	802	4	4	664	60	4	4	4	68	4	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1885	1885	1885	1885	1885	1885	1900	1885	1900	1900	1900
Adj Flow Rate, veh/h	51	891	4	4	738	67	4	4	4	76	4	77
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	1	1	1	1	1	1	0	1	0	0	0
Cap, veh/h	101	2820	13	487	2327	1038	185	71	71	190	154	131
Arrive On Green	0.06	0.77	0.77	0.65	0.65	0.65	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1810	3657	16	627	3582	1598	1328	872	872	1430	1900	1610
Grp Volume(v), veh/h	51	436	459	4	738	67	4	0	8	76	4	77
Grp Sat Flow(s),veh/h/ln	1810	1791	1882	627	1791	1598	1328	0	1743	1430	1900	1610
Q Serve(g_s), s	2.5	6.6	6.6	0.2	8.2	1.4	0.3	0.0	0.4	4.7	0.2	4.2
Cycle Q Clear(g_c), s	2.5	6.6	6.6	0.2	8.2	1.4	0.4	0.0	0.4	5.0	0.2	4.2
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	101	1381	1452	487	2327	1038	185	0	141	190	154	131
V/C Ratio(X)	0.50	0.32	0.32	0.01	0.32	0.06	0.02	0.00	0.06	0.40	0.03	0.59
Avail Cap(c_a), veh/h	223	1381	1452	487	2327	1038	399	0	422	435	479	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	3.1	3.1	5.6	7.0	5.8	38.3	0.0	38.2	40.5	38.1	39.9
Incr Delay (d2), s/veh	3.8	0.6	0.6	0.0	0.4	0.1	0.0	0.0	0.2	1.4	0.1	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.5	1.5	0.0	2.5	0.4	0.1	0.0	0.2	1.7	0.1	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	3.7	3.7	5.6	7.3	5.9	38.3	0.0	38.3	41.9	38.1	44.1
LnGrp LOS	D	A	A	A	A	A	D	A	D	D	D	D
Approach Vol, veh/h	946			809			12			157		
Approach Delay, s/veh	5.9			7.2			38.3			42.9		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4	5	6	8					
Phs Duration (G+Y+Rc), s	75.5			14.5	10.9	64.6	14.5					
Change Period (Y+Rc), s	6.1			* 7.2	5.9	6.1	7.2					
Max Green Setting (Gmax), s	54.9			* 23	11.1	37.9	21.8					
Max Q Clear Time (g_c+I1), s	8.6			7.0	4.5	10.2	2.4					
Green Ext Time (p_c), s	5.9			0.4	0.0	5.2	0.0					
Intersection Summary												
HCM 6th Ctrl Delay			9.7									
HCM 6th LOS			A									
Notes												

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	4	46	22	4	5	23	71	12	4	72	4
Future Vol, veh/h	12	4	46	22	4	5	23	71	12	4	72	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	1	0	1	0	0	1	0
Mvmt Flow	13	4	51	24	4	6	26	79	13	4	80	4
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	184	234	42	188	230	46	84	0	0	92	0	0
Stage 1	90	90	-	138	138	-	-	-	-	-	-	-
Stage 2	94	144	-	50	92	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.92	7.5	6.5	6.92	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.31	3.5	4	3.31	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	766	670	1023	761	673	1017	1526	-	-	1515	-	-
Stage 1	913	824	-	857	786	-	-	-	-	-	-	-
Stage 2	908	782	-	963	823	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	747	657	1023	708	660	1017	1526	-	-	1515	-	-
Mov Cap-2 Maneuver	747	657	-	708	660	-	-	-	-	-	-	-
Stage 1	897	822	-	842	773	-	-	-	-	-	-	-
Stage 2	883	769	-	908	821	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.2		10.1		1.6		0.4					
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1526	-	-	924	737	1515	-	-				
HCM Lane V/C Ratio	0.017	-	-	0.075	0.047	0.003	-	-				
HCM Control Delay (s)	7.4	-	-	9.2	10.1	7.4	-	-				
HCM Lane LOS	A	-	-	A	B	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-				

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	4	7	83	72	4
Future Vol, veh/h	4	4	7	83	72	4
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	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	1	0	0
Mvmt Flow	4	4	8	92	80	4
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	144	42	84	0	-	0
Stage 1	82	-	-	-	-	-
Stage 2	62	-	-	-	-	-
Critical Hdwy	6.8	6.92	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.31	2.2	-	-	-
Pot Cap-1 Maneuver	840	1023	1526	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	836	1023	1526	-	-	-
Mov Cap-2 Maneuver	836	-	-	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	8.9		0.6		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1526	-	836	1023	-	-
HCM Lane V/C Ratio	0.005	-	0.005	0.004	-	-
HCM Control Delay (s)	7.4	-	9.3	8.5	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	88	0	0	76
Future Vol, veh/h	0	0	88	0	0	76
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, %	0	0	1	0	0	1
Mvmt Flow	0	0	98	0	0	84
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	49	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	1016	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1016	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	0	-	-	-
HCM Lane LOS	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	14	4	0	28	0	4	0	0	0	0	0
Future Vol, veh/h	0	14	4	0	28	0	4	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	16	4	0	31	0	4	0	0	0	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	31	0	0	20	0	0	49	49	18	49	51	31
Stage 1	-	-	-	-	-	-	18	18	-	31	31	-
Stage 2	-	-	-	-	-	-	31	31	-	18	20	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1595	-	-	1609	-	-	956	846	1066	956	844	1049
Stage 1	-	-	-	-	-	-	1006	884	-	991	873	-
Stage 2	-	-	-	-	-	-	991	873	-	1006	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1595	-	-	1609	-	-	956	846	1066	956	844	1049
Mov Cap-2 Maneuver	-	-	-	-	-	-	956	846	-	956	844	-
Stage 1	-	-	-	-	-	-	1006	884	-	991	873	-
Stage 2	-	-	-	-	-	-	991	873	-	1006	883	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			8.8			0		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	956	1595	-	-	1609	-	-	-				
HCM Lane V/C Ratio	0.005	-	-	-	-	-	-	-				
HCM Control Delay (s)	8.8	0	-	-	0	-	-	0				
HCM Lane LOS	A	A	-	-	A	-	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-				

Timings

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) No-Build PM

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	53	967	4	1087	65	6	4	65	4	48
Future Volume (vph)	53	967	4	1087	65	6	4	65	4	48
Turn Type	Prot	NA	Perm	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6			8		4	
Permitted Phases			6		6	8		4		4
Detector Phase	5	2	6	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	7.0	12.0	12.0	12.0	12.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.9	24.1	24.1	24.1	24.1	25.2	25.2	24.3	24.3	24.3
Total Split (s)	13.0	64.8	51.8	51.8	51.8	25.2	25.2	25.2	25.2	25.2
Total Split (%)	14.4%	72.0%	57.6%	57.6%	57.6%	28.0%	28.0%	28.0%	28.0%	28.0%
Yellow Time (s)	3.0	4.6	4.6	4.6	4.6	3.0	3.0	3.7	3.7	3.7
All-Red Time (s)	2.9	1.5	1.5	1.5	1.5	4.2	4.2	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	6.1	6.1	6.1	6.1	7.2	7.2	6.3	6.3	6.3
Lead/Lag	Lead		Lag	Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes	Yes					
Recall Mode	None	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	8.6	71.3	59.4	59.4	59.4	9.4	9.4	10.1	10.1	10.1
Actuated g/C Ratio	0.10	0.79	0.66	0.66	0.66	0.10	0.10	0.11	0.11	0.11
v/c Ratio	0.34	0.38	0.01	0.51	0.07	0.05	0.04	0.45	0.02	0.19
Control Delay	43.0	4.4	10.0	12.1	0.7	35.0	27.3	45.4	33.5	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	4.4	10.0	12.1	0.7	35.0	27.3	45.4	33.5	1.9
LOS	D	A	A	B	A	C	C	D	C	A
Approach Delay		6.4		11.5			30.9		27.2	
Approach LOS		A		B			C		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 10.1

Intersection LOS: B

Intersection Capacity Utilization 62.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road)



Queues

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) No-Build PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	59	1078	4	1208	72	7	8	72	4	53
v/c Ratio	0.34	0.38	0.01	0.51	0.07	0.05	0.04	0.45	0.02	0.19
Control Delay	43.0	4.4	10.0	12.1	0.7	35.0	27.3	45.4	33.5	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	4.4	10.0	12.1	0.7	35.0	27.3	45.4	33.5	1.9
Queue Length 50th (ft)	32	92	1	203	0	4	2	39	2	0
Queue Length 95th (ft)	68	148	6	322	6	16	15	78	11	3
Internal Link Dist (ft)		2874		2001			235		325	
Turn Bay Length (ft)	485		360		315			150		
Base Capacity (vph)	173	2830	329	2358	1096	284	353	300	399	425
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.38	0.01	0.51	0.07	0.02	0.02	0.24	0.01	0.12
Intersection Summary										

HCM 6th Signalized Intersection Summary

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) - Build PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	967	4	4	1087	65	6	4	4	65	4	48
Future Volume (veh/h)	53	967	4	4	1087	65	6	4	4	65	4	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1885	1885	1885	1885	1885	1885	1900	1885	1900	1900	1900
Adj Flow Rate, veh/h	59	1074	4	4	1208	72	7	4	4	72	4	53
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	1	1	1	1	1	1	0	1	0	0	0
Cap, veh/h	109	2840	11	423	2330	1039	181	66	66	183	145	123
Arrive On Green	0.06	0.78	0.78	0.65	0.65	0.65	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1810	3660	14	527	3582	1598	1357	872	872	1430	1900	1610
Grp Volume(v), veh/h	59	526	552	4	1208	72	7	0	8	72	4	53
Grp Sat Flow(s),veh/h/ln	1810	1791	1883	527	1791	1598	1357	0	1743	1430	1900	1610
Q Serve(g_s), s	2.9	8.4	8.4	0.2	16.0	1.5	0.4	0.0	0.4	4.4	0.2	2.8
Cycle Q Clear(g_c), s	2.9	8.4	8.4	0.2	16.0	1.5	0.6	0.0	0.4	4.8	0.2	2.8
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	109	1390	1461	423	2330	1039	181	0	133	183	145	123
V/C Ratio(X)	0.54	0.38	0.38	0.01	0.52	0.07	0.04	0.00	0.06	0.39	0.03	0.43
Avail Cap(c_a), veh/h	143	1390	1461	423	2330	1039	349	0	349	374	399	338
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	3.2	3.2	5.5	8.3	5.8	38.8	0.0	38.6	40.8	38.5	39.7
Incr Delay (d2), s/veh	4.2	0.8	0.7	0.0	0.8	0.1	0.1	0.0	0.2	1.4	0.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.8	1.9	0.0	5.0	0.4	0.1	0.0	0.2	1.6	0.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	4.0	3.9	5.6	9.1	5.9	38.9	0.0	38.8	42.2	38.6	42.1
LnGrp LOS	D	A	A	A	A	A	D	A	D	D	D	D
Approach Vol, veh/h	1137			1284			15			129		
Approach Delay, s/veh	6.1			8.9			38.8			42.0		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4		5	6	8				
Phs Duration (G+Y+Rc), s	75.9			14.1		11.3	64.6	14.1				
Change Period (Y+Rc), s	6.1			* 7.2		5.9	6.1	7.2				
Max Green Setting (Gmax), s	58.7			* 19		7.1	45.7	18.0				
Max Q Clear Time (g_c+I1), s	10.4			6.8		4.9	18.0	2.6				
Green Ext Time (p_c), s	7.8			0.2		0.0	9.7	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				9.5								
HCM 6th LOS				A								
Notes												

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	17	4	46	18	4	4	22	92	4	4	43	4
Future Vol, veh/h	17	4	46	18	4	4	22	92	4	4	43	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	1	0	1	0	0	1	0
Mvmt Flow	19	4	51	20	4	4	24	102	4	4	48	4
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	159	212	26	186	212	53	52	0	0	106	0	0
Stage 1	58	58	-	152	152	-	-	-	-	-	-	-
Stage 2	101	154	-	34	60	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.92	7.5	6.5	6.92	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.31	3.5	4	3.31	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	797	689	1047	763	689	1006	1567	-	-	1498	-	-
Stage 1	953	851	-	841	775	-	-	-	-	-	-	-
Stage 2	900	774	-	983	849	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	779	677	1047	712	677	1006	1567	-	-	1498	-	-
Mov Cap-2 Maneuver	779	677	-	712	677	-	-	-	-	-	-	-
Stage 1	939	848	-	828	763	-	-	-	-	-	-	-
Stage 2	877	762	-	928	846	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.2		10.1			1.4			0.6			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1567	-	-	935	739	1498	-	-				
HCM Lane V/C Ratio	0.016	-	-	0.08	0.039	0.003	-	-				
HCM Control Delay (s)	7.3	-	-	9.2	10.1	7.4	-	-				
HCM Lane LOS	A	-	-	A	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-				

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	4	20	94	46	4
Future Vol, veh/h	4	4	20	94	46	4
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	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	1	0	0
Mvmt Flow	4	4	22	104	51	4
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	149	28	55	0	-	0
Stage 1	53	-	-	-	-	-
Stage 2	96	-	-	-	-	-
Critical Hdwy	6.8	6.92	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.31	2.2	-	-	-
Pot Cap-1 Maneuver	834	1044	1563	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	822	1044	1563	-	-	-
Mov Cap-2 Maneuver	822	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	9		1.3		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1563	-	822	1044	-	-
HCM Lane V/C Ratio	0.014	-	0.005	0.004	-	-
HCM Control Delay (s)	7.3	-	9.4	8.5	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	111	0	0	49
Future Vol, veh/h	0	0	111	0	0	49
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, %	0	0	1	0	0	1
Mvmt Flow	0	0	123	0	0	54
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	62	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	996	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	996	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	0	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	0	-	-	-
HCM Lane LOS	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	7	4	0	24	0	4	0	0	0	0	0
Future Vol, veh/h	0	7	4	0	24	0	4	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	8	4	0	27	0	4	0	0	0	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	12	0	0	37	37	10	37	39	27
Stage 1	-	-	-	-	-	-	10	10	-	27	27	-
Stage 2	-	-	-	-	-	-	27	27	-	10	12	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1600	-	-	1620	-	-	973	859	1077	973	857	1054
Stage 1	-	-	-	-	-	-	1016	891	-	996	877	-
Stage 2	-	-	-	-	-	-	996	877	-	1016	890	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1600	-	-	1620	-	-	973	859	1077	973	857	1054
Mov Cap-2 Maneuver	-	-	-	-	-	-	973	859	-	973	857	-
Stage 1	-	-	-	-	-	-	1016	891	-	996	877	-
Stage 2	-	-	-	-	-	-	996	877	-	1016	890	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			8.7			0		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	973	1600	-	-	1620	-	-	-				
HCM Lane V/C Ratio	0.005	-	-	-	-	-	-	-				
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0				
HCM Lane LOS	A	A	-	-	A	-	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-				

Timings

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Build AM

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	119	802	4	664	125	4	4	113	4	119
Future Volume (vph)	119	802	4	664	125	4	4	113	4	119
Turn Type	Prot	NA	Perm	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6			8		4	
Permitted Phases			6		6	8		4		4
Detector Phase	5	2	6	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	7.0	12.0	12.0	12.0	12.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.9	24.1	24.1	24.1	24.1	25.2	25.2	24.3	24.3	24.3
Total Split (s)	24.0	61.0	37.0	37.0	37.0	29.0	29.0	29.0	29.0	29.0
Total Split (%)	26.7%	67.8%	41.1%	41.1%	41.1%	32.2%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	3.0	4.6	4.6	4.6	4.6	3.0	3.0	3.7	3.7	3.7
All-Red Time (s)	2.9	1.5	1.5	1.5	1.5	4.2	4.2	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	6.1	6.1	6.1	6.1	7.2	7.2	6.3	6.3	6.3
Lead/Lag	Lead		Lag	Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes	Yes					
Recall Mode	None	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	11.8	64.3	46.6	46.6	46.6	12.4	12.4	13.3	13.3	13.3
Actuated g/C Ratio	0.13	0.71	0.52	0.52	0.52	0.14	0.14	0.15	0.15	0.15
v/c Ratio	0.56	0.35	0.01	0.40	0.16	0.02	0.03	0.60	0.01	0.38
Control Delay	45.0	5.8	14.8	15.4	3.4	30.8	24.1	47.1	30.2	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	5.8	14.8	15.4	3.4	30.8	24.1	47.1	30.2	9.2
LOS	D	A	B	B	A	C	C	D	C	A
Approach Delay		10.8		13.5			26.3		27.8	
Approach LOS		B		B			C		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 14.0

Intersection LOS: B

Intersection Capacity Utilization 60.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road)



Queues

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Build AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	132	895	4	738	139	4	8	126	4	132
v/c Ratio	0.56	0.35	0.01	0.40	0.16	0.02	0.03	0.60	0.01	0.38
Control Delay	45.0	5.8	14.8	15.4	3.4	30.8	24.1	47.1	30.2	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	5.8	14.8	15.4	3.4	30.8	24.1	47.1	30.2	9.2
Queue Length 50th (ft)	71	85	1	127	0	2	2	68	2	1
Queue Length 95th (ft)	122	143	8	214	34	11	14	117	m10	46
Internal Link Dist (ft)	2874		2001		235		325			
Turn Bay Length (ft)	485	360		315		150				
Base Capacity (vph)	363	2553	309	1850	894	343	426	360	479	506
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.35	0.01	0.40	0.16	0.01	0.02	0.35	0.01	0.26

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Build AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	802	4	4	664	125	4	4	4	113	4	119
Future Volume (veh/h)	119	802	4	4	664	125	4	4	4	113	4	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1885	1885	1885	1885	1885	1900	1885	1900	1900	1900
Adj Flow Rate, veh/h	132	891	4	4	738	139	4	4	4	126	4	132
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	1	1	1	1	1	1	0	1	0	0	0
Cap, veh/h	167	2683	12	441	2062	920	227	103	103	244	225	191
Arrive On Green	0.09	0.73	0.73	0.58	0.58	0.58	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1810	3657	16	627	3582	1598	1263	872	872	1430	1900	1610
Grp Volume(v), veh/h	132	436	459	4	738	139	4	0	8	126	4	132
Grp Sat Flow(s),veh/h/ln	1810	1791	1882	627	1791	1598	1263	0	1743	1430	1900	1610
Q Serve(g_s), s	6.4	7.7	7.7	0.2	9.9	3.6	0.3	0.0	0.4	7.7	0.2	7.1
Cycle Q Clear(g_c), s	6.4	7.7	7.7	0.2	9.9	3.6	0.4	0.0	0.4	8.1	0.2	7.1
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	167	1314	1381	441	2062	920	227	0	207	244	225	191
V/C Ratio(X)	0.79	0.33	0.33	0.01	0.36	0.15	0.02	0.00	0.04	0.52	0.02	0.69
Avail Cap(c_a), veh/h	364	1314	1381	441	2062	920	384	0	422	435	479	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	4.2	4.2	8.1	10.2	8.9	35.2	0.0	35.1	38.7	35.0	38.1
Incr Delay (d2), s/veh	8.1	0.7	0.6	0.0	0.5	0.3	0.0	0.0	0.1	1.7	0.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	2.0	2.1	0.0	3.4	1.2	0.1	0.0	0.2	2.7	0.1	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	4.9	4.9	8.2	10.7	9.2	35.3	0.0	35.2	40.4	35.1	42.5
LnGrp LOS	D	A	A	A	B	A	D	A	D	D	D	D
Approach Vol, veh/h		1027			881			12			262	
Approach Delay, s/veh		10.4			10.4			35.2			41.4	
Approach LOS		B			B			D			D	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		72.1		17.9	14.2	57.9		17.9				
Change Period (Y+Rc), s		6.1		* 7.2	5.9	6.1		7.2				
Max Green Setting (Gmax), s		54.9		* 23	18.1	30.9		21.8				
Max Q Clear Time (g_c+I1), s		9.7		10.1	8.4	11.9		2.4				
Green Ext Time (p_c), s		5.9		0.6	0.2	5.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				14.3								
HCM 6th LOS				B								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	20	12	46	112	10	5	23	168	53	12	78	10
Future Vol, veh/h	20	12	46	112	10	5	23	168	53	12	78	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	1	0	1	0	0	1	0
Mvmt Flow	22	13	51	124	11	6	26	187	59	13	87	11
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	270	417	49	345	393	123	98	0	0	246	0	0
Stage 1	119	119	-	269	269	-	-	-	-	-	-	-
Stage 2	151	298	-	76	124	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.92	7.5	6.5	6.92	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.31	3.5	4	3.31	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	666	530	1012	590	546	908	1508	-	-	1332	-	-
Stage 1	879	801	-	719	690	-	-	-	-	-	-	-
Stage 2	842	671	-	930	797	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	638	516	1012	538	531	908	1508	-	-	1332	-	-
Mov Cap-2 Maneuver	638	516	-	538	531	-	-	-	-	-	-	-
Stage 1	864	793	-	707	678	-	-	-	-	-	-	-
Stage 2	809	660	-	860	789	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	10.2		13.9			0.7			0.9			
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1508	-	-	780	546	1332	-	-				
HCM Lane V/C Ratio	0.017	-	-	0.111	0.258	0.01	-	-				
HCM Control Delay (s)	7.4	-	-	10.2	13.9	7.7	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1	0	-	-				

Intersection								
Int Delay, s/veh	1.1							
Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR	
Lane Configurations								
Traffic Vol, veh/h	4	4	11	7	89	80	4	
Future Vol, veh/h	4	4	11	7	89	80	4	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	
RT Channelized	-	None	-	-	None	-	None	
Storage Length	0	0	-	90	-	-	-	
Veh in Median Storage, #	0	-	-	-	0	0	-	
Grade, %	0	-	-	-	0	0	-	
Peak Hour Factor	90	90	90	90	90	90	90	
Heavy Vehicles, %	0	1	0	0	1	0	0	
Mvmt Flow	4	4	12	8	99	89	4	
Major/Minor	Minor2	Major1		Major2				
Conflicting Flow All	181	47	93	93	0	-	0	
Stage 1	91	-	-	-	-	-	-	
Stage 2	90	-	-	-	-	-	-	
Critical Hdwy	6.8	6.92	6.4	4.1	-	-	-	
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-	
Follow-up Hdwy	3.5	3.31	2.5	2.2	-	-	-	
Pot Cap-1 Maneuver	797	1015	1260	1514	-	-	-	
Stage 1	928	-	-	-	-	-	-	
Stage 2	929	-	-	-	-	-	-	
Platoon blocked, %					-	-	-	
Mov Cap-1 Maneuver	785	1015	1344	1344	-	-	-	
Mov Cap-2 Maneuver	785	-	-	-	-	-	-	
Stage 1	914	-	-	-	-	-	-	
Stage 2	929	-	-	-	-	-	-	
Approach	EB	NB		SB				
HCM Control Delay, s	9.1	1.3		0				
HCM LOS	A							
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR		
Capacity (veh/h)	1344	-	785	1015	-	-		
HCM Lane V/C Ratio	0.015	-	0.006	0.004	-	-		
HCM Control Delay (s)	7.7	-	9.6	8.6	-	-		
HCM Lane LOS	A	-	A	A	-	-		
HCM 95th %tile Q(veh)	0	-	0	0	-	-		

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↘			↗↘
Traffic Vol, veh/h	0	17	88	105	0	95
Future Vol, veh/h	0	17	88	105	0	95
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, %	0	0	1	0	0	1
Mvmt Flow	0	19	98	117	0	106
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	108	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	932	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	932	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.9	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	932	-		
HCM Lane V/C Ratio	-	-	0.02	-		
HCM Control Delay (s)	-	-	8.9	-		
HCM Lane LOS	-	-	A	-		
HCM 95th %tile Q(veh)	-	-	0.1	-		

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	14	4	0	28	0	4	0	0	0	0	95
Future Vol, veh/h	57	14	4	0	28	0	4	0	0	0	0	95
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	63	16	4	0	31	0	4	0	0	0	0	106
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	31	0	0	20	0	0	228	175	18	175	177	31
Stage 1	-	-	-	-	-	-	144	144	-	31	31	-
Stage 2	-	-	-	-	-	-	84	31	-	144	146	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1595	-	-	1609	-	-	731	722	1066	792	720	1049
Stage 1	-	-	-	-	-	-	864	782	-	991	873	-
Stage 2	-	-	-	-	-	-	929	873	-	864	780	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1595	-	-	1609	-	-	637	693	1066	767	691	1049
Mov Cap-2 Maneuver	-	-	-	-	-	-	637	693	-	767	691	-
Stage 1	-	-	-	-	-	-	829	751	-	951	873	-
Stage 2	-	-	-	-	-	-	836	873	-	829	749	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	5.6			0			10.7			8.8		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	637	1595	-	-	1609	-	-	1049				
HCM Lane V/C Ratio	0.007	0.04	-	-	-	-	-	0.101				
HCM Control Delay (s)	10.7	7.3	0	-	0	-	-	8.8				
HCM Lane LOS	B	A	A	-	A	-	-	A				
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.3				

Timings

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Build PM

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	96	967	4	1087	103	6	4	111	4	100
Future Volume (vph)	96	967	4	1087	103	6	4	111	4	100
Turn Type	Prot	NA	Perm	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6			8		4	
Permitted Phases			6		6	8		4		4
Detector Phase	5	2	6	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	7.0	12.0	12.0	12.0	12.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.9	24.1	24.1	24.1	24.1	25.2	25.2	24.3	24.3	24.3
Total Split (s)	20.0	64.8	44.8	44.8	44.8	25.2	25.2	25.2	25.2	25.2
Total Split (%)	22.2%	72.0%	49.8%	49.8%	49.8%	28.0%	28.0%	28.0%	28.0%	28.0%
Yellow Time (s)	3.0	4.6	4.6	4.6	4.6	3.0	3.0	3.7	3.7	3.7
All-Red Time (s)	2.9	1.5	1.5	1.5	1.5	4.2	4.2	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	6.1	6.1	6.1	6.1	7.2	7.2	6.3	6.3	6.3
Lead/Lag	Lead		Lag	Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes	Yes					
Recall Mode	None	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	10.7	64.5	50.5	50.5	50.5	12.2	12.2	13.1	13.1	13.1
Actuated g/C Ratio	0.12	0.72	0.56	0.56	0.56	0.14	0.14	0.15	0.15	0.15
v/c Ratio	0.50	0.42	0.01	0.60	0.12	0.04	0.03	0.59	0.01	0.34
Control Delay	44.6	6.2	13.8	17.1	3.0	31.3	24.4	47.3	30.8	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	6.2	13.8	17.1	3.0	31.3	24.4	47.3	30.8	9.5
LOS	D	A	B	B	A	C	C	D	C	A
Approach Delay		9.7		15.9			27.7		29.4	
Approach LOS		A		B			C		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 14.4

Intersection LOS: B

Intersection Capacity Utilization 65.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road)



Queues

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Build PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	107	1078	4	1208	114	7	8	123	4	111
v/c Ratio	0.50	0.42	0.01	0.60	0.12	0.04	0.03	0.59	0.01	0.34
Control Delay	44.6	6.2	13.8	17.1	3.0	31.3	24.4	47.3	30.8	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	6.2	13.8	17.1	3.0	31.3	24.4	47.3	30.8	9.5
Queue Length 50th (ft)	58	109	1	239	0	4	2	67	2	1
Queue Length 95th (ft)	105	180	8	386	27	15	14	115	m10	44
Internal Link Dist (ft)	2874		2001		235		325			
Turn Bay Length (ft)	485	360		315		150				
Base Capacity (vph)	284	2561	280	2006	951	284	353	300	399	426
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.42	0.01	0.60	0.12	0.02	0.02	0.41	0.01	0.26

