REQUEST FOR A REZONING AND/OR ANNEXATION APPROVAL

APPLICATION

CITY OF CLEVELAND, GEORGIA
85 SOUTH MAIN STREET
CLEVELAND, GA 30528
PHONE 706-865-2017
FAX 706-219-3220

ATTACHED, PLEASE FIND THE FOLLOWING INFORMATION:

- Materials necessary for a rezoning and/or annexation request
- Application for rezoning and/or annexation request
- Authorization by property owner
- Property owner's disclosure of campaign contributions
- Agent's disclosure of campaign contributions
- Property and Financial Disclosure
- Site plan requirements
- Application deadline dates

THE FOLLOWING IS A **GENERAL** DESCRIPTION OF THE PROCEDURES USED FOR THE PROCESSING OF AN APPLICATION FOR A REZONING AND ANNEXATION REQUEST.

BOARD OF PLANNING AND ZONING

After receipt and acceptance of the application/petition by the City of Cleveland, a notice of the rezoning and/or annexation request with the local news media and posting a rezoning and/or annexation request sign on the property. The Planning and Zoning Board will hold a public meeting on the 4th Thursday of each month at 6:30 p.m. at the Cleveland Community Center/Cleveland Police Dept. 342 Campbell Street for review and recommendation of all rezoning and/or annexation petitions. The petitioner, or a representative of the petitioner, **must** attend the meeting to answer questions that may arise from board members. After hearing interested citizens and after reviewing the request, the Planning and Zoning Board votes to recommend APPROVAL, APPROVAL WITH CONDITIONS, DENIAL, or POSTPONING/TABLING of the request. This recommendation is forwarded to the Mayor and Council.

MAYOR AND COUNCIL MEETING

The Mayor and Council will hear the recommendation from the Planning and Zoning Board at a public meeting on the 2nd Monday of each month at 6:30 p.m. at the Cleveland Community Center/Cleveland Police Dept. 342 Campbell Street. The petitioner **must** attend the meeting to answer questions that may arise from the Mayor and Council. The Mayor and Council will vote on the request. Should the Mayor and Council deny the requested rezoning and/or annexation application, then the same property may not again be considered for rezoning and/or annexation until the expiration of at least six (6) months following the denial of the proposed rezoning and/or annexation.

Annexations also require the request of review and approval from the White County Board of Commissioners. City staff will coordinate with the applicant on the meeting dates.

If you have any questions regarding the application process or procedures, please call Cleveland City Hall at 706-865-2017.

MATERIALS NECESSARY FOR A REQUEST
FOR REZONING AND/OR ANNEXATION APPLICATION

CITY OF CLEVELAND, GEORGIA

A. One (1) copy of this application, completed in full.
B. A written request to the Mayor and Council, signed by the owner and dated, explaining the nature of the rezoning and/or annexation request.
C. Property Owner's Disclosure of Campaign Contributions.
D. Agent's Disclosure of Campaign Contributions.
E. Authorization by Property Owner.
F. Property and Financial Disclosure.
G. Survey, current deeds and legal description of property.
H. Two copies of the site plan - site plan requirements listed below
I. Full payment of the $425.00 (NON-REFUNDABLE) re-zoning application fee.
J. Full payment of the $800.00 (NON-REFUNDABLE) annexation application fee

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SITE PLAN REQUIREMENTS

Site Plans shall contain the following information:

1. Property owner and address

2. Street address of subject property

3. Total property acreage

4. Tax Map and Parcel Number

5. Date prepared, Map Scale and North Arrow

6. Location of all property lines on neighboring properties and streets and alleys located 50 feet from subject property.

7. Boundaries of all current zoning districts on the subject properties and all neighboring properties shown on the map. Each zoning district must be labeled.

8. Special markings (shading, cross hatching, or heavy outline) to identify the areas intended to be rezoned.

9. The general location of all existing structures, buildings, utilities, drainage on the subject property.

10. General location of proposed uses, proposed access, streets and utilities.

NOTE: A DEED AND A CERTIFIED SURVEY MUST BE SUBMITTED WITH THE APPLICATION.

APPLICATION FOR REZONING AND/OR ANNEXATION

CITY OF CLEVELAND, GEORGIA

Application Number: _____ Application Date: 1/13/2025

APPLICANT: DLBP LLC on behalf of Grace of Georgia Developments LLC

ADDRESS: 2727 Paces Ferry Rd SE

CITY, STATE, ZIP: Atlanta, Georgia 30339

TELEPHONE: 302-573-0268

EMAIL: devynnglanz@dlbp.us

PROPERTY ADDRESS: 475 Underwood Farm Road

CITY, STATE, ZIP: Cleveland, Georgia 30528

TAX MAP AND PARCEL NUMBER: 048C 135

NEAREST ROAD INTERSECTION: Donald E Thurmond Parkway and Highway 129

CURRENT ZONING: A-1 PROPOSED REZONING: PM-U

CURRENT USE: Single Family Residential

PROPOSED USE: Medical offices, a hotel, and assisted living

If rezoned, when will proposed use start? 2025

SIZE OF PROPERTY: 27.19 [X] ACRES or [ ] SQUARE FEET

IS SUBJECT PROPERTY VACANT: ( ) YES (X) NO

DO YOU REQUEST ANNEXATION OF THE SUBJECT PROPERTY: [X] YES [ ] NO

PROPERTY OWNER: Ray Black

ADDRESS: 184 W Kytle Street

CITY, STATE, ZIP: Cleveland, Georgia 30528

TELEPHONE: 706-865-4334

EMAIL:

clevelandrx@hotmail.com

****If the person submitting the request is not the property owner but is acting as the agent for the zoning request, please fill out the following information and submit the attached authorization by the property owner.

AUTHORIZATION OF PROPERTY OWNER

I swear/affirm that I am the owner of property located at (property address):

475 Underwood Farm Road, Cleveland, Georgia 30528

which is the subject matter of the attached application, as is shown in the records of White County, Georgia.

I authorize the person named below to act as applicant or agent in the pursuit of the rezoning and/or annexation of this property.

Edsel Ray Black — Property Owner Signature — Date: 11-21-24

Beth Kastner — Notary — Date: 11-21-24

BETH KASTNER NOTARY EXPIRES GEORGIA 11-23-2024 PUBLIC WHITE COUNTY

AUTHORIZED AGENT: Ray Black

ADDRESS: 184 W Kytle Street

CITY, STATE, ZIP: Cleveland, Georgia 30528

TELEPHONE: 706-865-4334

EMAIL: devynnglanz@dlbp.us

I hereby attest that the information I have provided in this application is true and accurate, to the best of my knowledge. I also agree to cooperate with the City of Cleveland in responding promptly to any reasonable request for additional information that may arise during the review process.

Edsel Ray Black — Signature of Owner or Authorized Agent — Date: 11-21-24

Beth Kastner — Notary — Date: 11-21-24

BETH KASTNER NOTARY EXPIRES GEORGIA 11-23-2024 PUBLIC WHITE COUNTY

AD VALOREM TAX INFORMATION
CITY OF CLEVELAND

Taxpayer name: Ray Black

Map #: 048C Parcel #: 048C 135

All property taxes on the above referenced map and parcel were paid on: November 14, 2024

~~Tax~~ ~~Clerk~~ White County Tax Commissioner Signature: Cindy Carro Date: 11-20-2024

>* 2024 Property Taxes were paid on November 14, 2024

2024 bill # > 2024-1659 Amount Paid $4334.31

APPLICATION AGREEMENT

Application is hereby made according to the Laws and Resolutions of the City of Cleveland, Georgia to construct and/or on the application and attachments. If a rezoning and/or annexation/variance is issued, I agree to conform to all laws and resolutions regulating the same.

By signature below, I certify that the application and the attached data are true and correct.

Applicant signature: Ray Black **Date:** 11-21-24

CITY OF CLEVELAND
APPLICATION FOR ZONING ACTION
CAMPAIGN CONTRIBUTIONS
DISCLOSURE FORM

475

This form is required for all zoning actions.

Code of Georgia
36-67A-3. Disclosure of campaign contributions

A) When any application for zoning action has been made, with two years immediately preceding the filing of the applicant's application for the zoning action, campaign contributions aggregating $250.00 or more to a local government official who will consider the application, it shall be the duty of the applicant to file a disclosure report with the governing authority of the respective local government showing:

(1). The name of the official position of the local government official to whom the campaign contribution was made; and

(2) The dollar amount and description of each campaign contribution made by the applicant to the local government official during the two years immediately preceding the filing of the application for the rezoning and/or annexation action and the date of each contribution.

The disclosure required by subsection (A) of this code section shall be filed within ten (10) days after the application fir the zoning action is first filed. (Code 1981, Section 36-67A-3, enacted by GA. L. 1986, page 1269, Section 1; GA .L. 1991, page 1365, Section 1.)

APPLICANTS CERTIFICATION

I hereby certify that I have read the above and declare that

[ ] I have* [X] I have not

within the two (2) years immediately preceding this date, made any campaign contribution(s) aggregating $250.00 or more to any local government official involved in the review or consideration of this application.

Edsel R Blake
Applicant signature

11-21-24
Date

*Note: *If you have made any such contribution(s), you must provide the information required in subsection (A) above within ten (10) days of the filing date of this application*

CITY OF CLEVELAND
APPLICATION FOR ZONING ACTION
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Applicant signature

11-21-24
Date

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APPLICATION FOR ZONING ACTION
CAMPAIGN CONTRIBUTIONS
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within the two (2) years immediately preceding this date, made any campaign contribution(s) aggregating $250.00 or more to any local government official involved in the review or consideration of this application.

Applicant signature

On behalf of Grace of Georgia Developments LLC

January 7, 2025
Date

*Note: *If you have made any such contribution(s), you must provide the information required in subsection (A) above within ten (10) days of the filing date of this application.*

City of Cleveland City Hall
85 South Main Street
Cleveland, GA 30528, USA

DLBP LLC
2727 Paces Ferry Road SE,
Suite 1625,
Atlanta, GA 30339, USA

E: dominiclawson@dlbp.us
www.dlbp.us

January 13, 2025

Dear Mayor Turner and City Council Members,

UNDERWOOD COMMUNITY – 475 UNDERWOOD FARM ROAD, CLEVELAND, GEORGIA 30528

The purpose of this letter is to request the annexation and zoning of the 27.19-acre site, 475 Underwood Farm Road, Cleveland, Georgia 30528 ("the site") into the City of Cleveland from White County with the zoning category PM-U: Multiple Use Districts to serve as medical offices, a hotel, and an assisted living space from A-1: Agriculture Forestry District.

Key Characteristics

1. The site would contain a 32,500 square feet medical building with an estimated six medical offices, 22,500 square feet 24-bedroom hotel, and a 65,000 square feet with an estimated sixty-bedroom assisted living to total 120,000 square feet of floor space.

2. The medical building and assisted living will be located on a ridge to the south of the site, with the hotel separated by a ravine located to the north of the site.

3. The development will have open space, walking trails, and lounging areas.

4. The medical building will have 110 parking spaces, the assisted living will have 70 parking spaces, and the hotel will have 50 parking spaces.

5. The hotel will be centered on the highest grounds, which will allow views of the beautiful north Georgia mountains.

6. The main road access is via Donald E Thurmond Parkway with a deeded 0.93-acre (0.98-acres within the City row) corridor from the City of Cleveland. A secondary access point is via Underwood Farm Road.

Engagement Strategy

7. It is our view that an essential part of the application process is ensuring community engagement and involvement, and thus we have taken a variety of measures to receive community input and considerations.

8. We have offered engagement and educational materials, which include: letters to residents and businesses within 1,000 square feet of the site, a website page,

www.gracedevelopments.us, and infographics for the community to review. Both the website and letters offer opportunities to email, call, or set up individual in-person or virtual meetings to discuss the proposal further and to address questions and / or comments from the public.

9. We received 3 emails and 2 calls from residents where we answered questions and addressed any questions or comments.

10. Additionally, we have worked closely with the White County Chamber of Commerce to engage with relevant stakeholders and anticipate attending Vision 2030 events in collaboration with the White County Chamber of Commerce to listen to and understand the values and viewpoints of the community members in White County and the City of Cleveland.

11. The following documents are enclosed as part of the submitted Cleveland annexation and zoning application:

    - Letter to Mayor and City Council (current document);
    - Request for a rezoning and / or annexation approval application (Application for rezoning and / or annexation, authorization of property owner, ad valorem tax information City of Cleveland, Application agreement, and City of Cleveland application for zoning action campaign contributions disclosure form);
    - Planning statement / Statement of intent;
    - site plan;
    - entranceway design; and
    - Traffic Impact Study.

Yours sincerely,

Devynn Glanz, DLBP Senior Planner, MUEP

Devynn Glanz

Signature

January 08, 2025

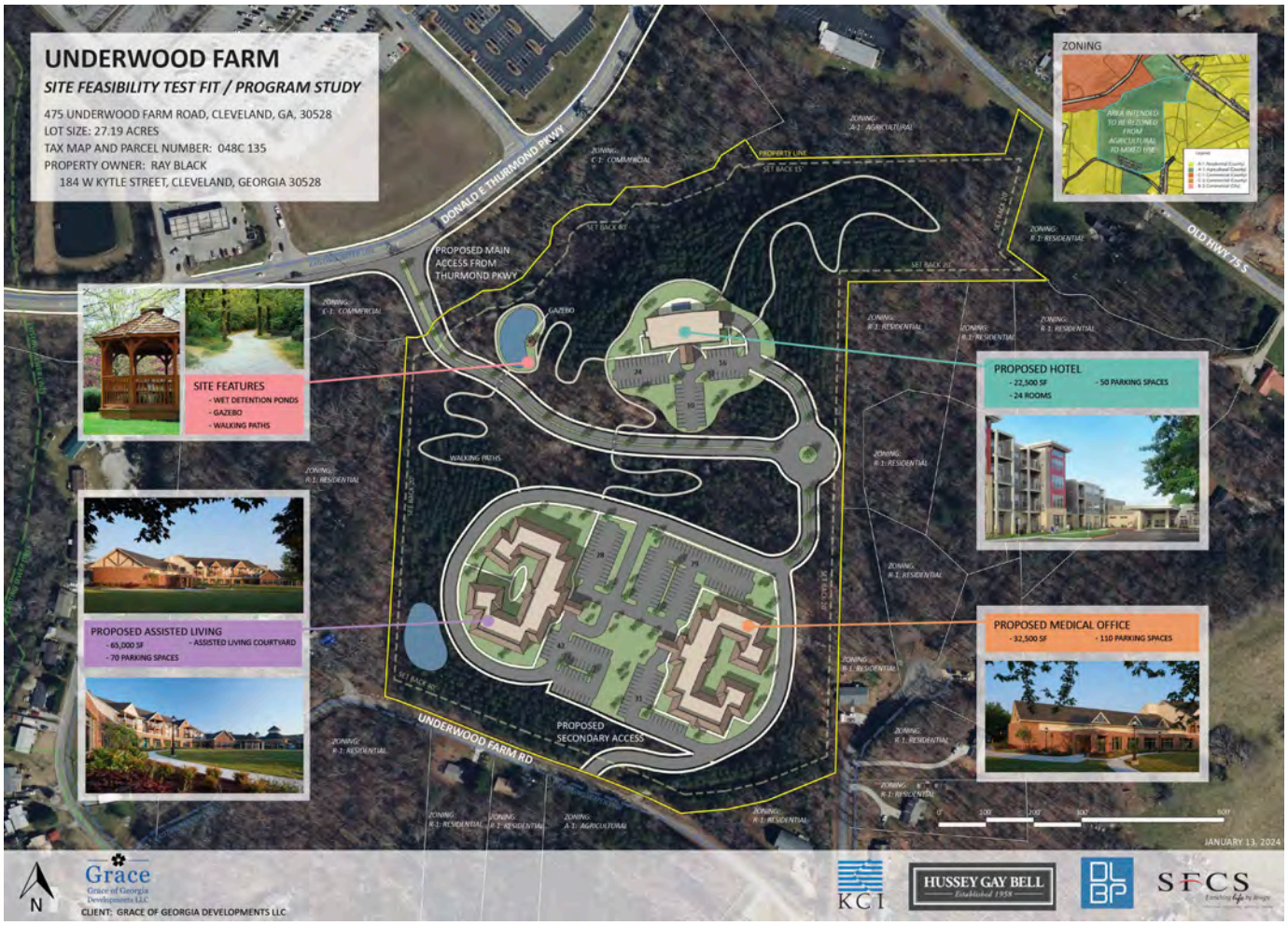
Date

DLBP LLC on behalf of Ray Black and Grace of Georgia Developments LLC

DLBP LLC is a Delaware limited liability company Registered for business in the State of Georgia.

DLBP LLC
2727 Paces Ferry Road SE, Suite 1625, Atlanta, GA 30339, USA
E: dominiclawson@dlbp.us www.dlbp.us

Planning Statement



Project:	475 Underwood Farm Road, Cleveland, GA 30528
Subject:	Planning Statement
Date:	January 13, 2025
Client:	Grace of Georgia Developments LLC

A. SUMMARY AND CONCLUSIONS

1. This Planning Statement has been prepared by DLBP LLC on behalf of Grace of Georgia Developments LLC ("the applicant"). It accompanies the annexation and zoning application to the City of Cleveland (“the City”) in respect of the annexation of 475 Underwood Farm Road, Cleveland, GA 30528 ("the site") by the City and the assignment of a new zoning category for a multiple-use development offering medical offices, a hotel, and an assisted living facility” ("the proposal").

2. The site is located within White County, bordering the City of Cleveland, and as part of this application will be annexed into the City of Cleveland to utilize the City of Cleveland’s sewer and water utilities.

3. The proposed development comprises three buildings: (1) a 32,500 square foot one-story medical building for approximately six medical offices, (2) a 65,000 square foot two-story assisted living facility for approximately sixty bedrooms, and (3) a 22,500 square foot four-story hotel with 24 rooms.

4. The medical offices will have 110 parking spaces, the assisted living facility will have 70 parking spaces, and the hotel will have 50 parking spaces.

5. Please note that the above and below descriptions, designs, and images constitute one way in which this proposal can be delivered.

The Proposal

Medical

6. Medical offices are facilities where healthcare professionals provide outpatient services, which are typically designed for doctors, specialists, and other medical practitioners to conduct consultations, perform routine check-ups, diagnose and treat non-emergency medical issues, and offer preventive care (ie: vaccinations and / or screenings). This will include examination rooms, waiting areas, and administrative offices.

7. The City of Cleveland currently has limited access to medical services, with the closest facilities being Guilford Immediate Care (1.4 miles away), the Rehabilitation Center of Northeast Georgia (3.6 miles away), and Medlink White (3 miles away). The nearest urgent care, Northeast Georgia Physicians Group Urgent Care, is 5.5 miles from the site, while the closest major hospital, Northeast Georgia Medical Center Habersham, is approximately 17 miles away. This underscores a significant opportunity to enhance local access to high-quality medical offices in the immediate area.

Assisted Living

8. Assisted living provides housing and personal care support for seniors who need assistance with daily tasks such as bathing, dressing, and medication management while maintaining their independence in a home-like environment. The residents will have their

own en-suite bedrooms or apartments and can get assistance with daily activities, while promoting social engagement with other like-minded residents.

9. Assisted living offers 24/7 care, while promoting a balance of independence and support, enabling residents to age comfortably in Cleveland and White County with amenities, such as landscaped walking trails, a tranquil garden and plaza, a reading room, boutique, fitness and rehabilitation, and dining areas.

10. Currently, the City of Cleveland has a single assisted living facility that is operating at full capacity with a waiting list, reflecting a growing demand among the senior population. The proposed new assisted living facility will provide additional high-quality options for seniors, allowing them to age comfortably and securely within the City of Cleveland and White County without needing to relocate.

Hotel

11. The proposed hotel will offer clean, safe, and comfortable rooms for Cleveland's visitors. This hotel aims to meet the essential needs of these travelers with various amenities, such as: Wi-Fi, mountain views, an in-room television, and a pool.

12. In alignment with the objectives of the 2021 Joint White County and City of Cleveland Comprehensive Plan, supported by discussions with Cleveland planning staff and new zoning ordinances, the growing population and increasing influx of tourists drawn to Cleveland's picturesque waterfalls, lakes, hiking trails, and charming small-town atmosphere has created a pressing need for additional hospitality services. Expanding these services with the provision of one new hotel will enhance visitor experiences and support the local economy.

Identifying a need

13. This proposal aligns with the objectives of the 2021 joint Comprehensive Plan which recognizes the growing demand for essential services, job creation, community health, and services. The proposal will address the identified needs and trends of the County and City in a meaningful way that supports community well-being and economic growth.

14. A comprehensive site analysis demonstrates that the proposed facilities will integrate with the surrounding commercial and residential areas, enhancing the existing neighborhood fabric to promote a cohesive and vibrant community.

15. The Proposal is tailored to the demographic needs of the community. The applicant will engage with local residents throughout the process to ensure the development delivers high-quality amenities and supports a thriving neighborhood.

16. As part of the annexation process, the City may consider:

    - The public benefit and community need: by offering essential services, such as medical offices and senior housing;

- Zoning and land use compatibility concerning adjacent and nearby parcels: roadway infrastructure leading to the site will be upgraded to support increased capacity with further improvements based on recommendations from the traffic impact study;
- Impact on municipal services: the City of Cleveland has confirmed the capacity to provide necessary utilities; and
- Economic impact: The proposed commercial uses will generate long-term employment opportunities in healthcare and hospitality, which will boost tax revenues that will contribute to the City's economic growth.

Conclusion

17. On behalf of Grace of Georgia Developments LLC and the site owner Ray Black, we respectfully request that this application for annexation and zoning be approved.

B. INTRODUCTION

18. This Planning Statement serves as the Statement of Intent for the annexation and zoning application of 475 Underwood Farm Road, Cleveland, Georgia 30528 from A-1: Agriculture Forestry zoning within White County ("the County") to PM-U: Multiple Use District zoning within the City of Cleveland ("the City").

19. Grace of Georgia Developments LLC ("the applicant") wishes to deliver three separate buildings on-site with a shared roadway and access, which consists of a medical building, assisted living, and a hotel. This proposal responds to the direct needs of the City. Discussions with the City and County staff and research studies emphasize a need for medical offices, assisted living, and a hotel, which responds to the City and County's growing population and continuing influx of visitors.

20. The site is located 2.6 miles south of downtown Cleveland with one single-family home currently on-site, two ridges, one ravine, and a creek.

21. This proposed development will consist of a 32,500 square foot (approximately six medical offices) one-story medical building, a two-story 65,000 square foot (sixty bedroom) assisted living building, and a 22,500 square foot (approximately 24 rooms) four-story hotel. These buildings use up only 10.13% of the site, allowing for nearly 90% open space, which will include walking trails and scenic environments.

22. The masterplan will encourage walking that will ensure visitors and residents alike can enjoy the beautiful scenery Cleveland has to offer.

C. THE SITE

The Site

Description

23. The site comprises the 27.19-acre land at 475 Underwood Farm Road, Cleveland, Georgia 30528 in unincorporated White County across Donald E Thurmond Parkway from the Walmart. The City of Cleveland abounds the site immediately to the north.

24. There is currently one existing house situated on the southeast corner of the site with rolling topography and various trees. There is currently a tenant living in the house, however upon the annexation and zoning the seller of the site, Dr. Ray Black, has ensured that the tenant will move elsewhere.

25. The site has a creek running along the northern border of the site with a 25-foot stream buffer.

26. There is current road access to the east of the site via Old Highway 75 S and south of the site via Underwood Farm Road. The site is located close to Highway 129 S, which is west of the site.

27. A Walmart Super Center is located north of the site across Donald E Thurmond Parkway.

28. An image of the site is shown in Figure 1 below.

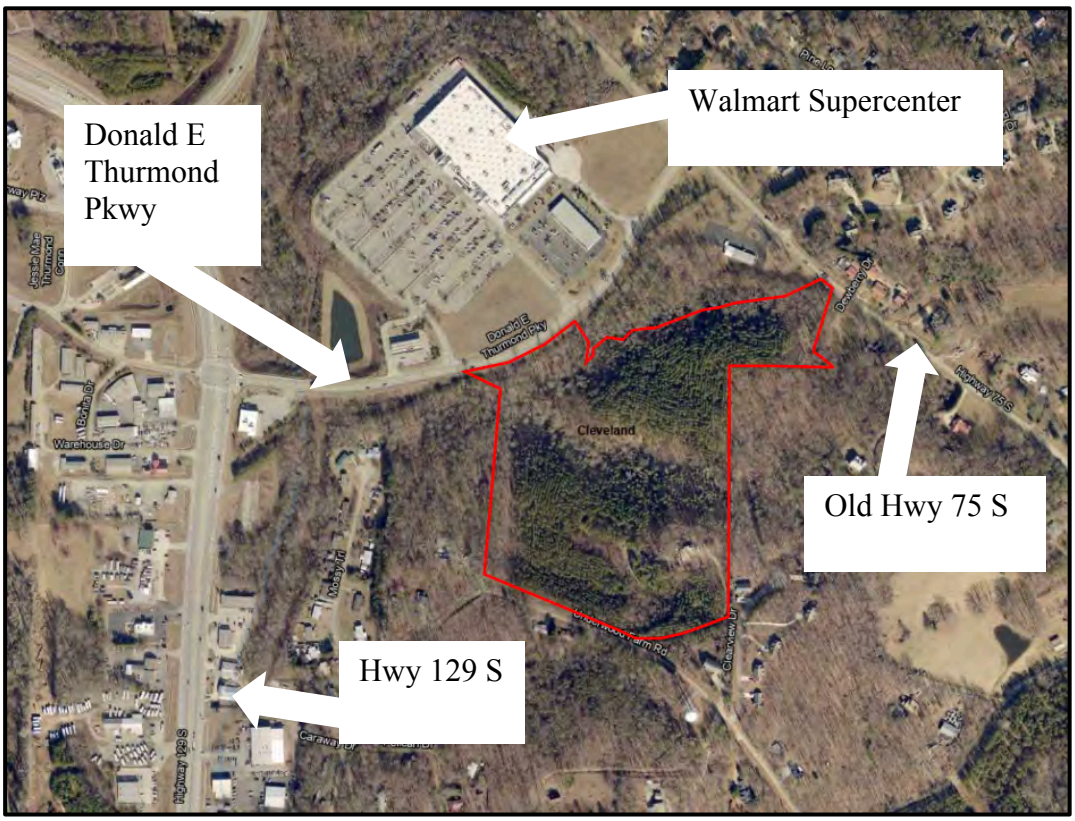


Figure 1: The Site (source: QPublic)

Designations

29. The site is currently zoned:
    - A-1: Agriculture Forestry.
30. The White County character area / future land use is:
    - Agricultural and Low-Density Residential.

Wider Site Analysis

Surrounding use and zoning

31. The site is located south of the intersection of Old Highway 75 South and Donald E Thurmond Parkway. There is a mix of residential and commercial properties in the surrounding area.
32. To the north of the site via Donald E Thurmond Parkway is a commercial plaza with a Walmart, Great Clips, and Hibbett Sports among other commercial retail businesses. The American Legion, a veteran's association is also north of the site via Old Highway 75 South.

33. Across Underwood Farm Road to the south of the site are single-family homes. To the west of the site via Mossy Trail are some residential homes, which are adjacent to commercial businesses via Highway 129 such as an Anytime Fitness, Enterprise rent-a-car, and a Captain D's restaurant.

34. To the east is residential property.

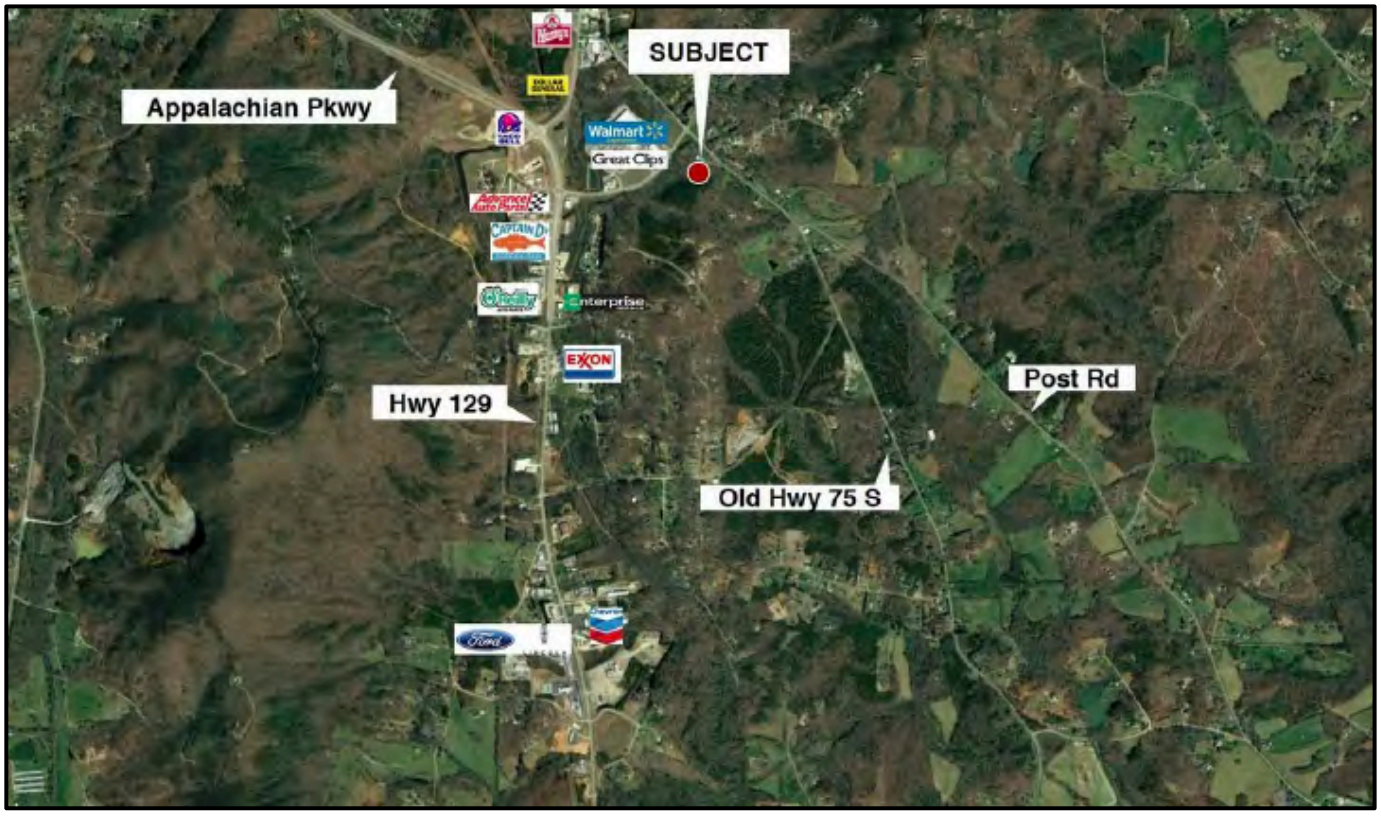


Figure 2: Aerial of commercial uses near the Site

35. Figure 3 and Table 1 below set out a summary of the surrounding uses and zoning:

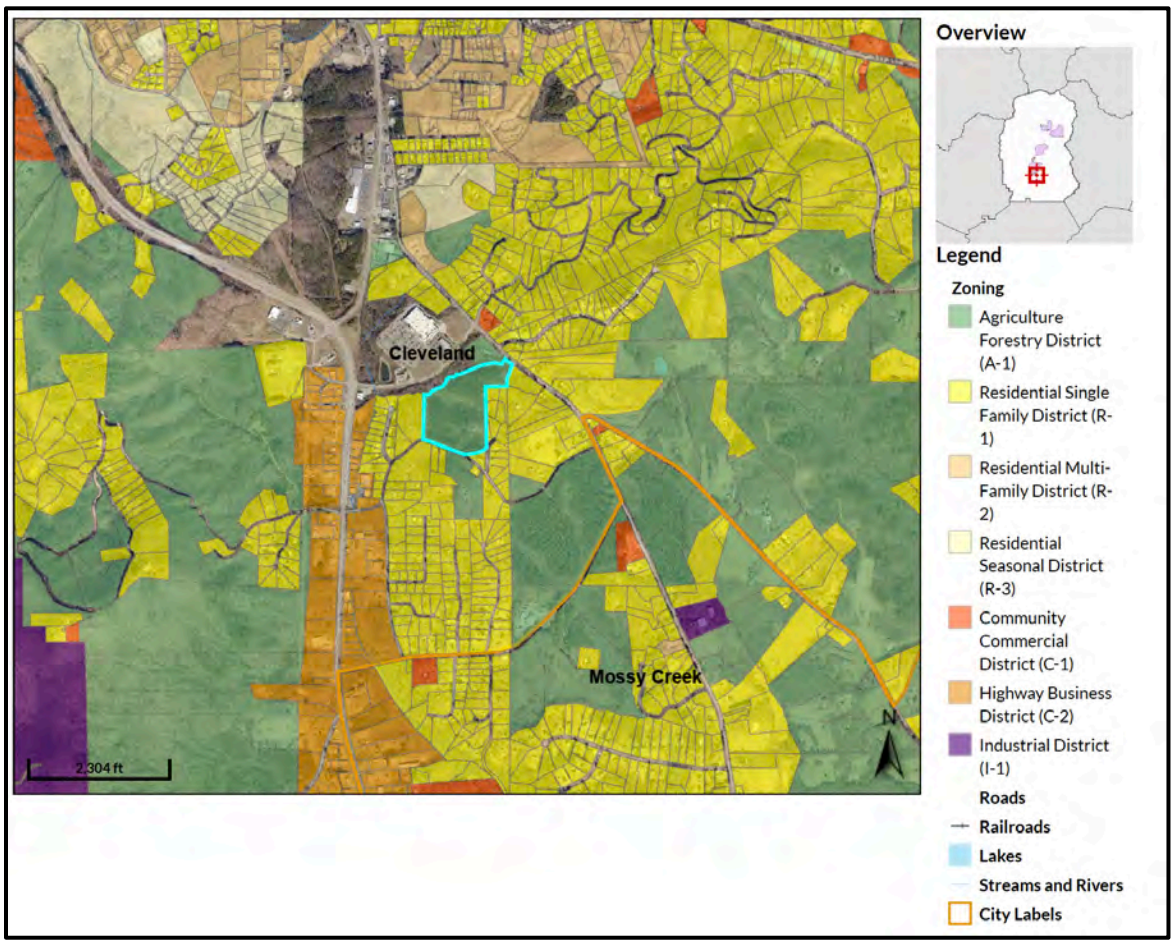


Figure 3: White County Zoning Map

Location	Land Use	Zoning	Jurisdiction
north	Commercial	B-2	City of Cleveland
south	Agriculture forestry district and single-family residential	A-1 and R-1	White County
west	Single-family residential and commercial	R-1 and C-2	White County
east	Single-family residential	R-1	White County

Table 1: Land Use Compatibility

Services and Utilities

36. With respect to services and utilities:

- White County Fire Services Station 4 is located 3.5 miles south of the site (1650 Westmoreland Road, Cleveland, Georgia 30528);
- Cleveland Police Department is located 2.4 miles north of the site (85 S Main Street, Cleveland, Georgia 30528); and
- electrical utility service is through Habersham EMC.

37. If the site is annexed into the City of Cleveland, there is water main access on-site via Underwood Farm Trail or via US Highway 75 South, and the sewer is located 0.22 miles away via Mossy Trail within the City of Cleveland sewer system.

38. Below figures 4 and 5 show the location of the nearest water and sewer utilities via Underwood Farm Road, Donald E Thurmond Parkway, and Highway 75 South and Mossy Trail respectively.

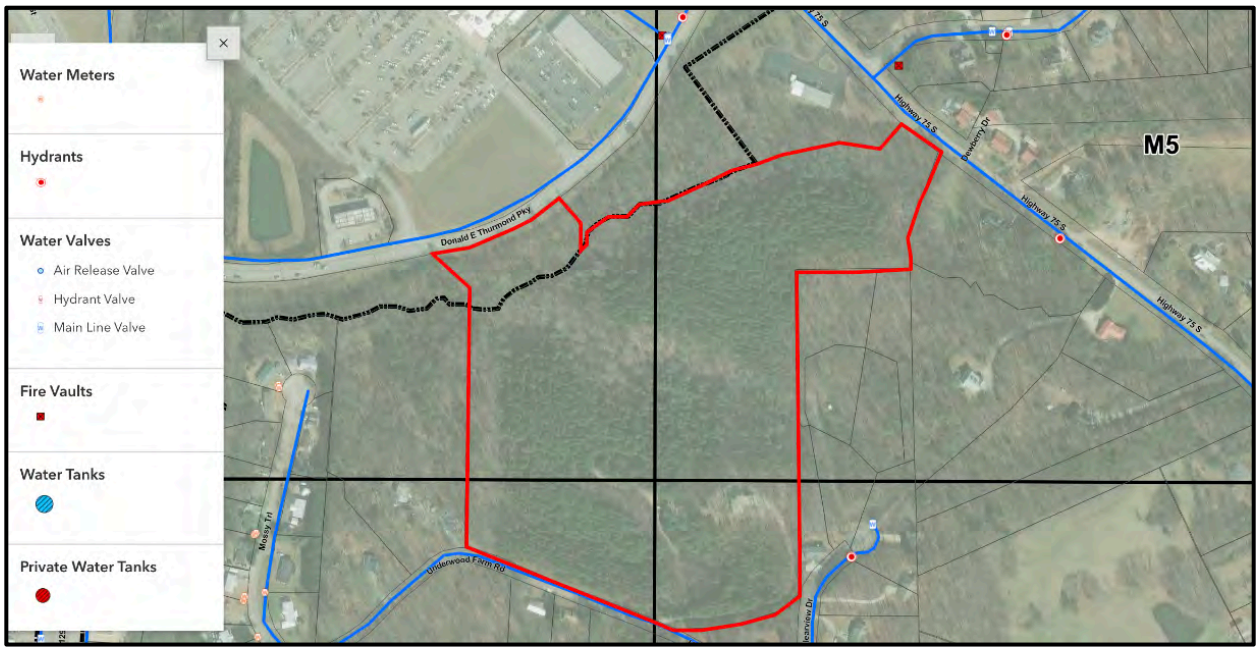


Figure 4: Water Utilities Map

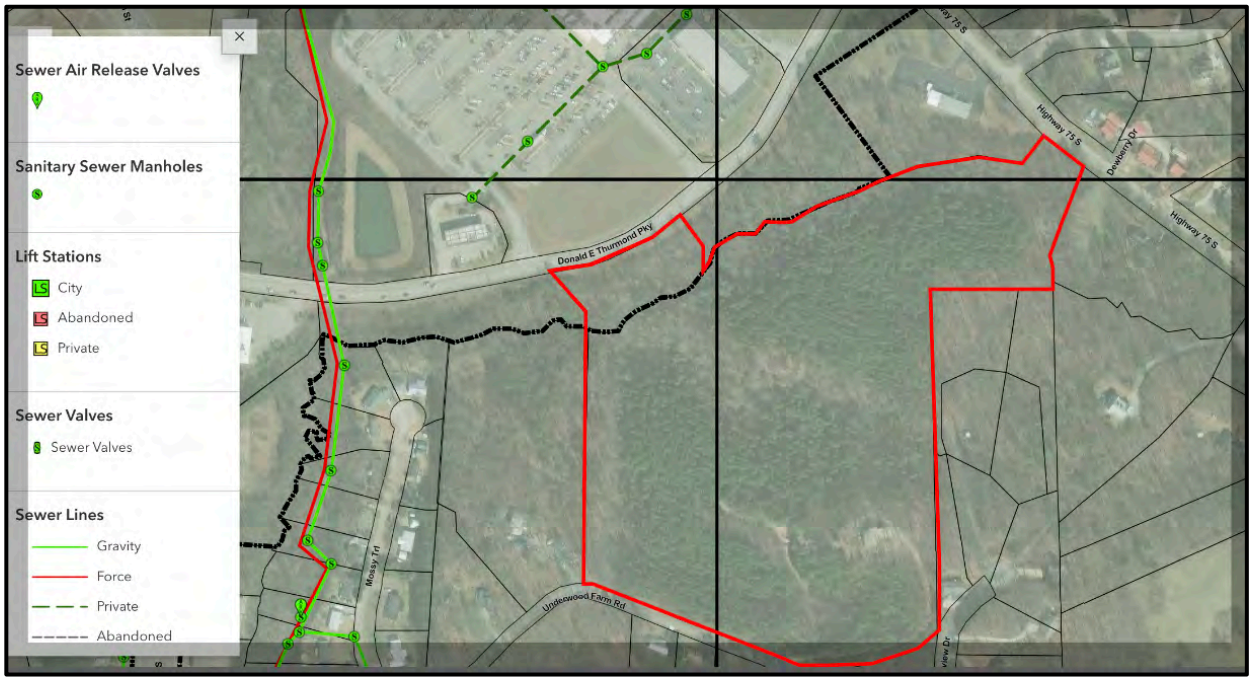


Figure 5: Sewer Utilities Map

D. THE PROPOSAL

Types of Uses

39. The application seeks the annexation of the site into the City of Cleveland and for it to assign a new zoning category of PM-U: Multiple Use District. This will enable a new high-quality development on the land to take place which will comprise the following mix of uses:

    - a one-story 32,500 square foot medical building with an estimated six medical offices;
    - a 65,000 square foot assisted living facility with an estimation of sixty bedrooms; and
    - a 22,500 square foot four-story hotel with 24 rooms.

40. The above figures are approximations at this stage and are subject to refinement based on market analysis, guidance, engagement, and detailed design input. Notwithstanding this, the maximum capacity of the new floor space to be created will be limited to no more than 124,999 gross external square feet.

Layout

41. The proposal will create a high-quality, comfortable, visually appealing, and interactive multiple-use development that seamlessly integrates the various uses as one master planned campus within the surrounding area.

42. Road access will be via Donald E Thurmond Parkway.

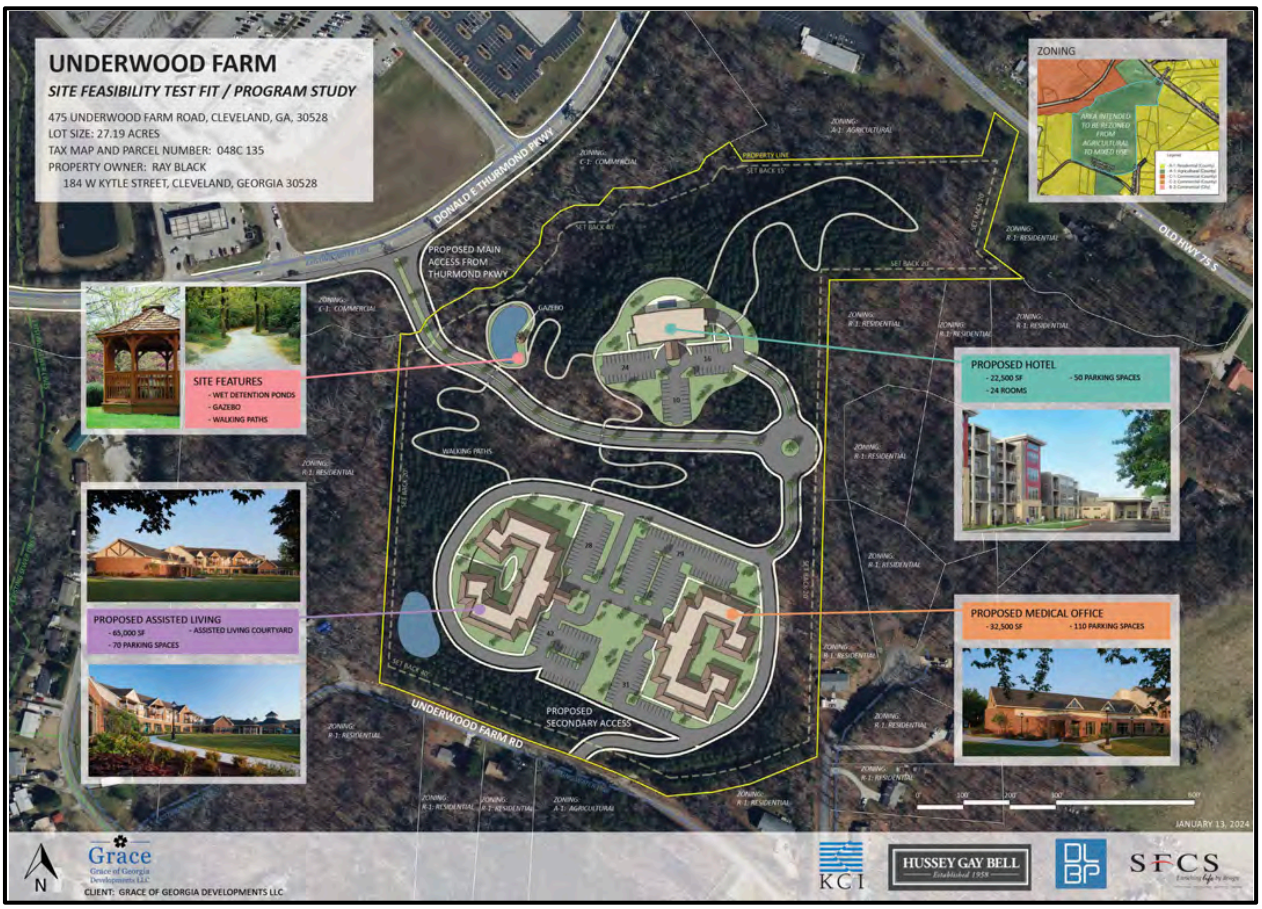


Figure 6: Site feasibility / masterplan of the site

43. As seen in the masterplan above, the layout utilizes the natural topography of the site, which consists of two ridges with a ravine in between.

44. The hotel is located atop the northern ridge and the medical building and assisted living facility is located atop the southern ridge with the shared roadway cutting between the two ridges and a roundabout leading to the separated uses.

Medical Building

45. The one-story 32,500 square foot medical building will be located on the southernmost ridge on the southeast portion of the site. The building will have an estimated six medical offices with parking to the west of the building.

46. As well as the staff required to upkeep and manage the offices, the offices will deliver a hub of employment to those who work in the medical field, as well as deliver important medical care services to the wider community of the area.

47. The medical office building will have 110 parking spaces, in conformance with the City of Cleveland's parking standards (section 64-13.6.20).

Assisted Living

48. The two-story 65,000 square feet assisted living facility is located atop the southern ridge on the southwestern portion of the site with an estimated sixty bedrooms and parking to the east of the building, creating a separation between the medical building and the assisted living.

49. Assisted living will offer daily care to residents by highly trained caregivers and supporting staff with landscaping designed to offer pleasure gardens and outdoor recreational space.

50. The assisted living facility may also offer various amenities, which could include a fitness and rehabilitation center, an arts and crafts studio, a boutique, a theatre room, dining areas, and a library.

51. The assisted living will have 70 parking spaces, in conformance with the City of Cleveland's parking standards (section 64-13.6.15).

Hotel

52. The four-story 22,500 square foot hotel will be located on top the northern ridge with a north facing terrace, pool, and service access, and 24 rooms.

53. 50 parking spaces will be located at the southern portion of the building, as is in conformance with the City's parking standards (section 64-13.6.16).

54. The design of this hotel accentuates the viewsheds of the north Georgia mountains.

55. It is anticipated that the hotel will offer rooms of various sizes to cater to tourists, family, and friends visiting relatives of the assisted living facility, family and friends of those utilizing Cleveland's beautiful wedding venues, and patients / employees relating to the medical offices.

56. The hotel will offer a wide range of employment opportunities for all skill levels ranging from administration, catering, and cleaning staff.

Build-Out Timeline and Developer Engagement Strategy

57. The high-level projected build-out time for the development is 2027.

E. PRE-APPLICATION ENGAGEMENT

Pre-application Briefing

58. As part of the application process, a preliminary pre-application briefing was prepared that detailed the high-level expectations and aims of the proposed development, discussed the need for this type of development in the community, and responded to City of Cleveland and White County policy and analysis.

59. This analysis can be reviewed in section *G. Planning Assessment* in this Planning Statement.

60. A pre-application meeting was held on November 13, 2024 with the City of Cleveland planning staff, which discussed the pre-application briefing. It was agreed by thy City staff that:

- the road and building location and design description is what the City envisions;
- the proposed uses are all needed within Cleveland; and
- the policy analysis is accurate and substantial.

Municipal Engagement

61. As part of our pre-application and application process it is our view that public, City and County staff, and decision-maker engagement is essential. Thus, from the preliminary phases of this proposal and throughout the entire annexation and zoning process, we maintained consistent engagement with Cleveland planning staff.