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

Southport Commercial

1: Coastline Insurance Driveway/J. Swain Boulevard & NC 211 (Southport Supply Road) Build PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	967	4	4	1087	103	6	4	4	111	4	100
Future Volume (veh/h)	96	967	4	4	1087	103	6	4	4	111	4	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1885	1885	1885	1885	1885	1885	1900	1885	1900	1900	1900
Adj Flow Rate, veh/h	107	1074	4	4	1208	114	7	4	4	123	4	111
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	1	1	1	1	1	1	0	1	0	0	0
Cap, veh/h	137	2699	10	394	2134	952	225	100	100	238	218	185
Arrive On Green	0.08	0.74	0.74	0.60	0.60	0.60	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1810	3660	14	527	3582	1598	1288	872	872	1430	1900	1610
Grp Volume(v), veh/h	107	526	552	4	1208	114	7	0	8	123	4	111
Grp Sat Flow(s),veh/h/ln	1810	1791	1883	527	1791	1598	1288	0	1743	1430	1900	1610
Q Serve(g_s), s	5.2	9.8	9.8	0.3	18.5	2.8	0.4	0.0	0.4	7.5	0.2	5.9
Cycle Q Clear(g_c), s	5.2	9.8	9.8	0.3	18.5	2.8	0.6	0.0	0.4	7.9	0.2	5.9
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	137	1321	1388	394	2134	952	225	0	200	238	218	185
V/C Ratio(X)	0.78	0.40	0.40	0.01	0.57	0.12	0.03	0.00	0.04	0.52	0.02	0.60
Avail Cap(c_a), veh/h	283	1321	1388	394	2134	952	335	0	349	374	399	338
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	4.4	4.4	7.4	11.1	7.9	35.6	0.0	35.4	38.9	35.3	37.9
Incr Delay (d2), s/veh	9.1	0.9	0.9	0.0	1.1	0.3	0.1	0.0	0.1	1.7	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.6	2.7	0.0	6.3	0.9	0.1	0.0	0.2	2.7	0.1	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	5.3	5.2	7.5	12.2	8.2	35.7	0.0	35.5	40.7	35.4	41.0
LnGrp LOS	D	A	A	A	B	A	D	A	D	D	D	D
Approach Vol, veh/h	1185			1326				15		238		
Approach Delay, s/veh	9.3			11.8				35.6		40.7		
Approach LOS	A			B				D		D		
Timer - Assigned Phs	2			4		5		6		8		
Phs Duration (G+Y+Rc), s	72.5			17.5		12.7		59.7		17.5		
Change Period (Y+Rc), s	6.1			* 7.2		5.9		6.1		7.2		
Max Green Setting (Gmax), s	58.7			* 19		14.1		38.7		18.0		
Max Q Clear Time (g_c+I1), s	11.8			9.9		7.2		20.5		2.6		
Green Ext Time (p_c), s	7.7			0.5		0.1		8.2		0.0		

Intersection Summary

HCM 6th Ctrl Delay 13.4

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕↗		↙	↕↗	
Traffic Vol, veh/h	22	9	46	110	10	4	22	150	28	9	49	10
Future Vol, veh/h	22	9	46	110	10	4	22	150	28	9	49	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	1	0	1	0	0	1	0
Mvmt Flow	24	10	51	122	11	4	24	167	31	10	54	11
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	217	326	33	283	316	99	65	0	0	198	0	0
Stage 1	80	80	-	231	231	-	-	-	-	-	-	-
Stage 2	137	246	-	52	85	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.92	7.5	6.5	6.92	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.31	3.5	4	3.31	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	726	596	1036	652	603	941	1550	-	-	1387	-	-
Stage 1	925	832	-	757	717	-	-	-	-	-	-	-
Stage 2	858	706	-	960	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	700	583	1036	601	590	941	1550	-	-	1387	-	-
Mov Cap-2 Maneuver	700	583	-	601	590	-	-	-	-	-	-	-
Stage 1	911	826	-	746	706	-	-	-	-	-	-	-
Stage 2	827	695	-	895	822	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.7		12.7			0.8			1			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1550	-	-	844	607	1387	-	-				
HCM Lane V/C Ratio	0.016	-	-	0.101	0.227	0.007	-	-				
HCM Control Delay (s)	7.4	-	-	9.7	12.7	7.6	-	-				
HCM Lane LOS	A	-	-	A	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	0.9	0	-	-				

Intersection							
Int Delay, s/veh	1.6						
Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	4	4	12	20	100	51	4
Future Vol, veh/h	4	4	12	20	100	51	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	0	-	90	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	0	1	0	0
Mvmt Flow	4	4	13	22	111	57	4
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	185	31	61	61	0	-	0
Stage 1	59	-	-	-	-	-	-
Stage 2	126	-	-	-	-	-	-
Critical Hdwy	6.8	6.92	6.4	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.31	2.5	2.2	-	-	-
Pot Cap-1 Maneuver	792	1039	1320	1555	-	-	-
Stage 1	962	-	-	-	-	-	-
Stage 2	892	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	772	1039	1455	1455	-	-	-
Mov Cap-2 Maneuver	772	-	-	-	-	-	-
Stage 1	938	-	-	-	-	-	-
Stage 2	892	-	-	-	-	-	-
Approach	EB		NB		SB		
HCM Control Delay, s	9.1		1.8		0		
HCM LOS	A						
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1455		-	772	1039	-	-
HCM Lane V/C Ratio	0.024		-	0.006	0.004	-	-
HCM Control Delay (s)	7.5		-	9.7	8.5	-	-
HCM Lane LOS	A		-	A	A	-	-
HCM 95th %tile Q(veh)	0.1		-	0	0	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↘			↗↘
Traffic Vol, veh/h	0	17	111	62	0	65
Future Vol, veh/h	0	17	111	62	0	65
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, %	0	0	1	0	0	1
Mvmt Flow	0	19	123	69	0	72
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	96	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	948	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	948	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.9	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	948			
HCM Lane V/C Ratio	-	-	0.02			
HCM Control Delay (s)	-	-	8.9			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	0.1			

Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	34	7	4	0	24	0	4	0	0	0	0	98
Future Vol, veh/h	34	7	4	0	24	0	4	0	0	0	0	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	38	8	4	0	27	0	4	0	0	0	0	109
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	12	0	0	168	113	10	113	115	27
Stage 1	-	-	-	-	-	-	86	86	-	27	27	-
Stage 2	-	-	-	-	-	-	82	27	-	86	88	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1600	-	-	1620	-	-	800	781	1077	869	779	1054
Stage 1	-	-	-	-	-	-	927	827	-	996	877	-
Stage 2	-	-	-	-	-	-	931	877	-	927	826	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1600	-	-	1620	-	-	704	762	1077	853	760	1054
Mov Cap-2 Maneuver	-	-	-	-	-	-	704	762	-	853	760	-
Stage 1	-	-	-	-	-	-	905	807	-	972	877	-
Stage 2	-	-	-	-	-	-	835	877	-	905	806	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	5.5			0			10.1			8.8		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	704	1600	-	-	1620	-	-	1054				
HCM Lane V/C Ratio	0.006	0.024	-	-	-	-	-	0.103				
HCM Control Delay (s)	10.1	7.3	0	-	0	-	-	8.8				
HCM Lane LOS	B	A	A	-	A	-	-	A				
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.3				

APPENDIX G – SimTraffic Reports

Summary of All Intervals

Start Time	6:57
End Time	8:07
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	1693
Vehs Exited	1695
Starting Vehs	38
Ending Vehs	36
Travel Distance (mi)	1513
Travel Time (hr)	39.9
Total Delay (hr)	4.5
Total Stops	507
Fuel Used (gal)	42.8

Interval #0 Information Seeding

Start Time	6:57
End Time	7:07
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60
Volumes adjusted by Growth Factors.	
Vehs Entered	1693
Vehs Exited	1695
Starting Vehs	38
Ending Vehs	36
Travel Distance (mi)	1513
Travel Time (hr)	39.9
Total Delay (hr)	4.5
Total Stops	507
Fuel Used (gal)	42.8

Intersection: 1: FNB Dwy/J. Swain Boulevard & NC 211 (Southport Supply Road)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	T	R
Maximum Queue (ft)	44	65	107	28	117	76	29	29	56	111	24	44
Average Queue (ft)	13	33	36	5	48	36	10	4	10	51	3	20
95th Queue (ft)	31	63	78	21	89	75	31	20	35	100	14	34
Link Distance (ft)		2907	2907		2037	2037		266	266		320	320
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	485			360			315			150		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 2: J. Swain Boulevard & Eason St

Movement	EB	WB	NB
Directions Served	LTR	LTR	L
Maximum Queue (ft)	32	31	31
Average Queue (ft)	27	18	1
95th Queue (ft)	42	43	10
Link Distance (ft)	567	132	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: J. Swain Boulevard & SECU Dwy

Movement	EB	EB
Directions Served	L	R
Maximum Queue (ft)	30	32
Average Queue (ft)	2	9
95th Queue (ft)	14	32
Link Distance (ft)	300	300
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: J. Swain Boulevard & Site Access 1

Movement

Directions Served

Maximum Queue (ft)

Average Queue (ft)

95th Queue (ft)

Link Distance (ft)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (ft)

Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 5: First Bank Dwy/Site Access 2 & Eason St

Movement

Directions Served

Maximum Queue (ft)

Average Queue (ft)

95th Queue (ft)

Link Distance (ft)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (ft)

Storage Blk Time (%)

Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Start Time	6:57
End Time	8:07
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	2302
Vehs Exited	2314
Starting Vehs	61
Ending Vehs	49
Travel Distance (mi)	2099
Travel Time (hr)	55.1
Total Delay (hr)	6.7
Total Stops	628
Fuel Used (gal)	59.0

Interval #0 Information Seeding

Start Time	6:57
End Time	7:07
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	2302
Vehs Exited	2314
Starting Vehs	61
Ending Vehs	49
Travel Distance (mi)	2099
Travel Time (hr)	55.1
Total Delay (hr)	6.7
Total Stops	628
Fuel Used (gal)	59.0

Intersection: 1: FNB Dwy/J. Swain Boulevard & NC 211 (Southport Supply Road)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	T	R
Maximum Queue (ft)	69	111	110	24	136	139	31	30	31	111	46	42
Average Queue (ft)	19	40	47	2	68	59	8	4	10	46	5	17
95th Queue (ft)	47	85	99	14	119	124	29	20	33	85	23	32
Link Distance (ft)		2907	2907		2037	2037		266	266		320	320
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	485			360			315			150		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 2: J. Swain Boulevard & Eason St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	32	55	31	29
Average Queue (ft)	26	22	1	1
95th Queue (ft)	43	47	10	9
Link Distance (ft)	567	132		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	150
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: J. Swain Boulevard & SECU Dwy

Movement	EB	EB	NB
Directions Served	L	R	UL
Maximum Queue (ft)	31	32	29
Average Queue (ft)	1	2	1
95th Queue (ft)	10	15	9
Link Distance (ft)	300	300	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			90
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: J. Swain Boulevard & Site Access 1

Movement

Directions Served

Maximum Queue (ft)

Average Queue (ft)

95th Queue (ft)

Link Distance (ft)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (ft)

Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 5: First Bank Dwy/Site Access 2 & Eason St

Movement

NB

Directions Served

LTR

Maximum Queue (ft)

31

Average Queue (ft)

5

95th Queue (ft)

24

Link Distance (ft)

112

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (ft)

Storage Blk Time (%)

Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Start Time	6:57
End Time	8:07
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	1776
Vehs Exited	1756
Starting Vehs	34
Ending Vehs	54
Travel Distance (mi)	1576
Travel Time (hr)	42.4
Total Delay (hr)	5.6
Total Stops	603
Fuel Used (gal)	45.3

Interval #0 Information Seeding

Start Time	6:57
End Time	7:07
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60
Volumes adjusted by Growth Factors.	
Vehs Entered	1776
Vehs Exited	1756
Starting Vehs	34
Ending Vehs	54
Travel Distance (mi)	1576
Travel Time (hr)	42.4
Total Delay (hr)	5.6
Total Stops	603
Fuel Used (gal)	45.3

Intersection: 1: FNB Dwy/J. Swain Boulevard & NC 211 (Southport Supply Road)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	T	R
Maximum Queue (ft)	90	106	82	26	149	159	54	29	52	111	46	44
Average Queue (ft)	31	33	36	5	73	50	12	7	5	47	5	20
95th Queue (ft)	70	73	75	21	128	108	36	26	26	90	23	35
Link Distance (ft)		2907	2907		2037	2037		266	266		320	320
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	485			360			315			150		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 2: J. Swain Boulevard & Eason St

Movement	EB	WB	NB
Directions Served	LTR	LTR	L
Maximum Queue (ft)	55	31	31
Average Queue (ft)	30	23	2
95th Queue (ft)	42	45	14
Link Distance (ft)	567	132	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: J. Swain Boulevard & SECU Dwy

Movement	EB	EB	NB
Directions Served	L	R	UL
Maximum Queue (ft)	31	32	30
Average Queue (ft)	2	5	1
95th Queue (ft)	14	24	10
Link Distance (ft)	300	300	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			90
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: J. Swain Boulevard & Site Access 1

Movement

Directions Served

Maximum Queue (ft)

Average Queue (ft)

95th Queue (ft)

Link Distance (ft)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (ft)

Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 5: First Bank Dwy/Site Access 2 & Eason St

Movement

NB

Directions Served

LTR

Maximum Queue (ft)

31

Average Queue (ft)

8

95th Queue (ft)

30

Link Distance (ft)

112

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (ft)

Storage Blk Time (%)

Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Start Time	6:57
End Time	8:07
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	2395
Vehs Exited	2391
Starting Vehs	66
Ending Vehs	70
Travel Distance (mi)	2176
Travel Time (hr)	58.6
Total Delay (hr)	8.6
Total Stops	699
Fuel Used (gal)	61.4

Interval #0 Information Seeding

Start Time	6:57
End Time	7:07
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60
Volumes adjusted by Growth Factors.	
Vehs Entered	2395
Vehs Exited	2391
Starting Vehs	66
Ending Vehs	70
Travel Distance (mi)	2176
Travel Time (hr)	58.6
Total Delay (hr)	8.6
Total Stops	699
Fuel Used (gal)	61.4

Intersection: 1: FNB Dwy/J. Swain Boulevard & NC 211 (Southport Supply Road)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	T	R
Maximum Queue (ft)	68	167	148	24	212	250	55	29	30	108	24	43
Average Queue (ft)	32	40	45	1	109	89	12	6	5	45	2	16
95th Queue (ft)	66	101	108	8	197	191	37	24	23	92	11	35
Link Distance (ft)		2907	2907		2037	2037		266	266		320	320
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	485			360			315			150		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 2: J. Swain Boulevard & Eason St

Movement	EB	WB	SB
Directions Served	LTR	LTR	L
Maximum Queue (ft)	55	31	28
Average Queue (ft)	26	17	1
95th Queue (ft)	45	42	9
Link Distance (ft)	567	132	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: J. Swain Boulevard & SECU Dwy

Movement	EB	EB	NB	NB
Directions Served	L	R	UL	T
Maximum Queue (ft)	31	32	31	30
Average Queue (ft)	3	5	2	1
95th Queue (ft)	18	23	14	10
Link Distance (ft)	300	300		111
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			90	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: J. Swain Boulevard & Site Access 1

Movement

Directions Served

Maximum Queue (ft)

Average Queue (ft)

95th Queue (ft)

Link Distance (ft)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (ft)

Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 5: First Bank Dwy/Site Access 2 & Eason St

Movement

NB

Directions Served

LTR

Maximum Queue (ft)

31

Average Queue (ft)

5

95th Queue (ft)

23

Link Distance (ft)

112

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (ft)

Storage Blk Time (%)

Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Start Time	6:57
End Time	8:07
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	2077
Vehs Exited	2062
Starting Vehs	41
Ending Vehs	56
Travel Distance (mi)	1761
Travel Time (hr)	50.6
Total Delay (hr)	8.3
Total Stops	1034
Fuel Used (gal)	52.8

Interval #0 Information Seeding

Start Time	6:57
End Time	7:07
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	2077
Vehs Exited	2062
Starting Vehs	41
Ending Vehs	56
Travel Distance (mi)	1761
Travel Time (hr)	50.6
Total Delay (hr)	8.3
Total Stops	1034
Fuel Used (gal)	52.8

Intersection: 1: FNB Dwy/J. Swain Boulevard & NC 211 (Southport Supply Road)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	T	R
Maximum Queue (ft)	144	100	123	26	160	135	76	29	31	134	24	44
Average Queue (ft)	71	41	57	2	82	64	25	2	3	65	5	26
95th Queue (ft)	133	85	112	14	138	117	54	14	19	109	20	41
Link Distance (ft)		2907	2907		2037	2037		266	266		320	320
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	485			360			315			150		
Storage Blk Time (%)										0		
Queuing Penalty (veh)										0		

Intersection: 2: J. Swain Boulevard & Eason St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	54	73	31	31
Average Queue (ft)	32	39	1	5
95th Queue (ft)	48	58	10	24
Link Distance (ft)	567	132		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	150
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: J. Swain Boulevard & SECU Dwy

Movement	EB	EB	NB
Directions Served	L	R	UL
Maximum Queue (ft)	31	31	31
Average Queue (ft)	4	4	1
95th Queue (ft)	21	21	10
Link Distance (ft)	300	300	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			90
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: J. Swain Boulevard & Site Access 1

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	15
95th Queue (ft)	40
Link Distance (ft)	212
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: First Bank Dwy/Site Access 2 & Eason St

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	31	77
Average Queue (ft)	2	1	32
95th Queue (ft)	15	10	54
Link Distance (ft)	132	112	124
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Start Time	6:57
End Time	8:07
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	2590
Vehs Exited	2590
Starting Vehs	58
Ending Vehs	58
Travel Distance (mi)	2288
Travel Time (hr)	66.7
Total Delay (hr)	12.6
Total Stops	1244
Fuel Used (gal)	67.7

Interval #0 Information Seeding

Start Time	6:57
End Time	7:07
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	2590
Vehs Exited	2590
Starting Vehs	58
Ending Vehs	58
Travel Distance (mi)	2288
Travel Time (hr)	66.7
Total Delay (hr)	12.6
Total Stops	1244
Fuel Used (gal)	67.7

Intersection: 1: FNB Dwy/J. Swain Boulevard & NC 211 (Southport Supply Road)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	T	R
Maximum Queue (ft)	134	130	160	27	268	278	65	29	31	180	24	83
Average Queue (ft)	53	58	71	4	136	131	26	3	7	89	3	27
95th Queue (ft)	103	117	139	17	231	223	53	18	28	155	15	53
Link Distance (ft)		2907	2907		2037	2037		266	266		320	320
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	485			360			315			150		
Storage Blk Time (%)										2		
Queuing Penalty (veh)										0		

Intersection: 2: J. Swain Boulevard & Eason St

Movement	EB	WB	NB
Directions Served	LTR	LTR	L
Maximum Queue (ft)	56	74	31
Average Queue (ft)	30	35	1
95th Queue (ft)	50	56	10
Link Distance (ft)	567	132	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: J. Swain Boulevard & SECU Dwy

Movement	EB	EB	NB
Directions Served	L	R	UL
Maximum Queue (ft)	31	31	30
Average Queue (ft)	2	6	1
95th Queue (ft)	14	26	10
Link Distance (ft)	300	300	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			90
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: J. Swain Boulevard & Site Access 1

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	13
95th Queue (ft)	37
Link Distance (ft)	212
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: First Bank Dwy/Site Access 2 & Eason St

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	31	56
Average Queue (ft)	4	34
95th Queue (ft)	21	52
Link Distance (ft)	112	124
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

STAFF REPORT FOR PRICES CREEK PHASE 2 TOWNHOMES MAJOR SUBDIVISION PRELIMINARY PLAT APPLICATION

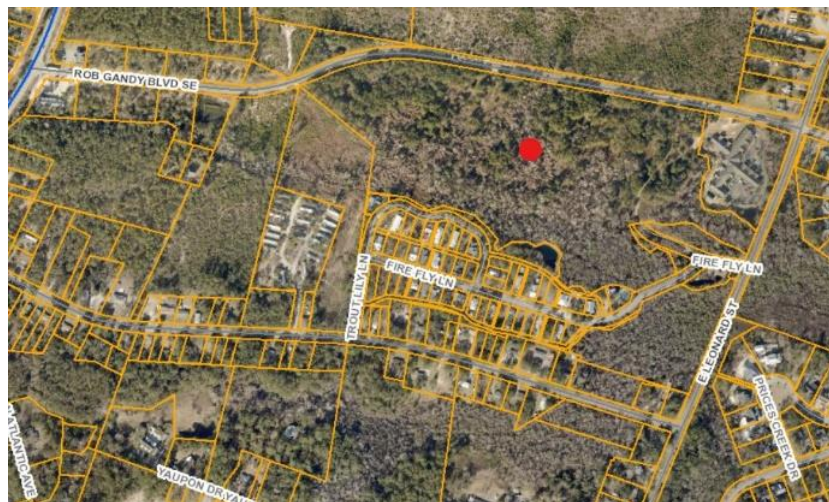
REVIEW PROCESS	
Presentation Date	April 20, 2023 Planning and Zoning Board
Applicant	Cameron Smith
Property Owner	Smith Hill Group, LLC
Parcel ID:	222000604
Project Acreage	17.35 acres
Parcel Acreage	17.35 acres
Zoning District	PUD – Planned Unit Development

PRELIMINARY PLAT OVERVIEW

Cameron Smith, applicant, on behalf of Smith Hill Group, LLC, is requesting approval of a Preliminary Plat for Phase 2 of the Prices Creek Subdivision, which consists of forty-eight (48) townhome dwelling units.

LOCATION

Subject property is located to the south of Rob Gandy Boulevard SE, west of E. Leonard Street and Bella Terra senior living facility, and north of the existing phase of the Prices Creek subdivision. This property is within the incorporated city limits and can be further identified by Brunswick County Parcel ID 222000604.



REVIEW PROCESS

A major subdivision preliminary plat review provides analysis and coordination of a proposed subdivision with the local UDO, transportation facilities, and utility availability. Per Section 2.8.E 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 Preliminary Plats within the City of Southport.

A Preliminary Plat approval conveys the authority to begin construction of infrastructure associated with the proposed subdivision, including such items as roadways, water and sewer utilities, sidewalks, etc. It does not convey any authority to construct dwellings or any other buildings. Upon completion of the installation of infrastructure, the applicant shall submit a Final Plat application. The review of the Final Plat includes site inspections by various City staff to determine if infrastructure has been installed in accordance with the Preliminary Plat. Upon a positive determination from those inspections, the Final Plat shall be considered by the Board of Aldermen. Upon approval by the Board of Aldermen, the Final Plat shall be recorded with the Brunswick County Register of Deeds, and such will convey the authority to begin to obtain building permits for structures.

The approval of the Final Plat is not an acceptance of infrastructure by the City of Southport. That process, for infrastructure such as roadways and water and sewer lines, occurs as a separate process to also be approved by the Board of Aldermen upon a determination that said infrastructure remains in accordance with any applicable standards put forth by the City.

PRELIMINARY PLAT PROPOSAL

This updated report focuses on specific comments from and conditions placed on the proposal at the March 17, 2023 Planning Board Meeting.

This project was approved and zoned Planned Unit Development (PUD) in 2004. The development approval included 3 phases, the first of which has existed for some time and is continuing to be built out, and two additional multi-family phases that are adjacent to Rob Gandy Boulevard. As shown on the applicant's submitted site plan, the proposal for Phase 2 includes 12 quadraplexes for a total of 48 units. Phase 3 is located to the west of Phase 2 and shall require its own submittal and approval process.

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.

The applicant has provided street light locations to the preliminary plat. Lighting will meet the requirements of Section 3.16 of the UDO.

Water Supply and Sewage Disposal Systems

The city will provide both water and sewer to this subdivision.

The City of Southport is currently evaluating the existing sewer capacity available for this development. A determination of need for future flow and any necessary improvements for this project are forthcoming. Currently, there is not an anticipated date.

Once a determination is available, the subdivision must comply with the requirements set forth by the city's Public Services Department.

Per Section 4.6 Construction Procedures of the UDO and further outlined in Appendix A – Detailed plans may be submitted after site plan or preliminary plat are approved and must be approved by the City's Public Services Department prior to construction of improvements or the issuance of building permits or approval of a final plat.

Recreation and Open Space

Please note, there was an error on the preliminary plat that was submitted for Planning Board review. The open space listed on the plan was 6 acres of upland. After the 3/16/23 meeting the applicant approached staff with the information. The following calculations are correct and meet the requirements of the UDO.

The applicant has provided 3.92 acres (22.5%) of upland open space within Phase 2. This exceeds the 20% requirement for PUDs found in Section 4.14.C. The private areas will be restricted to active and passive recreational purposes and will have recorded covenants in place.

The applicant has updated the plat to delineate between active and passive open space. The area that is labeled future recreation area is classified as 1.23 acres of active open space, leaving 2.69 acres of passive open space.

Tree Protection and Landscape Preservation

The applicant, per Section 3.18, has provided a tree removal plan along with a landscape plan (sheets L0.0 and L0.1) showing required mitigation onsite. The tree removal plan outlines both the infrastructure, drainage, and utilities impact zone and the building envelope zone. Within the infrastructure, drainage, and utilities zone only live oaks 8" and greater are required to be mitigated.

Within the building envelope impact zone, 134" of regulated hardwood and conifer trees will be mitigated. Except for construction needs, existing vegetation has been preserved where possible.

Mitigation for 141" DBH, which is 7" over the required 134" has been provided utilizing the tree specimen requirements of Table 3.5. The landscape mitigation incorporates Southern Live Oak, Southern Magnolia, and Eastern Red Cedar trees, which are all canopy trees.

STAFF'S RECOMMENDATION

Planning Staff are submitting this proposal for Planning Board recommendation to the Board of Alderman in accordance with the standards and processes laid out within the City of Southport Unified Development Ordinance. The application has been deemed complete and is eligible to be conditionally approved as a Preliminary Plat under the existing PUD project known as Prices Creek. The following has been identified by Staff that must be addressed prior to preliminary plat approval:

1. Determination and provision of any necessary sewer upgrades or improvements to accommodate the development at an adequate level of capacity (Preliminary Plat).

Attachments:

- 1) March 17, 2023 Staff Report
- 2) TRC Memo
- 3) Application
- 4) Preliminary Plat

STAFF REPORT FOR PRICES CREEK PHASE 2 TOWNHOMES MAJOR SUBDIVISION PRELIMINARY PLAT APPLICATION

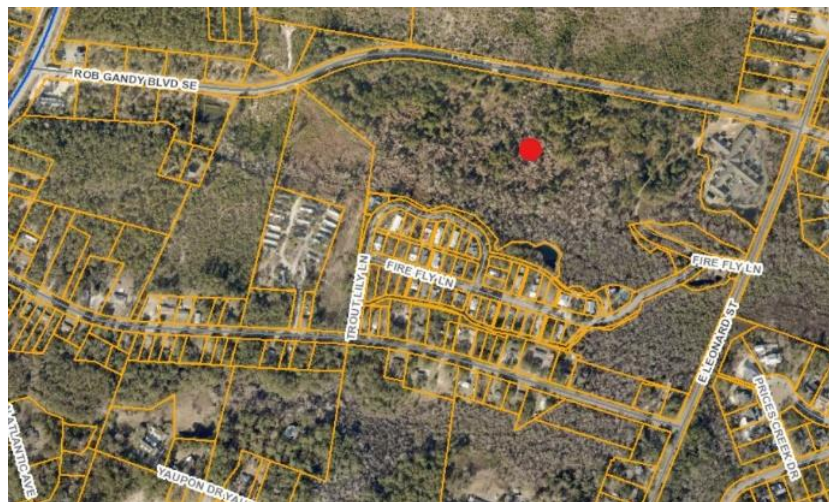
REVIEW PROCESS	
Presentation Date	March 16, 2023 Planning and Zoning Board
Applicant	Cameron Smith
Property Owner	Smith Hill Group, LLC
Parcel ID:	222000604
Project Acreage	17.35 acres
Parcel Acreage	17.35 acres
Zoning District	PUD – Planned Unit Development

PRELIMINARY PLAT OVERVIEW

Cameron Smith, applicant, on behalf of Smith Hill Group, LLC, is requesting approval of a Preliminary Plat for Phase 2 of the Prices Creek Subdivision, which consists of forty-eight (48) townhome dwelling units.