62. On May 21, 2024, we met with White County planning staff as a preliminary discussion of the goals for this site by the County to incorporate into this proposal (ie: the hotel and medical offices).

63. Consistent engagement was maintained, meeting with Cleveland's planning staff and visiting the site multiple times throughout the months, such as on June 11, 2024, July 17, 2024, August 21, 2024, and September 25, 2024.

64. The site visits, which involved walking the site and driving by the surrounding area, were completed to observe the characteristics and topography to identify the best uses and design of the site.

65. Images from the site visits can be seen below.

Figures 7, 8, and 9: Site visit images

66. The discussions reviewed the expected proposal submission timeline, implementation of the new zoning ordinance timeline (per our zoning request of MP-U), road access via Donald E Thurmond Parkway through a deeded corridor and secondary access being via Underwood Farm Road, use expectations, design, and the pre-application briefing.

67. Additionally, we met with Cleveland's planning staff on November 13, 2024 to discuss and review the pre-application briefing, and the following was discussed:

    - agreed that main access via Donald E Thurmond Parkway and secondary access via Underwood Farm Road is suitable since there are long-term plans to improve Underwood Farm Road;
    - acknowledged acceptance of the site design utilizing the topography of the site and viewsheds;
    - emphasized the need of the hotel for agritourism and for Cleveland's "destination weddings;"
    - the public engagement process;
    - the findings of the Traffic Impact Study were agreed upon based on high-level review via the City; and
    - the policy analysis and interpretations in section *E. Planning Assessment – City of Cleveland* of the pre-application briefing (or section *H. Planning Assessment – City of Cleveland* in the Planning Statement) were agreed upon.

68. We also maintained engagement with the seller of the property, Dr. Ray Black and had phone call discussions and an in-person meeting with him on September 25, 2024.

69. An additional in-person meeting with Dr. Black was held on Wednesday, December 18, 2024.

70. We stayed up-to-date on zoning and regulatory discussion, attending City of Cleveland City Council meetings in-person on October 14, 2024 and observed the October 07, 2024 meeting remotely.

71. On November 13, 2024, a pre-application discussion was held with the White County Chamber of Commerce to discuss and explain our proposal and all seemed to have positive input.

Community Engagement

72. This proposal addresses the demographic needs and characteristics of both the site and its surrounding area, such that the proposal will deliver high-quality amenities that cater to local needs and contribute to a thriving neighborhood.

73. As part of our due diligence and strategic planning, a public engagement strategy was initiated, which includes:

- engagement and educational materials, which include letters sent on December 12, 2024 to residents and businesses within 1,000 feet of the site, a dedicated webpage (www.gracedevelopments.us under 'Our latest projects') launched on December 10, 2024, and community-focused infographics provided to the White County Chamber of Commerce and left at the City of Cleveland planning office for community members to take and view. Both the website and letters provided options for email, phone, and scheduling in-person or virtual meetings to discuss the proposal and address public questions or comments:

- we received 5 comments, which were:

Letters - comments			
Date of receival	Comment	Form	Outcome
12/16/2024	"Good evening Devynn, I have received your letter regarding the proposed plans for 475 Underwood Farm road in Cleveland, Georgia. You stated that this was a proposed plan and I do pray that it is. This type of construction plan and finished product will bring nothing but trouble to all the residents in nearby and surrounding areas. Our property values will diminish and the eye sore that these structures create are not needed in our area. I hope and pray this does not happen and also that if it is sorely needed which it is not, there will be other areas explored and not by my home that I have worked hard for and am raising my kids in."	Email	Provided further information via email explaining that the goal of this project is to benefit the community with important services, job opportunities, and economic growth and offered a follow-up call to discuss further. Email responses can be found in the Appendix.
12/18/2024	Interest in selling the six-acre property located at 355 Underwood Farm Road property, which is of west adjacency to the site.	Phone call	Led to internal discussion and decided to not purchase the site at this time.
12/19/2024	Question regarding confusion of the location of the site.	Phone call	We confirmed the proposal was only located at 475 Underwood Farm Road.

12/20/2024	"Good afternoon, I received a letter from you regarding the above proposed development. I have rental property located at 416 Underwood Farm which is directly across from the proposed development. From what I can tell this is in the planning stage? Can you give me an estimate of how long it will take to move forward if plan is approved? What impact would this be on my property? Your sending me more information about the development would be appreciated. Thank you"	Email	Provided further information via email, which explained the minimal traffic impacts and positive impacts on economic and job growth. Email responses can be found in the Appendix.
01/01/2025	"Hello, We received your letter regarding this proposed development. As a resident of Highway 75 S, near Donald Thurmond Parkway, we are specifically opposed to the hotel component of the development. Based on the proximity of the hotel to our residence, the traffic on our road will worsen from what is already problematic. Additionally, the hotel location is likely to attract other undesirable businesses even closer to our home, further increasing traffic and potential crime in the area. There is inconsistency in how the hotel is described in the information. The letter states a "40-bedroom hotel". Your website states "24 bedroom". Which is accurate? We have no concerns with the assisted living facility or the medical offices. The hotel is undesirable and concerning for the quality of life of local residents. Thank you."	Email	Provided further information via email explaining that the change in hotel bedroom numbers reflects the updated site plan as the one sent in the letters was still in working stages. Additionally, described the findings of minimal impact via the Traffic Impact Study and the benefits of the development for the community. Explained the increased tourism in Cleveland, and so the hotel was identified as an appropriate use to accommodate this, and inquired on any ways we can design the hotel in a way for them to support. Email responses can be found in the Appendix.

Table 2: Public comments

- conversated with 5 individuals, where we addressed traffic, impacts of the development, and uses.

74. For further details please reference Appendix 4.

White County Chamber of Commerce

75. Collaboration occurred with the White County Chamber of Commerce to engage key stakeholders, with the anticipation to attend Vision 2030 events, to listen and understand the values and perspectives of the White County and City of Cleveland communities.

F. ANALYSIS

Access arrangements

76. The main access to the site and all facilities will be via Donald E Thurmond Parkway with a corridor deeded from the City of Cleveland.

77. Secondary / emergency access will be via Underwood Farm Road.

78. A roadway and trail network are also proposed to increase walkability and incorporate the proposed development with the surrounding residents and businesses.

Entranceway Design

79. The entranceway to the site is located via Donald E Thurmond Parkway via a 0.93 acre (40,510.8 square feet) or within the City row 0.98 acres (42,688.8 square feet) deeded corridor from the City, as seen in Figure 10 below.

80. Our highway engineers, Hussey Gay Bell, prepared the entranceway design in a manner that flows with the topography and natural landscape of the area.

81. For further details on the entranceway design please refer to images which are attached as part of our annexation and zoning pack (Appendix 2).

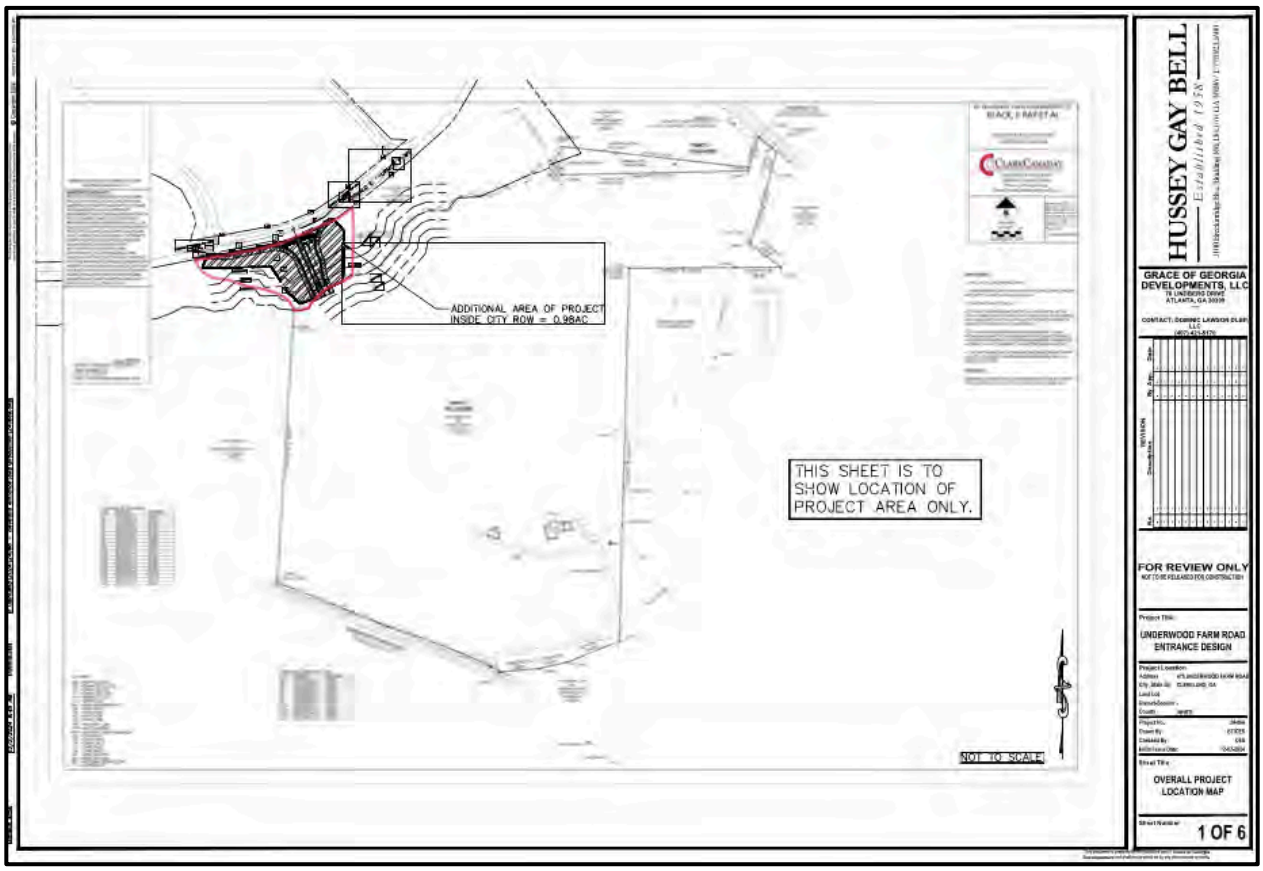


Figure 10: Entranceway Design

Traffic Impact Study

82. KCI prepared the Traffic Impact Study with the finding that the proposed development will have minimal impact on the infrastructure and roadways with the proper turn lanes to be added on Donald E Thurmond Parkway and that the intersections are currently operating at an acceptable level during peak hours (7:00 to 9:00 AM and 4:00 to 6:00 PM), as seen in Tables 3 and 4 below.

Proposed Site Trip Generation								
Land Use (ITE Code)	Units	Daily Trips	AM Peak Hour			PM Peak Hour		
		Two-Way Total	Enter	Exit	Total	Enter	Exit	Total
Assisted Living (254)	65,000 SF	272	19	6	25	10	21	31
Hotel (310)	24 rooms	192	6	5	11	7	7	14
Medical-Dental Office Building	32,500 SF	1,289	70	18	88	39	90	129
Total Trips		1,753	95	29	124	56	118	174

Table 3: Proposed Site Trip Generation

: Existing Year (2024) Level of Service				
Intersection	Intersection Control	Approach	AM Peak Hour LOS (Delay*)	PM Peak Hour LOS (Delay*)
1) SR 11/US 129 at Donald E Thurmond Pkwy/Hope Dr	Signal	**Overall**	**B (13)**	**B (20)**
		NB – US 129	B (16)	C (20)
		SB – US 129	A (8)	B (11)
		EB – Hope	B (18)	C (22)
		WB – Donald	C (22)	D (37)
2) Donald E Thurmond Pkwy at Walmart Dry	Side-Street Stop-Control	SB	B (10)	B (14)
3) Donald E Thurmond Pkwy/Woodlawn Drive at Old Hwy 75	Side-Street Stop-Control	EB - Donald	B (13)	B (13)
		WB - Woodlawn	C (15)	B (14)
4) SR 11/US 129 at Daybreak Rd/Underwood Farm Rd	Side-Street Stop-Control	EB – Daybreak	C (18)	D (27)
		WB – Underwood	C (16)	C (19)

**Average vehicle delay in seconds*

Table 4: Existing Year Level of Service

83. The study concluded that in 2027, the roadways will still be operating in a suitable level with the estimated highest increase in delays being by five seconds, as shown in Tables 5 and 6 below.

No Build Year (2027) Level of Service				
Intersection	Intersection Control	Approach	AM Peak Hour LOS (Delay*)	PM Peak Hour LOS (Delay*)
1) SR 11/US 129 at Donald E Thurmond Pkwy/Hope Dr	Signal	**Overall**	**B (13)**	**C (22)**
		NB – US 129	B (16)	C (22)
		SB – US 129	A (9)	B (12)
		EB – Hope	B (18)	C (24)
		WB – Donald	C (23)	D (45)
2) Donald E Thurmond Pkwy at Walmart Dry	Side-Street Stop-Control	SB	B (10)	B (15)
3) Donald E Thurmond Pkwy/Woodlawn Drive at Old Hwy 75	Side-Street Stop-Control	EB - Donald	B (14)	B (14)
		WB - Woodlawn	C (16)	C (15)
4) SR 11/US 129 at Daybreak Rd/Underwood Farm Rd	Side-Street Stop-Control	EB – Daybreak	C (19)	D (29)
		WB – Underwood	C (17)	C (21)

**Average vehicle delay in seconds*

Table 5: 2027 No Build Level of Service

Build Year (2027) Level of Service				
Intersection	Intersection Control	Approach	AM Peak Hour LOS (Delay*)	PM Peak Hour LOS (Delay*)
1) SR 11/US 129 at Donald E Thurmond Pkwy/Hope Dr	Signal	**Overall**	**B (14)**	**C (26)**
		NB – US 129	B (17)	C (26)
		SB – US 129	A (9)	B (17)
		EB – Hope	B (19)	C (25)
		WB – Donald	C (24)	D (40)
2) Donald E Thurmond Pkwy at Walmart Dry	Side-Street Stop-Control	SB	B (11)	C (15)
3) Donald E Thurmond Pkwy/Woodlawn Drive at Old Hwy 75	Side-Street Stop-Control	EB - Donald	B (15)	B (14)
		WB - Woodlawn	C (17)	C (15)
4) SR 11/US 129 at Daybreak Rd/Underwood Farm Rd	Side-Street Stop-Control	EB – Daybreak	C (20)	D (31)
		WB – Underwood	C (18)	C (24)
5) Donald E Thurmond Pkwy at Proposed Driveway #1	Side-Street Stop-Control	NB	B (11)	B (12)
6) Underwood Farm Rd at Proposed Driveway #2	Side-Street Stop-Control	SB	A (9)	A (8)

**Average vehicle delay in seconds*

Table 6: 2027 Build Year Level of Service

84. The four study areas are SR 11/US 129 at Donald E Thurmond Parkway/Hope Drive, Donald E Thurmond Parkway at Walmart entrance, Donald E Thurmond Parkway at Old Highway 75, and SR 11/US 129 at Daybreak Road/Underwood Farm Road. Additionally, the study conducted further analysis of future traffic conditions at the two proposed driveway conditions via Donald E Thurmond Parkway and Underwood Farm Road.

85. Based on these findings, we are prepared to contribute:

    - a 50-foot right-turn deceleration lane and a 25-foot left-turn lane on Donald E Thurmond Parkway, with the proposed driveway positioned between the two Walmart access driveways, providing approximately 300 feet of spacing from the middle Walmart driveway, to be stop-controlled;
    - an eastbound right-turn deceleration lane along Donald E Thurmond Parkway; and
    - a driveway configuration with one entry lane and two exit lanes.

86. The Underwood Farm Road secondary driveway is proposed to have a full-movement intersection with stop control, featuring one entry and one exit lane.

87. For further details on this, please refer to the Traffic Impact Study, which is attached as part of our annexation and zoning pack (Appendix 3).

G. PLANNING ASSESSMENT

Compatibility with 2021 Joint White County and City of Cleveland Comprehensive Plan

88. The main planning documents for consideration are:

- the 2021 Joint White County and City of Cleveland Comprehensive Plan, adopted in 2019 to serve for the planning period 2021 through 2026;
- the new Planned Development zoning categories were implemented on November 1, 2024;
- demographic data via the US Census Bureau; and
- The 2023 Georgia Code Title 36 – Local Government (§§ 36-1-1 – 36-93-1) Provisions Applicable to Municipal Corporations Only (§36-30-1 – 36-46-01) Chapter 36 – Annexation of Territory (§§ 36-36-1 – 36-36-134) and Provisions Applicable to Counties and Municipal Corporations (§§ 36-60-1 – 36-76-11).

H. PLANNING ASSESSMENT – CITY OF CLEVELAND

89. The below planning assessment was also referenced in the pre-application briefing and was accepted by the City of Cleveland planning staff.

Zoning assessment

90. The following assessment is based on the repealed questions in the Georgia State Code Title 36 – Provisions Applicable to Counties and Municipal Corporations: Zoning Proposal Review Procedures (§36-67-1) and the City's approach to assessing applications for zoning proposals. Although the questions outlined in Georgia Code §36-67-1 were repealed in 2012, at this point, they serve as a useful guide for assessing the application.

91. The below analysis was agreed to be acceptable by the City of Cleveland planning staff during the pre-application briefing discussion:

(a) Does the zoning proposal describe a use that is suitable in view of existing uses of adjacent and nearby property?

92. The land to the immediate north of the site has been developed for intensive commercial uses, in particular a large Walmart supermarket along with a separate retail parade of shops and a gas station. The application site is located immediately to the south of this commercial development and will be accessed from the same road (Donald E Thurmond Parkway), and so have a strong spatial connection to it.

93. The land to the immediate west of the site includes residential uses at Mossy Trail and further commercial uses located along Highway 129, and more widely there are also residential uses to the east along Clearview Drive and to the north-east along Old Highway 75 and Grand View Drive. The Cleveland Academy daycare center is also located to the northeast of the site.

94. In view of the existing uses of the adjacent and nearby properties, the proposed zoning for a mix of commercial and quasi-residential uses will be wholly suitable.

(b) Will the zoning proposal be in conformity with the future land use plan of the city of Cleveland?

95. As the site is currently not located within the limits of the City, it does not form part of the future land use plan. With respect to White County, the future land use for the area is Agricultural and Low-Density Residential.

96. However, as noted above, the land to the north, which is located within the City's limits is occupied by intensive commercial uses. This land is located in the City of Cleveland's Highway Business Future Land Use category and was annexed into the City from White County.

97. Within the County, all of the land (save for one small portion to the south) surrounding the application site is zoned for Residential Single-Family Districts, and in the wider area are Highway Business Districts and Community Commercial Districts.

98. In this context, it is clear that the proposed zoning is compatible with the overarching future land use which is one of land being developed for residential or commercial.

99. Upon conversations with the City of Cleveland planning staff, and as evidenced by the type of development constructed nearby (ie: the Walmart which is north of the site across Donald E Thurmond Parkway) the proposal conforms with the nature of the area.

100. The City of Cleveland planning staff and City Council elected to change the ordinance, which was implemented on November 1, 2024, by adding additional zoning categories, such as PM-U (as is proposed), which illustrates the importance of mixed-use development within the City.

101. This proposal also supports the following policy objectives as suggested in the Comprehensive Plan:

- As evidenced in Chapters 3 and 5 of the 2021 Joint White County and City of Cleveland Comprehensive Plan, the City of Cleveland and White County aims to foster business and industry development that aligns with community needs through the creation of long-term, sustainable, and diverse job opportunities (page 17);
- White County's policies and long-term objectives emphasize enhancing and attracting employment in growing sectors, such as healthcare (page 54); and
- The 2021–2025 Community Work Program for White County aims to support the development of high-quality healthcare facilities and services (page 57) with diverse commercial options and increased job opportunities (pages 40 – 41).

102. This proposal addresses these goals by creating long-term, job opportunities in healthcare and hospitality, linking to other commercial services, and fostering business opportunities in related fields.

(c) Has the property been underdeveloped or undeveloped for an unreasonable length of time when considered in the context of existing land use and development in the area?

103. Nearly all of the land surrounding the site has been developed, including and in particular the land to the immediate north for intensive commercial use as already noted. However, with development having already been undertaken to the west and with piecemeal development further away (such as along Old Highway 75), it is clear that in this context it is not in the interests of good planning for the property to remain undeveloped.

(d) Has the existing land use in the area undergone any recent change which would tend to support the approval of the zoning proposal?

104. As noted above, there have been recent changes in land use in the area which are supportive of the proposed zoning.

(e) Are the present zoning district boundaries illogically drawn given the existing land use in the area?

105. The present zoning boundaries are now illogically drawn on the basis of the site being surrounded by higher-density zoning uses and its undeveloped state not contributing to the character of the area.

(f) Is there reasonably sufficient evidence, based on existing and anticipated land use that would support the conclusion that an error was made in the original zoning of the property?

106. The original zoning of the property was designated at a time prior to the most recent growth projections and constructed commercial uses nearby. Now both the City and County are experiencing and are projected to continue experiencing growth, which this proposal helps accommodate.

107. The World Population Review's 2029 forecast predicts growth in population to 3,583 persons in the City of Cleveland and 30,358 persons in White County (based on US Census Bureau estimates), and the Georgia Department of Labor projected the Georgia Mountains Regional Commission's population to almost double by 2065, as illustrated in Figure 11 below.

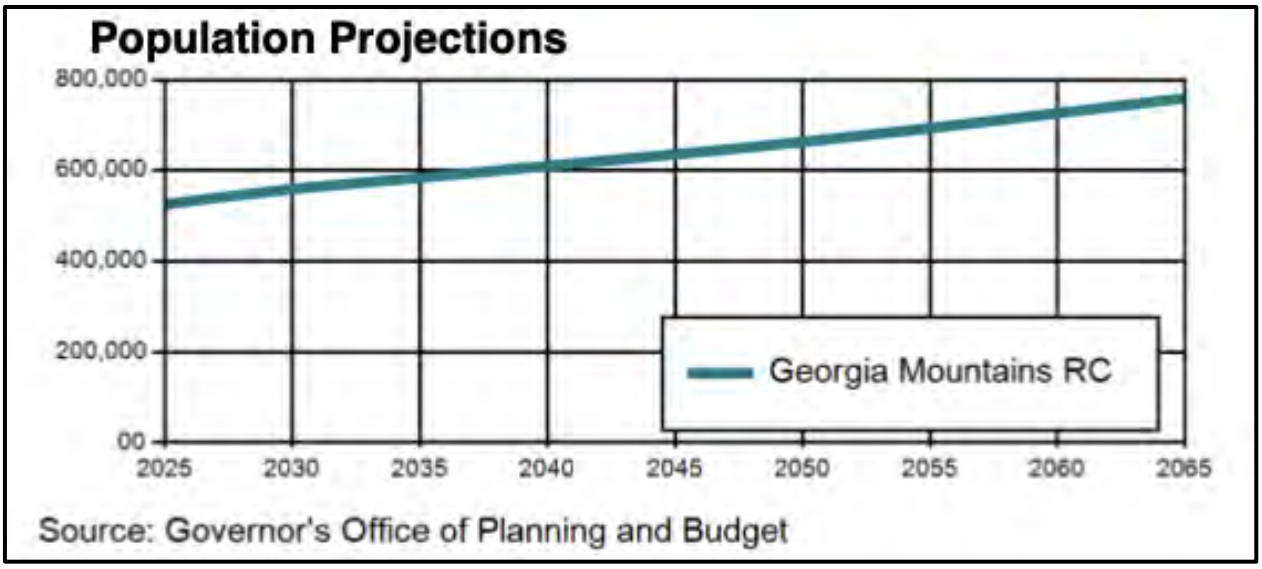


Figure 11: Population projections (Source: Georgia Department of Labor)

108. The demographic analysis for both the City of Cleveland and White County illustrates that the 55 and older population consists of 6,107 persons and 10,644, making up 35.56%

and 37.79% of the population respectively, which will only continue to grow as the population ages. There is already an assisted living facility, Laurel Lodge (210 Hope Drive, Cleveland, Georgia 30528), nearby, but the facility is at maximum capacity with a waiting list. This proposal provides a much-needed assisted living facility that allows this aging population a place to live and age in place within the City and County.

109. Thus, the City of Cleveland and White County are experiencing much growth, which is projected to continue, and this proposed development responds to and accommodates this anticipated growth.

110. Additionally, as addressed in Chapter 2 and Chapter 5 of the 2021 – 2026 Joint White County and City of Cleveland Comprehensive Plan:

- it is predicted that over the next decade, there is potential to double the number of visitors, with anticipation for a significant increase in tourism and a specific concentration on wedding events, agri-tourism, eco-tourism, small-meeting markets, heritage, and outdoor activities, so continued promotion of both tourism and economic development is essential (pages 29, 54, and 55).

111. The hotel will accommodate the anticipated growth in tourism and other visitor activities, aligning with the City and County's tourism goals.

(g) Will the property value of the subject property be increased by the proposed zoning change?

112. The property value will increase through the proposed zoning change by providing desirable uses to increase the health, well-being, and economic vitality of the City and County and by supplying the facilities that are currently in demand in the area.

(h) Will the zoning proposal adversely affect the existing use or usability of adjacent or nearby property?

113. The proposal will not have any significant impacts on the usability of adjacent properties because all the proper buffers and setbacks will be implemented to minimize impact. Residential properties surrounding the site will not be adversely impacted in any way.

114. As aforementioned in paragraphs 80 through 86, the Traffic Impact Study confirmed that there will be minimal impact on traffic flows on the local road network.

(i) Does the subject property have a reasonable economic use as currently zoned?

115. The site's current zoning is for A-1: Agriculture Forestry, and farming is not an appropriate use at this location due to:

- the smaller size of the land (being under 30 acres);
- the location being near commercial uses; and
- the site is too enclosed.

(j) Will the zoning proposal create excessive use or exceed the service capacity of existing streets, transportation, facilities, water, sewer, electrical and telephone facilities, schools, police protection, public health facilities or emergency medical services?

116. There is service capacity to support the proposed uses and will contribute to the amenities of the area through the provision of new services.

117. As aforementioned, the Traffic Impact Study confirmed that there will be minimal impact on traffic flows on the local road network.

118. It was confirmed that the City has public sewer capacity for the proposed use with the closest sewer being along Mossy Trail.

(k) Will the property values of adjoining and nearby tracts of land be diminished by the proposed zoning change?

119. The property values of adjoining and nearby tracts of land will not diminish because the local residents and users will benefit from the proposed medical offices and hotel.

(l) Will the lack of increase in the value of the applicant's property which may be brought about by a denial of said zoning proposal be offset by corresponding benefits to the public health, safety, morals or general welfare?

120. If the development does not proceed, there will be no benefits to the public health, safety, morals, or general welfare of the area. Please refer to paragraphs 120 through 122 below for a more thorough analysis.

(m) Will there be a relative gain to the public health, safety, morals or general welfare by keeping the present zoning classifications, when compared to the hardship imposed upon the applicant property owner by the denial of the proposal?

121. This proposal directly addresses the gain to the public health, safety, and welfare of the community.

122. As shown in Figure 12 below, the City of Cleveland currently has limited access to medical services, with the nearest facilities being the Guilford Immediate Care (approximately 1.5 miles away), Rehabilitation Center of Northeast Georgia Medical Center (almost four miles away), and Medlink White (approximately 3 miles away). The closest urgent care is the Northeast Georgia Physicians Group Urgent Care is located 5.5 miles from the site. The nearest major medical hospital, Northeast Georgia Medical Center Habersham, is around 17 miles from the site. This situation underscores a significant opportunity to enhance local access to high-quality medical offices in the immediate area.

Figure 12: Aerial Map of Closest Medical Facilities

123. The proposed development will provide vital medical, healthcare, and hospitality services, benefiting the community's public health, safety, and welfare. Thus, withholding these proposed uses may negatively impact the area, as there is a clear need for medical offices, hotels, and senior living in the area.

124. As outlined in Chapter 4 of the joint Comprehensive Plan, both the City and County are committed to enhancing community health by ensuring equitable access to essential services, safe and clean neighborhoods, and quality employment (page 18).

(n) Will the change requested create an isolated district (use) unrelated to the surrounding districts (uses) and therefore create a "spot zoning"?

125. The requested change will not result in "spot zoning" because the proposed location is surrounded by commercial and residential uses, as proposed.

(o) Will the change requested be out of scale with the needs of the city as a whole or the needs of the immediate neighborhood?

126. Chapters 3 and 4 of the Comprehensive Plan underscore the importance of providing a diverse range of safe, affordable, and efficient housing options, highlighting the need for retirement and senior housing, aiming to promote elderly housing development and recognize the growing demand for medical facilities to serve the expanding population. This includes various housing types, sizes, costs, and densities (pages 18, 44, and 58).

127. The request will not be out of scale but rather respond to the needs of the city and immediate neighborhood.

(p) Will the proposed change in land use have a significant negative impact upon the quality of the natural or manmade environment in the neighborhood or the City?

128. The proposed change in land use will not only provide much-needed services in the area but will also be designed to blend well with the natural landscape and mountainous environment within the City and County.

129. Page 17 of the Comprehensive Plan highlights the importance of safeguarding and enhancing the community's distinctive characteristics, sustaining a vibrant downtown, promoting walkable, mixed-use development, and preserving historic areas.

130. This proposed mixed-use development aligns with the City of Cleveland's distinctive character, enhancing the sense of place by promoting a walkable, interconnected environment with expanded commercial and residential uses. This development will increase tax revenues and draw more people to downtown Cleveland.

Proposed zoning and development standards

131. The PM-U zoning category is part of the new zoning ordinance that went into effect as of November 1, 2024.

132. The proposed rezoning is acceptable under the PM-U: Multiple-Use district designation, which allows for a variety of uses, including medical offices (excludes veterinary), hotels (on properties fronting an arterial or major collector street), and nursing home facilities.

133. Our proposal will follow the required setback, buffer, design, and other regulatory requirements as stated in the PM-U ordinance in order to provide a high-quality campus that conforms with the surrounding area and the expectations of the City and County.

Standard	Required	Proposed	Compliance
Building height	Not exceed 60 feet.	Will not exceed 60 feet.	Yes.
Front yard setback	40 feet.	40 feet.	Yes.
Side yard setback	15 feet or 20 feet if adjacent to single-family residential.	15 feet and 20 feet where adjacent to single-family residential.	Yes.

Rear yard setback	25 feet.	25 feet.	Yes.
Minimum lot frontage	110 feet per lot.	110 feet per lot.	Yes.
Maximum Density	Multi-family: 10 dwelling units per acre; Townhouse / attached: 8 dwelling units per acre.	N/A – no dwellings proposed.	Yes.
Land Use Mix	Medium to high density residential and commercial uses complimentary to office and institutional uses. – efficient use, compatible with surrounding land uses, flexible, innovative, and creative site planning.	Will be medium to high density commercial and residential development prepared in an attractive manner that conforms with the surrounding uses.	Yes.
Use regulations	Medical offices (excludes veterinary), hotels, and Nursing home facilities.	Medical offices, hotel, assisted living facility.	Yes.
HVAC	Thoroughly screened from view from the public right-of-way and from adjacent properties using walls, fencing, roof elements, or landscaping.	Will be thoroughly screened from public view using either walls, fencing, roofing, or landscaping.	Yes.
Minimum lot width at building line	110 feet per lot.	110 feet per lot.	Yes.

Minimum lot frontage	Office / institutional / commercial: 110 feet per lot; Multi-family: 110 feet.	110 feet per lot.	Yes.
Minimum heated floor area per dwelling unit	Multi-family: 3-bedroom: 1,000 square feet; 2-bedroom: 850 square feet; 1-bedroom: 700 square feet; and studio / loft: 650 square feet.	N/A – no multi-family units.	Yes.
Minimum buffer requirements	Minimum of 30-foot-wide buffer and five of the feet can be within the required setback.	Minimum width of 30 feet with five potentially within the required setback.	Yes.

Table 7: City of Cleveland PM-U Compliance

I. PLANNING ASSESSMENT – WHITE COUNTY

134. We are using the repealed questions from the 2023 Georgia Code Title 36 – Provisions Applicable to Counties and Municipal Corporations: Zoning Proposal Review Procedures: (§36-67-1) which serves as a useful guide at this moment for assessing the application. Therefore, White County, in deciding whether to approve or deny annexation into the City of Cleveland, should take into account the following factors: whether the annexation ordinance is reasonable:

Whether the annexation ordinance is reasonable for the long-range economic and overall well-being of the counties, school districts, and municipalities affected by the annexation

135. This proposed annexation presents a strategic opportunity to create sustainable, high-quality employment across the healthcare, hospitality, medical, and maintenance sectors. Moreover, the addition of these commercial facilities will generate tax revenue, which can be allocated to support the growth and sustainability of local schools and municipal services.

Whether the health, safety, and welfare of property owners and citizens of the county, municipalities, and area proposed to be annexed will be negatively affected by the annexation

136. As aforementioned this mixed-use campus increases the health, safety, and welfare of the community by:

- providing much-needed medical facilities;
- providing a safe place for the senior population to age comfortably; and
- ensuring a safe and welcoming space for Cleveland and White County.

Whether the proposed annexation has any negative fiscal impact on the county, school districts, and other municipalities that have not been mitigated by an agreement

137. In our assessment, the proposed campus will not have any adverse impacts on the county, school districts, or neighboring municipalities. The City has confirmed sufficient capacity to support this development, and as no children will reside on the property, there will be no increase in demand for local schools.

The interests of the property owner seeking annexation

138. Annexing and securing the appropriate zoning within the City of Cleveland enables the property owner to contribute a high-quality, master-planned development to the community while alleviating the responsibilities associated with maintaining the property under the current contractual agreement with those experienced in the zoning and development sector.

J. APPENDICES

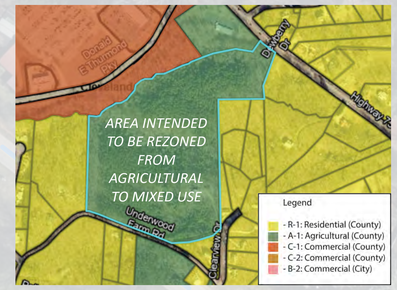
K. APPENDIX 1 – SITE PLAN

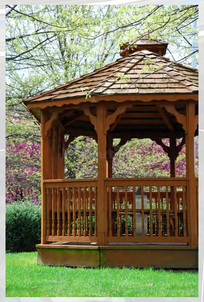
UNDERWOOD FARM

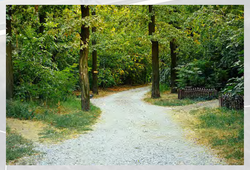
SITE FEASIBILITY TEST FIT / PROGRAM STUDY

475 UNDERWOOD FARM ROAD, CLEVELAND, GA, 30528
LOT SIZE: 27.19 ACRES
TAX MAP AND PARCEL NUMBER: 048C 135
PROPERTY OWNER: RAY BLACK
184 W KYTLE STREET, CLEVELAND, GEORGIA 30528

ZONING







SITE FEATURES
- WET DETENTION PONDS
- GAZEBO
- WALKING PATHS

PROPOSED ASSISTED LIVING
- 65,000 SF
- 70 PARKING SPACES
- ASSISTED LIVING COURTYARD

PROPOSED HOTEL
- 22,500 SF
- 24 ROOMS
- 50 PARKING SPACES

PROPOSED MEDICAL OFFICE
- 32,500 SF
- 110 PARKING SPACES

0' 100' 200' 300' 600'

JANUARY 13, 2024

N

Grace
Grace of Georgia Developments LLC

CLIENT: GRACE OF GEORGIA DEVELOPMENTS LLC

KCI

HUSSEY GAY BELL
Established 1958

DLBP

SFCS
Enriching life by design
architecture | engineering | planning | interiors

L. APPENDIX 2 – ENTRANCEWAY DESIGN

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Ds-3 DISTURBED AREA STABILIZATION w/ PERMANENT VEGETATION

THE PLANTING OF PERENNIAL VEGETATION SUCH AS TREES, SHRUBS, VINES, GRASSES, OR LEGUMES ON EXPOSED AREAS FOR FINAL PERMANENT STABILIZATION. PERMANENT PERENNIAL VEGETATION SHALL BE USED TO ACHIEVE FINAL STABILIZATION.

INSTRUCTIONS

THIS PRACTICE SHALL BE APPLIED IMMEDIATELY TO ROUGH GRADED AREAS THAT WILL BE UNDISTURBED FOR LONGER THAN SIX MONTHS. THIS PRACTICE OR SODDING SHALL BE APPLIED IMMEDIATELY TO ALL AREAS AT FINAL GRADE. FINAL STABILIZATION MEANS THAT ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND THAT FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, AT LEAST 70% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OF RIP RAP, GABIONS, PERMANENT MULCHES OR GEOTEXTILES) HAVE BEEN EMPLOYED. PERMANENT VEGETATION SHALL CONSIST OF: PLANTED TREES, SHRUBS, PERENNIAL VINES; A CROP OF PERENNIAL VEGETATION APPROPRIATE FOR THE REGION, SUCH THAT WITHIN THE GROWING SEASON A 70% COVERAGE BY PERENNIAL VEGETATION SHALL BE ACHIEVED.
FINAL STABILIZATION APPLIES TO EACH PHASE OF CONSTRUCTION. FOR LINEAR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL OR SILVICULTURAL PURPOSES, FINAL STABILIZATION MAY BE ACCOMPLISHED BY STABILIZING THE DISTURBED LAND FOR ITS AGRICULTURAL OR SILVICULTURAL USE. UNTIL THIS STANDARD IS SATISFIED AND PERMANENT CONTROL MEASURES AND FACILITIES ARE OPERATIONAL, INTERIM STABILIZATION MEASURES AND TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL NOT BE REMOVED.

PLANNING CONSIDERATIONS
1. USE CONVENTIONAL PLANTING METHODS WHERE POSSIBLE.
2. WHEN MIXED PLANTINGS ARE DONE DURING MARGINAL PLANTING PERIODS, COMPANION CROPS SHALL BE USED.
3. NO-TILL PLANTING IS EFFECTIVE WHEN PLANTING IS DONE FOLLOWING A SUMMER OR WINTER ANNUAL COVER CROP.
4. BLOCK SOD PROVIDES IMMEDIATE COVER. IT IS ESPECIALLY EFFECTIVE IN CONTROLLING EROSION ADJACENT TO CONCRETE FLUMES AND OTHER STRUCTURES. REFER TO Ds-4 DISTURBED AREA STABILIZATION (WITH SODDING).
5. IRRIGATION SHOULD BE USED WHEN THE SOIL IS DRY OR WHEN SUMMER PLANTINGS ARE DONE.
6. LOW MAINTENANCE PLANTS, AS WELL AS NATIVES, SHOULD BE USED TO ENSURE LONG LASTING EROSION CONTROL.
7. MOWING SHOULD NOT BE PERFORMED DURING THE QUAIL NESTING SEASON (MAY TO SEPT.) WILDLIFE PLANTINGS SHOULD BE INCLUDED IN CRITICAL AREA PLANTINGS. SEE MANUAL FOR PLANT LIST.

GRADING & SHAPING

GRADING AND SHAPING MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. VERTICAL BANKS SHALL BE SLOPED TO ENABLE PLANT ESTABLISHMENT. WHEN CONVENTIONAL SEEDING AND FERTILIZING ARE TO BE DONE, GRADE AND SHAPE WHERE FEASIBLE AND PRACTICAL SO THAT EQUIPMENT CAN BE USED SAFELY AND EFFICIENTLY DURING SEEDBED PREPARATION, SEEDING, MULCHING AND MAINTENANCE OF THE VEGETATION. CONCENTRATIONS OF WATER THAT WILL CAUSE EXCESSIVE SOIL EROSION SHALL BE DIVERTED TO A SAFE OUTLET. DIVERSIONS AND OTHER TREATMENT PRACTICES SHALL CONFORM WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS.

LIME AND FERTILIZER APPLICATION

WHEN HYDRAULIC SEEDING EQUIPMENT IS USED, THE INITIAL FERTILIZER SHALL BE MIXED WITH SEED, INNOCULANT (IF NEEDED), AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH AND APPLIED IN A SLURRY. THE INNOCULANT, IF NEEDED, SHALL BE MIXED WITH THE SEED PRIOR TO BEING PLACED INTO THE HYDRAULIC SEEDER. THE SLURRY MIXTURE WILL BE AGITATED DURING APPLICATION TO KEEP THE INGREDIENTS THOROUGHLY MIXED. THE MIXTURE WILL BE SPREAD UNIFORMLY OVER THE AREA WITHIN ONE HOUR AFTER BEING PLACED IN THE HYDROSEEDER.

FINELY GROUND LIMESTONE WILL BE MIXED WITH WATER AND APPLIED IMMEDIATELY AFTER MULCHING IS COMPLETED OR IN COMBINATION WITH THE TOP DRESSING. WHEN CONVENTIONAL PLANTING IS TO BE DONE, LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY IN ONE OF THE FOLLOWING WAYS.
1. APPLY BEFORE LAND PREPARATION SO THAT IT WILL BE MIXED WITH THE SOIL DURING SEEDBED PREPARATION.
2. MIX WITH THE SOIL USED TO FILL THE HOLES, DISTRIBUTE IN FURROWS.
3. BROADCAST AFTER STEEP SURFACES ARE SCARIFIED, PITTED OR TRENCHED.
4. A FERTILIZER PELLET SHALL BE PLACED AT ROOT DEPTH IN THE CLOSING HOLE BESIDE EACH TREE SEEDLING.

LIME AND FERTILIZER RATES AND ANALYSIS

AGRICULTURAL LIME IS REQUIRED AT A RATE OF ONE TO TWO TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE. GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME SHALL BE WITHIN THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE.

LIME SPREAD BY CONVENTIONAL EQUIPMENT SHALL BE "GROUND LIMESTONE." GROUND LIMESTONE IS CALCITIC OR DOLOMITIC LIMESTONE GROUND SO THAT 90% OF THE MATERIAL WILL PASS THROUGH A 10-MESH SIEVE, NOT LESS THAN 50% WILL PASS THROUGH A 50-MESH SIEVE AND NOT LESS THAN 25 PERCENT WILL PASS THROUGH A 100-MESH SIEVE.

LIME AND FERTILIZER RATES AND ANALYSIS CONT

AGRICULTURAL LIME SPREAD BY HYDRAULIC SEEDING EQUIPMENT SHALL BE "FINELY GROUND LIMESTONE." FINELY GROUND LIMESTONE IS CALCITIC OR DOLOMITIC LIMESTONE GROUND SO THAT 98% OF THE MATERIAL WILL PASS THROUGH A 20-MESH SIEVE AND NOT LESS THAN 70% WILL PASS THROUGH A 100-MESH SIEVE.

IT IS DESIRABLE TO USE DOLOMITIC LIMESTONE IN THE SAND HILLS, SOUTHERN COASTAL PLAIN AND ATLANTIC COAST FLATWOODS MLRA'S. (SEE MANUAL). AGRICULTURAL LIME IS GENERALLY NOT REQUIRED WHERE ONLY TREES ARE PLANTED. INITIAL FERTILIZATION, NITROGEN, TOPDRESSING, AND MAINTENANCE FERTILIZER REQUIREMENTS FOR EACH SPECIES OR COMBINATION OF SPECIES ARE LISTED IN TABLE 6-5.1.

PLANT SELECTION

REFER TO TABLE BELOW FOR APPROVED SPECIES. SPECIES NOT LISTED SHALL BE APPROVED BY THE OWNER AND THE STATE RESOURCE CONSERVATIONIST OF THE NATURAL RESOURCE CONSERVATION SERVICE BEFORE THEY ARE USED. PLANTS SHALL BE SELECTED ON THE BASIS OF SPECIES CHARACTERISTICS, SITE AND SOIL CONDITIONS, PLANNED USE AND MAINTENANCE OF THE AREA; TIME OF YEAR OF PLANTING, METHOD OF PLANTING; AND THE NEEDS AND DESIRES OF THE LAND USER. SOME PERENNIAL SPECIES ARE EASILY ESTABLISHED AND CAN BE PLANTED ALONE. EXAMPLES OF THESE ARE COMMON BERMUDA, TALL FESCUE AND WEEPING LOVEGRASS. THE ADDITIONAL SPECIES WILL PROVIDE QUICK COVER AND AMPLE SOIL PROTECTION UNTIL THE TARGET PERENNIAL SPECIES BECOME ESTABLISHED. FOR EXAMPLE COMMON SEEDING COMBINATIONS INCLUDE: WEEPING LOVEGRASS WITH SERICEA LESPEDEZA (SCARIFIED) AND TALL FESCUE WITH SERICEA LESPEDEZA (UNSCARIFIED).

PLANT SELECTION MAY ALSO INCLUDE ANNUAL COMPANION CROPS. ANNUAL COMPANION CROPS SHOULD BE USED ONLY WHEN THE PERENNIAL SPECIES ARE NOT PLANTED DURING THEIR OPTIMUM PLANTING PERIOD. A COMMON MIXTURE IS BROWN TOP MILLET WITH COMMON BERMUDA IN MID-SUMMER. CARE SHOULD BE TAKEN IN SELECTING COMPANION CROP SPECIES AND SEEDING RATES BECAUSE ANNUAL CROPS WILL COMPETE WITH PERENNIAL SPECIES FOR WATER, NUTRIENTS AND GROWING SPACE. A HIGH SEEDING RATE OF THE COMPANION CROP MAY PREVENT THE ESTABLISHMENT OF PERENNIAL SPECIES. RYEGRASS SHALL NOT BE USED IN ANY SEEDING MIXTURES CONTAINING PERENNIAL SPECIES DUE TO ITS ABILITY TO OUT-COMPETE DESIRED SPECIES CHOSEN FOR PERMANENT PERENNIAL COVER.

SEED QUALITY

THE TERM "PURE LIVE SEED" IS USED TO EXPRESS THE QUALITY OF SEED AND IS NOT SHOWN ON THE LABEL. PURE LIVE SEED, PLS, IS EXPRESSED AS A PERCENTAGE OF THE SEEDS THAT ARE PURE AND WILL GERMINATE. INFORMATION ON PERCENT GERMINATION AND PURITY CAN BE FOUND ON SEED TAGS. PLS IS DETERMINED BY MULTIPLYING THE PERCENT OF PURE SEED WITH THE PERCENT OF GERMINATION; I.E., PLS = % GERMINATION x % PURITY

THE PERCENT OF PLS HELPS YOU DETERMINE THE AMOUNT OF SEED YOU NEED. FOR EXAMPLE IF THE SEEDING RATE IS 10 POUNDS PLS AND THE BULK SEED IS 56% PLS,

THE BULK SEEDING RATE IS: $\frac{\text{10 LBS. OF PLS / ACRE}}{\text{56\% PLS}}$ = 17.9 LBS / ACRE

YOU WOULD NEED TO PLANT 17.9 LBS/ACRE TO PROVIDE 10 LBS/ACRE OF PURE LIVE SEED.

SEEDBED PREPARATION

SEEDBED PREPARATION MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. WHEN CONVENTIONAL SEEDING IS TO BE USED, SEEDBED PREPARATION WILL BE DONE AS FOLLOWS:

BROADCAST PLANTINGS:
1. TILLAGE AT A MINIMUM, SHALL ADEQUATELY LOOSEN THE SOIL TO A DEPTH OF 4 TO 6 IN. ALLEVIATE COMPACTION; INCORPORATE LIME AND FERTILIZER; SMOOTH AND FIRM THE SOIL; ALLOW FOR THE PROPER PLACEMENT OF SEED, SPRIGS, OR PLANTS; AND ALLOW FOR THE ANCHORING OF STRAW OR HAY MULCH IF A DISK IS TO BE USED.
2. TILLAGE MAY BE DONE WITH ANY SUITABLE EQUIPMENT.
3. TILLAGE SHOULD BE DONE ON THE CONTOUR, WHERE FEASIBLE.
4. ON SLOPES TOO STEEP FOR THE SAFE OPERATION OF TILLAGE EQUIPMENT, THE SOIL SURFACE SHALL BE PITTED OR TRENCHED ACROSS THE SLOPE WITH APPROPRIATE HAND TOOLS TO PROVIDE TWO PLACES 6 TO 8 IN. APART IN WHICH SEED MAY LODGE AND GERMINATE. HYDRAULIC SEEDING MAY ALSO BE USED.

INDIVIDUAL PLANTS

1. WHERE INDIVIDUAL PLANTS ARE TO BE SET, THE SOIL SHALL BE PREPARED BY EXCAVATING HOLES, OPENING FURROWS, OR DIBBLE PLANTING.
2. FOR NURSERY STOCK PLANTS, HOLES SHALL BE LARGE ENOUGH TO ACCOMMODATE ROOTS WITHOUT CROWDING.
3. WHERE PINE SEEDLINGS ARE TO BE PLANTED, SUBSOIL UNDER THE ROW 36 INCHES DEEP ON THE CONTOUR FOUR TO SIX MONTHS PRIOR TO PLANTING. SUBSOILING SHOULD BE DONE WHEN THE SOIL IS DRY, PREFERABLY IN AUGUST OR SEPTEMBER.