LOCATION

Subject property is located to the south of Rob Gandy Boulevard SE, west of E. Leonard Street and Bella Terra senior living facility, and north of the existing phase of the Prices Creek subdivision. This property is within the incorporated city limits and can be further identified by Brunswick County Parcel ID 222000604.



REVIEW PROCESS

A major subdivision preliminary plat review provides analysis and coordination of a proposed subdivision with the local UDO, transportation facilities, and utility availability. Per Section 2.8.E 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 Preliminary Plats within the City of Southport.

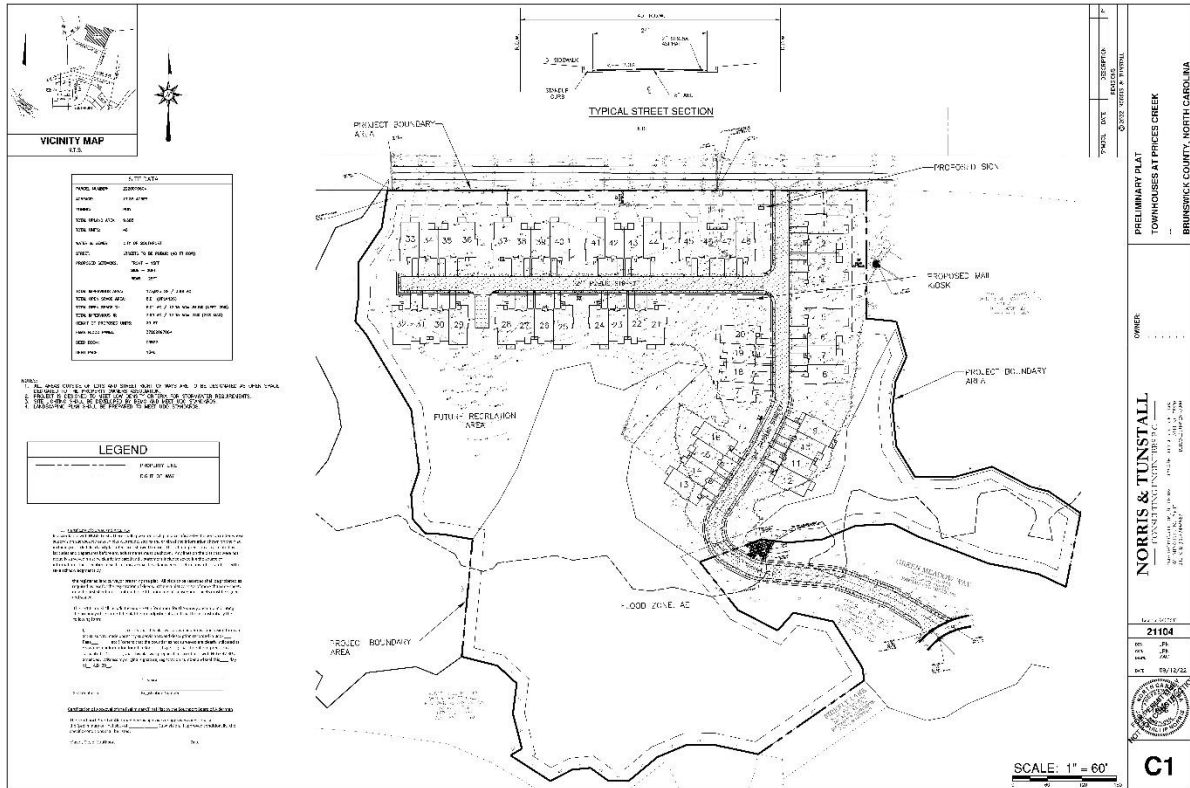
A Preliminary Plat approval conveys the authority to begin construction of infrastructure associated with the proposed subdivision, including such items as roadways, water and sewer utilities, sidewalks, etc. It does not convey any authority to construct dwellings or any other buildings. Upon completion of the installation of infrastructure, the applicant shall submit a Final Plat application. The review of the Final Plat includes site inspections by various City staff to determine if infrastructure has been installed in accordance with the Preliminary Plat. Upon a positive determination from those inspections, the Final Plat shall be considered by the Board of Aldermen. Upon approval by the Board of Aldermen, the Final Plat shall be recorded with the Brunswick County Register of Deeds, and such will convey the authority to begin to obtain building permits for structures.

The approval of the Final Plat is not an acceptance of infrastructure by the City of Southport. That process, for infrastructure such as roadways and water and sewer lines, occurs as a separate process to also be approved by the Board of Aldermen upon a determination that said infrastructure remains in accordance with any applicable standards put forth by the City.

Staff comments on the proposal based on the requirements outlined in the Unified Development Ordinance (as outlined in Appendix A) are provided as an attachment to this report, with outstanding items denoted. More significant items to address are also outlined in this report. Approval procedures specific to Major Subdivision Preliminary Plat, are found in Section 2.8.E of the City of Southport Unified Development Ordinance.

PRELIMINARY PLAT PROPOSAL

This project was approved and zoned Planned Unit Development (PUD) in 2004. The development approval included 3 phases, the first of which has existed for some time and is continuing to be built out, and two additional multi-family phases that are adjacent to Rob Gandy Boulevard. As shown on the applicant's submitted site plan, the proposal for Phase 2 includes 12 quadraplexes for a total of 48 units. Phase 3 is located to the west of Phase 2 and shall require its own submittal and approval process.



Dimensional Requirements

The dimensional requirements applicable within the PUD zoning district are determined at the time of initial approval. Multi-family units within a PUD can utilize zero lot lines with a peripheral minimum setback of 25' and a maximum building height of 40'. Based on the site plan minimum peripheral setbacks are met and labeled at 25'. The site plan states that the final building height is 30'. Building height shall be reviewed further at the time building permits are reviewed.

The parcel of land has a total of 17.35 acres. The density of the proposed subdivision is 2.76 dwelling units/acre, which meets the maximum density of 6 du/acre as laid out within the Unified Development Ordinance and is consistent with the overarching approval for Prices Creek. Further, there are 6.01 acres of open space (34.6%), which exceeds the existing 20% requirement for all PUDS.

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 two locations, one directly to Rob Gandy Boulevard and one to Green Meadow Way, via which access is granted to E. Leonard Street. These two entrances meet the street connectivity requirements as found within the Unified

Development Ordinance. 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 Marshal at the December 20, 2022, Technical Review Committee meeting. All streets will be designated public rights-of-way and constructed to meet the requirements of Section 4.8. Formal dedication of the streets to the City of Southport shall require separate review, inspection, and acceptance by the Board of Aldermen in the future.

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

Street signs, both traffic-control and name signs will be installed by the applicant and shall meet all applicable regulations.

A cluster mailbox kiosk has been identified on the site plan at the corner of the main street and side street near the Rob Gandy Boulevard entrance.

Pedestrian Facilities

Per Section 4.11 sidewalks are required on at least 1 side of the street for all major subdivisions. The applicant has provided 5' sidewalks extended to the property line on both sides of all streets as shown on the submitted site plan, thus exceeding the requirements of the Ordinance.

Water Supply and Sewage Disposal Systems

The city will provide both water and sewer to this subdivision.

The City of Southport is currently evaluating the existing sewer capacity available for this development. A determination of need for future flow and any necessary improvements that will be necessary for this project will be provided in the spring. The consulting engineer anticipates that the findings will be available in March.

Once a determination is available, the subdivision must comply with the requirements set forth by the city's Public Services Department.

Erosion and Sedimentation, Drainage Control Facilities, and Stormwater

Project is designed to meet low density criteria for stormwater requirements and meets the maximum 24% built upon area/impervious surface requirement. Any permits from NC Department of Environmental Quality shall be obtained prior to commencing construction.

Consulting engineers are currently reviewing the project for compliance with the city's UDO.

Further, 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 City's contract engineer for stormwater review services is currently reviewing the submitted plans to determine compliance with City standards and will coordinate with the applicant and City Planning staff to that end.

ENVIRONMENTAL CONCERNS	
Special Flood Hazard Areas	The subject property does appear to contain Special Flood Hazard Areas ¹ . Although, dwelling unit development is not proposed in the AE Flood Zone or other Special Flood Hazard Areas. Any development within Special Flood Hazard Areas shall conform to the requirements laid out in Article 5 of the Unified Development Ordinance.
Areas of Environmental Concern	The subject property does not contain any Areas of Environmental Concern (AEC) ² .

¹ According to the effective regulatory and preliminary Flood Insurance Rate Maps NC Flood Risk Information System (NC FRIS) and as delineated on the site plan.

² According to the North Carolina Department of Environmental Quality (NCDEQ)

Recreation and Open Space

As stated previously, the applicant has provided 6.01 acres of open space within Phase 2, excluding wetlands. This exceeds the 20% requirement for PUDs found in Section 4.14.C. The private areas will be restricted to recreational purposes and will have recorded covenants in place. The open space plan is on Sheet C1.1 is a continuous parcel and is accessed by adjoining street frontage.

Landscaping and Buffers

There are no buffer yard requirements for this proposal per Section 3.17 of the Unified Development Ordinance, although the applicant has provided a portion of the required tree protection mitigation (see next section of Staff Report) along the street side of the properties adjacent to Rob Gandy Boulevard and along the property line of units closest to the assisted living facility. The provision of such mitigation in that location, though not required, does follow the purpose and intent of landscaped buffers.

Tree Protection and Landscape Preservation

The applicant, per Section 3.18, has provided a tree removal plan along with a landscape plan (sheets L0.0 and L0.1) showing required mitigation onsite. The tree removal plan

outlines both the infrastructure, drainage, and utilities impact zone and the building envelope zone. Within the infrastructure, drainage, and utilities zone only live oaks 8" and greater are required to be mitigated. There will be 2 oak trees over 8" removed from this construction zone. The landscape plan does not list species of oak. If the two 9" oaks are in fact live oak, 18" of mitigation will be added to the plantings (Section 3.18.H).

Within the building envelope impact zone, 134" of regulated hardwood and conifer trees will be mitigated. Except for construction needs, existing vegetation has been preserved where possible.

Mitigation for 134" DBH has been provided utilizing the tree specimen requirements of Tables 3.5 and 3.6. The submitted site plan shall be required to be updated to include 2 other understory tree species per Section 3.18.H.f., which requires at least 3 different species if more than 10 and less than 50 understory trees are proposed. This information shall be required prior to approval of the Preliminary Plat.

Signage

Location of subdivision sign is labeled on the submitted site plan. Approval of a Preliminary Plat does not include sign permit approval. All future signs associated with the project shall require separate review and approval by Planning Staff based on conformance with Section 3.19 of the City of Southport Unified Development Ordinance.

TECHNICAL REVIEW COMMITTEE

City of Southport Planning Staff and the applicant presented this proposal to the Technical Review Committee at their December 20, 2022 meeting. Written comments from the members of the Technical Review Committee are provided as attachments to this Report. For the purposes of clarity and transparency, many of the comments received from other Department or outside agencies are of a nature that they are to be addressed following the issuance of zoning approval through the course of building plan and permit review and issuance.

STAFF'S RECOMMENDATION

Planning Staff are submitting this proposal for Planning Board recommendation to the Board of Alderman in accordance with the standards and processes laid out within the City of Southport Unified Development Ordinance. The application has been deemed complete and is eligible to be conditionally approved as a Preliminary Plat under the existing PUD project known as Prices Creek. As noted throughout the report, there are some instances where additional information or clarity is needed regarding the applicant's submitted site plan. Staff's comments (attached) provide the full list of those items, but

the following has been identified by Staff that must be addressed prior to preliminary plat approval:

1. Determination and provision of any necessary sewer improvements to accommodate the development at an adequate level of capacity (Preliminary Plat).
2. Provision of dimensions and descriptions of required open space (Preliminary Plat).
3. Provision of a lighting plan that meets all applicable standards of the City of Southport, both within the Unified Development Ordinance and the Code of Ordinances. (Preliminary Plat, will be inspected upon completion of installation prior to final plat.
4. Inclusion of all required certificates for Preliminary Plats in accordance with Unified Development Ordinance (Preliminary Plat, will also be reviewed at final plat with applicable certificates required at that point).

Attachments:

- 1) Staff comments
- 2) TRC Memo
- 3) Application
- 4) Preliminary Plat



City of Southport

To: Cameron Smith, Applicant

From: Maureen Meehan, City Planner

Re: Technical Review Committee Review – Preliminary Plat Subdivision Review – Prices Creek Phase 2 Townhomes

Date: January 5, 2023

Application reviewed and deemed complete by Wes McLeod, Development Director of the Cape Fear Council of Government and Maureen Meehan, City Planner.

The Technical Review Committee (TRC) met on December 20, 2022 to review the preliminary plat subdivision. The following comments were discussed and need to be addressed for approval. Additional comments may be included with changes to the site plan.

Planning Comments:

Prior to the TRC meeting staff provided the applicant with the following detailed comments following Appendix A - Submittal Requirements:

Major subdivision plats shall be prepared by a licensed surveyor or engineer and include all information required in Appendix A of the UDO. The following information is missing and needs to be included on the plan.

- Change the name on the first sheet from Site Plan to Preliminary Plat - [complete](#)
- Need detailed information about the zoning classification and need book and page numbers of the site tract as well as adjacent properties. - [complete](#)
- Lots numbered consecutively throughout the subdivision - [complete](#)
- Sufficient engineering data to determine readily, and to be reproducible on the ground, every straight or curved boundary line, street line, lot line, right-of-way line, easement line, and setback line, including dimensions, bearing or deflection angles, radii, central angles, and tangent distances for the center line of curved streets and curved property lines that are not the boundary of curved streets. All dimensions shall be measured to the nearest one-tenth of a foot and all angles to the nearest minute.
- Location, direction, names, cross sections, approximate grades, and pavement widths of proposed rights-of-way, including design engineering data for all curves and corners - [complete](#)
- Type of street dedication private/public - [complete](#)
- Location and dimensions of proposed sidewalks and accessible accessways - [complete](#)

- FEMA-designated flood hazard areas, including flood zone designations and map panels - [complete](#)
- Location, dimensions, and description of all areas to be dedicated to the public or to a property owners association – [this section needs to be updated to include dimensions and descriptions of required open space.](#)
- Utility plans - complete detailed plans can be submitted after plat approval and before construction commences - [complete](#)
- Height of proposed units - [complete](#)
- Delineation of all dedicated open space areas – [needs to be completed](#)
- Location, size, and flow direction of existing and proposed drainage courses or immediately adjacent to the project including culverts and storm drains - [complete](#)
- Location and size of stormwater basins or other comparable stormwater management mechanisms - [complete](#)
- Location and labeling of minimum building setback lines – [complete](#)
- Location of cluster mailbox unit - [complete](#)
- Any proposed signage, lighting, and landscaping – [landscaping complete, lighting must be in compliance with the UDO and also the Code of Ordinances](#)
- [Chapter 4. Proposed signage must be permitted prior to installation.](#)
- Add the following certificates, found in Appendix A : Certificate of Accuracy, Certification of Board of Aldermen Approval, Certificate of Purpose of Plat.

1. Certificate of Survey and Accuracy. - [complete](#)

In accordance with NCGS 47-30: There shall appear on each plat a certificate by the person under whose supervision such survey or such plat was made, stating the origin of the information shown on the plat, including recorded deed and plat references shown thereon. The ratio of precision as calculated by latitudes and departures before any adjustments must be shown. Any lines on the plat that were not actually surveyed must be clearly indicated and a statement included revealing the source of information. The execution of such certificate shall be acknowledged before any officer authorized to take acknowledgments by the registered land surveyor preparing the plat. All plats to be recorded shall be probated as required by law for the registration of deeds. Where a plat consists of more than one sheet, only the first sheet must contain the certification and all subsequent sheets must be signed and sealed.

The certificate shall include the source of information for the survey and data indicating the accuracy of closure of the plat before adjustments, and shall be in substantially the following form:

I, _____, certify that this plat was drawn under my supervision from an actual survey made under my supervision (deed description recorded in Book____, Page____, etc.) (other); that the boundaries not surveyed are clearly indicated as drawn from information found in Book____, Page____;

that the ratio of precision as calculated is 1:____; that this plat was prepared in accordance with NCGS 47-30 as amended. Witness my original signature, registration number and seal this ____ day of __, A.D. 20__.

Surveyor

Seal or Stamp

Registration Number

Certification of Approval of the Preliminary/Final Plat by the Southport Board of Aldermen - Complete

The Southport Board of Aldermen hereby approves or approves conditionally the (preliminary or final plat) of _____ Subdivision. If approved conditionally, the specific conditions shall be listed.

Mayor, City of Southport

Date

Certificate of Purpose of Plat. Notwithstanding any other provision contained in this section, it is the duty of the surveyor, by a certificate on the face of the plat, to certify to one of the following: - **needs to be completed**

1. This survey creates a subdivision of land within the area of a county or municipality that has an ordinance that regulates parcels of land;
2. This survey is of an existing parcel or parcels of land and does not create a new road or change an existing road;
3. This survey is of any existing building, or other structure, or natural feature, such as a water course;
4. This survey is a control survey;
5. That this survey is of another category, such as the recombination of existing parcels, a court ordered survey, or other exception to the definition of a subdivision; or
6. That the information available to the surveyor is such that the surveyor is unable to make a determination to the best of his or her professional ability as to provisions contained in items (1) through (6) above.

Note: Certain activities may be eligible for an exemption/waiver from the subdivision standards. If the activity being submitted meets one of the activities eligible for an exemption/waiver, item 5 above should be the selected certification.

Public Works Director Comments:

By: Tom Stanley tstanley@cityofsouthport.com

There are concerns about the amount of flow given capacity limitations. As stated by the City's consulting engineer, an evaluation is underway to determine the needs for future flow and to determine if there are any necessary improvements to serve the development.

City of Southport Engineer Consultant Comments:

By: T Carter Hubbard, PE, WK Dickson & Co., Inc.

The proposed phase of development at 48 two-bedroom townhomes will need 11,520 gallons per day sewer capacity. The project plans gravity sewer extension and proposed sewer flow to the Prices Creek lift station. The lift station has a 12 foot diameter wetwell. The Prices Creek Lift Station was constructed for the initial phase of development.

Tom Stanley mentioned that the ADM flow of 3200 gpd discharges into Prices Creek sewer basin. The current Prices Creek pumps can not handle additional flow. The Prices Creek Lift Station pumps to the force main that discharges to Central Pump Station. The Central Pump station has capacity limitations. Upgrades are needed to the City wastewater system to handle the proposed Price's Creek Townhomes flow. The rerouting of flow to Sandy Lane from Prices Creek would alleviate downstream capacity issues. The City is currently working on evaluation of existing capacity and improvements to be able to serve proposed developments. Results of the evaluation will be available in March.

Police Chief Comments:

By: Todd Coring, tcoring@cityofsouthport.com

Chief Coring will be reviewing the traffic patterns. Sees no issues at this point.

Fire Marshal Comments:

By: Madison Drew mdrew@cityofsouthport.com

The turnarounds work as provided for emergency vehicles.
Building separation for quads is appropriate.

Electrical Superintendent Comments:

By: Paul 'Ellie' Pittnger

Circuit 5 will be able to handle 48 new units with no problems.

Building Inspector Comments:

By: M. Kiley Barefoot kbarefoot@cityofsouthport.com

No comments on this until permit stage.

Major Subdivision Preliminary Plat Application

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. _____ FEE: \$ 5800⁰⁰ Date Received: 9/21/22

Proposed/Approved Name of Development: Townhouses at Price's Creek
Applicant's Name: Cameron Smith
Mailing Address: 107 Bennetts Creek Lane City: Southport
State: NC Zip Code: 28461 Phone: (910) 443-5080
Email: CCSmith
Location of the property: Rob Gandy Blvd.
Parcel No.: 2220000604 Overall Acreage: 17.35 Number of lots: 12-4 plexes
48 units

Property Owner's Name: Smith Hill Group, LLC
Address of Owner: 3391 Southport Supply Phone: (910) 443-5080
City: Bohira State: NC Zip Code: 28422
Email: CCSmithconstruction@gmail.com

Surveyor: Michael Underwood & Associates Registration #: C-0615
Mailing Address: 102 Cinema Dr Suite A City: Wilmington NC
State: NC Zip Code: 28403
Phone: 910-815-0650 Email: mua-office@mua-pa.com

A Major Subdivision Preliminary Plat Application is required for Subdivisions and/or divisions of land not qualifying as exempt or as a minor subdivision.

Submission Requirements for a Major Subdivision Preliminary Plat Application are found in Appendix A.1 of the Southport UDO.

A Major Preliminary Plat submitted to the city of Southport shall include the following required certificates:

- ____ Certificate of Survey and Accuracy
- ____ Certification of Board of Aldermen Approval
- ____ Certificate of Purpose of Plat



Signature (Owner or Authorized Applicant)



Date

APPROVED BY:

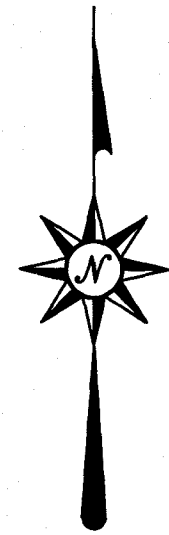
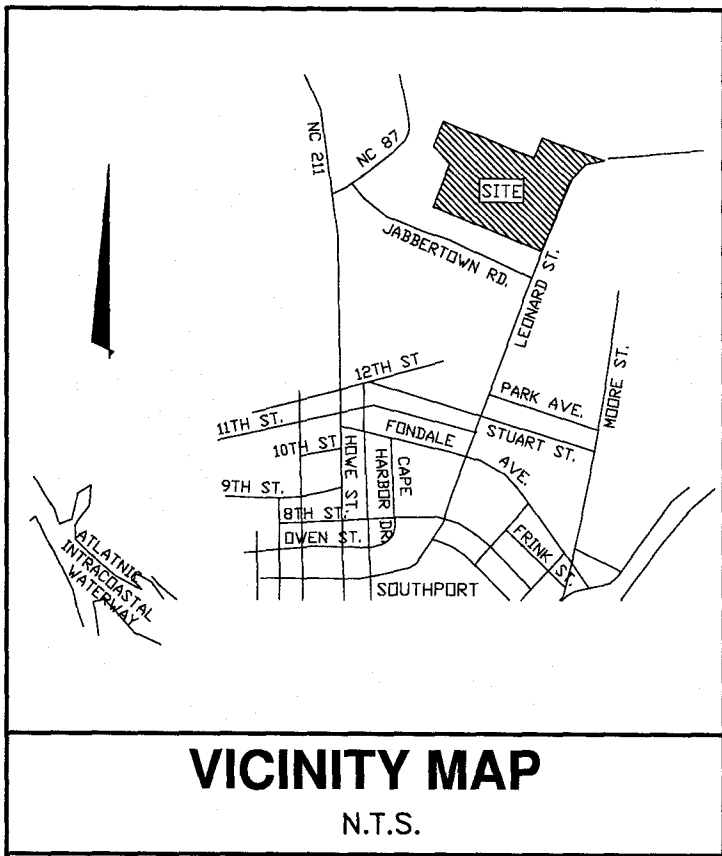


UDO Administrator



Date

** Verified earlier work by
other staff **



SITE DATA	
PARCEL NUMBER:	2220000604
ACREAGE:	17.35 ACRES
ZONING:	PUD
TOTAL UPLAND AREA:	9.685
TOTAL UNITS:	48
WATER & SEWER:	CITY OF SOUTHPORT
STREET:	STREETS TO BE PUBLIC (40 FT ROW)
PROPOSED SETBACKS:	FRONT - 15FT SIDE - 20FT REAR - 25FT
TOTAL IMPERVIOUS AREA:	170,874 SF / 3.92 AC
TOTAL OPEN SPACE AREA:	3.92 (UPLANDS)
TOTAL ACTIVE OPEN SPACE AREA:	1.23 AC
TOTAL OPEN SPACE %:	3.92 AC / 17.35 AC= 22% (NEED 20%)
TOTAL IMPERVIOUS %:	3.99 AC / 17.35 AC= 23% (24% MAX)
HEIGHT OF PROPOSED UNITS:	30 FT
FEMA FLOOD PANEL:	3720209700K
DEED BOOK:	03527
DEED PAGE:	1346

- NOTES:
1. ALL AREAS OUTSIDE OF LOTS AND STREET RIGHT OF WAYS ARE TO BE DESIGNATED AS OPEN SPACE DEDICATED TO THE PROPERTY OWNERS ASSOCIATION.
 2. PROJECT IS DESIGNED TO MEET LOW DENSITY CRITERIA FOR STORMWATER REQUIREMENTS.
 3. SITE LIGHTING SHALL BE DEVELOPED TO MEET UDO STANDARDS. LIGHTING WILL MEET 2700 KELVIN WATTAGE PER CITY GUIDELINES.
 4. LANDSCAPING PLAN SHALL BE PREPARED TO MEET UDO STANDARDS.

LEGEND	
	PROPERTY LINE
	RIGHT OF WAY
	PASSIVE OPEN SPACE
	ACTIVE OPEN SPACE
	WETLANDS
	PROPOSED STREET LIGHT

1. Certificate of Survey and Accuracy.
In accordance with NCGS 47-30: There shall appear on each plat a certificate by the person under whose supervision such survey or such plat was made, stating the origin of the information shown on the plat, including recorded deed and plat references shown thereon. The ratio of precision as calculated by latitudes and departures before any adjustments must be shown. Any lines on the plat that were not actually surveyed must be clearly indicated and a statement included revealing the source of information. The execution of such certificate shall be acknowledged before any officer authorized to take acknowledgments by

the registered land surveyor preparing the plat. All plats to be recorded shall be probated as required by law for the registration of deeds. Where a plat consists of more than one sheet, only the first sheet must contain the certification and all subsequent sheets must be signed and sealed.

The certificate shall include the source of information for the survey and data indicating the accuracy of closure of the plat before adjustments, and shall be in substantially the following form:

I, _____, certify that this plat was drawn under my supervision from an actual survey made under my supervision (deed description recorded in Book _____, Page _____, etc.) (other); that the boundaries not surveyed are clearly indicated as drawn from information found in Book _____, Page _____; that the ratio of precision as calculated is 1: _____; that this plat was prepared in accordance with NCGS 47-30 as amended. Witness my original signature, registration number and seal this _____ day of _____ A.D. 20____.

Surveyor

Seal or Stamp

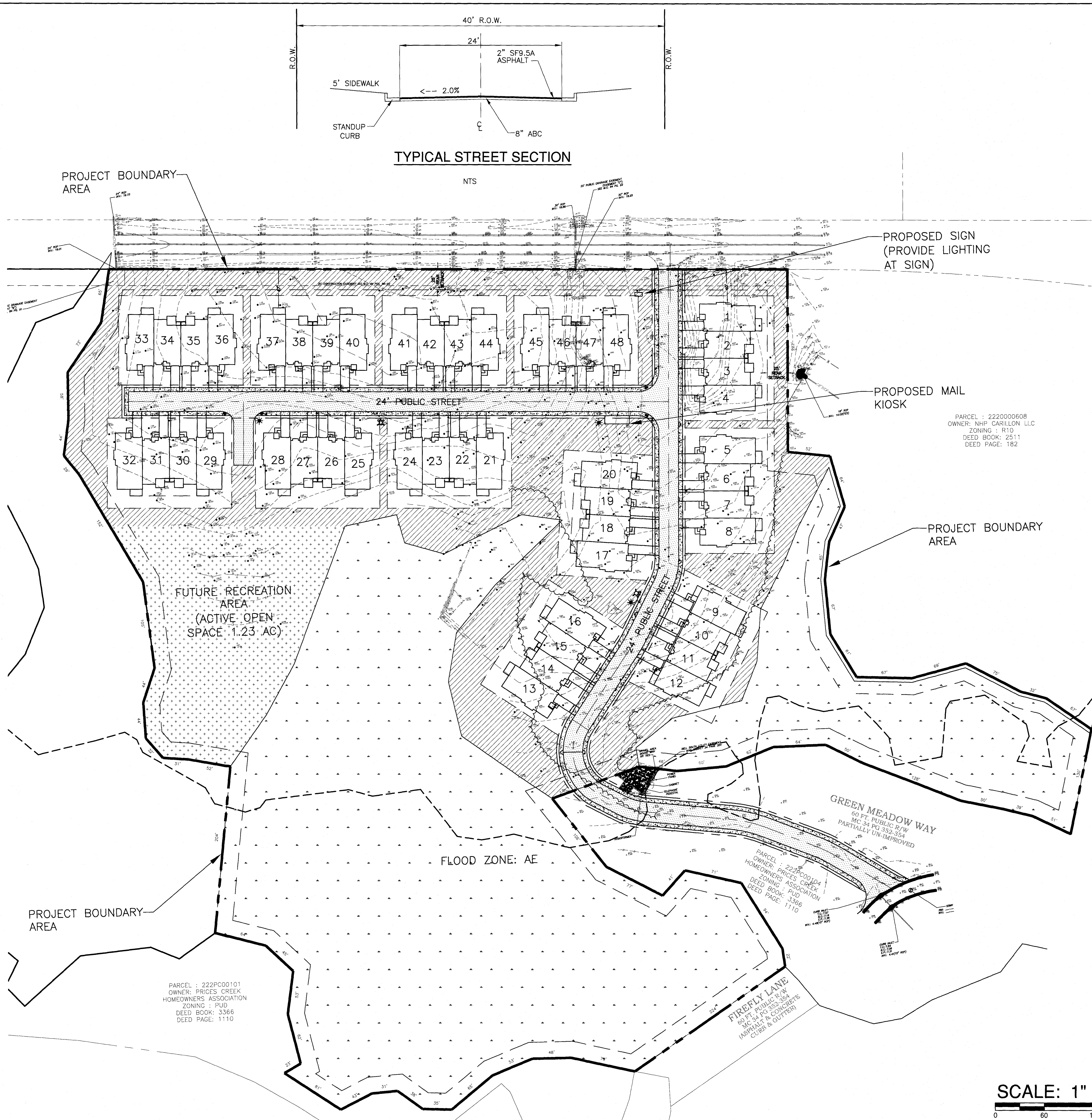
Registration Number

Certification of Approval of the Preliminary/Final Plat by the Southport Board of Aldermen

The Southport Board of Aldermen hereby approves or approves conditionally the (preliminary or final plat) of _____ Subdivision. If approved conditionally, the specific conditions shall be listed.

Mayor, City of Southport

Date



SCALE: 1" = 60'

0 60 120 180

BY	DESCRIPTION	DATE	REVISIONS

© 2022 NORRIS & TUNSTALL

PRELIMINARY PLAT
TOWNHOUSES AT PRICES CREEK
BRUNSWICK COUNTY, NORTH CAROLINA

OWNER:

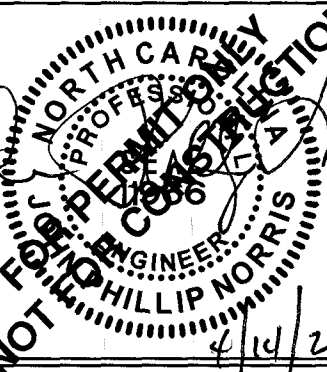
NORRIS & TUNSTALL
CONSULTING ENGINEERS P.C.

2602 IRON GATE DR., SUITE 102
WILMINGTON, NC 28412
PHONE (910) 343-9653

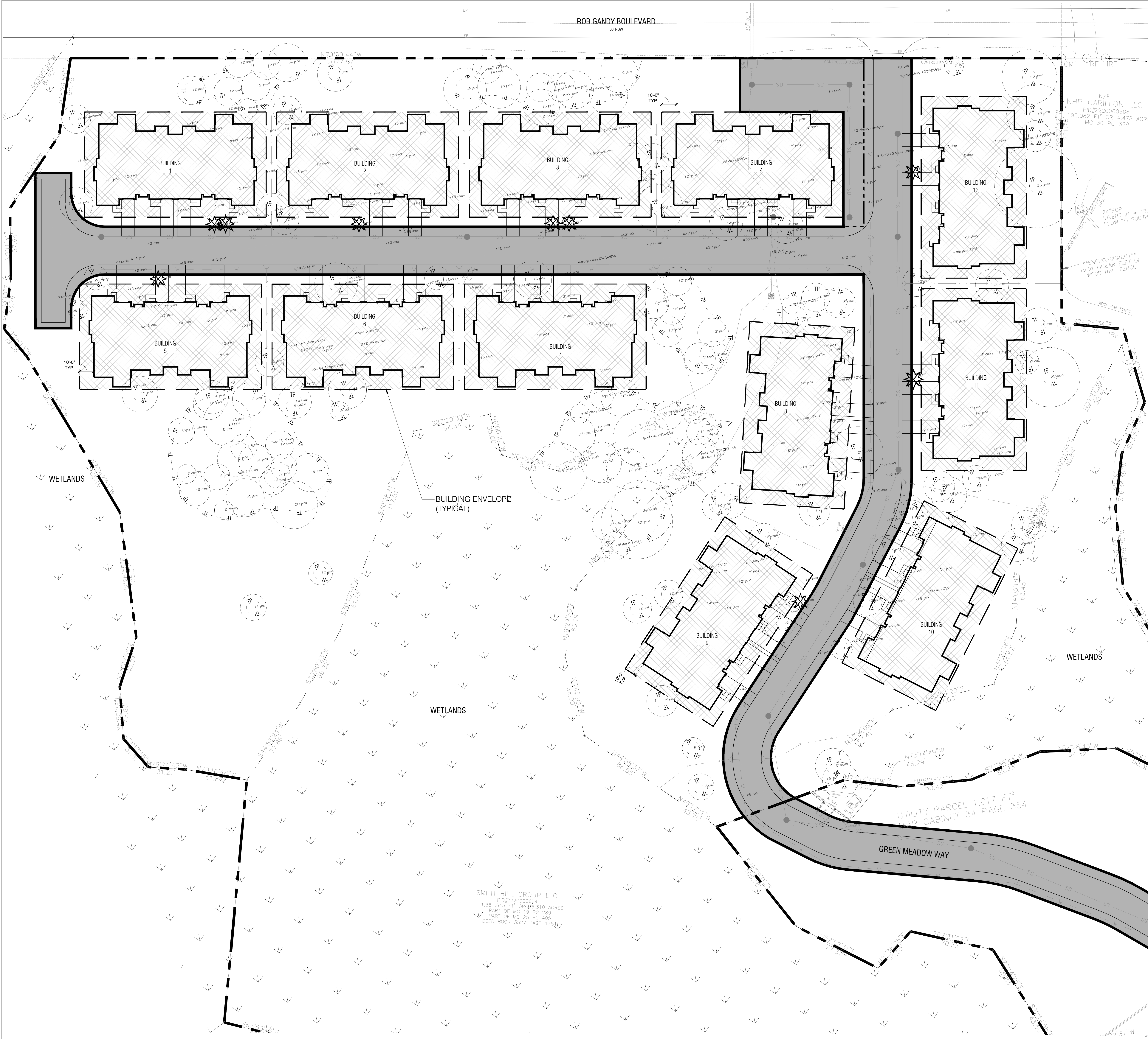
Licence #C-3641

21104

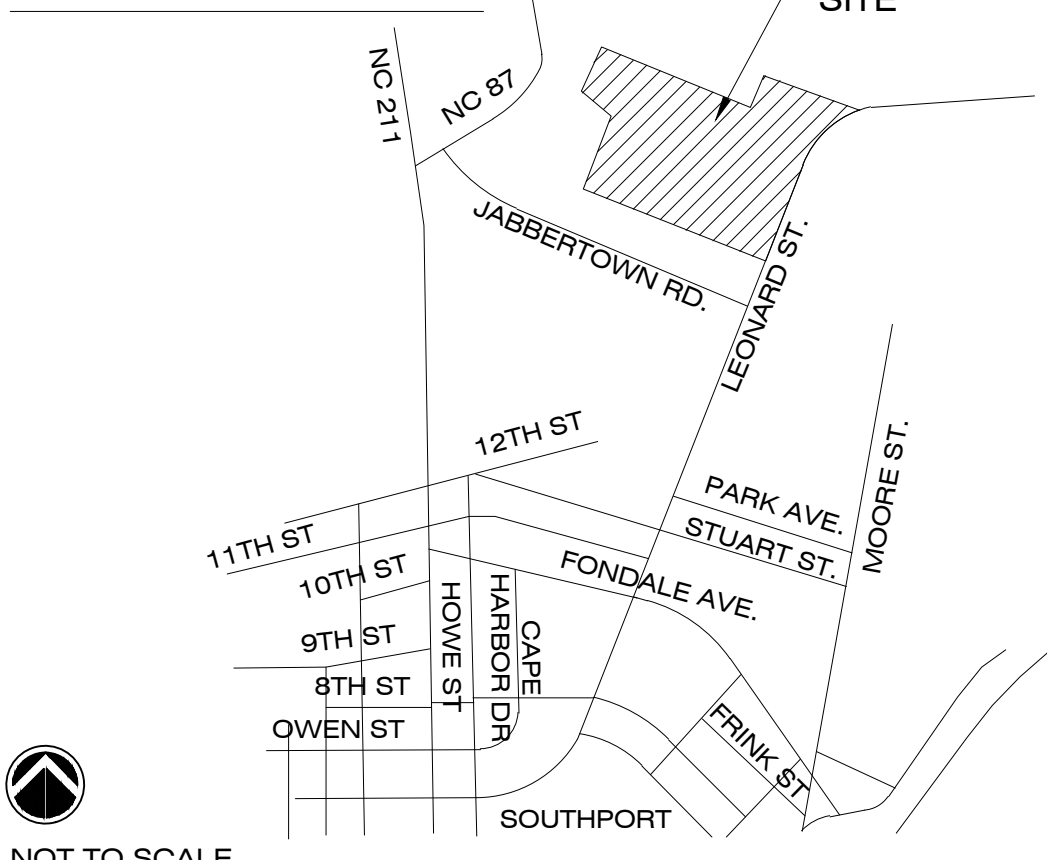
DES. JPN
CHK. JPN
DRWN. ZAC
DATE 04/14/23



C1



VICINITY MAP



LANDSCAPE REQUIREMENTS

TREE REMOVAL ZONE FOR INFRASTRUCTURE, DRAINAGE, AND UTILITIES IMPACT

MITIGATION REQUIREMENTS FOR REMOVED REGULATED LIVE OAK TREES 8" OR GREATER WITHIN INFRASTRUCTURE AND DRAINAGE AREAS.

TREE REMOVAL ZONE FOR BUILDING ENVELOPE

MITIGATION REQUIREMENTS FOR REMOVED REGULATED OAKS / HARDWOODS 8" OR GREATER AND 12" OR GREATER CONIFERS TREES, LOCATED OUTSIDE OF BUILDING ENVELOPE.

QUANTITY	SIZE	COMMON NAME
4	12"	PINE
2	15"	PINE
2	15"	PINE
1	16 1/4"	PINE
9	134"	

TOTAL CALIBER INCHES REQUIRED FOR MITIGATION = 134" CAL. INCHES

GENERAL PLANTING NOTES

- THIS WORK INCLUDES, BUT IS NOT LIMITED TO THE FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, FINAL GRADING, SEEDING, SOIL AMENDMENTS, ETC., AS MAY BE REQUIRED FOR A COMPLETE INSTALLATION.
- QUANTITIES SHOWN IN PLANT LISTS ARE FOR CONVENIENCE ONLY. PLANS SHALL GOVERN.
- THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN PLANT LOCATIONS OR INSUFFICIENT PLANT QUANTITIES DUE TO DIFFERENCES IN PLAN AND ACTUAL FIELD CONDITIONS.
- ALL TREE AND SHRUB MATERIAL SPECIFIED MUST MEET STANDARD INDUSTRY SPECIFICATIONS FOR THE CONTAINER SIZE INDICATED. DOWN SIZING OR SUBSTITUTION OF PLANT MATERIAL WITHOUT PRIOR APPROVAL OF LANDSCAPE ARCHITECT WILL NOT BE ALLOWED.
- ALL LANDSCAPE AREAS SHALL BE GRADED TO A SMOOTH EVEN SURFACE PRIOR TO ANY PLANT INSTALLATION. ALL PLANT MATERIALS SHALL BE INSTALLED USING GOOD HORTICULTURAL PRACTICES IN ACCORDANCE WITH THE PLANS AND DETAILS.
- TREES SHALL NOT BE PLANTED CLOSER THAN FOUR (4) FEET FROM ANY WALKWAY OR PUBLIC SIDEWALK EXCEPT WHERE TREE WELLS OR PARKWAYS ARE PROVIDED IN THE SIDEWALK AREA. ALL TREE PLANTED WITHIN FIVE (5) FEET OF WALKS OR PUBLIC UTILITIES SHALL RECEIVE DEEP ROOT BARRIERS.
- TREE LOCATIONS SHOWN ON PLAN MAY REQUIRE ADJUSTMENT IN THE FIELD. WHENEVER FEASIBLE, TREES SHOULD BE PLANTED A MINIMUM OF TEN (10) FEET FROM ALL UNDERGROUND UTILITIES, STREETLIGHTS, HYDRANTS, AND OUT OF DRAINAGE FLOW LINES. SHOULD THIS NOT BE POSSIBLE, CONTACT THE LANDSCAPE ARCHITECT FOR DECISION ON PLACEMENT.
- ALL TREES IN TIER AREAS SHALL HAVE 12" MIN. O.D. CIRCUMFERENCE AROUND THE TRUNK BASE. PROVIDE 2" MIN. THK. MULCH AT BASE OF TRUNK.
- GROUND COVER TYPE SHOWN SHALL BE PLANTED IN ALL SHRUB AREAS AS SPECIFIED ON PLANS. GROUND COVER SHALL BE PLANTED AT 8" ON-CENTER UNIFORM TRIANGULAR SPACINGS, AND SHALL BE CONTINUOUS UNDER ALL TREE AND SHRUB MASSES AS SHOWN ON PLAN.
- MATURE PLANTINGS SHALL NOT INTERFERE WITH UTILITIES AND TRAFFIC SIGHT LINES.
- ALL PLANTING AREAS SHALL BE MULCHED WITH PINESTRAW, EXCEPT FOR AREAS PLANTED WITH GROUND COVER. ALL AREAS PLANTED WITH GROUND COVER SHALL BE MULCHED WITH HARDWOOD MULCH.

*NOTE: PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING

SHEET INDEX

- L0.0 TREE REMOVAL PLAN
- L0.1 TREE MITIGATION PLAN

SYMBOL LEGEND

	PROPERTY LINE
	10' BUILDING ENVELOPE
	RIGHT OF WAY
	WETLAND BOUNDARY LINE
	TREE PROTECTION
	EXISTING CONIFER 12' OR GREATER TO BE REMOVED
	EXISTING TREES TO REMAIN

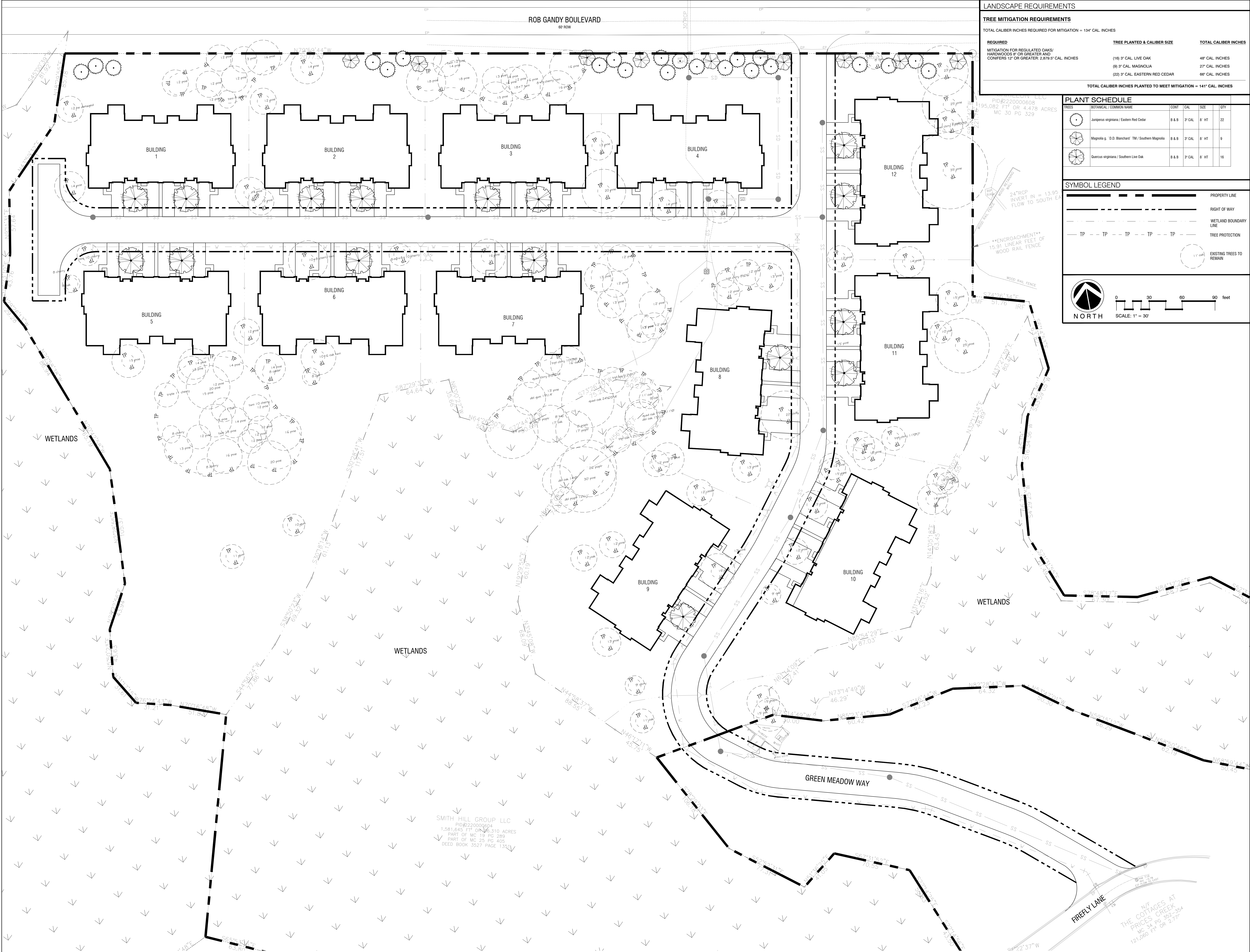


Revisions
2023-04-14: REVISE PER TOWN COMMENTS

PERMIT PLAN SET

Date: 2022-08-04
Phase:
Job Number: 101-830
Designed by: MLD
Drawn by: RJB
Checked by: JWM
Sheet Title: TREE REMOVAL PLAN

Sheet Number:
L0.0
of 2 sheets



LANDSCAPE REQUIREMENTS

TREE MITIGATION REQUIREMENTS

TOTAL CALIBER INCHES REQUIRED FOR MITIGATION = 134" CAL. INCHES

REQUIRED

MITIGATION FOR REGULATED OAKS/
HARDWOODS 8" OR GREATER AND
CONIFERS 12" OR GREATER: 2,879.9" CAL. INCHES

TREE PLANTED & CALIBER SIZE

(16) 3" CAL. LIVE OAK
(8) 3" CAL. MAGNOLIA
(22) 3" CAL. EASTERN RED CEDAR

TOTAL CALIBER INCHES

48" CAL. INCHES
27" CAL. INCHES
68" CAL. INCHES

TOTAL CALIBER INCHES PLANTED TO MEET MITIGATION = 141" CAL. INCHES

PID#2220000608
195,082 FT² OR 4.478 ACRES
MC 30 PG 329

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME	COUNT	CAL.	SIZE	QTY
	Juniperus virginiana / Eastern Red Cedar	8 & 8	3" CAL.	8' HT	22
	Magnolia g. 'D.D. Blanchard' TM / Southern Magnolia	8 & 8	3" CAL.	8' HT	9
	Quercus virginiana / Southern Live Oak	8 & 8	3" CAL.	8' HT	16

SYMBOL LEGEND

PROPERTY LINE

RIGHT OF WAY

WETLAND BOUNDARY LINE

TREE PROTECTION

EXISTING TREES TO REMAIN

NORTH

0 30 60 90 feet

SCALE: 1" = 30'

MIHALY
LAND DESIGN
PLANNING + LANDSCAPE ARCHITECTURE
330 MILITARY CUTOFF RD., Suite A3
Wilmington, NC 28405 P:910.392.4355

Revisions

2023-04-14: REVISE PER TOWN COMMENTS

PROJECT

TOWNHOUSES AT PRICES CREEK

BRUNSWICK COUNTY, NC

TREE PLAN

PERMIT PLAN SET

Date: 2022-08-04

Phase:

Job Number: 101-830

Designed by: MLD

Drawn by: RJB

Checked by: JWM

Sheet Title: TREE MITIGATION PLAN

Sheet Number:

L0.1

of 2 sheets

Page 320 of 372

STAFF REPORT

MAJOR SITE PLAN – MAJOR REVISION

OUTPARCEL 2 AT SOUTHPORT CROSSING

APPLICATION SUMMARY	
Presentation Date	April 20, 2023 Planning and Zoning Board
Applicant	Mike Nichols
Parcel ID	221BL002
Project Acreage	1.13 acres
Parcel Acreage	1.13 acres
Zoning District	HC – Highway Commercial

PRELIMINARY PLAT OVERVIEW
Mike Nichols of Paramounte Engineering, applicant, is requesting a revision to the previously approved Major Site Plan for the construction and operation of a three unit, 6,000 square foot structure, uses of which include one coffee shop and two retail units. Specifically, the request is to modify the site plan to allow for the construction of an underground propane tank with associated landscaping and protective features. The addition of the tank also requires the removal of two parking spaces from the site, though the site remains in compliance with all required parking provision standards within the Unified Development Ordinance. The City of Southport Planning and Zoning Board previously approved the Major Site Plan for Tractor Supply Company at their February 2022 meeting.
LOCATION
The project location is located within the Southport Crossing development on the southeastern corner of the project and is the nearest outparcel to the intersection of NC 133 and NC 211. The subject property location is within the incorporated limits of the City of Southport, is zoned HC, Highway Commercial, and can be further identified by Brunswick County Parcel ID 221BL002.

REVISION REQUEST

The applicant has submitted a revision request to the approved Major Site Plan for a three-unit commercial structure on Outparcel 2 in Southport Crossings in order to construct and underground propane tank along the eastern side of the property (see attached site plan). Such tanks are required to meet the general structure setbacks required in the HC, Highway Commercial zoning district, and the submitted site plan has been determined by staff to be in compliance from a setback perspective: the minimum side setback in this zoning district is 8 feet, and the submitted site plan shows the proposed tank at a minimum of 10 feet from the side property line. The City of Southport Unified Development Ordinance does not offer specific standards for the construction and operation of such tanks outside the Special Flood Hazard Area, and the subject property does not include such areas. Therefore, from a placement perspective, the request is determined to be in conformance with the applicable standards of the Unified Development Ordinance.

Due to the addition of the proposed propane tank, slight modifications to the site plan were necessary. The largest modification is the removal of 2 parking spaces from the site, reducing the total number provided from 40 to 38. As the parking provision standards required 36 spaces to be provided, the site remains in compliance from a parking perspective. Additional landscaping and protective bollards have also been added to the area surrounding the proposed propane tank. Finally, the movement of one light pole was also necessary to accommodate the tank's placement.

Per Section 2.6.J.2 of the City of Southport Unified Development Ordinance, the authority to grant major revisions is granted to the same authority that grants the original approval. Upon Staff's review of the request, the request was deemed to be considered a major revision due to the increase of impervious surface coverage by a new structure. Because Major Site Plan approval authority is vested with the Planning and Zoning Board, the Board is also asked to approve any modification considered a major revision (See Section 2.6.J of the Unified Development Ordinance reproduced below:

J. MODIFICATION OF PERMITS OR APPROVALS

1. Insignificant deviations from the permit (including approved plans and conditional district rezoning) issued by the Board of Aldermen, the Planning Board, the Board of Adjustment, or the UDO Administrator are permissible and the UDO Administrator may authorize such insignificant deviations unless classified as a major change as provided below.
2. Major changes to approved permits, plans, and conditions of development may be authorized only by the permit issuing authority in the same manner as outlined in this article for original submission. Major changes include, but are not limited to:
 - a. Change in use.

- b. Any increase in development density; such as, increase in density of units, whether residential, office, commercial or industrial; an increase in number of off-street parking or loading spaces; or an increase in impervious surface area.
 - c. An increase in overall ground coverage by structures.
 - d. A change in any site dimension by more than 10 percent.
 - e. A reduction in approved open space or screening.
 - f. A change in access and internal circulation design.
3. The UDO Administrator shall determine whether amendments to and modifications of permits constitute an insignificant deviation, or a major change as described herein.
4. A developer requesting approval of changes shall submit a written request for such approval to the UDO Administrator, and that request shall identify the changes. Approval of all changes must be given in writing.

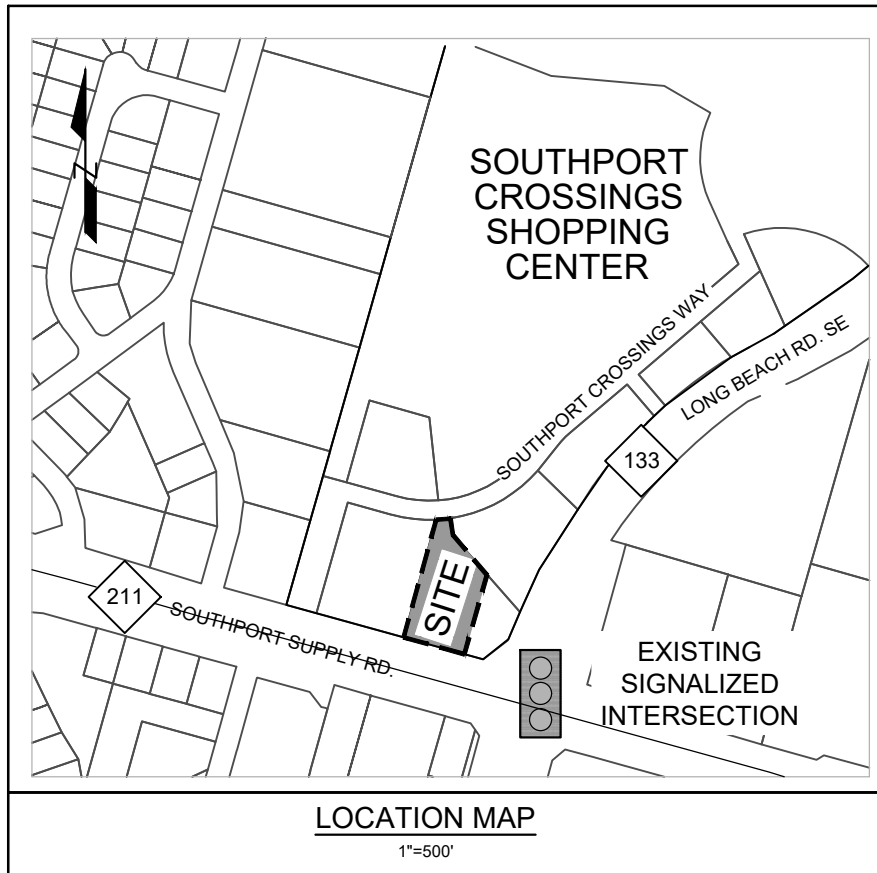
STAFF REVIEW AND RECOMMENDATION

Staff Review and Recommendation

While the Unified Development Ordinance offers no specific standards regarding propane tanks, Staff's previous engagement with the Building Inspector and Fire Marshal on a similar request for another site informed the siting in this case. The Building Inspector and Fire Marshal will be further involved at the building permit submittal phase of the project for the primary structure and individual tanks. Planning staff have reviewed the request and determined that the requested revision is in compliance with all applicable provisions of the Unified Development Ordinance as well as the spirit and intent of the previous Major Site Plan approval. As such, Planning Staff respectfully recommends approval of the request as outlined in this report and in the attached site and landscaping plans.