INNOCULANTS
ALL LEGUME SEED SHALL BE INOCULATED WITH APPROPRIATE NITROGEN-FIXING BACTERIA. THE INNOCULANT SHALL BE A PURE CULTURE PREPARED SPECIFICALLY FOR THE SEED SPECIES AND USED WITHIN THE DATES ON THE CONTAINER. A MIXING MEDIUM RECOMMENDED BY THE MANUFACTURER SHALL BE USED TO BOND THE INNOCULANT TO THE SEED. FOR CONVENTIONAL SEEDING, USE TWICE THE AMOUNT OF INNOCULANT RECOMMENDED BY THE MANUFACTURER. FOR HYDRAULIC SEEDING, FOUR TIMES THE AMOUNT OF INNOCULANT RECOMMENDED BY THE MANUFACTURER SHALL BE USED. ALL INOCULATED SEED SHALL BE PROTECTED FROM THE SUN AND HIGH TEMPERATURES AND SHALL BE PLANTED THE SAME DAY INOCULATED. NO INOCULATED SEED SHALL REMAIN IN THE HYDROSEEDER LONGER THAN ONE HOUR.

PLANTING
HYDRAULIC SEEDING: MIX THE SEED (INOCULATED IF NEEDED), FERTILIZER, AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH WITH WATER AND APPLY IN A SLURRY UNIFORMLY OVER THE AREA TO BE TREATED. APPLY WITHIN ONE HOUR AFTER THE MIXTURE IS MADE.
CONVENTIONAL SEEDING: SEEDING WILL BE DONE ON A FRESHLY PREPARED AND FIRMED SEEDBED. FOR BROADCAST PLANTING, USE A CULTIPACKER-SEEDER, DRILL, ROTARY SEEDER, OTHER MECHANICAL SEEDER, OR HAND SEEDING TO DISTRIBUTE THE SEED UNIFORMLY OVER THE AREA TO BE TREATED. COVER THE SEED LIGHTLY WITH 1/8 TO 1/4 INCH OF SOIL FOR SMALL SEED AND 1/2 TO 1 INCH FOR LARGE SEED WHEN USING A CULTIPACKER OR OTHER SUITABLE EQUIPMENT.
NO-TILL SEEDING: NO-TILL SEEDING IS PERMISSIBLE INTO ANNUAL COVER CROPS WHEN PLANTING IS DONE FOLLOWING MATURITY OF THE COVER CROP OR IF THE TEMPORARY COVER STAND IS SPARSE ENOUGH TO ALLOW ADEQUATE GROWTH OF THE PERMANENT (PERENNIAL) SPECIES. NO TILL SEEDING SHALL BE DONE WITH APPROPRIATE NO-TILL SEEDING EQUIPMENT. THE SEED MUST BE UNIFORMLY DISTRIBUTED AND PLANTED AT THE PROPER DEPTH.
INDIVIDUAL PLANTS: SHRUBS, VINES AND SPRIGS MAY BE PLANTED WITH APPROPRIATE PLANTERS OR HAND TOOLS. PINE TREES SHALL BE PLANTED MANUALLY IN THE SUBSOIL FURROW. EACH PLANT SHALL BE SET IN A MANNER THAT WILL AVOID CROWDING THE ROOTS. NURSERY STOCK PLANTS SHALL BE PLANTED AT THE SAME DEPTH OR SLIGHTLY DEEPER THAN THEY GREW AT THE NURSERY. THE TOPS OF VINES AND SPRIGS MUST BE AT OR SLIGHTLY ABOVE THE GROUND SURFACE. WHERE INDIVIDUAL HOLES ARE DUG, FERTILIZER SHALL BE PLACED IN THE BOTTOM OF THE HOE, TWO INCHES OF SOIL SHALL BE ADDED AND THE PLANT SHALL BE SET IN THE HOLE.

MULCHING
MULCH IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED.

DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2 1/2 TONES PER ACRE.
WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED ABOVE) AFTER THE HYDRAULIC SEEDING.
ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 4:1 OR STEEPER
SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE.

PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDED AREAS.
WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCH IS NOT REQUIRED. BITUMINOUS TREATED ROVING MAY BE APPLIED ON PLANTED AREAS ON SLOPES, IN DITCHES OR DRY WATERWAYS TO PREVENT EROSION. BITUMINOUS TREATED ROVING SHALL BE APPLIED WITHIN 24 HOURS AFTER AN AREA HAS BEEN PLANTED. APPLICATION RATES AND MATERIALS MUST MEET GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.

WOOD CELLULOSE AND WOOD PULP FIBERS SHALL NOT CONTAIN GERMINATION OR GROWTH INHIBITING FACTORS. THEY SHALL BE EVENLY DISPERSED WHEN AGITATED IN WATER. THE FIBERS SHALL CONTAIN A DYE TO ALLOW VISUAL METERING AND AID IN UNIFORM APPLICATION DURING SEEDING.

APPLYING MULCH
STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS AFTER SEEDING AND/OR PLANTING. THE MULCH MAY BE SPREAD BY BLOWER TYPE SPREADING EQUIPMENT, OTHER SPREADING EQUIPMENT OR BY HAND. MULCH SHALL BE APPLIED TO COVER 75% OF THE SOIL SURFACE. WOOD CELLULOSE OR WOOD FIBER MULCH SHALL BE APPLIED UNIFORMLY WITH HYDRAULIC SEEDING EQUIPMENT.

ANCHORING MULCH
ANCHOR STRAW OR HAY MULCH IMMEDIATELY AFTER APPLICATION BY ONE OF THE FOLLOWING METHODS.:
EMULSIFIED ASPHALT CAN BE (A) SPRAYED UNIFORMLY ONTO THE MULCH AS IT IS EJECTED FROM THE BLOWER MACHINE OR (B) SPRAYED ON THE MULCH IMMEDIATELY FOLLOWING MULCH APPLICATION WHEN STRAW OR HAY IS SPREAD BY METHODS OTHER THAN SPECIAL BLOWER EQUIPMENT. THE COMBINATION OF ASPHALT EMULSION AND WATER SHALL CONSIST OF A HOMOGENEOUS MIXTURE SATISFACTORY FOR SPRAYING. THE MIXTURE SHALL CONSIST OF 100 GALLONS OF WATER PER TON OF MULCH. CARE SHALL BE TAKEN AT ALL TIMES TO PROTECT STATE WATERS, THE PUBLIC, ADJACENT PROPERTY, PAVEMENTS, CURBS, SIDEWALKS AND OTHER STRUCTURES FROM ASPHALT DISCOLORATION. 2. HAY AND STRAW MULCH SHALL BE PRESSED INTO THE SOIL IMMEDIATELY AFTER THE MULCH IS SPREAD. A SPECIAL "PACKER DISK" OR DISK HARROW WITH THE DISKS SET STRAIGHT MAY BE USED. THE DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISKS SHALL BE DULL ENOUGH TO PRESS THE MULCH INTO THE GROUND WITHOUT CUTTING IT, LEAVING MUCH OF IT IN AN ERECT POSITION. MULCH SHALL NOT BE PLOWED INTO THE SOIL. 3. SYNTHETIC TACKIFIERS OR BINDERS APPROVED BY GDOT SHALL BE APPLIED IN CONJUNCTION WITH OR IMMEDIATELY AFTER THE MULCH IS SPREAD. SYNTHETIC TACKIFIERS SHALL BE MIXED AND APPLIED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. REFER TO Tb – TACKIFIERS AND BINDERS. 4. RYE OR WHEAT CAN BE INCLUDED WITH FALL AND WINTER PLANTINGS TO STABILIZE THE MULCH. THEY SHALL BE APPLIED AT A RATE OF ONE-QUARTER TO ONE-HALF BUSHEL PER ACRE. 5. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS. THESE MATERIALS SHALL BE INSTALLED AND ANCHORED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

BEDDING MATERIAL: MULCH USED AS A BEDDING MATERIAL TO CONSERVE MOISTURE AND CONTROL WEEDS IN NURSERIES, ORNAMENTAL BEDS, AROUND SHRUBS, AND ON BARE AREAS ON LAWNS.

MATERIAL	DEPTH
GRAIN STRAW	4" TO 6"
GRASS HAY	4" TO 6"
PINE NEEDLES	3" TO 5"
WOOD WASTE	4" TO 6"

IRRIGATION: IRRIGATION WILL BE APPLIED AT A RATE THAT WILL NOT CAUSE RUNOFF.

TOPDRESSING: WILL BE APPLIED ON ALL TEMPORARY AND PERMANENT (PERENNIAL) SPECIES PLANTED ALONE OR IN MIXTURES WITH OTHER SPECIES. RECOMMENDED RATES OF APPLICATION ARE LISTED IN TABLE 6-5.1

SECOND YEAR AND MAINTENANCE FERTILIZATION: SECOND YEAR FERTILIZER RATES AND MAINTENANCE FERTILIZER RATES ARE LISTED IN TABLE 6-5.1

LIME MAINTENANCE APPLICATION: APPLY ONE TON OF AGRICULTURAL LIME EVERY 4 TO 6 YEARS OR AS INDICATED BY SOIL TESTS. SOIL TESTS CAN BE CONDUCTED TO DETERMINE MORE ACCURATE REQUIREMENTS IF DESIRED.

USE AND MANAGEMENT: MOW SERICEA LESPEDEZA ONLY AFTER FROST TO ENSURE THAT THE SEEDS ARE MATURE. MOW BETWEEN NOVEMBER AND MARCH. BERMUDAGRASS, BAHIAGRASS AND TALL FESCUE MAY BE MOWED AS DESIRED. MAINTAIN AT LEAST 6 INCHES OF TOP GROWTH UNDER ANY USE AND MANAGEMENT. MODERATE USE OF TOP GROWTH IS BENEFICIAL AFTER ESTABLISHMENT. EXCLUDE TRAFFIC UNTIL THE PLANTS ARE WELL ESTABLISHED. BECAUSE OF THE QUAIL NESTING SEASON, MOWING SHOULD NOT TAKE PLACE BETWEEN MAY AND SEPTEMBER.

		ANALYSIS OR EQUIVALENT N-P-K		N TOP DRESSING RATE
1. COOL SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500 LBS./AC. 1000 LBS./AC. 400 LBS./AC.	50-100 LBS./AC. 1/ 2/ -- 30
2. COOL SEASON GRASSES AND LEGUMES	FIRST SECOND MAINTENANCE	6-12-12 0-10-10 0-10-10	1500 LBS./AC. 1000 LBS./AC. 400 LBS./AC.	0-50 LBS./AC. 1/ -- --
3. GROUND COVERS	FIRST SECOND MAINTENANCE	10-10-10 10-10-10 10-10-10	1300 LBS./AC. 3/ 1300 LBS./AC. 3/ 1100 LBS./AC.	-- -- --
4. PINE SEEDLINGS	FIRST	20-10-5	ONE 21-GRAM PELLET PER SEEDLING PLACED IN THE CLOSING HOLE	--
5. SHRUB LESPEDEZA	FIRST MAINTENANCE	0-10-10 0-10-10	700 LBS./AC. 700 LBS./AC. 4/	--
6. TEMPORARY COVER CROPS SEEDED ALONE	FIRST	10-10-10	500 LBS./AC.	30 LBS./AC. 5/
7. WARM SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500 LBS./AC. 800 LBS./AC. 400 LBS./AC.	50-100 LBS./AC. 2/ 6/ 50-100 LBS./AC. 2/ 30 LBS./AC.
8. WARM SEASON GRASSES AND LEGUMES	FIRST SECOND MAINTENANCE	6-12-12 0-10-10 0-10-10	1500 LBS./AC. 1000 LBS./AC. 400 LBS./AC.	50 LBS./AC. 6/

1/ APPLY IN SPRING FOLLOWING SEEDING.
2/ APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.
3/ APPLY IN 3 SPLIT APPLICATIONS.
4/ APPLY WHEN PLANTS ARE PRUNED.
5/ APPLY TO GRASS SPECIES ONLY.
6/ APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.

PLANTS, PLANTING RATES, AND PLANTING DATES

SPECIES	BROADCAST RATES 1/ - PLS 2/ PER ACRE	PER 1000 sq. ft.	RESOURCE AREA 3/	PLANTING DATES BY RESOURCE AREAS — PLANTING DATES (SOLID LINES INDICATE OPTIMUM DATES, DOTTED LINES INDICATE PERMISSIBLE BUT MARGINAL DATES.) J F M A M J J A S O N D	REMARKS
FESCUE, TALL (FESTUCA ARUNDINACEA) ALONE	50 LBS.	1.1 LB.	M-L		227,000 SEED PER POUND. USE ALONE ONLY ON BETTER SITES. NOT FOR DROUGHTY SOILS. APPLY TOPDRESSING IN SPRING FOLLOWING FALL PLANTINGS. NOT FOR HEAVY USE AREAS OR ATHLETIC FIELDS.
BERMUDA, COMMON (CYNODON DACTYLON) ALONE	10 LBS	0.2 LB	P C		1,787,000 SEED PER POUND. QUICK COVER. LOW GROWING AND SOD FORMING. FULL SUN. GOOD FOR ATHLETIC FIELDS.
WITH OTHER PERENNIALS	6 LBS	0.1 LB			
BERMUDA, COMMON (CYNODON DACTYLON) UNHULLED SEED			P C		
WITH TEMPORARY COVER	10 LBS	0.2 LB			PLANT WITH WINTER ANNUALS.
WITH OTHER PERENNIALS	6 LBS	0.1 LB			PLANT WITH TALL FESCUE.
BERMUDA SPRIGS (CYNODON DACTYLON) COASTAL, COMMON, MIDLAND, OR TIFT 44	40 CU. FT OR SOD PLUGS 3' X 3'	0.9 CU. FT.	M-L		A CUBIC FOOT CONTAINS APPROXIMATELY 650 SPRIGS. A BUSHEL CONTAINS 1.25 CUBIC FEET OR APPROXIMATELY 800 SPRIGS.
COASTAL, COMMON, OR TIFT 44			P C		SAME AS ABOVE
TIFT 78			C		SOUTHERN COASTAL PLAIN ONLY.
CENTIPEDE (ERMOCHLOA OPHIUROIDES)	BLOCK SOD ONLY		P C		DROUGHT TOLERANT. FULL SUN OR PARTIAL SHADE. EFFECTIVE ADJACENT TO CONCRETE AND IN CONCENTRATED FLOW AREAS. IRRIGATION IS NEEDED UNTIL FULLY ESTABLISHED. DO NOT PLANT NEAR PASTURES. WINTERHARDY AS FAR NORTH AS ATHENS AND ATLANTA.
LOVEGRASS, WEEPING (ERAGROSTIS CURVULA) ALONE	4 LBS	0.1 LB	M-L P C		1,500,000 SEED PER POUND. QUICK COVER. DROUGHT TOLERANT. GROWS WELL WITH SERICEA LESPEDEZA ON ROADBANKS
WITH OTHER PERENNIALS	2 LBS	0.05 LB			

SPECIFICATIONS

MULCHING WITHOUT SEEDING

THIS STANDARD APPLIES TO GRADES OR CLEARED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT CAN BE STABILIZED WITH A MULCH COVER.

SITE PREPARATION

1. GRADE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
2. INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.
3. LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

MULCHING MATERIALS

SELECT ONE OF THE FOLLOWING MATERIALS AND APPLY AT THE DEPTH INDICATED:
1. DRY STRAW OR HAY SHALL BE APPLIED AT A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVERAGE. ONE ADVANTAGE OF THIS MATERIAL IS EASY APPLICATION.
2. WOOD WASTE (CHIPS, SAWDUST OR BARK) SHALL BE APPLIED AT A DEPTH OF 2 TO 3 INCHES. ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT SHOULD REMAIN ON SITE, BE CHIPPED AND APPLIED AS MULCH. THIS METHOD OF MULCHING CAN GREATLY REDUCE EROSION CONTROL COSTS.
3. POLYETHYLENE FILM SHALL BE SECURED OVER BANKS OR STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION. THIS MATERIAL CAN BE SALVAGED AND RE-USED.

APPLYING MULCH

WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.
1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, 20-30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT SHALL BE APPLIED TO OFFSET THE UPTAKE OF NITROGEN CAUSED BY THE DECOMPOSITION OF THE ORGANIC MULCHES.
3. APPLY POLYETHYLENE FILM ON EXPOSED AREAS.

ANCHORING MULCH

1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK". DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION.

STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED. TACKIFIERS, BINDERS AND HYDRAULIC MULCH WITH TACKIFIER SPECIFICALLY DESIGNED FOR TACKING STRAW CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION TACKIFIERS. PLASTIC MESH OR
NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

2. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
3. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

Ds-1 DISTURBED AREA STABILIZATION w/MULCHING ONLY
2016

DEFINITION

CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITES, ROADS, AND DEMOLITION SITES.

PURPOSE

-TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES
-TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY BE HARMFUL OR INJURIOUS TO HUMAN HEALTH, WELFARE, OR SAFETY, OR TO ANIMALS OR PLANT LIFE.

CONDITIONS

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON AND OFF-SITE DAMAGE MAY OCCUR WITHOUT TREATMENT.

METHODS AND MATERIALS

TEMPORARY METHODS:

MULCHES SEE STANDARD Ds1 – DISTURBED AREA STABILIZATION (WITH MULCHING ONLY). SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT TO BIND MULCH MATERIAL. REFER TO STANDARD Tac-TACKIFIERS. RESINS SUCH AS CURASOL OR TERRATACK SHOULD BE USED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

VEGETATIVE COVER SEE STANDARD Ds2 – DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).

SPRAY-ON ADHESIVES THESE ARE USED ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. REFER TO STANDARD Tac.

TILLAGE THIS PRACTICE IS DESIGNED TO ROUGHEN AND BRING CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE WIND EROSION STARTS. BEGIN PLOWING ON WINDWARD SIDE OF THE SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.

IRRIGATION THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.

BARRIERS SOLID BOARD FENCES, SNOWFENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.

CALCIUM CHLORIDE APPLY AT A RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS:

PERMANENT VEGETATION SEE STANDARD Ds3 – DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION) EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

TOPSOILING THIS ENTAILS COVERING THE SURFACE WITH LESS EROSIVE SOIL MATERIAL. SEE STANDARD Tp-TOPSOILING.

STONE COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. SEE STANDARD Cr-CONSTRUCTION ROAD STABILIZATION.

Du DUST CONTROL ON DISTURBED AREAS
2016

HUSSEY GAY BELL
Established 1958
3100 Breckinridge Blvd., Building 300, Duluth, GA 30096 / T:770.923.1600

GRACE OF GEORGIA DEVELOPMENTS, LLC
78 LINDBERG DRIVE
ATLANTA, GA 30309

CONTACT: DOMINIC LAWSON DLBP, LLC
(407) 421-5170

REVISION

No.	Description	By	App.	Date
.		.	.	.

FOR REVIEW ONLY
NOT TO BE RELEASED FOR CONSTRUCTION

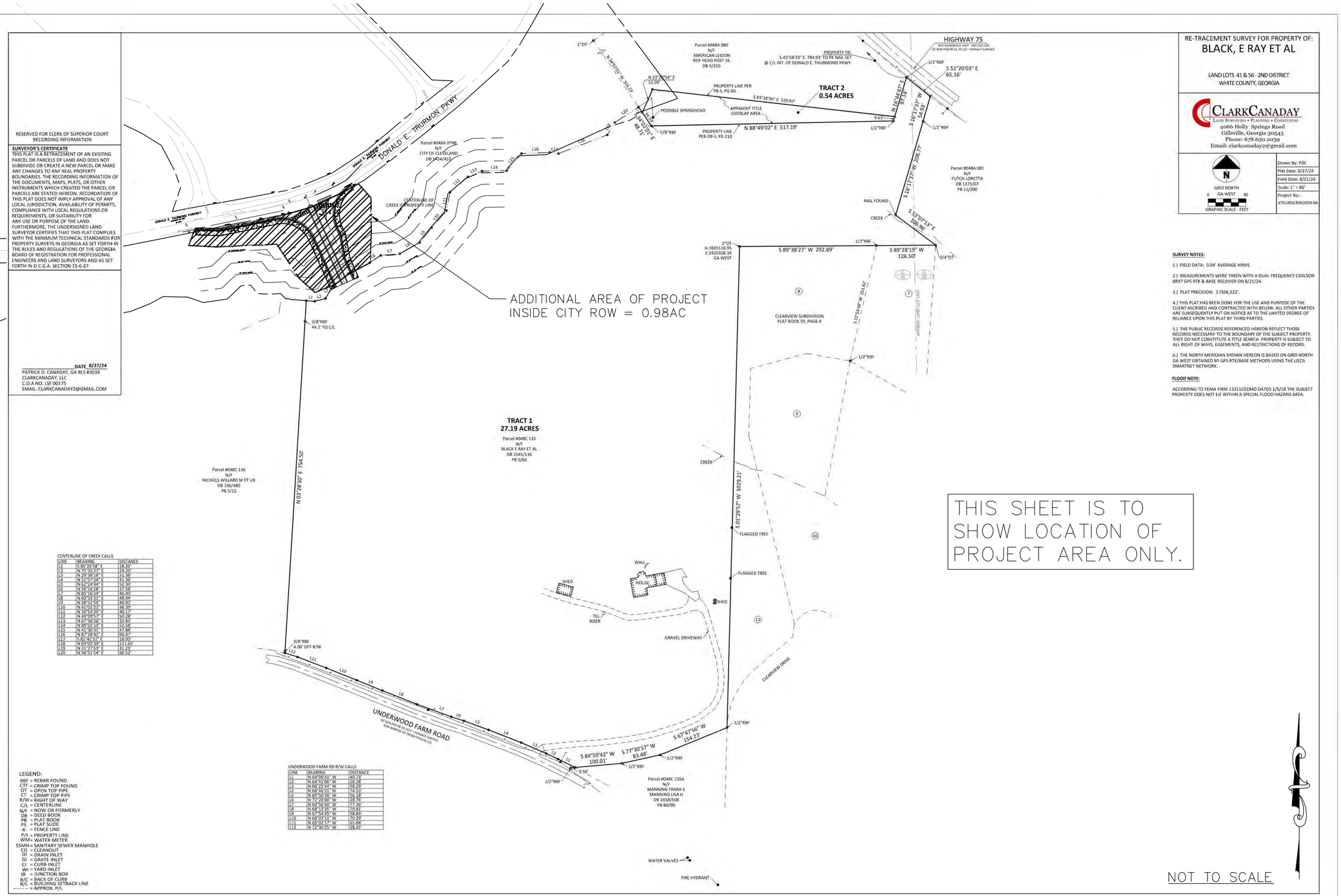
Project Title
UNDERWOOD FARM ROAD ENTRANCE DESIGN

Project Location
Address: 475 UNDERWOOD FARM ROAD
City, State Zip: CLEVELAND, GA
Land Lot: -
District-Section: -
County: WHITE

Project No.: 24-066
Drawn By: BT/CES
Checked By: CES
Initial Issue Date: 12-02-2024

Sheet Title
ESPC DETAIL 2 OF 3

Sheet Number
5 OF 6



CENTERLINE OF CREEK CALLS

LINE	BEARING	DISTANCE
L1	S 85°25'58" E	18.20'
L2	N 75°55'27" E	24.20'
L3	N 29°38'19" E	31.36'
L4	N 51°57'24" E	41.38'
L5	N 62°24'44" E	52.30'
L6	N 56°16'28" E	27.58'
L7	N 85°18'04" E	40.40'
L8	N 60°33'31" E	48.94'
L9	N 38°52'59" E	40.91'
L10	N 41°01'23" E	48.39'
L11	N 10°54'20" E	40.17'
L12	N 49°09'57" E	50.28'
L13	N 6°36'26" E	52.85'
L14	N 89°01'10" E	52.58'
L15	N 43°30'31" E	47.98'
L16	N 87°28'43" E	60.47'
L17	S 81°42'12" E	18.93'
L18	N 69°02'39" E	111.65'
L19	N 71°27'53" E	31.75'
L20	N 56°51'54" E	60.52'

UNDERWOOD FARM RD R/W CALLS

LINE	BEARING	DISTANCE
L1	N 64°09'41" W	40.73
L2	N 64°41'06" W	28.28'
L3	N 68°25'44" W	58.29'
L4	N 68°46'21" W	74.53'
L5	N 69°50'38" W	56.18'
L6	N 73°20'00" W	28.74'
L7	N 69°56'40" W	77.39'
L8	N 68°13'35" W	79.81'
L9	N 67°54'05" W	58.84'
L10	N 68°03'11" W	70.29'
L11	N 69°02'17" W	65.88'
L12	N 72°30'25" W	28.42'

LEGEND:
RBF = REBAR FOUND
CTF = CRIMP TOP FOUND
OT = OPEN TOP PIPE
CT = CRIMP TOP PIPE
R/W = RIGHT OF WAY
C/L = CENTERLINE
N/F = NOW OR FORMERLY
DB = DEED BOOK
PB = PLAT BOOK
PS = PLAT SLIDE
-x- = FENCE LINE
P/L = PROPERTY LINE
WM = WATER METER
SSMH = SANITARY SEWER MANHOLE
CO = CLEANOUT
DI = DRAIN INLET
GI = GRATE INLET
CI = CURB INLET
WI = YARD INLET
JB = JUNCTION BOX
B/C = BACK OF CURB
B/L = BUILDING SETBACK LINE
– – – = APPROX. P/L

THIS SHEET IS TO SHOW LOCATION OF PROJECT AREA ONLY.

NOT TO SCALE

RE-TRACEMENT SURVEY FOR PROPERTY OF:
BLACK, E RAY ET AL

LAND LOTS 41 & 56 - 2ND DISTRICT
WHITE COUNTY, GEORGIA

CLARKCANADAY
LAND SURVEYING • PLANNING • CONSULTING
4066 Holly Springs Road
Gillsville, Georgia 30543
Phone: 678.630.2039
Email: clarkcanaday2@gmail.com

GRID NORTH
0 GA-WEST 80
GRAPHIC SCALE - FEET

Drawn By:	PDC
Plat Date:	8/27/24
Field Date:	8/21/24
Scale:	1" = 80'
Project No.:	475UNDERWOODFAR

SURVEY NOTES:

1.) FIELD DATA: 0.04' AVERAGE HRMS

2.) MEASUREMENTS WERE TAKEN WITH A DUAL FREQUENCY CARLSON BRX7 GPS RTK & BASE RECEIVER ON 8/21/24.

3.) PLAT PRECISION: 1'/506,522'.

4.) THIS PLAT HAS BEEN DONE FOR THE USE AND PURPOSE OF THE CLIENT ASCRIBED AND CONTRACTED WITH BELOW. ALL OTHER PARTIES ARE SUBSEQUENTLY PUT ON NOTICE AS TO THE LIMITED DEGREE OF RELIANCE UPON THIS PLAT BY THIRD PARTIES.

5.) THE PUBLIC RECORDS REFERENCED HEREON REFLECT THOSE RECORDS NECESSARY TO THE BOUNDARY OF THE SUBJECT PROPERTY. THEY DO NOT CONSTITUTE A TITLE SEARCH. PROPERTY IS SUBJECT TO ALL RIGHT OF WAYS, EASEMENTS, AND RESTRICTIONS OF RECORD.

6.) THE NORTH MERIDIAN SHOWN HEREON IS BASED ON GRID NORTH GA WEST OBTAINED BY GPS RTK/BASE METHODS USING THE LIECA SMARTNET NETWORK..

FLOOD NOTE:

ACCORDING TO FEMA FIRM 13311C0184D DATED 1/5/18 THE SUBJECT PROPERTY DOES NOT ILIE WITHIN A SPECIAL FLOOD HAZARD AREA.

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Project Title
UNDERWOOD FARM ROAD ENTRANCE DESIGN

Project Location

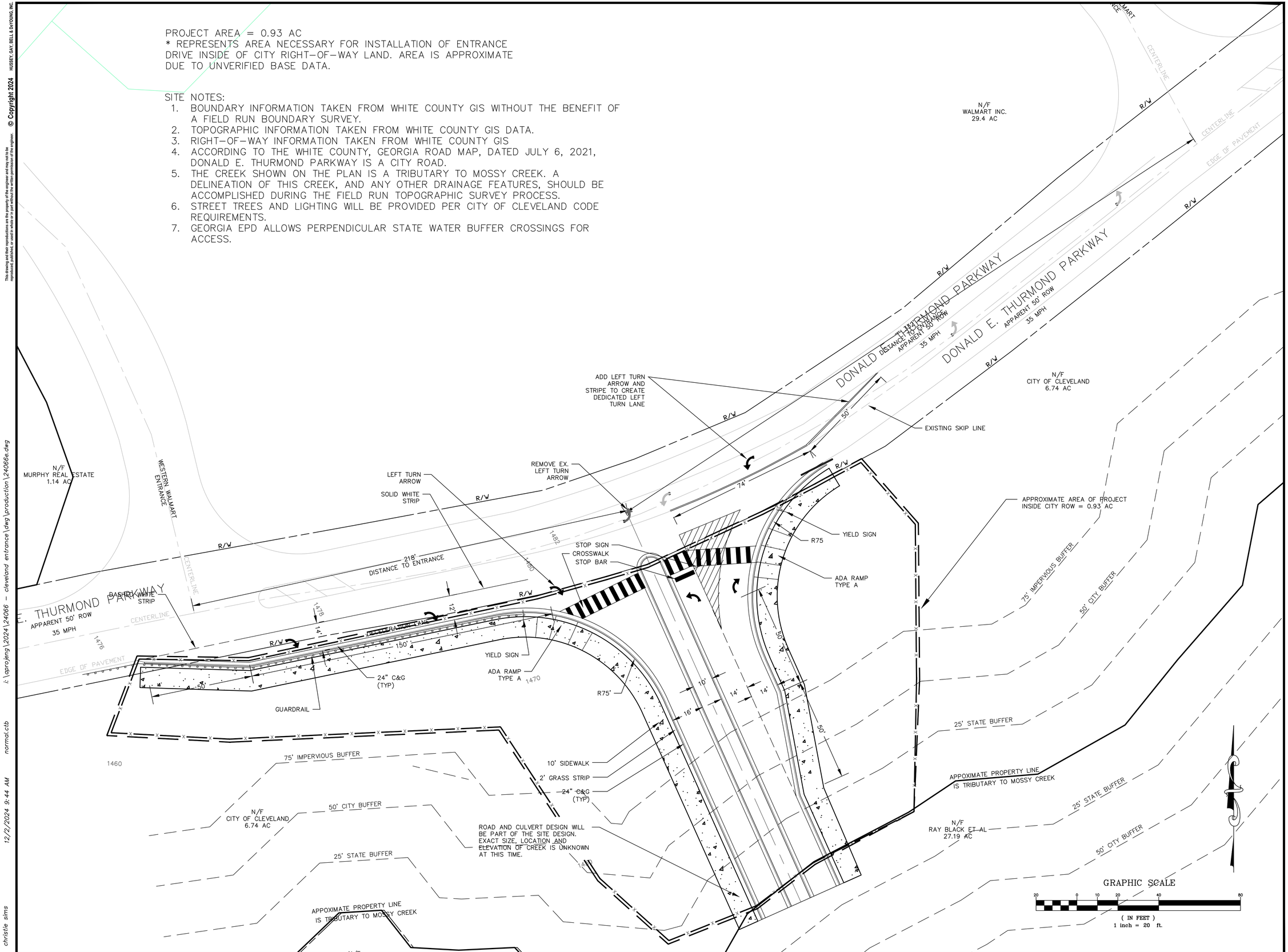
Address	475 UNDERWOOD FARM ROAD
City, State Zip	CLEVELAND, GA
Land Lot	-
District-Section	-
County	WHITE
Project No.	24-066
Drawn By:	BT/CES
Checked By:	CES
Initial Issue Date:	12-02-2024

Sheet Title
OVERALL PROJECT LOCATION MAP

Sheet Number
1 OF 6

PROJECT AREA = 0.93 AC
* REPRESENTS AREA NECESSARY FOR INSTALLATION OF ENTRANCE DRIVE INSIDE OF CITY RIGHT-OF-WAY LAND. AREA IS APPROXIMATE DUE TO UNVERIFIED BASE DATA.

SITE NOTES:
1. BOUNDARY INFORMATION TAKEN FROM WHITE COUNTY GIS WITHOUT THE BENEFIT OF A FIELD RUN BOUNDARY SURVEY.
2. TOPOGRAPHIC INFORMATION TAKEN FROM WHITE COUNTY GIS DATA.
3. RIGHT-OF-WAY INFORMATION TAKEN FROM WHITE COUNTY GIS
4. ACCORDING TO THE WHITE COUNTY, GEORGIA ROAD MAP, DATED JULY 6, 2021, DONALD E. THURMOND PARKWAY IS A CITY ROAD.
5. THE CREEK SHOWN ON THE PLAN IS A TRIBUTARY TO MOSSY CREEK. A DELINEATION OF THIS CREEK, AND ANY OTHER DRAINAGE FEATURES, SHOULD BE ACCOMPLISHED DURING THE FIELD RUN TOPOGRAPHIC SURVEY PROCESS.
6. STREET TREES AND LIGHTING WILL BE PROVIDED PER CITY OF CLEVELAND CODE REQUIREMENTS.
7. GEORGIA EPD ALLOWS PERPENDICULAR STATE WATER BUFFER CROSSINGS FOR ACCESS.



GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

i:\projects\2024\24066 - cleveland entrance\dwg\production\24066e.dwg
12/2/2024 9:44 AM normal.ctb christie sims

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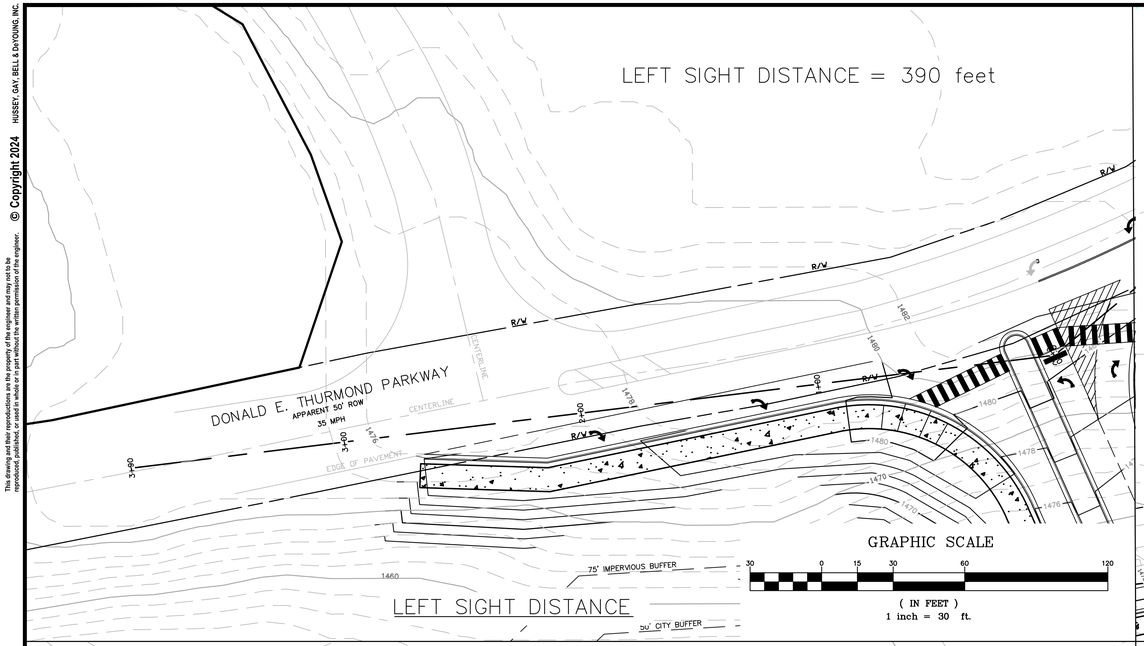
Sheet Title

DRAFT ENTRANCE DESIGN

Sheet Number
2 OF 6

LEFT SIGHT DISTANCE = 390 feet



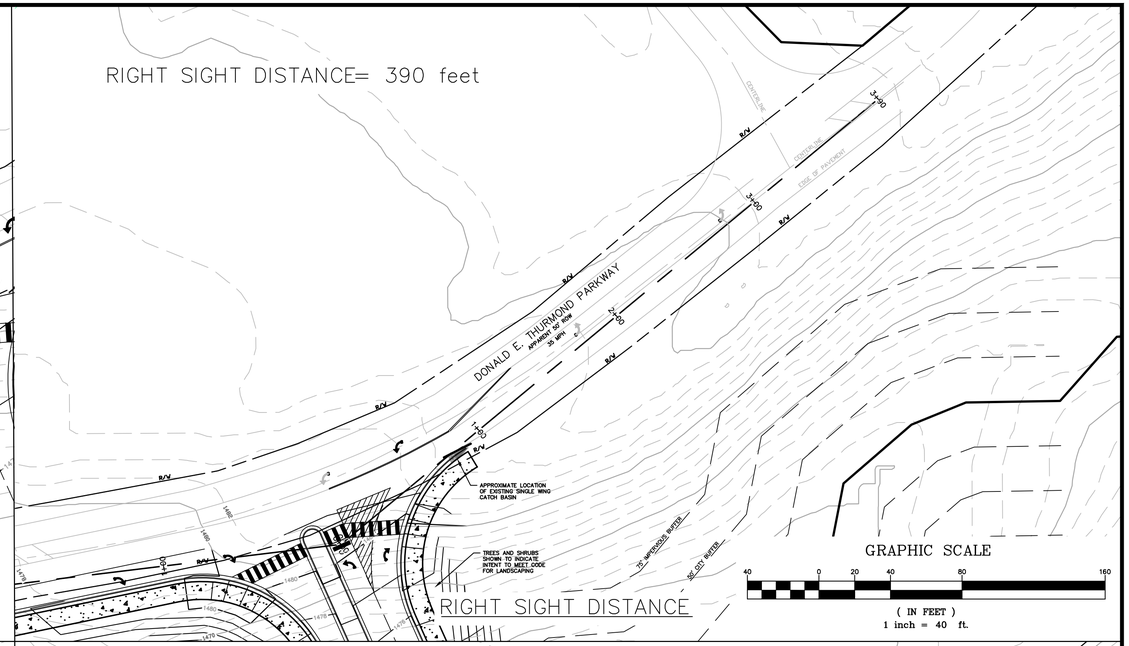
LEFT SIGHT DISTANCE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

RIGHT SIGHT DISTANCE= 390 feet

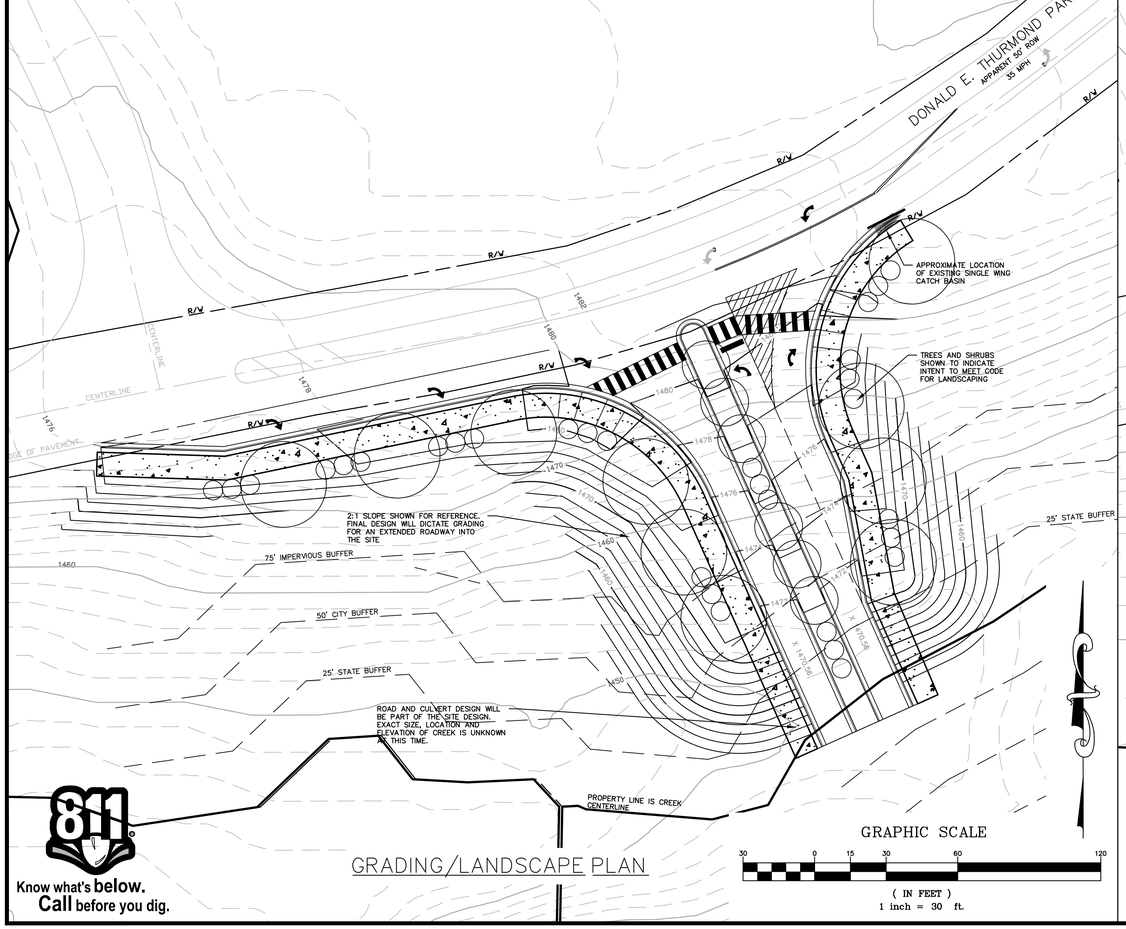


RIGHT SIGHT DISTANCE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

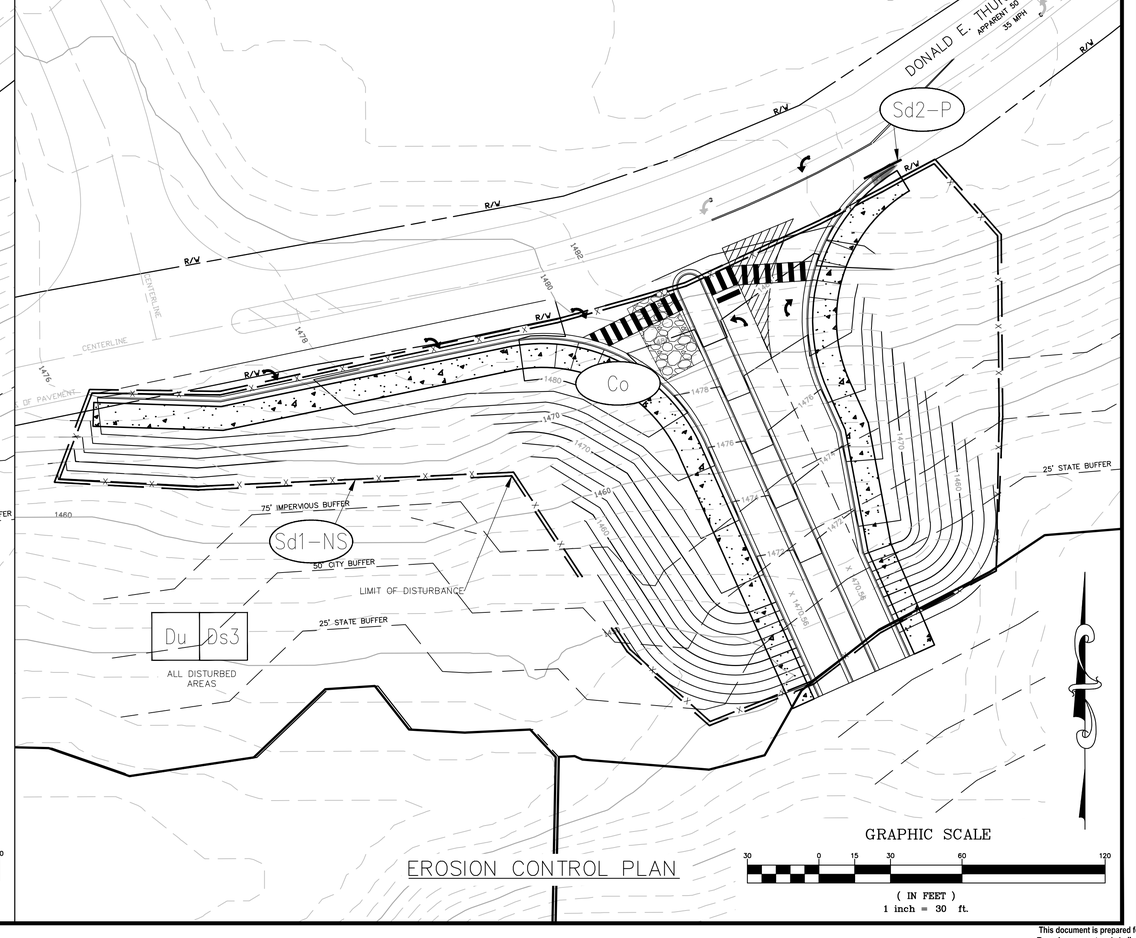


GRADING/LANDSCAPE PLAN

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.



EROSION CONTROL PLAN

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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

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Land Lot	-
District-Section	-
County	WHITE

Project No.	24-066
Drawn By:	BT/CES
Checked By:	CES
Initial Issue Date:	12-02-24

Sheet Title

GRADING + ESCP

Sheet Number

3 OF 6

GEORGIA
UNIFORM CODING SYSTEM
FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES
GEORGIA SOIL AND WATER CONSERVATION COMMISSION

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cd	CHECKDAM			A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION			Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Cr	CONSTRUCTION ROAD STABILIZATION			A traveleay constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
Dc	STREAM DIVERSION CHANNEL			A temporary channel constructed to convey flow around a construction site while a permanent structure is being constructed.
Di	DIVERSION			An earth channel or dike located above, below, or across a slope to divert runoff. This may be a temporary or permanent structure.
Dn1	TEMPORARY DOWNDRAIN STRUCTURE			A flexible conduit of heavy-duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporary and inexpensive.
Dn2	PERMANENT DOWNDRAIN STRUCTURE			A paved chute, pipe, sectional conduit or similar material designed to safely conduct surface runoff down a slope.
Fr	FILTER RING			A temporary stone barrier constructed at storm drain inlets and pond outlets.
Ga	GABION			Rock filter baskets which are hand-placed into position forming soil stabilizing structures.
Gr	GRADE STABILIZATION STRUCTURE			Permanent structures installed to protect channels or waterways where otherwise the slope would be sufficient for the running water to form gullies.
Lv	LEVEL SPREADER			A structure to convert concentrated flow of water into less erosive sheet flow. This should be constructed only on undisturbed soils.
Rd	ROCK FILTER DAM			A permanent or temporary stone filter dam installed across small streams or drainageways.
Re	RETAINING WALL			A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
Rt	RETRO FITTING			A device or structure placed in front of a permanent stormwater detention pond outlet structure to serve as a temporary sediment filter.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain drop inlet. The excavated area will be filled and stabilized on completion of construction activities.
Sd3	TEMPORARY SEDIMENT BASIN			A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out.
Sd4	TEMPORARY SEDIMENT TRAP			A small temporary pond that drains a disturbed area so that sediment can settle out. The principle feature distinguishing a temporary sediment trap from a temporary sediment basin is the lack of a pipe or riser.
Sk	FLOATING SURFACE SKIMMER			A buoyant device that releases/drains water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
Spb	SEEP BERM			Linear control device constructed as a diversion perpendicular to the direction of runoff to enhance dissipation and infiltration, while creating multiple sedimentation chambers with the employment of intermediate dikes.

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Sr	TEMPORARY STREAM CROSSING			A temporary bridge or culvert-type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Su	SURFACE ROUGHENING			A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tc	TURBIDITY CURTAIN			A floating or staked barrier installed within the water (it may also be referred to as a floating boom, silt barrier, or silt curtain).
Tp	TOPSOILING			The practice of stripping off the more fertile soil, storing it, then spreading it over the disturbed area after completion of construction activities.
Tr	TREE PROTECTION			To protect desirable trees from injury during construction activity.
Wt	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL			Paved or vegetative water outlets for diversions, terraces, berms, dikes or similar structures.