Attachments

1. Proposed Site Plan
2. Originally Approved Site Plan Package (from February 2022 Planning Board Packet)



SITE DATA
SOUTHPORT CROSSINGS LOT - PARCEL 2
5010 SOUTHPORT-SUPPLY ROAD
SOUTHPORT, NC 28416

PIN: 221BL002; 208712758520
PARCEL AREA: +/- 1.13 ACRES

PROPERTY OWNER: MDI MANAGEMENT LLC
120 4TH ST. SW
HICKORY, NC 28602-2947

SOURCE DEED: BK: 03569 / PG: 0246
MB: 114, PG 4

ZONING: (HC) HIGHWAY COMMERCIAL

JURISDICTION: SOUTHPORT

PROPOSED USE: 2,500 SF CARRY OUT RESTAURANT / DRIVE THRU
3,500 SF RETAIL (POTENTIAL TWO UNITS)
6,000 SF TOTAL

LANDSCAPE NOTES:

- CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.
- ALL PLANT MATERIAL SHALL MEET THE CURRENT VERSION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
- NO TREE, OTHER THAN THOSE SHOWN ON APPROVED PLANS FOR REMOVAL WITH THESE PLANS AND/OR TREE REMOVAL PERMIT PLANS, SHALL BE REMOVED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ALL SHRUB BEDS AND/OR PLANTING AREAS EXCLUDING TURF AREAS SHALL BE MULCHED WITH 3 INCH MINIMUM AND 4 INCH MAXIMUM DEPTH PINE STRAW MULCH UNLESS OTHERWISE NOTED.
- ALL PLANTS, 4 FEET OR LESS APART, WILL BE CONNECTED IN ONE PLANTING BED. ALL GROUPS OF PLANTS SHOULD BE WITHIN ONE PLANTING BED WITH THE EDGE OF MULCH EXTENDING 2 FEET BEYOND THE EDGE OF PLANT MASS. SINGLE TREES SHOULD HAVE A CIRCLE OF MULCH NOT LESS THAN 5 FEET DIAMETER.
- PLANTING SOIL MIX: MIX EXISTING SOIL WITH THE SOIL AMENDMENTS AND FERTILIZERS IN THE QUANTITIES RECOMMENDED BY THE SOIL TESTING LABORATORY, THIRD PARTY RECOGNIZED BY THE STATE DEPARTMENT OF AGRICULTURE OR AS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
- ANY AND ALL SUBSTITUTIONS OF PLANT MATERIAL SHALL BE APPROVED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. FAILURE IN OBTAINING APPROVAL MAY RESULT IN LIABILITY TO THE CONTRACTOR.
- THE CONTRACTOR SHALL REPLACE DEAD AND/OR UNHEALTHY PLANT MATERIAL WITHIN 12 MONTHS OF ACCEPTANCE OF THE INSTALLED MATERIAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL PREPARE ALL SEEDED OR SODDED AREAS TO ASSURE THAT THE SUBGRADE HAS BEEN RAKED AND ROLLED TO ACCEPT THE SOD/SEED. ALL SOD/SEED AREAS MUST BE IRRIGATED OR HAND WATERED. ALL SOD SHALL BE PLACED WITH STAGGERED JOINTS AND NO GAPS BETWEEN SOD JOINTS. SOD SHOULD BE ROLLED AFTER INSTALLATION. ALL SEEDED AND/OR SODDED AREAS SHOULD PROVIDE A SMOOTH SURFACE FREE OF DIPS AND UNLEVELLED GROUND.
- IRRIGATION SHALL BE DESIGNED AND INSTALLED BY A LICENSED IRRIGATION CONTRACTOR IN THE STATE OF NORTH CAROLINA.
- THE CONTRACTOR IS RESPONSIBLE FOR HAND WATERING THE INSTALLED PLANT MATERIAL FOR A PERIOD OF 6 MONTHS FROM THE ACCEPTANCE FROM THE OWNER OR OWNER'S REPRESENTATIVE IF IRRIGATION HAS NOT BEEN INSTALLED AT THE TIME OF SUBSTANTIAL COMPLETION. ALL MATERIAL INCLUDING SOD AND SEEDED AREAS SHALL BE HAND WATERED ONCE WEEKLY OR AS NEEDED TO ENSURE SURVIVAL OF PLANTS.
- CONTRACTOR IS RESPONSIBLE FOR REMOVING TRASH, DEBRIS AND EXCESS MATERIALS FROM THE JOB SITE ONCE THE PROJECT IS COMPLETE. SECURING ANY MATERIALS LEFT ON SITE DURING THE COURSE OF THE PROJECT IS THE CONTRACTOR'S RESPONSIBILITY.
- ALL DISTURBED AREAS NOT DESIGNATED FOR LANDSCAPING SHALL RECEIVE SOD OR BE SEEDED.
- ALL VEGETATION PROPOSED WITHIN SIGHT DISTANCE AREAS SHALL NOT INTERFERE WITH SIGHT DISTANCE FROM 30' TO 10'.
- PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN TREE PROTECTION FENCING.

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE
	QUE VIR	16	QUERCUS VIRGINIANA SOUTHERN LIVE OAK	3" CAL.; 8'-10' HGT. MIN.
UNDERSTORY TREE	CODE	QTY	BOTANICAL / COMMON NAME	SIZE
	RB	9	CERCIS CANADENSIS 'FOREST PANSY' TM FOREST PANSY REDBUD	2" CAL.; 10'-12' HGT. MIN.
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER
	ILE NAN	129	ILEX VOMITORIA 'NANA' DWARF YAUPO	18" HT. MIN. AT INSTALL / 24" MIN. AT MATURITY
	MR	116	MUHLENBERGIA RIGENS DEER GRASS	18" HT. MIN. AT INSTALL / 24" MIN. AT MATURITY
	MC2	9	MYRICA CERIFERA WAX MYRTLE	4'-5' HT
GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	CT	331 SF	CYNODON X 'TIFTON 328' TIFGREEN BERMUDAGRASS	SOD

FOUNDATION LANDSCAPING

NORTH SIDE (FRONT):

86 LF X 25' / 12 = 180 SF REQUIRED
372 SF PROVIDED

WEST SIDE:

70 LF X 25' / 12 = 146 SF REQUIRED
218 SF PROVIDED

SOUTH SIDE (REAR):

86 LF X 25' / 12 = 180 SF REQUIRED
418 SF PROVIDED

EAST SIDE:

70 LF X 25' / 12 = 146 SF REQUIRED
306 SF PROVIDED

STREET YARD LANDSCAPING

REQUIRED ADJACENT TO PUBLIC R.O.W. (SEE PROPERTY BOUNDARY WITH SOUTHPORT-SUPPLY RD. / HIGHWAY 211 NC DOT R.O.W.)

STREET YARD WIDTH: 10'

PLANTING REQUIREMENTS:

- (1) CANOPY TREE PER EVERY 50 LF
- (1) UNDERSTORY TREE PER EVERY 20 LF
- (20) SHRUBS PER EVERY 100 LF

STREET YARD LENGTH: 179.98'

PLANTING PROVIDED:

- (4) CANOPY TREES
- (9) UNDERSTORY TREES
- (36) SHRUBS

REQUIRED PARKING

3500 SF RETAIL (1) SPACE PER 200 SF = 17.5 (18)
2500 SF CARRY-OUT RESTAURANT / DRIVE THRU: (1) SPACE PER 200 SF = 12.5 (13)
1000 SF OUTDOOR SEATING (1) SPACES PER 200 SF = 5

TOTAL PARKING REQUIRED:

TOTAL PARKING PROVIDED:

36 SPACES
~~40 SPACES~~ 38 SPACES

REQUIRED HANDICAP PARKING: 2 SPACES

HANDICAP PARKING PROVIDED: 2 SPACES

BUFFER REQUIREMENTS

STREET YARD (WHERE ADJACENT TO PUBLIC R.O.W.): 10'

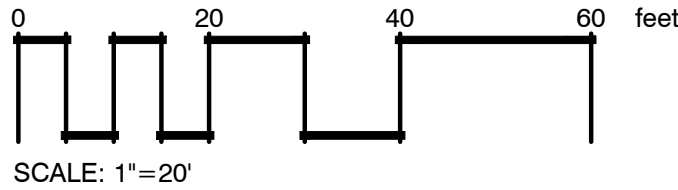
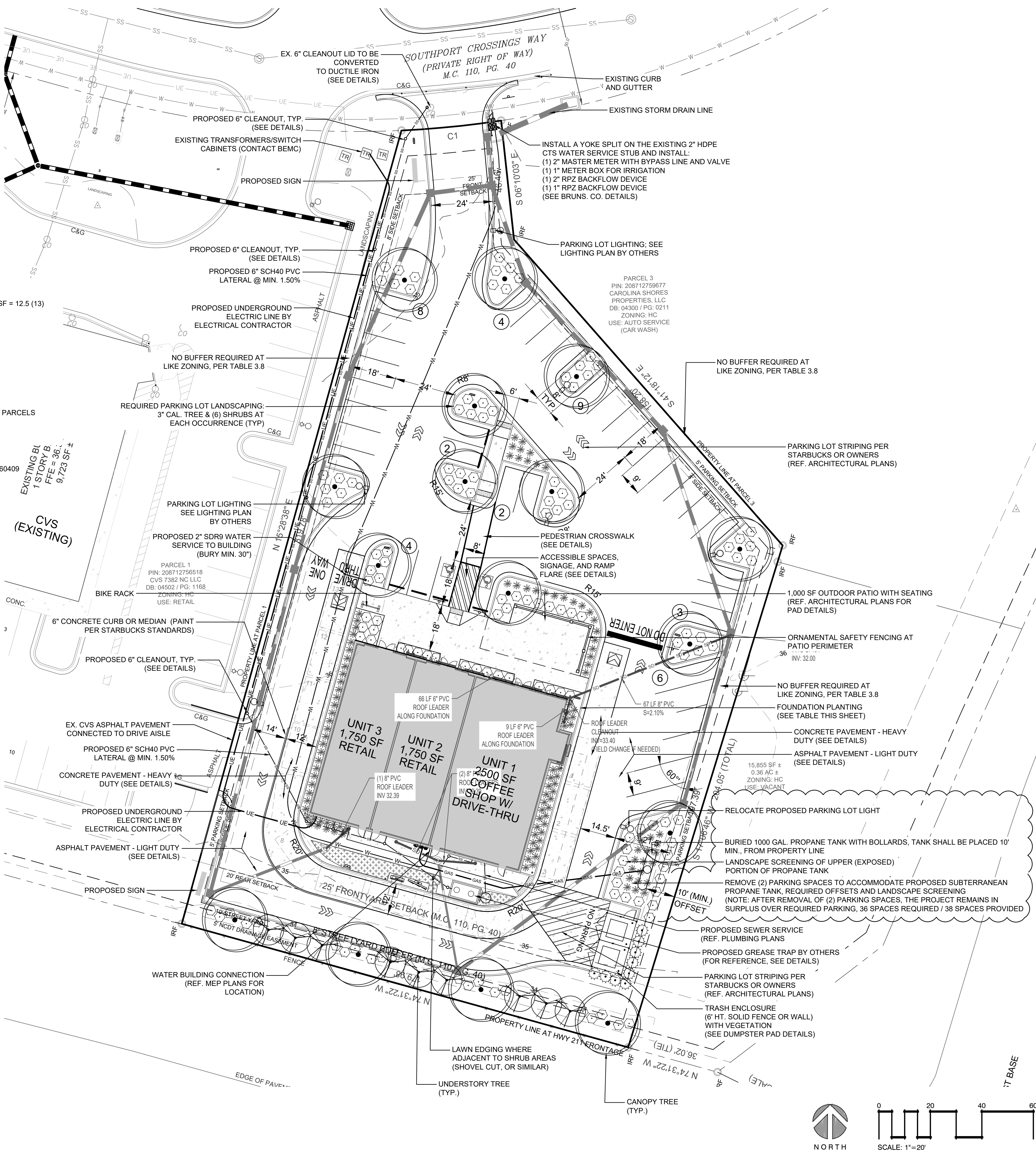
PROPOSED PROJECT ZONING (HC) ADJACENT TO OTHER (HC) ZONED PARCELS

DO NOT REQUIRE ANY BUFFER

IMPERVIOUS CALCULATIONS:

OUTPARCEL LOT 2 - PER STATE STORM WATER PERMIT NO. SW8 160409

	PROVIDED
BUILDING FOOTPRINT	6,000 SF
PARKING LOT	28,600 SF
CONCRETE PAVING	2,400 SF
TOTAL IMPERVIOUS LOT 2 IMPROVEMENTS	37,000 SF
ALLOWABLE PER PERMIT	45,000 SF
SF AVAILABLE FOR FUTURE EXPANSION	8,000 SF



RELEASED FOR CONSTRUCTION

REVISIONS:	3/21/23

PRIMAX PROPERTIES, LLC
1100 E. MOREHEAD STREET
CHARLOTTE, NC 28204

PARAMOUNT ENGINEERING
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

SITE, UTILITY, AND LANDSCAPE PLAN
LOT 2 SOUTHPORT CROSSINGS
5010 SOUTHPORT SUPPLY RD
SOUTHPORT, BRUNSWICK CO., NC

PROJECT STATUS	DRAWING INFORMATION
CONCEPTUAL LAYOUT: PRELIMINARY LAYOUT: RELEASED FOR CONSTRUCTION	DATE: 2/1/2022 DRAWN BY: T.M. CHECKED BY: M.M. DESIGNED BY: M.M. CREATED BY: M.M.

SEAL

C-2.0

PEI JOB#: 21630.PE



PLANNING BOARD

MEMORANDUM

To: Members of the Planning Board

From: Thomas Lloyd, City Planner

Re: Major Site Plan, Southport Crossings Coffee Shop & Retail Shops, submitted by Paramounte Engineering on behalf of Primax Properties

Date: February 11, 2022

BACKGROUND

The attached Major Site Plan application is for outparcel 2 at the Southport Crossings Shopping Center within the City's satellite corporate limits. The property is located at 5010 Southport Crossings Way. The outparcel is directly adjacent to the CVS pharmacy and will have access from Southport Crossings way and from a cross access easement at CVS. The proposed site has a 6,000 sf foot building consisting of 3 units. The proposed site plan shows two 1,750 sf retail units and a 2,500 sf Coffee Shop. The Coffee Shop includes a drive thru with 13 stacking spaces for vehicles. The 2 retail units would be classified as retail sales, Minor. Minor retail is defined as a retail sales establishment that does not have a drive-through and is less than 3,000 sf in floor area. Minor retail sales require 1 space per 200 sf. By this calculation 17.5 spaces would be required for 3,500 sf. The coffee shop would be classified as a Carry out Restaurant with a drive thru. Carry out Restaurants are defined as restaurants where foods and/or beverages are usually served in edible containers or in paper, plastic, or other disposable containers by an employee at a standing counter or drive-in window; and (b) consumption is normally off the premises but may be allowed within a motor vehicle parked on the premises, or at other facilities on the premises outside the principal building. Parking requirements for a carry out restaurant are 1 space per 200 sf. By this calculation, a 1,750 sf restaurant would need 12.5 spaces. The outdoor patio area would require 5 spaces. The total parking spaces required are 36. 40 spaces are provided, with 2 of them being Handicapped. In terms of stormwater, the proposed outparcel will connect to the master developments stormwater BMP pond. The proposed impervious area shows 37,182 sf, well under the 45,000-sf maximum limit. Staff has informed the project engineer of the City's 3,000-degree kelvin maximum for lights. A lighting plan is on the way.

For the landscaping, 8% of the parking facility is required to be landscaped. At the previous meeting, staff requested that the landscape architect sub non-native vegetation for native vegetation within the plan. The updated plan is attached and in your packet. A total of 16 Live Oaks and 9 Redbuds are set to be planted. For shrubs, 131 Dwarf Yaupon, 96 Deer Grass, and 15 Wax Myrtles will be planted. For foundation plantings, there is 1,314 sf provided, only 652 sf is provided. There is a 10 ft street yard buffer requirement where the property is adjacent to the Public ROW of 211. 4 canopy trees 9 understory trees, and 36 shrubs will be planted in the street yard buffer. The Planning Board appointed a review committee to go over this Major Site Plan.

The Review Committee consisted of members Dick Sloan, Sue Hodgins, and Will Hewett. Staff and the applicant's project manager Mike Nichols of Paramount Engineering was also present. The committee met on 2/2/2022. The committee reviewed the plan in detail. The committee asked questions about the non-native landscaping. Mr. Nichols agreed to sub in the non-native Japanese Holly and Yew Pine for native dwarf yaupon and wax myrtle shrubs. There was also a discussion based on the queuing for the drive-thru. The drive-thru queue exceeds our requirements with 13 spots due to the wishes of the developer. Mr. Nichols mentioned that they like to have as many spots in the drive-thru as possible. The committee also discussed what would happen if the two additional units developed as a different use than retail. They were curious what would happen if the units developed as a restaurant as opposed to a retail store. Staff explained that the parking requirement would be the same for both types of uses. Both minor retail and restaurants require 1 space per 200 sf. Having no other questions it was the consensus of the committee to recommend approval of the Major Site plan.

COFFEE SHOP & RETAIL SHOPS

LOT 2 - SOUTHPORT CROSSINGS
SOUTHPORT, NORTH CAROLINA

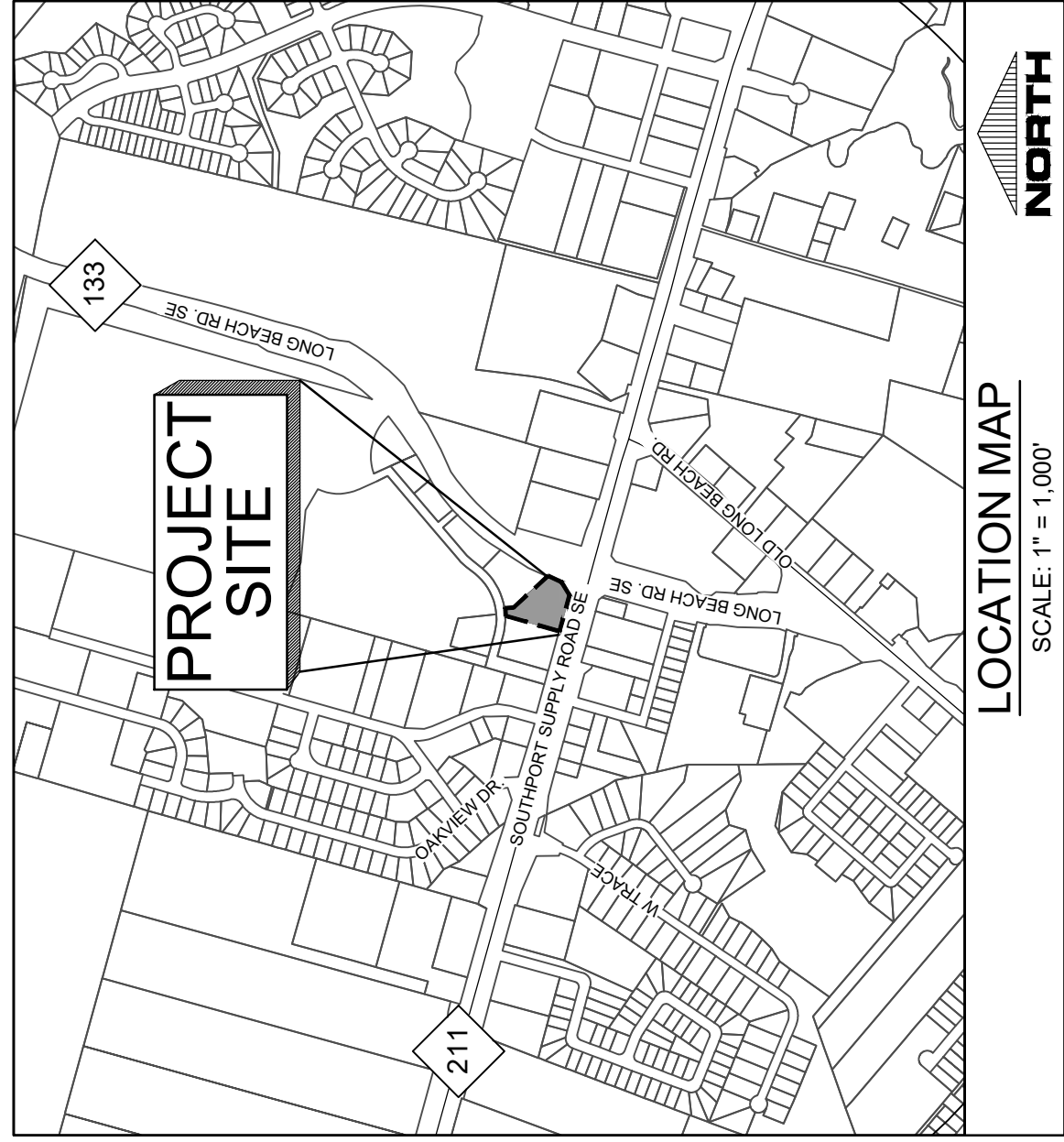
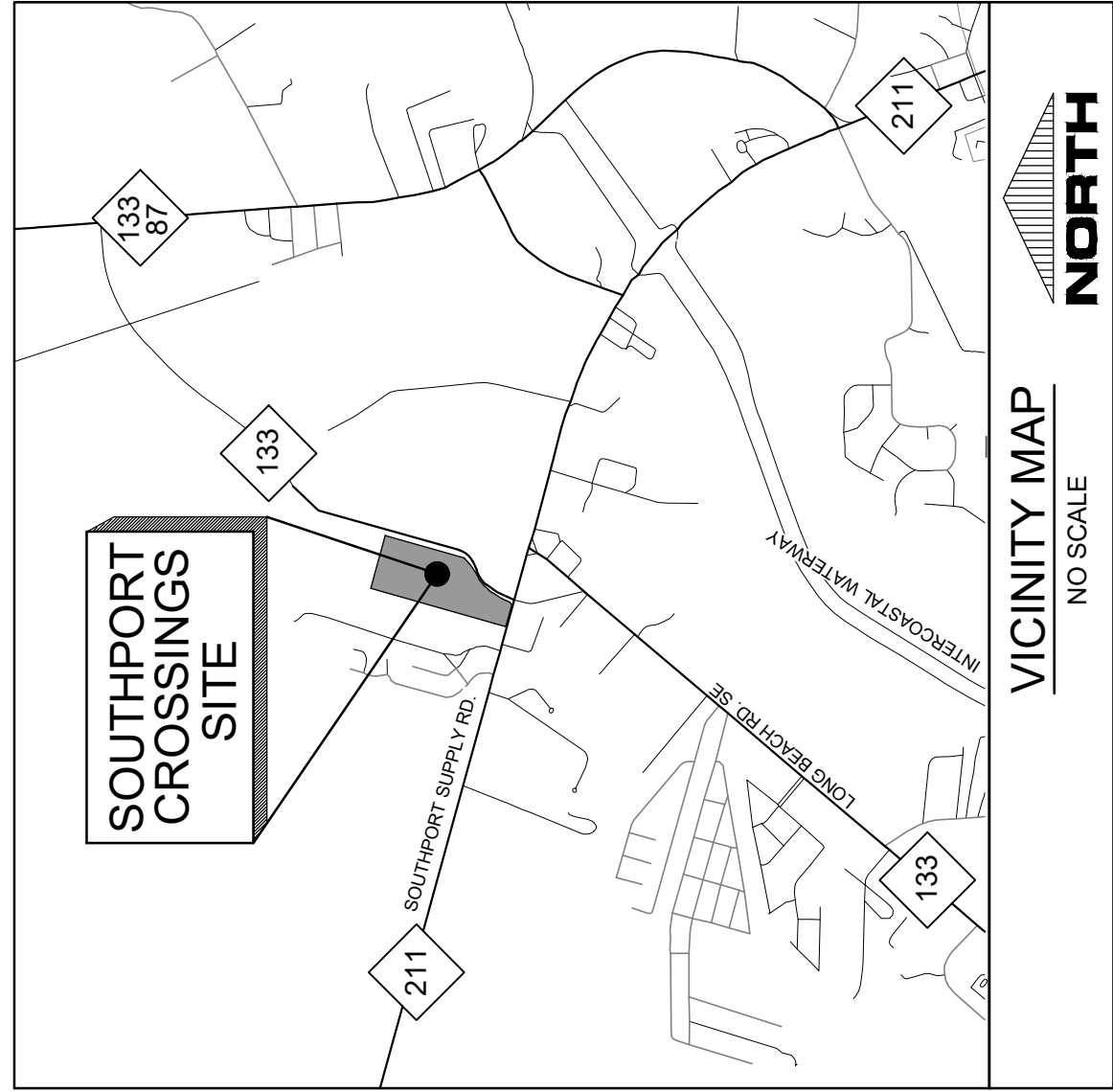
DESIGN DOCUMENTS

PLANNING BOARD REVISIONS

FEBRUARY 7, 2022

FOR:

PRIMAX PROPERTIES, LLC.
1100 E. MOREHEAD ST.
CHARLOTTE, NC 28204



CIVIL ENGINEER, LANDSCAPE ARCHITECT, & SURVEYOR:
PARAMOUNT ENGINEERING, INC.
122 CINEMA DRIVE
WILMINGTON, NORTH CAROLINA 28403
ATTN: BRANCH SMITH, PE - CIVIL ENGINEER
ATTN: MIKE NICHOLS, RLA - LANDSCAPE ARCHITECT
PHONE: (910) 791-6707

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
C-0.0	COVER SHEET
C-2.0	SITE PLAN
L-2.0	LANDSCAPE PLAN

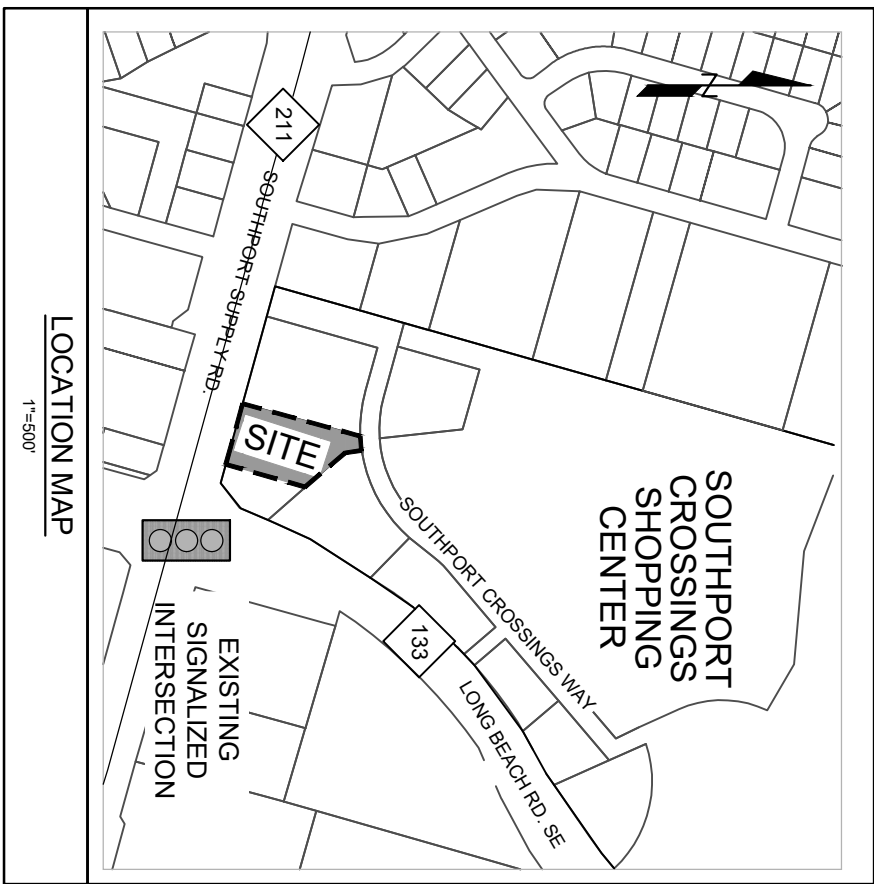


NOTICE REQUIRED
ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED PRIOR TO THE BEGINNING OF ANY CONSTRUCTION IN THE VICINITY OF SAID UTILITIES.
CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.
CONTRACTORS SHALL CONTACT OVERHEAD ELECTRIC PROVIDER TO COMPLY WITH FEDERAL OSHA 1910.333 MINIMUM APPROACH DISTANCE TO ENERGIZED POWERLINES AND OSH 29 CFR 1926.1407-1411 MUST BE FOLLOWED.

PARAMOUNT
ENGINEERING, INC.

122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (C) (910) 791-6706 (F)
NC License #: C-2846
PROJECT # 20136-PE

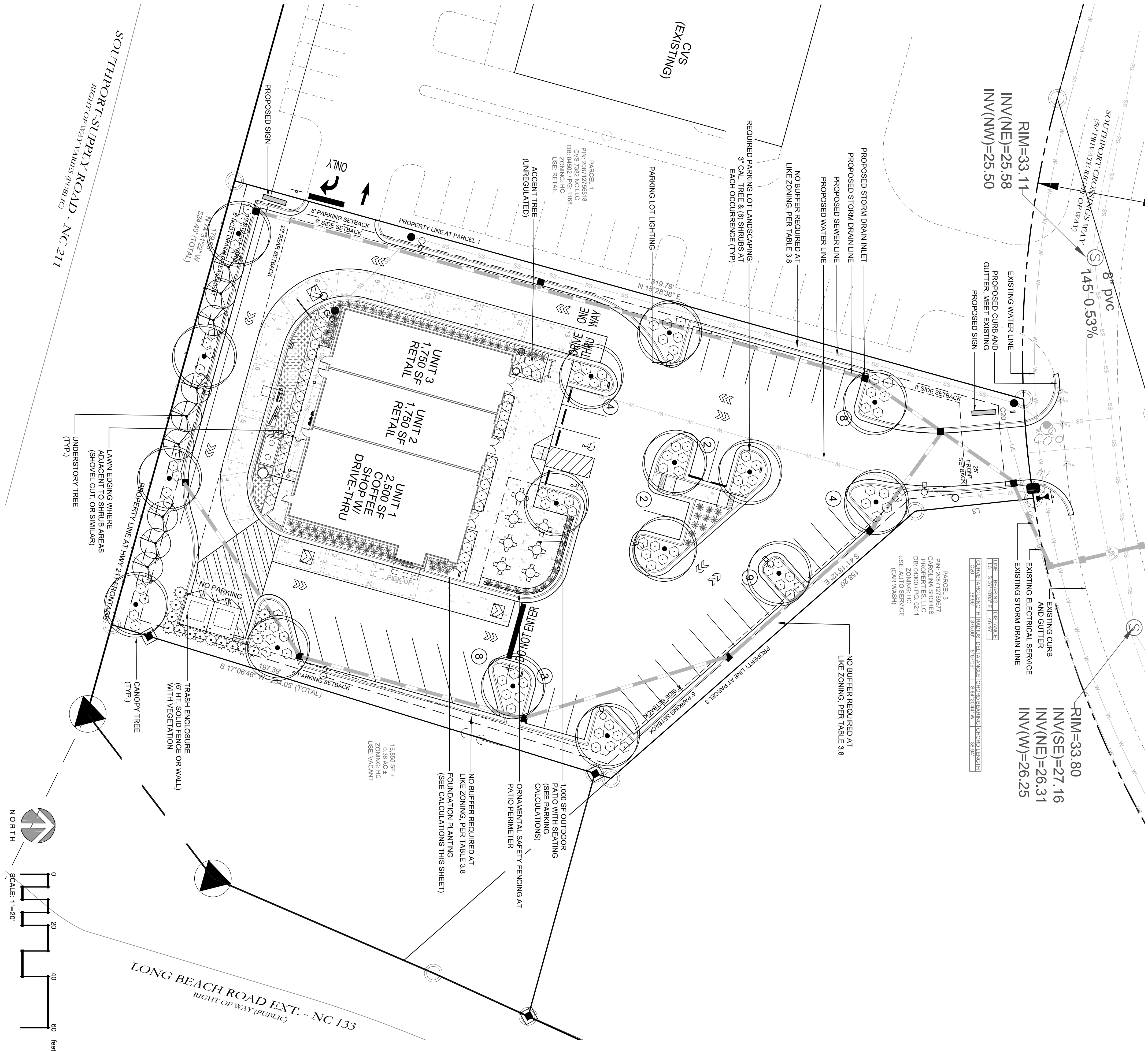
PRELIMINARY DESIGN - NOT RELEASED FOR CONSTRUCTION



SITE DATA
SOUTHPORT CROSSINGS LOT - PARCEL 2
SOUTHPORT CROSSINGS WAY
SOUTHPORT, NC 28416
PIN: 20872726820
PARCEL AREA: +/- 1.13 ACRES
PROPERTY OWNER: MDI MANAGEMENT LLC
120 4TH ST. SW
HICKORY, NC 28602-2947
BK: 03869 / PG: 0246
SOURCE DEED: (H/O) HIGHWAY COMMERCIAL
ZONING: SOUTHPORT
JURISDICTION: SOUTHPORT
PROPOSED USE: 2,800 SF CARRY OUT RESTAURANT / DRIVE THRU
3,800 SF RETAIL (POTENTIAL TWO UNITS)
6,000 SF TOTAL

- LANDSCAPE NOTES:**
1. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
 2. TREES SHALL BE LOCATED AT A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.
 3. ALL PLANTING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF ARBORICULTURISTS STANDARDS.
 4. NO TREE, OTHER THAN THOSE SHOWN ON APPROVED PLANS FOR REMOVAL, WITH THESE PLANS AND/OR TREE REMOVAL PERMIT PLANS, SHALL BE REMOVED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ALL SHRUB BEDS AND/OR PLANTING AREAS EXCLUDING TIRE AREAS SHALL BE MULCHED WITH 3" DEEP MULCH AND 4" MINIMUM DEPTH FINE STRAW MULCH UNLESS OTHERWISE NOTED.
 5. ALL PLANTS, 4 FEET OR LESS APART, WILL BE CONNECTED IN ONE PLANTING BED. ALL GROUPS OF PLANTS SHOULD BE WITHIN ONE PLANTING BED WITH THE EDGE OF MULCH EXTENDING 2 FEET BEYOND THE EDGE OF PLANT MASS. SINGLE TREES SHOULD HAVE A CIRCLE OF MULCH NOT LESS THAN 3 FEET DIAMETER.
 6. PLANTS TO BE PLANTED SHALL BE SPECIALLY GROWN AND SHIPPED TO THE SITE. THE QUANTITIES RECOMMENDED BY THE SOIL TESTING LABORATORY, THIRD PARTY APPROVED BY THE STATE DEPARTMENT OF AGRICULTURE OR AS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
 7. ANY AND ALL SUBSTITUTIONS OF PLANT MATERIAL SHALL BE APPROVED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. FAILURE TO OBTAINING APPROVAL MAY RESULT IN LIABILITY TO THE CONTRACTOR.
 8. THE CONTRACTOR SHALL REPLACE DEAD AND/OR UNHEALTHY PLANT MATERIAL WITHIN 12 MONTHS OF ACCEPTANCE OF THE INSTALLED MATERIAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
 9. THE CONTRACTOR SHALL PREPARE ALL SEEDED OR SODDED AREAS TO ASSURE THAT THE SOIL IS PROPERLY PREPARED AND SEEDING IS DONE PROPERLY. SODDED AREAS WITH STAGGERED JOINTS AND NO GAPS BETWEEN SOD JOINTS. SOD SHOULD BE PLACED AFTER INSTALLATION. ALL SEEDED AND/OR SODDED AREAS SHOULD PROVIDE A SMOOTH SURFACE FREE OF DIPS AND UNEVELED GROUND.
 10. ALL SEEDING SHALL BE DONE AND MONITORED BY A LICENSED IRRIGATION CONTRACTOR IN THE STATE OF NORTH CAROLINA.
 11. THE CONTRACTOR IS RESPONSIBLE FOR HAND WATERING THE INSTALLED PLANT MATERIAL FOR A PERIOD OF 6 MONTHS FROM THE ACCEPTANCE FROM THE OWNER OR OWNER'S REPRESENTATIVE IF IRRIGATION HAS NOT BEEN INSTALLED AT THE TIME OF SUBMITTAL COMPLETION. ALL MATERIAL INCLUDING SOD AND SEEDBED AREAS SHALL BE WATERED DAILY FOR THE FIRST 6 MONTHS AFTER INSTALLATION. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING TRASH, DEBRIS AND EXCESS MATERIALS FROM THE JOB SITE ONCE THE PROJECT IS COMPLETE. SECURING ANY MATERIALS LEFT ON SITE DURING THE COURSE OF THE PROJECT IS THE CONTRACTOR'S RESPONSIBILITY.
 13. ALL DISTURBED AREAS NOT DESIGNATED FOR LANDSCAPING SHALL RECEIVE SOD OR BE SEEDBED. RESTORATION PROPOSED WITHIN SIGHT DISTANCE AREAS SHALL NOT INTERFERE WITH SIGHT DISTANCE FROM 30' TO 10'.
 14. PRIOR TO ANY CLEANING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN TREE PROTECTION FENCING.

PLANT SCHEDULE		
TREES	CODE	QTY
QUE VIR	16	3 CAL.: 8"-10" HGT. MIN.
UNDERSTORY TREE	CODE	QTY
RB	9	2" CAL.: 10"-12" HGT. MIN.
SHRUBS	CODE	QTY
ILE NAN	131	18" HT. MIN. AT INSTALL / 24" MIN. AT MATURITY
MR	96	18" HT. MIN. AT INSTALL / 24" MIN. AT MATURITY
MC2	15	4"-5" HT
GROUND COVERS	CODE	QTY
CT	346 SF	SOD



PRELIMINARY DRAWING - NOT FOR CONSTRUCTION

PEL JOB# 21630, PE	L-2.0	PROJECT STATUS	LANDSCAPE PLAN PARCEL 2 - SOUTHPORT CROSSINGS SHOPPING CENTER SOUTHPORT, NORTH CAROLINA 28461	PARAMOUNT ENGINEERING, INC. 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) NC License #: C-2846	CLIENT INFORMATION:	REVISIONS:
		DRAWING INFORMATION				

STAFF REPORT – ZTA 23-01

ZONING TEXT AMENDMENT APPLICATION

CONDITIONAL ZONING & APPENDIX A

APPLICATION SUMMARY	
Presentation Date	April 20, 2023 Planning and Zoning Board
Applicant	City of Southport Planning Staff
Relevant Ordinance Sections	Section 2.11 ‘Conditional Rezoning’ & Appendix A

ZONING TEXT AMENDMENT PROPOSAL
City of Southport Planning Staff, applicant, respectfully submits a Zoning Text Amendment to the City of Southport Unified Development Ordinance for the purposes of discussion. Specifically, the request is to amend Section 2.11 ‘Conditional Rezoning’ to modify the types of projects allowable under a Conditional Rezoning, process improvements in general and in relation to the aforementioned modifications, a reconstruction of Appendix A, and other amendments for the purposes of clarification. 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

City of Southport Planning Staff is submitting this Zoning Text Amendment to provide for modifications to the City's already adopted Conditional Rezoning process. Key features of the request include:

1. An expansion of the allowable proposals that made be submitted via Conditional Rezoning, including an expansion in the uses allowable within the project, the zoning districts from which a Conditional Rezoning can originate, and an allowance of a purely custom conditional zoning district, as opposed to a conditional zoning district tied to one of the City's existing zoning districts;
2. General process improvements and process improvements proposed in light of the amendments referenced above and for the purposes of ensuring process consistency across any submittal of this type and further increasing the role the public plays in the process;
3. A reconstruction of Appendix A, in light of the amendments referenced above and also based on experience in reviewing recent projects; and
4. Other amendments for the purposes of clarification.

The following sections of this report break down the proposed changes line-by-line, with additional context provided where appropriate and necessary.

2.11.A Purpose

Planning Staff propose no changes to Section 2.11.A, which discusses the purpose of a Conditional Rezoning and Conditional Zoning District. However, it is important to note that a Conditional Rezoning is primarily designed for projects that have a high certainty of being constructed should approval be granted, as well as noting that a Conditional Rezoning process follows the same review and approval procedures as a traditional or General Use Rezoning.

2.11.B Application and Conditional Zoning Review Procedure

Planning Staff propose numerous amendments within Section 2.11.B. The first proposed amendment is a clarification that a Master Development Plan is required to be submitted in conjunction with a Conditional Rezoning proposal, as opposed to in conjunction with a Zoning Map Amendment request. A Conditional Rezoning is a Zoning Map Amendment request itself, thus requiring a separate Zoning Map Amendment in conjunction is redundant and therefore not necessary. Further, the language is proposed to be amended to require the submission of a narrative providing an overview of the project including any proposed uses, dimensional standards, self-imposed development standards or conditions, and so on. Importantly, this section also references the flexibility afforded to conditional rezonings in terms of increasing or reducing development standards, and explicitly requires that any deviations be specifically addressed in the submitted narrative.

The next section of proposed language removes the language that requires a coupling of a Conditional Rezoning proposal to an existing traditional zoning district. This proposal is made in order to increase the amount of flexibility allowable within the process, a process already established under the Planned Unit Development (PUD) guidelines. This language does not prohibit the coupling of a Conditional Rezoning proposal to an existing zoning district, it only removes it as a requirement. This is reinforced by proposed language in Section 2.11.B.3, which states that dimensional requirements of the zoning district currently designated on a subject property have no bearing on the dimensional standards an applicant for a conditional rezoning could propose but may be considered by the various reviewing entities if the specifics of the case require it.

A Conditional Rezoning proposal can and often are very similar to projects that under the current Ordinance would be submitted via the Planned Unit Development (PUD) process. Proposed language in Section 2.11.B.2 includes a requirement that all conditional rezonings outside areas currently zoned BD or CBD that include residential uses shall designate no less than 20% of the tract as protected open space in accordance with Section 4.14.C.1.b. Among the possibilities afforded by the conditional rezoning process is the ability for projects to exceed that 20% requirement by some margin, further aided by the additional flexibility elsewhere.

Per feedback received from the Planning Board, the attached language has been updated to include rising open space thresholds as proposed residential units within a conditional rezoning increase. Specifically, for every 250 units included within a Conditional Rezoning, the required open space designation increases by 5%. This continues to rise for every 250 units up to 1,500, at which point any project larger than 1,500 residential units shall be required to designate at least 50% of the site as open space meeting the definition Section 4.14.C.1.b in order to obtain a Conditional Rezoning.

Staff also propose additional clarifications as to the form and function of potential conditional rezoning applications, including:

- 1) An explicit statement that density and proposed uses within a conditional rezoning proposal shall be reviewed for consistency with any and all adopted plans;
- 2) An explicit statement that a conditional rezoning proposal shall speak to any use standards applicable within the Ordinance and that those use standards may be used in the evaluation of a proposal that includes such use; and
- 3) A requirement that any conditional rezoning application originating from a residential district contain at least five contiguous acres, on one or multiple parcels. Non-contiguous acreage may be added to a request if the initial five-acre requirement is otherwise met.

Throughout the remainder of Section 2.11.B, there are various procedural changes that clarify the discretion available to the Unified Development Ordinance Administrator (Planning Staff), as well as requiring a meeting of the Technical Review Committee to review a Conditional Rezoning proposal prior to the proposal being presented to the Planning Board and/or Board of Aldermen.

The most significant change within the remainder of this section is the inclusion of a required public hearing at the Planning Board level, in addition to the public hearing at the Aldermen level. Current ordinance language gives the Planning Board the discretion to call a public hearing or not – the proposed amendment would make the public hearing automatic, and also includes the full range of public notice requirements applicable to rezoning public hearings.

Commentary: The amendments referenced above are solely designed to broaden the types and features of proposals that can be submitted by applicants. It is in no way designed to increase the number of projects that are submitted or approved, nor does it guarantee projects that come forward in this manner an approval. Conditional Rezoning is the most intense form of development review that exists under North Carolina General Statutes, provide the greatest opportunity for discretion to be utilized by the City of Southport, and provide the most effective and impactful methods for members of the public to participate in the development process. Regardless of whether the proposed Zoning Text Amendment is approved or not, Conditional Rezoning will receive the same level of review by City Staff under the same review criteria.

2.11.C Public Input Meeting

Following feedback received from the Planning Board, the proposed language maintains the requirement that the public input meeting shall be held, and the report from such meeting filed with the UDO Administrator, prior to the case being scheduled for a public hearing. This will require that the report shall be filed at such time to ensure that public notice for the Planning Board's public hearing can be provided. Failure to provide that report in the appropriate timeline shall result in the application being withheld from the Planning Board's agenda.

Furthermore, the proposed draft language requires the public notice sent by the applicant advising of the public input meeting to also be provided to the City Clerk and UDO Administrator.

2.11.D Conditions to Approval of Petition

The requested amendments in Section 2.11.D are primarily aimed toward providing clarity in existing processes. In Section 2.11.D.1, it makes clear that the UDO Administrator may make recommendations on potential conditions in addition to the Planning Board. Further amendments include rewriting the timeline for an applicant to respond to conditions and clarification that such response shall occur in writing, regardless of the nature of the response, so that such response can be included within the agenda packet for consideration by the Board of Aldermen. Finally, included at the conclusion of this section is an additional statement clarifying that modifications to conditions of approval shall require the entire conditional rezoning process to begin again.

2.11.E Effect of Approval

Within this section, amendments are also aimed toward increasing clarity. The most significant change is in reference to how Conditional Zoning districts are designated on the City's official zoning map, providing a naming scheme for custom Conditional Zoning districts that do not have a corresponding traditional zoning district. For the purposes of added clarity, additional language

is also included that reinforces the fact that a Conditional Rezoning approval is not an approval to begin construction, and that any relevant site plan review process (Major Site Plan, Preliminary Plat, etc.) must also occur prior to any construction beginning on the site.

2.11.F Review of Approval of a Conditional Zoning District

Conditional Zoning, and the districts that result from this process, are designed primarily for projects that have a high degree of certainty of being constructed should they receive approval, as laid out within the purpose statement of Section 2.11. To this end, the existing Unified Development Ordinance provides a mechanism by which the Planning Board shall review conditional zoning approvals and make recommendations as to potential avenues to rezone properties out of the conditional zoning district they possess if conditions and/or timelines aren't being met. The only requested change to this section is to provide clarity that the UDO Administrator shall provide this information to the Planning Board at least once every 12 months (generally as part of an annual report) as well as upon request by the Planning Board.

Appendix A

Currently, Appendix A exists as a table, with rows representing various requirements for information to be displayed on site plan documents, and columns representing various case types and the applicability of each piece of information to each case type. Given the amendments discussed above, Appendix A already requires an update just in the context of conditional rezonings. However, due to Staff experience and feedback from the Planning Board and applicants broadly, Staff propose eliminating the table and giving each case type its own section of Appendix A, which will aid in ensuring that it is abundantly clear which requirements apply to which case types and aid in the creation of checklists.

Included within the draft Ordinance language is a reconstructed Appendix A, which references six case types: Master Development Plans/PUDs, Conditional Rezonings, Minor Site Plans, Major Site Plans, Subdivision Preliminary Plats, and Subdivision Final Plats. Proposed amendments to the specific language within Appendix A include the allowance of approximation for some information within a Conditional Rezoning (more closely mirroring existing PUD requirements) and an explicit requirement on traffic generation figures being included in a site plan and references to the City's Traffic Impact Study requirement as laid out in Section 3.13.

EVALUATION AND CONTEXT

Unified Development Ordinance Compliance

Zoning Text Amendments, like General Use Zoning Map Amendments (Rezonings), 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. The Board of Aldermen shall, in their final decision-making capacity, base their decision upon the same.

2014 CAMA Core Land Use Plan Compliance

It is important to note that when the 2014 CAMA Core Land Use Plan was adopted, Conditional Zoning had only very recently been made available as a tool for local governments to use within North Carolina General Statutes as a mechanism for rezoning and development review. As such, explicit references to conditional zoning are not present within the document and the plan references the General Use Rezoning process as the only rezoning process available.

On Page 128 of the 2014 CAMA Core Land Use Plan, the following can be found:

Completing the LUP [Land Use Plan], illustrating the City's vision for the future, does not ensure that its objectives will be met. The City must continuously work at accomplishing plan implementation and maintaining an effective planning program. One important concept is 'smart development.'

The Plan goes on to speak at length on six principles of "smart development" or "smart growth," some of which speak directly to the same possibilities that can come from conditional rezoning projects:

Principle 1 - Efficient Use of Land Resources: Smart development supports the preservation of land and natural resources. These benefits result from compact building forms, in-fill development, and moderation in street and parking standards. Compact building patterns preserve land for city and neighborhood parks as well as local woods and wetlands. Furthermore, compact development shortens trips, lessening dependence on the automobile, and therefore reducing levels of energy consumption and air pollution. Finally, a compact development pattern supports more cost-effective infrastructure than does low-density fringe development.

Principle 2 - Full Use of Urban Services: The same frugality of land development supports efficient use of public and private infrastructure. Smart development means creating neighborhoods where more people will use existing services like water lines and sewers, roads, emergency services, and schools. Inefficient land use, whether within or outside urban areas, places a financial strain on communities trying to provide for the construction and maintenance of infrastructure needs.

Building compactly does not mean that all areas must be densely developed. Rather, the goal is an average density for the area, at a level that makes full use of urban services. Averaging allows for areas to have a mix of low-, medium-, and high-density development. Mixing densities to encourage efficient use of services also means requiring a high level of building and siting compatibility, encouraging neighborhoods to have both character and privacy.

Careful street sizing and the accommodation of some parking on streets reduces impervious surfaces and efficiently uses urban services by saving on land acquisition,

construction, and maintenance costs. In short, streets should be sized for their use: lower density areas that have little through traffic are best served by slower, narrower streets, while transportation corridors that move district-wide traffic need wider travel ways.

Principle 3 - Mix of Uses: Locating stores, offices, residences, schools, and recreation spaces within walking distance of each other in compact neighborhoods with pedestrian-oriented streets promotes:

- independence of movement, especially for the young and the elderly who can conveniently walk, cycle, or ride transit;
- safety in commercial areas, through around-the-clock presence of people;
- reduction in auto use, especially for shorter trips;
- support for those who work at home, through nearby services and parks; and
- a variety of housing choices, so that the young and old, singles and families, and those of varying economic ability may find places to live.

Mixed-use examples include a corner store in a residential area, an apartment near or over a shop, and a lunch counter in an industrial zone. Most codes prohibit the co-location of any residential and commercial buildings. This prohibition is based on the functional and architectural incompatibility of the buildings. Using design standards, in tandem with mixed-use zoning, overcomes incompatibility. Additionally, limitations on commercial functions, such as hours of operation and delivery truck access, may be necessary. More fundamentally, to gain the full benefits of a mix of uses, buildings must be conveniently connected by streets and paths. Otherwise, people will still be inclined or required to use cars, even for the shortest trips.

Principle 6 - Implementation: Southport's ability to adopt smart development principles will depend on the ability and willingness of developers to apply the principles. Frustrating, costly, and time-consuming delays due, in part, to inflexible standards, regulations, and processes will discourage innovative approaches to development and design. Providing for flexibility and certainty in the application of standards, and administrative approval of "minor" variances, can help promote creative development that complies with the principles. Effective use of Planned Unit Developments (PUD's) can also relieve some of the regulatory barriers for developers and lighten the administrative load for planners (See pages 128-130 of the 2014 CAMA Core Land Use Plan).

NOTE: Principles 4 and 5 (Transportation Options and Detailed, Human-Scale Design) are also certainly relevant in the context of Conditional Rezoning but are not necessarily always appropriate to every project like the other four are. All six principles should be considered in the context of reviewing every Conditional Rezoning proposal.

If the proposed zoning text amendment is ultimately approved, there is no guarantee that every conditional rezoning application will be able to speak to all or any of the above principles.

However, given the inflexibility of traditional zoning districts, it is quite difficult for projects within Southport today to be consistent with these principles as well. Conditional Zoning is one tool that can allow for progressive land use techniques to be incorporated into a proposed development while maintaining the ability to review those techniques in a site-specific manner, ensuring that those aspects remain compatible with the surrounding community and that any impacts created by the project are appropriately mitigated.

As Conditional Rezoning requests come forward, they are evaluated for their consistency with the future land use map and the goals, objectives, and policies within the CAMA Core Land Use Plan. A non-exhaustive list of policies that may be relevant in the review of a hypothetical conditional rezoning from a use perspective include the following:

Policy 2.1: Southport discourages the rezoning of existing residentially-developed or zoned areas to a non-residential classification. Such rezoning and amendments in classifications to the future land use map should be carefully balanced with a demonstrated need for such proposed development.

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

Policy 2.5: The City supports providing adequate conservation/open space buffers between areas designated for residential development as indicated on the future land use map and any adjacent non-residential land use.

Policy 2.7: Southport does not support “strip” residential development along highways and certain roads carrying heavy traffic and encourage service roads or an internal street pattern to eliminate direct driveway connections to highways and roads.

Policy 2.9: Southport supports utilizing Office/Institutional/Multi-family development as a buffer between light industrial and commercial development and adjacent residential land uses.

Policy 2.10: Southport supports Office/Institutional/Multi-family land uses that are developed along transportation thoroughfares to provide transition between commercial nodes and to preserve vehicle carrying capacity.

Policy 2.11: Southport supports development that blends a mix of uses at a reasonable scale offering convenient retail facilities to nearby residents in an effort to reduce traffic flow on main thoroughfares.

Policy 2.15: Southport supports industrial development which will be located adjacent to and/or with direct access to major thoroughfares.

Based on the above information, Staff finds the Zoning Text Amendment request outlined in this report to be consistent generally with the 2014 Southport CAMA Core Land Use Plan due to the types of development made possible by Conditional Zoning being consistent with many stated objectives within the Plan, the specific inclusion of the public at large within the development process, as well as the requirement that any proposal undergoing the Conditional Rezoning process be evaluated for its consistency with this plan and all other adopted plans, coupled with the statutorily-required consistency statements that must accompany all rezoning requests. Further, Conditional Zoning allows the Board greater flexibility in promoting economic efficiency, optimizing resources, and preserving wetlands, wildlife habitat, and other environmentally sensitive areas.