VEGETATIVE PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE			Strip of undisturbed original vegetation, enhanced or restored existing vegetation or the reestablishment of vegetation surrounding an area of disturbance or bordering streams.
Cs	COASTAL DUNE STABILIZATION (WITH VEGETATION)		Cs	Planting vegetation on dunes that are denuded artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1	Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP SEEDING)		Ds2	Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)		Ds3	Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DISTURBED AREA STABILIZATION (SODDING)		Ds4	A permanent vegetative cover using sods on highly erodable or critically eroded lands.
Du	DUST CONTROL ON DISTURBED AREAS		Du	Controlling surface and air movement of dust on construction site, roadways and similar sites.
Fl-Co	FLOCCULANTS AND COAGULANTS		Fl-Co	Substance formulated to assist in the solids/liquid separation of suspended particles in solution.
Sb	STREAMBANK STABILIZATION (USING PERM VEGETATION)		Sb	The use of readily available native plant materials to maintain and enhance streambanks, or to prevent, or restore and repair small streambank erosion problems.
Ss	SLOPE STABILIZATION		Ss	A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Tac	TACKIFIERS AND BINDERS		Tac	Substance used to anchor straw or hay mulch by causing the organic material to bind together.

DEFINITION

THE ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS FOR SEASONAL PROTECTION ON DISTURBED OR DENUDED AREAS.

REQUIREMENT FOR REGULATORY COMPLIANCE

MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. TEMPORARY GRASSING, INSTEAD OF MULCH, CAN BE APPLIED TO ROUGH GRADED AREAS THAT WILL BE EXPOSED FOR LESS THAN SIX MONTHS. IF AN AREA IS EXPECTED TO BE UNDISTURBED FOR LONGER THAN SIX MONTHS, PERMANENT PERENNIAL VEGETATION SHALL BE USED. IF OPTIMUM PLANTING CONDITIONS FOR TEMPORARY GRASSING ARE LACKING, MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE. REFER TO SPECIFICATION Ds1-DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).

SPECIFICATIONS

GRADING AND SHAPING

EXCESSIVE WATER RUN-OFF SHALL BE REDUCED BY PROPERLY DESIGNED AND INSTALLED EROSION CONTROL PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, SEDIMENT BARRIERS AND OTHERS.

NO SHAPING OR GRADING IS REQUIRED IF SLOPES CAN BE STABILIZED BY HAND-SEEDED VEGETATION OR IF HYDRAULIC SEEDING EQUIPMENT IS TO BE USED.

SEEDBED PREPARATION

WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED. WHEN USING CONVENTIONAL OR HANDSEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL.

WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

LIME AND FERTILIZER

AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE DETERMINED BY SOIL TEST FOR pH. BIO STIMULANTS SHOULD BE CONSIDERED WHEN THERE IS LESS THAN 3% ORGANIC MATTER IN THE SOIL. SOILS MUST BE TESTED TO DETERMINE REQUIRED FERTILIZER AND AMENDMENT AMOUNTS. FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER OR CHISEL. ON STEEP SLOPES, FERTILIZER SHALL BE HYDRAULICALLY APPLIED, PREFERABLY IN THE FIRST PASS WITH SEED AND HYDRAULIC MULCH, THEN TOPPED WITH THE REMAINING REQUIRED APPLICATION RATE.

SEEDING

SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR. SEED SHALL BE APPLIED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTI-PACKER-SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER SEEDERS SHOULD NORMALLY PLACE SEED ONE-QUARTER TO ONE-HALF INCH DEEP. APPROPRIATE DEPTH OF PLANTING IS TEN TIMES THE SEED DIAMETER. SOIL SHOULD BE "RAKED" LIGHTLY TO COVER SEED WITH SOIL IF SEEDED BY HAND.

MULCHING

TEMPORARY VEGETATION CAN, IN MOST CASES, BE ESTABLISHED WITHOUT THE USE OF MULCH. MULCH WITHOUT SEEDING SHOULD BE CONSIDERED FOR SHORT TERM PROTECTION. REFER TO Ds1 – DISTURBED AREA STABILIZATION (WITH MULCHING ONLY).

IRRIGATION

DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL INSURE GERMINATION OF THE SEED. SUBSEQUENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

Ds-2 DISTURBED AREA STABILIZATION w/ TEMPORARY SEEDING

2016

PLANTS, PLANTING RATES, AND PLANTING DATES FOR TEMPORARY COVER OR COMPANION CROPS 1/

SPECIES	BROADCAST RATES 2/ – PLS 3/ PER ACRE	BROADCAST RATES 2/ – PLS 3/ PER 1000 S.F.	RESOURCE AREA 4/	PLANTING DATES J F M A M J J A S O N D	REMARKS
BARLEY (Hordeum vulgare) ALONE IN MIXTURES	144 LBS. 24 LBS.	3.3 LBS. 0.6 LBS.	M–L P C	J F M A M J J A S O N D	14,000 SEED PER POUND WINTERHARDY. USE ON PRODUCTIVE SOILS.
LESPEDEZA, ANNUAL (Lespedeza striata) ALONE IN MIXTURES	40 LBS. 10 LBS.	0.9 LBS. 0.2 LBS.	M–L P C	J F M A M J J A S O N D	200,000 SEED PER POUND. MAY VOLUNTEER FOR SEVERAL YEARS. USE INOCULANT EL
LOVEGRASS, WEEPING (Eragrotis curwula) ALONE IN MIXTURES	4 LBS. 2 LBS.	0.1 LBS. 0.05 LBS.	M–L P C	J F M A M J J A S O N D	1,500,000 SEED PER POUND. MAY LAST FOR SEVERAL YEARS. MIX WITH SERICEA LESPEDEZA
MILLET, BROWNTOP (Panicum fasciculatum) ALONE IN MIXTURES	40 LBS. 10 LBS.	0.9 LBS. 0.2 LBS.	M–L P C	J F M A M J J A S O N D	137,000 SEED PER POUND. QUICK DENSE COVER. WILL PROVIDE TOO MUCH COMPETITION IN MIXTURES IF SEEDED AT HIGH RATES.
RYE (Secale cereale) ALONE IN MIXTURES	168 LBS. 28 LBS.	3.9 LBS. 0.6 LBS.	M–L P C	J F M A M J J A S O N D	18,000 SEED PER POUND. QUICK COVER. DROUGHT TOLERANT AND WINTERHARDY.
RYEGRASS, ANNUAL (Lolium temulentum) ALONE	40 LBS.	0.9 LBS.	M–L P C	J F M A M J J A S O N D	227,000 SEED PER POUND. DENSE COVER. VERY COMPETITIVE AND IS NOT TO BE USED IN MIXTURES.
MILLET, PEARL (Panicum glaucum) ALONE	50 LBS.	1.1 LBS.	M–L P C	J F M A M J J A S O N D	88,000 SEED PER POUND. QUICK, DENSE COVER. MAY REACH 5 FEET IN HEIGHT. NOT RECOMMENDED FOR MIXTURES.
OATS (Avena sativa) ALONE IN MIXTURES	128 LBS. 32 LBS.	2.9 LBS. 0.7 LBS.	M–L P C	J F M A M J J A S O N D	13,000 SEED PER POUND. USE ON PRODUCTIVE SOILS. NOT AS WINTERHARDY AS RYE OR BARLEY.
SUDAN GRASS (Sorghum sudanese) ALONE	60 LBS.	1.4 LBS.	M–L P C	J F M A M J J A S O N D	55,000 SEED PER POUND. GOOD NOT ON DROUGHT SITES. RECOMMENDED FOR MIXTURES.
TRITICALE (X–Triticosecale) ALONE IN MIXTURES	144 LBS. 24 LBS.	3.3 LBS. 0.6 LBS.	C	J F M A M J J A S O N D	USE ON LOWER PART OF SOUTHERN COASTAL PLAIN AND IN ATLANTIC COASTAL FLATWOODS ONLY.
WHEAT (Triticum aestivum) ALONE IN MIXTURES	180 LBS. 30 LBS.	4.1 LBS. 0.7 LBS.	M–L P C	J F M A M J J A S O N D	15,000 SEED PER POUND. WINTERHARDY.

1/ TEMPORARY COVER CROPS ARE VERY COMPETITIVE AND WILL CROWN OUT PERENNIALS IF SEEDED TOO HEAVILY.
2/ REDUCE SEEDING RATES BY 50% WHEN DRILLED.
3/ PLS IS AN ABBREVIATION FOR PURE LIVE SEED.
4/ M–L REPRESENTS TO MOUNTAIN; BLUE RIDGE; AND RIDGES AND VALLEYS MLRA'S
P REPRESENTS THE SOUTHERN PIEDMONT MLRA
C REPRESENTS THE SOUTHERN COASTAL PLAIN; SAND HILLS; BLACK LANDS; AND ATLANTIC COAST FLATWOODS MLRAs

DEFINITION

A PERMANENT VEGETATIVE COVER USING SODS ON HIGHLY ERODIBLE OR CRITICALLY ERODED LANDS.

CONDITIONS

THIS APPLICATION IS APPROPRIATE FOR AREAS WHICH REQUIRE IMMEDIATE VEGETATIVE COVERS, DROP INLETS, GRASS SWALES, AND WATERWAYS WITH INTERMITTENT FLOW.

PLANNING CONSIDERATIONS

SODDING CAN INITIALLY BE MORE COSTLY THAN SEEDING, BUT THE ADVANTAGES JUSTIFY THE INCREASED INITIAL COSTS.

1. IMMEDIATE EROSION CONTROL, GREEN SURFACE, AND QUICK USE.
2. REDUCED FAILURE AS COMPARED TO SEED AS WELL AS THE LACK OF WEEDS
3. CAN BE ESTABLISHED NEARLY YEAR-ROUND.

SODDING IS PREFERABLE TO SEED IN WATERWAYS AND SWALES BECAUSE OF THE IMMEDIATE PROTECTION OF THE CHANNEL AFTER APPLICATION. SODDING MUST BE STAKED IN CONCENTRATED FLOW AREAS (SEE FIGURE 6-6.1) CONSIDER USING SOD FRAMED AROUND DROP INLETS TO REDUCE SEDIMENTS AND MAINTAINING THE GRADE.

CONSTRUCTION SPECIFICATIONS INSTALLATION

SOIL PREPARATION

BRING SOIL SURFACE TO FINAL GRADE. CLEAR SURFACE OF TRASH, WOODY DEBRIS, STONES AND CLODS LARGER THAN 1". APPLY SOD TO SOIL SURFACES ONLY AND NOT FROZEN SURFACES, OR GRAVEL TYPE SOILS.TOPSOIL PROPERLY APPLIED WILL HELP GUARANTEE A STAND. DON'T USE TOPSOIL RECENTLY TREATED WITH HERBICIDES OR SOIL STERILANTS. MIX FERTILIZER INTO SOIL SURFACE. FERTILIZE BASED ON SOIL TESTS OR TABLE 6-6.1.

INSTALLATION

LAY SOD WITH TIGHT JOINTS AND IN STRAIGHT LINES. DON'T OVERLAP JOINTS. STAGGER JOINTS AND DO NOT STRETCH SOD (SEE FIGURE 6-6.2) ON SLOPES STEEPER THAN 3:1, SOD SHOULD BE ANCHORED WITH PINS OR OTHER APPROVED METHODS. INSTALLED SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE GOOD CONTACT BETWEEN SOD AND SOIL. IRRIGATE SOD AND SOIL TO A DEPTH OF 4" IMMEDIATELY AFTER INSTALLATION. SOD SHOULD NOT BE CUT OR SPREAD IN EXTREMELY WET OR DRY WEATHER. IRRIGATION SHOULD BE USED TO SUPPLEMENT RAINFALL FOR A MINIMUM OF 2–3 WEEKS.

MATERIALS

SOD SELECTED SHOULD BE CERTIFIED. SOD GROWN IN THE GENERAL AREA OF THE PROJECT IS DESIRABLE.

1. SOD SHOULD BE MACHINE CUT AND CONTAIN 3/4" (+ OR – 1/4 ") OF SOIL, NOT INCLUDING SHOOTS OR THATCH.
2. SOD SHOULD BE CUT TO THE DESIRED SIZE WITHIN + OR –5% TORN OR UNEVEN PADS SHOULD BE REJECTED.
3. SOD SHOULD BE CUT AND INSTALLED WITHIN 36 HOURS OF DIGGING.
4. AVOID PLANTING WHEN SUBJECT TO FROST HEAVE OR HOT WEATHER IF IRRIGATION IS NOT AVAILABLE
5. THE SOD TYPE SHOULD BE SHOWN ON THE PLANS OR INSTALLED ACCORDING TO TABLE 6–6.2. SEE FIGURE 6–4.1 FOR YOUR RESOURCE AREA.

MAINTENANCE

RE–SOD AREAS WHERE AN ADEQUATE STAND OF SOD IS NOT OBTAINED. NEW SOD SHOULD BE MOWED SPARINGLY. GRASS HEIGHT SHOULD NOT BE CUT LESS THAN 2"–3" OR AS SPECIFIED (SEE FIGURE 6–6.2). APPLY ONE TON OF AGRICULTURAL LIME AS INDICATED BY SOIL TESTS AND FERTILIZE EVERY 3–4 YEARS. FERTILIZE GRASSES IN ACCORDANCE WITH SOIL TESTS OR TABLE 6–6.3

FERTILIZER REQUIREMENTS FOR SOD

TYPES OF SPECIES	PLANTING YEAR	FERTILIZER (N–P–K)	RATE (lbs./acre)	NITROGEN TOP DRESSING RATE (lbs./acre)
COOL SEASON GRASSES	FIRST SECOND MAINTENANCE	6–12–12 6–12–12 10–10–10	1500 1000 400	50–100 --- 30
WARM SEASON GRASSES	FIRST SECOND MAINTENANCE	6–12–12 6–12–12 10–10–10	1500 800 400	50–100 50–100 30

FERTILIZER REQUIREMENTS FOR SOIL SURFACE APPLICATION

FERTILIZER TYPE	FERTILIZER RATE (lbs/acre)	FERTILIZER RATE (lbs/sq ft)	SEASON
10–10–10	1000	.025	FALL

AGRICULTURAL LIME SHOULD BE APPLIED BASED ON SOIL TESTS OR AT A RATE OF 1 TO 2 TONS PER ACRE.

SOD PLANTING REQUIREMENTS

GRASS	VARIETIES	RESOURCE AREA	GROWING SEASON
BERMUDAGRASS	COMMON TIFWAY TIFGREEN TIFLAWN	M–L,P,C P,C P,C P,C	WARM WEATHER
BAHIAGRASS	PENSACOLA	P,C	WARM WEATHER
CENTIPEDE	–	P,C	WARM WEATHER
ST. AUGUSTINE	COMMON BITTERBLUE RALEIGH	C	WARM WEATHER
ZOYSIA	EMERALD MYER	P,C	WARM WEATHER
TALL FESCUE	KENTUCKY	M–L,P	COOL WEATHER

Ds-4 DISTURBED AREA STABILIZATION W/ SODDING

N.T.S.

HUSSEY GAY BELL
Established 1958
3100 Breckinridge Blvd., Building 300, Duluth, GA 30096/T:770.923.1600

GRACE OF GEORGIA DEVELOPMENTS, LLC
78 LINDBERG DRIVE
ATLANTA, GA 30309

CONTACT: DOMINIC LAWSON DLBP, LLC
(407) 421-5170

No.	Description	REVISION By	App.	Date

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NOT TO BE RELEASED FOR CONSTRUCTION

Project Title

UNDERWOOD FARM ROAD ENTRANCE DESIGN

Project Location	
Address	475 UNDERWOOD FARM ROAD
City, State Zip	CLEVELAND, GA
Land Lot	-
District-Section	-
County	WHITE
Project No.	24-066
Drawn By:	BT/CES
Checked By:	CES
Initial Issue Date:	12-02-2024

Sheet Title

ESPC DETAIL 1 OF 3

Sheet Number

4 OF 6

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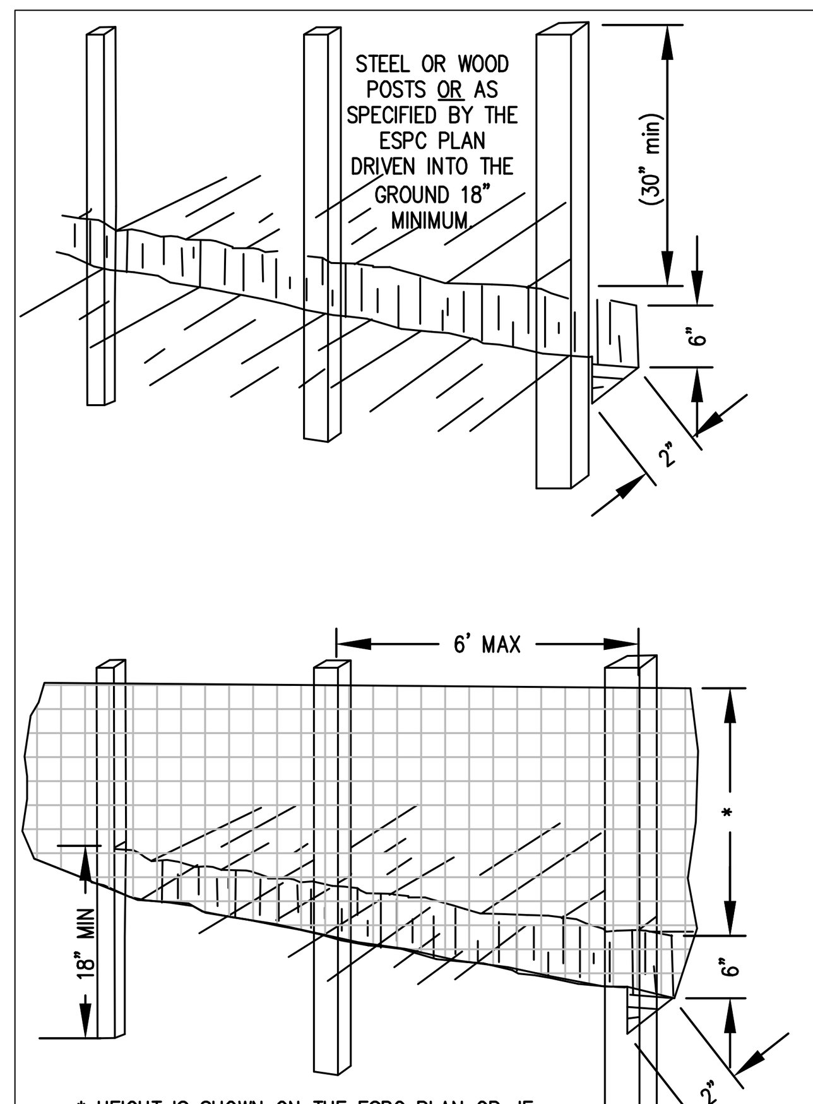
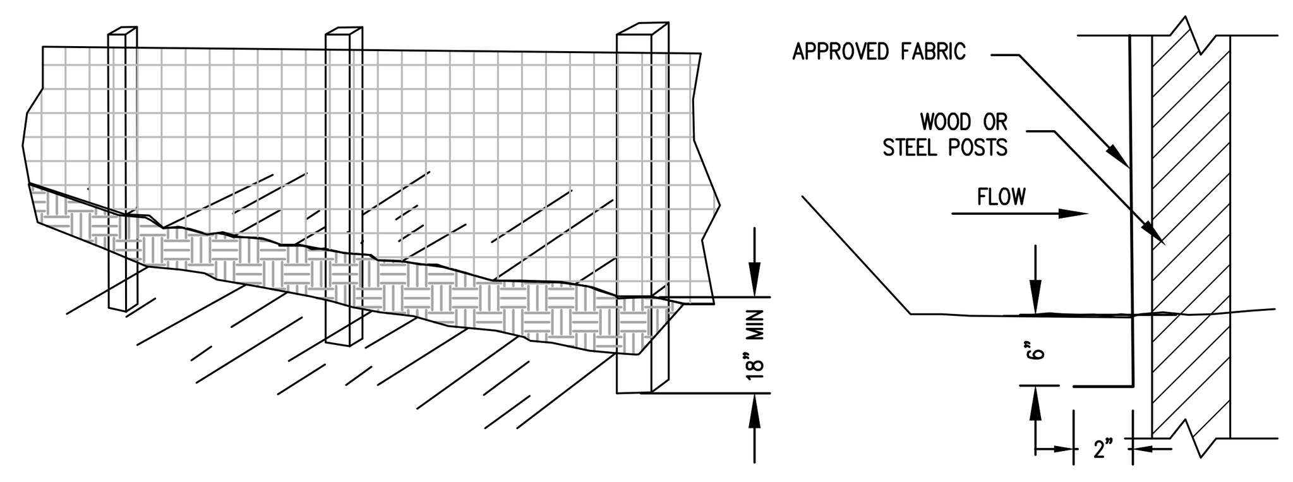


* HEIGHT IS SHOWN ON THE ESPC PLAN OR, IF NOT SPECIFIED, 28 INCHES.

NOTES:
1. TYPE NS SEDIMENT BARRIERS SHALL HAVE A P-FACTOR NO GREATER THAN 0.045.
2. POSTS SHALL BE SPACED NO FARTHER THAN 6'.
3. POSTS SHALL BE DRIVEN A MINIMUM OF 18" INTO THE GROUND.

INSTALLATION:
1. POST INSTALLATION SHALL START AT THE CENTER OF A LOW POINT (IF APPLICABLE)
2. POST SIZE LENGTH = 4 FEET:
   - 2.1. SOFT WOOD = 3" DIA OR 2"X4"
   - 2.2. OAK = 1.5" X 1.5"
   - 2.3. STEEL = 1.3 LB/FT (MIN)
3. FASTENERS:
   - 3.1. WIRE STAPLES-GAUGE 17 (MIN)-3/4"W CROWN, LEGS=½" LONG, 5 (MIN) STAPLES/POST.
   - 3.2. GAUGE 14 (MIN), 1" LONG, ¾" BUTTON HEAD, 4 (MIN) NAIL/POST
   - 3.3. FILTER FABRIC MAY ALSO BE ATTACHED TO POST BY WIRE, CHORS, AND POCKETS OR ANY OTHER METHOD PROVIDED MINIMUM P-FACTOR, AS REQUIRED BY GSWCC, IS MET.
4. INSTALL USING STATIC SLICING METHOD OR TRENCHING METHOD.

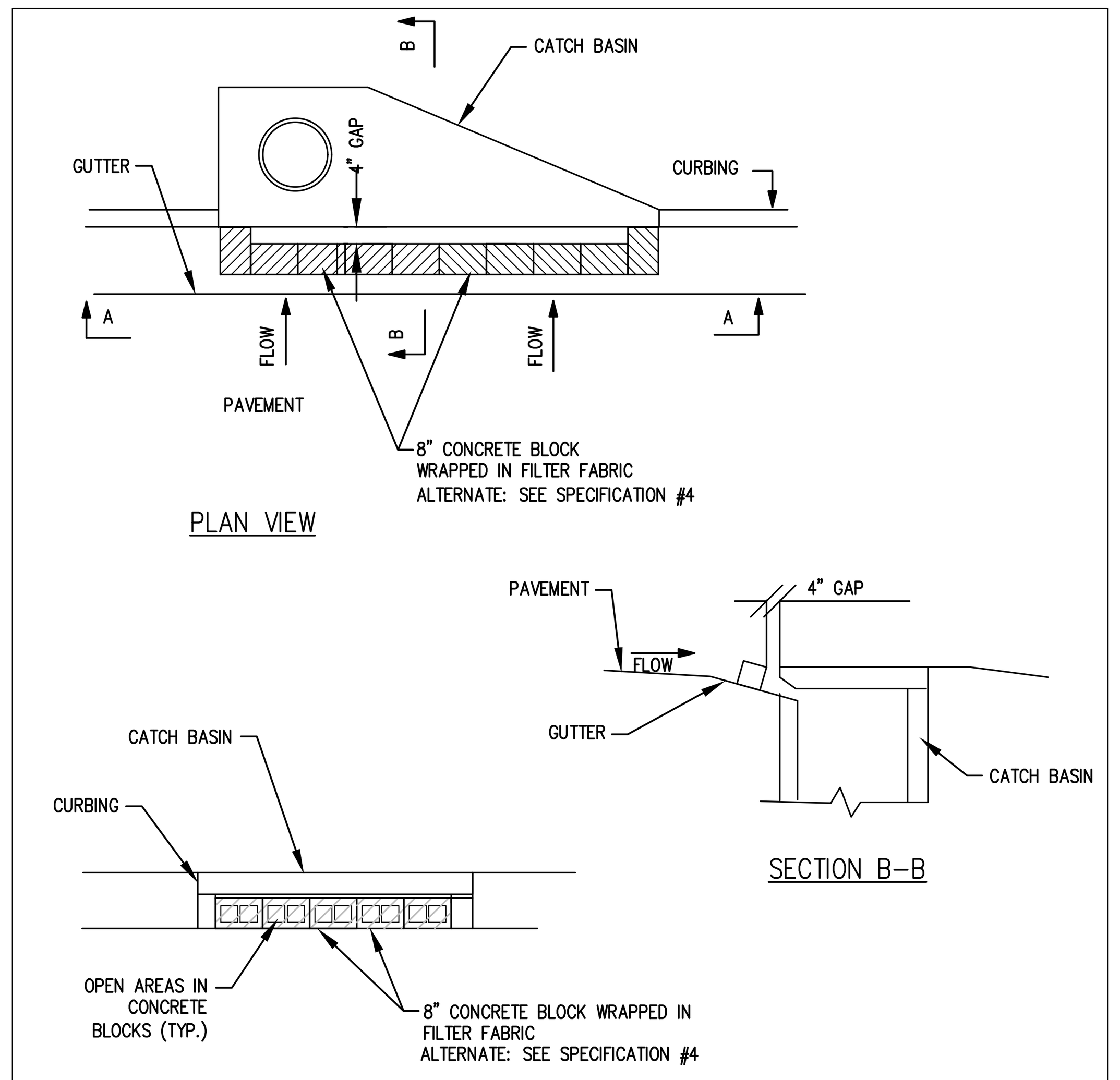


SILT FENCE SECTION

MAINTENANCE REQUIREMENTS

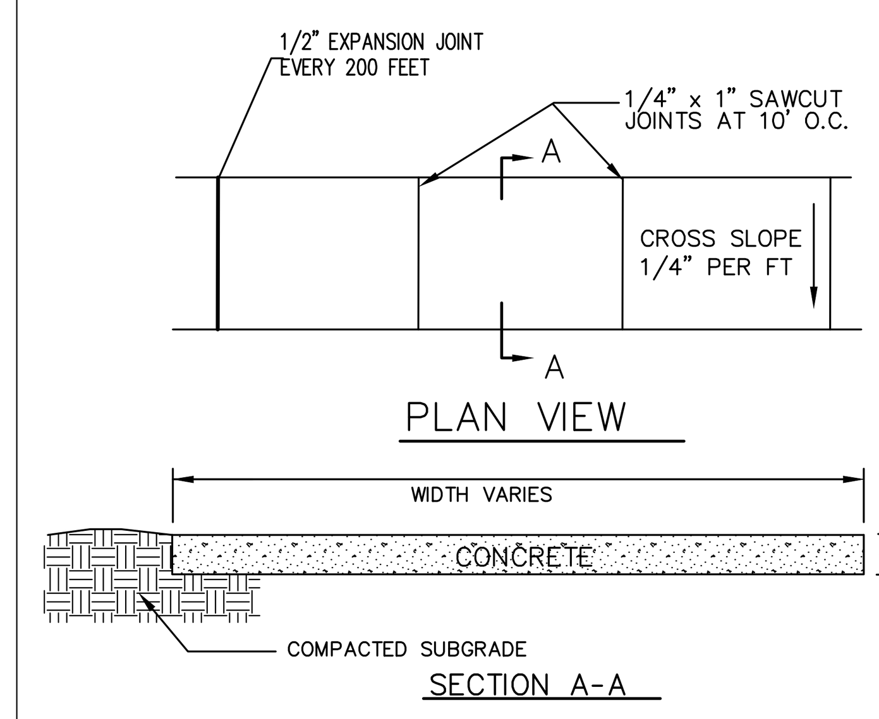
SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY 6 MONTHS) OR THE HEIGHT OF THE PRODUCT IS NOT MAINTAINING 80% OF ITS PROPERLY INSTALLED HEIGHT. TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS REMOVED.

(Sd1-NS) SEDIMENT BARRIER – NONSENSITIVE AREAS
2014



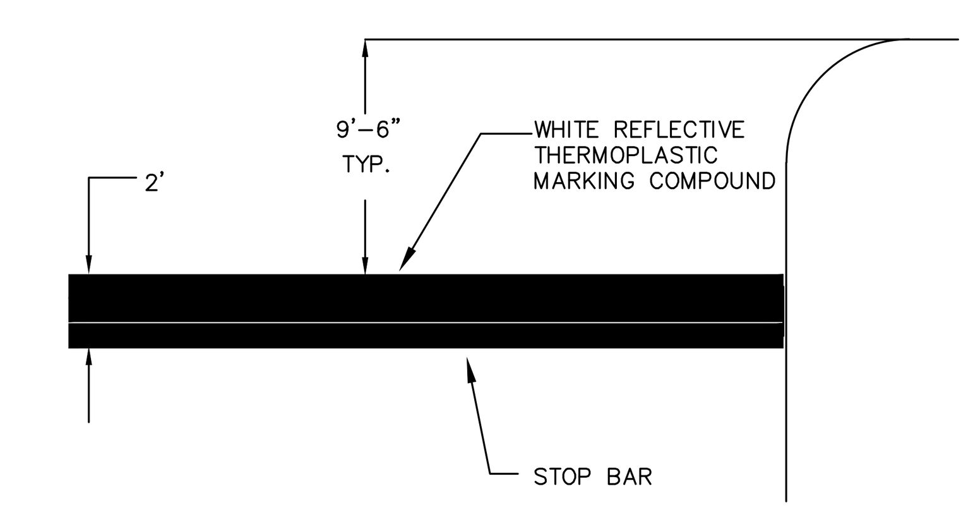
CONSTRUCTION SPECIFICATIONS:
1. ONCE PAVEMENT HAS BEEN INSTALLED, A CURB INLET FILTER SHALL BE INSTALLED ON INLETS RECEIVING RUNOFF FROM DISTURBED AREAS.
2. THIS METHOD OF INLET PROTECTION SHALL BE REMOVED IF A SAFETY HAZARD IS CREATED.
3. ONE METHOD OF CURB INLET PROTECTION USES "PIGS-IN-A-BLANKET" – 8" CONCRETE BLOCKS WRAPPED IN FILTER FABRIC.
4. THE OTHER USES GRAVEL BAGS CONSTRUCTED BY WRAPPING DOT #57 STONE WITH FILTER FABRIC, WIRE, PLASTIC MESH, OR EQUIVALENT MATERIAL.
5. A GAP OF APPROXIMATELY 4 INCHES SHALL BE LEFT BETWEEN THE INLET FILTER AND THE INLET TO ALLOW FOR OVERFLOW AND PREVENT HAZARDOUS PONDING IN THE ROADWAY.
6. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE HEIGHT OF THE TRAP.
7. SEDIMENT SHALL BE REMOVED FROM CURB INLET PROTECTION IMMEDIATELY.
8. SEDIMENT SHALL NOT BE WASHED INTO THE INLET. IT SHALL BE REMOVED FROM THE SEDIMENT TRAP, DISPOSED OF AND STABILILZED SO THAT IT WILL NOT ENTER THE INLET AGAIN.
9. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, ALL MATERIALS AND ANY SEDIMENT SHALL BE REMOVED, AND EITHER SALVAGED OR DISPOSED OF PROPERLY.

(Sd2-P) INLET SEDIMENT TRAP
N.T.S.



NOTE:
1. EXPANSION JOINTS SHALL BE PLACED AT ALL INTERSECTIONS WITH CURBS, RAMPS, DRIVEWAYS AND OTHER STRUCTURES
2. ALL SIDEWALKS SHALL BE PORTLAND CEMENT CONCRETE, CLASS "A" & 3000 PSI

TYPICAL SIDEWALK DETAIL
NTS SC-38

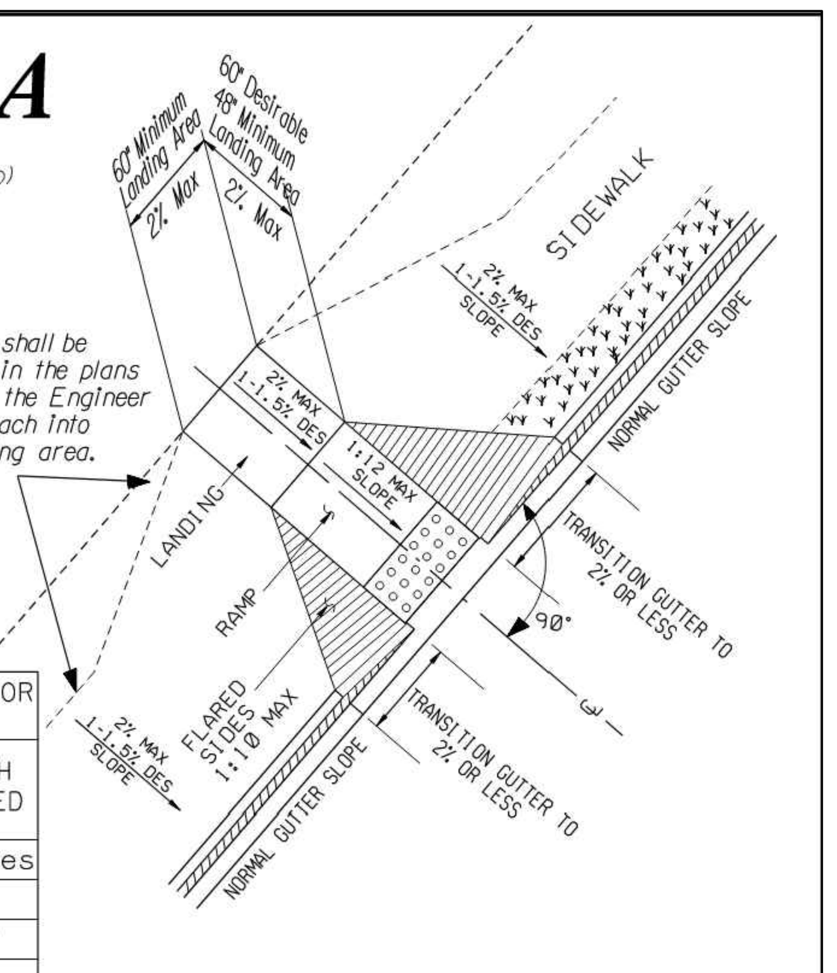


TYPICAL STOP BAR DETAIL
N.T.S.

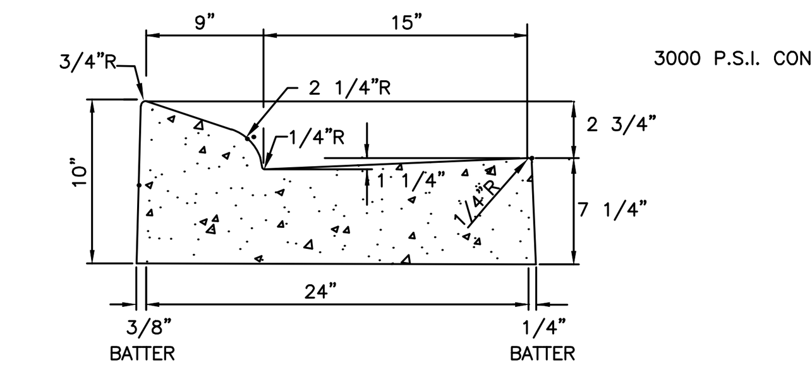
Type A

(The Prefered Ramp)

Back of sidewalk shall be located as shown in the plans or as directed by the Engineer so as not to encroach into the required landing area.

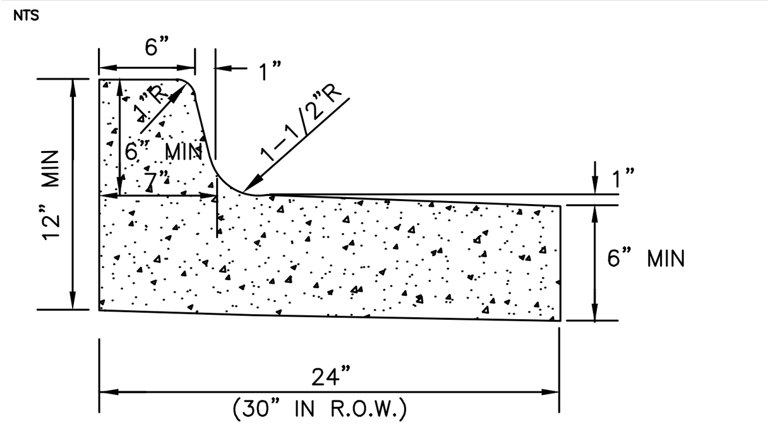


LENGHT REQUIRED FOR A 1:10 SLOPE	
DIFFERENCE IN HEIGHT	LENGTH REQUIRED
1 inch	10 inches
2 inches	1'-8"
3 inches	2'-6"
4 inches	3'-4"
5 inches	4'-2"
6 inches	5 feet

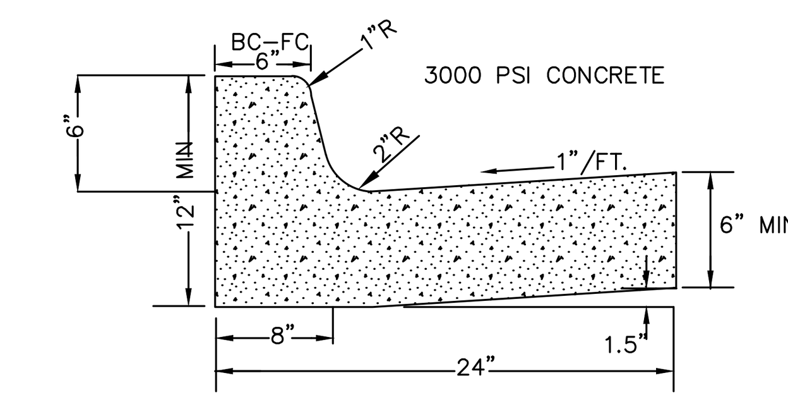


3000 P.S.I. CONC. @ 28 DAYS

24" STANDARD MOUNTABLE ROLL CURB
NTS

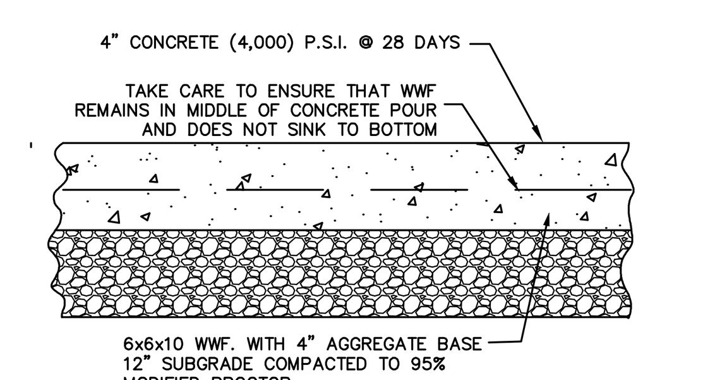


INVERTED/SPILL CURB & GUTTER
NTS



3000 PSI CONCRETE

24' STANDARD CONCRETE CURB & GUTTER
NTS



CONCRETE SLAB DETAIL
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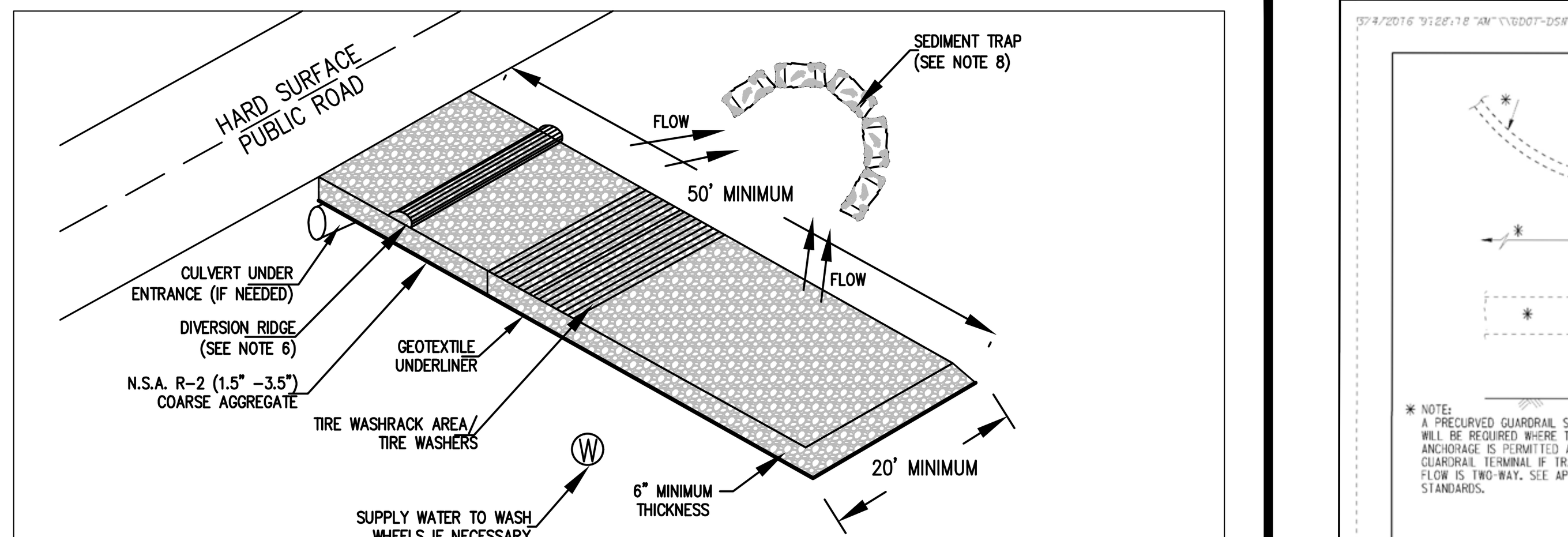
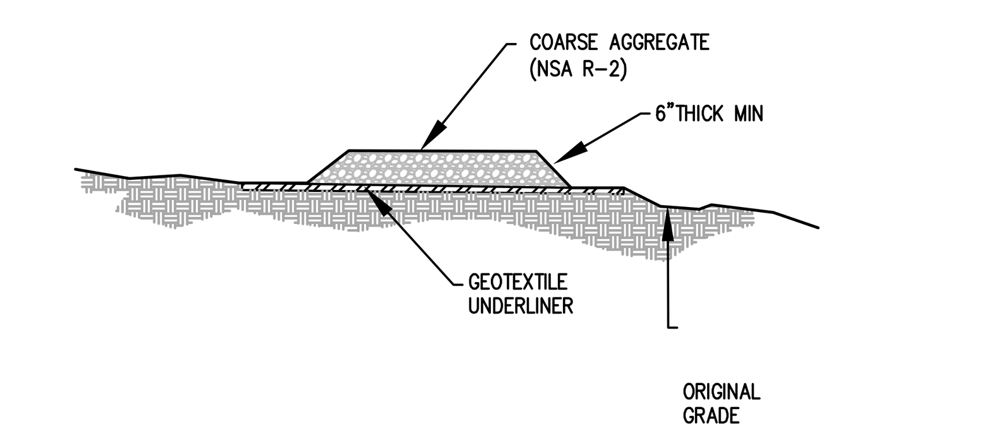


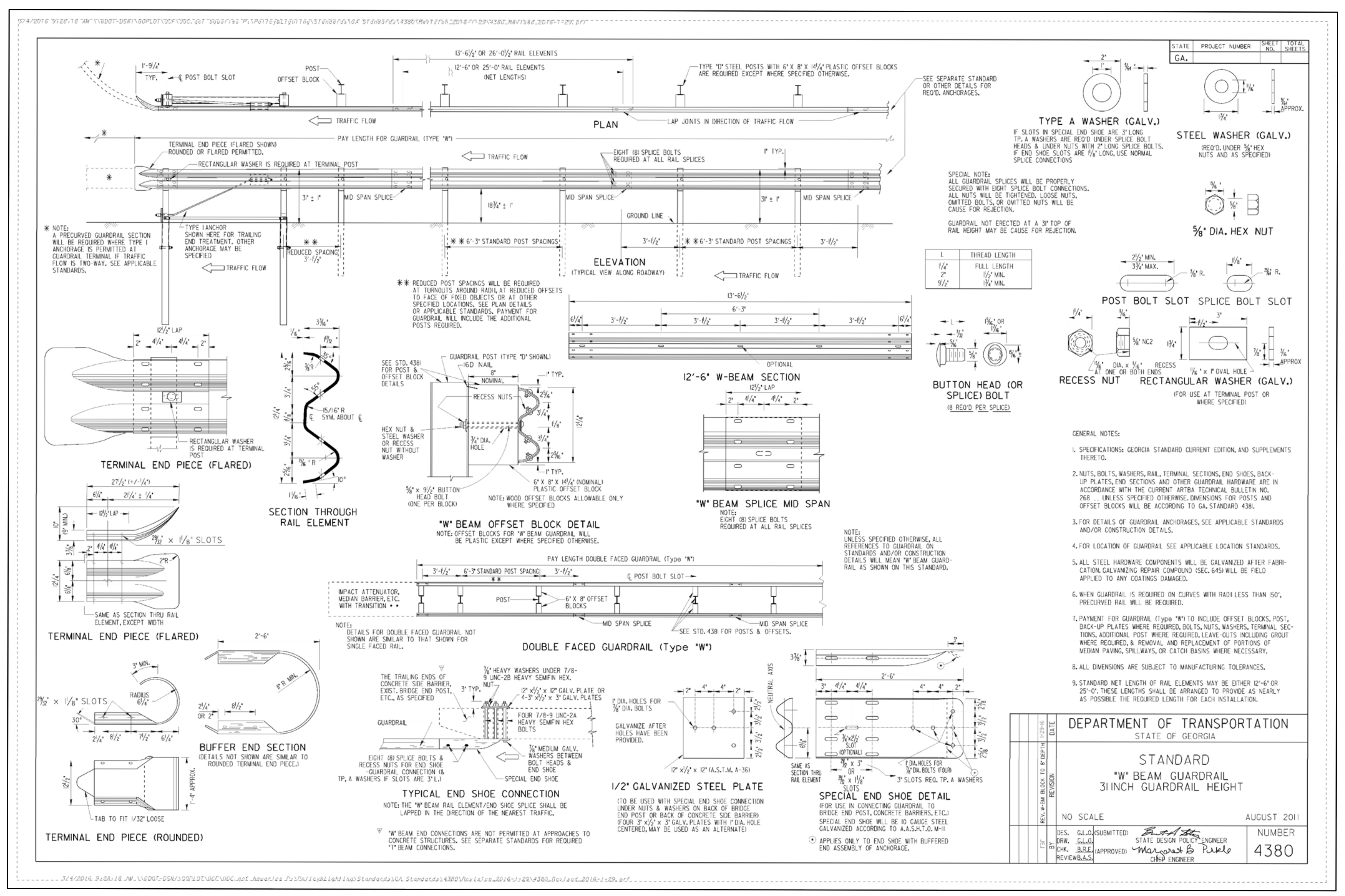
MAINTENANCE:
THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO THE PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 1.5-3.5 INCH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES OR SITE ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.



CONSTRUCTION SPECIFICATIONS

1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREAS IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE.).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

(Co) CRUSHED STONE CONSTRUCTION ENTRANCE
FIGURE 6-14.1 2014 N.T.S.



HUSSEY GAY BELL
Established 1958
3100 Breckinridge Blvd., Building 300, Duluth, GA 30096 / T:770.923.1600

GRACE OF GEORGIA DEVELOPMENTS, LLC
78 LINDBERG DRIVE
ATLANTA, GA 30309

CONTACT: DOMINIC LAWSON DLBP, LLC
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REVISION				
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NOT TO BE RELEASED FOR CONSTRUCTION

Project Title

UNDERWOOD FARM ROAD ENTRANCE DESIGN

Project Location
Address 475 UNDERWOOD FARM ROAD
City, State Zip CLEVELAND, GA
Land Lot -
District-Section -
County WHITE

Project No.	24-066
Drawn By:	BT/CES
Checked By:	CES
Initial Issue Date:	12-02-2024

Sheet Title

ESPC DETAIL 3 OF 3

Sheet Number
6 OF 6

M. APPENDIX 3- TRAFFIC IMPACT STUDY

475 Underwood Farm Road Development

Traffic Impact Study

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Executive Summary

The purpose of this study is to evaluate the potential traffic impacts of the proposed *475 Underwood Farm Road* development. The site is in City of Cleveland, Georgia and located along the south side of Donald E Thurmond Parkway and north side of Underwood Farm Road. Based on the client information (concept plan in progress), the development will include three land uses totaling approximately 120,000 square feet. The square footage for each building may change as the concept plan is refined. For the purposes of the traffic impact study, the following densities were utilized: 32,500 square feet of medical offices, 65,000 square feet of assisted living use, and one hotel with 24 hotel rooms. Variations in the square footage between the three uses is not anticipated to modify the recommendations of the traffic impact study. The concept plan is attached in Appendix B.

Figure 1 illustrates the site location and the proposed driveway locations on an aerial map. Donald E Thurmond Parkway is a two-lane roadway with a center turn lane and a 35-mph posted speed limit. Underwood Farm Road is a two-lane roadway with a 25-mph posted speed limit adjacent to the proposed development. The existing site is undeveloped. Access to the site is proposed via one full-movement driveway on Donald E Thurmond Parkway and one full-movement driveway on Underwood Farm Road.

For the purposes of the traffic study, the analysis included the expected completion (build-out) of the development by year 2027. This study performed an analysis of existing and future traffic conditions at four study intersections: SR 11/US 129 at Donald E Thurmond Parkway/Hope Drive, Donald E Thurmond Parkway at Walmart entrance, Donald E Thurmond Parkway at Old Highway 75, and SR 11/US 129 at Daybreak Road/Underwood Farm Road. The study also performed an analysis of future traffic conditions at the two proposed driveway locations. The future conditions analysis was performed for the year 2027 Build Conditions (with the 475 Underwood Farm Road development). The traffic study also included a review of Georgia DOT requirements and City of Cleveland regulations for required turn lanes at the site driveways.

The project volumes were calculated based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, Eleventh Edition. The most applicable ITE land use (LU) codes were LU 254 (Assisted Living), LU 310 (Hotel), and LU 720 (Medical-Dental Office Building). The estimated total project volumes are 1,753 vehicles per day (877 entering and 876 exiting), 124 vehicles during the AM peak hour (95 entering and 29 exiting) and 174 vehicles during the PM peak hour (56 entering and 118 exiting).

The results of the existing year 2024 traffic analysis indicate that the study intersections are currently operating at an acceptable level of service during the AM and PM peak hours. The results of the future year 2027 No Build Conditions (without the 475 Underwood Farm Road development) indicate the study intersections are expected to continue operating with acceptable levels of service during the AM and PM peak hours

The results of the future year 2027 Build Conditions (with the 475 Underwood Farm Road development) indicate study intersections are expected to continue operating with acceptable levels of service during the AM and PM peak hours.

The results of the future year 2027 Build Conditions indicate both proposed driveways, with the recommended geometric improvements, are expected to operate with acceptable levels of service during the AM and PM peak hours.

The traffic impact study identified the following geometric improvements needed to accommodate the proposed development at the site driveways. Based on estimated traffic volumes in the year 2027 Build year conditions, the following driveway geometric recommendations are provided:

- Donald E Thurmond Parkway at Proposed Driveway #1:
    - The driveway location is proposed between two driveways accessing the Walmart property: providing approximately 300 feet spacing from the middle Walmart driveway.
    - Driveway to be stop-control
    - Construct an eastbound right-turn deceleration lane along Donald E Thurmond Parkway
    - Re-stripe the existing center two-way left-turn lane to provide a dedicated westbound left-turn lane along Donald E Thurmond Parkway; recommend minimum 25-foot turn lane length
    - Provide one entry lane and two exit lanes (one left-turn lane and one right-turn lane; recommend minimum 50-foot length right-turn lane)
- Underwood Farm Road at Proposed Driveway #2:
    - Provide a full-movement intersection; driveway to be stop-control
    - Provide one entry lane and one exit lane

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1. Existing Conditions

1.1 Site Conditions

The proposed development is located on undeveloped property. **Figure 1** provides a general location map. **Figure 2** is an aerial that shows the site location and the proposed site driveway. (Figures included in Appendix A) Access to the property is proposed to be provided at two locations. (The site plan is included in Appendix B). The proposed development will be mixed-use with medical office space, an assisted living facility, and a hotel, with nearby land uses being residential/retail and undeveloped land.

1.2 Roadway Conditions

SR 11/US 129 is a two-lane roadway with a center turn lane and 55-mph posted speed limit 950 feet to the south of Donald E Thurmond Parkway and four-lane roadway with a median starting 950 feet to the south of Donald E Thurmond Parkway. SR 11/US 129 is a north-south oriented roadway in the vicinity of the development and Georgia DOT classifies SR 11/US 129 as a principal arterial.

Donald E Thurmond Parkway is a two-lane roadway with a center turn lane and with a 35-mph posted speed limit in the area of the proposed development. Donald E Thurmond Parkway is an east-west oriented roadway in the vicinity of the development and Georgia DOT classifies Donald E Thurmond Parkway as a local road.

Old Highway 75 is a two-lane roadway with a 55-mph posted speed limit in the area of the proposed development. Old Highway 75 is a north-south oriented roadway in the vicinity of the development and Georgia DOT classifies Old Highway 75 as a major collector.

Underwood Farm Road is a two-lane roadway with a 25-mph posted speed limit in the area of the proposed development. Underwood Farm Road is an east-west oriented roadway in the vicinity of the development and Georgia DOT classifies Underwood Farm Road as a local road.

The intersection of SR 11/US 129 at Donald E Thurmond Parkway/Hope Drive is signalized and has the following lane configuration:

- Northbound US 129: one left-turn lane, two through lanes, and one right-turn lane
- Southbound US 129: one left-turn lane, two through lanes, and one right-turn lane
- Eastbound Hope Dr: one shared left-turn/through/right-turn lane
- Westbound Donald E Thurmond: one left-turn lane and one shared through/right-turn lane

The intersection of Donald E Thurmond Parkway at the middle Walmart driveway operates with side-street stop-control and has the following lane configuration:

- Southbound Walmart Driveway: one shared left-turn/right-turn lane
- Eastbound Donald E Thurmond: one left-turn lane and one through lane
- Westbound Donald E Thurmond: one shared through/right-turn lane

The intersection of Donald E Thurmond Parkway/Woodlawn Drive at Old Highway 75 operates with side-street stop-control and has the following lane configuration:

- Northbound Old Hwy 75: one left-turn lane and one shared through/right-turn lane

- Southbound Old Hwy 75: one left-turn lane, one through lane, and one right-turn lane
- Eastbound Donald E Thurmond: one left-turn lane and one shared through/right-turn lane
- Westbound Woodlawn Drive: one shared left-turn/through/right-turn lane

The intersection of SR 11/US 129 at Underwood Farm Road/Daybreak Road operates with side-street stop-control and has the following lane configuration:

- Northbound US 129: one left-turn lane and one shared through/right-turn lane
- Southbound US 129: one left-turn lane and one shared through/right-turn lane
- Eastbound Daybreak Rd: one shared left-turn/through/right-turn lane
- Westbound Underwood Farm Rd: one shared left-turn/through/right-turn lane

Traffic Volumes

Traffic counts were collected on Tuesday, October 29, 2024, for use in the traffic analysis. White County public schools were in session. The traffic data collected included:

- 7-9 AM and 4-6 PM turning movement count at all study intersections: SR 11/US 129 at Donald E Thurmond Parkway/Hope Drive, Donald E Thurmond Parkway at middle Walmart entrance, Donald E Thurmond Parkway at Old Highway 75, and SR 11/US 129 at Daybreak Road/Underwood Farm Road.
- One 24-hour volume count on Donald E Thurmond Parkway, near the proposed site driveway

The 24-hour count reported Donald E Thurmond Parkway had daily traffic volume of 4,652 vehicles.

Historical traffic volume data available from the GDOT TADA source were utilized to inform the annual growth factor. The three locations are indicated in Appendix D. The three locations are:

- GDOT Count Station #311-0234 located on Old Highway 75, east of Donald E Thurmond Parkway.
- GDOT Count Station #311-0105 located on US 129, south of Donald E Thurmond Parkway
- GDOT Count Station #311-0106 located on Appalachian Parkway, west of US 129

Figure 3 (in Appendix A) illustrates the existing 2024 traffic volumes These volumes were used in the traffic analysis. The traffic counts are included in the Appendix C. The 2024 traffic volumes are indicated in the Intersection Volume Development table included in the Appendix E.

2. Future Conditions

2.1 Future No-Build Traffic Volumes

Future traffic volumes were developed by reviewing the historical traffic volumes roadways within the vicinity of the project and historic population growth in the county. Three GDOT count stations in the area were reviewed. The annual historic compound growth rate was 2.5% between the three GDOT count stations. The calculations are included in Appendix D. White County's population growth rate was most recently reported as 0.31% percent per year in 2020. The Governor's Office of Planning and Budget developed population projections indicate an estimated growth of 0.83% by 2027 in White County.

Considering this data, a 2.5% per year growth rate to account for background traffic volume growth was used in the traffic study. For the purposes of this study the proposed development is expected to be completed and opened by 2027. A 2.5% per year growth rate was applied to the 2024 existing volumes to calculate year 2027 No-Build traffic volumes.

2.2 Future Roadway Conditions

A review of Georgia DOT, City of Cleveland, and White County planned, and programmed transportation projects was performed. No planned roadway projects were identified near the development site; however, based on conversations with City staff, Underwood Farm Road is anticipated to be repaved in the near future.

3. Proposed Development Traffic

Project traffic was calculated for the proposed development. Project traffic is defined as the vehicular trips expected to be generated by the development and distributed over the roadway network.

3.1 Trip Generation

The project driveway volumes were calculated based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, Eleventh Edition. Based on the client information, the development will include three land uses totaling approximately 120,000 square feet. The square footage for each building may change as the concept plan is refined. For the purposes of estimating development trips, the following densities were utilized: 32,500 square feet of medical offices, 65,000 square feet of assisted living use, and one hotel with 24 hotel rooms.

For the purposes of the traffic study, ITE land use codes 254 (Assisted Living), 310 (Hotel), and 720 (Medical-Dental Office Building) were used. Since this is a residential development, no pass-by reductions or internal capture rates were included. **Table 1** below summarizes the trips expected daily, during the AM peak hour, and during the PM peak hour for the development. Variations in the square footage between the three uses is not anticipated to modify the total trips significantly.

Table 1: Proposed Site Trip Generation

Land Use (ITE Code)	Units	Daily Trips	AM Peak Hour			PM Peak Hour		
		Two-Way Total	Enter	Exit	Total	Enter	Exit	Total
Assisted Living (254)	65,000 SF	272	19	6	25	10	21	31
Hotel (310)	24 rooms	192	6	5	11	7	7	14
Medical-Dental Office Building	32,500 SF	1,289	70	18	88	39	90	129
Total Trips		1,753	95	29	124	56	118	174

3.2 Trip Distribution and Assignment

An overall trip distribution and assignment of project trips was based on existing traffic patterns and a review of land uses and the street network in the area. This information was used to apply the project traffic volumes at the study intersection and development driveways.

The directional distribution for the proposed development is estimated to be:

- Residential use:
  - 45% to the north along US 129
  - 35% to the south along US 129
  - 10% to/from the north along Old Hwy 75
  - 10% to/from the south along Old Hwy 75

Figure 4 (in Appendix A) illustrates the project trip distribution in the study area.

3.3 Future Build Traffic Volumes

The 2027 future Build traffic volumes were calculated by adding the proposed development (475 Underwood Farm Road) traffic volumes to the projected year 2027 No-Build traffic volumes. **Figure 5** (in Appendix A) illustrates the year 2027 Build traffic volumes.

4. Capacity Analysis

Capacity analysis was performed at the study intersections for the weekday AM and PM peak hours. Intersection Level of Service (LOS) was calculated based on the methodologies contained in the Highway Capacity Manual, 6th Edition. The Synchro Studio software, which utilizes the HCM 6th Edition methodology, or the SIDRA software to evaluate roundabouts, was utilized to perform the analysis.

Capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a specified period under prevailing roadway, traffic, and control conditions. Level of service (LOS) is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorist's perceptions. The Highway Capacity Manual defines six levels of service, LOS A through LOS F. Level of service A indicates excellent operations with little delay to motorists, while level of service F indicates extremely long delay.

Level of service for unsignalized intersections is calculated for the average control delay incurred for vehicles on the stop control approach, compared to the average control delay per vehicle for all approaches at a signalized intersection. Control delay for vehicles include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. **Table 2** below indicates the relationship between delay and LOS for signalized and unsignalized intersections (and roundabouts), respectively. Level-of-service "E" is typically considered to be the limit of acceptable delay.

Several factors affect the controlled delay for unsignalized intersections, including the availability of gaps in the cross-street traffic, and acceptable gap time to make the movement from the stop position. For stop-control intersections, LOS E and F exist when there are insufficient gaps in traffic, resulting in long delays. Low level of service for stop-control approaches are not uncommon at major cross-streets.

Table 2: Level of Service Criteria

Level of Service	Average Control Delay Per Vehicle (sec)	
	Signalized Intersection	Unsignalized Intersection (and roundabouts)
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

4.1 Existing Conditions Capacity Analysis

Capacity analysis was performed for the year 2024 Existing Conditions and includes existing traffic volumes at the four study intersections. The existing traffic conditions and volumes are illustrated in **Figure 3**. **Table 3** summarizes the results of the existing capacity analysis.

Table 3: Existing Year (2024) Level of Service

Intersection	Intersection Control	Approach	AM Peak Hour LOS (Delay*)	PM Peak Hour LOS (Delay*)
1) SR 11/US 129 at Donald E Thurmond Pkwy/Hope Dr	Signal	**Overall**	**B (13)**	**B (20)**
		NB – US 129	B (16)	C (20)
		SB – US 129	A (8)	B (11)
		EB – Hope	B (18)	C (22)
		WB – Donald	C (22)	D (37)
2) Donald E Thurmond Pkwy at Walmart Dry	Side-Street Stop-Control	SB	B (10)	B (14)
3) Donald E Thurmond Pkwy/Woodlawn Drive at Old Hwy 75	Side-Street Stop-Control	EB - Donald	B (13)	B (13)
		WB - Woodlawn	C (15)	B (14)
4) SR 11/US 129 at Daybreak Rd/Underwood Farm Rd	Side-Street Stop-Control	EB – Daybreak	C (18)	D (27)
		WB – Underwood	C (16)	C (19)

**Average vehicle delay in seconds*

The existing intersections are currently operating with acceptable levels of service during the AM and PM peak hours.

4.2 No Build Conditions Capacity Analysis

Capacity analysis was performed for the year 2027 Future Conditions and includes the No-Build traffic volumes and existing traffic conditions. **Table 4** summarizes the results of the capacity analysis.

Table 4: No Build Year (2027) Level of Service				
Intersection	Intersection Control	Approach	AM Peak Hour LOS (Delay*)	PM Peak Hour LOS (Delay*)
1) SR 11/US 129 at Donald E Thurmond Pkwy/Hope Dr	Signal	**Overall**	**B (13)**	**C (22)**
		NB – US 129	B (16)	C (22)
		SB – US 129	A (9)	B (12)
		EB – Hope	B (18)	C (24)
		WB – Donald	C (23)	D (45)
2) Donald E Thurmond Pkwy at Walmart Dry	Side-Street Stop-Control	SB	B (10)	B (15)
3) Donald E Thurmond Pkwy/Woodlawn Drive at Old Hwy 75	Side-Street Stop-Control	EB - Donald	B (14)	B (14)
		WB - Woodlawn	C (16)	C (15)
4) SR 11/US 129 at Daybreak Rd/Underwood Farm Rd	Side-Street Stop-Control	EB – Daybreak	C (19)	D (29)
		WB – Underwood	C (17)	C (21)

**Average vehicle delay in seconds*

By the year 2027 No Build conditions, the study intersections are expected to continue operating with acceptable levels of service during the AM and PM peak hours.

4.3 Build Conditions Capacity Analysis

Capacity analysis was performed for the year 2027 Future Conditions and includes the No-Build traffic volumes plus the 475 Underwood Farm Road development volumes. The two proposed driveways included turn lane improvements as stated in section 5.1. The Build traffic conditions and volumes are illustrated in **Figure 4**. **Table 5** summarizes the results of the capacity analysis.

Table 5: Build Year (2027) Level of Service

Intersection	Intersection Control	Approach	AM Peak Hour LOS (Delay*)	PM Peak Hour LOS (Delay*)
1) SR 11/US 129 at Donald E Thurmond Pkwy/Hope Dr	Signal	**Overall**	**B (14)**	**C (26)**
		NB – US 129	B (17)	C (26)
		SB – US 129	A (9)	B (17)
		EB – Hope	B (19)	C (25)
		WB – Donald	C (24)	D (40)
2) Donald E Thurmond Pkwy at Walmart Dry	Side-Street Stop-Control	SB	B (11)	C (15)
3) Donald E Thurmond Pkwy/Woodlawn Drive at Old Hwy 75	Side-Street Stop-Control	EB - Donald	B (15)	B (14)
		WB - Woodlawn	C (17)	C (15)
4) SR 11/US 129 at Daybreak Rd/Underwood Farm Rd	Side-Street Stop-Control	EB – Daybreak	C (20)	D (31)
		WB – Underwood	C (18)	C (24)
5) Donald E Thurmond Pkwy at Proposed Driveway #1	Side-Street Stop-Control	NB	B (11)	B (12)
6) Underwood Farm Rd at Proposed Driveway #2	Side-Street Stop-Control	SB	A (9)	A (8)

**Average vehicle delay in seconds*

By the year 2027 Build conditions, the study intersections are expected to continue operating with acceptable levels of service during the AM and PM peak hours.

The proposed Driveway #1 along Donald E Thurmond Parkway is expected to operate with acceptable levels of service during the AM and PM peak hours.

The proposed Driveway #2 along Underwood Farm Road is expected to operate with acceptable levels of service during the AM and PM peak hours.

5. Recommendations

Recommendations for access for the proposed development are based on existing conditions, the proposed development use, and expected traffic volumes. The need for dedicated turn lanes at the proposed development driveway and appropriate traffic control (i.e. stop control) were reviewed. Recommendations included reviewing Georgia DOT requirements and City of Cleveland subdivision regulations for required turn lanes, knowledge of general transportation standards, and engineering judgment. Specifics of the driveway design will need to follow City of Cleveland requirements.

5.1 Turn Lane Analysis at Site Driveways

The GDOT Georgia DOT Driveway and Encroachment Control Manual was reviewed for the proposed driveways along Donald E Thurmond Parkway and Underwood Farm Road. The GDOT driveway manual, Section 4I, Auxiliary Turn Lanes, provides minimum volumes requiring right-turn or left-turn deceleration lanes. The year 2027 Build traffic volumes were compared to the Georgia DOT driveway requirements for right-turn and left-turn deceleration lanes. The most recently collected daily volume on Donald E Thurmond Parkway was 4,652 vehicles per day and the daily volume along Underwood Farm Road is estimated to be 500 vehicles.

Right-Turn Deceleration Lane Criteria

Based on the 35-mph speed limit, two-lane roadway, and less than 6,000 ADT (Average Daily Traffic) on Donald E Thurmond Parkway, Table 4-6 indicates a dedicated right-turn lane is required if there are more than 200 right-turn vehicles per day. The estimated daily eastbound right-turn entering the site at proposed driveway #1 is 658 vehicles per day. This volume MEETS the GDOT criteria to install a right-turn deceleration lane at the proposed driveway #1.

*Calculation: 1,753 daily trips / 2 = 877 entering trips * 0.75 (percentage of vehicles turning right at Driveway #1) = 658 vehicles*

Based on the 25-mph speed limit, two-lane roadway, and less than 6,000 ADT (Average Daily Traffic) on Underwood Farm Road, Table 4-6 indicates a dedicated right-turn lane is required if there are more than 200 right-turn vehicles per day. The estimated daily eastbound right-turn entering the site at proposed driveway #2 is zero vehicles per day. This volume does NOT meet the GDOT criteria to install a right-turn deceleration lane at the proposed driveway #2.

Left-turn Lane Criteria

Based on the 35-mph speed limit, two-lane roadway, and less than 6,000 ADT (Average Daily Traffic) on Donald E Thurmond Parkway, Table 4-7a indicates a dedicated left-turn lane is required if there are more than 300 left-turn vehicles per day. The estimated daily westbound left-turn entering the site at the proposed driveway is 175 vehicles per day. This volume does NOT meet the GDOT criteria to install a dedicated left-turn deceleration lane at the proposed driveway #2.

*Calculation: 1,753 daily trips / 2 = 877 entering trips * 0.20 (percentage of vehicles turning left at Driveway #2) = 175 vehicles*

Based on the 25-mph speed limit, two-lane roadway, and less than 6,000 ADT (Average Daily Traffic) on Underwood Farm Road, Table 4-7a indicates a dedicated left-turn lane is required if there are more than 300 left-turn vehicles per day. The estimated daily westbound left-turn entering the site at proposed driveway #2 is 44 vehicles per day. This volume does NOT meet the GDOT criteria to install a dedicated left-turn deceleration lane at the proposed driveway #2.

5.2 Recommended Driveway Geometry

Based on estimated traffic volumes in the year 2027 Build year conditions, the following driveway geometric recommendations are provided:

- Donald E Thurmond Parkway at Proposed Driveway #1:
    - The driveway location is proposed between two driveways accessing the Walmart property: providing approximately 300 feet spacing from the middle Walmart driveway.
    - Driveway to be stop-control
    - Construct an eastbound right-turn deceleration lane along Donald E Thurmond Parkway
    - Re-stripe the existing center two-way left-turn lane to provide a dedicated westbound left-turn lane along Donald E Thurmond Parkway; recommend minimum 25-foot turn lane length
    - Provide one entry lane and two exit lanes (one left-turn lane and one right-turn lane; recommend minimum 50-foot length right-turn lane)
- Underwood Farm Road at Proposed Driveway #2:
    - Provide a full-movement intersection; driveway to be stop-control
    - Provide one entry lane and one exit lane

Appendices

- Appendix A
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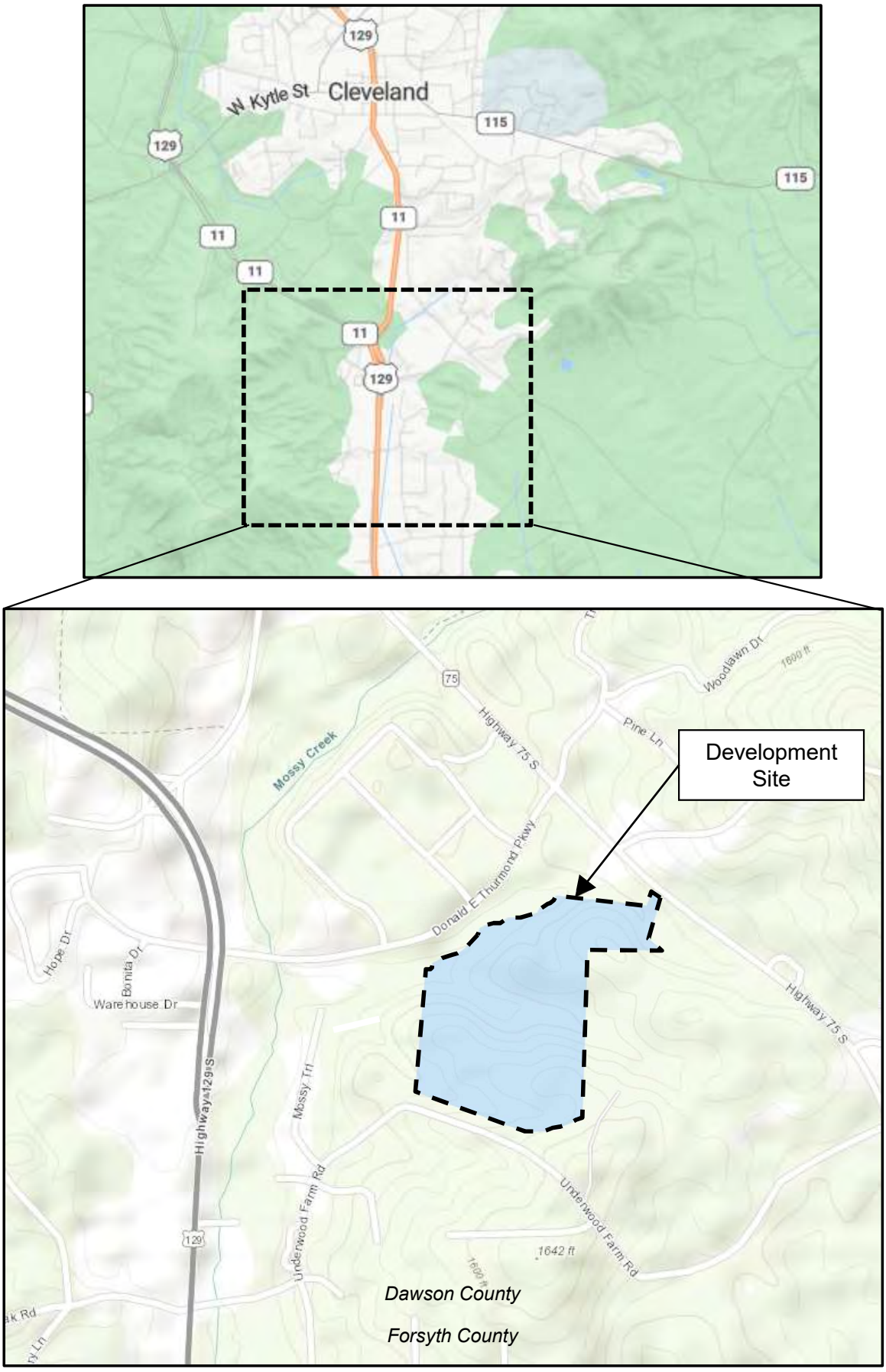
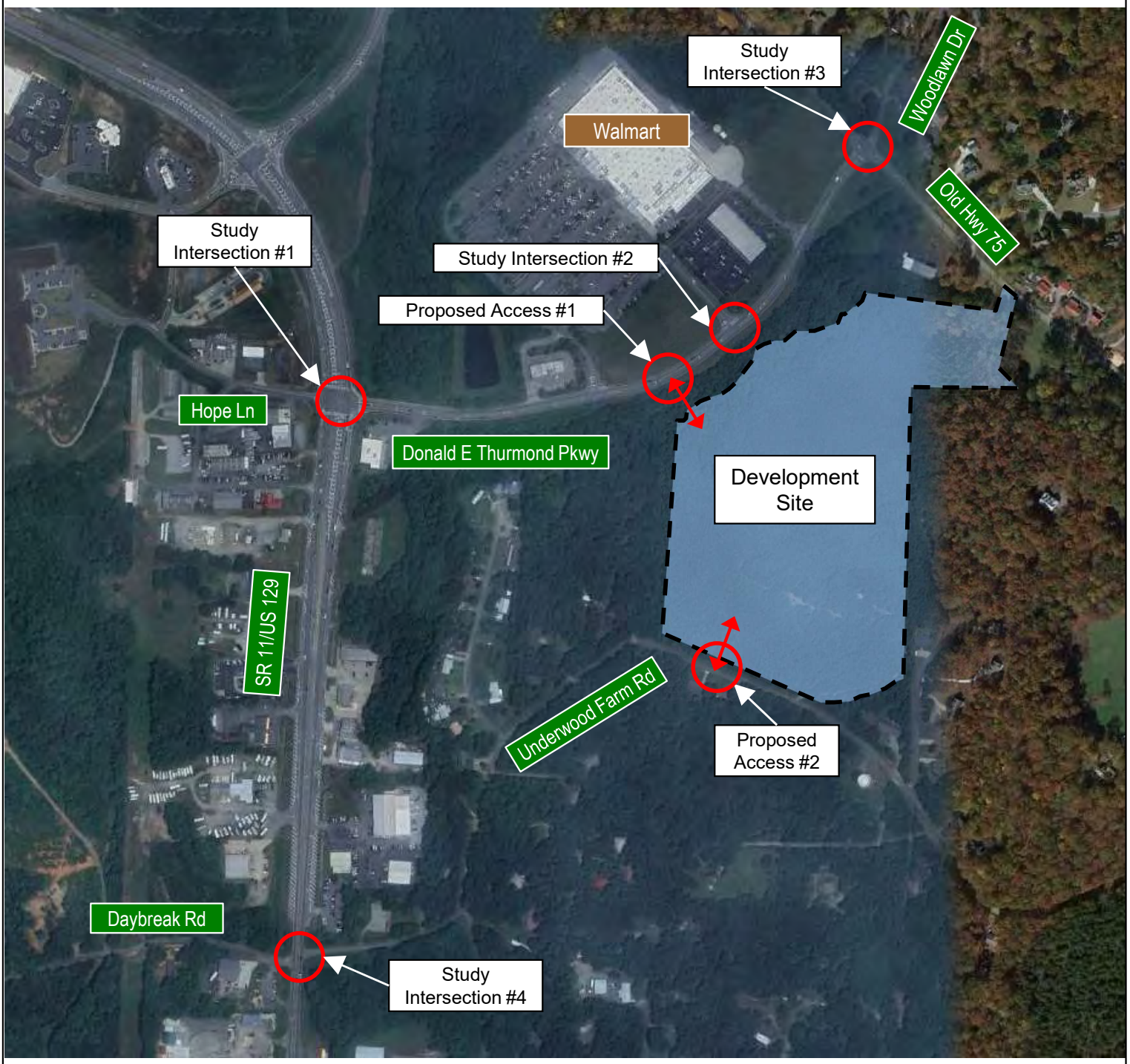
- Appendix C
  - Traffic Count Data
- Appendix D
  - GDOT Traffic Data
- Appendix E
  - Intersection Volume Development
- Appendix F
  - Capacity Analysis Reports

Appendix A

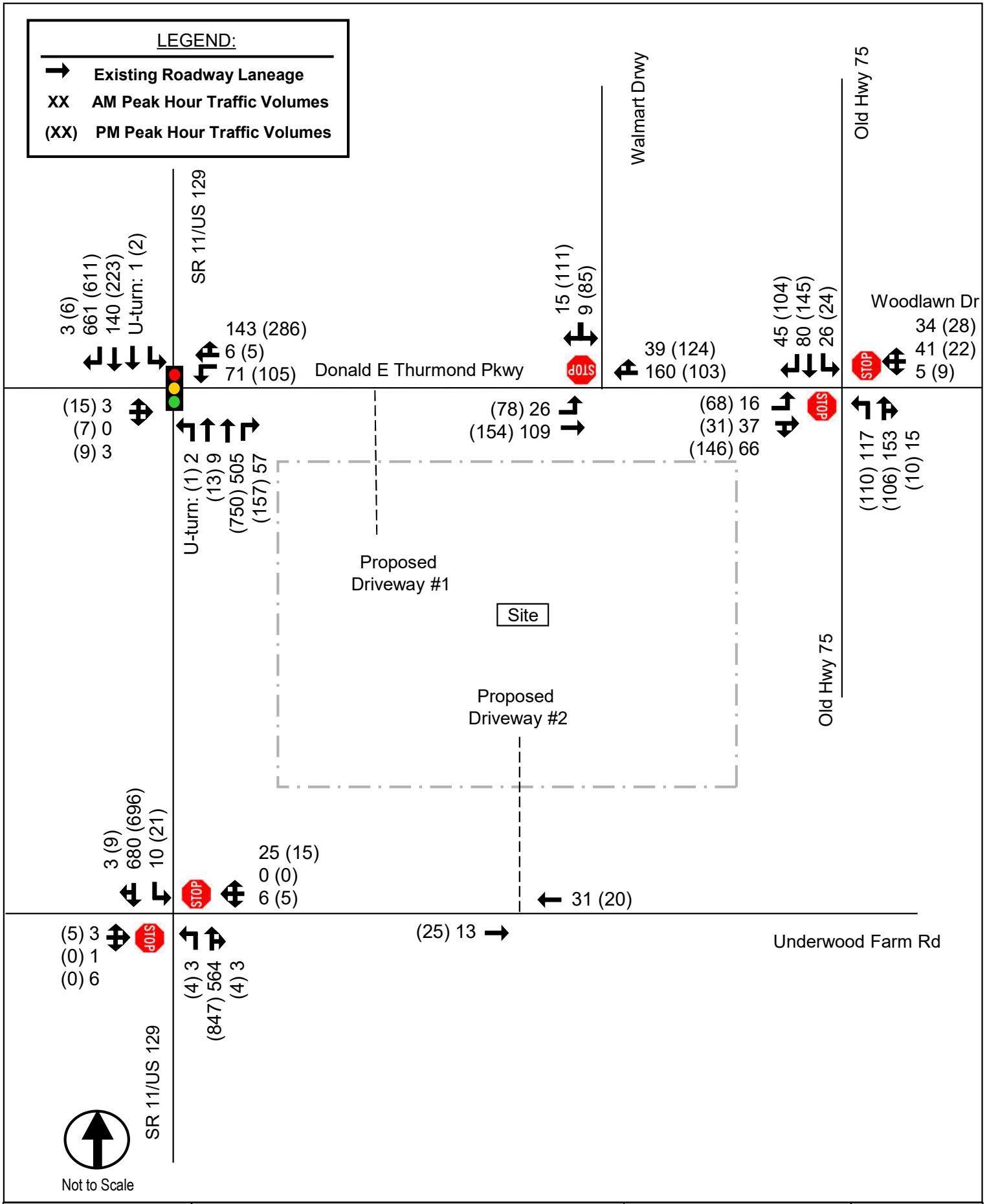
Figures



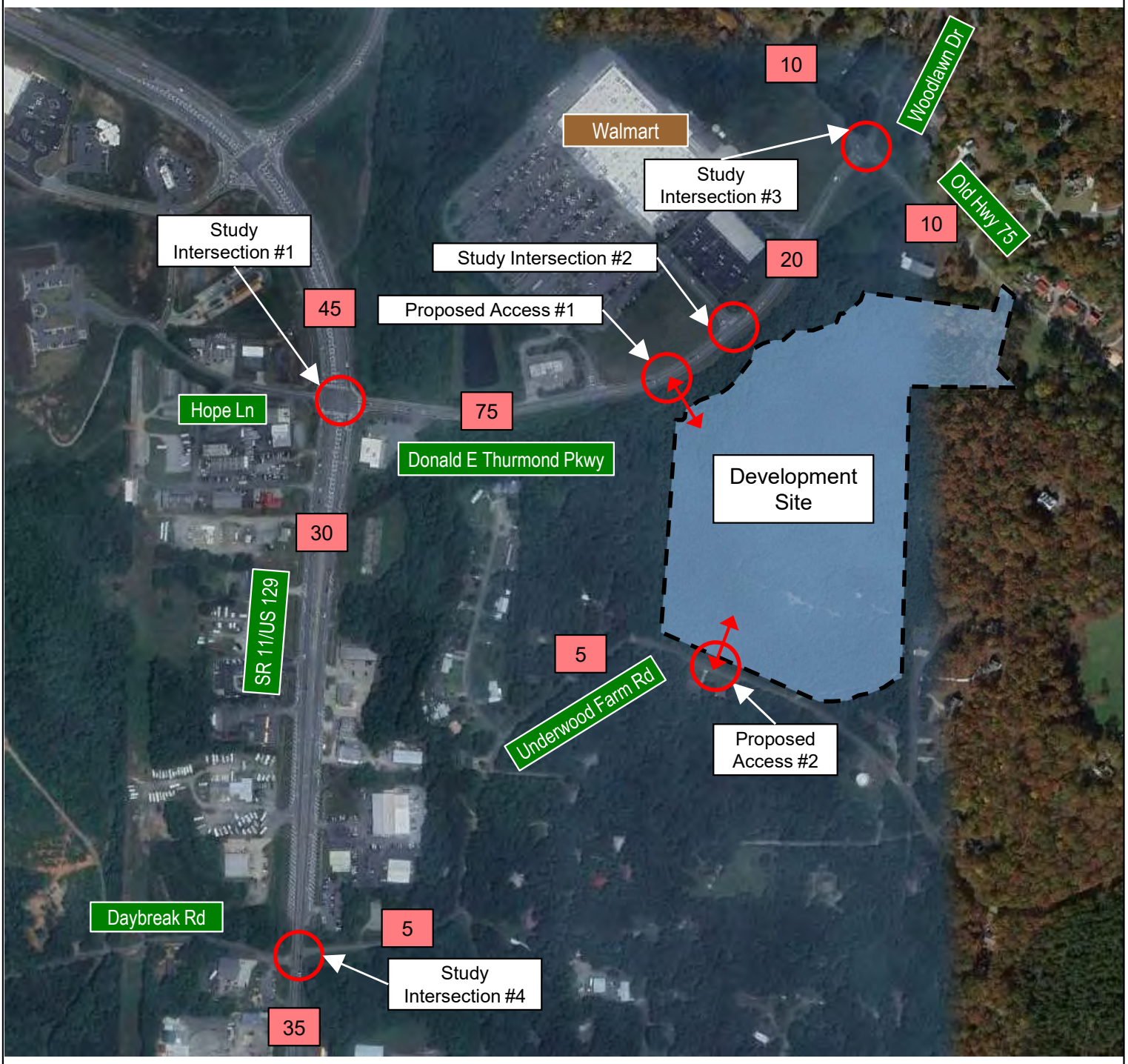
KCI TECHNOLOGIES	**Traffic Impact Study** **475 Underwood Farm Rd** **City of Cleveland, Georgia**	**Location Map**	**Figure 1**



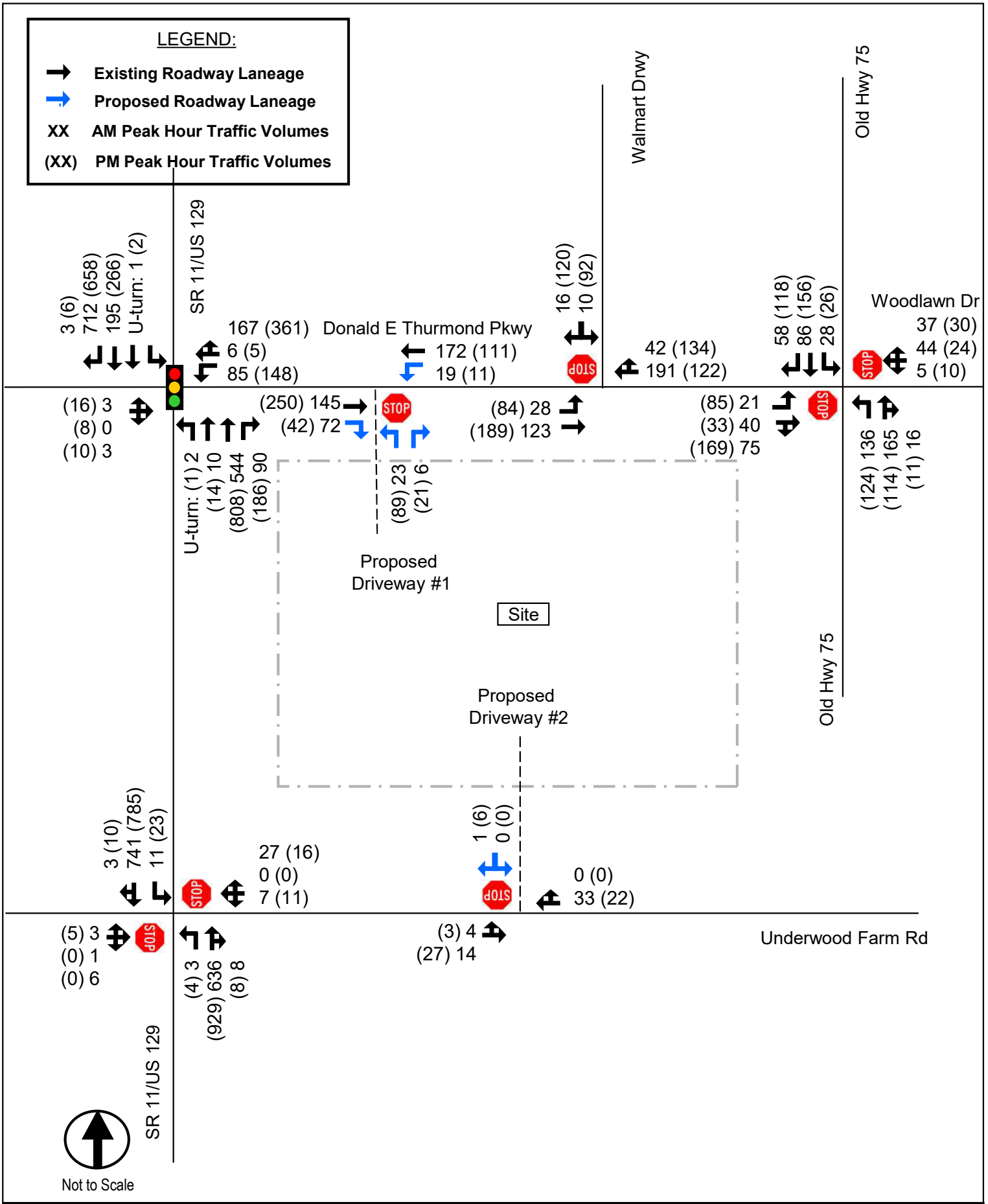
KCI TECHNOLOGIES	**Traffic Impact Study** **475 Underwood Farm Rd** **City of Cleveland, Georgia**	**Aerial & Access Locations**	**Figure 2**



KCI TECHNOLOGIES	**Traffic Impact Study** **475 Underwood Farm Rd** **City of Cleveland, Georgia**	**Existing Traffic Conditions**	**Figure 3**



KCI TECHNOLOGIES	**Traffic Impact Study** **475 Underwood Farm Rd** **City of Cleveland, Georgia**	**Project Trip Distribution**	**Figure 4**



KCI TECHNOLOGIES	**Traffic Impact Study** **475 Underwood Farm Rd** **City of Cleveland, Georgia**	**Build** **(Year 2027)** **Traffic Conditions**	**Figure** **5**

Appendix B

Concept Plan

UNDERWOOD FARM

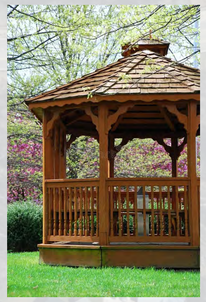
SITE FEASIBILITY TEST FIT / PROGRAM STUDY

LOT SIZE: 27.19 ACRES

DONALD E THURMOND PKWY

OLD HWY 75 S

PROPOSED MAIN ACCESS FROM THURMOND PKWY



SITE FEATURES
- WET DETENTION PONDS
- GAZEBO
- WALKING PATHS

GAZEBO

WALKING PATHS

16

16

26

36

29

18

PROPOSED HOTEL
- 2 STORY
- 22,500 SF
- 24 ROOMS
- 32 PARKING SPACES

PROPOSED AL
- 2 STORY
- 65,000 SF
- 55 PARKING SPACES
- AL COURTYARD

PROPOSED MEDICAL OFFICE
- 1 STORY
- 32,500 SF
- 54 PARKING SPACES

UNDERWOOD FARM RD

PROPOSED SECONDARY ACCESS

N

KCI

HUSSEY GAY BELL
Established 1958

DLBP

SFCS
Enriching life by design
architecture | engineering | planning | interiors

Appendix C

Traffic Count Data

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 11/US 129/S Main St & Hope Dr/Donald E Thurmond Pkwy
City: Cleveland
Control: Signalized

Project ID: 24-180250-001
Date: 10/29/2024

Data - Total

NS/EW Streets:	SR 11/US 129/S Main St				SR 11/US 129/S Main St				Hope Dr/Donald E Thurmond Pkwy				Hope Dr/Donald E Thurmond Pkwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	0	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	95	14	0	10	146	0	0	0	0	4	0	9	0	26	0	305
7:15 AM	0	125	15	0	23	165	1	0	1	0	1	0	18	1	33	0	383
7:30 AM	0	176	13	0	25	174	0	0	1	0	0	0	22	0	45	0	456
7:45 AM	5	121	19	1	59	181	1	0	0	0	0	0	19	3	45	0	454
8:00 AM	4	83	10	1	33	141	1	1	1	0	2	0	12	2	20	0	311
8:15 AM	2	81	16	0	22	115	1	0	0	1	4	0	12	1	14	0	269
8:30 AM	2	107	15	0	13	104	2	0	1	1	0	0	12	0	20	0	277
8:45 AM	4	108	10	0	22	110	1	0	1	2	3	0	12	2	31	0	306
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	18	896	112	2	207	1136	7	1	5	4	14	0	116	9	234	0	2761
APPROACH %'s :	1.75%	87.16%	10.89%	0.19%	15.32%	84.09%	0.52%	0.07%	21.74%	17.39%	60.87%	0.00%	32.31%	2.51%	65.18%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	9	505	57	2	140	661	3	1	3	0	3	0	71	6	143	0	1604
PEAK HR FACTOR :	0.450	0.717	0.750	0.500	0.593	0.913	0.750	0.250	0.750	0.000	0.375	0.000	0.807	0.500	0.794	0.000	0.879
	0.758				0.835				0.500				0.821				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	0	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	5	166	43	1	64	137	1	0	1	2	3	0	39	2	76	0	540
4:15 PM	7	147	44	0	58	158	4	0	1	5	2	0	31	3	69	0	529
4:30 PM	1	179	34	0	46	156	3	0	5	1	9	0	23	3	59	0	519
4:45 PM	4	176	35	1	45	160	1	1	4	1	5	0	23	2	69	0	527
5:00 PM	6	215	53	0	56	149	1	0	6	2	3	0	29	2	74	0	596
5:15 PM	2	187	34	0	65	158	2	0	4	3	1	0	19	1	70	0	546
5:30 PM	1	172	35	0	57	144	2	1	1	1	0	0	34	0	73	0	521
5:45 PM	5	170	35	0	40	135	1	0	2	1	4	0	23	2	61	0	479
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	31	1412	313	2	431	1197	15	2	24	16	27	0	221	15	551	0	4257
APPROACH %'s :	1.76%	80.32%	17.80%	0.11%	26.20%	72.77%	0.91%	0.12%	35.82%	23.88%	40.30%	0.00%	28.08%	1.91%	70.01%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	13	750	157	1	223	611	6	2	15	7	9	0	105	5	286	0	2190
PEAK HR FACTOR :	0.542	0.872	0.741	0.250	0.858	0.955	0.750	0.500	0.625	0.583	0.450	0.000	0.772	0.625	0.966	0.000	0.919
	0.840				0.936				0.705				0.925				

Prepared by National Data & Surveying Services

SR 11/US 129/S Main St & Hope Dr/Donald E Thurmond Pkwy

Peak Hour Turning Movement Count

ID: 24-180250-001
City: Cleveland

Day: Tuesday
Date: 10/29/2024

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	7:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	4:00 PM - 06:00 PM

SR 11/US 129/S Main St — SOUTHBOUND

	Right	Through	Left	U-Turn	Exit
AM	3	661	140	1	652
NOON	0	0	0	0	0
PM	6	611	223	2	1053
Lanes	1	2	1	0	

Hope Dr/Donald E Thurmond Pkwy — WESTBOUND

	Lanes	PM	NOON	AM
Right	0	286	0	143
Through	1	5	0	6
Left	1	105	0	71
U-Turn	0	0	0	0
Exit		387	0	197

Hope Dr/Donald E Thurmond Pkwy — EASTBOUND

	AM	NOON	PM	Lanes
Exit	18	0	24	
U-Turn	0	0	0	0
Left	3	0	15	0
Through	0	0	7	1
Right	3	0	9	0

SR 11/US 129/S Main St — NORTHBOUND

	Exit	U-Turn	Left	Through	Right
Lanes		0	1	2	1
PM	726	1	13	750	157
NOON	0	0	0	0	0
AM	737	2	9	505	57

CONTROL

Signalized

	AM	NOON	PM
TEV	1604	0	2190
PHF	0.88		0.92

Cars (AM)

Approach			
Southbound	3	633	135
Eastbound	3	0	3
Westbound	138	6	69
Northbound	9	478	54

HT (AM)

Approach			
Southbound	0	28	5
Eastbound	0	0	0
Westbound	5	0	2
Northbound	0	27	3

Cars (NOON)

Approach			
Southbound	0	0	0
Eastbound	0	0	0
Westbound	0	0	0
Northbound	0	0	0

HT (NOON)

Approach			
Southbound	0	0	0
Eastbound	0	0	0
Westbound	0	0	0
Northbound	0	0	0

Cars (PM)

Approach			
Southbound	6	589	220
Eastbound	15	7	9
Westbound	285	5	105
Northbound	13	742	156

HT (PM)