STAFF'S RECOMMENDATION

City Planning Staff respectfully submit the proposed Zoning Text Amendment to the Planning and Zoning Board for their consideration, as outlined in this report and as evidenced in the two attachments that follow this report. The proposal is found to be consistent with the 2014 CAMA Core Land Use Plan, specifically with regard to desired outcomes for development as well as the inclusion of the public within the development process, as well as remaining consistent with the Unified Development Ordinance. Because of those consistencies, Planning Staff respectfully recommend approval of the request as presented. Staff also recommend consideration of the adopted of the provided consistency statement located on the following page.

City of Southport Planning & Zoning Board
Statement of Plan Consistency
(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-22-01

Statement of Consistency and Recommendation:

The City of Southport Planning & Zoning Board finds that the proposed Zoning Text Amendment is consistent with the 2014 CAMA Core Land Use Plan adopted November 13, 2014 and subsequently amended by the Board of Aldermen. Specifically, the proposed Zoning Text Amendment is consistent with the Plan due to its allowance for development patterns that are explicitly identified as desirable by the Plan but are not currently possible under the Unified Development Ordinance, the inclusion of the public within the development process, and the explicit requirement that all Conditional Rezoning be evaluated for their conformance to the 2014 CAMA Core Land Use Plan and any other adopted plans relevant to the proposal. Further, Conditional Zoning allows the Board greater flexibility in promoting economic efficiency, optimizing resources, and preserving wetlands, wildlife habitat, and other environmentally sensitive areas.

Sue Hodgins, Chair
Planning & Zoning Board
City of Southport, NC

Tanya Shannon, Clerk
Planning & Zoning Board
City of Southport, NC

2.11 CONDITIONAL REZONING

A. PURPOSE

1. A conditional zoning district is intended for a development that has a high level of certainty of being constructed and the most commonly expected application will contain a specified use or uses, permitted by right or special use, on small- and large-scale projects.
2. All uses listed as part of any application must be in the same format and description as listed in the table of uses.
3. Except as provided herein, all applications to establish a conditional zoning district must follow the regulations prescribed in this section in addition to the standard zoning map amendment (rezoning) process as described in this ordinance.

B. APPLICATION AND CONDITIONAL ZONING REVIEW PROCEDURE

1. ~~The application for a conditional rezoning shall be accompanied by a master development plan. approval shall also be accompanied by an application to amend the zoning map (rezoning) to the conditional development zoning district. The rezoning application shall be submitted concurrently with the conditional zoning master development plan.~~ The procedure for such shall be followed as outlined in Sections 2.9 and 2.10. The approved master development plan shall provide the framework for development in the conditional zoning district. All applications must include a master development plan, a narrative that includes but is not limited to supporting information and text which specifies the use or uses intended for the property and provides an overview of the project, dimensional standards, and any development standards to be approved concurrently with the rezoning application. Development standards include but are not limited to such things as parking, landscaping, design guidelines, and buffers. Such development standards may exceed or reduce the requirements of the Unified Development Ordinance and shall be explicitly discussed in the submitted narrative.
 - a) A conditional rezoning shall not permit deviations from generally applicable standards, including: Traffic Impact Study thresholds, stormwater requirements, open space, HOA requirements, and water/wastewater requirements; except that any of these requirements may be increased or strengthened.
2. ~~Applications and proposals for conditional zoning approval shall only be considered within a nonresidential zoning district. All proposals for a conditional zoning application must abide by the uses and the dimensional standards required by the underlying base zoning district for which the proposal is located. Conditional Rezoning proposals originating from within all districts other than CBD and BD which include residential uses shall designate no less than 20% of the total rezoning acreage as open space in accordance with Section 4.14.C.1.b.~~
 - a) For every 250 units proposed, an additional 5% of the total rezoning acreage shall be designated as open space in accordance with Section

4.14.C.1.b, up to a maximum requirement of 50% open space provision when more than 1,500 residential units are proposed.

3. No conditional zoning proposals shall be considered within the Open Space zoning district.
4. Dimensional standards within the proposed Conditional Zoning District shall be designated by the applicant. Dimensional standards within the currently designated zoning district for the subject property shall not influence proposed dimensional standards but may be considered in the review of applications on a case-by-case basis.
5. Density and proposed uses within a conditional zoning district shall be reviewed for conformance with any and all relevant adopted plans.
6. When a Conditional Rezoning proposal includes uses with specific standards, the application shall denote whether those standards are included in the proposal. The generally applicable use standards may be considered in the review of a Conditional Rezoning proposal that includes that use.
- 2-7. Conditional Rezoning requests originating from a residential zoning district and from the PUD zoning district shall not be considered unless containing at least five (5) acres. Such minimum acreage must be contiguous may be contained within one or multiple parcels. Other non-contiguous parcels may be added to a Conditional Rezoning application so long as the minimum contiguous acreage requirement is otherwise met.

— An application for conditional zoning approval shall be accompanied by 12 hard copies and one (1) digital copy of a conditional zoning master development plan. Additional copies may be requested by the UDO Administrator at their discretion.

3-8.

4-9. The master development plan shall be prepared by and sealed by a licensed land surveyor, landscape architect, or engineer registered to practice in the state of North Carolina and shall include all of the required information as provided in Appendix A: Submission Requirements and any other information deemed necessary by the UDO Administrator, Planning Board, or Board of Aldermen.

5-10. The UDO Administrator or his/her designee will review the conditional zoning master development plan and shall~~may~~ require a Technical Review Procedure. The Technical Review Committee may include, but not necessarily be limited to, the following individuals/departments: UDO Administrator, building inspector, city manager, Fire department, Police Department, NC Division of Coastal Management, NC Department of Environmental Quality, North Carolina Department of Transportation, Brunswick County Utilities, or Brunswick County Environmental Health.

6-11. The UDO Administrator shall, in writing, provide a recommendation to the Planning Board within 90~~60~~ days following receipt of the complete application for a conditional zoning district proposal and associated master development plan. The UDO Administrator shall have discretion to withhold a proposal from Planning Board consideration if additional information on the proposal is

deemed necessary and is not provided no less than ten (10) days prior to the Planning Board meeting.

12. In accordance with Section 2.10.A.3, the Planning Board shall hold a public hearing prior to providing a recommendation, and may recommend to approve, conditionally approve, or deny the Conditional Rezoning.

7-13. Following receipt of recommendation from the Planning Board, the Board of Aldermen shall approve, conditionally approve, or deny the conditional rezoning.
zoning master development plan.

8-14. When evaluating an application for the creation of a conditional zoning district, the Planning Board and 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, adjoining properties.
- c) The report of results from the public input meeting.

9-15. The Board of Aldermen may not vote to rezone property to a conditional zoning district during the time period beginning on the date of a municipal general election and concluding on the date immediately following the date on which the Board of Aldermen holds its organizational meeting following a municipal general election unless no person spoke against the rezoning at the public hearing.

C. PUBLIC INPUT MEETING

1. Prior to scheduling a public hearing on the rezoning application, the applicant must conduct one (1) public input meeting and file a report of the results with the UDO Administrator. If the report is not filed at a time sufficient for the project to receive proper notice in accordance with public hearing requirements, the case shall be placed on the next available agenda.

2. The report for the public hearing will include a summary of the public input meeting.

3. The applicant shall mail a notice for the public input meeting to the owners of all properties located within 500 feet of the perimeter of the project bounds not less than 10 days prior to the scheduled meeting.

- a) This notice shall also be provided digitally to the City Clerk and UDO Administrator not less than 10 days prior to the scheduled meeting.

3-4. The notice shall include the time, date, and location of the meeting as well as a description of the proposal.

4-5. The applicant's report of the meeting shall include:

- a) A copy of the letter announcing the meeting
- b) A list of adjoining property owners contacted
- c) An attendance roster
- d) A summary of the issues discussed
- e) The results of the meeting including changes to the project's proposal, if any.

D. CONDITIONS TO APPROVAL OF PETITION

1. In approving a petition for the reclassification of property to a conditional zoning district, the UDO Administrator and Planning Board may recommend, and the Board of Aldermen may request that the applicant add reasonable and appropriate conditions to the approval of the petition.
2. Any such conditions should relate to the relationship of the proposed use to the impact on city services, surrounding property, proposed support facilities such as parking areas and driveways, pedestrian and vehicular circulation systems, screening and buffer areas, the timing of development, street and right-of-way improvements, water and sewer improvements, stormwater drainage, the provision of open space, and other matters that the participants in the public input meeting, staff, Planning Board, and Board of Aldermen find appropriate or the petitioner may propose. Such conditions to approval of the petition may include right-of-way dedication, easements for streets, water, sewer, or other public utilities necessary to serve the proposed development.
3. The petitioner shall consider and respond to any such conditions after the Planning Board meeting and no less than ten (10) days prior to the scheduled Board of Alderman meeting on which the proposal will appear.~~within three (3) days prior to the staff report for the Board of Aldermen being published.~~ If the applicant does not agree with the Planning Board or staff's recommendations of additional conditions, the Board of Aldermen shall have the authority to consider ~~accept~~ any or all of the conditions forwarded from the review process.
4. If for any reason any condition for approval is found to be illegal or invalid or if the applicant should fail to accept any condition following approval, the approval of the site plan for the district shall be null and void and of no effect and proceedings shall be instituted to rezone the property to its previous zoning classification. All conditions must be consented to in writing by the petitioner prior to the hearing held by the Board of Aldermen to consider the request. Such written consent shall be included in the published agenda packet.
5. The modification of any condition of approval shall require the submittal of a new conditional rezoning application and shall include every step conducted in the original approval of the request.

E. EFFECT OF APPROVAL

1. If a petition for conditional zoning is approved, the development and use of the property shall be governed by the predetermined ordinance requirements applicable to the -conditional zoning district, district's classification, the approved master development plan for the district, and any additional approved rules, regulations, and conditions, all of which shall constitute the zoning regulations for the approved district and are binding on the property as an amendment to these regulations and to the zoning maps.
2. Following the approval of the petition for a conditional zoning district, the subject property shall be identified on the zoning maps by the appropriate district designation. A parallel conditional zoning shall be identified by the same designation as the underlying general district followed by the letters "CZ" and the number of its instance (for example "CBD-CZ1"). In the case of a conditional zoning district without a reference to an existing zoning district, the district shall be identified by the letters "CZ" and the number of its instance (for example, "CZ-3."
3. The master development plan does not substitute for an approved minor site plan, site plan, or subdivision plat as required by this ordinance. Such cases shall follow the Ordinance defined process for the relevant case type, including any presentation for approval to the Planning Board and/or Board of Aldermen in accordance with the applicable sections of this Ordinance. Such case types may be submitted as part of the Conditional Rezoning application and may be reviewed concurrently at the discretion of the applicant.
4. No permit shall be issued for any development activity within a conditional zoning district except in accordance with the approved petition and applicable site plan, subdivision plat, and or permit for the district.
5. Any violation of the approved regulations and conditions for the district shall be treated the same as any other violation of this ordinance and shall be subject to the same remedies and penalties as any such violation.

F. REVIEW OF APPROVAL OF A CONDITIONAL ZONING DISTRICT

1. It is intended that property shall be reclassified to a conditional zoning district only in the event of firm plans to develop the property. Therefore, no sooner than three (3) years after the date of approval of the petition, the Planning Board may examine the progress made toward developing the property in accordance with the approved petition and any conditions attached to the approval. The UDO Administrator shall provide this information to the Planning Board at least once every 12 months and upon request by the Planning Board.
2. If the Planning Board determines that progress has not been made in accordance with the approved petition and conditions, the Planning Board shall forward to the Board of Aldermen a report which may recommend that the property be rezoned to its previous zoning classification or to another district.

Appendix A: Submission Requirements

A. Submission Requirements

Applications submitted to the City of Southport for the following approval types shall include all information listed below.

B. Master Development Plan

1. General Project Information

- a) Proposed or approved name of development, project, subdivision, and/or phase.
- b) Developer/applicant name(s), including mailing address(es) and telephone number(s). (If Applicable).
- c) Property owner name(s), including mailing address(es) and telephone number(s).
- d) Name, registration number, and seal of a professional Land Surveyor, Engineer, Landscape Architect, and/or Architect. (If Applicable).
- e) Date of plat/plan preparation and of surveys; North arrow and orientation; Map scale, denoted graphically and numerically.
- f) Sketch vicinity map showing the relationship between the proposed property or properties and the surrounding area.
- g) Tax parcel numbers, owners, zoning classifications, and book and page numbers of the site tract and adjacent tracts.
- h) Boundaries of any proposed or pending zoning districts on site. Boundaries must be described by bearing and distance where they do not follow described boundaries.

2. Land Use

- a) Approximate location, dimensions, density, and description of proposed land use(s) on each tract or parcel, including single-family residential, multi-family residential, commercial, office, institutional, industrial, and recreational. Recreational uses shall specify type and future ownership.

3. Traffic, Parking, Movement

- a) Approximate location, direction, dimensions, name, and surface type of existing or proposed rights-of-way and easements, including those being vacated and those on adjacent properties.
- b) Location of roads appearing on officially adopted plans.
- c) Approximate location of roads, streets, and circulation patterns; including any proposed or required bicycle or pedestrian facilities.
- d) Approximate total square footage of existing and proposed impervious surfaces.
- e) Trip generation calculations in accordance with the most recent version of the ITE Trip Generation Manual.
 - i. If trip generation calculations are found to exceed Traffic Impact Study threshold, a Traffic Impact Study shall also be submitted following the process outlined in Section 3.13.

4. Environmental Standards

- a) FEMA-designated flood hazard areas, including flood zone designations and map panels.
- b) Location and description of CAMA Areas of Environmental Concern, including 404 wetland areas as determined by the Army Corps of Engineers and coastal wetlands as determined by NCDEQ.
- c) Location and description of environmental features such as wooded areas, marshes,

swamps, rock outcrops, ponds or lakes, streams or streambeds, and any other natural features affecting the site.

5. Landscaping & Tree Preservation

- a) Note on plan stating that prior to any clearing, grading, or construction activity tree protection fencing will be installed around protected plants, trees or groves of trees. No construction workers, tools, materials, or vehicles are permitted within the tree protection fencing.

6. Any other information considered pertinent by the applicant, UDO Administrator, Planning Board, or Board of Aldermen.

C. Conditional Rezoning

1. General Project Information

- a) Proposed or approved name of development, project, subdivision, and/or phase.
- b) Developer/applicant name(s), including mailing address(es) and telephone number(s). (If Applicable).
- c) Property owner name(s), including mailing address(es) and telephone number(s).
- d) Name, registration number, and seal of a professional Land Surveyor, Engineer, Landscape Architect, and/or Architect. (If Applicable).
- e) Date of plat/plan preparation and of surveys; North arrow and orientation; Map scale, denoted graphically and numerically.
- f) Sketch vicinity map showing the relationship between the proposed property or properties and the surrounding area.
- g) Tax parcel numbers, owners, zoning classifications, and book and page numbers of the site tract and adjacent tracts.
- h) Boundaries of any proposed or pending zoning districts on site. Boundaries must be described by bearing and distance where they do not follow described boundaries.

2. Land Use

- a) **Approximate** location, dimensions, density, and description of proposed land use(s) on each tract or parcel, including single-family residential, multi-family residential, commercial, office, institutional, industrial, and recreational. Recreational uses shall specify type and future ownership.
- b) **Approximate** location and dimensions of existing and proposed buildings or structures on the site and all adjacent tracts, including existing buildings or structures to be removed. Total number of stories of all multi-story buildings and height of all buildings must be indicated.
- c) **Proposed dimensional standards.**
- d) **Proposed development standards.**
- e) **Proposed use standards.**
- f) **Preliminary signage plan.**

3. Traffic, Parking, Movement

- a) **Approximate** location, direction, dimensions, name, and surface type of existing or proposed rights-of-way and easements, including those being vacated and those on adjacent properties.
- b) Location of roads appearing on officially adopted plans.
- c) **Approximate** Location of roads, streets, and circulation patterns; including any proposed or required bicycle or pedestrian facilities.
- d) **Approximate** total square footage of existing and proposed impervious surfaces.

- e) Trip generation calculations in accordance with the most recent version of the ITE Trip Generation Manual.
 - i. If trip generation calculations are found to exceed Traffic Impact Study threshold, a Traffic Impact Study shall also be submitted following the process outlined in Section 3.13.
- ~~f) Location and dimensions of parking and loading spaces and drive aisles, including handicapped parking.~~
- ~~g) Location and dimensions of existing and proposed sidewalks and accessible accessways.~~
- ~~h) Location and dimensions of all trash containers and required screening.~~
- 4. Environmental Standards
 - a) FEMA-designated flood hazard areas, including flood zone designations and map panels.
 - b) Location and description of CAMA Areas of Environmental Concern, including 404 wetland areas as determined by the Army Corps of Engineers and coastal wetlands as determined by NCDEQ.
 - c) Location and description of environmental features such as wooded areas, marshes, swamps, rock outcrops, ponds or lakes, streams or streambeds, and any other natural features affecting the site.
 - d) **Approximate** location, size, and flow direction of existing and proposed drainage courses within or immediately adjacent to the site, including culverts and storm drains.
 - e) **Approximate** location and size of stormwater basins or other comparable stormwater management mechanisms.
- 5. Landscaping & Tree Preservation
 - a) Locations, dimensions, and size of required buffers, street yards, foundation planting, parking facility planting areas.
 - b) Location, species, and size of all regulated and specimen trees as defined by this ordinance.
 - c) Location and size of all groves of trees to be protected, including the approximate number and species of protected trees.
 - d) Location, species, dimensions, and spacing of all required landscaping materials clearly labeled and numbered and a legend.
 - e) Note on plan stating that prior to any clearing, grading, or construction activity tree protection fencing will be installed around protected plants, trees or groves of trees. No construction workers, tools, materials, or vehicles are permitted within the tree protection fencing.
- 6. Any other information considered pertinent by the applicant, UDO Administrator, Planning Board, or Board of Aldermen.

D. Minor Site Plan

- 1. General Project Information
 - a) Proposed or approved name of development, project, subdivision, and/or phase.
 - b) Developer/applicant name(s), including mailing address(es) and telephone number(s). (If Applicable).
 - c) Property owner name(s), including mailing address(es) and telephone number(s).
 - d) Name, registration number, and seal of a professional Land Surveyor, Engineer,

Landscape Architect, and/or Architect. (If Applicable).

- e) Date of plat/plan preparation and of surveys; North arrow and orientation; Map scale, denoted graphically and numerically.
- f) Tax parcel numbers, owners, zoning classifications, and book and page numbers of the site tract and adjacent tracts.
- g) Sufficient engineering data to determine readily, and to be reproducible on the ground, every straight or curved boundary line, street line, lot line, right-of-way line, easement line, and setback line, including dimensions, bearings or deflection angles, radii, central angles, and tangent distances for the center line of curved streets and curved property lines that are not the boundary of curved streets. All dimensions shall be measured to the nearest one-tenth of a foot and all angles to the nearest minute.
 - i. Only required when prepared by a licensed professional.

2. Land Use

- a) Location, dimensions, density, and description of proposed land use(s) on each tract or parcel, including single-family residential, multi-family residential, commercial, office, institutional, industrial, and recreational. Recreational uses shall specify type and future ownership.
- b) Location and dimensions of existing and proposed buildings or structures on the site and all adjacent tracts, including existing buildings or structures to be removed. Total number of stories of all multi-story buildings and height of all building must be indicated.
- c) Location and labeling of minimum building setback lines.
- d) Total number and type of dwelling units, by development phase.
- e) Signage.
- f) Outdoor Lighting Plan.

3. Traffic, Parking, Movement

- a) Location, direction, dimensions, name, and surface type of existing or proposed rights-of-way and easements, including those being vacated and those on adjacent properties.
- b) Location of roads appearing on officially adopted plans.
- c) Location of roads, streets, and circulation patterns; including any proposed or required bicycle or pedestrian facilities.
- d) Total square footage of existing and proposed impervious surfaces.
- e) Location and dimensions of parking and loading spaces and drive aisles, including handicapped parking.
- f) Location and dimensions of existing and proposed sidewalks and accessible accessways.
- g) Location and dimensions of all trash containers and required screening.
- h) Trip generation calculations in accordance with the most recent version of the ITE Trip Generation Manual.
 - i. If trip generation calculations are found to exceed Traffic Impact Study threshold, a Traffic Impact Study shall also be submitted following the process outlined in Section 3.13.

4. Environmental Standards

- a) FEMA-designated flood hazard areas, including flood zone designations and map panels.
- b) Location and description of CAMA Areas of Environmental Concern, including 404

wetland areas as determined by the Army Corps of Engineers and coastal wetlands as determined by NCDEQ.

- c) Location and description of environmental features such as wooded areas, marshes, swamps, rock outcrops, ponds or lakes, streams or streambeds, and any other natural features affecting the site.
 - d) Existing and proposed topography.
 - e) Location, size, and flow direction of existing and proposed drainage courses within or immediately adjacent to the site, including culverts and storm drains.
 - f) Location and size of stormwater basins or other comparable stormwater management mechanisms.
5. Landscaping & Tree Preservation
- a) Locations, dimensions, and size of required buffers, street yards, foundation planting, parking facility planting areas.
 - b) Location, species, and size of all regulated and specimen trees as defined by this ordinance.
 - c) Location and size of all groves of trees to be protected, including the approximate number and species of protected trees.
 - d) Location, species, dimensions, and spacing of all required landscaping materials clearly labeled and numbered and a legend.
 - e) Note on plan stating that prior to any clearing, grading, or construction activity tree protection fencing will be installed around protected plants, trees or groves of trees. No construction workers, tools, materials, or vehicles are permitted within the tree protection fencing.
6. Any other information considered pertinent by the applicant, UDO Administrator, Planning Board, or Board of Aldermen.

E. Major Site Plan & Special Use Permit

1. General Project Information
- a) Proposed or approved name of development, project, subdivision, and/or phase.
 - b) Developer/applicant name(s), including mailing address(es) and telephone number(s). (If Applicable).
 - c) Property owner name(s), including mailing address(es) and telephone number(s).
 - d) Name, registration number, and seal of a professional Land Surveyor, Engineer, Landscape Architect, and/or Architect. (If Applicable).
 - e) Date of plat/plan preparation and of surveys; North arrow and orientation; Map scale, denoted graphically and numerically.
 - f) Sketch vicinity map showing the relationship between the proposed property or properties and the surrounding area.
 - g) Tax parcel numbers, owners, zoning classifications, and book and page numbers of the site tract and adjacent tracts.
 - h) Boundaries of any proposed or pending zoning districts on site. Boundaries must be described by bearing and distance where they do not follow described boundaries.
 - i) Sufficient engineering data to determine readily, and to be reproducible on the ground, every straight or curved boundary line, street line, lot line, right-of-way line, easement line, and setback line, including dimensions, bearings or deflection angles, radii, central angles, and tangent distances for the center line of curved streets and curved property lines that are not the boundary of curved streets. All dimensions

shall be measured to the nearest one-tenth of a foot and all angles to the nearest minute.

2. Land Use

- a) Location, dimensions, density, and description of proposed land use(s) on each tract or parcel, including single-family residential, multi-family residential, commercial, office, institutional, industrial, and recreational. Recreational uses shall specify type and future ownership.
- b) Location and dimensions of existing and proposed buildings or structures on the site and all adjacent tracts, including existing buildings or structures to be removed. Total number of stories of all multi-story buildings and height of all building must be indicated.
- c) Location and labeling of minimum building setback lines.
- d) Total number and type of dwelling units, by development phase.
- e) Signage.
- f) Outdoor Lighting Plan.
- g) Location and dimensions of all trash containers and required screening.

3. Traffic, Parking, Movement

- a) Location, direction, dimensions, name, and surface type of existing or proposed rights-of-way and easements, including those being vacated and those on adjacent properties.
- b) Location of roads appearing on officially adopted plans.
- c) Location of roads, streets, and circulation patterns; including any proposed or required bicycle or pedestrian facilities.
- d) Total square footage of existing and proposed impervious surfaces.
- e) Names, cross sections, approximate grades, and pavement widths of proposed road rights-of-way, including design engineering data for all corners and curves.
- f) Location and dimensions of parking and loading spaces and drive aisles, including handicapped parking.
- g) Location and dimensions of existing and proposed sidewalks and accessible accessways.
- h) Trip generation calculations in accordance with the most recent version of the ITE Trip Generation Manual.
 - i. If trip generation calculations are found to exceed Traffic Impact Study threshold, a Traffic Impact Study shall also be submitted following the process outlined in Section 3.13.

4. Environmental Standards

- a) FEMA-designated flood hazard areas, including flood zone designations and map panels.
- b) Location and description of CAMA Areas of Environmental Concern, including 404 wetland areas as determined by the Army Corps of Engineers and coastal wetlands as determined by NCDEQ.
- c) Location and description of environmental features such as wooded areas, marshes, swamps, rock outcrops, ponds or lakes, streams or streambeds, and any other natural features affecting the site.
- d) Existing and proposed topography.
- e) Location, size, and flow direction of existing and proposed drainage courses within or immediately adjacent to the site, including culverts and storm drains.
- f) Location and size of stormwater basins or other comparable stormwater

management mechanisms.

- g) Detailed utility plans, including water, sewer, and stormwater, and showing connections to existing systems or plans for individual water supply systems and sewage disposal systems. Plans must show line sizes, the location of fire hydrants, blow-offs, manholes, pumps, force mains, gate valves, utility and maintenance easements, and daily estimated sewer flow figures. Type of construction materials and brand of appurtenances may require approval from the City of Southport, Brunswick County Utilities, and/or NCDOT. Plans shall include profiles based on mean sea level datum for gravity sanitary and storm sewers.

- i. NOTE: Detailed plans may be submitted after site plan or preliminary plat are approved and must be approved by the City's Public Services Department prior to construction of improvements or the issuance of building permits or approval of a final plat.

5. Landscaping & Tree Preservation

- a) Locations, dimensions, and size of required buffers, street yards, foundation planting, parking facility planting areas.
- b) Location, species, and size of all regulated and specimen trees as defined by this ordinance.
- c) Location and size of all groves of trees to be protected, including the approximate number and species of protected trees.
- d) Location, species, dimensions, and spacing of all required landscaping materials clearly labeled and numbered and a legend.
- e) Note on plan stating that prior to any clearing, grading, or construction activity tree protection fencing will be installed around protected plants, trees or groves of trees. No construction workers, tools, materials, or vehicles are permitted within the tree protection fencing.

6. Any other information considered pertinent by the applicant, UDO Administrator, Planning Board, or Board of Aldermen.

F. Preliminary Plat

1. General Project Information

- a) Proposed or approved name of development, project, subdivision, and/or phase.
- b) Developer/applicant name(s), including mailing address(es) and telephone number(s). (If Applicable).
- c) Property owner name(s), including mailing address(es) and telephone number(s).
- d) Name, registration number, and seal of a professional Land Surveyor, Engineer, Landscape Architect, and/or Architect. (If Applicable).
- e) Date of plat/plan preparation and of surveys; North arrow and orientation; Map scale, denoted graphically and numerically.
- f) Sketch vicinity map showing the relationship between the proposed property or properties and the surrounding area.
- g) Tax parcel numbers, owners, zoning classifications, and book and page numbers of the site tract and adjacent tracts.
- h) Lots numbered consecutively throughout the subdivision.
- i) Sufficient engineering data to determine readily, and to be reproducible on the ground, every straight or curved boundary line, street line, lot line, right-of-way line, easement line, and setback line, including dimensions, bearings or deflection angles,

radii, central angles, and tangent distances for the center line of curved streets and curved property lines that are not the boundary of curved streets. All dimensions shall be measured to the nearest one-tenth of a foot and all angles to the nearest minute.

j) Accurate locations and descriptions of all monuments, markers, and control points.