Approach			
Southbound	0	22	3
Eastbound	0	0	0
Westbound	1	0	0
Northbound	0	8	1

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North (westward)	0	0	0
North (eastward)	0	0	0
South (westward)	0	0	0
South (eastward)	0	0	0
West (southward)	0	0	0
West (northward)	0	0	0
East (southward)	0	0	1
East (northward)	0	0	0
Northwest diagonal	0	0	0
Northeast diagonal	0	0	0
Southwest diagonal	0	0	0
Southeast diagonal	0	0	0

Project ID: 24-180250-001
Location: SR 11/US 129/S Main St & Hope Dr/Donald E Thurmond Pkwy
City: Cleveland

Day: Tuesday
Date: 10/29/2024

Groups Printed - Cars, PU, Vans - Heavy Trucks

	SR 11/US 129/S Main St Northbound						SR 11/US 129/S Main St Southbound						Hope Dr/Donald E Thurmond Pkwy Eastbound						Hope Dr/Donald E Thurmond Pkwy Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	1	95	14	0	0	110	10	146	0	0	0	156	0	0	4	0	0	4	9	0	26	0	0	35	305
7:15 AM	0	125	15	0	0	140	23	165	1	0	0	189	1	0	1	0	0	2	18	1	33	0	0	52	383
7:30 AM	0	176	13	0	0	189	25	174	0	0	0	199	1	0	0	0	0	1	22	0	45	0	0	67	456
7:45 AM	5	121	19	1	0	146	59	181	1	0	0	241	0	0	0	0	0	0	19	3	45	0	0	67	454
Total	6	517	61	1	0	585	117	666	2	0	0	785	2	0	5	0	0	7	68	4	149	0	0	221	1598
8:00 AM	4	83	10	1	0	98	33	141	1	1	0	176	1	0	2	0	0	3	12	2	20	0	0	34	311
8:15 AM	2	81	16	0	0	99	22	115	1	0	0	138	0	1	4	0	0	5	12	1	14	0	0	27	269
8:30 AM	2	107	15	0	0	124	13	104	2	0	0	119	1	1	0	0	0	2	12	0	20	0	0	32	277
8:45 AM	4	108	10	0	0	122	22	110	1	0	0	133	1	2	3	0	0	6	12	2	31	0	1	45	306
Total	12	379	51	1	0	443	90	470	5	1	0	566	3	4	9	0	0	16	48	5	85	0	1	138	1163
BREAK																									
4:00 PM	5	166	43	1	0	215	64	137	1	0	0	202	1	2	3	0	0	6	39	2	76	0	0	117	540
4:15 PM	7	147	44	0	0	198	58	158	4	0	0	220	1	5	2	0	0	8	31	3	69	0	1	103	529
4:30 PM	1	179	34	0	0	214	46	156	3	0	0	205	5	1	9	0	0	15	23	3	59	0	0	85	519
4:45 PM	4	176	35	1	0	216	45	160	1	1	0	207	4	1	5	0	0	10	23	2	69	0	0	94	527
Total	17	668	156	2	0	843	213	611	9	1	0	834	11	9	19	0	0	39	116	10	273	0	1	399	2115
5:00 PM	6	215	53	0	0	274	56	149	1	0	0	206	6	2	3	0	0	11	29	2	74	0	1	105	596
5:15 PM	2	187	34	0	0	223	65	158	2	0	0	225	4	3	1	0	0	8	19	1	70	0	0	90	546
5:30 PM	1	172	35	0	0	208	57	144	2	1	0	204	1	1	0	0	0	2	34	0	73	0	0	107	521
5:45 PM	5	170	35	0	0	210	40	135	1	0	0	176	2	1	4	0	0	7	23	2	61	0	0	86	479
Total	14	744	157	0	0	915	218	586	6	1	0	811	13	7	8	0	0	28	105	5	278	0	1	388	2142
Grand Total	49	2308	425	4	0	2786	638	2333	22	3	0	2996	29	20	41	0	0	90	337	24	785	0	3	1146	7018
Apprch %	1.8	82.8	15.3	0.1	0.0		21.3	77.9	0.7	0.1	0.0		32.2	22.2	45.6	0.0	0.0		29.4	2.1	68.5	0.0	0.3		
Total %	0.7	32.9	6.1	0.1	0.0	39.7	9.1	33.2	0.3	0.0	0.0	42.7	0.4	0.3	0.6	0.0	0.0	1.3	4.8	0.3	11.2	0.0	0.0	16.3	
Cars, PU, Vans	48	2215	417	4		2684	624	2232	22	3		2881	29	20	39	0		88	331	24	771	0		1126	6779
% Cars, PU, Vans	98.0	96.0	98.1	100.0		96.3	97.8	95.7	100.0	100.0		96.2	100.0	100.0	95.1	0.0		97.8	98.2	100.0	98.2	0.0		98.3	96.6
Heavy trucks	1	93	8	0		102	14	101	0	0		115	0	0	2	0		2	6	0	14	0		20	239
%Heavy trucks	2.0	4.0	1.9	0.0		3.7	2.2	4.3	0.0	0.0		3.8	0.0	0.0	4.9	0.0		2.2	1.8	0.0	1.8	0.0		1.7	3.4

Project ID: 24-180250-001
Location: SR 11/US 129/S Main St & Hope Dr/Donald E Thurm
City: Cleveland

PEAK HOURS

Day: Tuesday
Date: 10/29/2024

AM

	SR 11/US 129/S Main St Northbound					SR 11/US 129/S Main St Southbound					Hope Dr/Donald E Thurmond Pkwy Eastbound					Hope Dr/Donald E Thurmond Pkwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	0	125	15	0	140	23	165	1	0	189	1	0	1	0	2	18	1	33	0	52	383
7:30 AM	0	176	13	0	189	25	174	0	0	199	1	0	0	0	1	22	0	45	0	67	456
7:45 AM	5	121	19	1	146	59	181	1	0	241	0	0	0	0	0	19	3	45	0	67	454
8:00 AM	4	83	10	1	98	33	141	1	1	176	1	0	2	0	3	12	2	20	0	34	311
Total Volume	9	505	57	2	573	140	661	3	1	805	3	0	3	0	6	71	6	143	0	220	1604
% App. Total	1.6	88.1	9.9	0.3	100	17.4	82.1	0.4	0.1	100	50.0	0.0	50.0	0.0	100	32.3	2.7	65.0	0.0	100	
PHF					0.758					0.835					0.500					0.821	0.879
Cars, PU, Vans	9	478	54	2	543	135	633	3	1	772	3	0	3	0	6	69	6	138	0	213	1534
% Cars, PU, Vans	100.0	94.7	94.7	100.0	94.8	96.4	95.8	100.0	100.0	95.9	100.0	0.0	100.0	0.0	100.0	97.2	100.0	96.5	0.0	96.8	95.6
Heavy trucks	0	27	3	0	30	5	28	0	0	33	0	0	0	0	0	2	0	5	0	7	70
%Heavy trucks	0.0	5.3	5.3	0.0	5.2	3.6	4.2	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	2.8	0.0	3.5	0.0	3.2	4.4

PM

	SR 11/US 129/S Main St Northbound					SR 11/US 129/S Main St Southbound					Hope Dr/Donald E Thurmond Pkwy Eastbound					Hope Dr/Donald E Thurmond Pkwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
4:45 PM	4	176	35	1	216	45	160	1	1	207	4	1	5	0	10	23	2	69	0	94	527
5:00 PM	6	215	53	0	274	56	149	1	0	206	6	2	3	0	11	29	2	74	0	105	596
5:15 PM	2	187	34	0	223	65	158	2	0	225	4	3	1	0	8	19	1	70	0	90	546
5:30 PM	1	172	35	0	208	57	144	2	1	204	1	1	0	0	2	34	0	73	0	107	521
Total Volume	13	750	157	1	921	223	611	6	2	842	15	7	9	0	31	105	5	286	0	396	2190
% App. Total	1.4	81.4	17.0	0.1	100	26.5	72.6	0.7	0.2	100	48.4	22.6	29.0	0.0	100	26.5	1.3	72.2	0.0	100	
PHF					0.840					0.936					0.705					0.925	0.919
Cars, PU, Vans	13	742	156	1	912	220	589	6	2	817	15	7	9	0	31	105	5	285	0	395	2155
% Cars, PU, Vans	100.0	98.9	99.4	100.0	99.0	98.7	96.4	100.0	100.0	97.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	99.7	0.0	99.7	98.4
Heavy trucks	0	8	1	0	9	3	22	0	0	25	0	0	0	0	0	0	0	1	0	1	35
%Heavy trucks	0.0	1.1	0.6	0.0	1.0	1.3	3.6	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3	1.6

National Data & Surveying Services

Intersection Turning Movement Count

Location: Old Hwy 75 S & Wood Lawn Dr/Donald E Thurmond Pkwy
City: Cleveland
Control: 2-Way Stop(EB/WB)

Project ID: 24-180250-002
Date: 10/29/2024

Data - Total

NS/EW Streets:	Old Hwy 75 S				Old Hwy 75 S				Wood Lawn Dr/Donald E Thurmond Pkwy				Wood Lawn Dr/Donald E Thurmond Pkwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	1	0	1	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	17	32	5	0	6	12	4	0	3	6	8	0	1	11	10	0	115
7:15 AM	29	45	5	0	7	15	8	0	3	4	5	0	1	9	8	0	139
7:30 AM	41	44	2	0	8	19	14	0	4	8	12	0	1	11	6	0	170
7:45 AM	27	33	2	0	6	24	17	0	5	16	28	0	0	12	14	0	184
8:00 AM	20	31	6	0	5	22	6	0	4	9	21	0	3	9	6	0	142
8:15 AM	15	22	3	0	3	14	11	0	8	3	12	0	1	3	9	0	104
8:30 AM	16	25	2	0	2	12	19	0	8	0	14	0	0	4	2	0	104
8:45 AM	18	22	1	0	1	19	17	0	11	3	8	0	0	5	2	0	107
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	183	254	26	0	38	137	96	0	46	49	108	0	7	64	57	0	1065
APPROACH %'s :	39.52%	54.86%	5.62%	0.00%	14.02%	50.55%	35.42%	0.00%	22.66%	24.14%	53.20%	0.00%	5.47%	50.00%	44.53%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	117	153	15	0	26	80	45	0	16	37	66	0	5	41	34	0	635
PEAK HR FACTOR :	0.713	0.850	0.625	0.000	0.813	0.833	0.662	0.000	0.800	0.578	0.589	0.000	0.417	0.854	0.607	0.000	0.863
	0.819				0.803				0.607				0.769				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	1	0	1	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	22	33	1	0	6	23	27	0	18	6	40	0	3	5	5	0	189
4:15 PM	34	23	2	0	3	37	21	0	25	7	41	0	3	4	5	0	205
4:30 PM	30	29	4	0	4	38	26	0	16	9	38	0	2	5	5	0	206
4:45 PM	25	29	2	0	7	42	22	0	19	6	25	0	1	5	7	0	190
5:00 PM	31	18	3	0	6	30	36	0	17	6	37	0	3	6	7	0	200
5:15 PM	24	30	1	0	7	35	20	0	16	10	46	0	3	6	9	0	207
5:30 PM	33	32	3	0	0	33	20	0	23	5	40	0	2	4	5	0	200
5:45 PM	28	29	2	0	4	28	33	0	17	5	36	0	2	2	4	0	190
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	227	223	18	0	37	266	205	0	151	54	303	0	19	37	47	0	1587
APPROACH %'s :	48.50%	47.65%	3.85%	0.00%	7.28%	52.36%	40.35%	0.00%	29.72%	10.63%	59.65%	0.00%	18.45%	35.92%	45.63%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	110	106	10	0	24	145	104	0	68	31	146	0	9	22	28	0	803
PEAK HR FACTOR :	0.887	0.883	0.625	0.000	0.857	0.863	0.722	0.000	0.895	0.775	0.793	0.000	0.750	0.917	0.778	0.000	0.970
	0.897				0.948				0.851				0.819				

Prepared by National Data & Surveying Services

Old Hwy 75 S & Wood Lawn Dr/Donald E Thurmond Pkwy

Peak Hour Turning Movement Count

ID: 24-180250-002
City: Cleveland

Day: Tuesday
Date: 10/29/2024

PEAK HOURS		COUNT PERIODS
07:15 AM - 08:15 AM		7:00 AM - 09:00 AM
NONE		NONE
04:30 PM - 05:30 PM		4:00 PM - 06:00 PM

Old Hwy 75 S — SOUTHBOUND

	↲	↓	↳	⮍	⇧
AM	45	80	26	0	203
NOON	0	0	0	0	0
PM	104	145	24	0	202
	1	1	1	0	

Wood Lawn Dr/Donald E Thurmond Pkwy — EASTBOUND

	AM	NOON	PM	
⇦	203	0	236	
⮌	0	0	0	0
↱	16	0	68	1
→	37	0	31	1
↴	66	0	146	0

Wood Lawn Dr/Donald E Thurmond Pkwy — WESTBOUND

		PM	NOON	AM
0	↰	28	0	34
1	←	22	0	41
0	↙	9	0	5
0	⮎	0	0	0
	⇨	65	0	78

Old Hwy 75 S — NORTHBOUND

	⇩	⮏	↰	↑	↱
		0	1	1	0
PM	300	0	110	106	10
NOON	0	0	0	0	0
AM	151	0	117	153	15

CONTROL

2-Way Stop(EB/WB)

	AM	NOON	PM
TEV	635	0	803
PHF	0.86		0.97

Cars (AM)

SB	45 ↲	78 ↓	26 ↳
EB	15 ↱	37 →	62 ↴
WB	34 ↰	41 ←	5 ↙
NB	115 ↰	147 ↑	15 ↱

HT (AM)

SB	0	2	0
EB	1	0	4
WB	0	0	0
NB	2	6	0

Cars (NOON)

SB	0	0	0
EB	0	0	0
WB	0	0	0
NB	0	0	0

HT (NOON)

SB	0	0	0
EB	0	0	0
WB	0	0	0
NB	0	0	0

Cars (PM)

SB	103	143	23
EB	68	31	144
WB	26	22	9
NB	108	105	9

HT (PM)

SB	1	2	1
EB	0	0	2
WB	2	0	0
NB	2	1	1

Pedestrians (Crosswalks)

	AM	NOON	PM
North crosswalk →	0	0	0
North crosswalk ←	0	0	0
West crosswalk ↓	0	0	0
West crosswalk ↑	0	0	0
East crosswalk ↓	0	0	0
East crosswalk ↑	0	0	0
South crosswalk →	0	0	0
South crosswalk ←	0	0	0
NW ↘	0	0	0
NE ↙	0	0	0
SW ↗	0	0	0
SE ↖	0	0	0

Project ID: 24-180250-002
Location: Old Hwy 75 S & Wood Lawn Dr/Donald E Thurmond Pkwy
City: Cleveland

Day: Tuesday
Date: 10/29/2024

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Old Hwy 75 S Northbound						Old Hwy 75 S Southbound						Wood Lawn Dr/Donald E Thurmond Pkwy Eastbound						Wood Lawn Dr/Donald E Thurmond Pkwy Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	17	32	5	0	0	54	6	12	4	0	0	22	3	6	8	0	0	17	1	11	10	0	0	22	115
7:15 AM	29	45	5	0	0	79	7	15	8	0	0	30	3	4	5	0	0	12	1	9	8	0	0	18	139
7:30 AM	41	44	2	0	0	87	8	19	14	0	0	41	4	8	12	0	0	24	1	11	6	0	0	18	170
7:45 AM	27	33	2	0	0	62	6	24	17	0	0	47	5	16	28	0	0	49	0	12	14	0	0	26	184
Total	114	154	14	0	0	282	27	70	43	0	0	140	15	34	53	0	0	102	3	43	38	0	0	84	608
8:00 AM	20	31	6	0	0	57	5	22	6	0	0	33	4	9	21	0	0	34	3	9	6	0	0	18	142
8:15 AM	15	22	3	0	0	40	3	14	11	0	0	28	8	3	12	0	0	23	1	3	9	0	0	13	104
8:30 AM	16	25	2	0	0	43	2	12	19	0	0	33	8	0	14	0	0	22	0	4	2	0	0	6	104
8:45 AM	18	22	1	0	0	41	1	19	17	0	0	37	11	3	8	0	0	22	0	5	2	0	0	7	107
Total	69	100	12	0	0	181	11	67	53	0	0	131	31	15	55	0	0	101	4	21	19	0	0	44	457
BREAK																									
4:00 PM	22	33	1	0	0	56	6	23	27	0	0	56	18	6	40	0	0	64	3	5	5	0	0	13	189
4:15 PM	34	23	2	0	0	59	3	37	21	0	0	61	25	7	41	0	0	73	3	4	5	0	0	12	205
4:30 PM	30	29	4	0	0	63	4	38	26	0	0	68	16	9	38	0	0	63	2	5	5	0	0	12	206
4:45 PM	25	29	2	0	0	56	7	42	22	0	0	71	19	6	25	0	0	50	1	5	7	0	0	13	190
Total	111	114	9	0	0	234	20	140	96	0	0	256	78	28	144	0	0	250	9	19	22	0	0	50	790
5:00 PM	31	18	3	0	0	52	6	30	36	0	0	72	17	6	37	0	0	60	3	6	7	0	0	16	200
5:15 PM	24	30	1	0	0	55	7	35	20	0	0	62	16	10	46	0	0	72	3	6	9	0	0	18	207
5:30 PM	33	32	3	0	0	68	0	33	20	0	0	53	23	5	40	0	0	68	2	4	5	0	0	11	200
5:45 PM	28	29	2	0	0	59	4	28	33	0	0	65	17	5	36	0	0	58	2	2	4	0	0	8	190
Total	116	109	9	0	0	234	17	126	109	0	0	252	73	26	159	0	0	258	10	18	25	0	0	53	797
Grand Total	410	477	44	0	0	931	75	403	301	0	0	779	197	103	411	0	0	711	26	101	104	0	0	231	2652
Apprch %	44.0	51.2	4.7	0.0	0.0		9.6	51.7	38.6	0.0	0.0		27.7	14.5	57.8	0.0	0.0		11.3	43.7	45.0	0.0	0.0		
Total %	15.5	18.0	1.7	0.0	0.0	35.1	2.8	15.2	11.3	0.0	0.0	29.4	7.4	3.9	15.5	0.0	0.0	26.8	1.0	3.8	3.9	0.0	0.0	8.7	
Cars, PU, Vans	400	464	42	0		906	73	395	300	0		768	195	103	400	0		698	25	100	101	0		226	2598
% Cars, PU, Vans	97.6	97.3	95.5	0.0		97.3	97.3	98.0	99.7	0.0		98.6	99.0	100.0	97.3	0.0		98.2	96.2	99.0	97.1	0.0		97.8	98.0
Heavy trucks	10	13	2	0		25	2	8	1	0		11	2	0	11	0		13	1	1	3	0		5	54
%Heavy trucks	2.4	2.7	4.5	0.0		2.7	2.7	2.0	0.3	0.0		1.4	1.0	0.0	2.7	0.0		1.8	3.8	1.0	2.9	0.0		2.2	2.0

Project ID: 24-180250-002
Location: Old Hwy 75 S & Wood Lawn Dr/Donald E Thurmond
City: Cleveland

PEAK HOURS

Day: Tuesday
Date: 10/29/2024

AM

	Old Hwy 75 S Northbound					Old Hwy 75 S Southbound					ood Lawn Dr/Donald E Thurmond Pkv Eastbound					ood Lawn Dr/Donald E Thurmond Pkv Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	29	45	5	0	79	7	15	8	0	30	3	4	5	0	12	1	9	8	0	18	139
7:30 AM	41	44	2	0	87	8	19	14	0	41	4	8	12	0	24	1	11	6	0	18	170
7:45 AM	27	33	2	0	62	6	24	17	0	47	5	16	28	0	49	0	12	14	0	26	184
8:00 AM	20	31	6	0	57	5	22	6	0	33	4	9	21	0	34	3	9	6	0	18	142
Total Volume	117	153	15	0	285	26	80	45	0	151	16	37	66	0	119	5	41	34	0	80	635
% App. Total	41.1	53.7	5.3	0.0	100	17.2	53.0	29.8	0.0	100	13.4	31.1	55.5	0.0	100	6.3	51.3	42.5	0.0	100	
PHF					0.819					0.803					0.607					0.769	0.863
Cars, PU, Vans	115	147	15	0	277	26	78	45	0	149	15	37	62	0	114	5	41	34	0	80	620
% Cars, PU, Vans	98.3	96.1	100.0	0.0	97.2	100.0	97.5	100.0	0.0	98.7	93.8	100.0	93.9	0.0	95.8	100.0	100.0	100.0	0.0	100.0	97.6
Heavy trucks	2	6	0	0	8	0	2	0	0	2	1	0	4	0	5	0	0	0	0	0	15
%Heavy trucks	1.7	3.9	0.0	0.0	2.8	0.0	2.5	0.0	0.0	1.3	6.3	0.0	6.1	0.0	4.2	0.0	0.0	0.0	0.0	0.0	2.4

PM

	Old Hwy 75 S Northbound					Old Hwy 75 S Southbound					ood Lawn Dr/Donald E Thurmond Pkv Eastbound					ood Lawn Dr/Donald E Thurmond Pkv Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	30	29	4	0	63	4	38	26	0	68	16	9	38	0	63	2	5	5	0	12	206
4:45 PM	25	29	2	0	56	7	42	22	0	71	19	6	25	0	50	1	5	7	0	13	190
5:00 PM	31	18	3	0	52	6	30	36	0	72	17	6	37	0	60	3	6	7	0	16	200
5:15 PM	24	30	1	0	55	7	35	20	0	62	16	10	46	0	72	3	6	9	0	18	207
Total Volume	110	106	10	0	226	24	145	104	0	273	68	31	146	0	245	9	22	28	0	59	803
% App. Total	48.7	46.9	4.4	0.0	100	8.8	53.1	38.1	0.0	100	27.8	12.7	59.6	0.0	100	15.3	37.3	47.5	0.0	100	
PHF					0.897					0.948					0.851					0.819	0.970
Cars, PU, Vans	108	105	9	0	222	23	143	103	0	269	68	31	144	0	243	9	22	26	0	57	791
% Cars, PU, Vans	98.2	99.1	90.0	0.0	98.2	95.8	98.6	99.0	0.0	98.5	100.0	100.0	98.6	0.0	99.2	100.0	100.0	92.9	0.0	96.6	98.5
Heavy trucks	2	1	1	0	4	1	2	1	0	4	0	0	2	0	2	0	0	2	0	2	12
%Heavy trucks	1.8	0.9	10.0	0.0	1.8	4.2	1.4	1.0	0.0	1.5	0.0	0.0	1.4	0.0	0.8	0.0	0.0	7.1	0.0	3.4	1.5

National Data & Surveying Services

Intersection Turning Movement Count

Location: Walmart Supercenter Main Dwy & Donald E Thurmond Pkwy
City: Cleveland
Control: No Control

Project ID: 24-180250-003
Date: 10/29/2024

Data - Total

NS/EW Streets:	Walmart Supercenter Main Dwy				Walmart Supercenter Main Dwy				Donald E Thurmond Pkwy				Donald E Thurmond Pkwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	3	0	2	0	2	13	0	0	0	27	4	0	51
7:15 AM	0	0	0	0	1	0	2	0	6	11	0	0	0	40	5	0	65
7:30 AM	0	0	0	0	3	0	3	0	5	25	0	0	0	52	13	0	101
7:45 AM	0	0	0	0	2	0	6	0	9	49	0	0	0	45	10	0	121
8:00 AM	0	0	0	0	3	0	4	0	6	24	0	0	0	23	11	0	71
8:15 AM	0	0	0	0	7	0	5	0	6	14	0	0	0	15	12	0	59
8:30 AM	0	0	0	0	8	0	5	0	5	13	0	0	0	13	19	0	63
8:45 AM	0	0	0	0	8	0	9	0	4	9	0	0	0	27	17	0	74
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	35	0	36	0	43	158	0	0	0	242	91	0	605
APPROACH %'s :					49.30%	0.00%	50.70%	0.00%	21.39%	78.61%	0.00%	0.00%	0.00%	72.67%	27.33%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	0	0	0	0	9	0	15	0	26	109	0	0	0	160	39	0	358
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.750	0.000	0.625	0.000	0.722	0.556	0.000	0.000	0.000	0.769	0.750	0.000	0.740
					0.750				0.582				0.765				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	13	0	30	0	24	46	0	0	0	29	22	0	164
4:15 PM	0	0	0	0	17	0	22	0	18	46	0	0	0	29	29	0	161
4:30 PM	0	0	0	0	17	0	23	0	14	42	0	0	0	25	29	0	150
4:45 PM	0	0	0	0	13	0	22	0	22	26	0	0	0	25	28	0	136
5:00 PM	0	0	0	0	20	0	28	0	19	38	0	0	0	27	43	0	175
5:15 PM	0	0	0	0	21	0	23	0	25	42	0	0	0	22	22	0	155
5:30 PM	0	0	0	0	25	0	46	0	19	40	0	0	0	29	25	0	184
5:45 PM	0	0	0	0	19	0	14	0	15	34	0	0	0	25	34	0	141
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	145	0	208	0	156	314	0	0	0	211	232	0	1266
APPROACH %'s :					41.08%	0.00%	58.92%	0.00%	33.19%	66.81%	0.00%	0.00%	0.00%	47.63%	52.37%	0.00%	
PEAK HR :	**05:00 PM - 06:00 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	85	0	111	0	78	154	0	0	0	103	124	0	655
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.850	0.000	0.603	0.000	0.780	0.917	0.000	0.000	0.000	0.888	0.721	0.000	0.890
					0.690				0.866				0.811				

Prepared by National Data & Surveying Services

Walmart Supercenter Main Dwy & Donald E Thurmond Pkwy

Peak Hour Turning Movement Count

ID: 24-180250-003
City: Cleveland

Day: Tuesday
Date: 10/29/2024

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND (Walmart Supercenter Main Dwy)

AM	15	0	9	0	65
NOON	0	0	0	0	0
PM	111	0	85	0	202

EASTBOUND (Donald E Thurmond Pkwy)

AM	NOON	PM	
175	0	214	
0	0	0	0
26	0	78	1
109	0	154	1
0	0	0	0

WESTBOUND (Donald E Thurmond Pkwy)

	PM	NOON	AM
0	124	0	39
1	103	0	160
0	0	0	0
0	0	0	0
	239	0	118

NORTHBOUND (Walmart Supercenter Main Dwy)

PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

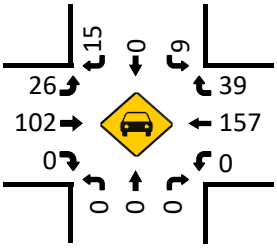
	0	1	0	0
	0	0	0	0

CONTROL

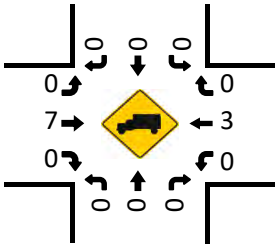
No Control

TEV	358 AM	0 NOON	655 PM
PHF	0.74		0.89

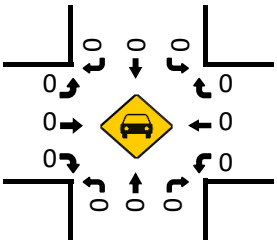
Cars (AM)



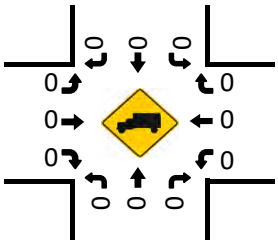
HT (AM)



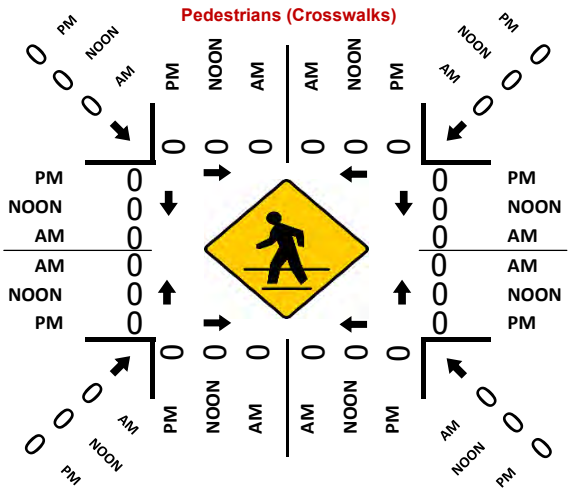
Cars (NOON)



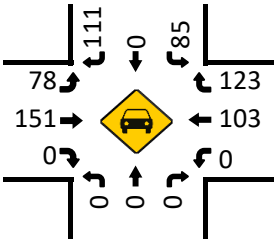
HT (NOON)



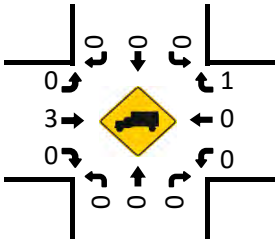
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Project ID: 24-180250-003
Location: Walmart Supercenter Main Dwy & Donald E Thurmond Pkwy
City: Cleveland

Day: Tuesday
Date: 10/29/2024

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Walmart Supercenter Main Dwy Northbound						Walmart Supercenter Main Dwy Southbound						Donald E Thurmond Pkwy Eastbound						Donald E Thurmond Pkwy Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	3	0	2	0	0	5	2	13	0	0	0	15	0	27	4	0	0	31	51
7:15 AM	0	0	0	0	0	0	1	0	2	0	0	3	6	11	0	0	0	17	0	40	5	0	0	45	65
7:30 AM	0	0	0	0	0	0	3	0	3	0	0	6	5	25	0	0	0	30	0	52	13	0	0	65	101
7:45 AM	0	0	0	0	0	0	2	0	6	0	0	8	9	49	0	0	0	58	0	45	10	0	0	55	121
Total	0	0	0	0	0	0	9	0	13	0	0	22	22	98	0	0	0	120	0	164	32	0	0	196	338
8:00 AM	0	0	0	0	0	0	3	0	4	0	0	7	6	24	0	0	0	30	0	23	11	0	0	34	71
8:15 AM	0	0	0	0	0	0	7	0	5	0	0	12	6	14	0	0	0	20	0	15	12	0	0	27	59
8:30 AM	0	0	0	0	0	0	8	0	5	0	0	13	5	13	0	0	0	18	0	13	19	0	0	32	63
8:45 AM	0	0	0	0	0	0	8	0	9	0	0	17	4	9	0	0	0	13	0	27	17	0	0	44	74
Total	0	0	0	0	0	0	26	0	23	0	0	49	21	60	0	0	0	81	0	78	59	0	0	137	267
BREAK																									
4:00 PM	0	0	0	0	0	0	13	0	30	0	0	43	24	46	0	0	0	70	0	29	22	0	0	51	164
4:15 PM	0	0	0	0	0	0	17	0	22	0	0	39	18	46	0	0	0	64	0	29	29	0	0	58	161
4:30 PM	0	0	0	0	0	0	17	0	23	0	0	40	14	42	0	0	0	56	0	25	29	0	0	54	150
4:45 PM	0	0	0	0	0	0	13	0	22	0	0	35	22	26	0	0	0	48	0	25	28	0	0	53	136
Total	0	0	0	0	0	0	60	0	97	0	0	157	78	160	0	0	0	238	0	108	108	0	0	216	611
5:00 PM	0	0	0	0	0	0	20	0	28	0	0	48	19	38	0	0	0	57	0	27	43	0	0	70	175
5:15 PM	0	0	0	0	0	0	21	0	23	0	0	44	25	42	0	0	0	67	0	22	22	0	0	44	155
5:30 PM	0	0	0	0	0	0	25	0	46	0	0	71	19	40	0	0	0	59	0	29	25	0	0	54	184
5:45 PM	0	0	0	0	0	0	19	0	14	0	0	33	15	34	0	0	0	49	0	25	34	0	0	59	141
Total	0	0	0	0	0	0	85	0	111	0	0	196	78	154	0	0	0	232	0	103	124	0	0	227	655
Grand Total	0	0	0	0	0	0	180	0	244	0	0	424	199	472	0	0	0	671	0	453	323	0	0	776	1871
Apprch %	0.0	0.0	0.0	0.0	0.0		42.5	0.0	57.5	0.0	0.0		29.7	70.3	0.0	0.0	0.0		0.0	58.4	41.6	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	9.6	0.0	13.0	0.0	0.0	22.7	10.6	25.2	0.0	0.0	0.0	35.9	0.0	24.2	17.3	0.0	0.0	41.5	
Cars, PU, Vans	0	0	0	0		0	179	0	242	0		421	198	454	0	0		652	0	443	321	0		764	1837
% Cars, PU, Vans	0.0	0.0	0.0	0.0		0.0	99.4	0.0	99.2	0.0		99.3	99.5	96.2	0.0	0.0		97.2	0.0	97.8	99.4	0.0		98.5	98.2
Heavy trucks	0	0	0	0		0	1	0	2	0		3	1	18	0	0		19	0	10	2	0		12	34
%Heavy trucks	0.0	0.0	0.0	0.0		0.0	0.6	0.0	0.8	0.0		0.7	0.5	3.8	0.0	0.0		2.8	0.0	2.2	0.6	0.0		1.5	1.8

Project ID: 24-180250-003
Location: Walmart Supercenter Main Dwy & Donald E Thurmo
City: Cleveland

PEAK HOURS

Day: Tuesday
Date: 10/29/2024

AM

	Walmart Supercenter Main Dwy Northbound					Walmart Supercenter Main Dwy Southbound					Donald E Thurmond Pkwy Eastbound					Donald E Thurmond Pkwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	0	0	0	0	0	1	0	2	0	3	6	11	0	0	17	0	40	5	0	45	65
7:30 AM	0	0	0	0	0	3	0	3	0	6	5	25	0	0	30	0	52	13	0	65	101
7:45 AM	0	0	0	0	0	2	0	6	0	8	9	49	0	0	58	0	45	10	0	55	121
8:00 AM	0	0	0	0	0	3	0	4	0	7	6	24	0	0	30	0	23	11	0	34	71
Total Volume	0	0	0	0	0	9	0	15	0	24	26	109	0	0	135	0	160	39	0	199	358
% App. Total	0.0	0.0	0.0	0.0	0	37.5	0.0	62.5	0.0	100	19.3	80.7	0.0	0.0	100	0.0	80.4	19.6	0.0	100	
PHF										0.750					0.582					0.765	0.740
Cars, PU, Vans	0	0	0	0	0	9	0	15	0	24	26	102	0	0	128	0	157	39	0	196	348
% Cars, PU, Vans	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	100.0	93.6	0.0	0.0	94.8	0.0	98.1	100.0	0.0	98.5	97.2
Heavy trucks	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	3	0	0	3	10
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.0	5.2	0.0	1.9	0.0	0.0	1.5	2.8

PM

	Walmart Supercenter Main Dwy Northbound					Walmart Supercenter Main Dwy Southbound					Donald E Thurmond Pkwy Eastbound					Donald E Thurmond Pkwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	0	0	0	0	0	20	0	28	0	48	19	38	0	0	57	0	27	43	0	70	175
5:15 PM	0	0	0	0	0	21	0	23	0	44	25	42	0	0	67	0	22	22	0	44	155
5:30 PM	0	0	0	0	0	25	0	46	0	71	19	40	0	0	59	0	29	25	0	54	184
5:45 PM	0	0	0	0	0	19	0	14	0	33	15	34	0	0	49	0	25	34	0	59	141
Total Volume	0	0	0	0	0	85	0	111	0	196	78	154	0	0	232	0	103	124	0	227	655
% App. Total	0.0	0.0	0.0	0.0	0	43.4	0.0	56.6	0.0	100	33.6	66.4	0.0	0.0	100	0.0	45.4	54.6	0.0	100	
PHF										0.690					0.866					0.811	0.890
Cars, PU, Vans	0	0	0	0	0	85	0	111	0	196	78	151	0	0	229	0	103	123	0	226	651
% Cars, PU, Vans	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	100.0	98.1	0.0	0.0	98.7	0.0	100.0	99.2	0.0	99.6	99.4
Heavy trucks	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	4
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	1.3	0.0	0.0	0.8	0.0	0.4	0.6

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 11/US 129/S Main St & Daybreak Rd/Underwood Farm Rd
City: Cleveland
Control: 1-Way Stop(WB)

Project ID: 24-180250-004
Date: 10/29/2024

Data - Total

NS/EW Streets:	SR 11/US 129/S Main St				SR 11/US 129/S Main St				Daybreak Rd/Underwood Farm Rd				Daybreak Rd/Underwood Farm Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	103	1	0	0	153	1	0	1	1	0	0	1	0	5	0	266
7:15 AM	0	133	0	0	3	164	0	0	0	0	2	0	4	0	9	0	315
7:30 AM	1	185	1	0	6	183	1	0	2	0	4	0	1	0	6	0	390
7:45 AM	2	143	1	0	1	180	1	0	0	0	0	0	0	0	5	0	333
8:00 AM	2	90	0	0	1	138	0	0	0	0	0	0	2	0	4	0	237
8:15 AM	1	97	1	0	2	122	1	0	1	0	0	0	1	0	3	0	229
8:30 AM	1	108	0	0	0	111	0	0	1	0	1	0	1	0	1	0	224
8:45 AM	1	128	2	0	1	116	0	0	0	0	1	0	1	0	2	0	252
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	8	987	6	0	14	1167	4	0	5	1	8	0	11	0	35	0	2246
APPROACH %'s :	0.80%	98.60%	0.60%	0.00%	1.18%	98.48%	0.34%	0.00%	35.71%	7.14%	57.14%	0.00%	23.91%	0.00%	76.09%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	3	564	3	0	10	680	3	0	3	1	6	0	6	0	25	0	1304
PEAK HR FACTOR :	0.375	0.762	0.750	0.000	0.417	0.929	0.750	0.000	0.375	0.250	0.375	0.000	0.375	0.000	0.694	0.000	0.836
		0.762				0.912				0.417				0.596			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	207	0	0	3	185	1	0	0	0	0	0	0	0	4	0	400
4:15 PM	1	184	2	0	3	173	0	0	0	0	0	0	0	0	2	0	365
4:30 PM	0	202	1	0	3	175	5	0	1	0	0	0	1	0	2	0	390
4:45 PM	0	207	2	0	4	176	0	0	0	0	0	0	2	0	2	0	393
5:00 PM	0	241	0	0	5	180	1	0	3	0	0	0	1	0	6	0	437
5:15 PM	4	197	1	0	9	165	3	0	1	0	0	0	1	0	5	0	386
5:30 PM	1	195	1	0	4	170	0	0	0	0	0	0	0	0	0	0	371
5:45 PM	0	201	2	0	4	149	0	0	0	0	2	0	0	0	3	0	361
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	1634	9	0	35	1373	10	0	5	0	2	0	5	0	24	0	3103
APPROACH %'s :	0.36%	99.09%	0.55%	0.00%	2.47%	96.83%	0.71%	0.00%	71.43%	0.00%	28.57%	0.00%	17.24%	0.00%	82.76%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	4	847	4	0	21	696	9	0	5	0	0	0	5	0	15	0	1606
PEAK HR FACTOR :	0.250	0.879	0.500	0.000	0.583	0.967	0.450	0.000	0.417	0.000	0.000	0.000	0.625	0.000	0.625	0.000	0.919
		0.887				0.976				0.417				0.714			

Prepared by National Data & Surveying Services

SR 11/US 129/S Main St & Daybreak Rd/Underwood Farm Rd

Peak Hour Turning Movement Count

ID: 24-180250-004
City: Cleveland

Day: Tuesday
Date: 10/29/2024

PEAK HOURS	COUNT PERIODS
07:00 AM - 08:00 AM	7:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	4:00 PM - 06:00 PM

CONTROL: 1-Way Stop(WB)

	AM	NOON	PM
TEV	1304	0	1606
PHF	0.84		0.92

SOUTHBOUND — SR 11/US 129/S Main St

	Left	Thru	Right	U-Turn	
AM	3	680	10	0	592 AM
NOON	0	0	0	0	0 NOON
PM	9	696	21	0	867 PM

EASTBOUND — Daybreak Rd/Underwood Farm Rd

	Left	Thru	Right	U-Turn	
AM	6	0	13	0	AM
NOON	0	0	0	1	NOON
PM	3	0	5	0	PM
AM	1	0	0	1	AM
NOON	6	0	0	0	NOON
PM					PM

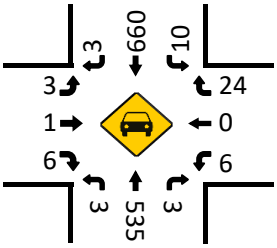
WESTBOUND — Daybreak Rd/Underwood Farm Rd

	Left	Thru	Right	U-Turn	
PM	15	0	25	0	PM
NOON	0	0	0	1	NOON
AM	5	0	6	0	AM
PM	0	0	0	0	PM
NOON	25	0	14		NOON
AM					AM

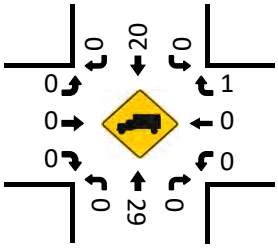
NORTHBOUND — SR 11/US 129/S Main St

	Left	Thru	Right	U-Turn	
PM	701	0	4	847	4 PM
NOON	0	0	0	0	0 NOON
AM	692	0	3	564	3 AM

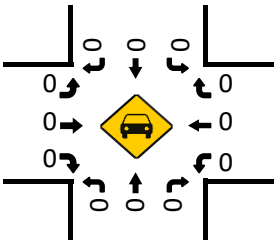
Cars (AM)



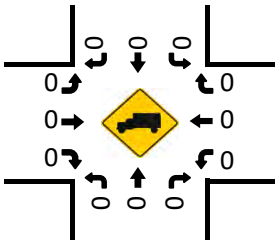
HT (AM)



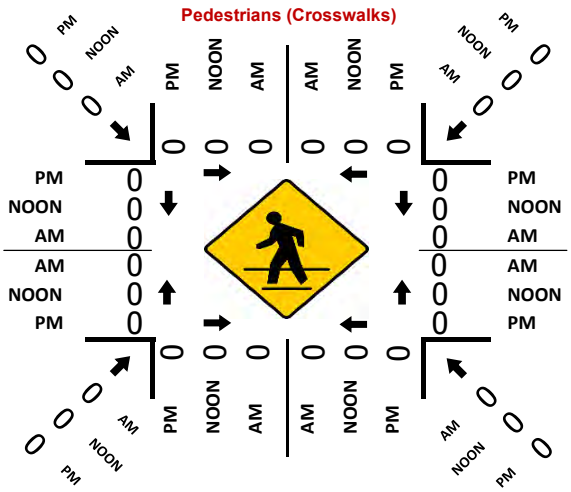
Cars (NOON)



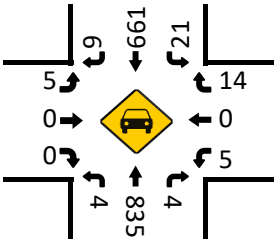
HT (NOON)



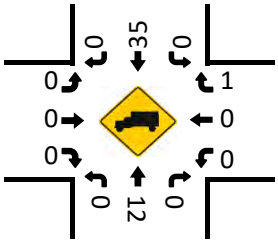
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Project ID: 24-180250-004
Location: SR 11/US 129/S Main St & Daybreak Rd/Underwood Farm Rd
City: Cleveland

Day: Tuesday
Date: 10/29/2024

Groups Printed - Cars, PU, Vans - Heavy Trucks

	SR 11/US 129/S Main St Northbound						SR 11/US 129/S Main St Southbound						Daybreak Rd/Underwood Farm Rd Eastbound						Daybreak Rd/Underwood Farm Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	0	103	1	0	0	104	0	153	1	0	0	154	1	1	0	0	0	2	1	0	5	0	0	6	266
7:15 AM	0	133	0	0	0	133	3	164	0	0	0	167	0	0	2	0	0	2	4	0	9	0	0	13	315
7:30 AM	1	185	1	0	0	187	6	183	1	0	0	190	2	0	4	0	0	6	1	0	6	0	0	7	390
7:45 AM	2	143	1	0	0	146	1	180	1	0	0	182	0	0	0	0	0	0	0	0	5	0	0	5	333
Total	3	564	3	0	0	570	10	680	3	0	0	693	3	1	6	0	0	10	6	0	25	0	0	31	1304
8:00 AM	2	90	0	0	0	92	1	138	0	0	0	139	0	0	0	0	0	0	2	0	4	0	0	6	237
8:15 AM	1	97	1	0	0	99	2	122	1	0	0	125	1	0	0	0	0	1	1	0	3	0	0	4	229
8:30 AM	1	108	0	0	0	109	0	111	0	0	0	111	1	0	1	0	0	2	1	0	1	0	0	2	224
8:45 AM	1	128	2	0	0	131	1	116	0	0	0	117	0	0	1	0	0	1	1	0	2	0	0	3	252
Total	5	423	3	0	0	431	4	487	1	0	0	492	2	0	2	0	0	4	5	0	10	0	0	15	942
BREAK																									
4:00 PM	0	207	0	0	0	207	3	185	1	0	0	189	0	0	0	0	0	0	0	0	4	0	0	4	400
4:15 PM	1	184	2	0	0	187	3	173	0	0	0	176	0	0	0	0	0	0	0	0	2	0	0	2	365
4:30 PM	0	202	1	0	0	203	3	175	5	0	0	183	1	0	0	0	0	1	1	0	2	0	0	3	390
4:45 PM	0	207	2	0	0	209	4	176	0	0	0	180	0	0	0	0	0	0	2	0	2	0	0	4	393
Total	1	800	5	0	0	806	13	709	6	0	0	728	1	0	0	0	0	1	3	0	10	0	0	13	1548
5:00 PM	0	241	0	0	0	241	5	180	1	0	0	186	3	0	0	0	0	3	1	0	6	0	0	7	437
5:15 PM	4	197	1	0	0	202	9	165	3	0	0	177	1	0	0	0	0	1	1	0	5	0	0	6	386
5:30 PM	1	195	1	0	0	197	4	170	0	0	0	174	0	0	0	0	0	0	0	0	0	0	0	0	371
5:45 PM	0	201	2	0	0	203	4	149	0	0	0	153	0	0	2	0	0	2	0	0	3	0	0	3	361
Total	5	834	4	0	0	843	22	664	4	0	0	690	4	0	2	0	0	6	2	0	14	0	0	16	1555
Grand Total	14	2621	15	0	0	2650	49	2540	14	0	0	2603	10	1	10	0	0	21	16	0	59	0	0	75	5349
Apprch %	0.5	98.9	0.6	0.0	0.0		1.9	97.6	0.5	0.0	0.0		47.6	4.8	47.6	0.0	0.0		21.3	0.0	78.7	0.0	0.0		
Total %	0.3	49.0	0.3	0.0	0.0	49.5	0.9	47.5	0.3	0.0	0.0	48.7	0.2	0.0	0.2	0.0	0.0	0.4	0.3	0.0	1.1	0.0	0.0	1.4	
Cars, PU, Vans	14	2512	14	0		2540	49	2419	14	0		2482	10	1	10	0		21	16	0	55	0		71	5114
% Cars, PU, Vans	100.0	95.8	93.3	0.0		95.8	100.0	95.2	100.0	0.0		95.4	100.0	100.0	100.0	0.0		100.0	100.0	0.0	93.2	0.0		94.7	95.6
Heavy trucks	0	109	1	0		110	0	121	0	0		121	0	0	0	0		0	0	0	4	0		4	235
%Heavy trucks	0.0	4.2	6.7	0.0		4.2	0.0	4.8	0.0	0.0		4.6	0.0	0.0	0.0	0.0		0.0	0.0	0.0	6.8	0.0		5.3	4.4

Project ID: 24-180250-004
Location: SR 11/US 129/S Main St & Daybreak Rd/Underwood
City: Cleveland

PEAK HOURS

Day: Tuesday
Date: 10/29/2024

AM

	SR 11/US 129/S Main St Northbound					SR 11/US 129/S Main St Southbound					Daybreak Rd/Underwood Farm Rd Eastbound					Daybreak Rd/Underwood Farm Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
7:00 AM	0	103	1	0	104	0	153	1	0	154	1	1	0	0	2	1	0	5	0	6	266
7:15 AM	0	133	0	0	133	3	164	0	0	167	0	0	2	0	2	4	0	9	0	13	315
7:30 AM	1	185	1	0	187	6	183	1	0	190	2	0	4	0	6	1	0	6	0	7	390
7:45 AM	2	143	1	0	146	1	180	1	0	182	0	0	0	0	0	0	0	5	0	5	333
Total Volume	3	564	3	0	570	10	680	3	0	693	3	1	6	0	10	6	0	25	0	31	1304
% App. Total	0.5	98.9	0.5	0.0	100	1.4	98.1	0.4	0.0	100	30.0	10.0	60.0	0.0	100	19.4	0.0	80.6	0.0	100	
PHF					0.762					0.912					0.417					0.596	0.836
Cars, PU, Vans	3	535	3	0	541	10	660	3	0	673	3	1	6	0	10	6	0	24	0	30	1254
% Cars, PU, Vans	100.0	94.9	100.0	0.0	94.9	100.0	97.1	100.0	0.0	97.1	100.0	100.0	100.0	0.0	100.0	100.0	0.0	96.0	0.0	96.8	96.2
Heavy trucks	0	29	0	0	29	0	20	0	0	20	0	0	0	0	0	0	0	1	0	1	50
%Heavy trucks	0.0	5.1	0.0	0.0	5.1	0.0	2.9	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	3.2	3.8

PM

	SR 11/US 129/S Main St Northbound					SR 11/US 129/S Main St Southbound					Daybreak Rd/Underwood Farm Rd Eastbound					Daybreak Rd/Underwood Farm Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	0	202	1	0	203	3	175	5	0	183	1	0	0	0	1	1	0	2	0	3	390
4:45 PM	0	207	2	0	209	4	176	0	0	180	0	0	0	0	0	2	0	2	0	4	393
5:00 PM	0	241	0	0	241	5	180	1	0	186	3	0	0	0	3	1	0	6	0	7	437
5:15 PM	4	197	1	0	202	9	165	3	0	177	1	0	0	0	1	1	0	5	0	6	386
Total Volume	4	847	4	0	855	21	696	9	0	726	5	0	0	0	5	5	0	15	0	20	1606
% App. Total	0.5	99.1	0.5	0.0	100	2.9	95.9	1.2	0.0	100	100.0	0.0	0.0	0.0	100	25.0	0.0	75.0	0.0	100	
PHF					0.887					0.976					0.417					0.714	0.919
Cars, PU, Vans	4	835	4	0	843	21	661	9	0	691	5	0	0	0	5	5	0	14	0	19	1558
% Cars, PU, Vans	100.0	98.6	100.0	0.0	98.6	100.0	95.0	100.0	0.0	95.2	100.0	0.0	0.0	0.0	100.0	100.0	0.0	93.3	0.0	95.0	97.0
Heavy trucks	0	12	0	0	12	0	35	0	0	35	0	0	0	0	0	0	0	1	0	1	48
%Heavy trucks	0.0	1.4	0.0	0.0	1.4	0.0	5.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	5.0	3.0

Prepared by National Data & Surveying Services

VOLUME

Donald E Thurmond Pkwy W/O Walmart Supercenter Main Dwy

Day: Tuesday
Date: 10/29/2024

City: Cleveland
Project #: GA24_180251_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,317	2,335	4,652

DAILY TOTALS

15-Minutes Interval

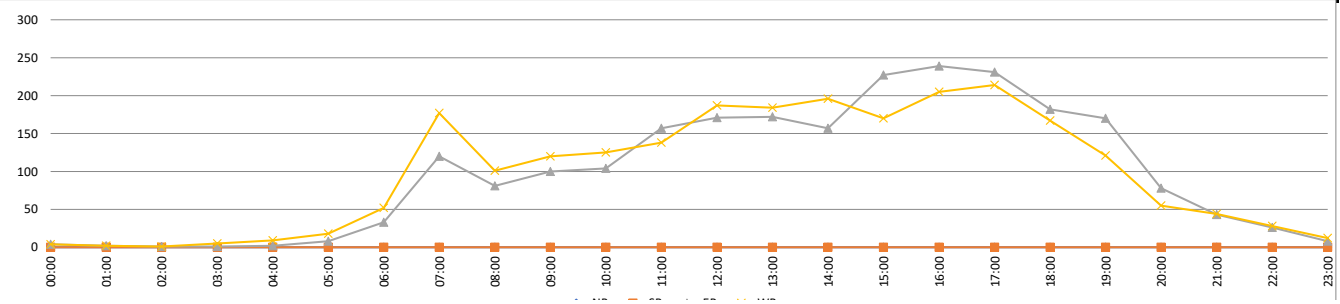
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00			1	2	3	12:00			50	50	100
0:15			0	1	1	12:15			37	45	82
0:30			2	0	2	12:30			41	35	76
0:45			1	1	2	12:45			43	57	100
1:00			1	0	1	13:00			40	47	87
1:15			1	0	1	13:15			42	45	87
1:30			0	1	1	13:30			44	42	86
1:45			0	1	1	13:45			46	50	96
2:00			0	0	0	14:00			44	49	93
2:15			0	1	1	14:15			39	63	102
2:30			0	0	0	14:30			37	49	86
2:45			1	0	1	14:45			37	35	72
3:00			0	0	0	15:00			54	39	93
3:15			1	1	2	15:15			63	33	96
3:30			0	0	0	15:30			62	42	104
3:45			0	4	4	15:45			48	56	104
4:00			0	1	1	16:00			70	59	129
4:15			1	1	2	16:15			64	51	115
4:30			0	3	3	16:30			56	48	104
4:45			1	4	5	16:45			49	47	96
5:00			2	4	6	17:00			56	55	111
5:15			1	6	7	17:15			67	44	111
5:30			1	2	3	17:30			59	76	135
5:45			4	6	10	17:45			49	39	88
6:00			7	6	13	18:00			60	51	111
6:15			6	12	18	18:15			47	38	85
6:30			8	13	21	18:30			37	37	74
6:45			12	21	33	18:45			38	41	79
7:00			15	29	44	19:00			44	36	80
7:15			18	42	60	19:15			44	27	71
7:30			29	55	84	19:30			30	27	57
7:45			58	51	109	19:45			52	31	83
8:00			30	26	56	20:00			18	17	35
8:15			20	21	41	20:15			22	14	36
8:30			18	18	36	20:30			21	13	34
8:45			13	36	49	20:45			17	11	28
9:00			28	25	53	21:00			11	10	21
9:15			28	29	57	21:15			10	11	21
9:30			31	31	62	21:30			10	9	19
9:45			13	35	48	21:45			12	14	26
10:00			22	37	59	22:00			13	8	21
10:15			25	26	51	22:15			5	5	10
10:30			21	29	50	22:30			6	9	15
10:45			36	33	69	22:45			2	6	8
11:00			37	33	70	23:00			3	7	10
11:15			48	29	77	23:15			2	3	5
11:30			35	37	72	23:30			1	2	3
11:45			37	39	76	23:45			2	0	2
TOTALS	0	0	613	752	1365	TOTALS	0	0	1704	1583	3287
SPLIT %	0%	0%	45%	55%	29%	SPLIT %	0%	0%	52%	48%	71%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00			4	4	8
01:00	02:00			2	2	4
02:00	03:00			1	1	2
03:00	04:00			1	5	6
04:00	05:00			2	9	11
05:00	06:00			8	18	26
06:00	07:00			33	52	85
07:00	08:00			120	177	297
08:00	09:00			81	101	182
09:00	10:00			100	120	220
10:00	11:00			104	125	229
11:00	12:00			157	138	295
12:00	13:00			171	187	358
13:00	14:00			172	184	356
14:00	15:00			157	196	353
15:00	16:00			227	170	397
16:00	17:00			239	205	444
17:00	18:00			231	214	445
18:00	19:00			182	167	349
19:00	20:00			170	121	291
20:00	21:00			78	55	133
21:00	22:00			43	44	87
22:00	23:00			26	28	54
23:00	00:00			8	12	20

STATISTICS

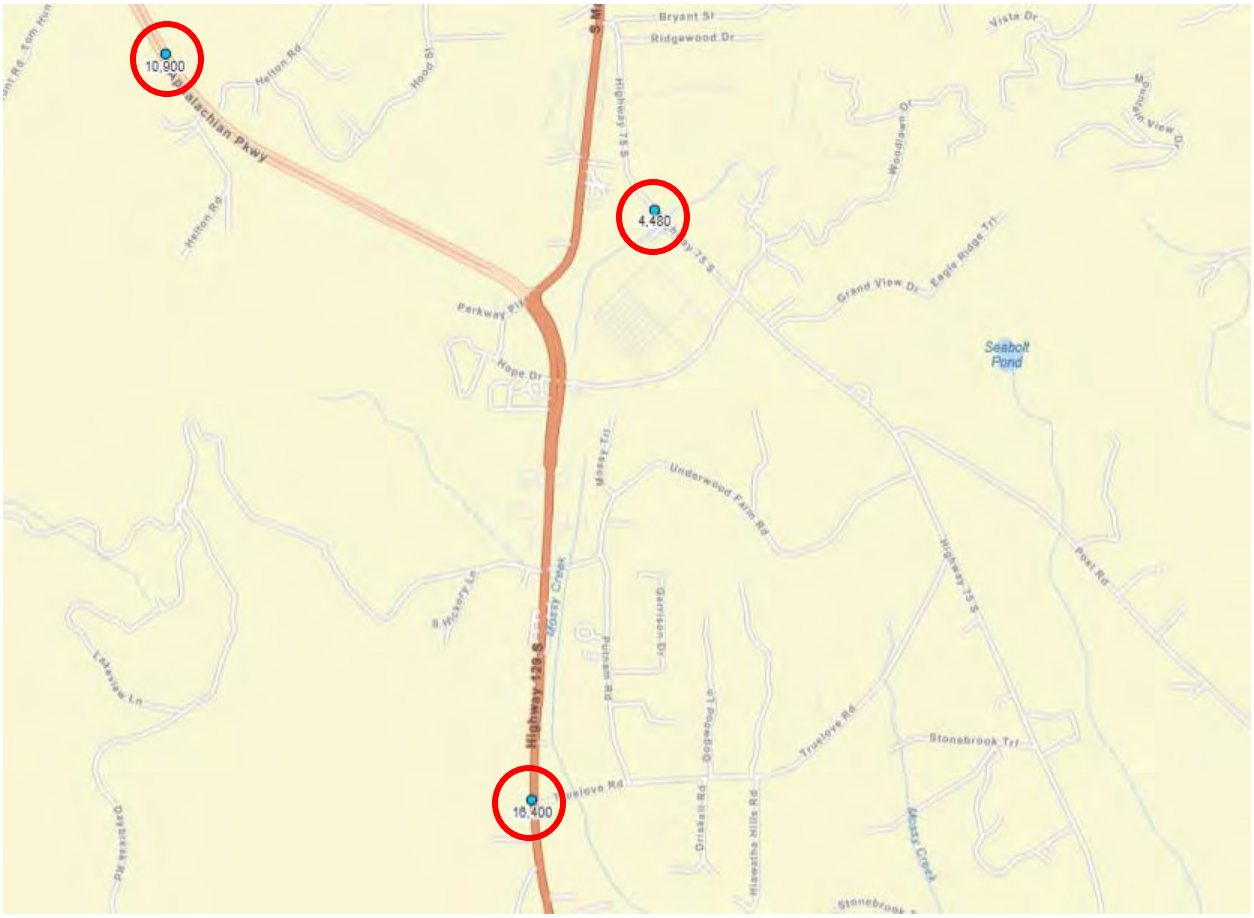
	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume			613	752	1365
Peak Hour			11:00	7:00	7:15
Peak Volume			157	177	309
Peak Hour Factor			0.818	0.805	0.709
Peak Period	12:00	to	00:00		
Volume			1704	1583	3287
Peak Hour			15:30	16:45	16:45
Peak Volume			244	222	453
Peak Hour Factor			0.871	0.730	0.839
Peak Period	07:00	to	09:00		
Volume			201	278	479
Peak Hour			7:30	7:00	7:15
Peak Volume			137	177	309
Peak Hour Factor			0.591	0.805	0.709
Peak Period	16:00	to	18:00		
Volume			470	419	889
Peak Hour			16:00	16:45	16:45
Peak Volume			239	222	453
Peak Hour Factor			0.854	0.730	0.839



Appendix D

GDOT Traffic Data

Location Map of GDOT Count Stations



0000311_0234 - 311-0234 - CR 025100 BEG AT
County: White
Route number: 00025100
LRS section: 3112025100
Functional class: 5R - Major Collector (Rural)
Coordinates: 34.58158055, -83.75907401

Site Data

Count History

Year	Month	Count type	Duration	Count
2024	September	Volume	48 hours	5,082
2022	August	Volume	48 hours	4,992
2018	August	Class	48 hours	4,537
2014	August	Volume	48 hours	3,874
2010	June	Class	48 hours	2,974

0000311_0106 - 311-0106 - Cleveland Byp S of SR115
County: White
Route number: 000011BY
LRS section: 31110011BY
Functional class: 3R - Principal Arterial - Other (Rural)
Coordinates: 34.586137, -83.776581

Site Data

Count History

Year	Month	Count type	Duration	Count
2024	July	Class	48 hours	11,823
2021	April	Class	48 hours	11,241

0000311_0105 - 311-0105 - CRX 020400
County: White
Route number: 00001100
LRS section: 3111001100
Functional class: 3R - Principal Arterial - Other (Rural)
Coordinates: 34.5641836, -83.76344231

Site Data

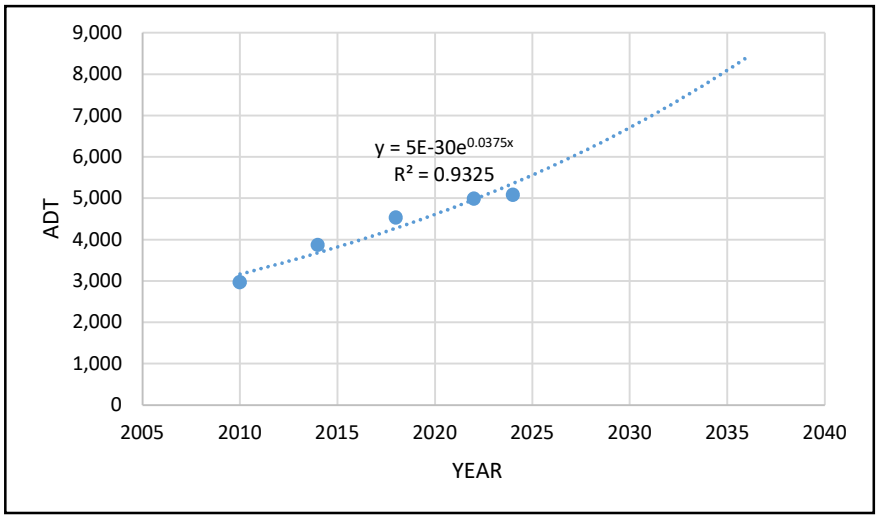
Count History

Year	Month	Count type	Duration	Count
2024	May	Class	48 hours	16,748
2022	August	Class	48 hours	16,310
2020	October	Class	48 hours	16,056
2020	August	Class	48 hours	15,618
2018	August	Class	48 hours	15,981
2017	October	Class	12 hours	0
2017	August	Class	48 hours	15,841

Count Station: GDOT #311-0234
Street: Old Hwy 75
Location: east of Donald E Thurmond
Source: GDOT

YEAR	ADT	TREND
2010	2,974	3200
2011		3300
2012		3400
2013		3500
2014	3,874	3700
2015		3800
2016		4000
2017		4100
2018	4,537	4300
2019		4400
2020		4600
2021		4800
2022	4,992	5000
2023		5200
2024	5,082	5400
2025		5600
2026		5800
2027		6000
2028		6200
2029		6500
2030		6700
2031		7000
2032		7200
2033		7500
2034		7800
2035		8100
2036		8400

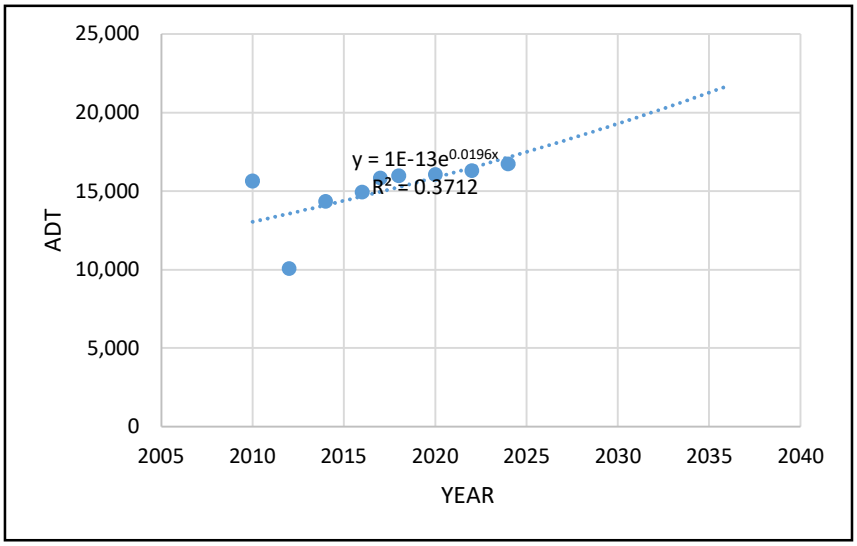
14-Years of Count Data
Trend Annual Historic Compound Growth Rate
3.91%



Count Station: GDOT #311-0105
Street: US 129
Location: south of Donald E Thurmond
Source: GDOT

YEAR	ADT	TREND
2010	15,650	13000
2011		13300
2012	10,074	13600
2013		13800
2014	14,362	14100
2015		14400
2016	14,940	14700
2017	15,841	15000
2018	15,981	15300
2019		15600
2020	16,056	15900
2021		16200
2022	16,310	16500
2023		16800
2024	16,748	17200
2025		17500
2026		17800
2027		18200
2028		18600
2029		18900
2030		19300
2031		19700
2032		20100
2033		20500
2034		20900
2035		21300
2036		21700

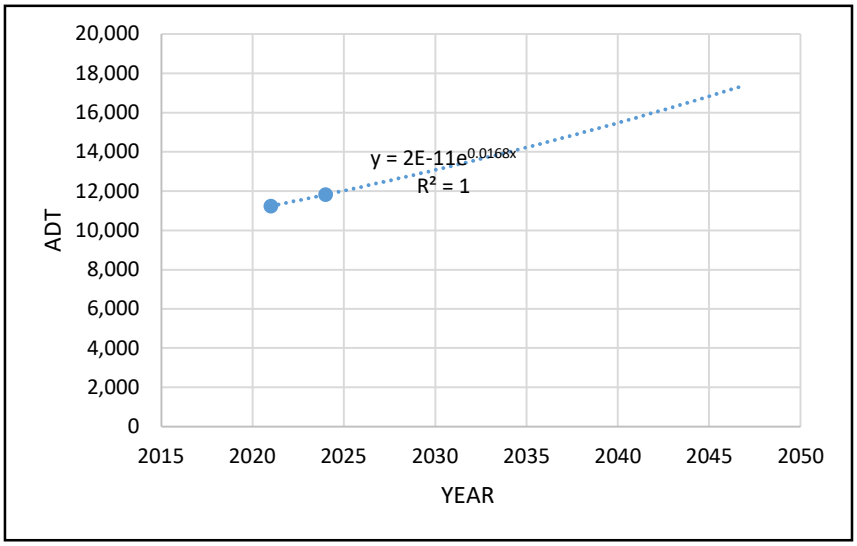
14-Years of Count Data
Trend Annual Historic Compound Growth Rate
1.82%



Count Station: GDOT #311-0106
Street: Appalachian Pkwy
Location: west of US 129
Source: GDOT

YEAR	ADT	TREND
2021	11,241	11200
2022		11400
2023		11600
2024	11,823	11800
2025		12000
2026		12200
2027		12400
2028		12600
2029		12900
2030		13100
2031		13300
2032		13500
2033		13800
2034		14000
2035		14200
2036		14500
2037		14700
2038		15000
2039		15200
2040		15500
2041		15700
2042		16000
2043		16300
2044		16600
2045		16800
2046		17100
2047		17400

14-Years of Count Data
Trend Annual Historic Compound Growth Rate
1.75%



Appendix E

Intersection Volume Development

Traffic Impact Study
475 Underwood Farm Road Development
Intersection Traffic Volumes

Intersection: #1 - SR 11/US 129 at Donald E Thurmond Parkway/Hope Drive

A.M. PEAK HOUR

Condition	SR 11/US 129 Northbound				SR 11/US 129 Southbound				Hope Dr Eastbound			Donald E Thurmond Pkwy Westbound		
	U-turn	L	T	R	U-turn	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)	2	9	505	57	1	140	661	3	3	0	3	71	6	143
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	2	10	544	61	1	151	712	3	3	0	3	76	6	154
Project Trips:														
Trip Distribution IN				30%		45%								
Trip Distribution OUT												30%		45%
Residential Trips	0	0	0	6	0	9	0	0	0	0	0	2	0	3
Trip Distribution IN				30%		45%								
Trip Distribution OUT												30%		45%
Office Trips	0	0	0	21	0	32	0	0	0	0	0	5	0	8
Trip Distribution IN				30%		45%								
Trip Distribution OUT												30%		45%
Hotel Trips	0	0	0	2	0	3	0	0	0	0	0	2	0	2
Total Project Trips	0	0	0	29	0	44	0	0	0	0	0	9	0	13
Buildout Total (2027)	2	10	544	90	1	195	712	3	3	0	3	85	6	167

P.M. PEAK HOUR

Condition	SR 11/US 129 Northbound				SR 11/US 129 Southbound				Hope Dr Eastbound			Donald E Thurmond Pkwy Westbound		
	U-turn	L	T	R	U-turn	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)	1	13	750	157	2	223	611	6	15	7	9	105	5	286
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	1	14	808	169	2	240	658	6	16	8	10	113	5	308
Project Trips:														
Trip Distribution IN				30%		45%								
Trip Distribution OUT												30%		45%
Residential Trips	0	0	0	3	0	5	0	0	0	0	0	6	0	9
Trip Distribution IN				30%		45%								
Trip Distribution OUT												30%		45%
Office Trips	0	0	0	12	0	18	0	0	0	0	0	27	0	41
Trip Distribution IN				30%		45%								
Trip Distribution OUT												30%		45%
Hotel Trips	0	0	0	2	0	3	0	0	0	0	0	2	0	3
Total Project Trips	0	0	0	17	0	26	0	0	0	0	0	35	0	53
Buildout Total (2027)	1	14	808	186	2	266	658	6	16	8	10	148	5	361

Traffic Impact Study
475 Underwood Farm Road Development
Intersection Traffic Volumes

Intersection: #2 - Donald E Thurmond Parkway at Walmart Driveway

A.M. PEAK HOUR

Condition	N/A			Walmart Drwy			Donald E Thurmond Pkwy			Donald E Thurmond Pkwy		
	Northbound			**Southbound**			**Eastbound**			**Westbound**		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)				9	0	15	26	109	0	0	160	39
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	0	0	0	10	0	16	28	117	0	0	172	42
Project Trips:												
Trip Distribution IN											20%	
Trip Distribution OUT								20%				
Residential Trips	0	0	0	0	0	0	0	1	0	0	4	0
Trip Distribution IN											20%	
Trip Distribution OUT								20%				
Office Trips	0	0	0	0	0	0	0	4	0	0	14	0
Trip Distribution IN											20%	
Trip Distribution OUT								20%				
Hotel Trips	0	0	0	0	0	0	0	1	0	0	1	0
Total Project Trips	0	0	0	0	0	0	0	6	0	0	19	0
Buildout Total (2027)	0	0	0	10	0	16	28	123	0	0	191	42

P.M. PEAK HOUR

Condition	N/A			Walmart Drwy			Donald E Thurmond Pkwy			Donald E Thurmond Pkwy		
	Northbound			**Southbound**			**Eastbound**			**Westbound**		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)				85	0	111	78	154	0	0	103	124
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	0	0	0	92	0	120	84	166	0	0	111	134
Project Trips:												
Trip Distribution IN											20%	
Trip Distribution OUT								20%				
Residential Trips	0	0	0	0	0	0	0	4	0	0	2	0
Trip Distribution IN											20%	
Trip Distribution OUT								20%				
Office Trips	0	0	0	0	0	0	0	18	0	0	8	0
Trip Distribution IN											20%	
Trip Distribution OUT								20%				
Hotel Trips	0	0	0	0	0	0	0	1	0	0	1	0
Total Project Trips	0	0	0	0	0	0	0	23	0	0	11	0
Buildout Total (2027)	0	0	0	92	0	120	84	189	0	0	122	134

Traffic Impact Study
475 Underwood Farm Road Development
Intersection Traffic Volumes

Intersection: #3 - Old Highway 75 at Donald E Thurmond Parkway/Woodlawn Drive

A.M. PEAK HOUR

Condition	Old Hwy 75 Northbound			Old Hwy 75 Southbound			Donald E Thurmond Pkwy Eastbound			Woodlawn Drive Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)	117	153	15	26	80	45	16	37	66	5	41	34
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	126	165	16	28	86	48	17	40	71	5	44	37
Project Trips:												
Trip Distribution IN	10%					10%						
Trip Distribution OUT							10%		10%			
Residential Trips	2	0	0	0	0	2	1	0	1	0	0	0
Trip Distribution IN	10%					10%						
Trip Distribution OUT							10%		10%			
Office Trips	7	0	0	0	0	7	2	0	2	0	0	0
Trip Distribution IN	10%					10%						
Trip Distribution OUT							10%		10%			
Hotel Trips	1	0	0	0	0	1	1	0	1	0	0	0
Total Project Trips	10	0	0	0	0	10	4	0	4	0	0	0
Buildout Total (2027)	136	165	16	28	86	58	21	40	75	5	44	37

P.M. PEAK HOUR

Condition	Old Hwy 75 Northbound			Old Hwy 75 Southbound			Donald E Thurmond Pkwy Eastbound			Woodlawn Drive Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)	110	106	10	24	145	104	68	31	146	9	22	28
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	118	114	11	26	156	112	73	33	157	10	24	30
Project Trips:												
Trip Distribution IN	10%					10%						
Trip Distribution OUT							10%		10%			
Residential Trips	1	0	0	0	0	1	2	0	2	0	0	0
Trip Distribution IN	10%					10%						
Trip Distribution OUT							10%		10%			
Office Trips	4	0	0	0	0	4	9	0	9	0	0	0
Trip Distribution IN	10%					10%						
Trip Distribution OUT							10%		10%			
Hotel Trips	1	0	0	0	0	1	1	0	1	0	0	0
Total Project Trips	6	0	0	0	0	6	12	0	12	0	0	0
Buildout Total (2027)	124	114	11	26	156	118	85	33	169	10	24	30

Traffic Impact Study
475 Underwood Farm Road Development
Intersection Traffic Volumes

Intersection: #4 - SR 11/US 129 at Underwood Farm Road/Daybreak Road

A.M. PEAK HOUR

Condition	SR 11/US 129 Northbound			SR 11/US 129 Southbound			Daybreak Rd Eastbound			Underwood Farm Rd Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)	3	564	3	10	680	3	3	1	6	6	0	25
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	3	607	3	11	732	3	3	1	6	6	0	27
Project Trips:												
Trip Distribution IN		30%	5%									
Trip Distribution OUT					30%					5%		
Residential Trips	0	6	1	0	2	0	0	0	0	0	0	0
Trip Distribution IN		30%	5%									
Trip Distribution OUT					30%					5%		
Office Trips	0	21	4	0	5	0	0	0	0	1	0	0
Trip Distribution IN		30%	5%									
Trip Distribution OUT					30%					5%		
Hotel Trips	0	2	0	0	2	0	0	0	0	0	0	0
Total Project Trips	0	29	5	0	9	0	0	0	0	1	0	0
Buildout Total (2027)	3	636	8	11	741	3	3	1	6	7	0	27

P.M. PEAK HOUR

Condition	SR 11/US 129 Northbound			SR 11/US 129 Southbound			Daybreak Rd Eastbound			Underwood Farm Rd Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)	4	847	4	21	696	9	5	0	0	5	0	15
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	4	912	4	23	750	10	5	0	0	5	0	16
Project Trips:												
Trip Distribution IN		30%	5%									
Trip Distribution OUT					30%					5%		
Residential Trips	0	3	1	0	6	0	0	0	0	1	0	0
Trip Distribution IN		30%	5%									
Trip Distribution OUT					30%					5%		
Office Trips	0	12	2	0	27	0	0	0	0	5	0	0
Trip Distribution IN		30%	5%									
Trip Distribution OUT					30%					5%		
Hotel Trips	0	2	0	0	2	0	0	0	0	0	0	0
Total Project Trips	0	17	3	0	35	0	0	0	0	6	0	0
Buildout Total (2027)	4	929	7	23	785	10	5	0	0	11	0	16

Traffic Impact Study
475 Underwood Farm Road Development
Intersection Traffic Volumes

Intersection: #5 - Donald E Thurmond Parkway at Proposed Driveway #1

A.M. PEAK HOUR

Condition	Proposed Drwy #1 Northbound			N/A Southbound			Donald E Thurmond Pkwy Eastbound			Donald E Thurmond Pkwy Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)								135			160	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	0	0	0	0	0	0	0	145	0	0	172	0
Project Trips:												
Trip Distribution IN									75%	20%		
Trip Distribution OUT	75%		20%									
Residential Trips	5	0	1	0	0	0	0	0	14	4	0	0
Trip Distribution IN									75%	20%		
Trip Distribution OUT	75%		20%									
Office Trips	14	0	4	0	0	0	0	0	53	14	0	0
Trip Distribution IN									75%	20%		
Trip Distribution OUT	75%		20%									
Hotel Trips	4	0	1	0	0	0	0	0	5	1	0	0
Total Project Trips	23	0	6	0	0	0	0	0	72	19	0	0
Buildout Total (2027)	23	0	6	0	0	0	0	145	72	19	172	0

P.M. PEAK HOUR

Condition	Proposed Drwy #1 Northbound			N/A Southbound			Donald E Thurmond Pkwy Eastbound			Donald E Thurmond Pkwy Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)								232			103	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	0	0	0	0	0	0	0	250	0	0	111	0
Project Trips:												
Trip Distribution IN									75%	20%		
Trip Distribution OUT	75%		20%									
Residential Trips	16	0	4	0	0	0	0	0	8	2	0	0
Trip Distribution IN									75%	20%		
Trip Distribution OUT	75%		20%									
Office Trips	68	0	18	0	0	0	0	0	29	8	0	0
Trip Distribution IN									75%	20%		
Trip Distribution OUT	75%		20%									
Hotel Trips	5	0	1	0	0	0	0	0	5	1	0	0
Total Project Trips	89	0	23	0	0	0	0	0	42	11	0	0
Buildout Total (2027)	89	0	23	0	0	0	0	250	42	11	111	0

Traffic Impact Study
475 Underwood Farm Road Development
Intersection Traffic Volumes

Intersection: #6 - Underwood Farm Road at Proposed Driveway #2

A.M. PEAK HOUR

Condition	N/A			Proposed Drwy #2			Underwood Farm Rd			Underwood Farm Rd		
	Northbound			**Southbound**			**Eastbound**			**Westbound**		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)								13			31	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	0	0	0	0	0	0	0	14	0	0	33	0
Project Trips:												
Trip Distribution IN							5%					
Trip Distribution OUT						5%						
Residential Trips	0	0	0	0	0	0	1	0	0	0	0	0
Trip Distribution IN							5%					
Trip Distribution OUT						5%						
Office Trips	0	0	0	0	0	1	3	0	0	0	0	0
Trip Distribution IN							5%					
Trip Distribution OUT						5%						
Hotel Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	1	4	0	0	0	0	0
Buildout Total (2027)	0	0	0	0	0	1	4	14	0	0	33	0

P.M. PEAK HOUR

Condition	N/A			Proposed Drwy #2			Underwood Farm Rd			Underwood Farm Rd		
	Northbound			**Southbound**			**Eastbound**			**Westbound**		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Volumes (2024)								25			20	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077
No-Build Condition (2027)	0	0	0	0	0	0	0	27	0	0	22	0
Project Trips:												
Trip Distribution IN							5%					
Trip Distribution OUT						5%						
Residential Trips	0	0	0	0	0	1	1	0	0	0	0	0
Trip Distribution IN							5%					
Trip Distribution OUT						5%						
Office Trips	0	0	0	0	0	5	2	0	0	0	0	0
Trip Distribution IN							5%					
Trip Distribution OUT						5%						
Hotel Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	6	3	0	0	0	0	0
Buildout Total (2027)	0	0	0	0	0	6	3	27	0	0	22	0

Appendix F

Capacity Analysis Reports

Existing Year 2024

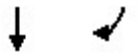
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	3	0	3	71	6	143	2	9	505	57	1	140
Future Volume (veh/h)	3	0	3	71	6	143	2	9	505	57	1	140
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1826		1870	1500	1856		1826
Adj Flow Rate, veh/h	3	0	3	81	7	162		10	574	65		159
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88		0.88	0.88	0.88		0.88
Percent Heavy Veh, %	2	2	2	2	2	5		2	27	3		5
Cap, veh/h	148	33	70	377	10	236		360	855	472		401
Arrive On Green	0.15	0.00	0.15	0.15	0.15	0.15		0.30	0.30	0.30		0.09
Sat Flow, veh/h	242	211	452	1414	66	1529		710	2850	1572		1739
Grp Volume(v), veh/h	6	0	0	81	0	169		10	574	65		159
Grp Sat Flow(s),veh/h/ln	905	0	0	1414	0	1595		710	1425	1572		1739
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.9		0.5	8.6	1.5		2.8
Cycle Q Clear(g_c), s	4.9	0.0	0.0	2.3	0.0	4.9		0.5	8.6	1.5		2.8
Prop In Lane	0.50		0.50	1.00		0.96		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	250	0	0	377	0	246		360	855	472		401
V/C Ratio(X)	0.02	0.00	0.00	0.21	0.00	0.69		0.03	0.67	0.14		0.40
Avail Cap(c_a), veh/h	540	0	0	674	0	581		968	3297	1819		723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	17.6	0.0	0.0	18.4	0.0	19.5		12.1	15.0	12.5		10.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	3.4		0.0	0.9	0.1		0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.8	0.0	1.9		0.1	2.1	0.4		0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	0.0	0.0	18.7	0.0	22.9		12.2	15.9	12.6		10.8
LnGrp LOS	B	A	A	B	A	C		B	B	B		B
Approach Vol, veh/h		6			250				649			
Approach Delay, s/veh		17.7			21.5				15.5			
Approach LOS		B			C				B			

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		34.1		14.7	10.9	23.1		14.7				
Change Period (Y+Rc), s		8.5		7.2	6.5	8.5		7.2				
Max Green Setting (Gmax), s		76.5		17.8	13.5	56.5		17.8				
Max Q Clear Time (g_c+I1), s		10.4		6.9	4.8	10.6		6.9				
Green Ext Time (p_c), s		5.3		0.0	0.2	4.0		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			12.7									
HCM 6th LOS			B									

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	661	3
Future Volume (veh/h)	661	3
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1485	1870
Adj Flow Rate, veh/h	751	3
Peak Hour Factor	0.88	0.88
Percent Heavy Veh, %	28	2
Cap, veh/h	1479	831
Arrive On Green	0.52	0.52
Sat Flow, veh/h	2822	1585
Grp Volume(v), veh/h	751	3
Grp Sat Flow(s),veh/h/ln	1411	1585
Q Serve(g_s), s	8.4	0.0
Cycle Q Clear(g_c), s	8.4	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1479	831
V/C Ratio(X)	0.51	0.00
Avail Cap(c_a), veh/h	4420	2483
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	7.5	5.5
Incr Delay (d2), s/veh	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	7.8	5.5
LnGrp LOS	A	A
Approach Vol, veh/h	913	
Approach Delay, s/veh	8.3	
Approach LOS	A	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	109	160	39	9	15
Future Vol, veh/h	26	109	160	39	9	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	7	3	2	2	2
Mvmt Flow	30	127	186	45	10	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	231	0	-	0	396	209
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	187	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1337	-	-	-	609	831
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	845	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1337	-	-	-	596	831
Mov Cap-2 Maneuver	-	-	-	-	596	-
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	845	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1337	-	-	-	724
HCM Lane V/C Ratio	0.023	-	-	-	0.039
HCM Control Delay (s)	7.8	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	37	66	5	41	34	117	153	15	26	80	45
Future Vol, veh/h	16	37	66	5	41	34	117	153	15	26	80	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	4	2	2	2	2	6	2	2	2	2
Mvmt Flow	19	43	77	6	48	40	136	178	17	30	93	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	656	620	93	698	664	187	145	0	0	195	0	0
Stage 1	153	153	-	459	459	-	-	-	-	-	-	-
Stage 2	503	467	-	239	205	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.24	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.336	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	379	404	959	355	381	855	1437	-	-	1378	-	-
Stage 1	849	771	-	582	566	-	-	-	-	-	-	-
Stage 2	551	562	-	764	732	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	295	358	959	271	337	855	1437	-	-	1378	-	-
Mov Cap-2 Maneuver	295	358	-	271	337	-	-	-	-	-	-	-
Stage 1	768	754	-	527	512	-	-	-	-	-	-	-
Stage 2	431	509	-	648	716	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	15.2	3.2	1.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1437	-	-	295	598	445	1378	-	-
HCM Lane V/C Ratio	0.095	-	-	0.063	0.2	0.209	0.022	-	-
HCM Control Delay (s)	7.8	-	-	18	12.5	15.2	7.7	-	-
HCM Lane LOS	A	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	0.7	0.8	0.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Traffic Vol, veh/h	3	1	6	6	0	25	3	564	3	10	680	3
Future Vol, veh/h	3	1	6	6	0	25	3	564	3	10	680	3
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	29	2	2	20	2
Mvmt Flow	4	1	7	7	0	30	4	671	4	12	810	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1532	1519	812	1521	1519	673	814	0	0	675	0	0
Stage 1	836	836	-	681	681	-	-	-	-	-	-	-
Stage 2	696	683	-	840	838	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	95	119	379	97	119	455	813	-	-	916	-	-
Stage 1	362	382	-	440	450	-	-	-	-	-	-	-
Stage 2	432	449	-	360	382	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	88	117	379	94	117	455	813	-	-	916	-	-
Mov Cap-2 Maneuver	211	237	-	218	239	-	-	-	-	-	-	-
Stage 1	360	377	-	438	448	-	-	-	-	-	-	-
Stage 2	402	447	-	347	377	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	15.6	0	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	813	-	-	292	376	916	-	-
HCM Lane V/C Ratio	0.004	-	-	0.041	0.098	0.013	-	-
HCM Control Delay (s)	9.4	-	-	17.9	15.6	9	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

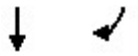
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	15	7	9	105	5	286	1	13	750	157	2	223
Future Volume (veh/h)	15	7	9	105	5	286	1	13	750	157	2	223
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1781	1856		1856
Adj Flow Rate, veh/h	16	8	10	114	5	311		14	815	171		242
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92		0.92
Percent Heavy Veh, %	2	2	2	2	2	2		2	8	3		3
Cap, veh/h	101	53	32	341	6	359		360	1127	524		377
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23		0.33	0.33	0.33		0.12
Sat Flow, veh/h	104	229	139	1395	25	1564		767	3385	1572		1767
Grp Volume(v), veh/h	34	0	0	114	0	316		14	815	171		242
Grp Sat Flow(s),veh/h/ln	472	0	0	1395	0	1589		767	1692	1572		1767
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	13.2		0.9	14.6	5.6		5.7
Cycle Q Clear(g_c), s	13.5	0.0	0.0	7.1	0.0	13.2		0.9	14.6	5.6		5.7
Prop In Lane	0.47		0.29	1.00		0.98		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	185	0	0	341	0	365		360	1127	524		377
V/C Ratio(X)	0.18	0.00	0.00	0.33	0.00	0.87		0.04	0.72	0.33		0.64
Avail Cap(c_a), veh/h	223	0	0	382	0	410		733	2775	1289		519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	21.7	0.0	0.0	23.2	0.0	25.5		15.6	20.2	17.2		14.2
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.6	0.0	16.2		0.0	0.9	0.4		1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.6	0.0	6.3		0.1	4.8	1.7		1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.2	0.0	0.0	23.8	0.0	41.7		15.7	21.1	17.6		16.1
LnGrp LOS	C	A	A	C	A	D		B	C	B		B
Approach Vol, veh/h		34			430				1000			
Approach Delay, s/veh		22.2			36.9				20.4			
Approach LOS		C			D				C			

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		45.9		23.0	14.5	31.4		23.0				
Change Period (Y+Rc), s		8.5		7.2	6.5	8.5		7.2				
Max Green Setting (Gmax), s		76.5		17.8	13.5	56.5		17.8				
Max Q Clear Time (g_c+I1), s		11.0		15.5	7.7	16.6		15.2				
Green Ext Time (p_c), s		4.5		0.0	0.3	6.4		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		19.9
HCM 6th LOS		B

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	611	6
Future Volume (veh/h)	611	6
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1574	1870
Adj Flow Rate, veh/h	664	7
Peak Hour Factor	0.92	0.92
Percent Heavy Veh, %	22	2
Cap, veh/h	1623	860
Arrive On Green	0.54	0.54
Sat Flow, veh/h	2991	1585
Grp Volume(v), veh/h	664	7
Grp Sat Flow(s),veh/h/ln	1495	1585
Q Serve(g_s), s	9.0	0.1
Cycle Q Clear(g_c), s	9.0	0.1
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1623	860
V/C Ratio(X)	0.41	0.01
Avail Cap(c_a), veh/h	3320	1760
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	9.3	7.2
Incr Delay (d2), s/veh	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	9.4	7.2
LnGrp LOS	A	A
Approach Vol, veh/h	913	
Approach Delay, s/veh	11.2	
Approach LOS	B	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	78	154	103	124	85	111
Future Vol, veh/h	78	154	103	124	85	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	3	2	2	2	2
Mvmt Flow	88	173	116	139	96	125

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	255	0	-	0	535	186
Stage 1	-	-	-	-	186	-
Stage 2	-	-	-	-	349	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1310	-	-	-	506	856
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1310	-	-	-	472	856
Mov Cap-2 Maneuver	-	-	-	-	472	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	714	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1310	-	-	-	633
HCM Lane V/C Ratio	0.067	-	-	-	0.348
HCM Control Delay (s)	7.9	-	-	-	13.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.6

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	31	146	9	22	28	110	106	10	24	145	104
Future Vol, veh/h	68	31	146	9	22	28	110	106	10	24	145	104
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	0	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	32	151	9	23	29	113	109	10	25	149	107

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	565	544	149	684	646	114	256	0	0	119	0	0
Stage 1	199	199	-	340	340	-	-	-	-	-	-	-
Stage 2	366	345	-	344	306	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	436	446	898	363	390	939	1309	-	-	1469	-	-
Stage 1	803	736	-	675	639	-	-	-	-	-	-	-
Stage 2	653	636	-	671	662	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	371	401	898	262	350	939	1309	-	-	1469	-	-
Mov Cap-2 Maneuver	371	401	-	262	350	-	-	-	-	-	-	-
Stage 1	734	723	-	617	584	-	-	-	-	-	-	-
Stage 2	556	581	-	525	651	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	13.9	3.9	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1309	-	-	371	738	464	1469	-	-
HCM Lane V/C Ratio	0.087	-	-	0.189	0.247	0.131	0.017	-	-
HCM Control Delay (s)	8	-	-	17	11.5	13.9	7.5	-	-
HCM Lane LOS	A	-	-	C	B	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.7	1	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱		↰	↱	
Traffic Vol, veh/h	5	0	0	5	0	15	4	847	4	21	696	9
Future Vol, veh/h	5	0	0	5	0	15	4	847	4	21	696	9
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	12	2	2	35	2
Mvmt Flow	5	0	0	5	0	16	4	921	4	23	757	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1747	1741	762	1739	1744	923	767	0	0	925	0	0
Stage 1	808	808	-	931	931	-	-	-	-	-	-	-
Stage 2	939	933	-	808	813	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	67	87	405	68	86	327	847	-	-	739	-	-
Stage 1	375	394	-	320	346	-	-	-	-	-	-	-
Stage 2	317	345	-	375	392	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	62	84	405	66	83	327	847	-	-	739	-	-
Mov Cap-2 Maneuver	173	197	-	184	202	-	-	-	-	-	-	-
Stage 1	373	382	-	318	344	-	-	-	-	-	-	-
Stage 2	300	343	-	363	380	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.5	19.3	0	0.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	847	-	-	173	274	739	-	-
HCM Lane V/C Ratio	0.005	-	-	0.031	0.079	0.031	-	-
HCM Control Delay (s)	9.3	-	-	26.5	19.3	10	-	-
HCM Lane LOS	A	-	-	D	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-

No Build Year 2027

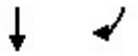
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	3	0	3	76	6	154	2	10	544	61	1	151
Future Volume (veh/h)	3	0	3	76	6	154	2	10	544	61	1	151
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1826		1870	1500	1856		1826
Adj Flow Rate, veh/h	3	0	3	86	7	175		11	618	69		172
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88		0.88	0.88	0.88		0.88
Percent Heavy Veh, %	2	2	2	2	2	5		2	27	3		5
Cap, veh/h	141	31	68	368	10	248		350	894	493		396
Arrive On Green	0.16	0.00	0.16	0.16	0.16	0.16		0.31	0.31	0.31		0.10
Sat Flow, veh/h	226	194	420	1414	61	1533		672	2850	1572		1739
Grp Volume(v), veh/h	6	0	0	86	0	182		11	618	69		172
Grp Sat Flow(s),veh/h/ln	841	0	0	1414	0	1594		672	1425	1572		1739
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.6		0.6	9.8	1.6		3.1
Cycle Q Clear(g_c), s	5.6	0.0	0.0	2.8	0.0	5.6		0.6	9.8	1.6		3.1
Prop In Lane	0.50		0.50	1.00		0.96		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	240	0	0	368	0	258		350	894	493		396
V/C Ratio(X)	0.02	0.00	0.00	0.23	0.00	0.71		0.03	0.69	0.14		0.43
Avail Cap(c_a), veh/h	490	0	0	626	0	549		873	3113	1718		684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	18.4	0.0	0.0	19.4	0.0	20.5		12.4	15.5	12.7		10.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	3.5		0.0	1.0	0.1		0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.9	0.0	2.1		0.1	2.4	0.4		0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.4	0.0	0.0	19.7	0.0	24.1		12.4	16.5	12.9		11.3
LnGrp LOS	B	A	A	B	A	C		B	B	B		B
Approach Vol, veh/h		6			268				698			
Approach Delay, s/veh		18.4			22.7				16.1			
Approach LOS		B			C				B			

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		36.2		15.6	11.4	24.7		15.6				
Change Period (Y+Rc), s		8.5		7.2	6.5	8.5		7.2				
Max Green Setting (Gmax), s		76.5		17.8	13.5	56.5		17.8				
Max Q Clear Time (g_c+I1), s		11.7		7.6	5.1	11.8		7.6				
Green Ext Time (p_c), s		5.8		0.0	0.3	4.4		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			13.3									
HCM 6th LOS			B									

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	712	3
Future Volume (veh/h)	712	3
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1485	1870
Adj Flow Rate, veh/h	809	3
Peak Hour Factor	0.88	0.88
Percent Heavy Veh, %	28	2
Cap, veh/h	1509	848
Arrive On Green	0.53	0.53
Sat Flow, veh/h	2822	1585
Grp Volume(v), veh/h	809	3
Grp Sat Flow(s),veh/h/ln	1411	1585
Q Serve(g_s), s	9.7	0.0
Cycle Q Clear(g_c), s	9.7	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1509	848
V/C Ratio(X)	0.54	0.00
Avail Cap(c_a), veh/h	4174	2345
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	7.8	5.6
Incr Delay (d2), s/veh	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	8.1	5.6
LnGrp LOS	A	A
Approach Vol, veh/h	984	
Approach Delay, s/veh	8.7	
Approach LOS	A	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	117	172	42	10	16
Future Vol, veh/h	28	117	172	42	10	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	7	3	2	2	2
Mvmt Flow	33	136	200	49	12	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	249	0	-	0	427	225
Stage 1	-	-	-	-	225	-
Stage 2	-	-	-	-	202	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1317	-	-	-	584	814
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	832	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1317	-	-	-	569	814
Mov Cap-2 Maneuver	-	-	-	-	569	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	832	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1317	-	-	-	698
HCM Lane V/C Ratio	0.025	-	-	-	0.043
HCM Control Delay (s)	7.8	-	-	-	10.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	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	17	40	71	5	44	37	126	165	16	28	86	48
Future Vol, veh/h	17	40	71	5	44	37	126	165	16	28	86	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	4	2	2	2	2	6	2	2	2	2
Mvmt Flow	20	47	83	6	51	43	147	192	19	33	100	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	709	671	100	755	718	202	156	0	0	211	0	0
Stage 1	166	166	-	496	496	-	-	-	-	-	-	-
Stage 2	543	505	-	259	222	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.24	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.336	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	349	378	950	325	355	839	1424	-	-	1360	-	-
Stage 1	836	761	-	556	545	-	-	-	-	-	-	-
Stage 2	524	540	-	746	720	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	262	331	950	240	311	839	1424	-	-	1360	-	-
Mov Cap-2 Maneuver	262	331	-	240	311	-	-	-	-	-	-	-
Stage 1	750	743	-	499	489	-	-	-	-	-	-	-
Stage 2	399	484	-	623	703	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	16.3	3.2	1.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1424	-	-	262	568	417	1360	-	-
HCM Lane V/C Ratio	0.103	-	-	0.075	0.227	0.24	0.024	-	-
HCM Control Delay (s)	7.8	-	-	19.9	13.2	16.3	7.7	-	-
HCM Lane LOS	A	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	0.9	0.9	0.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	6	6	0	27	3	607	3	11	732	3
Future Vol, veh/h	3	1	6	6	0	27	3	607	3	11	732	3
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	29	2	2	20	2
Mvmt Flow	4	1	7	7	0	32	4	723	4	13	871	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1648	1634	873	1636	1634	725	875	0	0	727	0	0
Stage 1	899	899	-	733	733	-	-	-	-	-	-	-
Stage 2	749	735	-	903	901	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	79	101	349	81	101	425	771	-	-	876	-	-
Stage 1	334	358	-	412	426	-	-	-	-	-	-	-
Stage 2	404	425	-	332	357	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	72	99	349	78	99	425	771	-	-	876	-	-
Mov Cap-2 Maneuver	190	218	-	197	219	-	-	-	-	-	-	-
Stage 1	332	353	-	410	424	-	-	-	-	-	-	-
Stage 2	372	423	-	319	352	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.2	16.5	0	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	771	-	-	266	351	876	-	-
HCM Lane V/C Ratio	0.005	-	-	0.045	0.112	0.015	-	-
HCM Control Delay (s)	9.7	-	-	19.2	16.5	9.2	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0	-	-