2. Traffic, Parking, Movement

a) Location, direction, dimensions, name, and surface type of existing or proposed rights-of-way and easements, including those being vacated and those on adjacent properties.

b) Location of roads appearing on officially adopted plans.

c) Location of roads, streets, and circulation patterns; including any proposed or required bicycle or pedestrian facilities.

d) Total square footage of existing and proposed impervious surfaces.

e) Names, cross sections, approximate grades, and pavement widths of proposed road rights-of-way, including design engineering data for all corners and curves.

f) Type of street dedication, either public or private.

g) Location and dimensions of existing and proposed sidewalks and accessible accessways.

h) Trip generation calculations in accordance with the most recent version of the ITE Trip Generation Manual.

i. If trip generation calculations are found to exceed Traffic Impact Study threshold, a Traffic Impact Study shall also be submitted following the process outlined in Section 3.13.

3. Other Land Use

a) Location and dimensions of all trash containers and required screening.

b) Location and labeling of minimum building setback lines.

c) Signage.

d) Outdoor Lighting Plan.

4. Environmental Standards

a) FEMA-designated flood hazard areas, including flood zone designations and map panels.

b) Location and description of CAMA Areas of Environmental Concern, including 404 wetland areas as determined by the Army Corps of Engineers and coastal wetlands as determined by NCDEQ.

c) Location and description of environmental features such as wooded areas, marshes, swamps, rock outcrops, ponds or lakes, streams or streambeds, and any other natural features affecting the site.

d) Existing and proposed topography.

e) Location, dimensions, and description of all areas to be dedicated to the public or to a property owners association.

f) Location, size, and flow direction of existing and proposed drainage courses within or immediately adjacent to the site, including culverts and storm drains.

g) Location and size of stormwater basins or other comparable stormwater management mechanisms.

h) Detailed utility plans, including water, sewer, and stormwater, and showing connections to existing systems or plans for individual water supply systems and sewage disposal systems. Plans must show line sizes, the location of fire hydrants, blow-offs, manholes, pumps, force mains, gate valves, utility and maintenance

easements, and daily estimated sewer flow figures. Type of construction materials and brand of appurtenances may require approval from the City of Southport, Brunswick County Utilities, and/or NCDOT. Plans shall include profiles based on mean sea level datum for gravity sanitary and storm sewers.

- i. NOTE: Detailed plans may be submitted after site plan or preliminary plat are approved and must be approved by the City's Public Services Department prior to construction of improvements or the issuance of building permits or approval of a final plat.

5. Landscaping & Tree Preservation

- a) Locations, dimensions, and size of required buffers, street yards, foundation planting, parking facility planting areas.
- b) Location, species, and size of all regulated and specimen trees as defined by this ordinance.
- c) Location and size of all groves of trees to be protected, including the approximate number and species of protected trees.
- d) Location, species, dimensions, and spacing of all required landscaping materials clearly labeled and numbered and a legend.
- e) Note on plan stating that prior to any clearing, grading, or construction activity tree protection fencing will be installed around protected plants, trees or groves of trees. No construction workers, tools, materials, or vehicles are permitted within the tree protection fencing.

6. Any other information considered pertinent by the applicant, UDO Administrator, Planning Board, or Board of Aldermen.

7. Required Certifications:

- a) Certificate of Survey and Accuracy
- b) Certification of Board of Aldermen Approval
- c) Certificate of Purpose of Plat

G. Final Plat

1. General Project Information

- a) Proposed or approved name of development, project, subdivision, and/or phase.
- b) Developer/applicant name(s), including mailing address(es) and telephone number(s). (If Applicable).
- c) Property owner name(s), including mailing address(es) and telephone number(s).
- d) Name, registration number, and seal of a professional Land Surveyor, Engineer, Landscape Architect, and/or Architect. (If Applicable).
- e) Date of plat/plan preparation and of surveys; North arrow and orientation; Map scale, denoted graphically and numerically.
- f) Tax parcel numbers, owners, zoning classifications, and book and page numbers of the site tract and adjacent tracts.
- g) Exact existing and proposed or pending property boundary lines by bearings and distances and the location of intersecting boundary lines of adjacent lands.
- h) Lots numbered consecutively throughout the subdivision.
- i) Sufficient engineering data to determine readily, and to be reproducible on the ground, every straight or curved boundary line, street line, lot line, right-of-way line, easement line, and setback line, including dimensions, bearings or deflection angles, radii, central angles, and tangent distances for the center line of curved streets and

curved property lines that are not the boundary of curved streets. All dimensions shall be measured to the nearest one-tenth of a foot and all angles to the nearest minute.

- j) Accurate locations and descriptions of all monuments, markers, and control points.
 - k) Location and labeling of minimum building setback lines.
2. Traffic, Parking, Movement
- a) Location, direction, dimensions, name, and surface type of existing or proposed rights-of-way and easements, including those being vacated and those on adjacent properties.
 - b) Location of roads appearing on officially adopted plans.
 - c) Type of street dedication, either public or private.
3. Environmental Standards
- a) FEMA-designated flood hazard areas, including flood zone designations and map panels.
 - b) Location and description of CAMA Areas of Environmental Concern, including 404 wetland areas as determined by the Army Corps of Engineers and coastal wetlands as determined by NCDEQ.
 - c) Location and description of environmental features such as wooded areas, marshes, swamps, rock outcrops, ponds or lakes, streams or streambeds, and any other natural features affecting the site.
 - d) Location, dimensions, and description of all areas to be dedicated to the public or to a property owners association.
4. Any other information considered pertinent by the applicant, UDO Administrator, Planning Board, or Board of Aldermen.
5. Required Certifications:
- a) Certificate of Ownership and Dedication
 - b) Certificate of Survey and Accuracy
 - c) Certification of Board of Aldermen Approval
 - d) Certificate of Approval of the Design and Installation of Streets, Utilities, and Other Required Improvements
 - e) Certification of Septic and Water Supplies
 - f) Certificate of Disclosure; 404 Wetlands
 - g) Certificate of Disclosure; City of Southport Floodplain Management Regulations
 - h) Acknowledgment of Compliance (Private Developments)
 - i) Certificate of Purpose of Plat
 - j) Certificate of Approval for Recording

STAFF REPORT

ZONING TEXT AMENDMENT APPLICATION

SECTION 3.19 SIGNS

APPLICATION SUMMARY	
Presentation Date	April 20, 2023 Planning and Zoning Board
Applicant	Haven 307, LLC
Relevant Ordinance Sections	Section 3.19 Signs

ZONING TEXT AMENDMENT PROPOSAL
Haven 307, LLC, applicant, respectfully submits a Zoning Text Amendment to the City of Southport Unified Development Ordinance. Specifically, the request is to amend Section 3.19.H 'ILLUMINATION' to modify the allowable types of illuminated signs. 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
The amendment to this section would allow backlit and halo signs. Currently, Section 3.19.H.1.c) states that illuminated signs are limited to those lit internally with glass or plastic faces bearing the advertisement and diffuse direct rays of the light source to prevent any direct line of sight with the light source.

The applicant, Haven 307, LLC has requested this amendment to receive a sign permit for a backlit sign that is not currently allowed. The initial review of the sign application garnered approval for size, location, color temperature and all other requirements. Upon further Staff review of the UDO, it was found that the backlit illumination proposed for the sign was not allowed. Staff approved installation of the sign without illumination. Below is the sign illuminated for staff to document for this amendment request.



Backlit and halo signs can be described as text and shapes cut into overlaid surface that shines light from the reverse of the overlay. The illumination creates a glow around the overlaid surfaces. Some other examples are shown below.





Specifically, the applicant has requested the following considerations to this Zoning Text Amendment to provide for modifications to the City’s adopted sign regulations. The request includes two (2) options:

1. Adding an OR where currently there is an AND in Section 3.19.H.1.c)
2. Add an additional section to the ordinance that specifically allows backlit and halo lighting that meets all requirements of the UDO.

Draft language for each option are included as an attachment to this staff report.

EVALUATION AND CONTEXT

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. 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 sign regulations or other commercial design aspects are not present within the document. The plan references updating the UDO and other documents to meet the needs of the residents of the city. Further, the following Goal and Policy supports consistency with the proposed text amendment and the land use plan.

Goal 7: Southport will integrate local concerns with the overall goals of CAMA in the context of land use planning and in accordance with Southport's Vision and Core Values, Southport will endeavor to preserve the city's historic character, protect the city's shoreline vista, continue to support a vibrant Central Business District, preserve the city's residential areas and protect the city's Areas of Environmental Concern (AEC's).

Policy 7.9: The City will encourage development that supports its Vision and Core Values, will protect its resources, preserve its atmosphere, and simultaneously promote industrial and retail growth.

STAFF'S RECOMMENDATION

City Planning Staff submit the proposed Zoning Text Amendment to the Planning Board for their consideration and discussion. The proposal appears to be consistent with the 2014 CAMA Core Land Use Plan, specifically regarding preservation of the character and atmosphere of the city while promoting retail growth, as well as remaining consistent with the Unified Development Ordinance.

Attachments

Proposed Text Amendment Language
Text Amendment Application

Option 1: change the existing language from an ‘and’ statement to an ‘or’ statement

H. ILLUMINATION

1. Where illuminated signs are permitted, they shall conform to the following requirements:
 - a) All signs illuminated under the provisions of this section shall be constructed to meet the requirements of the National Electrical Code.
 - b) Signs which contain, include, or are lighted by any flashing, intermittent, or moving lights are prohibited, except Electronic Message Center signs.
 - c) Illuminated signs shall be limited to those lighted internally with glass or plastic faces bearing the advertisements ~~and~~ or diffusing the direct rays of the light source to prevent any direct line of sight with said light source.
 - d) Neon, argon, or other gas tube lighting or signage shall be prohibited on the external walls of all structures. Neon, argon, or other gas tube logo signs placed inside the building and not exceeding 25% of the window area or 32 square feet whichever is less shall be permitted.
 - e) Flood and display lighting shall be shielded so as to prevent direct rays of light from being cast into a residential area or district and/or on a public right-of-way from any direction. Such lighting shall also be shielded so as to prevent view of the light source from a residence or residential district and/or vehicles approaching on a public right-of-way from any direction. In addition, no sign shall permit light to emit upwards towards the sky.
 - f) Flame as a source of lighting is prohibited.
 - g) The light source color temperature for outdoor lighting shall not exceed 3,000 degrees Kelvin.

Option 2: add a new section specifically allowing backlit and halo lighting

H. ILLUMINATION

1. Where illuminated signs are permitted, they shall conform to the following requirements:
 - a) All signs illuminated under the provisions of this section shall be constructed to meet the requirements of the National Electrical Code.
 - b) Signs which contain, include, or are lighted by any flashing, intermittent, or moving lights are prohibited, except Electronic Message Center signs.
 - c) Illuminated signs shall be limited to those lighted internally with glass or plastic faces bearing the advertisements and diffusing the direct rays of the light source to prevent any direct line of sight with said light source.
 - d) Backlit and halo lighting that otherwise meet the provisions of Section 3.19 of this ordinance are allowed.
 - ~~d)~~ e) Neon, argon, or other gas tube lighting or signage shall be prohibited on the external walls of all structures. Neon, argon, or other gas tube logo signs placed inside the building and not exceeding 25% of the window area or 32 square feet whichever is less shall be permitted.
 - ~~e)~~ f) Flood and display lighting shall be shielded so as to prevent direct rays of light from being cast into a residential area or district and/or on a public right-of-way from any direction. Such lighting shall also be shielded so as to prevent view of the light source from a residence or residential district and/or vehicles approaching on a public right-of-way from any direction. In addition, no sign shall permit light to emit upwards towards the sky.
 - ~~f)~~ g) Flame as a source of lighting is prohibited.
 - ~~g)~~ h) The light source color temperature for outdoor lighting shall not exceed 3,000 degrees Kelvin.

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. RJA

FEE: \$ 100

Date Received: 3/3/23

Applicant's Name: Haven 307 LLC (Bev Hammond/David Truglio)

Mailing Address: P O Box 10852 City: Southport

State: NC Zip Code: 28461 Phone: 860.202.9301 860.729.8276

Email: hammondkids@yahoo.com

Property Owner's Name: Haven 307 LLC

Address of Owner: 506 W Owens St City: Southport

State: NC Zip Code: 28461 Phone: 860.202.9301 860.729.8276

Email: hammondkids@yahoo.com

Current Section Impacted by Proposed Text Amendment: Section 3.19.H.1.c

On the next page, please describe the conditions that makes the proposed text amendment necessary to the * promotion of the public health, safety and general welfare, or that identifies an obvious error in the UDO. Also include an explanation on why the proposed text amendment is or is not consistent with the Land Use Plan and other adopted plans (Attach separate sheet if necessary).

Section 3.19.H.1.c language reads: "Illuminated signs shall be limited to those lighted internally with glass or plastic faces bearing the advertisements and diffusing the direct rays of the light source to prevent any direct line of sight with said light source".

It is unfortunate the folks writing the ordinance got very restrictive and did not opt for the foresight to plan for a variety of sign options that would still remain within their definition of acceptable, and chose (as Mo pointed out) to use the word "and" instead of "or". That is not a criticism as we're sure the best interests of the City were in mind while creating all ordinances, but the UDO is a living document that needs to stay relevant by having tweaks made to existing ordinances as the need arises.

We are questing the language either we changed to make this an "or" statement, or a sentence be tacked on to indicate every sign permit request will be evaluated on its own merits and location, size, lumens/Kelvin will all be taken into account. Do you really want a city full of signs that all look the same? That goes against the character of Southport. That said, there definitely needs to be thoughtfully crafted structure to sign ordinance language.

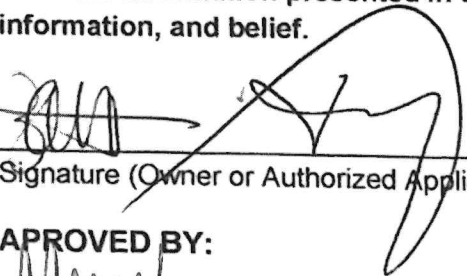
We have designed (and were permitted) an aesthetically pleasing and appropriately lit sign. While technically it is a halo lit sign by definition, it is NOT glaring or giving off tons of bright light. The LED lights to be used fall within the acceptable limits and they are illuminating the back of the sign to give it a subtle glow. It could be easily argued that back lit signs are more of a nuisance and give off a far less pleasing light.

Please advise what other information you might need to make this change to the ordinance and thus allow us and others the potential for innovative, unique, yet still completely in line with the vibe of Southport, signs.

Thank you.

David Truglio and Bev Hammond

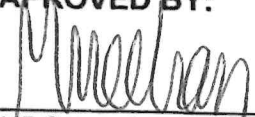
In filing this Rezoning Petition, I hereby certify that I am authorized to submit this application and that all of the information presented in this application is accurate to the best of my knowledge, information, and belief.



Signature (Owner or Authorized Applicant)

3/2/23
Date

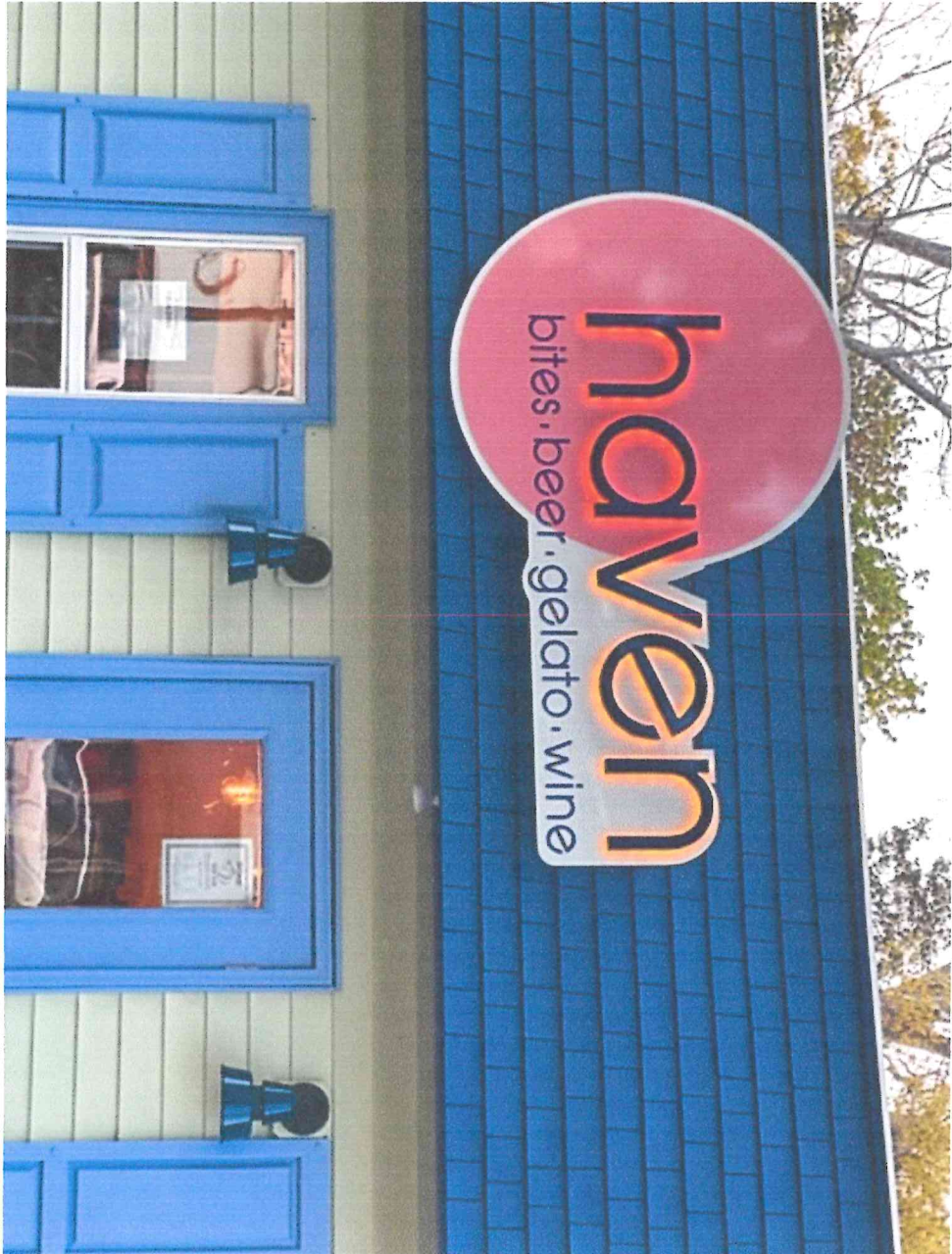
APPROVED BY:



UDO Administrator

3/3/23

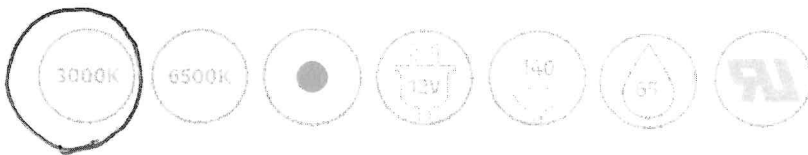
Date





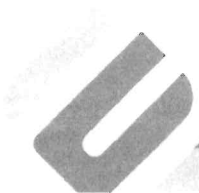
Panoramic 1D Series

Everylite Datasheet Ver 3.0.1
Revision Date 07/2022



Features

- Panoramic Series 1-diode LED module, this miniature version can be used for all your small signage applications
- You can combine it with our new generation Panoramic Series 2D and 3D modules to reach any possible corner or angle while maintaining perfect color consistency
- Preinstalled double sided tape for a quick layout
- Incredible 140 degree beam angle means better coverage and no hot spots
- 2835 surface mount LED with a high luminous efficacy
- Perfect color consistency with in-house color binning
- 50,000 hours rated lifetime
- UL, CE and RoHS



Panoramic 1D Parameters

Item #	Color	Peak Wave Length	module/ft	Lm/module	Lm/ft	Lm/W	W/module	W/ft	Input Voltage	Viewing Angle	Waterproof
PA-1D-W3CL	Warm White	3000K	4	28	112	86	0.36	1.44	12	140°	IP65
PA-1D-W6CL	Pure White	6500K	4	25	100	85	0.36	1.44	12	140°	IP65
PA-1D-RXCL	Red	620-625nm	4	12	48	33	0.36	1.44	12	140°	IP65

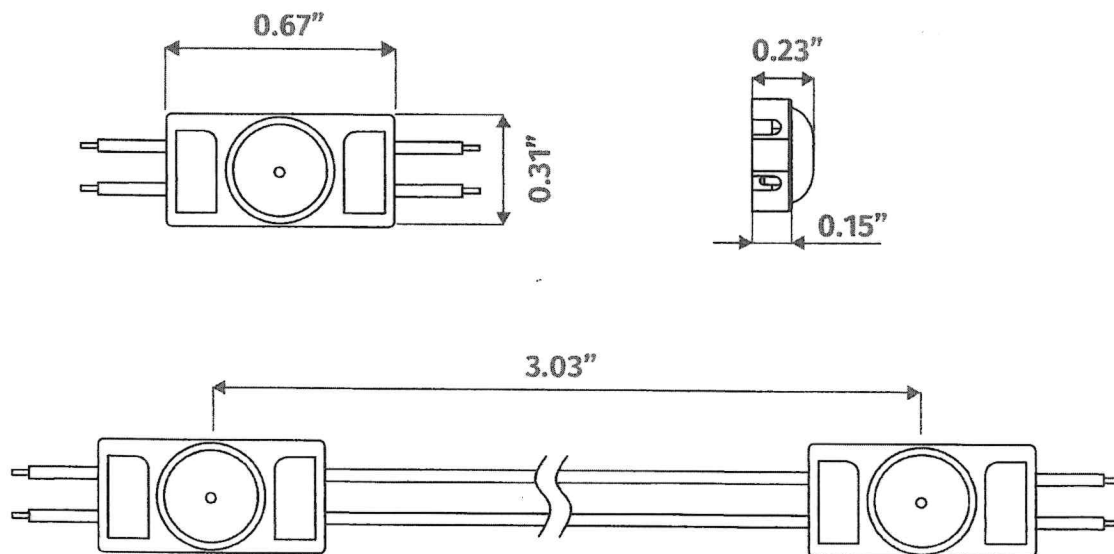
Power Supply Maximum Loading Capacity*

0.36 Watt LED

Power Supply	20W	60W	100W	150W	240W
By Module	50 mods	150 mods	250 mods	375 mods	600 mods
By Footage	12.5 ft	37.5 ft	62.5 ft	93.75 ft	150 ft

*Due to voltage drop, a maximum of 25 modules can be run before power needs to be reintroduced into the line of modules.

Drawing





Maureen Meehan

From: Hammond Kids <hammondkids@yahoo.com>
Sent: Wednesday, March 15, 2023 2:09 PM
To: Maureen Meehan
Cc: Travis Henley; David Truglio
Subject: Re: 307 N Howe St- sign permit

Hi Mo,

Thanks for your reply.

The misunderstanding of "halo" and "backlit" seems to be what created the unfortunately worded ordinance, so it's good that the City is revisiting and revising those definitions. Thanks for initiating that.

"Halo" is defined as "individually mounted opaque raised letters or symbols incorporating a back- lit, recessed light source behind mounted elements so that light source is not directly visible." There is little correlation between light output and halo lighting- it can range from very subtle to very bright, it is simply a modality and the City folks who wrote the ordinance a while back seem to have the notion that anything backlit is unpleasantly bright and obnoxious.

A quick google search will provide a plethora of information confirming that backlit/halo signs provide a "more refined look" (quantumsigncorp.com) and are often chosen "because they have a more distinguished look and can be lit with a lot more control than any lightbox design" (davessigns.com) For those reasons alone, the City is right to take a step back and reconsider both the goal and wording of the ordinance. We're aligned with you in hoping for an ordinance that limits bright, gaudy signs- we went the opposite direction in designing and we are being held up on a technicality that is hopefully worked out soon. In reality, backlit signs are often more diffused and subtle than front lit signs. We see signs downtown that we personally find unpleasantly bright and out of character with the charm of Southport- that is not what we designed or would want at Haven. The whole vibe of Haven is intended to be a warm and relaxed place to sit for a spell and enjoy a beverage or some bocce.

You requested some examples and I've attached those below. If the proper lighting is used, the sign is not bright or obnoxious- it's a very diffused and gentle warm glow.

Hope this is helpful. Please let me know what the next steps are, we are happy to share this information with the Alderman if you'd like. Their motivation to place controls on commercial signage and exterior lights is commendable (and needed) but it should not be so restrictive that creativity is forsaken.

Thanks for your help in this matter, we do appreciate your responsiveness and assistance.

Bev Hammond and David Truglio



2023 PLANNING AND ZONING BOARD MEMBER ROSTER

				APPOINTMENT	EXPIRATION	
1	Sue Hodgin, Chair beachsue@gmail.com	608 Cottage Point Way	(910) 477-1808	Feb. 10, 2022	3 Yr. February 2025	IN
2	Will Hewett, Vice-Chair willhewett.68@gmail.com	129 Cape Fear Drive	(910) 520-3291	August 11, 2022	3 Yr. July 2025	IN
3	Fred Fiss ffiss@bellsouth.net	216 N. Atlantic Ave.	(910) 269-6901	Feb. 10, 2022	3 Yr. August 2023 (completing the term)	IN
4	Christopher W. Jones cjonessy03@gmail.com	1008 Dutchman Cove SE	(910) 549-1407	March 12, 2020	3 Yr. March 2023	ETJ ALT
5	Scott Jones southportjones@gmail.com	1001 Pete's Camp Road	457-9770 (910) 471-0802 C	August 14, 2020	3 Yr. August 2023	ETJ
6	Donnie Joyner donnie.joyner@gmail.com	635 Jabbertown Road	(910) 368-7501	August 14, 2020	3 Yr. August 2023	ETJ
7	Richard Sloan saltydogrhs14@gmail.com	509 E. Moore Street	(910) 946-1771	Feb. 10, 2022	3 Yr. February 2025	IN
8	Vacant				3 Yr. October 2023	IN
	Vacant					IN ALT
9	Travis Henley thenley@cityofsouthport.com	1029 N. Howe Street	(910) 269-7212	Staff Director of Development Services		
10	Mo Meehan mmeehan@cityofsouthport.com	1029 N. Howe Street	(910) 457-7900 X 1043	Staff Planner		
11	Tanya Shannon tshannon@cityofsouthport.com	1029 N. Howe Street	(910) 457-7929	Staff Deputy Clerk		
12	Dorothy Dutton ddutton@cityofsouthport.com	1029 N. Howe Street	(910) 457-7900 X 1010	Staff City Clerk		

**Meetings are held on the third Thursday of every month at 6:00 pm at the Community Building.
223 E. Bay Street Southport, N.C. 28461**

2023 PLANNING BOARD ATTENDANCE

MEETING <u>DATE</u>	Jan.	Feb.	Mar. 8 Special	Mar.	Apr.	May	June	July	Aug	Sept	Oct	Nov	Dec	
<u>NAME</u>														Total Absences
Sue Hodgins Chair	P	P	P	P										
Will Hewett Vice-Chair	P	P	P	P										
Fred Fiss	P	P	P	P										
Christopher Jones	P	P	P	P										
Scott Jones	P	P	P	P										
Donnie Joyner	P	P	A	P										1
Dick Sloan	P	P	P	P										
Gustavo E. Mibelli	P	R	R	R										

P = Present
A = Absent
R= Resigned

M:\PLBFILES\2023 ATTENDANCE PB.wpd