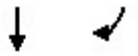
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	16	8	10	113	5	308	1	14	808	169	2	240
Future Volume (veh/h)	16	8	10	113	5	308	1	14	808	169	2	240
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1781	1856		1856
Adj Flow Rate, veh/h	17	9	11	123	5	335		15	878	184		261
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92		0.92
Percent Heavy Veh, %	2	2	2	2	2	2		2	8	3		3
Cap, veh/h	88	49	28	326	6	372		351	1179	548		368
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24		0.35	0.35	0.35		0.12
Sat Flow, veh/h	76	204	119	1392	23	1565		731	3385	1572		1767
Grp Volume(v), veh/h	37	0	0	123	0	340		15	878	184		261
Grp Sat Flow(s),veh/h/ln	399	0	0	1392	0	1589		731	1692	1572		1767
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	15.6		1.0	17.1	6.5		6.6
Cycle Q Clear(g_c), s	15.9	0.0	0.0	8.8	0.0	15.6		1.0	17.1	6.5		6.6
Prop In Lane	0.46		0.30	1.00		0.99		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	165	0	0	326	0	377		351	1179	548		368
V/C Ratio(X)	0.22	0.00	0.00	0.38	0.00	0.90		0.04	0.74	0.34		0.71
Avail Cap(c_a), veh/h	165	0	0	326	0	377		647	2551	1185		478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	23.5	0.0	0.0	25.2	0.0	27.7		16.3	21.5	18.0		15.5
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.7	0.0	24.0		0.0	1.0	0.4		3.4
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
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.9	0.0	8.1		0.2	5.8	2.0		2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	0.0	0.0	25.9	0.0	51.7		16.3	22.5	18.4		18.8
LnGrp LOS	C	A	A	C	A	D		B	C	B		B
Approach Vol, veh/h		37			463				1077			
Approach Delay, s/veh		24.1			44.8				21.7			
Approach LOS		C			D				C			

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		50.0		25.0	15.4	34.6		25.0				
Change Period (Y+Rc), s		8.5		7.2	6.5	8.5		7.2				
Max Green Setting (Gmax), s		76.5		17.8	13.5	56.5		17.8				
Max Q Clear Time (g_c+I1), s		12.5		17.9	8.6	19.1		17.6				
Green Ext Time (p_c), s		4.9		0.0	0.3	7.0		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			22.3									
HCM 6th LOS			C									

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	658	6
Future Volume (veh/h)	658	6
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1574	1870
Adj Flow Rate, veh/h	715	7
Peak Hour Factor	0.92	0.92
Percent Heavy Veh, %	22	2
Cap, veh/h	1654	877
Arrive On Green	0.55	0.55
Sat Flow, veh/h	2991	1585
Grp Volume(v), veh/h	715	7
Grp Sat Flow(s),veh/h/ln	1495	1585
Q Serve(g_s), s	10.5	0.1
Cycle Q Clear(g_c), s	10.5	0.1
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1654	877
V/C Ratio(X)	0.43	0.01
Avail Cap(c_a), veh/h	3052	1617
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	9.8	7.5
Incr Delay (d2), s/veh	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	10.0	7.5
LnGrp LOS	B	A
Approach Vol, veh/h	983	
Approach Delay, s/veh	12.3	
Approach LOS	B	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	84	166	111	134	92	120
Future Vol, veh/h	84	166	111	134	92	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	3	2	2	2	2
Mvmt Flow	94	187	125	151	103	135

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	276	0	-	0	576	201
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	375	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1287	-	-	-	479	840
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	695	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1287	-	-	-	444	840
Mov Cap-2 Maneuver	-	-	-	-	444	-
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	695	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	14.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1287	-	-	-	606
HCM Lane V/C Ratio	0.073	-	-	-	0.393
HCM Control Delay (s)	8	-	-	-	14.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.9

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	33	157	10	24	30	118	114	11	26	156	112
Future Vol, veh/h	73	33	157	10	24	30	118	114	11	26	156	112
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	0	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	75	34	162	10	25	31	122	118	11	27	161	115

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	611	588	161	739	698	124	276	0	0	129	0	0
Stage 1	215	215	-	368	368	-	-	-	-	-	-	-
Stage 2	396	373	-	371	330	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	406	421	884	333	364	927	1287	-	-	1457	-	-
Stage 1	787	725	-	652	621	-	-	-	-	-	-	-
Stage 2	629	618	-	649	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	338	374	884	232	323	927	1287	-	-	1457	-	-
Mov Cap-2 Maneuver	338	374	-	232	323	-	-	-	-	-	-	-
Stage 1	712	711	-	590	562	-	-	-	-	-	-	-
Stage 2	526	559	-	495	634	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	15	3.9	0.7
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1287	-	-	338	715	427	1457	-	-
HCM Lane V/C Ratio	0.095	-	-	0.223	0.274	0.155	0.018	-	-
HCM Control Delay (s)	8.1	-	-	18.7	11.9	15	7.5	-	-
HCM Lane LOS	A	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.8	1.1	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑		↰	↑	
Traffic Vol, veh/h	5	0	0	5	0	16	4	912	4	23	750	10
Future Vol, veh/h	5	0	0	5	0	16	4	912	4	23	750	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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	12	2	2	35	2
Mvmt Flow	5	0	0	5	0	17	4	991	4	25	815	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1881	1874	821	1872	1877	993	826	0	0	995	0	0
Stage 1	871	871	-	1001	1001	-	-	-	-	-	-	-
Stage 2	1010	1003	-	871	876	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	54	72	374	55	71	298	805	-	-	695	-	-
Stage 1	346	368	-	293	321	-	-	-	-	-	-	-
Stage 2	289	320	-	346	367	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	49	69	374	53	68	298	805	-	-	695	-	-
Mov Cap-2 Maneuver	153	178	-	165	183	-	-	-	-	-	-	-
Stage 1	344	355	-	292	319	-	-	-	-	-	-	-
Stage 2	271	318	-	334	354	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.4	20.8	0	0.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	805	-	-	153	250	695	-	-
HCM Lane V/C Ratio	0.005	-	-	0.036	0.091	0.036	-	-
HCM Control Delay (s)	9.5	-	-	29.4	20.8	10.4	-	-
HCM Lane LOS	A	-	-	D	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-

Build Year 2027

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	3	0	3	85	6	167	2	10	544	90	1	195
Future Volume (veh/h)	3	0	3	85	6	167	2	10	544	90	1	195
Initial Q (Qb), veh	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
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1826		1870	1500	1856		1826
Adj Flow Rate, veh/h	3	0	3	97	7	190		11	618	102		222
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88		0.88	0.88	0.88		0.88
Percent Heavy Veh, %	2	2	2	2	2	5		2	27	3		5
Cap, veh/h	134	30	66	359	10	261		339	882	487		419
Arrive On Green	0.17	0.00	0.17	0.17	0.17	0.17		0.31	0.31	0.31		0.12
Sat Flow, veh/h	210	177	387	1414	57	1537		672	2850	1572		1739
Grp Volume(v), veh/h	6	0	0	97	0	197		11	618	102		222
Grp Sat Flow(s),veh/h/ln	774	0	0	1414	0	1594		672	1425	1572		1739
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	6.4		0.6	10.5	2.6		4.3
Cycle Q Clear(g_c), s	6.5	0.0	0.0	3.6	0.0	6.4		0.6	10.5	2.6		4.3
Prop In Lane	0.50		0.50	1.00		0.96		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	230	0	0	359	0	270		339	882	487		419
V/C Ratio(X)	0.03	0.00	0.00	0.27	0.00	0.73		0.03	0.70	0.21		0.53
Avail Cap(c_a), veh/h	438	0	0	577	0	516		822	2928	1616		643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	19.2	0.0	0.0	20.5	0.0	21.6		13.3	16.7	14.0		11.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	3.7		0.0	1.0	0.2		1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.1	0.0	2.5		0.1	2.7	0.7		1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.3	0.0	0.0	20.9	0.0	25.4		13.4	17.8	14.2		12.2
LnGrp LOS	B	A	A	C	A	C		B	B	B		B
Approach Vol, veh/h		6			294				731			
Approach Delay, s/veh		19.3			23.9				17.2			
Approach LOS		B			C				B			

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		38.5		16.5	12.9	25.5		16.5				
Change Period (Y+Rc), s		8.5		7.2	6.5	8.5		7.2				
Max Green Setting (Gmax), s		76.5		17.8	13.5	56.5		17.8				
Max Q Clear Time (g_c+I1), s		12.1		8.5	6.3	12.5		8.4				
Green Ext Time (p_c), s		5.8		0.0	0.3	4.5		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			14.1									
HCM 6th LOS			B									

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	712	3
Future Volume (veh/h)	712	3
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1485	1870
Adj Flow Rate, veh/h	809	3
Peak Hour Factor	0.88	0.88
Percent Heavy Veh, %	28	2
Cap, veh/h	1537	863
Arrive On Green	0.54	0.54
Sat Flow, veh/h	2822	1585
Grp Volume(v), veh/h	809	3
Grp Sat Flow(s),veh/h/ln	1411	1585
Q Serve(g_s), s	10.1	0.0
Cycle Q Clear(g_c), s	10.1	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1537	863
V/C Ratio(X)	0.53	0.00
Avail Cap(c_a), veh/h	3926	2205
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	8.0	5.7
Incr Delay (d2), s/veh	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	8.3	5.7
LnGrp LOS	A	A
Approach Vol, veh/h	1034	
Approach Delay, s/veh	9.1	
Approach LOS	A	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	123	191	42	10	16
Future Vol, veh/h	28	123	191	42	10	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	7	3	2	2	2
Mvmt Flow	33	143	222	49	12	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	271	0	-	0	456	247
Stage 1	-	-	-	-	247	-
Stage 2	-	-	-	-	209	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1292	-	-	-	562	792
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	826	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1292	-	-	-	547	792
Mov Cap-2 Maneuver	-	-	-	-	547	-
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	826	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1292	-	-	-	676
HCM Lane V/C Ratio	0.025	-	-	-	0.045
HCM Control Delay (s)	7.9	-	-	-	10.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	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	21	40	75	5	44	37	136	165	16	28	86	58
Future Vol, veh/h	21	40	75	5	44	37	136	165	16	28	86	58
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	0	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	4	2	2	2	2	6	2	2	2	2
Mvmt Flow	24	47	87	6	51	43	158	192	19	33	100	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	731	693	100	785	751	202	167	0	0	211	0	0
Stage 1	166	166	-	518	518	-	-	-	-	-	-	-
Stage 2	565	527	-	267	233	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.24	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.336	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	337	367	950	310	340	839	1411	-	-	1360	-	-
Stage 1	836	761	-	541	533	-	-	-	-	-	-	-
Stage 2	510	528	-	738	712	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	250	318	950	225	295	839	1411	-	-	1360	-	-
Mov Cap-2 Maneuver	250	318	-	225	295	-	-	-	-	-	-	-
Stage 1	742	743	-	480	473	-	-	-	-	-	-	-
Stage 2	383	469	-	613	695	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.6	17	3.4	1.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1411	-	-	250	562	399	1360	-	-
HCM Lane V/C Ratio	0.112	-	-	0.098	0.238	0.251	0.024	-	-
HCM Control Delay (s)	7.9	-	-	21	13.4	17	7.7	-	-
HCM Lane LOS	A	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	0.9	1	0.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	6	7	0	27	3	636	8	11	741	3
Future Vol, veh/h	3	1	6	7	0	27	3	636	8	11	741	3
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	29	2	2	20	2
Mvmt Flow	4	1	7	8	0	32	4	757	10	13	882	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1696	1685	884	1684	1682	762	886	0	0	767	0	0
Stage 1	910	910	-	770	770	-	-	-	-	-	-	-
Stage 2	786	775	-	914	912	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	73	94	344	75	94	405	764	-	-	847	-	-
Stage 1	329	353	-	393	410	-	-	-	-	-	-	-
Stage 2	385	408	-	327	353	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	66	92	344	72	92	405	764	-	-	847	-	-
Mov Cap-2 Maneuver	182	210	-	190	212	-	-	-	-	-	-	-
Stage 1	327	348	-	391	408	-	-	-	-	-	-	-
Stage 2	353	406	-	314	348	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.6	17.5	0	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	764	-	-	258	328	847	-	-
HCM Lane V/C Ratio	0.005	-	-	0.046	0.123	0.015	-	-
HCM Control Delay (s)	9.7	-	-	19.6	17.5	9.3	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	145	72	19	172	23	6
Future Vol, veh/h	145	72	19	172	23	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	158	78	21	187	25	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	236	0	387	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	229	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1331	-	616	887
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	809	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1331	-	606	887
Mov Cap-2 Maneuver	-	-	-	-	606	-
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	796	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	606	887	-	-	1331	-
HCM Lane V/C Ratio	0.041	0.007	-	-	0.016	-
HCM Control Delay (s)	11.2	9.1	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	14	33	0	0	1
Future Vol, veh/h	4	14	33	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	15	36	0	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	36	0	-	0	59	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	23	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1575	-	-	-	948	1037
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	1000	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1575	-	-	-	945	1037
Mov Cap-2 Maneuver	-	-	-	-	945	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	1000	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1575	-	-	-	1037
HCM Lane V/C Ratio	0.003	-	-	-	0.001
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	16	8	10	148	5	361	1	14	808	186	2	266
Future Volume (veh/h)	16	8	10	148	5	361	1	14	808	186	2	266
Initial Q (Qb), veh	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
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1781	1856		1856
Adj Flow Rate, veh/h	17	9	11	161	5	392		15	878	202		289
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92		0.92
Percent Heavy Veh, %	2	2	2	2	2	2		2	8	3		3
Cap, veh/h	85	47	30	350	6	440		328	1127	524		360
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28		0.33	0.33	0.33		0.13
Sat Flow, veh/h	86	167	107	1392	20	1568		731	3385	1572		1767
Grp Volume(v), veh/h	37	0	0	161	0	397		15	878	202		289
Grp Sat Flow(s),veh/h/ln	360	0	0	1392	0	1588		731	1692	1572		1767
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	20.5		1.2	20.0	8.4		8.6
Cycle Q Clear(g_c), s	21.1	0.0	0.0	13.7	0.0	20.5		1.2	20.0	8.4		8.6
Prop In Lane	0.46		0.30	1.00		0.99		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	162	0	0	350	0	446		328	1127	524		360
V/C Ratio(X)	0.23	0.00	0.00	0.46	0.00	0.89		0.05	0.78	0.39		0.80
Avail Cap(c_a), veh/h	219	0	0	411	0	516		481	1839	854		414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	24.6	0.0	0.0	27.1	0.0	29.5		19.4	25.7	21.8		18.3
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.9	0.0	15.9		0.1	1.2	0.5		9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	2.9	0.0	9.5		0.2	7.2	2.8		3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	0.0	0.0	28.0	0.0	45.4		19.5	26.9	22.3		28.0
LnGrp LOS	C	A	A	C	A	D		B	C	C		C
Approach Vol, veh/h		37			558				1095			
Approach Delay, s/veh		25.3			40.4				26.0			
Approach LOS		C			D				C			

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		54.4		31.2	17.4	37.0		31.2				
Change Period (Y+Rc), s		8.5		7.2	6.5	8.5		7.2				
Max Green Setting (Gmax), s		66.5		27.8	13.5	46.5		27.8				
Max Q Clear Time (g_c+I1), s		14.5		23.1	10.6	22.0		22.5				
Green Ext Time (p_c), s		4.9		0.0	0.2	6.5		1.5				

Intersection Summary												
HCM 6th Ctrl Delay			25.5									
HCM 6th LOS			C									

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	658	6
Future Volume (veh/h)	658	6
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1574	1870
Adj Flow Rate, veh/h	715	7
Peak Hour Factor	0.92	0.92
Percent Heavy Veh, %	22	2
Cap, veh/h	1603	849
Arrive On Green	0.54	0.54
Sat Flow, veh/h	2991	1585
Grp Volume(v), veh/h	715	7
Grp Sat Flow(s),veh/h/ln	1495	1585
Q Serve(g_s), s	12.5	0.2
Cycle Q Clear(g_c), s	12.5	0.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1603	849
V/C Ratio(X)	0.45	0.01
Avail Cap(c_a), veh/h	2323	1231
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	12.1	9.3
Incr Delay (d2), s/veh	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.1
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	12.3	9.3
LnGrp LOS	B	A
Approach Vol, veh/h	1011	
Approach Delay, s/veh	16.8	
Approach LOS	B	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	84	189	122	134	92	120
Future Vol, veh/h	84	189	122	134	92	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	3	2	2	2	2
Mvmt Flow	94	212	137	151	103	135

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	288	0	-	0	613	213
Stage 1	-	-	-	-	213	-
Stage 2	-	-	-	-	400	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1274	-	-	-	456	827
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	677	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1274	-	-	-	422	827
Mov Cap-2 Maneuver	-	-	-	-	422	-
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	677	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1274	-	-	-	584
HCM Lane V/C Ratio	0.074	-	-	-	0.408
HCM Control Delay (s)	8.1	-	-	-	15.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	2

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	33	169	10	24	30	124	114	11	26	156	118
Future Vol, veh/h	85	33	169	10	24	30	124	114	11	26	156	118
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	0	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	88	34	174	10	25	31	128	118	11	27	161	122

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	623	600	161	760	717	124	283	0	0	129	0	0
Stage 1	215	215	-	380	380	-	-	-	-	-	-	-
Stage 2	408	385	-	380	337	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	398	415	884	323	355	927	1279	-	-	1457	-	-
Stage 1	787	725	-	642	614	-	-	-	-	-	-	-
Stage 2	620	611	-	642	641	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	330	366	884	220	313	927	1279	-	-	1457	-	-
Mov Cap-2 Maneuver	330	366	-	220	313	-	-	-	-	-	-	-
Stage 1	708	711	-	578	553	-	-	-	-	-	-	-
Stage 2	515	550	-	482	629	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	15.3	4	0.7
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1279	-	-	330	718	414	1457	-	-
HCM Lane V/C Ratio	0.1	-	-	0.266	0.29	0.159	0.018	-	-
HCM Control Delay (s)	8.1	-	-	19.8	12	15.3	7.5	-	-
HCM Lane LOS	A	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1	1.2	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	0	11	0	16	4	929	7	23	785	10
Future Vol, veh/h	5	0	0	11	0	16	4	929	7	23	785	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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	12	2	2	35	2
Mvmt Flow	5	0	0	12	0	17	4	1010	8	25	853	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1940	1935	859	1931	1936	1014	864	0	0	1018	0	0
Stage 1	909	909	-	1022	1022	-	-	-	-	-	-	-
Stage 2	1031	1026	-	909	914	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	49	66	356	50	66	290	779	-	-	682	-	-
Stage 1	329	354	-	285	313	-	-	-	-	-	-	-
Stage 2	281	312	-	329	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	45	63	356	48	63	290	779	-	-	682	-	-
Mov Cap-2 Maneuver	146	170	-	158	176	-	-	-	-	-	-	-
Stage 1	327	341	-	284	311	-	-	-	-	-	-	-
Stage 2	263	310	-	317	339	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.6	24.3	0	0.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	779	-	-	146	216	682	-	-
HCM Lane V/C Ratio	0.006	-	-	0.037	0.136	0.037	-	-
HCM Control Delay (s)	9.6	-	-	30.6	24.3	10.5	-	-
HCM Lane LOS	A	-	-	D	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	250	42	11	111	89	23
Future Vol, veh/h	250	42	11	111	89	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	272	46	12	121	97	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	318	0	417	272
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	145	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1242	-	592	767
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	882	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1242	-	586	767
Mov Cap-2 Maneuver	-	-	-	-	586	-
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	873	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	586	767	-	-	1242	-
HCM Lane V/C Ratio	0.165	0.033	-	-	0.01	-
HCM Control Delay (s)	12.4	9.9	-	-	7.9	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	27	22	0	0	5
Future Vol, veh/h	3	27	22	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	29	24	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	59	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	35	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	948	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	946	1052
Mov Cap-2 Maneuver	-	-	-	-	946	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	987	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	1052
HCM Lane V/C Ratio	0.002	-	-	-	0.005
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

N. APPENDIX 4 - PUBLIC ENGAGEMENT

Address 1
2
3
4

DLBP LLC
2727 Paces Ferry Road SE,
Suite 1625,
Atlanta, GA 30339, USA

E: dominiclawson@dlbp.us
www.dlbp.us

December 11, 2024

Dear Neighbor,

PROPOSED MIXED-USE COMMUNITY - 475 UNDERWOOD FARM ROAD, CLEVELAND, GEORGIA 30528

My name is Devynn Glanz, and I am writing to you on behalf of our client, Grace of Georgia Developments LLC. They are a dedicated group of professionals focused on working with growing communities to identify promising sites to deliver distinctive, thoughtfully planned developments that complement and enhance the character of your community.

As a senior planner with DLBP LLC Planning Consultants, I advise clients with site planning and land use decisions, guiding them through the application process to secure necessary approvals.

We are kindly reaching out to inform you of a proposal for a development opportunity which will have three separate buildings to include (1) 60-bedroom assisted living; (2) six-rooms of medical offices, and (3) a 40-bedroom hotel. These uses will have parking and a connected road with the main access off Donald E Thurmond Parkway and a secondary road access connecting with Underwood Farm Road.

The three buildings are explained in more detail below.

<u>Assisted Living – 60 bedrooms</u>

Assisted living provides housing and personal care support for seniors who need assistance with daily tasks such as bathing, dressing, and medication management while maintaining their independence in a home-like environment. The residents will have their own bedrooms or apartments and can get assistance with daily activities, while promoting social engagement with other like-minded residents.

Assisted living offers 24/7 care, while promoting a balance of independence and support, enabling residents to age comfortably in Cleveland and White County, with amenities, such as landscaped walking trails, a tranquil garden and plaza, and various on-site services, a boutique, fitness and rehabilitation, and dining areas.

Medical Offices - six rooms

Medical offices are facilities where healthcare professionals provide outpatient services, which are typically designed for doctors, specialists, and other medical practitioners to conduct consultations, perform routine check-ups, diagnose and treat non-emergency medical issues, and offer preventive care (ie: vaccinations and / or screenings). This will potentially include examination rooms, waiting areas, and administrative offices.

The City of Cleveland currently faces limited access to essential medical services, which is increasingly critical given its growing population. This need presents a substantial opportunity to improve local access to high-quality medical facilities, benefiting the community and meeting an essential need in the immediate area.

Hotel - 40 bedrooms

The proposed hotel will offer clean, safe, and comfortable rooms for Cleveland's visitors. This hotel aims to meet the essential needs of these travelers with various amenities, such as: Wi-Fi, mountain views, an in-room television, and breakfast options.

The increasing population and visitors drawn to Cleveland's scenic waterfalls, lakes, and hiking trails create a pressing need for hospitality services. Expanding these services with the provision of one new hotel will enhance visitor experiences and support the local economy.

We value community feedback to ensure this proposal aligns with local needs. We warmly welcome your questions or comments and are available for in-person or virtual meetings to discuss further.

Please visit our website at **www.gracedevelopments.us** for further information and to stay up to date on the project and various milestones.

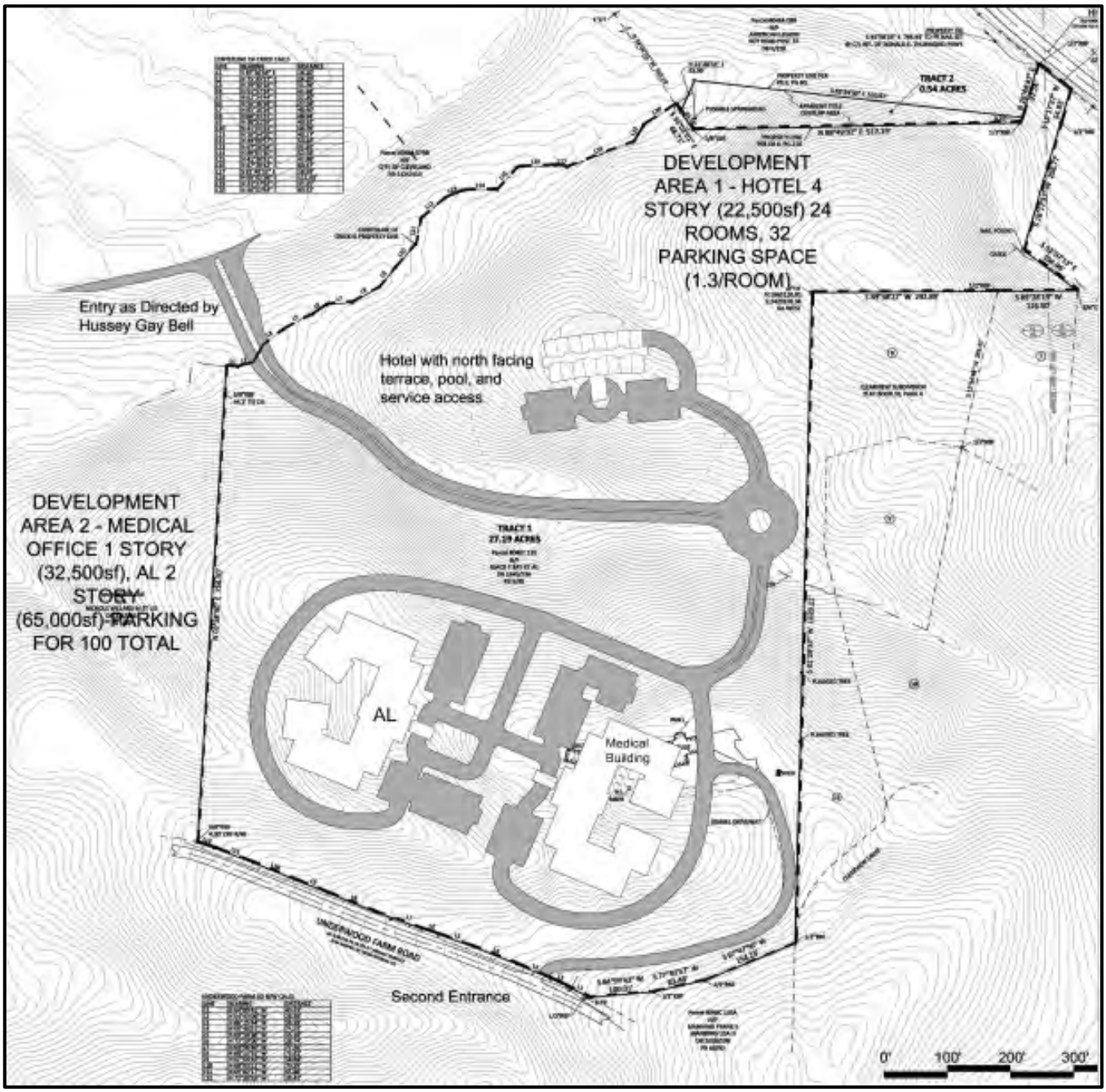
Please do not hesitate to reach me directly at:

Email: **devynnglanz@dlbp.us**

Phone: **302-573-0268**

Yours sincerely,

DEVYNN GLANZ Senior Planner MUEP


DEVELOPMENT AREA 1 - HOTEL 4 STORY (22,500sf) 24 ROOMS, 32 PARKING SPACE (1.3/ROOM)
TRACT 2 0.54 ACRES
Entry as Directed by Hussey Gay Bell
Hotel with north facing terrace, pool, and service access
DEVELOPMENT AREA 2 - MEDICAL OFFICE 1 STORY (32,500sf), AL 2 STORY (65,000sf) PARKING FOR 100 TOTAL
TRACT 1 27.29 ACRES
AL
Medical Building
UNDERWOOD FARM ROAD
Second Entrance
0'
100'
200'
300'

From: **Devynn Glanz** devynnglanz@dlbp.us
Subject: Re: Proposed Mixed-use community
Date: January 8, 2025 at 2:31 PM
To: [redacted]@gmail.com
Cc: Dominic Lawson dominiclawson@dlbp.us

Dear [redacted],

I hope you are well and happy new year! Thank you for taking the time to share your thoughts and feedback. We at DLBP LLC and Grace of Georgia Developments LLC greatly value community input and appreciate your perspective.

Based on our thorough research and analysis, we believe that an assisted living, medical building, and hotel will positively impact the area by increasing economic vitality and job opportunities while providing important services in response to the City's and County's growing population and increased tourism.

Additionally, we ensure that we provide a high-quality design that will serve as an asset to Cleveland and White County, while also ensuring all the necessary buffers and setbacks (through landscaping, natural vegetation, etc.) are in place to allow the surrounding and nearby property owners privacy. The buffers will be at a minimum of 25 to 30 feet, and the setbacks range from 15 to 40 feet to provide more than sufficient screening between the proposed development and surrounding properties.

If you have additional questions or comments, please do not hesitate to give us a call at **302-573-0268**. We welcome open communication and are here to provide further details or clarification as needed.

Thank you again for reaching out.

Additionally, I have attached our most updated master plan, which is still in the working phase.

Kind Regards,

Devynn

Underwood Farm 01.07.25.pdf
5.1 MB

Devynn Glanz
MUEP
Senior Planner

For and on behalf of
DLBP LLC

2727 Paces Ferry Road SE
Suite 1625
Atlanta
GA 30339
United States

Direct phone: +1(302) 573-0268
Direct email: devynnglanz@dlbp.us
www.dlbp.us

> On Dec 16, 2024, at 5:55 PM, [redacted]@gmail.com> wrote:
>
> Good evening Devynn, I have received your letter regarding the proposed plans for 475 Underwood Farm road in Cleveland, Georgia. You stated that this was a proposed plan and I do pray that it is. This type of construction plan and finished product will bring nothing but trouble to all the residents in nearby and surrounding areas. Our property values will diminish and the eye sore that these structures create are not needed in our area. I hope and pray this does not happen and also that if it is sorely needed which it is not, there will be other areas explored and not by my home that I have worked hard for and am raising my kids in.

From: **Devynn Glanz** devynnglanz@dlbp.us
Subject: Re: 475 Underwood Farm Rd Cleveland GA development
Date: January 9, 2025 at 11:05 AM
To: [redacted]@gmail.com
Cc: Dominic Lawson dominiclawson@dlbp.us

DG

Dear [redacted],

Thank you so much for your comments and feedback and happy new year! When we originally sent the letter, which stated a 40-room hotel, we were still at the early stages of our siteplan. Now that our siteplan is near the finishing stages it was determined that the hotel would have approximately 24 hotel rooms, and so the website was updated to reflect this new finding.

Additionally, we understand that traffic can be a major concern for the community, and so a traffic impact study was performed at the beginning stages of our proposal and due diligence, which determined that this development, including the hotel, will have minimal impact on traffic, delaying travel time by seconds.

Regarding the hotel, it will be located a ways back from Highway 75 S with the main traffic accumulation being via Highway 129, which reinstates the minimal impact on Highway 75 S property.

Based on our thorough research, this project will provide economic benefits to the community and will provide additional job opportunities that will positively impact the community, while also providing much needed services in response to Cleveland's growing population and growing tourism.

Please do not hesitate to reach out or give me a call at **302-573-0268** with any additional questions and / or comments.

Thank you.

Kind Regards,

Devynn Glanz
MUEP
Senior Planner

For and on behalf of
DLBP LLC

2727 Paces Ferry Road SE
Suite 1625
Atlanta
GA 30339
United States

Direct phone: +1(302) 573-0268
Direct email: devynnglanz@dlbp.us
www.dlbp.us

> On Jan 1, 2025, at 4:25 PM, [redacted]@gmail.com> wrote:
>
> Hello,
>
> We received your letter regarding this proposed development. As a resident of Highway 75 S, near Donald Thurmond Parkway, we are specifically opposed to the hotel component of the development. Based on the proximity of the hotel to our residence, the traffic on our road will worsen from what is already problematic. Additionally, the hotel location is likely to attract other undesirable businesses even closer to our home, further increasing traffic and potential crime in the area.
>
> There is inconsistency in how the hotel is described in the information. The letter states a "40-bedroom hotel". Your website states "24 bedroom". Which is accurate?
>
> We have no concerns with the assisted living facility or the medical offices. The hotel is undesirable and concerning for the quality of life of local residents.
>
> Thank you.
>
> [redacted]

From: **Devynn Glanz** devynnglanz@dlbp.us
Subject: Re: 475 Underwood Farm Road, Cleveland, GA
Date: January 9, 2025 at 9:31 AM
To: [redacted]@gmail.com
Cc: Dominic Lawson dominiclawson@dlbp.us

DG

Dear [redacted]

Thank you for your email and happy new year!

Yes, we are still in the planning stage and will be going in front of the City and County for approval. If the plan is approved, we expect construction to begin in 2025 with full build-out by 2027. Based on our thorough research and due diligence, this development would have minimal impact on your property, delaying traffic by seconds. Additionally, this development would provide further economic vitality and job opportunities in your area in hospitality, medical, and care services.

To find out further information please visit our website, which can be found here.

If any of your questions are still unanswered, please feel free to send us another email or give me a call at **302-573-0268**.

Thank you.

Kind Regards,

Devynn

Devynn Glanz
MUEP
Senior Planner

For and on behalf of
DLBP LLC

2727 Paces Ferry Road SE
Suite 1625
Atlanta
GA 30339
United States

Direct phone: +1(302) 573-0268
Direct email: devynnglanz@dlbp.us
www.dlbp.us

> On Dec 20, 2024, at 12:43 PM, mundydc@gmail.com wrote:
>
> Good afternoon,
>
> I received a letter from you regarding the above proposed development. I have rental property located at 416 Underwood Farm which is directly across from the proposed development. From what I can tell this is in the planning stage? Can you give me an estimate of how long it will take to move forward if plan is approved? What impact would this be on my property?
>
> Your sending me more information about the development would be appreciated.
>
> Thank you,
>
> [redacted]

475 Underwood Farm Road, Cleveland, GA 30528

MEDICAL BUILDING – Donald E Thurmond Parkway across from Walmart

Where is the need?

There is currently limited access to essential medical services.

The closest major hospital to the site being approximately 17 miles away and the closest urgent care being 5.5 miles from the site. Therefore, this proposal addresses this.

DLBP Planning Consultants

475 Underwood Farm Road, Cleveland, GA 30528

Proposed development via Donald E Thurmond Parkway across from Walmart

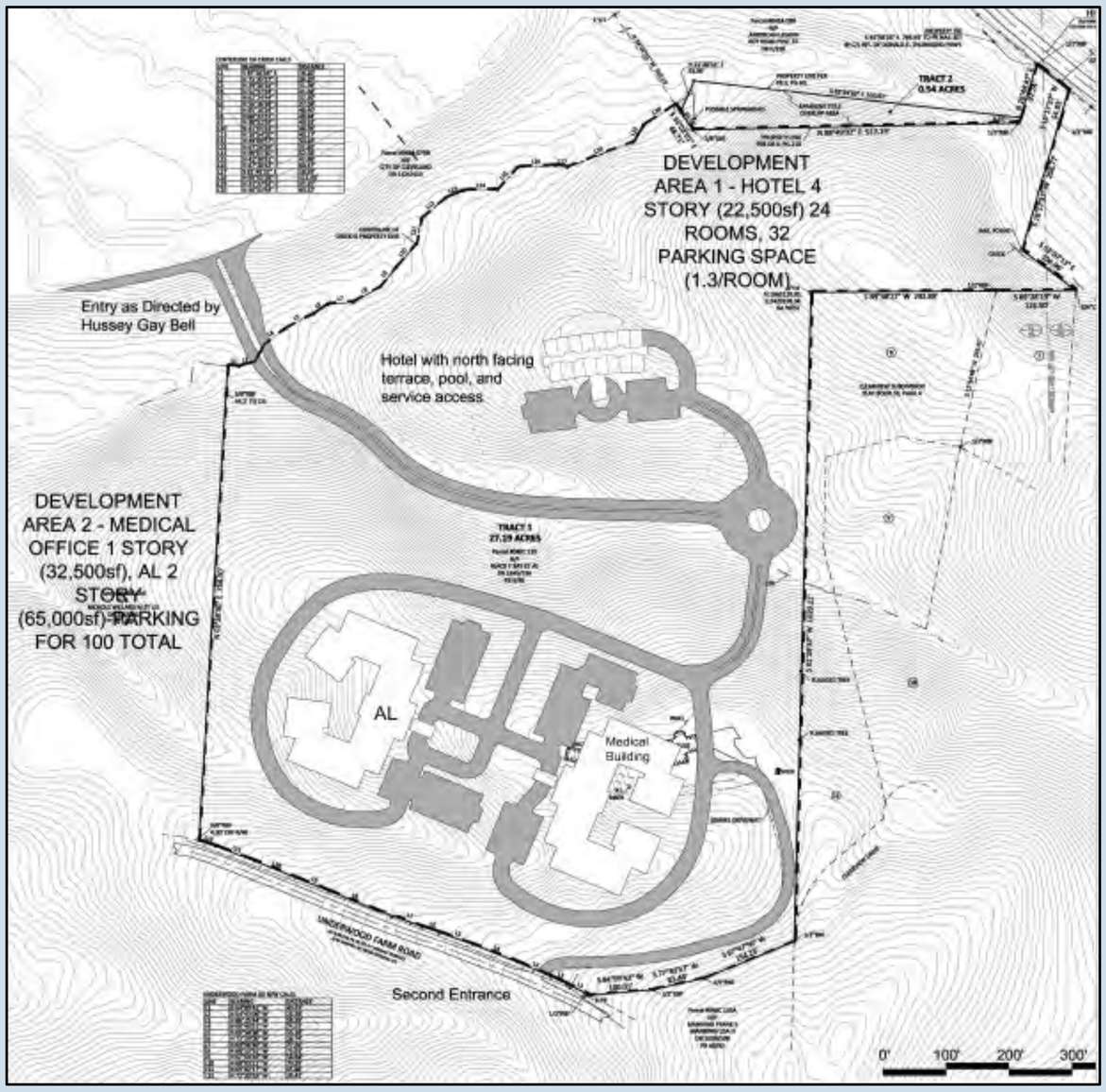
Client: Grace of Georgia Developments LLC – group of professionals dedicated to identifying high-potential sites in growing communities to deliver well-designed, thoughtfully planned developments that complement the existing community's character.

Project manager / planner: DLBP LLC – provides clients with strategic planning and land entitlement guidance, assisting them in preparing applications to secure necessary approvals and serving as the liaison between the various consultants working on the project.

Consultant team: SFCS as the master plan architect; **KCI** for the Traffic Impact Study; and **Hussey Gay Bell** for the entranceway design.

DLBP Planning Consultants

Proposed development via Donald E Thurmond Parkway across from Walmart



Project address: 475 Underwood Farm Road, Cleveland, GA 30528

Estimated project size: three buildings consisting of (1) a two-story 60-bedroom assisted living, (2) a one-story six-rooms of medical offices, and (3) a four-story 24-room hotel on 27.19 acres.

Project objective: to secure annexation and zoning from unincorporated White County into the City of Cleveland in the Multiple-Use district.

This project is driven by a need for these essential services in the City of Cleveland and White County, represented through thorough research and analysis of the surrounding area, discussions with local representatives, and demographic data.

DLBP Planning Consultants

475 Underwood Farm Road, Cleveland, GA 30528

ASSISTED LIVING – Donald E Thurmond Parkway across from Walmart

Where is the need?

As the ‘Silver Tsunami’ continues to expand, the City of Cleveland and White County are experiencing the effects of this growth. The 55+ population has grown to **35.56%** and **37.79%** in the Cleveland and White County, respectively, and this proposal helps address this.

To provide a comfortable and supportive environment with landscaped walking trails, a tranquil garden and plaza, a reading room, boutique, fitness and rehabilitation center, and dining areas.

DLBP Planning Consultants

475 Underwood Farm Road, Cleveland, GA 30528

HOTEL – Donald E Thurmond Parkway across from Walmart

Where is the need?

The growing population and influx of tourists attracted to Cleveland’s vineyards, wedding venues, water and nature activities highlights the need for expanded hospitality services.

Adding a new hotel will enhance visitor experiences and boost the local economy.

DLBP Planning Consultants

Questions???

If you have any questions and / or comments please visit the Grace of Georgia Developments LLC website at www.gracedevelopments.us, for more details and / or please feel free to contact us directly at:

devynnglanz@dlbp.us or 302-573-0268.

DLBP Planning Consultants

O. APPENDIX 5 - STIPULATIONS

DLBP LLC
2727 Paces Ferry Road SE,
Suite 1625,
Atlanta, GA 30339, USA

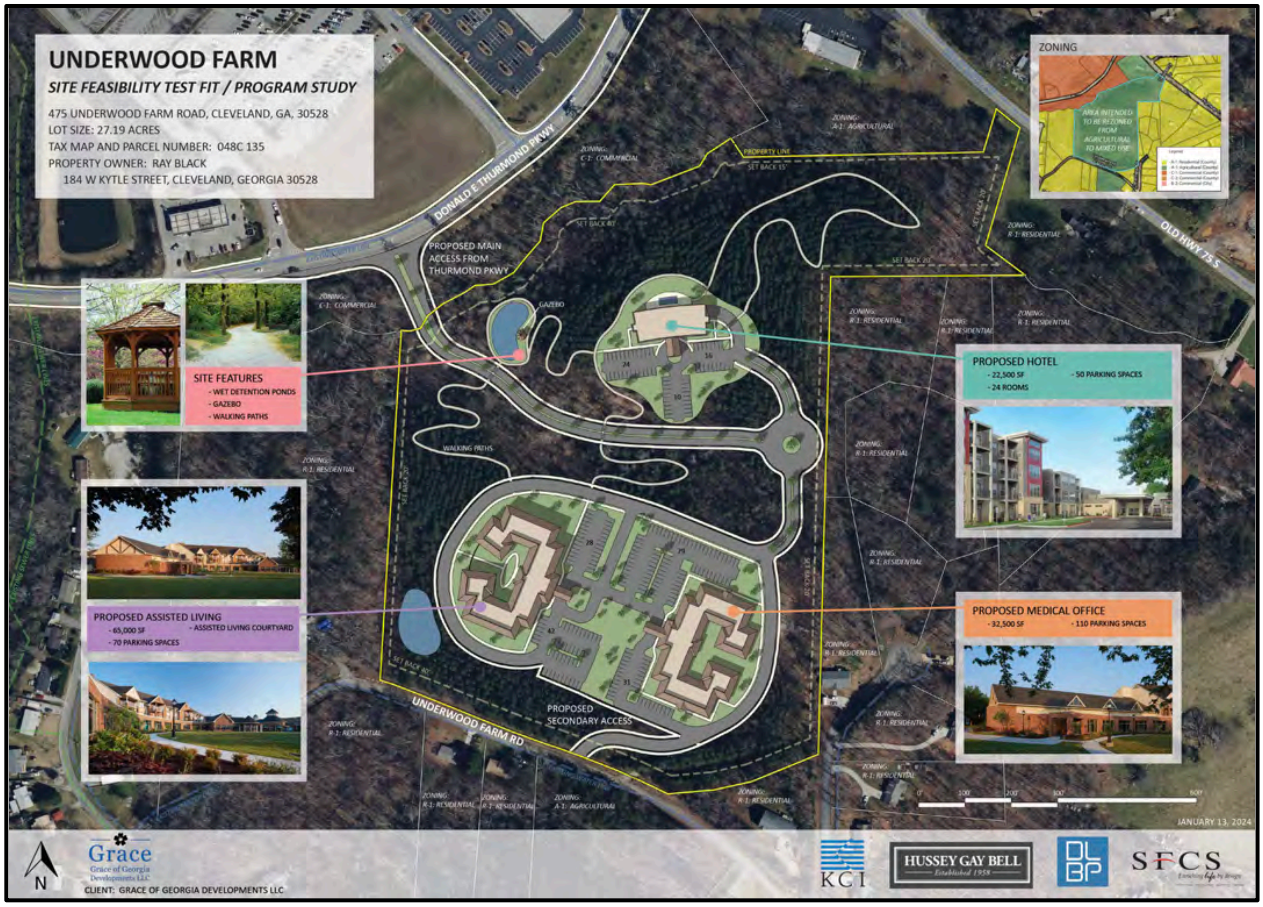
E: dominiclawson@dlbp.us
www.dlbp.us

DOCUMENT OF AGREEABLE STIPULATIONS – City of Cleveland

Project: 475 UNDERWOOD FARM ROAD, CLEVELAND, GEORGIA 30528 annexation and zoning request to PM-U: Multiple Use district.

Date: JANUARY 13, 2025

On behalf of: GRACE OF GEORGIA DEVELOPMENTS LLC AND RAY BLACK



Stipulations

1. On behalf of Grace of Georgia Developments LLC (the "Applicant"), and Ray Black (the "Owner") we are pleased to submit the following stipulations for 475 Underwood Farm Road, Cleveland, Georgia 30528 (the "Site" or "Subject Property") annexation request from A-1: Agriculture Forestry to PM-U: Multiple Use district.

2. The Applicant is willing and able to submit the following stipulations regarding Highway land and entranceway design, Building footprint and master plan design, and the assisted living, medical offices, and hotel buildings.

Highway land and entranceway design

3. The Applicant agrees to the following system improvements to mitigate traffic concerns:

4. As referenced on the entranceway design plan, the main access road will be off Donald E Thurmond Parkway with the secondary access located off Underwood Farm Road.

5. The roadway contributions will include:

    - a 50-foot right-turn deceleration lane and a 25-foot left-turn lane on Donald E Thurmond Parkway, with the proposed driveway located between the two Walmart driveways with yield and stop signs as needed. This configuration provides approximately 300 feet of spacing from the middle Walmart driveway and will be stop-controlled;
    - a stop sign, crosswalk, and stop bar at the beginning of the entranceway;
    - an eastbound right-turn deceleration lane along Donald E Thurmond Parkway;
    - a driveway with one entry lane and two exit lanes;
    - a full-movement intersection and a stop-control, including one entry lane and one exit lane off the Underwood Farm Road access point; and
    - ten-foot-wide sidewalks, two-foot grass strip.

Building footprint and master plan design

6. The Applicant agrees that the total building floorspace on the Site shall be no less than 100,000 gross external square feet ("square feet / footage") and shall not exceed 124,999 square feet as defined by the State of Georgia Rules and Regulations: Rule 110 – 12 – 3 – .06 as "areas of each floor of a building, measured from the exterior faces of the exterior walls or from the centerline of a wall separating two buildings. The gross square footage measurement is exclusive of areas of unfinished basements, unfinished cellars, unfinished attics, attached or detached garages, space used for off-street parking or loading, breezeways, enclosed or unenclosed porches, and accessory structures."

7. The Applicant confirms that the development will follow all the mandatory regulatory requirements by the City of Cleveland (ie: parking, buffers, and setbacks) and no variances are requested, as shown on the master plan.

8. In coherence with the City of Cleveland ordinance, the maximum height of the hotel is not to exceed 60 feet.

9. We believe the approval of the requested three-building development with the stipulations set forth herein, is an appropriate use of the Subject Property, while considering the existing and surrounding area to ensure a quality development that is compatible with its surroundings and will enhance the Subject Property and community overall. Thank you for your consideration.

(end of stipulations).